**SAR Compliance Test Report**

| | | | |
|---|---|---|---|
| **Test report no.:** | FCC_SAR_RM-1105_02 | **Date of report:** | 2015-11-03 |
| **Template version:** | 20.0 | **Number of pages:** | 279 |
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| **Tested device:** | RM-1105, HW: 2030 | | |
| **FCC ID:** | PYARM-1105 | **IC:** | - |
| **Supplement reports:** | SAR_Photo_RM-1105_03 | | |
| **Testing has been carried out in accordance with:** | **47CFR §2.1093**<br>Radiofrequency Radiation Exposure Evaluation: Portable Devices<br>**FCC published RF exposure KDB procedures**<br>**RSS-102, Issue 5**<br>Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields<br>**IEEE 1528 - 2013**<br>IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Technique | | |
| **Documentation:** | The documentation of the testing performed on the tested devices is archived for 15 years at TCC Microsoft. | | |
| **Test results:** | **The tested device complies with the requirements in respect of all parameters subject to the test.** The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory. | | |

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# 1. SUMMARY OF SAR TEST REPORT

## 1.1 Test Details

| | |
|---|---|
| Period of test | 2015-08-06 to 2015-11-01 |
| HW and SW numbers of tested device | RM-1105, HW: 2030, SW: 01068.00000.15294.36000 |
| Batteries used in testing | BV-T5E |
| Headsets used in testing | WH-308 |
| Other accessories used in testing | - |
| State of sample | Prototype unit |
| Notes | - |

## 1.2 Maximum Results

The maximum reported SAR values for Head, Body-worn 15 mm and Wireless Router 10 mm configurations are given in section 1.2.1, 1.2.2 and 1.2.3 respectively. The device conforms to the requirements of the standards when the maximum measured SAR value is less than or equal to the limit.

### 1.2.1 Head Configuration

| Mode | Reported* SAR value (1g avg) | SAR limit (1g avg) | Result | Plot # |
|---|---|---|---|---|
| LTE700 (Band 12) | **0.28 W/kg** | 1.6 W/kg | **PASSED** | **H1** |
| LTE700 (Band 17) | **0.28 W/kg** | 1.6 W/kg | **PASSED** | **H2** |
| LTE750 (Band 13) | **0.28 W/kg** | 1.6 W/kg | **PASSED** | **H3** |
| 1-slot GPRS850 | **0.28 W/kg** | 1.6 W/kg | **PASSED** | **H4** |
| WCDMA850 (Band 5) | **0.42 W/kg** | 1.6 W/kg | **PASSED** | **H5** |
| LTE850 (Band 5) | **0.32 W/kg** | 1.6 W/kg | **PASSED** | **H6** |
| WCDMA1700/2100 (Band 4) | **0.68 W/kg** | 1.6 W/kg | **PASSED** | **H7** |
| LTE1700/2100 (Band 4) | **0.56 W/kg** | 1.6 W/kg | **PASSED** | **H8** |
| 2-slot GPRS1900 | **0.24 W/kg** | 1.6 W/kg | **PASSED** | **H9** |
| WCDMA1900 (Band 2) | **0.61 W/kg** | 1.6 W/kg | **PASSED** | **H10** |
| LTE1900 (Band 2) | **0.49 W/kg** | 1.6 W/kg | **PASSED** | **H11** |
| LTE2300 (Band 30) | **0.32 W/kg** | 1.6 W/kg | **PASSED** | **H12** |
| LTE2500 (Band 7) | **0.34 W/kg** | 1.6 W/kg | **PASSED** | **H13** |
| LTE2500 (Band 41) | **0.25 W/kg** | 1.6 W/kg | **PASSED** | **H14** |
| WLAN2450 | **1.09 W/kg** | 1.6 W/kg | **PASSED** | **H15** |
| WLAN5000 | **1.27 W/kg** | 1.6 W/kg | **PASSED** | **H16** |
| Maximum of SPEAG combined multiband algorithm results | | | | |
| WCDMA1900 (Band 2) + WLAN2450 | **1.10 W/kg** | 1.6 W/kg | **PASSED** | **H18** |
| WCDMA850 (Band 5) + WLAN5000 | **1.27 W/kg** | 1.6 W/kg | **PASSED** | **H16** |


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### 1.2.2 Body-worn 15 mm Configuration

| Mode | Reported* SAR value (1g avg) | SAR limit (1g avg) | Result | Plot # |
|---|---|---|---|---|
| LTE700 (Band 12) | **0.37 W/kg** | 1.6 W/kg | **PASSED** | **B1** |
| LTE700 (Band 17) | **0.38 W/kg** | 1.6 W/kg | **PASSED** | **B2** |
| LTE750 (Band 13) | **0.40 W/kg** | 1.6 W/kg | **PASSED** | **B3** |
| 1-slot GPRS850 | **0.34 W/kg** | 1.6 W/kg | **PASSED** | **B4** |
| WCDMA850 (Band 5) | **0.39 W/kg** | 1.6 W/kg | **PASSED** | **B5** |
| LTE850 (Band 5) | **0.32 W/kg** | 1.6 W/kg | **PASSED** | **B6** |
| WCDMA1700/2100 (Band 4) | **0.75 W/kg** | 1.6 W/kg | **PASSED** | **B7** |
| LTE1700/2100 (Band 4) | **0.64 W/kg** | 1.6 W/kg | **PASSED** | **B8** |
| 2-slot GPRS1900 | **0.31 W/kg** | 1.6 W/kg | **PASSED** | **B9** |
| WCDMA1900 (Band 2) | **0.61 W/kg** | 1.6 W/kg | **PASSED** | **B10** |
| LTE1900 (Band 2) | **0.51 W/kg** | 1.6 W/kg | **PASSED** | **B11** |
| LTE2300 (Band 30) | **0.49 W/kg** | 1.6 W/kg | **PASSED** | **B12** |
| LTE2500 (Band 7) | **0.51 W/kg** | 1.6 W/kg | **PASSED** | **B13** |
| LTE2500 (Band 41) | **0.34 W/kg** | 1.6 W/kg | **PASSED** | **B14** |
| WLAN2450 | **0.17 W/kg** | 1.6 W/kg | **PASSED** | **B15** |
| WLAN5000 | **0.55 W/kg** | 1.6 W/kg | **PASSED** | **B16** |
| Maximum of SPEAG combined multiband algorithm results | | | | |
| WCDMA1700/2100 (Band 4) + WLAN2450 | **0.78 W/kg** | 1.6 W/kg | **PASSED** | **B17** |
| WCDMA1700/2100 (Band 4) + WLAN5000 | **0.81 W/kg** | 1.6 W/kg | **PASSED** | **B18** |

### 1.2.3 Wireless Router 10 mm Configuration

| Mode | Reported* SAR value (1g avg) | SAR limit (1g avg) | Result | Plot # |
|---|---|---|---|---|
| LTE700 (Band 12) | **0.45 W/kg** | 1.6 W/kg | **PASSED** | **W1** |
| LTE700 (Band 17) | **0.47 W/kg** | 1.6 W/kg | **PASSED** | **W2** |
| LTE750 (Band 13) | **0.48 W/kg** | 1.6 W/kg | **PASSED** | **W3** |
| 1-slot GPRS850 | **0.46 W/kg** | 1.6 W/kg | **PASSED** | **W4** |
| WCDMA850 (Band 5) | **0.63 W/kg** | 1.6 W/kg | **PASSED** | **W5** |
| LTE850 (Band 5) | **0.54 W/kg** | 1.6 W/kg | **PASSED** | **W6** |
| WCDMA1700/2100 (Band 4) | **1.21 W/kg** | 1.6 W/kg | **PASSED** | **W7** |
| LTE1700/2100 (Band 4) | **1.09 W/kg** | 1.6 W/kg | **PASSED** | **W8** |
| 2-slot GPRS1900 | **0.53 W/kg** | 1.6 W/kg | **PASSED** | **W9** |
| WCDMA1900 (Band 2) | **1.00 W/kg** | 1.6 W/kg | **PASSED** | **W10** |
| LTE1900 (Band 2) | **0.84 W/kg** | 1.6 W/kg | **PASSED** | **W11** |
| LTE2300 (Band 30) | **0.86 W/kg** | 1.6 W/kg | **PASSED** | **W12** |
| LTE2500 (Band 7) | **1.02 W/kg** | 1.6 W/kg | **PASSED** | **W13** |
| LTE2500 (Band 41) | **0.59 W/kg** | 1.6 W/kg | **PASSED** | **W14** |
| WLAN2450 | **0.36 W/kg** | 1.6 W/kg | **PASSED** | **W15** |
| WLAN5000 | **0.95 W/kg** | 1.6 W/kg | **PASSED** | **W16** |
| Maximum of SPEAG combined multiband algorithm results | | | | |
| WCDMA1700/2100 (Band 4) + WLAN2450 | **1.23 W/kg** | 1.6 W/kg | **PASSED** | **W17** |
| WCDMA1700/2100 (Band 4) + WLAN5000 | **1.21 W/kg** | 1.6 W/kg | **PASSED** | **W7** |

* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.


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### 1.2.4 Summary SAR data

| Description | FCC-defined SAR values for the Grants of Equipment Authorization | | |
|---|---|---|---|
| | PCE | DTS | NII |
| **Maximum Head SAR values** | 0.68 | 1.09 | 1.27 |
| {Max + Max} Simultaneous Head SAR value | 1.60 | | |
| **Maximum Body-worn 15 mm SAR values** | 0.75 | 0.17 | 0.55 |
| {Max + Max} Simultaneous Body-worn 15 mm SAR value | 1.30 | | |
| **Maximum Product Specific (Wireless Router 10 mm) SAR values** | 1.21 | 0.36 | 0.95 |
| {Max + Max} Simultaneous Product Specific (Wireless Router 10 mm) SAR value | 1.56 | | |
| **Maximum Simultaneous SAR value**<br><br>**Head SAR: WCDMA1900 (Band 2) + WLAN5000** | 1.60 | | |

Note:

PCE contains the highest results between all cellular modes (cellular, AWS and PCS bands)
DTS contains the highest results between all WLAN 2.4 GHz modes
NII contains the highest results between RLAN 5150-5250, 5250-5350, 5470-5725 MHz and 5725-5850 MHz

### 1.2.5 Maximum Drift

| | |
|---|---|
| Maximum drift during measurements | ≤ 0.2 dB |

### 1.2.6 Measurement Uncertainty

| | |
|---|---|
| Expanded Uncertainty (k=2) 95 % | ± 29.8 % |


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## 2. DESCRIPTION OF THE DEVICE UNDER TEST

| | |
|---|---|
| Device category | Portable |
| Exposure environment | General population / uncontrolled |

### 2.1 Bands and Modes of the DUT

| Bands | Modes of Operation | Modulation Mode | Duty Cycle | Channel Bandwidth (MHz) | Transmitter Frequency Range (MHz) | Power Reduction in Wireless Router (Hotspot) Mode (dB) | | | |
|---|---|---|---|---|---|---|---|---|---|
| 700 (Band 12) | LTE | QPSK / 16QAM | 1 | 1.4, 3, 5, 10 | 699 – 716 | - | | | |
| 700 (Band 17) | LTE | QPSK / 16QAM | 1 | 5, 10 | 704 – 716 | - | | | |
| 750 (Band 13) | LTE | QPSK / 16QAM | 1 | 5, 10 | 777 - 787 | - | | | |
| 850 | GSM/GPRS | GMSK | 1/8 to 4/8 | | 824 – 849 | 1-slot | 2-slot | 3-slot | 4-slot |
| | | | | | | - | - | - | - |
| 850 | EGPRS | GMSK / 8PSK | 1/8 to 4/8 | | 824 – 849 | - | - | - | - |
| 850 (Band 5) | WCDMA | QPSK | 1 | | 826 – 847 | - | | | |
| 850 (Band 5) | HSUPA | QPSK | 1 | | 826 – 847 | - | | | |
| 850 (Band 5) | DC-HSDPA | QPSK | 1 | | 826 – 847 | - | | | |
| 850 (Band 5) | LTE | QPSK / 16QAM | 1 | 1.4, 3, 5, 10 | 824 – 849 | - | | | |
| 1700/2100 (Band 4) | WCDMA | QPSK | 1 | | 1712 - 1753 | - | | | |
| 1700/2100 (Band 4) | HSUPA | QPSK | 1 | | 1712 - 1753 | - | | | |
| 1700/2100 (Band 4) | DC-HSDPA | QPSK | 1 | | 1712 - 1753 | - | | | |
| 1700/2100 (Band 4) | LTE | QPSK / 16QAM | 1 | 1.4, 3, 5, 10, 15, 20 | 1710 – 1755 | - | | | |
| 1900 | GSM/GPRS | GMSK | 1/8 to 4/8 | | 1850 – 1910 | 1-slot | 2-slot | 3-slot | 4-slot |
| | | | | | | - | - | - | - |
| 1900 | EGPRS | GMSK / 8PSK | 1/8 to 4/8 | | 1850 – 1910 | - | - | - | - |
| 1900 (Band 2) | WCDMA | QPSK | 1 | | 1852 – 1908 | - | | | |
| 1900 (Band 2) | HSUPA | QPSK | 1 | | 1852 – 1908 | - | | | |
| 1900 (Band 2) | DC-HSDPA | QPSK | 1 | | 1852 – 1908 | - | | | |
| 1900 (Band 2) | LTE | QPSK / 16QAM | 1 | 1.4, 3, 5, 10, 15, 20 | 1850 – 1910 | - | | | |
| 2300 (Band 30) | LTE | QPSK / 16QAM | 1 | 5, 10 | 2305 – 2315 | - | | | |
| 2500 (Band 7) | LTE | QPSK / 16QAM | 1 | 5, 10, 15, 20 | 2500 - 2570 | - | | | |
| 2500 (Band 41) | LTE (TDD) | QPSK / 16QAM | 1/10 to 6/10 | 5, 10, 15, 20 | 2496 - 2690 | - | | | |
| 2450 | BT | GFSK | 1 | | 2402 – 2480 | - | | | |
| 2450 | WLAN b-mode | DSSS | 1 | 20 | 2412 – 2462 | - | | | |
| 2450 | WLAN g-mode | OFDM | 1 | 20 | 2412 – 2462 | - | | | |
| 2450 | WLAN n-mode | OFDM | 1 | 20 | 2412 – 2462 | - | | | |

(Table continues)


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(Table continues)

| | | | | | | |
|---|---|---|---|---|---|---|
| 2450 | WLAN ac-mode | OFDM | 1 | 20 | 2412 – 2462 | - |
| 2450 | WLAN n-mode | OFDM | 1 | 40 | 2412 – 2462 | - |
| 2450 | WLAN ac-mode | OFDM | 1 | 40 | 2412 – 2462 | - |
| 5000 | WLAN a-mode | OFDM | 1 | 20 | 5180 - 5825 | - |
| 5000 | WLAN n-mode | OFDM | 1 | 20 | 5180 - 5825 | - |
| 5000 | WLAN ac-mode | OFDM | 1 | 20 | 5180 - 5805 | - |
| 5000 | WLAN n-mode | OFDM | 1 | 40 | 5180 - 5825 | - |
| 5000 | WLAN ac-mode | OFDM | 1 | 40 | 5180 - 5805 | - |
| 5000 | WLAN ac-mode | OFDM | 1 | 80 | 5158 - 5805 | - |


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## 2.2 DUT Features and Test Requirements

| Common features | Testing / Specification / KDB |
|---|---|
| Bands operating outside USA | These bands are not part of this filing:<br>GSM/GPRS/EGPRS900<br>GSM/GPRS/EGPRS1800<br>WCDMA/HSUPA/DC-HSDPA900 (Band 8)<br>WCDMA/HSUPA/DC-HSDPA2100 (Band 1)<br>LTE850 (Band 20)<br>LTE1800 (Band 3)<br>LTE2100 (Band 1) |
| Number of SIM cards: | 1 |
| Ambient temperature: | 20.5 – 22.5 °C / Controlled |
| Ambient humidity (RH %): | 35 – 55 % RH / Controlled |
| Output power and batteries | The device output power was set to maximum power level for all tests.<br>A fully charged battery was used for every test sequence. |
| Test channels | In all operating bands the measurements were performed on lowest, middle and highest channels, and/or on all required test channels as defined in Published FCC KDB Procedures, except LTE750 (Band 13) and LTE2300 (Band 30) where testing was done only on the middle channel because it covers the whole frequency range. |
| VOIP | This device has Voice-over-IP capability for use at the ear. Therefore SAR for data modes was evaluated against the head profile of the phantom for all communication systems. |

(Table continues)


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(Table continues)

| Common features | Testing / Specification / KDB |
|---|---|
| Antennas | Two antennas are used for transmission of the all other cellular bands in diversity-Tx mode except LTE2300 (Band 30), LTE2500 (Band 7) and LTE2500 (Band 41) which are using only Antenna 1. In diversity-TX mode the antennas cannot transmit at the same time. All cellular antennas are fully and separately SAR tested for individual transmission. See table below for applicable antennas in each transmission band and mode.<br><br>Also the both WLAN bands have two separate antennas. See SAR_Photo_RM-1105_03, Section 3.<br><br>All WLAN antennas are tested simultaneously for Delay Diversity/MIMO WLAN transmissions.<br><br>Simultaneous transmissions with WLAN2450/WLAN5000 are assessed separately for both cellular antennas.<br><br>Same RF PA circuitry is used for both cellular antennas and therefore same output power targets and conducted power results apply to both cellular antennas. Control software was used to route the TX power to the chosen cellular antenna during the SAR test sequence.<br><br>Own RF PA circuitry is used for WLAN antennas and therefore own conducted power results are measured for both antennas. For WLAN5000, average power of the two WLAN antennas have been used for selection of the transmit mode/data rate, as well as the selection of the tested WLAN channels. For WLAN2450, average of the power relative to tuning windows of the two WLAN antennas have been used for selection of the transmit mode/data rate, as well as the selection of the tested WLAN channels. This was agreed beforehand via FCC KDB Inquiry. |

| Band | Tx Antennas | |
|---|---|---|
| | Antenna 1 | Antenna 2 |
| LTE700 (Band 12) | ✓ | ✓ |
| LTE700 (Band 17) | ✓ | ✓ |
| LTE750 (Band 13) | ✓ | ✓ |
| GSM/GPRS/EGPRS850 | ✓ | ✓ |
| WCDMA850 (Band 5) | ✓ | ✓ |
| LTE850 (Band 5) | ✓ | ✓ |
| WCDMA1700/2100 (Band 4) | ✓ | ✓ |
| LTE1700/2100 (Band 4) | ✓ | ✓ |
| GSM/GPRS/EGPRS1900 | ✓ | ✓ |
| WCDMA1900 (Band 2) | ✓ | ✓ |
| LTE1900 (Band 2) | ✓ | ✓ |
| LTE2300 (Band 30) | ✓ | - |
| LTE2500 (Band 7) | ✓ | - |
| LTE2500 (Band 41) | ✓ | - |
| WLAN2450 | ✓ | ✓ |
| WLAN5000 | ✓ | ✓ |

(Table continues)


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(Table continues)

<table>
<tr><th>Common features</th><th>Testing / Specification / KDB</th></tr>
<tr><td>Carrier Aggregation</td><td>The device has downlink carrier aggregation supported with bands given in table below.<br>The measured RF output power with CA active is not more than 0.25 dB higher than the maximum power value for LTE2, LTE4 and LTE30 without CA, see conducted power tables 3.3.5, 3.3.6 and 3.3.7.
<table>
<tr><th>Tx Band</th><th>Tx + CA</th><th>Tx band antenna tuner state</th></tr>
<tr><td>2</td><td>2<br>2 + 30<br>2 + 5<br>2 + 12<br>2 + 17<br>2 + 30 + 5<br>2 + 30 + 12</td><td>0 0<br>0 0<br>3 3<br>0 0<br>0 0<br>3 3<br>0 0</td></tr>
<tr><td>4</td><td>4 + 30<br>4 + 5<br>4 + 12<br>4 + 17<br>4 + 30 + 5<br>4 + 30 + 12</td><td>0 0<br>3 3<br>0 0<br>0 0<br>3 3<br>0 0</td></tr>
<tr><td>30</td><td>30 + 2<br>30 + 4<br>30 + 5<br>30 + 12<br>30 + 2 + 5<br>30 + 4 + 5<br>30 + 2 + 12<br>30 + 4 + 12</td><td>0 0<br>0 0<br>3 3<br>0 0<br>3 3<br>3 3<br>0 0<br>0 0</td></tr>
</table></td></tr>
<tr><td>Antenna Tuner</td><td>The device has static antenna tuner which has two different tuning states available for LTE Downlink Carrier<br>Aggregation combinations at LTE TX Bands 2, 4 and 30. For these LTE bands the SAR tests have been conducted using both available tuner states to find maximum SAR. All other LTE Tx bands have only one tuner setting for all Downlink CA combinations.</td></tr>
<tr><th>GSM/GPRS/EGPRS</th><th>KDB 941225 D03 SAR Test Reduction Procedures for GSM/GPRS/EDGE</th></tr>
<tr><td>Device Class</td><td>B</td></tr>
<tr><td>GSM multi slot class</td><td>10</td></tr>
<tr><td>DTM class</td><td>DTM GPRS multi slot class 2.<br>Dual Transfer Mode was not specifically tested as the average power in multi-slot<br>GMSK GPRS mode is always greater than, or equal to, the average power in Dual Transfer Mode in Microsoft devices.</td></tr>
<tr><td>EGPRS</td><td>8PSK EGPRS mode was not measured, because maximum averaged output power is lower in 8PSK EGPRS mode than in GPRS mode.</td></tr>
<tr><td>Call tester settings</td><td>CMU200 / Anritsu: MS signal was always set to maximum power: Pmax 5 for GSM850 and 0 for GSM1900.</td></tr>
<tr><td>Number of slots used in testing</td><td>The number of Tx slots in all GSM/GPRS mode tests was based on tuning target/conducted power data, see Section 3. The number of slots with highest or equal highest time-average power was tested.</td></tr>
</table>

(Table continues)


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(Table continues)

| **WCDMA** | **KDB 941225 D01 SAR Measurement Procedures for 3G Devices** |
|---|---|
| WCDMA | Rel 9.<br>Conducted power measurements for WCDMA modes have been carried out in accordance with 3GPP TS34.1083 and GPP TS 34.121-1. See conducted power results in section 3 |
| Call test settings for WCDMA | CMU200 / Anritsu: UE uplink signal was configured to 12.2kbps RMC with all TPC bit set to 1. |
| HSUPA | SAR tests for HSUPA mode have not been performed as no HSUPA Sub-test mode has an average power > 0.25 dB above the basic WCDMA 12.2 kbps RMC mode. |
| DC-HSDPA | SAR tests for DC-HSDPA mode have not been performed as no DC-HSDPA Sub-test mode has an average power > 0.25 dB above the basic WCDMA 12.2 kbps RMC mode. |
| **LTE** | **KDB 941225 D05 SAR for LTE Devices v02r02 DR07-41372** |
| LTE Category | 4 |
| Call tester settings | CMW500:<br>Uplink Power Control was set to 'Max Power'.<br>Additional Spectrum Emission was set to 'NS_01' to disable A-MPR. |
| LTE (TDD) | SAR was tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7.<br><br>Duty factor = uplink subframe*6+UpPTS*2/one frame length = (30720*Ts*6+5120*Ts*2)/307200*Ts = 0.633<br><br>LTE TDD Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations. |

| UL-DL Configuration | Switch-point periodicity | Subframe number | | | | | | | | | | Calculated Duty Cycle (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | |
| 0 | 5ms | D | S | U | U | U | D | S | U | U | U | 63.33 |
| 1 | 5ms | D | S | U | U | D | D | S | U | U | D | 43.33 |
| 2 | 5ms | D | S | U | D | D | D | S | U | D | D | 23.33 |
| 3 | 10ms | D | S | U | U | U | D | D | D | D | D | 31.67 |
| 4 | 10ms | D | S | U | U | D | D | D | D | D | D | 21.67 |
| 5 | 10ms | D | S | U | D | D | D | D | D | D | D | 11.67 |
| 6 | 5ms | D | S | U | U | U | D | S | U | U | D | 53.33 |

LTE MPR

MPR values as stipulated in Table 6.2.3_1 of 3GPP TS 36.101 (presented below) have been incorporated into the device; these MPR values are dependent on the modulation, Channel Bandwidth and Resource Block allocations as shown:

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

| Modulation | Channel bandwidth / Transmission bandwidth (RB) | | | | | | MPR (dB) |
|---|---|---|---|---|---|---|---|
| | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | |
| QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 |
| 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 |
| 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 |

No additional MPR settings have been incorporated into the design of the device and therefore no A-MPR settings have been active during its testing.

Conducted Power Tables in Section 3: "Nominal" column lists measured powers with MPR active. The "A-MPR active" column lists measured powers with MPR and A-MPR active (as defined by 3GPP TS 36.101).

(Table continues)


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(Table continues)

| **WLAN** | **KDB 248227 SAR Measurement Procedures for 802.11 a/b/g Transmitters** |
|---|---|
| WLAN modes tested | For WLAN2450 DSSS and OFDM modulation modes are tested separately.<br>DSSS modulation modes for WLAN2450 are tested by using Initial Test Position or Fixed Test Position Procedure.<br>OFDM modulation modes for WLAN2450 and WLAN5000 are tested by using Initial Test Position or Fixed Test Position Procedure together with Initial/Subsequent Test Configuration Procedure according to KDB instructions.<br>WLAN2450: Test configurations tested base on the averaged tuning targets of Antenna 1 and Antenna 2, meanwhile all the scaling for WLAN2450 measurements are done according to the individual tuning targets and measured conducted powers separately for the both antennas. The both antennas are radiating simultaneously. SAR value for a device position/channel is recorded for the Antenna which radiation is dominant.<br><br>WLAN5000: The same results are valid for the both antennas 1 and 2. Tuning target, upper limit and conducted power values used for test decisions and scaling are averaged values for Antenna 1 and Antenna 2. |
| WLAN power reduction 'held to ear' | This device applies 'held to ear' power reduction for SAR compliance for WLAN2450 and WLAN5000 modes. It always applies power reduction in voice or VOIP 'held to ear' scenarios on the WLAN transmitter, and does not impact any other transmitter in the device. Head SAR is evaluated at reduced power according to the head SAR test positions. Power reduction is 2 dB in all held-to-ear scenarios and modes for WLAN2450, and at 5 dB for WLAN5000. All other positions are evaluated at full power. |
| WLAN test settings | The device was put into operation by using control software. |
| **BT** | **KDB 447498 D01 General RF Exposure Guidance v05** |
| BT Class | I |
| BT testing | BT power tuning target upper limit is 11.5 dBm.<br>WLAN2450 averaged power tuning target upper limit is 14.6 dBm.<br>Since WLAN2450 and BT use same frequency and antenna, WLAN2450 power is 3.1 dB higher, and they cannot transmit simultaneously, the WLAN2450 standalone SAR is conservative estimation of BT SAR.<br>As WLAN2450 SAR result is below limit, also BT SAR can be deemed to comply without further analysis or standalone measurements.<br>Also WLAN2450+cellular bands combined SAR results can be regarded as conservative estimation of BT+cellular combined SAR. As WLAN2450+cellular combined SAR result are below limit, also BT+cellular combined SAR can be deemed to comply without further analysis. |
| **Simultaneous transmission** | **KDB 447498 D01 General RF Exposure Guidance v05** |
| In Head and Body-worn use | Simultaneous transmission of any singular cellular, PCS or AWS with WLAN2450 / WLAN5000 is possible. |
| Wireless Router "Hotspot" mode | Yes |
| In Wireless Router use | Simultaneous transmission of any singular cellular, AWS or PCS band with WLAN2450 is possible.<br>Simultaneous transmission of any singular cellular, AWS or PCS band with WLAN5000 is possible only for sub-bands U-NII-1 and U-NII-3.<br>The hotspot mode (Wireless Router mode) may operate concurrently in DTM mode with voice calls. The reported SAR test results are conservative regarding that use case, since output power in hotspot mode is equal to or lower than in normal voice and data modes. See Section 2.1 for hotspot mode power reductions. Also simultaneous transmissions with WLANs are already conservatively assessed for head and body-worn exposure conditions due to VoIP capability. |
| Power reduction for Wireless Router mode | See the table in Section 2.1. |

(Table continues)


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(Table continues)

| | |
|---|---|
| **KDBs used in testing** | **KDB 248227 SAR Measurement Procedures for 802.11 a/b/g Transmitters**<br>**KDB 447498 D01 General RF Exposure Guidance v05**<br>**KDB 648474 D04 Handset SAR v01r01**<br>**KDB 690783 D01 SAR Listings on Grants**<br>**KDB 865664 D01 SAR Measurements 100 MHz to 6 GHz v01**<br>**KDB 865664 D02 SAR Reporting v01**<br>**KDB 941225 D01 SAR Measurement Procedures for 3G Devices**<br>**KDB 941225 D03 SAR Test Reduction Procedures for GSM/GPRS/EDGE**<br>**KDB 941225 D05 SAR for LTE Devices v02r02 DR07-41372** |


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## 3. CONDUCTED POWERS

The conducted output power of the device was measured by a separate test laboratory on the same units as used for SAR testing.

### 3.1 GSM/GPRS/EGPRS

3.1.1 GSM850 Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| GSM 850 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SN: 004402741813152 | | | Conducted power (dBm) | | | Time-averaged power (dBm) | | |
| Slot configuration | Tuning target (dBm) | Upper limit (dBm) | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz |
| GSM 1-slot | **32.4** | **32.8** | 31.9 | 32.6 | 32.2 | 22.9 | **23.6** | 23.2 |
| GPRS 2-slot | **29.4** | **29.8** | 28.9 | 29.0 | 29.2 | 22.9 | 23.0 | 23.2 |
| GPRS 3-slot | **27.6** | **28.0** | 27.2 | 27.6 | 27.7 | 22.9 | 23.3 | 23.4 |
| GPRS 4-slot | **26.5** | **26.9** | 26.0 | 26.2 | 26.4 | 23.0 | 23.2 | 23.4 |
| EGRPS 1-slot | **26.5** | **26.9** | 26.3 | 26.3 | 26.4 | 17.3 | 17.3 | 17.4 |
| EGPRS 2-slot | **25.5** | **25.9** | 25.6 | 25.6 | 25.8 | 19.6 | 19.6 | 19.8 |
| EGPRS 3-slot | **24.7** | **25.1** | 24.7 | 24.7 | 25.0 | 20.4 | 20.4 | 20.7 |
| EGPRS 4-slot | **23.8** | **24.2** | 23.8 | 23.9 | 24.1 | 20.8 | 20.9 | 21.1 |

3.1.2 GSM1900 Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| GSM 1900 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SN: 004402741813335 | | | Conducted power (dBm) | | | Time-averaged power (dBm) | | |
| Slot configuration | Tuning target (dBm) | Upper limit (dBm) | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz |
| GSM 1-slot | **28.8** | **29.2** | 28.4 | 28.4 | 28.5 | 19.4 | 19.4 | 19.5 |
| GPRS 2-slot | **26.0** | **26.4** | 25.7 | 25.5 | 25.6 | **19.7** | 19.5 | 19.6 |
| GPRS 3-slot | **24.1** | **24.5** | 23.7 | 23.6 | 23.6 | 19.4 | 19.3 | 19.3 |
| GPRS 4-slot | **22.9** | **23.3** | 22.6 | 22.4 | 22.4 | 19.6 | 19.4 | 19.4 |
| EGRPS 1-slot | **25.0** | **25.4** | 24.9 | 24.7 | 24.7 | 15.9 | 15.7 | 15.7 |
| EGPRS 2-slot | **24.5** | **24.9** | 24.3 | 24.2 | 24.2 | 18.3 | 18.2 | 18.2 |
| EGPRS 3-slot | **24.0** | **24.4** | 23.7 | 23.5 | 23.6 | 19.4 | 19.2 | 19.3 |
| EGPRS 4-slot | **22.3** | **22.7** | 22.1 | 21.8 | 21.9 | 19.1 | 18.8 | 18.9 |


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## 3.2 WCDMA

### 3.2.1 WCDMA850 (Band 5) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| SN: 004402741813152 | WCDMA 5 | | | | |
|---|---|---|---|---|---|
| Mode | Tuning target (dBm) | Upper limit (dBm) | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz |
| WCDMA | **24.5** | **24.9** | 24.6 | 24.7 | 24.7 |
| HSUPA Sub-mode 1 | **23.5** | **23.9** | 23.6 | 23.6 | 23.6 |
| HSUPA Sub-mode 2 | **22.5** | **22.9** | 22.2 | 22.2 | 22.2 |
| HSUPA Sub-mode 3 | **22.5** | **22.9** | 21.9 | 21.8 | 21.9 |
| HSUPA Sub-mode 4 | **22.5** | **22.9** | 23.1 | 23.2 | 23.2 |
| HSUPA Sub-mode 5 | **23.5** | **23.9** | 23.6 | 23.7 | 23.7 |
| DC-HSDPA Sub-mode 1 | **23.5** | **23.9** | 23.6 | 23.6 | 23.7 |
| DC-HSDPA Sub-mode 2 | **23.5** | **23.9** | 23.6 | 23.7 | 23.7 |
| DC-HSDPA Sub-mode 3 | **23** | **23.4** | 23.1 | 23.2 | 23.2 |
| DC-HSDPA Sub-mode 4 | **23** | **23.4** | 23.1 | 23.2 | 23.2 |

### 3.2.2 WCMA1700/2100 (Band 4) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| SN: 004402741813327 | WCDMA 4 | | | | |
|---|---|---|---|---|---|
| Mode | Tuning target (dBm) | Upper limit (dBm) | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz |
| WCDMA | **24** | **24.4** | 23.9 | 24.0 | 23.8 |
| HSUPA Sub-mode 1 | **23** | **23.4** | 22.9 | 22.5 | 22.4 |
| HSUPA Sub-mode 2 | **22** | **22.4** | 21.5 | 22.0 | 21.9 |
| HSUPA Sub-mode 3 | **22** | **22.4** | 21.2 | 21.8 | 21.5 |
| HSUPA Sub-mode 4 | **22** | **22.4** | 22.4 | 22.5 | 22.4 |
| HSUPA Sub-mode 5 | **23** | **23.4** | 23.0 | 23.0 | 22.9 |
| DC-HSDPA Sub-mode 1 | **23** | **23.4** | 22.9 | 23.0 | 22.9 |
| DC-HSDPA Sub-mode 2 | **23** | **23.4** | 22.9 | 23.0 | 22.9 |
| DC-HSDPA Sub-mode 3 | **22** | **22.4** | 22.2 | 22.5 | 22.3 |
| DC-HSDPA Sub-mode 4 | **22** | **22.4** | 22.4 | 22.5 | 22.3 |


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### 3.2.3 WCDMA1900 (Band 2) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| **SN: 004402741813335** | **WCDMA 2** | | | | |
|---|---|---|---|---|---|
| Mode | Tuning target (dBm) | Upper limit (dBm) | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz |
| WCDMA | **24** | **24.4** | 24.0 | 23.9 | 23.9 |
| HSUPA Sub-mode 1 | **23** | **23.4** | 23.1 | 22.6 | 22.5 |
| HSUPA Sub-mode 2 | **22** | **22.4** | 21.7 | 22.0 | 22.0 |
| HSUPA Sub-mode 3 | **22** | **22.4** | 21.4 | 21.8 | 21.8 |
| HSUPA Sub-mode 4 | **22** | **22.4** | 22.6 | 22.4 | 22.4 |
| HSUPA Sub-mode 5 | **23** | **23.4** | 23.1 | 23.0 | 23.0 |
| DC-HSDPA Sub-mode 1 | **23.5** | **23.9** | 23.1 | 22.9 | 23.0 |
| DC-HSDPA Sub-mode 2 | **23.5** | **23.9** | 23.1 | 23.0 | 23.0 |
| DC-HSDPA Sub-mode 3 | **23** | **23.4** | 22.6 | 22.4 | 22.5 |
| DC-HSDPA Sub-mode 4 | **23** | **23.4** | 22.6 | 22.4 | 22.5 |


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## 3.3 LTE

### 3.3.1 LTE700 (Band 12) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| SN: 004402741813087 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch23017 / 699.7 MHz | Ch23095 / 707.5 MHz | Ch23173 / 715.3 MHz | Ch23017 / 699.7 MHz | Ch23095 / 707.5 MHz | Ch23173 / 715.3 MHz |
| LTE12 1.4 MHz | QPSK | 1 | 0 | 24.2 | 24.6 | 24.2 | 24.4 | 24.4 | | | |
| | | 1 | 2 | 24.2 | 24.6 | 24.3 | 24.5 | 24.4 | | | |
| | | 1 | 5 | 24.2 | 24.6 | 24.1 | 24.5 | 24.3 | | | |
| | | 3 | 0 | 24.2 | 24.6 | 24.1 | 24.5 | 24.4 | | | |
| | | 3 | 2 | 24.2 | 24.6 | 24.2 | 24.5 | 24.5 | | | |
| | | 3 | 3 | 24.2 | 24.6 | 24.1 | 24.4 | 24.4 | | | |
| | | 6 | 0 | 23.2 | 23.6 | 23.0 | 23.3 | 23.3 | | | |
| | 16QAM | 1 | 0 | 23.8 | 24.2 | 23.2 | 23.5 | 23.8 | | | |
| | | 1 | 2 | 23.8 | 24.2 | 23.2 | 23.6 | 23.9 | | | |
| | | 1 | 5 | 23.8 | 24.2 | 23.2 | 23.6 | 23.8 | | | |
| | | 3 | 0 | 23.8 | 24.2 | 22.9 | 23.5 | 23.4 | | | |
| | | 3 | 2 | 23.8 | 24.2 | 23.0 | 23.6 | 23.5 | | | |
| | | 3 | 3 | 23.8 | 24.2 | 22.9 | 23.5 | 23.5 | | | |
| | | 6 | 0 | 22.5 | 22.9 | 22.1 | 22.4 | 22.4 | | | |

| SN: 004402741813087 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch23025 / 700.5 MHz | Ch23095 / 707.5 MHz | Ch23165 / 714.5 MHz | Ch23025 / 700.5 MHz | Ch23095 / 707.5 MHz | Ch23165 / 714.5 MHz |
| LTE12 3 MHz | QPSK | 1 | 0 | 24.2 | 24.6 | 24.1 | 24.3 | 24.3 | | | |
| | | 1 | 7 | 24.2 | 24.6 | 24.2 | 24.5 | 24.5 | | | |
| | | 1 | 14 | 24.2 | 24.6 | 24.3 | 24.5 | 24.4 | | | |
| | | 8 | 0 | 23.2 | 23.6 | 23.1 | 23.4 | 23.4 | | | |
| | | 8 | 3 | 23.2 | 23.6 | 23.1 | 23.5 | 23.5 | | | |
| | | 8 | 7 | 23.2 | 23.6 | 23.1 | 23.5 | 23.5 | | | |
| | | 15 | 0 | 23.2 | 23.6 | 23.0 | 23.4 | 23.5 | | | |
| | 16QAM | 1 | 0 | 23.8 | 24.2 | 23.5 | 23.5 | 23.6 | | | |
| | | 1 | 7 | 23.8 | 24.2 | 23.7 | 23.8 | 23.9 | | | |
| | | 1 | 14 | 23.8 | 24.2 | 23.7 | 23.7 | 23.7 | | | |
| | | 8 | 0 | 22.5 | 22.9 | 22.1 | 22.4 | 22.4 | | | |
| | | 8 | 3 | 22.5 | 22.9 | 22.1 | 22.4 | 22.4 | | | |
| | | 8 | 7 | 22.5 | 22.9 | 22.1 | 22.5 | 22.4 | | | |
| | | 15 | 0 | 22.5 | 22.9 | 22.1 | 22.3 | 22.4 | | | |

| SN: 004402741813087 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch23035 / 701.5 MHz | Ch23095 / 707.5 MHz | Ch23155 / 713.5 MHz | Ch23035 / 701.5 MHz | Ch23095 / 707.5 MHz | Ch23155 / 713.5 MHz |
| LTE12 5 MHz | QPSK | 1 | 0 | 24.2 | 24.6 | 24.2 | 24.3 | 24.4 | | | |
| | | 1 | 12 | 24.2 | 24.6 | 24.3 | 24.5 | 24.5 | | | |
| | | 1 | 24 | 24.2 | 24.6 | 24.3 | 24.6 | 24.6 | | | |
| | | 12 | 0 | 23.2 | 23.6 | 23.1 | 23.3 | 23.3 | | | |
| | | 12 | 6 | 23.2 | 23.6 | 23.1 | 23.4 | 23.4 | | | |
| | | 12 | 13 | 23.2 | 23.6 | 23.3 | 23.3 | 23.3 | | | |
| | | 25 | 0 | 23.2 | 23.6 | 23.2 | 23.4 | 23.4 | | | |
| | 16QAM | 1 | 0 | 23.8 | 24.2 | 23.6 | 23.9 | 23.8 | | | |
| | | 1 | 12 | 23.8 | 24.2 | 23.7 | 24.0 | 23.6 | | | |
| | | 1 | 24 | 23.8 | 24.2 | 23.7 | 24.2 | 23.6 | | | |
| | | 12 | 0 | 22.5 | 22.9 | 22.2 | 22.3 | 22.5 | | | |
| | | 12 | 6 | 22.5 | 22.9 | 22.2 | 22.5 | 22.5 | | | |
| | | 12 | 13 | 22.5 | 22.9 | 22.2 | 22.4 | 22.5 | | | |
| | | 25 | 0 | 22.5 | 22.9 | 22.3 | 22.3 | 22.3 | | | |

(LTE12 table continues)


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(LTE12 table continues)

| SN: 004402741813087 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch23060 / 704 MHz | Ch23095 / 707.5 MHz | Ch23130 / 711 MHz | Ch23060 / 704 MHz | Ch23095 / 707.5 MHz | Ch23130 / 711 MHz |
| LTE12 10 MHz | QPSK | 1 | 0 | 24.2 | 24.6 | 24.2 | 24.4 | 24.4 | | | |
| | | 1 | 24 | 24.2 | 24.6 | 24.3 | 24.5 | 24.6 | | | |
| | | 1 | 49 | 24.2 | 24.6 | 24.4 | 24.6 | 24.4 | | | |
| | | 25 | 0 | 23.2 | 23.6 | 23.1 | 23.3 | 23.4 | | | |
| | | 25 | 12 | 23.2 | 23.6 | 23.2 | 23.4 | 23.4 | | | |
| | | 25 | 25 | 23.2 | 23.6 | 23.2 | 23.5 | 23.3 | | | |
| | | 50 | 0 | 23.2 | 23.6 | 23.2 | 23.4 | 23.3 | | | |
| | 16QAM | 1 | 0 | 23.8 | 24.2 | 23.2 | 23.6 | 23.6 | | | |
| | | 1 | 24 | 23.8 | 24.2 | 23.2 | 23.7 | 23.7 | | | |
| | | 1 | 49 | 23.8 | 24.2 | 23.4 | 23.9 | 23.6 | | | |
| | | 25 | 0 | 22.5 | 22.9 | 22.1 | 22.3 | 22.3 | | | |
| | | 25 | 12 | 22.5 | 22.9 | 22.1 | 22.4 | 22.3 | | | |
| | | 25 | 25 | 22.5 | 22.9 | 22.2 | 22.5 | 22.3 | | | |
| | | 50 | 0 | 22.5 | 22.9 | 22.2 | 22.4 | 22.3 | | | |

### 3.3.2 LTE700 (Band 17) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| SN: 004402741813087 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch23755 / 706.5 MHz | Ch23790 / 710 MHz | Ch23825 / 713.5 MHz | Ch23755 / 706.5 MHz | Ch23790 / 710 MHz | Ch23825 / 713.5 MHz |
| LTE17 5 MHz | QPSK | 1 | 0 | 24.1 | 24.5 | 24.1 | 24.2 | 24.2 | | | |
| | | 1 | 12 | 24.1 | 24.5 | 24.1 | 24.3 | 24.4 | | | |
| | | 1 | 24 | 24.1 | 24.5 | 24.1 | 24.4 | 24.4 | | | |
| | | 12 | 0 | 23.0 | 23.4 | 23.0 | 23.2 | 23.2 | | | |
| | | 12 | 6 | 23.0 | 23.4 | 23.0 | 23.2 | 23.4 | | | |
| | | 12 | 13 | 23.0 | 23.4 | 23.0 | 23.2 | 23.2 | | | |
| | | 25 | 0 | 23.0 | 23.4 | 23.0 | 23.3 | 23.3 | | | |
| | 16QAM | 1 | 0 | 23.7 | 24.1 | 23.3 | 23.4 | 23.2 | | | |
| | | 1 | 12 | 23.7 | 24.1 | 23.5 | 23.5 | 23.4 | | | |
| | | 1 | 24 | 23.7 | 24.1 | 23.4 | 23.6 | 23.4 | | | |
| | | 12 | 0 | 22.5 | 22.9 | 22.1 | 22.3 | 22.3 | | | |
| | | 12 | 6 | 22.5 | 22.9 | 22.1 | 22.3 | 22.5 | | | |
| | | 12 | 13 | 22.5 | 22.9 | 22.1 | 22.3 | 22.4 | | | |
| | | 25 | 0 | 22.5 | 22.9 | 22.0 | 22.4 | 22.2 | | | |

| SN: 004402741813087 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch23780 / 709 MHz | Ch23790 / 710 MHz | Ch23800 / 711 MHz | Ch23780 / 709 MHz | Ch23790 / 710 MHz | Ch23800 / 711 MHz |
| LTE17 10 MHz | QPSK | 1 | 0 | 24.1 | 24.5 | 24.2 | 24.4 | 24.3 | | | |
| | | 1 | 24 | 24.1 | 24.5 | 24.3 | 24.3 | 24.3 | | | |
| | | 1 | 49 | 24.1 | 24.5 | 24.3 | 24.4 | 24.3 | | | |
| | | 25 | 0 | 23.0 | 23.4 | 23.1 | 23.2 | 23.1 | | | |
| | | 25 | 12 | 23.0 | 23.4 | 23.1 | 23.3 | 23.1 | | | |
| | | 25 | 25 | 23.0 | 23.4 | 23.2 | 23.3 | 23.2 | | | |
| | | 50 | 0 | 23.0 | 23.4 | 23.1 | 23.2 | 23.2 | | | |
| | 16QAM | 1 | 0 | 23.7 | 24.1 | 23.3 | 23.6 | 23.9 | | | |
| | | 1 | 24 | 23.7 | 24.1 | 23.5 | 23.6 | 23.9 | | | |
| | | 1 | 49 | 23.7 | 24.1 | 23.5 | 23.6 | 23.9 | | | |
| | | 25 | 0 | 22.5 | 22.9 | 22.1 | 22.2 | 22.2 | | | |
| | | 25 | 12 | 22.5 | 22.9 | 22.2 | 22.2 | 22.2 | | | |
| | | 25 | 25 | 22.5 | 22.9 | 22.2 | 22.2 | 22.2 | | | |
| | | 50 | 0 | 22.5 | 22.9 | 22.1 | 22.2 | 22.2 | | | |


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### 3.3.3 LTE750 (Band 13) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| SN: 004402741813087 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch23205 / 779.5 MHz | Ch23230 / 782 MHz | Ch23255 / 784.5 MHz | Ch23205 / 779.5 MHz | Ch23230 / 782 MHz | Ch23255 / 784.5 MHz |
| LTE13 5 MHz | QPSK | 1 | 0 | 23.2 | 23.6 | 23.0 | 22.9 | 23.0 | | | |
| | | 1 | 12 | 23.2 | 23.6 | 23.2 | 23.0 | 23.0 | | | |
| | | 1 | 24 | 23.2 | 23.6 | 23.1 | 23.0 | 23.0 | | | |
| | | 12 | 0 | 22.2 | 22.6 | 22.1 | 22.0 | 21.9 | | | |
| | | 12 | 6 | 22.2 | 22.6 | 22.0 | 22.0 | 21.9 | | | |
| | | 12 | 13 | 22.2 | 22.6 | 22.0 | 21.9 | 21.8 | | | |
| | | 25 | 0 | 22.2 | 22.6 | 22.0 | 21.9 | 22.0 | | | |
| | 16QAM | 1 | 0 | 22.3 | 22.7 | 22.4 | 22.4 | 22.3 | | | |
| | | 1 | 12 | 22.3 | 22.7 | 22.6 | 22.7 | 22.2 | | | |
| | | 1 | 24 | 22.3 | 22.7 | 22.6 | 22.5 | 22.1 | | | |
| | | 12 | 0 | 21.1 | 21.5 | 21.1 | 21.0 | 21.0 | | | |
| | | 12 | 6 | 21.1 | 21.5 | 21.0 | 21.0 | 20.9 | | | |
| | | 12 | 13 | 21.1 | 21.5 | 21.0 | 21.0 | 20.9 | | | |
| | | 25 | 0 | 21.1 | 21.5 | 20.9 | 21.0 | 20.9 | | | |

| SN: 004402741813087 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch23230 / 782 MHz | Ch23230 / 782 MHz | Ch23230 / 782 MHz | Ch23230 / 782 MHz | Ch23230 / 782 MHz | Ch23230 / 782 MHz |
| LTE13 10 MHz | QPSK | 1 | 0 | 23.2 | 23.6 | - | 23.1 | - | - | 23.1 | - |
| | | 1 | 24 | 23.2 | 23.6 | - | 23.2 | - | - | 23.1 | - |
| | | 1 | 49 | 23.2 | 23.6 | - | 23.0 | - | - | 23.0 | - |
| | | 25 | 0 | 22.2 | 22.6 | - | 22.1 | - | - | 18.0 | - |
| | | 25 | 12 | 22.2 | 22.6 | - | 22.2 | - | - | 18.0 | - |
| | | 25 | 25 | 22.2 | 22.6 | - | 21.9 | - | - | 22.0 | - |
| | | 50 | 0 | 22.2 | 22.6 | - | 22.1 | - | - | 18.0 | - |
| | 16QAM | 1 | 0 | 22.3 | 22.7 | - | 22.5 | - | - | 21.9 | - |
| | | 1 | 24 | 22.3 | 22.7 | - | 22.5 | - | - | 21.5 | - |
| | | 1 | 49 | 22.3 | 22.7 | - | 22.3 | - | - | 21.2 | - |
| | | 25 | 0 | 21.1 | 21.5 | - | 21.0 | - | - | 16.0 | - |
| | | 25 | 12 | 21.1 | 21.5 | - | 21.0 | - | - | 16.0 | - |
| | | 25 | 25 | 21.1 | 21.5 | - | 20.9 | - | - | 19.9 | - |
| | | 50 | 0 | 21.1 | 21.5 | - | 21.0 | - | - | 16.0 | - |


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### 3.3.4 LTE850 (Band 5) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| SN: 004402741813152 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20407 / 824.7 MHz | Ch20525 / 836.5 MHz | Ch20643 / 848.3 MHz | Ch20407 / 824.7 MHz | Ch20525 / 836.5 MHz | Ch20643 / 848.3 MHz |
| LTE5 1.4 MHz | QPSK | 1 | 0 | 24.1 | 24.5 | 24.0 | 24.2 | 24.4 | | | |
| | | 1 | 2 | 24.1 | 24.5 | 24.0 | 24.2 | 24.4 | | | |
| | | 1 | 5 | 24.1 | 24.5 | 24.0 | 24.1 | 24.1 | | | |
| | | 3 | 0 | 24.1 | 24.5 | 23.9 | 24.0 | 24.4 | | | |
| | | 3 | 2 | 24.1 | 24.5 | 24.0 | 24.1 | 24.4 | | | |
| | | 3 | 3 | 24.1 | 24.5 | 23.9 | 24.0 | 24.3 | | | |
| | | 6 | 0 | 23.1 | 23.5 | 22.9 | 23.1 | 23.3 | | | |
| | 16QAM | 1 | 0 | 23.4 | 23.8 | 23.0 | 23.2 | 23.5 | | | |
| | | 1 | 2 | 23.4 | 23.8 | 23.0 | 23.1 | 23.5 | | | |
| | | 1 | 5 | 23.4 | 23.8 | 23.0 | 23.3 | 23.3 | | | |
| | | 3 | 0 | 23.4 | 23.8 | 23.0 | 23.1 | 23.3 | | | |
| | | 3 | 2 | 23.4 | 23.8 | 23.1 | 23.2 | 23.4 | | | |
| | | 3 | 3 | 23.4 | 23.8 | 23.0 | 23.1 | 23.2 | | | |
| | | 6 | 0 | 22.5 | 22.9 | 21.9 | 22.0 | 22.4 | | | |

| SN: 004402741813152 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20415 / 825.5 MHz | Ch20525 / 836.5 MHz | Ch20635 / 847.5 MHz | Ch20415 / 825.5 MHz | Ch20525 / 836.5 MHz | Ch20635 / 847.5 MHz |
| LTE5 3 MHz | QPSK | 1 | 0 | 24.1 | 24.5 | 23.9 | 24.1 | 24.3 | | | |
| | | 1 | 7 | 24.1 | 24.5 | 24.2 | 24.3 | 24.5 | | | |
| | | 1 | 14 | 24.1 | 24.5 | 24.0 | 24.2 | 24.1 | | | |
| | | 8 | 0 | 23.1 | 23.5 | 22.9 | 23.1 | 23.2 | | | |
| | | 8 | 3 | 23.1 | 23.5 | 22.9 | 23.1 | 23.2 | | | |
| | | 8 | 7 | 23.1 | 23.5 | 23.0 | 23.0 | 23.2 | | | |
| | | 15 | 0 | 23.1 | 23.5 | 22.9 | 23.1 | 23.2 | | | |
| | 16QAM | 1 | 0 | 23.4 | 23.8 | 23.1 | 23.5 | 23.7 | | | |
| | | 1 | 7 | 23.4 | 23.8 | 23.2 | 23.8 | 23.9 | | | |
| | | 1 | 14 | 23.4 | 23.8 | 23.3 | 23.6 | 23.7 | | | |
| | | 8 | 0 | 22.5 | 22.9 | 22.0 | 22.2 | 22.3 | | | |
| | | 8 | 3 | 22.5 | 22.9 | 22.0 | 22.1 | 22.3 | | | |
| | | 8 | 7 | 22.5 | 22.9 | 22.0 | 22.1 | 22.3 | | | |
| | | 15 | 0 | 22.5 | 22.9 | 21.9 | 22.1 | 22.3 | | | |

| SN: 004402741813152 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20425 / 826.5 MHz | Ch20525 / 836.5 MHz | Ch20625 / 846.5 MHz | Ch20425 / 826.5 MHz | Ch20525 / 836.5 MHz | Ch20625 / 846.5 MHz |
| LTE5 5 MHz | QPSK | 1 | 0 | 24.1 | 24.5 | 24.0 | 24.1 | 24.3 | | | |
| | | 1 | 12 | 24.1 | 24.5 | 24.1 | 24.1 | 24.2 | | | |
| | | 1 | 24 | 24.1 | 24.5 | 24.1 | 24.2 | 24.2 | | | |
| | | 12 | 0 | 23.1 | 23.5 | 22.9 | 23.0 | 23.1 | | | |
| | | 12 | 6 | 23.1 | 23.5 | 23.0 | 23.1 | 23.2 | | | |
| | | 12 | 13 | 23.1 | 23.5 | 22.9 | 23.1 | 23.2 | | | |
| | | 25 | 0 | 23.1 | 23.5 | 22.9 | 23.0 | 23.2 | | | |
| | 16QAM | 1 | 0 | 23.4 | 23.8 | 23.1 | 23.3 | 23.7 | | | |
| | | 1 | 12 | 23.4 | 23.8 | 23.2 | 23.4 | 23.8 | | | |
| | | 1 | 24 | 23.4 | 23.8 | 23.2 | 23.3 | 23.6 | | | |
| | | 12 | 0 | 22.5 | 22.9 | 22.0 | 22.0 | 22.2 | | | |
| | | 12 | 6 | 22.5 | 22.9 | 22.0 | 22.0 | 22.2 | | | |
| | | 12 | 13 | 22.5 | 22.9 | 22.0 | 22.0 | 22.2 | | | |
| | | 25 | 0 | 22.5 | 22.9 | 22.0 | 22.0 | 22.2 | | | |

(LTE5 table continues)


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(LTE5 table continues)

| SN: 004402741813152 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20450 / 829 MHz | Ch20525 / 836.5 MHz | Ch20600 / 844 MHz | Ch20450 / 829 MHz | Ch20525 / 836.5 MHz | Ch20600 / 844 MHz |
| LTE5 10 MHz | QPSK | 1 | 0 | 24.1 | 24.5 | 24.3 | 24.3 | 24.3 | | | |
| | | 1 | 24 | 24.1 | 24.5 | 24.2 | 24.2 | 24.3 | | | |
| | | 1 | 49 | 24.1 | 24.5 | 24.1 | 24.3 | 24.2 | | | |
| | | 25 | 0 | 23.1 | 23.5 | 23.1 | 23.1 | 23.0 | | | |
| | | 25 | 12 | 23.1 | 23.5 | 23.1 | 23.1 | 23.1 | | | |
| | | 25 | 25 | 23.1 | 23.5 | 23.1 | 23.1 | 23.1 | | | |
| | | 50 | 0 | 23.1 | 23.5 | 23.0 | 23.1 | 23.1 | | | |
| | 16QAM | 1 | 0 | 23.4 | 23.8 | 23.7 | 23.4 | 23.3 | | | |
| | | 1 | 24 | 23.4 | 23.8 | 23.6 | 23.2 | 23.1 | | | |
| | | 1 | 49 | 23.4 | 23.8 | 23.6 | 23.4 | 23.1 | | | |
| | | 25 | 0 | 22.5 | 22.9 | 22.0 | 22.1 | 22.1 | | | |
| | | 25 | 12 | 22.5 | 22.9 | 22.1 | 22.1 | 22.2 | | | |
| | | 25 | 25 | 22.5 | 22.9 | 22.0 | 22.1 | 22.2 | | | |
| | | 50 | 0 | 22.5 | 22.9 | 22.0 | 22.1 | 22.2 | | | |

### 3.3.5 LTE1700/2100 (Band 4) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| SN: 004402741813327 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch19957 / 1710.7 MHz | Ch20175 / 1732.5 MHz | Ch20393 / 1754.3 MHz | Ch19957 / 1710.7 MHz | Ch20175 / 1732.5 MHz | Ch20393 / 1754.3 MHz |
| LTE4 1.4 MHz | QPSK | 1 | 0 | 23.9 | 24.3 | 24.0 | 23.9 | 23.9 | | | |
| | | 1 | 2 | 23.9 | 24.3 | 24.0 | 23.8 | 23.9 | | | |
| | | 1 | 5 | 23.9 | 24.3 | 24.0 | 23.8 | 23.9 | | | |
| | | 3 | 0 | 23.9 | 24.3 | 23.8 | 23.5 | 23.7 | | | |
| | | 3 | 2 | 23.9 | 24.3 | 23.9 | 23.7 | 23.8 | | | |
| | | 3 | 3 | 23.9 | 24.3 | 23.8 | 23.6 | 23.8 | | | |
| | | 6 | 0 | 22.9 | 23.3 | 22.8 | 22.8 | 22.7 | | | |
| | 16QAM | 1 | 0 | 23.0 | 23.4 | 23.4 | 22.9 | 23.1 | | | |
| | | 1 | 2 | 23.0 | 23.4 | 23.5 | 22.8 | 23.1 | | | |
| | | 1 | 5 | 23.0 | 23.4 | 23.2 | 23.0 | 23.1 | | | |
| | | 3 | 0 | 23.0 | 23.4 | 22.8 | 22.5 | 22.8 | | | |
| | | 3 | 2 | 23.0 | 23.4 | 22.9 | 22.6 | 23.0 | | | |
| | | 3 | 3 | 23.0 | 23.4 | 22.8 | 22.6 | 22.8 | | | |
| | | 6 | 0 | 21.9 | 22.3 | 21.9 | 21.9 | 21.8 | | | |

| SN: 004402741813327 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch19965 / 1711.5 MHz | Ch20175 / 1732.5 MHz | Ch20385 / 1753.5 MHz | Ch19965 / 1711.5 MHz | Ch20175 / 1732.5 MHz | Ch20385 / 1753.5 MHz |
| LTE4 3 MHz | QPSK | 1 | 0 | 23.9 | 24.3 | 23.9 | 23.6 | 23.8 | 24.0 | 23.7 | 23.8 |
| | | 1 | 7 | 23.9 | 24.3 | 24.3 | 24.0 | 23.9 | 24.3 | 23.9 | 23.9 |
| | | 1 | 14 | 23.9 | 24.3 | 23.9 | 23.8 | 23.8 | 23.9 | 23.8 | 23.7 |
| | | 8 | 0 | 22.9 | 23.3 | 22.9 | 22.8 | 22.8 | 21.9 | 21.6 | 21.8 |
| | | 8 | 3 | 22.9 | 23.3 | 22.9 | 22.8 | 22.8 | 21.9 | 21.7 | 21.7 |
| | | 8 | 7 | 22.9 | 23.3 | 22.9 | 22.7 | 22.8 | 21.9 | 21.7 | 21.7 |
| | | 15 | 0 | 22.9 | 23.3 | 22.9 | 22.8 | 22.8 | 21.8 | 21.7 | 21.7 |
| | 16QAM | 1 | 0 | 23.0 | 23.4 | 23.3 | 23.0 | 22.9 | 23.4 | 23.1 | 22.9 |
| | | 1 | 7 | 23.0 | 23.4 | 23.5 | 23.2 | 23.0 | 23.5 | 23.2 | 23.0 |
| | | 1 | 14 | 23.0 | 23.4 | 23.2 | 22.9 | 22.9 | 23.3 | 23.1 | 23.0 |
| | | 8 | 0 | 21.9 | 22.3 | 21.9 | 21.7 | 21.9 | 20.9 | 20.7 | 20.9 |
| | | 8 | 3 | 21.9 | 22.3 | 22.0 | 21.8 | 21.9 | 20.9 | 20.8 | 20.9 |
| | | 8 | 7 | 21.9 | 22.3 | 21.9 | 21.8 | 21.8 | 20.9 | 20.7 | 20.8 |
| | | 15 | 0 | 21.9 | 22.3 | 21.8 | 21.6 | 21.8 | 20.8 | 20.7 | 20.8 |

(LTE4 table continues)


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(LTE4 table continues)

| SN: 004402741813327 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch19975 / 1712.5 MHz | Ch20175 / 1732.5 MHz | Ch20375 / 1752.5 MHz | Ch19975 / 1712.5 MHz | Ch20175 / 1732.5 MHz | Ch20375 / 1752.5 MHz |
| LTE4 5 MHz | QPSK | 1 | 0 | 23.9 | 24.3 | 23.9 | 23.8 | 23.9 | 23.9 | 23.8 | 23.9 |
| | | 1 | 12 | 23.9 | 24.3 | 23.9 | 23.6 | 23.7 | 23.9 | 23.5 | 23.8 |
| | | 1 | 24 | 23.9 | 24.3 | 23.9 | 23.8 | 23.9 | 23.9 | 23.9 | 23.8 |
| | | 12 | 0 | 22.9 | 23.3 | 22.9 | 22.8 | 22.8 | 21.9 | 21.6 | 21.7 |
| | | 12 | 6 | 22.9 | 23.3 | 23.0 | 22.8 | 22.8 | 21.9 | 21.7 | 21.9 |
| | | 12 | 13 | 22.9 | 23.3 | 22.9 | 22.8 | 22.7 | 21.8 | 21.7 | 21.7 |
| | | 25 | 0 | 22.9 | 23.3 | 22.9 | 23.0 | 22.8 | 21.9 | 21.6 | 21.7 |
| | 16QAM | 1 | 0 | 23.0 | 23.4 | 23.0 | 22.9 | 23.1 | 23.0 | 22.7 | 23.1 |
| | | 1 | 12 | 23.0 | 23.4 | 22.9 | 22.9 | 23.1 | 23.0 | 22.9 | 23.0 |
| | | 1 | 24 | 23.0 | 23.4 | 23.0 | 22.9 | 23.0 | 23.0 | 22.9 | 23.0 |
| | | 12 | 0 | 21.9 | 22.3 | 21.9 | 21.7 | 21.8 | 20.9 | 20.6 | 20.9 |
| | | 12 | 6 | 21.9 | 22.3 | 22.0 | 21.7 | 21.8 | 20.9 | 20.6 | 20.9 |
| | | 12 | 13 | 21.9 | 22.3 | 21.9 | 21.7 | 21.7 | 20.9 | 20.7 | 20.8 |
| | | 25 | 0 | 21.9 | 22.3 | 21.9 | 21.6 | 21.8 | 20.9 | 20.7 | 20.6 |

| SN: 004402741813327 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20000 / 1715 MHz | Ch20175 / 1732.5 MHz | Ch20350 / 1750 MHz | Ch20000 / 1715 MHz | Ch20175 / 1732.5 MHz | Ch20350 / 1750 MHz |
| LTE4 10 MHz | QPSK | 1 | 0 | 23.9 | 24.3 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 | 23.9 |
| | | 1 | 24 | 23.9 | 24.3 | 23.9 | 23.8 | 23.8 | 23.9 | 23.7 | 23.7 |
| | | 1 | 49 | 23.9 | 24.3 | 23.9 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 |
| | | 25 | 0 | 22.9 | 23.3 | 22.8 | 22.7 | 22.8 | 21.7 | 21.7 | 21.8 |
| | | 25 | 12 | 22.9 | 23.3 | 22.8 | 22.7 | 22.7 | 21.8 | 21.7 | 21.7 |
| | | 25 | 25 | 22.9 | 23.3 | 22.8 | 22.8 | 22.8 | 21.8 | 21.7 | 21.6 |
| | | 50 | 0 | 22.9 | 23.3 | 22.7 | 22.7 | 22.8 | 21.7 | 21.7 | 21.7 |
| | 16QAM | 1 | 0 | 23.0 | 23.4 | 23.6 | 23.5 | 23.5 | 23.6 | 23.5 | 23.2 |
| | | 1 | 24 | 23.0 | 23.4 | 23.4 | 23.3 | 23.3 | 23.4 | 23.3 | 23.0 |
| | | 1 | 49 | 23.0 | 23.4 | 23.4 | 23.3 | 23.3 | 23.4 | 23.4 | 23.1 |
| | | 25 | 0 | 21.9 | 22.3 | 21.7 | 21.8 | 21.8 | 20.7 | 20.7 | 20.8 |
| | | 25 | 12 | 21.9 | 22.3 | 21.8 | 21.8 | 21.8 | 20.8 | 20.7 | 20.7 |
| | | 25 | 25 | 21.9 | 22.3 | 21.8 | 21.7 | 21.8 | 20.8 | 20.7 | 20.5 |
| | | 50 | 0 | 21.9 | 22.3 | 21.7 | 21.6 | 21.8 | 20.7 | 20.7 | 20.7 |

| SN: 004402741813327 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20025 / 1717.5 MHz | Ch20175 / 1732.5 MHz | Ch20325 / 1747.5 MHz | Ch20025 / 1717.5 MHz | Ch20175 / 1732.5 MHz | Ch20325 / 1747.5 MHz |
| LTE4 15 MHz | QPSK | 1 | 0 | 23.9 | 24.3 | 24.0 | 24.0 | 23.9 | 23.9 | 23.9 | 23.9 |
| | | 1 | 36 | 23.9 | 24.3 | 23.7 | 23.8 | 23.6 | 23.7 | 23.8 | 23.5 |
| | | 1 | 74 | 23.9 | 24.3 | 23.9 | 23.8 | 23.7 | 23.9 | 23.8 | 23.7 |
| | | 36 | 0 | 22.9 | 23.3 | 22.7 | 22.8 | 22.6 | 21.7 | 21.7 | 21.6 |
| | | 36 | 18 | 22.9 | 23.3 | 22.7 | 22.7 | 22.6 | 21.6 | 21.7 | 21.5 |
| | | 36 | 38 | 22.9 | 23.3 | 22.7 | 22.7 | 22.6 | 21.7 | 21.7 | 21.6 |
| | | 75 | 0 | 22.9 | 23.3 | 22.7 | 22.7 | 22.6 | 21.7 | 21.7 | 21.5 |
| | 16QAM | 1 | 0 | 23.0 | 23.4 | 23.1 | 23.1 | 23.2 | 23.1 | 23.1 | 23.1 |
| | | 1 | 36 | 23.0 | 23.4 | 22.7 | 22.6 | 22.9 | 22.5 | 22.9 | 22.8 |
| | | 1 | 74 | 23.0 | 23.4 | 23.0 | 22.8 | 23.0 | 22.9 | 22.9 | 23.0 |
| | | 36 | 0 | 21.9 | 22.3 | 21.7 | 21.8 | 21.6 | 20.7 | 20.7 | 20.5 |
| | | 36 | 18 | 21.9 | 22.3 | 21.7 | 21.8 | 21.6 | 20.6 | 20.6 | 20.6 |
| | | 36 | 38 | 21.9 | 22.3 | 21.7 | 21.7 | 21.6 | 20.7 | 20.7 | 20.5 |
| | | 75 | 0 | 21.9 | 22.3 | 21.7 | 21.8 | 21.6 | 20.7 | 20.7 | 20.7 |

(LTE4 table continues)


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(LTE4 table continues)

| SN: 004402741813327 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20050 / 1720 MHz | Ch20175 / 1732.5 MHz | Ch20300 / 1745 MHz | Ch20050 / 1720 MHz | Ch20175 / 1732.5 MHz | Ch20300 / 1745 MHz |
| LTE4 20 MHz | QPSK | 1 | 0 | 23.9 | 24.3 | 24.1 | 24.0 | 23.9 | 24.0 | 24.0 | 23.9 |
| | | 1 | 49 | 23.9 | 24.3 | 23.7 | 23.5 | 23.5 | 23.6 | 23.5 | 23.5 |
| | | 1 | 99 | 23.9 | 24.3 | 23.9 | 23.8 | 23.7 | 23.9 | 23.8 | 23.6 |
| | | 50 | 0 | 22.9 | 23.3 | 22.8 | 22.8 | 22.7 | 21.8 | 21.8 | 21.7 |
| | | 50 | 24 | 22.9 | 23.3 | 22.7 | 22.7 | 22.6 | 21.7 | 21.7 | 21.5 |
| | | 50 | 50 | 22.9 | 23.3 | 22.8 | 22.8 | 22.6 | 21.8 | 21.6 | 21.5 |
| | | 100 | 0 | 22.9 | 23.3 | 22.8 | 22.8 | 22.7 | 21.7 | 21.7 | 21.6 |
| | 16QAM | 1 | 0 | 23.0 | 23.4 | 23.6 | 23.2 | 22.9 | 23.5 | 23.2 | 22.9 |
| | | 1 | 49 | 23.0 | 23.4 | 23.3 | 22.9 | 22.6 | 23.2 | 22.9 | 22.5 |
| | | 1 | 99 | 23.0 | 23.4 | 23.4 | 23.0 | 22.7 | 23.3 | 23.0 | 22.6 |
| | | 50 | 0 | 21.9 | 22.3 | 21.8 | 21.8 | 21.8 | 20.7 | 20.8 | 20.7 |
| | | 50 | 24 | 21.9 | 22.3 | 21.7 | 21.6 | 21.6 | 20.7 | 20.7 | 20.6 |
| | | 50 | 50 | 21.9 | 22.3 | 21.8 | 21.7 | 21.6 | 20.8 | 20.7 | 20.6 |
| | | 100 | 0 | 21.9 | 22.3 | 21.7 | 21.7 | 21.7 | 20.7 | 20.7 | 20.6 |

| | |
|---|---|
| Maximum power value in columns E-G was found in the cell indicated with this color: | |
| The RF output power value measured in that confuguration, with downlink CA active, was [dBm]: | 24.3 |

### 3.3.6 LTE1900 (Band 2) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 & 2 / RM-1105**

| SN: 004402741813335 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch18607 / 1850.7 MHz | Ch18900 / 1880 MHz | Ch19193 / 1909.3 MHz | Ch18607 / 1850.7 MHz | Ch18900 / 1880 MHz | Ch19193 / 1909.3 MHz |
| LTE2 1.4 MHz | QPSK | 1 | 0 | 23.7 | 24.1 | 23.7 | 23.7 | 23.5 | | | |
| | | 1 | 2 | 23.7 | 24.1 | 23.7 | 23.7 | 23.5 | | | |
| | | 1 | 5 | 23.7 | 24.1 | 23.7 | 23.6 | 23.5 | | | |
| | | 3 | 0 | 23.7 | 24.1 | 23.6 | 23.5 | 23.4 | | | |
| | | 3 | 2 | 23.7 | 24.1 | 23.7 | 23.6 | 23.5 | | | |
| | | 3 | 3 | 23.7 | 24.1 | 23.6 | 23.4 | 23.4 | | | |
| | | 6 | 0 | 22.7 | 23.1 | 22.5 | 22.5 | 22.5 | | | |
| | 16QAM | 1 | 0 | 22.9 | 23.3 | 22.9 | 22.7 | 22.7 | | | |
| | | 1 | 2 | 22.9 | 23.3 | 22.9 | 22.7 | 22.6 | | | |
| | | 1 | 5 | 22.9 | 23.3 | 22.9 | 22.7 | 22.7 | | | |
| | | 3 | 0 | 22.9 | 23.3 | 22.6 | 22.6 | 22.4 | | | |
| | | 3 | 2 | 22.9 | 23.3 | 22.7 | 22.7 | 22.5 | | | |
| | | 3 | 3 | 22.9 | 23.3 | 22.7 | 22.6 | 22.5 | | | |
| | | 6 | 0 | 21.5 | 21.9 | 21.5 | 21.5 | 21.5 | | | |

(LTE2 table continues)


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(LTE2 table continues)

| SN: 004402741813335 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch18615 / 1851.5 MHz | Ch18900 / 1880 MHz | Ch19185 / 1908.5 MHz | Ch18615 / 1851.5 MHz | Ch18900 / 1880 MHz | Ch19185 / 1908.5 MHz |
| LTE2 3 MHz | QPSK | 1 | 0 | 23.7 | 24.1 | 23.6 | 23.5 | 23.5 | 23.7 | 23.5 | 23.5 |
| | | 1 | 7 | 23.7 | 24.1 | 23.9 | 23.8 | 23.8 | 23.9 | 23.8 | 23.6 |
| | | 1 | 14 | 23.7 | 24.1 | 23.7 | 23.6 | 23.5 | 23.7 | 23.5 | 23.5 |
| | | 8 | 0 | 22.7 | 23.1 | 22.6 | 22.6 | 22.4 | 21.6 | 21.6 | 21.1 |
| | | 8 | 3 | 22.7 | 23.1 | 22.7 | 22.6 | 22.5 | 21.6 | 21.6 | 21.5 |
| | | 8 | 7 | 22.7 | 23.1 | 22.7 | 22.6 | 22.5 | 21.6 | 21.6 | 21.5 |
| | | 15 | 0 | 22.7 | 23.1 | 22.6 | 22.6 | 22.5 | 21.6 | 21.6 | 21.5 |
| | 16QAM | 1 | 0 | 22.9 | 23.3 | 22.8 | 23.0 | 23.0 | 22.8 | 23.0 | 22.9 |
| | | 1 | 7 | 22.9 | 23.3 | 22.9 | 23.3 | 23.2 | 22.9 | 23.3 | 23.1 |
| | | 1 | 14 | 22.9 | 23.3 | 22.9 | 23.1 | 23.0 | 22.8 | 23.1 | 23.0 |
| | | 8 | 0 | 21.7 | 22.1 | 21.6 | 21.7 | 21.4 | 20.7 | 20.6 | 20.5 |
| | | 8 | 3 | 21.7 | 22.1 | 21.7 | 21.7 | 21.6 | 20.7 | 20.6 | 20.6 |
| | | 8 | 7 | 21.7 | 22.1 | 21.7 | 21.7 | 21.6 | 20.7 | 20.7 | 20.5 |
| | | 15 | 0 | 21.7 | 22.1 | 21.6 | 21.7 | 21.6 | 20.5 | 20.5 | 20.5 |

| SN: 004402741813335 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch18625 / 1852.5 MHz | Ch18900 / 1880 MHz | Ch19175 / 1907.5 MHz | Ch18625 / 1852.5 MHz | Ch18900 / 1880 MHz | Ch19175 / 1907.5 MHz |
| LTE2 5 MHz | QPSK | 1 | 0 | 23.7 | 24.1 | 23.7 | 23.7 | 23.5 | 23.7 | 23.7 | 23.5 |
| | | 1 | 12 | 23.7 | 24.1 | 23.7 | 23.7 | 23.6 | 23.7 | 23.7 | 23.5 |
| | | 1 | 24 | 23.7 | 24.1 | 23.8 | 23.8 | 23.6 | 23.8 | 23.7 | 23.6 |
| | | 12 | 0 | 22.7 | 23.1 | 22.6 | 22.6 | 22.4 | 21.6 | 21.6 | 21.5 |
| | | 12 | 6 | 22.7 | 23.1 | 22.7 | 22.6 | 22.5 | 21.6 | 21.6 | 21.5 |
| | | 12 | 13 | 22.7 | 23.1 | 22.7 | 22.5 | 22.5 | 21.6 | 21.5 | 21.5 |
| | | 25 | 0 | 22.7 | 23.1 | 22.7 | 22.7 | 22.5 | 21.6 | 21.6 | 21.5 |
| | 16QAM | 1 | 0 | 22.9 | 23.3 | 22.9 | 22.8 | 22.8 | 22.9 | 22.7 | 22.8 |
| | | 1 | 12 | 22.9 | 23.3 | 22.9 | 22.9 | 22.9 | 23.2 | 22.9 | 22.8 |
| | | 1 | 24 | 22.9 | 23.3 | 23.0 | 22.8 | 22.9 | 23.0 | 22.7 | 22.9 |
| | | 12 | 0 | 21.7 | 22.1 | 21.6 | 21.7 | 21.4 | 20.6 | 20.6 | 20.3 |
| | | 12 | 6 | 21.7 | 22.1 | 21.6 | 21.7 | 21.5 | 20.6 | 20.6 | 20.5 |
| | | 12 | 13 | 21.7 | 22.1 | 21.7 | 21.7 | 21.5 | 20.6 | 20.5 | 20.5 |
| | | 25 | 0 | 21.7 | 22.1 | 21.7 | 21.6 | 21.5 | 20.7 | 20.5 | 20.4 |

| SN: 004402741813335 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch18650 / 1855 MHz | Ch18900 / 1880 MHz | Ch19150 / 1905 MHz | Ch18650 / 1855 MHz | Ch18900 / 1880 MHz | Ch19150 / 1905 MHz |
| LTE2 10 MHz | QPSK | 1 | 0 | 23.7 | 24.1 | 24.0 | 23.8 | 23.6 | 24.0 | 23.8 | 23.6 |
| | | 1 | 24 | 23.7 | 24.1 | 23.9 | 23.6 | 23.6 | 23.8 | 23.7 | 23.6 |
| | | 1 | 49 | 23.7 | 24.1 | 23.9 | 23.8 | 23.6 | 23.9 | 23.6 | 23.6 |
| | | 25 | 0 | 22.7 | 23.1 | 22.7 | 22.6 | 22.6 | 21.7 | 21.6 | 21.5 |
| | | 25 | 12 | 22.7 | 23.1 | 22.7 | 22.6 | 22.5 | 21.6 | 21.6 | 21.5 |
| | | 25 | 25 | 22.7 | 23.1 | 22.7 | 22.7 | 22.5 | 21.8 | 21.6 | 21.6 |
| | | 50 | 0 | 22.7 | 23.1 | 22.7 | 22.7 | 22.5 | 21.7 | 21.6 | 21.5 |
| | 16QAM | 1 | 0 | 22.9 | 23.3 | 23.3 | 23.3 | 22.7 | 23.3 | 23.3 | 22.7 |
| | | 1 | 24 | 22.9 | 23.3 | 23.1 | 23.1 | 22.6 | 23.1 | 23.1 | 22.6 |
| | | 1 | 49 | 22.9 | 23.3 | 23.2 | 23.3 | 22.8 | 23.1 | 23.3 | 22.8 |
| | | 25 | 0 | 21.7 | 22.1 | 21.6 | 21.6 | 21.6 | 20.6 | 20.5 | 20.6 |
| | | 25 | 12 | 21.7 | 22.1 | 21.6 | 21.6 | 21.6 | 20.6 | 20.6 | 20.5 |
| | | 25 | 25 | 21.7 | 22.1 | 21.6 | 21.6 | 21.6 | 20.6 | 20.6 | 20.7 |
| | | 50 | 0 | 21.7 | 22.1 | 21.6 | 21.6 | 21.5 | 20.6 | 20.5 | 20.5 |

(LTE2 table continues)


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(LTE2 table continues)

| SN: 004402741813335 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch18675 / 1857.5 MHz | Ch18900 / 1880 MHz | Ch19125 / 1902.5 MHz | Ch18675 / 1857.5 MHz | Ch18900 / 1880 MHz | Ch19125 / 1902.5 MHz |
| LTE2 15 MHz | QPSK | 1 | 0 | 23.7 | 24.1 | 24.0 | 23.9 | 23.8 | 23.9 | 23.9 | 23.8 |
| | | 1 | 36 | 23.7 | 24.1 | 23.5 | 23.5 | 23.7 | 23.6 | 23.4 | 23.6 |
| | | 1 | 74 | 23.7 | 24.1 | 23.7 | 23.7 | 23.8 | 23.7 | 23.6 | 23.8 |
| | | 36 | 0 | 22.7 | 23.1 | 22.8 | 22.8 | 22.7 | 21.6 | 21.8 | 21.7 |
| | | 36 | 18 | 22.7 | 23.1 | 22.7 | 22.7 | 22.8 | 21.7 | 21.7 | 21.8 |
| | | 36 | 38 | 22.7 | 23.1 | 22.7 | 22.7 | 22.8 | 21.7 | 21.7 | 21.8 |
| | | 75 | 0 | 22.7 | 23.1 | 22.7 | 22.7 | 22.8 | 21.7 | 21.7 | 21.8 |
| | 16QAM | 1 | 0 | 22.9 | 23.3 | 23.0 | 23.0 | 23.0 | 22.9 | 23.0 | 23.0 |
| | | 1 | 36 | 22.9 | 23.3 | 22.6 | 22.5 | 22.8 | 22.6 | 22.6 | 22.8 |
| | | 1 | 74 | 22.9 | 23.3 | 22.7 | 22.8 | 22.9 | 22.7 | 22.7 | 22.9 |
| | | 36 | 0 | 21.7 | 22.1 | 21.8 | 21.8 | 21.7 | 20.8 | 20.7 | 20.7 |
| | | 36 | 18 | 21.7 | 22.1 | 21.7 | 21.7 | 21.7 | 20.7 | 20.7 | 20.7 |
| | | 36 | 38 | 21.7 | 22.1 | 21.7 | 21.8 | 21.8 | 20.7 | 20.7 | 20.7 |
| | | 75 | 0 | 21.7 | 22.1 | 21.7 | 21.8 | 21.8 | 20.7 | 20.7 | 20.7 |

| SN: 004402741813335 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch18700 / 1860 MHz | Ch18900 / 1880 MHz | Ch19100 / 1900 MHz | Ch18700 / 1860 MHz | Ch18900 / 1880 MHz | Ch19100 / 1900 MHz |
| LTE2 20 MHz | QPSK | 1 | 0 | 23.7 | 24.1 | 24.1 | 24.1 | 24.0 | 24.2 | 24.1 | 24.0 |
| | | 1 | 49 | 23.7 | 24.1 | 23.7 | 23.5 | 23.7 | 23.6 | 23.5 | 23.7 |
| | | 1 | 99 | 23.7 | 24.1 | 23.9 | 23.8 | 23.8 | 23.9 | 23.8 | 23.8 |
| | | 50 | 0 | 22.7 | 23.1 | 22.9 | 22.9 | 22.8 | 21.9 | 21.9 | 21.8 |
| | | 50 | 24 | 22.7 | 23.1 | 22.7 | 22.7 | 22.7 | 21.7 | 21.8 | 21.6 |
| | | 50 | 50 | 22.7 | 23.1 | 22.8 | 23.0 | 22.8 | 21.7 | 21.9 | 21.9 |
| | | 100 | 0 | 22.7 | 23.1 | 22.8 | 22.9 | 22.8 | 21.8 | 21.9 | 21.8 |
| | 16QAM | 1 | 0 | 22.9 | 23.3 | 23.6 | 23.6 | 23.2 | 23.6 | 23.6 | 23.5 |
| | | 1 | 49 | 22.9 | 23.3 | 23.3 | 23.2 | 23.1 | 23.3 | 23.3 | 23.2 |
| | | 1 | 99 | 22.9 | 23.3 | 23.4 | 23.4 | 23.1 | 23.4 | 23.4 | 23.2 |
| | | 50 | 0 | 21.7 | 22.1 | 21.9 | 21.9 | 21.9 | 20.9 | 20.8 | 20.9 |
| | | 50 | 24 | 21.7 | 22.1 | 21.7 | 21.9 | 21.7 | 20.7 | 20.7 | 20.6 |
| | | 50 | 50 | 21.7 | 22.1 | 21.7 | 21.9 | 21.8 | 20.7 | 20.8 | 20.8 |
| | | 100 | 0 | 21.7 | 22.1 | 21.8 | 21.9 | 21.7 | 20.7 | 20.8 | 20.6 |

| | |
|---|---|
| Maximum power value in columns E-G was found in the cell indicated with this color: | |
| The RF output power value measured in that confuguration, with downlink CA active, was [dBm]: | 24.1 |


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### 3.3.7 LTE2300 (Band 30) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 / RM-1105**

| SN: 004402741813129 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch27685 / 2307.5 MHz | Ch27710 / 2310 MHz | Ch27735 / 2312.5 MHz | Ch27685 / 2307.5 MHz | Ch27710 / 2310 MHz | Ch27735 / 2312.5 MHz |
| LTE30 5 MHz | QPSK | 1 | 0 | 22.6 | 23.0 | 22.8 | 22.9 | 23.0 | | | |
| | | 1 | 12 | 22.6 | 23.0 | 22.7 | 22.9 | 22.9 | | | |
| | | 1 | 24 | 22.6 | 23.0 | 22.9 | 22.8 | 22.6 | | | |
| | | 12 | 0 | 21.5 | 21.9 | 21.8 | 22.0 | 22.0 | | | |
| | | 12 | 6 | 21.5 | 21.9 | 21.8 | 22.1 | 22.0 | | | |
| | | 12 | 13 | 21.5 | 21.9 | 21.8 | 22.0 | 21.8 | | | |
| | | 25 | 0 | 21.5 | 21.9 | 21.8 | 22.0 | 22.0 | | | |
| | 16QAM | 1 | 0 | 22.0 | 22.4 | 21.8 | 22.0 | 22.2 | | | |
| | | 1 | 12 | 22.0 | 22.4 | 21.9 | 22.2 | 22.1 | | | |
| | | 1 | 24 | 22.0 | 22.4 | 21.8 | 22.1 | 21.9 | | | |
| | | 12 | 0 | 20.5 | 20.9 | 20.8 | 20.9 | 20.9 | | | |
| | | 12 | 6 | 20.5 | 20.9 | 20.9 | 21.0 | 20.9 | | | |
| | | 12 | 13 | 20.5 | 20.9 | 20.8 | 20.9 | 20.9 | | | |
| | | 25 | 0 | 20.5 | 20.9 | 20.8 | 20.9 | 21.0 | | | |

| SN: 004402741813129 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch27710 / 2310 MHz | Ch27710 / 2310 MHz | Ch27710 / 2310 MHz | Ch27710 / 2310 MHz | Ch27710 / 2310 MHz | Ch27710 / 2310 MHz |
| LTE30 10 MHz | QPSK | 1 | 0 | 22.6 | 23.0 | - | 23.1 | - | | | |
| | | 1 | 24 | 22.6 | 23.0 | - | 23.0 | - | | | |
| | | 1 | 49 | 22.6 | 23.0 | - | 22.5 | - | | | |
| | | 25 | 0 | 21.5 | 21.9 | - | 21.9 | - | | | |
| | | 25 | 12 | 21.5 | 21.9 | - | 22.0 | - | | | |
| | | 25 | 25 | 21.5 | 21.9 | - | 21.9 | - | | | |
| | | 50 | 0 | 21.5 | 21.9 | - | 21.9 | - | | | |
| | 16QAM | 1 | 0 | 22.0 | 22.4 | - | 22.6 | - | | | |
| | | 1 | 24 | 22.0 | 22.4 | - | 22.7 | - | | | |
| | | 1 | 49 | 22.0 | 22.4 | - | 22.1 | - | | | |
| | | 25 | 0 | 20.5 | 20.9 | - | 20.9 | - | | | |
| | | 25 | 12 | 20.5 | 20.9 | - | 20.9 | - | | | |
| | | 25 | 25 | 20.5 | 20.9 | - | 20.9 | - | | | |
| | | 50 | 0 | 20.5 | 20.9 | - | 20.9 | - | | | |

| | |
|---|---|
| Maximum power value in columns E-G was found in the cell indicated with this color: | |
| The RF output power value measured in that confuguration, with downlink CA active, was [dBm]: | 23.1 |


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### 3.3.8 LTE2500 (Band 7) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 / RM-1105**

| SN: 004402741813129 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20775 / 2502.5 MHz | Ch21100 / 2535 MHz | Ch21425 / 2567.5 MHz | Ch20775 / 2502.5 MHz | Ch21100 / 2535 MHz | Ch21425 / 2567.5 MHz |
| LTE7 5 MHz | QPSK | 1 | 0 | 22.7 | 23.1 | 22.3 | 22.8 | 22.6 | | | |
| | | 1 | 12 | 22.7 | 23.1 | 22.3 | 22.9 | 22.6 | | | |
| | | 1 | 24 | 22.7 | 23.1 | 22.4 | 22.8 | 22.5 | | | |
| | | 12 | 0 | 21.6 | 22.0 | 21.3 | 21.7 | 21.5 | | | |
| | | 12 | 6 | 21.6 | 22.0 | 21.4 | 21.8 | 21.6 | | | |
| | | 12 | 13 | 21.6 | 22.0 | 21.3 | 21.8 | 21.5 | | | |
| | | 25 | 0 | 21.6 | 22.0 | 21.4 | 21.8 | 21.6 | | | |
| | 16QAM | 1 | 0 | 22.0 | 22.4 | 22.0 | 22.1 | 21.7 | | | |
| | | 1 | 12 | 22.0 | 22.4 | 22.0 | 22.1 | 21.7 | | | |
| | | 1 | 24 | 22.0 | 22.4 | 21.9 | 22.1 | 21.6 | | | |
| | | 12 | 0 | 20.9 | 21.3 | 20.4 | 20.8 | 20.6 | | | |
| | | 12 | 6 | 20.9 | 21.3 | 20.4 | 20.9 | 20.7 | | | |
| | | 12 | 13 | 20.9 | 21.3 | 20.4 | 20.8 | 20.6 | | | |
| | | 25 | 0 | 20.9 | 21.3 | 20.3 | 20.9 | 20.6 | | | |

| SN: 004402741813129 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20800 / 2505 MHz | Ch21100 / 2535 MHz | Ch21400 / 2565 MHz | Ch20800 / 2505 MHz | Ch21100 / 2535 MHz | Ch21400 / 2565 MHz |
| LTE7 10 MHz | QPSK | 1 | 0 | 22.7 | 23.1 | 22.6 | 23.0 | 22.8 | | | |
| | | 1 | 24 | 22.7 | 23.1 | 22.5 | 23.0 | 22.7 | | | |
| | | 1 | 49 | 22.7 | 23.1 | 22.5 | 23.0 | 22.7 | | | |
| | | 25 | 0 | 21.6 | 22.0 | 21.5 | 21.8 | 21.8 | | | |
| | | 25 | 12 | 21.6 | 22.0 | 21.5 | 21.9 | 21.7 | | | |
| | | 25 | 25 | 21.6 | 22.0 | 21.4 | 21.9 | 21.7 | | | |
| | | 50 | 0 | 21.6 | 22.0 | 21.4 | 21.9 | 21.7 | | | |
| | 16QAM | 1 | 0 | 22.0 | 22.4 | 21.7 | 22.3 | 22.5 | | | |
| | | 1 | 24 | 22.0 | 22.4 | 21.6 | 22.2 | 22.3 | | | |
| | | 1 | 49 | 22.0 | 22.4 | 21.7 | 22.2 | 22.4 | | | |
| | | 25 | 0 | 20.9 | 21.3 | 20.4 | 20.8 | 20.8 | | | |
| | | 25 | 12 | 20.9 | 21.3 | 20.4 | 20.8 | 20.7 | | | |
| | | 25 | 25 | 20.9 | 21.3 | 20.4 | 20.8 | 20.7 | | | |
| | | 50 | 0 | 20.9 | 21.3 | 20.4 | 20.8 | 20.7 | | | |

| SN: 004402741813129 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20825 / 2507.5 MHz | Ch21100 / 2535 MHz | Ch21375 / 2562.5 MHz | Ch20825 / 2507.5 MHz | Ch21100 / 2535 MHz | Ch21375 / 2562.5 MHz |
| LTE7 15 MHz | QPSK | 1 | 0 | 22.7 | 23.1 | 22.4 | 23.1 | 22.7 | | | |
| | | 1 | 36 | 22.7 | 23.1 | 22.5 | 22.7 | 22.8 | | | |
| | | 1 | 74 | 22.7 | 23.1 | 22.5 | 22.9 | 22.6 | | | |
| | | 36 | 0 | 21.6 | 22.0 | 21.4 | 21.9 | 21.8 | | | |
| | | 36 | 18 | 21.6 | 22.0 | 21.4 | 22.0 | 21.7 | | | |
| | | 36 | 38 | 21.6 | 22.0 | 21.4 | 21.9 | 21.7 | | | |
| | | 75 | 0 | 21.6 | 22.0 | 21.4 | 21.9 | 21.8 | | | |
| | 16QAM | 1 | 0 | 22.0 | 22.4 | 21.7 | 22.2 | 22.1 | | | |
| | | 1 | 36 | 22.0 | 22.4 | 21.8 | 22.1 | 22.0 | | | |
| | | 1 | 74 | 22.0 | 22.4 | 21.9 | 22.1 | 21.9 | | | |
| | | 36 | 0 | 20.9 | 21.3 | 20.4 | 20.9 | 20.7 | | | |
| | | 36 | 18 | 20.9 | 21.3 | 20.5 | 20.9 | 20.7 | | | |
| | | 36 | 38 | 20.9 | 21.3 | 20.4 | 20.9 | 20.7 | | | |
| | | 75 | 0 | 20.9 | 21.3 | 20.4 | 21.0 | 20.8 | | | |

(LTE7 table continues)


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(LTE7 table continues)

| SN: 004402741813129 | | | | | | Nominal | | | A-MPR active | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch20850 / 2510 MHz | Ch21100 / 2535 MHz | Ch21350 / 2560 MHz | Ch20850 / 2510 MHz | Ch21100 / 2535 MHz | Ch21350 / 2560 MHz |
| LTE7 20 MHz | QPSK | 1 | 0 | 22.7 | 23.1 | 22.7 | 23.1 | 22.8 | | | |
| | | 1 | 49 | 22.7 | 23.1 | 22.6 | 23.0 | 22.7 | | | |
| | | 1 | 99 | 22.7 | 23.1 | 22.6 | 23.0 | 22.7 | | | |
| | | 50 | 0 | 21.6 | 22.0 | 21.7 | 22.0 | 21.8 | | | |
| | | 50 | 24 | 21.6 | 22.0 | 21.7 | 22.0 | 21.9 | | | |
| | | 50 | 50 | 21.6 | 22.0 | 21.7 | 22.0 | 21.8 | | | |
| | | 100 | 0 | 21.6 | 22.0 | 21.8 | 22.0 | 21.8 | | | |
| | 16QAM | 1 | 0 | 22.0 | 22.4 | 22.1 | 22.7 | 22.1 | | | |
| | | 1 | 49 | 22.0 | 22.4 | 22.0 | 22.5 | 22.3 | | | |
| | | 1 | 99 | 22.0 | 22.4 | 22.0 | 22.5 | 21.8 | | | |
| | | 50 | 0 | 20.9 | 21.3 | 20.7 | 20.9 | 20.8 | | | |
| | | 50 | 24 | 20.9 | 21.3 | 20.5 | 21.0 | 20.9 | | | |
| | | 50 | 50 | 20.9 | 21.3 | 20.7 | 20.9 | 20.8 | | | |
| | | 100 | 0 | 20.9 | 21.3 | 20.7 | 20.9 | 20.8 | | | |

### 3.3.9 LTE2500 (Band 41) Head, Body-worn 15 mm and Wireless Router 10 mm

**Antenna 1 / RM-1105**

| SN: 004402741813129 | | | | | | Nominal | | | | | A-MPR active | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch39675 / 2498.5 MHz | Ch40148 / 2545.8 MHz | Ch40620 / 2593 MHz | Ch41092 / 2640.2 MHz | Ch41565 / 2687.5 MHz | Ch39675 / 2498.5 MHz | Ch40148 / 2545.8 MHz | Ch40620 / 2593 MHz | Ch41092 / 2640.2 MHz | Ch41565 / 2687.5 MHz |
| LTE41 5 MHz | QPSK | 1 | 0 | 22.2 | 22.6 | 22.3 | 22.5 | 22.2 | 22.3 | 22.5 | 22.3 | 22.5 | 22.2 | 22.4 | 22.4 |
| | | 1 | 12 | 22.2 | 22.6 | 22.5 | 22.6 | 22.4 | 22.6 | 22.5 | 22.5 | 22.7 | 22.4 | 22.6 | 22.5 |
| | | 1 | 24 | 22.2 | 22.6 | 22.3 | 22.5 | 22.3 | 22.3 | 22.4 | 22.3 | 22.5 | 22.3 | 22.4 | 22.3 |
| | | 12 | 0 | 21.5 | 21.9 | 21.5 | 21.7 | 21.4 | 21.5 | 21.7 | 20.6 | 20.7 | 20.5 | 20.6 | 20.7 |
| | | 12 | 6 | 21.5 | 21.9 | 21.5 | 21.7 | 21.4 | 21.6 | 21.7 | 20.6 | 20.7 | 20.5 | 20.6 | 20.7 |
| | | 12 | 13 | 21.5 | 21.9 | 21.5 | 21.7 | 21.4 | 21.6 | 21.7 | 20.5 | 20.6 | 20.5 | 20.6 | 20.6 |
| | | 25 | 0 | 21.5 | 21.9 | 21.5 | 21.7 | 21.4 | 21.5 | 21.7 | 20.6 | 20.7 | 20.5 | 20.5 | 20.7 |
| | 16QAM | 1 | 0 | 21.5 | 21.9 | 21.6 | 21.8 | 21.4 | 21.6 | 21.8 | 21.8 | 21.7 | 21.5 | 21.8 | 21.9 |
| | | 1 | 12 | 21.5 | 21.9 | 21.6 | 21.7 | 21.5 | 21.7 | 21.7 | 21.6 | 21.7 | 21.5 | 21.7 | 21.8 |
| | | 1 | 24 | 21.5 | 21.9 | 21.5 | 21.8 | 21.5 | 21.6 | 21.6 | 21.5 | 21.7 | 21.6 | 21.6 | 21.6 |
| | | 12 | 0 | 20.5 | 20.9 | 20.6 | 20.8 | 20.5 | 20.6 | 20.8 | 19.6 | 19.8 | 19.5 | 19.6 | 19.7 |
| | | 12 | 6 | 20.5 | 20.9 | 20.5 | 20.8 | 20.5 | 20.5 | 20.8 | 19.6 | 19.7 | 19.5 | 19.6 | 19.7 |
| | | 12 | 13 | 20.5 | 20.9 | 20.5 | 20.7 | 20.5 | 20.6 | 20.8 | 19.5 | 19.7 | 19.5 | 19.6 | 19.7 |
| | | 25 | 0 | 20.5 | 20.9 | 20.6 | 20.8 | 20.5 | 20.5 | 20.8 | 19.7 | 19.7 | 19.5 | 19.6 | 19.7 |

| SN: 004402741813129 | | | | | | Nominal | | | | | A-MPR active | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch39700 / 2501 MHz | Ch40160 / 2547 MHz | Ch40620 / 2593 MHz | Ch41080 / 2639 MHz | Ch41540 / 2685 MHz | Ch39700 / 2501 MHz | Ch40160 / 2547 MHz | Ch40620 / 2593 MHz | Ch41080 / 2639 MHz | Ch41540 / 2685 MHz |
| LTE41 10 MHz | QPSK | 1 | 0 | 22.2 | 22.6 | 22.4 | 22.6 | 22.3 | 22.6 | 22.6 | 19.5 | 19.5 | 19.3 | 19.6 | 19.6 |
| | | 1 | 24 | 22.2 | 22.6 | 22.3 | 22.4 | 22.3 | 22.4 | 22.5 | 22.3 | 22.4 | 22.3 | 22.4 | 22.5 |
| | | 1 | 49 | 22.2 | 22.6 | 22.2 | 22.6 | 22.3 | 22.5 | 22.4 | 19.2 | 19.5 | 19.3 | 19.4 | 19.4 |
| | | 25 | 0 | 21.5 | 21.9 | 21.4 | 21.6 | 21.4 | 21.6 | 21.6 | 18.5 | 18.6 | 18.4 | 18.6 | 18.6 |
| | | 25 | 12 | 21.5 | 21.9 | 21.4 | 21.6 | 21.4 | 21.6 | 21.7 | 19.4 | 19.5 | 19.4 | 19.6 | 19.6 |
| | | 25 | 25 | 21.5 | 21.9 | 21.2 | 21.6 | 21.4 | 21.6 | 21.6 | 19.3 | 19.5 | 19.5 | 19.6 | 19.6 |
| | | 50 | 0 | 21.5 | 21.9 | 21.5 | 21.6 | 21.4 | 21.6 | 21.6 | 18.5 | 18.5 | 18.4 | 18.6 | 18.7 |
| | 16QAM | 1 | 0 | 21.5 | 21.9 | 21.6 | 21.8 | 21.6 | 21.9 | 21.9 | 18.7 | 18.8 | 18.6 | 18.8 | 18.8 |
| | | 1 | 24 | 21.5 | 21.9 | 21.5 | 21.6 | 21.4 | 21.6 | 21.8 | 21.5 | 21.5 | 21.4 | 21.6 | 21.7 |
| | | 1 | 49 | 21.5 | 21.9 | 21.5 | 21.8 | 21.5 | 21.6 | 21.7 | 18.4 | 18.6 | 18.5 | 18.6 | 18.6 |
| | | 25 | 0 | 20.5 | 20.9 | 20.5 | 20.8 | 20.5 | 20.6 | 20.7 | 17.6 | 17.7 | 17.5 | 17.7 | 17.7 |
| | | 25 | 12 | 20.5 | 20.9 | 20.5 | 20.7 | 20.5 | 20.7 | 20.8 | 18.5 | 18.6 | 18.5 | 18.7 | 18.8 |
| | | 25 | 25 | 20.5 | 20.9 | 20.3 | 20.7 | 20.5 | 20.7 | 20.7 | 18.4 | 18.6 | 18.6 | 18.6 | 18.7 |
| | | 50 | 0 | 20.5 | 20.9 | 20.5 | 20.6 | 20.4 | 20.6 | 20.7 | 17.5 | 17.6 | 17.5 | 17.6 | 17.7 |

(LTE41 table continues)


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(LTE41 table continues)

| SN: 004402741813129 | | | | | | Nominal | | | | | A-MPR active | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch39725 / 2503.5 MHz | Ch40172 / 2548.2 MHz | Ch40620 / 2593 MHz | Ch41068 / 2637.8 MHz | Ch41515 / 2682.5 MHz | Ch39725 / 2503.5 MHz | Ch40172 / 2548.2 MHz | Ch40620 / 2593 MHz | Ch41068 / 2637.8 MHz | Ch41515 / 2682.5 MHz |
| LTE41 15 MHz | QPSK | 1 | 0 | 22.2 | 22.6 | 22.2 | 22.4 | 22.3 | 22.2 | 22.1 | 19.3 | 19.4 | 19.4 | 19.2 | 19.1 |
| | | 1 | 36 | 22.2 | 22.6 | 22.0 | 22.3 | 22.2 | 22.2 | 22.0 | 22.0 | 22.3 | 22.1 | 22.1 | 21.9 |
| | | 1 | 74 | 22.2 | 22.6 | 22.0 | 22.2 | 22.2 | 22.1 | 21.8 | 19.0 | 19.3 | 19.2 | 19.1 | 18.8 |
| | | 36 | 0 | 21.5 | 21.9 | 21.4 | 21.6 | 21.4 | 21.4 | 21.3 | 18.4 | 18.6 | 18.4 | 18.4 | 18.3 |
| | | 36 | 18 | 21.5 | 21.9 | 21.3 | 21.6 | 21.5 | 21.5 | 21.2 | 21.3 | 21.5 | 21.4 | 21.3 | 21.2 |
| | | 36 | 38 | 21.5 | 21.9 | 21.3 | 21.6 | 21.5 | 21.4 | 21.2 | 19.2 | 19.5 | 19.4 | 19.3 | 19.2 |
| | | 75 | 0 | 21.5 | 21.9 | 21.3 | 21.5 | 21.4 | 21.4 | 21.2 | 18.3 | 18.5 | 18.5 | 18.5 | 18.2 |
| | 16QAM | 1 | 0 | 21.5 | 21.9 | 21.5 | 21.6 | 21.5 | 21.4 | 21.4 | 18.5 | 18.5 | 18.5 | 18.4 | 18.3 |
| | | 1 | 36 | 21.5 | 21.9 | 21.3 | 21.6 | 21.5 | 21.5 | 21.3 | 21.3 | 21.5 | 21.4 | 21.4 | 21.2 |
| | | 1 | 74 | 21.5 | 21.9 | 21.2 | 21.4 | 21.4 | 21.3 | 21.1 | 18.2 | 18.4 | 18.3 | 18.3 | 17.9 |
| | | 36 | 0 | 20.5 | 20.9 | 20.4 | 20.5 | 20.4 | 20.4 | 20.3 | 17.4 | 17.5 | 17.4 | 17.4 | 17.2 |
| | | 36 | 18 | 20.5 | 20.9 | 20.3 | 20.5 | 20.4 | 20.4 | 20.2 | 20.2 | 20.5 | 20.4 | 20.4 | 20.2 |
| | | 36 | 38 | 20.5 | 20.9 | 20.3 | 20.5 | 20.4 | 20.3 | 20.3 | 18.3 | 18.5 | 18.4 | 18.4 | 18.2 |
| | | 75 | 0 | 20.5 | 20.9 | 20.3 | 20.6 | 20.5 | 20.5 | 20.2 | 17.3 | 17.6 | 17.5 | 17.5 | 17.3 |

| SN: 004402741813129 | | | | | | Nominal | | | | | A-MPR active | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Band / BW | Modulation | RB Allocation | RB Offset | Tuning target (dBm) | Upper limit (dBm) | Ch39750 / 2506 MHz | Ch40185 / 2549.5 MHz | Ch40620 / 2593 MHz | Ch41055 / 2636.5 MHz | Ch41490 / 2680 MHz | Ch39750 / 2506 MHz | Ch40185 / 2549.5 MHz | Ch40620 / 2593 MHz | Ch41055 / 2636.5 MHz | Ch41490 / 2680 MHz |
| LTE41 20 MHz | QPSK | 1 | 0 | 22.2 | 22.6 | 22.3 | 22.4 | 22.4 | 22.3 | 22.1 | 19.3 | 19.5 | 19.5 | 19.3 | 19.3 |
| | | 1 | 49 | 22.2 | 22.6 | 22.0 | 22.2 | 22.2 | 22.1 | 21.9 | 22.0 | 22.3 | 22.2 | 22.0 | 21.9 |
| | | 1 | 99 | 22.2 | 22.6 | 21.9 | 22.1 | 22.2 | 22.0 | 21.7 | 19.0 | 19.2 | 19.2 | 19.1 | 18.8 |
| | | 50 | 0 | 21.5 | 21.9 | 21.5 | 21.7 | 21.5 | 21.4 | 21.5 | 18.5 | 18.7 | 18.5 | 18.5 | 18.4 |
| | | 50 | 24 | 21.5 | 21.9 | 21.3 | 21.5 | 21.4 | 21.3 | 21.2 | 21.3 | 21.5 | 21.4 | 21.4 | 21.3 |
| | | 50 | 50 | 21.5 | 21.9 | 21.3 | 21.5 | 21.4 | 21.5 | 21.2 | 19.3 | 19.5 | 19.5 | 19.4 | 19.3 |
| | | 100 | 0 | 21.5 | 21.9 | 21.4 | 21.6 | 21.6 | 21.5 | 21.3 | 18.3 | 18.6 | 18.5 | 18.5 | 18.3 |
| | 16QAM | 1 | 0 | 21.5 | 21.9 | 21.7 | 21.7 | 21.7 | 21.6 | 21.6 | 18.6 | 18.7 | 18.6 | 18.5 | 18.5 |
| | | 1 | 49 | 21.5 | 21.9 | 21.3 | 21.5 | 21.4 | 21.3 | 21.2 | 21.3 | 21.5 | 21.4 | 21.3 | 21.3 |
| | | 1 | 99 | 21.5 | 21.9 | 21.3 | 21.5 | 21.5 | 21.3 | 21.1 | 18.2 | 18.4 | 18.5 | 18.3 | 18.1 |
| | | 50 | 0 | 20.5 | 20.9 | 20.4 | 20.7 | 20.5 | 20.5 | 20.4 | 17.5 | 17.7 | 17.5 | 17.5 | 17.4 |
| | | 50 | 24 | 20.5 | 20.9 | 20.3 | 20.6 | 20.5 | 20.3 | 20.3 | 20.4 | 20.6 | 20.5 | 20.4 | 20.3 |
| | | 50 | 50 | 20.5 | 20.9 | 20.4 | 20.5 | 20.4 | 20.4 | 20.4 | 18.4 | 18.5 | 18.4 | 18.5 | 18.3 |
| | | 100 | 0 | 20.5 | 20.9 | 20.3 | 20.6 | 20.5 | 20.5 | 20.3 | 17.4 | 17.6 | 17.5 | 17.5 | 17.3 |

## 3.4 BT

| BT | Tuning target (dBm) | Upper limit (dBm) |
|---|---|---|
| | 10.0 | 11.5 |


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## 3.5 WLAN2450

Note: Channels 12 and 13 are not operational in US and Canada, those results should be omitted for this filing.

### 3.5.1 WLAN2450 Head

**Averaged tuning targets for Head / Antenna 1 & 2 / RM-1105**

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 |
| 802.11b | | | DSSS | QPSK | 2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 |
| 802.11b | | | DSSS | QPSK | 5.5 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 |
| 802.11b | | | DSSS | QPSK | 11 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 |
| 802.11g | | | OFDM | BPSK | 6 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11g | | | OFDM | BPSK | 9 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11g | | | OFDM | QPSK | 12 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11g | | | OFDM | QPSK | 18 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11g | | | OFDM | 16QAM | 24 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11g | | | OFDM | 16QAM | 36 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11g | | | OFDM | 64QAM | 48 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11g | | | OFDM | 64QAM | 54 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 11.1 | 12.1 | 12.1 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 11.1 | 12.1 | 12.1 |

(WLAN2450 Head averaged tuning target table continues)


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(WLAN2450 Head averaged tuning target table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 |


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## Averaged upper limits for Head / Antenna 1 & 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Upper limit of tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 |
| 802.11b | | | DSSS | QPSK | 2 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 |
| 802.11b | | | DSSS | QPSK | 5.5 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 |
| 802.11b | | | DSSS | QPSK | 11 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 |
| 802.11g | | | OFDM | BPSK | 6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11g | | | OFDM | BPSK | 9 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11g | | | OFDM | QPSK | 12 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11g | | | OFDM | QPSK | 18 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11g | | | OFDM | 16QAM | 24 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11g | | | OFDM | 16QAM | 36 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11g | | | OFDM | 64QAM | 48 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11g | | | OFDM | 64QAM | 54 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 12.6 | 13.6 | 13.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 12.6 | 13.6 | 13.6 |

(WLAN2450 Head averaged upper limit table continues)


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(WLAN2450 Head averaged upper limit table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper limit of tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 |


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## Averaged measured conducted output powers for Head / Antenna 1 & 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 13.5 | 13.5 | 13.3 | 13.3 | 13.4 | 13.4 | 13.5 | 13.6 |
| 802.11b | | | DSSS | QPSK | 2 | 13.6 | 13.5 | 13.3 | 13.3 | 13.4 | 13.4 | 13.6 | 13.6 |
| 802.11b | | | DSSS | QPSK | 5.5 | 13.6 | 13.5 | 13.3 | 13.3 | 13.4 | 13.4 | 13.5 | 13.6 |
| 802.11b | | | DSSS | QPSK | 11 | 13.6 | 13.5 | 13.3 | 13.3 | 13.4 | 13.5 | 13.5 | 13.6 |
| 802.11g | | | OFDM | BPSK | 6 | 13.3 | 13.3 | 13.0 | 13.0 | 13.2 | 11.3 | 13.3 | 13.4 |
| 802.11g | | | OFDM | BPSK | 9 | 13.3 | 13.3 | 12.9 | 13.0 | 13.1 | 11.2 | 13.3 | 13.3 |
| 802.11g | | | OFDM | QPSK | 12 | 13.3 | 13.3 | 12.9 | 12.9 | 13.1 | 11.2 | 13.2 | 13.3 |
| 802.11g | | | OFDM | QPSK | 18 | 13.4 | 13.4 | 13.1 | 13.1 | 13.3 | 11.3 | 13.4 | 13.4 |
| 802.11g | | | OFDM | 16QAM | 24 | 13.7 | 13.7 | 13.4 | 13.3 | 13.6 | 11.6 | 13.7 | 13.7 |
| 802.11g | | | OFDM | 16QAM | 36 | 13.6 | 13.7 | 13.3 | 13.3 | 13.5 | 11.6 | 13.6 | 13.7 |
| 802.11g | | | OFDM | 64QAM | 48 | 13.6 | 13.7 | 13.3 | 13.4 | 13.5 | 11.6 | 13.6 | 13.7 |
| 802.11g | | | OFDM | 64QAM | 54 | 13.7 | 13.7 | 13.3 | 13.3 | 13.5 | 11.5 | 13.6 | 13.6 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.2 | 13.2 | 12.9 | 12.9 | 13.1 | 11.1 | 13.2 | 13.2 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.1 | 13.1 | 12.8 | 12.8 | 13.0 | 11.0 | 13.1 | 13.2 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.3 | 13.2 | 12.9 | 12.9 | 13.1 | 11.1 | 13.2 | 13.3 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.7 | 13.8 | 13.4 | 13.4 | 13.6 | 11.6 | 13.7 | 13.8 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.7 | 13.7 | 13.4 | 13.4 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.7 | 13.7 | 13.4 | 13.4 | 13.6 | 11.6 | 13.7 | 13.7 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.8 | 13.7 | 13.4 | 13.4 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.7 | 13.7 | 13.3 | 13.3 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.2 | 13.2 | 12.9 | 12.9 | 13.1 | 11.1 | 13.2 | 13.2 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.1 | 13.1 | 12.8 | 12.8 | 13.0 | 11.0 | 13.1 | 13.2 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.3 | 13.2 | 12.9 | 12.9 | 13.1 | 11.1 | 13.2 | 13.3 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.7 | 13.8 | 13.4 | 13.4 | 13.6 | 11.6 | 13.7 | 13.8 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.7 | 13.7 | 13.4 | 13.4 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.7 | 13.7 | 13.4 | 13.4 | 13.6 | 11.6 | 13.7 | 13.7 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.8 | 13.7 | 13.4 | 13.4 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.7 | 13.7 | 13.3 | 13.3 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.3 | 13.2 | 12.9 | 12.9 | 13.1 | 11.2 | 13.2 | 13.3 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.2 | 13.2 | 12.8 | 12.9 | 13.0 | 11.1 | 13.2 | 13.2 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.3 | 13.2 | 12.9 | 12.9 | 13.1 | 11.1 | 13.2 | 13.2 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.8 | 13.7 | 13.4 | 13.4 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.8 | 13.7 | 13.4 | 13.3 | 13.6 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.7 | 13.7 | 13.4 | 13.4 | 13.6 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.7 | 13.7 | 13.4 | 13.4 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.7 | 13.7 | 13.3 | 13.3 | 13.5 | 11.6 | 13.6 | 13.7 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 12.7 | 12.7 | 12.4 | 12.5 | 12.6 | 11.6 | 12.6 | 12.8 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.3 | 13.2 | 12.9 | 12.9 | 13.1 | 11.2 | 13.2 | 13.3 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.2 | 13.2 | 12.8 | 12.9 | 13.0 | 11.1 | 13.2 | 13.2 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.3 | 13.2 | 12.9 | 12.9 | 13.1 | 11.1 | 13.2 | 13.2 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.8 | 13.7 | 13.4 | 13.4 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.8 | 13.7 | 13.4 | 13.3 | 13.6 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.7 | 13.7 | 13.4 | 13.4 | 13.6 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.7 | 13.7 | 13.4 | 13.4 | 13.5 | 11.6 | 13.7 | 13.7 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.7 | 13.7 | 13.3 | 13.3 | 13.5 | 11.6 | 13.6 | 13.7 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 12.7 | 12.7 | 12.4 | 12.5 | 12.6 | 11.6 | 12.6 | 12.8 |

(WLAN2450 Head averaged measured values table continues)


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(WLAN2450 Head averaged measured values table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 12.9 | 13.0 | 12.7 | 12.7 | 12.7 | 12.7 | 11.2 | 13.0 | 12.9 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.0 | 13.0 | 12.7 | 12.7 | 12.6 | 12.7 | 11.3 | 13.1 | 12.9 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 12.9 | 13.0 | 12.7 | 12.7 | 12.7 | 12.7 | 11.2 | 13.1 | 12.9 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.2 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.6 | 13.3 | 13.1 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.6 | 13.3 | 13.1 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.6 | 13.3 | 13.1 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 12.9 | 13.0 | 12.7 | 12.7 | 12.7 | 12.7 | 11.2 | 13.0 | 12.9 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.0 | 13.0 | 12.7 | 12.7 | 12.6 | 12.7 | 11.3 | 13.1 | 12.9 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 12.9 | 13.0 | 12.7 | 12.7 | 12.7 | 12.7 | 11.2 | 13.1 | 12.9 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.2 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.6 | 13.3 | 13.1 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.6 | 13.3 | 13.1 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.6 | 13.3 | 13.1 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 12.9 | 12.9 | 12.7 | 12.6 | 12.7 | 12.7 | 11.3 | 13.0 | 12.9 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 12.8 | 12.9 | 12.7 | 12.7 | 12.7 | 12.7 | 11.2 | 12.9 | 12.7 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 12.8 | 12.9 | 12.9 | 12.7 | 12.7 | 12.6 | 11.2 | 13.0 | 12.8 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.2 | 13.2 | 13.0 | 12.8 | 12.8 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.5 | 13.2 | 13.1 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.5 | 13.2 | 13.1 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.1 | 13.1 | 12.9 | 12.7 | 12.7 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 11.1 | 11.2 | 11.0 | 10.9 | 10.9 | 10.9 | 11.6 | 11.5 | 11.2 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.1 | 10.2 | 9.9 | 9.7 | 9.9 | 9.9 | 10.6 | 10.4 | 10.1 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 12.9 | 12.9 | 12.7 | 12.6 | 12.7 | 12.7 | 11.3 | 13.0 | 12.9 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 12.8 | 12.9 | 12.7 | 12.7 | 12.7 | 12.7 | 11.2 | 12.9 | 12.7 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 12.8 | 12.9 | 12.9 | 12.7 | 12.7 | 12.6 | 11.2 | 13.0 | 12.8 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.2 | 13.2 | 13.0 | 12.8 | 12.8 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.5 | 13.2 | 13.1 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.5 | 13.2 | 13.1 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.1 | 13.1 | 12.9 | 12.7 | 12.7 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 11.1 | 11.2 | 11.0 | 10.9 | 10.9 | 10.9 | 11.6 | 11.5 | 11.2 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.1 | 10.2 | 9.9 | 9.7 | 9.9 | 9.9 | 10.6 | 10.4 | 10.1 |


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## Tuning targets for Head / Antenna 1 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11b | | | DSSS | QPSK | 2 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11b | | | DSSS | QPSK | 5.5 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11b | | | DSSS | QPSK | 11 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | BPSK | 6 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | BPSK | 9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | QPSK | 12 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | QPSK | 18 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | 16QAM | 24 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | 16QAM | 36 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | 64QAM | 48 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | 64QAM | 54 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 12.0 | 13.0 | 13.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 12.0 | 13.0 | 13.0 |

(WLAN2450 Head tuning targets/Ant 1 table continues)


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(WLAN2450 Head tuning targets/Ant 1 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |


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## Upper limits for Head / Antenna 1 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Upper limit of tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11b | | | DSSS | QPSK | 2 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11b | | | DSSS | QPSK | 5.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11b | | | DSSS | QPSK | 11 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | BPSK | 6 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | BPSK | 9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | QPSK | 12 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | QPSK | 18 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 16QAM | 24 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 16QAM | 36 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 64QAM | 48 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 64QAM | 54 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 13.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 13.5 | 14.5 | 14.5 |

(WLAN2450 Head upper limits/Ant 1 table continues)


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(WLAN2450 Head upper limits/Ant 1 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper limit of tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |


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## Measured conducted output powers for Head / Antenna 1 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 14.5 | 14.5 | 14.3 | 14.3 | 14.3 | 14.3 | 14.4 | 14.3 |
| 802.11b | | | DSSS | QPSK | 2 | 14.5 | 14.4 | 14.3 | 14.3 | 14.3 | 14.3 | 14.5 | 14.4 |
| 802.11b | | | DSSS | QPSK | 5.5 | 14.5 | 14.4 | 14.3 | 14.3 | 14.3 | 14.4 | 14.4 | 14.4 |
| 802.11b | | | DSSS | QPSK | 11 | 14.5 | 14.4 | 14.3 | 14.3 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11g | | | OFDM | BPSK | 6 | 14.3 | 14.3 | 13.9 | 14.0 | 14.1 | 12.1 | 14.3 | 14.3 |
| 802.11g | | | OFDM | BPSK | 9 | 14.3 | 14.3 | 13.9 | 14.0 | 14.1 | 12.0 | 14.2 | 14.2 |
| 802.11g | | | OFDM | QPSK | 12 | 14.3 | 14.2 | 13.9 | 13.9 | 14.1 | 12.0 | 14.2 | 14.1 |
| 802.11g | | | OFDM | QPSK | 18 | 14.4 | 14.4 | 14.0 | 14.1 | 14.2 | 12.2 | 14.4 | 14.3 |
| 802.11g | | | OFDM | 16QAM | 24 | 14.7 | 14.7 | 14.4 | 14.3 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11g | | | OFDM | 16QAM | 36 | 14.6 | 14.6 | 14.3 | 14.3 | 14.5 | 12.4 | 14.6 | 14.6 |
| 802.11g | | | OFDM | 64QAM | 48 | 14.6 | 14.6 | 14.3 | 14.4 | 14.5 | 12.5 | 14.6 | 14.5 |
| 802.11g | | | OFDM | 64QAM | 54 | 14.7 | 14.7 | 14.3 | 14.3 | 14.5 | 12.4 | 14.5 | 14.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.2 | 14.1 | 13.9 | 13.9 | 14.0 | 12.0 | 14.1 | 14.1 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.1 | 14.0 | 13.8 | 13.8 | 13.9 | 11.9 | 14.0 | 14.1 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.3 | 14.2 | 13.9 | 13.9 | 14.1 | 12.0 | 14.1 | 14.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.7 | 14.7 | 14.3 | 14.4 | 14.5 | 12.5 | 14.7 | 14.6 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.7 | 14.7 | 14.3 | 14.4 | 14.4 | 12.5 | 14.6 | 14.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.7 | 14.6 | 14.4 | 14.4 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.7 | 14.6 | 14.4 | 14.4 | 14.5 | 12.5 | 14.7 | 14.6 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.7 | 14.6 | 14.3 | 14.3 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.2 | 14.1 | 13.9 | 13.9 | 14.0 | 12.0 | 14.1 | 14.1 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.1 | 14.0 | 13.8 | 13.8 | 13.9 | 11.9 | 14.0 | 14.1 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.3 | 14.2 | 13.9 | 13.9 | 14.1 | 12.0 | 14.1 | 14.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.7 | 14.7 | 14.3 | 14.4 | 14.5 | 12.5 | 14.7 | 14.6 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.7 | 14.7 | 14.3 | 14.4 | 14.4 | 12.5 | 14.6 | 14.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.7 | 14.6 | 14.4 | 14.4 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.7 | 14.6 | 14.4 | 14.4 | 14.5 | 12.5 | 14.7 | 14.6 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.7 | 14.6 | 14.3 | 14.3 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.2 | 14.1 | 13.9 | 13.9 | 14.1 | 12.0 | 14.2 | 14.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.2 | 14.1 | 13.8 | 13.8 | 14.0 | 12.0 | 14.1 | 14.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.2 | 14.1 | 13.9 | 13.9 | 14.0 | 12.0 | 14.1 | 14.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.7 | 14.6 | 14.4 | 14.3 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.8 | 14.7 | 14.4 | 14.3 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.7 | 14.6 | 14.4 | 14.4 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.7 | 14.6 | 14.4 | 14.4 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.7 | 14.6 | 14.3 | 14.3 | 14.4 | 12.4 | 14.6 | 14.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 13.7 | 13.6 | 13.4 | 13.4 | 13.5 | 12.5 | 13.6 | 13.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.2 | 14.1 | 13.9 | 13.9 | 14.1 | 12.0 | 14.2 | 14.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.2 | 14.1 | 13.8 | 13.8 | 14.0 | 12.0 | 14.1 | 14.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.2 | 14.1 | 13.9 | 13.9 | 14.0 | 12.0 | 14.1 | 14.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.7 | 14.6 | 14.4 | 14.3 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.8 | 14.7 | 14.4 | 14.3 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.7 | 14.6 | 14.4 | 14.4 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.7 | 14.6 | 14.4 | 14.4 | 14.5 | 12.5 | 14.6 | 14.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.7 | 14.6 | 14.3 | 14.3 | 14.4 | 12.4 | 14.6 | 14.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 13.7 | 13.6 | 13.4 | 13.4 | 13.5 | 12.5 | 13.6 | 13.7 |

(WLAN2450 Head measured values/Ant 1 table continues)


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(WLAN2450 Head measured values/Ant 1 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.9 | 14.0 | 13.6 | 13.5 | 13.5 | 13.6 | 12.2 | 14.0 | 13.8 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.0 | 14.0 | 13.6 | 13.6 | 13.5 | 13.6 | 12.2 | 14.0 | 13.8 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.9 | 14.0 | 13.5 | 13.5 | 13.5 | 13.6 | 12.1 | 14.0 | 13.8 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.2 | 14.2 | 13.8 | 13.6 | 13.6 | 13.7 | 12.5 | 14.2 | 14.1 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.7 | 13.7 | 12.6 | 14.3 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.7 | 13.7 | 12.5 | 14.3 | 14.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.2 | 14.2 | 13.8 | 13.6 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.9 | 14.0 | 13.6 | 13.5 | 13.5 | 13.6 | 12.2 | 14.0 | 13.8 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.0 | 14.0 | 13.6 | 13.6 | 13.5 | 13.6 | 12.2 | 14.0 | 13.8 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.9 | 14.0 | 13.5 | 13.5 | 13.5 | 13.6 | 12.1 | 14.0 | 13.8 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.2 | 14.2 | 13.8 | 13.6 | 13.6 | 13.7 | 12.5 | 14.2 | 14.1 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.7 | 13.7 | 12.6 | 14.3 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.7 | 13.7 | 12.5 | 14.3 | 14.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.2 | 14.2 | 13.8 | 13.6 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.9 | 14.0 | 13.6 | 13.5 | 13.6 | 13.6 | 12.2 | 14.0 | 13.8 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.8 | 13.9 | 13.6 | 13.6 | 13.5 | 13.6 | 12.2 | 13.9 | 13.7 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.8 | 13.9 | 13.9 | 13.6 | 13.6 | 13.5 | 12.1 | 14.0 | 13.7 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.2 | 14.3 | 13.8 | 13.7 | 13.6 | 13.7 | 12.5 | 14.2 | 14.1 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.6 | 13.7 | 12.5 | 14.2 | 14.1 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.2 | 14.2 | 13.7 | 13.6 | 13.7 | 13.7 | 12.5 | 14.2 | 14.1 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.1 | 14.2 | 13.8 | 13.6 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 12.1 | 12.2 | 11.9 | 11.8 | 11.8 | 11.9 | 12.5 | 12.5 | 12.2 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 11.1 | 11.2 | 10.8 | 10.6 | 10.8 | 10.8 | 11.5 | 11.4 | 11.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.9 | 14.0 | 13.6 | 13.5 | 13.6 | 13.6 | 12.2 | 14.0 | 13.8 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.8 | 13.9 | 13.6 | 13.6 | 13.5 | 13.6 | 12.2 | 13.9 | 13.7 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.8 | 13.9 | 13.9 | 13.6 | 13.6 | 13.5 | 12.1 | 14.0 | 13.7 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.2 | 14.3 | 13.8 | 13.7 | 13.6 | 13.7 | 12.5 | 14.2 | 14.1 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.2 | 14.2 | 13.8 | 13.7 | 13.6 | 13.7 | 12.5 | 14.2 | 14.1 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.2 | 14.2 | 13.7 | 13.6 | 13.7 | 13.7 | 12.5 | 14.2 | 14.1 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.1 | 14.2 | 13.8 | 13.6 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 12.1 | 12.2 | 11.9 | 11.8 | 11.8 | 11.9 | 12.5 | 12.5 | 12.2 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 11.1 | 11.2 | 10.8 | 10.6 | 10.8 | 10.8 | 11.5 | 11.4 | 11.0 |


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## Tuning targets for Head / Antenna 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 802.11b | | | DSSS | QPSK | 2 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 802.11b | | | DSSS | QPSK | 5.5 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 802.11b | | | DSSS | QPSK | 11 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 802.11g | | | OFDM | BPSK | 6 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11g | | | OFDM | BPSK | 9 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11g | | | OFDM | QPSK | 12 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11g | | | OFDM | QPSK | 18 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11g | | | OFDM | 16QAM | 24 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11g | | | OFDM | 16QAM | 36 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11g | | | OFDM | 64QAM | 48 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11g | | | OFDM | 64QAM | 54 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 10.0 | 11.0 | 11.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 10.0 | 11.0 | 11.0 |

(WLAN2450 Head tuning targets/Ant 2 table continues)


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(WLAN2450 Head tuning targets/Ant 2 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |


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## Upper limits for Head / Antenna 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Upper limit of tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11b | | | DSSS | QPSK | 2 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11b | | | DSSS | QPSK | 5.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11b | | | DSSS | QPSK | 11 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11g | | | OFDM | BPSK | 6 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11g | | | OFDM | BPSK | 9 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11g | | | OFDM | QPSK | 12 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11g | | | OFDM | QPSK | 18 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11g | | | OFDM | 16QAM | 24 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11g | | | OFDM | 16QAM | 36 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11g | | | OFDM | 64QAM | 48 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11g | | | OFDM | 64QAM | 54 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11.5 | 12.5 | 12.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11.5 | 12.5 | 12.5 |

(WLAN2450 Head upper limits/Ant 2 table continues)


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(WLAN2450 Head upper limits/Ant 2 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper limit of tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |


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## Measured conducted output powers for Head / Antenna 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 12.3 | 12.3 | 12.0 | 12.0 | 12.2 | 12.3 | 12.4 | 12.6 |
| 802.11b | | | DSSS | QPSK | 2 | 12.3 | 12.4 | 12.0 | 12.0 | 12.3 | 12.3 | 12.4 | 12.6 |
| 802.11b | | | DSSS | QPSK | 5.5 | 12.4 | 12.4 | 12.0 | 12.0 | 12.3 | 12.3 | 12.4 | 12.6 |
| 802.11b | | | DSSS | QPSK | 11 | 12.4 | 12.4 | 12.0 | 11.9 | 12.2 | 12.3 | 12.4 | 12.6 |
| 802.11g | | | OFDM | BPSK | 6 | 12.0 | 12.0 | 11.7 | 11.7 | 12.0 | 10.2 | 12.1 | 12.2 |
| 802.11g | | | OFDM | BPSK | 9 | 12.0 | 12.0 | 11.7 | 11.7 | 12.0 | 10.1 | 12.1 | 12.2 |
| 802.11g | | | OFDM | QPSK | 12 | 11.9 | 12.0 | 11.7 | 11.6 | 12.0 | 10.2 | 12.0 | 12.2 |
| 802.11g | | | OFDM | QPSK | 18 | 12.1 | 12.2 | 11.8 | 11.8 | 12.0 | 10.2 | 12.2 | 12.3 |
| 802.11g | | | OFDM | 16QAM | 24 | 12.4 | 12.5 | 12.1 | 12.1 | 12.3 | 10.5 | 12.4 | 12.6 |
| 802.11g | | | OFDM | 16QAM | 36 | 12.4 | 12.4 | 12.1 | 12.0 | 12.3 | 10.5 | 12.4 | 12.6 |
| 802.11g | | | OFDM | 64QAM | 48 | 12.4 | 12.4 | 12.0 | 12.0 | 12.4 | 10.6 | 12.5 | 12.6 |
| 802.11g | | | OFDM | 64QAM | 54 | 12.4 | 12.4 | 12.0 | 12.0 | 12.4 | 10.5 | 12.4 | 12.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 11.9 | 12.0 | 11.6 | 11.6 | 11.9 | 10.0 | 12.0 | 12.2 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 11.9 | 11.9 | 11.5 | 11.5 | 11.8 | 9.9 | 11.9 | 12.1 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 12.0 | 12.0 | 11.7 | 11.6 | 11.9 | 10.1 | 12.0 | 12.2 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 12.5 | 12.6 | 12.1 | 12.1 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.5 | 12.6 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 12.5 | 12.5 | 12.1 | 12.0 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 11.9 | 12.0 | 11.6 | 11.6 | 11.9 | 10.0 | 12.0 | 12.2 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 11.9 | 11.9 | 11.5 | 11.5 | 11.8 | 9.9 | 11.9 | 12.1 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 12.0 | 12.0 | 11.7 | 11.6 | 11.9 | 10.1 | 12.0 | 12.2 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 12.5 | 12.6 | 12.1 | 12.1 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.5 | 12.6 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 12.5 | 12.5 | 12.1 | 12.0 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 12.0 | 12.0 | 11.6 | 11.7 | 11.9 | 10.1 | 12.0 | 12.2 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 11.9 | 11.9 | 11.6 | 11.6 | 11.8 | 10.0 | 11.9 | 12.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 12.0 | 12.1 | 11.6 | 11.6 | 11.9 | 10.1 | 12.0 | 12.2 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.5 | 12.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.5 | 12.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 12.4 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 12.5 | 12.5 | 12.1 | 12.1 | 12.3 | 10.5 | 12.4 | 12.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 12.4 | 12.5 | 12.1 | 12.0 | 12.4 | 10.5 | 12.4 | 12.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.4 | 11.6 | 11.2 | 11.2 | 11.4 | 10.5 | 11.4 | 11.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 12.0 | 12.0 | 11.6 | 11.7 | 11.9 | 10.1 | 12.0 | 12.2 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 11.9 | 11.9 | 11.6 | 11.6 | 11.8 | 10.0 | 11.9 | 12.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 12.0 | 12.1 | 11.6 | 11.6 | 11.9 | 10.1 | 12.0 | 12.2 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.5 | 12.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 12.5 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.5 | 12.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 12.4 | 12.5 | 12.1 | 12.1 | 12.4 | 10.5 | 12.4 | 12.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 12.5 | 12.5 | 12.1 | 12.1 | 12.3 | 10.5 | 12.4 | 12.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 12.4 | 12.5 | 12.1 | 12.0 | 12.4 | 10.5 | 12.4 | 12.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.4 | 11.6 | 11.2 | 11.2 | 11.4 | 10.5 | 11.4 | 11.6 |

(WLAN2450 Head measured values/Ant 2 table continues)


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(WLAN2450 Head measured values/Ant 2 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.5 | 10.1 | 11.8 | 11.7 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 11.6 | 11.7 | 11.6 | 11.5 | 11.5 | 11.6 | 10.1 | 11.8 | 11.7 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 11.6 | 11.7 | 11.6 | 11.5 | 11.6 | 11.5 | 10.1 | 11.8 | 11.7 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 11.8 | 11.8 | 11.9 | 11.7 | 11.6 | 11.6 | 10.4 | 11.9 | 11.9 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 11.8 | 11.9 | 11.9 | 11.8 | 11.7 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 11.8 | 11.8 | 11.9 | 11.8 | 11.6 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 11.8 | 11.8 | 11.9 | 11.8 | 11.7 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 11.8 | 11.8 | 11.9 | 11.7 | 11.6 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.5 | 10.1 | 11.8 | 11.7 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 11.6 | 11.7 | 11.6 | 11.5 | 11.5 | 11.6 | 10.1 | 11.8 | 11.7 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 11.6 | 11.7 | 11.6 | 11.5 | 11.6 | 11.5 | 10.1 | 11.8 | 11.7 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 11.8 | 11.8 | 11.9 | 11.7 | 11.6 | 11.6 | 10.4 | 11.9 | 11.9 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 11.8 | 11.9 | 11.9 | 11.8 | 11.7 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 11.8 | 11.8 | 11.9 | 11.8 | 11.6 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 11.8 | 11.8 | 11.9 | 11.8 | 11.7 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 11.8 | 11.8 | 11.9 | 11.7 | 11.6 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.5 | 10.1 | 11.7 | 11.7 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 11.5 | 11.5 | 11.6 | 11.5 | 11.6 | 11.5 | 10.0 | 11.6 | 11.6 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 11.5 | 11.6 | 11.6 | 11.6 | 11.5 | 11.5 | 10.0 | 11.8 | 11.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 11.8 | 11.8 | 11.8 | 11.8 | 11.6 | 11.7 | 10.4 | 11.9 | 11.9 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 11.8 | 11.9 | 11.9 | 11.8 | 11.6 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 11.7 | 11.9 | 11.8 | 11.8 | 11.6 | 11.6 | 10.4 | 11.9 | 11.8 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 11.8 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 11.8 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.4 | 11.9 | 11.9 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 9.9 | 10.0 | 9.9 | 9.9 | 9.8 | 9.8 | 10.4 | 10.1 | 9.9 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 8.9 | 9.0 | 8.9 | 8.6 | 8.8 | 8.7 | 9.4 | 9.1 | 8.9 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.5 | 10.1 | 11.7 | 11.7 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 11.5 | 11.5 | 11.6 | 11.5 | 11.6 | 11.5 | 10.0 | 11.6 | 11.6 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 11.5 | 11.6 | 11.6 | 11.6 | 11.5 | 11.5 | 10.0 | 11.8 | 11.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 11.8 | 11.8 | 11.8 | 11.8 | 11.6 | 11.7 | 10.4 | 11.9 | 11.9 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 11.8 | 11.9 | 11.9 | 11.8 | 11.6 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 11.7 | 11.9 | 11.8 | 11.8 | 11.6 | 11.6 | 10.4 | 11.9 | 11.8 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 11.8 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 11.8 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.4 | 11.9 | 11.9 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 9.9 | 10.0 | 9.9 | 9.9 | 9.8 | 9.8 | 10.4 | 10.1 | 9.9 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 8.9 | 9.0 | 8.9 | 8.6 | 8.8 | 8.7 | 9.4 | 9.1 | 8.9 |


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### 3.5.2 WLAN2450 Body-worn 15 mm and Wireless Router 10 mm

Test configurations tested base on the averaged tuning targets of Antenna 1 and Antenna 2, meanwhile all the scaling for WLAN2450 measurements are done according to the individual tuning targets and measured conducted powers separately for the both antennas. The both averaged and individual tables are presented below.

**Averaged tuning targets for Body-worn 15 mm and Wireless Router 10 mm / Antenna 1 & 2 / RM-1105**

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 |
| 802.11b | | | DSSS | QPSK | 2 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 |
| 802.11b | | | DSSS | QPSK | 5.5 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 |
| 802.11b | | | DSSS | QPSK | 11 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 | 15.1 |
| 802.11g | | | OFDM | BPSK | 6 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11g | | | OFDM | BPSK | 9 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11g | | | OFDM | QPSK | 12 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11g | | | OFDM | QPSK | 18 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11g | | | OFDM | 16QAM | 24 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11g | | | OFDM | 16QAM | 36 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11g | | | OFDM | 64QAM | 48 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11g | | | OFDM | 64QAM | 54 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 11.1 | 12.1 | 12.1 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.1 | 15.1 | 15.1 | 15.1 | 15.1 | 11.1 | 15.1 | 15.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 12.1 | 12.1 | 12.1 | 12.1 | 12.1 | 11.1 | 12.1 | 12.1 |

(WLAN2450 Body and WR averaged tuning targets table continues)


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(WLAN2450 Body and WR averaged tuning targets table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 11.1 | 14.1 | 14.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 13.1 | 11.1 | 13.1 | 13.1 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 | 10.1 |


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## Averaged upper limits for Body-worn 15 mm and Wireless Router 10 mm / Antenna 1 & 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Upper limit of tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 |
| 802.11b | | | DSSS | QPSK | 2 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 |
| 802.11b | | | DSSS | QPSK | 5.5 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 |
| 802.11b | | | DSSS | QPSK | 11 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.6 |
| 802.11g | | | OFDM | BPSK | 6 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11g | | | OFDM | BPSK | 9 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11g | | | OFDM | QPSK | 12 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11g | | | OFDM | QPSK | 18 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11g | | | OFDM | 16QAM | 24 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11g | | | OFDM | 16QAM | 36 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11g | | | OFDM | 64QAM | 48 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11g | | | OFDM | 64QAM | 54 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 12.6 | 13.6 | 13.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.6 | 16.6 | 16.6 | 16.6 | 16.6 | 12.6 | 16.6 | 16.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 13.6 | 13.6 | 13.6 | 13.6 | 13.6 | 12.6 | 13.6 | 13.6 |

(WLAN2450 Body and WR averaged upper limits table continues)


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(WLAN2450 Body and WR averaged upper limits table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper limit of tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 14.6 | 15.6 | 15.6 | 15.6 | 15.6 | 15.6 | 12.6 | 15.6 | 15.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 14.6 | 12.6 | 14.6 | 14.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 | 11.6 |


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## Averaged measured conducted output powers
## for Body-worn 15 mm and Wireless Router 10 mm / Antenna 1 & 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 15.5 | 15.5 | 15.2 | 15.2 | 15.2 | 15.3 | 15.4 | 15.5 |
| 802.11b | | | DSSS | QPSK | 2 | 15.5 | 15.5 | 15.2 | 15.2 | 15.2 | 15.3 | 15.5 | 15.5 |
| 802.11b | | | DSSS | QPSK | 5.5 | 15.5 | 15.5 | 15.2 | 15.2 | 15.2 | 15.3 | 15.4 | 15.5 |
| 802.11b | | | DSSS | QPSK | 11 | 15.5 | 15.5 | 15.2 | 15.2 | 15.2 | 15.3 | 15.4 | 15.5 |
| 802.11g | | | OFDM | BPSK | 6 | 13.3 | 15.2 | 14.8 | 14.8 | 14.9 | 11.2 | 15.1 | 15.2 |
| 802.11g | | | OFDM | BPSK | 9 | 13.2 | 15.2 | 14.8 | 14.8 | 14.9 | 11.2 | 15.1 | 15.2 |
| 802.11g | | | OFDM | QPSK | 12 | 13.2 | 15.2 | 14.8 | 14.8 | 14.9 | 11.1 | 15.1 | 15.2 |
| 802.11g | | | OFDM | QPSK | 18 | 13.3 | 15.4 | 14.9 | 14.9 | 15.0 | 11.3 | 15.3 | 15.4 |
| 802.11g | | | OFDM | 16QAM | 24 | 13.7 | 15.6 | 15.2 | 15.2 | 15.3 | 11.6 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 16QAM | 36 | 13.6 | 15.6 | 15.1 | 15.1 | 15.3 | 11.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 64QAM | 48 | 13.6 | 14.7 | 14.2 | 14.2 | 14.5 | 11.5 | 14.6 | 14.7 |
| 802.11g | | | OFDM | 64QAM | 54 | 13.6 | 14.6 | 14.2 | 14.2 | 14.4 | 11.5 | 14.5 | 14.6 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.2 | 15.1 | 14.8 | 14.8 | 14.8 | 11.1 | 15.0 | 15.1 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.1 | 15.1 | 14.7 | 14.7 | 14.7 | 11.0 | 14.9 | 15.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.2 | 15.2 | 14.8 | 14.8 | 14.9 | 11.1 | 15.1 | 15.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.7 | 14.7 | 14.3 | 14.3 | 14.4 | 11.6 | 14.6 | 14.7 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.7 | 14.7 | 14.3 | 14.2 | 14.5 | 11.5 | 14.6 | 14.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.7 | 14.7 | 14.2 | 14.3 | 14.5 | 11.6 | 14.6 | 14.7 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.7 | 14.7 | 14.2 | 14.3 | 14.5 | 11.6 | 14.6 | 14.7 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.7 | 14.7 | 14.2 | 14.2 | 14.4 | 11.6 | 14.6 | 14.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.2 | 15.1 | 14.8 | 14.8 | 14.8 | 11.1 | 15.0 | 15.1 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.1 | 15.1 | 14.7 | 14.7 | 14.7 | 11.0 | 14.9 | 15.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.2 | 15.2 | 14.8 | 14.8 | 14.9 | 11.1 | 15.1 | 15.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.7 | 14.7 | 14.3 | 14.3 | 14.4 | 11.6 | 14.6 | 14.7 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.7 | 14.7 | 14.3 | 14.2 | 14.5 | 11.5 | 14.6 | 14.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.7 | 14.7 | 14.2 | 14.3 | 14.5 | 11.6 | 14.6 | 14.7 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.7 | 14.7 | 14.2 | 14.3 | 14.5 | 11.6 | 14.6 | 14.7 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.7 | 14.7 | 14.2 | 14.2 | 14.4 | 11.6 | 14.6 | 14.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.2 | 15.2 | 14.8 | 14.8 | 14.8 | 11.1 | 15.0 | 15.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.2 | 15.1 | 14.8 | 14.7 | 14.8 | 11.0 | 15.0 | 15.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.2 | 15.1 | 14.8 | 14.8 | 14.8 | 11.1 | 15.1 | 15.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.7 | 14.7 | 14.2 | 14.3 | 14.4 | 11.5 | 14.6 | 14.7 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.7 | 14.7 | 14.2 | 14.3 | 14.4 | 11.5 | 14.6 | 14.7 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.7 | 14.7 | 14.2 | 14.3 | 14.5 | 11.6 | 14.6 | 14.7 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.7 | 14.7 | 14.2 | 14.2 | 14.5 | 11.6 | 14.6 | 14.7 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.7 | 14.7 | 14.2 | 14.2 | 14.4 | 11.5 | 14.6 | 14.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 12.7 | 12.6 | 12.4 | 12.4 | 12.5 | 11.5 | 12.6 | 12.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.2 | 15.2 | 14.8 | 14.8 | 14.8 | 11.1 | 15.0 | 15.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.2 | 15.1 | 14.8 | 14.7 | 14.8 | 11.0 | 15.0 | 15.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.2 | 15.1 | 14.8 | 14.8 | 14.8 | 11.1 | 15.1 | 15.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.7 | 14.7 | 14.2 | 14.3 | 14.4 | 11.5 | 14.6 | 14.7 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.7 | 14.7 | 14.2 | 14.3 | 14.4 | 11.5 | 14.6 | 14.7 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.7 | 14.7 | 14.2 | 14.3 | 14.5 | 11.6 | 14.6 | 14.7 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.7 | 14.7 | 14.2 | 14.2 | 14.5 | 11.6 | 14.6 | 14.7 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.7 | 14.7 | 14.2 | 14.2 | 14.4 | 11.5 | 14.6 | 14.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 12.7 | 12.6 | 12.4 | 12.4 | 12.5 | 11.5 | 12.6 | 12.7 |

(WLAN2450 Body and WR averaged measured values table continues)


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(WLAN2450 Body and WR averaged measured values table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 12.9 | 13.9 | 13.7 | 13.6 | 13.7 | 13.7 | 11.2 | 13.9 | 13.8 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 12.9 | 14.0 | 13.7 | 13.7 | 13.6 | 13.7 | 11.3 | 14.0 | 13.8 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 12.9 | 13.9 | 13.7 | 13.7 | 13.7 | 13.7 | 11.2 | 13.9 | 13.8 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.1 | 13.1 | 12.9 | 12.7 | 12.7 | 12.7 | 11.5 | 13.2 | 13.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.7 | 11.5 | 13.2 | 13.1 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.5 | 13.2 | 13.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.5 | 13.2 | 13.1 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.1 | 13.1 | 12.9 | 12.8 | 12.7 | 12.7 | 11.5 | 13.2 | 13.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 12.9 | 13.9 | 13.7 | 13.6 | 13.7 | 13.7 | 11.2 | 13.9 | 13.8 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 12.9 | 14.0 | 13.7 | 13.7 | 13.6 | 13.7 | 11.3 | 14.0 | 13.8 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 12.9 | 13.9 | 13.7 | 13.7 | 13.7 | 13.7 | 11.2 | 13.9 | 13.8 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.1 | 13.1 | 12.9 | 12.7 | 12.7 | 12.7 | 11.5 | 13.2 | 13.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.7 | 11.5 | 13.2 | 13.1 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.8 | 11.5 | 13.2 | 13.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.5 | 13.2 | 13.1 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.1 | 13.1 | 12.9 | 12.8 | 12.7 | 12.7 | 11.5 | 13.2 | 13.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 12.9 | 13.9 | 13.7 | 13.7 | 13.6 | 13.6 | 11.2 | 13.9 | 13.8 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 12.8 | 13.9 | 13.7 | 13.7 | 13.7 | 13.7 | 11.1 | 13.8 | 13.7 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 12.9 | 13.8 | 13.9 | 13.6 | 13.7 | 13.7 | 11.2 | 13.9 | 13.7 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.1 | 13.1 | 12.9 | 12.8 | 12.7 | 12.8 | 11.5 | 13.2 | 13.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.7 | 11.5 | 13.2 | 13.1 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.1 | 13.2 | 12.9 | 12.7 | 12.7 | 12.7 | 11.5 | 13.2 | 13.1 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.1 | 13.1 | 12.9 | 12.7 | 12.7 | 12.8 | 11.5 | 13.2 | 13.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 11.1 | 11.2 | 10.9 | 10.8 | 10.8 | 10.9 | 11.5 | 11.3 | 11.1 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.1 | 10.2 | 9.8 | 9.7 | 9.9 | 9.9 | 10.5 | 10.3 | 10.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 12.9 | 13.9 | 13.7 | 13.7 | 13.6 | 13.6 | 11.2 | 13.9 | 13.8 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 12.8 | 13.9 | 13.7 | 13.7 | 13.7 | 13.7 | 11.1 | 13.8 | 13.7 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 12.9 | 13.8 | 13.9 | 13.6 | 13.7 | 13.7 | 11.2 | 13.9 | 13.7 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.1 | 13.1 | 12.9 | 12.8 | 12.7 | 12.8 | 11.5 | 13.2 | 13.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.8 | 12.8 | 11.6 | 13.2 | 13.1 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.1 | 13.2 | 12.9 | 12.8 | 12.7 | 12.7 | 11.5 | 13.2 | 13.1 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.1 | 13.2 | 12.9 | 12.7 | 12.7 | 12.7 | 11.5 | 13.2 | 13.1 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.1 | 13.1 | 12.9 | 12.7 | 12.7 | 12.8 | 11.5 | 13.2 | 13.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 11.1 | 11.2 | 10.9 | 10.8 | 10.8 | 10.9 | 11.5 | 11.3 | 11.1 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.1 | 10.2 | 9.8 | 9.7 | 9.9 | 9.9 | 10.5 | 10.3 | 10.0 |


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## Tuning targets for Body-worn 15 mm and Wireless Router 10 mm / Antenna 1 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| 802.11b | | | DSSS | QPSK | 2 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| 802.11b | | | DSSS | QPSK | 5.5 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| 802.11b | | | DSSS | QPSK | 11 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 | 16.0 |
| 802.11g | | | OFDM | BPSK | 6 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11g | | | OFDM | BPSK | 9 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11g | | | OFDM | QPSK | 12 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11g | | | OFDM | QPSK | 18 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11g | | | OFDM | 16QAM | 24 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11g | | | OFDM | 16QAM | 36 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11g | | | OFDM | 64QAM | 48 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11g | | | OFDM | 64QAM | 54 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 12.0 | 13.0 | 13.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.0 | 16.0 | 16.0 | 16.0 | 16.0 | 12.0 | 16.0 | 16.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 12.0 | 13.0 | 13.0 |

(WLAN2450 Body and WR tuning targets/Ant1 table continues)


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(WLAN2450 Body and WR tuning targets/Ant1 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 14.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 12.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 |


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## Upper limits for Body-worn 15 mm and Wireless Router 10 mm / Antenna 1 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Upper limit of tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| 802.11b | | | DSSS | QPSK | 2 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| 802.11b | | | DSSS | QPSK | 5.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| 802.11b | | | DSSS | QPSK | 11 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 | 17.5 |
| 802.11g | | | OFDM | BPSK | 6 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11g | | | OFDM | BPSK | 9 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11g | | | OFDM | QPSK | 12 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11g | | | OFDM | QPSK | 18 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11g | | | OFDM | 16QAM | 24 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11g | | | OFDM | 16QAM | 36 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11g | | | OFDM | 64QAM | 48 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11g | | | OFDM | 64QAM | 54 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 13.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.5 | 17.5 | 17.5 | 17.5 | 17.5 | 13.5 | 17.5 | 17.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 13.5 | 14.5 | 14.5 |

(WLAN2450 Body and WR upper limits/Ant1 table continues)


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(WLAN2450 Body and WR upper limits/Ant1 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper limit of tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 13.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 13.5 | 15.5 | 15.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 |


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## Measured conducted output powers
## for Body-worn 15 mm and Wireless Router 10 mm / Antenna 1 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 16.4 | 16.5 | 16.2 | 16.2 | 16.1 | 16.2 | 16.3 | 16.3 |
| 802.11b | | | DSSS | QPSK | 2 | 16.4 | 16.5 | 16.2 | 16.2 | 16.1 | 16.1 | 16.3 | 16.3 |
| 802.11b | | | DSSS | QPSK | 5.5 | 16.4 | 16.5 | 16.2 | 16.2 | 16.1 | 16.2 | 16.3 | 16.3 |
| 802.11b | | | DSSS | QPSK | 11 | 16.4 | 16.5 | 16.2 | 16.1 | 16.1 | 16.1 | 16.3 | 16.3 |
| 802.11g | | | OFDM | BPSK | 6 | 14.3 | 16.2 | 15.8 | 15.8 | 15.9 | 12.0 | 16.1 | 16.1 |
| 802.11g | | | OFDM | BPSK | 9 | 14.2 | 16.2 | 15.8 | 15.8 | 15.8 | 12.0 | 16.0 | 16.0 |
| 802.11g | | | OFDM | QPSK | 12 | 14.2 | 16.2 | 15.8 | 15.7 | 15.8 | 12.0 | 16.0 | 16.1 |
| 802.11g | | | OFDM | QPSK | 18 | 14.3 | 16.4 | 16.0 | 15.9 | 16.0 | 12.1 | 16.2 | 16.3 |
| 802.11g | | | OFDM | 16QAM | 24 | 14.7 | 16.6 | 16.3 | 16.2 | 16.3 | 12.5 | 16.5 | 16.5 |
| 802.11g | | | OFDM | 16QAM | 36 | 14.6 | 16.6 | 16.2 | 16.2 | 16.2 | 12.4 | 16.4 | 16.5 |
| 802.11g | | | OFDM | 64QAM | 48 | 14.6 | 15.7 | 15.2 | 15.2 | 15.4 | 12.4 | 15.6 | 15.6 |
| 802.11g | | | OFDM | 64QAM | 54 | 14.6 | 15.6 | 15.2 | 15.2 | 15.3 | 12.3 | 15.5 | 15.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.1 | 16.1 | 15.8 | 15.7 | 15.8 | 11.9 | 16.0 | 16.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.1 | 16.0 | 15.7 | 15.6 | 15.7 | 11.8 | 15.9 | 15.9 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.2 | 16.1 | 15.8 | 15.7 | 15.8 | 11.9 | 16.0 | 16.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.7 | 15.6 | 15.3 | 15.3 | 15.4 | 12.4 | 15.6 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.7 | 15.7 | 15.3 | 15.2 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.7 | 15.7 | 15.3 | 15.3 | 15.4 | 12.4 | 15.5 | 15.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.7 | 15.6 | 15.2 | 15.2 | 15.4 | 12.4 | 15.6 | 15.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.6 | 15.6 | 15.2 | 15.3 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.1 | 16.1 | 15.8 | 15.7 | 15.8 | 11.9 | 16.0 | 16.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.1 | 16.0 | 15.7 | 15.6 | 15.7 | 11.8 | 15.9 | 15.9 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.2 | 16.1 | 15.8 | 15.7 | 15.8 | 11.9 | 16.0 | 16.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.7 | 15.6 | 15.3 | 15.3 | 15.4 | 12.4 | 15.6 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.7 | 15.7 | 15.3 | 15.2 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.7 | 15.7 | 15.3 | 15.3 | 15.4 | 12.4 | 15.5 | 15.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.7 | 15.6 | 15.2 | 15.2 | 15.4 | 12.4 | 15.6 | 15.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.6 | 15.6 | 15.2 | 15.3 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.2 | 16.1 | 15.8 | 15.7 | 15.8 | 11.9 | 16.0 | 16.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.1 | 16.0 | 15.7 | 15.7 | 15.7 | 11.8 | 15.9 | 15.9 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.2 | 16.1 | 15.8 | 15.7 | 15.8 | 11.9 | 16.0 | 15.9 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.6 | 15.6 | 15.3 | 15.2 | 15.4 | 12.4 | 15.5 | 15.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.7 | 15.6 | 15.3 | 15.3 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.7 | 15.6 | 15.2 | 15.3 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.7 | 15.7 | 15.3 | 15.2 | 15.4 | 12.4 | 15.5 | 15.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.6 | 15.7 | 15.2 | 15.2 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 13.6 | 13.5 | 13.3 | 13.4 | 13.4 | 12.4 | 13.5 | 13.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.2 | 16.1 | 15.8 | 15.7 | 15.8 | 11.9 | 16.0 | 16.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.1 | 16.0 | 15.7 | 15.7 | 15.7 | 11.8 | 15.9 | 15.9 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.2 | 16.1 | 15.8 | 15.7 | 15.8 | 11.9 | 16.0 | 15.9 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.6 | 15.6 | 15.3 | 15.2 | 15.4 | 12.4 | 15.5 | 15.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.7 | 15.6 | 15.3 | 15.3 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.7 | 15.6 | 15.2 | 15.3 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.7 | 15.7 | 15.3 | 15.2 | 15.4 | 12.4 | 15.5 | 15.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.6 | 15.7 | 15.2 | 15.2 | 15.4 | 12.4 | 15.5 | 15.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 13.6 | 13.5 | 13.3 | 13.4 | 13.4 | 12.4 | 13.5 | 13.6 |

(WLAN2450 Body and WR upper limits/Ant1 table continues)


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(WLAN2450 Body and WR upper limits/Ant1 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.8 | 14.9 | 14.6 | 14.5 | 14.6 | 14.6 | 12.1 | 14.9 | 14.7 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.9 | 14.9 | 14.6 | 14.6 | 14.5 | 14.6 | 12.2 | 14.9 | 14.7 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.9 | 14.9 | 14.6 | 14.6 | 14.5 | 14.5 | 12.1 | 14.8 | 14.7 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.1 | 14.1 | 13.7 | 13.6 | 13.5 | 13.6 | 12.4 | 14.2 | 13.9 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.1 | 14.2 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.1 | 14.2 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.1 | 14.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.1 | 14.2 | 13.8 | 13.6 | 13.7 | 13.7 | 12.4 | 14.2 | 14.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.1 | 14.1 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 13.9 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.8 | 14.9 | 14.6 | 14.5 | 14.6 | 14.6 | 12.1 | 14.9 | 14.7 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.9 | 14.9 | 14.6 | 14.6 | 14.5 | 14.6 | 12.2 | 14.9 | 14.7 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.9 | 14.9 | 14.6 | 14.6 | 14.5 | 14.5 | 12.1 | 14.8 | 14.7 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.1 | 14.1 | 13.7 | 13.6 | 13.5 | 13.6 | 12.4 | 14.2 | 13.9 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.1 | 14.2 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.1 | 14.2 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.1 | 14.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.1 | 14.2 | 13.8 | 13.6 | 13.7 | 13.7 | 12.4 | 14.2 | 14.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.1 | 14.1 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 13.9 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.8 | 14.9 | 14.6 | 14.5 | 14.5 | 14.5 | 12.1 | 14.9 | 14.7 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.8 | 14.8 | 14.6 | 14.5 | 14.6 | 14.6 | 12.0 | 14.8 | 14.6 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.8 | 14.8 | 14.9 | 14.5 | 14.5 | 14.5 | 12.1 | 14.8 | 14.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.2 | 14.2 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 13.9 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.1 | 14.2 | 13.8 | 13.6 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.1 | 14.2 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 14.1 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.1 | 14.2 | 13.7 | 13.5 | 13.6 | 13.6 | 12.4 | 14.1 | 14.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.1 | 14.1 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 13.9 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 12.1 | 12.1 | 11.8 | 11.7 | 11.7 | 11.8 | 12.5 | 12.3 | 12.1 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 11.1 | 11.1 | 10.7 | 10.7 | 10.7 | 10.7 | 11.4 | 11.3 | 11.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.8 | 14.9 | 14.6 | 14.5 | 14.5 | 14.5 | 12.1 | 14.9 | 14.7 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.8 | 14.8 | 14.6 | 14.5 | 14.6 | 14.6 | 12.0 | 14.8 | 14.6 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.8 | 14.8 | 14.9 | 14.5 | 14.5 | 14.5 | 12.1 | 14.8 | 14.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.2 | 14.2 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 13.9 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.1 | 14.2 | 13.8 | 13.6 | 13.6 | 13.7 | 12.5 | 14.2 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.1 | 14.2 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 14.1 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.1 | 14.2 | 13.7 | 13.5 | 13.6 | 13.6 | 12.4 | 14.1 | 14.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.1 | 14.1 | 13.7 | 13.6 | 13.6 | 13.6 | 12.4 | 14.2 | 13.9 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 12.1 | 12.1 | 11.8 | 11.7 | 11.7 | 11.8 | 12.5 | 12.3 | 12.1 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 11.1 | 11.1 | 10.7 | 10.7 | 10.7 | 10.7 | 11.4 | 11.3 | 11.0 |


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## Tuning targets for Body-worn 15 mm and Wireless Router 10 mm / Antenna 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11b | | | DSSS | QPSK | 2 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11b | | | DSSS | QPSK | 5.5 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11b | | | DSSS | QPSK | 11 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | BPSK | 6 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | BPSK | 9 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | QPSK | 12 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | QPSK | 18 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | 16QAM | 24 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | 16QAM | 36 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11g | | | OFDM | 64QAM | 48 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11g | | | OFDM | 64QAM | 54 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 10.0 | 11.0 | 11.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 12.0 | 14.0 | 14.0 | 14.0 | 14.0 | 10.0 | 14.0 | 14.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 10.0 | 11.0 | 11.0 |

(WLAN2450 Body and WR tuning targets/Ant2 table continues)


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(WLAN2450 Body and WR tuning targets/Ant2 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 12.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 10.0 | 13.0 | 13.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 12.0 | 10.0 | 12.0 | 12.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |


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## Upper limits for Body-worn 15 mm and Wireless Router 10 mm / Antenna 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Upper limit of tuning target (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11b | | | DSSS | QPSK | 2 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11b | | | DSSS | QPSK | 5.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11b | | | DSSS | QPSK | 11 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | BPSK | 6 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | BPSK | 9 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | QPSK | 12 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | QPSK | 18 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 16QAM | 24 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 16QAM | 36 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11g | | | OFDM | 64QAM | 48 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11g | | | OFDM | 64QAM | 54 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11.5 | 12.5 | 12.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 13.5 | 15.5 | 15.5 | 15.5 | 15.5 | 11.5 | 15.5 | 15.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 12.5 | 12.5 | 12.5 | 12.5 | 12.5 | 11.5 | 12.5 | 12.5 |

(WLAN2450 Body and WR upper limits/Ant2 table continues)


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(WLAN2450 Body and WR upper limits/Ant2 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Upper limit of tuning target (dBm) | | | | | | | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 13.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 11.5 | 14.5 | 14.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 11.5 | 13.5 | 13.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |


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## Measured conducted output powers
## for Body-worn 15 mm and Wireless Router 10 mm / Antenna 2 / RM-1105

| WLAN 2.4 GHz: 20 MHz channel bandwidth | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 1 | CH 2 | CH 6 | CH 7 | CH 10 | CH 11 | CH 12 | CH 13 |
| 802.11b | | | DSSS | BPSK | 1 | 14.3 | 14.4 | 13.8 | 13.9 | 14.0 | 14.2 | 14.3 | 14.6 |
| 802.11b | | | DSSS | QPSK | 2 | 14.4 | 14.4 | 13.9 | 13.9 | 14.0 | 14.3 | 14.4 | 14.6 |
| 802.11b | | | DSSS | QPSK | 5.5 | 14.3 | 14.3 | 13.9 | 13.9 | 14.1 | 14.3 | 14.4 | 14.6 |
| 802.11b | | | DSSS | QPSK | 11 | 14.3 | 14.3 | 13.9 | 13.9 | 14.1 | 14.3 | 14.4 | 14.6 |
| 802.11g | | | OFDM | BPSK | 6 | 12.0 | 14.0 | 13.5 | 13.5 | 13.7 | 10.2 | 13.9 | 14.1 |
| 802.11g | | | OFDM | BPSK | 9 | 12.0 | 14.0 | 13.5 | 13.6 | 13.7 | 10.1 | 13.9 | 14.1 |
| 802.11g | | | OFDM | QPSK | 12 | 12.0 | 13.9 | 13.5 | 13.5 | 13.7 | 10.1 | 13.9 | 14.1 |
| 802.11g | | | OFDM | QPSK | 18 | 12.1 | 14.2 | 13.6 | 13.7 | 13.9 | 10.2 | 14.2 | 14.3 |
| 802.11g | | | OFDM | 16QAM | 24 | 12.4 | 14.4 | 13.7 | 13.8 | 14.1 | 10.5 | 14.2 | 14.3 |
| 802.11g | | | OFDM | 16QAM | 36 | 12.4 | 14.4 | 13.7 | 13.8 | 14.1 | 10.5 | 14.3 | 14.3 |
| 802.11g | | | OFDM | 64QAM | 48 | 12.4 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.4 | 13.5 |
| 802.11g | | | OFDM | 64QAM | 54 | 12.4 | 13.4 | 12.9 | 12.9 | 13.2 | 10.5 | 13.3 | 13.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 11.9 | 13.9 | 13.6 | 13.5 | 13.6 | 10.0 | 13.9 | 14.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 11.8 | 13.9 | 13.5 | 13.5 | 13.6 | 9.9 | 13.7 | 14.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 11.9 | 14.0 | 13.5 | 13.6 | 13.7 | 10.1 | 13.9 | 14.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 12.5 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.3 | 13.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 12.4 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.4 | 13.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 12.5 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.4 | 13.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 12.5 | 13.6 | 13.0 | 13.0 | 13.3 | 10.5 | 13.4 | 13.6 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 12.4 | 13.5 | 13.0 | 12.9 | 13.3 | 10.5 | 13.4 | 13.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 11.9 | 13.9 | 13.6 | 13.5 | 13.6 | 10.0 | 13.9 | 14.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 11.8 | 13.9 | 13.5 | 13.5 | 13.6 | 9.9 | 13.7 | 14.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 11.9 | 14.0 | 13.5 | 13.6 | 13.7 | 10.1 | 13.9 | 14.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 12.5 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.3 | 13.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 12.4 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.4 | 13.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 12.5 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.4 | 13.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 12.5 | 13.6 | 13.0 | 13.0 | 13.3 | 10.5 | 13.4 | 13.6 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 12.4 | 13.5 | 13.0 | 12.9 | 13.3 | 10.5 | 13.4 | 13.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 11.9 | 14.0 | 13.5 | 13.5 | 13.6 | 10.1 | 13.9 | 14.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 11.9 | 13.9 | 13.6 | 13.5 | 13.6 | 10.0 | 13.8 | 14.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 11.9 | 14.0 | 13.5 | 13.6 | 13.6 | 10.0 | 13.9 | 14.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 12.5 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.3 | 13.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 12.5 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.4 | 13.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 12.4 | 13.5 | 12.9 | 12.9 | 13.3 | 10.5 | 13.4 | 13.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 12.4 | 13.5 | 12.9 | 12.9 | 13.3 | 10.5 | 13.4 | 13.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 12.4 | 13.4 | 12.9 | 12.9 | 13.1 | 10.5 | 13.3 | 13.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.5 | 11.5 | 11.1 | 11.1 | 11.4 | 10.5 | 11.4 | 11.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 11.9 | 14.0 | 13.5 | 13.5 | 13.6 | 10.1 | 13.9 | 14.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 11.9 | 13.9 | 13.6 | 13.5 | 13.6 | 10.0 | 13.8 | 14.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 11.9 | 14.0 | 13.5 | 13.6 | 13.6 | 10.0 | 13.9 | 14.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 12.5 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.3 | 13.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 12.5 | 13.5 | 12.9 | 13.0 | 13.3 | 10.5 | 13.4 | 13.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 12.4 | 13.5 | 12.9 | 12.9 | 13.3 | 10.5 | 13.4 | 13.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 12.4 | 13.5 | 12.9 | 12.9 | 13.3 | 10.5 | 13.4 | 13.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 12.4 | 13.4 | 12.9 | 12.9 | 13.1 | 10.5 | 13.3 | 13.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.5 | 11.5 | 11.1 | 11.1 | 11.4 | 10.5 | 11.4 | 11.6 |

(WLAN2450 Body and WR measured values/Ant2 table continues)


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(WLAN2450 Body and WR measured values/Ant2 table continues)

| WLAN 2.4 GHz: 40 MHz channel bandwidth | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | | | Measured value (dBm) | | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data rate [MBPS] | CH 3 (1...5) | CH 4 (2...6) | CH 5 (3...7) | CH 6 (4...8) | CH 7 (5...9) | CH 8 (6...10) | CH 9 (7...11) | CH 10 (8...12) | CH 11 (9...13) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 11.6 | 12.6 | 12.5 | 12.5 | 12.6 | 12.6 | 10.1 | 12.8 | 12.6 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 11.6 | 12.7 | 12.6 | 12.6 | 12.5 | 12.6 | 10.1 | 12.8 | 12.7 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 11.6 | 12.6 | 12.6 | 12.5 | 12.5 | 12.6 | 10.1 | 12.8 | 12.6 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 11.8 | 11.8 | 11.9 | 11.7 | 11.6 | 11.6 | 10.3 | 11.9 | 11.9 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 11.8 | 11.8 | 11.8 | 11.8 | 11.6 | 11.6 | 10.3 | 12.0 | 11.9 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 11.8 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.4 | 11.9 | 11.8 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 11.8 | 11.8 | 11.9 | 11.8 | 11.6 | 11.6 | 10.3 | 11.9 | 11.9 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 11.7 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.3 | 11.9 | 11.9 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 11.6 | 12.6 | 12.5 | 12.5 | 12.6 | 12.6 | 10.1 | 12.8 | 12.6 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 11.6 | 12.7 | 12.6 | 12.6 | 12.5 | 12.6 | 10.1 | 12.8 | 12.7 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 11.6 | 12.6 | 12.6 | 12.5 | 12.5 | 12.6 | 10.1 | 12.8 | 12.6 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 11.8 | 11.8 | 11.9 | 11.7 | 11.6 | 11.6 | 10.3 | 11.9 | 11.9 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 11.8 | 11.8 | 11.8 | 11.8 | 11.6 | 11.6 | 10.3 | 12.0 | 11.9 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 11.8 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.4 | 11.9 | 11.8 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 11.8 | 11.8 | 11.9 | 11.8 | 11.6 | 11.6 | 10.3 | 11.9 | 11.9 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 11.7 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.3 | 11.9 | 11.9 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 11.6 | 12.6 | 12.6 | 12.6 | 12.5 | 12.5 | 10.1 | 12.7 | 12.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 11.5 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 10.0 | 12.7 | 12.6 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 11.6 | 12.5 | 12.6 | 12.6 | 12.6 | 12.6 | 10.0 | 12.7 | 12.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 11.8 | 11.8 | 11.8 | 11.8 | 11.6 | 11.6 | 10.4 | 11.9 | 11.9 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 11.7 | 11.9 | 11.9 | 11.8 | 11.6 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 11.7 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.3 | 11.9 | 11.8 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 11.7 | 11.8 | 11.9 | 11.7 | 11.6 | 11.6 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 11.7 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.3 | 11.8 | 11.9 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 9.8 | 9.9 | 9.8 | 9.8 | 9.7 | 9.7 | 10.3 | 10.1 | 9.9 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 8.9 | 9.0 | 8.8 | 8.5 | 8.8 | 8.7 | 9.3 | 9.1 | 8.9 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 11.6 | 12.6 | 12.6 | 12.6 | 12.5 | 12.5 | 10.1 | 12.7 | 12.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 11.5 | 12.6 | 12.6 | 12.6 | 12.6 | 12.6 | 10.0 | 12.7 | 12.6 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 11.6 | 12.5 | 12.6 | 12.6 | 12.6 | 12.6 | 10.0 | 12.7 | 12.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 11.8 | 11.8 | 11.8 | 11.8 | 11.6 | 11.6 | 10.4 | 11.9 | 11.9 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 11.7 | 11.9 | 11.9 | 11.8 | 11.6 | 11.7 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 11.7 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.3 | 11.9 | 11.8 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 11.7 | 11.8 | 11.9 | 11.7 | 11.6 | 11.6 | 10.4 | 12.0 | 11.9 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 11.7 | 11.8 | 11.8 | 11.7 | 11.6 | 11.6 | 10.3 | 11.8 | 11.9 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 9.8 | 9.9 | 9.8 | 9.8 | 9.7 | 9.7 | 10.3 | 10.1 | 9.9 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 8.9 | 9.0 | 8.8 | 8.5 | 8.8 | 8.7 | 9.3 | 9.1 | 8.9 |


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## 3.6 WLAN5000

Note: Channels 122, 118, 126, 120, 124, 128, 138, 142 and 144 are not operational in US and Canada, those results should be omitted for this filing.

### 3.6.1 WLAN5000 Head

**Averaged tuning targets Head / Antenna 1 & 2 / RM-1105**

| RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 36 | 40 | 44 | 48 |
| 802.11a | | | OFDM | BPSK | 6 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | BPSK | 9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 12 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 18 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.0 | 9.0 | 9.0 | 9.0 |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 52 | 56 | 60 | 64 |
| 802.11a | | | OFDM | BPSK | 6 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | BPSK | 9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 12 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 18 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.0 | 9.0 | 9.0 | 9.0 |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 100 | 104 | 108 | 112 | 116 | 120 |
| 802.11a | | | OFDM | BPSK | 6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | BPSK | 9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 12 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 18 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 124 | 128 | 132 | 136 | 140 | 144 |
| 802.11a | | | OFDM | BPSK | 6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | BPSK | 9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 12 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 18 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | |
| | | | | | | 149 | 153 | 157 | 161 | 165 |
| 802.11a | | | OFDM | BPSK | 6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | BPSK | 9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 12 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | QPSK | 18 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth: TUNING TARGETS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 38 (36+40) | 46 (44+48) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **9.0** | **9.0** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **9.0** | **9.0** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **9.0** | **9.0** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **9.0** | **9.0** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **9.0** | **9.0** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **9.0** | **9.0** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **9.0** | **9.0** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **9.0** | **9.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **9.0** | **9.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **9.0** | **9.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **9.0** | **9.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **9.0** | **9.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **9.0** | **9.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **9.0** | **9.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **9.0** | **9.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **9.0** | **9.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **9.0** | **9.0** |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth: TUNING TARGETS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 54 (52+56) | 62 (60+64) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **9.0** | **9.0** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **9.0** | **9.0** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **9.0** | **9.0** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **9.0** | **9.0** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **9.0** | **9.0** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **9.0** | **9.0** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **9.0** | **9.0** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **9.0** | **9.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **9.0** | **9.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **9.0** | **9.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **9.0** | **9.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **9.0** | **9.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **9.0** | **9.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **9.0** | **9.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **9.0** | **9.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **9.0** | **9.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **9.0** | **9.0** |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 102 (100+104) | 110 (108+112) | 118 (116+120) | 126 (124+128) | 134 (132+136) | 142 (140+144) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth: TUNING TARGETS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 151 (149+153) | 159 (157+161) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **9.0** | **9.0** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **9.0** | **9.0** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **9.0** | **9.0** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **9.0** | **9.0** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **9.0** | **9.0** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **9.0** | **9.0** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **9.0** | **9.0** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **9.0** | **9.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **9.0** | **9.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **9.0** | **9.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **9.0** | **9.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **9.0** | **9.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **9.0** | **9.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **9.0** | **9.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **9.0** | **9.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **9.0** | **9.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **9.0** | **9.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **9.0** | **9.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **9.0** | **9.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **9.0** | **9.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **9.0** | **9.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **9.0** | **9.0** |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth: TUNING TARGETS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 42 (36-48) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **9.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **9.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **9.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **9.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **9.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **9.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **9.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **9.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **9.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **9.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **9.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **9.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **9.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **9.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **9.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **9.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **9.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **9.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **9.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **9.0** |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth: TUNING TARGETS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 58 (52-64) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **9.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **9.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **9.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **9.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **9.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **9.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **9.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **9.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **9.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **9.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **9.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **9.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **9.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **9.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **9.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **9.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **9.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **9.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **9.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **9.0** |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth: TUNING TARGETS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 106 (100-112) | 122 (116-128) | 138 (132-144) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **9.0** | **9.0** | **9.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **9.0** | **9.0** | **9.0** |

(WLAN5000 Head averaged tuning targets table continues)


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(WLAN5000 Head averaged tuning targets table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth: TUNING TARGETS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 155 (149-161) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **9.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **9.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **9.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **9.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **9.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **9.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **9.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **9.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **9.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **9.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **9.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **9.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **9.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **9.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **9.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **9.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **9.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **9.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **9.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **9.0** |


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**Averaged upper limits for Head / Antenna 1 & 2 / RM-1105**

| RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 36 | 40 | 44 | 48 |
| 802.11a | | | OFDM | BPSK | 6 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | BPSK | 9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 12 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 18 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.5 | 10.5 | 10.5 | 10.5 |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 52 | 56 | 60 | 64 |
| 802.11a | | | OFDM | BPSK | 6 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | BPSK | 9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 12 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 18 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.5 | 10.5 | 10.5 | 10.5 |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 100 | 104 | 108 | 112 | 116 | 120 |
| 802.11a | | | OFDM | BPSK | 6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | BPSK | 9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 12 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 18 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 124 | 128 | 132 | 136 | 140 | 144 |
| 802.11a | | | OFDM | BPSK | 6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | BPSK | 9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 12 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 18 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | |
| | | | | | | 149 | 153 | 157 | 161 | 165 |
| 802.11a | | | OFDM | BPSK | 6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | BPSK | 9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 12 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | QPSK | 18 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth: UPPER LIMITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 38 (36+40) | 46 (44+48) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **10.5** | **10.5** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **10.5** | **10.5** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **10.5** | **10.5** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **10.5** | **10.5** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **10.5** | **10.5** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **10.5** | **10.5** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **10.5** | **10.5** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **10.5** | **10.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **10.5** | **10.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **10.5** | **10.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **10.5** | **10.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **10.5** | **10.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **10.5** | **10.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **10.5** | **10.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **10.5** | **10.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **10.5** | **10.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **10.5** | **10.5** |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth: UPPER LIMITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 54 (52+56) | 62 (60+64) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **10.5** | **10.5** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **10.5** | **10.5** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **10.5** | **10.5** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **10.5** | **10.5** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **10.5** | **10.5** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **10.5** | **10.5** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **10.5** | **10.5** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **10.5** | **10.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **10.5** | **10.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **10.5** | **10.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **10.5** | **10.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **10.5** | **10.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **10.5** | **10.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **10.5** | **10.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **10.5** | **10.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **10.5** | **10.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **10.5** | **10.5** |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 102 (100+104) | 110 (108+112) | 118 (116+120) | 126 (124+128) | 134 (132+136) | 142 (140+144) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 | 10.5 |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth: UPPER LIMITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 151 (149+153) | 159 (157+161) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **10.5** | **10.5** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **10.5** | **10.5** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **10.5** | **10.5** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **10.5** | **10.5** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **10.5** | **10.5** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **10.5** | **10.5** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **10.5** | **10.5** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **10.5** | **10.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **10.5** | **10.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **10.5** | **10.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **10.5** | **10.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **10.5** | **10.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **10.5** | **10.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **10.5** | **10.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **10.5** | **10.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **10.5** | **10.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **10.5** | **10.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **10.5** | **10.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **10.5** | **10.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **10.5** | **10.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **10.5** | **10.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **10.5** | **10.5** |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth: UPPER LIMITS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 42 (36-48) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **10.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **10.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **10.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **10.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **10.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **10.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **10.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **10.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **10.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **10.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **10.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **10.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **10.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **10.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **10.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **10.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **10.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **10.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **10.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **10.5** |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth: UPPER LIMITS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 58 (52-64) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **10.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **10.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **10.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **10.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **10.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **10.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **10.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **10.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **10.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **10.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **10.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **10.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **10.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **10.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **10.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **10.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **10.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **10.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **10.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **10.5** |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth: UPPER LIMITS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 106 (100-112) | 122 (116-128) | 138 (132-144) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **10.5** | **10.5** | **10.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **10.5** | **10.5** | **10.5** |

(WLAN5000 Head averaged upper limits table continues)


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(WLAN5000 Head averaged upper limits table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth: UPPER LIMITS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 155 (149-161) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **10.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **10.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **10.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **10.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **10.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **10.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **10.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **10.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **10.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **10.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **10.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **10.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **10.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **10.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **10.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **10.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **10.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **10.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **10.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **10.5** |


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**Averaged measured conducted output powers for Head / Antenna 1 & 2 / RM-1105**

| RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 36 | 40 | 44 | 48 |
| 802.11a | | | OFDM | BPSK | 6 | 9.4 | 9.4 | 9.4 | 9.4 |
| 802.11a | | | OFDM | BPSK | 9 | 9.3 | 9.4 | 9.4 | 9.4 |
| 802.11a | | | OFDM | QPSK | 12 | 9.3 | 9.4 | 9.3 | 9.4 |
| 802.11a | | | OFDM | QPSK | 18 | 9.4 | 9.5 | 9.5 | 9.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.6 | 9.7 | 9.7 | 9.6 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.6 | 9.6 | 9.6 | 9.7 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.1 | 9.2 | 9.1 | 9.2 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.2 | 9.3 | 9.3 | 9.3 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.1 | 9.2 | 9.1 | 9.2 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.2 | 9.3 | 9.3 | 9.3 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.2 | 9.3 | 9.3 | 9.3 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.3 | 9.3 | 9.3 | 9.3 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.6 | 9.6 | 9.6 | 9.7 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.2 | 9.3 | 9.3 | 9.3 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.3 | 9.3 | 9.3 | 9.3 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.6 | 9.6 | 9.6 | 9.7 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.7 | 9.7 | 9.7 | 9.7 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 52 | 56 | 60 | 64 |
| 802.11a | | | OFDM | BPSK | 6 | 9.3 | 9.3 | 9.5 | 9.5 |
| 802.11a | | | OFDM | BPSK | 9 | 9.3 | 9.3 | 9.4 | 9.4 |
| 802.11a | | | OFDM | QPSK | 12 | 9.3 | 9.3 | 9.4 | 9.4 |
| 802.11a | | | OFDM | QPSK | 18 | 9.4 | 9.4 | 9.5 | 9.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.5 | 9.6 | 9.7 | 9.7 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.6 | 9.6 | 9.8 | 9.7 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.6 | 9.6 | 9.7 | 9.7 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.1 | 9.1 | 9.3 | 9.3 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.1 | 9.1 | 9.2 | 9.2 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.1 | 9.2 | 9.3 | 9.3 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.6 | 9.6 | 9.7 | 9.8 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.6 | 9.6 | 9.7 | 9.7 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.1 | 9.1 | 9.3 | 9.3 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.1 | 9.1 | 9.2 | 9.2 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.1 | 9.2 | 9.3 | 9.3 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.6 | 9.6 | 9.7 | 9.8 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.6 | 9.6 | 9.7 | 9.7 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.2 | 9.2 | 9.3 | 9.3 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.1 | 9.1 | 9.2 | 9.2 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.1 | 9.2 | 9.3 | 9.3 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.6 | 9.6 | 9.7 | 9.7 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.6 | 9.6 | 9.8 | 9.7 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.6 | 9.6 | 9.7 | 9.8 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.5 | 9.6 | 9.7 | 9.7 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.6 | 9.6 | 9.7 | 9.8 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.2 | 9.2 | 9.3 | 9.3 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.1 | 9.1 | 9.2 | 9.2 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.1 | 9.2 | 9.3 | 9.3 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.6 | 9.6 | 9.8 | 9.8 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.6 | 9.6 | 9.7 | 9.7 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.6 | 9.6 | 9.8 | 9.7 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.6 | 9.6 | 9.7 | 9.8 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.5 | 9.6 | 9.7 | 9.7 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.6 | 9.6 | 9.7 | 9.8 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 100 | 104 | 108 | 112 | 116 | 120 |
| 802.11a | | | OFDM | BPSK | 6 | 9.5 | 9.4 | 9.4 | 9.4 | 9.3 | 9.4 |
| 802.11a | | | OFDM | BPSK | 9 | 9.5 | 9.4 | 9.4 | 9.3 | 9.3 | 9.3 |
| 802.11a | | | OFDM | QPSK | 12 | 9.4 | 9.4 | 9.3 | 9.3 | 9.3 | 9.3 |
| 802.11a | | | OFDM | QPSK | 18 | 9.6 | 9.5 | 9.5 | 9.4 | 9.4 | 9.4 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.7 | 9.8 | 9.7 | 9.6 | 9.7 | 9.7 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 | 9.6 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.8 | 9.7 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 | 9.6 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.2 | 9.2 | 9.1 | 9.1 | 9.1 | 9.1 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.3 | 9.3 | 9.2 | 9.3 | 9.2 | 9.2 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.8 | 9.7 | 9.7 | 9.6 | 9.7 | 9.7 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.8 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.8 | 9.8 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.8 | 9.8 | 9.7 | 9.6 | 9.6 | 9.7 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.2 | 9.2 | 9.1 | 9.1 | 9.1 | 9.1 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.3 | 9.3 | 9.2 | 9.3 | 9.2 | 9.2 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.7 | 9.7 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.8 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.8 | 9.8 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.8 | 9.8 | 9.7 | 9.6 | 9.6 | 9.7 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.8 | 9.7 | 9.7 | 9.6 | 9.7 | 9.7 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.8 | 9.8 | 9.7 | 9.6 | 9.6 | 9.7 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.8 | 9.8 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.7 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 | 9.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.7 | 9.7 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.8 | 9.8 | 9.7 | 9.6 | 9.6 | 9.7 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.8 | 9.8 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.7 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 | 9.7 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 124 | 128 | 132 | 136 | 140 | 144 |
| 802.11a | | | OFDM | BPSK | 6 | 9.3 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 |
| 802.11a | | | OFDM | BPSK | 9 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11a | | | OFDM | QPSK | 12 | 9.3 | 9.3 | 9.2 | 9.2 | 9.2 | 9.1 |
| 802.11a | | | OFDM | QPSK | 18 | 9.4 | 9.3 | 9.3 | 9.3 | 9.3 | 9.2 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.7 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.4 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.4 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.2 | 9.1 | 9.1 | 9.0 | 9.0 | 9.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.1 | 9.0 | 9.0 | 9.0 | 9.0 | 8.9 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.2 | 9.2 | 9.1 | 9.1 | 9.1 | 9.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.7 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.2 | 9.1 | 9.1 | 9.0 | 9.0 | 9.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.1 | 9.0 | 9.0 | 9.0 | 9.0 | 8.9 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.2 | 9.2 | 9.1 | 9.1 | 9.1 | 9.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.7 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.2 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.1 | 9.1 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.2 | 9.1 | 9.1 | 9.1 | 9.1 | 9.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.7 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.2 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.1 | 9.1 | 9.0 | 9.0 | 9.0 | 9.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.2 | 9.1 | 9.1 | 9.1 | 9.1 | 9.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.7 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.6 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.6 | 9.5 | 9.5 | 9.5 | 9.5 | 9.5 |


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | |
| | | | | | | 149 | 153 | 157 | 161 | 165 |
| 802.11a | | | OFDM | BPSK | 6 | 9.3 | 9.4 | 9.3 | 9.4 | 9.4 |
| 802.11a | | | OFDM | BPSK | 9 | 9.3 | 9.3 | 9.3 | 9.4 | 9.3 |
| 802.11a | | | OFDM | QPSK | 12 | 9.3 | 9.3 | 9.3 | 9.3 | 9.3 |
| 802.11a | | | OFDM | QPSK | 18 | 9.3 | 9.5 | 9.4 | 9.5 | 9.4 |
| 802.11a | | | OFDM | 16QAM | 24 | 9.6 | 9.7 | 9.6 | 9.7 | 9.6 |
| 802.11a | | | OFDM | 16QAM | 36 | 9.5 | 9.6 | 9.6 | 9.6 | 9.6 |
| 802.11a | | | OFDM | 64QAM | 48 | 9.6 | 9.6 | 9.6 | 9.7 | 9.6 |
| 802.11a | | | OFDM | 64QAM | 54 | 9.5 | 9.6 | 9.6 | 9.6 | 9.6 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.1 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.1 | 9.2 | 9.2 | 9.3 | 9.2 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.6 | 9.7 | 9.6 | 9.7 | 9.7 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.6 | 9.7 | 9.7 | 9.7 | 9.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.6 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.6 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.6 | 9.7 | 9.6 | 9.7 | 9.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.1 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.1 | 9.1 | 9.1 | 9.1 | 9.1 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.1 | 9.2 | 9.2 | 9.3 | 9.2 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.6 | 9.7 | 9.6 | 9.7 | 9.7 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.6 | 9.7 | 9.7 | 9.7 | 9.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.6 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.6 | 9.7 | 9.7 | 9.7 | 9.7 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.6 | 9.7 | 9.6 | 9.7 | 9.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 9.1 | 9.2 | 9.2 | 9.2 | 9.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 9.6 | 9.6 | 9.7 | 9.7 | 9.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 9.6 | 9.6 | 9.6 | 9.7 | 9.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 9.6 | 9.7 | 9.6 | 9.7 | 9.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 9.6 | 9.7 | 9.7 | 9.7 | 9.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 9.5 | 9.6 | 9.6 | 9.6 | 9.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 9.6 | 9.7 | 9.6 | 9.7 | 9.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 9.1 | 9.2 | 9.2 | 9.2 | 9.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 9.2 | 9.2 | 9.2 | 9.2 | 9.2 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 9.6 | 9.6 | 9.7 | 9.7 | 9.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 9.6 | 9.6 | 9.6 | 9.7 | 9.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 9.6 | 9.7 | 9.6 | 9.7 | 9.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 9.6 | 9.7 | 9.7 | 9.7 | 9.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 9.5 | 9.6 | 9.6 | 9.6 | 9.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 9.6 | 9.7 | 9.6 | 9.7 | 9.6 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth | | | | | | | |
|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 38 (36+40) | 46 (44+48) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.6 | 9.6 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.6 | 9.6 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.6 | 9.6 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.7 | 9.7 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.7 | 9.8 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.7 | 9.7 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.7 | 9.8 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.7 | 9.8 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.6 | 9.6 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.6 | 9.6 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.6 | 9.6 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.7 | 9.7 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.7 | 9.8 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.7 | 9.7 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.7 | 9.8 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.7 | 9.8 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.5 | 9.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.5 | 9.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.5 | 9.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.7 | 9.8 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.8 | 9.8 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.7 | 9.8 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.7 | 9.7 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.7 | 9.7 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 9.7 | 9.8 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 9.7 | 9.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.5 | 9.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.5 | 9.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.5 | 9.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.7 | 9.8 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.8 | 9.8 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.7 | 9.8 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.7 | 9.7 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.7 | 9.7 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 9.7 | 9.8 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 9.7 | 9.7 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth | | | | | | | |
|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 54 (52+56) | 62 (60+64) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.5 | 9.7 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.5 | 9.7 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.5 | 9.7 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.6 | 9.8 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.6 | 9.9 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.6 | 9.8 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.7 | 9.8 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.6 | 9.8 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.5 | 9.7 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.5 | 9.7 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.5 | 9.7 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.6 | 9.8 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.6 | 9.9 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.6 | 9.8 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.7 | 9.8 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.6 | 9.8 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.5 | 9.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.4 | 9.6 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.4 | 9.6 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.6 | 9.8 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.8 | 9.8 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.7 | 9.8 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.7 | 9.8 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.6 | 9.8 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 9.7 | 9.8 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 9.6 | 9.8 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.5 | 9.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.4 | 9.6 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.4 | 9.6 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.6 | 9.8 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.8 | 9.8 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.7 | 9.8 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.7 | 9.8 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.6 | 9.8 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 9.7 | 9.8 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 9.6 | 9.8 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 102 (100+104) | 110 (108+112) | 118 (116+120) | 126 (124+128) | 134 (132+136) | 142 (140+144) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.7 | 9.5 | 9.5 | 9.5 | 9.4 | 9.4 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.7 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 9.4 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.7 | 9.5 | 9.5 | 9.5 | 9.4 | 9.4 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.7 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.6 | 9.6 | 9.6 | 9.5 | 9.5 | 9.4 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.6 | 9.5 | 9.5 | 9.5 | 9.4 | 9.4 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.5 | 9.4 | 9.4 | 9.4 | 9.4 | 9.3 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.6 | 9.5 | 9.5 | 9.5 | 9.4 | 9.4 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.8 | 9.7 | 9.6 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.9 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 9.8 | 9.7 | 9.6 | 9.7 | 9.6 | 9.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.6 | 9.5 | 9.5 | 9.5 | 9.4 | 9.4 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.5 | 9.4 | 9.4 | 9.4 | 9.4 | 9.3 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.6 | 9.5 | 9.5 | 9.5 | 9.4 | 9.4 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.8 | 9.7 | 9.6 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.9 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.8 | 9.8 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 9.8 | 9.7 | 9.7 | 9.7 | 9.6 | 9.6 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 9.8 | 9.7 | 9.6 | 9.7 | 9.6 | 9.5 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth | | | | | | | |
|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 151 (149+153) | 159 (157+161) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.5 | 9.6 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.5 | 9.7 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.5 | 9.6 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.6 | 9.8 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.7 | 9.8 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.6 | 9.8 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.7 | 9.8 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.6 | 9.8 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.5 | 9.6 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.5 | 9.7 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.5 | 9.6 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.6 | 9.8 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.7 | 9.8 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.6 | 9.8 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.7 | 9.8 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.6 | 9.8 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 9.5 | 9.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 9.4 | 9.4 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 9.4 | 9.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 9.6 | 9.8 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 9.7 | 9.8 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 9.7 | 9.7 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 9.6 | 9.8 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 9.6 | 9.7 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 9.7 | 9.8 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 9.6 | 9.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 9.5 | 9.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 9.4 | 9.4 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 9.4 | 9.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 9.6 | 9.8 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 9.7 | 9.8 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 9.7 | 9.7 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 9.6 | 9.8 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 9.6 | 9.7 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 9.7 | 9.8 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 9.6 | 9.7 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 42 (36-48) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | 9.4 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | 9.4 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | 9.4 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | 9.7 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | 9.7 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | 9.7 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | 9.7 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | 9.7 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | 9.7 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | 9.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | 9.4 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | 9.4 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | 9.4 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | 9.7 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | 9.7 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | 9.7 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | 9.7 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | 9.7 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | 9.7 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | 9.7 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 58 (52-64) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | 9.3 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | 9.3 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | 9.3 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | 9.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | 9.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | 9.6 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | 9.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | 9.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | 9.7 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | 9.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | 9.3 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | 9.3 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | 9.3 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | 9.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | 9.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | 9.6 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | 9.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | 9.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | 9.7 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | 9.7 |

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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 106 (100-112) | 122 (116-128) | 138 (132-144) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | 9.5 | 9.4 | 9.2 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | 9.4 | 9.4 | 9.2 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | 9.4 | 9.4 | 9.2 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | 9.7 | 9.7 | 9.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | 9.7 | 9.7 | 9.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | 9.8 | 9.7 | 9.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | 9.8 | 9.7 | 9.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | 9.8 | 9.7 | 9.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | 9.8 | 9.7 | 9.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | 9.8 | 9.7 | 9.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | 9.5 | 9.4 | 9.2 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | 9.4 | 9.4 | 9.2 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | 9.4 | 9.4 | 9.2 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | 9.7 | 9.7 | 9.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | 9.7 | 9.7 | 9.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | 9.8 | 9.7 | 9.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | 9.8 | 9.7 | 9.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | 9.8 | 9.7 | 9.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | 9.8 | 9.7 | 9.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | 9.8 | 9.7 | 9.5 |

(WLAN5000 Head averaged measured values table continues)


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(WLAN5000 Head averaged measured values table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 155 (149-161) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | 9.4 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | 9.4 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | 9.4 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | 9.7 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | 9.7 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | 9.7 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | 9.7 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | 9.7 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | 9.7 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | 9.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | 9.4 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | 9.4 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | 9.4 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | 9.7 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | 9.7 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | 9.7 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | 9.7 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | 9.7 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | 9.7 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | 9.7 |


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3.6.2 WLAN5000 Body-worn 15 mm and Wireless Router 10 mm

**Averaged tuning targets for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1105**

| RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 36 | 40 | 44 | 48 |
| 802.11a | | | OFDM | BPSK | 6 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | BPSK | 9 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 18 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.0 | 10.0 | 10.0 | 10.0 |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 52 | 56 | 60 | 64 |
| 802.11a | | | OFDM | BPSK | 6 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | BPSK | 9 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 18 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.0 | 10.0 | 10.0 | 10.0 |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 100 | 104 | 108 | 112 | 116 | 120 |
| 802.11a | | | OFDM | BPSK | 6 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | BPSK | 9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 18 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 124 | 128 | 132 | 136 | 140 | 144 |
| 802.11a | | | OFDM | BPSK | 6 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | BPSK | 9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 18 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | |
| | | | | | | 149 | 153 | 157 | 161 | 165 |
| 802.11a | | | OFDM | BPSK | 6 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | BPSK | 9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 18 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.0 | 14.0 | 14.0 | 14.0 | 14.0 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.0 | 13.0 | 13.0 | 13.0 | 13.0 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth: TUNING TARGETS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 38 (36+40) | 46 (44+48) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **15.0** | **15.0** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **15.0** | **15.0** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **14.0** | **14.0** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **14.0** | **14.0** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **13.0** | **13.0** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **13.0** | **13.0** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **13.0** | **13.0** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **15.0** | **15.0** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **15.0** | **15.0** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **14.0** | **14.0** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **14.0** | **14.0** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **13.0** | **13.0** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **13.0** | **13.0** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **13.0** | **13.0** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **15.0** | **15.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **15.0** | **15.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **14.0** | **14.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **14.0** | **14.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **13.0** | **13.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **13.0** | **13.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **13.0** | **13.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **10.0** | **10.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **10.0** | **10.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **15.0** | **15.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **15.0** | **15.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **14.0** | **14.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **14.0** | **14.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **13.0** | **13.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **13.0** | **13.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **13.0** | **13.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **10.0** | **10.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **10.0** | **10.0** |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth: TUNING TARGETS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 54 (52+56) | 62 (60+64) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **15.0** | **15.0** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **15.0** | **15.0** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **14.0** | **14.0** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **14.0** | **14.0** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **13.0** | **13.0** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **13.0** | **13.0** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **13.0** | **13.0** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **15.0** | **15.0** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **15.0** | **15.0** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **14.0** | **14.0** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **14.0** | **14.0** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **13.0** | **13.0** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **13.0** | **13.0** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **13.0** | **13.0** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **15.0** | **15.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **15.0** | **15.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **14.0** | **14.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **14.0** | **14.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **13.0** | **13.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **13.0** | **13.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **13.0** | **13.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **10.0** | **10.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **10.0** | **10.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **15.0** | **15.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **15.0** | **15.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **14.0** | **14.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **14.0** | **14.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **13.0** | **13.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **13.0** | **13.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **13.0** | **13.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **10.0** | **10.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **10.0** | **10.0** |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth: TUNING TARGETS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 102 (100+104) | 110 (108+112) | 118 (116+120) | 126 (124+128) | 134 (132+136) | 142 (140+144) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **10.0** | **10.0** | **10.0** | **10.0** | **10.0** | **10.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **10.0** | **10.0** | **10.0** | **10.0** | **10.0** | **10.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** | **15.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** | **14.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** | **13.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **10.0** | **10.0** | **10.0** | **10.0** | **10.0** | **10.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **10.0** | **10.0** | **10.0** | **10.0** | **10.0** | **10.0** |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth: TUNING TARGETS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 151 (149+153) | 159 (157+161) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **15.0** | **15.0** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **15.0** | **15.0** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **14.0** | **14.0** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **14.0** | **14.0** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **13.0** | **13.0** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **13.0** | **13.0** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **13.0** | **13.0** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **15.0** | **15.0** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **15.0** | **15.0** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **14.0** | **14.0** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **14.0** | **14.0** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **13.0** | **13.0** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **13.0** | **13.0** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **13.0** | **13.0** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **15.0** | **15.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **15.0** | **15.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **14.0** | **14.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **14.0** | **14.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **13.0** | **13.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **13.0** | **13.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **13.0** | **13.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **10.0** | **10.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **10.0** | **10.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **15.0** | **15.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **15.0** | **15.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **15.0** | **15.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **14.0** | **14.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **14.0** | **14.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **13.0** | **13.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **13.0** | **13.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **13.0** | **13.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **10.0** | **10.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **10.0** | **10.0** |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth: TUNING TARGETS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 42 (36-48) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **14.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **14.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **14.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **14.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **14.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **13.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **13.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **13.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **10.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **10.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **14.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **14.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **14.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **14.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **14.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **13.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **13.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **13.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **10.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **10.0** |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth: TUNING TARGETS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 58 (52-64) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **14.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **14.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **14.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **14.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **14.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **13.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **13.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **13.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **10.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **10.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **14.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **14.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **14.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **14.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **14.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **13.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **13.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **13.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **10.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **10.0** |

(WLAN5000 Body-worn and WR averaged tuning targets table continues)


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(WLAN5000 Body-worn and WR averaged tuning targets table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth: TUNING TARGETS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 106 (100-112) | 122 (116-128) | 138 (132-144) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **13.0** | **13.0** | **13.0** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **13.0** | **13.0** | **13.0** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **13.0** | **13.0** | **13.0** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **10.0** | **10.0** | **10.0** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **10.0** | **10.0** | **10.0** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **14.0** | **14.0** | **14.0** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **13.0** | **13.0** | **13.0** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **13.0** | **13.0** | **13.0** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **13.0** | **13.0** | **13.0** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **10.0** | **10.0** | **10.0** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **10.0** | **10.0** | **10.0** |


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**Averaged upper limits for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1105**

| RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 36 | 40 | 44 | 48 |
| 802.11a | | | OFDM | BPSK | 6 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | BPSK | 9 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 12 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 18 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.5 | 11.5 | 11.5 | 11.5 |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 52 | 56 | 60 | 64 |
| 802.11a | | | OFDM | BPSK | 6 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | BPSK | 9 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 12 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 18 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.5 | 11.5 | 11.5 | 11.5 |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 100 | 104 | 108 | 112 | 116 | 120 |
| 802.11a | | | OFDM | BPSK | 6 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | BPSK | 9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 12 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 18 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 124 | 128 | 132 | 136 | 140 | 144 |
| 802.11a | | | OFDM | BPSK | 6 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | BPSK | 9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 12 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 18 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | |
| | | | | | | 149 | 153 | 157 | 161 | 165 |
| 802.11a | | | OFDM | BPSK | 6 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | BPSK | 9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 12 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | QPSK | 18 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 24 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11a | | | OFDM | 16QAM | 36 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 48 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11a | | | OFDM | 64QAM | 54 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth: UPPER LIMITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 38 (36+40) | 46 (44+48) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **16.5** | **16.5** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **16.5** | **16.5** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **15.5** | **15.5** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **15.5** | **15.5** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **14.5** | **14.5** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **14.5** | **14.5** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **14.5** | **14.5** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **16.5** | **16.5** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **16.5** | **16.5** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **15.5** | **15.5** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **15.5** | **15.5** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **14.5** | **14.5** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **14.5** | **14.5** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **14.5** | **14.5** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **16.5** | **16.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **16.5** | **16.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **15.5** | **15.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **15.5** | **15.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **14.5** | **14.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **14.5** | **14.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **14.5** | **14.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **11.5** | **11.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **11.5** | **11.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **16.5** | **16.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **16.5** | **16.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **15.5** | **15.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **15.5** | **15.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **14.5** | **14.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **14.5** | **14.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **14.5** | **14.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **11.5** | **11.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **11.5** | **11.5** |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth: UPPER LIMITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 54 (52+56) | 62 (60+64) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **16.5** | **16.5** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **16.5** | **16.5** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **15.5** | **15.5** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **15.5** | **15.5** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **14.5** | **14.5** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **14.5** | **14.5** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **14.5** | **14.5** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **16.5** | **16.5** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **16.5** | **16.5** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **15.5** | **15.5** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **15.5** | **15.5** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **14.5** | **14.5** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **14.5** | **14.5** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **14.5** | **14.5** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **16.5** | **16.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **16.5** | **16.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **15.5** | **15.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **15.5** | **15.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **14.5** | **14.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **14.5** | **14.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **14.5** | **14.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **11.5** | **11.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **11.5** | **11.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **16.5** | **16.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **16.5** | **16.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **15.5** | **15.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **15.5** | **15.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **14.5** | **14.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **14.5** | **14.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **14.5** | **14.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **11.5** | **11.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **11.5** | **11.5** |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth: UPPER LIMITS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 102 (100+104) | 110 (108+112) | 118 (116+120) | 126 (124+128) | 134 (132+136) | 142 (140+144) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 | 15.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 | 14.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 | 11.5 |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth: UPPER LIMITS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 151 (149+153) | 159 (157+161) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **16.5** | **16.5** |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **16.5** | **16.5** |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **15.5** | **15.5** |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **15.5** | **15.5** |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **14.5** | **14.5** |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **14.5** | **14.5** |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **14.5** | **14.5** |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | **16.5** | **16.5** |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | **16.5** | **16.5** |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **15.5** | **15.5** |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **15.5** | **15.5** |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **14.5** | **14.5** |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **14.5** | **14.5** |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **14.5** | **14.5** |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | **16.5** | **16.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | **16.5** | **16.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | **15.5** | **15.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | **15.5** | **15.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | **14.5** | **14.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | **14.5** | **14.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | **14.5** | **14.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | **11.5** | **11.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | **11.5** | **11.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | **16.5** | **16.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | **16.5** | **16.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | **16.5** | **16.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | **15.5** | **15.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | **15.5** | **15.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | **14.5** | **14.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | **14.5** | **14.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | **14.5** | **14.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | **11.5** | **11.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | **11.5** | **11.5** |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth: UPPER LIMITS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 42 (36-48) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **15.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **15.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **15.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **15.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **15.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **14.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **14.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **14.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **11.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **11.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **15.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **15.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **15.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **15.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **15.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **14.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **14.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **14.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **11.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **11.5** |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth: UPPER LIMITS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 58 (52-64) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **15.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **15.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **15.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **15.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **15.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **14.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **14.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **14.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **11.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **11.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **15.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **15.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **15.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **15.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **15.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **14.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **14.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **14.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **11.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **11.5** |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth: UPPER LIMITS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 106 (100-112) | 122 (116-128) | 138 (132-144) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **14.5** | **14.5** | **14.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **14.5** | **14.5** | **14.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **14.5** | **14.5** | **14.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **11.5** | **11.5** | **11.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **11.5** | **11.5** | **11.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **15.5** | **15.5** | **15.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **14.5** | **14.5** | **14.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **14.5** | **14.5** | **14.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **14.5** | **14.5** | **14.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **11.5** | **11.5** | **11.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **11.5** | **11.5** | **11.5** |

(WLAN5000 Body-worn and WR averaged upper limits table continues)


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(WLAN5000 Body-worn and WR averaged upper limits table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth: UPPER LIMITS | | | | | | |
|---|---|---|---|---|---|---|
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 155 (149-161) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | **15.5** |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | **15.5** |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | **15.5** |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | **15.5** |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | **15.5** |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | **14.5** |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | **14.5** |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | **14.5** |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | **11.5** |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | **11.5** |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | **15.5** |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | **15.5** |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | **15.5** |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | **15.5** |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | **15.5** |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | **14.5** |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | **14.5** |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | **14.5** |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | **11.5** |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | **11.5** |


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**Averaged measured conducted output powers**
**for Body-worn 15mm and Wireless router 10 mm / Antenna 1 & 2 / RM-1105**

| RLAN 5 GHz Sub-1 (U-NII-1) / 20 MHz channel bandwidth | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 36 | 40 | 44 | 48 |
| 802.11a | | | OFDM | BPSK | 6 | 15.1 | 15.1 | 15.1 | 15.1 |
| 802.11a | | | OFDM | BPSK | 9 | 15.0 | 15.1 | 15.1 | 15.1 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.0 | 15.1 | 15.0 |
| 802.11a | | | OFDM | QPSK | 18 | 15.1 | 15.1 | 15.2 | 15.2 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.1 | 15.1 | 15.1 | 15.2 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.2 | 14.3 | 14.3 | 14.3 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.3 | 14.3 | 14.3 | 14.3 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.3 | 13.4 | 13.3 | 13.4 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.9 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.3 | 14.4 | 14.3 | 14.4 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.3 | 14.4 | 14.3 | 14.4 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.4 | 13.5 | 13.4 | 13.4 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.4 | 13.4 | 13.4 | 13.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.9 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.3 | 14.4 | 14.3 | 14.4 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.3 | 14.4 | 14.3 | 14.4 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.4 | 13.5 | 13.4 | 13.4 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.4 | 13.4 | 13.4 | 13.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.0 | 15.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.9 | 14.9 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.0 | 15.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.3 | 14.4 | 14.3 | 14.3 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.3 | 14.4 | 14.3 | 14.4 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.4 | 13.4 | 13.4 | 13.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.6 | 10.6 | 10.7 | 10.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.0 | 15.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.9 | 14.9 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.0 | 15.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.3 | 14.4 | 14.3 | 14.3 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.3 | 14.4 | 14.3 | 14.4 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.4 | 13.4 | 13.4 | 13.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.6 | 10.6 | 10.7 | 10.7 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 20 MHz channel bandwidth | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | |
| | | | | | | 52 | 56 | 60 | 64 |
| 802.11a | | | OFDM | BPSK | 6 | 15.1 | 15.1 | 15.2 | 15.2 |
| 802.11a | | | OFDM | BPSK | 9 | 15.0 | 15.1 | 15.1 | 15.1 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.1 | 15.1 | 15.1 |
| 802.11a | | | OFDM | QPSK | 18 | 15.1 | 15.2 | 15.2 | 15.2 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.1 | 15.1 | 15.2 | 15.2 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.2 | 14.3 | 14.4 | 14.4 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.3 | 14.3 | 14.4 | 14.4 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.3 | 13.4 | 13.5 | 13.4 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.9 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.1 | 15.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.3 | 14.3 | 14.5 | 14.4 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.3 | 14.3 | 14.5 | 14.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.4 | 13.5 | 13.5 | 13.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.4 | 13.5 | 13.5 | 13.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.4 | 13.4 | 13.5 | 13.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.9 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.1 | 15.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.3 | 14.3 | 14.5 | 14.4 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.3 | 14.3 | 14.5 | 14.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.4 | 13.5 | 13.5 | 13.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.4 | 13.5 | 13.5 | 13.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.4 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 15.1 | 15.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.9 | 14.9 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 15.1 | 15.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.3 | 14.3 | 14.5 | 14.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.3 | 14.3 | 14.5 | 14.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.4 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.4 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.4 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.5 | 10.6 | 10.7 | 10.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 15.1 | 15.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.9 | 14.9 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 15.1 | 15.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.3 | 14.3 | 14.5 | 14.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.3 | 14.3 | 14.5 | 14.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.4 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.4 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.4 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.5 | 10.6 | 10.7 | 10.7 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 100 | 104 | 108 | 112 | 116 | 120 |
| 802.11a | | | OFDM | BPSK | 6 | 15.3 | 15.2 | 15.2 | 15.2 | 15.2 | 15.2 |
| 802.11a | | | OFDM | BPSK | 9 | 15.2 | 15.2 | 15.1 | 15.1 | 15.1 | 15.1 |
| 802.11a | | | OFDM | QPSK | 12 | 15.2 | 15.2 | 15.1 | 15.1 | 15.1 | 15.1 |
| 802.11a | | | OFDM | QPSK | 18 | 15.3 | 15.3 | 15.2 | 15.2 | 15.2 | 15.2 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.3 | 15.3 | 15.3 | 15.3 | 15.3 | 15.3 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.4 | 14.4 | 14.4 | 14.3 | 14.3 | 14.3 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.5 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.5 | 13.5 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.1 | 15.1 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 15.0 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.1 | 15.1 | 15.1 | 15.0 | 15.0 | 15.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.5 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.6 | 13.6 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.6 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.5 | 13.6 | 13.5 | 13.4 | 13.5 | 13.4 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.1 | 15.1 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 15.0 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.1 | 15.1 | 15.1 | 15.0 | 15.0 | 15.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.5 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.6 | 13.6 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.6 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.5 | 13.6 | 13.5 | 13.4 | 13.5 | 13.4 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.1 | 15.1 | 15.1 | 15.0 | 15.0 | 15.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.1 | 15.1 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.1 | 15.1 | 15.1 | 15.0 | 15.1 | 15.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.5 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.5 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.6 | 13.5 | 13.5 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.6 | 13.5 | 13.5 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.5 | 13.5 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.7 | 10.7 | 10.6 | 10.6 | 10.6 | 10.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.1 | 15.1 | 15.1 | 15.0 | 15.0 | 15.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.1 | 15.1 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.1 | 15.1 | 15.1 | 15.0 | 15.1 | 15.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.5 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.5 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.6 | 13.5 | 13.5 | 13.4 | 13.5 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.6 | 13.5 | 13.5 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.5 | 13.5 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.7 | 10.7 | 10.6 | 10.6 | 10.6 | 10.6 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 20 MHz channel bandwidth | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | | |
| | | | | | | 124 | 128 | 132 | 136 | 140 | 144 |
| 802.11a | | | OFDM | BPSK | 6 | 15.2 | 15.1 | 15.1 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | BPSK | 9 | 15.1 | 15.0 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.0 | 15.0 | 14.9 | 15.0 | 14.9 |
| 802.11a | | | OFDM | QPSK | 18 | 15.2 | 15.1 | 15.1 | 15.1 | 15.1 | 15.0 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.2 | 15.2 | 15.2 | 15.1 | 15.1 | 15.1 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.3 | 14.3 | 14.2 | 14.1 | 14.2 | 14.2 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.4 | 14.3 | 14.2 | 14.2 | 14.2 | 14.2 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 | 13.2 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 14.9 | 14.9 | 14.8 | 14.9 | 14.8 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.9 | 14.8 | 14.8 | 14.7 | 14.8 | 14.8 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.3 | 14.3 | 14.2 | 14.2 | 14.3 | 14.2 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.4 | 14.3 | 14.3 | 14.2 | 14.3 | 14.2 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.4 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.4 | 13.4 | 13.4 | 13.4 | 13.3 | 13.3 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 14.9 | 14.9 | 14.8 | 14.9 | 14.8 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.9 | 14.8 | 14.8 | 14.7 | 14.8 | 14.8 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.3 | 14.3 | 14.2 | 14.2 | 14.3 | 14.2 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.4 | 14.3 | 14.3 | 14.2 | 14.3 | 14.2 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.4 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.4 | 13.4 | 13.4 | 13.4 | 13.3 | 13.3 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 15.0 | 15.0 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 15.0 | 14.9 | 14.9 | 14.8 | 14.8 | 14.8 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 15.0 | 15.0 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.3 | 14.3 | 14.3 | 14.2 | 14.3 | 14.2 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.4 | 14.3 | 14.3 | 14.2 | 14.3 | 14.2 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.5 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.4 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 15.0 | 15.0 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 15.0 | 14.9 | 14.9 | 14.8 | 14.8 | 14.8 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 15.0 | 15.0 | 14.9 | 14.9 | 14.9 | 14.9 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.3 | 14.3 | 14.3 | 14.2 | 14.3 | 14.2 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.4 | 14.3 | 14.3 | 14.2 | 14.3 | 14.2 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.5 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.4 | 13.4 | 13.3 | 13.3 | 13.3 | 13.3 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.6 | 10.5 | 10.5 | 10.5 | 10.5 | 10.4 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 20 MHz channel bandwidth | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | Channel | | | | |
| | | | | | | 149 | 153 | 157 | 161 | 165 |
| 802.11a | | | OFDM | BPSK | 6 | 15.1 | 15.1 | 15.1 | 15.2 | 15.2 |
| 802.11a | | | OFDM | BPSK | 9 | 15.0 | 15.1 | 15.0 | 15.1 | 15.1 |
| 802.11a | | | OFDM | QPSK | 12 | 15.0 | 15.1 | 15.0 | 15.1 | 15.1 |
| 802.11a | | | OFDM | QPSK | 18 | 15.1 | 15.2 | 15.2 | 15.3 | 15.2 |
| 802.11a | | | OFDM | 16QAM | 24 | 15.1 | 15.2 | 15.2 | 15.2 | 15.2 |
| 802.11a | | | OFDM | 16QAM | 36 | 14.2 | 14.4 | 14.3 | 14.3 | 14.3 |
| 802.11a | | | OFDM | 64QAM | 48 | 14.3 | 14.4 | 14.3 | 14.4 | 14.3 |
| 802.11a | | | OFDM | 64QAM | 54 | 13.3 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11n | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.9 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.8 | 14.9 | 14.9 | 15.0 | 14.9 |
| 802.11n | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.9 | 15.0 | 15.0 | 15.1 | 15.1 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.3 | 14.4 | 14.4 | 14.4 | 14.3 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.3 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.4 | 13.5 | 13.5 | 13.5 | 13.4 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.4 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.4 | 13.5 | 13.4 | 13.5 | 13.4 |
| 802.11n | 8 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.9 | 15.0 | 15.0 | 15.0 | 15.0 |
| 802.11n | 9 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.8 | 14.9 | 14.9 | 15.0 | 14.9 |
| 802.11n | 10 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.9 | 15.0 | 15.0 | 15.1 | 15.1 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.3 | 14.4 | 14.4 | 14.4 | 14.3 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.3 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.4 | 13.5 | 13.5 | 13.5 | 13.4 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.4 | 13.5 | 13.5 | 13.5 | 13.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.4 | 13.5 | 13.4 | 13.5 | 13.4 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 6.5 / 7.2 | 14.9 | 15.0 | 15.0 | 15.1 | 15.0 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 13.0 / 14.4 | 14.9 | 15.0 | 14.9 | 15.1 | 15.0 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 19.5 / 21.7 | 14.9 | 15.1 | 15.0 | 15.1 | 15.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 26.0 / 28.9 | 14.3 | 14.4 | 14.4 | 14.4 | 14.3 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 39.0 / 43.3 | 14.3 | 14.3 | 14.4 | 14.4 | 14.4 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 52.0 / 57.8 | 13.4 | 13.5 | 13.4 | 13.5 | 13.4 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 58.5 / 65.0 | 13.4 | 13.5 | 13.4 | 13.5 | 13.4 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 65.0 / 72.2 | 13.4 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 78.0 / 86.7 | 10.5 | 10.6 | 10.6 | 10.6 | 10.6 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 13.0 / 14.4 | 14.9 | 15.0 | 15.0 | 15.1 | 15.0 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 26.0 / 28.9 | 14.9 | 15.0 | 14.9 | 15.1 | 15.0 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 39.0 / 43.3 | 14.9 | 15.1 | 15.0 | 15.1 | 15.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 52.0 / 57.8 | 14.3 | 14.4 | 14.4 | 14.4 | 14.3 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 78.0 / 86.7 | 14.3 | 14.3 | 14.4 | 14.4 | 14.4 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 104.0 / 115.6 | 13.4 | 13.5 | 13.4 | 13.5 | 13.4 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 117.0 / 130.0 | 13.4 | 13.5 | 13.4 | 13.5 | 13.4 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 130.0 / 144.4 | 13.4 | 13.4 | 13.4 | 13.4 | 13.4 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 156.0 / 173.3 | 10.5 | 10.6 | 10.6 | 10.6 | 10.6 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 40 MHz channel bandwidth | | | | | | | |
|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 38 (36+40) | 46 (44+48) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.5 | 15.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.5 | 15.6 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.5 | 15.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.4 | 14.4 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.5 | 14.5 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.5 | 13.5 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.5 | 13.5 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.5 | 13.5 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.5 | 15.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.5 | 15.6 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.5 | 15.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.4 | 14.4 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.5 | 14.5 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.5 | 13.5 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.5 | 13.5 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.5 | 13.5 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.4 | 15.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.4 | 15.4 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.4 | 15.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.4 | 14.4 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.4 | 14.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.4 | 13.4 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.5 | 13.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.5 | 13.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 10.7 | 10.7 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.5 | 10.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.4 | 15.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.4 | 15.4 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.4 | 15.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.4 | 14.4 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.4 | 14.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.4 | 13.4 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.5 | 13.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.5 | 13.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 10.7 | 10.7 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.5 | 10.7 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 40 MHz channel bandwidth | | | | | | | |
|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 54 (52+56) | 62 (60+64) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.5 | 15.5 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.5 | 15.6 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.5 | 15.5 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.4 | 14.6 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.4 | 14.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.4 | 13.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.5 | 13.7 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.5 | 13.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.5 | 15.5 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.5 | 15.6 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.5 | 15.5 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.4 | 14.6 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.4 | 14.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.4 | 13.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.5 | 13.7 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.5 | 13.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.4 | 15.5 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.4 | 15.4 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.4 | 15.5 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.4 | 14.6 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.4 | 14.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.4 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.4 | 13.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.5 | 13.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 10.6 | 10.8 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.6 | 10.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.4 | 15.5 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.4 | 15.4 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.4 | 15.5 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.4 | 14.6 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.4 | 14.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.4 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.4 | 13.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.5 | 13.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 10.6 | 10.8 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.6 | 10.7 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 40 MHz channel bandwidth | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 102 (100+104) | 110 (108+112) | 118 (116+120) | 126 (124+128) | 134 (132+136) | 142 (140+144) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.5 | 15.5 | 15.3 | 15.5 | 15.4 | 15.3 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.6 | 15.5 | 15.5 | 15.5 | 15.4 | 15.4 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.6 | 15.5 | 15.5 | 15.4 | 15.3 | 15.4 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.5 | 14.4 | 14.4 | 14.4 | 14.3 | 14.3 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.6 | 14.5 | 14.5 | 14.5 | 14.4 | 14.4 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.6 | 13.5 | 13.5 | 13.5 | 13.4 | 13.3 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.7 | 13.5 | 13.5 | 13.5 | 13.4 | 13.4 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.6 | 13.5 | 13.5 | 13.5 | 13.4 | 13.4 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.5 | 15.5 | 15.3 | 15.5 | 15.4 | 15.3 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.6 | 15.5 | 15.5 | 15.5 | 15.4 | 15.4 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.6 | 15.5 | 15.5 | 15.4 | 15.3 | 15.4 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.5 | 14.4 | 14.4 | 14.4 | 14.3 | 14.3 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.6 | 14.5 | 14.5 | 14.5 | 14.4 | 14.4 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.6 | 13.5 | 13.5 | 13.5 | 13.4 | 13.3 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.7 | 13.5 | 13.5 | 13.5 | 13.4 | 13.4 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.6 | 13.5 | 13.5 | 13.5 | 13.4 | 13.4 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.3 | 15.5 | 15.4 | 15.4 | 15.3 | 15.3 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.5 | 15.4 | 15.4 | 15.3 | 15.3 | 15.2 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.5 | 15.4 | 15.4 | 15.4 | 15.3 | 15.3 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.5 | 14.4 | 14.4 | 14.4 | 14.3 | 14.3 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.5 | 13.4 | 13.5 | 13.4 | 13.4 | 13.3 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.6 | 13.5 | 13.5 | 13.4 | 13.3 | 13.3 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.6 | 13.5 | 13.5 | 13.4 | 13.3 | 13.3 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 10.8 | 10.7 | 10.6 | 10.6 | 10.6 | 10.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.8 | 10.7 | 10.6 | 10.6 | 10.5 | 10.4 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.3 | 15.5 | 15.4 | 15.4 | 15.3 | 15.3 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.5 | 15.4 | 15.4 | 15.3 | 15.3 | 15.2 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.5 | 15.4 | 15.4 | 15.4 | 15.3 | 15.3 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.5 | 14.4 | 14.4 | 14.4 | 14.3 | 14.3 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.5 | 14.4 | 14.4 | 14.4 | 14.4 | 14.4 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.5 | 13.4 | 13.5 | 13.4 | 13.4 | 13.3 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.6 | 13.5 | 13.5 | 13.4 | 13.3 | 13.3 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.6 | 13.5 | 13.5 | 13.4 | 13.3 | 13.3 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 10.8 | 10.7 | 10.6 | 10.6 | 10.6 | 10.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.8 | 10.7 | 10.6 | 10.6 | 10.5 | 10.4 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 40 MHz channel bandwidth | | | | | | | |
|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 151 (149+153) | 159 (157+161) |
| 802.11n | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.4 | 15.6 |
| 802.11n | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.4 | 15.6 |
| 802.11n | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.4 | 15.6 |
| 802.11n | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.4 | 14.5 |
| 802.11n | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.4 | 14.6 |
| 802.11n | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.4 | 13.6 |
| 802.11n | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.5 | 13.7 |
| 802.11n | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.4 | 13.6 |
| 802.11n | 8 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.4 | 15.6 |
| 802.11n | 9 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.4 | 15.6 |
| 802.11n | 10 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.4 | 15.6 |
| 802.11n | 11 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.4 | 14.5 |
| 802.11n | 12 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.4 | 14.6 |
| 802.11n | 13 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.4 | 13.6 |
| 802.11n | 14 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.5 | 13.7 |
| 802.11n | 15 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.4 | 13.6 |
| 802.11ac | 0 | 1 | OFDM | BPSK | 13.5 / 15.0 | 15.3 | 15.6 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 27.0 / 30.0 | 15.3 | 15.4 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 40.5 / 45.0 | 15.3 | 15.4 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 54.0 / 60.0 | 14.4 | 14.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 81.0 / 90.0 | 14.4 | 14.6 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 108.0 / 120.0 | 13.4 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 121.5 / 135.0 | 13.4 | 13.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 135.0 / 150.0 | 13.4 | 13.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 162.0 / 180.0 | 10.6 | 10.7 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 180.0 / 200.0 | 10.5 | 10.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 27.0 / 30.0 | 15.3 | 15.6 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 54.0 / 60.0 | 15.3 | 15.4 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 81.0 / 90.0 | 15.3 | 15.4 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 108.0 / 120.0 | 14.4 | 14.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 162.0 / 180.0 | 14.4 | 14.6 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 216.0 / 240.0 | 13.4 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 243.0 / 270.0 | 13.4 | 13.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 270.0 / 300.0 | 13.4 | 13.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 324.0 / 360.0 | 10.6 | 10.7 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 360.0 / 400.0 | 10.5 | 10.7 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-1 (U-NII-1) / 80 MHz channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 42 (36-48) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | 14.3 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | 14.3 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | 14.2 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | 14.4 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | 14.3 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | 13.4 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | 13.4 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | 13.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | 10.7 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | 10.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | 14.3 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | 14.3 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | 14.2 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | 14.4 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | 14.3 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | 13.4 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | 13.4 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | 13.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | 10.7 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | 10.7 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-2 (U-NII-2A) / 80 MHz channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 58 (52-64) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | 14.2 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | 14.3 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | 14.2 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | 14.4 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | 14.4 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | 13.5 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | 13.5 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | 10.6 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | 10.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | 14.2 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | 14.3 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | 14.2 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | 14.4 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | 14.4 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | 13.5 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | 13.5 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | 10.6 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | 10.7 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-3 (U-NII-2C) / 80 MHz channel bandwidth | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 106 (100-112) | 122 (116-128) | 138 (132-144) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | 14.4 | 14.3 | 14.1 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | 14.3 | 14.3 | 14.1 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | 14.3 | 14.2 | 14.1 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | 14.5 | 14.5 | 14.3 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | 14.5 | 14.4 | 14.3 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | 13.6 | 13.5 | 13.3 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | 13.6 | 13.5 | 13.4 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | 13.6 | 13.5 | 13.4 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | 10.8 | 10.7 | 10.5 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | 10.8 | 10.7 | 10.5 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | 14.4 | 14.3 | 14.1 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | 14.3 | 14.3 | 14.1 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | 14.3 | 14.2 | 14.1 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | 14.5 | 14.5 | 14.3 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | 14.5 | 14.4 | 14.3 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | 13.6 | 13.5 | 13.3 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | 13.6 | 13.5 | 13.4 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | 13.6 | 13.5 | 13.4 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | 10.8 | 10.7 | 10.5 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | 10.8 | 10.7 | 10.5 |

(WLAN5000 Body-worn and WR averaged measured values table continues)


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(WLAN5000 Body-worn and WR averaged measured values table continues)

| RLAN 5 GHz Sub-4 (U-NII-3) / 80 MHz channel bandwidth | | | | | | |
|---|---|---|---|---|---|---|
| SN: 004402741813111 | | | | MEASURED VALUES | | |
| Standard | MCS index | Spatial streams | Transmission mode | Modulation | Data speed [MBPS] | 155 (149-161) |
| 802.11ac | 0 | 1 | OFDM | BPSK | 29.3 / 32.5 | 14.4 |
| 802.11ac | 1 | 1 | OFDM | QPSK | 58.5 / 65.0 | 14.3 |
| 802.11ac | 2 | 1 | OFDM | QPSK | 87.8 / 97.5 | 14.3 |
| 802.11ac | 3 | 1 | OFDM | 16QAM | 117.0 / 130 .0 | 14.5 |
| 802.11ac | 4 | 1 | OFDM | 16QAM | 175.5 / 195.0 | 14.5 |
| 802.11ac | 5 | 1 | OFDM | 64QAM | 234.0 / 260.0 | 13.5 |
| 802.11ac | 6 | 1 | OFDM | 64QAM | 263.3 / 292.5 | 13.6 |
| 802.11ac | 7 | 1 | OFDM | 64QAM | 292.5 / 325.0 | 13.6 |
| 802.11ac | 8 | 1 | OFDM | 256QAM | 351.0 / 390.0 | 10.7 |
| 802.11ac | 9 | 1 | OFDM | 256QAM | 390.0 / 433.3 | 10.7 |
| 802.11ac | 0 | 2 | OFDM | BPSK | 58.5 / 65.0 | 14.4 |
| 802.11ac | 1 | 2 | OFDM | QPSK | 117.0 / 130.0 | 14.3 |
| 802.11ac | 2 | 2 | OFDM | QPSK | 175.5 / 195.0 | 14.3 |
| 802.11ac | 3 | 2 | OFDM | 16QAM | 234.0 / 260.0 | 14.5 |
| 802.11ac | 4 | 2 | OFDM | 16QAM | 351.0 / 390.0 | 14.5 |
| 802.11ac | 5 | 2 | OFDM | 64QAM | 468.0 / 520.0 | 13.5 |
| 802.11ac | 6 | 2 | OFDM | 64QAM | 526.5 / 585.0 | 13.6 |
| 802.11ac | 7 | 2 | OFDM | 64QAM | 585.0 / 650.0 | 13.6 |
| 802.11ac | 8 | 2 | OFDM | 256QAM | 702.0 / 780.0 | 10.7 |
| 802.11ac | 9 | 2 | OFDM | 256QAM | 780.0 / 866.7 | 10.7 |


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# 4. DESCRIPTION OF THE TEST EQUIPMENT

## 4.1 Measurement System and Components

The measurements were performed using an automated DASY near-field scanning system manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements was the 'advanced extrapolation' algorithm.

The following table lists calibration dates of SPEAG components:

| Test Equipment | Serial Number | Calibration date | Calibration expiry |
|---|---|---|---|
| DAE4 | 701 | 2015-04 | 2016-04 |
| DAE4 | 728 | 2015-01 | 2016-01 |
| DAE4 | 793 | 2014-10 | 2015-10 |
| DAE4 | 538 | 2015-04 | 2016-04 |
| DAE4 | 1213 | 2014-10 | 2015-10 |
| DAE4 | 1302 | 2015-04 | 2016-04 |
| DAE4 | 756 | 2015-04 | 2016-04 |
| E-field Probe ES3DV3 | 3276 | 2015-04 | 2016-04 |
| E-field Probe ES3DV3 | 3131 | 2014-10 | 2015-10 |
| E-field Probe EX3DV4 | 3892 | 2015-04 | 2016-04 |
| E-field Probe EX3DV4 | 3835 | 2014-10 | 2015-10 |
| E-field Probe ES3DV3 | 3275 | 2015-04 | 2016-04 |
| E-field Probe EX3DV4 | 3852 | 2015-04 | 2016-04 |
| Dipole Validation Kit, D750V3 | 1075 | 2015-01 | 2017-01 |
| Dipole Validation Kit, D835V2 | 480 | 2015-01 | 2017-01 |
| Dipole Validation Kit, D1750V2 | 1082 | 2015-01 | 2017-01 |
| Dipole Validation Kit, D1900V2 | 5d013 | 2015-01 | 2017-01 |
| Dipole Validation Kit, D2300V2 | 1039 | 2015-01 | 2017-01 |
| Dipole Validation Kit, D2450V2 | 749 | 2015-01 | 2017-01 |
| Dipole Validation Kit, D2600V2 | 1056 | 2015-01 | 2017-01 |
| Dipole Validation Kit, D5GHzV2 | 1048 | 2015-01 | 2017-01 |
| DASY5 software | Version 52.8 | - | - |


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Additional test equipment used in testing:


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| Test Equipment | Model | Serial Number | Calibration date | Calibration expiry |
|---|---|---|---|---|
| Signal Generator | E4438C | MY42080610 | 2015-04 | 2016-04 |
| Signal Generator | SML03 | 101264 | 2015-04 | 2016-04 |
| Signal Generator | SMB100A | 105735 | 2015-04 | 2016-04 |
| Signal Generator | E4436B | US39260114 | 2015-04 | 2016-04 |
| Signal Generator | N5181B | MY51350034 | 2015-04 | 2016-04 |
| Signal Generator | E8247C | MY43321016 | 2015-04 | 2016-04 |
| Amplifier | 5S1G4 | 25583 | - | - |
| Amplifier | ZHL-42-SMA | NO72095-5 | - | - |
| Amplifier | 5S4G11 | 312661 | - | - |
| Amplifier | ZVE-3W-83+ | 373701337 / 1005 | - | - |
| Amplifier | 5S1G4 | 330638 | - | - |
| Amplifier | 10S1G4A | 322327 | - | - |
| Amplifier | ZVE-8G+ | 811401219 | - | - |
| Amplifier | ZHL-1000-3W | 277201310 | - | - |
| Power Meter | NRVS | 838623/006 | 2015-07 | 2016-06 |
| Power Meter | NRVD | 840023/028 | 2015-04 | 2016-04 |
| Power Meter | NRP | 101465 | 2015-04 | 2016-04 |
| Power Meter | NRVZ | 849305/029 | 2015-04 | 2016-04 |
| Power Meter | NRP | 101466 | 2015-04 | 2016-04 |
| Power Meter | NRP | 100714 | 2015-04 | 2016-04 |
| Power Sensor | NRV-Z32 | 100067 | 2015-04 | 2016-04 |
| Power Sensor | NRV-Z32 | 849745/018 | 2015-04 | 2016-04 |
| Power Sensor | NRP-Z92 | 100088 | 2015-04 | 2016-04 |
| Power Sensor | NRV-Z32 | 825600/002 | 2015-04 | 2016-04 |
| Power Sensor | NRP-Z92 | 100087 | 2015-04 | 2016-04 |
| Power Sensor | NRP-Z92 | 100085 | 2015-04 | 2016-04 |
| Call Tester | CMU 200 | 103293 | - | - |
| Call Tester | CMU 200 | 104983 | - | - |
| Call Tester | CMU 200 | 103294 | - | - |
| Call Tester | CMW 500 | 145474 | - | - |
| Call Tester | CMW 500 | 108406 | - | - |
| Call Tester | CMW 500 | 110565 | - | - |
| Call Tester | CMW 500 | 136294 | - | - |
| Call Tester | MT8820C | 6200883095 | - | - |
| Call Tester | MT8820C | 6201060952 | - | - |
| Network Analyzer | ENA E5071C | MY46213166 | 2015-04 | 2016-04 |
| Network Analyzer | ENA E5071C | MY46315958 | 2015-04 | 2016-04 |
| Dielectric Probe Kit | DAK-3.5 | 1042 | - | - |
| Dielectric Probe Kit | DAK-3.5 | 2088 | - | - |


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### 4.1.1 Isotropic E-field Probe Type ES3DV3

| | |
|---|---|
| **Construction** | Symmetrical design with triangular core<br>Interleaved sensors<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., butyl diglycol) |
| **Calibration** | Calibration certificate in Appendix D |
| **Frequency** | 10 MHz to 4 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 4 GHz) |
| **Directivity** | ± 0.2 dB in HSL (rotation around probe axis)<br>± 0.3 dB in HSL (rotation normal to probe axis) |
| **Dynamic Range** | 5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB |
| **Dimensions** | Overall length: 330 mm<br>Tip length: 20 mm<br>Body diameter: 12 mm<br>Tip diameter: 3.9 mm<br>Distance from probe tip to dipole centers: 2.0 mm |
| **Application** | General dosimetry up to 4 GHz<br>Compliance tests of mobile phones<br>Fast automatic scanning in arbitrary phantoms |

### 4.1.2 Isotropic E-field Probe Type EX3DV4

| | |
|---|---|
| **Construction** | Symmetrical design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |
| **Calibration** | Calibration certificate in Appendix D |
| **Frequency** | 10 MHz to >6 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 6 GHz) |
| **Directivity** | ± 0.3 dB in HSL (rotation around probe axis)<br>± 0.5 dB in tissue material (rotation normal to probe axis) |
| **Dynamic Range** | 10 µW/g to > 100 mW/g, Linearity: ± 0.2 dB |
| **Dimensions** | Overall length: 330 mm<br>Tip length: 10 mm<br>Body diameter: 12 mm<br>Tip diameter: 2.5 mm<br>Distance from probe tip to dipole centers: 1.0 mm |
| **Application** | General dosimetry up to 6 GHz<br>Compliance tests of mobile phones<br>Fast automatic scanning in arbitrary phantoms |


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## 4.2 Phantoms

The phantom used for all Head SAR tests i.e. for both system checks and device testing, was the twin-headed "SAM Phantom", manufactured by SPEAG; the SAM phantom conforms to the requirements of IEEE 1528.

The phantom used for all Body SAR tests i.e. for both system checks and device testing, was a flat phantom also manufactured by SPEAG this phantom conform to the requirements of FCC published RF Exposure KDB Procedures.

The SPEAG device holder (see Section 5.1) was used to position the device in all tests whilst a tripod was used to position the validation dipoles against the flat section of phantom.

## 4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 and FCC published RF Exposure KDB Procedures. All tests were carried out using simulants whose dielectric parameters were within ± 5% of the recommended values. All tests were carried out within 24 hours of measuring the dielectric parameters.

The depth of the tissue simulant was at least 15.0 cm for all system check and device tests, measured from the ear reference point in the case of the SAM phantom and from the inner surface of the flat phantom.

### 4.3.1 Tissue Simulant Recipes

The following recipe(s) were used for Head and Body tissue simulant(s):

**700 MHz band**

| Ingredient | Head (% by weight) | Body (% by weight) |
|---|---|---|
| Deionised Water | 52.13 | 69.23 |
| Tween 20 | 46.59 | 29.56 |
| Salt | 1.28 | 1.21 |

**800 MHz band**

| Ingredient | Head (% by weight) | Body (% by weight) |
|---|---|---|
| Deionised Water | 51.50 | 69.25 |
| Tween 20 | 47.35 | 30.00 |
| Salt | 1.15 | 0.75 |

**1750 MHz band**

| Ingredient | Head (% by weight) | Body (% by weight) |
|---|---|---|
| Deionised Water | 54.0 | 70.20 |
| Tween 20 | 45.6 | 29.37 |
| Salt | 0.4 | 0.43 |


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**1900 MHz band**

| Ingredient | Head (% by weight) | Body (% by weight) |
|---|---|---|
| Deionised Water | 54.50 | 70.25 |
| Tween 20 | 45.23 | 29.41 |
| Salt | 0.27 | 0.34 |

**2300-2600 MHz band**

| Ingredient | Head (% by weight) | Body (% by weight) |
|---|---|---|
| Deionised Water | 56.0 | 70.20 |
| Tween 20 | 44.0 | 29.62 |
| Salt | - | 0.18 |

**5000 MHz band †**

| Ingredient | Head (% by weight) | Body (% by weight) |
|---|---|---|
| Water | 50-65 | 60-80 |
| Oil | 10-30 | - |
| Emulsifiers, Esters, Inhibitors | 8-25 | 20-40 |
| Sodium salt | 0-1.5 | 0-1.5 |

† Recipe is proprietary to SPEAG. The proportions of the constituents have not been disclosed


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## 4.4 System validation and System checking

### 4.4.1 System validation status

| Probe Calibration Point f / MHz | Test System | DASY SW | Dipole Type / SN | Probe Type / SN | Calibrated signal type(s) | DAE unit Type / SN | Validation done | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Validated signal Type(s) | Head tissue simulant | Body tissue simulant |
| 750 | TCC Salo SAR-4 | 52.8.8 (1222) | D750V2 1075 | EX3DV4 3835 | CW | DAE4 1213 | CW OFDM | 2014-10 | 2014-10 |
| 835 | TCC Salo SAR-2 | 52.8.8 (1222) | D835V2 480 | ES3DV3 3131 | CW | DAE4 793 | CW OFDM GMSK | 2014-10 | 2014-12 |
| 1750 | TCC Salo SAR-1 | 52.8.8 (1222) | D1750V2 1082 | ES3DV3 3276 | CW | DAE4 701 DAE4 728 | CW GMSK | 2015-05 | 2015-05 |
| 1750 | TCC Salo SAR-2 | 52.8.8 (1222) | D1750V2 1082 | ES3DV3 3275 | CW | DAE4 1302 | CW GMSK | 2015-10 | 2015-10 |
| 1900 | TCC Salo SAR-6 | 52.8.8 (1222) | D1900V2 5d013 | ES3DV3 3275 | CW | DAE4 1302 | CW OFDM GMSK | 2015-05 | 2015-05 |
| 1900 | TCC Salo SAR-1 | 52.8.8 (1222) | D1900V2 5d013 | ES3DV3 3276 | CW | DAE4 728 | CW OFDM GMSK | 2015-05 | 2015-05 |
| 2300 | TCC Salo SAR-3 | 52.8.8 (1222) | D2300V2 1039 | EX3DV4 3892 | CW | DAE4 538 | CW | 2015-05 | 2015-05 |
| 2450 | TCC Salo SAR-3 | 52.8.8 (1222) | D2450V2 749 | EX3DV4 3892 | CW | DAE4 538 | CW CCK | 2015-05 | 2015-05 |
| 2600 | TCC Salo SAR-3 | 52.8.8 (1222) | D2600V2 1056 | EX3DV4 3892 | CW | DAE4 538 | CW SC-FDMA | 2015-05 | 2015-05 |
| 5200 | TCC Salo SAR-8 | 52.8.8 NEO (1222) | D5GHzV2 1048 | EX3DV4 3852 | CW | DAE4 756 | CW | 2015-05 | 2015-05 |
| 5300 | TCC Salo SAR-8 | 52.8.8 NEO (1222) | D5GHzV2 1048 | EX3DV4 3852 | CW | DAE4 756 | CW | 2015-05 | 2015-05 |
| 5500 | TCC Salo SAR-8 | 52.8.8 NEO (1222) | D5GHzV2 1048 | EX3DV4 3852 | CW | DAE4 756 | CW OFDM | 2015-05 | 2015-05 |
| 5600 | TCC Salo SAR-8 | 52.8.8 NEO (1222) | D5GHzV2 1048 | EX3DV4 3852 | CW | DAE4 756 | CW | 2015-05 | 2015-05 |
| 5800 | TCC Salo SAR-8 | 52.8.8 (1222) | D5GHzV2 1048 | EX3DV4 3852 | CW | DAE4 756 | CW | 2015-05 | 2015-05 |


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### 4.4.2 System checking

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyser. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, except in the case of the 5000 MHz dipole for which 100 mW was supplied. The dipole was placed under the flat section of the twin SAM phantom for head system checking, and under the flat phantom for body system checking. The system checking results (dielectric parameters and SAR values) are given in the table below.

**System checking, head tissue simulant**

| Dipole freq. [MHz] | Description | SAR 1g [W/kg] | Estimated SAR 1g [W/kg] | Estimated SAR 1g Dev. dSAR [%] | Scaled 1W SAR 1g [W/kg] | Dielectric Parameters | | SAR 1g Deviation from target | Dielectric Parameters Deviation from target | | Temp [°C] | Plot # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $e_r$ | s [S/m] | dSAR [%] | $de_r$ [%] | ds [%] | | |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 750 | Target result **SN:1075** | - | - | - | 8.13 | 41.9 | 0.89 | TCC Salo / SAR-4 EX3DV4 - SN:3835 Head 750 MHz | | | | |
| | 2015-08-06 | 2.01 | 2.05 | 1.99 | 8.04 | 41.1 | 0.90 | -1.11 | -1.91 | 1.12 | 22.4 | - |
| | 2015-08-07 | 2.02 | 2.05 | 1.49 | 8.08 | 40.8 | 0.89 | -0.62 | -2.63 | 0.00 | 22.0 | - |
| | 2015-08-10 | 2.06 | 2.10 | 1.94 | 8.24 | 40.2 | 0.89 | 1.35 | -4.06 | 0.00 | 22.2 | - |
| | 2015-08-24 | 2.00 | 2.04 | 2.00 | 8.00 | 40.2 | 0.88 | -1.60 | -4.06 | -1.12 | 22.1 | 1 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 835 | Target result **SN:480** | - | - | - | 9.13 | 41.5 | 0.90 | TCC Salo / SAR-2 ES3DV3 - SN:3131 Head 835 MHz | | | | |
| | 2015-08-13 | 2.28 | 2.32 | 1.75 | 9.12 | 40.3 | 0.90 | -0.11 | -2.89 | 0.00 | 22.8 | - |
| | 2015-08-14 | 2.18 | 2.24 | 2.75 | 8.72 | 39.8 | 0.88 | -4.49 | -4.10 | -2.22 | 22.1 | 2 |
| | 2015-08-16 | 2.26 | 2.31 | 2.21 | 9.04 | 40.0 | 0.89 | -0.99 | -3.61 | -1.11 | 22.2 | - |
| | 2015-08-17 | 2.24 | 2.30 | 2.68 | 8.96 | 40.4 | 0.90 | -1.86 | -2.65 | 0.00 | 22.5 | - |
| | 2015-08-18 | 2.26 | 2.30 | 1.77 | 9.04 | 40.4 | 0.90 | -0.99 | -2.65 | 0.00 | 22.3 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 1750 | Target result **SN:1082** | - | - | - | 36.60 | 40.1 | 1.37 | TCC Salo / SAR-1 ES3DV3 - SN:3276 Head 1750 MHz | | | | |
| | 2015-08-11 | 9.20 | 9.34 | 1.52 | 36.80 | 39.9 | 1.34 | 0.55 | -0.50 | -2.19 | 20.4 | - |
| | 2015-08-12 | 9.33 | 9.55 | 2.36 | 37.32 | 39.8 | 1.35 | 1.97 | -0.75 | -1.46 | 20.3 | - |
| | 2015-08-13 | 9.19 | 9.44 | 2.72 | 36.76 | 39.2 | 1.34 | 0.44 | -2.24 | -2.19 | 20.1 | - |
| | 2015-08-17 | 9.21 | 9.47 | 2.82 | 36.84 | 39.7 | 1.33 | 0.66 | -1.00 | -2.92 | 20.3 | - |
| | 2015-08-18 | 8.48 | 8.71 | 2.71 | 33.92 | 39.6 | 1.33 | -7.32 | -1.25 | -2.92 | 20.2 | 3 |
| | 2015-08-24 | 9.16 | 9.43 | 2.95 | 36.64 | 39.4 | 1.33 | 0.11 | -1.75 | -2.92 | 20.9 | - |
| | 2015-08-26 | 9.24 | 9.42 | 1.95 | 36.96 | 39.2 | 1.34 | 0.98 | -2.24 | -2.19 | 20.4 | - |
| | 2015-08-27 | 9.22 | 9.34 | 1.30 | 36.88 | 39.0 | 1.33 | 0.77 | -2.74 | -2.92 | 20.6 | - |
| | 2015-08-28 | 9.25 | 9.41 | 1.73 | 37.00 | 38.8 | 1.33 | 1.09 | -3.24 | -2.92 | 20.1 | - |
| | 2015-08-29 | 9.29 | 9.51 | 2.37 | 37.16 | 38.5 | 1.34 | 1.53 | -3.99 | -2.19 | 20.3 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 1750 | Target result **SN:1082** | - | - | - | 36.60 | 40.1 | 1.37 | TCC Salo / SAR-2 ES3DV3 - SN:3275 Head 1750 MHz | | | | |
| | 2015-10-30 | 9.19 | 9.46 | 2.94 | 36.76 | 38.9 | 1.34 | 0.44 | -2.99 | -2.19 | 21.2 | 4 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 1900 | Target result **SN:5d013** | - | - | - | 40.70 | 40.0 | 1.40 | TCC Salo / SAR-6 ES3DV3 - SN:3275 Head 1900 MHz | | | | |
| | 2015-08-10 | 9.77 | 9.81 | 0.41 | 39.08 | 38.4 | 1.36 | -3.98 | -4.00 | -2.86 | 23.4 | - |
| | 2015-08-13 | 9.86 | 9.88 | 0.20 | 39.44 | 39.3 | 1.38 | -3.10 | -1.75 | -1.43 | 22.7 | - |
| | 2015-08-15 | 9.80 | 9.90 | 1.02 | 39.20 | 39.0 | 1.37 | -3.69 | -2.50 | -2.14 | 22.7 | - |
| | 2015-08-21 | 9.70 | 9.76 | 0.62 | 38.80 | 38.8 | 1.37 | -4.67 | -3.00 | -2.14 | 22.7 | 5 |
| | 2015-08-24 | 9.88 | 9.97 | 0.91 | 39.52 | 38.4 | 1.36 | -2.90 | -4.00 | -2.86 | 22.8 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 1900 | Target result **SN:5d013** | - | - | - | 40.70 | 40.0 | 1.40 | TCC Salo / SAR-1 ES3DV3 - SN:3276 Head 1900 MHz | | | | |
| | 2015-10-31 | 10.20 | 10.30 | 0.98 | 40.80 | 39.0 | 1.42 | 0.25 | -2.50 | 1.43 | 20.8 | 6 |

(Table continues)


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(Table continues)

| Dipole freq. [MHz] | Description | SAR 1g [W/kg] | Estimated SAR 1g [W/kg] | Estimated SAR 1g Dev. dSAR [%] | Scaled 1W SAR 1g [W/kg] | Dielectric Parameters | | SAR 1g Deviation from target | Dielectric Parameters Deviation from target | | Temp [°C] | Plot # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $e_r$ | s [S/m] | dSAR [%] | $de_r$ [%] | ds [%] | | |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 2300 | Target result **SN:1039** | - | - | - | 49.90 | 39.5 | 1.67 | TCC Salo / SAR-3 EX3DV4 - SN:3892 Head 2300 MHz | | | | |
| | 2015-08-24 | 12.30 | 12.10 | -1.63 | 49.20 | 39.6 | 1.60 | -1.40 | 0.25 | -4.19 | 22.6 | 7 |
| | 2015-11-01 | 12.50 | 12.50 | 0.00 | 50.00 | 38.5 | 1.63 | 0.20 | -2.53 | -2.40 | 22.1 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 2450 | Target result **SN:749** | - | - | - | 52.10 | 39.2 | 1.80 | TCC Salo / SAR-3 EX3DV4 - SN:3892 Head 2450 MHz | | | | |
| | 2015-08-16 | 12.90 | 12.70 | -1.55 | 51.60 | 38.7 | 1.75 | -0.96 | -1.28 | -2.78 | 22.5 | 8 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 2600 | Target result **SN:1056** | - | - | - | 56.80 | 39.0 | 1.96 | TCC Salo / SAR-3 EX3DV4 - SN:3892 Head 2600 MHz | | | | |
| | 2015-08-11 | 14.40 | 14.50 | 0.69 | 57.60 | 37.5 | 1.96 | 1.41 | -3.85 | 0.00 | 22.6 | 9 |
| | 2015-08-12 | 14.10 | 13.80 | -2.13 | 56.40 | 38.2 | 1.93 | -0.70 | -2.05 | -1.53 | 22.6 | - |
| | 2015-08-26 | 14.00 | 14.30 | 2.14 | 56.00 | 38.5 | 1.89 | -1.41 | -1.28 | -3.57 | 23.4 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5200 | Target result **SN:1048** | - | - | - | 79.00 | 36.0 | 4.66 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5200 MHz | | | | |
| | 2015-08-17 | 8.02 | 7.62 | -4.99 | 80.20 | 36.1 | 4.62 | 1.52 | 0.28 | -0.86 | 21.1 | 10 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5300 | Target result **SN:1048** | - | - | - | 84.10 | 35.9 | 4.76 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5300 MHz | | | | |
| | 2015-08-17 | 8.17 | 7.66 | -6.24 | 81.70 | 36.0 | 4.72 | -2.85 | 0.28 | -0.84 | 21.1 | 11 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5500 | Target result **SN:1048** | - | - | - | 81.80 | 35.6 | 4.96 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5500 MHz | | | | |
| | 2015-08-18 | 7.58 | 6.85 | -9.63 | 75.80 | 35.7 | 4.90 | -7.33 | 0.28 | -1.21 | 21.5 | 12 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5600 | Target result **SN:1048** | - | - | - | 81.40 | 35.5 | 5.07 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5600 MHz | | | | |
| | 2015-08-18 | 8.09 | 7.55 | -6.67 | 80.90 | 35.5 | 5.01 | -0.61 | 0.00 | -1.18 | 21.5 | 13 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5800 | Target result **SN:1048** | - | - | - | 78.90 | 35.3 | 5.27 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Head 5800 MHz | | | | |
| | 2015-08-18 | 7.45 | 6.90 | -7.38 | 74.50 | 35.3 | 5.23 | -5.58 | 0.00 | -0.76 | 21.5 | 14 |

* Dielectric parameter reference data taken from IEEE1528/IEC62209


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## System checking, body tissue simulant

| Dipole freq. [MHz] | Description | SAR 1g [W/kg] | Estimated SAR 1g [W/kg] | Estimated SAR 1g Dev. dSAR [%] | Scaled 1W SAR 1g [W/kg] | Dielectric Parameters | | SAR 1g Deviation from target | Dielectric Parameters Deviation from target | | Temp [°C] | Plot # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $e_r$ | s [S/m] | dSAR [%] | $de_r$ [%] | ds [%] | | |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 750 | Target result **SN:1075** | - | - | - | 8.50 | 55.5 | 0.96 | TCC Salo / SAR-4 EX3DV4 - SN:3835 Body 750 MHz | | | | |
| | 2015-08-11 | 2.22 | 2.25 | 1.35 | 8.88 | 54.0 | 0.98 | 4.47 | -2.70 | 2.08 | 22.6 | - |
| | 2015-08-12 | 2.23 | 2.25 | 0.90 | 8.92 | 54.1 | 0.98 | 4.94 | -2.52 | 2.08 | 22.2 | - |
| | 2015-08-17 | 2.15 | 2.19 | 1.86 | 8.60 | 54.0 | 0.96 | 1.18 | -2.70 | 0.00 | 22.2 | - |
| | 2015-08-18 | 2.16 | 2.18 | 0.93 | 8.64 | 54.0 | 0.97 | 1.65 | -2.70 | 1.04 | 22.1 | - |
| | 2015-08-19 | 2.18 | 2.19 | 0.46 | 8.72 | 54.3 | 0.96 | 2.59 | -2.16 | 0.00 | 22.1 | - |
| | 2015-08-20 | 2.25 | 2.27 | 0.89 | 9.00 | 53.9 | 0.97 | 5.88 | -2.88 | 1.04 | 22.7 | 15 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 835 | Target result **SN:480** | - | - | - | 9.02 | 55.2 | 0.97 | TCC Salo / SAR-2 ES3DV3 - SN:3131 Body 835 MHz | | | | |
| | 2015-08-06 | 2.39 | 2.42 | 1.26 | 9.56 | 53.7 | 0.98 | 5.99 | -2.72 | 1.03 | 22.5 | 16 |
| | 2015-08-07 | 2.36 | 2.41 | 2.12 | 9.44 | 53.7 | 0.98 | 4.66 | -2.72 | 1.03 | 22.4 | - |
| | 2015-08-10 | 2.38 | 2.42 | 1.68 | 9.52 | 53.5 | 0.98 | 5.54 | -3.08 | 1.03 | 22.3 | - |
| | 2015-08-11 | 2.39 | 2.42 | 1.26 | 9.56 | 54.1 | 0.97 | 5.99 | -1.99 | 0.00 | 22.0 | - |
| | 2015-08-12 | 2.38 | 2.41 | 1.26 | 9.52 | 53.9 | 0.98 | 5.54 | -2.36 | 1.03 | 22.0 | - |
| | 2015-08-16 | 2.38 | 2.42 | 1.68 | 9.52 | 53.8 | 0.96 | 5.54 | -2.54 | -1.03 | 21.1 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 1750 | Target result **SN:1082** | - | - | - | 37.50 | 53.4 | 1.49 | TCC Salo / SAR-1 ES3DV3 - SN:3276 Body 1750 MHz | | | | |
| | 2015-08-15 | 9.03 | 9.14 | 1.22 | 36.12 | 52.2 | 1.43 | -3.68 | -2.25 | -4.03 | 20.8 | 17 |
| | 2015-08-16 | 9.04 | 9.18 | 1.55 | 36.16 | 52.3 | 1.43 | -3.57 | -2.06 | -4.03 | 20.5 | - |
| | 2015-08-29 | 9.21 | 9.40 | 2.06 | 36.84 | 51.7 | 1.43 | -1.76 | -3.18 | -4.03 | 22.3 | - |
| | 2015-08-30 | 9.38 | 9.51 | 1.39 | 37.52 | 51.5 | 1.45 | 0.05 | -3.56 | -2.68 | 20.8 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 1750 | Target result **SN:1082** | - | - | - | 37.50 | 53.4 | 1.49 | TCC Salo / SAR-2 ES3DV3 - SN:3275 Body 1750 MHz | | | | |
| | 2015-10-31 | 9.13 | 9.32 | 2.08 | 36.52 | 52.1 | 1.45 | -2.61 | -2.43 | -2.68 | 21.7 | 18 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 1900 | Target result **SN:5d013** | - | - | - | 40.50 | 53.3 | 1.52 | TCC Salo / SAR-6 ES3DV3 - SN:3275 Body 1900 MHz | | | | |
| | 2015-08-11 | 9.63 | 9.70 | 0.73 | 38.52 | 51.9 | 1.49 | -4.89 | -2.63 | -1.97 | 23.3 | - |
| | 2015-08-12 | 9.51 | 9.47 | -0.42 | 38.04 | 51.6 | 1.49 | -6.07 | -3.19 | -1.97 | 23.4 | - |
| | 2015-08-14 | 9.52 | 9.39 | -1.37 | 38.08 | 52.1 | 1.49 | -5.98 | -2.25 | -1.97 | 22.8 | - |
| | 2015-08-17 | 9.42 | 9.42 | 0.00 | 37.68 | 51.8 | 1.48 | -6.96 | -2.81 | -2.63 | 23.3 | 19 |
| | 2015-08-18 | 9.49 | 9.49 | 0.00 | 37.96 | 52.0 | 1.48 | -6.27 | -2.44 | -2.63 | 23.5 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 1900 | Target result **SN:5d013** | - | - | - | 40.50 | 53.3 | 1.52 | TCC Salo / SAR-1 ES3DV3 - SN:3276 Body 1900 MHz | | | | |
| | 2015-10-31 | 9.78 | 9.86 | 0.82 | 39.12 | 51.9 | 1.55 | -3.41 | -2.63 | 1.97 | 20.8 | 20 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 2300 | Target result **SN:1039** | - | - | - | 48.50 | 52.9 | 1.81 | TCC Salo / SAR-3 EX3DV4 - SN:3892 Body 2300 MHz | | | | |
| | 2015-08-19 | 11.70 | 11.60 | -0.85 | 46.80 | 52.3 | 1.73 | -3.51 | -1.13 | -4.42 | 22.5 | 21 |
| | 2015-08-20 | 11.70 | 11.80 | 0.85 | 46.80 | 52.1 | 1.75 | -3.51 | -1.51 | -3.31 | 22.3 | - |
| | 2015-08-26 | 11.70 | 11.80 | 0.85 | 46.80 | 52.1 | 1.73 | -3.51 | -1.51 | -4.42 | 22.6 | - |
| | 2015-11-01 | 12.00 | 12.00 | 0.00 | 48.00 | 51.6 | 1.76 | -1.03 | -2.46 | -2.76 | 22.2 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 2450 | Target result **SN:749** | - | - | - | 50.80 | 52.7 | 1.95 | TCC Salo / SAR-4 EX3DV4 - SN:3892 Body 2450 MHz | | | | |
| | 2015-08-16 | 11.90 | 11.70 | -1.68 | 47.60 | 51.7 | 1.88 | -6.30 | -1.90 | -3.59 | 22.5 | 22 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 2600 | Target result **SN:1056** | - | - | - | 55.90 | 52.5 | 2.16 | TCC Salo / SAR-3 EX3DV4 - SN:3892 Body 2600 MHz | | | | |
| | 2015-08-13 | 13.30 | 13.60 | 2.26 | 53.20 | 51.3 | 2.09 | -4.83 | -2.29 | -3.24 | 22.6 | - |
| | 2015-08-14 | 13.10 | 13.30 | 1.53 | 52.40 | 51.3 | 2.09 | -6.26 | -2.29 | -3.24 | 22.5 | 23 |
| | 2015-08-15 | 13.30 | 13.60 | 2.26 | 53.20 | 51.1 | 2.09 | -4.83 | -2.67 | -3.24 | 22.5 | - |
| | 2015-08-26 | 13.20 | 13.30 | 0.76 | 52.80 | 51.3 | 2.07 | -5.55 | -2.29 | -4.17 | 22.6 | - |

(Table continues)


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(Table continues)

| Dipole freq. [MHz] | Description | SAR 1g [W/kg] | Estimated SAR 1g [W/kg] | Estimated SAR 1g Dev. dSAR [%] | Scaled 1W SAR 1g [W/kg] | Dielectric Parameters | | SAR 1g Deviation from target | Dielectric Parameters Deviation from target | | Temp [°C] | Plot # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | $e_r$ | s [S/m] | dSAR [%] | $de_r$ [%] | ds [%] | | |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5200 | Target result **SN:1048** | - | - | - | 74.40 | 49.0 | 5.30 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Body 5200 MHz | | | | |
| | 2015-08-19 | 7.18 | 6.67 | -7.10 | 71.80 | 47.1 | 5.40 | -3.49 | -3.88 | 1.89 | 21.3 | 24 |
| | 2015-08-20 | 7.22 | 6.66 | -7.76 | 72.20 | 47.2 | 5.39 | -2.96 | -3.67 | 1.70 | 21.2 | - |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5300 | Target result **SN:1048** | - | - | - | 75.00 | 48.9 | 5.42 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Body 5300 MHz | | | | |
| | 2015-08-19 | 7.17 | 6.72 | -6.28 | 71.70 | 47.0 | 5.53 | -4.40 | -3.89 | 2.03 | 21.3 | 25 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5500 | Target result **SN:1048** | - | - | - | 78.70 | 48.6 | 5.65 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Body 5500 MHz | | | | |
| | 2015-08-20 | 7.91 | 7.34 | -7.21 | 79.10 | 46.7 | 5.78 | 0.51 | -3.91 | 2.30 | 21.2 | 26 |
| | Tolerances | | | ±3% | | | | ±10 % | ±5 % | ±5 % | | |
| 5800 | Target result **SN:1048** | - | - | - | 76.00 | 48.2 | 6.00 | TCC Salo / SAR-8 EX3DV4 - SN:3852 Body 5800 MHz | | | | |
| | 2015-08-21 | 7.55 | 7.00 | -7.28 | 75.50 | 45.9 | 6.23 | -0.66 | -4.77 | 3.83 | 21.0 | 27 |

* Dielectric parameter reference data taken from FCC Published RF Exposure KDB Procedures

Plots of the system checking scans are given in Appendix A.


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## 4.5 Tissue Simulants used in the Measurements

**Head tissue simulant measurements**

| f [MHz] | Description | Dielectric Parameters $e_r$ | Dielectric Parameters s [S/m] | Dielectric Parameters Deviation from recommended value $de_r$ [%] | Dielectric Parameters Deviation from recommended value ds [%] | Temp [°C] |
|---|---|---|---|---|---|---|
| 707 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 42.2 | 0.89 | | | |
| | 2015-08-06 | 41.2 | 0.88 | -2.37 | -1.12 | 22.4 |
| | 2015-08-07 | 41.0 | 0.87 | -2.84 | -2.25 | 22.0 |
| | 2015-08-10 | 40.3 | 0.87 | -4.50 | -2.25 | 22.2 |
| | 2015-08-24 | 40.4 | 0.85 | -4.27 | -4.49 | 22.1 |
| 710 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 42.1 | 0.89 | | | |
| | 2015-08-06 | 41.2 | 0.88 | -2.14 | -1.12 | 22.4 |
| | 2015-08-07 | 40.9 | 0.87 | -2.85 | -2.25 | 22.0 |
| | 2015-08-10 | 40.3 | 0.87 | -4.28 | -2.25 | 22.2 |
| | 2015-08-24 | 40.3 | 0.86 | -4.28 | -3.37 | 22.1 |
| 782 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 41.8 | 0.90 | | | |
| | 2015-08-06 | 40.8 | 0.92 | -2.39 | 2.22 | 22.4 |
| | 2015-08-07 | 40.5 | 0.91 | -3.11 | 1.11 | 22.0 |
| | 2015-08-10 | 39.9 | 0.91 | -4.55 | 1.11 | 22.2 |
| | 2015-08-24 | 39.9 | 0.89 | -4.55 | -1.11 | 22.1 |
| 835 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 41.5 | 0.90 | | | |
| | 2015-08-13 | 40.3 | 0.90 | -2.89 | 0.00 | 22.8 |
| | 2015-08-14 | 39.8 | 0.88 | -4.10 | -2.22 | 22.1 |
| | 2015-08-16 | 40.0 | 0.89 | -3.61 | -1.11 | 22.2 |
| | 2015-08-17 | 40.4 | 0.90 | -2.65 | 0.00 | 22.5 |
| | 2015-08-18 | 40.4 | 0.90 | -2.65 | 0.00 | 22.3 |
| 836 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 41.5 | 0.90 | | | |
| | 2015-08-13 | 40.3 | 0.90 | -2.89 | 0.00 | 22.8 |
| | 2015-08-14 | 39.8 | 0.89 | -4.10 | -1.11 | 22.1 |
| | 2015-08-16 | 40.0 | 0.89 | -3.61 | -1.11 | 22.2 |
| | 2015-08-17 | 40.4 | 0.90 | -2.65 | 0.00 | 22.5 |
| | 2015-08-18 | 40.4 | 0.90 | -2.65 | 0.00 | 22.3 |
| 1732 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 40.1 | 1.36 | | | |
| | 2015-08-11 | 40.1 | 1.33 | 0.00 | -2.21 | 20.4 |
| | 2015-08-12 | 39.9 | 1.33 | -0.50 | -2.21 | 20.3 |
| | 2015-08-13 | 39.4 | 1.32 | -1.75 | -2.94 | 20.1 |
| | 2015-08-17 | 39.7 | 1.31 | -1.00 | -3.68 | 20.3 |
| | 2015-08-18 | 39.7 | 1.32 | -1.00 | -2.94 | 20.2 |
| | 2015-08-24 | 39.5 | 1.32 | -1.50 | -2.94 | 20.9 |
| | 2015-08-26 | 39.3 | 1.32 | -2.00 | -2.94 | 20.4 |
| | 2015-08-27 | 39.1 | 1.31 | -2.49 | -3.68 | 20.6 |
| | 2015-08-28 | 38.9 | 1.32 | -2.99 | -2.94 | 20.1 |
| | 2015-08-29 | 38.6 | 1.33 | -3.74 | -2.21 | 20.3 |
| | 2015-10-30 | 39.0 | 1.32 | -2.74 | -2.94 | 21.2 |

(Table continues)


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(Table continues)

| f [MHz] | Description | Dielectric Parameters $e_r$ | s [S/m] | Dielectric Parameters Deviation from recommended value $de_r$ [%] | ds [%] | Temp [°C] |
|---|---|---|---|---|---|---|
| 1880 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 40.0 | 1.40 | | | |
| | 2015-08-10 | 38.4 | 1.34 | -4.00 | -4.29 | 23.4 |
| | 2015-08-13 | 39.3 | 1.36 | -1.75 | -2.86 | 22.7 |
| | 2015-08-15 | 39.1 | 1.35 | -2.25 | -3.57 | 22.7 |
| | 2015-08-21 | 39.0 | 1.36 | -2.50 | -2.86 | 22.7 |
| | 2015-08-24 | 38.6 | 1.34 | -3.50 | -4.29 | 22.8 |
| | 2015-10-31 | 39.0 | 1.39 | -2.50 | -0.71 | 20.8 |
| 2310 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 39.4 | 1.68 | | | |
| | 2015-08-24 | 39.6 | 1.61 | 0.51 | -4.17 | 22.6 |
| | 2015-11-01 | 38.4 | 1.64 | -2.54 | -2.38 | 221.0 |
| 2437 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 39.2 | 1.79 | | | |
| | 2015-08-16 | 38.8 | 1.74 | -1.02 | -2.79 | 22.5 |
| 2535 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 39.1 | 1.89 | | | |
| | 2015-08-11 | 37.8 | 1.90 | -3.32 | 0.53 | 22.6 |
| | 2015-08-12 | 38.4 | 1.85 | -1.79 | -2.12 | 22.6 |
| | 2015-08-26 | 38.8 | 1.81 | -0.77 | -4.23 | 23.4 |
| 2593 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 39.0 | 1.96 | | | |
| | 2015-08-11 | 37.5 | 1.95 | -3.85 | -0.51 | 22.6 |
| | 2015-08-12 | 38.2 | 1.92 | -2.05 | -2.04 | 22.6 |
| | 2015-08-26 | 38.6 | 1.88 | -1.03 | -4.08 | 23.4 |
| 5210 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 36.0 | 4.67 | | | |
| | 2015-08-17 | 36.1 | 4.63 | 0.28 | -0.86 | 21.1 |
| 5290 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 35.9 | 4.75 | | | |
| | 2015-08-17 | 36.0 | 4.71 | 0.28 | -0.84 | 21.1 |
| 5520 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 35.6 | 4.99 | | | |
| | 2015-08-18 | 35.7 | 4.93 | 0.28 | -1.20 | 21.5 |
| 5620 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 35.5 | 5.09 | | | |
| | 2015-08-18 | 35.5 | 5.04 | 0.00 | -0.98 | 21.5 |
| 5760 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 35.3 | 5.23 | | | |
| | 2015-08-18 | 35.3 | 5.19 | 0.00 | -0.76 | 21.5 |


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**Body tissue simulant measurements**

| f [MHz] | Description | Dielectric Parameters $e_r$ | s [S/m] | Dielectric Parameters Deviation from recommended value $de_r$ [%] | ds [%] | Temp [°C] |
|---|---|---|---|---|---|---|
| 707 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 55.7 | 0.96 | | | |
| | 2015-08-11 | 54.2 | 0.95 | -2.69 | -1.04 | 22.6 |
| | 2015-08-12 | 54.3 | 0.96 | -2.51 | 0.00 | 22.2 |
| | 2015-08-17 | 54.0 | 0.94 | -3.05 | -2.08 | 22.2 |
| | 2015-08-18 | 54.1 | 0.95 | -2.87 | -1.04 | 22.1 |
| | 2015-08-19 | 54.3 | 0.94 | -2.51 | -2.08 | 22.1 |
| | 2015-08-20 | 53.8 | 0.95 | -3.41 | -1.04 | 22.7 |
| 710 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 55.7 | 0.96 | | | |
| | 2015-08-11 | 54.2 | 0.95 | -2.69 | -1.04 | 22.6 |
| | 2015-08-12 | 54.3 | 0.96 | -2.51 | 0.00 | 22.2 |
| | 2015-08-17 | 54.0 | 0.94 | -3.05 | -2.08 | 22.2 |
| | 2015-08-18 | 54.1 | 0.95 | -2.87 | -1.04 | 22.1 |
| | 2015-08-19 | 54.2 | 0.94 | -2.69 | -2.08 | 22.1 |
| | 2015-08-20 | 53.8 | 0.95 | -3.41 | -1.04 | 22.7 |
| 782 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 55.4 | 0.97 | | | |
| | 2015-08-11 | 53.8 | 0.99 | -2.89 | 2.06 | 22.6 |
| | 2015-08-12 | 54.0 | 1.00 | -2.53 | 3.09 | 22.2 |
| | 2015-08-17 | 53.7 | 0.98 | -3.07 | 1.03 | 22.2 |
| | 2015-08-18 | 53.8 | 0.98 | -2.89 | 1.03 | 22.1 |
| | 2015-08-19 | 53.9 | 0.97 | -2.71 | 0.00 | 22.1 |
| | 2015-08-20 | 53.6 | 0.98 | -3.25 | 1.03 | 22.7 |
| 835 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 55.2 | 0.97 | | | |
| | 2015-08-06 | 53.7 | 0.98 | -2.72 | 1.03 | 22.5 |
| | 2015-08-07 | 53.7 | 0.98 | -2.72 | 1.03 | 22.4 |
| | 2015-08-10 | 53.5 | 0.98 | -3.08 | 1.03 | 22.3 |
| | 2015-08-11 | 54.1 | 0.97 | -1.99 | 0.00 | 22.0 |
| | 2015-08-12 | 53.9 | 0.98 | -2.36 | 1.03 | 22.0 |
| | 2015-08-16 | 53.8 | 0.96 | -2.54 | -1.03 | 21.1 |
| 836 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 55.2 | 0.97 | | | |
| | 2015-08-06 | 53.6 | 0.98 | -2.90 | 1.03 | 22.5 |
| | 2015-08-07 | 53.7 | 0.98 | -2.72 | 1.03 | 22.4 |
| | 2015-08-10 | 53.5 | 0.98 | -3.08 | 1.03 | 22.3 |
| | 2015-08-11 | 54.1 | 0.98 | -1.99 | 1.03 | 22.0 |
| | 2015-08-12 | 53.9 | 0.98 | -2.36 | 1.03 | 22.0 |
| | 2015-08-16 | 53.9 | 0.96 | -2.36 | -1.03 | 21.1 |
| 1732 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 53.5 | 1.48 | | | |
| | 2015-08-15 | 52.3 | 1.42 | -2.24 | -4.05 | 20.8 |
| | 2015-08-16 | 52.4 | 1.43 | -2.06 | -3.38 | 20.5 |
| | 2015-08-29 | 51.7 | 1.42 | -3.36 | -4.05 | 22.3 |
| | 2015-08-30 | 51.6 | 1.44 | -3.55 | -2.70 | 20.8 |
| | 2015-10-31 | 52.2 | 1.43 | -2.43 | -3.38 | 21.7 |

(Table continues)


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(Table continues)

| f [MHz] | Description | Dielectric Parameters $e_r$ | s [S/m] | Dielectric Parameters Deviation from recommended value $de_r$ [%] | ds [%] | Temp [°C] |
|---|---|---|---|---|---|---|
| 1880 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 53.3 | 1.52 | | | |
| | 2015-08-11 | 51.9 | 1.48 | -2.63 | -2.63 | 23.3 |
| | 2015-08-12 | 51.6 | 1.47 | -3.19 | -3.29 | 23.4 |
| | 2015-08-14 | 52.1 | 1.47 | -2.25 | -3.29 | 22.8 |
| | 2015-08-17 | 51.9 | 1.47 | -2.63 | -3.29 | 23.3 |
| | 2015-08-18 | 52.1 | 1.47 | -2.25 | -3.29 | 23.5 |
| | 2015-10-31 | 51.9 | 1.53 | -2.63 | 0.66 | 20.8 |
| 2310 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 52.9 | 1.82 | | | |
| | 2015-08-19 | 52.3 | 1.74 | -1.13 | -4.40 | 22.5 |
| | 2015-08-20 | 52.1 | 1.75 | -1.51 | -3.85 | 22.3 |
| | 2015-08-26 | 52.1 | 1.74 | -1.51 | -4.40 | 22.6 |
| | 2015-11-01 | 51.5 | 1.77 | -2.65 | -2.75 | 22.2 |
| 2437 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 52.7 | 1.94 | | | |
| | 2015-08-16 | 51.8 | 1.88 | -1.71 | -3.09 | 22.5 |
| 2535 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 52.6 | 2.07 | | | |
| | 2015-08-13 | 51.5 | 2.01 | -2.09 | -2.90 | 22.6 |
| | 2015-08-14 | 51.5 | 2.02 | -2.09 | -2.42 | 22.5 |
| | 2015-08-15 | 51.2 | 2.01 | -2.66 | -2.90 | 22.5 |
| | 2015-08-26 | 51.5 | 2.01 | -2.09 | -2.90 | 22.6 |
| 2593 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 52.5 | 2.15 | | | |
| | 2015-08-13 | 51.3 | 2.08 | -2.29 | -3.26 | 22.6 |
| | 2015-08-14 | 51.3 | 2.08 | -2.29 | -3.26 | 22.5 |
| | 2015-08-15 | 51.0 | 2.07 | -2.86 | -3.72 | 22.5 |
| | 2015-08-26 | 51.3 | 2.07 | -2.29 | -3.72 | 22.6 |
| 5210 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 49.0 | 5.31 | | | |
| | 2015-08-19 | 47.1 | 5.41 | -3.88 | 1.88 | 21.3 |
| | 2015-08-20 | 47.2 | 5.41 | -3.67 | 1.88 | 21.2 |
| 5290 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 48.9 | 5.40 | | | |
| | 2015-08-19 | 47.0 | 5.52 | -3.89 | 2.22 | 21.3 |
| 5520 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 48.6 | 5.67 | | | |
| | 2015-08-20 | 46.7 | 5.81 | -3.91 | 2.47 | 21.2 |
| 5620 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 48.4 | 5.79 | | | |
| | 2015-08-20 | 46.5 | 5.94 | -3.93 | 2.59 | 21.2 |
| 5760 | Tolerances | | | ±5 % | ±5 % | |
| | Recommended value | 48.3 | 5.95 | | | |
| | 2015-08-21 | 46.0 | 6.19 | -4.76 | 4.03 | 21.0 |

Dielectric parameter data for the band edges is given in Appendix C.


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# 5. DESCRIPTION OF THE TEST PROCEDURE

## 5.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.

Device holder supplied by SPEAG

A spacer (illustrated below) was used to position the device within the SPEAG holder. The spacer positions the device so that the holder has minimal effect on the test results but still holds the device securely. The spacer was removed before the tests.

Spacer

## 5.2 Test Positions

### 5.2.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

### 5.2.2 Body-worn 15 mm Configuration

The device was placed in the SPEAG holder using the spacer and placed below the flat phantom. The distance between the device and the phantom was kept at the separation distance indicated in Section 1.2 using a separate flat spacer that was removed before the start of the measurements. The device was oriented with both sides facing the phantom to find the highest results.

Microsoft Body-worn accessories are commonly available for the separation distance used in this testing.

### 5.2.3 Wireless Router 10 mm Configuration

The device was placed in the SPEAG holder and, in sequence, the back, display and each of the 4 edges was positioned 10 mm away from the flat phantom. The spacer was removed before the start of the measurements.


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## 5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 5x5x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan. Fast SAR is measured according to the KDB 447498 D01 General RF Exposure Guidance v05r01.

## 5.4 SAR Averaging Methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.

The interpolation, extrapolation and maximum search routines within Dasy52 are all based on the modified Quadratic Shepard's method (Robert J. Renka,"Multivariate Interpolation of Large Sets of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).

The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighbouring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.

In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.


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## 6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation for 1g Full SAR in 0.3-6G Hz range

| Uncertainty Component | Section in IEEE 1528 | Tol. (%) | Prob Dist | Div | $c_i$ | $c_i.u_i$ (%) | $v_i$ |
|---|---|---|---|---|---|---|---|
| **Measurement System** | | | | | | | |
| Probe Calibration | E2.1 | ±6.6 | N | 1 | 1 | ±6.6 | ∞ |
| Axial Isotropy | E2.2 | ±4.7 | R | √3 | $(1-c_p)^{1/2}$ | ±1.9 | ∞ |
| Hemispherical Isotropy | E2.2 | ±9.6 | R | √3 | $(c_p)^{1/2}$ | ±3.9 | ∞ |
| Boundary Effect | E2.3 | ±2.0 | R | √3 | 1 | ±1.2 | ∞ |
| Linearity | E2.4 | ±4.7 | R | √3 | 1 | ±2.7 | ∞ |
| System Detection Limits | E2.5 | ±1.0 | R | √3 | 1 | ±0.6 | ∞ |
| Modulation response | E2.5 | ±2.4 | R | √3 | 1 | ±1.4 | |
| Readout Electronics | E2.6 | ±0.3 | N | 1 | 1 | ±0.3 | ∞ |
| Response Time | E2.7 | ±0.8 | R | √3 | 1 | ±0.5 | ∞ |
| Integration Time | E2.8 | ±2.6 | R | √3 | 1 | ±1.5 | ∞ |
| RF Ambient Conditions - Noise | E6.1 | ±3.0 | R | √3 | 1 | ±1.7 | ∞ |
| RF Ambient Conditions - Reflections | E6.1 | ±3.0 | R | √3 | 1 | ±1.7 | ∞ |
| Probe Positioner Mechanical Tolerance | E6.2 | ±0.8 | R | √3 | 1 | ±0.5 | ∞ |
| Probe Positioning with respect to Phantom Shell | E6.3 | ±6.7 | R | √3 | 1 | ±3.9 | ∞ |
| Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation | E5 | ±4.0 | R | √3 | 1 | ±2.3 | ∞ |
| **Test sample Related** | | | | | | | |
| Test Sample Positioning | E4.2 | ±6.0 | N | 1 | 1 | ±6.0 | 11 |
| Device Holder Uncertainty | E4.1 | ±3.6 | N | 1 | 1 | ±3.6 | 5 |
| Output Power Variation - SAR drift measurement | E2.9 | ±5.0 | R | √3 | 1 | ±2.9 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | |
| Phantom Uncertainty (shape and thickness tolerances) | E3.1 | ±6.6 | R | √3 | 1 | ±3.8 | ∞ |
| SAR correction | E3.2 | ±1.9 | R | √3 | 1 | ±1.1 | ∞ |
| Conductivity Target - tolerance | E3.4 | ±5.0 | R | √3 | 0.6 | ±1.8 | ∞ |
| Conductivity - measurement uncertainty | E3.3 | ±5.5 | N | 1 | 0.6 | ±3.5 | 5 |
| Permittivity Target - tolerance | E3.4 | ±5.0 | R | √3 | 0.6 | ±1.7 | ∞ |
| Permittivity - measurement uncertainty | E3.3 | ±2.9 | N | 1 | 0.6 | ±1.7 | 5 |
| **Combined Standard Uncertainty** | | | RSS | | | **±14.0** | 198 |
| **Coverage Factor for 95%** | | | **k=2** | | | | |
| **Expanded Uncertainty** | | | | | | **±28.2** | |


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Table 6.2 – Measurement uncertainty evaluation for 1g Fast SAR in 0.3-6G Hz range

| Relative DASY5 Uncertainty Budget for Fast SAR Tests According to IEEE 1528/2011 and IEC 62209-1/2011 (0.3-6 GHz range) | | | | | | |
|---|---|---|---|---|---|---|
| **Uncertainty Component** | **Tol. (%)** | **Prob Dist.** | **Div.** | $c_i$ | $c_i . u_i$ (%) | $v_i$ |
| **Measurement System** | | | | | | |
| Probe Calibration | ±6.6 | N | 1 | 0 | | |
| Axial Isotropy | ±4.7 | R | √3 | $(1-c_p)^{1/2}$ | ±1.9 | ∞ |
| Hemispherical Isotropy | ±9.6 | R | √3 | $(c_p)^{1/2}$ | ±3.9 | ∞ |
| Boundary Effect | ±2.0 | R | √3 | 1 | ±1.2 | ∞ |
| Linearity | ±4.7 | R | √3 | 1 | ±2.7 | ∞ |
| System Detection Limits | ±1.0 | R | √3 | 1 | ±0.6 | ∞ |
| Modulation Response | ±2.4 | R | √3 | 1 | ±1.4 | ∞ |
| Readout Electronics | ±0.3 | N | 1 | 0 | | |
| Response Time | ±0.8 | R | √3 | 0 | | |
| Integration Time | ±2.6 | R | √3 | 1 | ±1.5 | ∞ |
| RF Ambient Conditions - Noise | ±3.0 | R | √3 | 1 | ±1.7 | ∞ |
| RF Ambient Conditions - Reflections | ±3.0 | R | √3 | 0 | | |
| Probe Positioner Mechanical Tolerance | ±0.8 | R | √3 | 1 | ±0.5 | ∞ |
| Probe Positioning with respect to Phantom Shell | ±6.7 | R | √3 | 1 | ±3.9 | ∞ |
| Spatial x-y Resolution | ±10.0 | R | √3 | 1 | ±5.8 | ∞ |
| Fast SAR z Approximation | ±14.0 | R | √3 | 1 | ±8.1 | ∞ |
| **Test sample Related** | | | | | | |
| Test Sample Positioning | ±6.0 | N | 1 | 1 | ±6.0 | 12 |
| Device Holder Uncertainty | ±3.6 | N | 1 | 1 | ±3.6 | 5 |
| Output Power Variation - SAR drift measurement | ±5.0 | R | √3 | 1 | ±2.9 | ∞ |
| Power Scaling | ±0 | R | √3 | 0 | | |
| **Phantom and Setup** | | | | | | |
| Phantom Uncertainty (shape and thickness tolerances) | ±6.6 | R | √3 | 1 | ±3.8 | ∞ |
| SAR correction | ±1.9 | R | √3 | 0 | | |
| Conductivity Target - tolerance | ±1.9 | R | √3 | 0 | | |
| Conductivity - measurement uncertainty | ±5.0 | R | √3 | 0 | | |
| Permittivity Target - tolerance | ±5.5 | N | 1 | 0 | | |
| Permittivity - measurement uncertainty | ±5.0 | R | √3 | 0 | | |
| | | | | | | |
| **Combined Standard Uncertainty** | | RSS | | | **±14.9** | 748 |
| **Coverage Factor for 95%** | | **k=2** | | | | |
| **Expanded Uncertainty** | | | | | **±29.8** | |


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# 7. RESULTS

## 7.1 The measured Head SAR values for the test device

### 7.1.1 LTE700 (Band 12) Head SAR results

**Antenna 1 / RM-1105**

| LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 24.6 | | | Scaling factor* | | | | |
| Conducted Power | | 24.4 | 24.6 | 24.4 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 24.4 | 24.6 | 24.4 | 1.05 | 1.00 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | - | 0.236 | - | - | 0.236 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.141 | - | - | 0.141 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.280 | - | - | 0.280 | - | 0.00 | H1 |
| | Full SAR | - | 0.279 | - | - | **0.279** | - | | |
| Right Tilt | Estimated SAR | - | 0.178 | - | - | 0.178 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.5 | 23.3 | 0.4 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 23.2 | 23.5 | 23.3 | 1.10 | 1.02 | 1.07 | Lin | |
| Left Cheek | Estimated SAR | - | 0.180 | - | - | 0.184 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.121 | - | - | 0.124 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.215 | - | - | 0.220 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.135 | - | - | 0.138 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105**

| LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 24.6 | | | Scaling factor* | | | | |
| Conducted Power | | 24.4 | 24.6 | 24.4 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 24.4 | 24.6 | 24.4 | 1.05 | 1.00 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | - | 0.194 | - | - | 0.194 | - | 0.00 | - |
| | Full SAR | - | 0.196 | - | - | 0.196 | - | | |
| Left Tilt | Estimated SAR | - | 0.103 | - | - | 0.103 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.132 | - | - | 0.132 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.081 | - | - | 0.081 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.5 | 23.3 | 0.4 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 23.2 | 23.5 | 23.3 | 1.10 | 1.02 | 1.07 | Lin | |
| Left Cheek | Estimated SAR | - | 0.131 | - | - | 0.134 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.071 | - | - | 0.073 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.093 | - | - | 0.095 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.053 | - | - | 0.054 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.2 LTE700 (Band 17) Head SAR results

**Antenna 1 / RM-1105**

| LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.4 | 24.3 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.4 | 24.3 | 1.05 | 1.02 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | - | 0.242 | - | - | 0.248 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.163 | - | - | 0.167 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.265 | - | - | 0.271 | - | 0.01 | H2 |
| | Full SAR | - | 0.275 | - | - | **0.281** | - | | |
| Right Tilt | Estimated SAR | - | 0.146 | - | - | 0.149 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 23.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.3 | 23.2 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 23.2 | 23.3 | 23.2 | 1.05 | 1.02 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | - | 0.186 | - | - | 0.190 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.121 | - | - | 0.124 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.203 | - | - | 0.208 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.110 | - | - | 0.113 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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| LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.4 | 24.3 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.4 | 24.3 | 1.05 | 1.02 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | - | 0.212 | - | - | 0.217 | - | 0.00 | - |
| | Full SAR | - | 0.213 | - | - | 0.218 | - | | |
| Left Tilt | Estimated SAR | - | 0.106 | - | - | 0.108 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.132 | - | - | 0.135 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.075 | - | - | 0.077 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 23.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.3 | 23.2 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 23.2 | 23.3 | 23.2 | 1.05 | 1.02 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | - | 0.155 | - | - | 0.159 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.074 | - | - | 0.075 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.094 | - | - | 0.096 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.051 | - | - | 0.052 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.3 LTE750 (Band 13) Head SAR results

**Antenna 1 / RM-1105**

| LTE750 (Band 13) - 10MHz - QPSK - 1 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 23.2 | - | - | 1.10 | - | Lin | |
| Left Cheek | Estimated SAR | - | 0.222 | - | - | 0.243 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.145 | - | - | 0.159 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.233 | - | - | 0.255 | - | 0.01 | - |
| | Full SAR | - | 0.242 | - | - | 0.265 | - | | |
| Right Tilt | Estimated SAR | - | 0.167 | - | - | 0.183 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE750 (Band 13) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 22.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 22.2 | - | - | 1.10 | - | Lin | |
| Left Cheek | Estimated SAR | - | 0.178 | - | - | 0.195 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.115 | - | - | 0.126 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.187 | - | - | 0.205 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.134 | - | - | 0.147 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105**

| LTE750 (Band 13) - 10MHz - QPSK - 1 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 23.2 | - | - | 1.10 | - | Lin | |
| Left Cheek | Estimated SAR | - | 0.246 | - | - | 0.270 | - | 0.01 | H3 |
| | Full SAR | - | 0.253 | - | - | **0.277** | - | | |
| Left Tilt | Estimated SAR | - | 0.164 | - | - | 0.180 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.201 | - | - | 0.220 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.150 | - | - | 0.164 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE750 (Band 13) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 22.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 22.2 | - | - | 1.10 | - | Lin | |
| Left Cheek | Estimated SAR | - | 0.194 | - | - | 0.213 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.127 | - | - | 0.139 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.155 | - | - | 0.170 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.116 | - | - | 0.127 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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### 7.1.4 GSM/GPRS/EGPRS 850 Head SAR results

**Antenna 1 / RM-1105**

| 1-slot GPRS850 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | | |
| Upper limit | | 32.8 | | | Scaling factor* | | | | |
| Conducted Power | | 31.9 | 32.6 | 32.2 | 0.9 | 0.2 | 0.6 | dB | |
| Time-averaged Power | | 22.9 | 23.6 | 23.2 | 1.23 | 1.05 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | - | 0.217 | - | - | 0.227 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.107 | - | - | 0.112 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.194 | 0.319 | 0.241 | 0.239 | 0.334 | 0.277 | 0.06 | - |
| | Full SAR | - | 0.255 | - | - | 0.267 | - | | |
| Right Tilt | Estimated SAR | - | 0.194 | - | - | 0.203 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| 4-slot 8PSK EGPRS850 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | | |
| Upper limit | | 24.2 | | | Scaling factor* | | | | |
| Conducted Power | | 23.8 | 23.9 | 24.1 | 0.4 | 0.3 | 0.1 | dB | |
| Time-averaged Power | | 20.8 | 20.9 | 21.1 | 1.10 | 1.07 | 1.02 | Lin | |
| Right Cheek | Estimated SAR | - | 0.171 | - | - | 0.183 | - | 0.01 | - |
| | Full SAR | - | 0.179 | - | - | 0.192 | - | | |


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**Antenna 2 / RM-1105**

| 1-slot GPRS850 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | | |
| **Upper limit** | | **32.8** | | | **Scaling factor*** | | | | |
| **Conducted Power** | | **31.9** | **32.6** | **32.2** | **0.9** | **0.2** | **0.6** | **dB** | |
| **Time-averaged Power** | | **22.9** | **23.6** | **23.2** | **1.23** | **1.05** | **1.15** | **Lin** | |
| Left Cheek | Estimated SAR | 0.134 | 0.189 | 0.239 | 0.165 | 0.198 | 0.274 | 0.01 | H4 |
| | Full SAR | - | - | 0.246 | - | - | **0.282** | | |
| Left Tilt | Estimated SAR | - | 0.102 | - | - | 0.107 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.171 | - | - | 0.179 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.103 | - | - | 0.108 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| 4-slot 8PSK EGPRS850 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | | |
| **Upper limit** | | **24.2** | | | **Scaling factor*** | | | | |
| **Conducted Power** | | **23.8** | **23.9** | **24.1** | **0.4** | **0.3** | **0.1** | **dB** | |
| **Time-averaged Power** | | **20.8** | **20.9** | **21.1** | **1.10** | **1.07** | **1.02** | **Lin** | |
| Left Cheek | Estimated SAR | - | - | 0.132 | - | - | 0.135 | 0.00 | - |
| | Full SAR | - | - | 0.134 | - | - | 0.137 | | |


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7.1.5 WCDMA850 (Band 5) Head SAR results

**Antenna 1 / RM-1105**

| WCDMA850 (Band 5) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | | |
| Upper limit | | 24.9 | | | Scaling factor* | | | | |
| Conducted Power | | 24.6 | 24.7 | 24.7 | 0.3 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.6 | 24.7 | 24.7 | 1.07 | 1.05 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | 0.298 | 0.316 | 0.299 | 0.319 | 0.331 | 0.313 | 0.00 | - |
| | Full SAR | - | 0.315 | - | - | 0.330 | - | | |
| Left Tilt | Estimated SAR | - | 0.144 | - | - | 0.151 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.306 | - | - | 0.320 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.170 | - | - | 0.178 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

**Antenna 2 / RM-1105**

| WCDMA850 (Band 5) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | | |
| Upper limit | | 24.9 | | | Scaling factor* | | | | |
| Conducted Power | | 24.6 | 24.7 | 24.7 | 0.3 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.6 | 24.7 | 24.7 | 1.07 | 1.05 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | 0.226 | 0.320 | 0.387 | 0.242 | 0.335 | 0.405 | 0.02 | H5 |
| | Full SAR | - | - | 0.403 | - | - | **0.422** | | |
| Left Tilt | Estimated SAR | - | 0.164 | - | - | 0.172 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.244 | - | - | 0.255 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.147 | - | - | 0.154 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.6 LTE850 (Band 5) Head SAR results

**Antenna 1 / RM-1105**

| LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.3 | 24.3 | 0.2 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.3 | 24.3 | 1.05 | 1.05 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | - | 0.300 | - | - | 0.314 | - | 0.00 | H6 |
| | Full SAR | - | 0.303 | - | - | **0.317** | - | | |
| Left Tilt | Estimated SAR | - | 0.137 | - | - | 0.143 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.282 | - | - | 0.295 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.171 | - | - | 0.179 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.1 | 23.1 | 23.1 | 0.4 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.1 | 23.1 | 23.1 | 1.10 | 1.10 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | - | 0.228 | - | - | 0.250 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.106 | - | - | 0.116 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.210 | - | - | 0.230 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.124 | - | - | 0.136 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.0 | 23.1 | 23.1 | 0.5 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.0 | 23.1 | 23.1 | 1.12 | 1.10 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | - | 0.227 | - | - | 0.249 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105**

| LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.3 | 24.3 | 0.2 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.3 | 24.3 | 1.05 | 1.05 | 1.05 | Lin | |
| Left Cheek | Estimated SAR | - | 0.261 | - | - | 0.273 | - | 0.00 | - |
| | Full SAR | - | 0.260 | - | - | 0.272 | - | | |
| Left Tilt | Estimated SAR | - | 0.126 | - | - | 0.132 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.188 | - | - | 0.197 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.115 | - | - | 0.120 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.1 | 23.1 | 23.1 | 0.4 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.1 | 23.1 | 23.1 | 1.10 | 1.10 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | - | 0.225 | - | - | 0.247 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.117 | - | - | 0.128 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.174 | - | - | 0.191 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.108 | - | - | 0.118 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.0 | 23.1 | 23.1 | 0.5 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.0 | 23.1 | 23.1 | 1.12 | 1.10 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | - | 0.243 | - | - | 0.266 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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### 7.1.7 WCDMA1700/2100 (Band 4) Head SAR results

**Antenna 1 / RM-1105**

| WCDMA1700/2100 (Band 4) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.9 | 24.0 | 23.8 | 0.5 | 0.4 | 0.6 | dB | |
| Time-averaged Power | | 23.9 | 24.0 | 23.8 | 1.12 | 1.10 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.405 | 0.514 | 0.570 | 0.454 | 0.564 | 0.654 | 0.03 | H7 |
| | Full SAR | - | - | 0.596 | - | - | **0.684** | | |
| Left Tilt | Estimated SAR | - | 0.242 | - | - | 0.265 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.358 | - | - | 0.393 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.296 | - | - | 0.325 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

**Antenna 2 / RM-1105**

| WCDMA1700/2100 (Band 4) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.9 | 24.0 | 23.8 | 0.5 | 0.4 | 0.6 | dB | |
| Time-averaged Power | | 23.9 | 24.0 | 23.8 | 1.12 | 1.10 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.549 | 0.453 | 0.373 | 0.616 | 0.497 | 0.428 | 0.01 | - |
| | Full SAR | 0.563 | - | - | 0.632 | - | - | | |
| Left Tilt | Estimated SAR | - | 0.245 | - | - | 0.269 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.385 | - | - | 0.422 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.167 | - | - | 0.183 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.8 LTE1700/2100 (Band 4) Head SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | 0.396 | - | - | 0.415 | - | - | 0.01 | - |
| | Full SAR | 0.385 | - | - | 0.403 | - | - | | |
| Left Tilt | Estimated SAR | 0.213 | - | - | 0.223 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.364 | - | - | 0.381 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | 0.263 | - | - | 0.275 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.332 | - | - | 0.373 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | 0.171 | - | - | 0.192 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.278 | - | - | 0.312 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | 0.212 | - | - | 0.238 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.327 | - | - | 0.367 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 1 / RM-1105 (Tuner 3 3)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | 0.398 | - | - | 0.417 | - | - | 0.03 | - |
| | Full SAR | 0.431 | - | - | 0.451 | - | - | | |
| Left Tilt | Estimated SAR | 0.165 | - | - | 0.173 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.317 | - | - | 0.332 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | 0.219 | - | - | 0.229 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.316 | - | - | 0.355 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | 0.129 | - | - | 0.145 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.237 | - | - | 0.266 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | 0.170 | - | - | 0.191 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.368 | - | - | 0.413 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 0 0)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | 0.527 | - | - | 0.552 | - | - | 0.01 | H8 |
| | Full SAR | 0.539 | - | - | **0.564** | - | - | | |
| Left Tilt | Estimated SAR | 0.192 | - | - | 0.201 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.322 | - | - | 0.337 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | 0.145 | - | - | 0.152 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.404 | - | - | 0.453 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | 0.152 | - | - | 0.171 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.246 | - | - | 0.276 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | 0.112 | - | - | 0.126 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.386 | - | - | 0.433 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 3 3)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | 0.472 | - | - | 0.494 | - | - | 0.01 | - |
| | Full SAR | 0.481 | - | - | 0.504 | - | - | | |
| Left Tilt | Estimated SAR | 0.191 | - | - | 0.200 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.336 | - | - | 0.352 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | 0.147 | - | - | 0.154 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.348 | - | - | 0.390 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | 0.141 | - | - | 0.158 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.262 | - | - | 0.294 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | 0.103 | - | - | 0.116 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Left Cheek | Estimated SAR | 0.358 | - | - | 0.402 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.9 GSM/GPRS/EGPRS 1900 Head SAR results

**Antenna 1 / RM-1105**

| 2-slot GPRS1900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Device orientation** | **SAR measurement** | **Measured 1g SAR [W/kg]** | | | **Reported* 1g SAR [W/kg]** | | | **Max Deviation* [W/kg]** | **Plot #** |
| | | **CH 512 1850.2 MHz** | **CH 661 1880.0 MHz** | **CH 810 1909.8 MHz** | **CH 512 1850.2 MHz** | **CH 661 1880.0 MHz** | **CH 810 1909.8 MHz** | | |
| **Upper limit** | | **26.4** | | | **Scaling factor*** | | | | |
| **Conducted Power** | | **25.7** | **25.5** | **25.6** | **0.7** | **0.9** | **0.8** | **dB** | |
| **Time-averaged Power** | | **19.7** | **19.5** | **19.6** | **1.17** | **1.23** | **1.20** | **Lin** | |
| Left Cheek | Estimated SAR | - | 0.164 | - | - | 0.202 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.046 | - | - | 0.057 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.192 | 0.198 | 0.177 | 0.226 | 0.244 | 0.213 | 0.00 | H9 |
| | Full SAR | - | 0.194 | - | - | **0.239** | - | | |
| Right Tilt | Estimated SAR | - | 0.091 | - | - | 0.111 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| 3-slot 8PSK EGPRS1900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Device orientation** | **SAR measurement** | **Measured 1g SAR [W/kg]** | | | **Reported* 1g SAR [W/kg]** | | | **Max Deviation* [W/kg]** | **Plot #** |
| | | **CH 512 1850.2 MHz** | **CH 661 1880.0 MHz** | **CH 810 1909.8 MHz** | **CH 512 1850.2 MHz** | **CH 661 1880.0 MHz** | **CH 810 1909.8 MHz** | | |
| **Upper limit** | | **24.4** | | | **Scaling factor*** | | | | |
| **Conducted Power** | | **23.7** | **23.5** | **23.6** | **0.7** | **0.9** | **0.8** | **dB** | |
| **Time-averaged Power** | | **19.4** | **19.2** | **19.3** | **1.17** | **1.23** | **1.20** | **Lin** | |
| Right Cheek | Estimated SAR | - | 0.139 | - | - | 0.171 | - | 0.01 | - |
| | Full SAR | - | 0.145 | - | - | 0.178 | - | | |


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**Antenna 2 / RM-1105**

| 2-slot GPRS1900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | | |
| Upper limit | | 26.4 | | | Scaling factor* | | | | |
| Conducted Power | | 25.7 | 25.5 | 25.6 | 0.7 | 0.9 | 0.8 | dB | |
| Time-averaged Power | | 19.7 | 19.5 | 19.6 | 1.17 | 1.23 | 1.20 | Lin | |
| Left Cheek | Estimated SAR | - | 0.123 | - | - | 0.151 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.064 | - | - | 0.078 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.165 | 0.135 | 0.099 | 0.194 | 0.166 | 0.119 | 0.02 | - |
| | Full SAR | 0.182 | - | - | 0.214 | - | - | | |
| Right Tilt | Estimated SAR | - | 0.040 | - | - | 0.050 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| 3-slot 8PSK EGPRS1900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.7 | 23.5 | 23.6 | 0.7 | 0.9 | 0.8 | dB | |
| Time-averaged Power | | 19.4 | 19.2 | 19.3 | 1.17 | 1.23 | 1.20 | Lin | |
| Right Cheek | Estimated SAR | 0.132 | - | - | 0.155 | - | - | 0.01 | - |
| | Full SAR | 0.140 | - | - | 0.164 | - | - | | |


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7.1.10 WCDMA1900 (Band 2) Head SAR results

**Antenna 1 / RM-1105**

| WCDMA1900 (Band 2) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 24.0 | 23.9 | 23.9 | 0.4 | 0.5 | 0.5 | dB | |
| Time-averaged Power | | 24.0 | 23.9 | 23.9 | 1.10 | 1.12 | 1.12 | Lin | |
| Left Cheek | Estimated SAR | - | 0.295 | - | - | 0.331 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.136 | - | - | 0.153 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | 0.530 | 0.431 | 0.291 | 0.581 | 0.484 | 0.327 | 0.03 | H10 |
| | Full SAR | 0.557 | - | - | **0.611** | - | - | | |
| Right Tilt | Estimated SAR | - | 0.182 | - | - | 0.204 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

**Antenna 2 / RM-1105**

| WCDMA1900 (Band 2) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 24.0 | 23.9 | 23.9 | 0.4 | 0.5 | 0.5 | dB | |
| Time-averaged Power | | 24.0 | 23.9 | 23.9 | 1.10 | 1.12 | 1.12 | Lin | |
| Left Cheek | Estimated SAR | 0.472 | 0.394 | 0.389 | 0.518 | 0.442 | 0.436 | 0.00 | - |
| | Full SAR | 0.475 | - | - | 0.521 | - | - | | |
| Left Tilt | Estimated SAR | - | 0.131 | - | - | 0.147 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.282 | - | - | 0.316 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.101 | - | - | 0.113 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.11 LTE1900 (Band 2) Head SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Left Cheek | Estimated SAR | - | 0.251 | - | - | 0.251 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.138 | - | - | 0.138 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.470 | - | - | 0.470 | - | 0.02 | H11 |
| | Full SAR | - | 0.488 | - | - | **0.488** | - | | |
| Right Tilt | Estimated SAR | - | 0.178 | - | - | 0.178 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Left Cheek | Estimated SAR | - | 0.186 | - | - | 0.190 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.095 | - | - | 0.097 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.311 | - | - | 0.318 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.133 | - | - | 0.136 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 1 / RM-1105 (Tuner 3 3)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Left Cheek | Estimated SAR | - | 0.269 | - | - | 0.269 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.152 | - | - | 0.152 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.363 | - | - | 0.363 | - | 0.05 | - |
| | Full SAR | - | 0.410 | - | - | 0.410 | - | | |
| Right Tilt | Estimated SAR | - | 0.143 | - | - | 0.143 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Left Cheek | Estimated SAR | - | 0.273 | - | - | 0.279 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.117 | - | - | 0.120 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.285 | - | - | 0.292 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.108 | - | - | 0.111 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 0 0)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Left Cheek | Estimated SAR | - | 0.464 | - | - | 0.464 | - | 0.00 | - |
| | Full SAR | - | 0.466 | - | - | 0.466 | - | | |
| Left Tilt | Estimated SAR | - | 0.140 | - | - | 0.140 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.307 | - | - | 0.307 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.100 | - | - | 0.100 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Left Cheek | Estimated SAR | - | 0.336 | - | - | 0.344 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.094 | - | - | 0.096 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.201 | - | - | 0.206 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.078 | - | - | 0.080 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 3 3)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Left Cheek | Estimated SAR | - | 0.377 | - | - | 0.377 | - | 0.01 | - |
| | Full SAR | - | 0.389 | - | - | 0.389 | - | | |
| Left Tilt | Estimated SAR | - | 0.120 | - | - | 0.120 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.222 | - | - | 0.222 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.089 | - | - | 0.089 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Left Cheek | Estimated SAR | - | 0.287 | - | - | 0.294 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.082 | - | - | 0.083 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.152 | - | - | 0.156 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.064 | - | - | 0.066 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.12 LTE2300 (Band 30) Head SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE2300 (Band 30) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 23.0 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.1 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 23.1 | - | - | 1.00 | - | Lin | |
| Left Cheek | Estimated SAR | - | 0.271 | - | - | 0.271 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.125 | - | - | 0.125 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.311 | - | - | 0.311 | - | 0.01 | H12 |
| | Full SAR | - | 0.317 | - | - | **0.317** | - | | |
| Right Tilt | Estimated SAR | - | 0.178 | - | - | 0.178 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2300 (Band 30) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 21.9 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.0 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 22.0 | - | - | 1.00 | - | Lin | |
| Left Cheek | Estimated SAR | - | 0.265 | - | - | 0.265 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.107 | - | - | 0.107 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.266 | - | - | 0.266 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.154 | - | - | 0.154 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 1 / RM-1105 (Tuner 3 3)**

| LTE2300 (Band 30) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 23.0 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.1 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 23.1 | - | - | 1.00 | - | Lin | |
| Left Cheek | Estimated SAR | - | 0.264 | - | - | 0.264 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.125 | - | - | 0.125 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.287 | - | - | 0.287 | - | 0.01 | - |
| | Full SAR | - | 0.294 | - | - | 0.294 | - | | |
| Right Tilt | Estimated SAR | - | 0.163 | - | - | 0.163 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2300 (Band 30) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 21.9 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.0 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 22.0 | - | - | 1.00 | - | Lin | |
| Left Cheek | Estimated SAR | - | 0.266 | - | - | 0.266 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.129 | - | - | 0.129 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.242 | - | - | 0.242 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.179 | - | - | 0.179 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.13 LTE2500 (Band 7) Head SAR results

**Antenna 1 / RM-1105**

| LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.7 | 23.1 | 22.8 | 0.4 | 0.0 | 0.3 | dB | |
| Time-averaged Power | | 22.7 | 23.1 | 22.8 | 1.10 | 1.00 | 1.07 | Lin | |
| Left Cheek | Estimated SAR | - | 0.227 | - | - | 0.227 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.107 | - | - | 0.107 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.321 | - | - | 0.321 | - | 0.02 | H13 |
| | Full SAR | - | 0.339 | - | - | **0.339** | - | | |
| Right Tilt | Estimated SAR | - | 0.118 | - | - | 0.118 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 22.0 | | | Scaling factor* | | | | |
| Conducted Power | | 21.7 | 22.0 | 21.9 | 0.3 | 0.0 | 0.1 | dB | |
| Time-averaged Power | | 21.7 | 22.0 | 21.9 | 1.07 | 1.00 | 1.02 | Lin | |
| Left Cheek | Estimated SAR | - | 0.246 | - | - | 0.246 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.097 | - | - | 0.097 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.287 | - | - | 0.287 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.106 | - | - | 0.106 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 22.0 | | | Scaling factor* | | | | |
| Conducted Power | | 21.8 | 22.0 | 21.8 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 21.8 | 22.0 | 21.8 | 1.05 | 1.00 | 1.05 | Lin | |
| Right Cheek | Estimated SAR | - | 0.285 | - | - | 0.285 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.1.14 LTE2500 (Band 41) Head SAR results

**Antenna 1 / RM-1105**

| LTE2500 (Band 41) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | | |
| Upper limit | | 22.6 | | | | | Scaling factor* | | | | | | |
| Conducted Power | | 22.3 | 22.4 | 22.4 | 22.3 | 22.1 | 0.3 | 0.2 | 0.2 | 0.3 | 0.5 | dB | |
| Time-averaged Power | | 20.1 | 20.2 | 20.2 | 20.1 | 19.9 | 1.07 | 1.05 | 1.05 | 1.07 | 1.12 | Lin | |
| Left Cheek | Estimated SAR | - | 0.156 | - | - | - | - | 0.163 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.075 | - | - | - | - | 0.078 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.230 | - | - | - | - | 0.241 | - | - | - | 0.01 | H14 |
| | Full SAR | - | 0.243 | - | - | - | - | **0.254** | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.062 | - | - | - | - | 0.064 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |

| LTE2500 (Band 41) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | | |
| Upper limit | | 21.9 | | | | | Scaling factor* | | | | | | |
| Conducted Power | | 21.5 | 21.7 | 21.5 | 21.4 | 21.5 | 0.4 | 0.2 | 0.4 | 0.5 | 0.4 | dB | |
| Time-averaged Power | | 19.3 | 19.5 | 19.3 | 19.2 | 19.3 | 1.10 | 1.05 | 1.10 | 1.12 | 1.10 | Lin | |
| Left Cheek | Estimated SAR | - | 0.137 | - | - | - | - | 0.143 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | 0.069 | - | - | - | - | 0.073 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.205 | - | - | - | - | 0.215 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.053 | - | - | - | - | 0.056 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |


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7.1.15 WLAN2450 Head SAR results

**Antenna 1 / RM-1105**

| WLAN2450 b-mode DSSS 20 MHz | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1 2412.0 MHz | CH 6 2437.0 MHz | CH 11 2462.0 MHz | CH 1 2412.0 MHz | CH 6 2437.0 MHz | CH 11 2462.0 MHz | | |
| Data rate | | 2 | 1 | 11 | Scaling factor* | | | Mbps | |
| Upper limit | | 15.5 | 15.5 | 15.5 | | | | | |
| Conducted Power | | 14.5 | 14.3 | 14.4 | 1.0 | 1.2 | 1.1 | dB | |
| Time-averaged Power | | 14.5 | 14.3 | 14.4 | 1.26 | 1.32 | 1.29 | Lin | |
| Left Cheek | Estimated SAR | 0.807 | 0.749 | 0.692 | 1.016 | 0.987 | 0.891 | 0.03 | - |
| | Full SAR | 0.835 | - | - | 1.051 | - | - | | |
| Left Tilt | Estimated SAR | - | 0.452 | - | - | 0.596 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | 0.300 | - | - | 0.395 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | 0.270 | - | - | 0.356 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Left Cheek | Estimated SAR | 0.823 | - | - | 1.036 | - | - | 0.04 | H15 |
| | Full SAR | 0.864 | - | - | **1.088** | - | - | | |

**Antenna 2 / RM-1105**

Radiation for all the device positions and channels tested seems is negligible for Antenna 2.

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| DSSS b-mode 20 MHz 2Mbps SS1 | Left Cheek | 1.088 | 14.0 | 14.0 | 1.088 | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.


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7.1.16 WLAN5000 Head SAR results, 5150–5250 MHz and 5250–5350 MHz

**Antenna 1 & 2 / RM-1105**

| WLAN OFDM 80 MHz | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | Reported* 1g SAR [W/kg] | | | | Max Deviation* [W/kg] | Plot # |
| | | U-NII-1 | | | | U-NII-1 | | | | | |
| | | CH 42 5210.0 MHz | - | - | - | CH 42 5210.0 MHz | - | - | - | | |
| Standard | | ac | - | - | - | Scaling factor* | | | | | |
| Data rate / MCS | | MCS0 | - | - | - | | | | | Mbps | |
| Upper limit | | 10.5 | - | - | - | | | | | | |
| Conducted Power | | 9.4 | - | - | - | 1.1 | - | - | - | dB | |
| Time-averaged Power | | 9.4 | - | - | - | 1.29 | - | - | - | Lin | |
| Left Cheek | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.831 | - | - | - | 1.071 | - | - | - | | |
| Left Cheek Repeated | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.817 | - | - | - | 1.052 | - | - | - | | |

| WLAN OFDM 80 MHz | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | Reported* 1g SAR [W/kg] | | | | Max Deviation* [W/kg] | Plot # |
| | | U-NII-2A | | | | U-NII-2A | | | | | |
| | | CH 58 5290.0 MHz | - | - | - | CH 58 5290.0 MHz | - | - | - | | |
| Standard | | ac | - | - | - | Scaling factor* | | | | | |
| Data rate / MCS | | MCS0 | - | - | - | | | | | Mbps | |
| Upper limit | | 10.5 | - | - | - | | | | | | |
| Conducted Power | | 9.3 | - | - | - | 1.2 | - | - | - | dB | |
| Time-averaged Power | | 9.3 | - | - | - | 1.32 | - | - | - | Lin | |
| Left Cheek | Estimated SAR | - | - | - | - | - | - | - | - | - | H16 |
| | Full SAR | 0.960 | - | - | - | 1.266 | - | - | - | | |
| Left Tilt | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.889 | - | - | - | 1.172 | - | - | - | | |
| Right Cheek | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.388 | - | - | - | 0.511 | - | - | - | | |
| Right Tilt | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.392 | - | - | - | 0.517 | - | - | - | | |
| Left Cheek Repeated | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.815 | - | - | - | 1.074 | - | - | - | | |

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| OFDM ac-mode 80 MHz MCS0 SS1 | - | 1.266 | 9.0 | -** | - | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.
**All test configurations have same tuning target and hence there is no next test configuration for which to calculate the adjusted SAR.


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7.1.17 WLAN5000 Head SAR results, 5470–5725 MHz

**Antenna 1 & 2 / RM-1105**

| WLAN OFDM 80 MHz | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | Reported* 1g SAR [W/kg] | | | | Max Deviation* [W/kg] | Plot # |
| | | U-NII-2C | | | | U-NII-2C | | | | | |
| | | CH 106 5530.0 MHz | - | - | - | CH 106 5530.0 MHz | - | - | - | | |
| Standard | | ac | - | - | - | Scaling factor* | | | | | |
| Data rate / MCS | | MCS0 | - | - | - | | | | | Mbps | |
| Upper limit | | 10.5 | - | - | - | | | | | | |
| Conducted Power | | 9.5 | - | - | - | 1.0 | - | - | - | dB | |
| Time-averaged Power | | 9.5 | - | - | - | 1.26 | - | - | - | Lin | |
| Left Cheek | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.783 | - | - | - | 0.986 | - | - | - | | |
| Left Tilt | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.743 | - | - | - | 0.935 | - | - | - | | |
| Right Cheek | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.358 | - | - | - | 0.451 | - | - | - | | |
| Right Tilt | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.343 | - | - | - | 0.432 | - | - | - | | |

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| OFDM ac-mode 80 MHz MCS0 SS1 | - | 0.986 | 9.0 | -** | - | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.
**All test configurations have same tuning target and hence there is no next test configuration for which to calculate the adjusted SAR.


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7.1.18 WLAN5000 Head SAR results, 5725–5850 MHz

**Antenna 1 & 2 / RM-1105**

| WLAN OFDM 80 MHz | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | U-NII-3 | | | | | U-NII-3 | | | | | | |
| | | CH 155 5775.0 MHz | - | - | - | - | CH 155 5775.0 MHz | - | - | - | - | | |
| Standard | | ac | - | - | - | - | Scaling factor* | | | | | | |
| Data rate / MCS | | MCS0 | - | - | - | - | | | | | | Mbps | |
| Upper limit | | 10.5 | - | - | - | - | | | | | | | |
| Conducted Power | | 9.4 | - | - | - | - | 1.1 | - | - | - | - | dB | |
| Time-averaged Power | | 9.4 | - | - | - | - | 1.29 | - | - | - | - | Lin | |
| Left Cheek | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.647 | - | - | - | - | 0.833 | - | - | - | - | | |
| Left Tilt | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.555 | - | - | - | - | 0.715 | - | - | - | - | | |
| Right Cheek | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.350 | - | - | - | - | 0.451 | - | - | - | - | | |
| Right Tilt | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.334 | - | - | - | - | 0.430 | - | - | - | - | | |

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| OFDM ac-mode 80 MHz MCS0 SS1 | - | 0.833 | 9.0 | -** | - | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.
**All test configurations have same tuning target and hence there is no next test configuration for which to calculate the adjusted SAR.

Individual Head SAR plots are given in Appendix B.


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**Simultaneous transmissions: Combined Head 1g SAR results – WLAN and Individual band Max results - Antenna 1**

| Test configuration | WLAN 2450 | WLAN 5000 | LTE700 (Band 12) | LTE700 (Band 17) | LTE750 (Band 13) | 1-slot GPRS850 | WCDMA 850 (Band 5) | LTE850 (Band 5) |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | 1.088 | 1.266 | 0.236 | 0.248 | 0.243 | 0.227 | 0.330 | 0.317 |
| Left Tilt | 0.596 | 1.172 | 0.141 | 0.167 | 0.159 | 0.112 | 0.151 | 0.143 |
| Right Cheek | 0.395 | 0.511 | 0.279 | 0.281 | 0.265 | 0.267 | 0.320 | 0.295 |
| Right Tilt | 0.356 | 0.517 | 0.178 | 0.149 | 0.183 | 0.203 | 0.178 | 0.179 |
| **Test configuration** | **WCDMA 1700/2100 (Band 4)** | **LTE 1700/2100 (Band 4)** | **2-slot GPRS1900** | **WCDMA 1900 (Band 2)** | **LTE 1900 (Band 2)** | **LTE 2300 (Band 30)** | **LTE 2500 (Band 7)** | **LTE 2500 (Band 41)** |
| Left Cheek | 0.684 | 0.451 | 0.202 | 0.331 | 0.279 | 0.271 | 0.246 | 0.163 |
| Left Tilt | 0.265 | 0.223 | 0.057 | 0.153 | 0.138 | 0.129 | 0.107 | 0.078 |
| Right Cheek | 0.393 | 0.381 | 0.239 | 0.611 | 0.488 | 0.317 | 0.339 | 0.254 |
| Right Tilt | 0.325 | 0.275 | 0.111 | 0.204 | 0.178 | 0.179 | 0.118 | 0.064 |

**Simultaneous transmissions: Combined Head 1g SAR results – WLAN and Individual band Max results - Antenna 2**

| Test configuration | WLAN 2450 | WLAN 5000 | LTE700 (Band 12) | LTE700 (Band 17) | LTE750 (Band 13) | 1-slot GPRS850 | WCDMA 850 (Band 5) | LTE850 (Band 5) |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | 1.088 | 1.266 | 0.196 | 0.218 | 0.277 | 0.282 | 0.422 | 0.272 |
| Left Tilt | 0.596 | 1.172 | 0.103 | 0.108 | 0.180 | 0.107 | 0.172 | 0.132 |
| Right Cheek | 0.395 | 0.511 | 0.132 | 0.135 | 0.220 | 0.179 | 0.255 | 0.197 |
| Right Tilt | 0.356 | 0.517 | 0.081 | 0.077 | 0.164 | 0.108 | 0.154 | 0.120 |
| **Test configuration** | **WCDMA 1700/2100 (Band 4)** | **LTE 1700/2100 (Band 4)** | **2-slot GPRS1900** | **WCDMA 1900 (Band 2)** | **LTE 1900 (Band 2)** | **-** | **-** | **-** |
| Left Cheek | 0.632 | 0.564 | 0.151 | 0.521 | 0.466 | - | - | - |
| Left Tilt | 0.269 | 0.201 | 0.078 | 0.147 | 0.140 | - | - | - |
| Right Cheek | 0.422 | 0.352 | 0.214 | 0.316 | 0.307 | - | - | - |
| Right Tilt | 0.183 | 0.154 | 0.050 | 0.113 | 0.100 | - | - | - |


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**Simultaneous transmissions: Combined Head 1g SAR results – WLAN2450 Max + Max combined results - Antenna 1**

| Test configuration | LTE700 (Band 12) + WLAN 2450 | LTE700 (Band 17) + WLAN 2450 | LTE750 (Band 13) + WLAN 2450 | 1-slot GPRS850 + WLAN 2450 | WCDMA 850 (Band 5) + WLAN 2450 | LTE850 (Band 5) + WLAN 2450 | WCDMA 1700/2100 (Band 4) + WLAN 2450 | LTE 1700/2100 (Band 4) + WLAN 2450 |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | **1.324** | **1.336** | **1.331** | **1.315** | **1.418** | **1.405** | **1.772** | **1.539** |
| Left Tilt | 0.737 | 0.763 | 0.755 | 0.708 | 0.747 | 0.739 | 0.861 | 0.819 |
| Right Cheek | 0.674 | 0.676 | 0.660 | 0.662 | 0.715 | 0.690 | 0.788 | 0.776 |
| Right Tilt | 0.534 | 0.505 | 0.539 | 0.559 | 0.534 | 0.535 | 0.681 | 0.631 |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **LTE 2300 (Band 30) + WLAN 2450** | **LTE 2500 (Band 7) + WLAN 2450** | **LTE 2500 (Band 41) + WLAN 2450** | **-** | **-** |
| Left Cheek | **1.290** | **1.419** | **1.367** | **1.359** | **1.334** | **1.251** | - | - |
| Left Tilt | 0.653 | 0.749 | 0.734 | 0.725 | 0.703 | 0.674 | - | - |
| Right Cheek | 0.634 | 1.006 | 0.883 | 0.712 | 0.734 | 0.649 | - | - |
| Right Tilt | 0.467 | 0.560 | 0.534 | 0.535 | 0.474 | 0.420 | - | - |

**Simultaneous transmissions: Combined Head 1g SAR results – WLAN2450 Max + Max combined results - Antenna 2**

| Test configuration | LTE700 (Band 12) + WLAN 2450 | LTE700 (Band 17) + WLAN 2450 | LTE750 (Band 13) + WLAN 2450 | 1-slot GPRS850 + WLAN 2450 | WCDMA 850 (Band 5) + WLAN 2450 | LTE850 (Band 5) + WLAN 2450 | WCDMA 1700/2100 (Band 4) + WLAN 2450 | LTE 1700/2100 (Band 4) + WLAN 2450 |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | **1.284** | **1.306** | **1.365** | **1.370** | **1.510** | **1.360** | **1.720** | **1.652** |
| Left Tilt | 0.699 | 0.704 | 0.776 | 0.703 | 0.768 | 0.728 | 0.865 | 0.797 |
| Right Cheek | 0.527 | 0.530 | 0.615 | 0.574 | 0.650 | 0.592 | 0.817 | 0.747 |
| Right Tilt | 0.437 | 0.433 | 0.520 | 0.464 | 0.510 | 0.476 | 0.539 | 0.510 |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **-** | **-** | **-** | **-** | **-** |
| Left Cheek | **1.239** | **1.609** | **1.554** | - | - | - | - | - |
| Left Tilt | 0.674 | 0.743 | 0.736 | - | - | - | - | - |
| Right Cheek | 0.609 | 0.711 | 0.702 | - | - | - | - | - |
| Right Tilt | 0.406 | 0.469 | 0.456 | - | - | - | - | - |


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**Simultaneous transmissions: Combined Head 1g SAR results – WLAN5000 Max + Max combined results - Antenna 1**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | **1.502** | **1.514** | **1.509** | **1.493** | **1.596** | **1.583** | **1.950** | **1.717** |
| Left Tilt | 1.313 | 1.339 | 1.331 | 1.284 | 1.323 | 1.315 | 1.437 | 1.395 |
| Right Cheek | 0.790 | 0.792 | 0.776 | 0.778 | 0.831 | 0.806 | 0.904 | 0.892 |
| Right Tilt | 0.695 | 0.666 | 0.700 | 0.720 | 0.695 | 0.696 | 0.842 | 0.792 |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **LTE 2300 (Band 30) + WLAN 5000** | **LTE 2500 (Band 7) + WLAN 5000** | **LTE 2500 (Band 41) + WLAN 5000** | **-** | **-** |
| Left Cheek | **1.468** | **1.597** | **1.545** | **1.537** | **1.512** | **1.429** | - | - |
| Left Tilt | 1.229 | 1.325 | 1.310 | 1.301 | 1.279 | 1.250 | - | - |
| Right Cheek | 0.750 | 1.122 | 0.999 | 0.828 | 0.850 | 0.765 | - | - |
| Right Tilt | 0.628 | 0.721 | 0.695 | 0.696 | 0.635 | 0.581 | - | - |

**Simultaneous transmissions: Combined Head 1g SAR results – WLAN5000 Max + Max combined results - Antenna 2**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | **1.462** | **1.484** | **1.543** | **1.548** | **1.688** | **1.538** | **1.898** | **1.830** |
| Left Tilt | 1.275 | 1.280 | 1.352 | 1.279 | 1.344 | 1.304 | 1.441 | 1.373 |
| Right Cheek | 0.643 | 0.646 | 0.731 | 0.690 | 0.766 | 0.708 | 0.933 | 0.863 |
| Right Tilt | 0.598 | 0.594 | 0.681 | 0.625 | 0.671 | 0.637 | 0.700 | 0.671 |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **-** | **-** | **-** | **-** | **-** |
| Left Cheek | **1.417** | **1.787** | **1.732** | - | - | - | - | - |
| Left Tilt | 1.250 | 1.319 | 1.312 | - | - | - | - | - |
| Right Cheek | 0.725 | 0.827 | 0.818 | - | - | - | - | - |
| Right Tilt | 0.567 | 0.630 | 0.617 | - | - | - | - | - |


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### 7.1.19 Simultaneous Transmission SAR Test Exclusion Considerations for Head Measurements

Simultaneous transmission SAR tests exclusion procedures as described in KDB 447498 D01 v05 is needed for some Head measurements. Following table gives antenna pair SAR to peak location separation ratios for the transmitter combinations for which the sum of simultaneously transmitting 1g SAR was above limit (See "Max+Max Combined results" table in previous section).

**Antenna Pair SAR to Peak Location Separation Ratio - Antenna 1**

| **Antenna 1** | **WCDMA 1700/2100 (Band 4)** | **WLAN 2450** | **-** | **-** | **-** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|---|
| | **Left Cheek** | | **-** | | **-** | | **-** | |
| X [mm] | 66.5 | 36.3 | - | - | - | - | - | - |
| Y [mm] | 253.2 | 327.7 | - | - | - | - | - | - |
| Z [mm] | -173.3 | -173.4 | - | - | - | - | - | - |
| DISTANCE [mm] | 80.38 | | - | | - | | - | |
| MAX + MAX (Reported SAR) | 1.77 | | - | | - | | - | |
| SAR to peak location separation ratio | 0.03 | | - | | - | | - | |

| **Antenna 1** | **WCDMA 1700/2100 (Band 4)** | **WLAN 5000** | **LTE 1700/2100 (Band 4)** | **WLAN 5000** | **-** | **-** | **-** | **-** |
|---|---|---|---|---|---|---|---|---|
| | **Left Cheek** | | **Left Cheek** | | **-** | | **-** | |
| X [mm] | 66.5 | 30.3 | 66.5 | 30.3 | - | - | - | - |
| Y [mm] | 253.2 | 331.1 | 253.2 | 331.1 | - | - | - | - |
| Z [mm] | -173.3 | -172.3 | -173.3 | -172.3 | - | - | - | - |
| DISTANCE [mm] | 85.89 | | 85.91 | | - | | - | |
| MAX + MAX (Reported SAR) | 1.95 | | 1.72 | | - | | - | |
| SAR to peak location separation ratio | 0.03 | | 0.03 | | - | | - | |


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**Antenna Pair SAR to Peak Location Separation Ratio - Antenna 2**

| Antenna 2 | WCDMA 1700/2100 (Band 4) | WLAN 2450 | LTE 1700/2100 (Band 4) | WLAN 2450 | WCDMA 1900 (Band 2) | WLAN 2450 | - | - |
|---|---|---|---|---|---|---|---|---|
| | Left Cheek | | Left Cheek | | Left Cheek | | - | |
| X [mm] | 65.7 | 36.3 | 68.3 | 36.3 | 66.1 | 36.3 | - | - |
| Y [mm] | 251.9 | 327.7 | 250.4 | 327.7 | 249.9 | 327.7 | - | - |
| Z [mm] | -173.2 | -173.4 | -172.6 | -173.4 | -172.1 | -173.4 | - | - |
| DISTANCE [mm] | 81.31 | | 83.68 | | 83.33 | | - | |
| MAX + MAX (Reported SAR) | 1.72 | | 1.65 | | 1.61 | | - | |
| SAR to peak location separation ratio | 0.03 | | 0.03 | | 0.02 | | - | |

| Antenna 2 | WCDMA 850 (Band 5) | WLAN 5000 | WCDMA 1700/2100 (Band 4) | WLAN 5000 | LTE 1700/2100 (Band 4) | WLAN 5000 | WCDMA 1900 (Band 2) | WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| | Left Cheek | | Left Cheek | | Left Cheek | | Left Cheek | |
| X [mm] | 65.7 | 30.3 | 65.7 | 30.3 | 68.3 | 30.3 | 66.1 | 30.3 |
| Y [mm] | 264.0 | 331.1 | 251.9 | 331.1 | 250.4 | 331.1 | 249.9 | 331.1 |
| Z [mm] | -174.2 | -172.3 | -173.2 | -172.3 | -172.6 | -172.3 | -172.1 | -172.3 |
| DISTANCE [mm] | 75.90 | | 86.76 | | 89.21 | | 88.74 | |
| MAX + MAX (Reported SAR) | 1.69 | | 1.90 | | 1.83 | | 1.79 | |
| SAR to peak location separation ratio | 0.03 | | 0.03 | | 0.03 | | 0.03 | |
| **Antenna 2** | **LTE 1900 (Band 2)** | **WLAN 5000** | **-** | **-** | **-** | **-** | **-** | **-** |
| | Left Cheek | | - | | - | | - | |
| X [mm] | 66.1 | 30.3 | - | - | - | - | - | - |
| Y [mm] | 249.9 | 331.1 | - | - | - | - | - | - |
| Z [mm] | -172.2 | -172.3 | - | - | - | - | - | - |
| DISTANCE [mm] | 88.76 | | - | | - | | - | |
| MAX + MAX (Reported SAR) | 1.73 | | - | | - | | - | |
| SAR to peak location separation ratio | 0.03 | | - | | - | | - | |

All simultaneous transmitter configurations where the Antenna Pair SPLSR ≤ 0.04, are excluded from expanded zoom scan testing. For this product no expanded zoom scan testing is required for Head configurations.


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7.1.20 Combined 1g Head SAR data

**The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.**

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

The combinations are done for the maximum Head configuration of the each band or band group. Maximum configurations are given in the Max+Max tables in the Section 7.1 of the report. The same scaling factors are used in plotting as for the individual reported SAR value calculations.

**Simultaneous transmissions: Reported* Combined 1g SAR Head results – Antenna 1 + WLAN2450 SPEAG Combined Multiband algorithm results**

| **Test configuration** | **LTE700 (Band 12) + WLAN 2450** | **LTE700 (Band 17) + WLAN 2450** | **LTE750 (Band 13) + WLAN 2450** | **1-slot GPRS850 + WLAN 2450** | **WCDMA 850 (Band 5) + WLAN 2450** | **LTE850 (Band 5) + WLAN 2450** | **WCDMA 1700/2100 (Band 4) + WLAN 2450** | **LTE 1700/2100 (Band 4) + WLAN 2450** |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | 1.070 | 1.070 | - | - | - | - | 1.090 | - |
| Left Tilt | - | - | - | - | - | - | - | - |
| Right Cheek | - | - | - | - | - | - | - | - |
| Right Tilt | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | H17 | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **LTE 2300 (Band 30) + WLAN 2450** | **LTE 2500 (Band 7) + WLAN 2450** | **LTE 2500 (Band 41) + WLAN 2450** | **-** | **-** |
| Left Cheek | - | - | - | 1.060 | 1.070 | 1.060 | - | - |
| Left Tilt | - | - | - | - | - | - | - | - |
| Right Cheek | - | - | - | - | - | - | - | - |
| Right Tilt | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |


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**Simultaneous transmissions: Reported* Combined 1g SAR Head results – Antenna 2 + WLAN2450 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 2450 | LTE700 (Band 17) + WLAN 2450 | LTE750 (Band 13) + WLAN 2450 | 1-slot GPRS850 + WLAN 2450 | WCDMA 850 (Band 5) + WLAN 2450 | LTE850 (Band 5) + WLAN 2450 | WCDMA 1700/2100 (Band 4) + WLAN 2450 | LTE 1700/2100 (Band 4) + WLAN 2450 |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | - | - | 1.080 | - | 1.100 | - | - | - |
| Left Tilt | - | - | - | - | - | - | - | - |
| Right Cheek | - | - | - | - | - | - | - | - |
| Right Tilt | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **-** | **-** | **-** | **-** | **-** |
| Left Cheek | - | 1.100 | - | - | - | - | - | - |
| Left Tilt | - | - | - | - | - | - | - | - |
| Right Cheek | - | - | - | - | - | - | - | - |
| Right Tilt | - | - | - | - | - | - | - | - |
| **Plot no** | - | H18 | - | - | - | - | - | - |


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**Simultaneous transmissions: Reported* Combined 1g SAR Head results – Antenna 1 + WLAN5000 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | 1.020 | 1.020 | - | - | - | - | 1.030 | - |
| Left Tilt | - | - | - | - | - | - | - | - |
| Right Cheek | - | - | - | - | - | - | - | - |
| Right Tilt | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | H20 | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **LTE 2300 (Band 30) + WLAN 5000** | **LTE 2500 (Band 7) + WLAN 5000** | **LTE 2500 (Band 41) + WLAN 5000** | **-** | **-** |
| Left Cheek | - | - | - | 1.010 | 1.010 | 1.010 | - | - |
| Left Tilt | - | - | - | - | - | - | - | - |
| Right Cheek | - | - | - | - | - | - | - | - |
| Right Tilt | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |


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**Simultaneous transmissions: Reported* Combined 1g SAR Head results – Antenna 2 + WLAN5000 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Left Cheek | - | - | 1.020 | - | 1.040 | - | - | - |
| Left Tilt | - | - | - | - | - | - | - | - |
| Right Cheek | - | - | - | - | - | - | - | - |
| Right Tilt | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | H19 | - | - | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **-** | **-** | **-** | **-** | **-** |
| Left Cheek | - | 1.030 | - | - | - | - | - | - |
| Left Tilt | - | - | - | - | - | - | - | - |
| Right Cheek | - | - | - | - | - | - | - | - |
| Right Tilt | - | - | - | - | - | - | - | - |
| **Plot no** | - | H21 | - | - | - | - | - | - |

WCDMA850 (Band 5) Antenna 2 + WLAN2450 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 1-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 1 + WLAN2450 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 2 + WLAN2450 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 2-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

WCDMA850 (Band 5) Antenna 2 + WLAN5000 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 1-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 1 + WLAN5000 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 2 + WLAN5000 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 2-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).


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Maximum of the Combined SAR values, namely WCDMA850 (Band 5) + WLAN5000, in the above table is less than the maximum SAR value for the contributing WLAN band. This is due to a) minimal overlap of the SAR distributions of the cellular band with WLAN5000 and b) uncertainties associated with the different methods of calculation. In this case, the maximum SAR values given for the combined Mode in the Summary table in Section 1.2.1 is that for the individual WLAN5000.

Note:
* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.
The highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. The highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results is given in the Section for the simultaneous transmitter combination giving the highest combinated value.

Speag Combined Multiband Head SAR plots are given in Appendix B.


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## 7.2 The measured Body-worn 15 mm SAR values for the test device

### 7.2.1 LTE700 (Band 12) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 24.6 | | | Scaling factor* | | | | |
| Conducted Power | | 24.4 | 24.6 | 24.4 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 24.4 | 24.6 | 24.4 | 1.05 | 1.00 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.338 | - | - | 0.338 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.367 | - | - | 0.367 | - | 0.01 | B1 |
| | Full SAR | - | 0.374 | - | - | **0.374** | - | | |

| LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.5 | 23.3 | 0.4 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 23.2 | 23.5 | 23.3 | 1.10 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.258 | - | - | 0.264 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.282 | - | - | 0.289 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105**

| LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 24.6 | | | Scaling factor* | | | | |
| Conducted Power | | 24.4 | 24.6 | 24.4 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 24.4 | 24.6 | 24.4 | 1.05 | 1.00 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.265 | - | - | 0.265 | - | 0.01 | - |
| | Full SAR | - | 0.259 | - | - | 0.259 | - | | |
| Display | Estimated SAR | - | 0.259 | - | - | 0.259 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.5 | 23.3 | 0.4 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 23.2 | 23.5 | 23.3 | 1.10 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.204 | - | - | 0.209 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.193 | - | - | 0.197 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.2.2 LTE700 (Band 17) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.4 | 24.3 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.4 | 24.3 | 1.05 | 1.02 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.328 | - | - | 0.336 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.362 | - | - | 0.370 | - | 0.01 | B2 |
| | Full SAR | - | 0.371 | - | - | **0.380** | - | | |

| LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 23.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.3 | 23.2 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 23.2 | 23.3 | 23.2 | 1.05 | 1.02 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.249 | - | - | 0.255 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.277 | - | - | 0.283 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105**

| LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.4 | 24.3 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.4 | 24.3 | 1.05 | 1.02 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.279 | - | - | 0.285 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.279 | - | - | 0.285 | - | 0.00 | - |
| | Full SAR | - | 0.278 | - | - | 0.284 | - | | |

| LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 23.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.3 | 23.2 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 23.2 | 23.3 | 23.2 | 1.05 | 1.02 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.216 | - | - | 0.221 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.214 | - | - | 0.219 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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### 7.2.3 LTE750 (Band 13) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| LTE750 (Band 13) - 10MHz - QPSK - 1 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 23.2 | - | - | 1.10 | - | Lin | |
| Back | Estimated SAR | - | 0.319 | - | - | 0.350 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.357 | - | - | 0.391 | - | 0.01 | B3 |
| | Full SAR | - | 0.362 | - | - | **0.397** | - | | |

| LTE750 (Band 13) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 22.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 22.2 | - | - | 1.10 | - | Lin | |
| Back | Estimated SAR | - | 0.256 | - | - | 0.281 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.282 | - | - | 0.309 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105**

| LTE750 (Band 13) - 10MHz - QPSK - 1 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 23.2 | - | - | 1.10 | - | Lin | |
| Back | Estimated SAR | - | 0.289 | - | - | 0.317 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.332 | - | - | 0.364 | - | 0.01 | - |
| | Full SAR | - | 0.337 | - | - | 0.370 | - | | |

| LTE750 (Band 13) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 22.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 22.2 | - | - | 1.10 | - | Lin | |
| Back | Estimated SAR | - | 0.223 | - | - | 0.245 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.256 | - | - | 0.281 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.2.4 GSM/GPRS/EGPRS 850 Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| 1-slot GPRS850 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | | |
| Upper limit | | 32.8 | | | Scaling factor* | | | | |
| Conducted Power | | 31.9 | 32.6 | 32.2 | 0.9 | 0.2 | 0.6 | dB | |
| Time-averaged Power | | 22.9 | 23.6 | 23.2 | 1.23 | 1.05 | 1.15 | Lin | |
| Back | Estimated SAR | - | 0.237 | - | - | 0.248 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.235 | 0.290 | 0.288 | 0.289 | 0.304 | 0.331 | 0.01 | B4 |
| | Full SAR | - | - | 0.294 | - | - | **0.338** | | |

**Antenna 2 / RM-1105**

| 1-slot GPRS850 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | | |
| Upper limit | | 32.8 | | | Scaling factor* | | | | |
| Conducted Power | | 31.9 | 32.6 | 32.2 | 0.9 | 0.2 | 0.6 | dB | |
| Time-averaged Power | | 22.9 | 23.6 | 23.2 | 1.23 | 1.05 | 1.15 | Lin | |
| Back | Estimated SAR | - | 0.223 | - | - | 0.234 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.215 | 0.266 | 0.257 | 0.265 | 0.279 | 0.295 | 0.00 | - |
| | Full SAR | - | - | 0.258 | - | - | 0.296 | | |


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### 7.2.5 WCDMA850 (Band 5) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| WCDMA850 (Band 5) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | | |
| Upper limit | | 24.9 | | | Scaling factor* | | | | |
| Conducted Power | | 24.6 | 24.7 | 24.7 | 0.3 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.6 | 24.7 | 24.7 | 1.07 | 1.05 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.331 | - | - | 0.347 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.310 | 0.358 | 0.371 | 0.332 | 0.375 | 0.388 | - | - |
| | Full SAR | - | - | 0.371 | - | - | 0.388 | | |

**Antenna 2 / RM-1105**

| WCDMA850 (Band 5) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | | |
| Upper limit | | 24.9 | | | Scaling factor* | | | | |
| Conducted Power | | 24.6 | 24.7 | 24.7 | 0.3 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.6 | 24.7 | 24.7 | 1.07 | 1.05 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.309 | - | - | 0.324 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.344 | 0.334 | 0.368 | 0.369 | 0.350 | 0.385 | 0.01 | B5 |
| | Full SAR | - | - | 0.376 | - | - | **0.394** | | |


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7.2.6 LTE850 (Band 5) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.3 | 24.3 | 0.2 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.3 | 24.3 | 1.05 | 1.05 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.273 | - | - | 0.286 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.303 | - | - | 0.317 | - | 0.00 | B6 |
| | Full SAR | - | 0.305 | - | - | **0.319** | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.1 | 23.1 | 23.1 | 0.4 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.1 | 23.1 | 23.1 | 1.10 | 1.10 | 1.10 | Lin | |
| Back | Estimated SAR | - | 0.204 | - | - | 0.224 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.242 | - | - | 0.265 | - | 0.00 | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.0 | 23.1 | 23.1 | 0.5 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.0 | 23.1 | 23.1 | 1.12 | 1.10 | 1.10 | Lin | |
| Display | Estimated SAR | - | 0.240 | - | - | 0.263 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105**

| LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.3 | 24.3 | 0.2 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.3 | 24.3 | 1.05 | 1.05 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.274 | - | - | 0.287 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.298 | - | - | 0.312 | - | 0.00 | - |
| | Full SAR | - | 0.299 | - | - | 0.313 | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.1 | 23.1 | 23.1 | 0.4 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.1 | 23.1 | 23.1 | 1.10 | 1.10 | 1.10 | Lin | |
| Back | Estimated SAR | - | 0.203 | - | - | 0.223 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.222 | - | - | 0.243 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.0 | 23.1 | 23.1 | 0.5 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.0 | 23.1 | 23.1 | 1.12 | 1.10 | 1.10 | Lin | |
| Back | Estimated SAR | - | 0.218 | - | - | 0.239 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.2.7 WCDMA1700/2100 (Band 4) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| WCDMA1700/2100 (Band 4) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.9 | 24.0 | 23.8 | 0.5 | 0.4 | 0.6 | dB | |
| Time-averaged Power | | 23.9 | 24.0 | 23.8 | 1.12 | 1.10 | 1.15 | Lin | |
| Back | Estimated SAR | - | 0.486 | - | - | 0.533 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.587 | 0.590 | 0.643 | 0.659 | 0.647 | 0.738 | 0.01 | B7 |
| | Full SAR | - | - | 0.653 | - | - | **0.750** | | |

**Antenna 2 / RM-1105**

| WCDMA1700/2100 (Band 4) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.9 | 24.0 | 23.8 | 0.5 | 0.4 | 0.6 | dB | |
| Time-averaged Power | | 23.9 | 24.0 | 23.8 | 1.12 | 1.10 | 1.15 | Lin | |
| Back | Estimated SAR | - | 0.432 | - | - | 0.474 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.572 | 0.537 | 0.524 | 0.642 | 0.589 | 0.602 | 0.00 | - |
| | Full SAR | 0.576 | - | - | 0.646 | - | - | | |


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7.2.8 LTE1700/2100 (Band 4) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Back | Estimated SAR | 0.503 | - | - | 0.527 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.595 | - | - | 0.623 | - | - | 0.02 | B8 |
| | Full SAR | 0.612 | - | - | **0.641** | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.395 | - | - | 0.443 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.461 | - | - | 0.517 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Display | Estimated SAR | 0.466 | - | - | 0.523 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 1 / RM-1105 (Tuner 3 3)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Back | Estimated SAR | 0.469 | - | - | 0.491 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.598 | - | - | 0.626 | - | - | 0.00 | - |
| | Full SAR | 0.601 | - | - | 0.629 | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.358 | - | - | 0.402 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.446 | - | - | 0.500 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Display | Estimated SAR | 0.457 | - | - | 0.513 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 0 0)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Back | Estimated SAR | 0.476 | - | - | 0.498 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.540 | - | - | 0.565 | - | - | 0.01 | - |
| | Full SAR | 0.547 | - | - | 0.573 | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.370 | - | - | 0.415 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.433 | - | - | 0.486 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Display | Estimated SAR | 0.434 | - | - | 0.487 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 3 3)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Back | Estimated SAR | 0.459 | - | - | 0.481 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.542 | - | - | 0.568 | - | - | 0.01 | - |
| | Full SAR | 0.552 | - | - | 0.578 | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.336 | - | - | 0.377 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.429 | - | - | 0.481 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Display | Estimated SAR | 0.421 | - | - | 0.472 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.2.9 GSM/GPRS/EGPRS 1900 Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| 2-slot GPRS1900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | | |
| Upper limit | | 26.4 | | | Scaling factor* | | | | |
| Conducted Power | | 25.7 | 25.5 | 25.6 | 0.7 | 0.9 | 0.8 | dB | |
| Time-averaged Power | | 19.7 | 19.5 | 19.6 | 1.17 | 1.23 | 1.20 | Lin | |
| Back | Estimated SAR | - | 0.197 | - | - | 0.242 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.224 | 0.239 | 0.254 | 0.263 | 0.294 | 0.305 | 0.01 | B9 |
| | Full SAR | - | - | 0.261 | - | - | **0.314** | | |

**Antenna 2 / RM-1105**

| 2-slot GPRS1900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | | |
| Upper limit | | 26.4 | | | Scaling factor* | | | | |
| Conducted Power | | 25.7 | 25.5 | 25.6 | 0.7 | 0.9 | 0.8 | dB | |
| Time-averaged Power | | 19.7 | 19.5 | 19.6 | 1.17 | 1.23 | 1.20 | Lin | |
| Back | Estimated SAR | - | 0.141 | - | - | 0.173 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.184 | 0.156 | 0.128 | 0.216 | 0.192 | 0.154 | 0.01 | - |
| | Full SAR | 0.189 | - | - | 0.222 | - | - | | |


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7.2.10 WCDMA1900 (Band 2) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| WCDMA1900 (Band 2) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 24.0 | 23.9 | 23.9 | 0.4 | 0.5 | 0.5 | dB | |
| Time-averaged Power | | 24.0 | 23.9 | 23.9 | 1.10 | 1.12 | 1.12 | Lin | |
| Back | Estimated SAR | - | 0.404 | - | - | 0.453 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.548 | 0.477 | 0.461 | 0.601 | 0.535 | 0.517 | 0.01 | B10 |
| | Full SAR | 0.559 | - | - | **0.613** | - | - | | |

**Antenna 2 / RM-1105**

| WCDMA1900 (Band 2) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 24.0 | 23.9 | 23.9 | 0.4 | 0.5 | 0.5 | dB | |
| Time-averaged Power | | 24.0 | 23.9 | 23.9 | 1.10 | 1.12 | 1.12 | Lin | |
| Back | Estimated SAR | - | 0.310 | - | - | 0.348 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.402 | 0.341 | 0.306 | 0.441 | 0.383 | 0.343 | 0.01 | - |
| | Full SAR | 0.410 | - | - | 0.450 | - | - | | |


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7.2.11 LTE1900 (Band 2) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | 0.0 | 0.0 | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.430 | - | - | 0.430 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.501 | - | - | 0.501 | - | 0.01 | B11 |
| | Full SAR | - | 0.508 | - | - | **0.508** | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.313 | - | - | 0.320 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.381 | - | - | 0.390 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 1 / RM-1105 (Tuner 3 3)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.297 | - | - | 0.297 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.362 | - | - | 0.362 | - | 0.01 | - |
| | Full SAR | - | 0.369 | - | - | 0.369 | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.232 | - | - | 0.237 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.277 | - | - | 0.283 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 0 0)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | 0.0 | 0.0 | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.342 | - | - | 0.342 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.380 | - | - | 0.380 | - | 0.01 | - |
| | Full SAR | - | 0.388 | - | - | 0.388 | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.244 | - | - | 0.250 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.265 | - | - | 0.271 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 3 3)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.213 | - | - | 0.213 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.260 | - | - | 0.260 | - | 0.01 | - |
| | Full SAR | - | 0.268 | - | - | 0.268 | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.161 | - | - | 0.165 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.194 | - | - | 0.199 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.2.12 LTE2300 (Band 30) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE2300 (Band 30) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 23.0 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.1 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 23.1 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.471 | - | - | 0.471 | - | 0.01 | B12 |
| | Full SAR | - | 0.485 | - | - | 0.485 | - | | |
| Display | Estimated SAR | - | 0.402 | - | - | 0.402 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2300 (Band 30) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 21.9 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.0 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 22.0 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.384 | - | - | 0.384 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.328 | - | - | 0.328 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 1 / RM-1105 (Tuner 3 3)**

| LTE2300 (Band 30) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 23.0 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.1 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 23.1 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.440 | - | - | 0.440 | - | 0.02 | - |
| | Full SAR | - | 0.458 | - | - | 0.458 | - | | |
| Display | Estimated SAR | - | 0.381 | - | - | 0.381 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2300 (Band 30) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 21.9 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.0 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 22.0 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.358 | - | - | 0.358 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.322 | - | - | 0.322 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.2.13 LTE2500 (Band 7) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.7 | 23.1 | 22.8 | 0.4 | 0.0 | 0.3 | dB | |
| Time-averaged Power | | 22.7 | 23.1 | 22.8 | 1.10 | 1.00 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.499 | - | - | 0.499 | - | 0.01 | B13 |
| | Full SAR | - | 0.506 | - | - | **0.506** | - | | |
| Display | Estimated SAR | - | 0.415 | - | - | 0.415 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 22.0 | | | Scaling factor* | | | | |
| Conducted Power | | 21.7 | 22.0 | 21.9 | 0.3 | 0.0 | 0.1 | dB | |
| Time-averaged Power | | 21.7 | 22.0 | 21.9 | 1.07 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.447 | - | - | 0.447 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.373 | - | - | 0.373 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 22.0 | | | Scaling factor* | | | | |
| Conducted Power | | 21.8 | 22.0 | 21.8 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 21.8 | 22.0 | 21.8 | 1.05 | 1.00 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.428 | - | - | 0.428 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.2.14 LTE2500 (Band 41) Body-worn 15 mm SAR results

**Antenna 1 / RM-1105**

| LTE2500 (Band 41) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | | |
| Upper limit | | 22.6 | | | | | Scaling factor* | | | | | | |
| Conducted Power | | 22.3 | 22.4 | 22.4 | 22.3 | 22.1 | 0.3 | 0.2 | 0.2 | 0.3 | 0.5 | dB | |
| Time-averaged Power | | 20.1 | 20.2 | 20.2 | 20.1 | 19.9 | 1.07 | 1.05 | 1.05 | 1.07 | 1.12 | Lin | |
| Back | Estimated SAR | - | 0.322 | - | - | - | - | 0.337 | - | - | - | 0.00 | B14 |
| | Full SAR | - | 0.320 | - | - | - | - | **0.335** | - | - | - | | |
| Display | Estimated SAR | - | 0.273 | - | - | - | - | 0.286 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |

| LTE2500 (Band 41) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | | |
| Upper limit | | 21.9 | | | | | Scaling factor* | | | | | | |
| Conducted Power | | 21.5 | 21.7 | 21.5 | 21.4 | 21.5 | 0.4 | 0.2 | 0.4 | 0.5 | 0.4 | dB | |
| Time-averaged Power | | 19.3 | 19.5 | 19.3 | 19.2 | 19.3 | 1.10 | 1.05 | 1.10 | 1.12 | 1.10 | Lin | |
| Back | Estimated SAR | - | 0.287 | - | - | - | - | 0.301 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.242 | - | - | - | - | 0.253 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |


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7.2.15 WLAN2450 Body-worn 15mm SAR results

**Antenna 1 / RM-1105**

| WLAN2450 b-mode DSSS 20 MHz | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1 2412.0 MHz | CH 6 2437.0 MHz | CH 11 2462.0 MHz | CH 1 2412.0 MHz | CH 6 2437.0 MHz | CH 11 2462.0 MHz | | |
| Data rate | | 1 | 1 | 1 | Scaling factor* | | | Mbps | |
| Upper limit | | 17.5 | 17.5 | 17.5 | | | | | |
| Conducted Power | | 16.4 | 16.2 | 16.2 | 1.1 | 1.3 | 1.3 | dB | |
| Time-averaged Power | | 16.4 | 16.2 | 16.2 | 1.29 | 1.35 | 1.35 | Lin | |
| Back | Estimated SAR | - | 0.069 | - | - | 0.093 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.137 | 0.122 | 0.109 | 0.176 | 0.165 | 0.147 | 0.00 | B15 |
| | Full SAR | 0.133 | - | - | **0.171** | - | - | | |

**Antenna 2 / RM-1105**

Radiation for all the device positions and channels tested seems is negligible for Antenna 2.

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| DSSS b-mode 20 MHz 1Mbps SS1 | Display | 0.171 | 15.1 | 15.1 | 0.171 | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.


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7.2.16 WLAN5000 Body-worn 15 mm SAR results, 5150–5250 MHz and 5250–5350 MHz

**Antenna 1 & 2 / RM-1105**

| WLAN OFDM 40 MHz | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | Reported* 1g SAR [W/kg] | | | | Max Deviation* [W/kg] | Plot # |
| | | U-NII-2A | | | | U-NII-2A | | | | | |
| | | CH 54 5270.0 MHz | CH 62 5310.0 MHz | - | - | CH 54 5270.0 MHz | CH 62 5310.0 MHz | - | - | | |
| Standard | | ac | ac | - | - | Scaling factor* | | | | | |
| Data rate / MCS | | MCS0 | MCS0 | - | - | | | | | Mbps | |
| Upper limit | | 16.5 | 16.5 | - | - | | | | | | |
| Conducted Power | | 15.4 | 15.5 | - | - | 1.1 | 1.0 | - | - | dB | |
| Time-averaged Power | | 15.4 | 15.5 | - | - | 1.29 | 1.26 | - | - | Lin | |
| Back | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.303 | - | - | - | 0.381 | - | - | | |
| Display | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.369 | - | - | - | 0.465 | - | - | | |

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| OFDM ac-mode 40 MHz MCS0 SS1 | Display | 0.465 | 15.0 | 14.0 | 0.369 | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.


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7.2.17 WLAN5000 Body-worn 15 mm SAR results, 5470–5725 MHz

**Antenna 1 & 2 / RM-1105**

| WLAN OFDM 40 MHz | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | Reported* 1g SAR [W/kg] | | | | Max Deviation* [W/kg] | Plot # |
| | | U-NII-2C | | | | U-NII-2C | | | | | |
| | | CH 102 5510.0 MHz | CH 110 5550.0 MHz | - | - | CH 102 5510.0 MHz | CH 110 5550.0 MHz | - | - | | |
| Standard | | ac | ac | - | - | Scaling factor* | | | | | |
| Data rate / MCS | | MCS0 | MCS0 | - | - | | | | | Mbps | |
| Upper limit | | 16.5 | 16.5 | - | - | | | | | | |
| Conducted Power | | 15.3 | 15.5 | - | - | 1.2 | 1.0 | - | - | dB | |
| Time-averaged Power | | 15.3 | 15.5 | - | - | 1.32 | 1.26 | - | - | Lin | |
| Back | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.383 | - | - | - | 0.482 | - | - | | |
| Display | Estimated SAR | - | - | - | - | - | - | - | - | - | B16 |
| | Full SAR | - | 0.433 | - | - | - | **0.545** | - | - | | |

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| OFDM ac-mode 40 MHz MCS0 SS1 | Display | 0.545 | 15.0 | 14.0 | 0.433 | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.


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7.2.18 WLAN5000 Body-worn 15 mm SAR results, 5725–5850 MHz

**Antenna 1 & 2 / RM-1105**

| WLAN OFDM 40 MHz | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | U-NII-3 | | | | | U-NII-3 | | | | | | |
| | | CH 151 5755.0 MHz | CH 159 5795.0 MHz | - | - | - | CH 151 5755.0 MHz | CH 159 5795.0 MHz | - | - | - | | |
| Standard | | ac | ac | - | - | - | Scaling factor* | | | | | | |
| Data rate / MCS | | MCS0 | MCS0 | - | - | - | | | | | | Mbps | |
| Upper limit | | 16.5 | 16.5 | - | - | - | | | | | | | |
| Conducted Power | | 15.3 | 15.6 | - | - | - | 1.2 | 0.9 | - | - | - | dB | |
| Time-averaged Power | | 15.3 | 15.6 | - | - | - | 1.32 | 1.23 | - | - | - | Lin | |
| Back | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.304 | - | - | - | - | 0.374 | - | - | - | | |
| Display | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.396 | - | - | - | - | 0.487 | - | - | - | | |

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| OFDM ac-mode 40 MHz MCS0 SS1 | Display | 0.487 | 15.0 | 14.0 | 0.387 | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.

Individual Body-worn 15 mm SAR plots are given Appendix B.


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**Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN and Individual band Max results - Antenna 1**

| Test configuration | WLAN 2450 | WLAN 5000 | LTE700 (Band 12) | LTE700 (Band 17) | LTE750 (Band 13) | 1-slot GPRS850 | WCDMA 850 (Band 5) | LTE850 (Band 5) |
|---|---|---|---|---|---|---|---|---|
| Back | 0.093 | 0.482 | 0.338 | 0.336 | 0.350 | 0.248 | 0.347 | 0.286 |
| Display | 0.171 | 0.545 | 0.374 | 0.380 | 0.397 | 0.338 | 0.388 | 0.319 |
| **Test configuration** | **WCDMA 1700/2100 (Band 4)** | **LTE 1700/2100 (Band 4)** | **2-slot GPRS1900** | **WCDMA 1900 (Band 2)** | **LTE 1900 (Band 2)** | **LTE 2300 (Band 30)** | **LTE 2500 (Band 7)** | **LTE 2500 (Band 41)** |
| Back | 0.533 | 0.527 | 0.242 | 0.453 | 0.430 | 0.485 | 0.506 | 0.335 |
| Display | 0.750 | 0.641 | 0.314 | 0.613 | 0.508 | 0.402 | 0.415 | 0.286 |

**Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN and Individual band Max results - Antenna 2**

| Test configuration | WLAN 2450 | WLAN 5000 | LTE700 (Band 12) | LTE700 (Band 17) | LTE750 (Band 13) | 1-slot GPRS850 | WCDMA 850 (Band 5) | LTE850 (Band 5) |
|---|---|---|---|---|---|---|---|---|
| Back | 0.093 | 0.482 | 0.259 | 0.285 | 0.317 | 0.234 | 0.324 | 0.287 |
| Display | 0.171 | 0.545 | 0.259 | 0.284 | 0.370 | 0.296 | 0.394 | 0.313 |
| **Test configuration** | **WCDMA 1700/2100 (Band 4)** | **LTE 1700/2100 (Band 4)** | **2-slot GPRS1900** | **WCDMA 1900 (Band 2)** | **LTE 1900 (Band 2)** | **-** | **-** | **-** |
| Back | 0.474 | 0.498 | 0.173 | 0.348 | 0.342 | - | - | - |
| Display | 0.646 | 0.578 | 0.222 | 0.450 | 0.388 | - | - | - |


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**Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN 2450 Max + Max combined results - Antenna 1**

| Test configuration | LTE700 (Band 12) + WLAN 2450 | LTE700 (Band 17) + WLAN 2450 | LTE750 (Band 13) + WLAN 2450 | 1-slot GPRS850 + WLAN 2450 | WCDMA 850 (Band 5) + WLAN 2450 | LTE850 (Band 5) + WLAN 2450 | WCDMA 1700/2100 (Band 4) + WLAN 2450 | LTE 1700/2100 (Band 4) + WLAN 2450 |
|---|---|---|---|---|---|---|---|---|
| Back | 0.431 | 0.429 | 0.443 | 0.341 | 0.440 | 0.379 | 0.626 | 0.620 |
| Display | **0.545** | **0.551** | **0.568** | **0.509** | **0.559** | **0.490** | **0.921** | **0.812** |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **LTE 2300 (Band 30) + WLAN 2450** | **LTE 2500 (Band 7) + WLAN 2450** | **LTE 2500 (Band 41) + WLAN 2450** | **-** | **-** |
| Back | 0.335 | 0.546 | 0.523 | **0.578** | **0.599** | 0.428 | - | - |
| Display | **0.485** | **0.784** | **0.679** | 0.573 | 0.586 | **0.457** | - | - |

**Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN2450 Max + Max combined results - Antenna 2**

| Test configuration | LTE700 (Band 12) + WLAN 2450 | LTE700 (Band 17) + WLAN 2450 | LTE750 (Band 13) + WLAN 2450 | 1-slot GPRS850 + WLAN 2450 | WCDMA 850 (Band 5) + WLAN 2450 | LTE850 (Band 5) + WLAN 2450 | WCDMA 1700/2100 (Band 4) + WLAN 2450 | LTE 1700/2100 (Band 4) + WLAN 2450 |
|---|---|---|---|---|---|---|---|---|
| Back | 0.352 | 0.378 | 0.410 | 0.327 | 0.417 | 0.380 | 0.567 | 0.591 |
| Display | **0.430** | **0.455** | **0.541** | **0.467** | **0.565** | **0.484** | **0.817** | **0.749** |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **-** | **-** | **-** | **-** | **-** |
| Back | 0.266 | 0.441 | 0.435 | - | - | - | - | - |
| Display | **0.393** | **0.621** | **0.559** | - | - | - | - | - |


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**Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN 5000 Max + Max combined results - Antenna 1**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Back | 0.820 | 0.818 | 0.832 | 0.730 | 0.829 | 0.768 | 1.015 | 1.009 |
| Display | **0.919** | **0.925** | **0.942** | **0.883** | **0.933** | **0.864** | **1.295** | **1.186** |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **LTE 2300 (Band 30) + WLAN 5000** | **LTE 2500 (Band 7) + WLAN 5000** | **LTE 2500 (Band 41) + WLAN 5000** | **-** | **-** |
| Back | 0.724 | 0.935 | 0.912 | **0.967** | **0.988** | 0.817 | - | - |
| Display | **0.859** | **1.158** | **1.053** | 0.947 | 0.960 | **0.831** | - | - |

**Simultaneous transmissions: Combined Body-worn 15 mm 1g SAR results – WLAN 5000 Max + Max combined results - Antenna 2**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Back | 0.741 | 0.767 | 0.799 | 0.716 | 0.806 | 0.769 | 0.956 | 0.980 |
| Display | **0.804** | **0.829** | **0.915** | **0.841** | **0.939** | **0.858** | **1.191** | **1.123** |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **-** | **-** | **-** | **-** | **-** |
| Back | 0.655 | 0.830 | 0.824 | - | - | - | - | - |
| Display | **0.767** | **0.995** | **0.933** | - | - | - | - | - |

Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for Body-worn 15 mm configurations for this product.


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7.2.19 Combined 1g Body-worn 15 mm SAR data

**The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.**

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

The combinations are done for the maximum Body configuration of the each band or band group. Maximum configurations are given in the Max+Max tables in the Section 7.2 of the report. The same scaling factors are used in plotting as for the individual reported SAR value calculations.

**Simultaneous transmissions: Reported* Combined 1g SAR Body-worn 15 mm results – Antenna 1 + WLAN2450 SPEAG Combined Multiband algorithm results**

| **Test configuration** | **LTE700 (Band 12) + WLAN 2450** | **LTE700 (Band 17) + WLAN 2450** | **LTE750 (Band 13) + WLAN 2450** | **1-slot GPRS850 + WLAN 2450** | **WCDMA 850 (Band 5) + WLAN 2450** | **LTE850 (Band 5) + WLAN 2450** | **WCDMA 1700/2100 (Band 4) + WLAN 2450** | **LTE 1700/2100 (Band 4) + WLAN 2450** |
|---|---|---|---|---|---|---|---|---|
| Back | - | - | - | - | - | - | - | - |
| Display | 0.410 | 0.413 | 0.434 | - | - | - | 0.776 | - |
| **Plot no** | - | - | - | - | - | - | B17 | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **LTE 2300 (Band 30) + WLAN 2450** | **LTE 2500 (Band 7) + WLAN 2450** | **LTE 2500 (Band 41) + WLAN 2450** | **-** | **-** |
| Back | - | - | - | 0.526 | 0.554 | - | - | - |
| Display | - | 0.644 | - | - | - | 0.334 | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |


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**Simultaneous transmissions: Reported* Combined 1g SAR Body-worn 15 mm results – Antenna 2 + WLAN2450 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 2450 | LTE700 (Band 17) + WLAN 2450 | LTE750 (Band 13) + WLAN 2450 | 1-slot GPRS850 + WLAN 2450 | WCDMA 850 (Band 5) + WLAN 2450 | LTE850 (Band 5) + WLAN 2450 | WCDMA 1700/2100 (Band 4) + WLAN 2450 | LTE 1700/2100 (Band 4) + WLAN 2450 |
|---|---|---|---|---|---|---|---|---|
| Back | - | - | - | - | - | - | - | - |
| Display | - | - | - | - | 0.435 | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **-** | **-** | **-** | **-** | **-** |
| Back | - | - | - | - | - | - | - | - |
| Display | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |

**Simultaneous transmissions: Reported* Combined 1g SAR Body-worn 15 mm results – Antenna 1 + WLAN5000 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Back | - | - | - | - | - | - | - | - |
| Display | 0.611 | 0.598 | 0.622 | - | - | - | 0.813 | - |
| **Plot no** | - | - | - | - | - | - | B18 | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **LTE 2300 (Band 30) + WLAN 5000** | **LTE 2500 (Band 7) + WLAN 5000** | **LTE 2500 (Band 41) + WLAN 5000** | **-** | **-** |
| Back | - | - | - | 0.491 | 0.500 | - | - | - |
| Display | - | 0.680 | - | - | - | 0.600 | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |


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**Simultaneous transmissions: Reported* Combined 1g SAR Body-worn 15 mm results – Antenna 2 + WLAN5000 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Back | - | - | - | - | - | - | - | - |
| Display | - | - | - | - | 0.639 | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **-** | **-** | **-** | **-** | **-** |
| Back | - | - | - | - | - | - | - | - |
| Display | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |

WCDMA850 (Band 5) Antenna 2 + WLAN2450 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 1-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 1 + WLAN2450 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 1 + WLAN2450 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 2-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

WCDMA850 (Band 5) Antenna 2 + WLAN5000 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 1-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 1 + WLAN5000 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 1 + WLAN5000 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 2-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

Note:
* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.
The highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. The highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results is given in the Section for the simultaneous transmitter combination giving the highest combinated value.


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## 7.3 The measured Wireless Router 10 mm SAR values for the test device

### 7.3.1 LTE700 (Band 12) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 24.6 | | | Scaling factor* | | | | |
| Conducted Power | | 24.4 | 24.6 | 24.4 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 24.4 | 24.6 | 24.4 | 1.05 | 1.00 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.435 | - | - | 0.435 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.452 | - | - | 0.452 | - | 0.00 | W1 |
| | Full SAR | - | 0.451 | - | - | **0.451** | - | | |
| Top | Estimated SAR | - | 0.013 | - | - | 0.013 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.163 | - | - | 0.163 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.203 | - | - | 0.203 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.362 | - | - | 0.362 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.5 | 23.3 | 0.4 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 23.2 | 23.5 | 23.3 | 1.10 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.340 | - | - | 0.348 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.352 | - | - | 0.360 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.011 | - | - | 0.011 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.126 | - | - | 0.129 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.153 | - | - | 0.157 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.279 | - | - | 0.285 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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| LTE700 (Band 12) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 24.6 | | | Scaling factor* | | | | |
| Conducted Power | | 24.4 | 24.6 | 24.4 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 24.4 | 24.6 | 24.4 | 1.05 | 1.00 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.398 | - | - | 0.398 | - | 0.01 | - |
| | Full SAR | - | 0.392 | - | - | 0.392 | - | | |
| Display | Estimated SAR | - | 0.366 | - | - | 0.366 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.024 | - | - | 0.024 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.186 | - | - | 0.186 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.319 | - | - | 0.319 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.071 | - | - | 0.071 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 12) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | CH 23060 704.0 MHz | CH 23095 707.5 MHz | CH 23130 711.0 MHz | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.5 | 23.3 | 0.4 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 23.2 | 23.5 | 23.3 | 1.10 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.316 | - | - | 0.323 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.288 | - | - | 0.295 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.017 | - | - | 0.017 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.163 | - | - | 0.167 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.237 | - | - | 0.243 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.046 | - | - | 0.047 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.2 LTE700 (Band 17) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.4 | 24.3 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.4 | 24.3 | 1.05 | 1.02 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.422 | - | - | 0.432 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.466 | - | - | 0.477 | - | 0.01 | W2 |
| | Full SAR | - | 0.456 | - | - | **0.467** | - | | |
| Top | Estimated SAR | - | 0.010 | - | - | 0.010 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.176 | - | - | 0.180 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.190 | - | - | 0.194 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.338 | - | - | 0.346 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 23.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.3 | 23.2 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 23.2 | 23.3 | 23.2 | 1.05 | 1.02 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.334 | - | - | 0.342 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.360 | - | - | 0.368 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.012 | - | - | 0.012 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.127 | - | - | 0.130 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.138 | - | - | 0.141 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.254 | - | - | 0.260 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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| LTE700 (Band 17) - 10MHz - QPSK - 1 RB - Offset 49 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.4 | 24.3 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.4 | 24.3 | 1.05 | 1.02 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.385 | - | - | 0.394 | - | 0.00 | - |
| | Full SAR | - | 0.388 | - | - | 0.397 | - | | |
| Display | Estimated SAR | - | 0.380 | - | - | 0.389 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.020 | - | - | 0.021 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.160 | - | - | 0.164 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.288 | - | - | 0.295 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.083 | - | - | 0.085 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE700 (Band 17) - 10MHz - QPSK - 25 RB - Offset 25 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | CH 23780 709.0 MHz | CH 23790 710.0 MHz | CH 23800 711.0 MHz | | |
| Upper limit | | 23.4 | | | Scaling factor* | | | | |
| Conducted Power | | 23.2 | 23.3 | 23.2 | 0.2 | 0.1 | 0.2 | dB | |
| Time-averaged Power | | 23.2 | 23.3 | 23.2 | 1.05 | 1.02 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.301 | - | - | 0.308 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.300 | - | - | 0.307 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.016 | - | - | 0.016 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.140 | - | - | 0.143 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.213 | - | - | 0.218 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.053 | - | - | 0.055 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.3 LTE750 (Band 13) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| LTE750 (Band 13) - 10MHz - QPSK - 1 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 23.2 | - | - | 1.10 | - | Lin | |
| Back | Estimated SAR | - | 0.317 | - | - | 0.348 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.338 | - | - | 0.371 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.007 | - | - | 0.008 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.146 | - | - | 0.160 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.367 | - | - | 0.402 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.397 | - | - | 0.435 | - | 0.00 | - |
| | Full SAR | - | 0.394 | - | - | 0.432 | - | | |

| LTE750 (Band 13) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 22.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 22.2 | - | - | 1.10 | - | Lin | |
| Back | Estimated SAR | - | 0.252 | - | - | 0.276 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.269 | - | - | 0.295 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.007 | - | - | 0.008 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.117 | - | - | 0.128 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.291 | - | - | 0.319 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.316 | - | - | 0.346 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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| LTE750 (Band 13) - 10MHz - QPSK - 1 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 23.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 23.2 | - | - | 1.10 | - | Lin | |
| Back | Estimated SAR | - | 0.328 | - | - | 0.360 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.368 | - | - | 0.404 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.014 | - | - | 0.016 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.131 | - | - | 0.144 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.438 | - | - | 0.480 | - | 0.00 | W3 |
| | Full SAR | - | 0.437 | - | - | **0.479** | - | | |
| Right | Estimated SAR | - | 0.250 | - | - | 0.274 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE750 (Band 13) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 23230 782.0 MHz | - - | - - | CH 23230 782.0 MHz | - - | | |
| Upper limit | | 22.6 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.2 | - | - | 0.4 | - | dB | |
| Time-averaged Power | | - | 22.2 | - | - | 1.10 | - | Lin | |
| Back | Estimated SAR | - | 0.255 | - | - | 0.280 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.283 | - | - | 0.310 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.011 | - | - | 0.012 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.102 | - | - | 0.112 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.339 | - | - | 0.372 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.192 | - | - | 0.211 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.4 GSM/GPRS/EGPRS 850 Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| 1-slot GPRS850 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | | |
| Upper limit | | 32.8 | | | Scaling factor* | | | | |
| Conducted Power | | 31.9 | 32.6 | 32.2 | 0.9 | 0.2 | 0.6 | dB | |
| Time-averaged Power | | 22.9 | 23.6 | 23.2 | 1.23 | 1.05 | 1.15 | Lin | |
| Back | Estimated SAR | - | 0.333 | - | - | 0.349 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.395 | 0.407 | 0.348 | 0.486 | 0.426 | 0.400 | 0.02 | W4 |
| | Full SAR | 0.371 | - | - | **0.456** | - | - | | |
| Top | Estimated SAR | - | 0.010 | - | - | 0.010 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.211 | - | - | 0.221 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.110 | - | - | 0.115 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.173 | - | - | 0.181 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

**Antenna 2 / RM-1105**

| 1-slot GPRS850 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | CH 128 824.2 MHz | CH 190 836.6 MHz | CH 251 848.8 MHz | | |
| Upper limit | | 32.8 | | | Scaling factor* | | | | |
| Conducted Power | | 31.9 | 32.6 | 32.2 | 0.9 | 0.2 | 0.6 | dB | |
| Time-averaged Power | | 22.9 | 23.6 | 23.2 | 1.23 | 1.05 | 1.15 | Lin | |
| Back | Estimated SAR | - | 0.299 | - | - | 0.313 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.363 | 0.359 | 0.368 | 0.447 | 0.376 | 0.423 | 0.02 | - |
| | Full SAR | 0.348 | - | - | 0.428 | - | - | | |
| Top | Estimated SAR | - | 0.015 | - | - | 0.016 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.195 | - | - | 0.204 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.164 | - | - | 0.172 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.100 | - | - | 0.104 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.5 WCDMA850 (Band 5) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| WCDMA850 (Band 5) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | | |
| Upper limit | | 24.9 | | | Scaling factor* | | | | |
| Conducted Power | | 24.6 | 24.7 | 24.7 | 0.3 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.6 | 24.7 | 24.7 | 1.07 | 1.05 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.550 | - | - | 0.576 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.559 | 0.618 | 0.610 | 0.599 | 0.647 | 0.639 | 0.02 | W5 |
| | Full SAR | - | 0.599 | - | - | **0.627** | - | | |
| Top | Estimated SAR | - | 0.019 | - | - | 0.019 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.442 | - | - | 0.463 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.180 | - | - | 0.188 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.203 | - | - | 0.213 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

**Antenna 2 / RM-1105**

| WCDMA850 (Band 5) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | CH 4132 826.4 MHz | CH 4175 835.0 MHz | CH 4233 846.6 MHz | | |
| Upper limit | | 24.9 | | | Scaling factor* | | | | |
| Conducted Power | | 24.6 | 24.7 | 24.7 | 0.3 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.6 | 24.7 | 24.7 | 1.07 | 1.05 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.477 | - | - | 0.499 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.563 | 0.531 | 0.487 | 0.603 | 0.556 | 0.510 | 0.02 | - |
| | Full SAR | 0.542 | - | - | 0.581 | - | - | | |
| Top | Estimated SAR | - | 0.022 | - | - | 0.023 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.241 | - | - | 0.252 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.119 | - | - | 0.125 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.273 | - | - | 0.286 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.6 LTE850 (Band 5) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.3 | 24.3 | 0.2 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.3 | 24.3 | 1.05 | 1.05 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.490 | - | - | 0.513 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.533 | - | - | 0.558 | - | 0.02 | W6 |
| | Full SAR | - | 0.518 | - | - | **0.542** | - | | |
| Top | Estimated SAR | - | 0.017 | - | - | 0.018 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.387 | - | - | 0.405 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.170 | - | - | 0.178 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.203 | - | - | 0.213 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.1 | 23.1 | 23.1 | 0.4 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.1 | 23.1 | 23.1 | 1.10 | 1.10 | 1.10 | Lin | |
| Back | Estimated SAR | - | 0.383 | - | - | 0.420 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.404 | - | - | 0.443 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.012 | - | - | 0.013 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.284 | - | - | 0.311 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.119 | - | - | 0.130 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.157 | - | - | 0.172 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.0 | 23.1 | 23.1 | 0.5 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.0 | 23.1 | 23.1 | 1.12 | 1.10 | 1.10 | Lin | |
| Display | Estimated SAR | - | 0.410 | - | - | 0.450 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105**

| LTE850 (Band 5) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 24.5 | | | Scaling factor* | | | | |
| Conducted Power | | 24.3 | 24.3 | 24.3 | 0.2 | 0.2 | 0.2 | dB | |
| Time-averaged Power | | 24.3 | 24.3 | 24.3 | 1.05 | 1.05 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.441 | - | - | 0.462 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.487 | - | - | 0.510 | - | 0.02 | - |
| | Full SAR | - | 0.469 | - | - | 0.491 | - | | |
| Top | Estimated SAR | - | 0.020 | - | - | 0.021 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.161 | - | - | 0.169 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.222 | - | - | 0.232 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.095 | - | - | 0.100 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.1 | 23.1 | 23.1 | 0.4 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.1 | 23.1 | 23.1 | 1.10 | 1.10 | 1.10 | Lin | |
| Back | Estimated SAR | - | 0.322 | - | - | 0.353 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.354 | - | - | 0.388 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.015 | - | - | 0.016 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.163 | - | - | 0.179 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.193 | - | - | 0.212 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.093 | - | - | 0.102 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE850 (Band 5) - 10MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | CH 20450 829.0 MHz | CH 20525 836.5 MHz | CH 20600 844.0 MHz | | |
| Upper limit | | 23.5 | | | Scaling factor* | | | | |
| Conducted Power | | 23.0 | 23.1 | 23.1 | 0.5 | 0.4 | 0.4 | dB | |
| Time-averaged Power | | 23.0 | 23.1 | 23.1 | 1.12 | 1.10 | 1.10 | Lin | |
| Display | Estimated SAR | - | 0.351 | - | - | 0.385 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.7 WCDMA1700/2100 (Band 4) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| WCDMA1700/2100 (Band 4) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | | |
| **Upper limit** | | **24.4** | | | **Scaling factor*** | | | | |
| **Conducted Power** | | **23.9** | **24.0** | **23.8** | **0.5** | **0.4** | **0.6** | **dB** | |
| **Time-averaged Power** | | **23.9** | **24.0** | **23.8** | **1.12** | **1.10** | **1.15** | **Lin** | |
| Back | Estimated SAR | 0.772 | 0.768 | 0.832 | 0.866 | 0.842 | 0.955 | 0.02 | - |
| | Full SAR | - | - | 0.850 | - | - | 0.976 | | |
| Display | Estimated SAR | 0.908 | 0.941 | 1.010 | 1.019 | 1.032 | 1.160 | 0.04 | - |
| | Full SAR | - | - | 1.050 | - | - | 1.206 | | |
| Top | Estimated SAR | - | 0.065 | - | - | 0.071 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.496 | - | - | 0.544 | - | 0.04 | - |
| | Full SAR | - | 0.533 | - | - | 0.584 | - | | |
| Left | Estimated SAR | - | 0.172 | - | - | 0.189 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.431 | - | - | 0.473 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | - | - | 1.020 | - | - | 1.171 | 0.03 | W7 |
| | Full SAR | - | - | 1.050 | - | - | **1.206** | | |

**Antenna 2 / RM-1105**

| WCDMA1700/2100 (Band 4) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | CH 1312 1712.4 MHz | CH 1412 1732.4 MHz | CH 1513 1752.6 MHz | | |
| **Upper limit** | | **24.4** | | | **Scaling factor*** | | | | |
| **Conducted Power** | | **23.9** | **24.0** | **23.8** | **0.5** | **0.4** | **0.6** | **dB** | |
| **Time-averaged Power** | | **23.9** | **24.0** | **23.8** | **1.12** | **1.10** | **1.15** | **Lin** | |
| Back | Estimated SAR | - | 0.685 | - | - | 0.751 | - | 0.01 | - |
| | Full SAR | - | 0.671 | - | - | 0.736 | - | | |
| Display | Estimated SAR | 0.886 | 0.844 | 0.825 | 0.994 | 0.925 | 0.947 | 0.00 | - |
| | Full SAR | 0.887 | - | - | 0.995 | - | - | | |
| Top | Estimated SAR | - | 0.046 | - | - | 0.050 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.344 | - | - | 0.377 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.434 | - | - | 0.476 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.130 | - | - | 0.143 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | 0.886 | - | - | 0.994 | - | - | 0.00 | - |
| | Full SAR | 0.890 | - | - | 0.999 | - | - | | |


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7.3.8 LTE1700/2100 (Band 4) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Back | Estimated SAR | 0.772 | 0.764 | 0.796 | 0.808 | 0.819 | 0.873 | 0.01 | - |
| | Full SAR | - | - | 0.803 | - | - | 0.880 | | |
| Display | Estimated SAR | 0.893 | 0.906 | 0.928 | 0.935 | 0.971 | 1.018 | 0.02 | - |
| | Full SAR | - | - | 0.947 | - | - | 1.038 | | |
| Top | Estimated SAR | 0.060 | - | - | 0.063 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.385 | - | - | 0.403 | - | - | 0.02 | - |
| | Full SAR | 0.407 | - | - | 0.426 | - | - | | |
| Left | Estimated SAR | 0.125 | - | - | 0.131 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | 0.342 | - | - | 0.358 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | - | - | 0.927 | - | - | 1.016 | 0.02 | - |
| | Full SAR | - | - | 0.947 | - | - | 1.038 | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.606 | - | - | 0.680 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.709 | - | - | 0.796 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | 0.045 | - | - | 0.051 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.308 | - | - | 0.346 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | 0.102 | - | - | 0.114 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | 0.275 | - | - | 0.309 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.610 | - | - | 0.684 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.718 | - | - | 0.806 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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## Antenna 1 / RM-1105 (Tuner 3 3)

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Back | Estimated SAR | 0.738 | 0.741 | 0.784 | 0.773 | 0.794 | 0.860 | 0.03 | - |
| | Full SAR | - | - | 0.813 | - | - | 0.891 | | |
| Display | Estimated SAR | 0.906 | 0.914 | 0.966 | 0.949 | 0.979 | 1.059 | 0.03 | - |
| | Full SAR | - | - | 0.991 | - | - | 1.087 | | |
| Top | Estimated SAR | 0.075 | - | - | 0.079 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.390 | - | - | 0.408 | - | - | - | - |
| | Full SAR | 0.390 | - | - | 0.408 | - | - | | |
| Left | Estimated SAR | 0.147 | - | - | 0.154 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | 0.364 | - | - | 0.381 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | - | - | 0.962 | - | - | 1.055 | 0.03 | W8 |
| | Full SAR | - | - | 0.994 | - | - | **1.090** | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.559 | - | - | 0.627 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.680 | - | - | 0.763 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | 0.055 | - | - | 0.061 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.321 | - | - | 0.360 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | 0.112 | - | - | 0.126 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | 0.276 | - | - | 0.310 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.575 | - | - | 0.645 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.700 | - | - | 0.785 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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## Antenna 2 / RM-1105 (Tuner 0 0)

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Back | Estimated SAR | 0.738 | - | - | 0.773 | - | - | 0.01 | - |
| | Full SAR | 0.731 | - | - | 0.765 | - | - | | |
| Display | Estimated SAR | 0.866 | 0.856 | 0.825 | 0.907 | 0.917 | 0.905 | 0.02 | - |
| | Full SAR | - | 0.834 | - | - | 0.894 | - | | |
| Top | Estimated SAR | 0.047 | - | - | 0.049 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.323 | - | - | 0.338 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | 0.449 | - | - | 0.470 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | 0.120 | - | - | 0.126 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | - | 0.852 | - | - | 0.913 | - | 0.02 | - |
| | Full SAR | - | 0.836 | - | - | 0.896 | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.588 | - | - | 0.660 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.691 | - | - | 0.775 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | 0.036 | - | - | 0.041 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.232 | - | - | 0.260 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | 0.351 | - | - | 0.394 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | 0.090 | - | - | 0.101 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Display | Estimated SAR | 0.681 | - | - | 0.764 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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## Antenna 2 / RM-1105 (Tuner 3 3)

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 24.3 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.0 | 23.9 | 0.2 | 0.3 | 0.4 | dB | |
| Time-averaged Power | | 24.1 | 24.0 | 23.9 | 1.05 | 1.07 | 1.10 | Lin | |
| Back | Estimated SAR | 0.716 | - | - | 0.750 | - | - | 0.02 | - |
| | Full SAR | 0.731 | - | - | 0.765 | - | - | | |
| Display | Estimated SAR | 0.840 | 0.795 | 0.793 | 0.880 | 0.852 | 0.870 | 0.02 | - |
| | Full SAR | 0.857 | - | - | 0.897 | - | - | | |
| Top | Estimated SAR | 0.050 | - | - | 0.052 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.309 | - | - | 0.324 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | 0.486 | - | - | 0.509 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | 0.100 | - | - | 0.104 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | 0.846 | - | - | 0.886 | - | - | 0.01 | - |
| | Full SAR | 0.857 | - | - | 0.897 | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Back | Estimated SAR | 0.523 | - | - | 0.587 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.621 | - | - | 0.697 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | 0.035 | - | - | 0.039 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.244 | - | - | 0.274 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | 0.361 | - | - | 0.405 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | 0.080 | - | - | 0.090 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1700/2100 (Band 4) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | CH 20050 1720.0 MHz | CH 20175 1732.5 MHz | CH 20300 1745.0 MHz | | |
| Upper limit | | 23.3 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.8 | 22.7 | 0.5 | 0.5 | 0.6 | dB | |
| Time-averaged Power | | 22.8 | 22.8 | 22.7 | 1.12 | 1.12 | 1.15 | Lin | |
| Display | Estimated SAR | 0.618 | - | - | 0.693 | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.9 GSM/GPRS/EGPRS 1900 Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| 2-slot GPRS1900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | | |
| Upper limit | | 26.4 | | | Scaling factor* | | | | |
| Conducted Power | | 25.7 | 25.5 | 25.6 | 0.7 | 0.9 | 0.8 | dB | |
| Time-averaged Power | | 19.7 | 19.5 | 19.6 | 1.17 | 1.23 | 1.20 | Lin | |
| Back | Estimated SAR | - | 0.306 | - | - | 0.376 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.367 | 0.365 | 0.428 | 0.431 | 0.449 | 0.515 | 0.01 | W9 |
| | Full SAR | - | - | 0.438 | - | - | **0.527** | | |
| Top | Estimated SAR | - | 0.006 | - | - | 0.007 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.336 | - | - | 0.413 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.053 | - | - | 0.065 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.186 | - | - | 0.229 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

**Antenna 2 / RM-1105**

| 2-slot GPRS1900 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | CH 512 1850.2 MHz | CH 661 1880.0 MHz | CH 810 1909.8 MHz | | |
| Upper limit | | 26.4 | | | Scaling factor* | | | | |
| Conducted Power | | 25.7 | 25.5 | 25.6 | 0.7 | 0.9 | 0.8 | dB | |
| Time-averaged Power | | 19.7 | 19.5 | 19.6 | 1.17 | 1.23 | 1.20 | Lin | |
| Back | Estimated SAR | - | 0.242 | - | - | 0.298 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.252 | 0.284 | 0.264 | 0.296 | 0.349 | 0.317 | 0.02 | - |
| | Full SAR | - | 0.266 | - | - | 0.327 | - | | |
| Top | Estimated SAR | - | 0.003 | - | - | 0.004 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.173 | - | - | 0.213 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.139 | - | - | 0.171 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.045 | - | - | 0.055 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.10 WCDMA1900 (Band 2) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| WCDMA1900 (Band 2) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 24.0 | 23.9 | 23.9 | 0.4 | 0.5 | 0.5 | dB | |
| Time-averaged Power | | 24.0 | 23.9 | 23.9 | 1.10 | 1.12 | 1.12 | Lin | |
| Back | Estimated SAR | - | 0.693 | - | - | 0.778 | - | 0.00 | - |
| | Full SAR | - | 0.696 | - | - | 0.781 | - | | |
| Display | Estimated SAR | 0.886 | 0.835 | 0.830 | 0.971 | 0.937 | 0.931 | 0.02 | - |
| | Full SAR | 0.907 | - | - | 0.995 | - | - | | |
| Top | Estimated SAR | - | 0.012 | - | - | 0.014 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.417 | - | - | 0.468 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.110 | - | - | 0.123 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.409 | - | - | 0.459 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | 0.890 | - | - | 0.976 | - | - | 0.02 | W10 |
| | Full SAR | 0.912 | - | - | **1.000** | - | - | | |

**Antenna 2 / RM-1105**

| WCDMA1900 (Band 2) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | CH 9262 1852.4 MHz | CH 9400 1880.0 MHz | CH 9538 1907.6 MHz | | |
| Upper limit | | 24.4 | | | Scaling factor* | | | | |
| Conducted Power | | 24.0 | 23.9 | 23.9 | 0.4 | 0.5 | 0.5 | dB | |
| Time-averaged Power | | 24.0 | 23.9 | 23.9 | 1.10 | 1.12 | 1.12 | Lin | |
| Back | Estimated SAR | - | 0.527 | - | - | 0.591 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.708 | 0.638 | 0.626 | 0.776 | 0.716 | 0.702 | 0.02 | - |
| | Full SAR | 0.688 | - | - | 0.754 | - | - | | |
| Top | Estimated SAR | - | 0.008 | - | - | 0.009 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.422 | - | - | 0.473 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.325 | - | - | 0.365 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.117 | - | - | 0.131 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.11 LTE1900 (Band 2) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.689 | - | - | 0.689 | - | 0.03 | - |
| | Full SAR | - | 0.717 | - | - | 0.717 | - | | |
| Display | Estimated SAR | 0.791 | 0.801 | 0.759 | 0.791 | 0.801 | 0.777 | 0.04 | - |
| | Full SAR | - | 0.840 | - | - | 0.840 | - | | |
| Top | Estimated SAR | - | 0.011 | - | - | 0.011 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.466 | - | - | 0.466 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.123 | - | - | 0.123 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.395 | - | - | 0.395 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | - | 0.810 | - | - | 0.810 | - | 0.03 | W11 |
| | Full SAR | - | 0.844 | - | - | 0.844 | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.503 | - | - | 0.515 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.592 | - | - | 0.606 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.010 | - | - | 0.010 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.190 | - | - | 0.194 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.085 | - | - | 0.087 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.278 | - | - | 0.284 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 22.9 | 22.8 | 0.3 | 0.2 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 22.9 | 22.8 | 1.07 | 1.05 | 1.07 | Lin | |
| Display | Estimated SAR | - | 0.608 | - | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 1 / RM-1105 (Tuner 3 3)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.527 | - | - | 0.527 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.695 | - | - | 0.695 | - | 0.07 | - |
| | Full SAR | - | 0.624 | - | - | 0.624 | - | | |
| Top | Estimated SAR | - | 0.015 | - | - | 0.015 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.491 | - | - | 0.491 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.154 | - | - | 0.154 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.445 | - | - | 0.445 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.411 | - | - | 0.421 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.546 | - | - | 0.559 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.013 | - | - | 0.013 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.340 | - | - | 0.348 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.110 | - | - | 0.113 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.313 | - | - | 0.320 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 0 0)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.568 | - | - | 0.568 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.669 | - | - | 0.669 | - | 0.02 | - |
| | Full SAR | - | 0.652 | - | - | 0.652 | - | | |
| Top | Estimated SAR | - | 0.013 | - | - | 0.013 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.463 | - | - | 0.463 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.315 | - | - | 0.315 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.129 | - | - | 0.129 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.399 | - | - | 0.408 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.480 | - | - | 0.491 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.006 | - | - | 0.006 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.325 | - | - | 0.333 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.234 | - | - | 0.239 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.090 | - | - | 0.092 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Antenna 2 / RM-1105 (Tuner 3 3)**

| LTE1900 (Band 2) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 24.1 | | | Scaling factor* | | | | |
| Conducted Power | | 24.1 | 24.1 | 24.0 | - | - | 0.1 | dB | |
| Time-averaged Power | | 24.1 | 24.1 | 24.0 | 1.00 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | - | 0.493 | - | - | 0.493 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.571 | - | - | 0.571 | - | 0.02 | - |
| | Full SAR | - | 0.546 | - | - | 0.546 | - | | |
| Top | Estimated SAR | - | 0.016 | - | - | 0.016 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.458 | - | - | 0.458 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.312 | - | - | 0.312 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.160 | - | - | 0.160 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE1900 (Band 2) - 20MHz - QPSK - 50 RB - Offset 50 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | CH 18700 1860.0 MHz | CH 18900 1880.0 MHz | CH 19100 1900.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.8 | 23.0 | 22.8 | 0.3 | 0.1 | 0.3 | dB | |
| Time-averaged Power | | 22.8 | 23.0 | 22.8 | 1.07 | 1.02 | 1.07 | Lin | |
| Back | Estimated SAR | - | 0.372 | - | - | 0.381 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.438 | - | - | 0.448 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.011 | - | - | 0.011 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.315 | - | - | 0.322 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.238 | - | - | 0.244 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.109 | - | - | 0.112 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.12 LTE2300 (Band 30) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105 (Tuner 0 0)**

| LTE2300 (Band 30) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 23.0 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.1 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 23.1 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.815 | - | - | 0.815 | - | 0.01 | - |
| | Full SAR | - | 0.829 | - | - | 0.829 | - | | |
| Display | Estimated SAR | - | 0.832 | - | - | 0.832 | - | 0.01 | - |
| | Full SAR | - | 0.827 | - | - | 0.827 | - | | |
| Top | Estimated SAR | - | 0.013 | - | - | 0.013 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.736 | - | - | 0.736 | - | 0.02 | - |
| | Full SAR | - | 0.758 | - | - | 0.758 | - | | |
| Left | Estimated SAR | - | 0.080 | - | - | 0.080 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.226 | - | - | 0.226 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Back | Estimated SAR | - | 0.829 | - | - | 0.829 | - | 0.01 | - |
| | Full SAR | - | 0.822 | - | - | 0.822 | - | | |

| LTE2300 (Band 30) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 21.9 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.0 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 22.0 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.694 | - | - | 0.694 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.670 | - | - | 0.670 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.014 | - | - | 0.014 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.602 | - | - | 0.602 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.079 | - | - | 0.079 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.177 | - | - | 0.177 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2300 (Band 30) - 10MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 21.9 | | | Scaling factor* | | | | |
| Conducted Power | | - | 21.9 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 21.9 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.676 | - | - | 0.676 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.696 | - | - | 0.696 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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## Antenna 1 / RM-1105 (Tuner 3 3)

| LTE2300 (Band 30) - 10MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 23.0 | | | Scaling factor* | | | | |
| Conducted Power | | - | 23.1 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 23.1 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.794 | - | - | 0.794 | - | 0.03 | - |
| | Full SAR | - | 0.824 | - | - | 0.824 | - | | |
| Display | Estimated SAR | - | 0.852 | - | - | 0.852 | - | 0.01 | - |
| | Full SAR | - | 0.858 | - | - | 0.858 | - | | |
| Top | Estimated SAR | - | 0.011 | - | - | 0.011 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.738 | - | - | 0.738 | - | 0.00 | - |
| | Full SAR | - | 0.740 | - | - | 0.740 | - | | |
| Left | Estimated SAR | - | 0.075 | - | - | 0.075 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.206 | - | - | 0.206 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Repeated Display | Estimated SAR | - | 0.878 | - | - | 0.878 | - | 0.02 | W12 |
| | Full SAR | - | 0.862 | - | - | **0.862** | - | | |

| LTE2300 (Band 30) - 10MHz - QPSK - 25 RB - Offset 12 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 21.9 | | | Scaling factor* | | | | |
| Conducted Power | | - | 22.0 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 22.0 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.656 | - | - | 0.656 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.703 | - | - | 0.703 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.010 | - | - | 0.010 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.622 | - | - | 0.622 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.088 | - | - | 0.088 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.176 | - | - | 0.176 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2300 (Band 30) - 10MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | - - | CH 27710 2310.0 MHz | - - | - - | CH 27710 2310.0 MHz | - - | | |
| Upper limit | | 21.9 | | | Scaling factor* | | | | |
| Conducted Power | | - | 21.9 | - | - | 0.0 | - | dB | |
| Time-averaged Power | | - | 21.9 | - | - | 1.00 | - | Lin | |
| Back | Estimated SAR | - | 0.669 | - | - | 0.669 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.698 | - | - | 0.698 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.13 LTE2500 (Band 7) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| LTE2500 (Band 7) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 23.1 | | | Scaling factor* | | | | |
| Conducted Power | | 22.7 | 23.1 | 22.8 | 0.4 | 0.0 | 0.3 | dB | |
| Time-averaged Power | | 22.7 | 23.1 | 22.8 | 1.10 | 1.00 | 1.07 | Lin | |
| Back | Estimated SAR | 0.920 | 0.944 | 0.837 | 1.009 | 0.944 | 0.897 | 0.01 | W13 |
| | Full SAR | 0.933 | - | - | **1.023** | - | - | | |
| Display | Estimated SAR | - | 0.782 | - | - | 0.782 | - | 0.05 | - |
| | Full SAR | - | 0.734 | - | - | 0.734 | - | | |
| Top | Estimated SAR | - | 0.019 | - | - | 0.019 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | 0.640 | 0.811 | 0.797 | 0.702 | 0.811 | 0.854 | 0.01 | - |
| | Full SAR | - | - | 0.790 | - | - | 0.847 | | |
| Left | Estimated SAR | - | 0.102 | - | - | 0.102 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.181 | - | - | 0.181 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Back Repeated | Estimated SAR | 0.921 | - | - | 1.010 | - | - | 0.01 | - |
| | Full SAR | 0.929 | - | - | 1.019 | - | - | | |

| LTE2500 (Band 7) - 20MHz - QPSK - 50 RB - Offset 24 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 22.0 | | | Scaling factor* | | | | |
| Conducted Power | | 21.7 | 22.0 | 21.9 | 0.3 | 0.0 | 0.1 | dB | |
| Time-averaged Power | | 21.7 | 22.0 | 21.9 | 1.07 | 1.00 | 1.02 | Lin | |
| Back | Estimated SAR | 0.689 | 0.835 | 0.679 | 0.738 | 0.835 | 0.695 | 0.06 | - |
| | Full SAR | - | 0.772 | - | - | 0.772 | - | | |
| Display | Estimated SAR | - | 0.660 | - | - | 0.660 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.016 | - | - | 0.016 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.689 | - | - | 0.689 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.088 | - | - | 0.088 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.168 | - | - | 0.168 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

| LTE2500 (Band 7) - 20MHz - QPSK - 100 RB - Offset 0 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | CH 20850 2510.0 MHz | CH 21100 2535.0 MHz | CH 21350 2560.0 MHz | | |
| Upper limit | | 22.0 | | | Scaling factor* | | | | |
| Conducted Power | | 21.8 | 22.0 | 21.8 | 0.2 | 0.0 | 0.2 | dB | |
| Time-averaged Power | | 21.8 | 22.0 | 21.8 | 1.05 | 1.00 | 1.05 | Lin | |
| Back | Estimated SAR | - | 0.725 | - | - | 0.725 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.705 | - | - | 0.705 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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7.3.14 LTE2500 (Band 41) Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| LTE2500 (Band 41) - 20MHz - QPSK - 1 RB - Offset 0 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | | |
| Upper limit | | 22.6 | | | | | Scaling factor* | | | | | | |
| Conducted Power | | 22.3 | 22.4 | 22.4 | 22.3 | 22.1 | 0.3 | 0.2 | 0.2 | 0.3 | 0.5 | dB | |
| Time-averaged Power | | 20.1 | 20.2 | 20.2 | 20.1 | 19.9 | 1.07 | 1.05 | 1.05 | 1.07 | 1.12 | Lin | |
| Back | Estimated SAR | - | 0.562 | - | - | - | - | 0.588 | - | - | - | 0.00 | W14 |
| | Full SAR | - | 0.563 | - | - | - | - | 0.590 | - | - | - | | |
| Display | Estimated SAR | - | 0.522 | - | - | - | - | 0.547 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.013 | - | - | - | - | 0.014 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.379 | - | - | - | - | 0.397 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.070 | - | - | - | - | 0.074 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.121 | - | - | - | - | 0.127 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |

| LTE2500 (Band 41) - 20MHz - QPSK - 50 RB - Offset 0 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | CH 39750 2506.0 MHz | CH 40185 2549.5 MHz | CH 40620 2593.0 MHz | CH 41055 2636.5 MHz | CH 41490 2680.0 MHz | | |
| Upper limit | | 21.9 | | | | | Scaling factor* | | | | | | |
| Conducted Power | | 21.5 | 21.7 | 21.5 | 21.4 | 21.5 | 0.4 | 0.2 | 0.4 | 0.5 | 0.4 | dB | |
| Time-averaged Power | | 19.3 | 19.5 | 19.3 | 19.2 | 19.3 | 1.10 | 1.05 | 1.10 | 1.12 | 1.10 | Lin | |
| Back | Estimated SAR | - | 0.508 | - | - | - | - | 0.532 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Display | Estimated SAR | - | 0.471 | - | - | - | - | 0.493 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | 0.012 | - | - | - | - | 0.013 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.346 | - | - | - | - | 0.362 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.063 | - | - | - | - | 0.065 | - | - | - | 0.00 | - |
| | Full SAR | - | 0.064 | - | - | - | - | 0.067 | - | - | - | | |
| Right | Estimated SAR | - | 0.110 | - | - | - | - | 0.115 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | - | - | - | - | | |


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7.3.15 WLAN2450 Wireless Router 10 mm SAR results

**Antenna 1 / RM-1105**

| WLAN2450 b-mode DSSS 20 MHz | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1 2412.0 MHz | CH 6 2437.0 MHz | CH 11 2462.0 MHz | CH 1 2412.0 MHz | CH 6 2437.0 MHz | CH 11 2462.0 MHz | | |
| Data rate | | 1 | 1 | 1 | Scaling factor* | | | Mbps | |
| Upper limit | | 17.5 | 17.5 | 17.5 | | | | | |
| Conducted Power | | 16.4 | 16.2 | 16.2 | 1.1 | 1.3 | 1.3 | dB | |
| Time-averaged Power | | 16.4 | 16.2 | 16.2 | 1.29 | 1.35 | 1.35 | Lin | |
| Back | Estimated SAR | - | 0.150 | - | - | 0.202 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | 0.277 | 0.245 | 0.227 | 0.357 | 0.330 | 0.306 | 0.00 | W15 |
| | Full SAR | 0.278 | - | - | **0.358** | - | - | | |
| Top | Estimated SAR | - | 0.175 | - | - | 0.236 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | Ant 2 | - | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | 0.029 | - | - | 0.039 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | 0.140 | - | - | 0.189 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |

**Antenna 2 / RM-1105**

| WLAN2450 b-mode DSSS 20 MHz | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | Reported* 1g SAR [W/kg] | | | Max Deviation* [W/kg] | Plot # |
| | | CH 1 2412.0 MHz | CH 6 2437.0 MHz | CH 11 2462.0 MHz | CH 1 2412.0 MHz | CH 6 2437.0 MHz | CH 11 2462.0 MHz | | |
| Data rate | | 1 | 1 | 1 | Scaling factor* | | | Mbps | |
| Upper limit | | 15.5 | 15.5 | 15.5 | | | | | |
| Conducted Power | | 14.3 | 13.8 | 14.2 | 1.2 | 1.7 | 1.3 | dB | |
| Time-averaged Power | | 14.3 | 13.8 | 14.2 | 1.32 | 1.48 | 1.35 | Lin | |
| Back | Estimated SAR | - | Ant 1 | - | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Display | Estimated SAR | Ant 1 | Ant 1 | Ant 1 | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Top | Estimated SAR | - | Ant 1 | - | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Bottom | Estimated SAR | - | 0.078 | - | - | 0.115 | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Left | Estimated SAR | - | Ant 1 | - | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |
| Right | Estimated SAR | - | Ant 1 | - | - | - | - | - | - |
| | Full SAR | - | - | - | - | - | - | | |


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**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| **Test configuration used** | **Device Orientation** | **Reported 1g SAR for test cfg used [W/kg]** | **Tuning target for test cfg used [dBm]*** | **Tuning target for next test cfg [dBm]*** | **Adjusted 1g SAR [W/kg]** | **Adjusted SAR > 1.20 [YES/NO]** |
| DSSS b-mode 20 MHz Data rate 1 | Display | 0.358 | 15.1 | 15.1 | 0.358 | NO |

7.3.16 WLAN5000 Wireless Router 10 mm SAR results, 5150–5250 MHz and 5250–5350 MHz

**Antenna 1 & 2 / RM-1105**

| WLAN OFDM 40 MHz | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Device orientation** | **SAR measurement** | **Measured 1g SAR [W/kg]** | | | | **Reported* 1g SAR [W/kg]** | | | | **Max Deviation* [W/kg]** | **Plot #** |
| | | **U-NII-1** | | | | **U-NII-1** | | | | | |
| | | **CH 38 5190.0 MHz** | **CH 46 5230.0 MHz** | **-** | **-** | **CH 38 5190.0 MHz** | **CH 46 5230.0 MHz** | **-** | **-** | | |
| **Standard** | | **ac** | **ac** | **-** | **-** | **Scaling factor*** | | | | | |
| **Data rate / MCS** | | **MCS0** | **MCS0** | **-** | **-** | | | | | **Mbps** | |
| **Upper limit** | | **16.5** | **16.5** | **-** | **-** | | | | | | |
| **Conducted Power** | | **15.4** | **15.5** | **-** | **-** | **1.1** | **1.0** | **-** | **-** | **dB** | |
| **Time-averaged Power** | | **15.4** | **15.5** | **-** | **-** | **1.29** | **1.26** | **-** | **-** | **Lin** | |
| Back | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.404 | - | - | - | 0.509 | - | - | | |
| Display | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | 0.664 | 0.703 | - | - | 0.855 | 0.885 | - | - | | |
| Top | Estimated SAR | - | - | - | - | - | - | - | - | - | W16 |
| | Full SAR | 0.687 | 0.751 | - | - | 0.885 | **0.945** | - | - | | |
| Bottom | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.021 | - | - | - | 0.026 | - | - | | |
| Left | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.014 | - | - | - | 0.017 | - | - | | |
| Right | Estimated SAR | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.363 | - | - | - | 0.457 | - | - | | |

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| **Test configuration used** | **Device Orientation** | **Reported 1g SAR for test cfg used [W/kg]** | **Tuning target for test cfg used [dBm]*** | **Tuning target for next test cfg [dBm]*** | **Adjusted 1g SAR [W/kg]** | **Adjusted SAR > 1.20 [YES/NO]** |
| OFDM ac-mode 40 MHz MCS0 SS1 | Top | 0.945 | 15.0 | 14.0 | 0.687 | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.


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7.3.17 WLAN5000 Wireless Router 10 mm SAR results, 5725–5850 MHz

**Antenna 1 & 2 / RM-1105**

| WLAN OFDM 40 MHz | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Device orientation | SAR measurement | Measured 1g SAR [W/kg] | | | | | Reported* 1g SAR [W/kg] | | | | | Max Deviation* [W/kg] | Plot # |
| | | U-NII-3 | | | | | U-NII-3 | | | | | | |
| | | CH 151 5755.0 MHz | CH 159 5795.0 MHz | - | - | - | CH 151 5755.0 MHz | CH 159 5795.0 MHz | - | - | - | | |
| Standard | | ac | ac | - | - | - | Scaling factor* | | | | | | |
| Data rate / MCS | | MCS0 | MCS0 | - | - | - | | | | | | Mbps | |
| Upper limit | | 16.5 | 16.5 | - | - | - | | | | | | | |
| Conducted Power | | 15.3 | 15.6 | - | - | - | 1.2 | 0.9 | - | - | - | dB | |
| Time-averaged Power | | 15.3 | 15.6 | - | - | - | 1.32 | 1.23 | - | - | - | Lin | |
| Back | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.419 | - | - | - | - | 0.515 | - | - | - | | |
| Display | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.588 | - | - | - | - | 0.723 | - | - | - | | |
| Top | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.526 | - | - | - | - | 0.647 | - | - | - | | |
| Bottom | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.025 | - | - | - | - | 0.031 | - | - | - | | |
| Left | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.007 | - | - | - | - | 0.009 | - | - | - | | |
| Right | Estimated SAR | - | - | - | - | - | - | - | - | - | - | - | - |
| | Full SAR | - | 0.388 | - | - | - | - | 0.477 | - | - | - | | |

**Adjusted SAR calculations for the next OFDM test configurations**

| Adjusted SAR | | | | | | |
|---|---|---|---|---|---|---|
| Test configuration used | Device Orientation | Reported 1g SAR for test cfg used [W/kg] | Tuning target for test cfg used [dBm]* | Tuning target for next test cfg [dBm]* | Adjusted 1g SAR [W/kg] | Adjusted SAR > 1.20 [YES/NO] |
| OFDM ac-mode 40 MHz MCS0 SS1 | Top | 0.723 | 15.0 | 14.0 | 0.574 | NO |

* Tuning targets are used as [mW] when calculated Adjusted SAR.

Individual Wireless Router 10 mm SAR plots are given in Appendix B.


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**Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN and Individual band Max results - Antenna 1**

| Test configuration | WLAN 2450 | WLAN 5000 | LTE700 (Band 12) | LTE700 (Band 17) | LTE750 (Band 13) | 1-slot GPRS850 | WCDMA 850 (Band 5) | LTE850 (Band 5) |
|---|---|---|---|---|---|---|---|---|
| Back | 0.202 | 0.515 | 0.435 | 0.432 | 0.348 | 0.349 | 0.576 | 0.513 |
| Display | 0.358 | 0.885 | 0.451 | 0.467 | 0.371 | 0.456 | 0.627 | 0.542 |
| Top | 0.236 | 0.945 | 0.013 | 0.012 | 0.008 | 0.010 | 0.019 | 0.018 |
| Bottom | 0.115 | 0.026 | 0.163 | 0.180 | 0.160 | 0.221 | 0.463 | 0.405 |
| Left | 0.039 | 0.017 | 0.203 | 0.194 | 0.402 | 0.115 | 0.188 | 0.178 |
| Right | 0.189 | 0.457 | 0.362 | 0.346 | 0.432 | 0.181 | 0.213 | 0.213 |
| **Test configuration** | **WCDMA 1700/2100 (Band 4)** | **LTE 1700/2100 (Band 4)** | **2-slot GPRS1900** | **WCDMA 1900 (Band 2)** | **LTE 1900 (Band 2)** | **LTE 2300 (Band 30)** | **LTE 2500 (Band 7)** | **LTE 2500 (Band 41)** |
| Back | 0.976 | 0.891 | 0.376 | 0.781 | 0.717 | 0.829 | 1.023 | 0.590 |
| Display | 1.206 | 1.090 | 0.527 | 1.000 | 0.844 | 0.862 | 0.734 | 0.547 |
| Top | 0.071 | 0.079 | 0.007 | 0.014 | 0.015 | 0.014 | 0.019 | 0.014 |
| Bottom | 0.584 | 0.426 | 0.413 | 0.468 | 0.491 | 0.758 | 0.847 | 0.397 |
| Left | 0.189 | 0.154 | 0.065 | 0.123 | 0.154 | 0.088 | 0.102 | 0.074 |
| Right | 0.473 | 0.381 | 0.229 | 0.459 | 0.445 | 0.226 | 0.181 | 0.127 |

**Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN and Individual band Max results - Antenna 2**

| Test configuration | WLAN 2450 | WLAN 5000 | LTE700 (Band 12) | LTE700 (Band 17) | LTE750 (Band 13) | 1-slot GPRS850 | WCDMA 850 (Band 5) | LTE850 (Band 5) |
|---|---|---|---|---|---|---|---|---|
| Back | 0.202 | 0.515 | 0.392 | 0.397 | 0.360 | 0.313 | 0.499 | 0.462 |
| Display | 0.358 | 0.885 | 0.366 | 0.389 | 0.404 | 0.428 | 0.581 | 0.491 |
| Top | 0.236 | 0.945 | 0.024 | 0.021 | 0.016 | 0.016 | 0.023 | 0.021 |
| Bottom | 0.115 | 0.026 | 0.186 | 0.164 | 0.144 | 0.204 | 0.252 | 0.179 |
| Left | 0.039 | 0.017 | 0.319 | 0.295 | 0.479 | 0.172 | 0.125 | 0.232 |
| Right | 0.189 | 0.457 | 0.071 | 0.085 | 0.274 | 0.104 | 0.286 | 0.102 |
| **Test configuration** | **WCDMA 1700/2100 (Band 4)** | **LTE 1700/2100 (Band 4)** | **2-slot GPRS1900** | **WCDMA 1900 (Band 2)** | **LTE 1900 (Band 2)** | **-** | **-** | **-** |
| Back | 0.736 | 0.765 | 0.298 | 0.591 | 0.568 | - | - | - |
| Display | 0.999 | 0.897 | 0.327 | 0.754 | 0.652 | - | - | - |
| Top | 0.050 | 0.052 | 0.004 | 0.009 | 0.016 | - | - | - |
| Bottom | 0.377 | 0.338 | 0.213 | 0.473 | 0.463 | - | - | - |
| Left | 0.476 | 0.509 | 0.171 | 0.365 | 0.315 | - | - | - |
| Right | 0.143 | 0.126 | 0.055 | 0.131 | 0.160 | - | - | - |


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**Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN2450 Max + Max combined results - Antenna 1**

| Test configuration | LTE700 (Band 12) + WLAN 2450 | LTE700 (Band 17) + WLAN 2450 | LTE750 (Band 13) + WLAN 2450 | 1-slot GPRS850 + WLAN 2450 | WCDMA 850 (Band 5) + WLAN 2450 | LTE850 (Band 5) + WLAN 2450 | WCDMA 1700/2100 (Band 4) + WLAN 2450 | LTE 1700/2100 (Band 4) + WLAN 2450 |
|---|---|---|---|---|---|---|---|---|
| Back | 0.637 | 0.634 | 0.550 | 0.551 | 0.778 | 0.715 | 1.178 | 1.093 |
| Display | **0.809** | **0.825** | **0.729** | **0.814** | **0.985** | **0.900** | **1.564** | **1.448** |
| Top | 0.249 | 0.248 | 0.244 | 0.246 | 0.255 | 0.254 | 0.307 | 0.315 |
| Bottom | 0.278 | 0.295 | 0.275 | 0.336 | 0.578 | 0.520 | 0.699 | 0.541 |
| Left | 0.242 | 0.233 | 0.441 | 0.154 | 0.227 | 0.217 | 0.228 | 0.193 |
| Right | 0.551 | 0.535 | 0.621 | 0.370 | 0.402 | 0.402 | 0.662 | 0.570 |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **LTE 2300 (Band 30) + WLAN 2450** | **LTE 2500 (Band 7) + WLAN 2450** | **LTE 2500 (Band 41) + WLAN 2450** | **-** | **-** |
| Back | 0.578 | 0.983 | 0.919 | 1.031 | **1.225** | 0.792 | - | - |
| Display | **0.885** | **1.358** | **1.202** | **1.220** | 1.092 | **0.905** | - | - |
| Top | 0.243 | 0.250 | 0.251 | 0.250 | 0.255 | 0.250 | - | - |
| Bottom | 0.528 | 0.583 | 0.606 | 0.873 | 0.962 | 0.512 | - | - |
| Left | 0.104 | 0.162 | 0.193 | 0.127 | 0.141 | 0.113 | - | - |
| Right | 0.418 | 0.648 | 0.634 | 0.415 | 0.370 | 0.316 | - | - |


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**Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN2450 Max + Max combined results - Antenna 2**

| **Test configuration** | **LTE700 (Band 12) + WLAN 2450** | **LTE700 (Band 17) + WLAN 2450** | **LTE750 (Band 13) + WLAN 2450** | **1-slot GPRS850 + WLAN 2450** | **WCDMA 850 (Band 5) + WLAN 2450** | **LTE850 (Band 5) + WLAN 2450** | **WCDMA 1700/2100 (Band 4) + WLAN 2450** | **LTE 1700/2100 (Band 4) + WLAN 2450** |
|---|---|---|---|---|---|---|---|---|
| Back | 0.594 | 0.599 | 0.562 | 0.515 | 0.701 | 0.664 | 0.938 | 0.967 |
| Display | **0.724** | **0.747** | **0.762** | **0.786** | **0.939** | **0.849** | **1.357** | **1.255** |
| Top | 0.260 | 0.257 | 0.252 | 0.252 | 0.259 | 0.257 | 0.286 | 0.288 |
| Bottom | 0.301 | 0.279 | 0.259 | 0.319 | 0.367 | 0.294 | 0.492 | 0.453 |
| Left | 0.358 | 0.334 | 0.518 | 0.211 | 0.164 | 0.271 | 0.515 | 0.548 |
| Right | 0.260 | 0.274 | 0.463 | 0.293 | 0.475 | 0.291 | 0.332 | 0.315 |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **-** | **-** | **-** | **-** | **-** |
| Back | 0.500 | 0.793 | 0.770 | - | - | - | - | - |
| Display | **0.685** | **1.112** | **1.010** | - | - | - | - | - |
| Top | 0.240 | 0.245 | 0.252 | - | - | - | - | - |
| Bottom | 0.328 | 0.588 | 0.578 | - | - | - | - | - |
| Left | 0.210 | 0.404 | 0.354 | - | - | - | - | - |
| Right | 0.244 | 0.320 | 0.349 | - | - | - | - | - |


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**Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN5000 Max + Max combined results - Antenna 1**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Back | 0.950 | 0.947 | 0.863 | 0.864 | 1.091 | 1.028 | 1.491 | 1.406 |
| Display | **1.336** | **1.352** | **1.256** | **1.341** | **1.512** | **1.427** | **2.091** | **1.975** |
| Top | 0.958 | 0.957 | 0.953 | 0.955 | 0.964 | 0.963 | 1.016 | 1.024 |
| Bottom | 0.189 | 0.206 | 0.186 | 0.247 | 0.489 | 0.431 | 0.610 | 0.452 |
| Left | 0.220 | 0.211 | 0.419 | 0.132 | 0.205 | 0.195 | 0.206 | 0.171 |
| Right | 0.819 | 0.803 | 0.889 | 0.638 | 0.670 | 0.670 | 0.930 | 0.838 |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **LTE 2300 (Band 30) + WLAN 5000** | **LTE 2500 (Band 7) + WLAN 5000** | **LTE 2500 (Band 41) + WLAN 5000** | **-** | **-** |
| Back | 0.891 | 1.296 | 1.232 | 1.344 | 1.538 | 1.105 | - | - |
| Display | **1.412** | **1.885** | **1.729** | **1.747** | **1.619** | **1.432** | - | - |
| Top | 0.952 | 0.959 | 0.960 | 0.959 | 0.964 | 0.959 | - | - |
| Bottom | 0.439 | 0.494 | 0.517 | 0.784 | 0.873 | 0.423 | - | - |
| Left | 0.082 | 0.140 | 0.171 | 0.105 | 0.119 | 0.091 | - | - |
| Right | 0.686 | 0.916 | 0.902 | 0.683 | 0.638 | 0.584 | - | - |


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**Simultaneous transmissions: Combined Wireless Router 10 mm 1g SAR results – WLAN5000 Max + Max combined results - Antenna 2**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Back | 0.907 | 0.912 | 0.875 | 0.828 | 1.014 | 0.977 | 1.251 | 1.280 |
| Display | **1.251** | **1.274** | **1.289** | **1.313** | **1.466** | **1.376** | **1.884** | **1.782** |
| Top | 0.969 | 0.966 | 0.961 | 0.961 | 0.968 | 0.966 | 0.995 | 0.997 |
| Bottom | 0.212 | 0.190 | 0.170 | 0.230 | 0.278 | 0.205 | 0.403 | 0.364 |
| Left | 0.336 | 0.312 | 0.496 | 0.189 | 0.142 | 0.249 | 0.493 | 0.526 |
| Right | 0.528 | 0.542 | 0.731 | 0.561 | 0.743 | 0.559 | 0.600 | 0.583 |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **-** | **-** | **-** | **-** | **-** |
| Back | 0.813 | 1.106 | 1.083 | - | - | - | - | - |
| Display | **1.212** | **1.639** | **1.537** | - | - | - | - | - |
| Top | 0.949 | 0.954 | 0.961 | - | - | - | - | - |
| Bottom | 0.239 | 0.499 | 0.489 | - | - | - | - | - |
| Left | 0.188 | 0.382 | 0.332 | - | - | - | - | - |
| Right | 0.512 | 0.588 | 0.617 | - | - | - | - | - |


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### 7.3.1 Simultaneous Transmission SAR Test Exclusion Considerations for Wireless Router 10 mm Measurements

Simultaneous transmission SAR tests exclusion procedures as described in KDB 447498 D01 v05 is needed for some Body measurements. Following table gives antenna pair SAR to peak location separation ratios for the transmitter combinations for which the sum of simultaneously transmitting 1g SAR was above limit (See "Max+Max Combined results" table in previous section).

**Antenna Pair SAR to Peak Location Separation Ratio – Antenna 1**

| **Antenna 1** | **WCDMA 1700/2100 (Band 4)** | **WLAN 5000** | **LTE 1700/2100 (Band 4)** | **WLAN 5000** | **WCDMA 1900 (Band 2)** | **WLAN 5000** | **LTE 1900 (Band 2)** | **WLAN 5000** |
|---|---|---|---|---|---|---|---|---|
| | **Display** | | **Display** | | **Display** | | **Display** | |
| X [mm] | -54.0 | 67.0 | -54.0 | 67.0 | -55.5 | 67.0 | -52.5 | 67.0 |
| Y [mm] | 0.0 | -30.0 | -1.5 | -30.0 | 9.0 | -30.0 | 9.0 | -30.0 |
| Z [mm] | -173.1 | -171.0 | -173.3 | -171.0 | -171.9 | -171.0 | -171.9 | -171.0 |
| DISTANCE [mm] | 124.67 | | 124.30 | | 128.56 | | 125.70 | |
| MAX + MAX (Reported SAR) | 2.09 | | 1.98 | | 1.89 | | 1.73 | |
| SAR to peak location separation ratio | 0.02 | | 0.02 | | 0.02 | | 0.02 | |
| **Antenna 1** | **LTE 2300 (Band 30)** | **WLAN 5000** | **LTE 2500 (Band 7)** | **WLAN 5000** | **-** | **-** | **-** | **-** |
| | **Display** | | **Display** | | **-** | | **-** | |
| X [mm] | -66.0 | 67.0 | -58.0 | 67.0 | - | - | - | - |
| Y [mm] | -21.0 | -30.0 | 8.0 | -30.0 | - | - | - | - |
| Z [mm] | -171.7 | -171.0 | -171.7 | -171.0 | - | - | - | - |
| DISTANCE [mm] | 133.34 | | 130.66 | | - | | - | |
| MAX + MAX (Reported SAR) | 1.75 | | 1.62 | | - | | - | |
| SAR to peak location separation ratio | 0.02 | | 0.02 | | - | | - | |


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**Antenna Pair SAR to Peak Location Separation Ratio – Antenna 2**

| Antenna 2 | WCDMA 1700/2100 (Band 4) | WLAN 5000 | LTE 1700/2100 (Band 4) | WLAN 5000 | WCDMA 1900 (Band 2) | WLAN 5000 | - | - |
|---|---|---|---|---|---|---|---|---|
| | Display | | Display | | Display | | - | |
| X [mm] | -54.0 | 67.0 | -55.5 | 67.0 | -67.5 | 67.0 | - | - |
| Y [mm] | -9.0 | -30.0 | -9.0 | -30.0 | 27.0 | -30.0 | - | - |
| Z [mm] | -173.1 | -171.0 | -173.3 | -171.0 | -171.7 | -171.0 | - | - |
| DISTANCE [mm] | 122.82 | | 124.28 | | 146.08 | | - | |
| MAX + MAX (Reported SAR) | 1.88 | | 1.78 | | 1.64 | | - | |
| SAR to peak location separation ratio | 0.02 | | 0.02 | | 0.01 | | - | |

All simultaneous transmitter configurations where Antenna Pair SPLSR ≤ 0.04, are excluded from expanded zoom scan testing. For this product no expanded zoom scan testing is required for Wireless Router 10 mm configurations.


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### 7.3.2 Combined 1g Wireless Router 10 mm SAR data

**The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.**

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

The combinations are done for the maximum Wireless Router 10 mm configuration of the each band or band group. Maximum configurations are given in the Max+Max tables in the Section 7.3 of the report. The same scaling factors are used in plotting as for the individual reported SAR value calculations.

**Simultaneous transmissions: Reported* Combined 1g SAR Wireless Router 10 mm results – Antenna 1 + WLAN2450 SPEAG Combined Multiband algorithm results**

| **Test configuration** | **LTE700 (Band 12) + WLAN 2450** | **LTE700 (Band 17) + WLAN 2450** | **LTE750 (Band 13) + WLAN 2450** | **1-slot GPRS850 + WLAN 2450** | **WCDMA 850 (Band 5) + WLAN 2450** | **LTE850 (Band 5) + WLAN 2450** | **WCDMA 1700/2100 (Band 4) + WLAN 2450** | **LTE 1700/2100 (Band 4) + WLAN 2450** |
|---|---|---|---|---|---|---|---|---|
| Back | - | - | - | - | - | - | - | - |
| Display | 0.531 | 0.553 | - | - | 0.724 | - | 1.230 | - |
| Top | - | - | - | - | - | - | - | - |
| Bottom | - | - | - | - | - | - | - | - |
| Left | - | - | - | - | - | - | - | - |
| Right | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | | W17 | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **LTE 2300 (Band 30) + WLAN 2450** | **LTE 2500 (Band 7) + WLAN 2450** | **LTE 2500 (Band 41) + WLAN 2450** | **-** | **-** |
| Back | - | - | - | - | 1.130 | - | - | - |
| Display | - | 1.070 | - | 0.920 | - | 0.640 | - | - |
| Top | - | - | - | - | - | - | - | - |
| Bottom | - | - | - | - | - | - | - | - |
| Left | - | - | - | - | - | - | - | - |
| Right | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |


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**Simultaneous transmissions: Reported* Combined 1g SAR Wireless Router 10 mm results – Antenna 2 + WLAN2450 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 2450 | LTE700 (Band 17) + WLAN 2450 | LTE750 (Band 13) + WLAN 2450 | 1-slot GPRS850 + WLAN 2450 | WCDMA 850 (Band 5) + WLAN 2450 | LTE850 (Band 5) + WLAN 2450 | WCDMA 1700/2100 (Band 4) + WLAN 2450 | LTE 1700/2100 (Band 4) + WLAN 2450 |
|---|---|---|---|---|---|---|---|---|
| Back | - | - | - | - | - | - | - | - |
| Display | - | - | 0.488 | - | - | - | - | - |
| Top | - | - | - | - | - | - | - | - |
| Bottom | - | - | - | - | - | - | - | - |
| Left | - | - | - | - | - | - | - | - |
| Right | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | | - | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 2450** | **WCDMA 1900 (Band 2) + WLAN 2450** | **LTE 1900 (Band 2) + WLAN 2450** | **-** | **-** | **-** | **-** | **-** |
| Back | - | - | - | - | - | - | - | - |
| Display | - | - | - | - | - | - | - | - |
| Top | - | - | - | - | - | - | - | - |
| Bottom | - | - | - | - | - | - | - | - |
| Left | - | - | - | - | - | - | - | - |
| Right | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |


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**Simultaneous transmissions: Reported* Combined 1g SAR Wireless Router 10 mm results – Antenna 1 + WLAN5000 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Back | - | - | - | - | - | - | - | - |
| Display | 0.905 | 0.903 | - | - | 0.918 | - | 1.200 | - |
| Top | - | - | - | - | - | - | - | - |
| Bottom | - | - | - | - | - | - | - | - |
| Left | - | - | - | - | - | - | - | - |
| Right | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | | W18 | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **LTE 2300 (Band 30) + WLAN 5000** | **LTE 2500 (Band 7) + WLAN 5000** | **LTE 2500 (Band 41) + WLAN 5000** | **-** | **-** |
| Back | - | - | - | - | - | - | - | - |
| Display | - | 1.000 | - | 0.910 | 1.040 | 0.894 | - | - |
| Top | - | - | - | - | - | - | - | - |
| Bottom | - | - | - | - | - | - | - | - |
| Left | - | - | - | - | - | - | - | - |
| Right | - | - | - | - | - | - | - | - |
| **Plot no** | | W19 | - | W20 | W21 | - | - | - |


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**Simultaneous transmissions: Reported* Combined 1g SAR Wireless Router 10 mm results – Antenna 2 + WLAN5000 SPEAG Combined Multiband algorithm results**

| Test configuration | LTE700 (Band 12) + WLAN 5000 | LTE700 (Band 17) + WLAN 5000 | LTE750 (Band 13) + WLAN 5000 | 1-slot GPRS850 + WLAN 5000 | WCDMA 850 (Band 5) + WLAN 5000 | LTE850 (Band 5) + WLAN 5000 | WCDMA 1700/2100 (Band 4) + WLAN 5000 | LTE 1700/2100 (Band 4) + WLAN 5000 |
|---|---|---|---|---|---|---|---|---|
| Back | - | - | - | - | - | - | - | - |
| Display | - | - | 0.904 | - | - | - | - | - |
| Top | - | - | - | - | - | - | - | - |
| Bottom | - | - | - | - | - | - | - | - |
| Left | - | - | - | - | - | - | - | - |
| Right | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | | - | - |
| **Test configuration** | **2-slot GPRS1900 + WLAN 5000** | **WCDMA 1900 (Band 2) + WLAN 5000** | **LTE 1900 (Band 2) + WLAN 5000** | **-** | **-** | **-** | **-** | **-** |
| Back | - | - | - | - | - | - | - | - |
| Display | - | - | - | - | - | - | - | - |
| Top | - | - | - | - | - | - | - | - |
| Bottom | - | - | - | - | - | - | - | - |
| Left | - | - | - | - | - | - | - | - |
| Right | - | - | - | - | - | - | - | - |
| **Plot no** | - | - | - | - | - | - | - | - |

WCDMA850 (Band 5) Antenna 1 + WLAN2450 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 1-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 1 + WLAN2450 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 1 + WLAN2450 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 2-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).

WCDMA850 (Band 5) Antenna 1 + WLAN5000 has the highest Max+Max result of the 850MHz Antenna 1 and Antenna 2 grouped bands: 1-slot GPRS850, WCDMA850 (Band 5) and LTE850 (Band 5).

WCDMA1700/2100 (Band 4) Antenna 1 + WLAN5000 has the highest Max+Max result of the 1750MHz Antenna 1 and Antenna 2 grouped bands: WCDMA1700/2100 (Band 4) and LTE1700/2100 (Band 4).

WCDMA1900 (Band 2) Antenna 1 + WLAN5000 has the highest Max+Max result of the 1900MHz Antenna 1 and Antenna 2 grouped bands: 2-slot GPRS1900, WCDMA1900 (Band 2) and LTE1900 (Band 2).


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Maximum of the Combined SAR values, namely WCDMA1700/2100 (Band 4) + WLAN5000, in the above table is less than the maximum SAR value for the contributing cellular band. This is due to a) minimal overlap of the SAR distributions of the cellular band with WLAN5000 and b) uncertainties associated with the different methods of calculation. In this case, the maximum SAR values given for the combined Mode in the Summary table in Section 1.2.3 is that for the individual WCDMA1700/2100 (Band 4).

Note:
* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.
The highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. The highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results is given in the Section for the simultaneous transmitter combination giving the highest combinated value.


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## APPENDIX A: SYSTEM CHECKING SCANS

**Plot 1**

Date/Time: 2015-08-24 9:30:16 AM

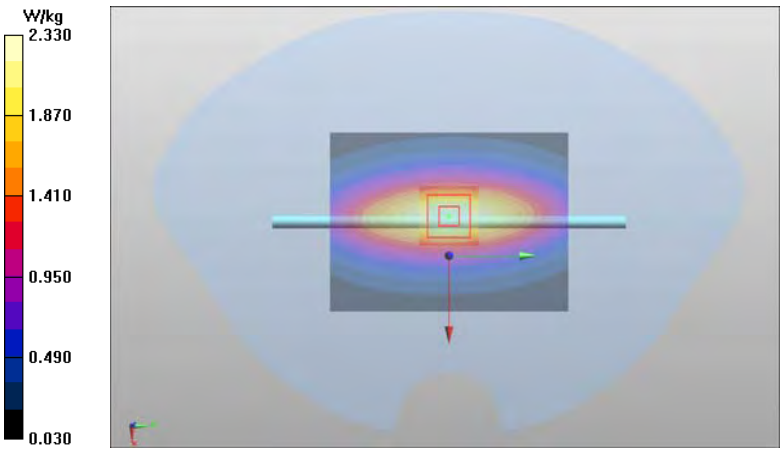
Test Laboratory: TCC Microsoft
**Type: D750V3; Serial: D750V3 - SN:1075**

**Communication System: CW**
Frequency: **750 MHz**; Duty Cycle: 1:1
Medium: HSL750; Medium Notes: t= 22.5 C
Medium parameters used: f = 750 MHz; σ = 0.88 S/m; $\varepsilon_r$ = 40.175; ρ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(9.14, 9.14, 9.14); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #1 SAM, SAR4; Type: SAM; Serial: TP-1018
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Configuration 750MHz/d=15mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 49.09 V/m
Fast SAR: SAR(1 g) = 2.04 W/kg
Fast SAR(10 g) = 1.39 W/kg
Maximum value of SAR (interpolated) = 2.33 W/kg

**Configuration 750MHz/d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 49.09 V/m
Peak SAR (extrapolated) = 2.98 W/kg
**SAR(1 g) = 2 W/kg**
**SAR(10 g) = 1.31 W/kg**
**Power Drift = 0.04 dB**
Maximum value of SAR (measured) = 2.34 W/kg





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**Plot 2**

Date/Time: 2015-08-14 8:40:56 AM

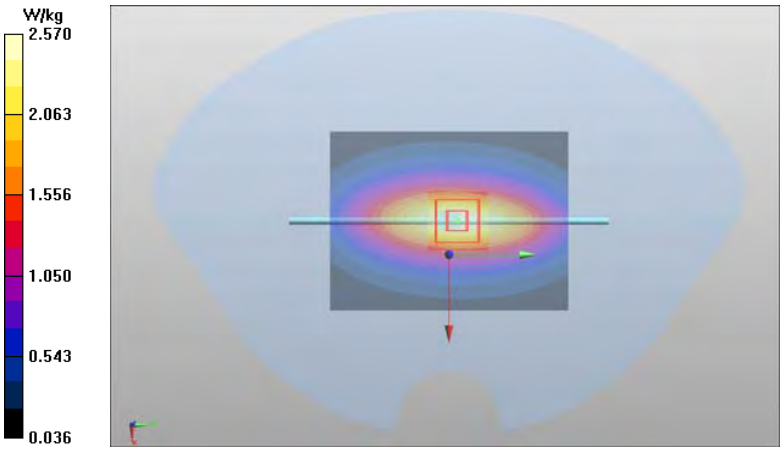
Test Laboratory: TCC Microsoft
**Type: D835V2; Serial: D835V2 - SN:480**

**Communication System: CW**
Frequency: **835 MHz**; Duty Cycle: 1:1
Medium: HSL835; Medium Notes: t= 22.1 C
Medium parameters used: f = 835 MHz; $\sigma$ = 0.886 S/m; $\varepsilon_r$ = 39.78; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 52.11 V/m
Fast SAR: SAR(1 g) = 2.24 W/kg
Fast SAR(10 g) = 1.51 W/kg
Maximum value of SAR (interpolated) = 2.57 W/kg

**d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.11 V/m
Peak SAR (extrapolated) = 3.23 W/kg
**SAR(1 g) = 2.18 W/kg**
**SAR(10 g) = 1.44 W/kg**
**Power Drift = -0.00 dB**
Maximum value of SAR (measured) = 2.36 W/kg





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**Plot 3**

Date/Time: 2015-08-18 9:12:04 AM

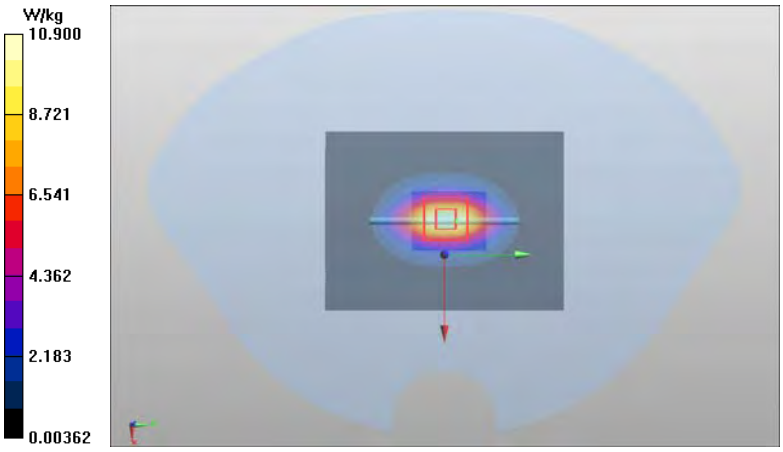
Test Laboratory: TCC Microsoft
**Type: D1750V2; Serial: D1750V2 - SN:1082**

**Communication System: CW**
Frequency: **1750 MHz**; Duty Cycle: 1:1
Medium: HSL 1750; Medium Notes: t= 20,2 C
Medium parameters used: f = 1750 MHz; $\sigma$ = 1.332 S/m; $\varepsilon_r$ = 39.588; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(5.17, 5.17, 5.17); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2015-04-21
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1692
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 86.12 V/m
Fast SAR: SAR(1 g) = 8.71 W/kg
Fast SAR(10 g) = 4.66 W/kg
Maximum value of SAR (interpolated) = 10.9 W/kg

**d=10mm, Pin=250mW/Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 86.12 V/m
Peak SAR (extrapolated) = 15.0 W/kg
**SAR(1 g) = 8.48 W/kg**
**SAR(10 g) = 4.5 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 10.7 W/kg





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**Plot 4**

Date/Time: 2015-10-30 12:36:51 PM

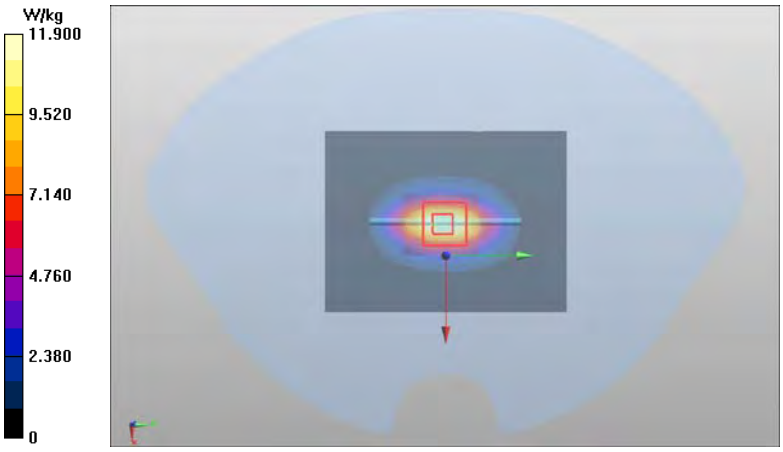
Test Laboratory: TCC Microsoft
**Type: D1750V2; Serial: D1750V2 - SN:1082**

**Communication System: CW**
Frequency: **1750 MHz**; Duty Cycle: 1:1
Medium: HSL1750; Medium Notes: t= 21,2 C
Medium parameters used: f = 1750 MHz; $\sigma$ = 1.339 S/m; $\varepsilon_r$ = 38.939; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.99, 4.99, 4.99); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 2 Twin Phantom; Type: QD 000 P40 CD; Serial: TP-1701
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 89.30 V/m
Fast SAR: SAR(1 g) = 9.46 W/kg
Fast SAR(10 g) = 5.08 W/kg
Maximum value of SAR (interpolated) = 11.9 W/kg

**d=10mm, Pin=250mW/Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 89.30 V/m
Peak SAR (extrapolated) = 16.4 W/kg
**SAR(1 g) = 9.19 W/kg**
**SAR(10 g) = 4.89 W/kg**
**Power Drift = -0.11 dB**
Maximum value of SAR (measured) = 11.5 W/kg





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**Plot 5**

Date/Time: 2015-08-21 8:40:47 AM

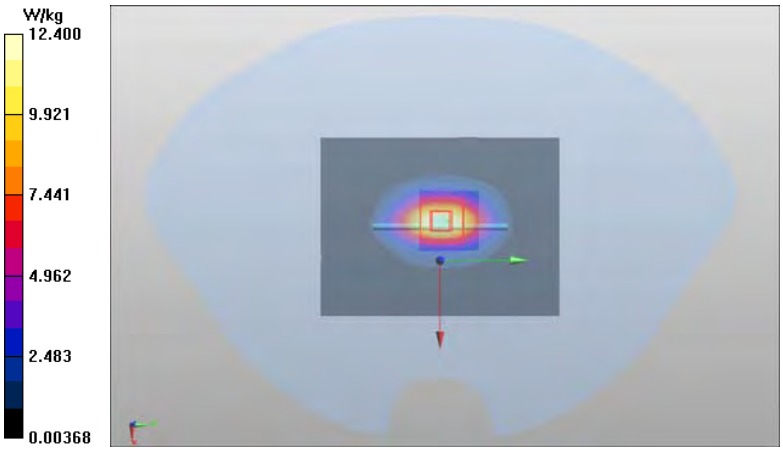
Test Laboratory: TCC Microsoft
**Type: D1900V2; Serial: D1900V2 - SN:5d013**

**Communication System: CW**
Frequency: **1900 MHz**; Duty Cycle: 1:1
Medium: HSL 1900; Medium Notes: t= 22.7 C
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.372 S/m; $\varepsilon_r$ = 38.809; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 88.46 V/m
Fast SAR: SAR(1 g) = 9.76 W/kg
Fast SAR(10 g) = 5.07 W/kg
Maximum value of SAR (interpolated) = 12.4 W/kg

**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 88.46 V/m
Peak SAR (extrapolated) = 17.7 W/kg
**SAR(1 g) = 9.7 W/kg**
**SAR(10 g) = 5.06 W/kg**
**Power Drift = 0.00 dB**
Maximum value of SAR (measured) = 12.1 W/kg





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**Plot 6**

Date/Time: 2015-10-31 6:46:19 AM

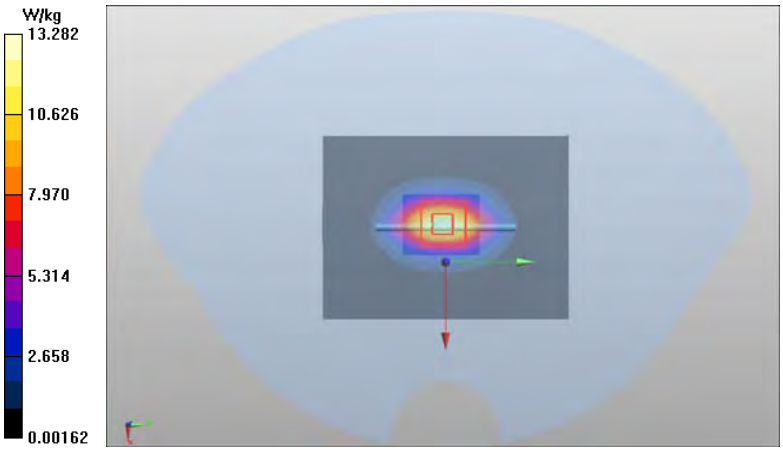
Test Laboratory: TCC Microsoft
**Type: D1900V2; Serial: D1900V2 - SN:5d013**

**Communication System: CW**
Frequency: **1900 MHz**; Duty Cycle: 1:1
Medium: HSL 1900; Medium Notes: t= 20,8 C
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.417 S/m; $\varepsilon_r$ = 38.956; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(4.98, 4.98, 4.98); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2015-01-21
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 90.56 V/m
Fast SAR: SAR(1 g) = 10.3 W/kg
Fast SAR(10 g) = 5.32 W/kg
Maximum value of SAR (interpolated) = 13.3 W/kg

**d=10mm, Pin=250mW/Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 90.56 V/m
Peak SAR (extrapolated) = 18.5 W/kg
**SAR(1 g) = 10.2 W/kg**
**SAR(10 g) = 5.29 W/kg**
**Power Drift = 0.01 dB**
Maximum value of SAR (measured) = 12.8 W/kg





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**Plot 7**

Date/Time: 2015-08-24 9:12:15 AM

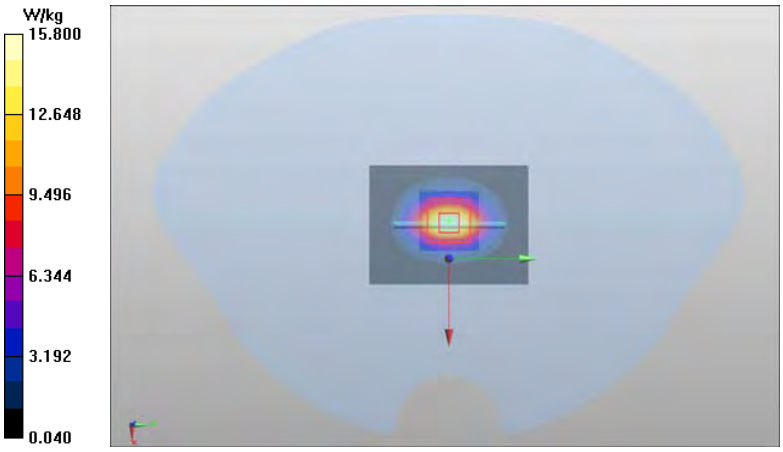
Test Laboratory: TCC Microsoft
**Type: D2300V2; Serial: D2300V2 - SN:1039**

**Communication System: CW**
Frequency: **2300 MHz**; Duty Cycle: 1:1
Medium: HSL2300; Medium Notes: t= 22,6 C
Medium parameters used: f = 2300 MHz; $\sigma$ = 1.6 S/m; $\varepsilon_r$ = 39.565; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.47, 7.47, 7.47); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 92.71 V/m
Fast SAR: SAR(1 g) = 12.1 W/kg
Fast SAR(10 g) = 5.62 W/kg
Maximum value of SAR (interpolated) = 15.8 W/kg

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.71 V/m
Peak SAR (extrapolated) = 24.1 W/kg
**SAR(1 g) = 12.3 W/kg**
**SAR(10 g) = 5.9 W/kg**
**Power Drift = -0.00 dB**
Maximum value of SAR (measured) = 16.1 W/kg





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**Plot 8**

Date/Time: 2015-08-16 9:55:48 AM

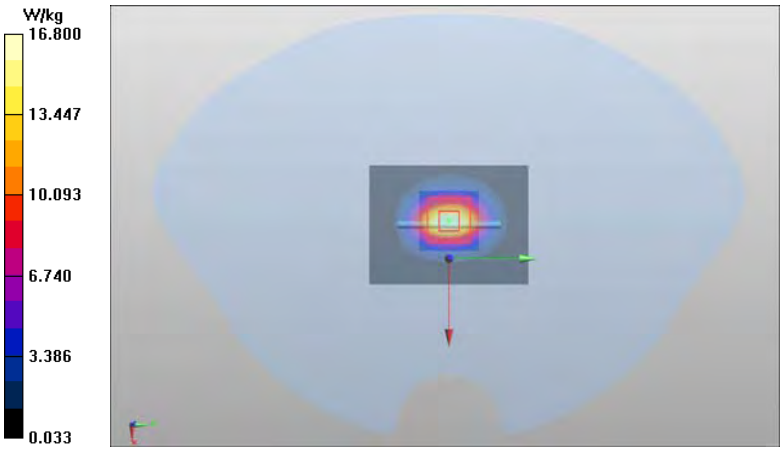
Test Laboratory: TCC Microsoft
**Type: D2450V2; Serial: D2450V2 - SN:749**

**Communication System: CW**
Frequency: **2450 MHz**; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: t= 22.5 C
Medium parameters used: f = 2450 MHz; $\sigma$ = 1.749 S/m; $\varepsilon_r$ = 38.675; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.24, 7.24, 7.24); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 91.81 V/m
Fast SAR: SAR(1 g) = 12.7 W/kg
Fast SAR(10 g) = 5.69 W/kg
Maximum value of SAR (interpolated) = 16.8 W/kg

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.81 V/m
Peak SAR (extrapolated) = 26.8 W/kg
**SAR(1 g) = 12.9 W/kg**
**SAR(10 g) = 6.02 W/kg**
**Power Drift = -0.15 dB**
Maximum value of SAR (measured) = 17.1 W/kg





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**Plot 9**

Date/Time: 2015-08-11 7:24:02 AM

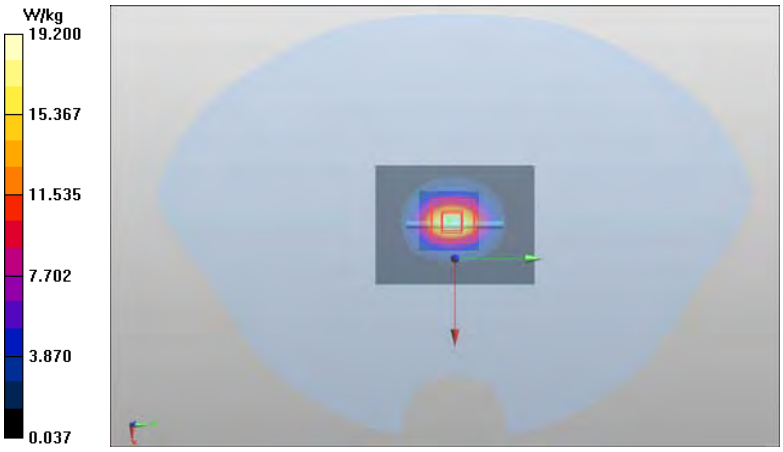
Test Laboratory: TCC Microsoft
**Type: D2600V2; Serial: D2600V2 - SN:1056**

**Communication System: CW**
Frequency: **2600 MHz**; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: t=21.6 C
Medium parameters used: f = 2600 MHz; $\sigma$ = 1.966 S/m; $\varepsilon_r$ = 37.482; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.13, 7.13, 7.13); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 91.11 V/m
Fast SAR: SAR(1 g) = 14.5 W/kg
Fast SAR(10 g) = 6.53 W/kg
Maximum value of SAR (interpolated) = 19.2 W/kg

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.11 V/m
Peak SAR (extrapolated) = 31.7 W/kg
**SAR(1 g) = 14.4 W/kg**
**SAR(10 g) = 6.36 W/kg**
**Power Drift = -0.09 dB**
Maximum value of SAR (measured) = 19.3 W/kg





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**Plot 10**

Date/Time: 2015-08-17 9:32:18 AM

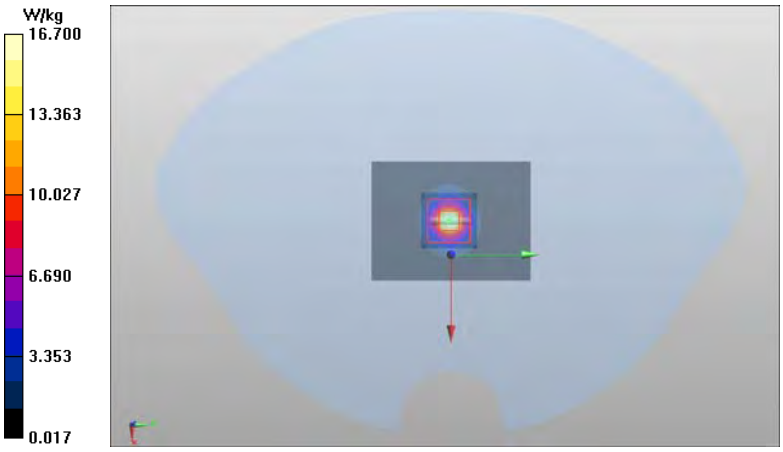
Test Laboratory: TCC Microsoft
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5200 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t= 21.1 C
Medium parameters used: f = 5200 MHz; $\sigma$ = 4.625 S/m; $\varepsilon_r$ = 36.141; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.87, 4.87, 4.87); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5200/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 63.21 V/m
Fast SAR: SAR(1 g) = 7.62 W/kg
Fast SAR(10 g) = 2.1 W/kg
Maximum value of SAR (interpolated) = 16.7 W/kg

**d=10mm, Pin=100mW 5200/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 63.21 V/m
Peak SAR (extrapolated) = 33.8 W/kg
**SAR(1 g) = 8.02 W/kg**
**SAR(10 g) = 2.29 W/kg**
**Power Drift = 0.04 dB**
Maximum value of SAR (measured) = 15.4 W/kg





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**Plot 11**

Date/Time: 2015-08-17 10:07:33 AM

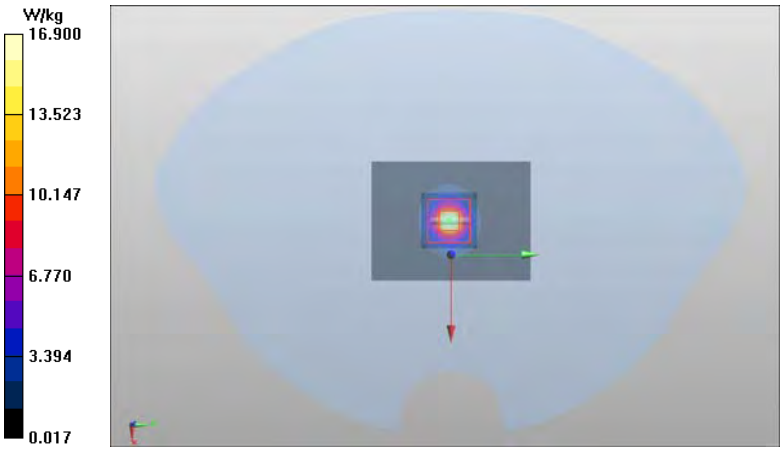
Test Laboratory: TCC Microsoft
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5300 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t= 21.1 C
Medium parameters used: f = 5300 MHz; $\sigma$ = 4.727 S/m; $\varepsilon_r$ = 35.982; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.68, 4.68, 4.68); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5300/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 63.81 V/m
Fast SAR: SAR(1 g) = 7.66 W/kg
Fast SAR(10 g) = 2.11 W/kg
Maximum value of SAR (interpolated) = 16.9 W/kg

**d=10mm, Pin=100mW 5300/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 63.81 V/m
Peak SAR (extrapolated) = 35.3 W/kg
**SAR(1 g) = 8.17 W/kg**
**SAR(10 g) = 2.33 W/kg**
**Power Drift = -0.03 dB**
Maximum value of SAR (measured) = 15.8 W/kg





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**Plot 12**

Date/Time: 2015-08-18 8:38:58 AM

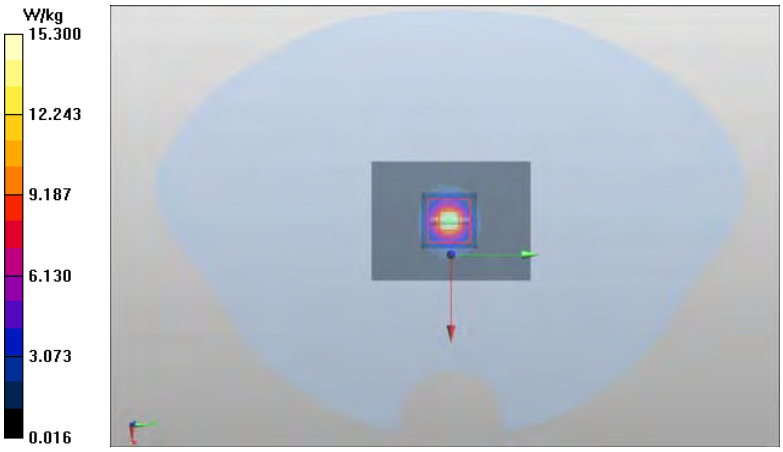
Test Laboratory: TCC Microsoft
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5500 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t= 21.5 C
Medium parameters used: f = 5500 MHz; $\sigma$ = 4.912 S/m; $\varepsilon_r$ = 35.679; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.7, 4.7, 4.7); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5500/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 59.56 V/m
Fast SAR: SAR(1 g) = 6.85 W/kg
Fast SAR(10 g) = 1.87 W/kg
Maximum value of SAR (interpolated) = 15.3 W/kg

**d=10mm, Pin=100mW 5500/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 59.56 V/m
Peak SAR (extrapolated) = 33.0 W/kg
**SAR(1 g) = 7.58 W/kg**
**SAR(10 g) = 2.14 W/kg**
**Power Drift = 0.14 dB**
Maximum value of SAR (measured) = 14.7 W/kg





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**Plot 13**

Date/Time: 2015-08-18 9:13:09 AM

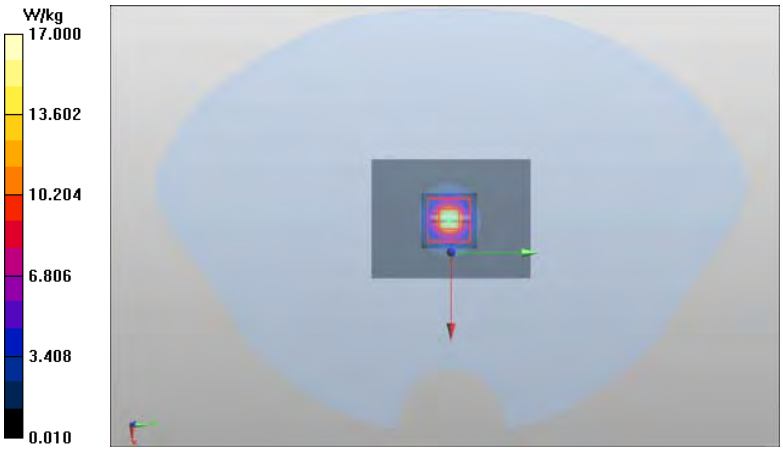
Test Laboratory: TCC Microsoft
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5600 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t= 21.5 C
Medium parameters used: f = 5600 MHz; $\sigma$ = 5.017 S/m; $\varepsilon_r$ = 35.543; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.53, 4.53, 4.53); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5600/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 62.09 V/m
Fast SAR: SAR(1 g) = 7.55 W/kg
Fast SAR(10 g) = 2.05 W/kg
Maximum value of SAR (interpolated) = 17.0 W/kg

**d=10mm, Pin=100mW 5600/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 62.09 V/m
Peak SAR (extrapolated) = 35.9 W/kg
**SAR(1 g) = 8.09 W/kg**
**SAR(10 g) = 2.28 W/kg**
**Power Drift = -0.05 dB**
Maximum value of SAR (measured) = 16.1 W/kg





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**Plot 14**

Date/Time: 2015-08-18 9:41:22 AM

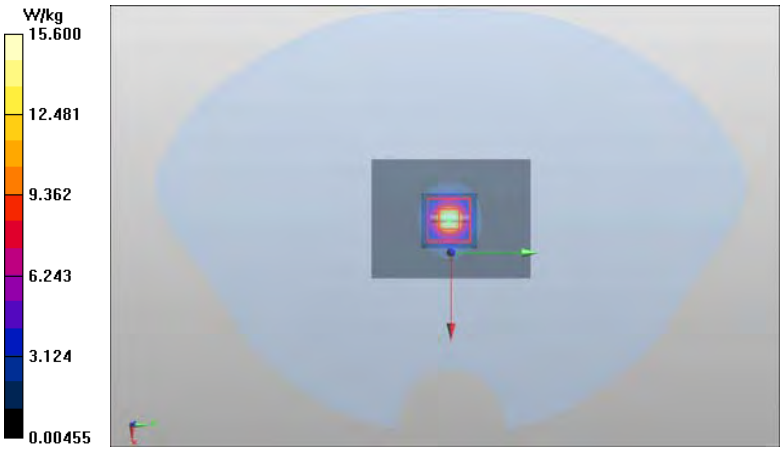
Test Laboratory: TCC Microsoft
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5800 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t= 21.5 C
Medium parameters used: f = 5800 MHz; $\sigma$ = 5.239 S/m; $\varepsilon_r$ = 35.257; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.5, 4.5, 4.5); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5800/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 58.42 V/m
Fast SAR: SAR(1 g) = 6.9 W/kg
Fast SAR(10 g) = 1.89 W/kg
Maximum value of SAR (interpolated) = 15.6 W/kg

**d=10mm, Pin=100mW 5800/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 58.42 V/m
Peak SAR (extrapolated) = 34.4 W/kg
**SAR(1 g) = 7.45 W/kg**
**SAR(10 g) = 2.11 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 15.0 W/kg





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**Plot 15**

Date/Time: 2015-08-20 9:04:38 AM

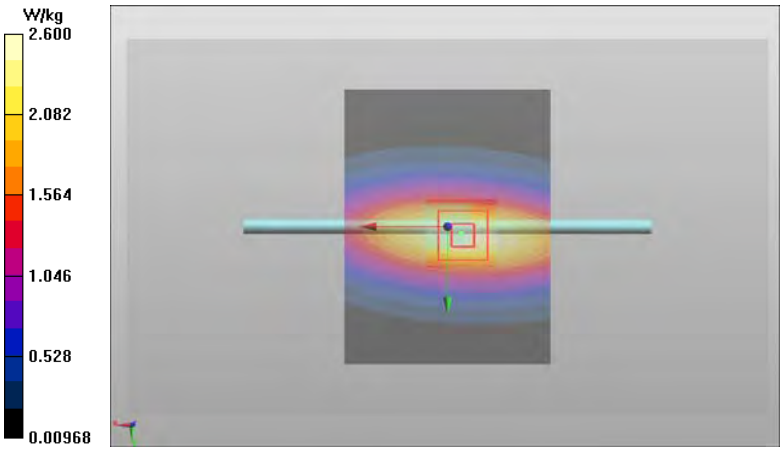
Test Laboratory: TCC Nokia
**Type: D750V3; Serial: D750V3 - SN:1075**

**Communication System: CW**
Frequency: **750 MHz**; Duty Cycle: 1:1
Medium: HSL750; Medium Notes: t= 21.7C
Medium parameters used: f = 750 MHz; $\sigma$ = 0.971 S/m; $\varepsilon_r$ = 53.868; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (61x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 49.21 V/m
Fast SAR: SAR(1 g) = 2.27 W/kg
Fast SAR(10 g) = 1.55 W/kg
Maximum value of SAR (interpolated) = 2.60 W/kg

**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 49.21 V/m
Peak SAR (extrapolated) = 3.25 W/kg
**SAR(1 g) = 2.25 W/kg**
**SAR(10 g) = 1.49 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 2.60 W/kg





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**Plot 16**

Date/Time: 2015-08-06 10:02:30 AM

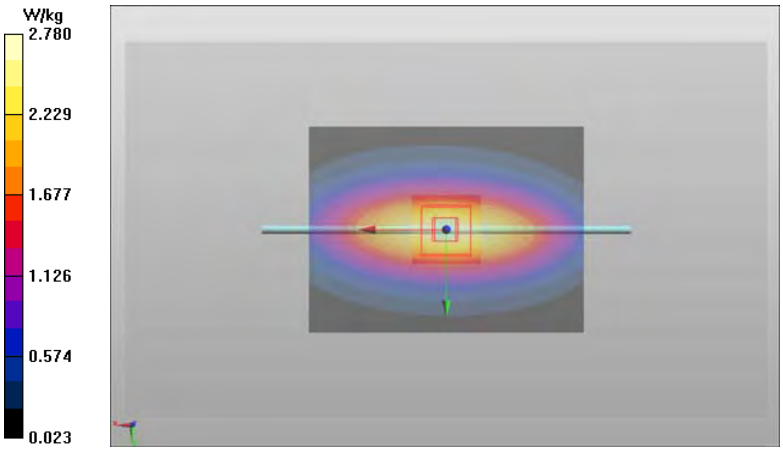
Test Laboratory: TCC Microsoft
**Type: D835V2; Serial: D835V2 - SN:480**

**Communication System: CW**
Frequency: **835 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used: f = 835 MHz; $\sigma$ = 0.984 S/m; $\varepsilon_r$ = 53.652; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (81x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 51.84 V/m
Fast SAR: SAR(1 g) = 2.42 W/kg
Fast SAR(10 g) = 1.62 W/kg
Maximum value of SAR (interpolated) = 2.78 W/kg

**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 51.84 V/m
Peak SAR (extrapolated) = 3.51 W/kg
**SAR(1 g) = 2.39 W/kg**
**SAR(10 g) = 1.58 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 2.79 W/kg





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**Plot 17**

Date/Time: 2015-08-15 8:30:14 AM

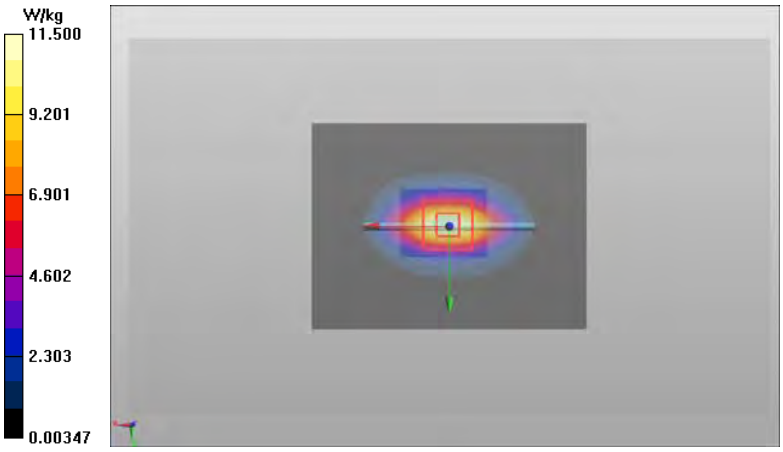
Test Laboratory: TCC Microsoft
**Type: D1750V2; Serial: D1750V2 - SN:1082**

**Communication System: CW**
Frequency: **1750 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 20.8 C
Medium parameters used: f = 1750 MHz; $\sigma$ = 1.43 S/m; $\varepsilon_r$ = 52.241; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(4.91, 4.91, 4.91); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2015-04-21
- Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (81x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 85.81 V/m
Fast SAR: SAR(1 g) = 9.14 W/kg
Fast SAR(10 g) = 4.78 W/kg
Maximum value of SAR (interpolated) = 11.5 W/kg

**d=10mm, Pin=250mW/Zoom Scan (6x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 85.81 V/m
Peak SAR (extrapolated) = 15.5 W/kg
**SAR(1 g) = 9.03 W/kg**
**SAR(10 g) = 4.88 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 11.2 W/kg





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**Plot 18**

Date/Time: 2015-10-31 8:33:55 AM

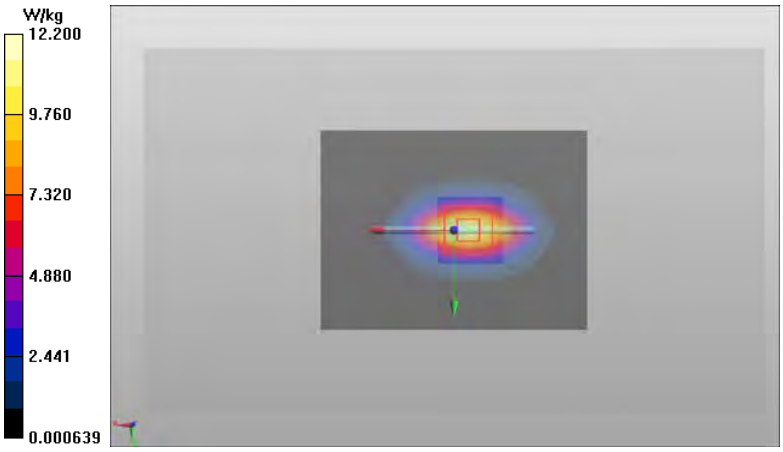
Test Laboratory: TCC Microsoft
**Type: D1800V2; Serial: D1800V2 - SN:2d065**

**Communication System: CW**
Frequency: **1750 MHz**; Duty Cycle: 1:1
Medium: BSL1800; Medium Notes: t= 21.7 C
Medium parameters used: f = 1750 MHz; $\sigma$ = 1.448 S/m; $\varepsilon_r$ = 52.132; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.78, 4.78, 4.78); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (81x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 83.79 V/m
Fast SAR: SAR(1 g) = 9.32 W/kg
Fast SAR(10 g) = 4.82 W/kg
Maximum value of SAR (interpolated) = 12.2 W/kg

**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 83.79 V/m
Peak SAR (extrapolated) = 15.7 W/kg
**SAR(1 g) = 9.13 W/kg**
**SAR(10 g) = 4.92 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 11.5 W/kg





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**Plot 19**

Date/Time: 2015-08-17 10:31:38 AM

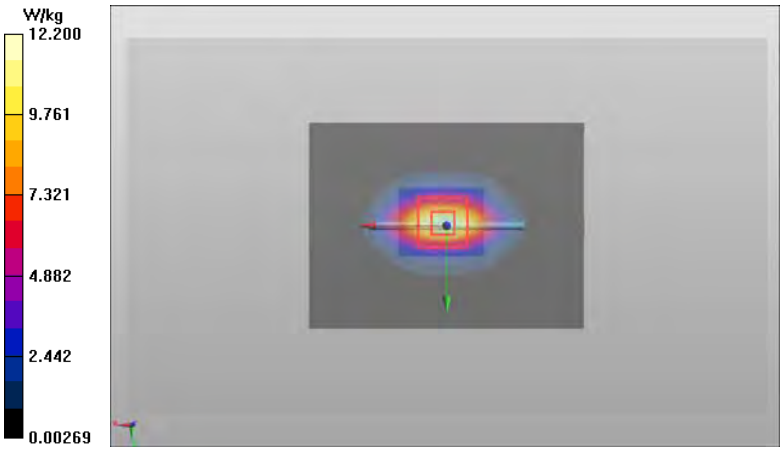
Test Laboratory: TCC Microsoft
**Type: D1900V2; Serial: D1900V2 - SN:5d013**

**Communication System: CW**
Frequency: **1900 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 23.3 C
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.479 S/m; $\varepsilon_r$ = 51.792; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (81x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 86.91 V/m
Fast SAR: SAR(1 g) = 9.42 W/kg
Fast SAR(10 g) = 4.74 W/kg
Maximum value of SAR (interpolated) = 12.2 W/kg

**d=10mm, Pin=250mW/Zoom Scan (6x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 86.91 V/m
Peak SAR (extrapolated) = 16.2 W/kg
**SAR(1 g) = 9.42 W/kg**
**SAR(10 g) = 4.99 W/kg**
**Power Drift = -0.13 dB**
Maximum value of SAR (measured) = 11.7 W/kg





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**Plot 20**

Date/Time: 2015-10-31 7:15:35 AM

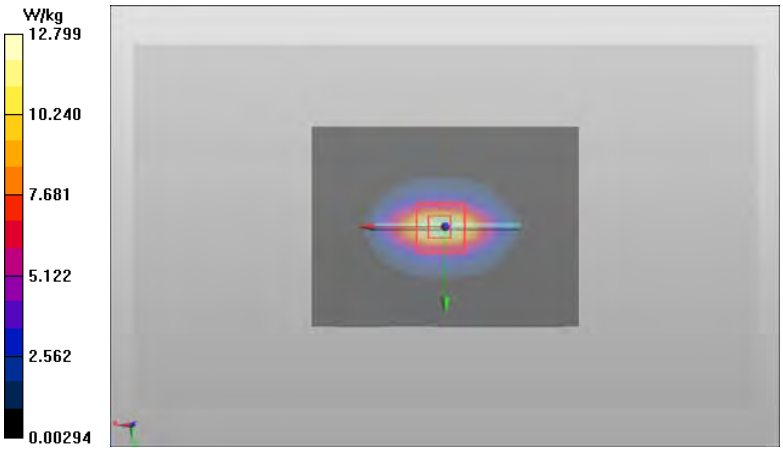
Test Laboratory: TCC Microsoft
**Type: D1900V2; Serial: D1900V2 - SN:5d013**

**Communication System: CW**
Frequency: **1900 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 20,8 C
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.548 S/m; $\varepsilon_r$ = 51.868; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(4.72, 4.72, 4.72); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2015-01-21
- Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (81x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 86.32 V/m
Fast SAR: SAR(1 g) = 9.86 W/kg
Fast SAR(10 g) = 4.95 W/kg
Maximum value of SAR (interpolated) = 12.8 W/kg

**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 86.32 V/m
Peak SAR (extrapolated) = 17.1 W/kg
**SAR(1 g) = 9.78 W/kg**
**SAR(10 g) = 5.13 W/kg**
**Power Drift = -0.03 dB**
Maximum value of SAR (measured) = 12.1 W/kg





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**Plot 21**

Date/Time: 2015-08-19 8:33:04 AM

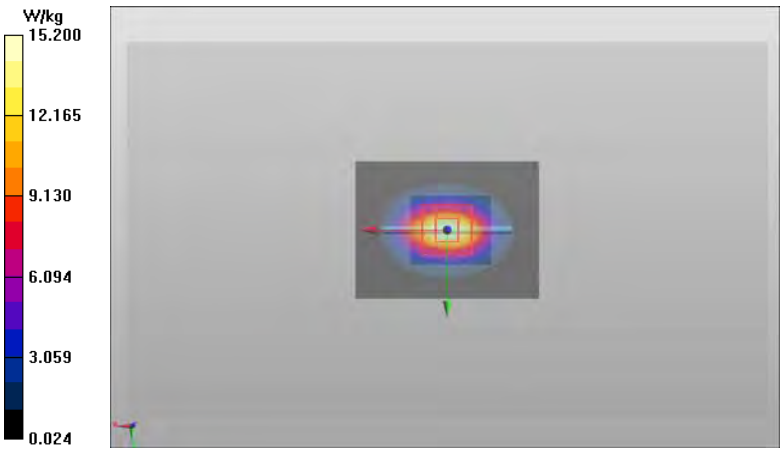
Test Laboratory: TCC Microsoft
**Type: D2300V2; Serial: D2300V2 - SN:1039**

**Communication System: CW**
Frequency: **2300 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22.5 C
Medium parameters used: f = 2300 MHz; $\sigma$ = 1.735 S/m; $\varepsilon_r$ = 52.272; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.44, 7.44, 7.44); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Configuration (2300MHz)/d=10mm, Pin=250mW/Area Scan (81x61x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 88.77 V/m
Fast SAR: SAR(1 g) = 11.6 W/kg
Fast SAR(10 g) = 5.3 W/kg
Maximum value of SAR (interpolated) = 15.2 W/kg

**Configuration (2300MHz)/d=10mm, Pin=250mW/Zoom Scan (8x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.77 V/m
Peak SAR (extrapolated) = 22.7 W/kg
**SAR(1 g) = 11.7 W/kg**
**SAR(10 g) = 5.71 W/kg**
**Power Drift = -0.03 dB**
Maximum value of SAR (measured) = 15.3 W/kg





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**Plot 22**

Date/Time: 2015-08-16 2:06:18 PM

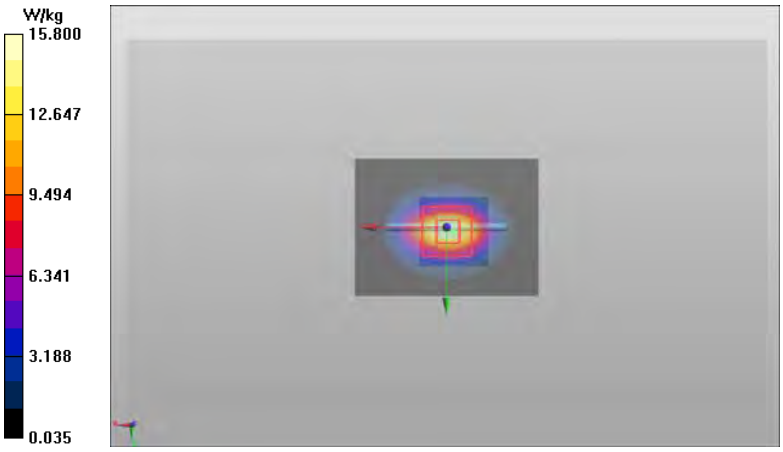
Test Laboratory: TCC Microsoft
**Type: D2450V2; Serial: D2450V2 - SN:749**

**Communication System: CW**
Frequency: **2450 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22.6 C
Medium parameters used: f = 2450 MHz; $\sigma$ = 1.886 S/m; $\varepsilon_r$ = 51.731; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (81x61x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 84.43 V/m
Fast SAR: SAR(1 g) = 11.7 W/kg
Fast SAR(10 g) = 5.11 W/kg
Maximum value of SAR (interpolated) = 15.8 W/kg

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 84.43 V/m
Peak SAR (extrapolated) = 23.7 W/kg
**SAR(1 g) = 11.9 W/kg**
**SAR(10 g) = 5.6 W/kg**
**Power Drift = 0.01 dB**
Maximum value of SAR (measured) = 15.5 W/kg





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**Plot 23**

Date/Time: 2015-08-14 8:20:44 AM

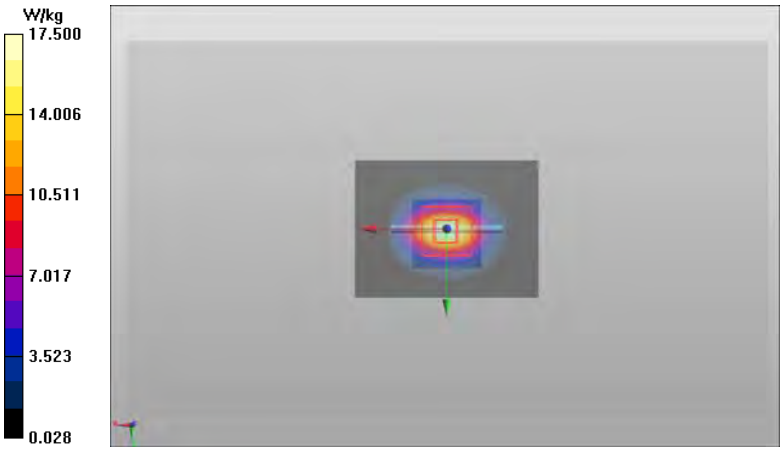
Test Laboratory: TCC Microsoft
**Type: D2600V2; Serial: D2600V2 - SN:1056**

**Communication System: CW**
Frequency: **2600 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22.4 C
Medium parameters used: f = 2600 MHz; $\sigma$ = 2.091 S/m; $\varepsilon_r$ = 51.314; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (81x61x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 85.07 V/m
Fast SAR: SAR(1 g) = 13.3 W/kg
Fast SAR(10 g) = 5.86 W/kg
Maximum value of SAR (interpolated) = 17.5 W/kg

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.07 V/m
Peak SAR (extrapolated) = 27.0 W/kg
**SAR(1 g) = 13.1 W/kg**
**SAR(10 g) = 5.92 W/kg**
**Power Drift = 0.02 dB**
Maximum value of SAR (measured) = 17.3 W/kg





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**Plot 24**

Date/Time: 2015-08-19 9:35:45 AM

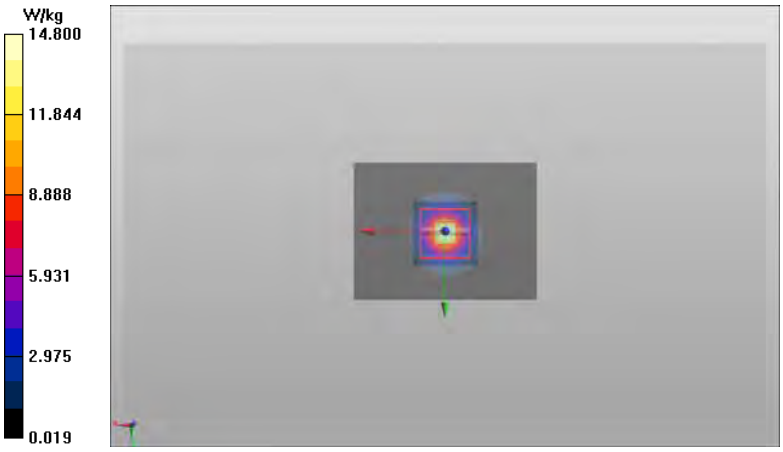
Test Laboratory: TCC Microsoft
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5200 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: t= 21.3 C
Medium parameters used: f = 5200 MHz; $\sigma$ = 5.411 S/m; $\varepsilon_r$ = 47.148; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5200/Area Scan (81x61x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 55.68 V/m
Fast SAR: SAR(1 g) = 6.67 W/kg
Fast SAR(10 g) = 1.83 W/kg
Maximum value of SAR (interpolated) = 14.8 W/kg

**d=10mm, Pin=100mW 5200/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 55.68 V/m
Peak SAR (extrapolated) = 30.0 W/kg
**SAR(1 g) = 7.18 W/kg**
**SAR(10 g) = 2.02 W/kg**
**Power Drift = 0.03 dB**
Maximum value of SAR (measured) = 13.6 W/kg





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**Plot 25**

Date/Time: 2015-08-19 10:34:12 AM

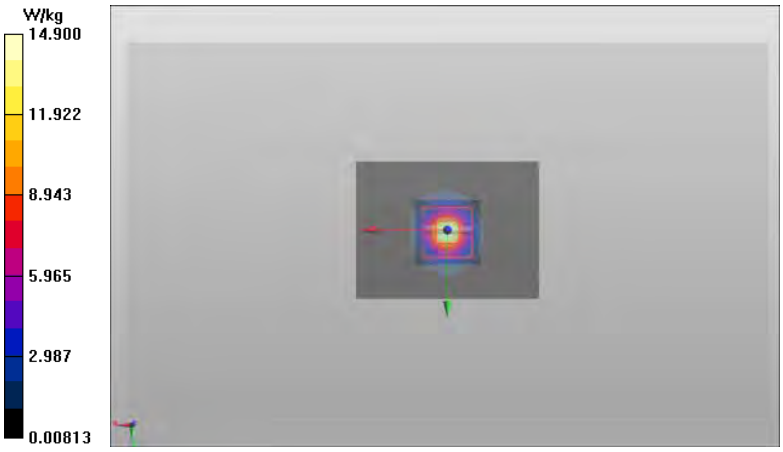
Test Laboratory: TCC Microsoft
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5300 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: t= 21.3 C
Medium parameters used: f = 5300 MHz; $\sigma$ = 5.541 S/m; $\varepsilon_r$ = 46.951; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.35, 4.35, 4.35); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5300/Area Scan (81x61x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 56.11 V/m
Fast SAR: SAR(1 g) = 6.72 W/kg
Fast SAR(10 g) = 1.85 W/kg
Maximum value of SAR (interpolated) = 14.9 W/kg

**d=10mm, Pin=100mW 5300/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 56.11 V/m
Peak SAR (extrapolated) = 30.3 W/kg
**SAR(1 g) = 7.17 W/kg**
**SAR(10 g) = 2.01 W/kg**
**Power Drift = -0.03 dB**
Maximum value of SAR (measured) = 13.8 W/kg





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**Plot 26**

Date/Time: 2015-08-20 9:33:57 AM

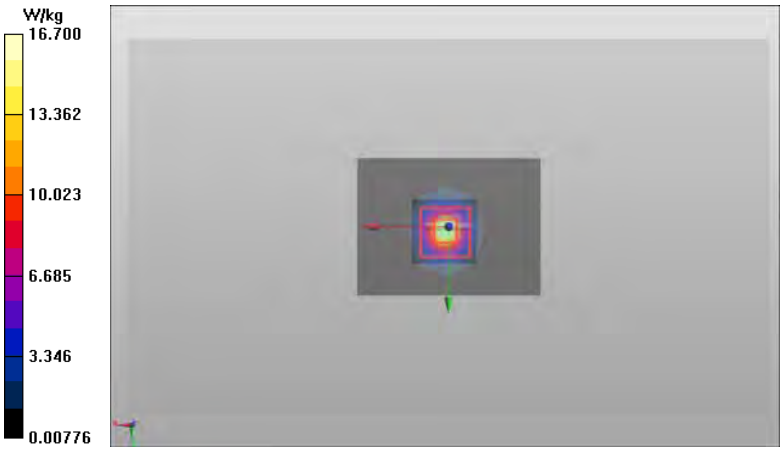
Test Laboratory: TCC Nokia
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5500 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: t=21.2 C
Medium parameters used: f = 5500 MHz; $\sigma$ = 5.784 S/m; $\varepsilon_r$ = 46.713; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(3.82, 3.82, 3.82); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5500/Area Scan (81x61x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 56.63 V/m
Fast SAR: SAR(1 g) = 7.34 W/kg
Fast SAR(10 g) = 2.04 W/kg
Maximum value of SAR (interpolated) = 16.7 W/kg

**d=10mm, Pin=100mW 5500/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 56.63 V/m
Peak SAR (extrapolated) = 33.5 W/kg
**SAR(1 g) = 7.91 W/kg**
**SAR(10 g) = 2.22 W/kg**
**Power Drift = -0.06 dB**
Maximum value of SAR (measured) = 15.7 W/kg





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**Plot 27**

Date/Time: 2015-08-21 8:31:38 AM

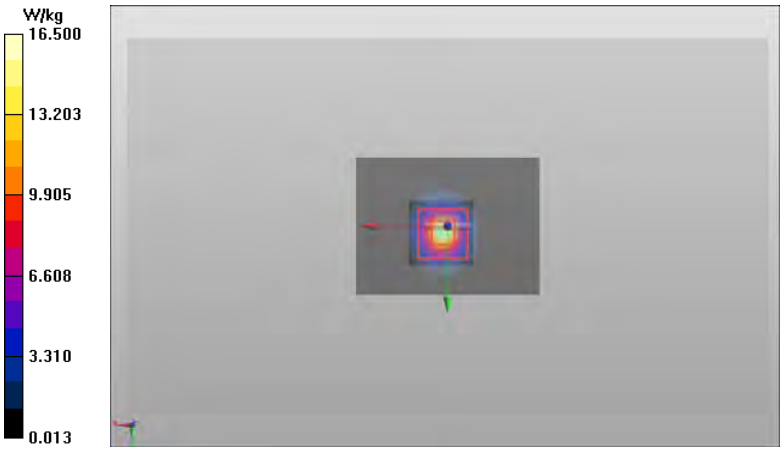
Test Laboratory: TCC Microsoft
**Type: D5GHzV2; Serial: D5GHzV2 - SN: 1048**

**Communication System: CW**
Frequency: **5800 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: t= 21.0 C
Medium parameters used: f = 5800 MHz; $\sigma$ = 6.239 S/m; $\varepsilon_r$ = 45.943; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.1, 4.1, 4.1); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW 5800/Area Scan (81x61x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 50.79 V/m
Fast SAR: SAR(1 g) = 7 W/kg
Fast SAR(10 g) = 1.94 W/kg
Maximum value of SAR (interpolated) = 16.5 W/kg

**d=10mm, Pin=100mW 5800/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 50.79 V/m
Peak SAR (extrapolated) = 33.4 W/kg
**SAR(1 g) = 7.55 W/kg**
**SAR(10 g) = 2.1 W/kg**
**Power Drift = -0.05 dB**
Maximum value of SAR (measured) = 15.2 W/kg





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**APPENDIX B: MEASUREMENT SCANS**
**Plot H1**

Date/Time: 2015-08-06 1:15:55 PM

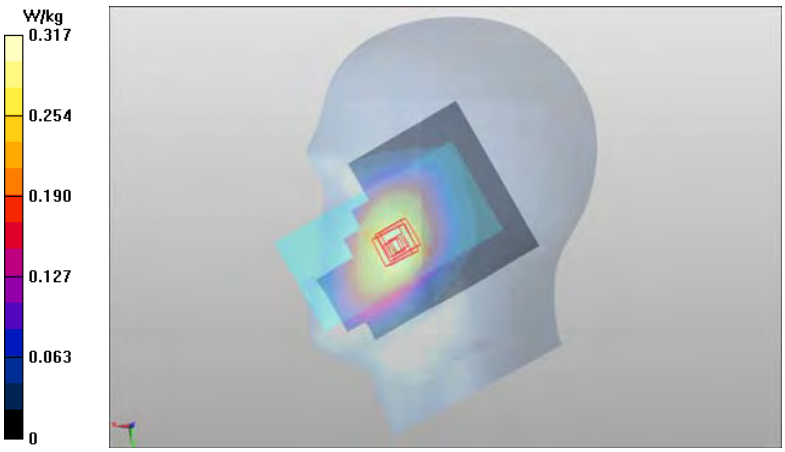
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE700 (Band 12)**
Frequency: **707.5 MHz**; Duty Cycle: 1:1
Medium: HSL750; Medium Notes: t= 22.4 C
Medium parameters used (interpolated): f = 707.5 MHz; $\sigma$ = 0.879 S/m; $\varepsilon_r$ = 41.256; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(9.14, 9.14, 9.14); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #1 SAM, SAR4; Type: SAM; Serial: TP-1018
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE700 (Band 12) - Right/Cheek - CH 23095 - 10MHz - QPSK - 1 RB - Offset 49 - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 18.93 V/m
Fast SAR: SAR(1 g) = 0.280 W/kg
Fast SAR(10 g) = 0.200 W/kg
Maximum value of SAR (interpolated) = 0.317 W/kg

**LTE700 (Band 12) - Right/Cheek - CH 23095 - 10MHz - QPSK - 1 RB - Offset 49 - Antenna 1/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.93 V/m
Peak SAR (extrapolated) = 0.340 W/kg
**SAR(1 g) = 0.279 W/kg**
**SAR(10 g) = 0.219 W/kg**
**Power Drift = 0.01 dB**
Maximum value of SAR (measured) = 0.300 W/kg





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**Plot H2**

Date/Time: 2015-08-07 10:54:42 AM

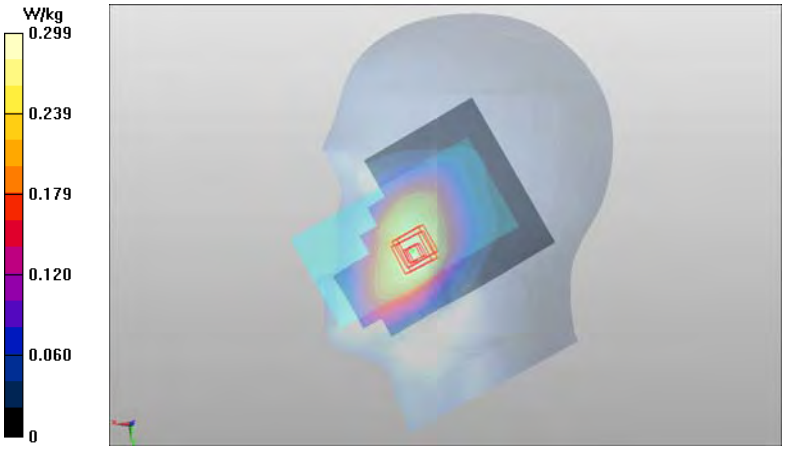
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE700 (Band 17)**
Frequency: **710 MHz**; Duty Cycle: 1:1
Medium: HSL750; Medium Notes: t= 22.0 C
Medium parameters used: f = 710 MHz; $\sigma$ = 0.869 S/m; $\varepsilon_r$ = 40.941; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(9.14, 9.14, 9.14); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #1 SAM, SAR4; Type: SAM; Serial: TP-1018
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE 700 (Band 17) - Right/Cheek - CH 23790 - 10MHz - QPSK - 1 RB - Offset 49 - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 18.84 V/m
Fast SAR: SAR(1 g) = 0.265 W/kg
Fast SAR(10 g) = 0.189 W/kg
Maximum value of SAR (interpolated) = 0.299 W/kg

**LTE 700 (Band 17) - Right/Cheek - CH 23790 - 10MHz - QPSK - 1 RB - Offset 49 - Antenna 1/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.13 V/m
Peak SAR (extrapolated) = 0.351 W/kg
**SAR(1 g) = 0.275 W/kg**
**SAR(10 g) = 0.211 W/kg**
**Power Drift = 0.05 dB**
Maximum value of SAR (measured) = 0.303 W/kg





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**Plot H3**

Date/Time: 2015-08-10 9:46:12 AM

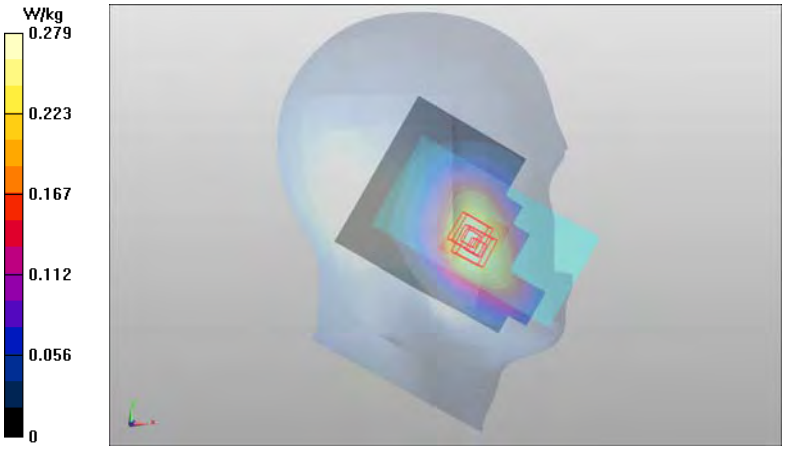
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE750 (Band 13)**
Frequency: **782 MHz**; Duty Cycle: 1:1
Medium: HSL750; Medium Notes: t= 22.2 C
Medium parameters used: f = 782 MHz; $\sigma$ = 0.909 S/m; $\varepsilon_r$ = 39.873; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(9.14, 9.14, 9.14); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #1 SAM, SAR4; Type: SAM; Serial: TP-1018
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE750 (Band 13) - Left/Cheek - CH 23230 - 10MHz - QPSK - 1 RB - Offset 24 - Antenna 2/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 18.18 V/m
Fast SAR: SAR(1 g) = 0.246 W/kg
Fast SAR(10 g) = 0.174 W/kg
Maximum value of SAR (interpolated) = 0.279 W/kg

**LTE750 (Band 13) - Left/Cheek - CH 23230 - 10MHz - QPSK - 1 RB - Offset 24 - Antenna 2/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.04 V/m
Peak SAR (extrapolated) = 0.324 W/kg
**SAR(1 g) = 0.253 W/kg**
**SAR(10 g) = 0.192 W/kg**
**Power Drift = 0.06 dB**
Maximum value of SAR (measured) = 0.277 W/kg





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**Plot H4**

Date/Time: 2015-08-13 2:22:45 PM

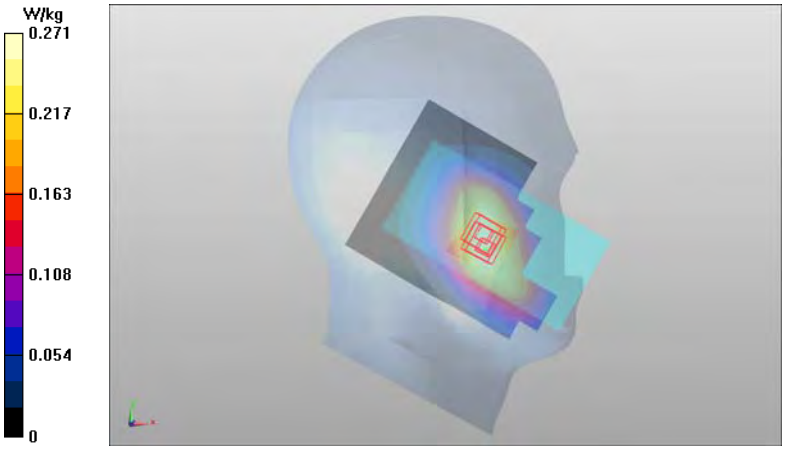
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: 1-slot GPRS850**
Frequency: **848.8 MHz**; Duty Cycle: 1:8.30042
Medium: HSL835; Medium Notes: t= 22.8 C
Medium parameters used: f = 849 MHz; $\sigma$ = 0.911 S/m; $\varepsilon_r$ = 40.243; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**1-slot GPRS850 - Left/Cheek - CH 251 - Antenna 2/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 18.13 V/m
Fast SAR: SAR(1 g) = 0.239 W/kg
Fast SAR(10 g) = 0.168 W/kg
Maximum value of SAR (interpolated) = 0.271 W/kg

**1-slot GPRS850 - Left/Cheek - CH 251 - Antenna 2/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.00 V/m
Peak SAR (extrapolated) = 0.323 W/kg
**SAR(1 g) = 0.246 W/kg**
**SAR(10 g) = 0.188 W/kg**
**Power Drift = 0.05 dB**
Maximum value of SAR (measured) = 0.272 W/kg





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**Plot H5**

Date/Time: 2015-08-14 12:46:59 PM

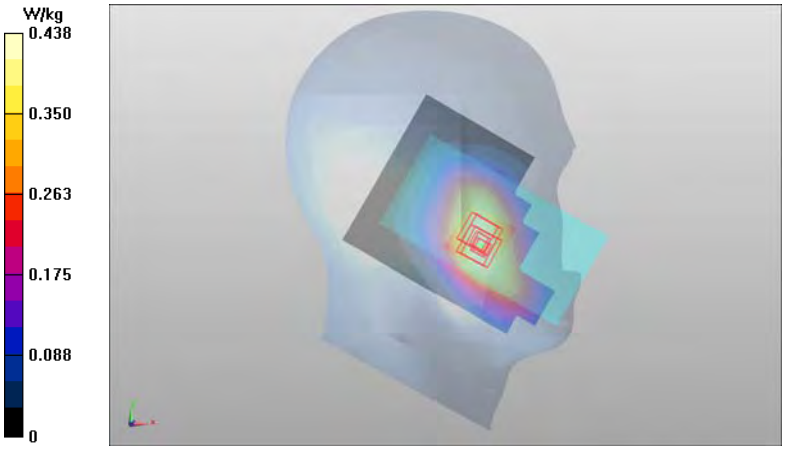
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: WCDMA850 (Band 5)**
Frequency: **846.6 MHz**; Duty Cycle: 1:1
Medium: HSL835; Medium Notes: t= 22.1 C
Medium parameters used: f = 847 MHz; $\sigma$ = 0.894 S/m; $\varepsilon_r$ = 39.708; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA850 (Band 5) - Left/Cheek - CH 4233 - Antenna 2/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 23.43 V/m
Fast SAR: SAR(1 g) = 0.387 W/kg
Fast SAR(10 g) = 0.273 W/kg
Maximum value of SAR (interpolated) = 0.438 W/kg

**WCDMA850 (Band 5) - Left/Cheek - CH 4233 - Antenna 2/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 23.42 V/m
Peak SAR (extrapolated) = 0.521 W/kg
**SAR(1 g) = 0.403 W/kg**
**SAR(10 g) = 0.306 W/kg**
**Power Drift = 0.01 dB**
Maximum value of SAR (measured) = 0.442 W/kg





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**Plot H6**

Date/Time: 2015-08-17 12:06:06 PM

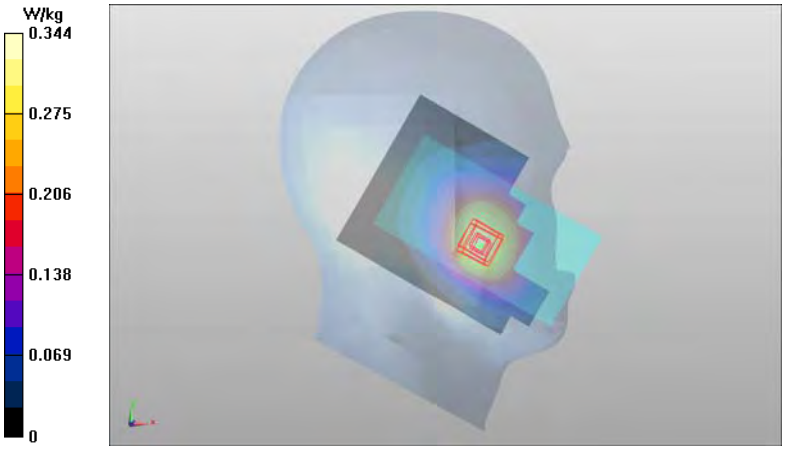
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: LTE850 (Band 5)**
Frequency: **836.5 MHz**; Duty Cycle: 1:1
Medium: HSL835; Medium Notes: t= 21.5 C
Medium parameters used (interpolated): f = 836.5 MHz; $\sigma$ = 0.899 S/m; $\varepsilon_r$ = 40.401; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE850 (Band 5) - Left/Cheek - CH 20525 - 10MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Area Scan (81x121x1):**
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 20.02 V/m
Fast SAR: SAR(1 g) = 0.300 W/kg
Fast SAR(10 g) = 0.208 W/kg
Maximum value of SAR (interpolated) = 0.344 W/kg

**LTE850 (Band 5) - Left/Cheek - CH 20525 - 10MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.11 V/m
Peak SAR (extrapolated) = 0.382 W/kg
**SAR(1 g) = 0.303 W/kg**
**SAR(10 g) = 0.231 W/kg**
**Power Drift = -0.04 dB**
Maximum value of SAR (measured) = 0.329 W/kg





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**Plot H7**

Date/Time: 2015-08-26 11:07:44 PM

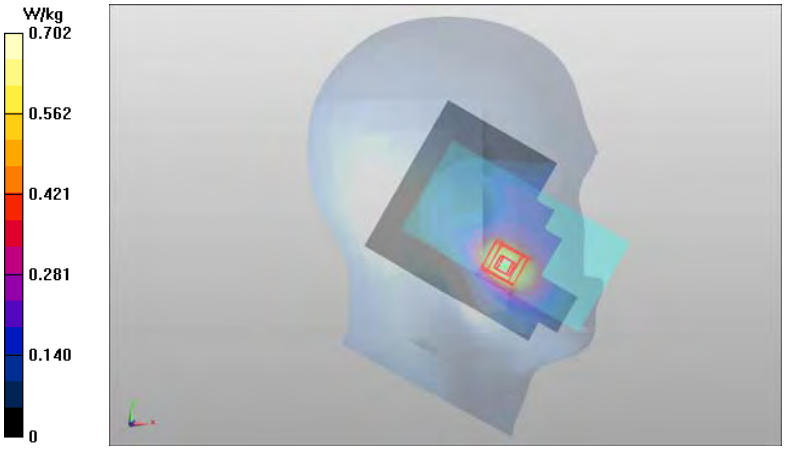
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

**Communication System: WCDMA1700/2100 (Band 4)**
Frequency: **1752.6 MHz**; Duty Cycle: 1:1
Medium: HSL1750; Medium Notes: t= 20.4 C
Medium parameters used: f = 1753 MHz; $\sigma$ = 1.34 S/m; $\varepsilon_r$ = 39.198; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(5.17, 5.17, 5.17); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2015-01-21
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1692
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA1700_2100 (Band 4) - Left/Cheek - CH 1513 - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 21.66 V/m
Fast SAR: SAR(1 g) = 0.570 W/kg
Fast SAR(10 g) = 0.338 W/kg
Maximum value of SAR (interpolated) = 0.702 W/kg

**WCDMA1700_2100 (Band 4) - Left/Cheek - CH 1513 - Antenna 1/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.69 V/m
Peak SAR (extrapolated) = 0.890 W/kg
**SAR(1 g) = 0.596 W/kg**
**SAR(10 g) = 0.377 W/kg**
**Power Drift = 0.01 dB**
Maximum value of SAR (measured) = 0.707 W/kg





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**Plot H8**

Date/Time: 2015-08-27 2:53:21 PM

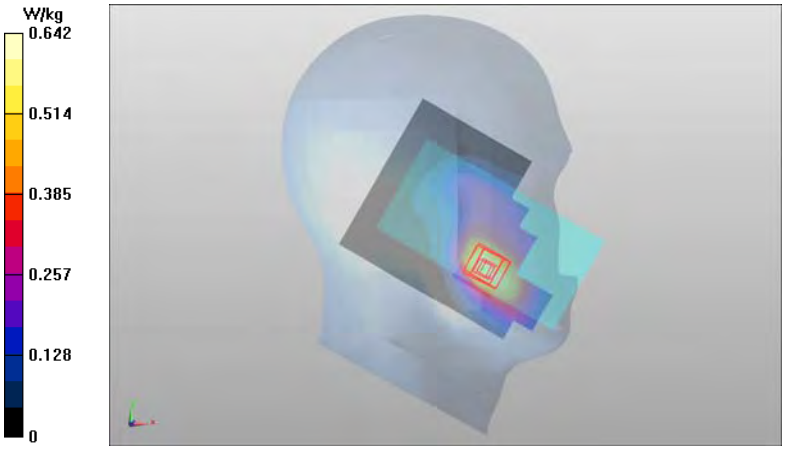
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

**Communication System: LTE1700/2100 (Band 4)**
Frequency: **1720 MHz**; Duty Cycle: 1:1
Medium: HSL1750; Medium Notes: t= 20.6 C
Medium parameters used: f = 1720 MHz; $\sigma$ = 1.301 S/m; $\varepsilon_r$ = 39.141; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(5.17, 5.17, 5.17); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2015-01-21
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1692
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE1700_2100 (Band 4) - Left/Cheek - CH 20050 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 2/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 22.02 V/m
Fast SAR: SAR(1 g) = 0.527 W/kg
Fast SAR(10 g) = 0.323 W/kg
Maximum value of SAR (interpolated) = 0.642 W/kg

**LTE1700_2100 (Band 4) - Left/Cheek - CH 20050 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 2/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.04 V/m
Peak SAR (extrapolated) = 0.800 W/kg
**SAR(1 g) = 0.539 W/kg**
**SAR(10 g) = 0.349 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 0.625 W/kg





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**Plot H9**

Date/Time: 2015-08-10 11:55:37 AM

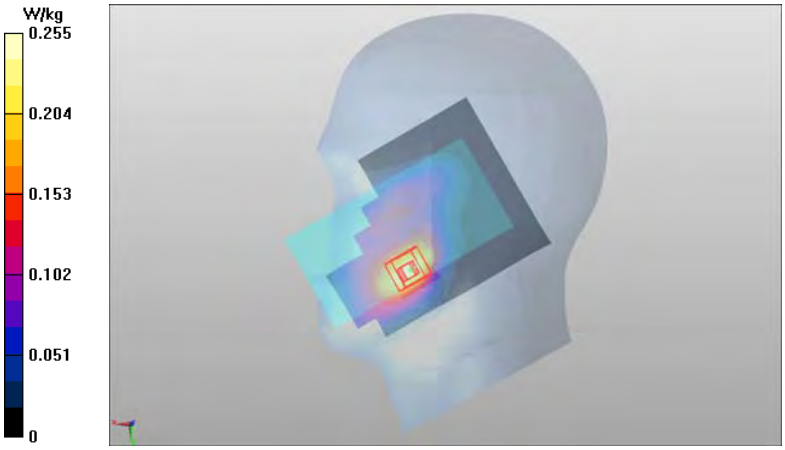
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: 2-slot GPRS1900**
Frequency: **1880 MHz**; Duty Cycle: 1:4.19952
Medium: HSL1900; Medium Notes: t= 23.4 C
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.346 S/m; $\varepsilon_r$ = 38.446; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**2-slot GPRS1900 - Right/Cheek - CH 661 - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 12.10 V/m
Fast SAR: SAR(1 g) = 0.198 W/kg
Fast SAR(10 g) = 0.117 W/kg
Maximum value of SAR (interpolated) = 0.255 W/kg

**2-slot GPRS1900 - Right/Cheek - CH 661 - Antenna 1/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.74 V/m
Peak SAR (extrapolated) = 0.302 W/kg
**SAR(1 g) = 0.194 W/kg**
**SAR(10 g) = 0.121 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 0.228 W/kg





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**Plot H10**

Date/Time: 2015-08-13 3:57:39 PM

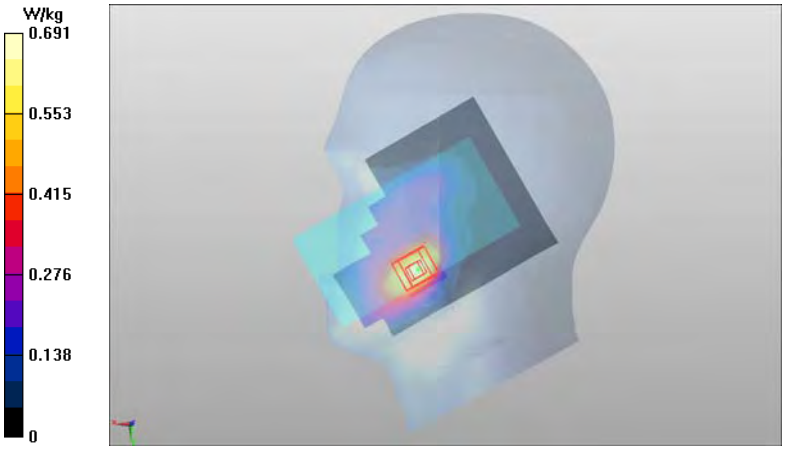
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: WCDMA1900 (Band 2)**
Frequency: **1852.4 MHz**; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: t= 22.7 C
Medium parameters used (interpolated): f = 1852.4 MHz; $\sigma$ = 1.332 S/m; $\varepsilon_r$ = 39.454; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA1900 (Band 2) - Right/Cheek - CH 9262 - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 22.81 V/m
Fast SAR: SAR(1 g) = 0.530 W/kg
Fast SAR(10 g) = 0.312 W/kg
Maximum value of SAR (interpolated) = 0.691 W/kg

**WCDMA1900 (Band 2) - Right/Cheek - CH 9262 - Antenna 1/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.76 V/m
Peak SAR (extrapolated) = 0.860 W/kg
**SAR(1 g) = 0.557 W/kg**
**SAR(10 g) = 0.346 W/kg**
**Power Drift = 0.04 dB**
Maximum value of SAR (measured) = 0.660 W/kg





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**Plot H11**

Date/Time: 2015-08-24 10:15:19 AM

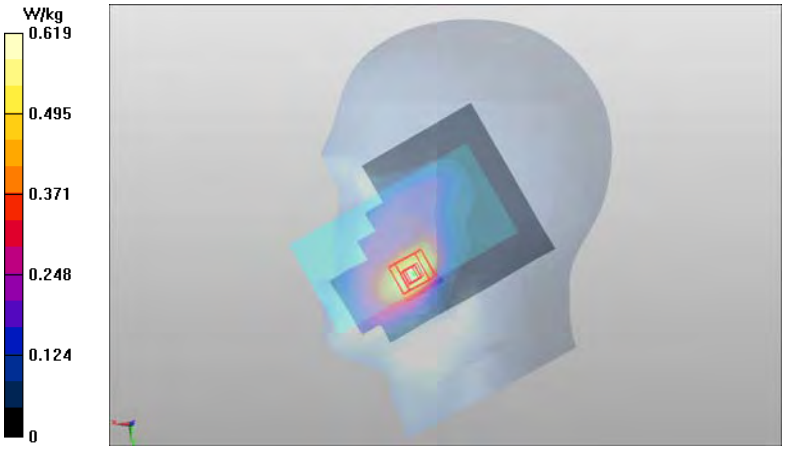
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: LTE1900 (Band 2)**
Frequency: **1880 MHz**; Duty Cycle: 1:1
Medium: HS1900; Medium Notes: t= 22.8 C
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.343 S/m; $\varepsilon_r$ = 38.566; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE1900 (Band 2) - Right/Cheek - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 19.29 V/m
Fast SAR: SAR(1 g) = 0.470 W/kg
Fast SAR(10 g) = 0.282 W/kg
Maximum value of SAR (interpolated) = 0.619 W/kg

**LTE1900 (Band 2) - Right/Cheek - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.21 V/m
Peak SAR (extrapolated) = 0.736 W/kg
**SAR(1 g) = 0.488 W/kg**
**SAR(10 g) = 0.310 W/kg**
**Power Drift = -0.04 dB**
Maximum value of SAR (measured) = 0.568 W/kg





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**Plot H12**

Date/Time: 2015-08-24 3:58:02 PM

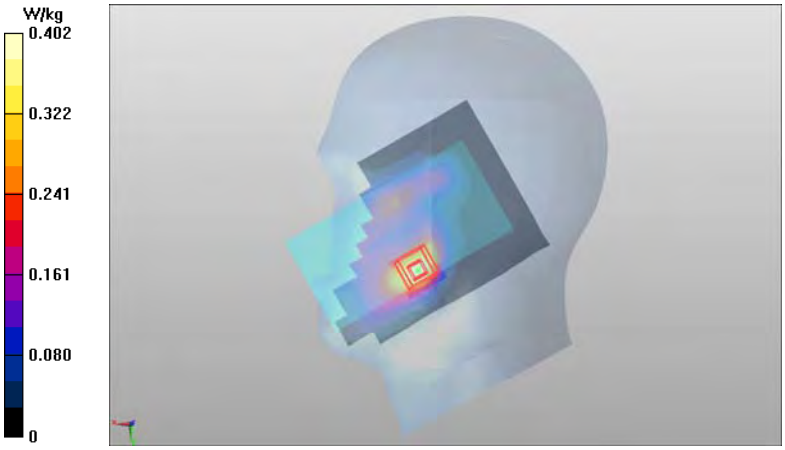
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2300 (Band 30)**
Frequency: **2310 MHz**; Duty Cycle: 1:1
Medium: HSL2300; Medium Notes: t= 22,6 C
Medium parameters used: f = 2310 MHz; $\sigma$ = 1.611 S/m; $\varepsilon_r$ = 39.556; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.47, 7.47, 7.47); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2300 (Band 30) - Right/Cheek - CH 27710 - 10MHz - QPSK - 1 RB - Offset 0 - Antenna 1 /Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 5.530 V/m
Fast SAR: SAR(1 g) = 0.311 W/kg
Fast SAR(10 g) = 0.163 W/kg
Maximum value of SAR (interpolated) = 0.402 W/kg

**LTE2300 (Band 30) - Right/Cheek - CH 27710 - 10MHz - QPSK - 1 RB - Offset 0 - Antenna 1 /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.560 V/m
Peak SAR (extrapolated) = 0.526 W/kg
**SAR(1 g) = 0.317 W/kg**
**SAR(10 g) = 0.181 W/kg**
**Power Drift = 0.14 dB**
Maximum value of SAR (measured) = 0.386 W/kg





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**Plot H13**

Date/Time: 2015-08-11 9:26:32 AM

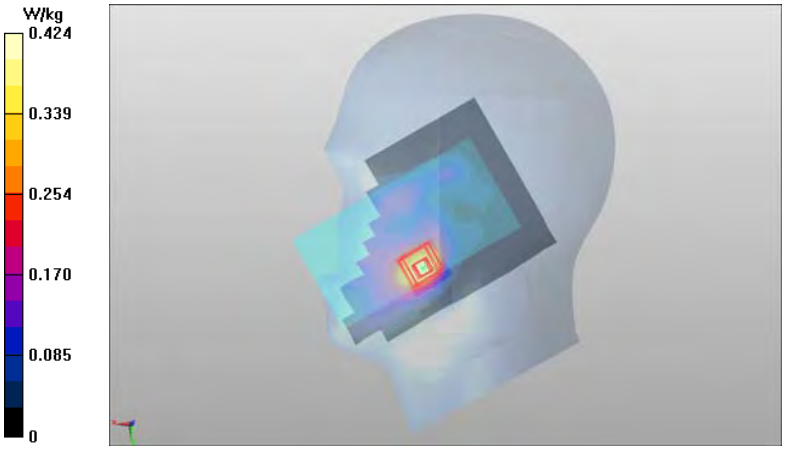
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2500 (Band 7)**
Frequency: **2535 MHz**; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: t=21.6 C
Medium parameters used: f = 2535 MHz; $\sigma$ = 1.903 S/m; $\varepsilon_r$ = 37.755; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.13, 7.13, 7.13); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2500 (Band 7) - Right/Cheek - CH 21100 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 12.09 V/m
Fast SAR: SAR(1 g) = 0.321 W/kg
Fast SAR(10 g) = 0.168 W/kg
Maximum value of SAR (interpolated) = 0.424 W/kg

**LTE2500 (Band 7) - Right/Cheek - CH 21100 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.34 V/m
Peak SAR (extrapolated) = 0.616 W/kg
**SAR(1 g) = 0.339 W/kg**
**SAR(10 g) = 0.182 W/kg**
**Power Drift = -0.06 dB**
Maximum value of SAR (measured) = 0.424 W/kg





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**Plot H14**

Date/Time: 2015-08-12 9:22:55 AM

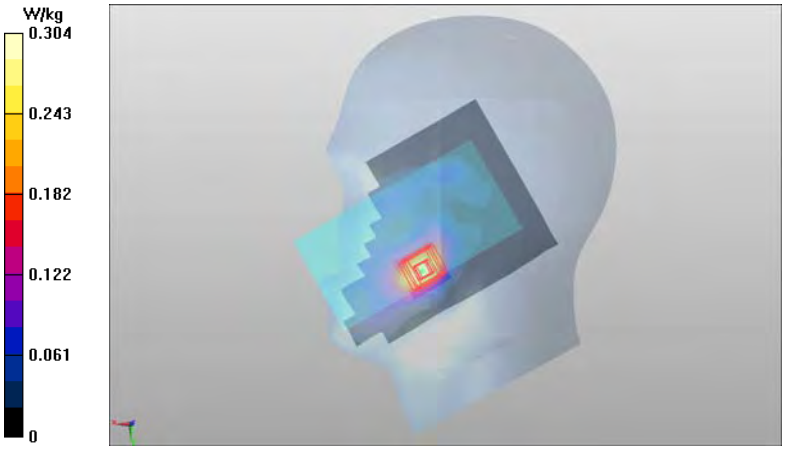
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2500 (Band 41)**
Frequency: **2549.5 MHz**; Duty Cycle: 1:1.58088
Medium: HSL2450; Medium Notes: t=22.6 C
Medium parameters used (interpolated): f = 2549.5 MHz; $\sigma$ = 1.873 S/m; $\varepsilon_r$ = 38.416; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.13, 7.13, 7.13); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2500 (Band 41) - Right/Cheek - CH 40185 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 10.03 V/m
Fast SAR: SAR(1 g) = 0.230 W/kg
Fast SAR(10 g) = 0.119 W/kg
Maximum value of SAR (interpolated) = 0.304 W/kg

**LTE2500 (Band 41) - Right/Cheek - CH 40185 - 20MHz - QPSK - 1 RB - Offset 0 - Antenna 1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.41 V/m
Peak SAR (extrapolated) = 0.433 W/kg
**SAR(1 g) = 0.243 W/kg**
**SAR(10 g) = 0.127 W/kg**
**Power Drift = -0.11 dB**
Maximum value of SAR (measured) = 0.302 W/kg





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**Plot H15**

Date/Time: 2015-08-16 12:28:21 PM

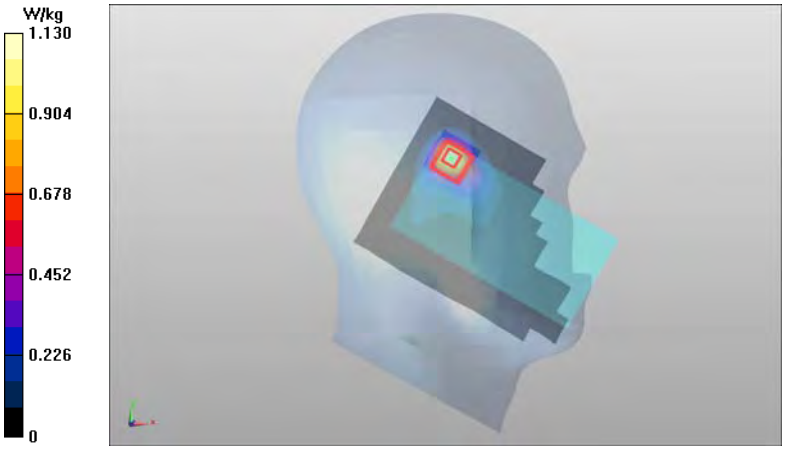
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

**Communication System: WLAN2450**
Frequency: **2412 MHz**; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: t= 22.5 C
Medium parameters used: f = 2412 MHz; $\sigma$ = 1.717 S/m; $\varepsilon_r$ = 38.763; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.24, 7.24, 7.24); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: SAM2; Type: SAM; Serial: TP-1570
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WLAN2450 b-mode - Left/Cheek - CH 1 - 20 MHz DSSS QPSK 2 Mbps SS 1 - Antenna 1 and 2 - Repeated/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 24.59 V/m
Fast SAR: SAR(1 g) = 0.823 W/kg
Fast SAR(10 g) = 0.389 W/kg
Maximum value of SAR (interpolated) = 1.13 W/kg

**WLAN2450 b-mode - Left/Cheek - CH 1 - 20 MHz DSSS QPSK 2 Mbps SS 1 - Antenna 1 and 2 - Repeated/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.59 V/m
Peak SAR (extrapolated) = 1.88 W/kg
**SAR(1 g) = 0.864 W/kg**
**SAR(10 g) = 0.415 W/kg**
**Power Drift = 0.15 dB**
Maximum value of SAR (measured) = 1.13 W/kg





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**Plot H16**

Date/Time: 2015-08-17 10:56:59 AM

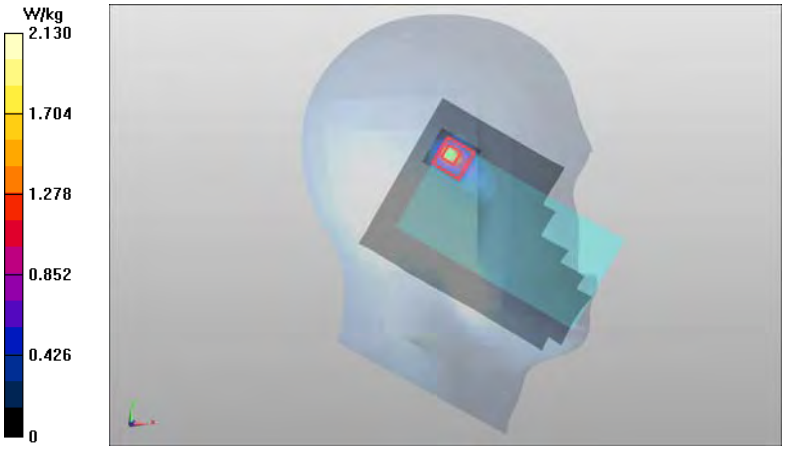
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

**Communication System: WLAN5000**
Frequency: **5290 MHz**; Duty Cycle: 1:1
Medium: HSL5000; Medium Notes: t= 21.1 C
Medium parameters used: f = 5290 MHz; $\sigma$ = 4.716 S/m; $\varepsilon_r$ = 35.991; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.68, 4.68, 4.68); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WLAN5000 ac-mode - Left/Cheek - CH 58 - 80 MHz OFDM BPSK MCS0 SS 1 - Antenna 1 and 2/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value
Fast SAR: SAR(1 g) = 0.749 W/kg
Fast SAR(10 g) = 0.252 W/kg
Maximum value of SAR (interpolated) = 2.13 W/kg

**WLAN5000 ac-mode - Left/Cheek - CH 58 - 80 MHz OFDM BPSK MCS0 SS 1 - Antenna 1 and 2/Zoom Scan (8x9x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 21.25 V/m
Peak SAR (extrapolated) = 4.27 W/kg
**SAR(1 g) = 0.960 W/kg**
**SAR(10 g) = 0.268 W/kg**
**Power Drift = -0.05 dB**
Maximum value of SAR (measured) = 1.96 W/kg





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**Plot H17**

Date/Time: 2015-08-26 11:07:44 PM

**DASY Configuration for WCDMA1700_2100 (Band 4) - Left/Cheek - CH 1513 - Antenna 1/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**
Communication System: WCDMA1700/2100 (Band 4); Frequency: 1752.6 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL1750 Medium parameters used: f = 1753 MHz; σ = 1.34 S/m; $\varepsilon_r$ = 39.198; ρ = 1000 kg/m$^3$
Phantom section: Left Section

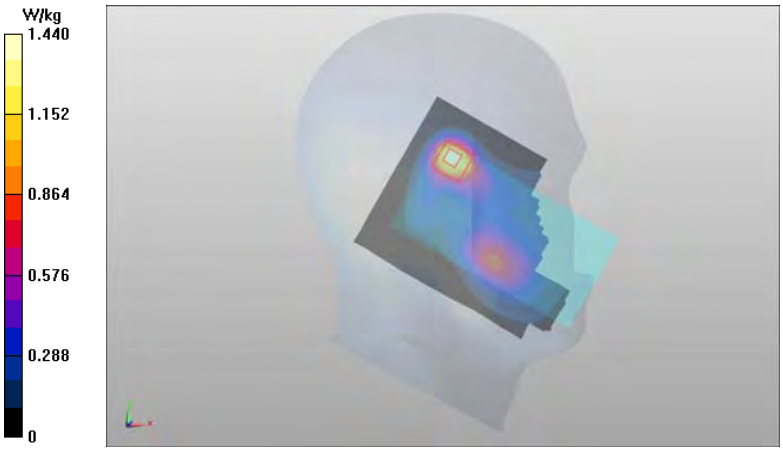
Probe: ES3DV3 - SN3276; ConvF(5.17, 5.17, 5.17); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn728; Calibrated: 2015-01-21
Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1692
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-08-16 12:28:21 PM

**DASY Configuration for WLAN2450 b-mode - Left/Cheek - CH 1 - 20 MHz DSSS QPSK 2 Mbps SS 1 - Antenna 1 and 2 - Repeated/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**
Communication System: WLAN2450; Frequency: 2412 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL2450 Medium parameters used: f = 2412 MHz; σ = 1.717 S/m; $\varepsilon_r$ = 38.763; ρ = 1000 kg/m$^3$
Phantom section: Left Section

Probe: EX3DV4 - SN3892; ConvF(7.24, 7.24, 7.24); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: SAM2; Type: SAM; Serial: TP-1570
Measurement SW: DASY52, Version 52.8 (8)

**Fast SAR of Combined Scans: SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.526 W/kg**
Maximum value of SAR (interpolated) = 1.44 W/kg




WLAN2450 b-mode was scaled with factor 1.32 and WCDMA1700_2100 (Band 4) with factor 1.15 before combining in SEMCAD SW.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**Plot H18**

Date/Time: 2015-08-13 3:25:57 PM

**DASY Configuration for WCDMA1900 (Band 2) - Left/Cheek - CH 9262 - Antenna 2/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**
Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.332 S/m; $\varepsilon_r$ = 39.454; ρ = 1000 kg/m$^3$
Phantom section: Left Section

Probe: ES3DV3 - SN3275; ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
Measurement SW: DASY52, Version 52.8 (8)

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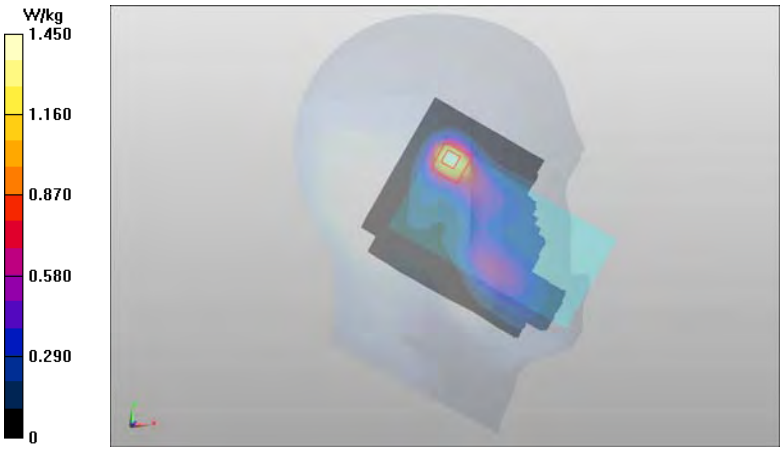
Date/Time: 2015-08-16 12:28:21 PM

**DASY Configuration for WLAN2450 b-mode - Left/Cheek - CH 1 - 20 MHz DSSS QPSK 2 Mbps SS 1 - Antenna 1 and 2 - Repeated/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**
Communication System: WLAN2450; Frequency: 2412 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL2450 Medium parameters used: f = 2412 MHz; σ = 1.717 S/m; $\varepsilon_r$ = 38.763; ρ = 1000 kg/m$^3$
Phantom section: Left Section

Probe: EX3DV4 - SN3892; ConvF(7.24, 7.24, 7.24); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: SAM2; Type: SAM; Serial: TP-1570
Measurement SW: DASY52, Version 52.8 (8)

---

**Fast SAR of Combined Scans: SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.530 W/kg**
Maximum value of SAR (interpolated) = 1.45 W/kg




WLAN2450 b-mode was scaled with factor 1.26 and WCDMA1900 (Band 2) with factor 1.10 before combining in SEMCAD SW.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**Plot H19**

Date/Time: 2015-08-14 12:46:59 PM

**DASY Configuration for WCDMA850 (Band 5) - Left/Cheek - CH 4233 - Antenna 2/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**
Communication System: WCDMA850 (Band 5); Frequency: 846.6 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL835 Medium parameters used: f = 847 MHz; σ = 0.894 S/m; $\varepsilon_r$ = 39.708; ρ = 1000 kg/m$^3$
Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(6.04, 6.04, 6.04); Calibrated: 2014-10-21;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn793; Calibrated: 2014-10-14
Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1596
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-08-17 10:56:59 AM

**DASY Configuration for WLAN5000 ac-mode - Left/Cheek - CH 58 - 80 MHz OFDM BPSK MCS0 SS 1 - Antenna 1 and 2/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**
Communication System: WLAN5000; Frequency: 5290 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL5000 Medium parameters used: f = 5290 MHz; σ = 4.716 S/m; $\varepsilon_r$ = 35.991; ρ = 1000 kg/m$^3$
Phantom section: Left Section

Probe: EX3DV4 - SN3852; ConvF(4.68, 4.68, 4.68); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
Measurement SW: DASY52, Version 52.8 (8)

**Fast SAR of Combined Scans: SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.369 W/kg**
Maximum value of SAR (interpolated) = 1.99 W/kg

WLAN5000 ac-mode was scaled with factor 1.32 and WCDMA850 (Band 5) with factor 1.05 before combining in SEMCAD SW.


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**Plot H20**

Date/Time: 2015-08-26 11:07:44 PM

**DASY Configuration for WCDMA1700_2100 (Band 4) - Left/Cheek - CH 1513 - Antenna 1/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**
Communication System: WCDMA1700/2100 (Band 4); Frequency: 1752.6 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL1750 Medium parameters used: f = 1753 MHz; σ = 1.34 S/m; $\varepsilon_r$ = 39.198; ρ = 1000 kg/m$^3$
Phantom section: Left Section

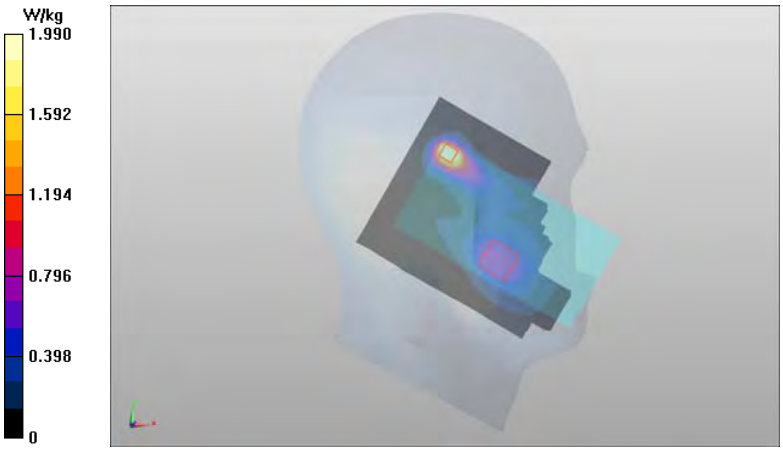
Probe: ES3DV3 - SN3276; ConvF(5.17, 5.17, 5.17); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn728; Calibrated: 2015-01-21
Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1692
Measurement SW: DASY52, Version 52.8 (8)

Date/Time: 2015-08-17 10:56:59 AM

**DASY Configuration for WLAN5000 ac-mode - Left/Cheek - CH 58 - 80 MHz OFDM BPSK MCS0 SS 1 - Antenna 1 and 2/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**
Communication System: WLAN5000; Frequency: 5290 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL5000 Medium parameters used: f = 5290 MHz; σ = 4.716 S/m; $\varepsilon_r$ = 35.991; ρ = 1000 kg/m$^3$
Phantom section: Left Section

Probe: EX3DV4 - SN3852; ConvF(4.68, 4.68, 4.68); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
Measurement SW: DASY52, Version 52.8 (8)

**Fast SAR of Combined Scans: SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.387 W/kg**
Maximum value of SAR (interpolated) = 1.99 W/kg




WLAN5000 ac-mode was scaled with factor 1.32 and WCDMA1700_2100 (Band 4) with factor 1.15 before combining in SEMCAD SW.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**Plot H21**

Date/Time: 2015-08-13 3:25:57 PM

**DASY Configuration for WCDMA1900 (Band 2) - Left/Cheek - CH 9262 - Antenna 2/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**
Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.332 S/m; $\varepsilon_r$ = 39.454; ρ = 1000 kg/m$^3$
Phantom section: Left Section

Probe: ES3DV3 - SN3275; ConvF(4.85, 4.85, 4.85); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
Phantom: SAM 1; Type: Twin Phantom GF-VE 20; Serial: TP-1736
Measurement SW: DASY52, Version 52.8 (8)

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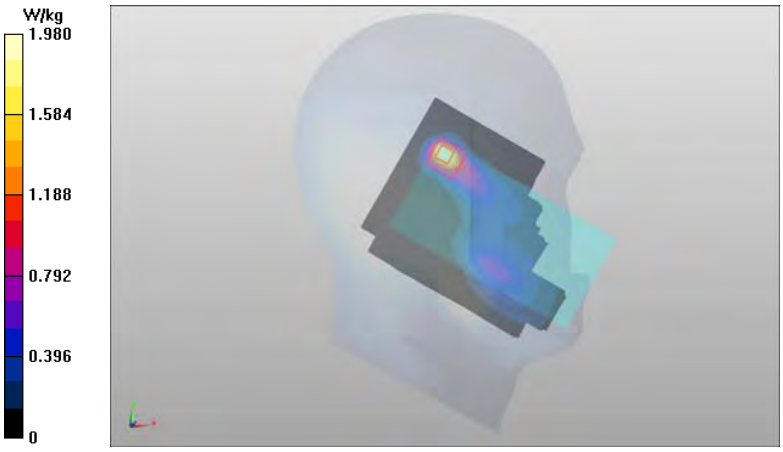
Date/Time: 2015-08-17 10:56:59 AM

**DASY Configuration for WLAN5000 ac-mode - Left/Cheek - CH 58 - 80 MHz OFDM BPSK MCS0 SS 1 - Antenna 1 and 2/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**
Communication System: WLAN5000; Frequency: 5290 MHz; Duty Cycle: 1:1; PMF: 1
Medium: HSL5000 Medium parameters used: f = 5290 MHz; σ = 4.716 S/m; $\varepsilon_r$ = 35.991; ρ = 1000 kg/m$^3$
Phantom section: Left Section

Probe: EX3DV4 - SN3852; ConvF(4.68, 4.68, 4.68); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: ROBOSAM 5.0GHz; Type: SAM; Serial: 0001
Measurement SW: DASY52, Version 52.8 (8)

---

**Fast SAR of Combined Scans: SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.361 W/kg**
Maximum value of SAR (interpolated) = 1.98 W/kg




WLAN5000 ac-mode was scaled with factor 1.32 and WCDMA1900 (Band 2) with factor 1.10 before combining in SEMCAD SW.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**Plot B1**

Date/Time: 2015-08-11 1:58:00 PM

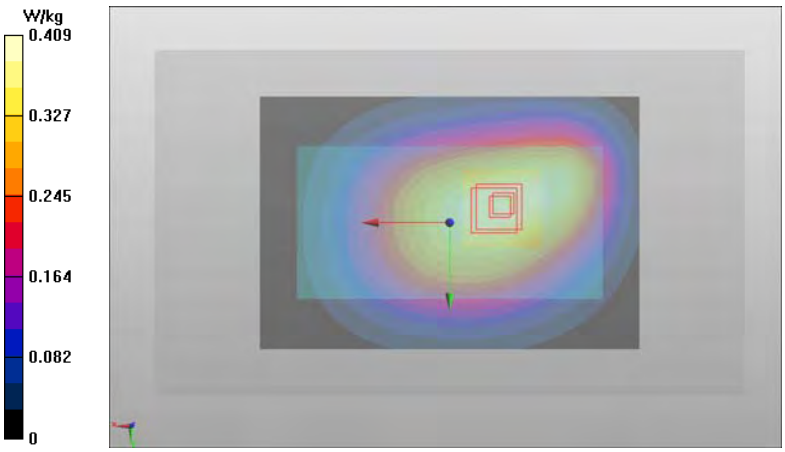
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE700 (Band 12)**
Frequency: **707.5 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22,6 C
Medium parameters used (interpolated): f = 707.5 MHz; $\sigma$ = 0.955 S/m; $\varepsilon_r$ = 54.232; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE700 (Band 12)/Body - CH 23095 - 10MHz - QPSK - 1 RB - Offset 49 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 16.09 V/m
Fast SAR: SAR(1 g) = 0.367 W/kg
Fast SAR(10 g) = 0.267 W/kg
Maximum value of SAR (interpolated) = 0.409 W/kg

**LTE700 (Band 12)/Body - CH 23095 - 10MHz - QPSK - 1 RB - Offset 49 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.05 V/m
Peak SAR (extrapolated) = 0.465 W/kg
**SAR(1 g) = 0.374 W/kg**
**SAR(10 g) = 0.290 W/kg**
**Power Drift = 0.04 dB**
Maximum value of SAR (measured) = 0.409 W/kg





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**Plot B2**

Date/Time: 2015-08-19 12:31:10 PM

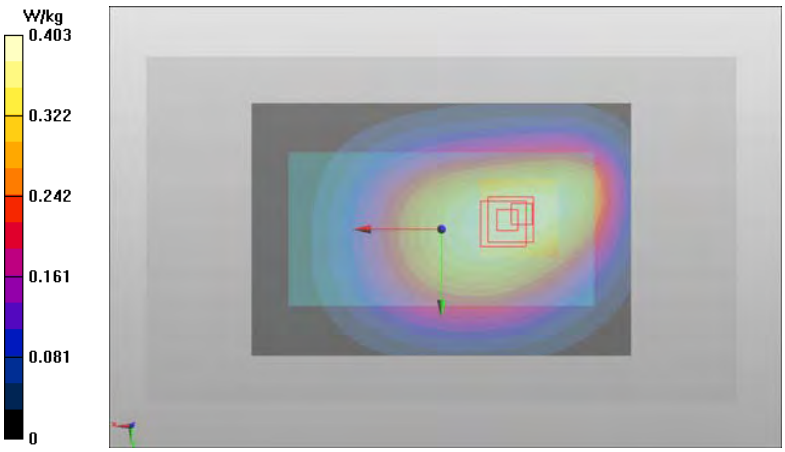
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE700 (Band 17)**
Frequency: **710 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22,1 C
Medium parameters used: f = 710 MHz; $\sigma$ = 0.945 S/m; $\varepsilon_r$ = 54.234; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE700 (Band 17)/Body - CH 23790 - 10MHz - QPSK - 1 RB - Offset 49 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 19.15 V/m
Fast SAR: SAR(1 g) = 0.362 W/kg
Fast SAR(10 g) = 0.264 W/kg
Maximum value of SAR (interpolated) = 0.403 W/kg

**LTE700 (Band 17)/Body - CH 23790 - 10MHz - QPSK - 1 RB - Offset 49 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.21 V/m
Peak SAR (extrapolated) = 0.460 W/kg
**SAR(1 g) = 0.371 W/kg**
**SAR(10 g) = 0.287 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 0.403 W/kg





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**Plot B3**

Date/Time: 2015-08-17 11:12:16 AM

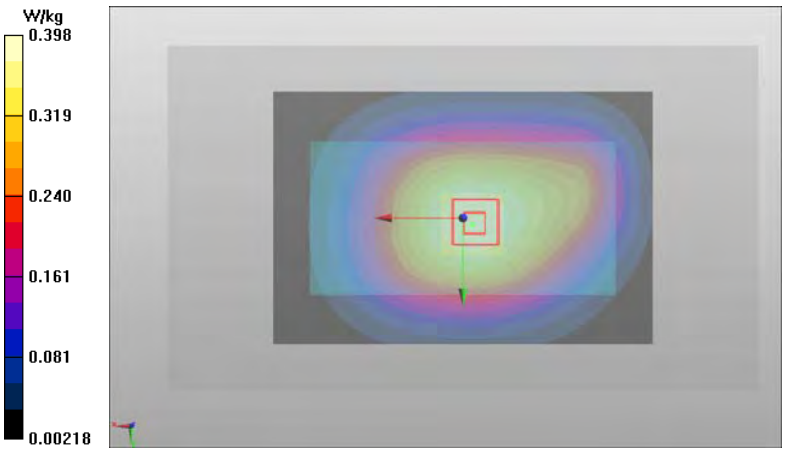
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE750 (Band 13)**
Frequency: **782 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22.2 C
Medium parameters used: f = 782 MHz; $\sigma$ = 0.977 S/m; $\varepsilon_r$ = 53.717; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE750 (Band 13)/Body - CH 23230 - 10MHz - QPSK - 1 RB - Offset 24 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 20.27 V/m
Fast SAR: SAR(1 g) = 0.357 W/kg
Fast SAR(10 g) = 0.259 W/kg
Maximum value of SAR (interpolated) = 0.398 W/kg

**LTE750 (Band 13)/Body - CH 23230 - 10MHz - QPSK - 1 RB - Offset 24 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.27 V/m
Peak SAR (extrapolated) = 0.447 W/kg
**SAR(1 g) = 0.362 W/kg**
**SAR(10 g) = 0.280 W/kg**
**Power Drift = -0.03 dB**
Maximum value of SAR (measured) = 0.396 W/kg





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**Plot B4**

Date/Time: 2015-08-07 10:24:46 AM

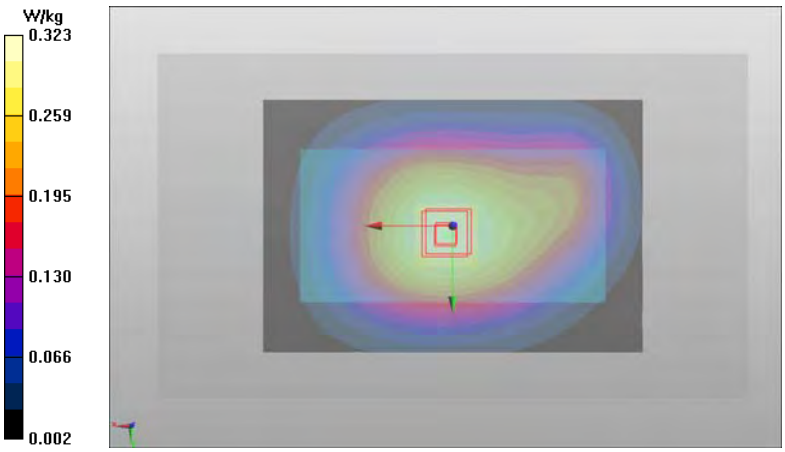
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: 1-slot GPRS850**
Frequency: **848.8 MHz**; Duty Cycle: 1:8.30042
Medium: BSL835; Medium Notes: t= 22.4 C
Medium parameters used: f = 849 MHz; $\sigma$ = 0.99 S/m; $\varepsilon_r$ = 53.576; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**1-slot GPRS850/Body - CH 251 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 17.99 V/m
Fast SAR: SAR(1 g) = 0.288 W/kg
Fast SAR(10 g) = 0.207 W/kg
Maximum value of SAR (interpolated) = 0.323 W/kg

**1-slot GPRS850/Body - CH 251 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (5x5x7)/Cube 0:**
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.09 V/m
Peak SAR (extrapolated) = 0.364 W/kg
**SAR(1 g) = 0.294 W/kg**
**SAR(10 g) = 0.225 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 0.308 W/kg





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**Plot B5**

Date/Time: 2015-08-10 10:30:31 AM

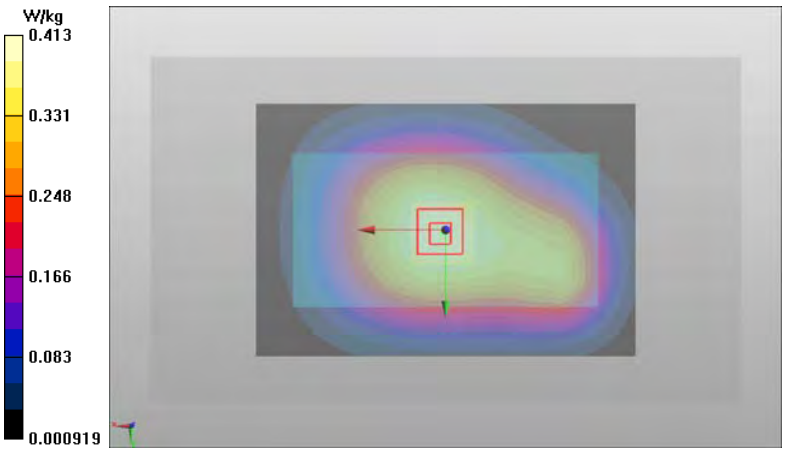
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: WCDMA850 (Band 5)**
Frequency: **846.6 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22.3 C
Medium parameters used: f = 847 MHz; $\sigma$ = 0.986 S/m; $\varepsilon_r$ = 53.509; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA850 (Band 5)/Body - CH 4233 - 15 mm - No Headset - Display - Antenna 2/Area Scan (81x121x1):**
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 20.56 V/m
Fast SAR: SAR(1 g) = 0.368 W/kg
Fast SAR(10 g) = 0.266 W/kg
Maximum value of SAR (interpolated) = 0.413 W/kg

**WCDMA850 (Band 5)/Body - CH 4233 - 15 mm - No Headset - Display - Antenna 2/Zoom Scan (5x5x7)/Cube 0:**
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.50 V/m
Peak SAR (extrapolated) = 0.472 W/kg
**SAR(1 g) = 0.376 W/kg**
**SAR(10 g) = 0.288 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 0.414 W/kg





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**Plot B6**

Date/Time: 2015-08-06 3:52:58 PM

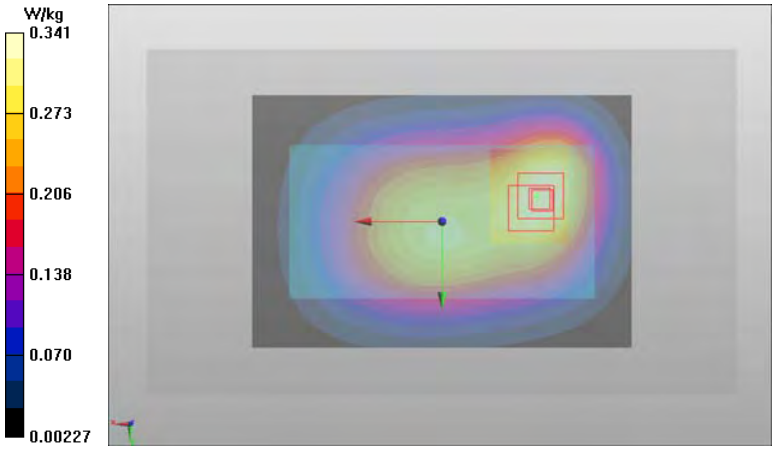
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: LTE850 (Band 5)**
Frequency: **836.5 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22.5 C
Medium parameters used (interpolated): f = 836.5 MHz; $\sigma$ = 0.982 S/m; $\varepsilon_r$ = 53.647; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE850 (Band 5)/Body - CH 20525 - 10MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 18.23 V/m
Fast SAR: SAR(1 g) = 0.303 W/kg
Fast SAR(10 g) = 0.216 W/kg
Maximum value of SAR (interpolated) = 0.341 W/kg

**LTE850 (Band 5)/Body - CH 20525 - 10MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (7x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.23 V/m
Peak SAR (extrapolated) = 0.420 W/kg
**SAR(1 g) = 0.305 W/kg**
**SAR(10 g) = 0.222 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 0.344 W/kg





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**Plot B7**

Date/Time: 2015-08-16 4:08:39 PM

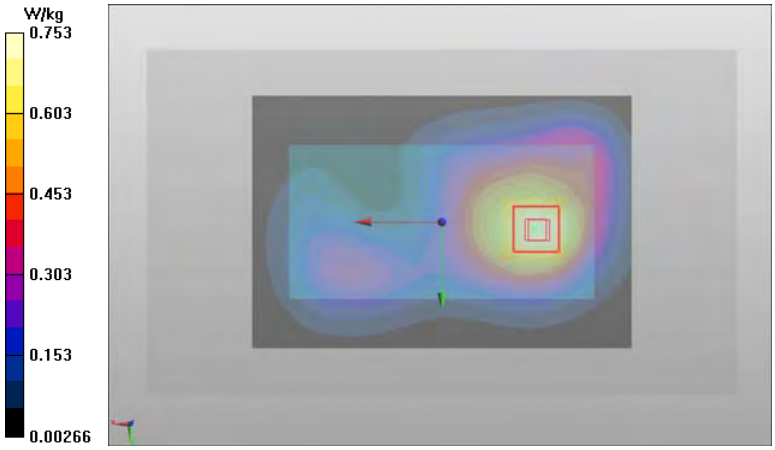
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

**Communication System: WCDMA1700/2100 (Band 4)**
Frequency: **1752.6 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 20,5 C
Medium parameters used: f = 1753 MHz; $\sigma$ = 1.445 S/m; $\varepsilon_r$ = 52.397; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(4.91, 4.91, 4.91); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2015-04-21
- Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA1700_2100 (Band 4)/Body - CH 1513 - 15 mm - No Headset - Back - Antenna 1/Area Scan (81x121x1):**
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 23.44 V/m
Fast SAR: SAR(1 g) = 0.643 W/kg
Fast SAR(10 g) = 0.407 W/kg
Maximum value of SAR (interpolated) = 0.753 W/kg

**WCDMA1700_2100 (Band 4)/Body - CH 1513 - 15 mm - No Headset - Back - Antenna 1/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 23.42 V/m
Peak SAR (extrapolated) = 0.949 W/kg
**SAR(1 g) = 0.653 W/kg**
**SAR(10 g) = 0.438 W/kg**
**Power Drift = 0.02 dB**
Maximum value of SAR (measured) = 0.746 W/kg





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**Plot B8**

Date/Time: 2015-08-30 9:57:24 AM

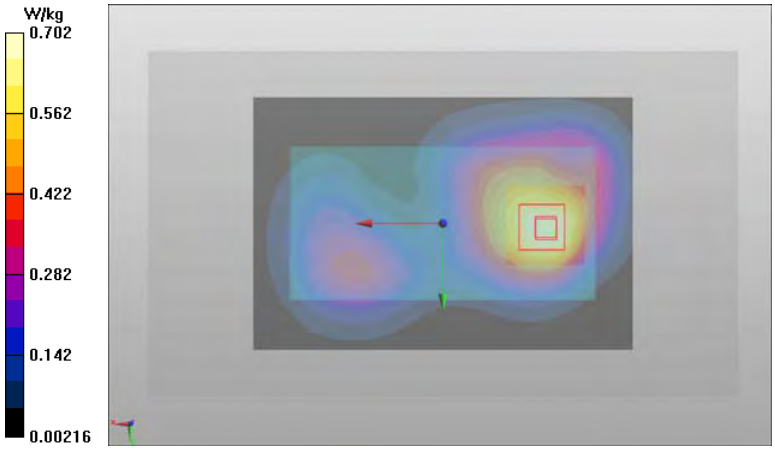
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

**Communication System: LTE1700/2100 (Band 4)**
Frequency: **1720 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 20.8 C
Medium parameters used: f = 1720 MHz; $\sigma$ = 1.428 S/m; $\varepsilon_r$ = 51.597; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(4.91, 4.91, 4.91); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2015-01-21
- Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE1700_2100 (Band 4)/Body - CH 20050 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 19.16 V/m
Fast SAR: SAR(1 g) = 0.595 W/kg
Fast SAR(10 g) = 0.380 W/kg
Maximum value of SAR (interpolated) = 0.702 W/kg

**LTE1700_2100 (Band 4)/Body - CH 20050 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.16 V/m
Peak SAR (extrapolated) = 0.881 W/kg
**SAR(1 g) = 0.612 W/kg**
**SAR(10 g) = 0.410 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 0.691 W/kg





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**Plot B9**

Date/Time: 2015-08-12 10:15:37 AM

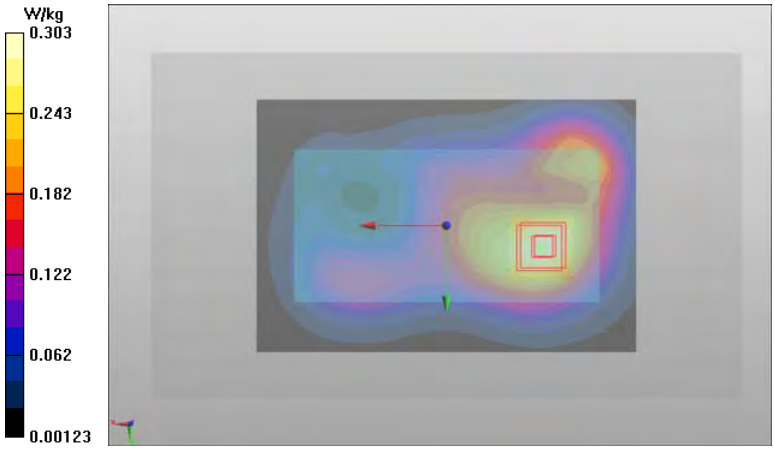
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: 2-slot GPRS1900**
Frequency: **1909.8 MHz**; Duty Cycle: 1:4.19952
Medium: BSL1900; Medium Notes: t= 23.4 C
Medium parameters used: f = 1910 MHz; $\sigma$ = 1.504 S/m; $\varepsilon_r$ = 51.596; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**2-slot GRPS1900/Body - CH 810 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):**
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 14.69 V/m
Fast SAR: SAR(1 g) = 0.254 W/kg
Fast SAR(10 g) = 0.156 W/kg
Maximum value of SAR (interpolated) = 0.303 W/kg

**2-slot GRPS1900/Body - CH 810 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (5x5x7)/Cube 0:**
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.67 V/m
Peak SAR (extrapolated) = 0.387 W/kg
**SAR(1 g) = 0.261 W/kg**
**SAR(10 g) = 0.172 W/kg**
**Power Drift = 0.05 dB**
Maximum value of SAR (measured) = 0.300 W/kg





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**Plot B10**

Date/Time: 2015-08-12 1:37:04 PM

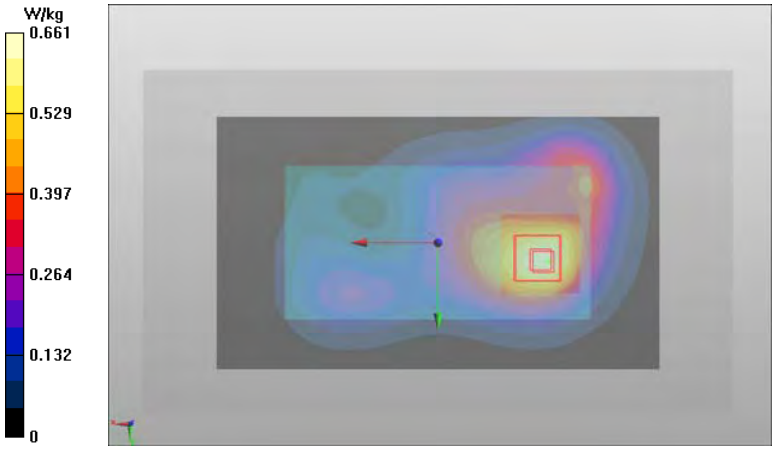
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: WCDMA1900 (Band 2)**
Frequency: **1852.4 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 23.4 C
Medium parameters used (interpolated): f = 1852.4 MHz; $\sigma$ = 1.443 S/m; $\varepsilon_r$ = 51.687; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA1900 (Band 2)/Body - CH 9262 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x141x1):**
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 21.23 V/m
Fast SAR: SAR(1 g) = 0.548 W/kg
Fast SAR(10 g) = 0.335 W/kg
Maximum value of SAR (interpolated) = 0.661 W/kg

**WCDMA1900 (Band 2)/Body - CH 9262 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.42 V/m
Peak SAR (extrapolated) = 0.822 W/kg
**SAR(1 g) = 0.559 W/kg**
**SAR(10 g) = 0.366 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 0.642 W/kg





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**Plot B11**

Date/Time: 2015-08-18 11:18:16 AM

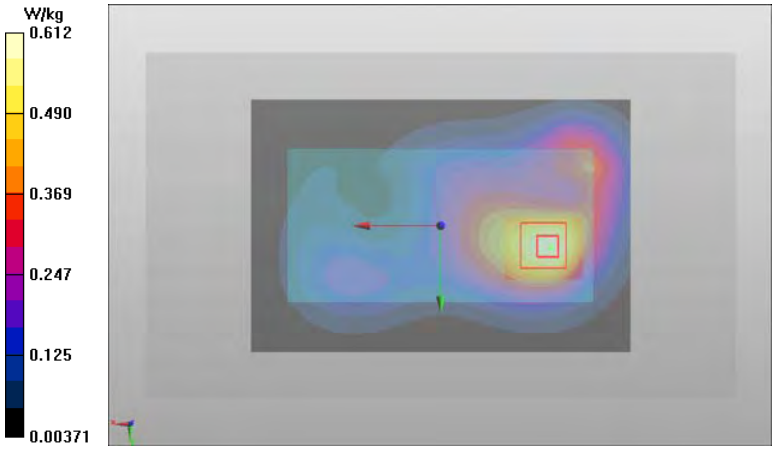
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: LTE1900 (Band 2)**
Frequency: **1880 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 23.5 C
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.471 S/m; $\varepsilon_r$ = 52.077; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE1900 (Band 2)/Body - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 19.23 V/m
Fast SAR: SAR(1 g) = 0.501 W/kg
Fast SAR(10 g) = 0.303 W/kg
Maximum value of SAR (interpolated) = 0.612 W/kg

**LTE1900 (Band 2)/Body - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Display - Antenna 1/Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.20 V/m
Peak SAR (extrapolated) = 0.744 W/kg
**SAR(1 g) = 0.508 W/kg**
**SAR(10 g) = 0.331 W/kg**
**Power Drift = 0.08 dB**
Maximum value of SAR (measured) = 0.586 W/kg





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**Plot B12**

Date/Time: 2015-11-01 1:47:35 PM

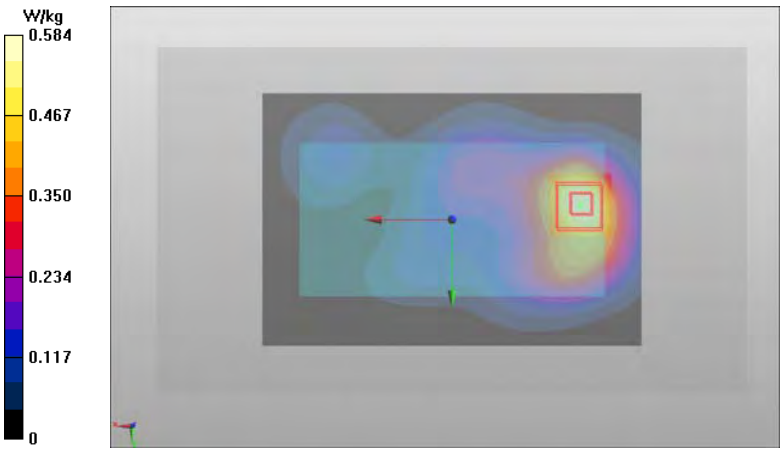
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2300 (Band 30)**
Frequency: **2310 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t=22,2 C
Medium parameters used: f = 2310 MHz; $\sigma$ = 1.771 S/m; $\varepsilon_r$ = 51.498; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.44, 7.44, 7.44); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2300 (Band 30)/Body - CH 27710 - 10MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Back - Antenna 1/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 17.73 V/m
Fast SAR: SAR(1 g) = 0.471 W/kg
Fast SAR(10 g) = 0.262 W/kg
Maximum value of SAR (interpolated) = 0.584 W/kg

**LTE2300 (Band 30)/Body - CH 27710 - 10MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Back - Antenna 1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.73 V/m
Peak SAR (extrapolated) = 0.778 W/kg
**SAR(1 g) = 0.485 W/kg**
**SAR(10 g) = 0.294 W/kg**
**Power Drift = 0.10 dB**
Maximum value of SAR (measured) = 0.574 W/kg





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**Plot B13**

Date/Time: 2015-08-14 1:04:22 PM

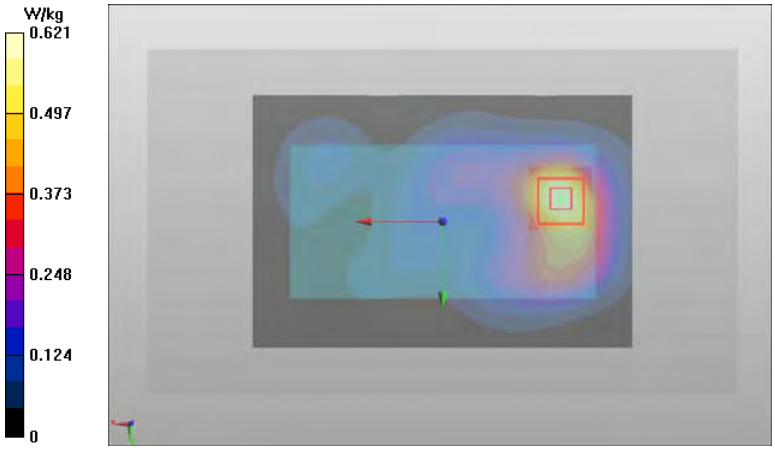
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2500 (Band 7)**
Frequency: **2535 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22.4 C
Medium parameters used: f = 2535 MHz; $\sigma$ = 2.021 S/m; $\varepsilon_r$ = 51.49; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2500 (Band 7)/Body - CH 21100 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset -Back - Antenna 1/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 17.13 V/m
Fast SAR: SAR(1 g) = 0.499 W/kg
Fast SAR(10 g) = 0.272 W/kg
Maximum value of SAR (interpolated) = 0.621 W/kg

**LTE2500 (Band 7)/Body - CH 21100 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset -Back - Antenna 1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.93 V/m
Peak SAR (extrapolated) = 0.865 W/kg
**SAR(1 g) = 0.506 W/kg**
**SAR(10 g) = 0.288 W/kg**
**Power Drift = 0.03 dB**
Maximum value of SAR (measured) = 0.617 W/kg





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**Plot B14**

Date/Time: 2015-08-15 8:51:49 AM

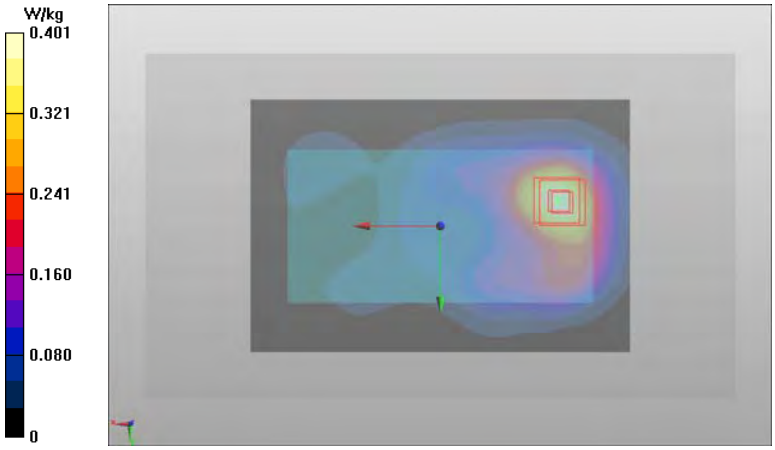
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2500 (Band 41)**
Frequency: **2549.5 MHz**; Duty Cycle: 1:1.58088
Medium: BSL2450; Medium Notes: t= 22.5 C
Medium parameters used (interpolated): f = 2549.5 MHz; $\sigma$ = 2.025 S/m; $\varepsilon_r$ = 51.23; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2500 (Band 41)/Body - CH 40185 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Back - Antenna 1/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 13.85 V/m
Fast SAR: SAR(1 g) = 0.322 W/kg
Fast SAR(10 g) = 0.175 W/kg
Maximum value of SAR (interpolated) = 0.401 W/kg

**LTE2500 (Band 41)/Body - CH 40185 - 20MHz - QPSK - 1 RB - Offset 0 - 15 mm - No Headset - Back - Antenna 1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.85 V/m
Peak SAR (extrapolated) = 0.541 W/kg
**SAR(1 g) = 0.320 W/kg**
**SAR(10 g) = 0.181 W/kg**
**Power Drift = 0.02 dB**
Maximum value of SAR (measured) = 0.388 W/kg





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**Plot B15**

Date/Time: 2015-08-16 3:14:49 PM

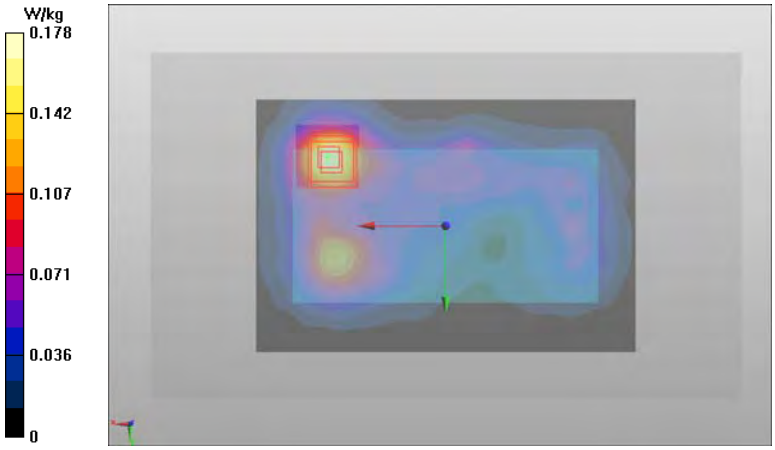
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

**Communication System: WLAN2450**
Frequency: **2412 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22.6 C
Medium parameters used: f = 2412 MHz; $\sigma$ = 1.844 S/m; $\varepsilon_r$ = 51.838; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WLAN2450 b-mode/Body - CH 1 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 9.292 V/m
Fast SAR: SAR(1 g) = 0.137 W/kg
Fast SAR(10 g) = 0.069 W/kg
Maximum value of SAR (interpolated) = 0.178 W/kg

**WLAN2450 b-mode/Body - CH 1 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.295 V/m
Peak SAR (extrapolated) = 0.245 W/kg
**SAR(1 g) = 0.133 W/kg**
**SAR(10 g) = 0.071 W/kg**
**Power Drift = -0.15 dB**
Maximum value of SAR (measured) = 0.166 W/kg





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**Plot B16**

Date/Time: 2015-08-20 7:21:41 PM

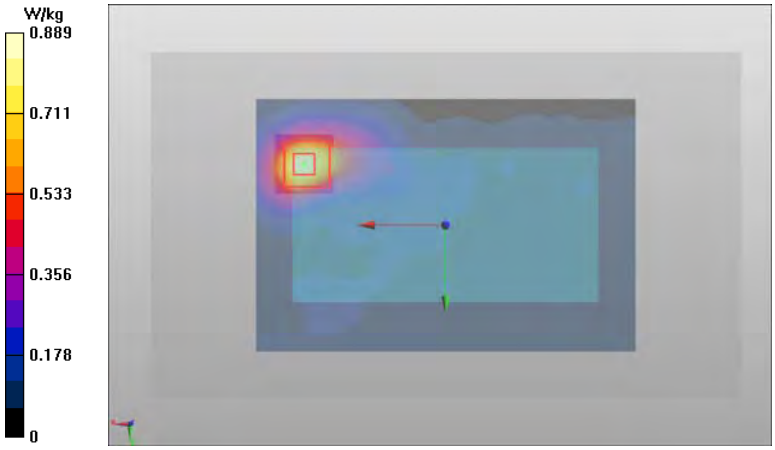
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

**Communication System: WLAN5000**
Frequency: **5550 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: t=21.2 C
Medium parameters used: f = 5550 MHz; $\sigma$ = 5.854 S/m; $\varepsilon_r$ = 46.631; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(3.82, 3.82, 3.82); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WLAN5000 ac-mode/Body - CH 110 - 40 MHz OFDM BPSK MCS0 SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value
Fast SAR: SAR(1 g) = 0.466 W/kg
Fast SAR(10 g) = 0.187 W/kg
Maximum value of SAR (interpolated) = 0.889 W/kg

**WLAN5000 ac-mode/Body - CH 110 - 40 MHz OFDM BPSK MCS0 SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Zoom Scan 2 (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 12.72 V/m
Peak SAR (extrapolated) = 1.58 W/kg
**SAR(1 g) = 0.433 W/kg**
**SAR(10 g) = 0.169 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 0.798 W/kg





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**Plot B17**

Date/Time: 2015-08-16 4:08:39 PM

**DASY Configuration for WCDMA1700_2100 (Band 4)/Body - CH 1513 - 15 mm - No Headset - Display - Antenna 1/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

Communication System: WCDMA1700/2100 (Band 4); Frequency: 1752.6 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL1750 Medium parameters used: f = 1753 MHz; $\sigma$ = 1.445 S/m; $\varepsilon_r$ = 52.397; $\rho$ = 1000 kg/m$^3$

Phantom section: Center Section

Probe: ES3DV3 - SN3276; ConvF(4.91, 4.91, 4.91); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn701; Calibrated: 2015-04-21
Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
Measurement SW: DASY52, Version 52.8 (8)

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Date/Time: 2015-08-16 3:14:49 PM

**DASY Configuration for WLAN2450 b-mode/Body - CH 1 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

Communication System: WLAN2450; Frequency: 2412 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: f = 2412 MHz; $\sigma$ = 1.844 S/m; $\varepsilon_r$ = 51.838; $\rho$ = 1000 kg/m$^3$

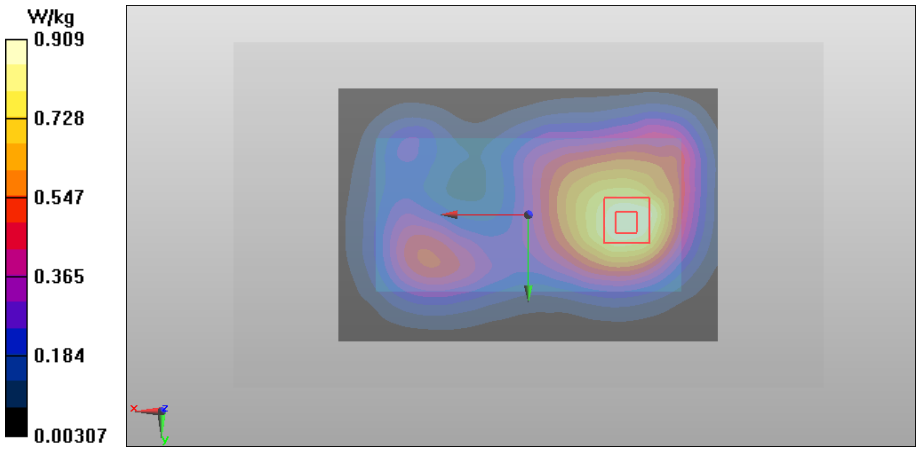
Phantom section: Center Section

Probe: EX3DV4 - SN3892; ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
Measurement SW: DASY52, Version 52.8 (8)

---

**Fast SAR of Combined Scans: SAR(1 g) = 0.776 W/kg; SAR(10 g) = 0.490 W/kg**

Maximum value of SAR (interpolated) = 0.909 W/kg




WLAN2450 b-mode was scaled with factor 1.29 and WCDMA1700_2100 (Band 4) with factor 1.15 before combining in SEMCAD SW.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**Plot B18**

Date/Time: 2015-08-16 4:08:39 PM

**DASY Configuration for WCDMA1700_2100 (Band 4)/Body - CH 1513 - 15 mm - No Headset - Display - Antenna 1/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

Communication System: WCDMA1700/2100 (Band 4); Frequency: 1752.6 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL1750 Medium parameters used: f = 1753 MHz; σ = 1.445 S/m; $\varepsilon_r$ = 52.397; ρ = 1000 kg/m$^3$

Phantom section: Center Section

Probe: ES3DV3 - SN3276; ConvF(4.91, 4.91, 4.91); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn701; Calibrated: 2015-04-21
Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
Measurement SW: DASY52, Version 52.8 (8)

---

Date/Time: 2015-08-20 7:21:41 PM

**DASY Configuration for WLAN5000 ac-mode/Body - CH 110 - 40 MHz OFDM BPSK MCS0 SS 1 - 15mm - No Headset - Display - Antenna 1 and 2/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

Communication System: WLAN5000; Frequency: 5550 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: f = 5550 MHz; σ = 5.854 S/m; $\varepsilon_r$ = 46.631; ρ = 1000 kg/m$^3$

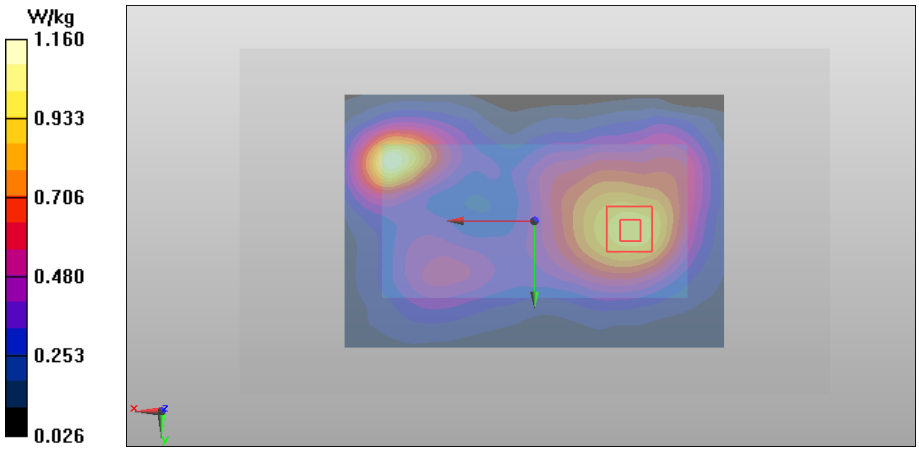
Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(3.82, 3.82, 3.82); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
Measurement SW: DASY52, Version 52.8 (8)

---

**Fast SAR of Combined Scans: SAR(1 g) = 0.813 W/kg; SAR(10 g) = 0.502 W/kg**

Maximum value of SAR (interpolated) = 1.16 W/kg




WLAN5000 ac-mode was scaled with factor 1.26 and WCDMA1700_2100 (Band 4) with factor 1.15 before combining in SEMCAD SW.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**Plot W1**

Date/Time: 2015-08-12 3:17:06 PM

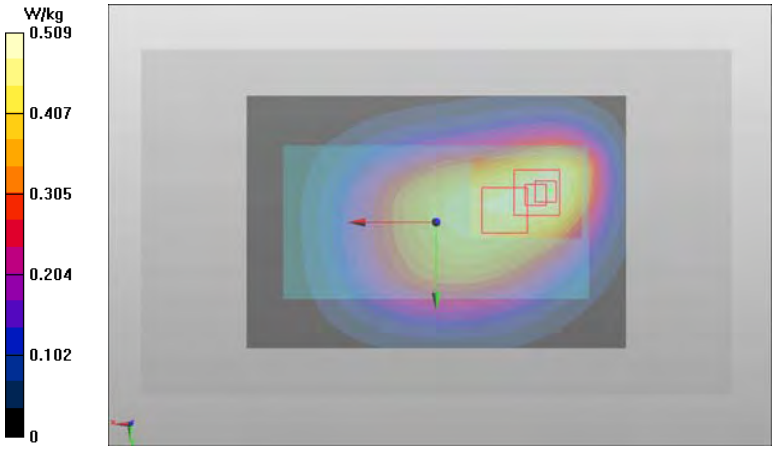
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE700 (Band 12)**
Frequency: **707.5 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22,2 C
Medium parameters used (interpolated): f = 707.5 MHz; $\sigma$ = 0.958 S/m; $\varepsilon_r$ = 54.36; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE700 (Band 12)/Body - CH 23095 - 10MHz - QPSK - 1 RB - Offset 49 - 10 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 11.08 V/m
Fast SAR: SAR(1 g) = 0.452 W/kg
Fast SAR(10 g) = 0.325 W/kg
Maximum value of SAR (interpolated) = 0.509 W/kg

**LTE700 (Band 12)/Body - CH 23095 - 10MHz - QPSK - 1 RB - Offset 49 - 10 mm - No Headset - Display - Antenna 1/Zoom Scan (6x8x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.09 V/m
Peak SAR (extrapolated) = 0.595 W/kg
**SAR(1 g) = 0.451 W/kg**
**SAR(10 g) = 0.341 W/kg**
**Power Drift = -0.02 dB**
Maximum value of SAR (measured) = 0.503 W/kg





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**Plot W2**

Date/Time: 2015-08-20 3:23:19 PM

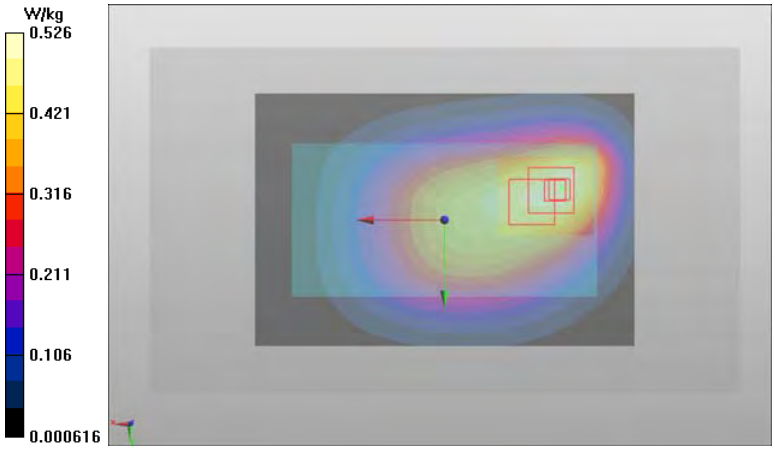
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE700 (Band 17)**
Frequency: **710 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 21.7C
Medium parameters used: f = 710 MHz; $\sigma$ = 0.951 S/m; $\varepsilon_r$ = 53.84; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE700 (Band 17)/Body - CH 23790 - 10MHz - QPSK - 1 RB - Offset 49 - 10 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 11.71 V/m
Fast SAR: SAR(1 g) = 0.466 W/kg
Fast SAR(10 g) = 0.332 W/kg
Maximum value of SAR (interpolated) = 0.526 W/kg

**LTE700 (Band 17)/Body - CH 23790 - 10MHz - QPSK - 1 RB - Offset 49 - 10 mm - No Headset - Display - Antenna 1/Zoom Scan (6x7x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.73 V/m
Peak SAR (extrapolated) = 0.611 W/kg
**SAR(1 g) = 0.456 W/kg**
**SAR(10 g) = 0.341 W/kg**
**Power Drift = -0.07 dB**
Maximum value of SAR (measured) = 0.513 W/kg





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**Plot W3**

Date/Time: 2015-08-18 10:54:00 AM

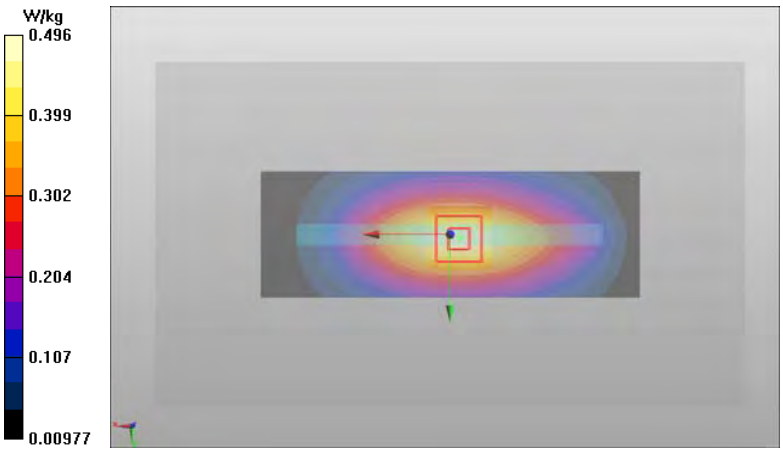
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181308/7**

**Communication System: LTE750 (Band 13)**
Frequency: **782 MHz**; Duty Cycle: 1:1
Medium: BSL750; Medium Notes: t= 22.1 C
Medium parameters used: f = 782 MHz; $\sigma$ = 0.981 S/m; $\varepsilon_r$ = 53.777; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3835
- ConvF(8.8, 8.8, 8.8); Calibrated: 2014-10-20;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2014-10-14
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: TP-1123/1 (750 MHz), TP-1124/1 (2450 MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE750 (Band 13) - Left_Right/Body - CH 23230 - 10MHz - QPSK - 1 RB - Offset 24 - 10 mm - No Headset - Left - Antenna 2/Area Scan (41x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 22.50 V/m
Fast SAR: SAR(1 g) = 0.438 W/kg
Fast SAR(10 g) = 0.304 W/kg
Maximum value of SAR (interpolated) = 0.496 W/kg

**LTE750 (Band 13) - Left_Right/Body - CH 23230 - 10MHz - QPSK - 1 RB - Offset 24 - 10 mm - No Headset - Left - Antenna 2/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 22.42 V/m
Peak SAR (extrapolated) = 0.599 W/kg
**SAR(1 g) = 0.437 W/kg**
**SAR(10 g) = 0.306 W/kg**
**Power Drift = 0.05 dB**
Maximum value of SAR (measured) = 0.498 W/kg





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**Plot W4**

Date/Time: 2015-08-16 11:57:00 AM

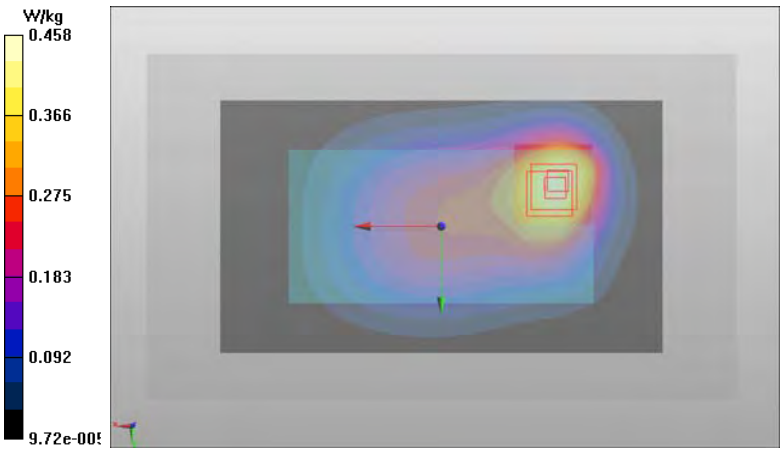
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: 1-slot GPRS850**
Frequency: **824.2 MHz**; Duty Cycle: 1:8.30042
Medium: BSL835; Medium Notes: t= 21.1 C
Medium parameters used (interpolated): f = 824.2 MHz; $\sigma$ = 0.957 S/m; $\varepsilon_r$ = 53.857; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**1-slot GPRS850/Body - CH 128 - 10 mm - No Headset - Display - Antenna 1/Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 21.31 V/m
Fast SAR: SAR(1 g) = 0.395 W/kg
Fast SAR(10 g) = 0.271 W/kg
Maximum value of SAR (interpolated) = 0.458 W/kg

**1-slot GPRS850/Body - CH 128 - 10 mm - No Headset - Display - Antenna 1/Zoom Scan (6x6x7)/Cube 0:**
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 21.30 V/m
Peak SAR (extrapolated) = 0.533 W/kg
**SAR(1 g) = 0.371 W/kg**
**SAR(10 g) = 0.256 W/kg**
**Power Drift = -0.05 dB**
Maximum value of SAR (measured) = 0.418 W/kg





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**Plot W5**

Date/Time: 2015-08-12 1:59:17 PM

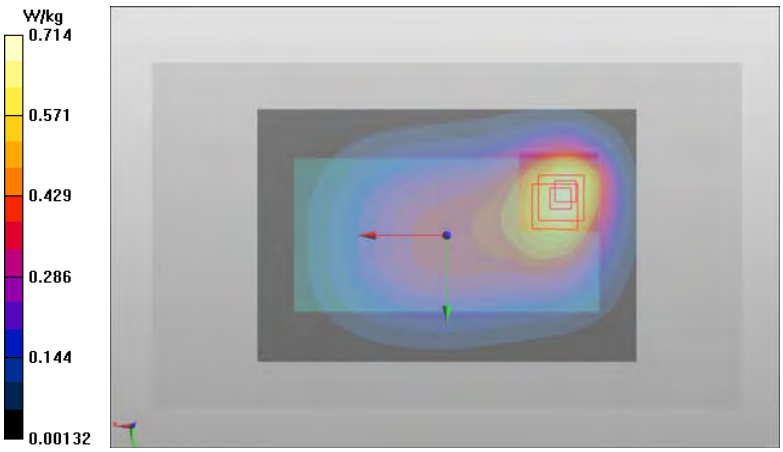
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: WCDMA850 (Band 5)**
Frequency: **835 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22 C
Medium parameters used: f = 835 MHz; $\sigma$ = 0.981 S/m; $\varepsilon_r$ = 53.886; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA850 (Band 5)/Body - CH 4175 - 10 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):**
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 26.22 V/m
Fast SAR: SAR(1 g) = 0.618 W/kg
Fast SAR(10 g) = 0.424 W/kg
Maximum value of SAR (interpolated) = 0.714 W/kg

**WCDMA850 (Band 5)/Body - CH 4175 - 10 mm - No Headset - Display - Antenna 1/Zoom Scan (6x6x7)/Cube 0:**
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 26.47 V/m
Peak SAR (extrapolated) = 0.870 W/kg
**SAR(1 g) = 0.599 W/kg**
**SAR(10 g) = 0.410 W/kg**
**Power Drift = -0.03 dB**
Maximum value of SAR (measured) = 0.685 W/kg





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**Plot W6**

Date/Time: 2015-08-11 2:54:12 PM

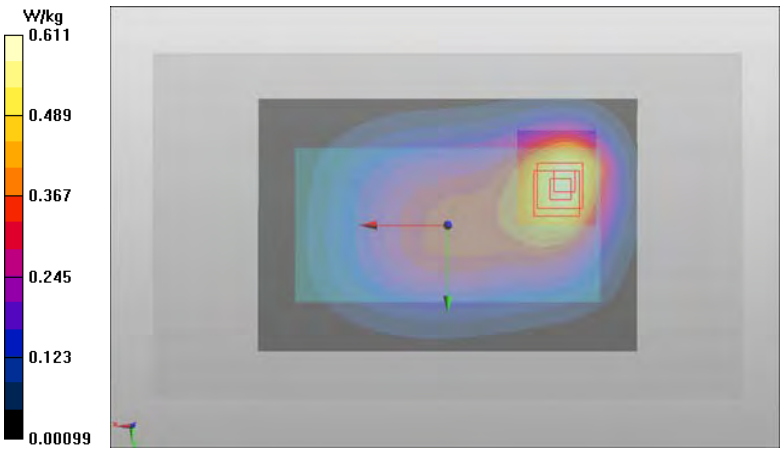
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181315/2**

**Communication System: LTE850 (Band 5)**
Frequency: **836.5 MHz**; Duty Cycle: 1:1
Medium: BSL835; Medium Notes: t= 22 C
Medium parameters used (interpolated): f = 836.5 MHz; $\sigma$ = 0.977 S/m; $\varepsilon_r$ = 54.092; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.96, 5.96, 5.96); Calibrated: 2014-10-21;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2014-10-14
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE850 (Band 5)/Body - CH 20525 - 10MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 24.23 V/m
Fast SAR: SAR(1 g) = 0.533 W/kg
Fast SAR(10 g) = 0.365 W/kg
Maximum value of SAR (interpolated) = 0.611 W/kg

**LTE850 (Band 5)/Body - CH 20525 - 10MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1/Zoom Scan (7x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 24.43 V/m
Peak SAR (extrapolated) = 0.737 W/kg
**SAR(1 g) = 0.518 W/kg**
**SAR(10 g) = 0.355 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 0.592 W/kg





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**Plot W7**

Date/Time: 2015-08-16 10:29:46 AM

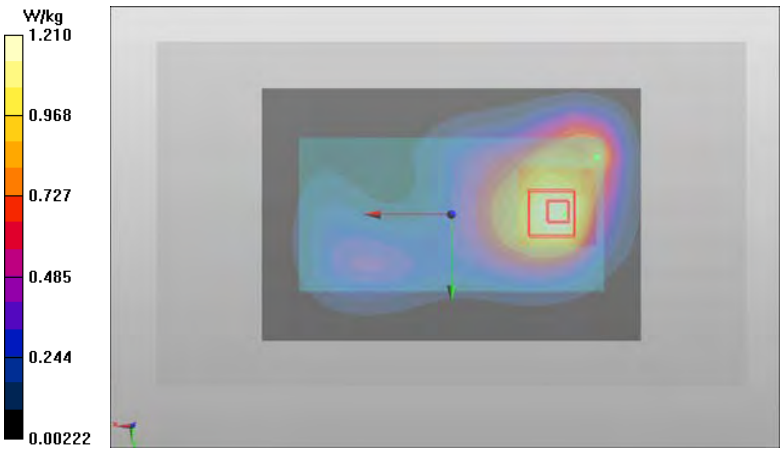
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

**Communication System: WCDMA1700/2100 (Band 4)**
Frequency: **1752.6 MHz**; Duty Cycle: 1:1
Medium: BSL1750; Medium Notes: t= 20,5 C
Medium parameters used: f = 1753 MHz; $\sigma$ = 1.445 S/m; $\varepsilon_r$ = 52.397; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3276
- ConvF(4.91, 4.91, 4.91); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2015-04-21
- Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA1700_2100 (Band 4)/Body - CH 1513 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 29.56 V/m
Fast SAR: SAR(1 g) = 1.02 W/kg
Fast SAR(10 g) = 0.645 W/kg
Maximum value of SAR (interpolated) = 1.21 W/kg

**WCDMA1700_2100 (Band 4)/Body - CH 1513 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 29.68 V/m
Peak SAR (extrapolated) = 1.54 W/kg
**SAR(1 g) = 1.05 W/kg**
**SAR(10 g) = 0.696 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 1.19 W/kg





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**Plot W8**

Date/Time: 2015-10-31 12:33:11 PM

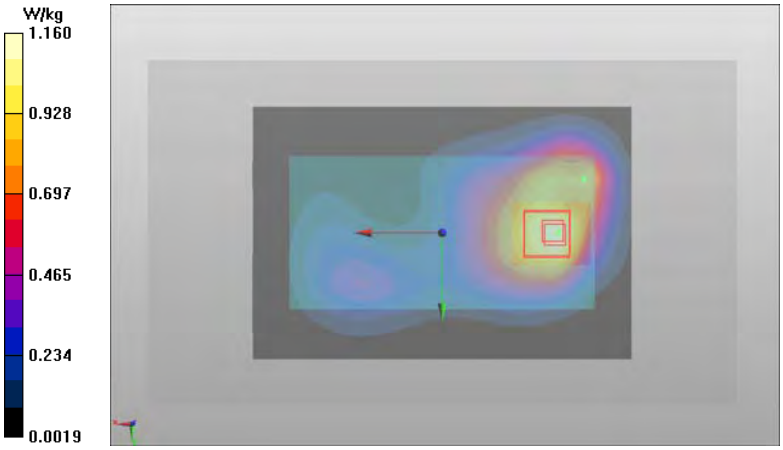
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

**Communication System: LTE4**
Frequency: **1745 MHz**; Duty Cycle: 1:1
Medium: BSL1800; Medium Notes: t= 21.7 C
Medium parameters used: f = 1745 MHz; $\sigma$ = 1.443 S/m; $\varepsilon_r$ = 52.143; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.78, 4.78, 4.78); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1123/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE1700_2100 (Band 4)/Body - CH 20300 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 28.06 V/m
Fast SAR: SAR(1 g) = 0.962 W/kg
Fast SAR(10 g) = 0.599 W/kg
Maximum value of SAR (interpolated) = 1.16 W/kg

**LTE1700_2100 (Band 4)/Body - CH 20300 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 28.06 V/m
Peak SAR (extrapolated) = 1.47 W/kg
**SAR(1 g) = 0.994 W/kg**
**SAR(10 g) = 0.654 W/kg**
**Power Drift = 0.02 dB**
Maximum value of SAR (measured) = 1.06 W/kg





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**Plot W9**

Date/Time: 2015-08-11 2:49:25 PM

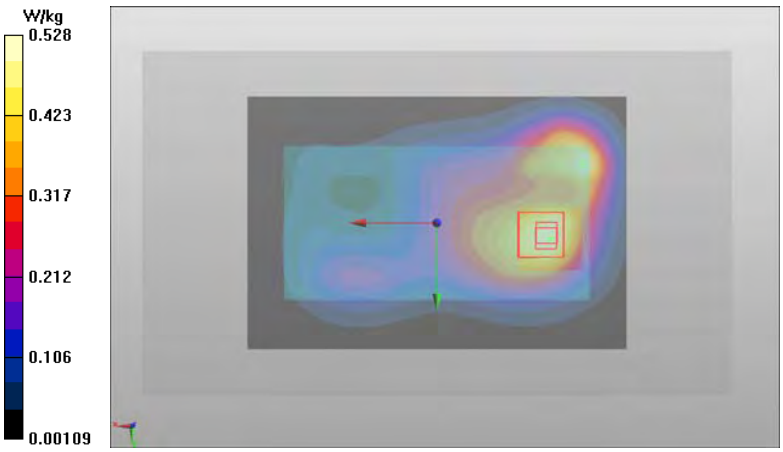
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: 2-slot GPRS1900**
Frequency: **1909.8 MHz**; Duty Cycle: 1:4.19952
Medium: BSL1900; Medium Notes: t= 23.3 C
Medium parameters used: f = 1910 MHz; $\sigma$ = 1.507 S/m; $\varepsilon_r$ = 51.806; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**2-slot GPRS1900/Body - CH 810 - 10 mm - No Headset - Display - Antenna 1/Area Scan (81x121x1):**
Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 18.14 V/m
Fast SAR: SAR(1 g) = 0.428 W/kg
Fast SAR(10 g) = 0.261 W/kg
Maximum value of SAR (interpolated) = 0.528 W/kg

**2-slot GPRS1900/Body - CH 810 - 10 mm - No Headset - Display - Antenna 1/Zoom Scan 2 (5x5x7)/Cube 0:**
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.21 V/m
Peak SAR (extrapolated) = 0.660 W/kg
**SAR(1 g) = 0.438 W/kg**
**SAR(10 g) = 0.283 W/kg**
**Power Drift = -0.04 dB**
Maximum value of SAR (measured) = 0.510 W/kg





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**Plot W10**

Date/Time: 2015-08-14 10:46:27 AM

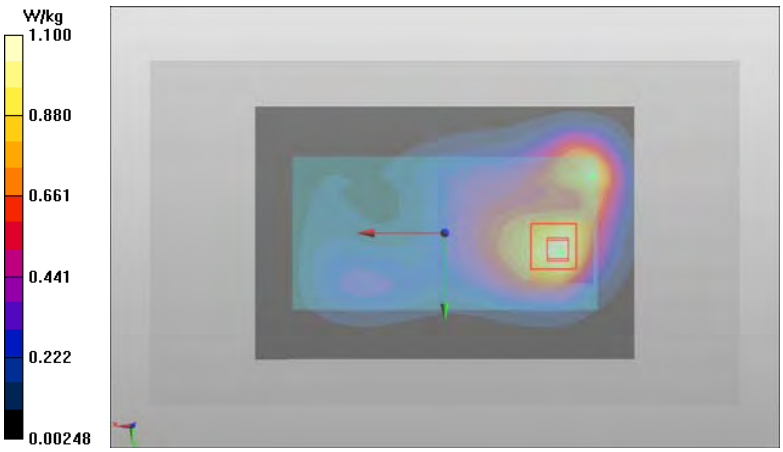
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: WCDMA1900 (Band 2)**
Frequency: **1852.4 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 22.8 C
Medium parameters used (interpolated): f = 1852.4 MHz; $\sigma$ = 1.449 S/m; $\varepsilon_r$ = 52.202; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WCDMA1900 (Band 2)/Body - CH 9262 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 26.39 V/m
Fast SAR: SAR(1 g) = 0.890 W/kg
Fast SAR(10 g) = 0.533 W/kg
Maximum value of SAR (interpolated) = 1.10 W/kg

**WCDMA1900 (Band 2)/Body - CH 9262 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 26.82 V/m
Peak SAR (extrapolated) = 1.37 W/kg
**SAR(1 g) = 0.912 W/kg**
**SAR(10 g) = 0.590 W/kg**
**Power Drift = -0.01 dB**
Maximum value of SAR (measured) = 1.07 W/kg





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**Plot W11**

Date/Time: 2015-08-17 1:35:38 PM

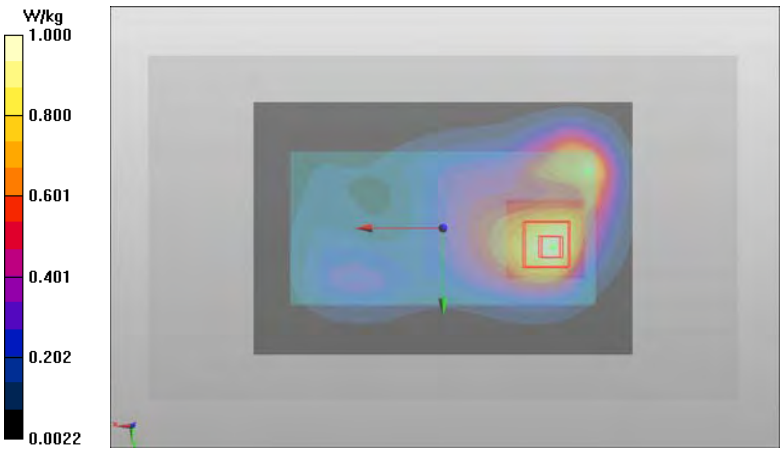
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

**Communication System: LTE1900 (Band 2)**
Frequency: **1880 MHz**; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t= 23.3 C
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.468 S/m; $\varepsilon_r$ = 51.86; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: ES3DV3 - SN3275
- ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
- Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE1900 (Band 2)/Body - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan (81x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm
Reference Value = 25.68 V/m
Fast SAR: SAR(1 g) = 0.810 W/kg
Fast SAR(10 g) = 0.487 W/kg
Maximum value of SAR (interpolated) = 1.00 W/kg

**LTE1900 (Band 2)/Body - CH 18900 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 25.80 V/m
Peak SAR (extrapolated) = 1.27 W/kg
**SAR(1 g) = 0.844 W/kg**
**SAR(10 g) = 0.540 W/kg**
**Power Drift = -0.00 dB**
Maximum value of SAR (measured) = 0.984 W/kg





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**Plot W12**

Date/Time: 2015-11-01 3:48:31 PM

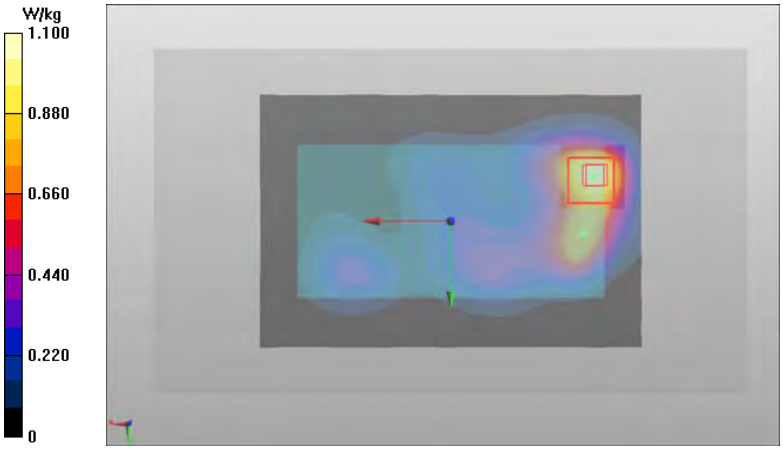
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2300 (Band 30)**
Frequency: **2310 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t=22,2 C
Medium parameters used: f = 2310 MHz; $\sigma$ = 1.771 S/m; $\varepsilon_r$ = 51.498; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.44, 7.44, 7.44); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2300 (Band 30)/Body - CH 27710 - 10MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 23.99 V/m
Fast SAR: SAR(1 g) = 0.878 W/kg
Fast SAR(10 g) = 0.463 W/kg
Maximum value of SAR (interpolated) = 1.10 W/kg

**LTE2300 (Band 30)/Body - CH 27710 - 10MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.99 V/m
Peak SAR (extrapolated) = 1.58 W/kg
**SAR(1 g) = 0.862 W/kg**
**SAR(10 g) = 0.478 W/kg**
**Power Drift = -0.00 dB**
Maximum value of SAR (measured) = 1.05 W/kg





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**Plot W13**

Date/Time: 2015-08-13 9:41:02 AM

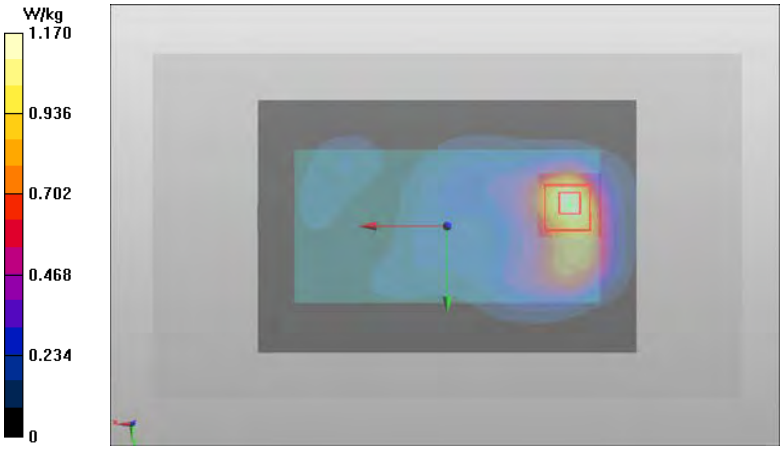
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2500 (Band 7)**
Frequency: **2510 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22.6 C
Medium parameters used: f = 2510 MHz; $\sigma$ = 1.985 S/m; $\varepsilon_r$ = 51.522; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2500 (Band 7)/Body - CH 20850 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 1/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 23.78 V/m
Fast SAR: SAR(1 g) = 0.920 W/kg
Fast SAR(10 g) = 0.487 W/kg
Maximum value of SAR (interpolated) = 1.17 W/kg

**LTE2500 (Band 7)/Body - CH 20850 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.69 V/m
Peak SAR (extrapolated) = 1.61 W/kg
**SAR(1 g) = 0.933 W/kg**
**SAR(10 g) = 0.522 W/kg**
**Power Drift = -0.07 dB**
Maximum value of SAR (measured) = 1.14 W/kg





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**Plot W14**

Date/Time: 2015-08-15 10:07:41 AM

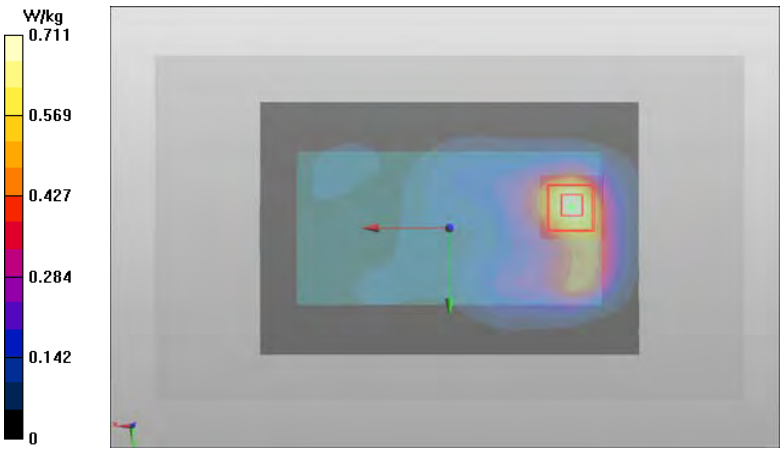
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

**Communication System: LTE2500 (Band 41)**
Frequency: **2549.5 MHz**; Duty Cycle: 1:1.58088
Medium: BSL2450; Medium Notes: t= 22.5 C
Medium parameters used (interpolated): f = 2549.5 MHz; $\sigma$ = 2.025 S/m; $\varepsilon_r$ = 51.23; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**LTE2500 (Band 41)/Body - CH 40185 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 1/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 18.30 V/m
Fast SAR: SAR(1 g) = 0.562 W/kg
Fast SAR(10 g) = 0.298 W/kg
Maximum value of SAR (interpolated) = 0.711 W/kg

**LTE2500 (Band 41)/Body - CH 40185 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.22 V/m
Peak SAR (extrapolated) = 0.971 W/kg
**SAR(1 g) = 0.563 W/kg**
**SAR(10 g) = 0.315 W/kg**
**Power Drift = 0.09 dB**
Maximum value of SAR (measured) = 0.685 W/kg





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**Plot W15**

Date/Time: 2015-08-16 4:40:08 PM

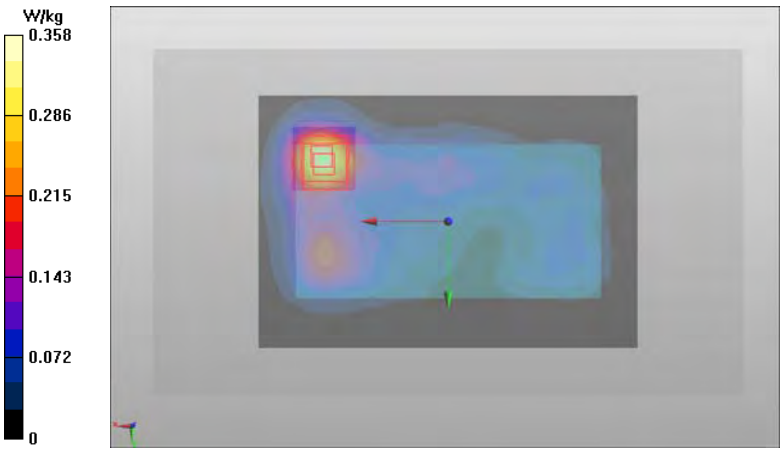
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

**Communication System: WLAN2450**
Frequency: **2412 MHz**; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: t= 22.6 C
Medium parameters used: f = 2412 MHz; $\sigma$ = 1.844 S/m; $\varepsilon_r$ = 51.838; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3892
- ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
- Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2015-04-20
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WLAN2450 b-mode/Body - CH 1 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 10mm - No Headset - Display - Antenna 1 and 2/Area Scan (121x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 13.66 V/m
Fast SAR: SAR(1 g) = 0.277 W/kg
Fast SAR(10 g) = 0.135 W/kg
Maximum value of SAR (interpolated) = 0.358 W/kg

**WLAN2450 b-mode/Body - CH 1 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 10mm - No Headset - Display - Antenna 1 and 2/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.49 V/m
Peak SAR (extrapolated) = 0.525 W/kg
**SAR(1 g) = 0.278 W/kg**
**SAR(10 g) = 0.145 W/kg**
**Power Drift = -0.03 dB**
Maximum value of SAR (measured) = 0.357 W/kg





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**Plot W16**

Date/Time: 2015-08-20 12:29:41 AM

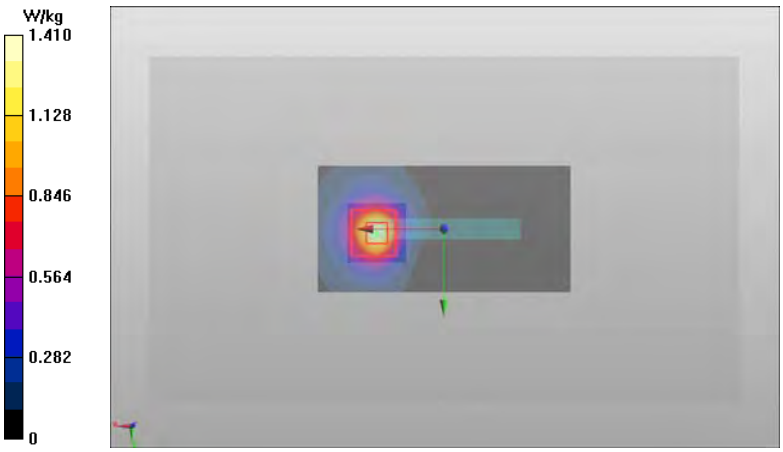
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

**Communication System: WLAN5000**
Frequency: **5230 MHz**; Duty Cycle: 1:1
Medium: BSL5000; Medium Notes: t= 21.3 C
Medium parameters used: f = 5230 MHz; $\sigma$ = 5.439 S/m; $\varepsilon_r$ = 47.098; $\rho$ = 1000 kg/m$^3$
Phantom section: Center Section

DASY Configuration:
- Probe: EX3DV4 - SN3852
- ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn756; Calibrated: 2015-04-20
- Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**WLAN5000 ac-mode - Top/Body - CH 46 - 40 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Top - Antenna 1 and 2/Area Scan (61x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value
Fast SAR: SAR(1 g) = 0.713 W/kg
Fast SAR(10 g) = 0.259 W/kg
Maximum value of SAR (interpolated) = 1.41 W/kg

**WLAN5000 ac-mode - Top/Body - CH 46 - 40 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Top - Antenna 1 and 2/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 13.94 V/m
Peak SAR (extrapolated) = 2.91 W/kg
**SAR(1 g) = 0.751 W/kg**
**SAR(10 g) = 0.266 W/kg**
**Power Drift = 0.00 dB**
Maximum value of SAR (measured) = 1.37 W/kg





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**Plot W17**

Date/Time: 2015-08-16 10:29:46 AM

**DASY Configuration for WCDMA1700_2100 (Band 4)/Body - CH 1513 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**

Communication System: WCDMA1700/2100 (Band 4); Frequency: 1752.6 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL1750 Medium parameters used: f = 1753 MHz; σ = 1.445 S/m; $\varepsilon_r$ = 52.397; ρ = 1000 kg/m$^3$

Phantom section: Center Section

Probe: ES3DV3 - SN3276; ConvF(4.91, 4.91, 4.91); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 2015-04-21
Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
Measurement SW: DASY52, Version 52.8 (8)

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Date/Time: 2015-08-16 4:40:08 PM

**DASY Configuration for WLAN2450 b-mode/Body - CH 1 - 20 MHz DSSS BPSK 1 Mbps SS 1 - 10mm - No Headset - Display - Antenna 1 and 2/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

Communication System: WLAN2450; Frequency: 2412 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: f = 2412 MHz; σ = 1.844 S/m; $\varepsilon_r$ = 51.838; ρ = 1000 kg/m$^3$

Phantom section: Center Section

Probe: EX3DV4 - SN3892; ConvF(7.32, 7.32, 7.32); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
Measurement SW: DASY52, Version 52.8 (8)

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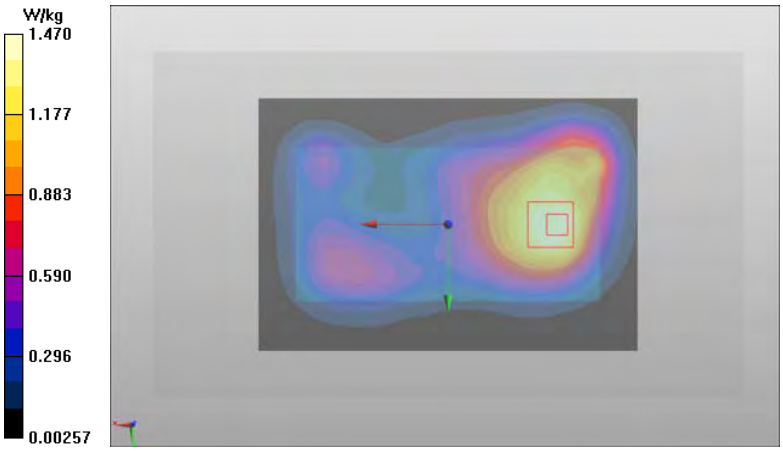
**Fast SAR of Combined Scans: SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.781 W/kg**

Maximum value of SAR (interpolated) = 1.47 W/kg




WLAN2450 b-mode was scaled with factor 1.29 and WCDMA1700_2100 (Band 4) with factor 1.15 before combining in SEMCAD SW.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**Plot W18**

Date/Time: 2015-08-16 10:29:46 AM

**DASY Configuration for WCDMA1700_2100 (Band 4)/Body - CH 1513 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181332/7**
Communication System: WCDMA1700/2100 (Band 4); Frequency: 1752.6 MHz; Duty Cycle: 1:1; PMF: 1
Medium: BSL1750 Medium parameters used: f = 1753 MHz; σ = 1.445 S/m; $\varepsilon_r$ = 52.397; ρ = 1000 kg/m$^3$
Phantom section: Center Section

Probe: ES3DV3 - SN3276; ConvF(4.91, 4.91, 4.91); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 2015-04-21
Phantom: SAM 2 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/2 (1800MHz), TP-1123/2 (1900MHz)
Measurement SW: DASY52, Version 52.8 (8)

---

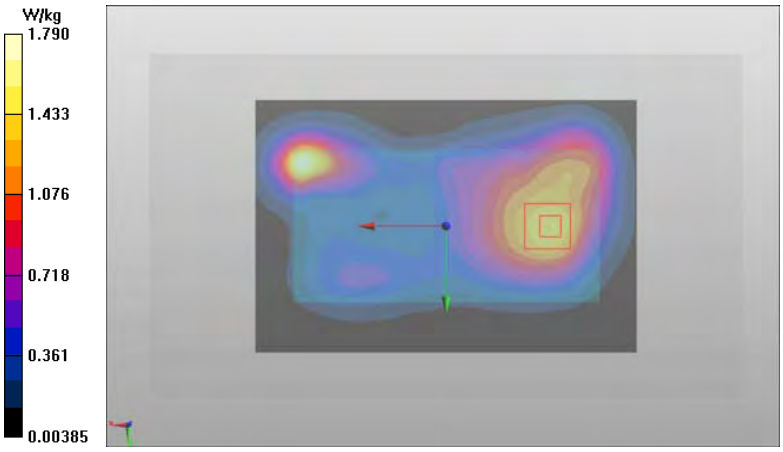
Date/Time: 2015-08-19 10:23:58 PM

**DASY Configuration for WLAN5000 ac-mode/Body - CH 46 - 40 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Display - Antenna 1 and 2/Area Scan:**
Test Laboratory: TCC Microsoft
**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**
Communication System: WLAN5000; Frequency: 5230 MHz; Duty Cycle: 1:1; PMF: 1
Medium: BSL5000 Medium parameters used: f = 5230 MHz; σ = 5.439 S/m; $\varepsilon_r$ = 47.098; ρ = 1000 kg/m$^3$
Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
Measurement SW: DASY52, Version 52.8 (8)

---

**Fast SAR of Combined Scans: SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.754 W/kg**
Maximum value of SAR (interpolated) = 1.79 W/kg




WLAN5000 ac-mode was scaled with factor 1.26 and WCDMA1700_2100 (Band 4) with factor 1.15 before combining in SEMCAD SW.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**Plot W19**

Date/Time: 2015-08-14 10:46:27 AM

**DASY Configuration for WCDMA1900 (Band 2)/Body - CH 9262 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181333/5**

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.449 S/m; $\varepsilon_r$ = 52.202; ρ = 1000 kg/m$^3$

Phantom section: Center Section

Probe: ES3DV3 - SN3275; ConvF(4.63, 4.63, 4.63); Calibrated: 2015-04-27;
Sensor-Surface: 3mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1302; Calibrated: 2015-04-21
Phantom: Triple, SAR6; Type: QD 000 P51 CA; Serial: 1124/1
Measurement SW: DASY52, Version 52.8 (8)

---

Date/Time: 2015-08-19 10:23:58 PM

**DASY Configuration for WLAN5000 ac-mode/Body - CH 46 - 40 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Display - Antenna 1 and 2/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

Communication System: WLAN5000; Frequency: 5230 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: f = 5230 MHz; σ = 5.439 S/m; $\varepsilon_r$ = 47.098; ρ = 1000 kg/m$^3$

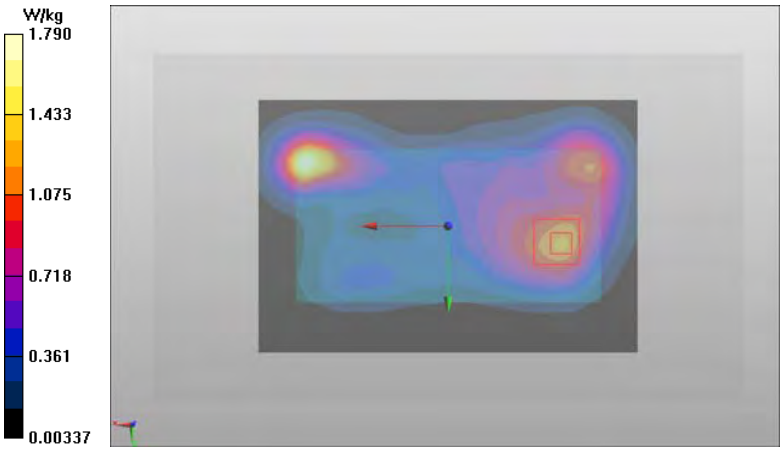
Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
Measurement SW: DASY52, Version 52.8 (8)

---

**Fast SAR of Combined Scans: SAR(1 g) = 1 W/kg; SAR(10 g) = 0.597 W/kg**

Maximum value of SAR (interpolated) = 1.79 W/kg




WLAN5000 ac-mode was scaled with factor 1.26 and WCDMA1900 (Band 2) with factor 1.10 before combining in SEMCAD SW.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**Plot W20**

Date/Time: 2015-11-01 3:48:31 PM

**DASY Configuration for LTE2300 (Band 30)/Body - CH 27710 - 10MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Display - Antenna 1 - Repeated/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

Communication System: LTE2300 (Band 30); Frequency: 2310 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: f = 2310 MHz; $\sigma$ = 1.771 S/m; $\varepsilon_r$ = 51.498; $\rho$ = 1000 kg/m$^3$

Phantom section: Center Section

Probe: EX3DV4 - SN3892; ConvF(7.44, 7.44, 7.44); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
Measurement SW: DASY52, Version 52.8 (8)

---

Date/Time: 2015-08-19 10:23:58 PM

**DASY Configuration for WLAN5000 ac-mode/Body - CH 46 - 40 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Display - Antenna 1 and 2/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

Communication System: WLAN5000; Frequency: 5230 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: f = 5230 MHz; $\sigma$ = 5.439 S/m; $\varepsilon_r$ = 47.098; $\rho$ = 1000 kg/m$^3$

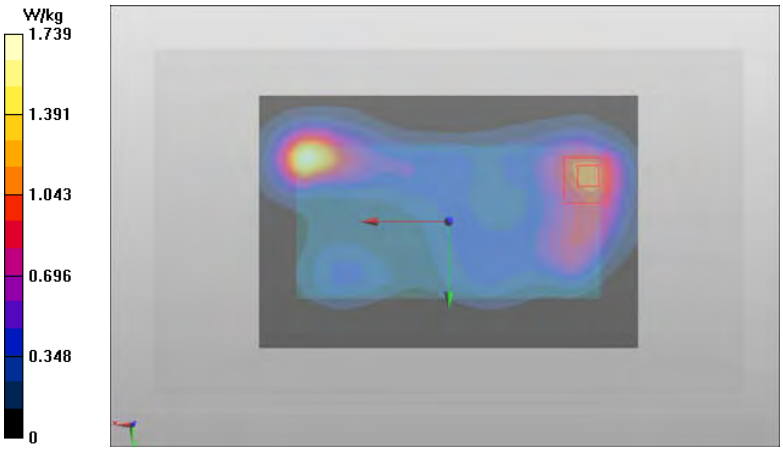
Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
Measurement SW: DASY52, Version 52.8 (8)

---

**Fast SAR of Combined Scans: SAR(1 g) = 0.910 W/kg; SAR(10 g) = 0.479 W/kg**

Maximum value of SAR (interpolated) = 1.74 W/kg




WLAN5000 ac-mode was scaled with factor 1.26 and LTE2300 (Band 30) with factor 1.00 before combining in SEMCAD SW.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**Plot W21**

Date/Time: 2015-08-13 9:41:02 AM

**DASY Configuration for LTE2500 (Band 7)/Body - CH 20850 - 20MHz - QPSK - 1 RB - Offset 0 - 10 mm - No Headset - Back - Antenna 1/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181312/9**

Communication System: LTE2500 (Band 7); Frequency: 2510 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: f = 2510 MHz; $\sigma$ = 1.985 S/m; $\varepsilon_r$ = 51.522; $\rho$ = 1000 kg/m$^3$

Phantom section: Center Section

Probe: EX3DV4 - SN3892; ConvF(7.04, 7.04, 7.04); Calibrated: 2015-04-24;
Sensor-Surface: 3mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2015-04-20
Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: TP-1124/3
Measurement SW: DASY52, Version 52.8 (8)

---

Date/Time: 2015-08-19 10:23:58 PM

**DASY Configuration for WLAN5000 ac-mode/Body - CH 46 - 40 MHz OFDM BPSK MCS0 SS 1 - 10mm - No Headset - Display - Antenna 1 and 2/Area Scan:**

Test Laboratory: TCC Microsoft

**Type: RM-1105, HW:2030; Serial: 004402/74/181311/1**

Communication System: WLAN5000; Frequency: 5230 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: f = 5230 MHz; $\sigma$ = 5.439 S/m; $\varepsilon_r$ = 47.098; $\rho$ = 1000 kg/m$^3$

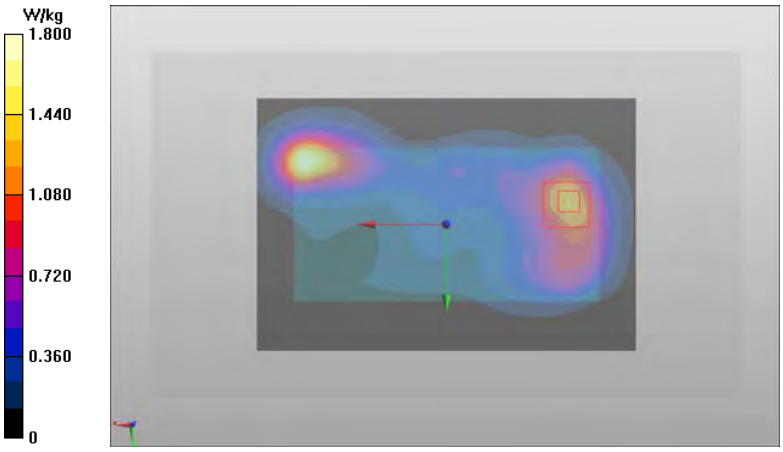
Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(4.51, 4.51, 4.51); Calibrated: 2015-04-24;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn756; Calibrated: 2015-04-20
Phantom: Triple, SAR-8; Type: QD 000 P51 CA; Serial:
Measurement SW: DASY52, Version 52.8 (8)

---

**Fast SAR of Combined Scans: SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.552 W/kg**

Maximum value of SAR (interpolated) = 1.80 W/kg




WLAN5000 ac-mode was scaled with factor 1.26 and LTE2500 (Band 7) with factor 1.10 before combining in SEMCAD SW.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## APPENDIX C: DIELECTRIC PARAMETERS OF THE TISSUE SIMULANTS

**Head tissue simulant dielectric parameters used in the measurements:**

| f (MHz) | LTE700 (Band 12) | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 23060 704.0 MHz | | CH 23095 707.5 MHz | | CH 23130 711.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 707 | 2015-08-06 | 41.3 | 0.88 | 41.3 | 0.88 | 41.3 | 0.88 |
| | 2015-08-07 | 41.0 | 0.86 | 41.0 | 0.87 | 40.9 | 0.87 |
| | 2015-08-10 | 40.3 | 0.86 | 40.3 | 0.87 | 40.3 | 0.87 |
| | 2015-08-24 | 40.4 | 0.85 | 40.4 | 0.85 | 40.4 | 0.86 |
| f (MHz) | LTE700 (Band 17) | Dielectric Parameters | | | | | |
| | Date | CH 23780 709.0 MHz | | CH 23790 710.0 MHz | | CH 23800 711.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 710 | 2015-08-06 | 41.2 | 0.88 | 41.2 | 0.88 | 41.3 | 0.88 |
| | 2015-08-07 | 40.9 | 0.87 | 40.9 | 0.87 | 40.9 | 0.87 |
| | 2015-08-10 | 40.3 | 0.87 | 40.3 | 0.87 | 40.3 | 0.87 |
| | 2015-08-24 | 40.4 | 0.85 | 40.3 | 0.86 | 40.4 | 0.86 |
| f (MHz) | LTE750 (Band 13) | Dielectric Parameters | | | | | |
| | Date | - | | CH 23230 782.0 MHz | | - | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 782 | 2015-08-06 | 0.0 | 0.00 | 40.8 | 0.92 | 0.0 | 0.00 |
| | 2015-08-07 | 0.0 | 0.00 | 40.5 | 0.91 | 0.0 | 0.00 |
| | 2015-08-10 | 0.0 | 0.00 | 39.9 | 0.91 | 0.0 | 0.00 |
| | 2015-08-24 | 0.0 | 0.00 | 39.9 | 0.89 | 0.0 | 0.00 |
| f (MHz) | GSM850 | Dielectric Parameters | | | | | |
| | Date | CH 128 824.2 MHz | | CH 190 836.6 MHz | | CH 251 848.8 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 836 | 2015-08-13 | 40.4 | 0.90 | 40.3 | 0.90 | 40.2 | 0.91 |
| | 2015-08-14 | 39.8 | 0.88 | 39.8 | 0.89 | 39.7 | 0.89 |
| | 2015-08-16 | 40.0 | 0.88 | 40.0 | 0.89 | 39.9 | 0.90 |
| | 2015-08-17 | 40.4 | 0.89 | 40.4 | 0.90 | 40.4 | 0.90 |
| | 2015-08-18 | 40.5 | 0.89 | 40.4 | 0.90 | 40.4 | 0.91 |
| f (MHz) | WCDMA850 (Band 5) | Dielectric Parameters | | | | | |
| | Date | CH 4132 826.4 MHz | | CH 4175 835.0 MHz | | CH 4233 846.6 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 835 | 2015-08-13 | 40.4 | 0.90 | 40.3 | 0.90 | 40.2 | 0.91 |
| | 2015-08-14 | 39.8 | 0.88 | 39.8 | 0.88 | 39.7 | 0.89 |
| | 2015-08-16 | 40.0 | 0.89 | 40.0 | 0.89 | 39.9 | 0.90 |
| | 2015-08-17 | 40.4 | 0.89 | 40.4 | 0.90 | 40.4 | 0.90 |
| | 2015-08-18 | 40.4 | 0.89 | 40.4 | 0.90 | 40.4 | 0.91 |

(Table continues)


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(Table continues)

| f (MHz) | LTE850 (Band 5) | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 20450 829.0 MHz | | CH 20525 836.5 MHz | | CH 20600 844.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 836 | 2015-08-13 | 40.4 | 0.90 | 40.3 | 0.90 | 40.3 | 0.91 |
| | 2015-08-14 | 39.8 | 0.88 | 39.8 | 0.89 | 39.7 | 0.89 |
| | 2015-08-16 | 40.0 | 0.89 | 40.0 | 0.89 | 39.9 | 0.90 |
| | 2015-08-17 | 40.4 | 0.89 | 40.4 | 0.90 | 40.4 | 0.90 |
| | 2015-08-18 | 40.4 | 0.90 | 40.4 | 0.90 | 40.4 | 0.91 |

| f (MHz) | WCDMA1700/2100 (Band 4) | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 1312 1712.4 MHz | | CH 1412 1732.4 MHz | | CH 1513 1752.6 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1732 | 2015-08-11 | 40.1 | 1.31 | 40.0 | 1.33 | 39.9 | 1.35 |
| | 2015-08-12 | 40.0 | 1.31 | 39.9 | 1.33 | 39.8 | 1.35 |
| | 2015-08-13 | 39.4 | 1.31 | 39.4 | 1.32 | 39.2 | 1.34 |
| | 2015-08-17 | 39.8 | 1.29 | 39.7 | 1.31 | 39.7 | 1.33 |
| | 2015-08-18 | 39.8 | 1.30 | 39.7 | 1.32 | 39.7 | 1.34 |
| | 2015-08-24 | 39.5 | 1.30 | 39.5 | 1.32 | 39.5 | 1.34 |
| | 2015-08-26 | 39.4 | 1.30 | 39.3 | 1.32 | 39.2 | 1.34 |
| | 2015-08-27 | 39.2 | 1.30 | 39.1 | 1.31 | 39.0 | 1.33 |
| | 2015-08-28 | 39.0 | 1.30 | 38.9 | 1.32 | 38.8 | 1.33 |
| | 2015-08-29 | 38.7 | 1.31 | 38.6 | 1.33 | 38.5 | 1.34 |

| f (MHz) | LTE1700/2100 (Band 4) | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 20050 1720.0 MHz | | CH 20175 1732.5 MHz | | CH 20300 1745.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1732 | 2015-08-11 | 40.1 | 1.32 | 40.0 | 1.33 | 40.0 | 1.34 |
| | 2015-08-12 | 40.0 | 1.32 | 39.9 | 1.33 | 39.9 | 1.34 |
| | 2015-08-13 | 39.4 | 1.31 | 39.4 | 1.32 | 39.3 | 1.34 |
| | 2015-08-17 | 39.8 | 1.30 | 39.7 | 1.31 | 39.7 | 1.33 |
| | 2015-08-18 | 39.7 | 1.31 | 39.7 | 1.32 | 39.6 | 1.33 |
| | 2015-08-24 | 39.5 | 1.30 | 39.5 | 1.32 | 39.5 | 1.33 |
| | 2015-08-26 | 39.3 | 1.31 | 39.3 | 1.32 | 39.2 | 1.33 |
| | 2015-08-27 | 39.1 | 1.30 | 39.1 | 1.31 | 39.0 | 1.32 |
| | 2015-08-28 | 38.9 | 1.30 | 38.9 | 1.32 | 38.8 | 1.33 |
| | 2015-08-29 | 38.6 | 1.31 | 38.6 | 1.33 | 38.5 | 1.34 |
| | 2015-10-30 | 39.0 | 1.31 | 39.0 | 1.32 | 39.0 | 1.33 |

| f (MHz) | GSM1900 | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 512 1850.2 MHz | | CH 661 1880.0 MHz | | CH 810 1909.8 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1880 | 2015-08-10 | 38.5 | 1.32 | 38.4 | 1.34 | 38.3 | 1.37 |
| | 2015-08-13 | 39.5 | 1.33 | 39.3 | 1.36 | 39.2 | 1.39 |
| | 2015-08-15 | 39.2 | 1.32 | 39.1 | 1.35 | 39.0 | 1.38 |
| | 2015-08-21 | 39.0 | 1.33 | 39.0 | 1.36 | 38.8 | 1.38 |
| | 2015-08-24 | 38.6 | 1.32 | 38.6 | 1.34 | 38.4 | 1.37 |

(Table continues)


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(Table continues)

| f (MHz) | WCDMA1900 (Band 2) | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 9262 1852.4 MHz | | CH 9400 1880.0 MHz | | CH 9538 1907.6 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1880 | 2015-08-10 | 38.5 | 1.32 | 38.4 | 1.34 | 38.3 | 1.37 |
| | 2015-08-13 | 39.5 | 1.33 | 39.3 | 1.36 | 39.3 | 1.38 |
| | 2015-08-15 | 39.2 | 1.32 | 39.1 | 1.35 | 39.0 | 1.38 |
| | 2015-08-21 | 39.0 | 1.33 | 39.0 | 1.36 | 38.8 | 1.38 |
| | 2015-08-24 | 38.6 | 1.32 | 38.6 | 1.34 | 38.4 | 1.36 |
| f (MHz) | LTE1900 (Band 2) | Dielectric Parameters | | | | | |
| | Date | CH 18700 1860.0 MHz | | CH 18900 1880.0 MHz | | CH 19100 1900.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1880 | 2015-08-10 | 38.5 | 1.33 | 38.4 | 1.34 | 38.4 | 1.36 |
| | 2015-08-13 | 39.4 | 1.34 | 39.3 | 1.36 | 39.3 | 1.38 |
| | 2015-08-15 | 39.1 | 1.33 | 39.1 | 1.35 | 39.0 | 1.37 |
| | 2015-08-21 | 39.0 | 1.34 | 39.0 | 1.36 | 38.8 | 1.37 |
| | 2015-08-24 | 38.6 | 1.32 | 38.6 | 1.34 | 38.4 | 1.36 |
| | 2015-10-31 | 39.1 | 1.38 | 39.0 | 1.39 | 39.0 | 1.42 |
| f (MHz) | LTE2300 (Band 30) | Dielectric Parameters | | | | | |
| | Date | - | | CH 27710 2310.0 MHz | | - | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2310 | 2015-08-24 | 0.0 | 0.00 | 39.6 | 1.61 | 0.0 | 0.00 |
| | 2015-11-01 | 0.0 | 0.00 | 38.4 | 1.64 | 0.0 | 0.00 |
| f (MHz) | WLAN2450 | Dielectric Parameters | | | | | |
| | Date | CH 1 2412.0 MHz | | CH 6 2437.0 MHz | | CH 11 2462.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2437 | 2015-08-16 | 38.8 | 1.71 | 38.8 | 1.74 | 38.6 | 1.76 |
| f (MHz) | LTE2500 (Band 7) | Dielectric Parameters | | | | | |
| | Date | CH 20850 2510.0 MHz | | CH 21100 2535.0 MHz | | CH 21350 2560.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2535 | 2015-08-11 | 37.8 | 1.87 | 37.8 | 1.90 | 37.7 | 1.93 |
| | 2015-08-12 | 38.5 | 1.83 | 38.4 | 1.85 | 38.4 | 1.88 |
| | 2015-08-26 | 38.8 | 1.79 | 38.8 | 1.81 | 38.6 | 1.84 |
| f (MHz) | LTE2500 (Band 41) | Dielectric Parameters | | | | | |
| | Date | CH 39750 2506.0 MHz | | CH 40620 2593.0 MHz | | CH 41490 2680.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2593 | 2015-08-11 | 37.8 | 1.86 | 37.5 | 1.95 | 37.2 | 2.06 |
| | 2015-08-12 | 38.5 | 1.82 | 38.2 | 1.92 | 37.9 | 2.02 |
| | 2015-08-26 | 38.8 | 1.79 | 38.6 | 1.88 | 38.2 | 1.98 |

(Table continues)


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(Table continues)

| f (MHz) | WLAN5200 | Dielectric Parameters | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | 5200.0 | | 5210.0 | | 5220.0 | | 5230.0 | | 5240.0 | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 5210 | 2015-08-17 | 36.1 | 4.62 | 36.1 | 4.63 | 36.1 | 4.64 | 36.1 | 4.65 | 36.1 | 4.66 |
| f (MHz) | WLAN5300 | Dielectric Parameters | | | | | | | | | |
| | Date | 5260.0 | | 5290.0 | | 5300.0 | | 5310.0 | | 5320.0 | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 5290 | 2015-08-17 | 36.1 | 4.67 | 36.0 | 4.71 | 36.0 | 4.72 | 36.0 | 4.73 | 36.0 | 4.74 |
| f (MHz) | WLAN5500-5600 | Dielectric Parameters | | | | | | | | | |
| | Date | 5520.0 | | 5600.0 | | 5620.0 | | 5640.0 | | 5700.0 | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 5520<br>5620 | 2015-08-18 | 35.7 | 4.93 | 35.5 | 5.01 | 35.5 | 5.04 | 35.5 | 5.06 | 35.4 | 5.12 |
| f (MHz) | WLAN5800 | Dielectric Parameters | | | | | | | | | |
| | Date | 5745.0 | | 5760.0 | | 5785.0 | | 5805.0 | | 5815.0 | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 5760 | 2015-08-18 | 35.3 | 5.17 | 35.3 | 5.19 | 35.3 | 5.22 | 35.3 | 5.24 | 35.2 | 5.24 |


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**Body tissue simulant dielectric parameters used in the measurements:**

| f (MHz) | LTE700 (Band 12) | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 23060 704.0 MHz | | CH 23095 707.5 MHz | | CH 23130 711.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 707 | 2015-08-11 | 54.2 | 0.95 | 54.2 | 0.95 | 54.2 | 0.96 |
| | 2015-08-12 | 54.4 | 0.95 | 54.4 | 0.96 | 54.3 | 0.96 |
| | 2015-08-17 | 54.0 | 0.94 | 54.0 | 0.94 | 54.0 | 0.94 |
| | 2015-08-18 | 54.1 | 0.94 | 54.1 | 0.95 | 54.0 | 0.95 |
| | 2015-08-19 | 54.3 | 0.94 | 54.2 | 0.94 | 54.2 | 0.95 |
| | 2015-08-20 | 53.8 | 0.95 | 53.8 | 0.95 | 53.8 | 0.95 |
| f (MHz) | LTE700 (Band 17) | Dielectric Parameters | | | | | |
| | Date | CH 23780 709.0 MHz | | CH 23790 710.0 MHz | | CH 23800 711.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 710 | 2015-08-11 | 54.2 | 0.96 | 54.2 | 0.95 | 54.2 | 0.96 |
| | 2015-08-12 | 54.4 | 0.96 | 54.3 | 0.96 | 54.3 | 0.96 |
| | 2015-08-17 | 54.0 | 0.94 | 54.0 | 0.94 | 54.0 | 0.94 |
| | 2015-08-18 | 54.0 | 0.95 | 54.1 | 0.95 | 54.0 | 0.95 |
| | 2015-08-19 | 54.3 | 0.94 | 54.2 | 0.94 | 54.2 | 0.95 |
| | 2015-08-20 | 53.9 | 0.95 | 53.8 | 0.95 | 53.8 | 0.95 |
| f (MHz) | LTE750 (Band 13) | Dielectric Parameters | | | | | |
| | Date | - | | CH 23230 782.0 MHz | | - | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 782 | 2015-08-11 | 0.0 | 0.00 | 53.8 | 1.00 | 0.0 | 0.00 |
| | 2015-08-12 | 0.0 | 0.00 | 54.0 | 1.00 | 0.0 | 0.00 |
| | 2015-08-17 | 0.0 | 0.00 | 53.7 | 0.98 | 0.0 | 0.00 |
| | 2015-08-18 | 0.0 | 0.00 | 53.8 | 0.98 | 0.0 | 0.00 |
| | 2015-08-19 | 0.0 | 0.00 | 53.9 | 0.97 | 0.0 | 0.00 |
| | 2015-08-20 | 0.0 | 0.00 | 53.6 | 0.98 | 0.0 | 0.00 |
| f (MHz) | GSM850 | Dielectric Parameters | | | | | |
| | Date | CH 128 824.2 MHz | | CH 190 836.6 MHz | | CH 251 848.8 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 836 | 2015-08-06 | 53.7 | 0.97 | 53.6 | 0.98 | 53.6 | 0.99 |
| | 2015-08-07 | 53.7 | 0.97 | 53.7 | 0.98 | 53.6 | 0.99 |
| | 2015-08-10 | 53.6 | 0.97 | 53.5 | 0.98 | 53.5 | 0.99 |
| | 2015-08-11 | 54.1 | 0.97 | 54.1 | 0.98 | 54.1 | 0.98 |
| | 2015-08-12 | 54.0 | 0.97 | 53.9 | 0.98 | 53.9 | 0.99 |
| | 2015-08-16 | 53.9 | 0.96 | 53.9 | 0.96 | 53.9 | 0.97 |

(Table continues)


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(Table continues)

| f (MHz) | WCDMA850 (Band 5) | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 4132 826.4 MHz | | CH 4175 835.0 MHz | | CH 4233 846.6 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 835 | 2015-08-06 | 53.7 | 0.98 | 53.7 | 0.98 | 53.6 | 0.99 |
| | 2015-08-07 | 53.6 | 0.98 | 53.7 | 0.98 | 53.6 | 0.99 |
| | 2015-08-10 | 53.6 | 0.97 | 53.5 | 0.98 | 53.5 | 0.98 |
| | 2015-08-11 | 54.2 | 0.97 | 54.1 | 0.97 | 54.1 | 0.98 |
| | 2015-08-12 | 54.0 | 0.98 | 53.9 | 0.98 | 53.8 | 0.99 |
| | 2015-08-16 | 53.9 | 0.96 | 53.8 | 0.96 | 53.8 | 0.97 |
| f (MHz) | LTE850 (Band 5) | Dielectric Parameters | | | | | |
| | Date | CH 20450 829.0 MHz | | CH 20525 836.5 MHz | | CH 20600 844.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 836 | 2015-08-06 | 53.7 | 0.98 | 53.6 | 0.98 | 53.6 | 0.99 |
| | 2015-08-07 | 53.7 | 0.98 | 53.7 | 0.98 | 53.6 | 0.99 |
| | 2015-08-10 | 53.5 | 0.98 | 53.5 | 0.98 | 53.5 | 0.99 |
| | 2015-08-11 | 54.1 | 0.97 | 54.1 | 0.98 | 54.1 | 0.98 |
| | 2015-08-12 | 54.0 | 0.98 | 53.9 | 0.98 | 53.8 | 0.98 |
| | 2015-08-16 | 53.9 | 0.96 | 53.9 | 0.96 | 53.9 | 0.97 |
| f (MHz) | WCDMA1700/2100 (Band 4) | Dielectric Parameters | | | | | |
| | Date | CH 1312 1712.4 MHz | | CH 1412 1732.4 MHz | | CH 1513 1752.6 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1732 | 2015-08-15 | 52.4 | 1.39 | 52.3 | 1.42 | 52.2 | 1.43 |
| | 2015-08-16 | 52.4 | 1.40 | 52.4 | 1.42 | 52.4 | 1.44 |
| | 2015-08-29 | 51.8 | 1.40 | 51.7 | 1.42 | 51.7 | 1.44 |
| | 2015-08-30 | 51.7 | 1.42 | 51.6 | 1.44 | 51.6 | 1.45 |
| f (MHz) | LTE1700/2100 (Band 4) | Dielectric Parameters | | | | | |
| | Date | CH 20050 1720.0 MHz | | CH 20175 1732.5 MHz | | CH 20300 1745.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1732 | 2015-08-15 | 52.3 | 1.40 | 52.3 | 1.42 | 52.3 | 1.43 |
| | 2015-08-16 | 52.4 | 1.41 | 52.4 | 1.42 | 52.4 | 1.43 |
| | 2015-08-29 | 51.8 | 1.41 | 51.7 | 1.42 | 51.7 | 1.43 |
| | 2015-08-30 | 51.6 | 1.43 | 51.6 | 1.44 | 51.6 | 1.45 |
| | 2015-10-31 | 52.2 | 1.42 | 52.2 | 1.43 | 52.1 | 1.44 |
| f (MHz) | GSM1900 | Dielectric Parameters | | | | | |
| | Date | CH 512 1850.2 MHz | | CH 661 1880.0 MHz | | CH 810 1909.8 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1880 | 2015-08-11 | 52.0 | 1.45 | 51.9 | 1.48 | 51.8 | 1.50 |
| | 2015-08-12 | 51.7 | 1.44 | 51.6 | 1.47 | 51.6 | 1.50 |
| | 2015-08-14 | 52.2 | 1.44 | 52.1 | 1.47 | 52.0 | 1.50 |
| | 2015-08-17 | 51.9 | 1.44 | 51.9 | 1.47 | 51.8 | 1.49 |
| | 2015-08-18 | 52.1 | 1.45 | 52.1 | 1.47 | 51.9 | 1.49 |

(Table continues)


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(Table continues)

| f (MHz) | WCDMA1900 (Band 2) | Dielectric Parameters | | | | | |
|---|---|---|---|---|---|---|---|
| | Date | CH 9262 1852.4 MHz | | CH 9400 1880.0 MHz | | CH 9538 1907.6 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1880 | 2015-08-11 | 52.0 | 1.45 | 51.9 | 1.48 | 51.8 | 1.50 |
| | 2015-08-12 | 51.7 | 1.44 | 51.6 | 1.47 | 51.6 | 1.50 |
| | 2015-08-14 | 52.2 | 1.45 | 52.1 | 1.47 | 52.0 | 1.50 |
| | 2015-08-17 | 51.9 | 1.44 | 51.9 | 1.47 | 51.8 | 1.49 |
| | 2015-08-18 | 52.2 | 1.44 | 52.1 | 1.47 | 51.9 | 1.49 |
| f (MHz) | LTE1900 (Band 2) | Dielectric Parameters | | | | | |
| | Date | CH 18700 1860.0 MHz | | CH 18900 1880.0 MHz | | CH 19100 1900.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 1880 | 2015-08-11 | 51.9 | 1.46 | 51.9 | 1.48 | 51.9 | 1.49 |
| | 2015-08-12 | 51.7 | 1.45 | 51.6 | 1.47 | 51.6 | 1.50 |
| | 2015-08-14 | 52.1 | 1.45 | 52.1 | 1.47 | 52.1 | 1.49 |
| | 2015-08-17 | 51.9 | 1.44 | 51.9 | 1.47 | 51.8 | 1.48 |
| | 2015-08-18 | 52.1 | 1.45 | 52.1 | 1.47 | 52.0 | 1.48 |
| | 2015-10-31 | 52.0 | 1.51 | 51.9 | 1.53 | 51.9 | 1.55 |
| f (MHz) | LTE2300 (Band 30) | Dielectric Parameters | | | | | |
| | Date | - | | CH 27710 2310.0 MHz | | - | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2310 | 2015-08-19 | 0.0 | 0.00 | 52.3 | 1.74 | 0.0 | 0.00 |
| | 2015-08-20 | 0.0 | 0.00 | 52.1 | 1.75 | 0.0 | 0.00 |
| | 2015-08-26 | 0.0 | 0.00 | 52.1 | 1.74 | 0.0 | 0.00 |
| | 2015-11-01 | 0.0 | 0.00 | 51.5 | 1.77 | 0.0 | 0.00 |
| f (MHz) | WLAN2450 | Dielectric Parameters | | | | | |
| | Date | CH 1 2412.0 MHz | | CH 6 2437.0 MHz | | CH 11 2462.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2437 | 2015-08-16 | 51.8 | 1.84 | 51.8 | 1.88 | 51.7 | 1.90 |
| f (MHz) | LTE2500 (Band 7) | Dielectric Parameters | | | | | |
| | Date | CH 20850 2510.0 MHz | | CH 21100 2535.0 MHz | | CH 21350 2560.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2535 | 2015-08-13 | 51.5 | 1.98 | 51.5 | 2.01 | 51.4 | 2.04 |
| | 2015-08-14 | 51.6 | 1.98 | 51.5 | 2.02 | 51.4 | 2.04 |
| | 2015-08-15 | 51.3 | 1.98 | 51.2 | 2.01 | 51.2 | 2.04 |
| | 2015-08-26 | 51.5 | 1.97 | 51.5 | 2.01 | 51.5 | 2.02 |
| f (MHz) | LTE2500 (Band 41) | Dielectric Parameters | | | | | |
| | Date | CH 39750 2506.0 MHz | | CH 40620 2593.0 MHz | | CH 41490 2680.0 MHz | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2593 | 2015-08-13 | 51.6 | 1.97 | 51.3 | 2.08 | 51.0 | 2.18 |
| | 2015-08-14 | 51.6 | 1.98 | 51.3 | 2.08 | 51.0 | 2.18 |
| | 2015-08-15 | 51.3 | 1.97 | 51.0 | 2.07 | 50.8 | 2.18 |
| | 2015-08-26 | 51.5 | 1.97 | 51.3 | 2.07 | 51.1 | 2.17 |

(Table continues)


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(Table continues)

| f (MHz) | WLAN5200 | Dielectric Parameters | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | 5200.0 | | 5210.0 | | 5220.0 | | 5230.0 | | 5240.0 | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 2510 | 2015-08-19 | 47.1 | 5.40 | 47.1 | 5.41 | 47.1 | 5.42 | 47.1 | 5.43 | 47.1 | 5.44 |
| | 2015-08-20 | 47.2 | 5.39 | 47.2 | 5.41 | 47.2 | 5.42 | 47.2 | 5.43 | 47.2 | 5.44 |

| f (MHz) | WLAN5300 | Dielectric Parameters | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | 5260.0 | | 5290.0 | | 5300.0 | | 5310.0 | | 5320.0 | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 5290 | 2015-08-19 | 47.0 | 5.46 | 47.0 | 5.52 | 47.0 | 5.53 | 46.9 | 5.54 | 46.9 | 5.55 |

| f (MHz) | WLAN5500-5600 | Dielectric Parameters | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | 5520.0 | | 5600.0 | | 5620.0 | | 5640.0 | | 5700.0 | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 5520 | 2015-08-20 | 46.7 | 5.81 | 46.6 | 5.91 | 46.5 | 5.95 | 46.5 | 5.97 | 46.4 | 6.05 |

| f (MHz) | WLAN5800 | Dielectric Parameters | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Date | 5745.0 | | 5760.0 | | 5785.0 | | 5805.0 | | 5815.0 | |
| | | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] | $e_r$ | s [S/m] |
| 5760 | 2015-08-21 | 46.1 | 6.18 | 46.0 | 6.19 | 46.0 | 6.21 | 45.9 | 6.24 | 45.9 | 6.26 |


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**APPENDIX D: RELEVANT PAGES FROM PROBE CALIBRATION REPORTS**


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**Zeughausstrasse 43, 8004 Zurich, Switzerland**

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Servizio svizzero di taratura
**S** Swiss Calibration Service

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**The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates**

**Accreditation No.: SCS 0108**

Client **TCC Microsoft**

**Certificate No: ES3-3276_Apr15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | ES3DV3 - SN:3276 |
| Calibration procedure(s) | QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6<br>Calibration procedure for dosimetric E-field probes |
| Calibration date: | April 27, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter E4419B | GB41293874 | 01-Apr-15 (No. 217-02128) | Mar-16 |
| Power sensor E4412A | MY41498087 | 01-Apr-15 (No. 217-02128) | Mar-16 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 01-Apr-15 (No. 217-02129) | Mar-16 |
| Reference 20 dB Attenuator | SN: S5277 (20x) | 01-Apr-15 (No. 217-02132) | Mar-16 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 01-Apr-15 (No. 217-02133) | Mar-16 |
| Reference Probe ES3DV2 | SN: 3013 | 30-Dec-14 (No. ES3-3013_Dec14) | Dec-15 |
| DAE4 | SN: 660 | 14-Jan-15 (No. DAE4-660_Jan15) | Jan-16 |
| | | | |
| Secondary Standards | ID | Check Date (in house) | Scheduled Check |
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (in house check Apr-13) | In house check: Apr-16 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Jeton Kastrati | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: April 27, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

# DASY/EASY - Parameters of Probe: ES3DV3 - SN:3276

## Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 41.9 | 0.89 | 6.44 | 6.44 | 6.44 | 0.40 | 1.55 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 6.17 | 6.17 | 6.17 | 0.29 | 2.00 | ± 12.0 % |
| 1750 | 40.1 | 1.37 | 5.17 | 5.17 | 5.17 | 0.49 | 1.45 | ± 12.0 % |
| 1900 | 40.0 | 1.40 | 4.98 | 4.98 | 4.98 | 0.80 | 1.19 | ± 12.0 % |
| 2300 | 39.5 | 1.67 | 4.66 | 4.66 | 4.66 | 0.62 | 1.39 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 4.42 | 4.42 | 4.42 | 0.72 | 1.34 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 4.25 | 4.25 | 4.25 | 0.80 | 1.22 | ± 12.0 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

# DASY/EASY - Parameters of Probe: ES3DV3 - SN:3276

## Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 55.5 | 0.96 | 6.17 | 6.17 | 6.17 | 0.50 | 1.48 | ± 12.0 % |
| 835 | 55.2 | 0.97 | 6.09 | 6.09 | 6.09 | 0.28 | 2.07 | ± 12.0 % |
| 1750 | 53.4 | 1.49 | 4.91 | 4.91 | 4.91 | 0.58 | 1.41 | ± 12.0 % |
| 1900 | 53.3 | 1.52 | 4.72 | 4.72 | 4.72 | 0.53 | 1.55 | ± 12.0 % |
| 2300 | 52.9 | 1.81 | 4.44 | 4.44 | 4.44 | 0.76 | 1.27 | ± 12.0 % |
| 2450 | 52.7 | 1.95 | 4.32 | 4.32 | 4.32 | 0.80 | 1.08 | ± 12.0 % |
| 2600 | 52.5 | 2.16 | 4.18 | 4.18 | 4.18 | 0.80 | 1.04 | ± 12.0 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

**Calibration Laboratory of**
Schmid & Partner
Engineering AG
**Zeughausstrasse 43, 8004 Zurich, Switzerland**

**S** Schweizerischer Kalibrierdienst
**C** Service suisse d'étalonnage
**S** Servizio svizzero di taratura
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
**The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates**

**Accreditation No.: SCS 108**

**Client** **TCC Microsoft**

**Certificate No: ES3-3131_Oct14**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | ES3DV3 - SN:3131 |
| Calibration procedure(s) | QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6<br>Calibration procedure for dosimetric E-field probes |
| Calibration date: | October 21, 2014 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter E4419B | GB41293874 | 03-Apr-14 (No. 217-01911) | Apr-15 |
| Power sensor E4412A | MY41498087 | 03-Apr-14 (No. 217-01911) | Apr-15 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 03-Apr-14 (No. 217-01915) | Apr-15 |
| Reference 20 dB Attenuator | SN: S5277 (20x) | 03-Apr-14 (No. 217-01919) | Apr-15 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 03-Apr-14 (No. 217-01920) | Apr-15 |
| Reference Probe ES3DV2 | SN: 3013 | 30-Dec-13 (No. ES3-3013_Dec13) | Dec-14 |
| DAE4 | SN: 660 | 13-Dec-13 (No. DAE4-660_Dec13) | Dec-14 |
| | | | |
| Secondary Standards | ID | Check Date (in house) | Scheduled Check |
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (in house check Apr-13) | In house check: Apr-16 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Israe El-Naouq | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: October 21, 2014

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# DASY/EASY - Parameters of Probe: ES3DV3 - SN:3131

## Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 41.9 | 0.89 | 6.29 | 6.29 | 6.29 | 0.58 | 1.27 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 6.04 | 6.04 | 6.04 | 0.62 | 1.27 | ± 12.0 % |
| 1750 | 40.1 | 1.37 | 5.10 | 5.10 | 5.10 | 0.43 | 1.55 | ± 12.0 % |
| 1900 | 40.0 | 1.40 | 4.92 | 4.92 | 4.92 | 0.58 | 1.32 | ± 12.0 % |
| 2300 | 39.5 | 1.67 | 4.62 | 4.62 | 4.62 | 0.78 | 1.17 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 4.39 | 4.39 | 4.39 | 0.65 | 1.33 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 4.25 | 4.25 | 4.25 | 0.79 | 1.22 | ± 12.0 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

# DASY/EASY - Parameters of Probe: ES3DV3 - SN:3131

## Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 55.5 | 0.96 | 5.97 | 5.97 | 5.97 | 0.27 | 2.03 | ± 12.0 % |
| 835 | 55.2 | 0.97 | 5.96 | 5.96 | 5.96 | 0.54 | 1.37 | ± 12.0 % |
| 1750 | 53.4 | 1.49 | 4.79 | 4.79 | 4.79 | 0.43 | 1.72 | ± 12.0 % |
| 1900 | 53.3 | 1.52 | 4.58 | 4.58 | 4.58 | 0.65 | 1.40 | ± 12.0 % |
| 2300 | 52.9 | 1.81 | 4.33 | 4.33 | 4.33 | 0.76 | 1.21 | ± 12.0 % |
| 2450 | 52.7 | 1.95 | 4.14 | 4.14 | 4.14 | 0.80 | 1.11 | ± 12.0 % |
| 2600 | 52.5 | 2.16 | 4.03 | 4.03 | 4.03 | 0.80 | 1.06 | ± 12.0 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencias above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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**Zeughausstrasse 43, 8004 Zurich, Switzerland**

**S** Schweizerischer Kalibrierdienst
**C** Service suisse d'étalonnage
**S** Servizio svizzero di taratura
Swiss Calibration Service

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**The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates**

**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: EX3-3892_Apr15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | EX3DV4 - SN:3892 |
| Calibration procedure(s) | QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6<br>Calibration procedure for dosimetric E-field probes |
| Calibration date: | April 24, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter E4419B | GB41293874 | 01-Apr-15 (No. 217-02128) | Mar-16 |
| Power sensor E4412A | MY41498087 | 01-Apr-15 (No. 217-02128) | Mar-16 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 01-Apr-15 (No. 217-02129) | Mar-16 |
| Reference 20 dB Attenuator | SN: S5277 (20x) | 01-Apr-15 (No. 217-02132) | Mar-16 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 01-Apr-15 (No. 217-02133) | Mar-16 |
| Reference Probe ES3DV2 | SN: 3013 | 30-Dec-14 (No. ES3-3013_Dec14) | Dec-15 |
| DAE4 | SN: 660 | 14-Jan-15 (No. DAE4-660_Jan15) | Jan-16 |
| | | | |
| Secondary Standards | ID | Check Date (in house) | Scheduled Check |
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (in house check Apr-13) | In house check: Apr-16 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Israe Elnaouq | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: April 27, 2015

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# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3892

## Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 41.9 | 0.89 | 10.14 | 10.14 | 10.14 | 0.23 | 1.36 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 9.65 | 9.65 | 9.65 | 0.21 | 1.36 | ± 12.0 % |
| 1750 | 40.1 | 1.37 | 8.13 | 8.13 | 8.13 | 0.35 | 0.80 | ± 12.0 % |
| 1900 | 40.0 | 1.40 | 7.92 | 7.92 | 7.92 | 0.35 | 0.80 | ± 12.0 % |
| 2300 | 39.5 | 1.67 | 7.47 | 7.47 | 7.47 | 0.21 | 1.14 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 7.24 | 7.24 | 7.24 | 0.24 | 0.97 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 7.13 | 7.13 | 7.13 | 0.35 | 0.95 | ± 12.0 % |
| 5200 | 36.0 | 4.66 | 5.07 | 5.07 | 5.07 | 0.35 | 1.80 | ± 13.1 % |
| 5300 | 35.9 | 4.76 | 4.84 | 4.84 | 4.84 | 0.35 | 1.80 | ± 13.1 % |
| 5500 | 35.6 | 4.96 | 4.78 | 4.78 | 4.78 | 0.40 | 1.80 | ± 13.1 % |
| 5600 | 35.5 | 5.07 | 4.60 | 4.60 | 4.60 | 0.40 | 1.80 | ± 13.1 % |
| 5800 | 35.3 | 5.27 | 4.52 | 4.52 | 4.52 | 0.40 | 1.80 | ± 13.1 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3892

## Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 55.5 | 0.96 | 9.62 | 9.62 | 9.62 | 0.41 | 0.92 | ± 12.0 % |
| 835 | 55.2 | 0.97 | 9.55 | 9.55 | 9.55 | 0.36 | 1.05 | ± 12.0 % |
| 1750 | 53.4 | 1.49 | 7.90 | 7.90 | 7.90 | 0.29 | 0.96 | ± 12.0 % |
| 1900 | 53.3 | 1.52 | 7.68 | 7.68 | 7.68 | 0.41 | 0.80 | ± 12.0 % |
| 2300 | 52.9 | 1.81 | 7.44 | 7.44 | 7.44 | 0.37 | 0.85 | ± 12.0 % |
| 2450 | 52.7 | 1.95 | 7.32 | 7.32 | 7.32 | 0.35 | 0.90 | ± 12.0 % |
| 2600 | 52.5 | 2.16 | 7.04 | 7.04 | 7.04 | 0.35 | 0.90 | ± 12.0 % |
| 5200 | 49.0 | 5.30 | 4.54 | 4.54 | 4.54 | 0.40 | 1.90 | ± 13.1 % |
| 5300 | 48.9 | 5.42 | 4.33 | 4.33 | 4.33 | 0.40 | 1.90 | ± 13.1 % |
| 5500 | 48.6 | 5.65 | 4.01 | 4.01 | 4.01 | 0.50 | 1.90 | ± 13.1 % |
| 5600 | 48.5 | 5.77 | 3.93 | 3.93 | 3.93 | 0.50 | 1.90 | ± 13.1 % |
| 5800 | 48.2 | 6.00 | 4.05 | 4.05 | 4.05 | 0.50 | 1.90 | ± 13.1 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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**Accreditation No.: SCS 108**

**Client** **TCC Microsoft**

**Certificate No: EX3-3835_Oct14**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | EX3DV4 - SN:3835 |
| Calibration procedure(s) | QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6<br>Calibration procedure for dosimetric E-field probes |
| Calibration date: | October 20, 2014 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter E4419B | GB41293874 | 03-Apr-14 (No. 217-01911) | Apr-15 |
| Power sensor E4412A | MY41498087 | 03-Apr-14 (No. 217-01911) | Apr-15 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 03-Apr-14 (No. 217-01915) | Apr-15 |
| Reference 20 dB Attenuator | SN: S5277 (20x) | 03-Apr-14 (No. 217-01919) | Apr-15 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 03-Apr-14 (No. 217-01920) | Apr-15 |
| Reference Probe ES3DV2 | SN: 3013 | 30-Dec-13 (No. ES3-3013_Dec13) | Dec-14 |
| DAE4 | SN: 660 | 13-Dec-13 (No. DAE4-660_Dec13) | Dec-14 |
| | | | |
| Secondary Standards | ID | Check Date (in house) | Scheduled Check |
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (in house check Apr-13) | In house check: Apr-16 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Jeton Kastrati | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: October 21, 2014

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# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3835

## Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 41.9 | 0.89 | 9.14 | 9.14 | 9.14 | 0.28 | 1.12 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 8.87 | 8.87 | 8.87 | 0.29 | 1.03 | ± 12.0 % |
| 1750 | 40.1 | 1.37 | 7.73 | 7.73 | 7.73 | 0.50 | 0.72 | ± 12.0 % |
| 1900 | 40.0 | 1.40 | 7.52 | 7.52 | 7.52 | 0.76 | 0.57 | ± 12.0 % |
| 2300 | 39.5 | 1.67 | 7.23 | 7.23 | 7.23 | 0.50 | 0.70 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 6.92 | 6.92 | 6.92 | 0.41 | 0.80 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 6.79 | 6.79 | 6.79 | 0.40 | 0.84 | ± 12.0 % |
| 5200 | 36.0 | 4.66 | 4.91 | 4.91 | 4.91 | 0.35 | 1.80 | ± 13.1 % |
| 5300 | 35.9 | 4.76 | 4.73 | 4.73 | 4.73 | 0.35 | 1.80 | ± 13.1 % |
| 5500 | 35.6 | 4.96 | 4.52 | 4.52 | 4.52 | 0.40 | 1.80 | ± 13.1 % |
| 5600 | 35.5 | 5.07 | 4.32 | 4.32 | 4.32 | 0.40 | 1.80 | ± 13.1 % |
| 5800 | 35.3 | 5.27 | 4.36 | 4.36 | 4.36 | 0.40 | 1.80 | ± 13.1 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3835

## Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 55.5 | 0.96 | 8.80 | 8.80 | 8.80 | 0.24 | 1.33 | ± 12.0 % |
| 835 | 55.2 | 0.97 | 8.90 | 8.90 | 8.90 | 0.63 | 0.67 | ± 12.0 % |
| 1750 | 53.4 | 1.49 | 7.46 | 7.46 | 7.46 | 0.78 | 0.63 | ± 12.0 % |
| 1900 | 53.3 | 1.52 | 7.17 | 7.17 | 7.17 | 0.43 | 0.80 | ± 12.0 % |
| 2300 | 52.9 | 1.81 | 7.03 | 7.03 | 7.03 | 0.80 | 0.61 | ± 12.0 % |
| 2450 | 52.7 | 1.95 | 6.87 | 6.87 | 6.87 | 0.80 | 0.58 | ± 12.0 % |
| 2600 | 52.5 | 2.16 | 6.74 | 6.74 | 6.74 | 0.80 | 0.50 | ± 12.0 % |
| 5200 | 49.0 | 5.30 | 4.20 | 4.20 | 4.20 | 0.45 | 1.90 | ± 13.1 % |
| 5300 | 48.9 | 5.42 | 4.03 | 4.03 | 4.03 | 0.45 | 1.90 | ± 13.1 % |
| 5500 | 48.6 | 5.65 | 3.79 | 3.79 | 3.79 | 0.45 | 1.90 | ± 13.1 % |
| 5600 | 48.5 | 5.77 | 3.63 | 3.63 | 3.63 | 0.45 | 1.90 | ± 13.1 % |
| 5800 | 48.2 | 6.00 | 3.80 | 3.80 | 3.80 | 0.50 | 1.90 | ± 13.1 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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Swiss Calibration Service

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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: ES3-3275_Apr15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | ES3DV3 - SN:3275 |
| Calibration procedure(s) | QA CAL-01.v9, QA CAL-23.v5, QA CAL-25.v6<br>Calibration procedure for dosimetric E-field probes |
| Calibration date: | April 27, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter E4419B | GB41293874 | 01-Apr-15 (No. 217-02128) | Mar-16 |
| Power sensor E4412A | MY41498087 | 01-Apr-15 (No. 217-02128) | Mar-16 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 01-Apr-15 (No. 217-02129) | Mar-16 |
| Reference 20 dB Attenuator | SN: S5277 (20x) | 01-Apr-15 (No. 217-02132) | Mar-16 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 01-Apr-15 (No. 217-02133) | Mar-16 |
| Reference Probe ES3DV2 | SN: 3013 | 30-Dec-14 (No. ES3-3013_Dec14) | Dec-15 |
| DAE4 | SN: 660 | 14-Jan-15 (No. DAE4-660_Jan15) | Jan-16 |
| | | | |
| Secondary Standards | ID | Check Date (in house) | Scheduled Check |
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (in house check Apr-13) | In house check: Apr-16 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Jeton Kastrati | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: April 29, 2015

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# DASY/EASY - Parameters of Probe: ES3DV3 - SN:3275

## Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 41.9 | 0.89 | 6.19 | 6.19 | 6.19 | 0.31 | 2.01 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 5.95 | 5.95 | 5.95 | 0.29 | 2.09 | ± 12.0 % |
| 1750 | 40.1 | 1.37 | 4.99 | 4.99 | 4.99 | 0.49 | 1.47 | ± 12.0 % |
| 1900 | 40.0 | 1.40 | 4.85 | 4.85 | 4.85 | 0.61 | 1.32 | ± 12.0 % |
| 2300 | 39.5 | 1.67 | 4.55 | 4.55 | 4.55 | 0.69 | 1.30 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 4.33 | 4.33 | 4.33 | 0.80 | 1.35 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 4.22 | 4.22 | 4.22 | 0.80 | 1.26 | ± 12.0 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

# DASY/EASY - Parameters of Probe: ES3DV3 - SN:3275

## Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 55.5 | 0.96 | 6.04 | 6.04 | 6.04 | 0.54 | 1.43 | ± 12.0 % |
| 835 | 55.2 | 0.97 | 5.93 | 5.93 | 5.93 | 0.36 | 1.83 | ± 12.0 % |
| 1750 | 53.4 | 1.49 | 4.78 | 4.78 | 4.78 | 0.52 | 1.60 | ± 12.0 % |
| 1900 | 53.3 | 1.52 | 4.63 | 4.63 | 4.63 | 0.73 | 1.36 | ± 12.0 % |
| 2300 | 52.9 | 1.81 | 4.38 | 4.38 | 4.38 | 0.77 | 1.23 | ± 12.0 % |
| 2450 | 52.7 | 1.95 | 4.25 | 4.25 | 4.25 | 0.80 | 1.11 | ± 12.0 % |
| 2600 | 52.5 | 2.16 | 4.07 | 4.07 | 4.07 | 0.85 | 1.35 | ± 12.0 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: EX3-3852_Apr15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | EX3DV4 - SN:3852 |
| Calibration procedure(s) | QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6<br>Calibration procedure for dosimetric E-field probes |
| Calibration date: | April 24, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter E4419B | GB41293874 | 01-Apr-15 (No. 217-02128) | Mar-16 |
| Power sensor E4412A | MY41498087 | 01-Apr-15 (No. 217-02128) | Mar-16 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 01-Apr-15 (No. 217-02129) | Mar-16 |
| Reference 20 dB Attenuator | SN: S5277 (20x) | 01-Apr-15 (No. 217-02132) | Mar-16 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 01-Apr-15 (No. 217-02133) | Mar-16 |
| Reference Probe ES3DV2 | SN: 3013 | 30-Dec-14 (No. ES3-3013_Dec14) | Dec-15 |
| DAE4 | SN: 660 | 14-Jan-15 (No. DAE4-660_Jan15) | Jan-16 |
| | | | |
| Secondary Standards | ID | Check Date (in house) | Scheduled Check |
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (in house check Apr-13) | In house check: Apr-16 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Israe Elnaouq | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: April 27, 2015

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# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3852

## Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 41.9 | 0.89 | 9.36 | 9.36 | 9.36 | 0.35 | 0.99 | ± 12.0 % |
| 835 | 41.5 | 0.90 | 8.96 | 8.96 | 8.96 | 0.23 | 1.28 | ± 12.0 % |
| 1750 | 40.1 | 1.37 | 7.69 | 7.69 | 7.69 | 0.40 | 0.80 | ± 12.0 % |
| 1900 | 40.0 | 1.40 | 7.49 | 7.49 | 7.49 | 0.32 | 0.80 | ± 12.0 % |
| 2300 | 39.5 | 1.67 | 7.15 | 7.15 | 7.15 | 0.36 | 0.80 | ± 12.0 % |
| 2450 | 39.2 | 1.80 | 6.86 | 6.86 | 6.86 | 0.37 | 0.83 | ± 12.0 % |
| 2600 | 39.0 | 1.96 | 6.67 | 6.67 | 6.67 | 0.25 | 1.11 | ± 12.0 % |
| 5200 | 36.0 | 4.66 | 4.87 | 4.87 | 4.87 | 0.35 | 1.80 | ± 13.1 % |
| 5300 | 35.9 | 4.76 | 4.68 | 4.68 | 4.68 | 0.35 | 1.80 | ± 13.1 % |
| 5500 | 35.6 | 4.96 | 4.70 | 4.70 | 4.70 | 0.40 | 1.80 | ± 13.1 % |
| 5600 | 35.5 | 5.07 | 4.53 | 4.53 | 4.53 | 0.40 | 1.80 | ± 13.1 % |
| 5800 | 35.3 | 5.27 | 4.50 | 4.50 | 4.50 | 0.40 | 1.80 | ± 13.1 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3852

## Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) [C] | Relative Permittivity [F] | Conductivity (S/m) [F] | ConvF X | ConvF Y | ConvF Z | Alpha [G] | Depth [G] (mm) | Unct. (k=2) |
|---|---|---|---|---|---|---|---|---|
| 750 | 55.5 | 0.96 | 9.31 | 9.31 | 9.31 | 0.35 | 1.02 | ± 12.0 % |
| 835 | 55.2 | 0.97 | 9.11 | 9.11 | 9.11 | 0.25 | 1.21 | ± 12.0 % |
| 1750 | 53.4 | 1.49 | 7.50 | 7.50 | 7.50 | 0.43 | 0.85 | ± 12.0 % |
| 1900 | 53.3 | 1.52 | 7.31 | 7.31 | 7.31 | 0.42 | 0.82 | ± 12.0 % |
| 2300 | 52.9 | 1.81 | 7.18 | 7.18 | 7.18 | 0.41 | 0.80 | ± 12.0 % |
| 2450 | 52.7 | 1.95 | 7.04 | 7.04 | 7.04 | 0.39 | 0.95 | ± 12.0 % |
| 2600 | 52.5 | 2.16 | 6.83 | 6.83 | 6.83 | 0.40 | 0.95 | ± 12.0 % |
| 5200 | 49.0 | 5.30 | 4.51 | 4.51 | 4.51 | 0.40 | 1.90 | ± 13.1 % |
| 5300 | 48.9 | 5.42 | 4.35 | 4.35 | 4.35 | 0.40 | 1.90 | ± 13.1 % |
| 5500 | 48.6 | 5.65 | 3.82 | 3.82 | 3.82 | 0.50 | 1.90 | ± 13.1 % |
| 5600 | 48.5 | 5.77 | 3.65 | 3.65 | 3.65 | 0.50 | 1.90 | ± 13.1 % |
| 5800 | 48.2 | 6.00 | 4.10 | 4.10 | 4.10 | 0.50 | 1.90 | ± 13.1 % |

[C] Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequencies below 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ($\varepsilon$ and $\sigma$) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

**APPENDIX E: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORTS**


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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: D750V3-1075_Jan15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D750V3 - SN: 1075 |
| Calibration procedure(s) | QA CAL-05.v9<br>Calibration procedure for dipole validation kits above 700 MHz |
| Calibration date: | January 16, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter EPM-442A | GB37480704 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | US37292783 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | MY41092317 | 07-Oct-14 (No. 217-02021) | Oct-15 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 03-Apr-14 (No. 217-01918) | Apr-15 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 03-Apr-14 (No. 217-01921) | Apr-15 |
| Reference Probe ES3DV3 | SN: 3205 | 30-Dec-14 (No. ES3-3205_Dec14) | Dec-15 |
| DAE4 | SN: 601 | 18-Aug-14 (No. DAE4-601_Aug14) | Aug-15 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator R&S SMT-06 | 100005 | 04-Aug-99 (in house check Oct-13) | In house check: Oct-16 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Michael Weber | Laboratory Technician | M.Weber |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: January 19, 2015

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## Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom | |
| **Distance Dipole Center - TSL** | 15 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy, dz = 5 mm | |
| **Frequency** | 750 MHz ± 1 MHz | |

## Head TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 41.9 | 0.89 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 41.7 ± 6 % | 0.91 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 2.07 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **8.13 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 1.36 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **5.36 W/kg ± 16.5 % (k=2)** |

## Body TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 55.5 | 0.96 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 56.0 ± 6 % | 0.99 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 2.17 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **8.50 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 1.43 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **5.62 W/kg ± 16.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS0108)

### Antenna Parameters with Head TSL

| | |
|---|---|
| Impedance, transformed to feed point | 54.2 Ω + 0.6 jΩ |
| Return Loss | - 27.8 dB |

### Antenna Parameters with Body TSL

| | |
|---|---|
| Impedance, transformed to feed point | 49.2 Ω - 1.1 jΩ |
| Return Loss | - 37.0 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.033 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | September 04, 2012 |

## DASY5 Validation Report for Head TSL

Date: 16.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1075**

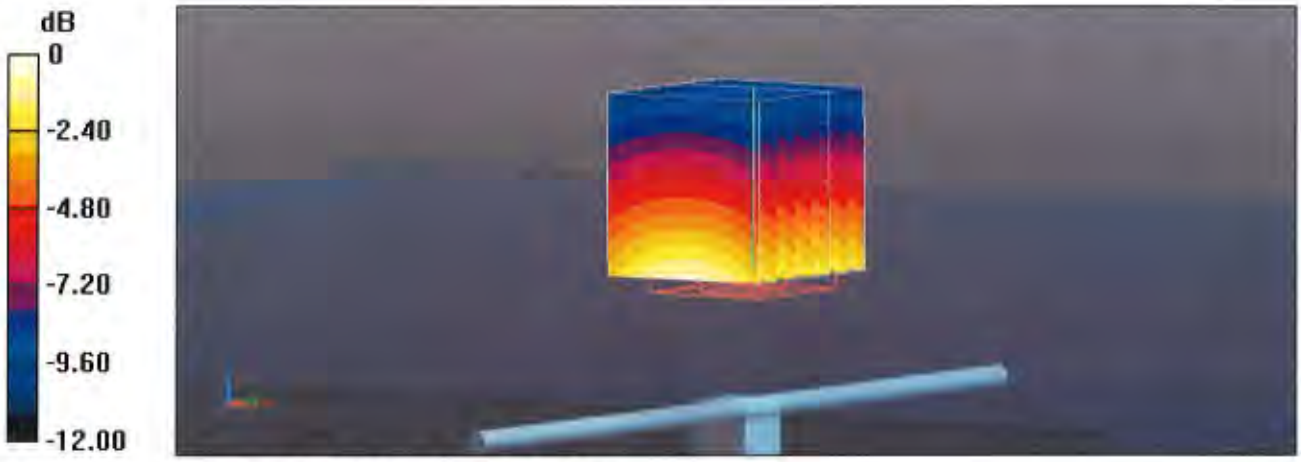
Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; $\sigma$ = 0.91 S/m; $\varepsilon_r$ = 41.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.44, 6.44, 6.44); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

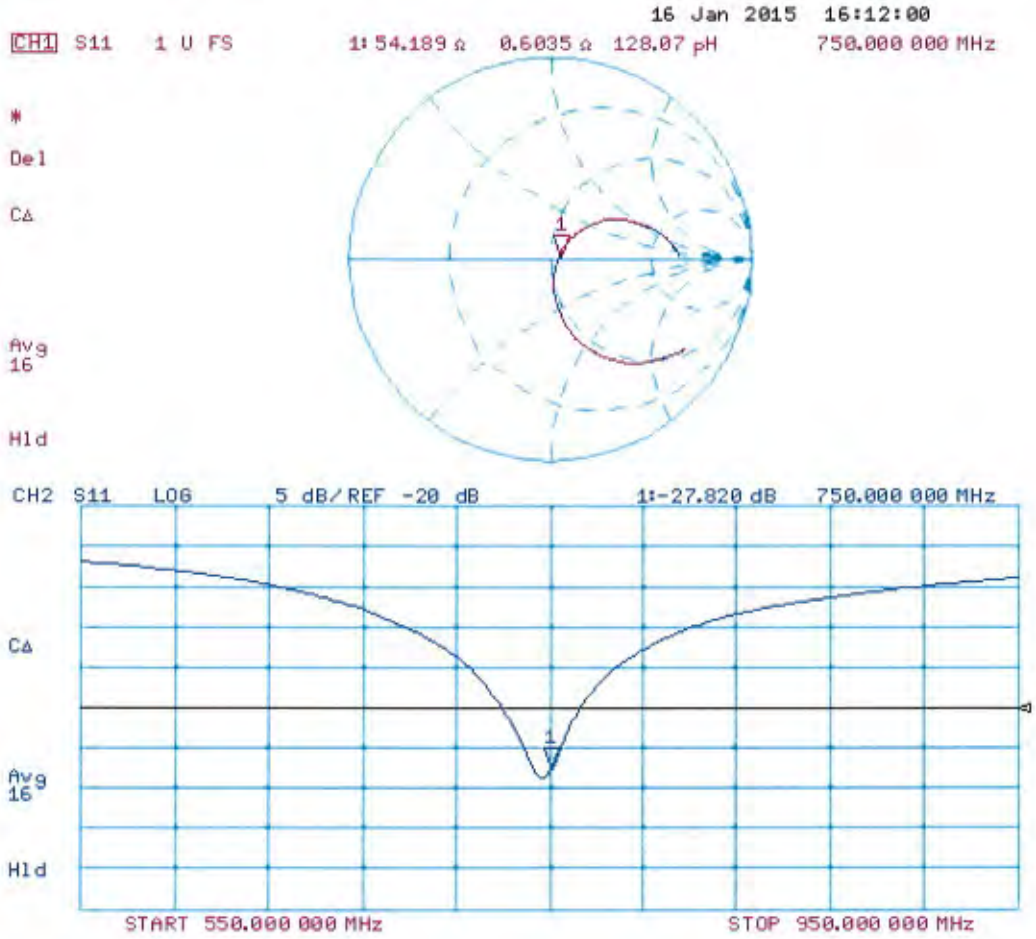
### Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.09 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.06 W/kg
**SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.36 W/kg**
Maximum value of SAR (measured) = 2.41 W/kg




0 dB = 2.41 W/kg = 3.82 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 16.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1075**

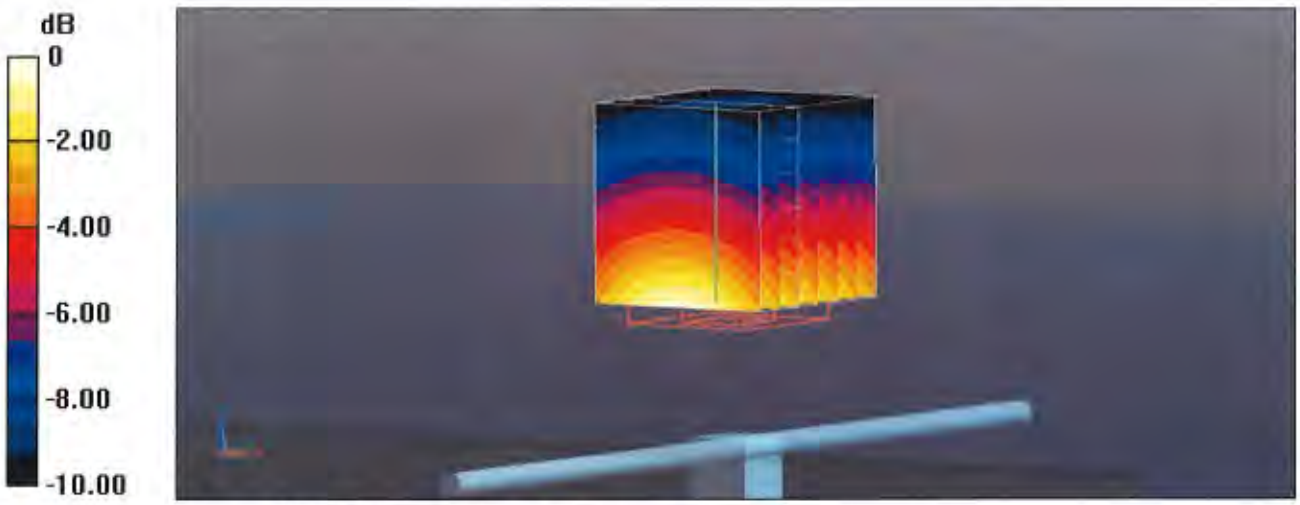
Communication System: UID 0 - CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; $\sigma$ = 0.99 S/m; $\varepsilon_r$ = 56; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.21, 6.21, 6.21); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

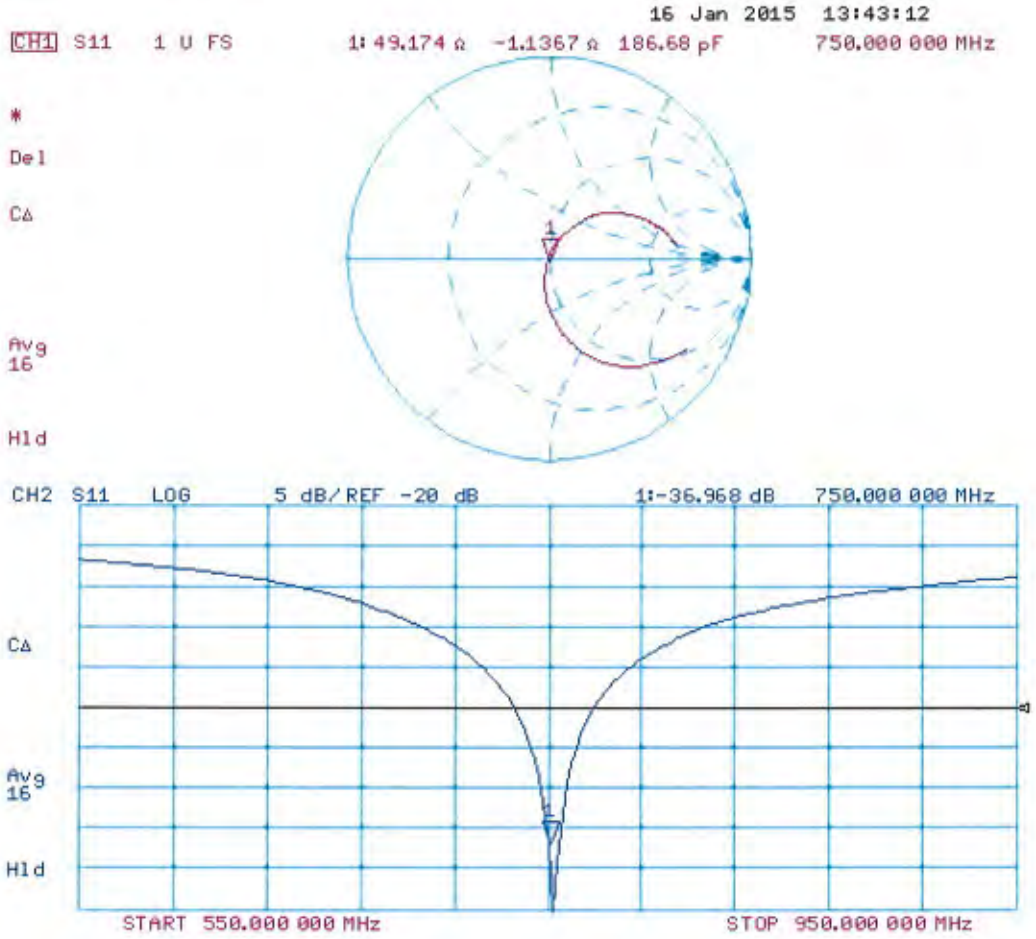
### Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.44 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.17 W/kg
**SAR(1 g) = 2.17 W/kg; SAR(10 g) = 1.43 W/kg**
Maximum value of SAR (measured) = 2.53 W/kg




0 dB = 2.53 W/kg = 4.03 dBW/kg

## Impedance Measurement Plot for Body TSL



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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: D835V2-480_Jan15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D835V2 - SN: 480 |
| Calibration procedure(s) | QA CAL-05.v9<br>Calibration procedure for dipole validation kits above 700 MHz |
| Calibration date: | January 16, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter EPM-442A | GB37480704 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | US37292783 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | MY41092317 | 07-Oct-14 (No. 217-02021) | Oct-15 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 03-Apr-14 (No. 217-01918) | Apr-15 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 03-Apr-14 (No. 217-01921) | Apr-15 |
| Reference Probe ES3DV3 | SN: 3205 | 30-Dec-14 (No. ES3-3205_Dec14) | Dec-15 |
| DAE4 | SN: 601 | 18-Aug-14 (No. DAE4-601_Aug14) | Aug-15 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator R&S SMT-06 | 100005 | 04-Aug-99 (in house check Oct-13) | In house check: Oct-16 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Michael Weber | Laboratory Technician | M.Weber |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: January 19, 2015

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## Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom | |
| **Distance Dipole Center - TSL** | 15 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy, dz = 5 mm | |
| **Frequency** | 835 MHz ± 1 MHz | |

## Head TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 41.5 | 0.90 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 41.5 ± 6 % | 0.93 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL

| **SAR averaged over 1 $cm^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 2.34 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **9.13 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 1.53 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **6.00 W/kg ± 16.5 % (k=2)** |

## Body TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 55.2 | 0.97 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 55.8 ± 6 % | 1.01 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL

| **SAR averaged over 1 $cm^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 2.32 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **9.02 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 1.52 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **5.95 W/kg ± 16.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS0108)

### Antenna Parameters with Head TSL

| | |
|---|---|
| Impedance, transformed to feed point | 51.9 Ω - 2.3 jΩ |
| Return Loss | - 30.5 dB |

### Antenna Parameters with Body TSL

| | |
|---|---|
| Impedance, transformed to feed point | 47.3 Ω - 4.1 jΩ |
| Return Loss | - 26.0 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.389 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | January 28, 2003 |

## DASY5 Validation Report for Head TSL

Date: 16.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 480**

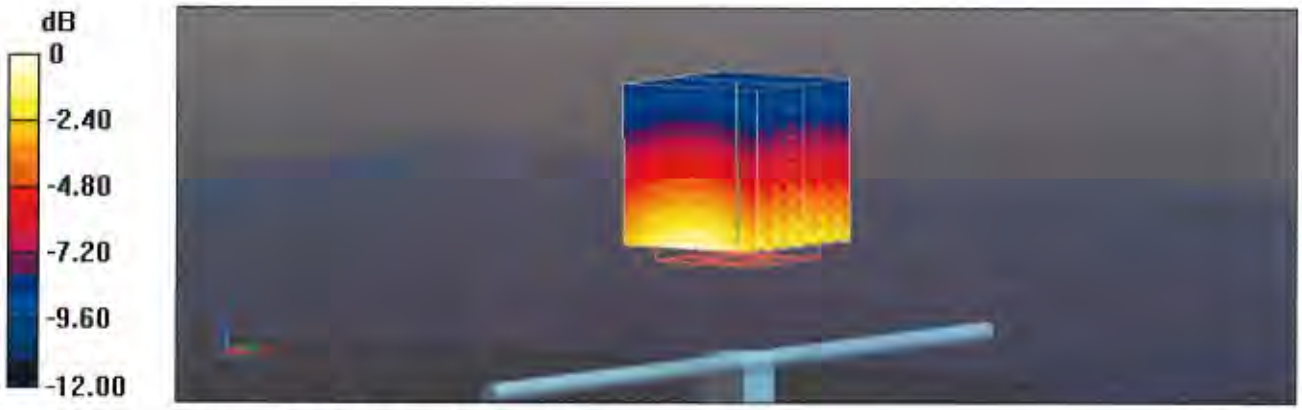
Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; $\sigma$ = 0.93 S/m; $\varepsilon_r$ = 41.5; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.2, 6.2, 6.2); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

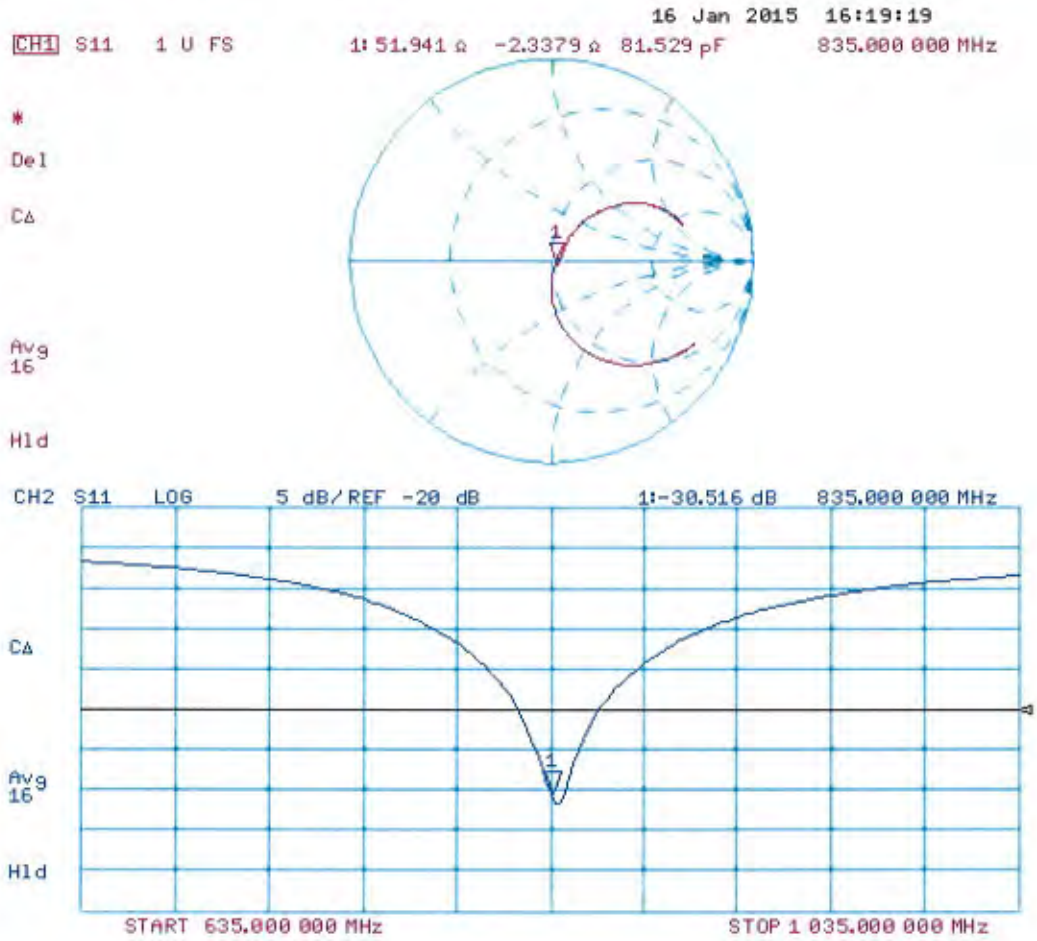
### Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.08 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.47 W/kg
**SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.53 W/kg**
Maximum value of SAR (measured) = 2.74 W/kg




0 dB = 2.74 W/kg = 4.38 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 16.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 480**

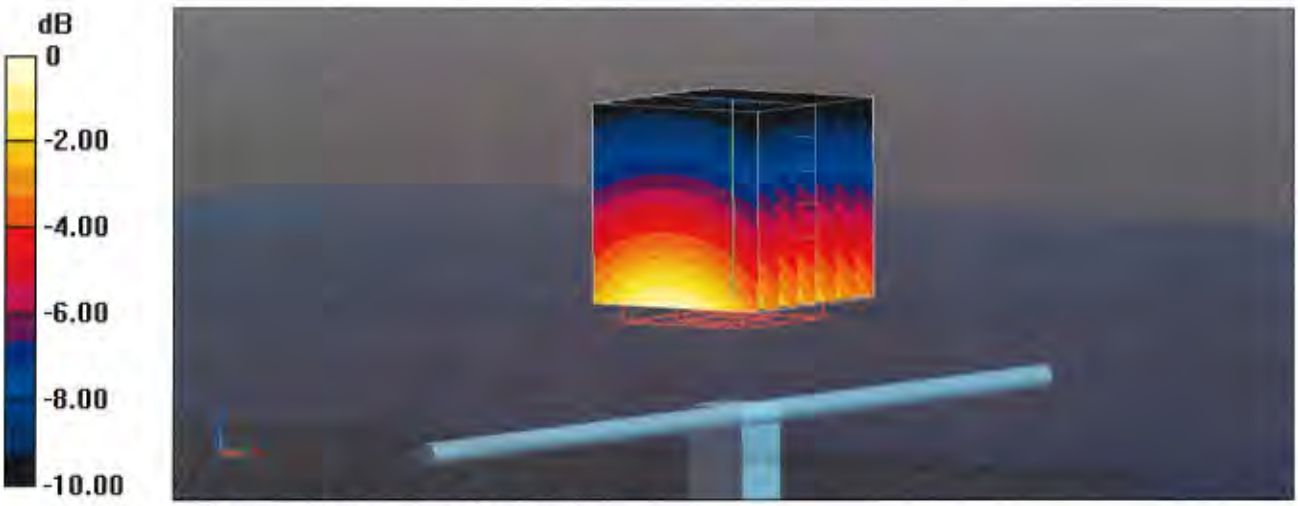
Communication System: UID 0 - CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; $\sigma$ = 1.01 S/m; $\varepsilon_r$ = 55.8; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.17, 6.17, 6.17); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

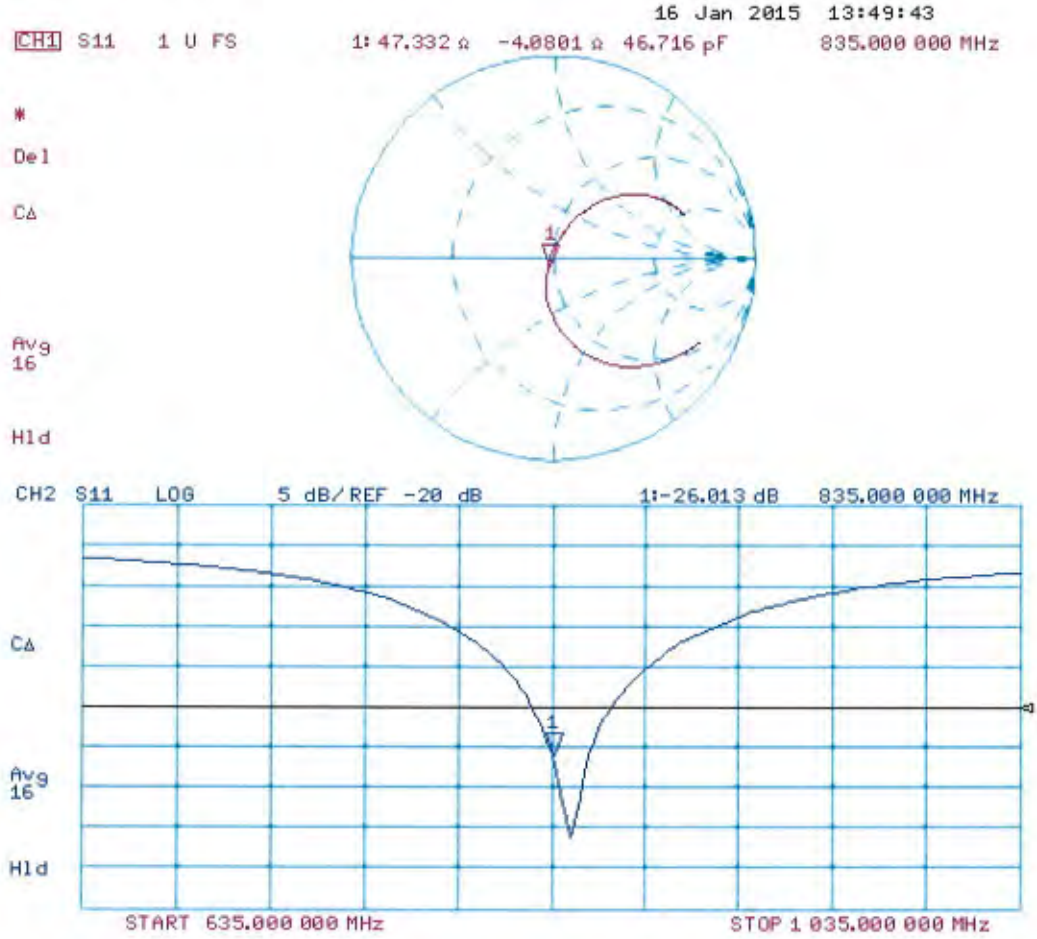
### Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.43 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 3.42 W/kg
**SAR(1 g) = 2.32 W/kg; SAR(10 g) = 1.52 W/kg**
Maximum value of SAR (measured) = 2.69 W/kg




0 dB = 2.69 W/kg = 4.30 dBW/kg

## Impedance Measurement Plot for Body TSL



**Calibration Laboratory of**
Schmid & Partner
Engineering AG
**Zeughausstrasse 43, 8004 Zurich, Switzerland**

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**C** Service suisse d'étalonnage
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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: D1750V2-1082_Jan15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D1750V2 - SN: 1082 |
| Calibration procedure(s) | QA CAL-05.v9<br>Calibration procedure for dipole validation kits above 700 MHz |
| Calibration date: | January 14, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter EPM-442A | GB37480704 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | US37292783 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | MY41092317 | 07-Oct-14 (No. 217-02021) | Oct-15 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 03-Apr-14 (No. 217-01918) | Apr-15 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 03-Apr-14 (No. 217-01921) | Apr-15 |
| Reference Probe ES3DV3 | SN: 3205 | 30-Dec-14 (No. ES3-3205_Dec14) | Dec-15 |
| DAE4 | SN: 601 | 18-Aug-14 (No. DAE4-601_Aug14) | Aug-15 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator R&S SMT-06 | 100005 | 04-Aug-99 (in house check Oct-13) | In house check: Oct-16 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Michael Weber | Laboratory Technician | M. Weber |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: January 15, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom | |
| **Distance Dipole Center - TSL** | 10 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy, dz = 5 mm | |
| **Frequency** | 1750 MHz ± 1 MHz | |

## Head TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 40.1 | 1.37 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 39.0 ± 6 % | 1.38 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 9.24 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **36.6 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 4.90 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **19.5 W/kg ± 16.5 % (k=2)** |

## Body TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 53.4 | 1.49 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 51.8 ± 6 % | 1.49 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 9.43 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **37.5 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 5.07 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **20.2 W/kg ± 16.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS0108)

### Antenna Parameters with Head TSL

| | |
|---|---|
| Impedance, transformed to feed point | 50.9 Ω + 0.5 jΩ |
| Return Loss | - 39.8 dB |

### Antenna Parameters with Body TSL

| | |
|---|---|
| Impedance, transformed to feed point | 46.3 Ω + 1.0 jΩ |
| Return Loss | - 28.0 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.219 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | January 19, 2011 |

## DASY5 Validation Report for Head TSL

Date: 14.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1082**

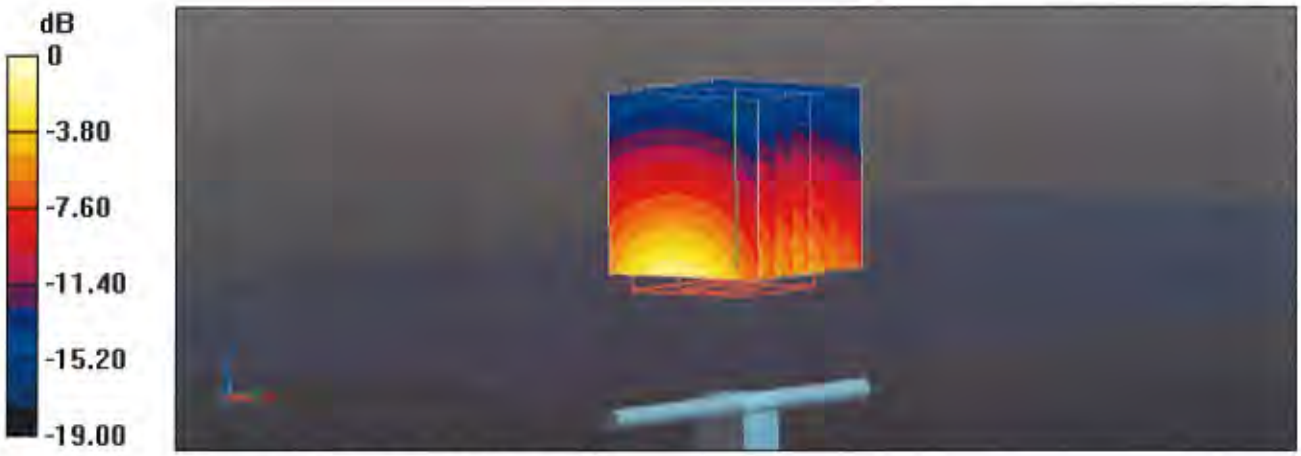
Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; $\sigma$ = 1.38 S/m; $\varepsilon_r$ = 39; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.2, 5.2, 5.2); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

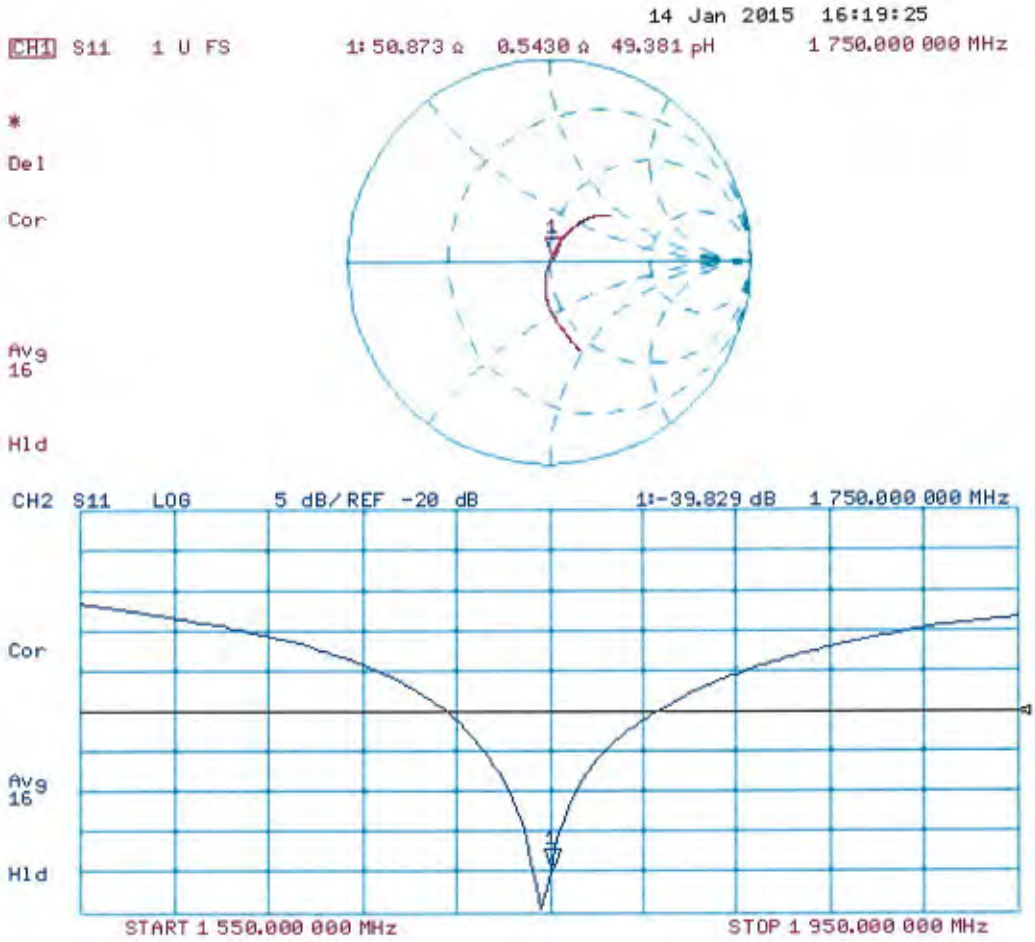
### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.14 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 16.6 W/kg
**SAR(1 g) = 9.24 W/kg; SAR(10 g) = 4.9 W/kg**
Maximum value of SAR (measured) = 11.5 W/kg




0 dB = 11.5 W/kg = 10.61 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 14.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1082**

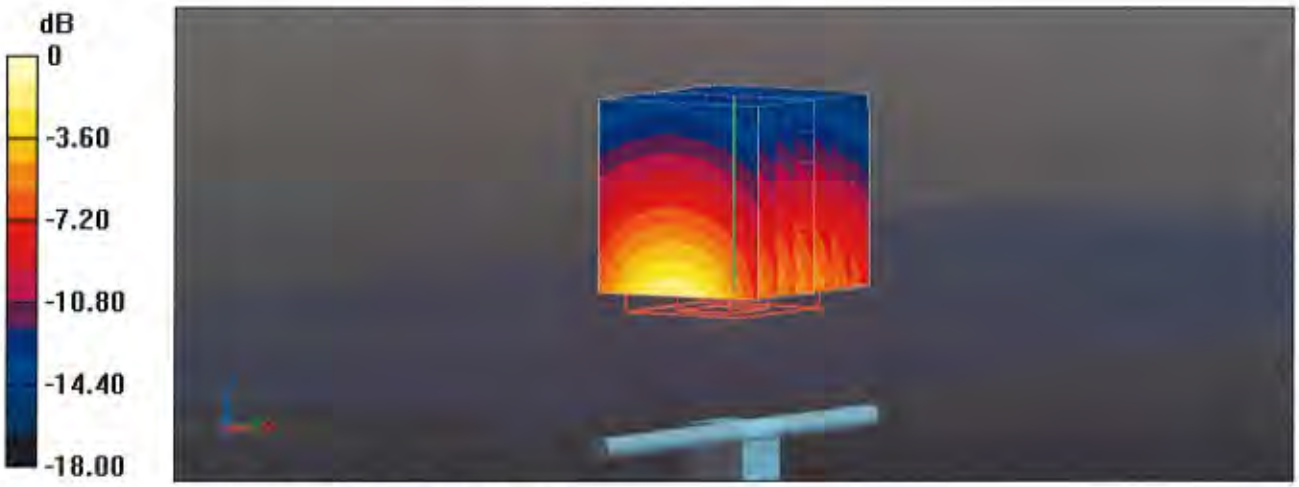
Communication System: UID 0 - CW; Frequency: 1750 MHz
Medium parameters used: f = 1750 MHz; $\sigma$ = 1.49 S/m; $\varepsilon_r$ = 51.8; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.88, 4.88, 4.88); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

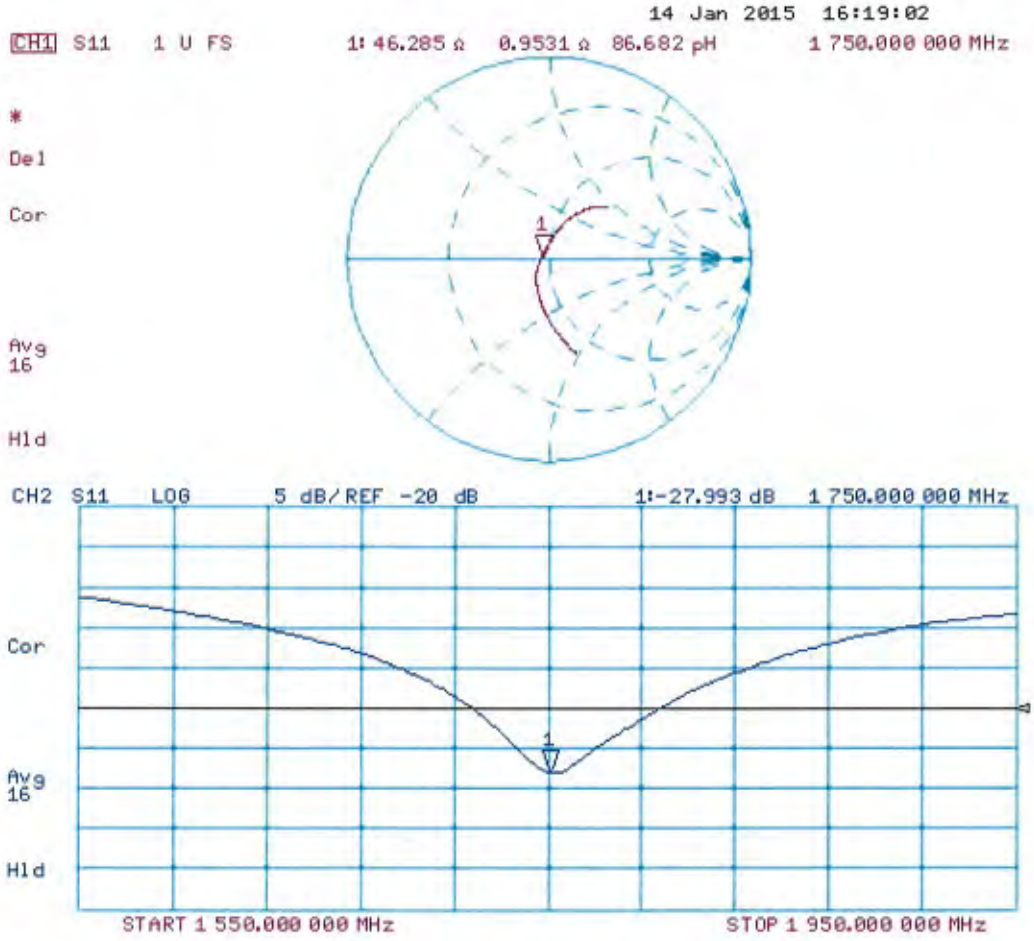
### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.60 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 16.1 W/kg
**SAR(1 g) = 9.43 W/kg; SAR(10 g) = 5.07 W/kg**
Maximum value of SAR (measured) = 11.7 W/kg




0 dB = 11.7 W/kg = 10.68 dBW/kg

## Impedance Measurement Plot for Body TSL



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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: D1900V2-5d013_Jan15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D1900V2 - SN: 5d013 |
| Calibration procedure(s) | QA CAL-05.v9<br>Calibration procedure for dipole validation kits above 700 MHz |
| Calibration date: | January 14, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter EPM-442A | GB37480704 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | US37292783 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | MY41092317 | 07-Oct-14 (No. 217-02021) | Oct-15 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 03-Apr-14 (No. 217-01918) | Apr-15 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 03-Apr-14 (No. 217-01921) | Apr-15 |
| Reference Probe ES3DV3 | SN: 3205 | 30-Dec-14 (No. ES3-3205_Dec14) | Dec-15 |
| DAE4 | SN: 601 | 18-Aug-14 (No. DAE4-601_Aug14) | Aug-15 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator R&S SMT-06 | 100005 | 04-Aug-99 (in house check Oct-13) | In house check: Oct-16 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Michael Weber | Laboratory Technician | M. Weber |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: January 15, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom | |
| **Distance Dipole Center - TSL** | 10 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy, dz = 5 mm | |
| **Frequency** | 1900 MHz ± 1 MHz | |

## Head TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 40.0 | 1.40 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 39.4 ± 6 % | 1.40 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 10.2 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **40.7 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 5.30 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **21.2 W/kg ± 16.5 % (k=2)** |

## Body TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 53.3 | 1.52 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 53.0 ± 6 % | 1.51 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 10.1 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **40.5 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 5.38 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **21.6 W/kg ± 16.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS0108)

### Antenna Parameters with Head TSL

| | |
|---|---|
| Impedance, transformed to feed point | 52.5 Ω + 6.1 jΩ |
| Return Loss | - 23.9 dB |

### Antenna Parameters with Body TSL

| | |
|---|---|
| Impedance, transformed to feed point | 48.1 Ω + 6.9 jΩ |
| Return Loss | - 22.7 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.194 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | April 30, 2002 |

## DASY5 Validation Report for Head TSL

Date: 14.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d013**

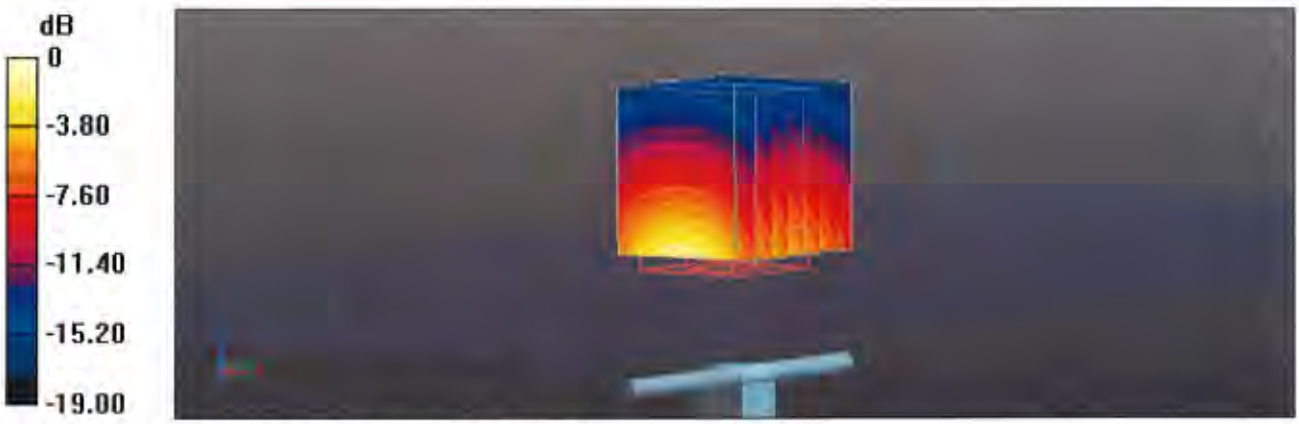
Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.4 S/m; $\varepsilon_r$ = 39.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5, 5, 5); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

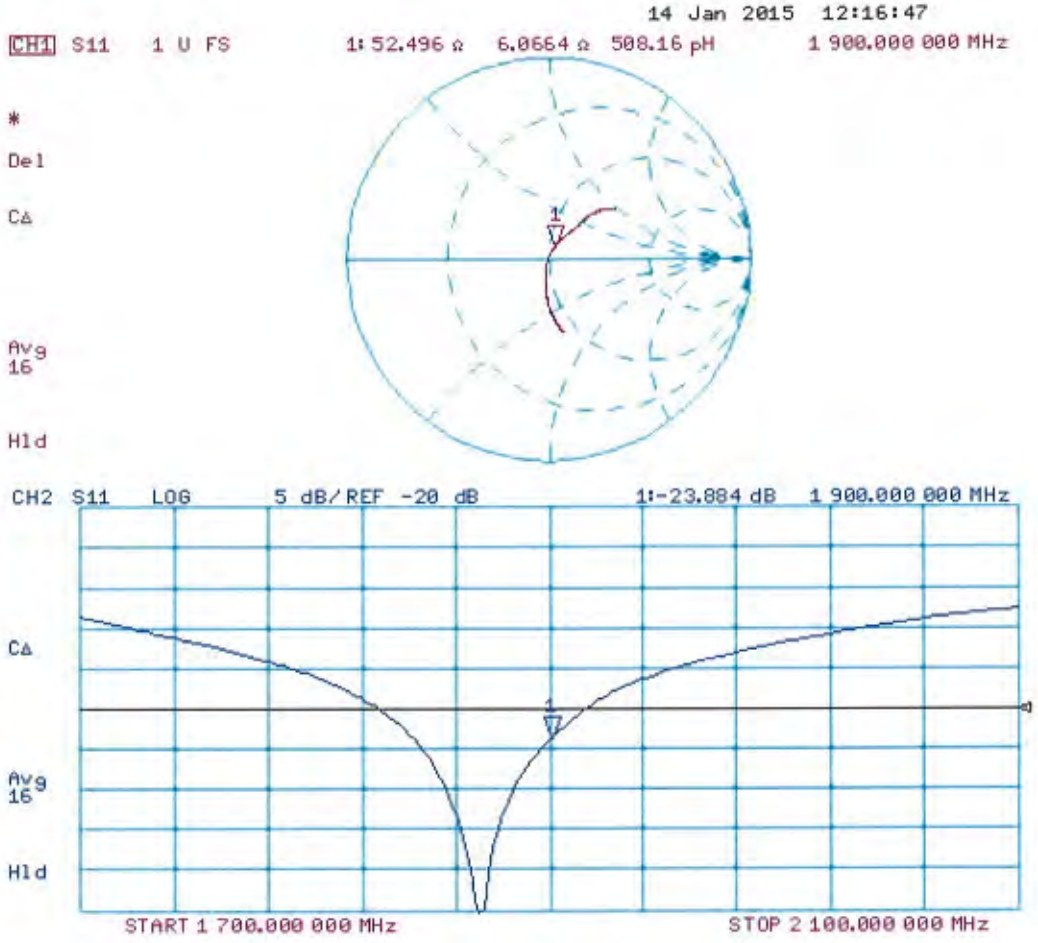
### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.31 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 18.6 W/kg
**SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.3 W/kg**
Maximum value of SAR (measured) = 12.8 W/kg




0 dB = 12.8 W/kg = 11.07 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 14.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d013**

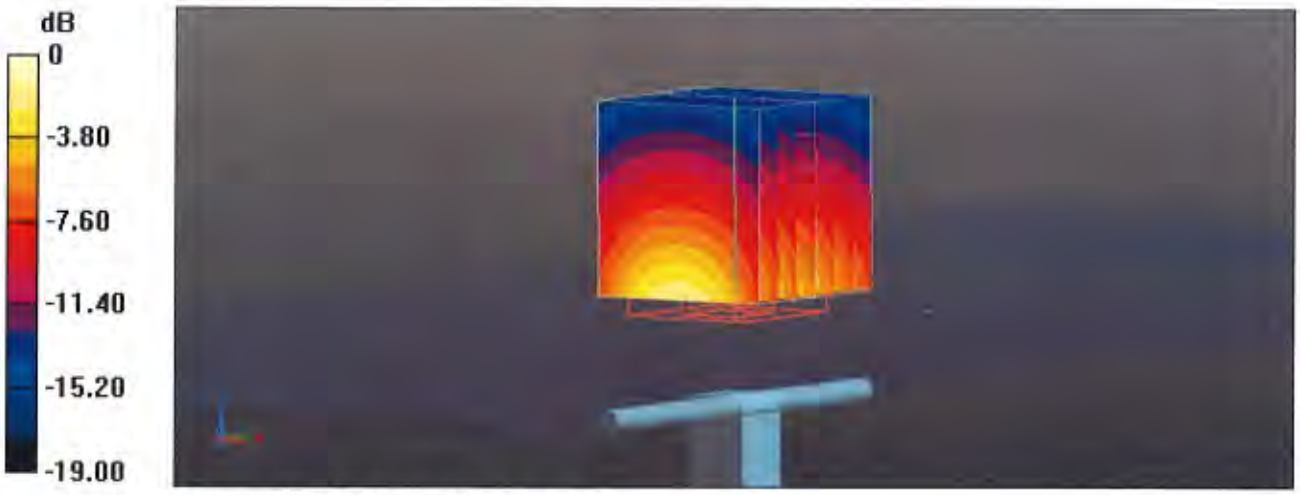
Communication System: UID 0 - CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.51 S/m; $\varepsilon_r$ = 53; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.65, 4.65, 4.65); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

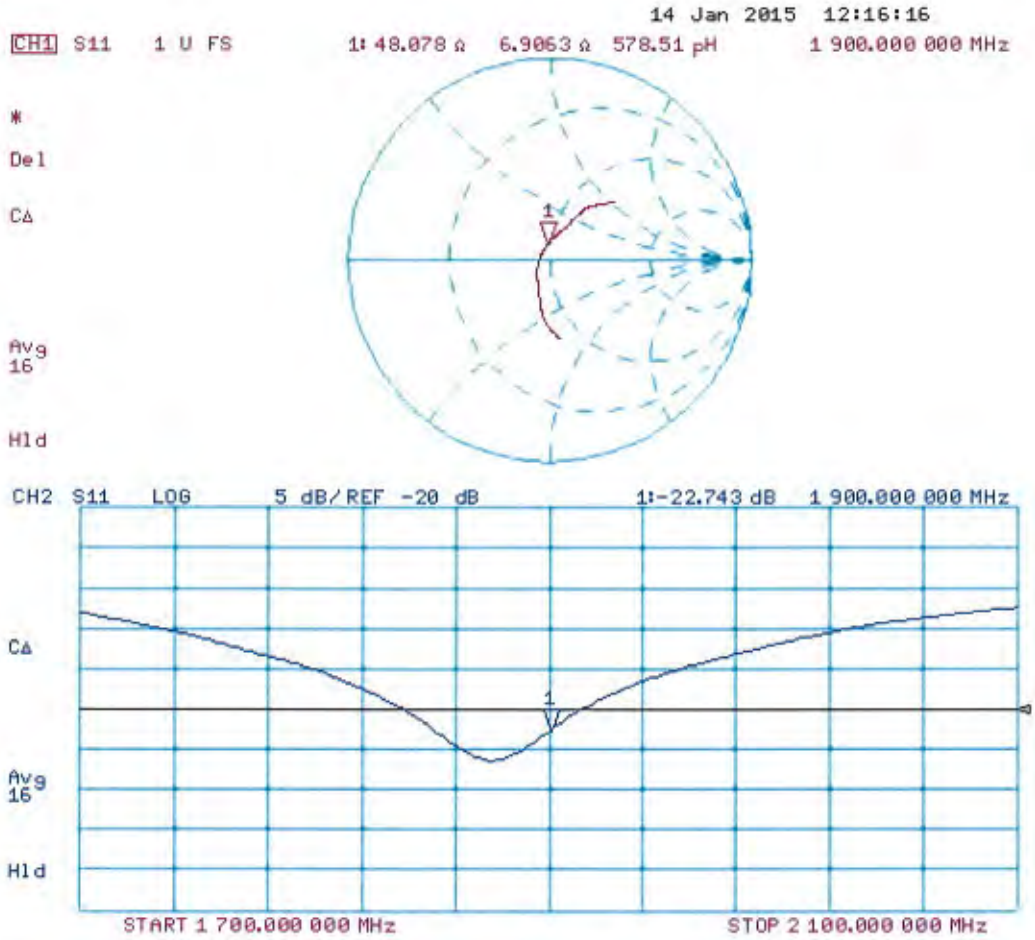
### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.35 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 17.1 W/kg
**SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.38 W/kg**
Maximum value of SAR (measured) = 12.7 W/kg




0 dB = 12.7 W/kg = 11.04 dBW/kg

## Impedance Measurement Plot for Body TSL



**Calibration Laboratory of**
Schmid & Partner
Engineering AG
**Zeughausstrasse 43, 8004 Zurich, Switzerland**

**S** Schweizerischer Kalibrierdienst
**C** Service suisse d'étalonnage
Servizio svizzero di taratura
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
**The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates**

**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: D2300V2-1039_Jan15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D2300V2 - SN:1039 |
| Calibration procedure(s) | QA CAL-05.v9<br>Calibration procedure for dipole validation kits above 700 MHz |
| Calibration date: | January 15, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter EPM-442A | GB37480704 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | US37292783 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | MY41092317 | 07-Oct-14 (No. 217-02021) | Oct-15 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 03-Apr-14 (No. 217-01918) | Apr-15 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 03-Apr-14 (No. 217-01921) | Apr-15 |
| Reference Probe ES3DV3 | SN: 3205 | 30-Dec-14 (No. ES3-3205_Dec14) | Dec-15 |
| DAE4 | SN: 601 | 18-Aug-14 (No. DAE4-601_Aug14) | Aug-15 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator R&S SMT-06 | 100005 | 04-Aug-99 (in house check Oct-13) | In house check: Oct-16 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Jeton Kastrati | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: January 16, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom | |
| **Distance Dipole Center - TSL** | 10 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy, dz = 5 mm | |
| **Frequency** | 2300 MHz ± 1 MHz | |

## Head TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 39.5 | 1.67 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 39.9 ± 6 % | 1.71 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 12.6 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **49.9 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 6.05 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **24.1 W/kg ± 16.5 % (k=2)** |

## Body TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 52.9 | 1.81 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 52.0 ± 6 % | 1.85 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 12.3 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **48.5 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 5.89 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **23.4 W/kg ± 16.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS0108)

### Antenna Parameters with Head TSL

| | |
|---|---|
| Impedance, transformed to feed point | 47.2 Ω - 3.3 jΩ |
| Return Loss | - 26.9 dB |

### Antenna Parameters with Body TSL

| | |
|---|---|
| Impedance, transformed to feed point | 44.7 Ω - 2.3 jΩ |
| Return Loss | - 24.3 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.168 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | July 02, 2013 |

## DASY5 Validation Report for Head TSL

Date: 15.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

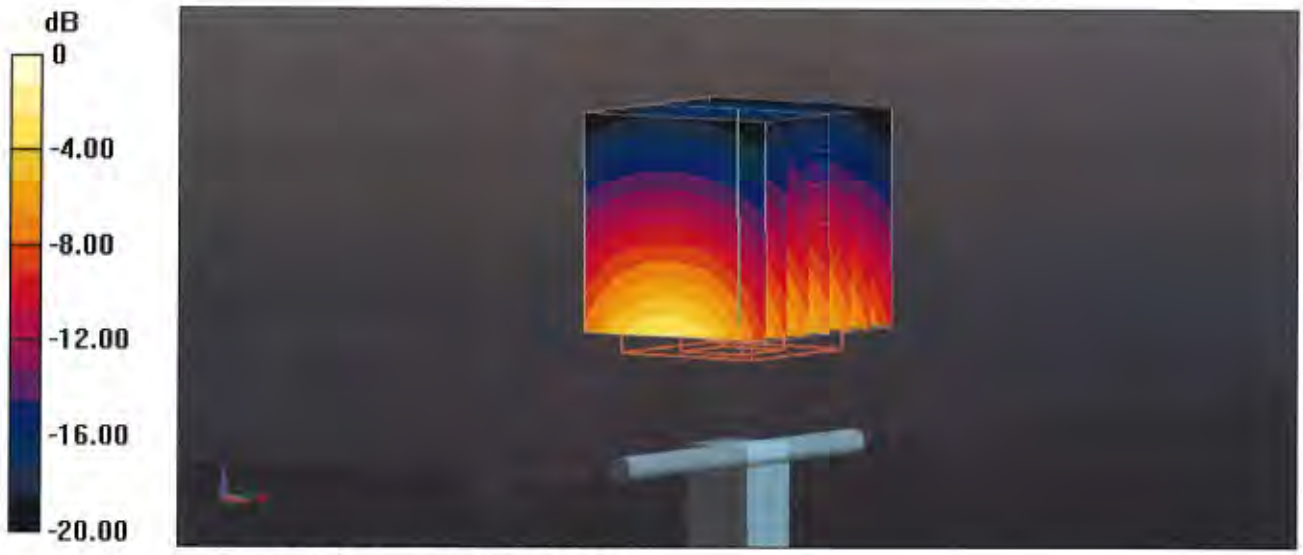
**DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN:1039**

Communication System: UID 0 - CW; Frequency: 2300 MHz
Medium parameters used: f = 2300 MHz; $\sigma$ = 1.71 S/m; $\varepsilon_r$ = 39.9; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

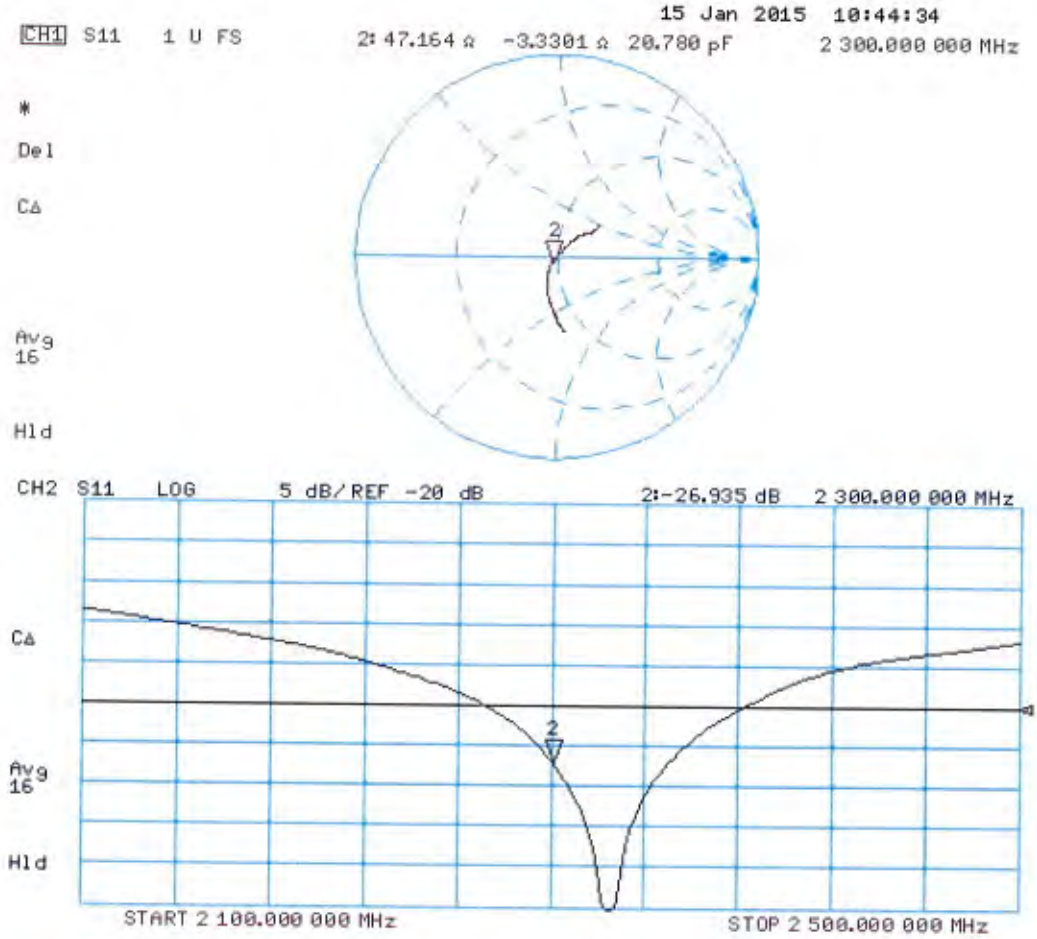
- Probe: ES3DV3 - SN3205; ConvF(4.75, 4.75, 4.75); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Dipole Calibration for Head Tissue/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) 2 (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 102.3 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 24.1 W/kg
**SAR(1 g) = 12.6 W/kg; SAR(10 g) = 6.05 W/kg**
Maximum value of SAR (measured) = 16.3 W/kg




0 dB = 16.3 W/kg = 12.12 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 15.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

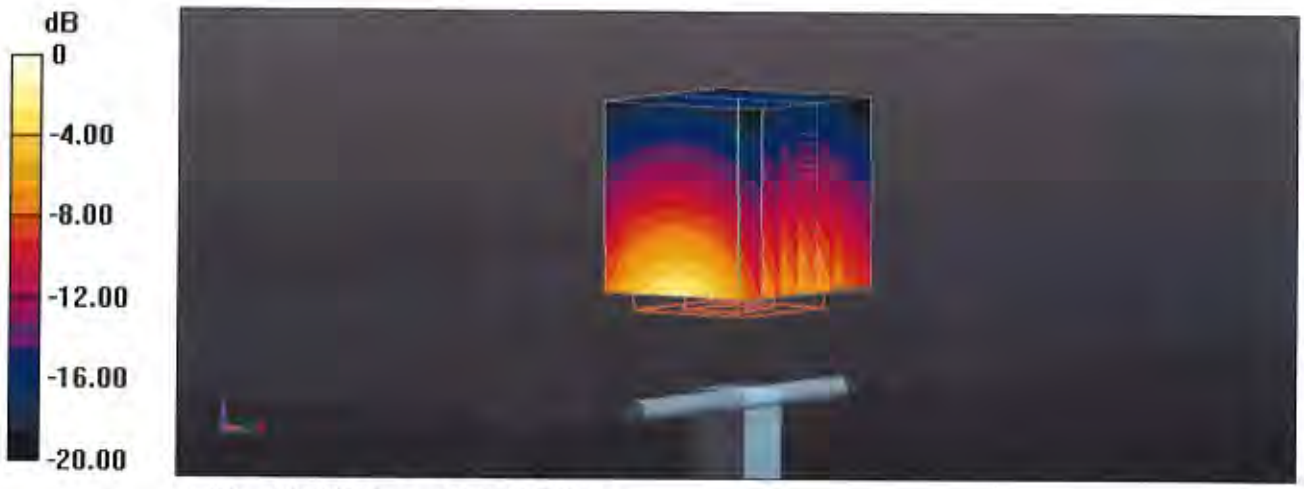
**DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN:1039**

Communication System: UID 0 - CW; Frequency: 2300 MHz
Medium parameters used: f = 2300 MHz; $\sigma$ = 1.85 S/m; $\varepsilon_r$ = 52; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

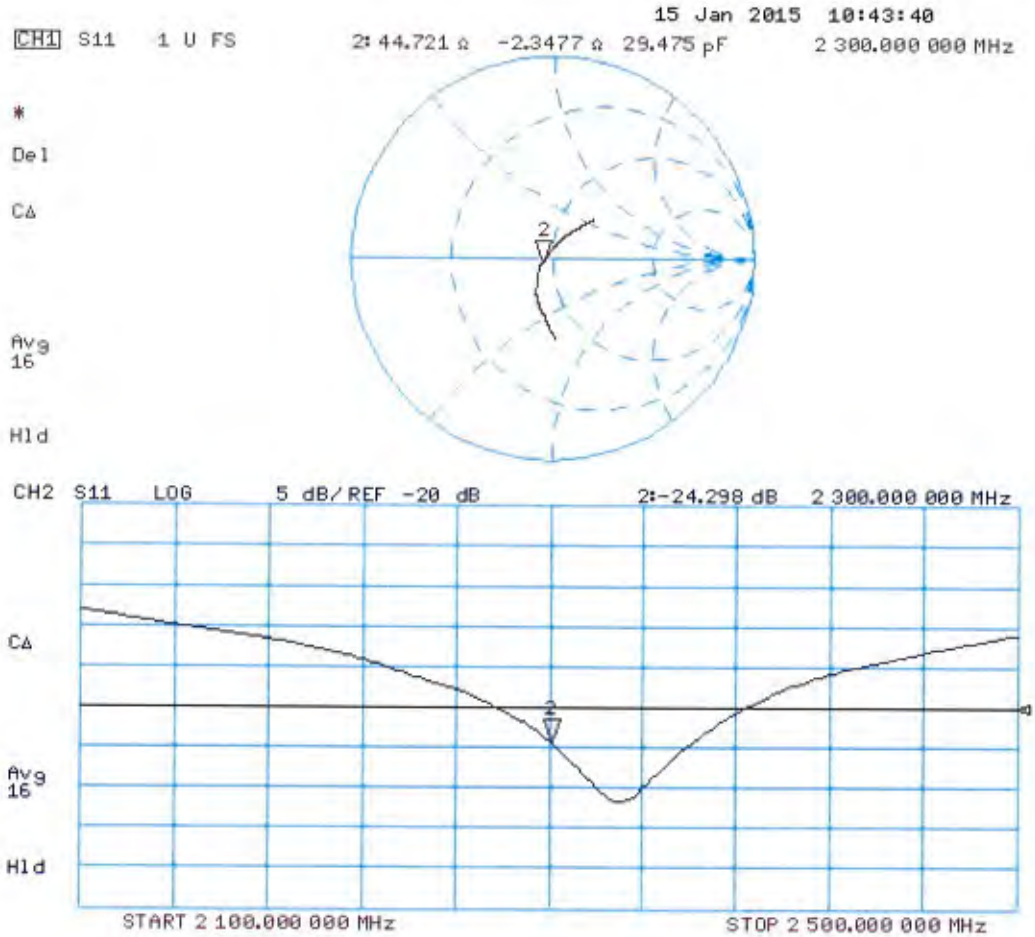
- Probe: ES3DV3 - SN3205; ConvF(4.44, 4.44, 4.44); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**Dipole Calibration for Body Tissue/d=10mm, Pin=250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.02 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 24.2 W/kg
**SAR(1 g) = 12.3 W/kg; SAR(10 g) = 5.89 W/kg**
Maximum value of SAR (measured) = 16.0 W/kg




0 dB = 16.0 W/kg = 12.04 dBW/kg

## Impedance Measurement Plot for Body TSL



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**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: D2450V2-749_Jan15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D2450V2 - SN: 749 |
| Calibration procedure(s) | QA CAL-05.v9<br>Calibration procedure for dipole validation kits above 700 MHz |
| Calibration date: | January 15, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter EPM-442A | GB37480704 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | US37292783 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | MY41092317 | 07-Oct-14 (No. 217-02021) | Oct-15 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 03-Apr-14 (No. 217-01918) | Apr-15 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 03-Apr-14 (No. 217-01921) | Apr-15 |
| Reference Probe ES3DV3 | SN: 3205 | 30-Dec-14 (No. ES3-3205_Dec14) | Dec-15 |
| DAE4 | SN: 601 | 18-Aug-14 (No. DAE4-601_Aug14) | Aug-15 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator R&S SMT-06 | 100005 | 04-Aug-99 (in house check Oct-13) | In house check: Oct-16 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Jeton Kastrati | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: January 16, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom | |
| **Distance Dipole Center - TSL** | 10 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy, dz = 5 mm | |
| **Frequency** | 2450 MHz ± 1 MHz | |

## Head TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 39.2 | 1.80 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 39.3 ± 6 % | 1.88 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL

| **SAR averaged over 1 cm³ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 13.3 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **52.1 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm³ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 6.17 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **24.4 W/kg ± 16.5 % (k=2)** |

## Body TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 52.7 | 1.95 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 51.6 ± 6 % | 2.03 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL

| **SAR averaged over 1 cm³ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 13.0 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **50.8 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm³ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 5.96 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **23.5 W/kg ± 16.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS0108)

### Antenna Parameters with Head TSL

| | |
|---|---|
| Impedance, transformed to feed point | 52.8 Ω + 3.4 jΩ |
| Return Loss | - 27.3 dB |

### Antenna Parameters with Body TSL

| | |
|---|---|
| Impedance, transformed to feed point | 48.6 Ω + 4.6 jΩ |
| Return Loss | - 26.3 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.162 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | December 01, 2003 |

## DASY5 Validation Report for Head TSL

Date: 15.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 749**

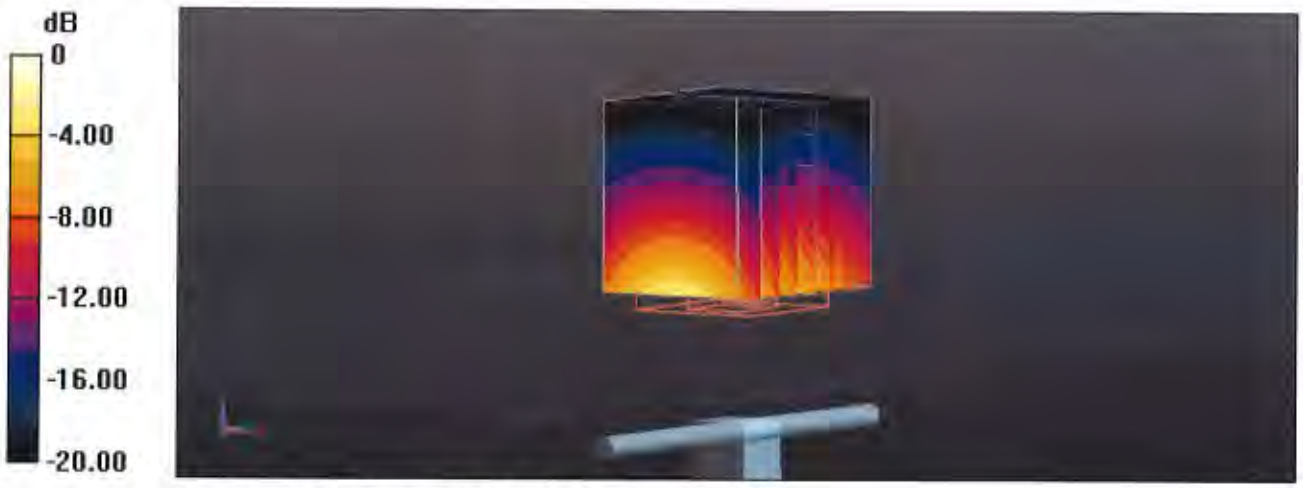
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; $\sigma$ = 1.88 S/m; $\varepsilon_r$ = 39.3; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.54, 4.54, 4.54); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

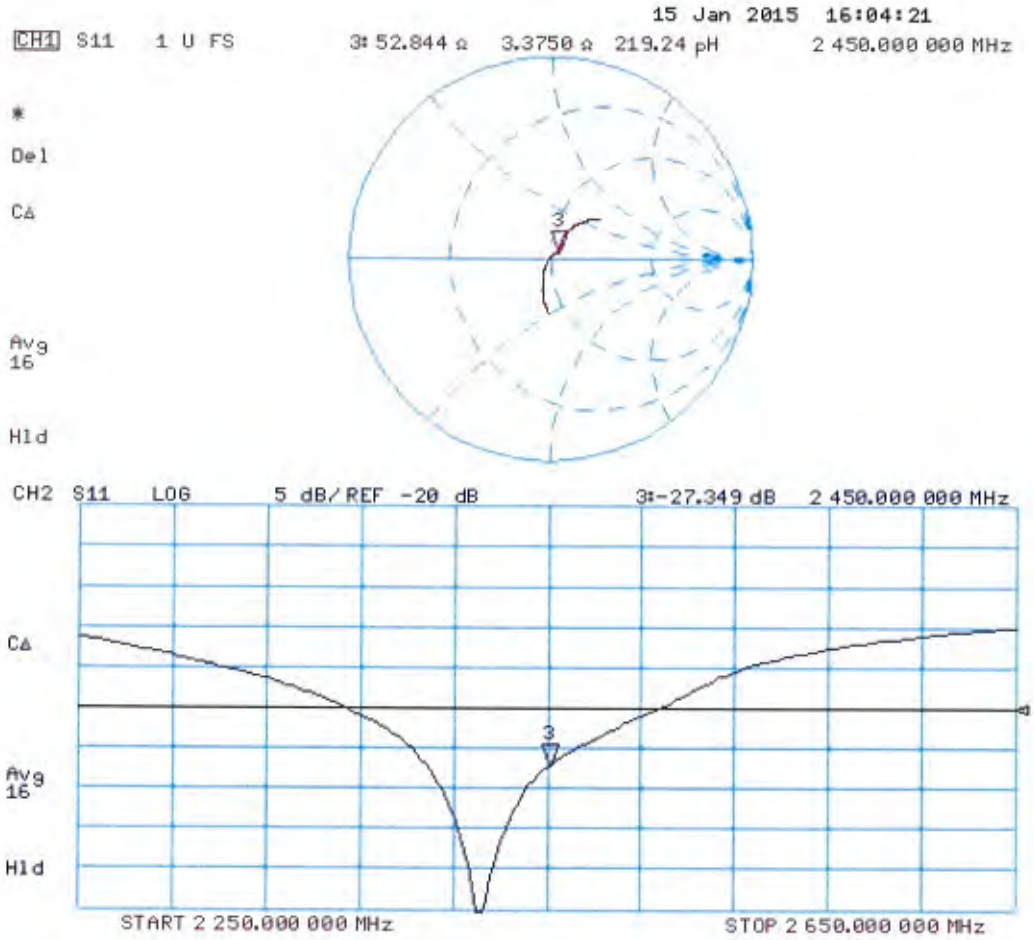
### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.2 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 27.8 W/kg
**SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.17 W/kg**
Maximum value of SAR (measured) = 17.5 W/kg




0 dB = 17.5 W/kg = 12.43 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 15.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 749**

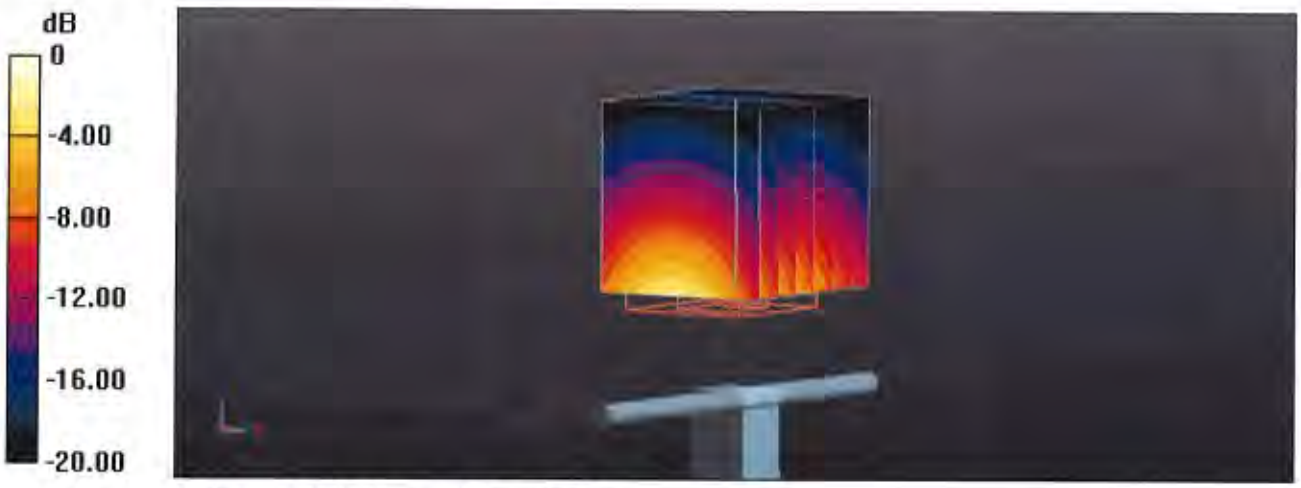
Communication System: UID 0 - CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; $\sigma$ = 2.03 S/m; $\varepsilon_r$ = 51.6; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.32, 4.32, 4.32); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

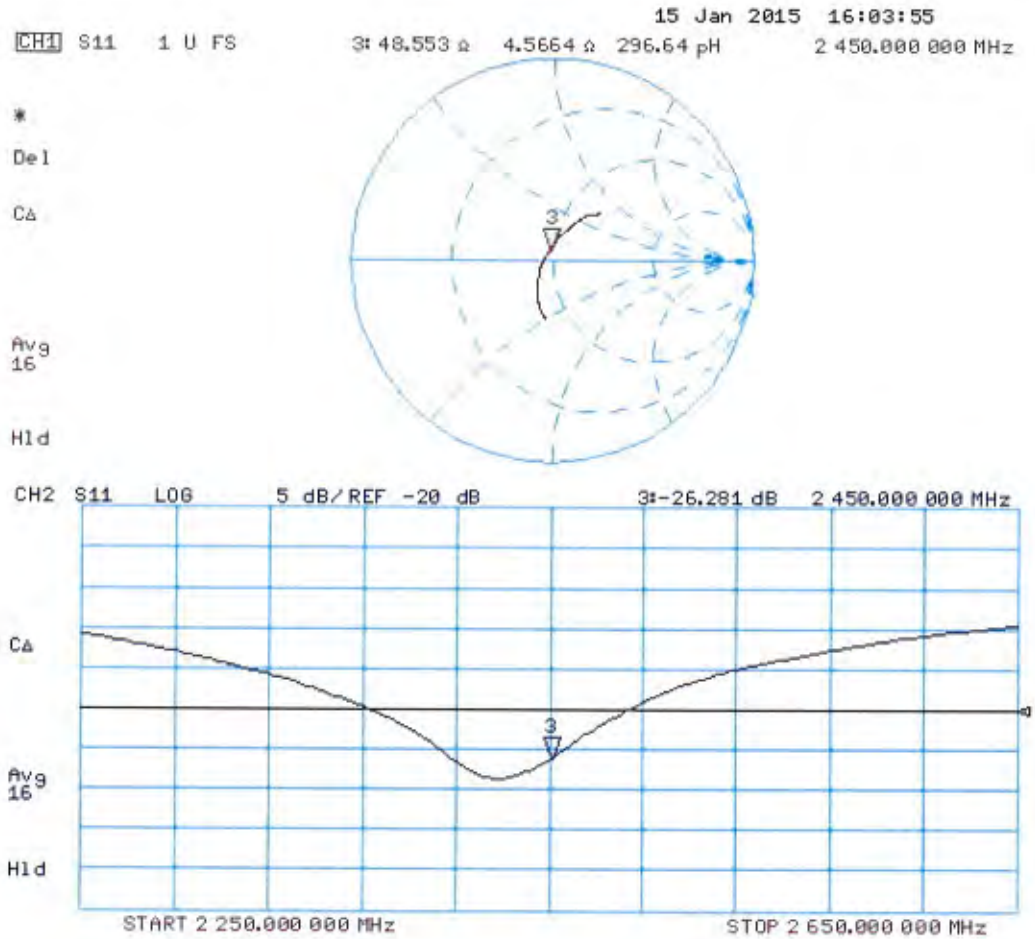
### Dipole Calibration for Body Tissue 2/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.78 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 27.4 W/kg
**SAR(1 g) = 13 W/kg; SAR(10 g) = 5.96 W/kg**
Maximum value of SAR (measured) = 16.9 W/kg




0 dB = 16.9 W/kg = 12.28 dBW/kg

## Impedance Measurement Plot for Body TSL



**Calibration Laboratory of**
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Engineering AG
**Zeughausstrasse 43, 8004 Zurich, Switzerland**

**S** Schweizerischer Kalibrierdienst
**C** Service suisse d'étalonnage
Servizio svizzero di taratura
**S** Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: D2600V2-1056_Jan15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D2600V2 - SN: 1056 |
| Calibration procedure(s) | QA CAL-05.v9<br>Calibration procedure for dipole validation kits above 700 MHz |
| Calibration date: | January 19, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter EPM-442A | GB37480704 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | US37292783 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | MY41092317 | 07-Oct-14 (No. 217-02021) | Oct-15 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 03-Apr-14 (No. 217-01918) | Apr-15 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 03-Apr-14 (No. 217-01921) | Apr-15 |
| Reference Probe ES3DV3 | SN: 3205 | 30-Dec-14 (No. ES3-3205_Dec14) | Dec-15 |
| DAE4 | SN: 601 | 18-Aug-14 (No. DAE4-601_Aug14) | Aug-15 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator R&S SMT-06 | 100005 | 04-Aug-99 (in house check Oct-13) | In house check: Oct-16 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Israe Elnaouq | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: January 19, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom | |
| **Distance Dipole Center - TSL** | 10 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy, dz = 5 mm | |
| **Frequency** | 2600 MHz ± 1 MHz | |

## Head TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 39.0 | 1.96 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 38.8 ± 6 % | 2.05 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 14.5 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **56.8 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 6.44 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **25.5 W/kg ± 16.5 % (k=2)** |

## Body TSL parameters

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 52.5 | 2.16 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 51.1 ± 6 % | 2.21 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL

| **SAR averaged over 1 cm$^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 250 mW input power | 14.2 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **55.9 W/kg ± 17.0 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 250 mW input power | 6.25 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **24.8 W/kg ± 16.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS0108)

### Antenna Parameters with Head TSL

| | |
|---|---|
| Impedance, transformed to feed point | 50.4 Ω - 4.2 jΩ |
| Return Loss | - 27.5 dB |

### Antenna Parameters with Body TSL

| | |
|---|---|
| Impedance, transformed to feed point | 46.9 Ω - 4.0 jΩ |
| Return Loss | - 25.6 dB |

### General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.150 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | August 14, 2012 |

## DASY5 Validation Report for Head TSL

Date: 19.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1056**

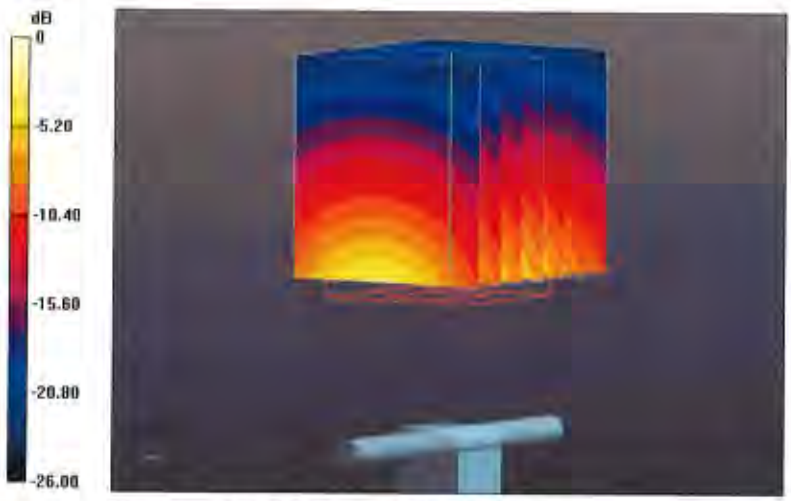
Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; $\sigma$ = 2.05 S/m; $\varepsilon_r$ = 38.8; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.49, 4.49, 4.49); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

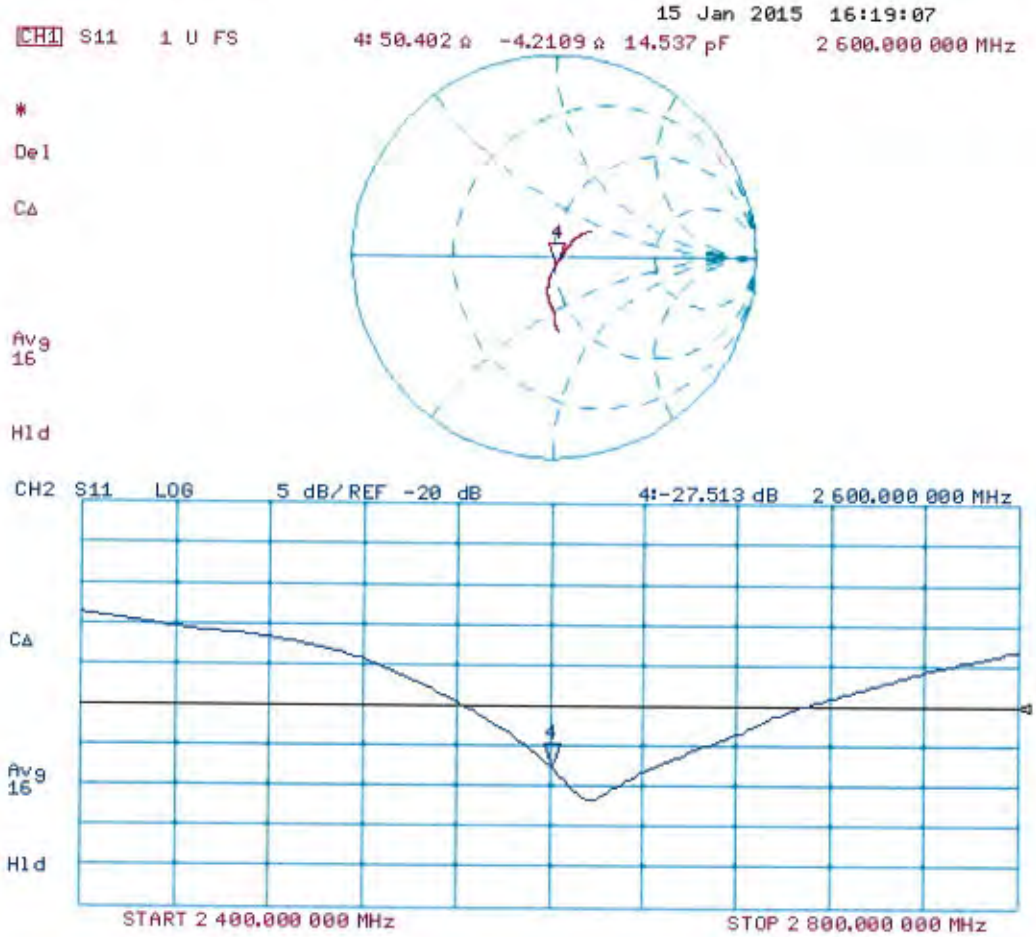
### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.5 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 30.7 W/kg
**SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.44 W/kg**
Maximum value of SAR (measured) = 19.2 W/kg




0 dB = 19.2 W/kg = 12.83 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 15.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1056**

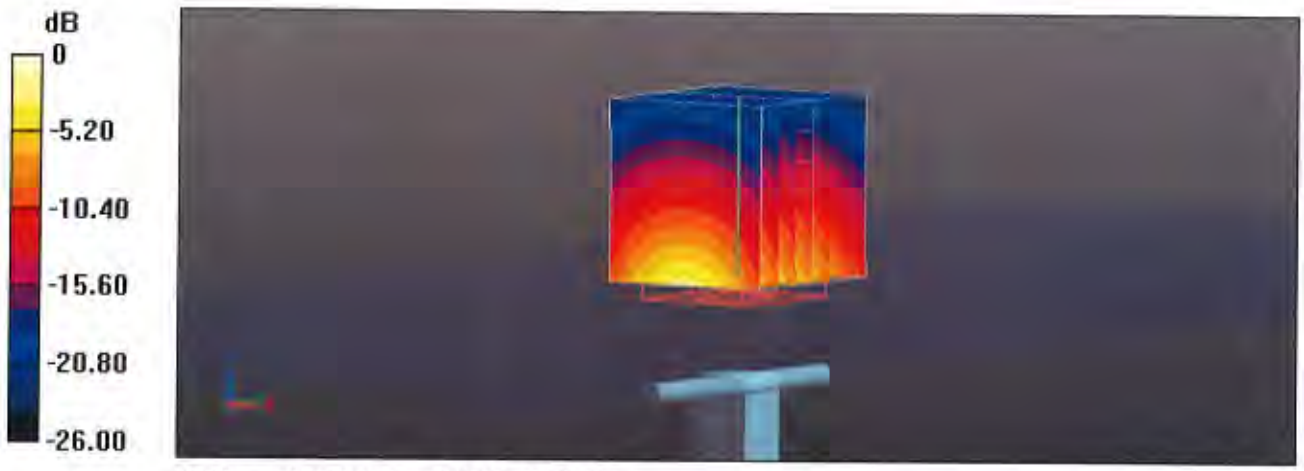
Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; $\sigma$ = 2.21 S/m; $\varepsilon_r$ = 51.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.13, 4.13, 4.13); Calibrated: 30.12.2014;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

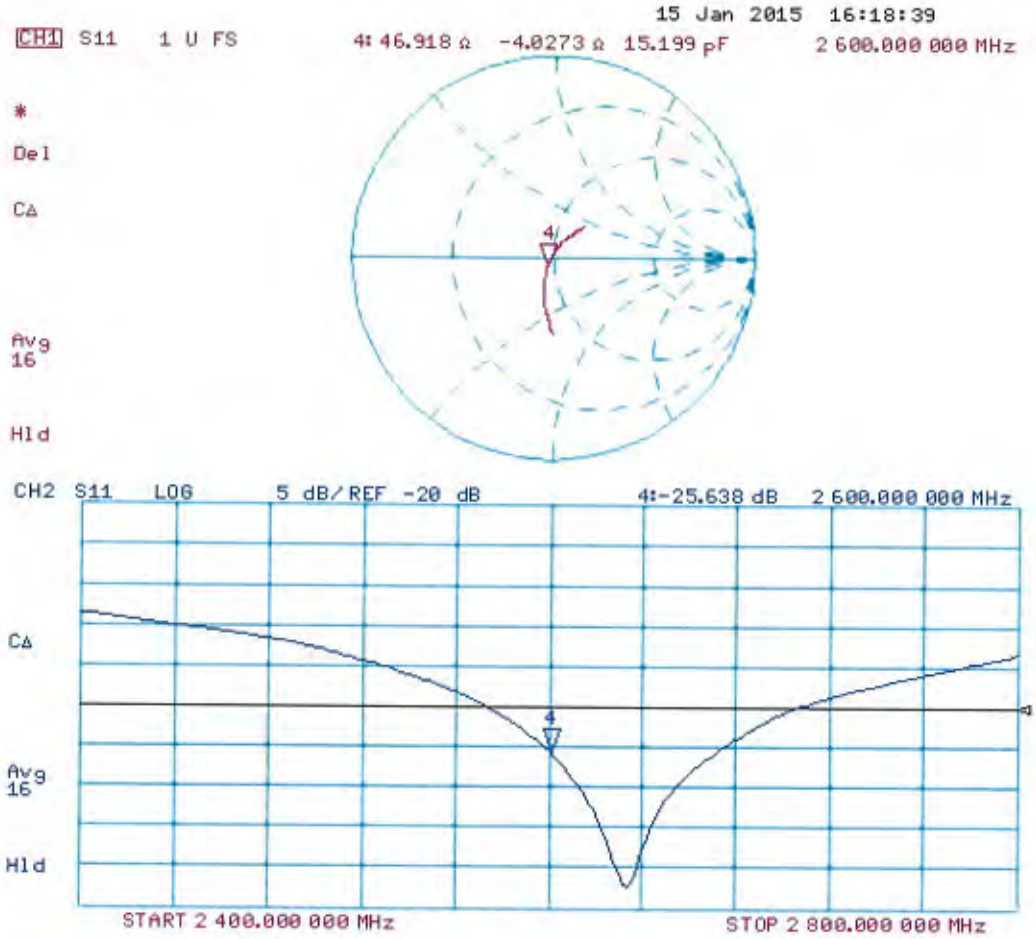
### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.02 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 29.8 W/kg
**SAR(1 g) = 14.2 W/kg; SAR(10 g) = 6.25 W/kg**
Maximum value of SAR (measured) = 19.1 W/kg




0 dB = 19.1 W/kg = 12.81 dBW/kg

## Impedance Measurement Plot for Body TSL



**Calibration Laboratory of**
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**Accreditation No.: SCS 0108**

**Client** **TCC Microsoft**

**Certificate No: D5GHzV2-1048_Jan15**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D5GHzV2 - SN:1048 |
| Calibration procedure(s) | QA CAL-22.v2<br>Calibration procedure for dipole validation kits between 3-6 GHz |
| Calibration date: | January 13, 2015 |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter EPM-442A | GB37480704 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | US37292783 | 07-Oct-14 (No. 217-02020) | Oct-15 |
| Power sensor HP 8481A | MY41092317 | 07-Oct-14 (No. 217-02021) | Oct-15 |
| Reference 20 dB Attenuator | SN: 5058 (20k) | 03-Apr-14 (No. 217-01918) | Apr-15 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 03-Apr-14 (No. 217-01921) | Apr-15 |
| Reference Probe EX3DV4 | SN: 3503 | 30-Dec-14 (No. EX3-3503_Dec14) | Dec-15 |
| DAE4 | SN: 601 | 18-Aug-14 (No. DAE4-601_Aug14) | Aug-15 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator R&S SMT-06 | 100005 | 04-Aug-99 (in house check Oct-13) | In house check: Oct-16 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-14) | In house check: Oct-15 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Israe Elnaouq | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: January 14, 2015

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

| | | |
|---|---|---|
| **DASY Version** | DASY5 | V52.8.8 |
| **Extrapolation** | Advanced Extrapolation | |
| **Phantom** | Modular Flat Phantom V5.0 | |
| **Distance Dipole Center - TSL** | 10 mm | with Spacer |
| **Zoom Scan Resolution** | dx, dy = 4.0 mm, dz = 1.4 mm | Graded Ratio = 1.4 (Z direction) |
| **Frequency** | 5200 MHz ± 1 MHz<br>5300 MHz ± 1 MHz<br>5500 MHz ± 1 MHz<br>5600 MHz ± 1 MHz<br>5800 MHz ± 1 MHz | |

## Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

| | **Temperature** | **Permittivity** | **Conductivity** |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 36.0 | 4.66 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 36.3 ± 6 % | 4.56 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL at 5200 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.89 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **79.0 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.25 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **22.5 W/kg ± 19.5 % (k=2)** |

## Head TSL parameters at 5300 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 35.9 | 4.76 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 36.1 ± 6 % | 4.66 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL at 5300 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 8.41 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **84.1 W / kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.41 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **24.1 W/kg ± 19.5 % (k=2)** |

## Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 35.6 | 4.96 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 35.9 ± 6 % | 4.86 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL at 5500 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 8.18 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **81.8 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.33 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **23.3 W/kg ± 19.5 % (k=2)** |

## Head TSL parameters at 5600 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 35.5 | 5.07 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 35.6 ± 6 % | 4.97 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL at 5600 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 8.14 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **81.4 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.31 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **23.1 W/kg ± 19.5 % (k=2)** |

## Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Head TSL parameters** | 22.0 °C | 35.3 | 5.27 mho/m |
| **Measured Head TSL parameters** | (22.0 ± 0.2) °C | 35.4 ± 6 % | 5.18 mho/m ± 6 % |
| **Head TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Head TSL at 5800 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Head TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.89 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **78.9 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Head TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.24 W/kg |
| SAR for nominal Head TSL parameters | normalized to 1W | **22.4 W/kg ± 19.5 % (k=2)** |

## Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 49.0 | 5.30 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 49.4 ± 6 % | 5.42 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL at 5200 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.42 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **74.4 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.07 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **20.8 W/kg ± 19.5 % (k=2)** |

## Body TSL parameters at 5300 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 48.9 | 5.42 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 49.2 ± 6 % | 5.55 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL at 5300 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.49 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **75.0 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.09 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **21.0 W/kg ± 19.5 % (k=2)** |

## Body TSL parameters at 5500 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 48.6 | 5.65 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 48.9 ± 6 % | 5.82 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL at 5500 MHz

| **SAR averaged over 1 cm$^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.85 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **78.7 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.18 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **21.9 W/kg ± 19.5 % (k=2)** |

## Body TSL parameters at 5600 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 48.5 | 5.77 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 48.7 ± 6 % | 5.96 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL at 5600 MHz

| **SAR averaged over 1 cm$^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.77 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **77.9 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 cm$^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.15 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **21.6 W/kg ± 19.5 % (k=2)** |

## Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

| | Temperature | Permittivity | Conductivity |
|---|---|---|---|
| **Nominal Body TSL parameters** | 22.0 °C | 48.2 | 6.00 mho/m |
| **Measured Body TSL parameters** | (22.0 ± 0.2) °C | 48.4 ± 6 % | 6.25 mho/m ± 6 % |
| **Body TSL temperature change during test** | < 0.5 °C | ---- | ---- |

## SAR result with Body TSL at 5800 MHz

| **SAR averaged over 1 $cm^3$ (1 g) of Body TSL** | Condition | |
|---|---|---|
| SAR measured | 100 mW input power | 7.58 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **76.0 W/kg ± 19.9 % (k=2)** |

| **SAR averaged over 10 $cm^3$ (10 g) of Body TSL** | condition | |
|---|---|---|
| SAR measured | 100 mW input power | 2.09 W/kg |
| SAR for nominal Body TSL parameters | normalized to 1W | **20.9 W/kg ± 19.5 % (k=2)** |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL at 5200 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 50.9 Ω - 8.8 jΩ |
| Return Loss | - 21.2 dB |

### Antenna Parameters with Head TSL at 5300 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 51.0 Ω - 6.8 jΩ |
| Return Loss | - 23.4 dB |

### Antenna Parameters with Head TSL at 5500 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 55.9 Ω - 5.7 jΩ |
| Return Loss | - 22.3 dB |

### Antenna Parameters with Head TSL at 5600 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 58.5 Ω - 3.6 jΩ |
| Return Loss | - 21.4 dB |

### Antenna Parameters with Head TSL at 5800 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 57.6 Ω - 5.5 jΩ |
| Return Loss | - 21.2 dB |

### Antenna Parameters with Body TSL at 5200 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 53.8 Ω + 7.1 jΩ |
| Return Loss | - 22.2 dB |

### Antenna Parameters with Body TSL at 5300 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 53.7 Ω + 4.0 jΩ |
| Return Loss | - 25.6 dB |

### Antenna Parameters with Body TSL at 5500 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 50.4 Ω + 7.3 jΩ |
| Return Loss | - 22.7 dB |

## Antenna Parameters with Body TSL at 5600 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 47.9 Ω + 8.6 jΩ |
| Return Loss | - 20.9 dB |

## Antenna Parameters with Body TSL at 5800 MHz

| | |
|---|---|
| Impedance, transformed to feed point | 51.4 Ω + 9.0 jΩ |
| Return Loss | - 21.0 dB |

## General Antenna Parameters and Design

| | |
|---|---|
| Electrical Delay (one direction) | 1.193 ns |

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

## Additional EUT Data

| | |
|---|---|
| Manufactured by | SPEAG |
| Manufactured on | June 09, 2006 |

## DASY5 Validation Report for Head TSL

Date: 12.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1048**

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz
Medium parameters used: f = 5200 MHz; $\sigma$ = 4.56 S/m; $\varepsilon_r$ = 36.3; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5300 MHz; $\sigma$ = 4.66 S/m; $\varepsilon_r$ = 36.1; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5500 MHz; $\sigma$ = 4.86 S/m; $\varepsilon_r$ = 35.9; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5600 MHz; $\sigma$ = 4.97 S/m; $\varepsilon_r$ = 35.6; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5800 MHz; $\sigma$ = 5.18 S/m; $\varepsilon_r$ = 35.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.51, 5.51, 5.51); Calibrated: 30.12.2014, ConvF(5.21, 5.21, 5.21); Calibrated: 30.12.2014, ConvF(5.12, 5.12, 5.12); Calibrated: 30.12.2014, ConvF(4.92, 4.92, 4.92); Calibrated: 30.12.2014, ConvF(4.9, 4.9, 4.9); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

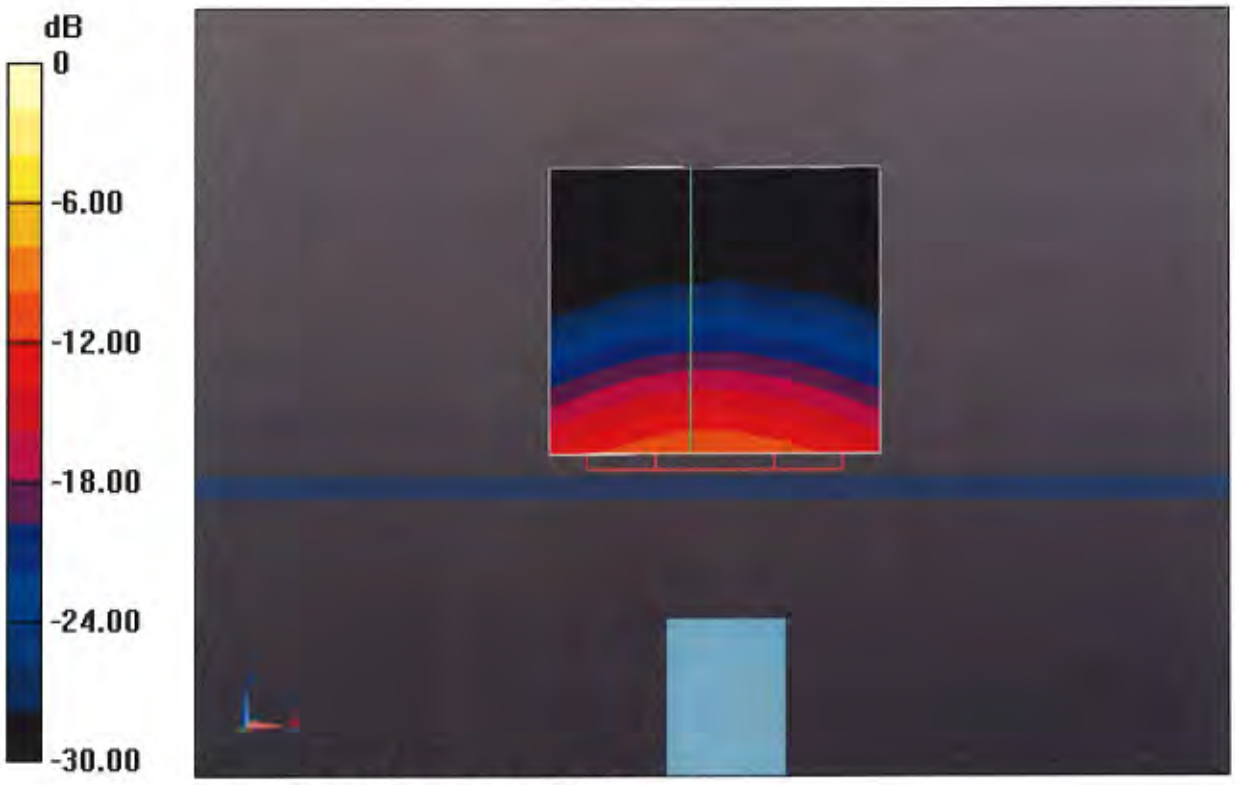
**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.32 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 28.9 W/kg
**SAR(1 g) = 7.89 W/kg; SAR(10 g) = 2.25 W/kg**
Maximum value of SAR (measured) = 17.8 W/kg

**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 66.44 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 31.7 W/kg
**SAR(1 g) = 8.41 W/kg; SAR(10 g) = 2.41 W/kg**
Maximum value of SAR (measured) = 19.2 W/kg

**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.59 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 32.3 W/kg
**SAR(1 g) = 8.18 W/kg; SAR(10 g) = 2.33 W/kg**
Maximum value of SAR (measured) = 19.1 W/kg

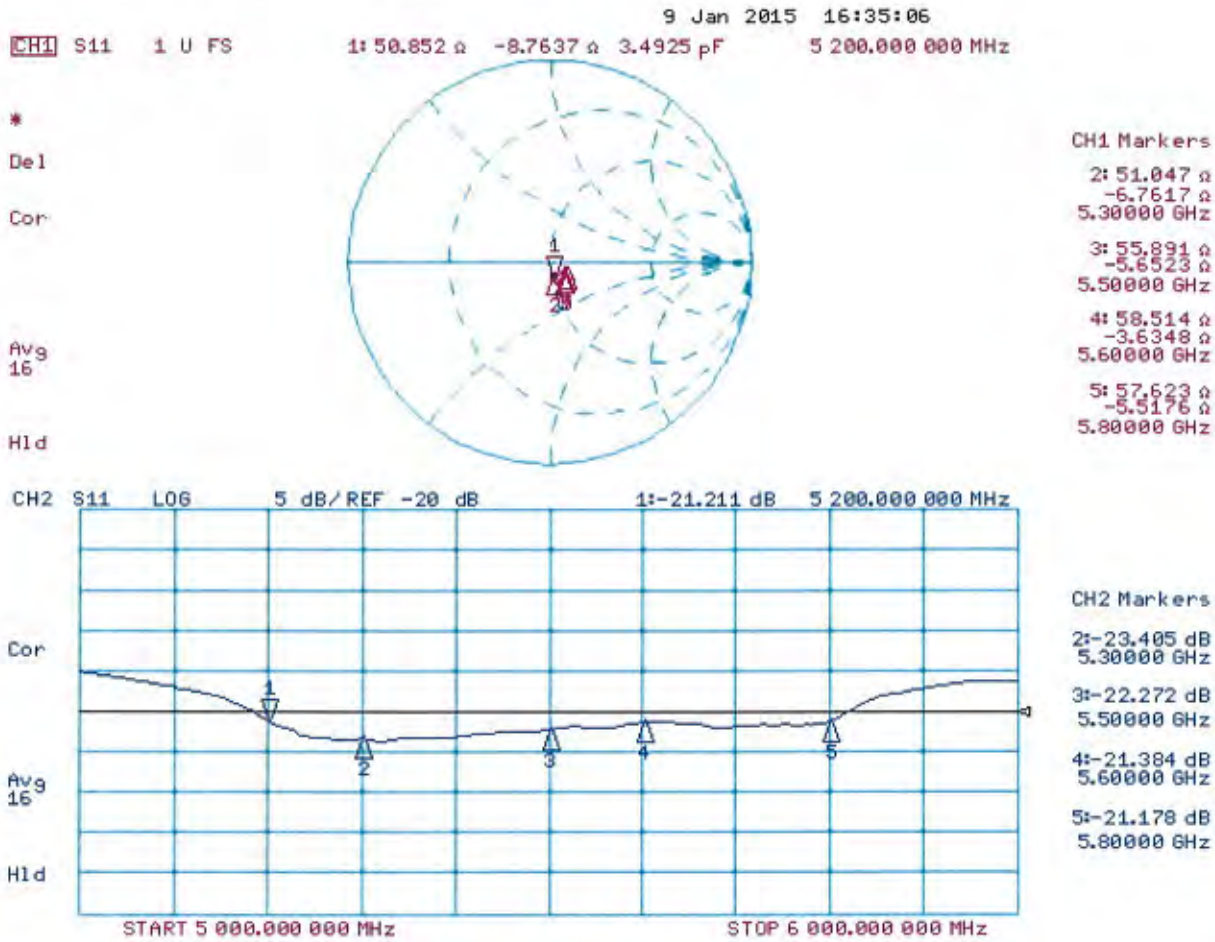
**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 64.16 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 32.3 W/kg
**SAR(1 g) = 8.14 W/kg; SAR(10 g) = 2.31 W/kg**
Maximum value of SAR (measured) = 19.1 W/kg

**Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 61.81 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 32.8 W/kg
**SAR(1 g) = 7.89 W/kg; SAR(10 g) = 2.24 W/kg**
Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 17.8 W/kg = 12.50 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 13.01.2015

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN:1048**

Communication System: UID 0 - CW; Frequency: 5200 MHz, Frequency: 5300 MHz, Frequency: 5500 MHz, Frequency: 5600 MHz, Frequency: 5800 MHz
Medium parameters used: f = 5200 MHz; $\sigma$ = 5.42 S/m; $\varepsilon_r$ = 49.4; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5300 MHz; $\sigma$ = 5.55 S/m; $\varepsilon_r$ = 49.2; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5500 MHz; $\sigma$ = 5.82 S/m; $\varepsilon_r$ = 48.9; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5600 MHz; $\sigma$ = 5.96 S/m; $\varepsilon_r$ = 48.7; $\rho$ = 1000 kg/m$^3$ , Medium parameters used: f = 5800 MHz; $\sigma$ = 6.25 S/m; $\varepsilon_r$ = 48.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.95, 4.95, 4.95); Calibrated: 30.12.2014, ConvF(4.78, 4.78, 4.78); Calibrated: 30.12.2014, ConvF(4.45, 4.45, 4.45); Calibrated: 30.12.2014, ConvF(4.35, 4.35, 4.35); Calibrated: 30.12.2014, ConvF(4.32, 4.32, 4.32); Calibrated: 30.12.2014;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2014
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

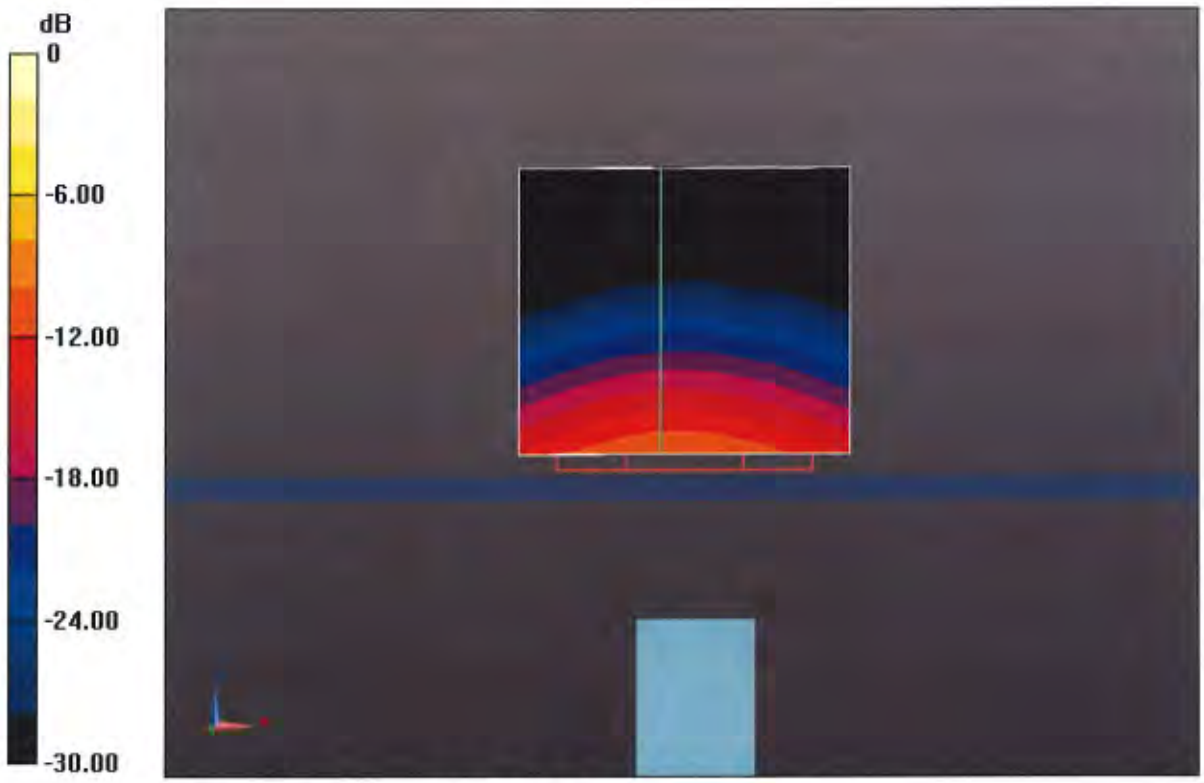
**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 58.44 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 29.2 W/kg
**SAR(1 g) = 7.42 W/kg; SAR(10 g) = 2.07 W/kg**
Maximum value of SAR (measured) = 17.0 W/kg

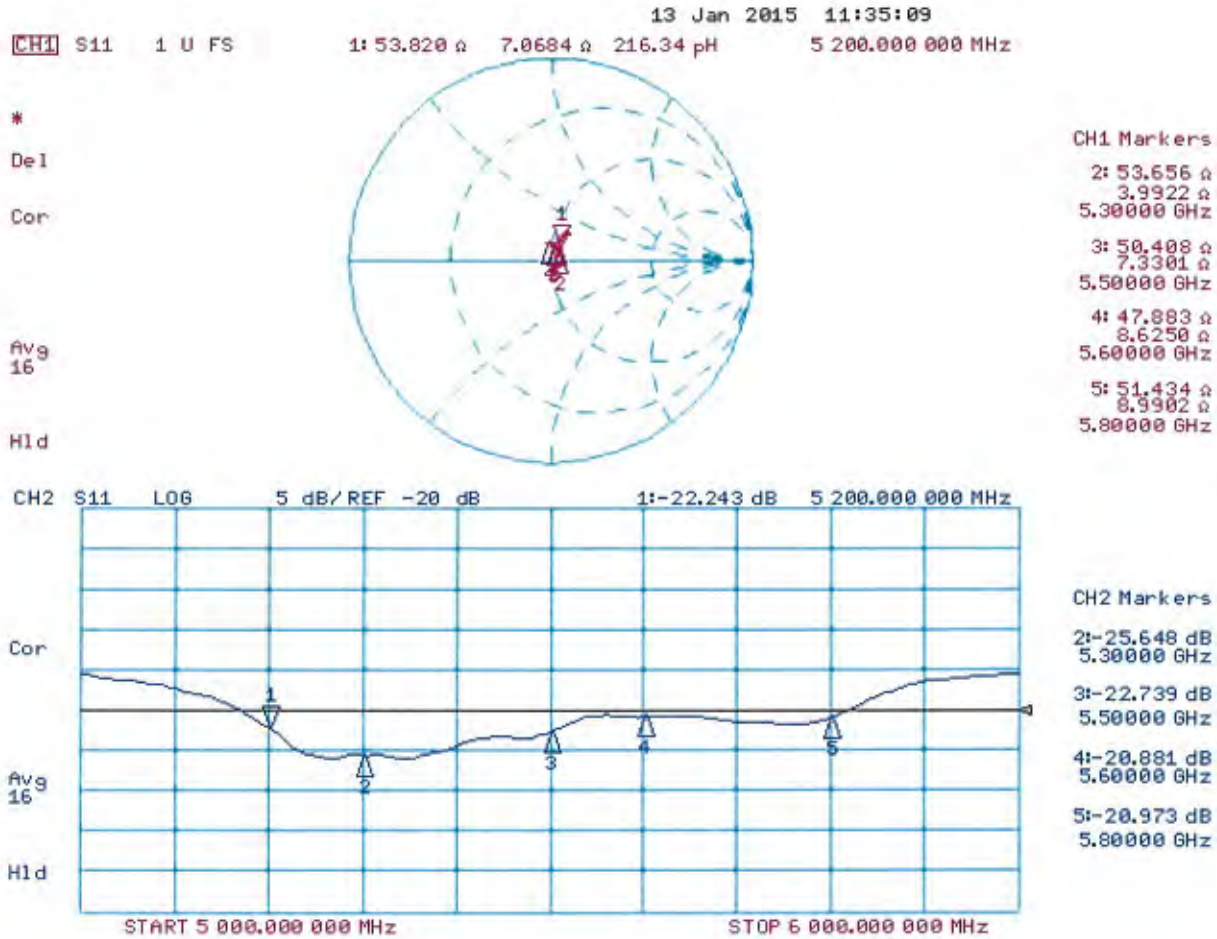
**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5300 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 58.11 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 30.3 W/kg
**SAR(1 g) = 7.49 W/kg; SAR(10 g) = 2.09 W/kg**
Maximum value of SAR (measured) = 17.5 W/kg

**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 58.45 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 33.7 W/kg
**SAR(1 g) = 7.85 W/kg; SAR(10 g) = 2.18 W/kg**
Maximum value of SAR (measured) = 18.6 W/kg

**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5600 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 57.07 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 34.4 W/kg
**SAR(1 g) = 7.77 W/kg; SAR(10 g) = 2.15 W/kg**
Maximum value of SAR (measured) = 18.8 W/kg

**Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 55.75 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 35.6 W/kg
**SAR(1 g) = 7.58 W/kg; SAR(10 g) = 2.09 W/kg**
Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 17.0 W/kg = 12.30 dBW/kg

## Impedance Measurement Plot for Body TSL