

6.1.2 Measurement for Tissue Simulate Liquid

The Conductivity (σ) and Permittivity (ϵ_r) are listed in Table 2. For the SAR measurement given in this report.

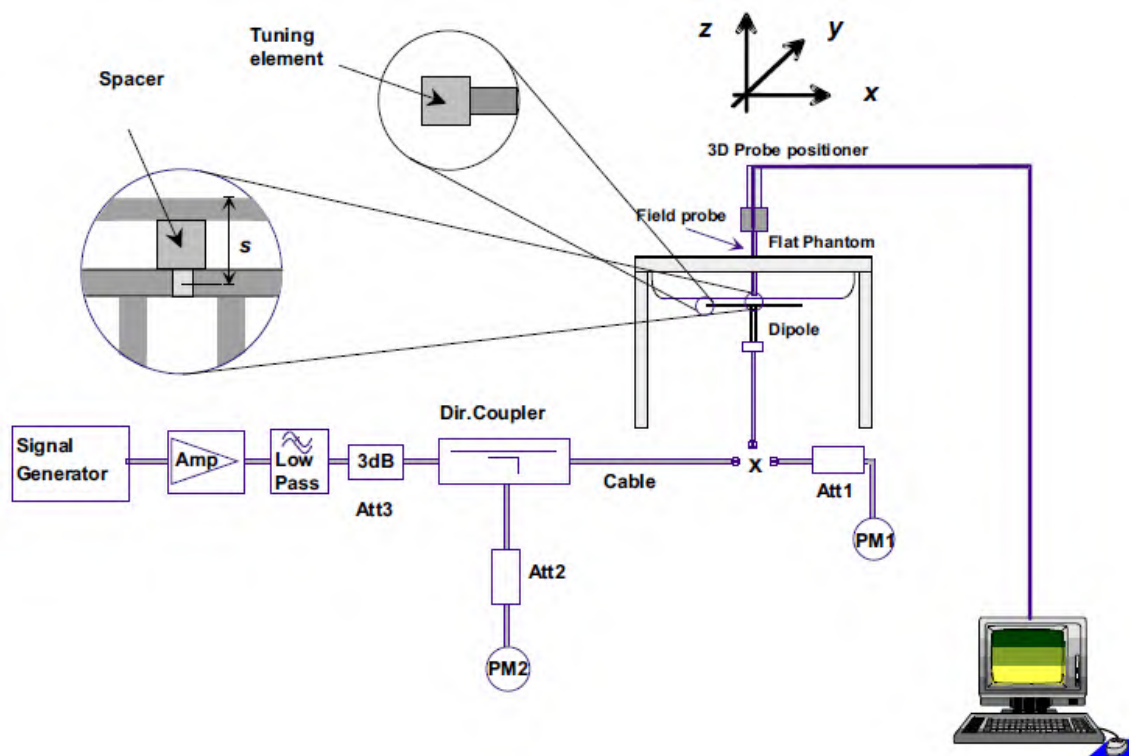
The temperature variation of the Tissue Simulate Liquids was $22 \pm 2^\circ\text{C}$.

Tissue Type	Measured Frequency (MHz)	Measured Tissue		Target Tissue ($\pm 5\%$)		Deviation (Within $\pm 5\%$)		Liquid Temp. ($^\circ\text{C}$)	Test Date
		ϵ_r	$\sigma(\text{S/m})$	ϵ_r	$\sigma(\text{S/m})$	ϵ_r	$\sigma(\text{S/m})$		
13 Head	13	55.825	0.725	55.00	0.75	1.50%	-3.33%	22.8	2025/12/11
750 Head	750	40.954	0.886	41.90	0.89	-2.26%	-0.45%	22.2	2025/11/18
835 Head	835	40.668	0.909	41.50	0.90	-2.00%	1.00%	22.4	2025/11/20
1750 Head	1750	39.159	1.332	40.10	1.37	-2.35%	-2.77%	22.4	2025/11/22
1950 Head	1950	38.671	1.411	40.00	1.40	-3.32%	0.79%	22.3	2025/11/24
2300 Head	2300	38.986	1.653	39.50	1.67	-1.30%	-1.02%	22.6	2025/11/26
2450 Head	2450	38.019	1.852	39.20	1.80	-3.01%	2.89%	22.5	2025/11/28
2600 Head	2600	37.439	2.028	39.00	1.96	-4.00%	3.47%	22.4	2025/11/30
3400 Head	3400	38.916	2.870	38.10	2.85	2.14%	0.70%	22.5	2025/12/1
3500 Head	3500	38.615	2.989	37.90	2.91	1.89%	2.71%	22.5	2025/12/3
3700 Head	3700	37.946	3.221	37.70	3.12	0.65%	3.24%	22.5	2025/12/5
3900 Head	3900	37.317	3.454	37.50	3.32	-0.49%	4.04%	22.5	2025/12/7
4100 Head	4100	37.025	3.563	37.20	3.53	-0.47%	0.93%	22.5	2025/12/9
5250 Head	5250	35.666	4.675	35.90	4.71	-0.65%	-0.74%	22.7	2025/12/12
5600 Head	5600	34.994	5.145	35.50	5.07	-1.43%	1.48%	22.7	2025/12/12
5750 Head	5750	34.622	5.328	35.40	5.22	-2.20%	2.07%	22.7	2025/12/12

Table 2 : Measurement result of Tissue electric parameters

6.2 SAR System Check

The microwave circuit arrangement for system Check is sketched in F-12. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within $\pm 10\%$ from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range $22\pm 2^{\circ}\text{C}$, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above $15\pm 0.5\text{ cm}$ in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-12.The microwave circuit arrangement used for SAR system Check

6.2.1 Justification for Extended SAR Dipole Calibrations

1) Instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.

- a) There is no physical damage on the dipole;
- b) System check with specific dipole is within 10% of calibrated value;
- c) Return-loss is within 20% of calibrated measurement;
- d) Impedance is within 5Ω from the previous measurement.

2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

6.2.2 Summary System Check Result(s)

Validation Kit	Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within $\pm 10\%$)		Liquid Temp. ($^{\circ}\text{C}$)	Test Date
	1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1- g(W/kg)	10- g(W/kg)		
CLA13_Head	0.11	0.07	0.43	0.27	0.42	0.27	2.38%	0.00%	22.8	2025/12/11
D750V3_Head	2.07	1.41	8.28	5.64	8.54	5.80	-3.04%	-2.76%	22.2	2025/11/18
D835V2_Head	2.34	1.54	9.36	6.16	9.60	6.16	-2.50%	0.00%	22.4	2025/11/20
D1750V2_Head	9.51	5.04	38.04	20.16	36.30	19.30	4.79%	4.46%	22.4	2025/11/22
D1950V3_Head	9.41	4.87	37.64	19.48	40.40	20.80	-6.83%	-6.35%	22.3	2025/11/24
D2300V2_Head	12.80	6.06	51.20	24.24	49.00	23.50	4.49%	3.15%	22.6	2025/11/26
D2450V2_Head	13.30	6.24	53.20	24.96	52.70	24.60	0.95%	1.46%	22.5	2025/11/28
D2600V2_Head	14.50	6.48	58.00	25.92	55.20	24.70	5.07%	4.94%	22.4	2025/11/30
Validation Kit	Measured SAR 100mW	Measured SAR 100mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W)	Target SAR (normalized to 1W)	Deviation (Within $\pm 10\%$)		Liquid Temp. ($^{\circ}\text{C}$)	Test Date
	1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)	1- g(W/kg)	10- g(W/kg)		
D3400V2_Head	6.90	2.63	69.00	26.30	68.60	26.10	0.58%	0.77%	22.5	2025/12/1
D3500V2_Head	6.65	2.66	66.50	26.60	64.50	24.50	3.10%	8.57%	22.5	2025/12/3
D3700V2_Head	6.54	2.51	65.40	25.10	65.60	24.10	-0.30%	4.15%	22.5	2025/12/5
D3900V2_3.9GHz_Head	6.70	2.33	67.00	23.30	67.60	23.50	-0.89%	-0.85%	22.5	2025/12/7
D3900V2_4.1GHz_Head	7.26	2.49	72.60	24.90	67.90	23.40	6.92%	6.41%	22.5	2025/12/9
D5GHzV2_5.25G_Head	7.60	2.13	76.00	21.30	77.20	21.90	-1.55%	-2.74%	22.7	2025/12/12
D5GHzV2_5.6G_Head	8.13	2.25	81.30	22.50	81.10	22.80	0.25%	-1.32%	22.7	2025/12/12
D5GHzV2_5.75G_Head	8.11	2.25	81.10	22.50	77.80	21.70	4.24%	3.69%	22.7	2025/12/12

Table 3 : SAR System Check Result

6.2.3 Detailed System Check Results

Please see the Appendix A

7 Test Configuration

7.1 Operation Configurations

7.1.1 WCDMA Test Configuration

1) Output Power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1's" for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are required in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

2) Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

3) Body SAR

SAR for body configurations is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

4) HSDPA / HSUPA

RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power for production units in HSDPA / HSUPA is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest measured SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.5 W/kg, SAR measurement is not required for HSDPA / HSUPA.

a) HSDPA

HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors (β_c , β_d), and HS-DPCCH power offset parameters (Δ_{ACK} , Δ_{NACK} , Δ_{CQI}) are set according to values indicated in the following table. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-test	β_c	Bd	β_d (SF)	β_c/β_d	β_{hs}	CM(dB)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	0.0	0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0	0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 8$ Ahs = $\beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$

Note2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1.A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 8$ (Ahs=30/15) with $\beta_{hs} = 30/15 * \beta_c$, and $\Delta_{CQI} = 7$ (Ahs=24/15) with $\beta_{hs} = 24/15 * \beta_c$.

Note3: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.

Parameter	Value
Nominal average inf. bit rate	534 kbit/s
Inter-TTI Distance	3 TTI"s
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

Table 4 : settings of required H-Set 1 QPSK acc. to 3GPP 34.121

HS-DSCH Category	MaximumHS-DSCH Codes Received	Minimum Inter-TTI Interval	MaximumHS-DSCH TransportBlockBits/HS-DSCH TTI	TotalSoft Channel Bits
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600
16	15	1	27952	345600

Table 5 : HSDPA UE category

b) HSUPA

Due to inner loop power control requirements in HSUPA, a commercial communication test set should be used for the output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSUPA should be configured according to the values indicated below as well as other applicable procedures described in the WCDMA Handset and Release 5 HSUPA Data Device sections of 3G device.

Sub-test ^⓪	β_c ^⓪	β_d ^⓪	β_d (SF) ^⓪	β_c/β_d ^⓪	β_{hs} ⁽¹⁾ ^⓪	β_{ac} ^⓪	β_{ad} ^⓪	β_c ^(SF) ^⓪	β_{ad} ^(code) ^⓪	CM ⁽²⁾ (dB) ^⓪	MP R ^⓪ (dB) ^⓪	AG ⁽⁴⁾ Inde x ^⓪	E- TFC I ^⓪
1 ^⓪	11/15 ⁽³⁾ ^⓪	15/15 ⁽³⁾ ^⓪	64 ^⓪	11/15 ⁽³⁾ ^⓪	22/15 ^⓪	209/225 ^⓪	1039/225 ^⓪	4 ^⓪	1 ^⓪	1.0 ^⓪	0.0 ^⓪	20 ^⓪	75 ^⓪
2 ^⓪	6/15 ^⓪	15/15 ^⓪	64 ^⓪	6/15 ^⓪	12/15 ^⓪	12/15 ^⓪	94/75 ^⓪	4 ^⓪	1 ^⓪	3.0 ^⓪	2.0 ^⓪	12 ^⓪	67 ^⓪
3 ^⓪	15/15 ^⓪	9/15 ^⓪	64 ^⓪	15/9 ^⓪	30/15 ^⓪	30/15 ^⓪	$\beta_{ad1}:47/15$ $\beta_{ad2}:47/15$ ^⓪	4 ^⓪	2 ^⓪	2.0 ^⓪	1.0 ^⓪	15 ^⓪	92 ^⓪
4 ^⓪	2/15 ^⓪	15/15 ^⓪	64 ^⓪	2/15 ^⓪	4/15 ^⓪	2/15 ^⓪	56/75 ^⓪	4 ^⓪	1 ^⓪	3.0 ^⓪	2.0 ^⓪	17 ^⓪	71 ^⓪
5 ^⓪	15/15 ⁽⁴⁾ ^⓪	15/15 ⁽⁴⁾ ^⓪	64 ^⓪	15/15 ⁽⁴⁾ ^⓪	30/15 ^⓪	24/15 ^⓪	134/15 ^⓪	4 ^⓪	1 ^⓪	1.0 ^⓪	0.0 ^⓪	21 ^⓪	81 ^⓪
Note 1: ΔACK , $\Delta NACK$ and $\Delta CQI=8$ $A_{hs} = \beta_{hs}/\beta_c = 30/15$ $\beta_{hs} = 30/15 * \beta_c$ Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference ^⓪ Note 3 : For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$ ^⓪ Note 4 : For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$ ^⓪ Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g ^⓪ Note 6: β_{ad} can not be set directly; it is set by Absolute Grant Value. ^⓪													

Table 6 : Subtests for UMTS Release 6 HSUPA

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI(ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	10	2SF2&2SF	11484	5.76
	4	4	2	4	20000	2.00
7 (No DPDCH)	4	8	2	2SF2&2SF	22996	?
	4	4	10	4	20000	?
NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4. UE categories 1 to 6 support QPSK only. UE category 7 supports QPSK and 16QAM. (TS25.306-7.3.0).						

Table 7 : HSUPA UE category

d) HSPA+

SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode. Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_{c} (Note3)	β_{d}	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105
Note 1: $\Delta_{\text{ACK}}, \Delta_{\text{NACK}}$ and $\Delta_{\text{CQI}} = 30/15$ with $\beta_{\text{HS}} = 30/15 * \beta_{\text{c}}$. Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0). Note 3: DPDCH is not configured, therefore the β_{c} is set to 1 and $\beta_{\text{d}} = 0$ by default. Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value. Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.											

5) 3G SAR Test Reduction Procedure

According to KDB 941225D01, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

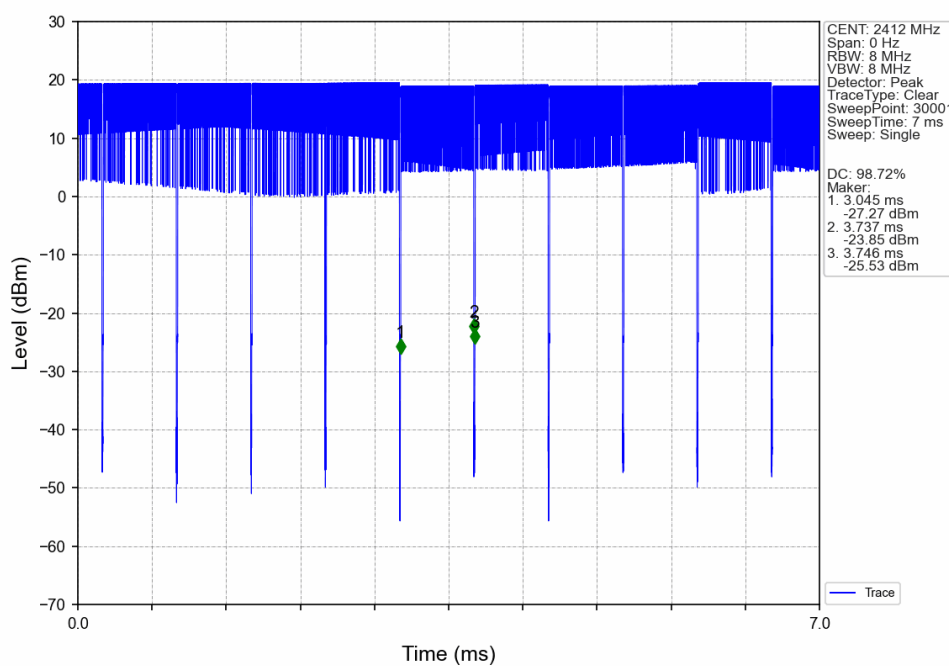
7.1.2 WIFI Test Configuration

A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

7.1.2.1 Duty cycle

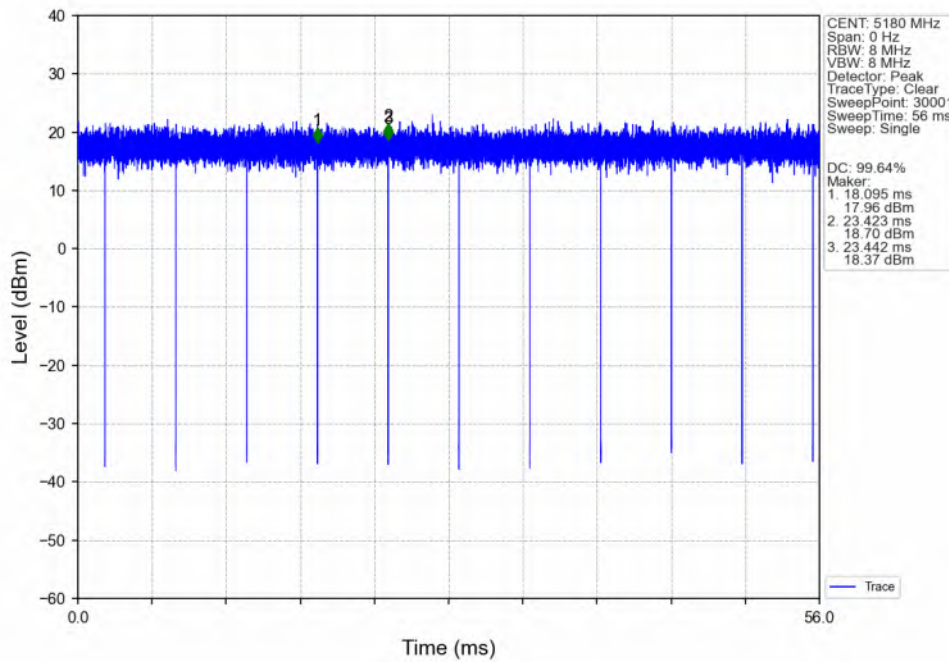
1) Wi-Fi 2.4GHz 802.11b:

Duty cycle=98.72%



2) Wi-Fi 5GHz 802.11a/n20:

Duty cycle=99.64%



7.1.2.2 Initial Test Position SAR Test Reduction Procedure

DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:

- 1) . When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other (remaining) test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band. SAR is also not required for that exposure configuration in the subsequent test configuration(s).
- 2) . When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest extrapolated or estimated 1-g SAR conditions determined by area scans or next closest/smallest test separation distance and maximum RF coupling test positions based on manufacturer justification, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg or all required test positions (left, right, touch, tilt or subsequent surfaces and edges) are tested.
- 3) . For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested. a) Additional power measurements may be required for this step, which should be limited to those necessary for identifying the subsequent highest output power channels.

7.1.2.3 Subsequent Test Configuration Procedures

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. The initial test position procedure is applied to next to the ear, UMPC mini-tablet and hotspot mode configurations. When the same maximum output power is specified for multiple transmission modes, additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. The subsequent test configuration and SAR measurement procedures are described in the following.

- 1) . When SAR test exclusion provisions of KDB Publication 447498 are applicable and SAR measurement is not required for the initial test configuration, SAR is also not required for the next highest maximum output power transmission mode subsequent test configuration(s) in that frequency band or aggregated band and exposure configuration.
- 2) . When the highest reported SAR for the initial test configuration (when applicable, include subsequent highest output channels), according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.
- 3) . The number of channels in the initial test configuration and subsequent test configuration can be different due to differences in channel bandwidth. When SAR measurement is required for a subsequent test configuration and the channel bandwidth is smaller than that in the initial test configuration, all channels in the subsequent test configuration that overlap with the larger bandwidth channel tested in the initial test configuration should be used to determine the highest maximum output power channel. This step requires additional power measurement to identify the highest maximum output power channel in the subsequent test configuration to determine SAR test reduction.
 - a) SAR should first be measured for the channel with highest measured output power in the subsequent test configuration.
 - b) SAR for subsequent highest measured maximum output power channels in the subsequent test configuration is required only when the reported SAR of the preceding higher maximum output power channel(s) in the subsequent test configuration is > 1.2 W/kg or until all required channels are tested. i) For channels with the same measured maximum output power, SAR should be measured using the channel closest to the center frequency of the larger channel bandwidth channel in the initial test configuration.
- 4) . SAR measurements for the remaining highest specified maximum output power OFDM transmission mode configurations that have not been tested in the initial test configuration (highest maximum output) or subsequent test configuration(s) (subsequent next highest maximum output power) is determined by recursively applying the subsequent test configuration procedures in this section to the remaining configurations according to the following:
 - a) replace "subsequent test configuration" with "next subsequent test configuration" (i.e., subsequent next highest specified maximum output power configuration)
 - b) replace "initial test configuration" with "all tested higher output power configurations"

7.1.2.4 2.4 GHz WiFi SAR Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions. When SAR measurement is required for an OFDM configuration, the initial test configuration, subsequent test configuration and initial test position procedures are applied. The SAR test exclusion requirements for 802.11g/n OFDM configurations are described in following.

- **802.11b DSSS SAR Test Requirements**

SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

- 1) . When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) . When the reported SAR is > 0.8 W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

- **2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements**

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3, including sub-sections). SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) . When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) . When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

- **SAR Test Requirements for OFDM configurations**

When SAR measurement is required for 802.11 g/n OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

7.1.2.5 5 GHz WiFi SAR Procedures

- **U-NII-1 and U-NII-2A Bands**

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following:

- 1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
- 2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.
- 3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is > 1.2 W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

- **U-NII-2C and U-NII-3 Bands**

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. when Terminal Doppler Weather Radar (TDWR) restriction applies, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

- 1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
- 2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
- 3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
- 4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n. After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.
 - a) The channel closest to mid-band frequency is selected for SAR measurement.
 - b) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

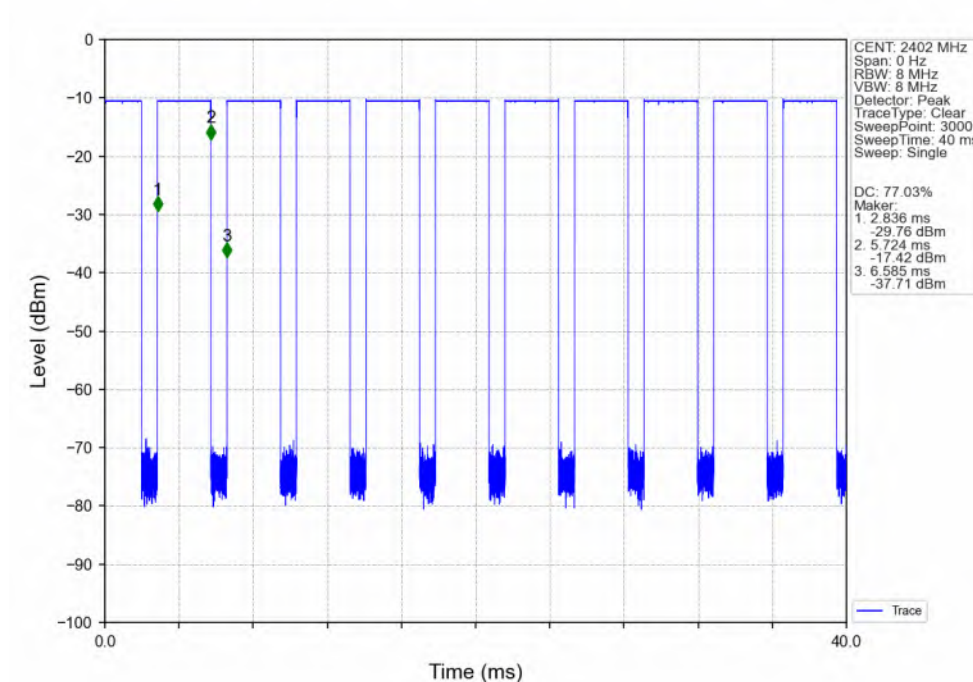
• SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 a/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

7.1.3 BT Test Configuration

For the Bluetooth SAR tests, a communication link is set up with the test mode software for BT mode test. Bluetooth USES frequency hopping technology to divide the transmitted data into packets and transmit the packets respectively through 79 designated Bluetooth channels, frequency hops at 1600 hops/second per the Bluetooth standard, the EUT is operated at the RF continuous emission mode.

BT DH5 Duty Cycle=77.03%



7.1.4 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The Radio Communication Analyzer was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

TDD LTE test consideration

For Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

SAR was tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7.

LTE TDD Band support 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.

Frame structure type 2:

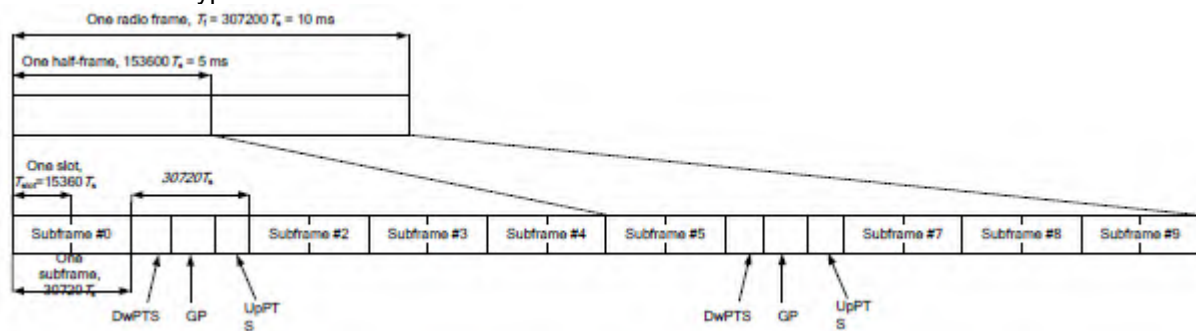


Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	6592.Ts	2192.Ts	2560.Ts	7680.Ts	2192.Ts	2560.Ts
1	19760.Ts			20480.Ts		
2	21952.Ts			23040.Ts		
3	24144.Ts			25600.Ts		
4	26336.Ts	4384.Ts	5120.Ts	7680.Ts	4384.Ts	5120.Ts
5	6592.Ts			20480.Ts		
6	19760.Ts			23040.Ts		
7	21952.Ts			25600.Ts		
8	24144.Ts			-	-	-
9	13168.Ts			-	-	-

Table 4.2-2: Uplink-downlink configurations.

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Calculated Duty Cycle=[Extended cyclic prefix in uplink x (Ts) x # of S + # of U]/10ms

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-point Periodicity	Subframe Number										Calculated Duty Cycle (%)
		0	1	2	3	4	5	6	7	8	9	
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.33
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.33
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.33
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.67
4	10 ms	D	S	U	U	D	D	D	D	D	D	21.67
5	10 ms	D	S	U	D	D	D	D	D	D	D	11.67
6	5 ms	D	S	U	U	U	D	S	U	U	D	53.33

A) Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

B) MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

Modulation	Channel bandwidth/Transmission bandwidth						MPR (dB)
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	0
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16QAM	> 5	> 4	> 8	> 12	> 16	> 18	2
64QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	2
64QAM	> 5	> 4	> 8	> 12	> 16	> 18	3
256QAM	≥ 1						5

C) A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

2) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

4) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is $> \frac{1}{2}$ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

E) Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is $> \frac{1}{2}$ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

F) LTE CA additional specification

The device supports intra-band contiguous and inter-band discontinuous uplink and downlink LTE Carrier Aggregation (CA). When carrier aggregation applies, implementation and measurement details for the following are necessary.

- a) Intra-band carrier aggregation requirements for uplink.
- b) Intra-band and inter-band carrier aggregation requirements for downlink.

The downlink LTE CA test is not required since the maximum output power for downlink LTE CA was not more than 0.25dB higher than the maximum output power for without downlink LTE CA.

SAR test procedure for intra-band contiguous UL LTE CA as below:

1) Maximum output power is measured for each UL CA configuration for the required test channels described in KDB 941225 D05

- UL PCC configuration is determined by the required test channel
- SCC and subsequent CCs are added alternatively to either side of the PCC or within the transmission band for channels at the ends of a frequency band.

2) SAR for UL CA is required in each exposure condition and frequency band combination

3) For this device, as the maximum output for Intra-band uplink LTE CA is $\leq$ standalone LTE mode (without CA),

- PCC is configured according to the highest standalone SAR configuration tested.
- SCC and subsequent CCs are configured according to procedures used for power measurement and parameters (BW, RB etc.) similar to that used for the PCC

4) When the reported SAR for UL CA configuration, described above, is > 1.2 W/kg, UL CA SAR is also required for all required test channels (PCC based)

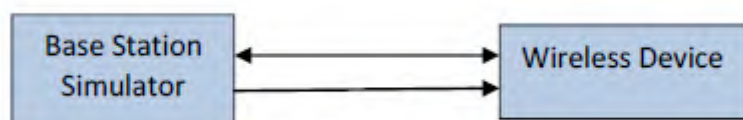
5) UL CA SAR is also required for standalone SAR configurations > 1.2 W/kg when they are scaled to the UL CA power level.

6) General PCC and SCC configuration selection procedure

- PCC uplink channel, channel bandwidth, modulation and RB configurations were selected based on section C3)b)ii) of KDB 941225 D05 V01r02. All LTE bandwidth conducted powers needed for PCC uplink configuration selection can be found in appendix E. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.

- To maximize aggregated bandwidth, highest channel bandwidth available for that CA combination was selected for SCC. For inter-band CA, the SCC downlink channels were selected near the middle of their transmission bands. For contiguous intra-band CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521. For non-contiguous intra-band CA, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.

All selected PCC and SCC(s) remained fully within the uplink/downlink transmission band of the respective component carrier.



DL CA Power Measurement Setup

- c) Inter-band carrier aggregation requirements for uplink

For Inter band Uplink CA SAR, as the existing SAR test system cannot test the multiple different frequency bands simultaneous Transmission SAR at the same time, we suggest that the conservative “max + max” multi-Tx and SAR scaling method can be used to evaluate the inter-band Uplink CA SAR from standalone SAR test results of each LTE component band and the conservative “max + max” multi-Tx method to combine the scaled SAR value from each Inter band Uplink CA component band as the inter-band Uplink CA SAR.

The Inter band Uplink CA as below table:

Band/Antenna		LTE Band 2		LTE Band 4		LTE Band 5		LTE Band 12		LTE Band 14	
		Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1
LTE Band 5	Ant0	√	√								
	Ant1	√	√								
LTE Band 12	Ant0	√	√	√	√						
	Ant1	√	√	√	√						
LTE Band 30	Ant0					√	√	√	√	√	√
	Ant1					√	√	√	√	√	√
LTE Band 66	Ant0					√	√	√	√		
	Ant1					√	√	√	√		

7.1.5 NR Band Test Configuration

1. The general information supported by the NR band is as following table:

Band			n2	n5	n7	n14	n30	n66	n77
Modulation	DFT-s-OFDM	PI/2 BPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	CP-OFDM	QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Max Duty cycle		100%	100%	100%	100%	100%	100%	100%

Band	SCS	Bandwidth												
		5Mhz	10Mhz	15Mhz	20Mhz	25Mhz	30Mhz	40Mhz	50Mhz	60Mhz	70Mhz	80Mhz	90Mhz	100Mhz
n2	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n5	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n7	15KHZ	Yes	Yes	Yes	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
n14	15KHZ	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n30	15KHZ	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n66	15KHZ	Yes	Yes	Yes	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
n77	30KHZ	N/A	Yes	N/A	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

2. For 5G NR test procedure was following step similar FCC KDB 941225 D05:

- a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 3GPP 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
- b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, for PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth.
- c. SAR testing start with the largest SCS and largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
- d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
- e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
- f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
- g. Smaller SCS/bandwidth output power for each RB allocation configuration for this device will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device.

3. MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS 38.101-1 Section 6.2.2 under Table 6.2.2 -1 and Table 6.2.2 -2.

Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 ²
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		
NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability <i>powerBoosting-pi2BPSK</i> and if the IE <i>powerBoostPi2BPSK</i> is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.				
NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE <i>powerBoostPi2BPSK</i> is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.				

Table 6.2.2-2 Maximum power reduction (MPR) for power class 2

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5	≤ 0.5	0
	QPSK	≤ 3.5	≤ 1	0
	16 QAM	≤ 3.5	≤ 2	≤ 1
	64 QAM	≤ 3.5	≤ 2.5	
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3.5	≤ 3	≤ 1.5
	16 QAM	≤ 3.5	≤ 3	≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

4. For FDD NR Band operation does not have the fixed UL/DL frame structure, but during the transmitting/receiving it can be operated in the slot structure of 100% UL duty cycle, we are proposing the conservative way to evaluate SAR at 100% duty cycle. For the purpose of test NR Band standalone SAR, and also test SAR level at 100% TX duty cycle.

5. For 5G NR Sub6GHz SISO Mode, SAR Test plan as below:

For 5G NR NSA mode with the same UL EN_DC combination but different DL EN_DC combinations, eg: EN-DC configuration: UL DC_7A_n5 (UL two bands) with DL DC_7C_n5 (DL two bands)

a) The UL EN-DC configuration, including the Tx antenna configuration, RF path, the channel bandwidth and other operating parameters are the same.

b) The maximum output power, including tolerance, for the UL EN-DC configuration with DL two or more bands must be ≤ the same UL EN-DC configuration with DL two bands only to qualify for the SAR test exclusion.

6. For EN-DC SAR

For EN-DC mode, as the existing SAR test system cannot test the multiple different frequency bands simultaneous Transmission SAR at the same time, we suggest that the conservative “max + max” multi-Tx and SAR scaling method can be used to evaluate the inter-band Uplink EN-DC SAR from standalone SAR test results of each LTE and NR EN-DC component band and the conservative “max + max” multi-Tx method to combine the scaled SAR value from each EN-DC component band as the inter-band Uplink EN-DC SAR. All Simultaneous Transmission Scenarios will be evaluated independently in the final SAR report. When the reported SAR for and EN DC configuration is greater than 1.2 W/kg, EN DC SAR is also required for other NR based test channels. EN DC SAR is also required for standalone NR configurations greater than 1.2 W/kg when scaled to the EN DC power level.

LTE+NR Band operations are possible only with LTE under EN-DC mode and the operations are possible as following table:

Band/Antenna		LTE Band 2		LTE Band 5		LTE Band 12		LTE Band 14		LTE Band 30		LTE Band 66	
		Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1
n2	Ant0			√	√	√	√	√	√	√	√	√	√
	Ant1			√	√	√	√	√	√	√	√	√	√
n5	Ant0	√	√							√	√	√	√
	Ant1	√	√							√	√	√	√
n66	Ant0	√	√			√	√	√	√	√	√		
	Ant1	√	√			√	√	√	√	√	√		
n77	Ant2	√	√	√	√	√	√	√	√	√	√	√	√
	Ant4	√	√	√	√	√	√	√	√	√	√	√	√

7. Inter-band carrier aggregation requirements for uplink

For Inter band Uplink CA SAR, as the existing SAR test system cannot test the multiple different frequency bands simultaneous Transmission SAR at the same time, we suggest that the conservative “max + max” multi-Tx and SAR scaling method can be used to evaluate the inter-band Uplink CA SAR from standalone SAR test results of each NR component band and the conservative “max + max” multi-Tx method to combine the scaled SAR value from each Inter band Uplink CA component band as the inter-band Uplink CA SAR.

The Inter band Uplink CA as below table:

Band/Antenna		N2		N5		N14		N30		N66	
		Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1	Ant0	Ant1
n2	Ant0		√							√	√
	Ant1	√								√	√
n5	Ant0	√	√								
	Ant1	√	√								
n14	Ant0	√	√								
	Ant1	√	√								
n30	Ant0	√	√	√	√	√	√				
	Ant1	√	√	√	√	√	√				
n66	Ant0	√	√	√	√	√	√	√	√		
	Ant1	√	√	√	√	√	√	√	√		
n77	Ant2	√	√	√	√	√	√	√	√	√	√
	Ant4	√	√	√	√	√	√	√	√	√	√

8 Test Result

8.1 DUT Antenna Locations (Back View)

The DUT Antenna Locations can be referred to Appendix D

Note:

- 1) The test device is a smart phone, and the diagonal distance of this device is $\geq 160\text{mm}$ but $\leq 200\text{mm}$, so it is a Phablet per KDB 648474 D04.
- 2) The distance between the antennas and the sides of the EUT show as below table, when the antenna-to-edge distance is greater than 25mm, such position does not need to be SAR tested.

EUT Sides for SAR Testing							
Mode	Exposure Condition	Front	Back	Left	Right	Top	Bottom
Ant 0	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	Yes	Yes	No
Ant 1	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	Yes	No	Yes
Ant 2	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	No	No	No
Ant 4	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	No	Yes	No
Ant 6	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	Yes	Yes	No
Ant 7	Hotspot/Product specific 10g SAR	Yes	Yes	Yes	No	No	Yes

8.2 Measurement of RF Conducted Power

8.2.1 RF Conducted Power reduction specification

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation

- 1) A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered.
- 2) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions.
- 3) This device uses the receiver to indicate whether the user is making a voice call in head scenario or not. The selection between head and body power levels is based on the receiver detection mechanism. A fixed level power reduction is applied for some frequency bands when the audio receiver is on.
- 4) The proximity sensor is used to indicate when the device is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of main antenna to ensure SAR compliance.

8.2.2 RF Conducted Power Data

The detailed power data can be referred to Appendix E Conducted RF Output Power.

8.3 Measurement of SAR Data

Note:

- 1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
- 2) Per KDB 447498 D04, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - $\leq 0.8\text{W/kg}$ for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is $\leq 100\text{MHz}$.
 - $\leq 0.6\text{ W/kg}$ or 1.5 W/kg , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
 - $\leq 0.4\text{ W/kg}$ or 1.0 W/kg , for 1-g or 10-g respectively, when the transmission band is $\geq 200\text{ MHz}$.
- 3) The device does not support DTM function.
- 4) For WiFi 5G,U-NII-2A and U-NII-2C band does not support hotspot function.
- 5) For WiFi 6E does not support hotspot function.
- 6) For WiFi SAR test, as the highest reported SAR is smaller than 1.2 W/kg , and the tune-up of the other 802.11 modes are not higher than SAR measurement mode, therefore the adjusted SAR is $\leq 1.2\text{ W/kg}$ for other 802.11 modes, SAR test for the other 802.11 modes are not required. For Product specific 10gSAR the highest reported SAR is smaller than 3.0 W/kg , SAR test for the other 802.11 modes are also not required.
- 7) WIFI 6E SAR is measured by using 6-7GHz parameters per IEC/IEEE 62209-1528:2020.
- 8) NFC is different from the working scenario of WWAN/WIFI(Head/Body-worn/Hotspot) and does not participate in the simultaneous transmission.
- 9) According to TCB workshop (Overlapping LTE Bands): SAR in LTE band 4/38 is respectively covered by LTE band 66/41. Because the frequency range is similar, the maximum tuning limit is the same, and the channel bandwidth and other operating parameters for the smaller band is fully supported by the larger band.
- 10) The simultaneous transmission is reduced by XdB (the detailed power reduced can be referred to Conducted Power Appendix E), therefore, those SAR of simultaneous transmission mode are scaled based on standalone SAR results.

8.3.1 SAR Result of WCDMA Band II

WCDMA Band II SAR Test Record										
Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Receiver on Head Test Data										
Left cheek	RMC	9400/1880	1:1	0.847	-0.18	21.75	23.00	1.334	1.130	22.3
Left cheek-Repeat SAR	RMC	9400/1880	1:1	0.839	0.11	21.75	23.00	1.334	1.119	22.3
Left cheek	RMC	9262/1852.4	1:1	0.816	0.03	21.67	23.00	1.358	1.108	22.3
Left cheek	RMC	9538/1907.6	1:1	0.805	0.07	21.62	23.00	1.374	1.106	22.3
Left tilted	RMC	9400/1880	1:1	0.643	0.06	21.75	23.00	1.334	0.858	22.3
Left tilted	RMC	9262/1852.4	1:1	0.609	0.03	21.67	23.00	1.358	0.827	22.3
Left tilted	RMC	9538/1907.6	1:1	0.621	0.12	21.62	23.00	1.374	0.853	22.3
Right cheek	RMC	9400/1880	1:1	0.470	-0.05	21.75	23.00	1.334	0.627	22.3
Right tilted	RMC	9400/1880	1:1	0.408	0.01	21.75	23.00	1.334	0.544	22.3
Body worn Test data(Separate 5mm)										
Front side	RMC	9400/1880	1:1	0.704	0.05	23.31	25.00	1.476	1.039	22.3
Front side	RMC	9262/1852.4	1:1	0.659	0.09	23.21	25.00	1.510	0.995	22.3
Front side	RMC	9538/1907.6	1:1	0.666	0.01	23.13	25.00	1.538	1.024	22.3
Back side	RMC	9400/1880	1:1	0.771	-0.06	23.31	25.00	1.476	1.138	22.3
Back side	RMC	9262/1852.4	1:1	0.729	-0.03	23.21	25.00	1.510	1.101	22.3
Back side	RMC	9538/1907.6	1:1	0.711	0.02	23.13	25.00	1.538	1.094	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.370	0.07	23.31	25.00	1.476	0.546	22.3
Back side	RMC	9400/1880	1:1	0.538	0.18	23.31	25.00	1.476	0.794	22.3
Left side	RMC	9400/1880	1:1	0.131	0.11	23.31	25.00	1.476	0.193	22.3
Right side	RMC	9400/1880	1:1	0.377	-0.10	23.31	25.00	1.476	0.556	22.3
Top side	RMC	9400/1880	1:1	0.137	0.05	23.31	25.00	1.476	0.202	22.3
Ant 1 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data										
Left cheek	RMC	9400/1880	1:1	0.129	0.06	23.32	25.00	1.472	0.190	22.3
Left tilted	RMC	9400/1880	1:1	0.000	-0.07	23.32	25.00	1.472	0.000	22.3
Right cheek	RMC	9400/1880	1:1	0.166	0.05	23.32	25.00	1.472	0.244	22.3
Right tilted	RMC	9400/1880	1:1	0.056	-0.11	23.32	25.00	1.472	0.082	22.3
Sensor on Body worn Test data(Separate 5mm)										
Front side	RMC	9400/1880	1:1	0.790	0.11	22.34	24.00	1.466	1.158	22.3
Front side	RMC	9262/1852.4	1:1	0.756	0.08	22.17	24.00	1.524	1.152	22.3
Front side	RMC	9538/1907.6	1:1	0.731	-0.01	22.21	24.00	1.510	1.104	22.3
Back side	RMC	9400/1880	1:1	0.642	0.02	22.34	24.00	1.466	0.941	22.3
Back side	RMC	9262/1852.4	1:1	0.608	0.03	22.17	24.00	1.524	0.927	22.3
Back side	RMC	9538/1907.6	1:1	0.601	0.08	22.21	24.00	1.510	0.908	22.3
Sensor off Body worn Test data										
Front side-21mm	RMC	9400/1880	1:1	0.234	0.01	23.32	25.00	1.472	0.344	22.3
Back side-18mm	RMC	9400/1880	1:1	0.225	-0.08	23.32	25.00	1.472	0.331	22.3
Hotspot Test data(Separate 10mm)										
Front side	RMC	9400/1880	1:1	0.590	0.03	22.34	24.00	1.466	0.865	22.3
Front side	RMC	9262/1852.4	1:1	0.536	-0.01	22.17	24.00	1.524	0.817	22.3
Front side	RMC	9538/1907.6	1:1	0.525	0.03	22.21	24.00	1.510	0.793	22.3

Back side	RMC	9400/1880	1:1	0.473	-0.04	22.34	24.00	1.466	0.693	22.3
Left side	RMC	9400/1880	1:1	0.120	0.06	22.34	24.00	1.466	0.176	22.3
Right side	RMC	9400/1880	1:1	0.189	-0.01	22.34	24.00	1.466	0.277	22.3
Bottom side	RMC	9400/1880	1:1	0.719	0.06	22.34	24.00	1.466	1.054	22.3
Bottom side	RMC	9262/1852.4	1:1	0.678	0.08	22.17	24.00	1.524	1.033	22.3
Bottom side	RMC	9538/1907.6	1:1	0.652	-0.11	22.21	24.00	1.510	0.985	22.3

Test Position	Test ch./Freq.	Measured SAR (W/kg)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
Left cheek	9400/1880	0.847	0.839	1.010	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

5) The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds. The repeated measurement results must be clearly identified in the SAR report.

8.3.2 SAR Result of WCDMA Band IV

WCDMA Band IV SAR Test Record										
Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Receiver on Head Test Data										
Left cheek	RMC	1412/1732.4	1:1	0.942	-0.04	21.58	22.50	1.236	1.164	22.4
Left cheek-Repeat SAR	RMC	1412/1732.4	1:1	0.937	0.05	21.58	22.50	1.236	1.158	22.4
Left cheek	RMC	1312/1712.4	1:1	0.903	-0.17	21.43	22.50	1.279	1.155	22.4
Left cheek	RMC	1513/1752.6	1:1	0.922	0.18	21.50	22.50	1.259	1.161	22.4
Left tilted	RMC	1412/1732.4	1:1	0.595	-0.01	21.58	22.50	1.236	0.735	22.4
Right cheek	RMC	1412/1732.4	1:1	0.596	-0.06	21.58	22.50	1.236	0.737	22.4
Right tilted	RMC	1412/1732.4	1:1	0.536	0.15	21.58	22.50	1.236	0.662	22.4
Body worn Test data(Separate 5mm)										
Front side	RMC	1412/1732.4	1:1	0.639	-0.14	23.57	25.00	1.390	0.888	22.4
Front side	RMC	1312/1712.4	1:1	0.602	0.05	23.43	25.00	1.435	0.864	22.4
Front side	RMC	1513/1752.6	1:1	0.611	0.19	23.47	25.00	1.422	0.869	22.4
Back side	RMC	1412/1732.4	1:1	0.815	0.09	23.57	25.00	1.390	1.133	22.4
Back side	RMC	1312/1712.4	1:1	0.789	0.17	23.43	25.00	1.435	1.132	22.4
Back side	RMC	1513/1752.6	1:1	0.782	-0.18	23.47	25.00	1.422	1.112	22.4
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.409	-0.09	23.57	25.00	1.390	0.569	22.4
Back side	RMC	1412/1732.4	1:1	0.485	-0.12	23.57	25.00	1.390	0.674	22.4
Left side	RMC	1412/1732.4	1:1	0.125	-0.18	23.57	25.00	1.390	0.174	22.4
Right side	RMC	1412/1732.4	1:1	0.415	0.02	23.57	25.00	1.390	0.577	22.4
Top side	RMC	1412/1732.4	1:1	0.186	-0.09	23.57	25.00	1.390	0.259	22.4
Ant 1 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data										
Left cheek	RMC	1412/1732.4	1:1	0.235	0.13	24.18	25.00	1.208	0.284	22.4
Left tilted	RMC	1412/1732.4	1:1	0.069	-0.17	24.18	25.00	1.208	0.083	22.4
Right cheek	RMC	1412/1732.4	1:1	0.401	-0.12	24.18	25.00	1.208	0.484	22.4
Right tilted	RMC	1412/1732.4	1:1	0.110	-0.08	24.18	25.00	1.208	0.133	22.4
Sensor on Body worn Test data(Separate 5mm)										
Front side	RMC	1412/1732.4	1:1	0.951	0.18	23.67	24.50	1.211	1.152	22.4
Front side-Repeat SAR	RMC	1412/1732.4	1:1	0.944	0.01	23.67	24.50	1.211	1.143	22.4
Front side	RMC	1312/1712.4	1:1	0.911	-0.13	23.54	24.50	1.247	1.136	22.4
Front side	RMC	1513/1752.6	1:1	0.923	-0.10	23.61	24.50	1.227	1.133	22.4
Back side	RMC	1412/1732.4	1:1	0.806	0.10	23.67	24.50	1.211	0.976	22.4
Back side	RMC	1312/1712.4	1:1	0.769	0.10	23.54	24.50	1.247	0.959	22.4
Back side	RMC	1513/1752.6	1:1	0.782	0.00	23.61	24.50	1.227	0.960	22.4
Sensor off Body worn Test data										
Front side-21mm	RMC	1412/1732.4	1:1	0.197	0.12	24.18	25.00	1.208	0.238	22.4
Back side-18mm	RMC	1412/1732.4	1:1	0.203	0.17	24.18	25.00	1.208	0.245	22.4
Hotspot Test data(Separate 10mm)										
Front side	RMC	1412/1732.4	1:1	0.559	0.02	23.67	24.50	1.211	0.677	22.4
Back side	RMC	1412/1732.4	1:1	0.494	-0.17	23.67	24.50	1.211	0.598	22.4
Left side	RMC	1412/1732.4	1:1	0.038	-0.16	23.67	24.50	1.211	0.046	22.4
Right side	RMC	1412/1732.4	1:1	0.357	0.09	23.67	24.50	1.211	0.432	22.4

Bottom side	RMC	1412/1732.4	1:1	0.674	0.01	23.67	24.50	1.211	0.816	22.4
Bottom side	RMC	1312/1712.4	1:1	0.643	-0.18	23.54	24.50	1.247	0.802	22.4
Bottom side	RMC	1513/1752.6	1:1	0.650	0.16	23.61	24.50	1.227	0.798	22.4

Test Position	Test ch./Freq.	Measured SAR (W/kg)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
Left cheek	1412/1732.4	0.942	0.937	1.005	N/A	N/A
Front side-5mm	1412/1732.4	0.951	0.944	1.007	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

5) The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds. The repeated measurement results must be clearly identified in the SAR report.

8.3.3 SAR Result of WCDMA Band V

WCDMA Band V SAR Test Record										
Ant 0 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Receiver on Head Test Data										
Left cheek	RMC	4182/836.4	1:1	0.637	-0.16	22.41	24.00	1.442	0.919	22.5
Left cheek	RMC	4132/826.4	1:1	0.625	-0.11	22.35	24.00	1.462	0.914	22.5
Left cheek	RMC	4233/846.6	1:1	0.631	-0.03	22.35	24.00	1.462	0.923	22.5
Left tilted	RMC	4182/836.4	1:1	0.686	0.03	22.41	24.00	1.442	0.989	22.5
Left tilted	RMC	4132/826.4	1:1	0.671	0.02	22.35	24.00	1.462	0.981	22.5
Left tilted	RMC	4233/846.6	1:1	0.673	0.15	22.35	24.00	1.462	0.984	22.5
Right cheek	RMC	4182/836.4	1:1	0.492	0.17	22.41	24.00	1.442	0.709	22.5
Right tilted	RMC	4182/836.4	1:1	0.553	0.01	22.41	24.00	1.442	0.797	22.5
Body worn Test data(Separate 5mm)										
Front side	RMC	4182/836.4	1:1	0.403	0.14	23.19	25.00	1.517	0.611	22.5
Back side	RMC	4182/836.4	1:1	0.415	0.03	23.19	25.00	1.517	0.630	22.5
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.225	0.05	23.19	25.00	1.517	0.341	22.5
Back side	RMC	4182/836.4	1:1	0.218	0.07	23.19	25.00	1.517	0.331	22.5
Left side	RMC	4182/836.4	1:1	0.064	-0.06	23.19	25.00	1.517	0.097	22.5
Right side	RMC	4182/836.4	1:1	0.138	-0.10	23.19	25.00	1.517	0.209	22.5
Top side	RMC	4182/836.4	1:1	0.147	0.02	23.19	25.00	1.517	0.223	22.5
Ant 1 Test Record										
Test position	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data										
Left cheek	RMC	4182/836.4	1:1	0.675	-0.10	23.53	25.00	1.403	0.947	22.5
Left cheek	RMC	4132/826.4	1:1	0.651	-0.17	23.43	25.00	1.435	0.934	22.5
Left cheek	RMC	4233/846.6	1:1	0.669	0.19	23.45	25.00	1.429	0.956	22.5
Left tilted	RMC	4182/836.4	1:1	0.334	-0.01	23.53	25.00	1.403	0.469	22.5
Right cheek	RMC	4182/836.4	1:1	0.595	0.02	23.53	25.00	1.403	0.835	22.5
Right cheek	RMC	4132/826.4	1:1	0.579	0.10	23.43	25.00	1.435	0.831	22.5
Right cheek	RMC	4233/846.6	1:1	0.582	-0.13	23.45	25.00	1.429	0.832	22.5
Right tilted	RMC	4182/836.4	1:1	0.323	0.00	23.53	25.00	1.403	0.453	22.5
Body worn Test data(Separate 5mm)										
Front side	RMC	4182/836.4	1:1	0.569	0.15	23.53	25.00	1.403	0.798	22.5
Back side	RMC	4182/836.4	1:1	0.555	-0.06	23.53	25.00	1.403	0.779	22.5
Hotspot Test data(Separate 10mm)										
Front side	RMC	4182/836.4	1:1	0.371	0.19	23.53	25.00	1.403	0.521	22.5
Back side	RMC	4182/836.4	1:1	0.356	0.05	23.53	25.00	1.403	0.499	22.5
Left side	RMC	4182/836.4	1:1	0.342	-0.14	23.53	25.00	1.403	0.480	22.5
Right side	RMC	4182/836.4	1:1	0.198	-0.03	23.53	25.00	1.403	0.278	22.5
Bottom side	RMC	4182/836.4	1:1	0.182	-0.15	23.53	25.00	1.403	0.255	22.5

8.3.4 SAR Result of LTE Band 2

LTE Band 2 SAR Test Record											
Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Receiver on Head Test Data (1RB)											
Left cheek	20	QPSK 1_0	18900/1880	1:1	0.950	0.13	21.63	22.50	1.222	1.161	22.3
Left cheek-Repeat SAR	20	QPSK 1_0	18900/1880	1:1	0.946	-0.11	21.63	22.50	1.222	1.156	22.3
Left cheek	20	QPSK 1_0	18700/1860	1:1	0.919	0.12	21.58	22.50	1.236	1.136	22.3
Left cheek	20	QPSK 1_0	19100/1900	1:1	0.925	0.15	21.55	22.50	1.245	1.152	22.3
Left tilted	20	QPSK 1_0	18900/1880	1:1	0.734	0.08	21.63	22.50	1.222	0.897	22.3
Left tilted	20	QPSK 1_0	18700/1860	1:1	0.706	0.17	21.58	22.50	1.236	0.873	22.3
Left tilted	20	QPSK 1_0	19100/1900	1:1	0.711	0.08	21.55	22.50	1.245	0.885	22.3
Right cheek	20	QPSK 1_0	18900/1880	1:1	0.529	-0.04	21.63	22.50	1.222	0.646	22.3
Right tilted	20	QPSK 1_0	18900/1880	1:1	0.378	0.00	21.63	22.50	1.222	0.462	22.3
Receiver on Head Test Data (50%RB)											
Left cheek	20	QPSK 50_0	18900/1880	1:1	0.784	-0.12	21.60	22.50	1.230	0.964	22.3
Left cheek	20	QPSK 50_0	18700/1860	1:1	0.761	-0.02	21.43	22.50	1.279	0.973	22.3
Left cheek	20	QPSK 50_0	19100/1900	1:1	0.758	0.18	21.48	22.50	1.265	0.959	22.3
Left tilted	20	QPSK 50_0	18900/1880	1:1	0.597	-0.13	21.60	22.50	1.230	0.734	22.3
Right cheek	20	QPSK 50_0	18900/1880	1:1	0.425	0.14	21.60	22.50	1.230	0.523	22.3
Right tilted	20	QPSK 50_0	18900/1880	1:1	0.299	-0.17	21.60	22.50	1.230	0.368	22.3
Receiver on Head Test Data (100%RB)											
Left cheek	20	QPSK 100_0	18900/1880	1:1	0.657	-0.07	21.62	22.50	1.225	0.805	22.3
Left tilted	20	QPSK 100_0	18900/1880	1:1	0.563	0.08	21.62	22.50	1.225	0.690	22.3
Receiver on Head Evaluate Data (1RB) For Simultaneous											
Left cheek	20	QPSK 1_0	18900/1880	1:1	0.950	0.13	21.63	19.00	0.546	0.519	22.3
Left cheek	20	QPSK 1_0	18700/1860	1:1	0.919	0.12	21.58	19.00	0.552	0.507	22.3
Left cheek	20	QPSK 1_0	19100/1900	1:1	0.925	0.15	21.55	19.00	0.556	0.514	22.3
Left tilted	20	QPSK 1_0	18900/1880	1:1	0.734	0.08	21.63	19.00	0.546	0.401	22.3
Left tilted	20	QPSK 1_0	18700/1860	1:1	0.706	0.17	21.58	19.00	0.552	0.390	22.3
Left tilted	20	QPSK 1_0	19100/1900	1:1	0.711	0.08	21.55	19.00	0.556	0.395	22.3
Right cheek	20	QPSK 1_0	18900/1880	1:1	0.529	-0.04	21.63	19.00	0.546	0.289	22.3
Right tilted	20	QPSK 1_0	18900/1880	1:1	0.378	0.00	21.63	19.00	0.546	0.206	22.3
Receiver on Head Evaluate Data (50%RB) For Simultaneous											
Left cheek	20	QPSK 50_0	18900/1880	1:1	0.784	-0.12	21.60	19.00	0.550	0.431	22.3
Left cheek	20	QPSK 50_0	18700/1860	1:1	0.761	-0.02	21.43	19.00	0.571	0.435	22.3
Left cheek	20	QPSK 50_0	19100/1900	1:1	0.758	0.18	21.48	19.00	0.565	0.428	22.3
Left tilted	20	QPSK 50_0	18900/1880	1:1	0.597	-0.13	21.60	19.00	0.550	0.328	22.3
Right cheek	20	QPSK 50_0	18900/1880	1:1	0.425	0.14	21.60	19.00	0.550	0.234	22.3
Right tilted	20	QPSK 50_0	18900/1880	1:1	0.299	-0.17	21.60	19.00	0.550	0.164	22.3
Receiver on Head Evaluate Data (100%RB) For Simultaneous											
Left cheek	20	QPSK 100_0	18900/1880	1:1	0.657	-0.07	21.62	19.00	0.547	0.359	22.3
Left tilted	20	QPSK 100_0	18900/1880	1:1	0.563	0.08	21.62	19.00	0.547	0.308	22.3
Sensor on Body worn Test data (Separate 5mm 1RB)											
Front side	20	QPSK 1_0	18900/1880	1:1	0.557	0.19	22.34	23.50	1.306	0.727	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.711	0.03	22.34	23.50	1.306	0.929	22.3
Back side	20	QPSK 1_0	18700/1860	1:1	0.678	-0.14	22.19	23.50	1.352	0.917	22.3
Back side	20	QPSK 1_0	19100/1900	1:1	0.666	-0.05	22.24	23.50	1.337	0.890	22.3
Sensor on Body worn Test data (Separate 5mm 50%RB)											

Front side	20	QPSK 50_0	18900/1880	1:1	0.538	-0.05	21.80	23.00	1.318	0.709	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.678	0.18	21.80	23.00	1.318	0.894	22.3
Back side	20	QPSK 50_0	18700/1860	1:1	0.641	0.06	21.76	23.00	1.330	0.853	22.3
Back side	20	QPSK 50_0	19100/1900	1:1	0.625	0.10	21.71	23.00	1.346	0.841	22.3
Sensor on Body worn Test data (Separate 5mm 100%RB)											
Back side	20	QPSK 100_0	18900/1880	1:1	0.624	0.11	21.78	23.00	1.324	0.826	22.3
Sensor on Body worn Evaluate data (Separate 5mm 1RB) For Simultaneous											
Front side	20	QPSK 1_0	18900/1880	1:1	0.557	0.19	22.34	21.00	0.735	0.409	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.711	0.03	22.34	21.00	0.735	0.523	22.3
Back side	20	QPSK 1_0	18700/1860	1:1	0.678	-0.14	22.19	21.00	0.760	0.515	22.3
Back side	20	QPSK 1_0	19100/1900	1:1	0.666	-0.05	22.24	21.00	0.752	0.501	22.3
Sensor on Body worn Evaluate data (Separate 5mm 50%RB) For Simultaneous											
Front side	20	QPSK 50_0	18900/1880	1:1	0.538	-0.05	21.80	21.00	0.832	0.448	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.678	0.18	21.80	21.00	0.832	0.564	22.3
Back side	20	QPSK 50_0	18700/1860	1:1	0.641	0.06	21.76	21.00	0.839	0.538	22.3
Back side	20	QPSK 50_0	19100/1900	1:1	0.625	0.10	21.71	21.00	0.849	0.531	22.3
Sensor on Body worn Evaluate data (Separate 5mm 100%RB) For Simultaneous											
Back side	20	QPSK 100_0	18900/1880	1:1	0.624	0.11	21.78	21.00	0.836	0.522	22.3
Sensor off Body worn Test data 1RB											
Front side-20mm	20	QPSK 1_0	18900/1880	1:1	0.231	0.08	22.79	24.00	1.321	0.305	22.3
Back side-15mm	20	QPSK 1_0	18900/1880	1:1	0.256	-0.09	22.79	24.00	1.321	0.338	22.3
Sensor off Body worn Test data 50%RB											
Front side-20mm	20	QPSK 50_0	18900/1880	1:1	0.201	0.07	21.80	23.00	1.318	0.265	22.3
Back side-15mm	20	QPSK 50_0	18900/1880	1:1	0.233	0.16	21.80	23.00	1.318	0.307	22.3
Hotspot Test data (Separate 10mm 1RB)											
Front side	20	QPSK 1_0	18900/1880	1:1	0.335	0.15	22.34	23.50	1.306	0.438	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.540	0.02	22.34	23.50	1.306	0.705	22.3
Left side	20	QPSK 1_0	18900/1880	1:1	0.163	-0.04	22.34	23.50	1.306	0.213	22.3
Right side	20	QPSK 1_0	18900/1880	1:1	0.326	-0.06	22.34	23.50	1.306	0.426	22.3
Top side	20	QPSK 1_0	18900/1880	1:1	0.135	-0.09	22.34	23.50	1.306	0.176	22.3
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	18900/1880	1:1	0.276	0.13	21.80	23.00	1.318	0.364	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.427	-0.06	21.80	23.00	1.318	0.563	22.3
Left side	20	QPSK 50_0	18900/1880	1:1	0.130	0.13	21.80	23.00	1.318	0.171	22.3
Right side	20	QPSK 50_0	18900/1880	1:1	0.263	0.02	21.80	23.00	1.318	0.347	22.3
Top side	20	QPSK 50_0	18900/1880	1:1	0.118	0.12	21.80	23.00	1.318	0.156	22.3
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data (1RB)											
Left cheek	20	QPSK 1_0	18900/1880	1:1	0.129	-0.13	22.49	24.00	1.416	0.183	22.3
Left tilted	20	QPSK 1_0	18900/1880	1:1	0.000	0.14	22.49	24.00	1.416	0.000	22.3
Right cheek	20	QPSK 1_0	18900/1880	1:1	0.192	0.18	22.49	24.00	1.416	0.272	22.3
Right tilted	20	QPSK 1_0	18900/1880	1:1	0.061	-0.01	22.49	24.00	1.416	0.086	22.3
Head Test Data (50%RB)											
Left cheek	20	QPSK 50_0	18900/1880	1:1	0.105	-0.02	21.49	23.00	1.416	0.149	22.3
Left tilted	20	QPSK 50_0	18900/1880	1:1	0.000	0.04	21.49	23.00	1.416	0.000	22.3
Right cheek	20	QPSK 50_0	18900/1880	1:1	0.154	-0.06	21.49	23.00	1.416	0.218	22.3
Right tilted	20	QPSK 50_0	18900/1880	1:1	0.053	0.04	21.49	23.00	1.416	0.075	22.3
Body worn Test data (Separate 5mm 1RB)											
Front side	20	QPSK 1_0	18900/1880	1:1	0.634	0.19	22.49	24.00	1.416	0.898	22.3

Front side	20	QPSK 1_0	18700/1860	1:1	0.611	0.00	22.35	24.00	1.462	0.893	22.3
Front side	20	QPSK 1_0	19100/1900	1:1	0.623	-0.02	22.39	24.00	1.449	0.903	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.605	-0.18	22.49	24.00	1.416	0.857	22.3
Back side	20	QPSK 1_0	18700/1860	1:1	0.589	0.15	22.35	24.00	1.462	0.861	22.3
Back side	20	QPSK 1_0	19100/1900	1:1	0.591	0.11	22.39	24.00	1.449	0.856	22.3
Body worn Test data (Separate 5mm 50%RB)											
Front side	20	QPSK 50_0	18900/1880	1:1	0.570	-0.14	21.49	23.00	1.416	0.807	22.3
Front side	20	QPSK 50_0	18700/1860	1:1	0.563	-0.03	21.37	23.00	1.455	0.819	22.3
Front side	20	QPSK 50_0	19100/1900	1:1	0.555	0.08	21.39	23.00	1.449	0.804	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.531	-0.15	21.49	23.00	1.416	0.752	22.3
Body worn Test data (Separate 5mm 100%RB)											
Front side	20	QPSK 100_0	18900/1880	1:1	0.528	0.04	21.50	23.00	1.413	0.746	22.3
Back side	20	QPSK 100_0	18900/1880	1:1	0.478	0.03	21.50	23.00	1.413	0.675	22.3
Body worn Evaluate data (Separate 5mm 1RB) For Simultaneous											
Front side	20	QPSK 1_0	18900/1880	1:1	0.634	0.19	22.49	21.50	0.796	0.505	22.3
Front side	20	QPSK 1_0	18700/1860	1:1	0.611	0.00	22.35	21.50	0.822	0.502	22.3
Front side	20	QPSK 1_0	19100/1900	1:1	0.623	-0.02	22.39	21.50	0.815	0.508	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.605	-0.18	22.49	21.50	0.796	0.482	22.3
Back side	20	QPSK 1_0	18700/1860	1:1	0.589	0.15	22.35	21.50	0.822	0.484	22.3
Back side	20	QPSK 1_0	19100/1900	1:1	0.591	0.11	22.39	21.50	0.815	0.482	22.3
Body worn Evaluate data (Separate 5mm 50%RB) For Simultaneous											
Front side	20	QPSK 50_0	18900/1880	1:1	0.570	-0.14	21.49	21.50	1.002	0.571	22.3
Front side	20	QPSK 50_0	18700/1860	1:1	0.563	-0.03	21.37	21.50	1.030	0.580	22.3
Front side	20	QPSK 50_0	19100/1900	1:1	0.555	0.08	21.39	21.50	1.026	0.569	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.531	-0.15	21.49	21.50	1.002	0.532	22.3
Body worn Evaluate data (Separate 5mm 100%RB) For Simultaneous											
Front side	20	QPSK 100_0	18900/1880	1:1	0.528	0.04	21.50	21.50	1.000	0.528	22.3
Back side	20	QPSK 100_0	18900/1880	1:1	0.478	0.03	21.50	21.50	1.000	0.478	22.3
Hotspot Test data (Separate 10mm 1RB)											
Front side	20	QPSK 1_0	18900/1880	1:1	0.388	-0.14	22.49	24.00	1.416	0.549	22.3
Back side	20	QPSK 1_0	18900/1880	1:1	0.365	0.09	22.49	24.00	1.416	0.517	22.3
Left side	20	QPSK 1_0	18900/1880	1:1	0.047	0.02	22.49	24.00	1.416	0.067	22.3
Right side	20	QPSK 1_0	18900/1880	1:1	0.227	0.01	22.49	24.00	1.416	0.321	22.3
Bottom side	20	QPSK 1_0	18900/1880	1:1	0.485	0.15	22.49	24.00	1.416	0.687	22.3
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	18900/1880	1:1	0.305	0.00	21.49	23.00	1.416	0.432	22.3
Back side	20	QPSK 50_0	18900/1880	1:1	0.295	-0.09	21.49	23.00	1.416	0.418	22.3
Left side	20	QPSK 50_0	18900/1880	1:1	0.000	-0.03	21.49	23.00	1.416	0.000	22.3
Right side	20	QPSK 50_0	18900/1880	1:1	0.192	0.07	21.49	23.00	1.416	0.272	22.3
Bottom side	20	QPSK 50_0	18900/1880	1:1	0.385	0.09	21.49	23.00	1.416	0.545	22.3

Test Position	Test ch./Freq.	Measured SAR (W/kg)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
Left cheek	18900/1880	0.950	0.946	1.004	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						
5) The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds. The repeated measurement results must be clearly identified in the SAR report.						

8.3.5 SAR Result of LTE Band 5

LTE Band 5 SAR Test Record											
Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Receiver on Head Test Data (1RB)											
Left cheek	10	QPSK 1_0	20525/836.5	1:1	0.739	0.18	21.73	23.00	1.340	0.990	22.5
Left tilted	10	QPSK 1_0	20525/836.5	1:1	0.821	-0.01	21.73	23.00	1.340	1.100	22.5
Right cheek	10	QPSK 1_0	20525/836.5	1:1	0.581	0.00	21.73	23.00	1.340	0.779	22.5
Right tilted	10	QPSK 1_0	20525/836.5	1:1	0.670	-0.02	21.73	23.00	1.340	0.898	22.5
Receiver on Head Test Data (50%RB)											
Left cheek	10	QPSK 25_0	20525/836.5	1:1	0.478	-0.07	21.63	23.00	1.371	0.655	22.5
Left tilted	10	QPSK 25_0	20525/836.5	1:1	0.512	-0.01	21.63	23.00	1.371	0.702	22.5
Right cheek	10	QPSK 25_0	20525/836.5	1:1	0.333	0.15	21.63	23.00	1.371	0.457	22.5
Right tilted	10	QPSK 25_0	20525/836.5	1:1	0.402	0.17	21.63	23.00	1.371	0.551	22.5
Receiver on Head Test Data (100%RB)											
Left cheek	10	QPSK 50_0	20525/836.5	1:1	0.433	0.14	21.60	23.00	1.380	0.598	22.5
Left tilted	10	QPSK 50_0	20525/836.5	1:1	0.479	0.10	21.60	23.00	1.380	0.661	22.5
Right tilted	10	QPSK 50_0	20525/836.5	1:1	0.367	-0.14	21.60	23.00	1.380	0.506	22.5
Receiver on Head Evaluate Data (1RB) For Simultaneous											
Left cheek	10	QPSK 1_0	20525/836.5	1:1	0.739	0.18	21.73	20.00	0.671	0.496	22.5
Left tilted	10	QPSK 1_0	20525/836.5	1:1	0.821	-0.01	21.73	20.00	0.671	0.551	22.5
Right cheek	10	QPSK 1_0	20525/836.5	1:1	0.581	0.00	21.73	20.00	0.671	0.390	22.5
Right tilted	10	QPSK 1_0	20525/836.5	1:1	0.670	-0.02	21.73	20.00	0.671	0.450	22.5
Receiver on Head Evaluate Data (50%RB) For Simultaneous											
Left cheek	10	QPSK 25_0	20525/836.5	1:1	0.478	-0.07	21.63	20.00	0.687	0.328	22.5
Left tilted	10	QPSK 25_0	20525/836.5	1:1	0.512	-0.01	21.63	20.00	0.687	0.352	22.5
Right cheek	10	QPSK 25_0	20525/836.5	1:1	0.333	0.15	21.63	20.00	0.687	0.229	22.5
Right tilted	10	QPSK 25_0	20525/836.5	1:1	0.402	0.17	21.63	20.00	0.687	0.276	22.5
Receiver on Head Evaluate Data (100%RB) For Simultaneous											
Left cheek	10	QPSK 50_0	20525/836.5	1:1	0.433	0.14	21.60	20.00	0.692	0.300	22.5
Left tilted	10	QPSK 50_0	20525/836.5	1:1	0.479	0.10	21.60	20.00	0.692	0.331	22.5
Right tilted	10	QPSK 50_0	20525/836.5	1:1	0.367	-0.14	21.60	20.00	0.692	0.254	22.5
Body worn Test data (Separate 5mm 1RB)											
Front side	10	QPSK 1_0	20525/836.5	1:1	0.532	0.03	23.76	25.00	1.330	0.708	22.5
Back side	10	QPSK 1_0	20525/836.5	1:1	0.587	-0.19	23.76	25.00	1.330	0.781	22.5
Body worn Test data (Separate 5mm 50%RB)											
Front side	10	QPSK 25_0	20525/836.5	1:1	0.455	0.18	22.66	24.00	1.361	0.619	22.5
Back side	10	QPSK 25_0	20525/836.5	1:1	0.490	-0.05	22.66	24.00	1.361	0.667	22.5
Body worn Evaluate data (Separate 5mm 1RB) For Simultaneous											
Front side	10	QPSK 1_0	20525/836.5	1:1	0.532	0.03	23.76	23.50	0.942	0.501	22.5
Back side	10	QPSK 1_0	20525/836.5	1:1	0.587	-0.19	23.76	23.50	0.942	0.553	22.5
Body worn Evaluate data (Separate 5mm 50%RB) For Simultaneous											
Front side	10	QPSK 25_0	20525/836.5	1:1	0.455	0.18	22.66	23.50	1.213	0.552	22.5
Back side	10	QPSK 25_0	20525/836.5	1:1	0.490	-0.05	22.66	23.50	1.213	0.594	22.5
Hotspot Test data (Separate 10mm 1RB)											
Front side	10	QPSK 1_0	20525/836.5	1:1	0.324	0.10	23.76	25.00	1.330	0.431	22.5
Back side	10	QPSK 1_0	20525/836.5	1:1	0.343	0.14	23.76	25.00	1.330	0.456	22.5
Left side	10	QPSK 1_0	20525/836.5	1:1	0.150	-0.10	23.76	25.00	1.330	0.200	22.5
Right side	10	QPSK 1_0	20525/836.5	1:1	0.167	-0.13	23.76	25.00	1.330	0.222	22.5

Top side	10	QPSK 1_0	20525/836.5	1:1	0.210	0.08	23.76	25.00	1.330	0.279	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	20525/836.5	1:1	0.270	0.00	22.66	24.00	1.361	0.367	22.5
Back side	10	QPSK 25_0	20525/836.5	1:1	0.285	-0.17	22.66	24.00	1.361	0.388	22.5
Left side	10	QPSK 25_0	20525/836.5	1:1	0.122	-0.14	22.66	24.00	1.361	0.166	22.5
Right side	10	QPSK 25_0	20525/836.5	1:1	0.142	0.11	22.66	24.00	1.361	0.193	22.5
Top side	10	QPSK 25_0	20525/836.5	1:1	0.159	0.06	22.66	24.00	1.361	0.216	22.5
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data (1RB)											
Left cheek	10	QPSK 1_0	20525/836.5	1:1	0.862	-0.13	23.97	25.00	1.268	1.093	22.5
Left cheek-Repeat SAR	10	QPSK 1_0	20525/836.5	1:1	0.860	0.03	23.97	25.00	1.268	1.090	22.5
Left tilted	10	QPSK 1_0	20525/836.5	1:1	0.342	0.05	23.97	25.00	1.268	0.434	22.5
Right cheek	10	QPSK 1_0	20525/836.5	1:1	0.822	0.02	23.97	25.00	1.268	1.042	22.5
Right tilted	10	QPSK 1_0	20525/836.5	1:1	0.285	-0.15	23.97	25.00	1.268	0.361	22.5
Head Test Data (50%RB)											
Left cheek	10	QPSK 25_0	20525/836.5	1:1	0.736	0.04	22.85	24.00	1.303	0.959	22.5
Left tilted	10	QPSK 25_0	20525/836.5	1:1	0.274	-0.06	22.85	24.00	1.303	0.357	22.5
Right cheek	10	QPSK 25_0	20525/836.5	1:1	0.669	0.09	22.85	24.00	1.303	0.872	22.5
Right tilted	10	QPSK 25_0	20525/836.5	1:1	0.236	-0.08	22.85	24.00	1.303	0.308	22.5
Head Test Data (100%RB)											
Left cheek	10	QPSK 50_0	20525/836.5	1:1	0.678	-0.18	22.87	24.00	1.297	0.879	22.5
Right cheek	10	QPSK 50_0	20525/836.5	1:1	0.608	0.07	22.87	24.00	1.297	0.789	22.5
Receiver on Head Evaluate Data (1RB) For Simultaneous											
Left cheek	10	QPSK 1_0	20525/836.5	1:1	0.862	-0.13	23.97	22.00	0.635	0.547	22.5
Left tilted	10	QPSK 1_0	20525/836.5	1:1	0.342	0.05	23.97	22.00	0.635	0.217	22.5
Right cheek	10	QPSK 1_0	20525/836.5	1:1	0.822	0.02	23.97	22.00	0.635	0.522	22.5
Right tilted	10	QPSK 1_0	20525/836.5	1:1	0.285	-0.15	23.97	22.00	0.635	0.181	22.5
Receiver on Head Evaluate Data (50%RB) For Simultaneous											
Left cheek	10	QPSK 25_0	20525/836.5	1:1	0.736	0.04	22.85	22.00	0.822	0.605	22.5
Left tilted	10	QPSK 25_0	20525/836.5	1:1	0.274	-0.06	22.85	22.00	0.822	0.225	22.5
Right cheek	10	QPSK 25_0	20525/836.5	1:1	0.669	0.09	22.85	22.00	0.822	0.550	22.5
Right tilted	10	QPSK 25_0	20525/836.5	1:1	0.236	-0.08	22.85	22.00	0.822	0.194	22.5
Receiver on Head Evaluate Data (100%RB) For Simultaneous											
Left cheek	10	QPSK 50_0	20525/836.5	1:1	0.678	-0.18	22.87	22.00	0.818	0.555	22.5
Right cheek	10	QPSK 50_0	20525/836.5	1:1	0.608	0.07	22.87	22.00	0.818	0.497	22.5
Body worn Test data (Separate 5mm 1RB)											
Front side	10	QPSK 1_0	20525/836.5	1:1	0.810	-0.12	23.97	25.00	1.268	1.027	22.5
Back side	10	QPSK 1_0	20525/836.5	1:1	0.851	0.02	23.97	25.00	1.268	1.079	22.5
Back side-Repeat SAR	10	QPSK 1_0	20525/836.5	1:1	0.848	-0.13	23.97	25.00	1.268	1.075	22.5
Body worn Test data (Separate 5mm 50%RB)											
Front side	10	QPSK 25_0	20525/836.5	1:1	0.635	-0.14	22.85	24.00	1.303	0.827	22.5
Back side	10	QPSK 25_0	20525/836.5	1:1	0.691	0.02	22.85	24.00	1.303	0.900	22.5
Body worn Test data (Separate 5mm 100%RB)											
Front side	10	QPSK 50_0	20525/836.5	1:1	0.593	-0.14	22.87	24.00	1.297	0.769	22.5
Back side	10	QPSK 50_0	20525/836.5	1:1	0.631	-0.13	22.87	24.00	1.297	0.818	22.5
Body worn Evaluate data (Separate 5mm 1RB) For Simultaneous											
Front side	10	QPSK 1_0	20525/836.5	1:1	0.810	-0.12	23.97	22.00	0.635	0.514	22.5
Back side	10	QPSK 1_0	20525/836.5	1:1	0.851	0.02	23.97	22.00	0.635	0.540	22.5
Body worn Evaluate data (Separate 5mm 50%RB) For Simultaneous											

Front side	10	QPSK 25_0	20525/836.5	1:1	0.635	-0.14	22.85	22.00	0.822	0.522	22.5
Back side	10	QPSK 25_0	20525/836.5	1:1	0.691	0.02	22.85	22.00	0.822	0.568	22.5
Body worn Evaluate data (Separate 5mm 100%RB) For Simultaneous											
Front side	10	QPSK 50_0	20525/836.5	1:1	0.593	-0.14	22.87	22.00	0.818	0.485	22.5
Back side	10	QPSK 50_0	20525/836.5	1:1	0.631	-0.13	22.87	22.00	0.818	0.516	22.5
Hotspot Test data (Separate 10mm 1RB)											
Front side	10	QPSK 1_0	20525/836.5	1:1	0.405	0.11	23.97	25.00	1.268	0.514	22.5
Back side	10	QPSK 1_0	20525/836.5	1:1	0.366	-0.13	23.97	25.00	1.268	0.464	22.5
Left side	10	QPSK 1_0	20525/836.5	1:1	0.392	0.12	23.97	25.00	1.268	0.497	22.5
Right side	10	QPSK 1_0	20525/836.5	1:1	0.154	0.08	23.97	25.00	1.268	0.195	22.5
Bottom side	10	QPSK 1_0	20525/836.5	1:1	0.176	-0.08	23.97	25.00	1.268	0.223	22.5
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	20525/836.5	1:1	0.330	-0.08	22.85	24.00	1.303	0.430	22.5
Back side	10	QPSK 25_0	20525/836.5	1:1	0.290	0.16	22.85	24.00	1.303	0.378	22.5
Left side	10	QPSK 25_0	20525/836.5	1:1	0.309	-0.04	22.85	24.00	1.303	0.403	22.5
Right side	10	QPSK 25_0	20525/836.5	1:1	0.162	-0.06	22.85	24.00	1.303	0.211	22.5
Bottom side	10	QPSK 25_0	20525/836.5	1:1	0.137	0.14	22.85	24.00	1.303	0.179	22.5

Test Position	Test ch./Freq.	Measured SAR (W/kg)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
Left cheek	20525/836.5	0.862	0.860	1.002	N/A	N/A
Back side-5mm	20525/836.5	0.851	0.848	1.004	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

5) The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds. The repeated measurement results must be clearly identified in the SAR report.

8.3.6 SAR Result of LTE Band 7

LTE Band 7 SAR Test Record											
Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data (1RB)											
Left cheek	20	QPSK 1_0	21100/2535	1:1	0.678	0.14	21.84	23.50	1.466	0.994	22.4
Left cheek	20	QPSK 1_0	20850/2510	1:1	0.644	-0.18	21.73	23.50	1.503	0.968	22.4
Left cheek	20	QPSK 1_0	21350/2560	1:1	0.652	-0.15	21.75	23.50	1.496	0.975	22.4
Left tilted	20	QPSK 1_0	21100/2535	1:1	0.542	-0.02	21.84	23.50	1.466	0.795	22.4
Right cheek	20	QPSK 1_0	21100/2535	1:1	0.394	-0.10	21.84	23.50	1.466	0.578	22.4
Right tilted	20	QPSK 1_0	21100/2535	1:1	0.430	-0.18	21.84	23.50	1.466	0.630	22.4
Head Test Data (50%RB)											
Left cheek	20	QPSK 50_0	21100/2535	1:1	0.577	-0.11	20.84	22.50	1.466	0.846	22.4
Left cheek	20	QPSK 50_0	20850/2510	1:1	0.559	-0.01	20.74	22.50	1.500	0.839	22.4
Left cheek	20	QPSK 50_0	21350/2560	1:1	0.571	0.11	20.86	22.50	1.459	0.833	22.4
Left tilted	20	QPSK 50_0	21100/2535	1:1	0.461	0.12	20.84	22.50	1.466	0.676	22.4
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.352	-0.13	20.84	22.50	1.466	0.516	22.4
Right tilted	20	QPSK 50_0	21100/2535	1:1	0.351	-0.09	20.84	22.50	1.466	0.515	22.4
Head Test Data (100%RB)											
Left cheek	20	QPSK 100_0	21100/2535	1:1	0.529	0.12	20.78	22.50	1.486	0.786	22.4
Body worn Test data (Separate 5mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.359	0.15	21.84	23.50	1.466	0.526	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.320	-0.12	21.84	23.50	1.466	0.469	22.4
Body worn Test data (Separate 5mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.278	-0.05	20.84	22.50	1.466	0.408	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.258	0.03	20.84	22.50	1.466	0.378	22.4
Hotspot Test data (Separate 10mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.167	-0.18	21.84	23.50	1.466	0.245	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.188	0.16	21.84	23.50	1.466	0.276	22.4
Left side	20	QPSK 1_0	21100/2535	1:1	0.056	-0.13	21.84	23.50	1.466	0.082	22.4
Right side	20	QPSK 1_0	21100/2535	1:1	0.098	-0.16	21.84	23.50	1.466	0.144	22.4
Top side	20	QPSK 1_0	21100/2535	1:1	0.336	-0.02	21.84	23.50	1.466	0.493	22.4
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.139	0.04	20.84	22.50	1.466	0.204	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.145	-0.06	20.84	22.50	1.466	0.213	22.4
Left side	20	QPSK 50_0	21100/2535	1:1	0.048	-0.12	20.84	22.50	1.466	0.070	22.4
Right side	20	QPSK 50_0	21100/2535	1:1	0.084	-0.17	20.84	22.50	1.466	0.123	22.4
Top side	20	QPSK 50_0	21100/2535	1:1	0.224	0.17	20.84	22.50	1.466	0.328	22.4
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data (1RB)											
Left cheek	20	QPSK 1_0	21100/2535	1:1	0.271	-0.01	22.17	23.50	1.358	0.368	22.4
Left tilted	20	QPSK 1_0	21100/2535	1:1	0.137	-0.14	22.17	23.50	1.358	0.186	22.4
Right cheek	20	QPSK 1_0	21100/2535	1:1	0.498	-0.18	22.17	23.50	1.358	0.676	22.4
Right tilted	20	QPSK 1_0	21100/2535	1:1	0.102	0.04	22.17	23.50	1.358	0.139	22.4
Head Test Data (50%RB)											
Left cheek	20	QPSK 50_0	21100/2535	1:1	0.236	-0.17	21.04	22.50	1.400	0.330	22.4
Left tilted	20	QPSK 50_0	21100/2535	1:1	0.122	-0.15	21.04	22.50	1.400	0.171	22.4
Right cheek	20	QPSK 50_0	21100/2535	1:1	0.438	-0.13	21.04	22.50	1.400	0.613	22.4
Right tilted	20	QPSK 50_0	21100/2535	1:1	0.086	-0.10	21.04	22.50	1.400	0.120	22.4
Sensor on Body worn Test data (Separate 5mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.881	-0.10	21.35	22.50	1.303	1.148	22.4
Front side-Repeat SAR	20	QPSK 1_0	21100/2535	1:1	0.876	0.13	21.35	22.50	1.303	1.141	22.4

Front side	20	QPSK 1_0	20850/2510	1:1	0.858	0.14	21.30	22.50	1.318	1.131	22.4
Front side	20	QPSK 1_0	21350/2560	1:1	0.866	0.13	21.29	22.50	1.321	1.144	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.579	-0.04	21.35	22.50	1.303	0.754	22.4
Sensor on Body worn Test data (Separate 5mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.722	-0.05	21.25	22.50	1.334	0.963	22.4
Front side	20	QPSK 50_0	20850/2510	1:1	0.704	-0.17	21.19	22.50	1.352	0.952	22.4
Front side	20	QPSK 50_0	21350/2560	1:1	0.713	0.02	21.20	22.50	1.349	0.962	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.476	0.13	21.25	22.50	1.334	0.635	22.4
Sensor on Body worn Test data (Separate 5mm 100%RB)											
Front side	20	QPSK 100_0	21100/2535	1:1	0.643	-0.10	21.00	22.50	1.413	0.909	22.4
Sensor off Body worn Test data 1RB											
Front side-21mm	20	QPSK 1_0	21100/2535	1:1	0.236	-0.08	22.17	23.50	1.358	0.320	22.4
Back side-18mm	20	QPSK 1_0	21100/2535	1:1	0.257	-0.13	22.17	23.50	1.358	0.349	22.4
Sensor off Body worn Test data 50RB											
Front side-21mm	20	QPSK 50_0	21100/2535	1:1	0.197	0.08	21.04	22.50	1.400	0.276	22.4
Back side-18mm	20	QPSK 50_0	21100/2535	1:1	0.206	-0.14	21.04	22.50	1.400	0.288	22.4
Hotspot Test data (Separate 10mm 1RB)											
Front side	20	QPSK 1_0	21100/2535	1:1	0.408	-0.03	20.90	22.00	1.288	0.526	22.4
Back side	20	QPSK 1_0	21100/2535	1:1	0.313	-0.01	20.90	22.00	1.288	0.403	22.4
Left side	20	QPSK 1_0	21100/2535	1:1	0.064	0.13	20.90	22.00	1.288	0.082	22.4
Right side	20	QPSK 1_0	21100/2535	1:1	0.674	0.05	20.90	22.00	1.288	0.868	22.4
Right side	20	QPSK 1_0	20850/2510	1:1	0.648	0.03	20.82	22.00	1.312	0.850	22.4
Right side	20	QPSK 1_0	21350/2560	1:1	0.655	-0.15	20.82	22.00	1.312	0.859	22.4
Bottom side	20	QPSK 1_0	21100/2535	1:1	0.814	0.02	20.90	22.00	1.288	1.048	22.4
Bottom side-Repeat SAR	20	QPSK 1_0	21100/2535	1:1	0.811	0.07	20.90	22.00	1.288	1.045	22.4
Bottom side	20	QPSK 1_0	20850/2510	1:1	0.789	0.07	20.82	22.00	1.312	1.035	22.4
Bottom side	20	QPSK 1_0	21350/2560	1:1	0.796	-0.05	20.82	22.00	1.312	1.044	22.4
Hotspot Test data (Separate 10mm 50%RB)											
Front side	20	QPSK 50_0	21100/2535	1:1	0.354	0.02	20.74	22.00	1.337	0.473	22.4
Back side	20	QPSK 50_0	21100/2535	1:1	0.276	0.07	20.74	22.00	1.337	0.369	22.4
Left side	20	QPSK 50_0	21100/2535	1:1	0.054	-0.06	20.74	22.00	1.337	0.072	22.4
Right side	20	QPSK 50_0	21100/2535	1:1	0.568	-0.07	20.74	22.00	1.337	0.759	22.4
Bottom side	20	QPSK 50_0	21100/2535	1:1	0.654	-0.06	20.74	22.00	1.337	0.874	22.4
Bottom side	20	QPSK 50_0	20850/2510	1:1	0.628	0.06	20.72	22.00	1.343	0.843	22.4
Bottom side	20	QPSK 50_0	21350/2560	1:1	0.636	0.01	20.81	22.00	1.315	0.836	22.4
Hotspot Test data (Separate 10mm 100%RB)											
Right side	20	QPSK 100_0	21100/2535	1:1	0.521	-0.18	20.69	22.00	1.352	0.704	22.4
Bottom side	20	QPSK 100_0	21100/2535	1:1	0.609	-0.10	20.69	22.00	1.352	0.823	22.4

Test Position	Test ch./Freq.	Measured SAR (W/kg)	1 st Repeated	Ratio	2 nd Repeated	3 rd Repeated
Front side-5mm	21100/2535	0.881	0.876	1.006	N/A	N/A
Bottom side-10mm	21100/2535	0.814	0.811	1.004	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

5) The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds. The repeated measurement results must be clearly identified in the SAR report.

8.3.7 SAR Result of LTE Band 12

LTE Band 12 SAR Test Record											
Ant 0 Test Record											
Test position	BW	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data (1RB)											
Left cheek	10	QPSK 1_0	23095/707.5	1:1	0.296	-0.14	23.35	25.00	1.462	0.433	22.2
Left tilted	10	QPSK 1_0	23095/707.5	1:1	0.147	0.00	23.35	25.00	1.462	0.215	22.2
Right cheek	10	QPSK 1_0	23095/707.5	1:1	0.218	-0.10	23.35	25.00	1.462	0.319	22.2
Right tilted	10	QPSK 1_0	23095/707.5	1:1	0.142	-0.17	23.35	25.00	1.462	0.208	22.2
Head Test Data (50%RB)											
Left cheek	10	QPSK 25_0	23095/707.5	1:1	0.256	-0.15	22.18	24.00	1.521	0.389	22.2
Left tilted	10	QPSK 25_0	23095/707.5	1:1	0.125	0.00	22.18	24.00	1.521	0.190	22.2
Right cheek	10	QPSK 25_0	23095/707.5	1:1	0.175	0.03	22.18	24.00	1.521	0.266	22.2
Right tilted	10	QPSK 25_0	23095/707.5	1:1	0.115	-0.07	22.18	24.00	1.521	0.175	22.2
Body worn Test data (Separate 5mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.108	0.14	23.35	25.00	1.462	0.158	22.2
Back side	10	QPSK 1_0	23095/707.5	1:1	0.106	-0.05	23.35	25.00	1.462	0.155	22.2
Body worn Test data (Separate 5mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.088	0.07	22.18	24.00	1.521	0.134	22.2
Back side	10	QPSK 25_0	23095/707.5	1:1	0.094	0.00	22.18	24.00	1.521	0.143	22.2
Hotspot Test data (Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.103	-0.09	23.35	25.00	1.462	0.151	22.2
Back side	10	QPSK 1_0	23095/707.5	1:1	0.096	-0.12	23.35	25.00	1.462	0.140	22.2
Left side	10	QPSK 1_0	23095/707.5	1:1	0.053	-0.18	23.35	25.00	1.462	0.077	22.2
Right side	10	QPSK 1_0	23095/707.5	1:1	0.000	-0.03	23.35	25.00	1.462	0.000	22.2
Top side	10	QPSK 1_0	23095/707.5	1:1	0.000	0.03	23.35	25.00	1.462	0.000	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.080	0.16	22.18	24.00	1.521	0.122	22.2
Back side	10	QPSK 25_0	23095/707.5	1:1	0.079	-0.02	22.18	24.00	1.521	0.120	22.2
Left side	10	QPSK 25_0	23095/707.5	1:1	0.021	-0.11	22.18	24.00	1.521	0.032	22.2
Right side	10	QPSK 25_0	23095/707.5	1:1	0.000	-0.17	22.18	24.00	1.521	0.000	22.2
Top side	10	QPSK 25_0	23095/707.5	1:1	0.000	0.00	22.18	24.00	1.521	0.000	22.2
Ant 1 Test Record											
Test position	BW	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data (1RB)											
Left cheek	10	QPSK 1_0	23095/707.5	1:1	0.427	0.12	23.33	25.00	1.469	0.627	22.2
Left tilted	10	QPSK 1_0	23095/707.5	1:1	0.167	0.09	23.33	25.00	1.469	0.245	22.2
Right cheek	10	QPSK 1_0	23095/707.5	1:1	0.410	0.16	23.33	25.00	1.469	0.602	22.2
Right tilted	10	QPSK 1_0	23095/707.5	1:1	0.163	0.09	23.33	25.00	1.469	0.239	22.2
Head Test Data (50%RB)											
Left cheek	10	QPSK 25_0	23095/707.5	1:1	0.357	-0.03	22.25	24.00	1.496	0.534	22.2
Left tilted	10	QPSK 25_0	23095/707.5	1:1	0.140	0.00	22.25	24.00	1.496	0.209	22.2
Right cheek	10	QPSK 25_0	23095/707.5	1:1	0.354	0.15	22.25	24.00	1.496	0.530	22.2
Right tilted	10	QPSK 25_0	23095/707.5	1:1	0.198	-0.11	22.25	24.00	1.496	0.296	22.2
Body worn Test data (Separate 5mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.330	0.09	23.33	25.00	1.469	0.485	22.2
Back side	10	QPSK 1_0	23095/707.5	1:1	0.290	-0.02	23.33	25.00	1.469	0.426	22.2
Body worn Test data (Separate 5mm 50%RB)											

Front side	10	QPSK 25_0	23095/707.5	1:1	0.279	-0.18	22.25	24.00	1.496	0.417	22.2
Back side	10	QPSK 25_0	23095/707.5	1:1	0.241	0.11	22.25	24.00	1.496	0.361	22.2
Hotspot Test data (Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23095/707.5	1:1	0.316	0.06	23.33	25.00	1.469	0.464	22.2
Back side	10	QPSK 1_0	23095/707.5	1:1	0.267	-0.10	23.33	25.00	1.469	0.392	22.2
Left side	10	QPSK 1_0	23095/707.5	1:1	0.244	0.05	23.33	25.00	1.469	0.358	22.2
Right side	10	QPSK 1_0	23095/707.5	1:1	0.086	-0.17	23.33	25.00	1.469	0.126	22.2
Bottom side	10	QPSK 1_0	23095/707.5	1:1	0.041	0.04	23.33	25.00	1.469	0.060	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23095/707.5	1:1	0.254	-0.11	22.25	24.00	1.496	0.380	22.2
Back side	10	QPSK 25_0	23095/707.5	1:1	0.220	-0.14	22.25	24.00	1.496	0.329	22.2
Left side	10	QPSK 25_0	23095/707.5	1:1	0.196	0.08	22.25	24.00	1.496	0.293	22.2
Right side	10	QPSK 25_0	23095/707.5	1:1	0.073	-0.16	22.25	24.00	1.496	0.109	22.2
Bottom side	10	QPSK 25_0	23095/707.5	1:1	0.000	0.00	22.25	24.00	1.496	0.000	22.2

8.3.8 SAR Result of LTE Band 14

LTE Band 14 SAR Test Record											
Ant 0 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)
Head Test Data (1RB)											
Left cheek	10	QPSK 1_0	23330/793	1:1	0.620	-0.12	23.50	25.00	1.413	0.876	22.2
Left tilted	10	QPSK 1_0	23330/793	1:1	0.497	0.10	23.50	25.00	1.413	0.702	22.2
Right cheek	10	QPSK 1_0	23330/793	1:1	0.485	0.11	23.50	25.00	1.413	0.685	22.2
Right tilted	10	QPSK 1_0	23330/793	1:1	0.426	0.11	23.50	25.00	1.413	0.602	22.2
Head Test Data (50%RB)											
Left cheek	10	QPSK 25_0	23330/793	1:1	0.500	-0.18	22.43	24.00	1.435	0.718	22.2
Left tilted	10	QPSK 25_0	23330/793	1:1	0.405	-0.09	22.43	24.00	1.435	0.581	22.2
Right cheek	10	QPSK 25_0	23330/793	1:1	0.391	0.01	22.43	24.00	1.435	0.561	22.2
Right tilted	10	QPSK 25_0	23330/793	1:1	0.353	0.16	22.43	24.00	1.435	0.507	22.2
Head Test Data (100%RB)											
Left cheek	10	QPSK 50_0	23330/793	1:1	0.447	0.07	22.39	24.00	1.449	0.648	22.2
Receiver on Head Evaluate Data (1RB) For Simultaneous											
Left cheek	10	QPSK 1_0	23330/793	1:1	0.620	-0.12	23.50	23.00	0.891	0.552	22.2
Left tilted	10	QPSK 1_0	23330/793	1:1	0.497	0.10	23.50	23.00	0.891	0.443	22.2
Right cheek	10	QPSK 1_0	23330/793	1:1	0.485	0.11	23.50	23.00	0.891	0.432	22.2
Right tilted	10	QPSK 1_0	23330/793	1:1	0.426	0.11	23.50	23.00	0.891	0.380	22.2
Receiver on Head Evaluate Data (50%RB) For Simultaneous											
Left cheek	10	QPSK 25_0	23330/793	1:1	0.500	-0.18	22.43	23.00	1.140	0.570	22.2
Left tilted	10	QPSK 25_0	23330/793	1:1	0.405	-0.09	22.43	23.00	1.140	0.462	22.2
Right cheek	10	QPSK 25_0	23330/793	1:1	0.391	0.01	22.43	23.00	1.140	0.446	22.2
Right tilted	10	QPSK 25_0	23330/793	1:1	0.353	0.16	22.43	23.00	1.140	0.402	22.2
Receiver on Head Evaluate Data (100%RB) For Simultaneous											
Left cheek	10	QPSK 50_0	23330/793	1:1	0.447	0.07	22.39	23.00	1.151	0.514	22.2
Body worn Test data (Separate 5mm 1RB)											
Front side	10	QPSK 1_0	23330/793	1:1	0.371	-0.16	23.50	25.00	1.413	0.524	22.2
Back side	10	QPSK 1_0	23330/793	1:1	0.480	-0.06	23.50	25.00	1.413	0.678	22.2
Body worn Test data (Separate 5mm 50%RB)											
Front side	10	QPSK 25_0	23330/793	1:1	0.335	-0.01	22.43	24.00	1.435	0.481	22.2
Back side	10	QPSK 25_0	23330/793	1:1	0.429	0.03	22.43	24.00	1.435	0.616	22.2
Hotspot Test data (Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23330/793	1:1	0.200	0.13	23.50	25.00	1.413	0.283	22.2
Back side	10	QPSK 1_0	23330/793	1:1	0.211	-0.16	23.50	25.00	1.413	0.298	22.2
Left side	10	QPSK 1_0	23330/793	1:1	0.106	0.12	23.50	25.00	1.413	0.150	22.2
Right side	10	QPSK 1_0	23330/793	1:1	0.090	-0.04	23.50	25.00	1.413	0.127	22.2
Top side	10	QPSK 1_0	23330/793	1:1	0.129	-0.01	23.50	25.00	1.413	0.182	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23330/793	1:1	0.154	0.06	22.43	24.00	1.435	0.221	22.2
Back side	10	QPSK 25_0	23330/793	1:1	0.173	0.17	22.43	24.00	1.435	0.248	22.2
Left side	10	QPSK 25_0	23330/793	1:1	0.076	0.02	22.43	24.00	1.435	0.109	22.2
Right side	10	QPSK 25_0	23330/793	1:1	0.076	0.15	22.43	24.00	1.435	0.109	22.2
Top side	10	QPSK 25_0	23330/793	1:1	0.136	0.06	22.43	24.00	1.435	0.195	22.2
Ant 1 Test Record											
Test position	BW.	Test mode	Test ch./Freq.	Duty Cycle	SAR (W/kg) 1-g	Power drift (dB)	Conducted Power(dBm)	Tune up Limit(dBm)	Scaled factor	Scaled SAR 1-g (W/kg)	Liquid Temp.(°C)

Head Test Data (1RB)											
Left cheek	10	QPSK 1_0	23330/793	1:1	0.599	-0.16	23.56	25.00	1.393	0.834	22.2
Left tilted	10	QPSK 1_0	23330/793	1:1	0.327	0.07	23.56	25.00	1.393	0.456	22.2
Right cheek	10	QPSK 1_0	23330/793	1:1	0.542	0.10	23.56	25.00	1.393	0.755	22.2
Right tilted	10	QPSK 1_0	23330/793	1:1	0.302	-0.02	23.56	25.00	1.393	0.421	22.2
Head Test Data (50%RB)											
Left cheek	10	QPSK 25_0	23330/793	1:1	0.573	-0.13	22.46	24.00	1.426	0.817	22.2
Left tilted	10	QPSK 25_0	23330/793	1:1	0.268	0.10	22.46	24.00	1.426	0.382	22.2
Right cheek	10	QPSK 25_0	23330/793	1:1	0.490	-0.13	22.46	24.00	1.426	0.699	22.2
Right tilted	10	QPSK 25_0	23330/793	1:1	0.244	0.14	22.46	24.00	1.426	0.348	22.2
Head Test Data (100%RB)											
Left cheek	10	QPSK 50_0	23330/793	1:1	0.537	-0.05	22.47	24.00	1.422	0.764	22.2
Receiver on Head Evaluate Data (1RB) For Simultaneous											
Left cheek	10	QPSK 1_0	23330/793	1:1	0.599	-0.16	23.56	22.50	0.783	0.469	22.2
Left tilted	10	QPSK 1_0	23330/793	1:1	0.327	0.07	23.56	22.50	0.783	0.256	22.2
Right cheek	10	QPSK 1_0	23330/793	1:1	0.542	0.10	23.56	22.50	0.783	0.424	22.2
Right tilted	10	QPSK 1_0	23330/793	1:1	0.302	-0.02	23.56	22.50	0.783	0.236	22.2
Receiver on Head Evaluate Data (50%RB) For Simultaneous											
Left cheek	10	QPSK 25_0	23330/793	1:1	0.573	-0.13	22.46	22.50	1.009	0.578	22.2
Left tilted	10	QPSK 25_0	23330/793	1:1	0.268	0.10	22.46	22.50	1.009	0.270	22.2
Right cheek	10	QPSK 25_0	23330/793	1:1	0.490	-0.13	22.46	22.50	1.009	0.494	22.2
Right tilted	10	QPSK 25_0	23330/793	1:1	0.244	0.14	22.46	22.50	1.009	0.246	22.2
Receiver on Head Evaluate Data (100%RB) For Simultaneous											
Left cheek	10	QPSK 50_0	23330/793	1:1	0.537	-0.05	22.47	22.50	1.007	0.541	22.2
Body worn Test data (Separate 5mm 1RB)											
Front side	10	QPSK 1_0	23330/793	1:1	0.520	0.07	23.56	25.00	1.393	0.724	22.2
Back side	10	QPSK 1_0	23330/793	1:1	0.509	0.08	23.56	25.00	1.393	0.709	22.2
Body worn Test data (Separate 5mm 50%RB)											
Front side	10	QPSK 25_0	23330/793	1:1	0.404	0.08	22.46	24.00	1.426	0.576	22.2
Back side	10	QPSK 25_0	23330/793	1:1	0.417	0.02	22.46	24.00	1.426	0.595	22.2
Body worn Evaluate data (Separate 5mm 1RB) For Simultaneous											
Front side	10	QPSK 1_0	23330/793	1:1	0.520	0.07	23.56	24.00	1.107	0.576	22.2
Back side	10	QPSK 1_0	23330/793	1:1	0.509	0.08	23.56	24.00	1.107	0.563	22.2
Body worn Evaluate data (Separate 5mm 50%RB) For Simultaneous											
Front side	10	QPSK 25_0	23330/793	1:1	0.404	0.08	22.46	24.00	1.426	0.576	22.2
Back side	10	QPSK 25_0	23330/793	1:1	0.417	0.02	22.46	24.00	1.426	0.595	22.2
Hotspot Test data (Separate 10mm 1RB)											
Front side	10	QPSK 1_0	23330/793	1:1	0.510	0.11	23.56	25.00	1.393	0.710	22.2
Back side	10	QPSK 1_0	23330/793	1:1	0.495	0.15	23.56	25.00	1.393	0.690	22.2
Left side	10	QPSK 1_0	23330/793	1:1	0.458	0.10	23.56	25.00	1.393	0.638	22.2
Right side	10	QPSK 1_0	23330/793	1:1	0.226	-0.07	23.56	25.00	1.393	0.315	22.2
Bottom side	10	QPSK 1_0	23330/793	1:1	0.173	-0.12	23.56	25.00	1.393	0.241	22.2
Hotspot Test data (Separate 10mm 50%RB)											
Front side	10	QPSK 25_0	23330/793	1:1	0.415	0.04	22.46	24.00	1.426	0.592	22.2
Back side	10	QPSK 25_0	23330/793	1:1	0.395	0.03	22.46	24.00	1.426	0.563	22.2
Left side	10	QPSK 25_0	23330/793	1:1	0.372	0.01	22.46	24.00	1.426	0.530	22.2
Right side	10	QPSK 25_0	23330/793	1:1	0.189	0.03	22.46	24.00	1.426	0.270	22.2
Bottom side	10	QPSK 25_0	23330/793	1:1	0.129	-0.05	22.46	24.00	1.426	0.184	22.2
Hotspot Evaluate data (Separate 10mm 1RB) For Simultaneous											
Front side	10	QPSK 1_0	23330/793	1:1	0.510	0.11	23.56	24.00	1.107	0.565	22.2
Back side	10	QPSK 1_0	23330/793	1:1	0.495	0.15	23.56	24.00	1.107	0.548	22.2