FCC SAR TEST REPORT

FCC ID	:	**HLZRXMG1**
Equipment	:	**Notebook Computer**
Brand Name	:	**ACER**
Model Name	:	**N20C7**
Applicant	:	**Acer Incorporated** **8F,. No. 88, Sec. 1, Xintai 5th Rd., Xizhi, New Taipei City 22181, Taiwan (R.O.C)**
Manufacturer	:	**Acer Incorporated** **8F,. No. 88, Sec. 1, Xintai 5th Rd., Xizhi, New Taipei City 22181, Taiwan (R.O.C)**
Standard	:	**FCC 47 CFR Part 2 (2.1093)**

The product was received on Jul. 14, 2020 and testing was started from Aug. 13, 2020 and completed on Sep. 10, 2020. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

Table of Contents

1. Statement of Compliance 4
2. Guidance Applied 5
3. Equipment Under Test (EUT) Information 6
3.1 General Information 6
3.2 General LTE SAR Test and Reporting Considerations 7
3.3 General 5G NR SAR Test and Reporting Considerations 10
4. Sensor Triggering Test 11
4.1 Proximity sensor triggering Considerations 11
4.2 Lid angle power verification 20
5. Smart Transmit feature for RF Exposure compliance 28
6. RF Exposure Limits 30
6.1 Uncontrolled Environment 30
6.2 Controlled Environment 30
7. Specific Absorption Rate (SAR) 31
7.1 Introduction 31
7.2 SAR Definition 31
8. System Description and Setup 32
8.1 Test Site Location 32
8.2 E-Field Probe 33
8.3 Data Acquisition Electronics (DAE) 33
8.4 Phantom 34
8.5 Device Holder 35
9. Measurement Procedures 36
9.1 Spatial Peak SAR Evaluation 36
9.2 Power Reference Measurement 37
9.3 Area Scan 37
9.4 Zoom Scan 38
9.5 Volume Scan Procedures 38
9.6 Power Drift Monitoring 38
10. Test Equipment List 39
11. System Verification 40
11.1 Tissue Simulating Liquids 40
11.2 Tissue Verification 41
11.3 System Performance Check Results 42
12. RF Exposure Positions 43
12.1 SAR Testing for Tablet 43
13. Measurement procedure for output power and SAR 44
14. DL/UL carrier aggregation 55
15. Antenna Location 65
16. SAR Test Results 69
16.1 Body SAR 72
16.2 Repeated SAR Measurement 88
16.3 LTE Band 41 Power Class 2 and Power Class 3 Linearity 88
17. Simultaneous Transmission Analysis 89
17.1 5G NR + LTE + WLAN + BT Sim-Tx analysis 89
17.2 Body Exposure Conditions 90
17.3 SPLSR Evaluation and Analysis 94
18. Uncertainty Assessment 122
19. References 122
Appendix A. Plots of System Performance Check
Appendix B. Plots of High SAR Measurement
Appendix C. DASY Calibration Certificate
Appendix D. Output Power Measurement
Appendix E. Test Setup Photos

History of this test report

Report No.	Version	Description	Issued Date
FA070206A	01	Initial issue of report	Oct. 05, 2020
FA070206A	02	Update section 4.2	Nov. 06, 2020

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Acer Incorporated, Notebook Computer, N20C7**, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary Body 1g SAR (W/kg)	Highest Simultaneous Transmission 1g SAR (W/kg)
Licensed	WCDMA II	1.17	1.59
	WCDMA IV	1.16	
	WCDMA V	1.14	
	LTE Band 7	1.14	
	LTE Band 12 / 17	1.18	
	LTE Band 13	1.16	
	LTE Band 14	1.18	
	LTE Band 2 / 25	1.18	
	LTE Band 5 / 26	1.15	
	LTE Band 30	1.14	
	LTE Band 38 / 41	1.16	
	LTE Band 48	1.18	
	LTE Band 4 / 66	1.11	
	LTE Band 71	1.16	
	FR1 n2	1.17	
	FR1 n5	1.18	
	FR1 n41	1.18	
	FR1 n66	1.18	
	FR1 n71	1.17	
DTS	2.4GHz WLAN	1.07	1.56
NII	5GHz WLAN	1.14	1.59
DSS	Bluetooth	0.04	1.59
Date of Testing:		2020/8/13 ~ 2020/9/10	

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.(FCC) This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang
Report Producer: Daisy Peng

2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, if the KDB standards were not list within TAF approval, because it is include in the FCC KDB 447498.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Notebook Computer
Brand Name	ACER
Model Name	N20C7
FCC ID	HLZRXMG1
S / N	N8A4NWW001025197E43400
Wireless Technology and Frequency Range	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n260: 37GHz~40GHz 5G NR n261: 27.5GHz~28.35GHz WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8GHz Band: 5725 MHz ~ 5825 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink) LTE: QPSK, 16QAM, 64QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN: 802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
EUT Stage	Production Unit

Remark:
1. This device is convertible type notebook PC, and there have Laptop and Tablet two usage way, when end user is used different mode which the device will according current mode to limit different maximum power.

WLAN Antenna Information									
1 NB Mode	Ant. Type	PIFA	connector		2 TB Mode	Ant. Type	PIFA	connector	
	Peak Gain (dBi)					Peak Gain (dBi)			
	2400~2483.5MHz	Main:-1.74 Aux:-0.27	5470~5725MHz	Main:-2.08 Aux:-2.06		2400~2483.5MHz	Main:-2.22 Aux:-0.45	5470~5725MHz	Main:-1.33 Aux:0.44
	5150~5250MHz	Main:-0.68 Aux:-1.48	5725~5850MHz	Main:-2.42 Aux:-2.45		5150~5250MHz	Main:0.47 Aux:0.32	5725~5850MHz	Main:-0.8 Aux:-0.98
	5250~5350MHz	Main:-0.68 Aux:-1.48				5250~5350MHz	Main:-0.42 Aux:0.32		

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	HLZRXMG1
Equipment Name	Notebook Computer
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Channel Bandwidth	LTE Band 02:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 04:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 05:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 07: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Data only
LTE MPR permanently built-in by design	**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3**

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
256 QAM	≥ 1						≤ 5

LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.
Power reduction applied to satisfy SAR compliance	Yes, Proximity Sensor.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 14.
LTE Carrier Aggregation Additional Information	2. This device supports maximum of 3 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

Transmission (H, M, L) channel numbers and frequencies in each LTE band

LTE Band 2

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

LTE Band 4

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

LTE Band 5

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844

LTE Band 7

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560

LTE Band 12

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711

LTE Band 13

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		

LTE Band 14

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Channel #	Channel #	Freq.(MHz)
L	23305	790.5	23330	793
M	23330	793		
H	23355	795.5		

LTE Band 17

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711

LTE Band 25

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

LTE Band 26										
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5

LTE Band 30				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	27685	2307.5	27710	2310
M	27710	2310		
H	27735	2312.5		

LTE Band 38								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610

LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

LTE Band 71								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5
H	133447	695.5	133422	693	133397	690.5	133372	688

LTE Band 48								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560
LM	55810	3607	55815	3607.5	55820	3608	55830	3609
MH	56170	3643	56165	3642.5	56160	3642	56150	3641
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690

3.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
FCC	HLZRXMG1
Equipment Name	Notebook Computer
Operating Frequency Range of each 5G NR transmission band	5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz
Channel Bandwidth	5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n41: 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B5/B12
LTE Anchor Bands for n5	LTE B2/30/48/66
LTE Anchor Bands for n41	LTE B2/25/26/66
LTE Anchor Bands for n66	LTE B5/12/13/48
LTE Anchor Bands for n71	LTE B2/66

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band

NR Band 2

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860
M	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900

NR Band 5

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165300	826.5	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5
H	169300	846.5	168800	844	168300	841.5	167800	839

NR Band 41

	Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501204	2506.02	503202	2516.01	504204	2521.02	505200	2526	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	535998	2679.99	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640

NR Band 66

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720
M	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770

NR Band 71

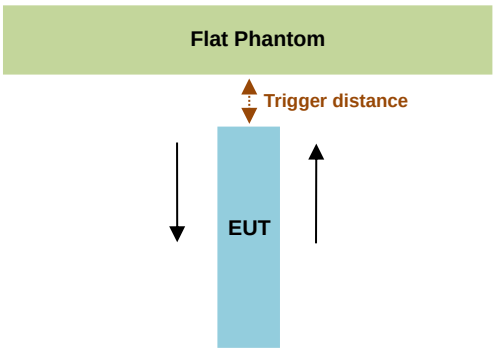
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133100	665.5	133600	668	13410	670.5	134600	673
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5
H	139100	695.5	138600	693	13810	690.5	137600	688

4. Sensor Triggering Test

4.1 Proximity sensor triggering Considerations

<Proximity Sensor Triggering Distance (KDB 616217 D04 section 6.2)>:

For the device is fully integrated, touch sensing capacitive sensor. It uses a charge transfer capacitive acquisition method that is capable of near range proximity detection. In this device offers a state of the art capacitive sensing engine with an embedded sampling capacitor and voltage regulator allowing the overall solution cost to be reduced and improving system immunity in noisy environments.
Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed. The details are illustrated as following, and the shortest triggering distances were reported and used for SAR assessment.
In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.



WWAN Ant 1

Proximity Sensor Trigger Distance (mm)						
Position	Bottom of Laptop		Bottom Face		Edge 2	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	21	12	23	18	26	21

WWAN Ant 2

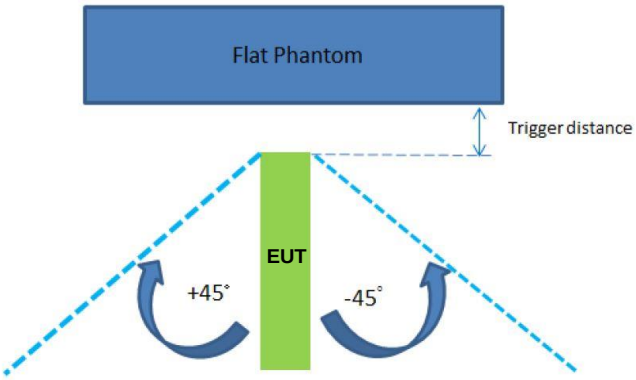
Proximity Sensor Trigger Distance (mm)						
Position	Bottom of Laptop		Bottom Face		Edge 4	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	23	13	20	16	26	23

<Proximity Sensor Triggering Coverage (KDB 616217 D04 section 6.3)>:

If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.
For this device, although the senor is spatially offset, there is no trigger condition where the antenna is next to the user but the sensor is laterally further away, therefore proximity sensor coverage testing is not required.
This procedure is not required because antenna and sensor are collocated and the peak SAR location is overlapping with the sensor.

<Tablet Tilt angle influences to proximity sensor triggering (KDB 616217 D04 section 6.4)>:

The influence of table tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom, at above separation distance.
Rotating the tablet around the edge next to the phantom in ≤ 10° increments until the tablet is ± 45° from the vertical position at 0°, and the maximum output power remains in the reduced mode.



The Sensor Trigger Distance (mm)				
Antenna	WWAN Ant 1		WWAN Ant 2	
Position	Edge 2		Edge 4	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	20	20	21	21

Proximity sensor power reduction

Exposure Position / wireless mode	Bottom Face / Edge 2 / Edge 4	Bottom of Laptop
WCDMA Band V	9.4 dB	4.2 dB
WCDMA Band II	11.5 dB	6.5 dB
WCDMA Band IV	13.1 dB	6.1 dB
LTE Band 2/25	9.9 dB	6.6 dB
LTE Band 4/66	12.2 dB	6.7 dB
LTE Band 5/26	9.2 dB	2.4 dB
LTE Band 5/26_Ant 2	10 dB	3.8 dB
LTE Band 7	11.1 dB	3.3 dB
LTE Band 12/17	6.5 dB	4.3 dB
LTE Band 12/17_Ant 2	7.5 dB	5.2 dB
LTE Band 13	8.5 dB	5.3 dB
LTE Band 13_Ant 2	7.5 dB	5.2 dB
LTE Band 14	8.4 dB	5.1 dB
LTE Band 14_Ant 2	7.7 dB	5 dB
LTE Band 30	12.9 dB	4.6 dB
LTE Band 38	12.1 dB	3.9 dB
LTE Band 41	12.1 dB	3.9 dB
LTE Band 41 HPUE	11.4 dB	3.1 dB
LTE Band 48_Ant 2	11 dB	3.7 dB
LTE Band 71	6.1 dB	4.1 dB
LTE Band 71_Ant 2	8 dB	5.5 dB
n2	9.7 dB	6.1 dB
n5	8.3 dB	3.7 dB
n5_Ant 2	9 dB	2.8 dB
n41	13.7 dB	5.4 dB
n41_Ant 2	14.5 dB	6.9 dB
n66	10.9 dB	4.9 dB
n71	5.8 dB	4.2 dB
n71_Ant 2	6 dB	5.5 dB

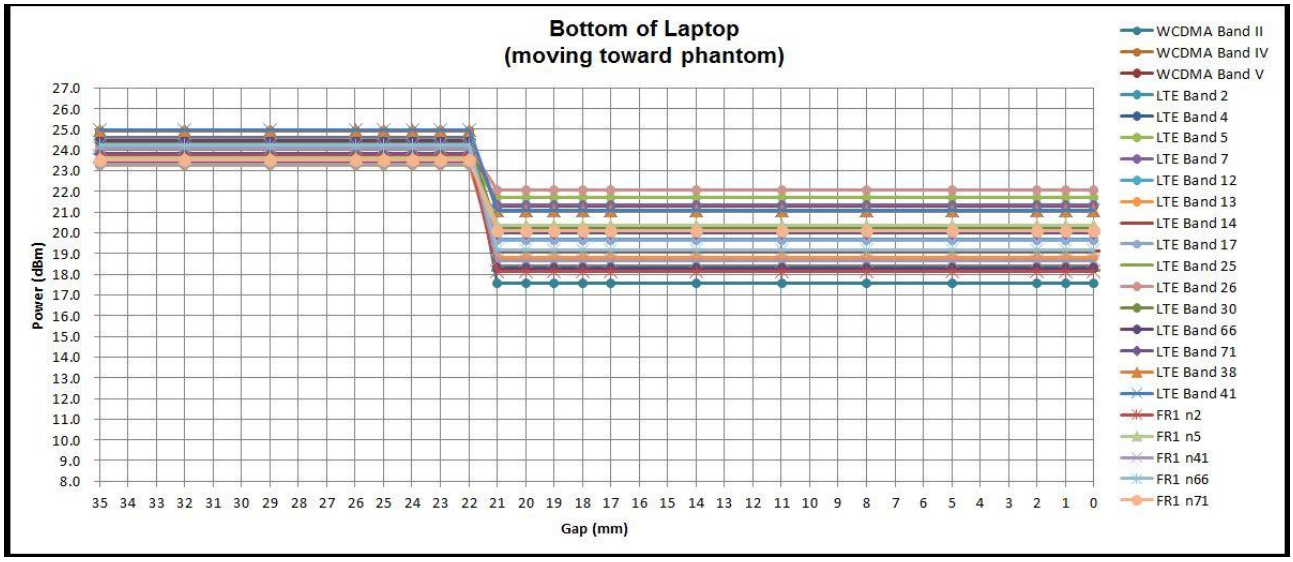
Remark:

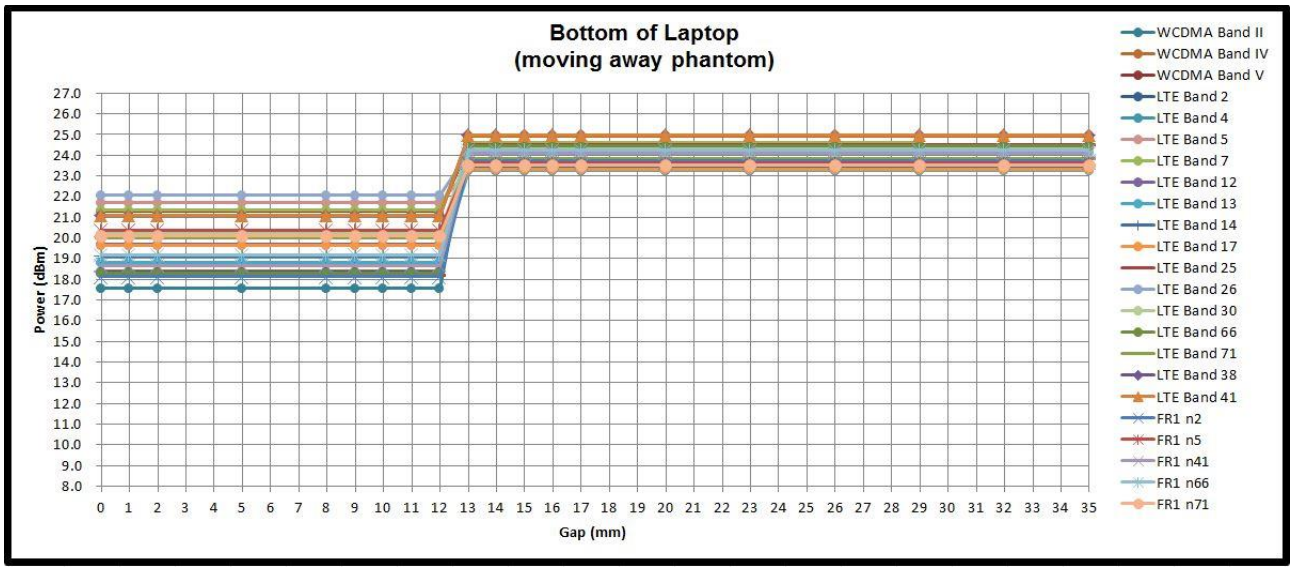
1. Reduced maximum limit applied by activation of proximity sensor.
2. Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown and described in exhibit “P-Sensor operational description
3. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1 was performed:
   (a) WWAN Ant 1
   - Bottom of Laptop: 11 mm
   - Bottom Face: 17 mm
   - Edge2: 19 mm

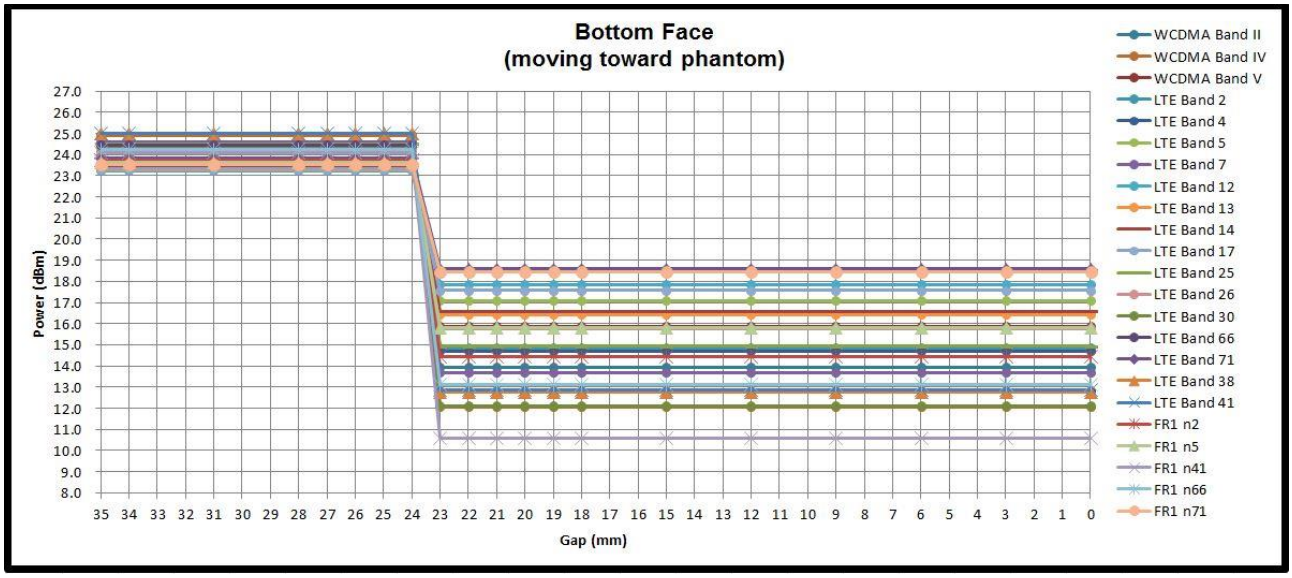
   (b) WWAN Ant 2
   - Bottom of Laptop: 12mm
   - Bottom Face: 15mm
   - Edge4: 20 mm

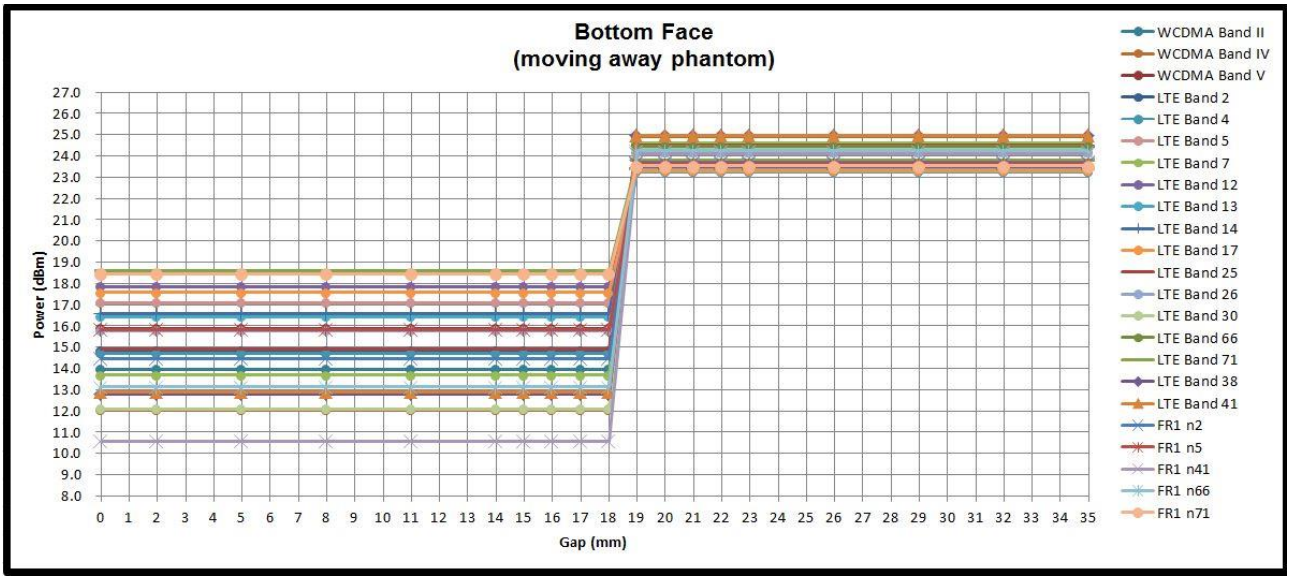
Power Measurement during Sensor Trigger distance testing

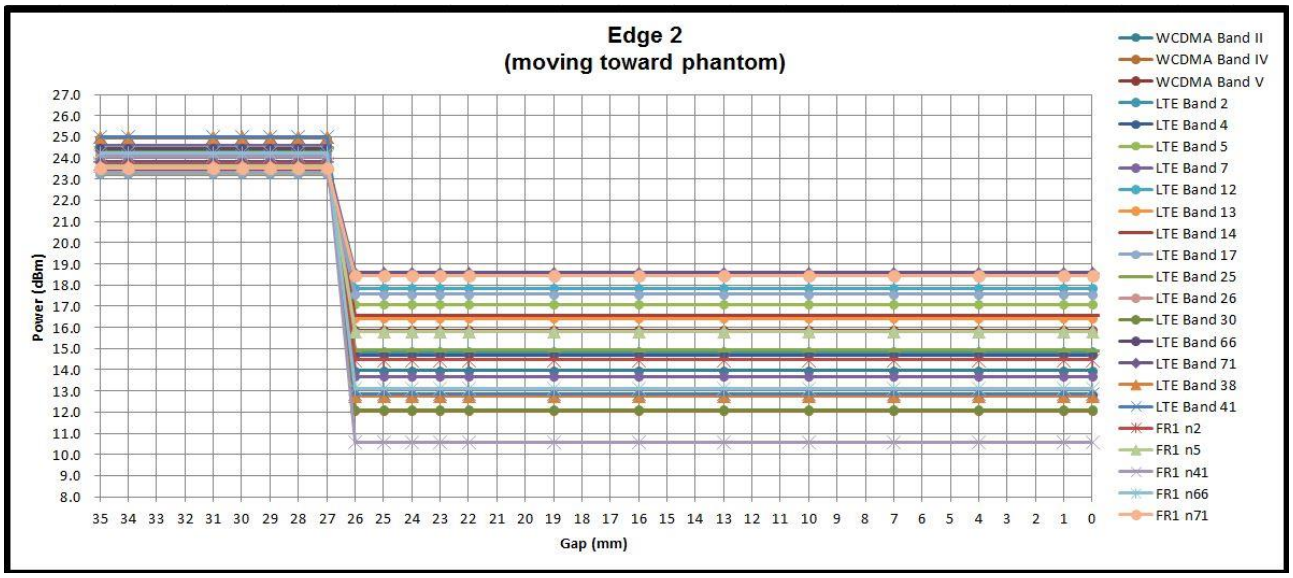
WWAN Ant 1

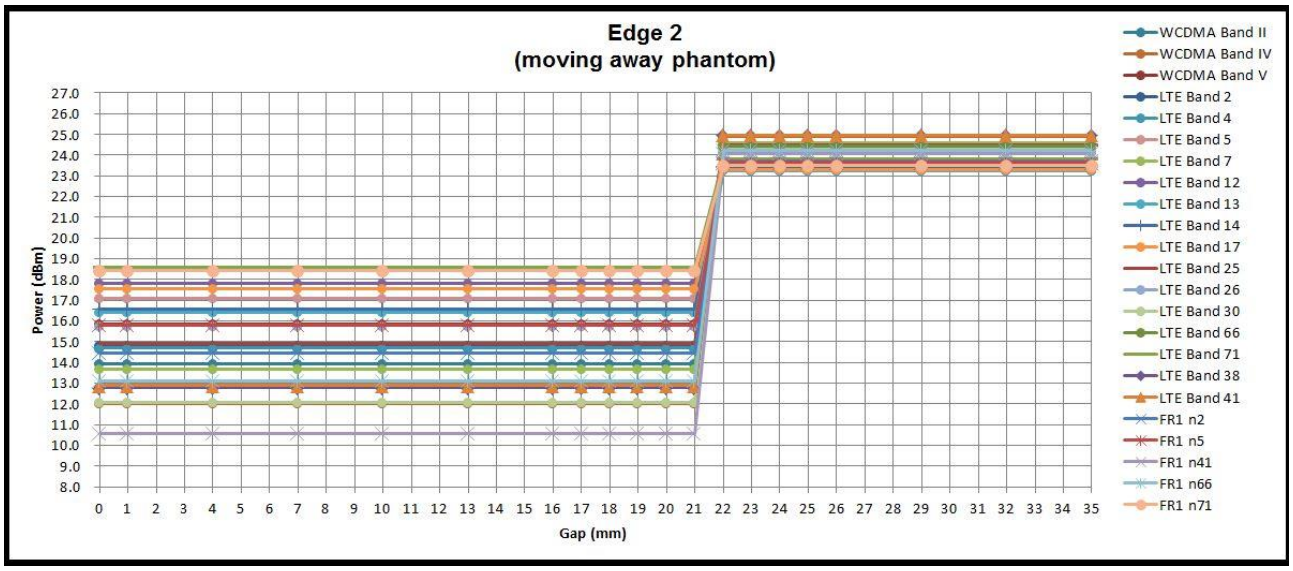




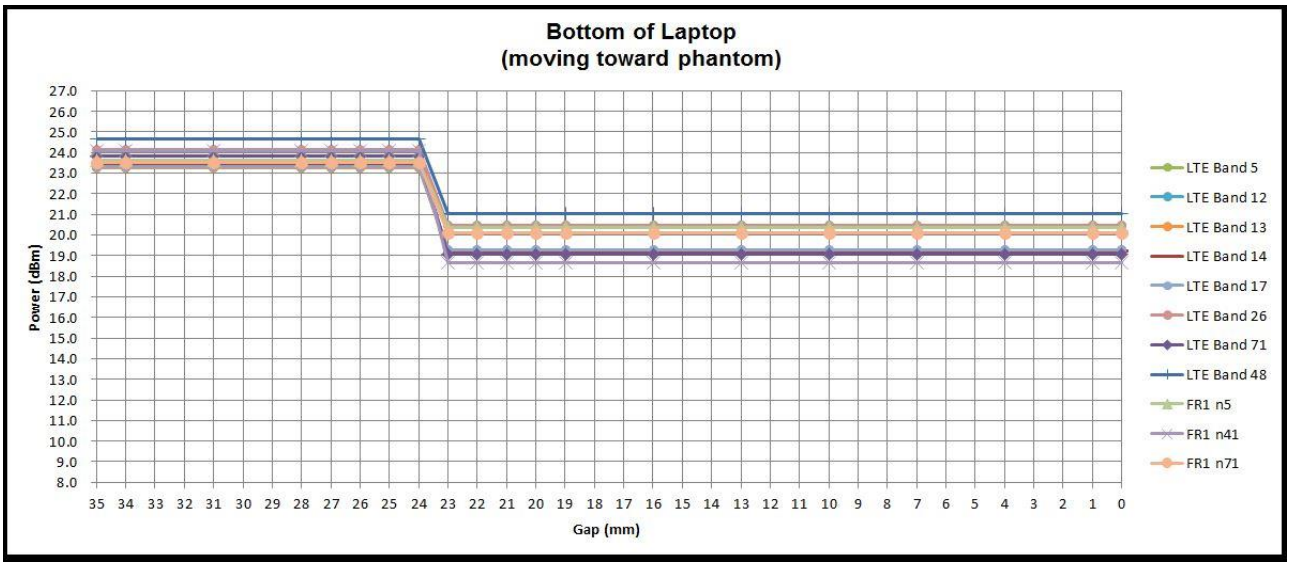

Bottom Face
(moving toward phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 71
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n41
FR1 n66
FR1 n71

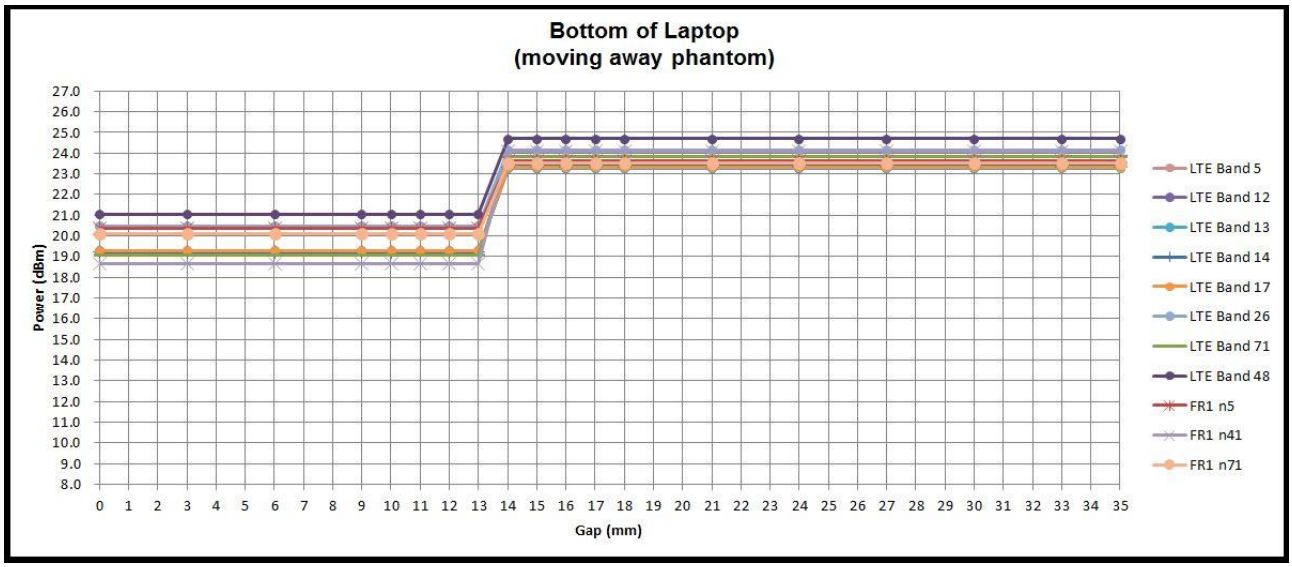

Bottom Face
(moving away phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 71
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n41
FR1 n66
FR1 n71

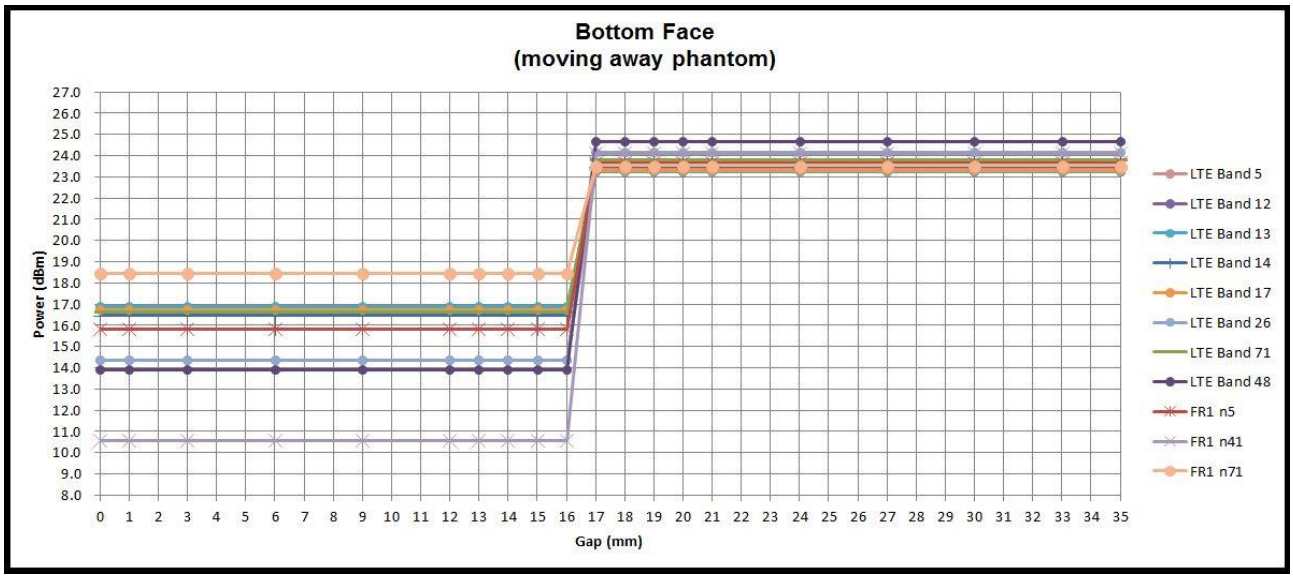

Edge 2
(moving toward phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 71
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n41
FR1 n66
FR1 n71

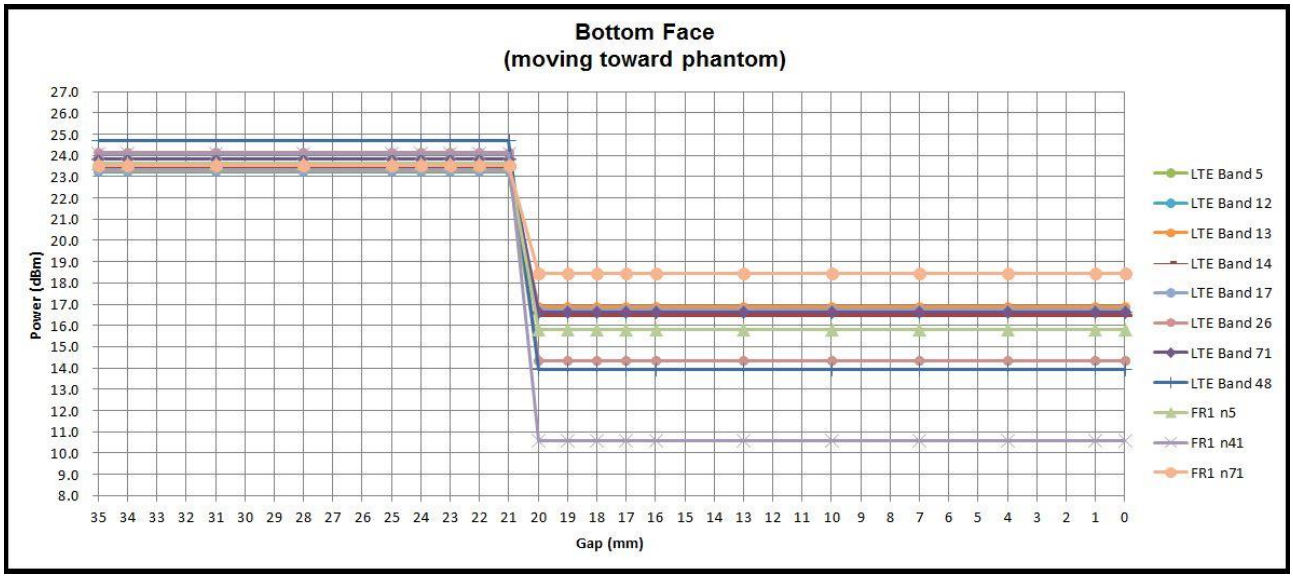

Edge 2
(moving away phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 71
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n41
FR1 n66
FR1 n71

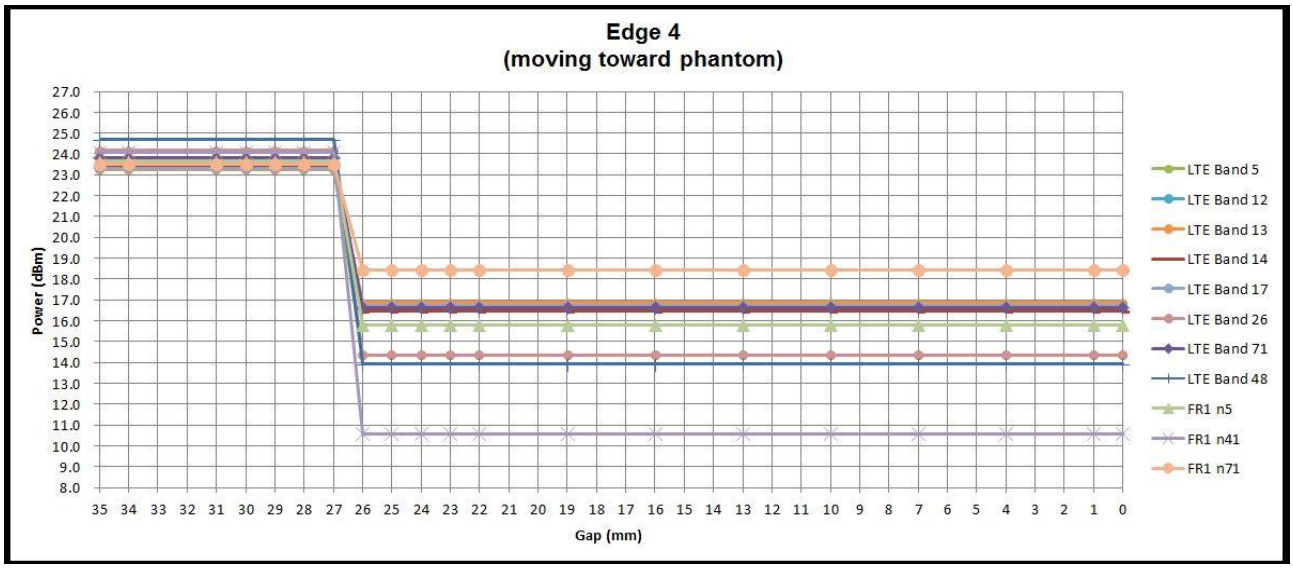
WWAN Ant 2

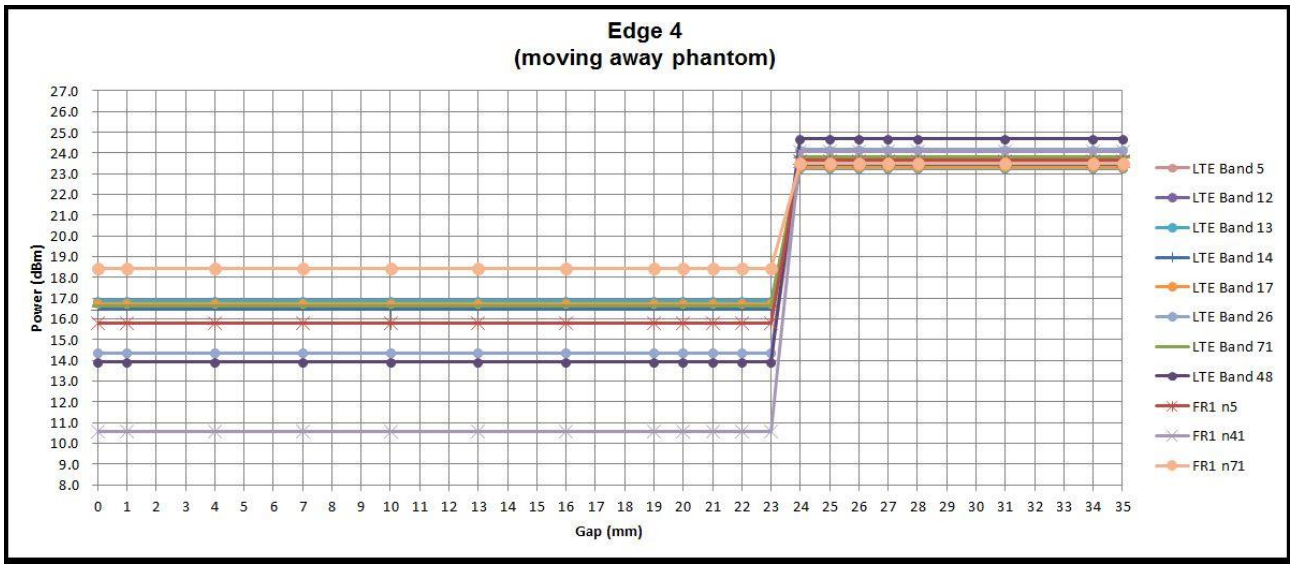

Bottom of Laptop
(moving toward phantom)
Power (dBm)
Gap (mm)
LTE Band 5
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 26
LTE Band 71
LTE Band 48
FR1 n5
FR1 n41
FR1 n71


Bottom of Laptop
(moving away phantom)
Power (dBm)
Gap (mm)
LTE Band 5
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 26
LTE Band 71
LTE Band 48
FR1 n5
FR1 n41
FR1 n71


Bottom Face
(moving away phantom)
Power (dBm)
Gap (mm)
LTE Band 5
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 26
LTE Band 71
LTE Band 48
FR1 n5
FR1 n41
FR1 n71


Bottom Face
(moving toward phantom)
Power (dBm)
Gap (mm)
LTE Band 5
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 26
LTE Band 71
LTE Band 48
FR1 n5
FR1 n41
FR1 n71


Edge 4
(moving toward phantom)
Power (dBm)
Gap (mm)
LTE Band 5
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 26
LTE Band 71
LTE Band 48
FR1 n5
FR1 n41
FR1 n71


Edge 4
(moving away phantom)
Power (dBm)
Gap (mm)
LTE Band 5
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 26
LTE Band 71
LTE Band 48
FR1 n5
FR1 n41
FR1 n71

4.2 Lid angle power verification

General Note:

1. for lid angle power verification based on P-sensor is triggered, due to only when the P-sensor is trigger which the laptop and tablet mode have different output power level.
2. This device is convertible type notebook PC, and there have Laptop and Tablet two usage way, when end user is used different mode which the device will according current mode to limit different maximum power, according to 201911 TCBC workshop Hall effect and Gravity sensor guidance to detect lid angle for the power verification in different usage mode was following below step:

   Step 1: With the lid is in closed mode (0 degrees), open the screen in 10 degree steps until laptop mode is obtained
   Step 2: Lower the screen 5 degrees. Closed mode should be reobtained. If not keep lowering in 5 degree steps.
   Step 3: Open the screen in 1 degree steps until laptop mode is reobtained
   Step 4: Continue opening the screen in 1 degree steps until at least 5 degrees past where laptop mode was obtained
   Step 5: Then continue opening the screen in 10 degree steps until tablet mode is obtained
   Step 6: Power measurements should be taken at each step
   Step 7: Reverse this procedure going from tablet mode back down to closed mode

When P-sensor is active

WWAN Ant 1

when the screen angle is from 360 degree to 0 degree																					
	Wireless		UMTS			LTE											5G NR				
	Band		B2	B4	B5	B2/25	B4/66	B5/26	B7	B12/17	B13	B14	B30	B38/41	B41 HPUE	B71	FR1 n2	FR1 n5	FR1 n41	FR1 n66	FR1 n71
Screen angle (degree)	Tablet	360	14.00	12.40	16.10	15.10	12.80	15.80	13.90	18.50	16.50	16.60	12.10	12.90	15.60	18.90	15.30	16.70	11.30	14.10	19.20
		350	13.92	12.22	16.08	15.00	12.54	15.67	13.81	18.33	16.38	16.60	12.07	12.81	15.54	18.69	15.23	16.70	11.15	13.87	19.19
		340	13.74	12.14	15.85	14.83	12.80	15.76	13.81	18.24	16.25	16.48	11.87	12.71	15.59	18.78	15.22	16.52	11.20	13.93	18.95
		330	13.71	12.36	15.85	14.91	12.77	15.57	13.90	18.33	16.22	16.35	11.83	12.77	15.54	18.61	15.16	16.47	11.30	13.81	18.91
		320	13.89	12.15	16.02	14.81	12.61	15.51	13.73	18.23	16.48	16.30	11.84	12.62	15.38	18.67	15.19	16.69	11.03	13.90	19.18
		310	13.73	12.23	15.97	15.02	12.69	15.55	13.68	18.27	16.23	16.31	11.84	12.62	15.38	18.75	15.14	16.68	11.03	13.82	19.09
		300	13.86	12.21	16.01	14.80	12.69	15.56	13.66	18.20	16.22	16.36	11.85	12.84	15.52	18.84	15.12	16.63	11.20	13.91	19.08
		290	14.00	12.17	16.06	15.01	12.58	15.57	13.80	18.30	16.38	16.35	12.00	12.74	15.47	18.85	15.06	16.62	11.00	13.98	19.06
		280	13.73	12.35	16.00	14.84	12.76	15.51	13.60	18.20	16.21	16.37	11.99	12.82	15.56	18.71	15.03	16.64	11.21	14.06	18.93
		270	13.98	12.24	16.02	14.97	12.64	15.56	13.78	18.26	16.49	16.38	12.00	12.70	15.42	18.84	15.17	16.70	11.28	13.92	18.97
		260	13.73	12.22	15.87	15.05	12.80	15.79	13.72	18.21	16.26	16.56	11.83	12.84	15.58	18.63	15.11	16.65	11.28	13.91	18.96
		250	13.76	12.20	15.84	14.96	12.72	15.60	13.65	18.40	16.46	16.57	11.98	12.68	15.30	18.63	15.23	16.60	11.09	14.08	19.16
		240	13.93	12.35	15.84	15.01	12.72	15.59	13.64	18.31	16.38	16.43	11.91	12.84	15.38	18.82	15.02	16.61	11.02	14.06	19.09
		230	13.97	12.11	15.81	14.87	12.57	15.68	13.67	18.45	16.20	16.47	11.94	12.79	15.55	18.75	15.22	16.53	11.27	13.96	19.13
		220	13.94	12.33	15.94	15.07	12.57	15.57	13.80	18.32	16.49	16.57	11.83	12.88	15.58	18.61	15.15	16.61	11.23	14.07	19.13
		210	13.74	12.34	15.84	14.99	12.78	15.62	13.70	18.20	16.34	16.58	12.10	12.69	15.38	18.61	15.03	16.44	11.26	13.98	19.19
		200	13.71	12.10	16.03	15.10	12.70	15.80	13.83	18.42	16.28	16.53	12.02	12.74	15.30	18.80	15.24	16.49	11.19	13.91	18.97
		195	13.85	12.39	15.94	14.97	12.61	15.66	13.90	18.47	16.25	16.32	12.08	12.64	15.42	18.69	15.14	16.50	11.29	13.87	19.06
		194	14.00	12.10	15.83	14.85	12.73	15.72	13.63	18.34	16.39	16.57	11.97	12.65	15.37	18.86	15.26	16.49	11.29	13.93	19.03
		193	13.87	12.12	16.07	14.91	12.53	15.66	13.60	18.34	16.32	16.45	11.92	12.82	15.46	18.62	15.28	16.70	11.00	13.99	18.91
		192	13.77	12.10	15.85	14.83	12.55	15.55	13.62	18.42	16.33	16.52	11.83	12.71	15.42	18.88	15.07	16.48	11.13	14.10	19.12
		191	13.83	12.29	15.87	14.97	12.65	15.50	13.70	18.34	16.37	16.47	12.06	12.66	15.48	18.88	15.16	16.48	11.21	13.90	19.14
		190	13.76	12.25	15.94	14.98	12.71	15.64	13.82	18.47	16.34	16.59	12.04	12.76	15.41	18.73	15.10	16.65	11.22	13.87	19.16
	Notebook	189	19.00	19.40	21.30	18.40	18.30	22.60	21.70	20.70	19.70	19.90	20.40	21.10	23.90	20.90	18.90	21.30	19.60	20.10	20.80
		188	18.71	19.32	21.23	18.40	18.06	22.42	21.46	20.54	19.56	19.68	20.12	20.82	23.69	20.62	18.76	21.02	19.37	19.99	20.54
		187	18.89	19.21	21.02	18.20	18.25	22.48	21.62	20.54	19.48	19.80	20.16	21.10	23.71	20.70	18.63	21.05	19.30	19.82	20.55
		186	18.88	19.40	21.10	18.30	18.03	22.33	21.43	20.50	19.53	19.63	20.11	20.93	23.82	20.90	18.81	21.08	19.50	19.87	20.71
		185	18.86	19.23	21.29	18.16	18.27	22.52	21.40	20.59	19.66	19.82	20.32	20.80	23.83	20.63	18.77	21.03	19.56	19.98	20.58
		180	18.73	19.11	21.00	18.39	18.09	22.45	21.70	20.54	19.63	19.70	20.21	21.01	23.75	20.70	18.86	21.12	19.45	20.07	20.78
		175	18.72	19.21	21.04	18.11	18.28	22.39	21.66	20.49	19.44	19.83	20.22	21.05	23.62	20.72	18.78	21.00	19.47	19.91	20.53
		170	18.88	19.20	21.21	18.40	18.10	22.51	21.45	20.46	19.42	19.71	20.25	20.88	23.89	20.74	18.88	21.02	19.56	19.88	20.50
		160	18.83	19.38	21.11	18.31	18.30	22.41	21.61	20.69	19.68	19.71	20.38	20.83	23.65	20.77	18.63	21.20	19.53	20.05	20.73
		150	18.95	19.22	21.09	18.30	18.16	22.54	21.59	20.53	19.54	19.88	20.15	20.87	23.80	20.68	18.64	21.23	19.39	19.82	20.64
		140	18.91	19.28	21.25	18.27	18.03	22.52	21.64	20.62	19.60	19.83	20.34	20.98	23.74	20.63	18.82	21.02	19.44	19.96	20.63
		130	18.96	19.18	21.10	18.27	18.17	22.51	21.46	20.59	19.49	19.62	20.24	20.98	23.80	20.67	18.65	21.13	19.55	19.98	20.51
		120	18.77	19.32	21.18	18.31	18.23	22.51	21.68	20.61	19.58	19.75	20.20	21.02	23.67	20.62	18.71	21.10	19.56	20.04	20.66
		110	18.89	19.16	21.29	18.12	18.14	22.35	21.62	20.46	19.45	19.71	20.25	20.93	23.64	20.61	18.84	21.03	19.40	19.96	20.60
		100	18.77	19.15	21.07	18.31	18.11	22.34	21.55	20.52	19.68	19.83	20.11	21.06	23.78	20.88	18.71	21.25	19.41	19.80	20.60
		90	18.83	19.11	21.11	18.20	18.12	22.55	21.52	20.68	19.48	19.70	20.18	20.81	23.72	20.83	18.86	21.23	19.51	19.96	20.76

		80	18.81	19.16	21.26	18.18	18.22	22.31	21.51	20.57	19.66	19.65	20.39	21.05	23.89	20.86	18.86	21.03	19.43	19.88	20.59
		70	18.95	19.35	21.05	18.27	18.27	22.36	21.41	20.58	19.49	19.77	20.37	20.80	23.83	20.80	18.65	21.15	19.54	20.01	20.57
		60	18.80	19.18	21.02	18.29	18.15	22.58	21.69	20.47	19.51	19.69	20.27	21.03	23.61	20.83	18.87	21.12	19.55	19.94	20.67
		50	18.91	19.22	21.11	18.37	18.01	22.56	21.47	20.66	19.69	19.64	20.15	21.03	23.67	20.77	18.67	21.13	19.40	20.10	20.59
		40	18.88	19.36	21.30	18.40	18.02	22.39	21.45	20.61	19.66	19.85	20.12	20.82	23.78	20.85	18.87	21.05	19.30	19.92	20.75
		30	18.87	19.10	21.02	18.14	18.23	22.54	21.41	20.44	19.62	19.80	20.39	21.06	23.67	20.82	18.68	21.15	19.46	19.89	20.60
		20	18.77	19.13	21.13	18.17	18.30	22.59	21.47	20.57	19.62	19.63	20.22	20.80	23.76	20.84	18.84	21.11	19.38	19.92	20.80
		10	18.95	19.34	21.23	18.15	18.27	22.48	21.44	20.64	19.69	19.90	20.25	20.92	23.87	20.88	18.85	21.14	19.55	19.99	20.62
		0	19.00	19.31	21.10	18.38	18.09	22.60	21.66	20.61	19.65	19.82	20.21	21.00	23.74	20.62	18.84	21.10	19.60	20.00	20.80

when the screen angle is from 0 degree to 360 degree																					
	Wireless		UMTS			LTE											5G NR				
	Band		B2	B4	B5	B2/25	B4/66	B5/26	B7	B12/17	B13	B14	B30	B38/41	B41_HPUE	B71	FR1 n2	FR1 n5	FR1 n41	FR1 n66	FR1 n71
		0	19.00	19.40	21.30	18.40	18.30	22.60	21.70	20.70	19.70	19.90	20.40	21.10	23.90	20.90	18.90	21.30	19.60	20.10	20.80
		10	18.85	19.40	21.10	18.20	18.23	22.50	21.48	20.70	19.58	19.76	20.27	20.96	23.61	20.71	18.62	21.11	19.51	20.03	20.54
		20	18.74	19.14	21.21	18.37	18.01	22.49	21.46	20.64	19.41	19.85	20.33	21.05	23.75	20.90	18.79	21.24	19.45	19.83	20.58
		30	18.77	19.16	21.00	18.29	18.08	22.45	21.64	20.55	19.41	19.85	20.18	21.00	23.76	20.82	18.75	21.21	19.49	19.90	20.77
		40	18.86	19.20	21.04	18.15	18.04	22.59	21.57	20.55	19.62	19.84	20.13	21.09	23.61	20.67	18.86	21.24	19.32	20.05	20.65
		50	18.97	19.30	21.18	18.24	18.14	22.34	21.44	20.62	19.48	19.82	20.18	20.97	23.64	20.60	18.88	21.11	19.40	19.84	20.52
		60	18.83	19.11	21.00	18.31	18.14	22.33	21.61	20.67	19.61	19.63	20.38	20.98	23.62	20.80	18.77	21.20	19.35	20.05	20.79
		70	18.99	19.12	21.24	18.18	18.29	22.45	21.53	20.54	19.43	19.66	20.38	21.09	23.85	20.84	18.81	21.18	19.41	20.07	20.63
		80	18.76	19.30	21.30	18.10	18.26	22.53	21.49	20.53	19.41	19.73	20.35	20.89	23.74	20.73	18.79	21.05	19.44	20.02	20.62
		90	18.96	19.11	21.15	18.35	18.22	22.53	21.57	20.68	19.53	19.80	20.40	20.99	23.85	20.70	18.84	21.00	19.49	19.90	20.53
		100	18.75	19.28	21.10	18.29	18.10	22.40	21.61	20.67	19.46	19.69	20.21	20.86	23.67	20.66	18.78	21.05	19.34	20.07	20.72
		110	18.75	19.13	21.02	18.35	18.04	22.53	21.54	20.70	19.70	19.62	20.22	20.96	23.64	20.60	18.78	21.24	19.44	19.81	20.65
	Notebook	120	18.73	19.12	21.17	18.34	18.18	22.35	21.50	20.58	19.43	19.79	20.16	21.10	23.60	20.72	18.79	21.07	19.36	20.04	20.69
		130	18.95	19.38	21.26	18.36	18.08	22.58	21.60	20.42	19.62	19.86	20.20	20.87	23.74	20.71	18.65	21.19	19.50	19.82	20.63
		140	18.88	19.18	21.04	18.33	18.08	22.45	21.56	20.43	19.42	19.86	20.36	20.99	23.89	20.86	18.82	21.05	19.54	19.97	20.62
		150	18.73	19.18	21.23	18.25	18.08	22.52	21.55	20.62	19.56	19.90	20.12	20.81	23.67	20.63	18.88	21.12	19.54	19.82	20.73
		160	18.93	19.12	21.16	18.19	18.24	22.31	21.56	20.43	19.53	19.63	20.37	21.10	23.89	20.79	18.85	21.10	19.54	19.84	20.79
		170	18.96	19.33	21.00	18.23	18.26	22.59	21.60	20.64	19.68	19.69	20.15	21.01	23.66	20.79	18.70	21.14	19.31	20.01	20.69
		175	18.85	19.35	21.00	18.23	18.18	22.43	21.52	20.65	19.48	19.84	20.14	21.09	23.66	20.67	18.69	21.21	19.54	19.84	20.55
		180	18.75	19.29	21.18	18.12	18.16	22.43	21.43	20.63	19.68	19.65	20.31	20.97	23.61	20.90	18.60	21.01	19.49	19.86	20.59
		185	18.94	19.10	21.08	18.36	18.27	22.30	21.56	20.63	19.51	19.73	20.28	21.07	23.68	20.60	18.66	21.14	19.40	20.03	20.66
		186	18.95	19.32	21.25	18.30	18.19	22.37	21.64	20.54	19.57	19.76	20.12	20.84	23.86	20.86	18.61	21.06	19.31	19.81	20.79
Screen angle (degree)		187	19.00	19.19	21.21	18.15	18.29	22.31	21.44	20.52	19.70	19.71	20.36	20.95	23.64	20.83	18.72	21.00	19.55	19.87	20.50
		188	18.97	19.36	21.03	18.19	18.25	22.48	21.59	20.53	19.41	19.64	20.14	21.09	23.84	20.78	18.68	21.14	19.36	19.97	20.66
		189	18.95	19.35	21.27	18.10	18.20	22.31	21.50	20.68	19.68	19.85	20.27	21.07	23.84	20.73	18.88	21.24	19.59	19.94	20.75
		190	14.00	12.40	16.10	15.10	12.80	15.80	13.90	18.50	16.50	16.60	12.10	12.90	15.60	18.90	15.30	16.70	11.30	14.10	19.20
		191	13.79	12.27	15.80	14.82	12.62	15.60	13.86	18.36	16.20	16.35	11.89	12.79	15.38	18.65	15.29	16.53	11.07	13.83	18.94
		192	13.97	12.13	15.82	14.87	12.58	15.52	13.74	18.30	16.50	16.31	11.96	12.64	15.48	18.80	15.27	16.50	11.07	14.03	19.09
		193	13.79	12.25	15.87	14.99	12.60	15.77	13.69	18.46	16.49	16.58	12.08	12.60	15.50	18.69	15.08	16.53	11.05	13.97	18.91
		194	13.77	12.26	15.82	15.09	12.60	15.58	13.74	18.22	16.36	16.35	11.81	12.61	15.35	18.66	15.07	16.47	11.28	14.04	19.08
		195	13.71	12.13	15.85	14.91	12.54	15.66	13.65	18.22	16.43	16.35	11.85	12.78	15.33	18.88	15.28	16.58	11.22	13.98	18.93
		190	13.84	12.16	16.02	15.10	12.74	15.53	13.62	18.24	16.45	16.45	12.10	12.61	15.38	18.64	15.04	16.55	11.05	14.10	19.02
		200	13.84	12.16	16.06	14.93	12.75	15.80	13.90	18.39	16.36	16.31	11.98	12.83	15.40	18.81	15.25	16.57	11.28	13.82	19.19
		210	13.72	12.31	16.04	15.07	12.73	15.69	13.84	18.33	16.46	16.32	11.81	12.67	15.35	18.61	15.16	16.60	11.17	13.94	19.00
		220	13.78	12.33	15.99	14.97	12.51	15.76	13.82	18.42	16.33	16.45	11.96	12.68	15.51	18.84	15.09	16.51	11.19	14.10	19.07
		230	13.81	12.24	15.96	15.05	12.79	15.70	13.75	18.47	16.21	16.44	11.84	12.81	15.41	18.60	15.25	16.70	11.26	13.99	19.08
		240	13.94	12.18	16.00	14.80	12.64	15.62	13.65	18.38	16.25	16.32	11.82	12.74	15.31	18.90	15.11	16.57	11.09	13.85	19.03
	Tablet	250	13.85	12.26	15.82	15.02	12.64	15.59	13.90	18.47	16.48	16.50	12.02	12.74	15.47	18.88	15.09	16.43	11.22	13.86	18.93
		260	13.95	12.34	16.02	15.06	12.71	15.70	13.80	18.26	16.50	16.46	12.06	12.73	15.46	18.79	15.30	16.64	11.29	13.84	19.12
		270	14.00	12.40	15.93	15.06	12.79	15.71	13.80	18.35	16.32	16.36	11.87	12.71	15.46	18.74	15.24	16.51	11.11	13.98	18.98
		280	13.93	12.35	15.97	14.83	12.75	15.73	13.76	18.22	16.37	16.33	12.04	12.70	15.45	18.82	15.17	16.54	11.23	13.94	18.99
		290	13.75	12.27	16.00	14.90	12.53	15.72	13.76	18.25	16.33	16.30	11.92	12.90	15.40	18.84	15.06	16.63	11.20	13.99	19.05
		300	13.77	12.32	15.83	14.82	12.53	15.62	13.63	18.44	16.39	16.43	11.81	12.90	15.32	18.64	15.20	16.45	11.26	13.91	19.04
		310	13.77	12.15	15.88	14.92	12.78	15.71	13.73	18.30	16.42	16.57	11.91	12.70	15.55	18.60	15.09	16.61	11.22	14.01	19.06
		320	13.96	12.11	16.08	15.03	12.75	15.51	13.77	18.24	16.40	16.49	11.80	12.74	15.58	18.61	15.14	16.69	11.00	14.10	19.00
		330	13.78	12.37	15.86	14.99	12.52	15.55	13.88	18.36	16.49	16.60	11.94	12.83	15.36	18.61	15.15	16.65	11.19	13.93	18.95
		340	13.72	12.28	15.96	14.99	12.53	15.80	13.61	18.43	16.21	16.51	12.03	12.61	15.33	18.68	15.13	16.62	11.04	13.98	19.02
		350	13.90	12.26	15.80	14.94	12.52	15.65	13.70	18.34	16.30	16.39	11.94	12.68	15.60	18.80	15.10	16.47	11.13	13.84	19.08
		360	13.99	12.15	15.84	15.05	12.70	15.62	13.86	18.37	16.20	16.58	11.93	12.73	15.52	18.80	15.08	16.56	11.03	13.87	19.00

WWAN Ant 2

when the screen angle is from 360 degree to 0 degree											
Screen angle (degree)	Wireless		LTE						5G NR		
	Band		B5/26	B12/17	B13	B14	B48	B71	FR1 n5	FR1 n41	FR1 n71
	Tablet	360	15.00	17.50	17.50	17.30	14.00	17.00	16.00	10.50	19.00
		350	14.80	17.50	17.49	17.24	13.92	16.82	15.82	10.43	18.98
		340	14.82	17.24	17.49	17.26	13.96	16.90	15.77	10.26	18.78
		330	14.93	17.43	17.23	17.28	14.00	16.76	15.81	10.25	18.78
		320	14.98	17.39	17.42	17.10	13.86	16.78	15.84	10.38	18.97
		310	14.97	17.39	17.36	17.04	13.85	16.71	15.80	10.36	18.93
		300	15.00	17.30	17.31	17.03	14.00	16.82	15.85	10.45	18.74
		290	14.75	17.48	17.49	17.23	13.98	16.73	15.78	10.37	18.95
		280	14.71	17.31	17.24	17.00	13.92	16.88	15.84	10.26	18.94
		270	14.72	17.43	17.34	17.14	13.72	16.70	15.77	10.44	18.76
		260	14.97	17.25	17.50	17.07	13.75	16.93	15.70	10.32	18.74
		250	14.82	17.32	17.42	17.24	13.74	16.91	15.88	10.21	18.79
		240	14.96	17.21	17.41	17.05	13.75	16.79	15.94	10.27	18.84
		230	14.86	17.42	17.32	17.10	13.96	16.82	15.81	10.22	18.95
		220	14.83	17.41	17.20	17.19	13.94	16.70	15.75	10.25	18.96
		210	14.85	17.37	17.36	17.26	13.91	16.71	15.99	10.25	18.99
		200	14.87	17.27	17.38	17.05	13.71	16.70	15.76	10.32	18.84
		195	14.94	17.43	17.21	17.18	13.83	17.00	15.86	10.37	18.77
		194	14.90	17.24	17.50	17.21	13.83	16.80	15.92	10.20	18.87
		193	14.98	17.34	17.39	17.11	13.79	16.99	15.77	10.31	18.97
		192	14.93	17.38	17.27	17.01	13.70	16.84	15.84	10.23	18.90
		191	14.95	17.31	17.21	17.13	13.77	16.76	15.72	10.25	18.86
		190	14.72	17.34	17.42	17.03	13.96	16.96	15.70	10.39	18.76
	Notebook	189	21.20	19.80	19.80	20.00	21.30	19.50	22.20	18.10	19.50
		188	21.17	19.80	19.70	19.88	21.03	19.45	21.93	18.08	19.37
		187	21.20	19.78	19.77	19.89	21.13	19.44	22.12	17.90	19.32
		186	21.11	19.60	19.80	19.99	21.27	19.24	22.15	17.97	19.29
		185	21.05	19.71	19.59	19.94	21.23	19.25	22.01	17.82	19.43
		180	21.13	19.80	19.69	19.78	21.20	19.34	22.13	17.88	19.31
		175	21.12	19.51	19.53	19.83	21.27	19.50	22.09	17.93	19.28
		170	21.09	19.60	19.69	19.96	21.29	19.41	22.08	17.89	19.34
		160	20.96	19.78	19.59	19.93	21.30	19.28	21.94	17.96	19.48
		150	21.06	19.59	19.53	19.84	21.10	19.39	22.13	17.93	19.33
		140	20.98	19.62	19.64	19.77	21.27	19.39	21.96	18.08	19.30
		130	21.03	19.50	19.64	19.90	21.13	19.28	22.02	17.84	19.41
		120	21.15	19.51	19.67	19.74	21.02	19.45	22.12	17.81	19.38
		110	21.07	19.54	19.73	19.73	21.11	19.42	22.13	17.84	19.24
		100	21.17	19.77	19.79	19.71	21.22	19.30	21.90	18.00	19.43
		90	21.04	19.51	19.72	19.72	21.10	19.21	21.98	17.84	19.48
		80	21.01	19.53	19.74	19.84	21.00	19.42	21.91	17.91	19.24
		70	20.91	19.53	19.67	19.99	21.14	19.39	21.97	17.81	19.32
		60	20.99	19.65	19.68	19.87	21.22	19.26	22.19	17.89	19.42
		50	20.98	19.60	19.58	19.97	21.21	19.22	22.18	18.07	19.20
		40	21.18	19.63	19.77	19.91	21.05	19.30	22.10	17.95	19.22
		30	21.18	19.55	19.59	19.93	21.16	19.20	21.92	17.93	19.29
		20	21.03	19.59	19.60	19.76	21.05	19.48	21.91	17.96	19.35
		10	20.90	19.78	19.80	19.70	21.00	19.23	22.02	17.85	19.45
		0	21.00	19.50	19.53	19.89	21.21	19.28	21.96	17.80	19.29

when the screen angle is from 0 degree to 360 degree											
	Wireless		LTE						5G NR		
	Band		B5/26	B12/17	B13	B14	B48	B71	FR1 n5	FR1 n41	FR1 n71
Screen angle (degree)	Notebook	0	21.20	19.80	19.80	20.00	21.30	19.50	22.20	18.10	19.50
		10	21.18	19.51	19.80	19.92	21.05	19.43	22.19	18.05	19.26
		20	21.04	19.69	19.80	19.78	21.18	19.33	21.97	17.82	19.46
		30	20.99	19.55	19.51	19.84	21.24	19.31	22.05	17.81	19.27
		40	21.10	19.78	19.50	19.93	21.27	19.41	22.14	17.92	19.34
		50	21.09	19.58	19.74	19.73	21.02	19.49	21.90	17.90	19.20
		60	21.17	19.67	19.59	19.92	21.29	19.39	22.02	17.84	19.28
		70	21.04	19.79	19.73	19.92	21.30	19.30	22.17	17.94	19.40
		80	20.94	19.71	19.77	20.00	21.15	19.35	21.94	18.07	19.39
		90	21.09	19.52	19.64	19.79	21.11	19.23	22.04	17.80	19.22
		100	21.07	19.71	19.66	19.91	21.13	19.50	21.90	17.89	19.35
		110	20.92	19.73	19.60	19.84	21.19	19.46	22.03	17.98	19.25
		120	20.95	19.77	19.61	19.78	21.24	19.36	21.93	17.93	19.41
		130	21.05	19.77	19.66	19.86	21.22	19.30	21.93	18.09	19.36
		140	21.02	19.69	19.70	19.90	21.16	19.20	22.12	17.82	19.22
		150	20.92	19.59	19.76	19.79	21.26	19.36	22.13	17.93	19.42
		160	21.20	19.51	19.53	19.82	21.21	19.26	22.05	17.87	19.43
		170	20.91	19.77	19.62	19.88	21.13	19.35	22.00	18.00	19.27
		175	20.96	19.66	19.56	19.71	21.26	19.48	21.97	17.89	19.49
		180	20.99	19.59	19.69	19.89	21.18	19.37	22.00	17.82	19.23
		185	21.20	19.52	19.52	19.80	21.23	19.26	22.00	17.92	19.33
		186	21.19	19.52	19.51	19.99	21.22	19.24	22.03	17.94	19.50
		187	20.96	19.75	19.61	19.94	21.24	19.29	22.18	17.89	19.27
		188	20.93	19.69	19.77	19.80	21.26	19.32	21.91	18.04	19.29
		189	21.11	19.63	19.69	19.72	21.08	19.33	22.07	17.85	19.34
	Tablet	190	15.00	17.50	17.50	17.30	14.00	17.00	16.00	10.50	19.00
		191	14.87	17.46	17.36	17.12	13.93	17.00	15.98	10.31	18.86
		192	14.86	17.36	17.39	17.06	13.86	16.73	15.79	10.41	18.75
		193	14.89	17.49	17.23	17.30	13.93	16.81	15.82	10.29	18.98
		194	14.96	17.41	17.24	17.13	13.77	16.94	15.95	10.42	18.80
		195	14.96	17.45	17.24	17.15	13.92	16.75	15.80	10.50	18.98
		200	14.76	17.38	17.36	17.11	13.82	16.94	15.82	10.50	18.70
		210	14.79	17.39	17.43	17.29	13.71	16.89	15.71	10.49	18.81
		220	14.97	17.31	17.36	17.09	13.75	16.77	15.79	10.26	18.72
		230	14.75	17.49	17.44	17.29	13.82	16.81	15.70	10.21	18.89
		240	14.76	17.25	17.22	17.03	13.89	16.73	15.73	10.35	18.72
		250	14.94	17.47	17.25	17.06	13.86	16.98	15.92	10.41	18.97
		260	14.82	17.39	17.24	17.27	13.87	16.89	15.86	10.45	18.73
		270	14.72	17.31	17.43	17.18	13.85	17.00	15.89	10.38	18.90
		280	14.81	17.45	17.45	17.13	13.89	16.97	15.75	10.22	18.81
		290	14.86	17.48	17.47	17.24	13.79	16.98	16.00	10.20	18.73
		300	14.85	17.27	17.24	17.12	13.74	16.77	15.84	10.37	18.88
		310	14.87	17.41	17.21	17.03	13.82	16.94	15.83	10.28	19.00
		320	15.00	17.34	17.24	17.13	13.82	16.80	15.86	10.24	18.74
		330	14.85	17.21	17.43	17.30	13.70	16.84	15.73	10.27	18.83
		340	14.75	17.29	17.46	17.18	13.91	16.79	15.77	10.23	18.79
		350	14.77	17.32	17.29	17.14	13.90	16.86	15.88	10.42	18.75
		360	14.93	17.46	17.29	17.17	13.91	16.96	16.00	10.40	18.82

When P-sensor is non-active

WWAN Ant 1

when the screen angle is from 360 degree to 0 degree																					
	Wireless		UMTS			LTE											5G NR				
	Band		B2	B4	B5	B2/25	B4/66	B5/26	B7	B12/17	B13	B14	B30	B38/41	B41 HPUE	B71	FR1 n2	FR1 n5	FR1 n41	FR1 n66	FR1 n71
Screen angle (degree)	Tablet	360	25.50	25.50	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	27.00	25.00	25.00	25.00	25.00	25.00	25.00
		350	25.40	25.44	24.79	24.88	24.86	24.81	24.87	24.77	24.91	24.97	24.79	24.85	26.71	24.70	24.86	24.91	24.97	24.81	24.96
		340	25.47	25.27	24.85	24.72	24.76	24.81	24.78	24.86	24.84	24.89	24.92	24.81	26.73	24.70	24.98	24.86	24.86	24.83	24.77
		330	25.28	25.21	24.76	24.74	24.82	24.78	24.78	24.97	24.94	24.86	24.91	24.77	27.00	24.96	24.71	24.98	24.78	24.76	25.00
		320	25.29	25.44	24.75	24.73	24.94	24.75	24.80	24.78	24.93	24.87	24.96	24.95	26.84	24.98	24.95	24.78	24.96	24.94	24.86
		310	25.44	25.29	24.90	24.92	24.73	24.70	24.77	24.94	24.97	24.92	24.94	24.96	26.71	24.80	24.87	24.84	25.00	24.98	24.80
		300	25.35	25.48	24.73	24.73	24.73	24.95	24.89	24.89	24.95	25.00	24.86	24.99	26.91	24.83	24.91	24.88	24.88	24.87	24.93
		290	25.38	25.23	24.91	24.78	24.92	24.70	24.75	24.89	25.00	24.82	25.00	24.95	26.79	25.00	24.77	24.75	24.85	24.76	25.00
		280	25.45	25.23	24.73	24.71	24.92	24.73	24.91	24.96	24.84	24.95	24.89	24.98	26.80	24.91	24.83	24.87	24.98	24.98	24.96
		270	25.36	25.25	24.95	24.74	24.71	24.83	24.78	24.92	25.00	24.77	24.82	24.78	26.80	24.88	24.85	24.86	24.80	24.93	24.87
		260	25.27	25.45	24.90	24.98	24.74	24.99	24.71	24.70	24.76	24.85	24.78	24.72	26.72	24.91	24.84	24.86	24.88	24.80	24.95
		250	25.37	25.26	24.82	24.77	24.96	24.96	24.87	24.80	24.95	24.86	24.92	24.95	26.78	24.73	24.91	24.99	24.88	24.82	24.99
		240	25.32	25.37	24.96	24.72	24.95	24.90	24.84	24.98	24.75	24.89	24.90	24.75	26.90	24.79	24.91	24.79	24.92	24.94	24.95
		230	25.28	25.47	24.78	24.76	24.77	24.97	24.99	24.81	24.81	24.99	24.91	24.93	26.92	24.87	24.96	24.76	24.90	24.91	24.95
		220	25.44	25.31	24.91	25.00	24.90	24.80	24.70	24.75	24.72	24.70	24.77	24.73	26.70	24.71	24.72	24.87	24.84	24.92	24.75
		210	25.24	25.32	24.76	24.93	24.86	24.82	24.87	24.96	24.78	24.87	24.75	24.89	26.74	24.78	24.96	24.97	24.78	24.93	24.99
		200	25.26	25.41	24.98	24.89	24.88	25.00	24.79	24.93	24.70	24.83	24.92	24.96	26.93	24.86	24.84	24.94	24.80	24.94	24.72
		195	25.44	25.41	24.71	24.82	24.70	24.88	24.89	24.77	24.72	24.76	24.73	24.91	26.72	24.98	24.75	24.91	24.99	24.95	24.94
		194	25.35	25.20	24.74	24.90	24.90	24.94	24.90	24.73	25.00	24.86	24.71	24.93	26.98	24.74	24.98	24.81	24.90	24.97	24.73
		193	25.49	25.49	24.76	24.70	24.83	24.77	24.87	24.81	24.78	24.80	24.73	24.99	26.80	24.95	24.87	24.88	24.72	24.84	24.82
		192	25.28	25.23	24.87	24.88	24.98	24.97	24.93	24.82	24.88	24.80	24.81	24.83	26.71	24.88	24.88	24.93	24.73	24.80	24.95
		191	25.40	25.37	24.90	24.78	24.78	24.95	24.87	24.83	24.96	24.72	24.74	24.96	26.96	24.92	24.85	24.84	24.99	24.83	24.96
		190	25.23	25.46	24.74	24.92	24.82	24.80	24.93	25.00	24.97	24.99	24.94	24.95	26.77	24.95	24.92	24.75	24.95	24.99	24.97
	Notebook	189	25.45	25.43	24.99	24.87	24.95	24.74	24.87	24.97	24.82	24.73	24.74	24.72	26.84	24.99	24.88	24.82	24.88	24.75	24.72
		188	25.21	25.47	24.70	24.96	24.98	24.96	24.81	24.81	24.97	24.97	24.88	24.95	26.72	24.89	24.94	24.74	24.72	24.73	24.70
		187	25.38	25.30	24.87	24.77	24.79	24.97	24.80	24.91	24.71	24.93	24.88	24.72	26.73	24.91	24.78	24.97	24.89	24.88	24.87
		186	25.44	25.45	24.73	24.78	24.95	24.95	24.74	24.87	24.85	24.73	24.77	25.00	26.85	24.87	24.97	24.73	24.91	24.96	24.70
		185	25.30	25.21	24.87	24.82	24.79	24.77	24.98	24.71	24.99	24.77	24.87	24.75	26.82	24.75	24.71	24.96	24.70	24.96	24.96
		180	25.33	25.23	25.00	24.84	25.00	24.70	24.97	24.74	24.97	24.82	24.75	24.81	26.77	24.91	24.97	24.71	24.70	24.92	24.75
		175	25.46	25.24	24.96	24.71	24.94	24.95	24.96	24.73	24.86	24.95	24.71	24.89	26.93	24.97	24.81	24.72	24.72	24.86	24.95
		170	25.27	25.26	24.72	24.94	24.87	24.84	24.71	24.71	24.83	24.93	24.77	25.00	26.70	24.85	24.90	25.00	24.88	24.91	24.98
		160	25.32	25.50	24.89	24.73	24.78	24.89	24.74	24.98	24.72	24.87	24.74	24.93	26.97	24.70	24.98	24.82	24.88	24.98	24.77
		150	25.37	25.43	24.91	24.87	24.88	24.98	24.93	24.88	24.86	24.85	24.95	24.86	26.88	24.71	24.96	24.91	24.94	24.75	24.88
		140	25.33	25.35	24.74	24.72	24.74	24.78	24.82	24.71	24.91	24.99	24.77	24.78	26.70	24.96	24.70	24.90	24.79	24.75	24.79
		130	25.22	25.37	24.95	24.82	24.96	24.76	24.94	24.88	24.99	24.91	24.75	24.96	26.85	24.98	24.81	24.94	24.77	24.90	24.98
		120	25.39	25.22	25.00	24.84	24.97	24.72	24.91	24.71	24.97	24.82	24.72	24.83	26.88	24.89	24.94	24.86	24.77	25.00	24.73
		110	25.26	25.20	24.84	24.94	24.70	24.78	24.98	24.88	24.89	24.71	24.78	24.84	26.73	24.96	24.72	24.93	24.95	24.70	24.94
		100	25.38	25.46	24.83	24.70	24.95	24.87	24.76	24.74	24.92	24.70	24.78	24.97	26.93	24.94	24.79	24.81	24.91	24.71	24.93
		90	25.29	25.28	24.84	24.74	24.95	24.71	24.72	24.87	24.74	24.95	24.80	24.70	26.77	24.84	25.00	25.00	24.89	24.78	24.84
		80	25.39	25.45	24.94	24.92	24.79	24.71	24.90	24.74	24.95	24.75	24.89	24.72	26.81	24.79	24.71	24.72	24.80	24.83	24.70
		70	25.27	25.37	24.72	24.97	24.82	25.00	24.77	24.99	24.79	24.74	24.96	24.93	27.00	24.98	24.81	24.97	24.96	24.85	24.72
		60	25.39	25.25	24.96	24.83	24.86	24.92	24.82	24.73	24.78	24.82	24.77	24.83	26.89	24.95	24.86	24.95	25.00	24.96	24.70
		50	25.32	25.35	24.90	24.77	24.98	24.74	24.91	24.94	24.82	24.99	24.72	24.93	26.74	24.92	24.80	25.00	24.85	24.88	24.72
		40	25.30	25.43	24.75	24.98	24.95	24.72	24.74	24.99	24.77	24.79	24.87	24.83	26.90	24.82	24.75	24.81	24.71	24.97	24.99
		30	25.35	25.45	24.99	24.79	24.87	24.70	24.80	24.70	24.87	24.76	24.70	24.92	26.88	24.97	24.74	24.93	24.75	24.86	24.84
		20	25.43	25.41	24.99	24.94	24.82	24.77	24.82	24.83	24.73	24.97	24.84	24.85	26.92	24.96	24.95	25.00	24.94	24.85	24.98
		10	25.38	25.27	24.93	24.83	24.97	24.89	24.71	24.96	24.77	24.93	24.82	24.89	26.88	24.77	24.88	24.86	24.81	24.74	24.97
		0	25.36	25.49	24.72	24.80	24.87	24.95	24.70	24.96	24.75	24.94	24.72	24.73	26.88	24.95	24.80	24.78	24.93	24.80	25.00

when the screen angle is from 0 degree to 360 degree																					
Screen angle (degree)	Wireless		UMTS			LTE											5G NR				
	Band		B2	B4	B5	B2/25	B4/66	B5/26	B7	B12/17	B13	B14	B30	B38/41	B41_HPUE	B71	FR1 n2	FR1 n5	FR1 n41	FR1 n66	FR1 n71
	Notebook	0	25.50	25.50	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	27.00	25.00	25.00	25.00	25.00	25.00	25.00
		10	25.42	25.30	24.78	24.80	24.85	24.86	24.82	25.00	24.87	24.70	24.85	24.82	26.95	24.84	24.78	24.73	24.81	24.89	24.85
		20	25.34	25.20	24.97	24.87	24.79	24.84	24.78	24.77	24.87	24.75	24.88	24.98	26.94	24.87	24.72	24.70	24.87	24.72	24.82
		30	25.45	25.49	24.88	24.70	24.97	24.94	24.94	24.81	24.71	24.89	24.75	24.80	26.80	25.00	24.94	24.70	24.96	24.90	24.84
		40	25.43	25.27	24.98	24.77	24.91	24.89	24.93	24.95	24.96	24.94	24.72	24.83	26.85	24.91	24.72	25.00	25.00	24.98	24.79
		50	25.37	25.34	24.71	24.79	24.77	24.83	24.78	24.73	24.72	24.74	24.77	24.86	26.83	24.97	24.93	24.78	25.00	24.76	24.98
		60	25.37	25.50	24.87	24.97	24.83	24.83	25.00	24.95	24.96	24.79	24.84	24.85	26.94	24.74	24.78	24.91	24.77	24.72	24.82
		70	25.39	25.38	24.87	24.87	24.80	24.91	24.91	24.87	24.71	24.87	24.71	24.87	26.99	24.74	24.90	24.86	24.72	25.00	24.83
		80	25.40	25.41	24.73	24.94	24.76	24.82	24.91	24.90	24.70	24.71	24.92	24.92	26.71	24.81	24.92	24.84	24.90	24.95	24.98
		90	25.50	25.27	24.85	24.83	24.99	24.81	24.90	24.87	24.91	24.97	24.99	24.79	26.84	24.76	25.00	25.00	24.99	24.79	24.92
		100	25.35	25.42	24.72	24.82	24.76	24.84	24.70	24.90	24.96	24.77	24.71	24.99	26.91	24.75	24.87	24.79	24.79	25.00	24.92
		110	25.45	25.39	24.96	24.99	24.82	24.70	24.99	24.73	24.98	24.70	24.90	24.99	26.77	24.95	24.81	25.00	24.86	24.75	24.98
		120	25.37	25.45	24.87	24.92	24.70	24.76	24.93	24.98	24.96	24.99	24.83	24.95	26.72	24.89	24.74	24.97	24.71	24.71	24.73
		130	25.29	25.33	24.73	24.89	24.99	24.78	24.80	24.98	24.79	24.70	24.99	24.92	26.75	24.99	24.81	24.73	24.71	24.84	24.84
		140	25.24	25.29	25.00	24.94	24.71	24.76	24.85	24.72	24.97	24.75	24.95	24.70	26.89	24.88	24.76	24.91	24.95	24.88	24.73
		150	25.30	25.32	24.96	24.81	24.91	24.92	24.94	24.76	24.80	24.70	24.81	24.76	26.82	24.82	24.72	24.85	24.72	24.97	24.86
		160	25.38	25.28	24.72	24.78	24.82	24.87	24.78	24.94	24.93	24.77	24.89	24.79	26.71	24.96	24.72	24.76	24.83	24.94	24.83
		170	25.30	25.33	24.98	24.73	24.80	24.71	25.00	24.72	24.78	24.89	24.94	24.88	26.90	24.73	24.72	24.88	24.71	24.92	24.82
		175	25.32	25.39	24.85	24.76	24.88	24.80	24.96	24.92	24.96	24.74	24.72	24.81	26.82	24.71	24.88	24.76	24.79	24.89	24.77
		180	25.26	25.34	24.70	24.99	24.82	24.81	24.85	24.88	24.95	24.84	24.94	24.81	26.97	24.91	24.71	24.94	24.78	24.75	24.76
		185	25.31	25.42	24.85	24.96	24.99	24.93	24.73	24.83	24.78	24.97	24.97	24.74	26.84	24.71	24.75	24.75	25.00	24.87	24.78
		186	25.49	25.50	24.79	24.83	24.94	24.73	24.71	24.80	24.73	24.71	24.86	24.89	26.75	24.79	24.75	24.90	24.92	24.96	24.70
		187	25.29	25.24	24.92	24.95	24.89	24.90	24.85	24.89	24.84	24.82	24.73	24.89	26.98	24.79	24.89	24.81	24.94	24.87	24.81
		188	25.25	25.21	24.84	24.71	24.76	24.84	24.99	24.75	24.95	24.81	24.87	24.96	26.80	24.90	24.89	24.75	24.90	24.79	24.82
		189	25.49	25.38	24.86	24.74	24.93	24.98	24.83	24.92	24.86	24.82	24.90	24.95	26.95	24.97	24.78	24.85	24.86	24.86	24.75
	Tablet	190	25.34	25.48	24.91	24.76	24.91	24.71	24.98	24.94	24.77	24.78	24.85	24.96	26.99	24.73	24.75	24.88	24.98	24.99	24.94
		191	25.33	25.49	24.87	24.83	24.86	24.83	24.97	24.77	24.98	24.99	24.75	24.94	26.74	24.91	24.72	24.76	24.86	24.88	24.74
		192	25.34	25.39	24.83	24.83	24.92	24.79	24.90	24.77	24.80	24.94	24.71	24.80	26.90	24.86	24.93	24.74	24.94	24.90	24.72
		193	25.35	25.23	24.96	24.82	24.83	24.83	24.85	25.00	24.70	24.76	24.92	24.78	26.71	24.92	24.74	24.73	24.89	24.77	24.97
		194	25.38	25.36	24.93	24.73	24.85	24.74	24.78	24.90	24.92	24.83	24.99	24.89	26.79	24.81	25.00	24.96	24.98	24.88	24.92
		195	25.23	25.48	24.83	24.72	24.95	24.88	24.91	24.78	24.73	24.82	24.92	24.92	26.82	24.84	24.93	24.77	24.80	24.83	24.89
		190	25.39	25.41	24.97	24.78	25.00	24.88	24.94	24.74	24.95	24.99	24.96	24.96	26.80	24.81	24.72	24.86	24.72	24.88	25.00
		200	25.23	25.29	24.95	24.70	24.91	24.92	24.97	24.70	24.85	24.85	24.75	24.70	26.70	24.77	24.92	24.78	24.73	24.96	24.94
		210	25.32	25.33	24.72	24.93	24.73	24.76	24.92	24.86	24.70	24.75	24.91	24.80	26.90	24.74	24.99	24.99	24.88	24.80	24.98
		220	25.34	25.21	24.92	24.92	24.70	24.80	24.76	24.98	24.81	24.72	24.77	24.75	26.73	24.70	24.70	24.84	24.89	24.72	24.70
		230	25.44	25.45	24.74	24.71	24.86	24.70	24.95	24.96	24.78	24.86	24.85	24.97	26.95	24.98	24.98	24.92	24.75	24.70	24.84
		240	25.40	25.23	24.89	24.95	24.94	24.73	24.81	24.71	24.93	24.87	24.84	24.81	26.70	24.77	24.72	24.93	24.81	24.87	24.88
		250	25.24	25.36	24.95	24.96	24.77	25.00	24.72	24.79	24.88	24.74	24.72	24.90	26.78	24.95	24.70	24.96	24.75	24.88	24.84
		260	25.31	25.45	24.93	24.80	24.78	24.96	24.85	24.95	24.94	24.75	24.87	24.90	26.90	24.77	24.82	24.83	24.86	24.70	24.71
		270	25.20	25.33	24.70	24.93	24.72	24.84	24.81	24.96	24.83	24.82	24.98	24.82	26.86	24.73	24.92	24.95	24.87	24.84	24.72
		280	25.34	25.46	24.91	24.92	24.72	24.82	24.96	24.76	24.77	24.99	24.78	24.82	26.84	24.81	24.91	24.82	24.86	24.76	24.97
		290	25.46	25.39	24.76	24.83	24.83	24.91	24.80	24.75	24.91	24.82	24.97	24.88	26.75	24.89	24.84	25.00	24.81	24.87	24.82
		300	25.33	25.44	24.83	24.75	24.92	24.74	24.70	24.75	24.77	24.88	24.95	24.85	26.95	24.93	24.75	24.72	24.91	24.89	24.82
		310	25.45	25.48	24.71	24.83	24.99	24.84	24.99	24.97	24.98	24.76	24.98	24.78	26.81	24.95	24.94	25.00	24.84	24.82	24.76
		320	25.45	25.37	24.80	24.80	24.80	24.94	24.77	24.77	25.00	24.73	24.92	24.83	26.79	24.97	24.98	24.92	24.72	24.89	24.73
		330	25.43	25.33	24.98	24.79	24.71	24.93	24.97	24.92	24.91	24.88	24.75	24.82	26.77	24.82	24.94	24.84	24.86	24.79	24.80
		340	25.44	25.20	24.97	24.76	24.96	24.92	24.76	24.81	24.95	24.97	24.81	24.86	26.92	24.96	24.87	24.73	24.79	24.73	24.82
		350	25.48	25.46	25.00	24.83	24.71	24.83	24.77	24.81	24.74	24.88	24.89	24.74	26.99	24.95	25.00	24.90	24.93	24.71	24.93
		360	25.24	25.23	24.74	24.72	24.72	24.84	24.84	24.86	24.95	24.93	24.77	24.73	26.73	24.72	24.76	24.92	24.76	24.92	24.77

WWAN Ant 2

when the screen angle is from 360 degree to 0 degree											
	Wireless		LTE						5G NR		
	Band		B5/26	B12/17	B13	B14	B48	B71	FR1 n5	FR1 n41	FR1 n71
Screen angle (degree)	Tablet	360	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
		350	24.95	24.93	25.00	24.98	24.70	24.73	24.76	24.99	24.76
		340	24.90	24.95	24.82	24.98	24.82	24.91	24.97	24.90	24.97
		330	24.81	24.87	24.88	24.89	24.82	24.89	24.83	24.83	24.98
		320	24.87	24.71	25.00	24.71	24.79	25.00	24.97	24.73	24.80
		310	24.79	24.82	24.85	24.77	24.73	25.00	24.75	24.90	24.76
		300	24.79	24.90	24.75	24.74	24.70	24.83	24.80	24.80	24.87
		290	24.72	24.79	24.79	24.72	24.75	24.92	24.70	24.73	25.00
		280	24.88	24.81	24.71	24.87	24.74	24.89	24.70	24.78	24.80
		270	24.78	24.74	24.92	24.97	24.87	24.96	24.77	24.98	24.98
		260	24.85	24.73	24.81	24.73	24.76	24.96	24.86	24.89	24.70
		250	24.88	25.00	24.82	24.70	24.86	24.77	24.98	24.77	24.88
		240	24.97	24.76	24.75	24.96	24.98	24.93	24.99	24.96	24.91
		230	25.00	24.80	24.72	24.84	24.84	24.92	24.96	24.99	24.99
		220	24.87	24.71	24.97	24.80	24.82	24.91	24.77	24.78	24.78
		210	24.94	24.78	24.96	24.92	24.81	24.85	24.82	24.70	24.88
		200	25.00	24.99	24.77	24.76	24.85	24.74	24.75	24.71	24.74
		195	24.92	24.72	24.79	24.90	24.81	24.75	24.77	24.89	24.99
		194	24.89	24.78	24.96	24.75	24.84	24.75	24.91	24.75	24.75
		193	24.74	24.87	24.78	24.72	24.87	24.71	24.71	24.70	24.72
		192	24.81	24.98	24.98	24.83	24.99	24.81	24.92	24.89	24.93
		191	24.86	24.73	24.79	24.85	24.73	24.80	24.94	24.95	24.89
		190	24.80	24.76	24.89	24.71	24.95	24.87	24.83	24.79	25.00
	Notebook	189	24.74	24.84	24.84	24.83	24.83	24.74	24.82	24.95	24.74
		188	24.96	24.92	24.83	24.87	24.96	24.77	24.82	24.84	24.74
		187	24.81	24.91	24.93	24.95	24.73	24.92	24.92	24.80	24.94
		186	24.85	24.70	24.88	24.89	24.84	24.91	24.76	24.82	24.70
		185	24.86	24.90	24.73	24.91	24.70	24.92	24.89	24.78	24.82
		180	24.70	24.93	24.76	24.70	24.85	24.96	24.74	24.82	24.89
		175	24.89	24.95	24.96	24.79	24.89	24.79	24.97	24.95	24.91
		170	24.79	24.76	24.76	24.79	24.96	24.84	24.99	24.71	24.81
		160	24.89	24.70	24.93	24.90	24.94	24.74	24.83	24.87	24.96
		150	24.71	24.76	24.77	24.84	24.97	24.95	24.73	24.87	24.81
		140	25.00	24.95	24.95	24.70	24.70	24.94	24.98	24.81	24.89
		130	24.90	24.95	24.89	24.97	24.92	24.98	24.72	24.79	24.71
		120	24.78	24.95	24.74	25.00	24.94	24.80	24.85	24.78	24.97
		110	24.88	25.00	24.74	24.81	24.86	24.97	24.88	24.71	24.79
		100	24.89	24.76	24.89	24.75	24.88	24.73	24.71	24.71	24.80
		90	24.80	24.90	24.94	24.79	24.98	24.75	24.78	24.76	24.88
		80	24.81	24.79	24.74	24.91	24.81	24.96	24.86	24.89	24.97
		70	24.97	24.70	24.84	24.79	24.91	24.81	24.96	24.90	24.83
		60	24.96	24.97	24.99	24.80	24.87	24.77	24.90	24.78	24.86
		50	24.79	24.76	24.97	24.78	24.94	24.89	24.75	24.93	24.80
		40	24.86	24.77	24.94	24.75	24.73	24.83	24.71	24.96	24.92
		30	24.99	24.86	24.84	24.96	24.79	24.81	24.72	24.84	24.88
		20	24.79	25.00	24.84	24.72	25.00	24.81	25.00	24.75	24.80
		10	24.81	24.84	24.90	24.97	24.71	24.85	24.75	24.98	24.88
		0	24.90	24.85	24.88	24.91	24.87	24.71	24.72	24.71	25.00

when the screen angle is from 0 degree to 360 degree											
Screen angle (degree)	Wireless		LTE						5G NR		
	Band		B5/26	B12/17	B13	B14	B48	B71	FR1 n5	FR1 n41	FR1 n71
	Notebook	0	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
		10	24.73	24.83	24.78	24.91	24.70	24.89	24.98	24.95	24.86
		20	24.87	24.87	24.73	24.86	24.94	24.99	24.91	24.70	24.77
		30	24.75	24.88	24.80	24.93	24.72	24.92	24.79	24.98	24.88
		40	24.84	24.92	24.80	24.81	24.87	24.93	24.89	24.70	24.75
		50	24.73	24.91	24.88	24.77	24.73	24.94	24.73	24.84	24.83
		60	24.78	24.96	24.95	24.96	24.99	24.80	24.91	24.71	24.87
		70	24.90	24.78	24.99	24.87	24.95	24.71	24.92	24.86	24.90
		80	24.72	24.76	24.85	24.96	24.90	24.90	24.86	24.99	24.86
		90	24.82	24.75	24.81	24.96	24.86	24.71	24.99	24.79	24.85
		100	24.82	24.88	24.96	24.73	24.94	24.92	24.74	24.70	24.86
		110	24.87	24.71	24.95	25.00	24.79	24.93	24.91	24.92	24.92
		120	24.94	24.74	24.70	24.74	24.89	24.98	24.79	24.77	24.85
		130	24.95	24.81	24.89	24.95	24.72	24.72	24.79	24.90	24.78
		140	24.74	24.83	24.87	25.00	24.90	24.72	24.70	24.92	24.73
		150	24.82	24.91	24.77	24.97	24.72	24.81	24.94	25.00	24.75
		160	24.87	24.77	24.98	24.86	25.00	24.81	24.82	24.83	24.83
		170	24.93	24.89	24.95	24.87	24.70	24.92	24.77	24.90	24.77
		175	24.75	24.76	24.74	24.99	25.00	24.87	24.88	24.72	24.84
		180	24.84	24.95	24.94	24.86	24.85	24.79	24.75	24.78	24.80
		185	24.77	24.76	24.81	24.93	24.73	25.00	24.82	24.96	24.73
		186	24.87	24.88	24.86	24.94	24.74	24.88	24.73	24.92	24.73
		187	24.70	24.72	24.97	24.84	25.00	24.93	25.00	24.90	24.74
		188	24.89	24.96	24.80	24.77	25.00	24.71	24.89	24.97	24.81
		189	24.80	24.70	24.78	24.82	24.79	24.79	24.83	24.90	24.84
	Tablet	190	24.87	24.75	24.83	24.96	24.85	25.00	24.78	24.94	24.75
		191	24.86	24.92	24.92	24.96	24.77	24.93	24.83	24.99	24.85
		192	24.81	24.84	24.90	24.91	24.99	24.70	24.77	24.73	24.91
		193	24.96	24.72	24.73	24.97	24.94	24.80	24.89	24.97	24.75
		194	24.93	25.00	24.70	24.78	24.82	24.76	24.78	24.83	24.86
		195	24.96	24.74	24.94	24.71	24.87	24.76	24.99	24.92	24.81
		200	24.90	24.84	24.80	24.94	24.72	24.79	24.76	24.84	24.76
		210	24.87	24.97	24.99	24.75	24.95	24.85	24.72	24.76	24.78
		220	24.76	24.81	24.92	24.90	24.95	24.72	24.73	24.89	24.91
		230	24.70	24.79	24.87	24.88	24.95	24.96	24.97	24.76	24.72
		240	24.97	24.80	24.98	24.87	24.75	24.94	24.87	24.90	24.73
		250	24.71	24.70	24.75	24.89	24.89	24.73	24.72	24.97	24.98
		260	24.75	24.78	25.00	24.86	24.74	24.96	24.88	24.87	24.83
		270	24.94	24.83	24.77	24.75	24.86	24.76	24.85	24.77	24.73
		280	24.77	24.74	24.74	24.92	24.91	24.77	24.91	24.90	24.78
		290	24.97	24.98	24.70	24.89	24.84	24.73	24.84	25.00	24.70
		300	24.72	25.00	24.81	24.71	24.70	24.85	24.99	24.90	25.00
		310	24.74	24.89	24.87	24.74	24.82	24.76	24.89	24.76	24.82
		320	24.82	24.94	24.74	24.73	24.92	24.87	24.90	24.86	24.82
		330	24.99	24.83	24.83	24.72	24.71	24.86	24.74	24.92	24.73
		340	24.87	24.77	24.80	24.99	25.00	24.70	24.84	24.75	24.95
		350	24.84	24.80	25.00	24.96	25.00	24.94	24.82	24.93	24.93
		360	24.91	24.81	24.93	24.88	24.75	24.82	24.90	24.99	24.84

5. Smart Transmit feature for RF Exposure compliance

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target or PD_design_target, below the predefined time-averaged power limit (i.e., input.power.limit for 5G mmW NR), for each characterized technology and band (refer to RF exposure part0 report)

Smart Transmit allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit. Below table shows Plimit EFS settings and maximum tune up output power Pmax configured for this EUT for various transmit conditions (Device State Index DSI).

<P_{limit} for supported technologies and bands (P_{limit} in EFS file)>

<WWAN Ant1>

Band	NB Sensor OFF (DSI0)	TB Sensor OFF (DSI:1)	NB Sensor ON (DSI2)	TB Sensor ON (DSI3)	Pmax*
WCDMA II	29.6	24.7	18	13	24.5
WCDMA IV	26.6	26	18.4	11.4	24.5
WCDMA V	26	29.2	20.3	15.1	24
LTE Band 7	26.7	27	20.7	12.9	24
LTE Band 12/17	25.6	29.4	19.7	17.5	24
LTE Band 13	24.8	26.1	18.7	15.5	24
LTE Band 14	24.7	25.8	18.9	15.6	24
LTE Band 25/2	24.8	26.3	17.4	14.1	24
LTE Band 26/5	26	27	21.6	14.8	24
LTE Band 30	26.3	24.2	19.4	11.1	24
LTE Band 38/41**	26.7	27	18.1	9.9	22
LTE Band 41 HPUE**					22.4
LTE Band 66/4	24.3	24.5	17.3	11.8	24
LTE Band 71	27.2	29.5	19.9	17.9	24
FR1 n2	24.4	24.1	17.9	14.3	24
FR1 n5	26.7	30.4	20.3	15.7	24
FR1 n41**	24.8	24.9	18.6	10.3	24
FR1 n66	26.8	24.7	19.1	13.1	24
FR1 n71	26.8	27	19.8	18.2	24

<WWAN Ant2>

Band	NB Sensor OFF (DSI0)	TB Sensor OFF (DSI:1)	NB Sensor ON (DSI2)	TB Sensor ON (DSI3)	Pmax*
LTE Band 12/17	27	28.2	18.8	16.5	24
LTE Band 13	26.5	25.7	18.8	16.5	24
LTE Band 14	26.6	26.5	19	16.3	24
LTE Band 26/5	27.6	30.3	20.2	14	24
LTE Band 48**	27.1	25.2	18.3	11	22
LTE Band 71	28.4	28.7	18.5	16	24
FR1 n5	28.5	31.4	21.2	15	24
FR1 n41	26.3	24.9	17.1	9.5	24
FR1 n71	28.1	29.9	18.5	18	24

*P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + 1dB uncertainty.

**All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).

The max allowed output power is the P_{limit} + 1dB device uncertainty, and if P_{limit} is higher than P_{max}, the device output power will be P_{max} instead.

6. RF Exposure Limits

6.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

6.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

7. Specific Absorption Rate (SAR)

7.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

7.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\mathbf{SAR} = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\mathbf{dm}}\right) = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\boldsymbol{\rho}\mathbf{dv}}\right)$$

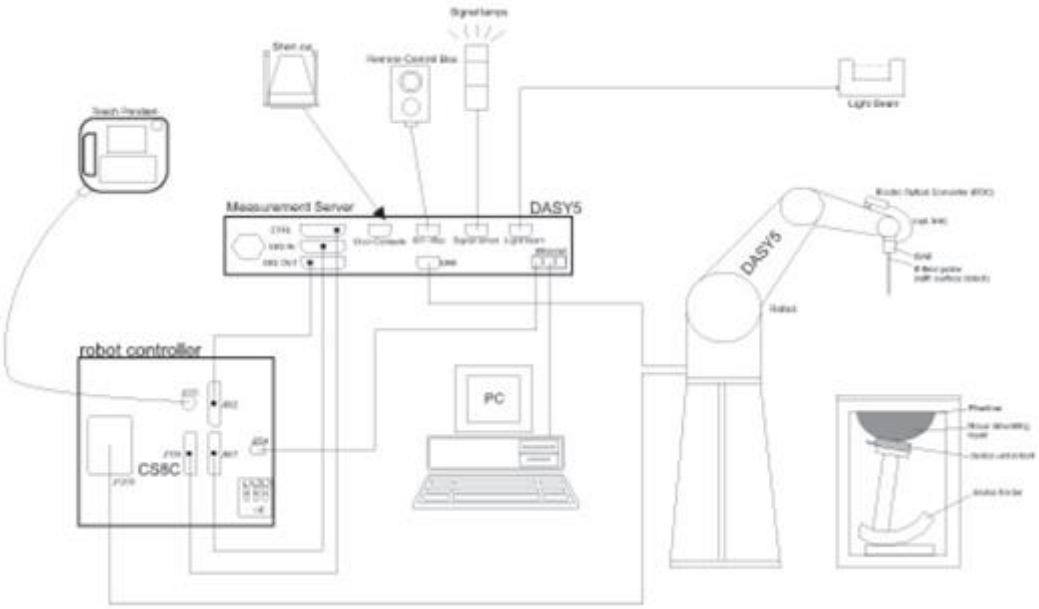
SAR is expressed in units of Watts per kilogram (W/kg)

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^{\mathbf{2}}}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

8. System Description and Setup

The DASY system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8.1 Test Site Location

Sporton Lab and below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 0007) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory			
Test Site Location	TW1190 No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, CHINESE TAIPEI		TW0007 No. 58, Aly. 75, Ln. 564, Wehnua 3rd, Rd., Guishan Dist., Taoyuan City, CHINESE TAIPEI	
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY
	SAR06-HY	SAR10-HY		

8.2 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG).The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)	
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 µW/g – >100 mW/g; Linearity: ±0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

8.3 Data Acquisition Electronics (DAE)

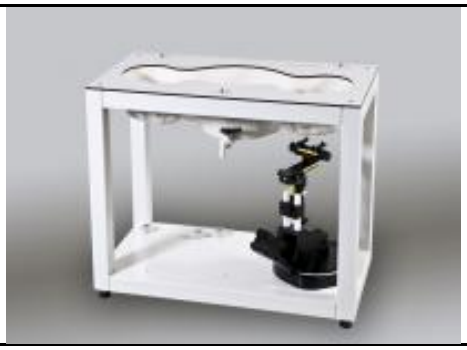
The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Fig 5.1 Photo of DAE

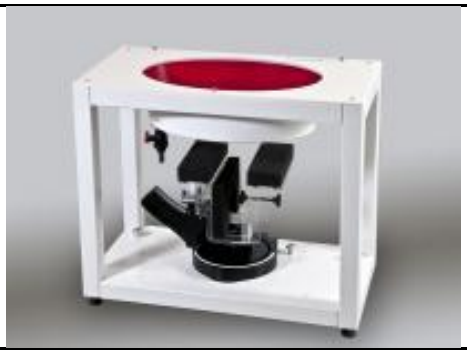
8.4 Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
Filling Volume	Approx. 25 liters	
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
Measurement Areas	Left Hand, Right Hand, Flat Phantom	

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)	
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm	

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

8.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.

Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
(b) Read the WWAN RF power level from the base station simulator.
(c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

9.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

9.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

9.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

9.5 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

9.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit(2)	D750V3	1107	Mar. 08, 2019	Mar. 06, 2021
SPEAG	835MHz System Validation Kit	D835V2	4d167	Nov. 25, 2019	Nov. 24, 2020
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1112	Mar. 07, 2019	Mar. 05, 2021
SPEAG	1900MHz System Validation Kit(2)	D1900V2	5d185	Mar. 07, 2019	Mar. 05, 2021
SPEAG	2300MHz System Validation Kit(2)	D2300V2	1006	Jan. 28, 2019	Jan. 26, 2021
SPEAG	2450MHz System Validation Kit	D2450V2	929	Nov. 21, 2019	Nov. 20, 2020
SPEAG	2600MHz System Validation Kit(2)	D2600V2	1078	Mar. 06, 2019	Mar. 04, 2021
SPEAG	3500MHz System Validation Kit(2)	D3500V2	1014	Jan. 29, 2019	Jan. 27, 2021
SPEAG	3700MHz System Validation Kit(2)	D3700V2	1006	Mar. 05, 2019	Mar. 03, 2021
SPEAG	5GHz System Validation Kit(2)	D5GHzV2	1006	Sep. 27, 2018	Sep. 25, 2020
SPEAG	Data Acquisition Electronics	DAE4	778	Jun. 04, 2020	Jun. 03, 2021
SPEAG	Data Acquisition Electronics	DAE3	495	Jul. 21, 2020	Jul. 20, 2021
SPEAG	Data Acquisition Electronics	DAE4	854	May. 26, 2020	May. 25, 2021
SPEAG	Data Acquisition Electronics	DAE4	1424	Jan. 24, 2020	Jan. 23, 2021
SPEAG	Dosimetric E-Field Probe	ES3DV3	3169	May. 27, 2020	May. 26, 2021
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	Sep. 20, 2019	Sep. 19, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Sep. 26, 2019	Sep. 25, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	7515	Oct. 22, 2019	Oct. 21, 2020
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2019	Nov. 11, 2020
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 12, 2019	Nov. 11, 2020
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Oct. 31, 2019	Oct. 30, 2020
Agilent	Wireless Communication Test Set	E5515C	MY50266977	May. 24, 2020	May. 23, 2021
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Nov. 20, 2019	Nov. 19, 2020
Agilent	ENA Network Analyzer	E5071C	MY46101588	Jun. 10, 2020	Jun. 09, 2021
SPEAG	Dielectric Probe Kit	DAK-3.5	1146	Jul. 22, 2020	Jul. 21, 2021
LINE SEIKI	Digital Thermometer	DTM3000-spezial	2942	Nov. 18, 2019	Nov. 17, 2020
Anritsu	Power Meter	ML2495A	0932001	Oct. 03, 2019	Oct. 02, 2020
Anritsu	Power Sensor	MA2411B	0846202	Oct. 03, 2019	Oct. 02, 2020
Anritsu	Power Meter	ML2495A	1218006	Oct. 14, 2019	Oct. 13, 2020
Anritsu	Power Sensor	MA2411B	1207363	Oct. 14, 2019	Oct. 13, 2020
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 30, 2020	Jun. 29, 2021
Anritsu	Spectrum Analyzer	N9010A	MY53470118	Mar. 12, 2020	Mar. 11, 2021
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 16, 2019	Oct. 15, 2020
Mini-Circuits	Power Amplifier	ZHL-42W+	321501827	Aug. 06, 2020	Aug. 05, 2021
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

11. System Verification

11.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.

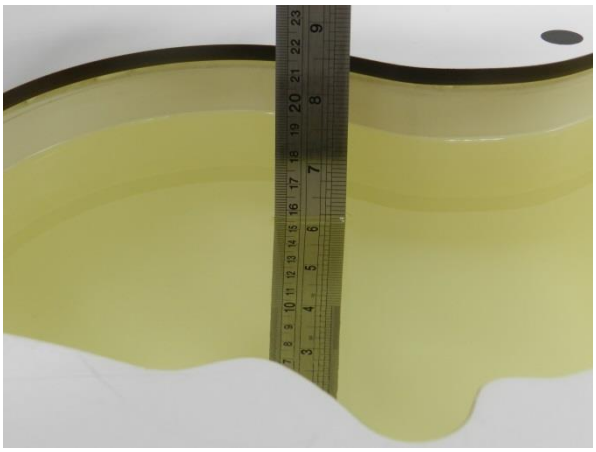


Fig 10.1Photo of Liquid Height for Head SAR

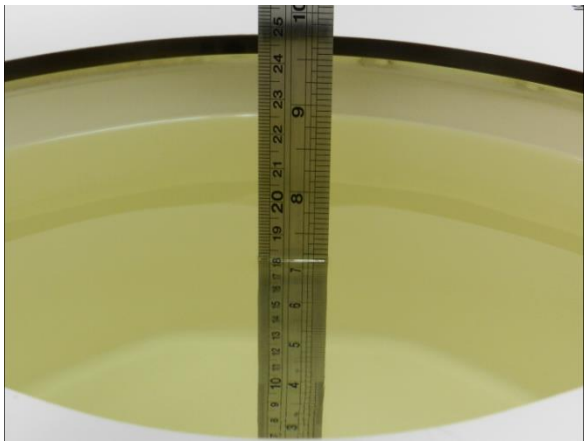


Fig 10.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	22.2	0.898	43.666	0.89	41.90	0.90	4.21	±5	2020/8/25
750	22.5	0.913	41.797	0.89	41.90	2.58	-0.25	±5	2020/8/27
750	22.4	0.899	43.678	0.89	41.90	1.01	4.24	±5	2020/9/1
750	22.3	0.896	43.596	0.89	41.90	0.67	4.05	±5	2020/9/2
750	22.6	0.895	43.476	0.89	41.90	0.56	3.76	±5	2020/9/8
750	22.7	0.903	43.806	0.89	41.90	1.46	4.55	±5	2020/9/9
835	22.2	0.933	43.370	0.90	41.50	3.67	4.51	±5	2020/8/27
835	22.4	0.934	43.382	0.90	41.50	3.78	4.53	±5	2020/9/1
835	22.3	0.931	43.300	0.90	41.50	3.44	4.34	±5	2020/9/3
835	22.6	0.889	42.322	0.90	41.50	-1.22	1.98	±5	2020/9/8
1750	22.8	1.382	40.689	1.37	40.10	0.88	1.47	±5	2020/8/28
1750	22.6	1.389	41.369	1.37	40.10	1.39	3.16	±5	2020/8/31
1750	22.1	1.404	40.700	1.37	40.10	2.48	1.50	±5	2020/9/7
1900	22.8	1.448	40.894	1.40	40.00	3.43	2.24	±5	2020/8/28
1900	22.6	1.416	38.866	1.40	40.00	1.14	-2.84	±5	2020/8/31
1900	22.1	1.384	40.370	1.40	40.00	-1.14	0.92	±5	2020/9/6
2300	22.3	1.614	40.351	1.67	39.50	-3.35	2.15	±5	2020/9/3
2450	22.5	1.835	38.775	1.80	39.20	1.94	-1.08	±5	2020/8/13
2600	22.3	1.973	39.212	1.96	39.00	0.66	0.54	±5	2020/8/29
2600	22.6	2.039	38.453	1.96	39.00	4.03	-1.40	±5	2020/8/31
2600	22.4	1.968	38.173	1.96	39.00	0.41	-2.12	±5	2020/9/1
2600	22.2	1.957	38.794	1.96	39.00	-0.15	-0.53	±5	2020/9/4
2600	22.7	2.017	39.223	1.96	39.00	2.91	0.57	±5	2020/9/5
3500	22.7	2.906	37.880	2.91	37.90	-0.14	-0.05	±5	2020/9/10
3700	22.7	3.115	37.618	3.12	37.70	-0.16	-0.22	±5	2020/9/10
5250	22.3	4.543	36.918	4.71	35.95	-3.55	2.69	±5	2020/8/13
5600	22.3	4.890	36.431	5.07	35.50	-3.55	2.62	±5	2020/8/13
5750	22.1	5.113	36.174	5.22	35.35	-2.05	2.33	±5	2020/9/7

11.3 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)2	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2020/8/25	750	250	D750V3-1107	EX3DV4 - SN7515	DAE4 Sn854	2.24	8.32	8.96	7.69
2020/8/27	750	250	D750V3-1107	EX3DV4 - SN7515	DAE4 Sn854	2.28	8.32	9.12	9.62
2020/9/1	750	250	D750V3-1107	ES3DV3 - SN3169	DAE4 Sn778	2.05	8.32	8.2	-1.44
2020/9/2	750	250	D750V3-1107	ES3DV3 - SN3169	DAE4 Sn778	2.02	8.32	8.08	-2.88
2020/9/8	750	250	D750V3-1107	ES3DV3 - SN3169	DAE4 Sn778	2.04	8.32	8.16	-1.92
2020/9/9	750	250	D750V3-1107	ES3DV3 - SN3169	DAE4 Sn778	2.09	8.32	8.36	0.48
2020/8/27	835	250	D835V2-4d167	EX3DV4 - SN7515	DAE4 Sn854	2.60	9.55	10.4	8.90
2020/9/1	835	250	D835V2-4d167	ES3DV3 - SN3169	DAE4 Sn778	2.34	9.55	9.36	-1.99
2020/9/3	835	250	D835V2-4d167	ES3DV3 - SN3169	DAE4 Sn778	2.33	9.55	9.32	-2.41
2020/9/8	835	250	D835V2-4d167	ES3DV3 - SN3169	DAE4 Sn778	2.23	9.55	8.92	-6.60
2020/8/28	1750	250	D1750V2-1112	EX3DV4 - SN7515	DAE4 Sn854	8.88	36.70	35.52	-3.22
2020/8/31	1750	250	D1750V2-1112	ES3DV3 - SN3169	DAE4 Sn778	8.72	36.70	34.88	-4.96
2020/9/7	1750	250	D1750V2-1112	ES3DV3 - SN3169	DAE4 Sn778	9.41	36.70	37.64	2.56
2020/8/28	1900	250	D1900V2-5d185	EX3DV4 - SN7515	DAE4 Sn854	10.10	39.40	40.4	2.54
2020/8/31	1900	250	D1900V2-5d185	ES3DV3 - SN3169	DAE4 Sn778	9.75	39.40	39	-1.02
2020/9/6	1900	250	D1900V2-5d185	ES3DV3 - SN3169	DAE4 Sn778	9.48	39.40	37.92	-3.76
2020/9/3	2300	250	D2300V2-1006	ES3DV3 - SN3169	DAE4 Sn778	11.90	48.70	47.6	-2.26
2020/8/13	2450	250	D2450V2-929	EX3DV4 - SN3931	DAE3 Sn495	12.50	53.10	50	-5.84
2020/8/29	2600	250	D2600V2-1078	EX3DV4 - SN7515	DAE4 Sn854	14.40	57.60	57.6	0.00
2020/8/31	2600	250	D2600V2-1078	ES3DV3 - SN3169	DAE4 Sn778	14.70	57.60	58.8	2.08
2020/9/1	2600	250	D2600V2-1078	ES3DV3 - SN3169	DAE4 Sn778	14.70	57.60	58.8	2.08
2020/9/4	2600	250	D2600V2-1078	ES3DV3 - SN3169	DAE4 Sn778	15.10	57.60	60.4	4.86
2020/9/5	2600	250	D2600V2-1078	ES3DV3 - SN3169	DAE4 Sn778	15.30	57.60	61.2	6.25
2020/9/10	3500	100	D3500V2-1014	EX3DV4 - SN3925	DAE3 Sn495	6.44	67.90	64.4	-5.15
2020/9/10	3700	100	D3700V2-1006	EX3DV4 - SN3925	DAE3 Sn495	6.82	67.30	68.2	1.34
2020/8/13	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN3931	DAE3 Sn495	7.62	80.70	76.2	-5.58
2020/8/13	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN3931	DAE3 Sn495	8.19	83.30	81.9	-1.68
2020/9/7	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN3925	DAE4 Sn1424	7.32	80.40	73.2	-8.96

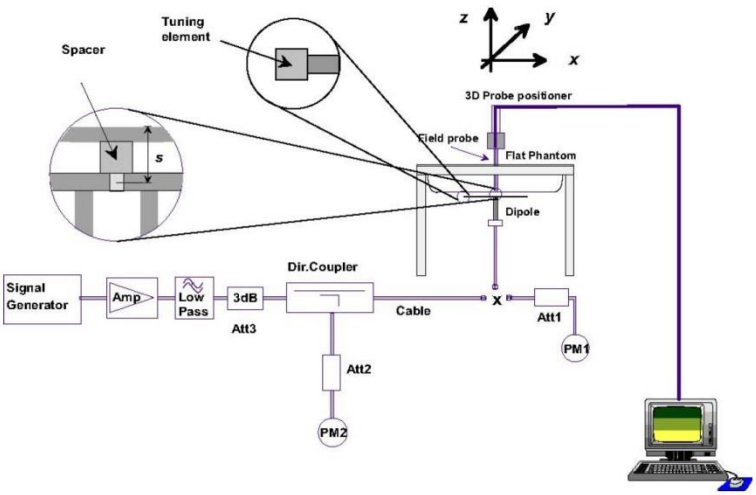


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

12. RF Exposure Positions

12.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR exclusion threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

13. Measurement procedure for output power and SAR

Power measurements for licensed transmitters are performed using a base station simulator under digital average power, and the detail output power measurement include in appendix D

<GSM Note>

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<WCDMA Note>

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”.
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.
3. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
4. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
5. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{HS} *(Note1, Note 2)*	**CM** (dB) *(Note 3)*	**MPR** (dB) *(Note 3)*
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 *(Note 4)*	15/15 *(Note 4)*	64	12/15 *(Note 4)*	24/15	1.0	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

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c .

Note 2: 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 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c , and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c .

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_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.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c . For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c .

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

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 β_c = 10/15 and β_d = 15/15.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set RMC 12.2Kbps + HSDPA mode.
   ii. Set Cell Power = -25 dBm
   iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
   iv. Select HSDPA Uplink Parameters
   v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
      a). Subtest 1: β_c/β_d=2/15
      b). Subtest 2: β_c/β_d=12/15
      c). Subtest 3: β_c/β_d=15/8
      d). Subtest 4: β_c/β_d=15/4
   vi. Set Delta ACK, Delta NACK and Delta CQI = 8
   vii. Set Ack-Nack Repetition Factor to 3
   viii. Set CQI Feedback Cycle (k) to 4 ms
   ix. Set CQI Repetition Factor to 2
   x. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

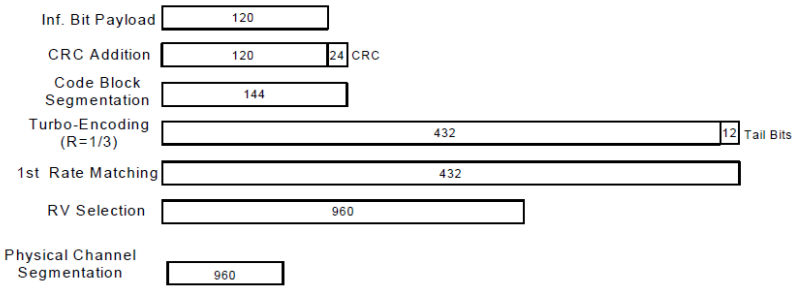


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2E:HSPA+:UL with 16QAM
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.4, quoted from the TS 34.121-1 s5.2E
   iii. Set Channel Parms
   iv. Set Cell Power = -86 dBm
   v. Set Channel Type = HSPA
   vi. Set UE Target Power =21 dBm
   vii. Power Ctrl Mode= All Up Bits
   viii. Set Manual Uplink DPCH Bc/Bd = Manual
   ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
   x. Set HSPA Conn DL Channel Levels
   xi. Set HS-SCCH Configs
   xii. Set RB Test Mode Setup
   xiii. Set Common HSUPA Parameters
   xiv. Set Serving Grant
   xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

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

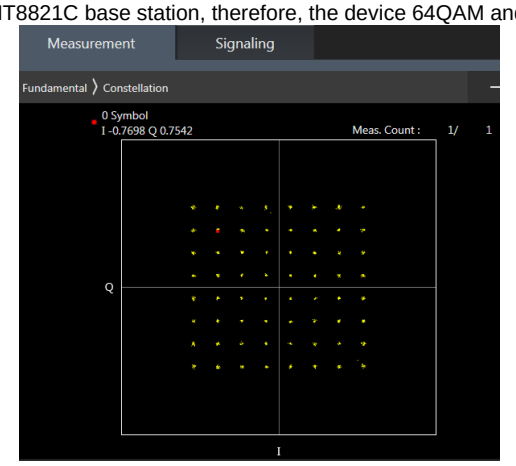
Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed}1$: 30/15 $\beta_{ed}2$: 30/15	$\beta_{ed}3$: 24/15 $\beta_{ed}4$: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_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 β_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 signaled to use the extrapolation algorithm.

Setup Configuration

<LTE Note>

1. Anritsu MT8821C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, 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.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, 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 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.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not ½ 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; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B12/B26/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B4/B5/B17/B38 SAR test was covered by B12/B26/B66/B41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM

16QAM

<Additional information for TDD LTE>

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations

b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS

c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

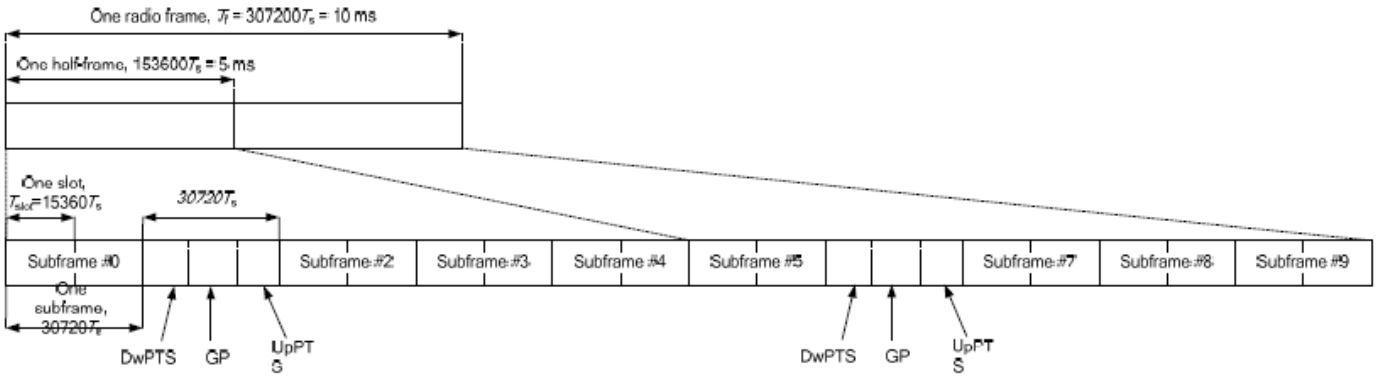


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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

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	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Special subframe (30720·T_s): Normal cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	**Normal cyclic prefix in uplink**	**Extended cyclic prefix in uplink**
Uplink duty factor in one special subframe	**0~4**	7.13%	8.33%
	5~9	14.3%	16.7%

Special subframe(30720·T_s): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	**Normal cyclic prefix in uplink**	**Extended cyclic prefix in uplink**
Uplink duty factor in one special subframe	**0~3**	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.

ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink

iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.167)/5 = 63.3%

iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.143)/5 = 62.9%

v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

vi. The device supports Power Class 3 uplink-downlink configurations 0 and 6, and Power Class 2 uplink-downlink configurations 1 to 5.

vii. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition.

<5G FR1 Note>

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 2 and 3, the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s-Pi/2 BPSK and the reported SAR for the DFT-s-Pi/2 BPSK configuration is ≤ 1.45 W/kg; CP-OFDM measurement is unnecessary.
   b. For DFT-s-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, full measurement on Pi/2 BPSK/QPSK with larger bandwidth, for16QAM/64QMA/256QAM spot check 1RB 1offset configuration to ensure the output power will not ½ dB higher than Pi/2 BPSK and QPSK, for smaller bandwidth output power also spot check 1RB 1offset configuration at Pi/2 BPSK to ensure output power will not ½ dB higher than largest supported bandwidth.
   c. SAR testing start with the largest channel bandwidth and measure SAR for PI/2 BPSK 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 PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure
   e. PI/2 BPSK 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. QPSK/16QAM/64QAM/256QAM output powers are not ½ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ 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

<3GPP 38.101 MPR for EN-DC>

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	≤ 3.5[1]	≤ 1.2[1]	≤ 0.2[1]
		≤ 0.5[2]	≤ 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 *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* 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 *powerBoostPi2BPSK* 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		

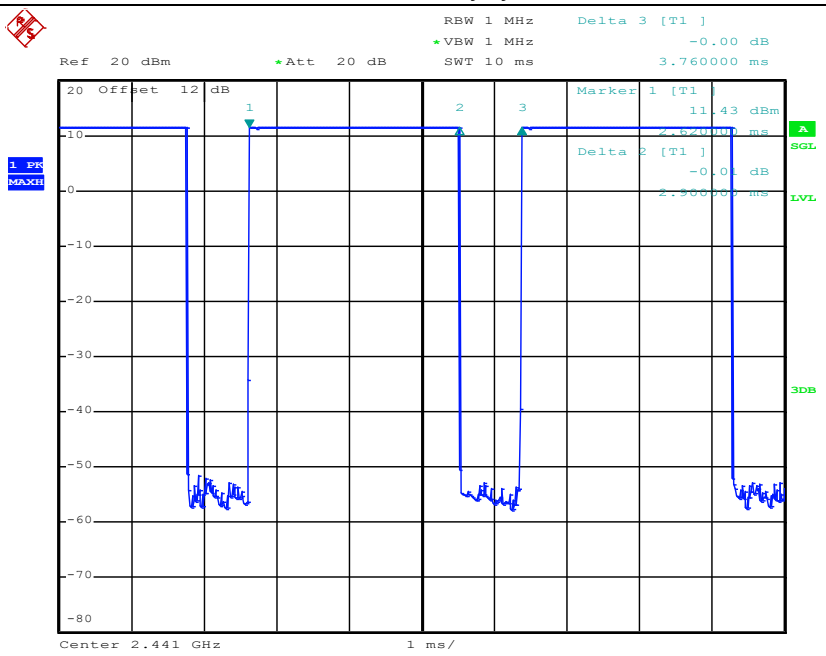
<WLAN>

1. When MIMO mode was not performed, for each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. When MIMO mode was not performed, per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6W/kg and SAR peak to location ratio ≤ 0.04, no additional SAR measurements for MIMO.
3. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band or when MIMO mode was not performed, due to for each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode. Additional output power measurements were not deemed necessary.
4. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
5. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
6. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
7. 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.18 The initial test position procedure is described in the following:
   a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
   b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
   c. For all positions/configurations, 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.

<Bluetooth>

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 77.13% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation, for the duty cycle figure include in appendix D.

BT Duty cycle



Date: 18.JUL.2020 10:57:57

14. DL/UL carrier aggregation

<LTE Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	CA_2A-2A	85	85	CA_2A-2A-12A		148	CA_4A-4A-12A		225	CA_25A-25A-25A	
2	CA_2A-4A	96	86	CA_2A-2A-13A		149	CA_4A-4A-13A		226	CA_25A-25A-26A	
3	CA_2A-5A	107	87	CA_2A-2A-14A		150	CA_4A-4A-29A		227	CA_25A-25A-41A	
4	CA_2A-7A	116	88	CA_2A-2A-29A		151	CA_4A-4A-30A		228	CA_25A-25A-46A	
5	CA_2A-12A	125	89	CA_2A-2A-30A		152	CA_4A-4A-5A		229	CA_25A-26A-41A	
6	CA_2A-13A	130	90	CA_2A-2A-46A		153	CA_4A-4A-71A		230	CA_25A-41A-41A	
7	CA_2A-14A	133	91	CA_2A-2A-4A		154	CA_4A-4A-7A		231	CA_25A-41C	
8	CA_2A-29A	135	92	CA_2A-2A-5A		155	CA_4A-5A-12A		232	CA_25A-46C	
9	CA_2A-30A	137	93	CA_2A-2A-66A		156	CA_4A-5A-29A		233	CA_26A-41A-41A	
10	CA_2A-46A	138	94	CA_2A-2A-71A		157	CA_4A-5A-30A		234	CA_26A-41C	
11	CA_2A-48A	143	95	CA_2A-2A-7A		158	CA_4A-5A-5A		235	CA_29A-30A-66A	
12	CA_2A-66A	144	96	CA_2A-4A-12A		159	CA_4A-5B		236	CA_29A-66A-66A	
13	CA_2A-71A	145	97	CA_2A-4A-13A		160	CA_4A-7A-12A		237	CA_30A-66A-66A	
14	CA_2C	120	98	CA_2A-4A-29A		161	CA_4A-7A-7A		238	CA_41A-41A-41A	
15	CA_4A-4A	148	99	CA_2A-4A-30A		162	CA_4A-7C		239	CA_41A-41C	
16	CA_4A-5A	155	100	CA_2A-4A-46A		163	CA_4C-12A		240	CA_41A-46C	
17	CA_4A-7A	160	101	CA_2A-4A-48A		164	CA_4C-13A		241	CA_41D	
18	CA_4A-12A	167	102	CA_2A-4A-4A		165	CA_4C-5A		242	CA_46A-46A-66A	
19	CA_4A-13A	171	103	CA_2A-4A-5A		166	CA_4C-7A		243	CA_46A-66A-66A	
20	CA_4A-25A		104	CA_2A-4A-71A		167	CA_4A-12A-12A		244	CA_46A-66C	
21	CA_4A-29A	174	105	CA_2A-4A-7A		168	CA_4A-12A-30A		245	CA_46C-66A	
22	CA_4A-30A	174	106	CA_2A-4C		169	CA_4A-12A-46A		246	CA_46C-71A	
23	CA_4A-46A	175	107	CA_2A-5A-12A		170	CA_4A-12B		247	CA_48A-48A-66A	
24	CA_4A-48A	177	108	CA_2A-5A-29A		171	CA_4A-13A-46A		248	CA_48A-48A-71A	
25	CA_4C	163	109	CA_2A-5A-30A		172	CA_4A-13A-48A		249	CA_48A-48C	
26	CA_5A-5A	179	110	CA_2A-5A-46A		173	CA_4A-13A-66A		250	CA_48A-66A-66A	
27	CA_5A-7A	180	111	CA_2A-5A-48A		174	CA_4A-29A-30A		251	CA_48A-66B	252
28	CA_5A-12A	188	112	CA_2A-5A-5A		175	CA_4A-46A-46A		252	CA_48A-66C	
29	CA_5A-13A	184	113	CA_2A-5A-66A		176	CA_4A-46C		253	CA_48C-66A	
30	CA_5A-25A		114	CA_2A-5A-7A		177	CA_4A-48A-48A		254	CA_48C-71A	
31	CA_5A-29A	191	115	CA_2A-5B		178	CA_4A-48C		255	CA_48D	
32	CA_5A-30A	191	116	CA_2A-7A-12A		179	CA_5A-5A-66A		256	CA_66A-66A-66A	
33	CA_5A-41A		117	CA_2A-7A-66A		180	CA_5A-7A-12A		257	CA_66A-66A-71A	
34	CA_5A-46A	194	118	CA_2A-7A-7A		181	CA_5A-7A-46A		258	CA_66A-66B	
35	CA_5A-48A	195	119	CA_2A-7C		182	CA_5A-7A-7A		259	CA_66A-66C	
36	CA_5A-66A	198	120	CA_2C-12A		183	CA_5A-7C		260	CA_66C-71A	
37	CA_5B	184	121	CA_2C-29A		184	CA_5B-13A		261	CA_66D	
38	CA_7A-7A	206	122	CA_2C-30A		185	CA_5B-30A				
39	CA_7A-12A	201	123	CA_2C-5A		186	CA_5B-46A				
40	CA_7A-46A	203	124	CA_2C-66A		187	CA_5B-66A				
41	CA_7A-66A	205	125	CA_2A-12A-12A		188	CA_5A-12A-30A				
42	CA_7B	207	126	CA_2A-12A-30A		189	CA_5A-12A-66A				
43	CA_7C	207	127	CA_2A-12A-46A		190	CA_5A-12B				
44	CA_12A-12A	167	128	CA_2A-12A-66A		191	CA_5A-29A-30A				

45	CA_12A-25A		129	CA_2A-12B		192	CA_5A-30A-66A				
46	CA_12A-30A	209	130	CA_2A-13A-46A		193	CA_5A-46A-66A				
47	CA_12A-46A	210	131	CA_2A-13A-48A		194	CA_5A-46C				
48	CA_12A-66A	211	132	CA_2A-13A-66A		195	CA_5A-48A-48A				
49	CA_12B	214	133	CA_2A-14A-30A		196	CA_5A-48A-66A				
50	CA_13A-46A	215	134	CA_2A-14A-66A		197	CA_5A-48C				
51	CA_13A-48A	217	135	CA_2A-29A-30A		198	CA_5A-66A-66A				
52	CA_13A-66A	220	136	CA_2A-29A-66A		199	CA_5A-66B	200		46C-46C-66A	B46 RX Only
53	CA_14A-30A	223	137	CA_2A-30A-66A		200	CA_5A-66C				
54	CA_14A-66A	224	138	CA_2A-46A-46A		201	CA_7A-12A-66A			46A-46D-66A	B46 RX Only
55	CA_25A-25A	225	139	CA_2A-46A-66A		202	CA_7A-12B				
56	CA_25A-26A	229	140	CA_2A-46C		203	CA_7A-46A-46A			46C-66A-66A-66A	B46 RX Only
57	CA_25A-30A		141	CA_2A-48A-48A		204	CA_7A-46C				
58	CA_25A-41A	230	142	CA_2A-48A-66A		205	CA_7A-66A-66A				
59	CA_25A-46A	228	143	CA_2A-48C		206	CA_7A-7A-46A				
60	CA_25A-48A		144	CA_2A-66A-66A		207	CA_7C-46A				
61	CA_25C		145	CA_2A-66A-71A		208	CA_7C-66A				
62	CA_26A-41A	233	146	CA_2A-66B	147	209	CA_12A-30A-66A				
63	CA_26A-46A		147	CA_2A-66C		210	CA_12A-46C				
64	CA_29A-30A	235				211	CA_12A-66A-66A				
65	CA_29A-66A	236				212	CA_12A-66B	213			
66	CA_30A-66A	237				213	CA_12A-66C				
67	CA_41A-41A	238				214	CA_12B-66A				
68	CA_41A-46A	240				215	CA_13A-46A-66A				
69	CA_41A-48A					216	CA_13A-46C				
70	CA_41C	241				217	CA_13A-48A-48A				
71	CA_46A-66A	243				218	CA_13A-48A-66A				
72	CA_46A-71A	246				219	CA_13A-48C				
73	CA_48A-48A	247				220	CA_13A-66A-66A				
74	CA_48A-66A	247				221	CA_13A-66B	222			
75	CA_48A-71A	248				222	CA_13A-66C				
76	CA_48C	249				223	CA_14A-30A-66A				
77	CA_66A-66A	256				224	CA_14A-66A-66A				
78	CA_66A-71A	257									
79	CA_66B	258									
80	CA_66C	259									

<Power verification when LTE Carrier Aggregation Active>

General Note:

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

iii. The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.

vi. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 0.1\left|BW_{Channel(1)} - BW_{Channel(2)}\right|}{0.6} \right\rfloor 0.3 \ \ [\text{MHz}]$$

<Three Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2A-2A-12A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	12	10	737.5	5095	24.41	24.49
	2A-2A-13A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	13	10	751	5230	24.40	24.49
	2A-2A-14A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	14	10	763	5330	24.64	24.49
	2A-2A-29A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	29	10	722.5	9715	24.67	24.49
	2A-2A-30A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	30	10	2355	9820	24.55	24.49
	2A-2A-46A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	46	20	5537.5	50665	24.41	24.49
	2A-2A-4A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	4	20	2132.5	2175	24.37	24.49
	2A-2A-5A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	5	10	881.5	2525	24.29	24.49
	2A-2A-66A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	66	20	2155	66886	24.64	24.49
	2A-2A-71A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	71	20	634.5	68761	24.67	24.49
	2A-2A-7A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	7	20	2655	3100	24.34	24.49
	2A-4A-12A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	12	10	737.5	5095	24.52	24.49
	2A-4A-13A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	13	10	751	5230	24.35	24.49
	2A-4A-14A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	14	10	763	5330	24.69	24.49
	2A-4A-29A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	29	10	722.5	9715	24.61	24.49
	2A-4A-30A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	30	10	2355	9820	24.38	24.49
	2A-4A-46A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	46	20	5537.5	50665	24.60	24.49
	2A-4A-48A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	48	20	3625	55990	24.50	24.49
	2A-4A-4A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	4	20	2132.5	2175	24.43	24.49
	2A-4A-5A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	24.40	24.49
	2A-4A-71A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	71	20	634.5	68761	24.57	24.49
	2A-4A-7A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	24.53	24.49
	2A-4C	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	4	20	2152.3	2373	24.53	24.49
	2A-5A-12A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	12	10	737.5	5095	24.59	24.49
	2A-5A-29A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	29	10	722.5	9715	24.41	24.49
	2A-5A-30A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	30	10	2355	9820	24.44	24.49
	2A-5A-46A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	46	20	5537.5	50665	24.68	24.49

	2A-5A-48A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	48	20	3625	55990	24.54	24.49
	2A-5A-5A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	5	10	889	2600	24.46	24.49
	2A-5A-66A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	66	20	2155	66886	24.29	24.49
	2A-5A-7A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	7	20	2655	3100	24.42	24.49
	2A-5B	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	5	10	891.4	2624	24.66	24.49
	2A-7A-12A	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	12	10	737.5	5095	24.38	24.49
	2A-7A-66A	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	66	20	2155	66886	24.31	24.49
	2A-7A-7A	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	20	2680	3350	24.58	24.49
	2A-7C	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	24.57	24.49
	2C-12A	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	12	10	737.5	5095	24.66	24.49
	2C-29A	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	29	10	722.5	9715	24.38	24.49
	2C-30A	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	30	10	2355	9820	24.31	24.49
	2C-5A	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	5	10	881.5	2525	24.41	24.49
	2C-66A	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	66	20	2155	66886	24.51	24.49
	2A-12A-12A	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	12	10	741	5130	24.46	24.49
	2A-12A-30A	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	30	10	2355	9820	24.36	24.49
	2A-12A-46A	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	46	20	5537.5	50665	24.45	24.49
	2A-12A-66A	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	66	20	2155	66886	24.32	24.49
	2A-12B	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	12	10	747.4	5194	24.43	24.49
	2A-13A-46A	2	20	1860	18700	QPSK	1	0	13	10	751	5230	46	20	5537.5	50665	24.66	24.49
	2A-13A-48A	2	20	1860	18700	QPSK	1	0	13	10	751	5230	48	20	3625	55990	24.45	24.49
	2A-13A-66A	2	20	1860	18700	QPSK	1	0	13	10	751	5230	66	20	2155	66886	24.41	24.49
	2A-14A-30A	2	20	1860	18700	QPSK	1	0	14	10	763	5330	30	10	2355	9820	24.33	24.49
	2A-14A-66A	2	20	1860	18700	QPSK	1	0	14	10	763	5330	66	20	2155	66886	24.51	24.49
	2A-29A-30A	2	20	1860	18700	QPSK	1	0	29	10	722.5	9715	30	10	2355	9820	24.56	24.49
	2A-29A-66A	2	20	1860	18700	QPSK	1	0	29	10	722.5	9715	66	20	2155	66886	24.62	24.49
	2A-30A-66A	2	20	1860	18700	QPSK	1	0	30	10	2355	9820	66	20	2155	66886	24.67	24.49
	2A-46A-66A	2	20	1860	18700	QPSK	1	0	46	20	5537.5	50665	66	20	2155	66886	24.38	24.49
	2A-46C	2	20	1860	18700	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	24.55	24.49
	2A-48A-48A	2	20	1860	18700	QPSK	1	0	48	20	3625	55990	48	20	3700	56739	24.65	24.49
	2A-48A-66A	2	20	1860	18700	QPSK	1	0	48	20	3625	55990	66	20	2155	66886	24.63	24.49
	2A-48C	2	20	1860	18700	QPSK	1	0	48	20	3625	55990	48	20	3644.8	56188	24.43	24.49
	2A-66A-66A	2	20	1860	18700	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	24.39	24.49
	2A-66A-71A	2	20	1860	18700	QPSK	1	0	66	20	2155	66886	71	20	634.5	68761	24.46	24.49
	2A-66C	2	20	1860	18700	QPSK	1	0	66	20	2155	66886	66	20	2174.8	67084	24.60	24.49
	4A-4A-12A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	12	10	737.5	5095	24.27	24.43
	4A-4A-13A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	13	10	751	5230	24.40	24.43
	4A-4A-29A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	29	10	722.5	9715	24.47	24.43
	4A-4A-30A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	30	10	2355	9820	24.43	24.43
	4A-4A-5A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	5	10	881.5	2525	24.41	24.43
	4A-4A-71A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	71	20	634.5	68761	24.43	24.43
	4A-4A-7A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	7	20	2655	3100	24.32	24.43
	4A-5A-12A	4	20	1732.5	20175	QPSK	1	0	5	10	881.5	2525	12	10	737.5	5095	24.32	24.43
	4A-5A-29A	4	20	1732.5	20175	QPSK	1	0	5	10	881.5	2525	29	10	722.5	9715	24.48	24.43
	4A-5A-30A	4	20	1732.5	20175	QPSK	1	0	5	10	881.5	2525	30	10	2355	9820	24.31	24.43
	4A-5A-5A	4	20	1732.5	20175	QPSK	1	0	5	10	881.5	2525	5	10	889	2600	24.54	24.43
	4A-5B	4	20	1732.5	20175	QPSK	1	0	5	10	881.5	2525	5	10	891.4	2624	24.43	24.43
	4A-7A-12A	4	20	1732.5	20175	QPSK	1	0	7	20	2655	3100	12	10	737.5	5095	24.40	24.43
	4A-7A-7A	4	20	1732.5	20175	QPSK	1	0	7	20	2655	3100	7	20	2680	3350	24.54	24.43
	4A-7C	4	20	1732.5	20175	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	24.47	24.43
	4C-12A	4	20	1732.5	20175	QPSK	1	0	4	20	2152.3	2373	12	10	737.5	5095	24.52	24.43
	4C-13A	4	20	1732.5	20175	QPSK	1	0	4	20	2152.3	2373	13	10	751	5230	24.57	24.43
	4C-5A	4	20	1732.5	20175	QPSK	1	0	4	20	2152.3	2373	5	10	881.5	2525	24.34	24.43
	4C-7A	4	20	1732.5	20175	QPSK	1	0	4	20	2152.3	2373	7	20	2655	3100	24.25	24.43
	4A-12A-12A	4	20	1732.5	20175	QPSK	1	0	12	10	737.5	5095	12	10	741	5130	24.50	24.43
	4A-12A-30A	4	20	1732.5	20175	QPSK	1	0	12	10	737.5	5095	30	10	2355	9820	24.47	24.43

4A-12A-46A	4	20	1732.5	20175	QPSK	1	0	12	10	737.5	5095	46	20	5557.3	50863	24.34	24.43
4A-12B	4	20	1732.5	20175	QPSK	1	0	12	10	737.5	5095	12	10	747.4	5194	24.27	24.43
4A-13A-46A	4	20	1732.5	20175	QPSK	1	0	13	10	751	5230	46	20	5557.3	50863	24.50	24.43
4A-13A-48A	4	20	1732.5	20175	QPSK	1	0	13	10	751	5230	48	20	3700	56739	24.44	24.43
4A-13A-66A	4	20	1732.5	20175	QPSK	1	0	13	10	751	5230	66	20	2155	66886	24.30	24.43
4A-29A-30A	4	20	1732.5	20175	QPSK	1	0	29	10	722.5	9715	30	10	2355	9820	24.42	24.43
4A-46A-46A	4	20	1732.5	20175	QPSK	1	0	46	20	5537.5	50665	46	20	5925	54539	24.26	24.43
4A-46C	4	20	1732.5	20175	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	24.59	24.43
4A-48A-48A	4	20	1732.5	20175	QPSK	1	0	48	20	3625	55990	48	20	3700	56739	24.36	24.43
4A-48C	4	20	1732.5	20175	QPSK	1	0	48	20	3625	55990	48	20	3644.8	56188	24.50	24.43
5A-5A-66A	5	10	829	20450	QPSK	1	0	5	10	889	2600	66	20	2155	66886	23.51	23.33
5A-7A-12A	5	10	829	20450	QPSK	1	0	7	20	2655	3100	12	10	737.5	5095	23.27	23.33
5A-7A-46A	5	10	829	20450	QPSK	1	0	7	20	2655	3100	46	20	5557.3	50863	23.29	23.33
5A-7A-7A	5	10	829	20450	QPSK	1	0	7	20	2655	3100	7	20	2680	3350	23.20	23.33
5A-7C	5	10	829	20450	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	23.21	23.33
5B-13A	5	10	829	20450	QPSK	1	0	5	10	883.9	2549	13	10	751	5230	23.25	23.33
5B-30A	5	10	829	20450	QPSK	1	0	5	10	883.9	2549	30	10	2355	9820	23.51	23.33
5B-46A	5	10	829	20450	QPSK	1	0	5	10	883.9	2549	46	20	5537.5	50665	23.50	23.33
5B-66A	5	10	829	20450	QPSK	1	0	5	10	883.9	2549	66	20	2155	66886	23.28	23.33
5A-12A-30A	5	10	829	20450	QPSK	1	0	12	10	737.5	5095	30	10	2355	9820	23.44	23.33
5A-12A-66A	5	10	829	20450	QPSK	1	0	12	10	737.5	5095	66	20	2155	66886	23.39	23.33
5A-12B	5	10	829	20450	QPSK	1	0	12	10	737.5	5095	12	10	747.4	5194	23.24	23.33
5A-29A-30A	5	10	829	20450	QPSK	1	0	29	10	722.5	9715	30	10	2355	9820	23.33	23.33
5A-30A-66A	5	10	829	20450	QPSK	1	0	30	10	2355	9820	66	20	2155	66886	23.38	23.33
5A-46A-66A	5	10	829	20450	QPSK	1	0	46	20	5537.5	50665	66	20	2155	66886	23.26	23.33
5A-46C	5	10	829	20450	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	23.28	23.33
5A-48A-48A	5	10	829	20450	QPSK	1	0	48	20	3625	55990	48	20	3700	56739	23.48	23.33
5A-48A-66A	5	10	829	20450	QPSK	1	0	48	20	3625	55990	66	20	2155	66886	23.41	23.33
5A-48C	5	10	829	20450	QPSK	1	0	48	20	3625	55990	48	20	3644.8	56188	23.21	23.33
5A-66A-66A	5	10	829	20450	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	23.22	23.33
5A-66C	5	10	829	20450	QPSK	1	0	66	20	2155	66886	66	20	2174.8	67084	23.26	23.33
7A-12A-66A	7	20	2535	21100	QPSK	1	0	12	10	737.5	5095	66	20	2155	66886	24.41	24.60
7A-12B	7	20	2535	21100	QPSK	1	0	12	10	737.5	5095	12	10	737.5	5095	24.61	24.60
7A-46A-46A	7	20	2535	21100	QPSK	1	0	46	20	5537.5	50665	46	20	5925	54539	24.66	24.60
7A-46C	7	20	2535	21100	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	24.57	24.60
7A-66A-66A	7	20	2535	21100	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	24.44	24.60
7A-7A-46A	7	20	2535	21100	QPSK	1	0	7	20	2655	3100	46	20	5537.5	50665	24.57	24.60
7C-46A	7	20	2535	21100	QPSK	1	0	7	20	2674.8	3298	46	20	5537.5	50665	24.69	24.60
7C-66A	7	20	2535	21100	QPSK	1	0	7	20	2674.8	3298	66	20	2155	66886	24.71	24.60
12A-30A-66A	12	10	707.5	23095	QPSK	1	0	30	10	2355	9820	66	20	2155	66886	23.24	23.24
12A-46C	12	10	707.5	23095	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	23.40	23.24
12A-66A-66A	12	10	707.5	23095	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	23.22	23.24
12A-66C	12	10	707.5	23095	QPSK	1	0	66	20	2155	66886	66	20	2174.8	67084	23.16	23.24
12B-66A	12	10	707.5	23095	QPSK	1	0	12	10	747.4	5194	66	20	2155	66886	23.36	23.24
13A-46A-66A	13	10	782	23230	QPSK	1	0	46	20	5537.5	50665	66	20	2155	66886	23.08	23.26
13A-46C	13	10	782	23230	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	23.26	23.26
13A-48A-48A	13	10	782	23230	QPSK	1	0	48	20	3625	55990	48	20	3700	56739	23.24	23.26
13A-48A-66A	13	10	782	23230	QPSK	1	0	48	20	3625	55990	66	20	2155	66886	23.12	23.26
13A-48C	13	10	782	23230	QPSK	1	0	48	20	3625	55990	48	20	3644.8	56188	23.25	23.26
13A-66A-66A	13	10	782	23230	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	23.36	23.26
13A-66C	13	10	782	23230	QPSK	1	0	66	20	2155	66886	66	20	2174.8	67084	23.29	23.47
14A-30A-66A	14	10	793	23330	QPSK	1	0	30	10	2355	9820	66	20	2155	66886	23.33	23.47
14A-66A-66A	14	10	793	23330	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	23.47	23.47
25A-25A-26A	25	20	1860	26140	QPSK	1	0	25	20	1985	8590	26	15	876.5	8865	24.19	24.32
25A-25A-41A	25	20	1860	26140	QPSK	1	0	25	20	1985	8590	41	20	2593	40620	24.26	24.32
25A-25A-46A	25	20	1860	26140	QPSK	1	0	25	20	1985	8590	46	20	5537.5	50665	24.13	24.32

		25A-26A-41A	25	20	1860	26140	QPSK	1	0	26	15	876.5	8865	41	20	2593	40620	24.24	24.32
		25A-41A-41A	25	20	1860	26140	QPSK	1	0	41	20	2593	40620	41	20	2685	41490	24.33	24.32
		25A-41C	25	20	1860	26140	QPSK	1	0	41	20	2593	40620	41	20	2612.8	40818	24.25	24.32
		25A-46C	25	20	1860	26140	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	24.48	24.32
		26A-41A-41A	26	15	831.5	26865	QPSK	1	0	41	20	2593	40620	41	20	2685	41490	24.25	24.16
		26A-41C	26	15	831.5	26865	QPSK	1	0	41	20	2593	40620	41	20	2612.8	40818	24.08	24.16
		30A-66A-66A	30	10	2310	27710	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	24.51	24.34
		41A-46C	41	20	2593	40620	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	24.90	24.98
		48A-48A-66A	41	20	2593	40620	QPSK	1	0	48	20	3700	56739	66	20	2155	66886	24.70	24.68
		48A-48A-71A	48	20	3641	56150	QPSK	1	0	48	20	3700	56739	71	20	634.5	68761	24.71	24.68
		48A-66A-66A	48	20	3641	56150	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	24.57	24.68
		48A-66C	48	20	3641	56150	QPSK	1	0	66	20	2155	66886	66	20	2174.8	67084	24.64	24.68
		48C-66A	48	20	3641	56150	QPSK	1	0	48	20	3660.8	56348	66	20	2155	66886	24.78	24.68
		48C-71A	48	20	3641	56150	QPSK	1	0	48	20	3644.8	56348	71	20	634.5	68761	24.51	24.68
		66A-66A-71A	66	20	1770	132572	QPSK	1	0	66	20	2190	67236	71	20	634.5	68761	24.63	24.45
		66C-71A	66	20	1770	132572	QPSK	1	0	66	20	2174.8	67084	71	20	634.5	68761	24.55	24.45
Intra-Band	Non-Contiguous	25A-25A-25A	25	20	1860	26140	QPSK	1	0	25	20	1985	8590	25	20	1960	8340	24.52	24.32
		41A-41A-41A	41	20	2593	40620	QPSK	1	0	41	20	2685	41490	41	20	2506	39750	24.83	24.98
		41A-41C	41	20	2593	40620	QPSK	1	0	41	20	2685	41490	41	20	2665.2	41292	25.11	24.98
		48A-48C	48	20	3641	56150	QPSK	1	0	48	20	3700	56739	48	20	3680.2	56541	24.73	24.68
		66A-66A-66A	66	20	1770	132572	QPSK	1	0	66	20	2120	66536	66	20	2155	66886	24.59	24.45
		66A-66C	66	20	1770	132572	QPSK	1	0	66	20	2120	66536	66	20	2139.8	66734	24.62	24.45
	Contiguous	41D	41	20	2593	40620	QPSK	1	0	41	20	2612.8	40818	41	20	2632.6	41016	24.81	24.98
		48D	48	20	3641	56150	QPSK	1	0	48	20	3660.8	56348	48	20	3680.6	56546	24.81	24.68
		66D	66	20	1770	132572	QPSK	1	0	66	20	2164.8	66984	66	20	2184.6	67182	24.51	24.45

<LTE Uplink carrier aggregation>

Uplink Carrier Aggregation	
Number	Combination
1	5B
2	5B_Ant 2
3	7C
4	41C
5	48C_Ant 2
6	66B
7	66C

<Intra-band>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B66/B41/B48 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

ii. The device supports uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.

iii. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

iv. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

v. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<DSI 0,1>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	49	1	0	1	0	23.09	25
20575	20476	QPSK	1	0	1	49	2	0	23.11	25
20600	20501	QPSK	1	0	1	49	2	0	23.12	25

CA_5B_Ant 2										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	49	1	0	1	0	23.09	25
20575	20476	QPSK	1	0	1	49	2	0	23.11	25
20600	20501	QPSK	1	0	1	49	2	0	23.12	25

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	99	1	0	1	0	23.15	25
21100	20902	QPSK	1	0	1	99	2	0	23.05	25
21350	21152	QPSK	1	0	1	99	2	0	23.11	25

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	1	0	1	0	24.51	25
40185	39987	QPSK	1	0	1	99	2	0	24.41	25
40620	40422	QPSK	1	0	1	99	2	0	24.35	25
41055	40857	QPSK	1	0	1	99	2	0	23.62	25
41490	41292	QPSK	1	0	1	99	2	0	23.66	25

CA_48C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	99	1	0	1	0	24.16	25
55830	55632	QPSK	1	0	1	99	2	0	24.09	25
56150	55952	QPSK	1	0	1	99	2	0	24.42	25

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	74	1	0	1	0	23.27	25
132322	132229	QPSK	1	0	1	24	2	0	23.61	25
132597	132504	QPSK	1	0	1	24	2	0	23.76	25

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	99	1	0	1	0	23.27	25
132322	132124	QPSK	1	0	1	99	2	0	23.14	25
132572	132374	QPSK	1	0	1	99	2	0	23.94	25

<DSI 2>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	49	1	0	1	0	21.85	22.6
20476	20575	QPSK	1	49	1	0	2	0	21.92	22.6
20501	20600	QPSK	1	49	1	0	2	0	21.95	22.6

CA_5B_ANT 2										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	49	1	0	1	0	20.48	21.2
20476	20575	QPSK	1	49	1	0	2	0	20.55	21.2
20501	20600	QPSK	1	49	1	0	2	0	20.61	21.2

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	99	1	0	1	0	21.66	21.7
20902	21100	QPSK	1	99	1	0	2	0	21.61	21.7
21152	21350	QPSK	1	99	1	0	2	0	21.65	21.7

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	1	0	1	0	20.41	21.1
40185	39987	QPSK	1	0	1	99	2	0	19.95	21.1
40620	40422	QPSK	1	0	1	99	2	0	20.18	21.1
41055	40857	QPSK	1	0	1	99	2	0	19.24	21.1
41490	41292	QPSK	1	0	1	99	2	0	20.42	21.1

CA_48C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	99	1	0	1	0	20.46	21.3
55830	55632	QPSK	1	0	1	99	2	0	20.39	21.3
56150	55952	QPSK	1	0	1	99	2	0	20.26	21.3

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	74	1	0	1	0	18.3	18.3
132322	132229	QPSK	1	0	1	24	2	0	18.1	18.3
132597	132504	QPSK	1	0	1	24	2	0	17.95	18.3

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	99	1	0	1	0	18.3	18.3
132322	132124	QPSK	1	0	1	99	2	0	18.29	18.3
132572	132374	QPSK	1	0	1	99	2	0	18.17	18.3

<DSI 3>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	49	1	0	1	0	15.1	15.8
20476	20575	QPSK	1	49	1	0	2	0	15.21	15.8
20501	20600	QPSK	1	49	1	0	2	0	15.23	15.8

CA_5B_ANT 2										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	49	1	0	1	0	14.88	15
20476	20575	QPSK	1	49	1	0	2	0	14.82	15
20501	20600	QPSK	1	49	1	0	2	0	14.93	15

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	99	1	0	1	0	13.81	13.9
21100	20902	QPSK	1	0	1	99	2	0	13.75	13.9
21350	21152	QPSK	1	0	1	99	2	0	13.86	13.9

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	1	0	1	0	12.86	12.9
40185	39987	QPSK	1	0	1	99	2	0	12.72	12.9
40620	40422	QPSK	1	0	1	99	2	0	12.87	12.9
41055	40857	QPSK	1	0	1	99	2	0	12.57	12.9
41490	41292	QPSK	1	0	1	99	2	0	12.89	12.9

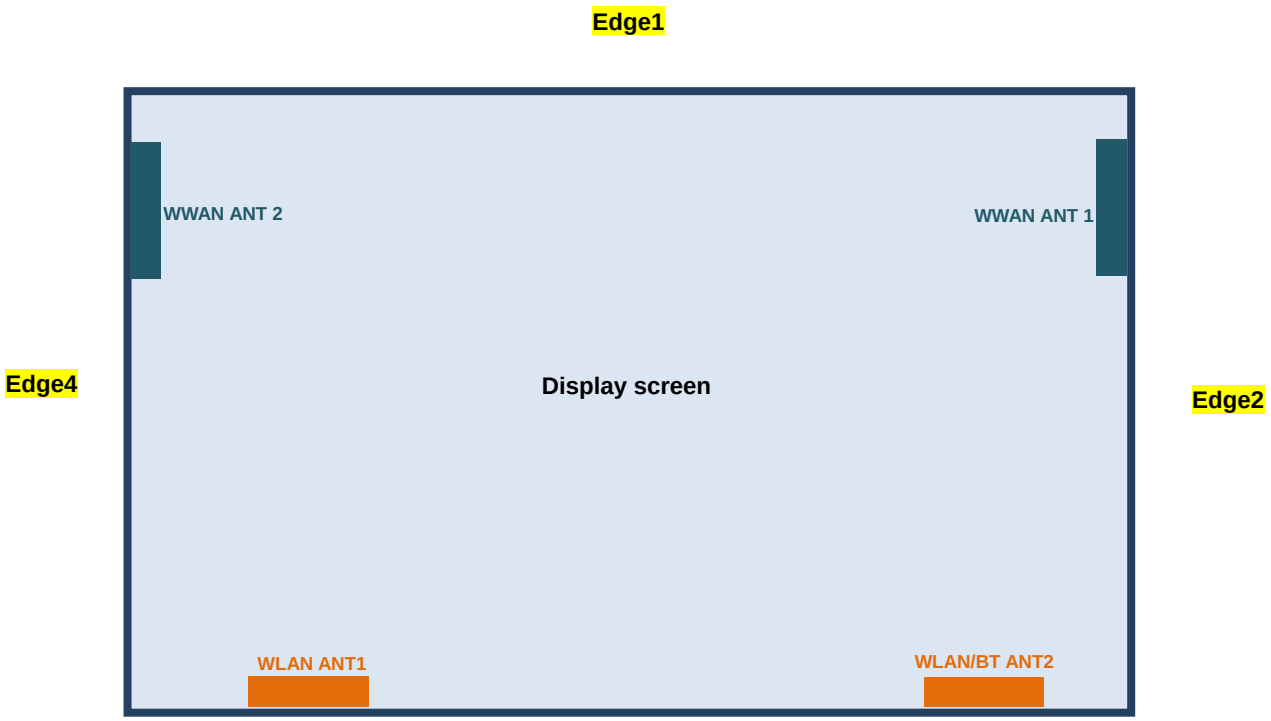
CA_48C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	99	1	0	1	0	13.18	14
55830	55632	QPSK	1	0	1	99	2	0	13.3	14
56150	55952	QPSK	1	0	1	99	2	0	13.81	14

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	74	1	0	1	0	12.78	12.8
132322	132229	QPSK	1	0	1	24	2	0	12.52	12.8
132597	132504	QPSK	1	0	1	24	2	0	12.33	12.8

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	99	1	0	1	0	12.79	12.8
132322	132124	QPSK	1	0	1	99	2	0	12.67	12.8
132572	132374	QPSK	1	0	1	99	2	0	12.16	12.8

15. Antenna Location

<For Tablet>

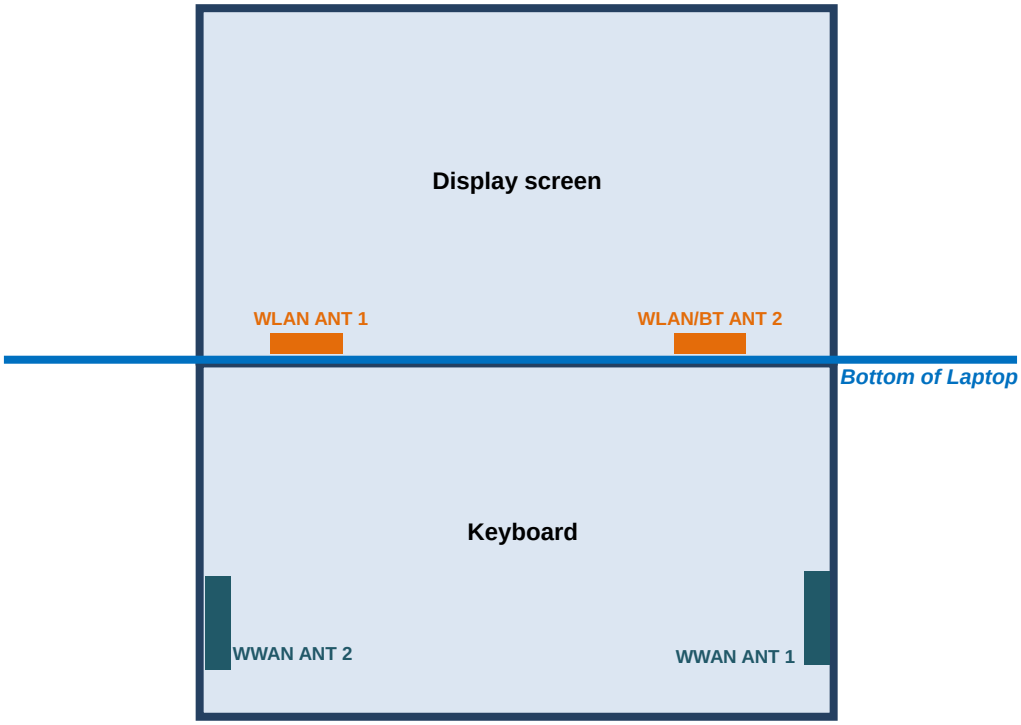


Front View

The separation distance for antenna to edge:

Antenna	To Edge1 (mm)	To Edge2 (mm)	To Edge3 (mm)	To Edge4 (mm)
WWAN Antenna 1	≤ 25mm	≤ 25mm	>25mm	>25mm
WWAN Antenna 2	≤ 25mm	>25mm	>25mm	≤ 25mm
WLAN Antenna 1	>25mm	>25mm	≤ 25mm	>25mm
WLAN/BT Antenna 2	>25mm	>25mm	≤ 25mm	>25mm

<For Laptop>



The separation distance for antenna to edge :

Antenna	To Bottom of Laptop (mm)
WWAN Antenna 1	≤ 25mm
WWAN Antenna 2	≤ 25mm
WLAN Antenna 1	≤ 25mm
WLAN/BT Antenna 2	≤ 25mm

<SAR test exclusion table>

General Note:

1. The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
2. Maximum power is the source-based time-average power and represents the maximum RF output power among production units
3. Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
4. Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
5. Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
   [(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison
6. Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following
   a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz
   b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

<WWAN Ant 1+ WLAN/BT>

	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 71 / n71	LTE Band 12 / 17	LTE Band 13	LTE Band 14	LTE Band 5 / 26 / n5	LTE Band 4 / 66 / n66	LTE Band 2 / 25 / n2	LTE Band 30	LTE Band 7	LTE Band 38 / 41 / n41	2.4GHz WLAN ANT 1	2.4GHz WLAN ANT 2	5GHz WLAN ANT 1	5GHz WLAN ANT 2
Exposure Position	Calculated Frequency	846MHz	1750MHz	1907MHz	695MHz	715MHz	784MHz	795MHz	848MHz	1779MHz	1914MHz	2312MHz	2567MHz	2687MHz	2462MHz	2462MHz	5825MHz	5825MHz
	Maximum power (dBm)	25.5	25.5	25.5	25	25	25	25	25	25	25	25	25	25	13.5	13.5	10.5	10.5
	Maximum rated power(mW)	355.0	355.0	355.0	316.0	316.0	316.0	316.0	316.0	316.0	316.0	316.0	316.0	316.0	22.0	22.0	11.0	11.0
Bottom Face	Separation distance(mm)	5.0													5.0	5.0	5.0	5.0
	exclusion threshold	65.3	93.9	98.1	52.7	53.4	56.0	56.4	58.2	84.3	87.4	96.1	101.3	103.6	6.9	6.9	5.3	5.3
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	20.0													222.1	222.1	222.1	222.1
	exclusion threshold	16.3	23.5	24.5	13.2	13.4	14.0	14.1	14.6	21.1	21.9	24.0	25.3	25.9	1817.0	1817.0	1783.0	1783.0
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Edge 2	Separation distance(mm)	5.0													272.0	37.7	272.0	37.7
	exclusion threshold	65.3	93.9	98.1	52.7	53.4	56.0	56.4	58.2	84.3	87.4	96.1	101.3	103.6	2316.0	0.9	2282.0	0.7
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Edge 3	Separation distance(mm)	140.0													5.0	5.0	5.0	5.0
	exclusion threshold	671.0	1013.0	1009.0	597.0	606.0	640.0	645.0	672.0	1012.0	1008.0	999.0	994.0	992.0	6.9	6.9	5.3	5.3
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes
Edge 4	Separation distance(mm)	295.0													37.7	272.0	37.7	272.0
	exclusion threshold	1545.0	2563.0	2559.0	1315.0	1345.0	1450.0	1467.0	1548.0	2562.0	2558.0	2549.0	2544.0	2542.0	0.9	2316.0	0.7	2282.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Bottom of Laptop	Separation distance(mm)	5.0													5.0	5.0	5.0	5.0
	exclusion threshold	65.3	93.9	98.1	52.7	53.4	56.0	56.4	58.2	84.3	87.4	96.1	101.3	103.6	6.9	6.9	5.3	5.3
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

<WWAN Ant 2>

	Wireless Interface	LTE Band 71 / n71	LTE Band 12 / 17	LTE Band 13	LTE Band 14	LTE Band 5 / 26 / n5	LTE Band n41	LTE Band 48
Exposure Position	Calculated Frequency	695MHz	715MHz	784MHz	795MHz	848MHz	2687MHz	3697MHz
	Maximum power (dBm)	25	25	25	25	25	25	25
	Maximum rated power(mW)	316.0	316.0	316.0	316.0	316.0	316.0	316.0
Bottom Face	Separation distance(mm)	5.0						
	exclusion threshold	52.7	53.4	56.0	56.4	58.2	103.6	121.5
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	20.0						
	exclusion threshold	13.2	13.4	14.0	14.1	14.6	25.9	30.4
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	Separation distance(mm)	295.0						
	exclusion threshold	1315.0	1345.0	1450.0	1467.0	1548.0	2542.0	2528.0
	Testing required?	No	No	No	No	No	No	No
Edge 3	Separation distance(mm)	140.0						
	exclusion threshold	597.0	606.0	640.0	645.0	672.0	992.0	978.0
	Testing required?	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	5.0						
	exclusion threshold	52.7	53.4	56.0	56.4	58.2	103.6	121.5
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bottom of Laptop	Separation distance(mm)	5.0						
	exclusion threshold	52.7	53.4	56.0	56.4	58.2	103.6	121.5
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For UMTS/FCC LTE/5G FR1: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, 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:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 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
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
4. For the body SAR measurement was used a low-loss foam block performed testing, the relative permittivity and loss tangent of the foam material is 1.0 and 10^{-5}, respectively, therefore holder perturbation verification is not required even highest reported SAR is >1.2W/kg.
5. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in normal mode was performed; 1.4cm for bottom face, 1.1cm for edge1.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”.
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA / HSPA+ is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

LTE Note:

1. Per KDB 941225 D05v02r05, 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.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, 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 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. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not ½ 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; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B12/B26/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. The maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion.
   b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. SAR testing start with the largest channel bandwidth and measure SAR for PI/2 BPSK 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.
   b. 50% RB allocation for PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure
   c. PI/2 BPSK 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.
   d. QPSK/16QAM/64QAM/256QAM output powers are not ½ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
   e. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ 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
   f. For 5G FR1 n5/n41/n71 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required 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.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, 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.
5. For WLAN SAR testing was performed on single antenna RF power in SISO mode is larger or equal to the single antenna RF power in MIMO mode, and for RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode.
6. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6W/kg and SAR peak to location ratio ≤ 0.04, no additional SAR measurements for MIMO.
7. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

16.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	9538	1907.6	17.57	19.00	1.390	-0.12	0.809	1.124
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	9262	1852.4	17.50	19.00	1.413	0.06	0.771	1.089
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	9400	1880	17.54	19.00	1.400	-0.01	0.783	1.096
	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	9538	1907.6	13.95	14.00	1.012	-0.06	1.030	1.042
1	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	9262	1852.4	13.82	14.00	1.042	0	1.120	1.167
	WCDMA II	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	9400	1880	13.92	14.00	1.019	0	1.090	1.110
	WCDMA II	RMC 12.2Kbps	Edge 2	0mm	Tablet	DSI3	9538	1907.6	13.95	14.00	1.012	-0.05	0.282	0.285
	WCDMA II	RMC 12.2Kbps	Bottom of Laptop	11mm	Laptop	DSI0,1	9400	1880	24.92	25.50	1.143	0.19	0.317	0.362
	WCDMA II	RMC 12.2Kbps	Bottom Face	17mm	Tablet	DSI0,1	9400	1880	24.92	25.50	1.143	-0.01	0.993	1.135
	WCDMA II	RMC 12.2Kbps	Bottom Face	17mm	Tablet	DSI0,1	9262	1852.4	24.89	25.50	1.151	0.07	0.956	1.100
	WCDMA II	RMC 12.2Kbps	Bottom Face	17mm	Tablet	DSI0,1	9538	1907.6	24.91	25.50	1.146	-0.11	0.923	1.057
	WCDMA II	RMC 12.2Kbps	Edge 1	0mm	Tablet	DSI0,1	9400	1880	24.92	25.50	1.143	0.09	0.472	0.539
	WCDMA II	RMC 12.2Kbps	Edge 2	19mm	Tablet	DSI0,1	9400	1880	24.92	25.50	1.143	0.03	0.061	0.070
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	1413	1732.6	18.37	19.40	1.268	0	0.844	1.070
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	1312	1712.4	18.36	19.40	1.271	0.03	0.729	0.926
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	1513	1752.6	18.10	19.40	1.349	-0.04	0.780	1.052
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	1413	1732.6	12.04	12.40	1.086	0.01	1.020	1.108
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	1312	1712.4	12.03	12.40	1.089	0.06	0.914	0.995
2	WCDMA IV	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	1513	1752.6	11.74	12.40	1.164	-0.15	0.996	1.159
	WCDMA IV	RMC 12.2Kbps	Edge 2	0mm	Tablet	DSI3	1413	1732.6	12.04	12.40	1.086	0.06	0.174	0.189
	WCDMA IV	RMC 12.2Kbps	Bottom of Laptop	11mm	Laptop	DSI0,1	1413	1732.6	24.92	25.50	1.143	0.09	0.632	0.722
	WCDMA IV	RMC 12.2Kbps	Bottom Face	17mm	Tablet	DSI0,1	1413	1732.6	24.92	25.50	1.143	0.07	0.738	0.843
	WCDMA IV	RMC 12.2Kbps	Bottom Face	17mm	Tablet	DSI0,1	1312	1712.4	24.53	25.50	1.250	-0.05	0.659	0.824
	WCDMA IV	RMC 12.2Kbps	Bottom Face	17mm	Tablet	DSI0,1	1513	1752.6	24.89	25.50	1.151	0.06	0.703	0.809
	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	Tablet	DSI0,1	1413	1732.6	24.92	25.50	1.143	0.05	0.469	0.536
	WCDMA IV	RMC 12.2Kbps	Edge 2	19mm	Tablet	DSI0,1	1413	1732.6	24.92	25.50	1.143	-0.11	0.039	0.045
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	4182	836.4	21.30	21.30	1.000	0.09	1.000	1.000
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	4132	826.4	21.28	21.30	1.005	0.01	1.060	1.065
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	0mm	Laptop	DSI2	4233	846.6	21.22	21.30	1.019	0.13	1.030	1.049
3	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	4182	836.4	15.87	16.10	1.054	-0.04	1.080	1.139
	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	4132	826.4	15.80	16.10	1.072	-0.07	1.010	1.082
	WCDMA V	RMC 12.2Kbps	Bottom Face	0mm	Tablet	DSI3	4233	846.6	15.76	16.10	1.081	-0.06	1.040	1.125
	WCDMA V	RMC 12.2Kbps	Edge 2	0mm	Tablet	DSI3	4182	836.4	15.87	16.10	1.054	0.05	0.312	0.329
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	11mm	Laptop	DSI0,1	4132	826.4	24.44	25.50	1.276	0.09	0.663	0.846
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	11mm	Laptop	DSI0,1	4182	836.4	24.40	25.50	1.288	0.06	0.612	0.788
	WCDMA V	RMC 12.2Kbps	Bottom of Laptop	11mm	Laptop	DSI0,1	4233	846.6	24.30	25.50	1.318	-0.11	0.632	0.833
	WCDMA V	RMC 12.2Kbps	Bottom Face	17mm	Tablet	DSI0,1	4132	826.4	24.44	25.50	1.276	-0.02	0.307	0.392
	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	Tablet	DSI0,1	4132	826.4	24.44	25.50	1.276	0.08	0.317	0.405
	WCDMA V	RMC 12.2Kbps	Edge 2	19mm	Tablet	DSI0,1	4132	826.4	24.44	25.50	1.276	0.11	0.015	0.019

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
4	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	21350	2560	21.35	21.70	1.084	-0.12	1.050	1.138
	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	20850	2510	21.31	21.70	1.094	0.06	0.992	1.085
	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	21100	2535	21.28	21.70	1.102	-0.11	1.030	1.135
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	21350	2560	21.30	21.70	1.096	-0.12	1.010	1.107
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	20850	2510	21.25	21.70	1.109	0.05	0.982	1.089
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	21100	2535	21.25	21.70	1.109	-0.08	0.990	1.098
	LTE Band 7	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	21350	2560	21.22	21.70	1.117	0.04	0.996	1.112
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	21100	2535	13.67	13.90	1.054	-0.11	0.985	1.039
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	20850	2510	13.63	13.90	1.064	0.11	0.971	1.033
	LTE Band 7	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	21350	2560	13.50	13.90	1.096	0.11	0.926	1.015
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	21100	2535	13.62	13.90	1.067	-0.05	0.953	1.016
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	20850	2510	13.60	13.90	1.072	0	0.941	1.008
	LTE Band 7	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	21350	2560	13.59	13.90	1.074	0.03	0.922	0.990
	LTE Band 7	20M	QPSK	100	0	Bottom Face	0mm	Tablet	DSI3	21100	2535	13.60	13.90	1.072	-0.05	0.959	1.028
	LTE Band 7	20M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	21100	2535	13.67	13.90	1.054	-0.17	0.254	0.268
	LTE Band 7	20M	QPSK	50	0	Edge 2	0mm	Tablet	DSI3	21100	2535	13.62	13.90	1.067	0.14	0.239	0.255
	LTE Band 7	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	21100	2535	24.60	25.00	1.096	-0.05	0.583	0.639
	LTE Band 7	20M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	21100	2535	23.55	24.00	1.109	-0.07	0.499	0.553
	LTE Band 7	20M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	21100	2535	24.60	25.00	1.096	-0.13	0.538	0.590
	LTE Band 7	20M	QPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	21100	2535	23.55	24.00	1.109	0.17	0.463	0.514
	LTE Band 7	20M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	21100	2535	24.60	25.00	1.096	-0.09	0.258	0.283
	LTE Band 7	20M	QPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	21100	2535	23.55	24.00	1.109	0.02	0.199	0.221
	LTE Band 7	20M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	21100	2535	24.60	25.00	1.096	0.08	0.033	0.036
	LTE Band 7	20M	QPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	21100	2535	23.55	24.00	1.109	-0.11	0.018	0.020
	LTE Band 7C	20M	QPSK	1	99	Bottom of Laptop	0mm	Laptop	DSI2	20850	2510	21.66	21.70	1.009	0.03	1.020	1.029
	LTE Band 12	10M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	23095	707.5	19.60	20.70	1.288	-0.13	0.915	1.179
	LTE Band 12	10M	QPSK	25	0	Bottom of Laptop	0mm	Laptop	DSI2	23095	707.5	19.58	20.70	1.294	-0.16	0.895	1.158
	LTE Band 12	10M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	23095	707.5	19.47	20.70	1.327	-0.13	0.881	1.169
5	LTE Band 12	10M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	23095	707.5	17.82	18.50	1.169	-0.08	1.010	1.181
	LTE Band 12	10M	QPSK	25	0	Bottom Face	0mm	Tablet	DSI3	23095	707.5	17.61	18.50	1.227	-0.11	0.954	1.171
	LTE Band 12	10M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	23095	707.5	17.54	18.50	1.247	-0.19	0.941	1.174
	LTE Band 12	10M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	23095	707.5	17.82	18.50	1.169	-0.1	0.648	0.758
	LTE Band 12	10M	QPSK	25	0	Edge 2	0mm	Tablet	DSI3	23095	707.5	17.61	18.50	1.227	0.1	0.613	0.752
	LTE Band 12	10M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	23095	707.5	23.24	25.00	1.500	-0.01	0.363	0.544
	LTE Band 12	10M	QPSK	25	0	Bottom of Laptop	11mm	Laptop	DSI0,1	23095	707.5	22.36	24.00	1.459	0.07	0.277	0.404
	LTE Band 12	10M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	23095	707.5	23.24	25.00	1.500	-0.04	0.228	0.342
	LTE Band 12	10M	QPSK	25	0	Bottom Face	17mm	Tablet	DSI0,1	23095	707.5	22.36	24.00	1.459	-0.07	0.198	0.289
	LTE Band 12	10M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	23095	707.5	23.24	25.00	1.500	-0.07	0.076	0.114
	LTE Band 12	10M	QPSK	25	0	Edge 1	0mm	Tablet	DSI0,1	23095	707.5	22.36	24.00	1.459	0.04	0.051	0.074
	LTE Band 12	10M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	23095	707.5	23.24	25.00	1.500	0.05	0.009	0.013
	LTE Band 12	10M	QPSK	25	0	Edge 2	19mm	Tablet	DSI0,1	23095	707.5	22.36	24.00	1.459	-0.03	0.006	0.009
	LTE Band 12_Ant 2	10M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	23095	707.5	19.28	19.80	1.127	-0.04	0.939	1.058
	LTE Band 12_Ant 2	10M	QPSK	25	0	Bottom of Laptop	0mm	Laptop	DSI2	23095	707.5	19.23	19.80	1.140	-0.1	0.996	1.136
	LTE Band 12_Ant 2	10M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	23095	707.5	19.19	19.80	1.151	-0.08	0.996	1.146
	LTE Band 12_Ant 2	10M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	23095	707.5	16.79	17.50	1.178	-0.13	0.954	1.123
	LTE Band 12_Ant 2	10M	QPSK	25	0	Bottom Face	0mm	Tablet	DSI3	23095	707.5	16.74	17.50	1.191	-0.13	0.967	1.152
	LTE Band 12_Ant 2	10M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	23095	707.5	16.65	17.50	1.216	-0.1	0.919	1.118
	LTE Band 12_Ant 2	10M	QPSK	1	0	Edge 4	0mm	Tablet	DSI3	23095	707.5	16.79	17.50	1.178	0.03	0.595	0.701
	LTE Band 12_Ant 2	10M	QPSK	25	0	Edge 4	0mm	Tablet	DSI3	23095	707.5	16.74	17.50	1.191	-0.01	0.566	0.674
	LTE Band 12_Ant 2	10M	QPSK	1	0	Bottom of Laptop	12mm	Laptop	DSI0,1	23095	707.5	23.24	25.00	1.500	-0.05	0.396	0.594
	LTE Band 12_Ant 2	10M	QPSK	25	0	Bottom of Laptop	12mm	Laptop	DSI0,1	23095	707.5	22.36	24.00	1.459	0.09	0.297	0.433
	LTE Band 12_Ant 2	10M	QPSK	1	0	Bottom Face	15mm	Tablet	DSI0,1	23095	707.5	23.24	25.00	1.500	-0.08	0.301	0.451
	LTE Band 12_Ant 2	10M	QPSK	25	0	Bottom Face	15mm	Tablet	DSI0,1	23095	707.5	22.36	24.00	1.459	0.11	0.228	0.333
	LTE Band 12_Ant 2	10M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	23095	707.5	23.24	25.00	1.500	0.03	0.190	0.285
	LTE Band 12_Ant 2	10M	QPSK	25	0	Edge 1	0mm	Tablet	DSI0,1	23095	707.5	22.36	24.00	1.459	-0.05	0.127	0.185
	LTE Band 12_Ant 2	10M	QPSK	1	0	Edge 4	20mm	Tablet	DSI0,1	23095	707.5	23.24	25.00	1.500	-0.01	0.096	0.144
	LTE Band 12_Ant 2	10M	QPSK	25	0	Edge 4	20mm	Tablet	DSI0,1	23095	707.5	22.36	24.00	1.459	0.05	0.063	0.092

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 13	10M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	23230	782	18.80	19.70	1.230	-0.18	0.844	1.038
	LTE Band 13	10M	QPSK	25	0	Bottom of Laptop	0mm	Laptop	DSI2	23230	782	18.73	19.70	1.250	-0.04	0.822	1.028
	LTE Band 13	10M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	23230	782	18.64	19.70	1.276	-0.05	0.803	1.025
	LTE Band 13	10M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	23230	782	16.42	16.50	1.019	-0.02	1.030	1.049
	LTE Band 13	10M	QPSK	25	0	Bottom Face	0mm	Tablet	DSI3	23230	782	16.37	16.50	1.030	-0.09	0.991	1.021
	LTE Band 13	10M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	23230	782	16.34	16.50	1.038	-0.19	0.983	1.020
	LTE Band 13	10M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	23230	782	16.42	16.50	1.019	-0.01	0.540	0.550
	LTE Band 13	10M	QPSK	25	0	Edge 2	0mm	Tablet	DSI3	23230	782	16.37	16.50	1.030	-0.05	0.523	0.539
	LTE Band 13	10M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	23230	782	23.26	25.00	1.493	0	0.658	0.982
	LTE Band 13	10M	QPSK	25	0	Bottom of Laptop	11mm	Laptop	DSI0,1	23230	782	22.37	24.00	1.455	0.07	0.518	0.754
	LTE Band 13	10M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	23230	782	22.29	24.00	1.483	0.06	0.505	0.749
	LTE Band 13	10M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	23230	782	23.26	25.00	1.493	-0.07	0.486	0.725
	LTE Band 13	10M	QPSK	25	0	Bottom Face	17mm	Tablet	DSI0,1	23230	782	22.37	24.00	1.455	-0.08	0.465	0.677
	LTE Band 13	10M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	23230	782	23.26	25.00	1.493	0.06	0.273	0.408
	LTE Band 13	10M	QPSK	25	0	Edge 1	0mm	Tablet	DSI0,1	23230	782	22.37	24.00	1.455	0.05	0.201	0.293
	LTE Band 13	10M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	23230	782	23.26	25.00	1.493	-0.09	0.010	0.015
	LTE Band 13	10M	QPSK	25	0	Edge 2	19mm	Tablet	DSI0,1	23230	782	22.37	24.00	1.455	-0.08	0.008	0.012
	LTE Band 13_Ant 2	10M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	23230	782	19.21	19.80	1.146	-0.14	0.894	1.024
	LTE Band 13_Ant 2	10M	QPSK	25	0	Bottom of Laptop	0mm	Laptop	DSI2	23230	782	19.18	19.80	1.153	-0.11	0.972	1.121
	LTE Band 13_Ant 2	10M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	23230	782	19.16	19.80	1.159	-0.15	0.961	1.114
6	LTE Band 13_Ant 2	10M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	23230	782	16.86	17.50	1.159	-0.05	0.998	1.156
	LTE Band 13_Ant 2	10M	QPSK	25	0	Bottom Face	0mm	Tablet	DSI3	23230	782	16.75	17.50	1.189	-0.06	0.961	1.142
	LTE Band 13_Ant 2	10M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	23230	782	16.59	17.50	1.233	-0.06	0.925	1.141
	LTE Band 13_Ant 2	10M	QPSK	1	0	Edge 4	0mm	Tablet	DSI3	23230	782	16.86	17.50	1.159	0.09	0.226	0.262
	LTE Band 13_Ant 2	10M	QPSK	25	0	Edge 4	0mm	Tablet	DSI3	23230	782	16.75	17.50	1.189	-0.05	0.210	0.250
	LTE Band 13_Ant 2	10M	QPSK	1	0	Bottom of Laptop	12mm	Laptop	DSI0,1	23230	782	23.26	25.00	1.493	-0.11	0.447	0.667
	LTE Band 13_Ant 2	10M	QPSK	25	0	Bottom of Laptop	12mm	Laptop	DSI0,1	23230	782	22.37	24.00	1.455	0.03	0.351	0.511
	LTE Band 13_Ant 2	10M	QPSK	1	0	Bottom Face	15mm	Tablet	DSI0,1	23230	782	23.26	25.00	1.493	-0.16	0.535	0.799
	LTE Band 13_Ant 2	10M	QPSK	25	0	Bottom Face	15mm	Tablet	DSI0,1	23230	782	22.37	24.00	1.455	-0.07	0.442	0.643
	LTE Band 13_Ant 2	10M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	23230	782	23.26	25.00	1.493	0.09	0.355	0.530
	LTE Band 13_Ant 2	10M	QPSK	25	0	Edge 1	0mm	Tablet	DSI0,1	23230	782	22.37	24.00	1.455	-0.05	0.238	0.346
	LTE Band 13_Ant 2	10M	QPSK	1	0	Edge 4	20mm	Tablet	DSI0,1	23230	782	23.26	25.00	1.493	0.02	0.102	0.152
	LTE Band 13_Ant 2	10M	QPSK	25	0	Edge 4	20mm	Tablet	DSI0,1	23230	782	22.37	24.00	1.455	0.03	0.078	0.114

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 14	10M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	23330	793	19.13	19.90	1.194	-0.13	0.876	1.046
	LTE Band 14	10M	QPSK	25	0	Bottom of Laptop	0mm	Laptop	DSI2	23330	793	19.05	19.90	1.216	0.05	0.859	1.045
	LTE Band 14	10M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	23330	793	19.01	19.90	1.227	0.01	0.844	1.036
	LTE Band 14	10M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	23330	793	16.58	16.60	1.005	-0.03	1.110	1.115
	LTE Band 14	10M	QPSK	25	0	Bottom Face	0mm	Tablet	DSI3	23330	793	16.55	16.60	1.012	0.07	1.080	1.093
	LTE Band 14	10M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	23330	793	16.51	16.60	1.021	-0.03	1.060	1.082
	LTE Band 14	10M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	23330	793	16.58	16.60	1.005	0	0.506	0.508
	LTE Band 14	10M	QPSK	25	0	Edge 2	0mm	Tablet	DSI3	23330	793	16.55	16.60	1.012	0.07	0.489	0.495
	LTE Band 14	10M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	23330	793	23.47	25.00	1.422	-0.06	0.700	0.996
	LTE Band 14	10M	QPSK	25	0	Bottom of Laptop	11mm	Laptop	DSI0,1	23330	793	22.39	24.00	1.449	0.1	0.536	0.777
	LTE Band 14	10M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	23330	793	22.32	24.00	1.472	0.03	0.533	0.785
	LTE Band 14	10M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	23330	793	23.47	25.00	1.422	-0.05	0.543	0.772
	LTE Band 14	10M	QPSK	25	0	Bottom Face	17mm	Tablet	DSI0,1	23330	793	22.39	24.00	1.449	-0.09	0.416	0.603
	LTE Band 14	10M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	23330	793	23.47	25.00	1.422	0	0.252	0.358
	LTE Band 14	10M	QPSK	25	0	Edge 1	0mm	Tablet	DSI0,1	23330	793	22.39	24.00	1.449	-0.08	0.197	0.285
	LTE Band 14	10M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	23330	793	23.47	25.00	1.422	-0.07	0.015	0.021
	LTE Band 14	10M	QPSK	25	0	Edge 2	19mm	Tablet	DSI0,1	23330	793	22.39	24.00	1.449	-0.05	0.010	0.014
	LTE Band 14_Ant 2	10M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	23330	793	19.21	20.00	1.199	-0.13	0.912	1.094
	LTE Band 14_Ant 2	10M	QPSK	25	0	Bottom of Laptop	0mm	Laptop	DSI2	23330	793	19.15	20.00	1.216	-0.19	0.919	1.118
	LTE Band 14_Ant 2	10M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	23330	793	19.10	20.00	1.230	-0.19	0.912	1.122
7	LTE Band 14_Ant 2	10M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	23330	793	16.45	17.30	1.216	-0.1	0.966	1.175
	LTE Band 14_Ant 2	10M	QPSK	25	0	Bottom Face	0mm	Tablet	DSI3	23330	793	16.33	17.30	1.250	-0.09	0.918	1.148
	LTE Band 14_Ant 2	10M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	23330	793	16.29	17.30	1.262	-0.13	0.923	1.165
	LTE Band 14_Ant 2	10M	QPSK	1	0	Edge 4	0mm	Tablet	DSI3	23330	793	16.45	17.30	1.216	0.09	0.187	0.227
	LTE Band 14_Ant 2	10M	QPSK	25	0	Edge 4	0mm	Tablet	DSI3	23330	793	16.33	17.30	1.250	-0.16	0.165	0.206
	LTE Band 14_Ant 2	10M	QPSK	1	0	Bottom of Laptop	12mm	Laptop	DSI0,1	23330	793	23.47	25.00	1.422	-0.1	0.455	0.647
	LTE Band 14_Ant 2	10M	QPSK	25	0	Bottom of Laptop	12mm	Laptop	DSI0,1	23330	793	22.39	24.00	1.449	0.02	0.347	0.503
	LTE Band 14_Ant 2	10M	QPSK	1	0	Bottom Face	15mm	Tablet	DSI0,1	23330	793	23.47	25.00	1.422	-0.06	0.465	0.661
	LTE Band 14_Ant 2	10M	QPSK	25	0	Bottom Face	15mm	Tablet	DSI0,1	23330	793	22.39	24.00	1.449	0.08	0.359	0.520
	LTE Band 14_Ant 2	10M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	23330	793	23.47	25.00	1.422	0.03	0.300	0.427
	LTE Band 14_Ant 2	10M	QPSK	25	0	Edge 1	0mm	Tablet	DSI0,1	23330	793	22.39	24.00	1.449	-0.02	0.211	0.306
	LTE Band 14_Ant 2	10M	QPSK	1	0	Edge 4	20mm	Tablet	DSI0,1	23330	793	23.47	25.00	1.422	0.08	0.134	0.191
	LTE Band 14_Ant 2	10M	QPSK	25	0	Edge 4	20mm	Tablet	DSI0,1	23330	793	22.39	24.00	1.449	-0.11	0.119	0.172

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	26140	1860	18.21	18.40	1.045	0.09	0.871	0.910
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	26340	1880	18.09	18.40	1.074	-0.11	0.905	0.972
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	26590	1905	18.03	18.40	1.089	0.02	0.969	1.055
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	26140	1860	18.14	18.40	1.062	0.02	0.873	0.927
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	26340	1880	17.99	18.40	1.099	-0.06	0.905	0.995
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	26590	1905	18.02	18.40	1.091	-0.11	0.929	1.014
	LTE Band 25	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	26140	1860	18.06	18.40	1.081	0.05	0.939	1.015
8	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	26140	1860	14.92	15.10	1.042	0.08	1.130	1.178
	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	26340	1880	14.78	15.10	1.076	0.06	1.060	1.141
	LTE Band 25	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	26590	1905	14.82	15.10	1.067	-0.12	1.030	1.099
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	26140	1860	14.88	15.10	1.052	0.01	1.080	1.136
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	26340	1880	14.72	15.10	1.091	0.05	1.010	1.102
	LTE Band 25	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	26590	1905	14.79	15.10	1.074	-0.13	0.954	1.025
	LTE Band 25	20M	QPSK	100	0	Bottom Face	0mm	Tablet	DSI3	26140	1860	14.79	15.10	1.074	0.08	0.941	1.011
	LTE Band 25	20M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	26140	1860	14.92	15.10	1.042	0.06	0.334	0.348
	LTE Band 25	20M	QPSK	50	0	Edge 2	0mm	Tablet	DSI3	26140	1860	14.88	15.10	1.052	-0.06	0.321	0.338
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	26140	1860	24.32	25.00	1.169	-0.02	0.838	0.980
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	26340	1880	24.18	25.00	1.208	0.17	0.802	0.969
	LTE Band 25	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	26590	1905	23.85	25.00	1.303	0.02	0.735	0.958
	LTE Band 25	20M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	26140	1860	23.96	24.00	1.009	-0.05	0.727	0.734
	LTE Band 25	20M	QPSK	100	0	Bottom of Laptop	11mm	Laptop	DSI0,1	26140	1860	23.29	24.00	1.178	-0.09	0.653	0.769
	LTE Band 25	20M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	26140	1860	24.32	25.00	1.169	-0.14	0.650	0.760
	LTE Band 25	20M	QPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	26140	1860	23.96	24.00	1.009	0.03	0.553	0.558
	LTE Band 25	20M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	26140	1860	24.32	25.00	1.169	0.09	0.471	0.551
	LTE Band 25	20M	QPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	26140	1860	23.96	24.00	1.009	0.13	0.418	0.422
	LTE Band 25	20M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	26140	1860	24.32	25.00	1.169	-0.05	0.055	0.064
	LTE Band 25	20M	QPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	26140	1860	23.96	24.00	1.009	-0.17	0.034	0.034

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
9	LTE Band 26	15M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	26865	831.5	21.92	22.60	1.169	-0.11	0.985	1.152
	LTE Band 26	15M	QPSK	36	0	Bottom of Laptop	0mm	Laptop	DSI2	26865	831.5	21.91	22.60	1.172	0.1	0.964	1.130
	LTE Band 26	15M	QPSK	75	0	Bottom of Laptop	0mm	Laptop	DSI2	26865	831.5	21.90	22.60	1.175	0.13	0.968	1.137
	LTE Band 26	15M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	26865	831.5	15.75	15.80	1.012	-0.07	1.090	1.103
	LTE Band 26	15M	QPSK	36	0	Bottom Face	0mm	Tablet	DSI3	26865	831.5	15.69	15.80	1.026	-0.08	1.060	1.087
	LTE Band 26	15M	QPSK	75	0	Bottom Face	0mm	Tablet	DSI3	26865	831.5	15.73	15.80	1.016	0.04	1.050	1.067
	LTE Band 26	15M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	26865	831.5	15.75	15.80	1.012	-0.08	0.203	0.205
	LTE Band 26	15M	QPSK	36	0	Edge 2	0mm	Tablet	DSI3	26865	831.5	15.69	15.80	1.026	0.06	0.188	0.193
	LTE Band 26	15M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	26865	831.5	24.16	25.00	1.213	0.04	0.621	0.754
	LTE Band 26	15M	QPSK	36	0	Bottom of Laptop	11mm	Laptop	DSI0,1	26865	831.5	22.84	24.00	1.306	-0.03	0.443	0.579
	LTE Band 26	15M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	26865	831.5	24.16	25.00	1.213	0.02	0.490	0.595
	LTE Band 26	15M	QPSK	36	0	Bottom Face	17mm	Tablet	DSI0,1	26865	831.5	22.84	24.00	1.306	-0.06	0.392	0.512
	LTE Band 26	15M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	26865	831.5	24.16	25.00	1.213	-0.04	0.207	0.251
	LTE Band 26	15M	QPSK	36	0	Edge 1	0mm	Tablet	DSI0,1	26865	831.5	22.84	24.00	1.306	0.05	0.171	0.223
	LTE Band 26	15M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	26865	831.5	24.16	25.00	1.213	0.01	0.019	0.023
	LTE Band 26	15M	QPSK	36	0	Edge 2	19mm	Tablet	DSI0,1	26865	831.5	22.84	24.00	1.306	-0.1	0.013	0.017
	LTE Band 5B	10M	QPSK	1	49	Bottom of Laptop	0mm	Laptop	DSI2	20501	834.1	21.95	22.60	1.161	0.17	0.964	1.120
	LTE Band 26_Ant 2	15M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	26865	831.5	20.36	21.20	1.213	0.02	0.921	1.118
	LTE Band 26_Ant 2	15M	QPSK	36	0	Bottom of Laptop	0mm	Laptop	DSI2	26865	831.5	20.30	21.20	1.230	-0.1	0.935	1.150
	LTE Band 26_Ant 2	15M	QPSK	75	0	Bottom of Laptop	0mm	Laptop	DSI2	26865	831.5	20.25	21.20	1.245	-0.18	0.888	1.105
	LTE Band 26_Ant 2	15M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	26865	831.5	14.30	15.00	1.175	-0.17	0.884	1.039
	LTE Band 26_Ant 2	15M	QPSK	36	0	Bottom Face	0mm	Tablet	DSI3	26865	831.5	14.28	15.00	1.180	-0.15	0.933	1.101
	LTE Band 26_Ant 2	15M	QPSK	75	0	Bottom Face	0mm	Tablet	DSI3	26865	831.5	14.17	15.00	1.211	-0.16	0.940	1.138
	LTE Band 26_Ant 2	15M	QPSK	1	0	Edge 4	0mm	Tablet	DSI3	26865	831.5	14.30	15.00	1.175	0.14	0.182	0.214
	LTE Band 26_Ant 2	15M	QPSK	36	0	Edge 4	0mm	Tablet	DSI3	26865	831.5	14.28	15.00	1.180	0.12	0.165	0.195
	LTE Band 26_Ant 2	15M	QPSK	1	0	Bottom of Laptop	12mm	Laptop	DSI0,1	26865	831.5	24.16	25.00	1.213	-0.02	0.425	0.516
	LTE Band 26_Ant 2	15M	QPSK	36	0	Bottom of Laptop	12mm	Laptop	DSI0,1	26865	831.5	22.84	24.00	1.306	0.05	0.378	0.494
	LTE Band 26_Ant 2	15M	QPSK	1	0	Bottom Face	15mm	Tablet	DSI0,1	26865	831.5	24.16	25.00	1.213	-0.13	0.231	0.280
	LTE Band 26_Ant 2	15M	QPSK	36	0	Bottom Face	15mm	Tablet	DSI0,1	26865	831.5	22.84	24.00	1.306	0.01	0.187	0.244
	LTE Band 26_Ant 2	15M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	26865	831.5	24.16	25.00	1.213	0.05	0.049	0.059
	LTE Band 26_Ant 2	15M	QPSK	36	0	Edge 1	0mm	Tablet	DSI0,1	26865	831.5	22.84	24.00	1.306	0	0.035	0.046
	LTE Band 26_Ant 2	15M	QPSK	1	0	Edge 4	20mm	Tablet	DSI0,1	26865	831.5	24.16	25.00	1.213	-0.07	0.133	0.161
	LTE Band 26_Ant 2	15M	QPSK	36	0	Edge 4	20mm	Tablet	DSI0,1	26865	831.5	22.84	24.00	1.306	-0.04	0.105	0.137
	LTE Band 5B_Ant 2	10M	QPSK	1	49	Bottom of Laptop	0mm	Laptop	DSI2	20501	834.1	20.61	21.20	1.146	0.05	0.965	1.105

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	27710	2310	20.19	20.40	1.050	-	-	-0.06	0.967	1.015
	LTE Band 30	10M	QPSK	25	0	Bottom of Laptop	0mm	Laptop	DSI2	27710	2310	20.12	20.40	1.067	-	-	0.05	0.915	0.976
	LTE Band 30	10M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	27710	2310	20.05	20.40	1.084	-	-	0.02	0.920	0.997
	LTE Band 30	10M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	27710	2310	12.09	12.10	1.002	-	-	-0.06	1.030	1.032
	LTE Band 30	10M	QPSK	25	0	Bottom Face	0mm	Tablet	DSI3	27710	2310	11.96	12.10	1.033	-	-	-0.07	0.998	1.031
	LTE Band 30	10M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	27710	2310	11.88	12.10	1.052	-	-	0.03	0.960	1.010
	LTE Band 30	10M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	27710	2310	12.09	12.10	1.002	-	-	0.05	0.093	0.093
	LTE Band 30	10M	QPSK	25	0	Edge 2	0mm	Tablet	DSI3	27710	2310	11.96	12.10	1.033	-	-	0.03	0.078	0.081
	LTE Band 30	10M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	27710	2310	24.34	25.00	1.164	-	-	-0.02	0.598	0.696
	LTE Band 30	10M	QPSK	25	0	Bottom of Laptop	11mm	Laptop	DSI0,1	27710	2310	23.36	24.00	1.159	-	-	0.03	0.455	0.527
10	LTE Band 30	10M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	27710	2310	24.34	25.00	1.164	-	-	-0.07	0.981	1.142
	LTE Band 30	10M	QPSK	25	0	Bottom Face	17mm	Tablet	DSI0,1	27710	2310	23.36	24.00	1.159	-	-	-0.01	0.771	0.893
	LTE Band 30	10M	QPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	27710	2310	23.15	24.00	1.216	-	-	0.06	0.753	0.916
	LTE Band 30	10M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	27710	2310	24.34	25.00	1.164	-	-	0.02	0.291	0.339
	LTE Band 30	10M	QPSK	25	0	Edge 1	0mm	Tablet	DSI0,1	27710	2310	23.36	24.00	1.159	-	-	-0.03	0.232	0.269
	LTE Band 30	10M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	27710	2310	24.34	25.00	1.164	-	-	0.01	0.128	0.149
	LTE Band 30	10M	QPSK	25	0	Edge 2	19mm	Tablet	DSI0,1	27710	2310	23.36	24.00	1.159	-	-	-0.02	0.084	0.097
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	41490	2680	21.08	21.10	1.005	62.90	1.006	-0.12	0.889	0.898
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	39750	2506	20.73	21.10	1.089	62.90	1.006	-0.05	0.713	0.781
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	40185	2549.5	21.05	21.10	1.012	62.90	1.006	0.05	0.514	0.523
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	40620	2593	21.06	21.10	1.009	62.90	1.006	0.14	0.479	0.486
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	41055	2636.5	20.78	21.10	1.076	62.90	1.006	-0.13	0.401	0.434
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	41490	2680	21.06	21.10	1.009	62.90	1.006	0.02	0.862	0.875
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	39750	2506	20.70	21.10	1.096	62.90	1.006	-0.07	0.705	0.778
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	40185	2549.5	21.02	21.10	1.019	62.90	1.006	0.08	0.503	0.515
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	40620	2593	21.01	21.10	1.021	62.90	1.006	0.19	0.492	0.505
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	41055	2636.5	20.70	21.10	1.096	62.90	1.006	0.14	0.413	0.456
	LTE Band 41	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	41490	2680	21.00	21.10	1.023	62.90	1.006	-0.07	0.855	0.880
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	41490	2680	12.88	12.90	1.005	62.90	1.006	-0.13	1.069	1.080
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	39750	2506	12.28	12.90	1.153	62.90	1.006	-0.05	0.378	0.439
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	40185	2549.5	12.85	12.90	1.012	62.90	1.006	-0.04	0.504	0.513
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	40620	2593	12.51	12.90	1.094	62.90	1.006	0.13	0.659	0.726
	LTE Band 41	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	41055	2636.5	12.19	12.90	1.178	62.90	1.006	0.05	0.781	0.925
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	41490	2680	12.87	12.90	1.007	62.90	1.006	-0.01	0.947	0.959
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	39750	2506	12.17	12.90	1.183	62.90	1.006	-0.06	0.362	0.431
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	40185	2549.5	12.71	12.90	1.045	62.90	1.006	0.11	0.501	0.527
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	40620	2593	12.48	12.90	1.102	62.90	1.006	-0.02	0.637	0.706
	LTE Band 41	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	41055	2636.5	12.09	12.90	1.205	62.90	1.006	-0.19	0.774	0.938
	LTE Band 41	20M	QPSK	100	0	Bottom Face	0mm	Tablet	DSI3	41490	2680	12.86	12.90	1.009	62.90	1.006	0.02	0.953	0.968
	LTE Band 41	20M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	41490	2680	12.88	12.90	1.005	62.90	1.006	0.03	0.159	0.161
	LTE Band 41	20M	QPSK	50	0	Edge 2	0mm	Tablet	DSI3	41490	2680	12.87	12.90	1.007	62.90	1.006	-0.04	0.122	0.124
	LTE Band 41	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	40620	2593	24.98	25.00	1.005	62.90	1.006	-0.05	0.399	0.403
	LTE Band 41	20M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	40620	2593	23.91	24.00	1.021	62.90	1.006	-0.04	0.364	0.374
	LTE Band 41	20M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	40620	2593	24.98	25.00	1.005	62.90	1.006	0.06	0.374	0.378
	LTE Band 41	20M	QPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	40620	2593	23.91	24.00	1.021	62.90	1.006	-0.02	0.324	0.333
	LTE Band 41	20M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	40620	2593	24.98	25.00	1.005	62.90	1.006	-0.01	0.215	0.217
	LTE Band 41	20M	QPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	40620	2593	23.91	24.00	1.021	62.90	1.006	0.14	0.184	0.189
	LTE Band 41	20M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	40620	2593	24.98	25.00	1.005	62.90	1.006	0.13	0.026	0.026
	LTE Band 41	20M	QPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	40620	2593	23.91	24.00	1.021	62.90	1.006	-0.02	0.013	0.013
11	LTE Band 41_HPUE	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	41490	2680	14.49	14.50	1.002	42.90	1.009	-0.1	1.146	1.159
	LTE Band 41C	20M	QPSK	1	99	Bottom Face	0mm	Tablet	DSI3	41490	2680	12.89	12.90	1.002	62.90	1.006	0.05	0.969	0.977

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	56640	3690	21.02	21.30	1.067	62.90	1.006	-0.01	1.070	1.148
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	55340	3560	20.29	21.30	1.262	62.90	1.006	-0.011	0.485	0.616
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	55830	3609	20.75	21.30	1.135	62.90	1.006	0.05	0.605	0.690
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	56150	3641	20.67	21.30	1.156	62.90	1.006	0.05	0.652	0.759
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	56640	3690	20.77	21.30	1.130	62.90	1.006	-0.02	0.955	1.085
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	55340	3560	20.27	21.30	1.268	62.90	1.006	0.12	0.463	0.590
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	55830	3609	20.76	21.30	1.132	62.90	1.006	0.09	0.588	0.670
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	56150	3641	20.64	21.30	1.164	62.90	1.006	-0.08	0.661	0.774
	LTE Band 48_Ant 2	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	56640	3690	20.71	21.30	1.146	62.90	1.006	0.06	0.976	1.125
12	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	55830	3609	13.91	14.00	1.021	62.90	1.006	0.04	1.150	1.181
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	55340	3560	13.62	14.00	1.091	62.90	1.006	-0.07	1.050	1.153
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	56150	3641	13.81	14.00	1.045	62.90	1.006	0.05	1.090	1.146
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	56640	3690	13.82	14.00	1.042	62.90	1.006	0.15	0.929	0.974
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	55830	3609	13.88	14.00	1.028	62.90	1.006	0.14	1.120	1.158
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	55340	3560	13.57	14.00	1.104	62.90	1.006	-0.19	1.040	1.155
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	56150	3641	13.77	14.00	1.054	62.90	1.006	0.02	1.060	1.124
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	56640	3690	13.81	14.00	1.045	62.90	1.006	-0.08	0.933	0.981
	LTE Band 48_Ant 2	20M	QPSK	100	0	Bottom Face	0mm	Tablet	DSI3	55830	3609	13.79	14.00	1.050	62.90	1.006	0.08	1.080	1.140
	LTE Band 48_Ant 2	20M	QPSK	1	0	Edge 4	0mm	Tablet	DSI3	55830	3609	13.91	14.00	1.021	62.90	1.006	0.03	0.260	0.267
	LTE Band 48_Ant 2	20M	QPSK	50	0	Edge 4	0mm	Tablet	DSI3	55830	3609	13.88	14.00	1.028	62.90	1.006	-0.07	0.251	0.260
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom of Laptop	12mm	Laptop	DSI0,1	56150	3641	24.68	25.00	1.076	62.90	1.006	0.06	0.338	0.366
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom of Laptop	12mm	Laptop	DSI0,1	56150	3641	23.67	24.00	1.079	62.90	1.006	-0.05	0.315	0.342
	LTE Band 48_Ant 2	20M	QPSK	1	0	Bottom Face	15mm	Tablet	DSI0,1	56150	3641	24.68	25.00	1.076	62.90	1.006	0.03	0.531	0.575
	LTE Band 48_Ant 2	20M	QPSK	50	0	Bottom Face	15mm	Tablet	DSI0,1	56150	3641	23.67	24.00	1.079	62.90	1.006	0.02	0.411	0.446
	LTE Band 48_Ant 2	20M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	56150	3641	24.68	25.00	1.076	62.90	1.006	-0.08	0.339	0.367
	LTE Band 48_Ant 2	20M	QPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	56150	3641	23.67	24.00	1.079	62.90	1.006	0.03	0.250	0.271
	LTE Band 48_Ant 2	20M	QPSK	1	0	Edge 4	20mm	Tablet	DSI0,1	56150	3641	24.68	25.00	1.076	62.90	1.006	0.03	0.090	0.097
	LTE Band 48_Ant 2	20M	QPSK	50	0	Edge 4	20mm	Tablet	DSI0,1	56150	3641	23.67	24.00	1.079	62.90	1.006	-0.07	0.062	0.067
	LTE Band 48C_Ant 2	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	56150	3641	13.81	14.00	1.045	62.90	1.006	0.09	1.080	1.135

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	132572	1770	18.30	18.30	1.000	-0.13	1.010	1.010
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	132322	1745	18.26	18.30	1.009	0.05	0.977	0.986
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	132572	1770	18.16	18.30	1.033	-0.01	0.965	0.997
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	132072	1720	18.27	18.30	1.007	0.04	0.911	0.917
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	132322	1745	18.18	18.30	1.028	-0.03	0.956	0.983
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	132572	1770	18.10	18.30	1.047	0	0.938	0.982
	LTE Band 66	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	132072	1720	18.18	18.30	1.028	-0.08	0.918	0.944
	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	132072	1720	12.80	12.80	1.000	-0.11	1.040	1.040
	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	132322	1745	12.75	12.80	1.012	0.05	1.010	1.022
	LTE Band 66	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	132572	1770	12.56	12.80	1.057	-0.01	0.980	1.036
	LTE Band 66	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	132072	1720	12.54	12.80	1.062	0.03	0.973	1.033
	LTE Band 66	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	132322	1745	12.39	12.80	1.099	0.15	0.926	1.018
	LTE Band 66	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	132572	1770	12.27	12.80	1.130	-0.04	0.918	1.037
	LTE Band 66	20M	QPSK	100	0	Bottom Face	0mm	Tablet	DSI3	132072	1720	12.42	12.80	1.091	0.03	0.946	1.033
	LTE Band 66	20M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	132072	1720	12.80	12.80	1.000	0.07	0.188	0.188
	LTE Band 66	20M	QPSK	50	0	Edge 2	0mm	Tablet	DSI3	132072	1720	12.54	12.80	1.062	0	0.179	0.190
13	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132572	1770	24.45	25.00	1.135	0.19	0.977	1.109
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132072	1720	24.02	25.00	1.253	0.01	0.865	1.084
	LTE Band 66	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132322	1745	24.06	25.00	1.242	0.02	0.881	1.094
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132572	1770	23.41	24.00	1.146	0.01	0.864	0.990
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132072	1720	23.10	24.00	1.230	0.03	0.884	1.088
	LTE Band 66	20M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132322	1745	23.26	24.00	1.186	0.05	0.899	1.066
	LTE Band 66	20M	QPSK	100	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132572	1770	23.20	24.00	1.202	0.01	0.879	1.057
	LTE Band 66	20M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	132572	1770	24.45	25.00	1.135	-0.01	0.921	1.045
	LTE Band 66	20M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	132072	1720	24.02	25.00	1.253	0.03	0.826	1.035
	LTE Band 66	20M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	132322	1745	24.06	25.00	1.242	0.05	0.818	1.016
	LTE Band 66	20M	QPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	132572	1770	23.41	24.00	1.146	-0.01	0.835	0.957
	LTE Band 66	20M	QPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	132072	1720	23.10	24.00	1.230	0.18	0.801	0.985
	LTE Band 66	20M	QPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	132322	1745	23.26	24.00	1.186	0.03	0.778	0.923
	LTE Band 66	20M	QPSK	100	0	Bottom Face	17mm	Tablet	DSI0,1	132572	1770	23.20	24.00	1.202	-0.08	0.811	0.975
	LTE Band 66	20M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	132572	1770	24.45	25.00	1.135	0.05	0.441	0.501
	LTE Band 66	20M	QPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	132572	1770	23.41	24.00	1.146	-0.07	0.389	0.446
	LTE Band 66	20M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	132572	1770	24.45	25.00	1.135	-0.09	0.049	0.056
	LTE Band 66	20M	QPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	132572	1770	23.41	24.00	1.146	0.11	0.035	0.040
	LTE Band 66B	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132572	1770	23.76	25.00	1.330	0.01	0.815	1.084
	LTE Band 66C	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	132572	1770	23.94	25.00	1.276	0.07	0.846	1.080

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
14	LTE Band 71	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	133322	683	20.00	20.90	1.230	-0.02	0.942	1.159
	LTE Band 71	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	133322	683	19.95	20.90	1.245	-0.09	0.911	1.134
	LTE Band 71	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	133322	683	19.89	20.90	1.262	0.06	0.918	1.158
	LTE Band 71	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	133322	683	18.43	18.90	1.114	-0.16	0.983	1.095
	LTE Band 71	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	133322	683	18.24	18.90	1.164	0.02	0.925	1.077
	LTE Band 71	20M	QPSK	100	0	Bottom Face	0mm	Tablet	DSI3	133322	683	18.12	18.90	1.197	0.01	0.903	1.081
	LTE Band 71	20M	QPSK	1	0	Edge 2	0mm	Tablet	DSI3	133322	683	18.43	18.90	1.114	0.04	0.545	0.607
	LTE Band 71	20M	QPSK	50	0	Edge 2	0mm	Tablet	DSI3	133322	683	18.24	18.90	1.164	0	0.518	0.603
	LTE Band 71	20M	QPSK	1	0	Bottom of Laptop	11mm	Laptop	DSI0,1	133322	683	23.77	25.00	1.327	-0.15	0.425	0.564
	LTE Band 71	20M	QPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	133322	683	22.66	24.00	1.361	-0.07	0.318	0.433
	LTE Band 71	20M	QPSK	1	0	Bottom Face	17mm	Tablet	DSI0,1	133322	683	23.77	25.00	1.327	0.16	0.250	0.332
	LTE Band 71	20M	QPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	133322	683	22.66	24.00	1.361	-0.05	0.210	0.286
	LTE Band 71	20M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	133322	683	23.77	25.00	1.327	0.07	0.070	0.093
	LTE Band 71	20M	QPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	133322	683	22.66	24.00	1.361	-0.07	0.053	0.072
	LTE Band 71	20M	QPSK	1	0	Edge 2	19mm	Tablet	DSI0,1	133322	683	23.77	25.00	1.327	0.1	0.021	0.028
	LTE Band 71	20M	QPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	133322	683	22.66	24.00	1.361	0.07	0.015	0.020
	LTE Band 71_Ant 2	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	DSI2	133322	683	19.02	19.50	1.117	-0.06	0.963	1.076
	LTE Band 71_Ant 2	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	133322	683	18.97	19.50	1.130	-0.15	1.020	1.152
	LTE Band 71_Ant 2	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	133322	683	18.94	19.50	1.138	-0.1	1.010	1.149
	LTE Band 71_Ant 2	20M	QPSK	1	0	Bottom Face	0mm	Tablet	DSI3	133322	683	16.53	17.00	1.114	-0.18	0.891	0.993
	LTE Band 71_Ant 2	20M	QPSK	50	0	Bottom Face	0mm	Tablet	DSI3	133322	683	16.52	17.00	1.117	-0.12	0.918	1.025
	LTE Band 71_Ant 2	20M	QPSK	100	0	Bottom Face	0mm	Tablet	DSI3	133322	683	16.50	17.00	1.122	-0.16	0.880	0.987
	LTE Band 71_Ant 2	20M	QPSK	1	0	Edge 4	0mm	Tablet	DSI3	133322	683	16.53	17.00	1.114	-0.01	1.030	1.148
	LTE Band 71_Ant 2	20M	QPSK	50	0	Edge 4	0mm	Tablet	DSI3	133322	683	16.52	17.00	1.117	0.05	1.020	1.139
	LTE Band 71_Ant 2	20M	QPSK	100	0	Edge 4	0mm	Tablet	DSI3	133322	683	16.50	17.00	1.122	-0.05	1.000	1.122
	LTE Band 71_Ant 2	20M	QPSK	1	0	Bottom of Laptop	12mm	Laptop	DSI0,1	133322	683	23.77	25.00	1.327	0.01	0.321	0.426
	LTE Band 71_Ant 2	20M	QPSK	50	0	Bottom of Laptop	12mm	Laptop	DSI0,1	133322	683	22.66	24.00	1.361	-0.01	0.270	0.368
	LTE Band 71_Ant 2	20M	QPSK	1	0	Bottom Face	15mm	Tablet	DSI0,1	133322	683	23.77	25.00	1.327	-0.16	0.302	0.401
	LTE Band 71_Ant 2	20M	QPSK	50	0	Bottom Face	15mm	Tablet	DSI0,1	133322	683	22.66	24.00	1.361	-0.09	0.253	0.344
	LTE Band 71_Ant 2	20M	QPSK	1	0	Edge 1	0mm	Tablet	DSI0,1	133322	683	23.77	25.00	1.327	-0.12	0.041	0.054
	LTE Band 71_Ant 2	20M	QPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	133322	683	22.66	24.00	1.361	0.05	0.026	0.035
	LTE Band 71_Ant 2	20M	QPSK	1	0	Edge 4	20mm	Tablet	DSI0,1	133322	683	23.77	25.00	1.327	-0.04	0.148	0.196
	LTE Band 71_Ant 2	20M	QPSK	50	0	Edge 4	20mm	Tablet	DSI0,1	133322	683	22.66	24.00	1.361	0	0.124	0.169

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
15	FR1 n2	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	376000	1880	18.11	18.90	1.199	-0.12	0.976	1.171
	FR1 n2	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	372000	1860	18.07	18.90	1.211	0.1	0.955	1.156
	FR1 n2	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	380000	1900	18.05	18.90	1.216	-0.01	0.927	1.127
	FR1 n2	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	376000	1880	18.05	18.90	1.216	0	0.962	1.170
	FR1 n2	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	372000	1860	18.03	18.90	1.222	0.03	0.957	1.169
	FR1 n2	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	380000	1900	17.92	18.90	1.253	-0.01	0.914	1.145
	FR1 n2	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	376000	1880	18.03	18.90	1.222	0.08	0.923	1.128
	FR1 n2	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	376000	1880	14.46	15.30	1.213	-0.19	0.952	1.155
	FR1 n2	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	372000	1860	14.32	15.30	1.253	0	0.916	1.148
	FR1 n2	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	380000	1900	14.32	15.30	1.253	-0.03	0.923	1.157
	FR1 n2	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	376000	1880	14.33	15.30	1.250	0	0.918	1.148
	FR1 n2	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	372000	1860	14.32	15.30	1.253	0.01	0.908	1.138
	FR1 n2	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	380000	1900	14.32	15.30	1.253	-0.06	0.911	1.142
	FR1 n2	20M	BPSK	100	0	Bottom Face	0mm	Tablet	DSI3	376000	1880	14.38	15.30	1.236	-0.08	0.913	1.128
	FR1 n2	20M	BPSK	1	1	Edge 2	0mm	Tablet	DSI3	376000	1880	14.46	15.30	1.213	-0.06	0.426	0.517
	FR1 n2	20M	BPSK	50	0	Edge 2	0mm	Tablet	DSI3	376000	1880	14.33	15.30	1.250	0.08	0.411	0.514
	FR1 n2	20M	BPSK	1	1	Bottom of Laptop	11mm	Laptop	DSI0,1	376000	1880	23.72	25.00	1.343	0.14	0.800	1.074
	FR1 n2	20M	BPSK	1	1	Bottom of Laptop	11mm	Laptop	DSI0,1	372000	1860	23.52	25.00	1.406	0.06	0.725	1.019
	FR1 n2	20M	BPSK	1	1	Bottom of Laptop	11mm	Laptop	DSI0,1	380000	1900	23.60	25.00	1.380	0.09	0.733	1.012
	FR1 n2	20M	BPSK	50	50	Bottom of Laptop	11mm	Laptop	DSI0,1	376000	1880	23.58	25.00	1.387	-0.03	0.758	1.051
	FR1 n2	20M	BPSK	50	50	Bottom of Laptop	11mm	Laptop	DSI0,1	372000	1860	23.45	25.00	1.429	-0.04	0.707	1.010
	FR1 n2	20M	BPSK	50	50	Bottom of Laptop	11mm	Laptop	DSI0,1	380000	1900	23.48	25.00	1.419	-0.05	0.721	1.023
	FR1 n2	20M	BPSK	100	0	Bottom of Laptop	11mm	Laptop	DSI0,1	376000	1880	22.85	24.50	1.462	0.08	0.697	1.019
	FR1 n2	20M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	376000	1880	23.72	25.00	1.343	0.04	0.869	1.167
	FR1 n2	20M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	372000	1860	23.52	25.00	1.406	-0.09	0.821	1.154
	FR1 n2	20M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	380000	1900	23.60	25.00	1.380	0.02	0.833	1.150
	FR1 n2	20M	BPSK	50	50	Bottom Face	17mm	Tablet	DSI0,1	376000	1880	23.58	25.00	1.387	-0.03	0.819	1.136
	FR1 n2	20M	BPSK	50	50	Bottom Face	17mm	Tablet	DSI0,1	372000	1860	23.45	25.00	1.429	-0.01	0.808	1.155
	FR1 n2	20M	BPSK	50	50	Bottom Face	17mm	Tablet	DSI0,1	380000	1900	23.48	25.00	1.419	-0.03	0.816	1.158
	FR1 n2	20M	BPSK	100	0	Bottom Face	17mm	Tablet	DSI0,1	376000	1880	22.85	24.50	1.462	-0.02	0.746	1.091
	FR1 n2	20M	BPSK	1	1	Edge 1	0mm	Tablet	DSI0,1	376000	1880	23.72	25.00	1.343	0.06	0.561	0.753
	FR1 n2	20M	BPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	376000	1880	23.58	25.00	1.387	0.03	0.533	0.739
	FR1 n2	20M	BPSK	1	1	Edge 2	19mm	Tablet	DSI0,1	376000	1880	23.72	25.00	1.343	0.07	0.056	0.075
	FR1 n2	20M	BPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	376000	1880	23.58	24.50	1.236	-0.09	0.043	0.053

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n5	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	167300	836.5	20.36	21.30	1.242	-0.14	0.938	1.165
	FR1 n5	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	167300	836.5	20.25	21.30	1.274	-0.03	0.911	1.160
	FR1 n5	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	167300	836.5	20.22	21.30	1.282	-0.09	0.903	1.158
	FR1 n5	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	167300	836.5	15.82	16.70	1.225	-0.12	0.939	1.150
	FR1 n5	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	167300	836.5	15.73	16.70	1.250	0.01	0.914	1.143
	FR1 n5	20M	BPSK	100	0	Bottom Face	0mm	Tablet	DSI3	167300	836.5	15.66	16.70	1.271	-0.02	0.902	1.146
	FR1 n5	20M	BPSK	1	1	Edge 2	0mm	Tablet	DSI3	167300	836.5	15.82	16.70	1.225	-0.09	0.125	0.153
	FR1 n5	20M	BPSK	50	0	Edge 2	0mm	Tablet	DSI3	167300	836.5	15.73	16.70	1.250	0.04	0.101	0.126
	FR1 n5	20M	BPSK	1	1	Bottom of Laptop	11mm	Laptop	DSI0,1	167300	836.5	23.64	25.00	1.368	-0.12	0.454	0.621
	FR1 n5	20M	BPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	167300	836.5	23.56	25.00	1.393	0.04	0.388	0.541
	FR1 n5	20M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	167300	836.5	23.64	25.00	1.368	-0.1	0.193	0.264
	FR1 n5	20M	BPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	167300	836.5	23.56	25.00	1.393	-0.03	0.152	0.212
	FR1 n5	20M	BPSK	1	1	Edge 1	0mm	Tablet	DSI0,1	167300	836.5	23.64	25.00	1.368	-0.05	0.197	0.269
	FR1 n5	20M	BPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	167300	836.5	23.56	25.00	1.393	0.1	0.152	0.212
	FR1 n5	20M	BPSK	1	1	Edge 2	19mm	Tablet	DSI0,1	167300	836.5	23.64	25.00	1.368	-0.04	0.018	0.025
	FR1 n5	20M	BPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	167300	836.5	23.56	25.00	1.393	-0.06	0.016	0.022
16	FR1 n5_Ant 2	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	167300	836.5	21.04	22.20	1.306	-0.12	0.903	1.179
	FR1 n5_Ant 2	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	167300	836.5	20.98	22.20	1.324	0.05	0.863	1.143
	FR1 n5_Ant 2	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	167300	836.5	20.96	22.20	1.330	0.07	0.884	1.176
	FR1 n5_Ant 2	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	167300	836.5	15.23	16.00	1.194	-0.19	0.972	1.161
	FR1 n5_Ant 2	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	167300	836.5	15.18	16.00	1.208	0.03	0.956	1.155
	FR1 n5_Ant 2	20M	BPSK	100	0	Bottom Face	0mm	Tablet	DSI3	167300	836.5	15.19	16.00	1.205	0.04	0.918	1.106
	FR1 n5_Ant 2	20M	BPSK	1	1	Edge 4	0mm	Tablet	DSI3	167300	836.5	15.23	16.00	1.194	-0.02	0.206	0.246
	FR1 n5_Ant 2	20M	BPSK	50	0	Edge 4	0mm	Tablet	DSI3	167300	836.5	15.18	16.00	1.208	0.02	0.188	0.227
	FR1 n5_Ant 2	20M	BPSK	1	1	Bottom of Laptop	12mm	Laptop	DSI0,1	167300	836.5	23.51	25.00	1.409	0.09	0.297	0.419
	FR1 n5_Ant 2	20M	BPSK	50	0	Bottom of Laptop	12mm	Laptop	DSI0,1	167300	836.5	23.48	25.00	1.419	0.07	0.263	0.373
	FR1 n5_Ant 2	20M	BPSK	1	1	Bottom Face	15mm	Tablet	DSI0,1	167300	836.5	23.51	25.00	1.409	-0.14	0.151	0.213
	FR1 n5_Ant 2	20M	BPSK	50	0	Bottom Face	15mm	Tablet	DSI0,1	167300	836.5	23.48	25.00	1.419	0.05	0.144	0.204
	FR1 n5_Ant 2	20M	BPSK	1	1	Edge 1	0mm	Tablet	DSI0,1	167300	836.5	23.51	25.00	1.409	0.02	0.132	0.186
	FR1 n5_Ant 2	20M	BPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	167300	836.5	23.48	25.00	1.419	-0.05	0.118	0.167
	FR1 n5_Ant 2	20M	BPSK	1	1	Edge 4	20mm	Tablet	DSI0,1	167300	836.5	23.51	25.00	1.409	-0.02	0.013	0.018
	FR1 n5_Ant 2	20M	BPSK	50	0	Edge 4	20mm	Tablet	DSI0,1	167300	836.5	23.48	25.00	1.419	-0.09	0.010	0.014

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
17	FR1 n41	100M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	518598	2592.99	18.63	19.60	1.250	0.08	0.942	1.178
	FR1 n41	100M	BPSK	135	0	Bottom of Laptop	0mm	Laptop	DSI2	518598	2592.99	18.52	19.60	1.282	0.08	0.908	1.164
	FR1 n41	100M	BPSK	270	0	Bottom of Laptop	0mm	Laptop	DSI2	518598	2592.99	18.48	19.60	1.294	0.04	0.902	1.167
	FR1 n41	100M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	518598	2592.99	10.56	11.30	1.186	-0.02	0.986	1.169
	FR1 n41	100M	BPSK	135	0	Bottom Face	0mm	Tablet	DSI3	518598	2592.99	10.54	11.30	1.191	-0.05	0.923	1.100
	FR1 n41	100M	BPSK	270	0	Bottom Face	0mm	Tablet	DSI3	518598	2592.99	10.42	11.30	1.225	-0.01	0.950	1.163
	FR1 n41	100M	BPSK	1	1	Edge 2	0mm	Tablet	DSI3	518598	2592.99	10.56	11.30	1.186	-0.01	0.165	0.196
	FR1 n41	100M	BPSK	135	0	Edge 2	0mm	Tablet	DSI3	518598	2592.99	10.54	11.30	1.191	-0.1	0.148	0.176
	FR1 n41	100M	BPSK	1	1	Bottom of Laptop	11mm	Laptop	DSI0,1	518598	2592.99	24.10	25.00	1.230	-0.05	0.793	0.976
	FR1 n41	100M	BPSK	135	0	Bottom of Laptop	11mm	Laptop	DSI0,1	518598	2592.99	24.02	25.00	1.253	0.08	0.770	0.965
	FR1 n41	100M	BPSK	270	0	Bottom of Laptop	11mm	Laptop	DSI0,1	518598	2592.99	23.26	24.50	1.330	-0.06	0.632	0.841
	FR1 n41	100M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	518598	2592.99	24.10	25.00	1.230	0.14	0.780	0.960
	FR1 n41	100M	BPSK	135	0	Bottom Face	17mm	Tablet	DSI0,1	518598	2592.99	24.02	25.00	1.253	-0.07	0.752	0.942
	FR1 n41	100M	BPSK	270	0	Bottom Face	17mm	Tablet	DSI0,1	518598	2592.99	23.26	24.50	1.330	0.1	0.628	0.836
	FR1 n41	100M	BPSK	1	1	Edge 1	0mm	Tablet	DSI0,1	518598	2592.99	24.10	25.00	1.230	0.06	0.630	0.775
	FR1 n41	100M	BPSK	135	0	Edge 1	0mm	Tablet	DSI0,1	518598	2592.99	24.02	25.00	1.253	0.1	0.603	0.756
	FR1 n41	100M	BPSK	270	0	Edge 1	0mm	Tablet	DSI0,1	518598	2592.99	23.26	24.50	1.330	-0.03	0.512	0.681
	FR1 n41	100M	BPSK	1	1	Edge 2	19mm	Tablet	DSI0,1	518598	2592.99	24.10	25.00	1.230	-0.05	0.005	0.006
	FR1 n41	100M	BPSK	135	0	Edge 2	19mm	Tablet	DSI0,1	518598	2592.99	24.02	25.00	1.253	0.07	0.001	0.001
	FR1 n41_Ant 2	100M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	518598	2592.99	17.11	18.10	1.256	0.06	0.929	1.167
	FR1 n41_Ant 2	100M	BPSK	135	0	Bottom of Laptop	0mm	Laptop	DSI2	518598	2592.99	17.09	18.10	1.262	0.08	0.914	1.153
	FR1 n41_Ant 2	100M	BPSK	270	0	Bottom of Laptop	0mm	Laptop	DSI2	518598	2592.99	17.06	18.10	1.271	-0.07	0.916	1.164
	FR1 n41_Ant 2	100M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	518598	2592.99	9.60	10.50	1.230	-0.12	0.947	1.165
	FR1 n41_Ant 2	100M	BPSK	135	0	Bottom Face	0mm	Tablet	DSI3	518598	2592.99	9.53	10.50	1.250	-0.06	0.923	1.154
	FR1 n41_Ant 2	100M	BPSK	270	0	Bottom Face	0mm	Tablet	DSI3	518598	2592.99	9.54	10.50	1.247	-0.02	0.932	1.163
	FR1 n41_Ant 2	100M	BPSK	1	1	Edge 4	0mm	Tablet	DSI3	518598	2592.99	9.60	10.50	1.230	0.1	0.088	0.108
	FR1 n41_Ant 2	100M	BPSK	135	0	Edge 4	0mm	Tablet	DSI3	518598	2592.99	9.53	10.50	1.250	0.02	0.064	0.080
	FR1 n41_Ant 2	100M	BPSK	1	1	Bottom of Laptop	12mm	Laptop	DSI0,1	518598	2592.99	24.60	25.00	1.096	0.13	0.628	0.689
	FR1 n41_Ant 2	100M	BPSK	135	0	Bottom of Laptop	12mm	Laptop	DSI0,1	518598	2592.99	24.36	25.00	1.159	-0.04	0.586	0.679
	FR1 n41_Ant 2	100M	BPSK	270	0	Bottom of Laptop	12mm	Laptop	DSI0,1	518598	2592.99	23.36	24.50	1.300	-0.07	0.501	0.651
	FR1 n41_Ant 2	100M	BPSK	1	1	Bottom Face	15mm	Tablet	DSI0,1	518598	2592.99	24.60	25.00	1.096	-0.14	0.906	0.993
	FR1 n41_Ant 2	100M	BPSK	135	0	Bottom Face	15mm	Tablet	DSI0,1	518598	2592.99	24.36	25.00	1.159	0.09	0.824	0.955
	FR1 n41_Ant 2	100M	BPSK	270	0	Bottom Face	15mm	Tablet	DSI0,1	518598	2592.99	23.36	24.50	1.300	-0.01	0.641	0.833
	FR1 n41_Ant 2	100M	BPSK	1	1	Edge 1	0mm	Tablet	DSI0,1	518598	2592.99	24.60	25.00	1.096	-0.08	0.194	0.213
	FR1 n41_Ant 2	100M	BPSK	135	0	Edge 1	0mm	Tablet	DSI0,1	518598	2592.99	24.36	25.00	1.159	0.09	0.145	0.168
	FR1 n41_Ant 2	100M	BPSK	1	1	Edge 4	20mm	Tablet	DSI0,1	518598	2592.99	24.60	25.00	1.096	0.06	0.015	0.016
	FR1 n41_Ant 2	100M	BPSK	135	0	Edge 4	20mm	Tablet	DSI0,1	518598	2592.99	24.36	25.00	1.159	0.08	0.008	0.009

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
18	FR1 n66	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	349000	1745	19.17	20.10	1.239	-0.14	0.951	1.178
	FR1 n66	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	344000	1720	19.16	20.10	1.242	-0.1	0.914	1.135
	FR1 n66	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	354000	1770	19.09	20.10	1.262	0.04	0.923	1.165
	FR1 n66	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	349000	1745	19.14	20.10	1.247	-0.01	0.929	1.159
	FR1 n66	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	344000	1720	19.09	20.10	1.262	0.06	0.906	1.143
	FR1 n66	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	354000	1770	19.06	20.10	1.271	0.02	0.910	1.156
	FR1 n66	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	349000	1745	19.12	20.10	1.253	0.05	0.926	1.160
	FR1 n66	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	349000	1745	13.12	14.10	1.253	-0.08	0.939	1.177
	FR1 n66	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	344000	1720	13.10	14.10	1.259	0.12	0.921	1.159
	FR1 n66	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	354000	1770	13.10	14.10	1.259	0.05	0.914	1.151
	FR1 n66	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	349000	1745	13.09	14.10	1.262	0.08	0.932	1.176
	FR1 n66	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	344000	1720	13.03	14.10	1.279	0.09	0.909	1.163
	FR1 n66	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	354000	1770	13.07	14.10	1.268	-0.06	0.915	1.160
	FR1 n66	20M	BPSK	100	0	Bottom Face	0mm	Tablet	DSI3	349000	1745	13.04	14.10	1.276	-0.05	0.917	1.170
	FR1 n66	20M	BPSK	1	1	Edge 2	0mm	Tablet	DSI3	349000	1745	13.12	14.10	1.253	0.03	0.447	0.560
	FR1 n66	20M	BPSK	50	0	Edge 2	0mm	Tablet	DSI3	349000	1745	13.09	14.10	1.262	0.03	0.419	0.529
	FR1 n66	20M	BPSK	1	1	Bottom of Laptop	11mm	Laptop	DSI0,1	349000	1745	24.23	25.00	1.194	0.12	0.518	0.618
	FR1 n66	20M	BPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	349000	1745	24.19	25.00	1.205	0.08	0.502	0.605
	FR1 n66	20M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	349000	1745	24.23	25.00	1.194	0.02	0.844	1.008
	FR1 n66	20M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	344000	1720	24.18	25.00	1.208	0.09	0.826	0.998
	FR1 n66	20M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	354000	1770	24.12	25.00	1.225	0.06	0.814	0.997
	FR1 n66	20M	BPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	349000	1745	24.19	25.00	1.205	0	0.819	0.987
	FR1 n66	20M	BPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	344000	1720	23.79	25.00	1.321	0.11	0.809	1.069
	FR1 n66	20M	BPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	354000	1770	24.08	25.00	1.236	0.07	0.811	1.002
	FR1 n66	20M	BPSK	100	0	Bottom Face	17mm	Tablet	DSI0,1	349000	1745	23.76	24.50	1.186	-0.02	0.767	0.909
	FR1 n66	20M	BPSK	1	1	Edge 1	0mm	Tablet	DSI0,1	349000	1745	24.23	25.00	1.194	0.01	0.616	0.735
	FR1 n66	20M	BPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	349000	1745	24.19	25.00	1.205	-0.03	0.609	0.734
	FR1 n66	20M	BPSK	1	1	Edge 2	19mm	Tablet	DSI0,1	349000	1745	24.23	25.00	1.194	-0.04	0.128	0.153
	FR1 n66	20M	BPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	349000	1745	24.19	25.00	1.205	-0.02	0.115	0.139

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure (Tablet / Laptop)	Output Power state	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
19	FR1 n71	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	136100	680.5	20.01	20.80	1.199	0.02	0.978	1.173
	FR1 n71	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	136100	680.5	19.99	20.80	1.205	0.05	0.959	1.156
	FR1 n71	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	136100	680.5	19.93	20.80	1.222	-0.05	0.937	1.145
	FR1 n71	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	136100	680.5	18.38	19.20	1.208	-0.17	0.955	1.153
	FR1 n71	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	136100	680.5	18.30	19.20	1.230	-0.06	0.936	1.152
	FR1 n71	20M	BPSK	100	0	Bottom Face	0mm	Tablet	DSI3	136100	680.5	18.32	19.20	1.225	0	0.933	1.143
	FR1 n71	20M	BPSK	1	1	Edge 2	0mm	Tablet	DSI3	136100	680.5	18.38	19.20	1.208	-0.03	0.638	0.771
	FR1 n71	20M	BPSK	50	0	Edge 2	0mm	Tablet	DSI3	136100	680.5	18.30	19.20	1.230	-0.01	0.617	0.759
	FR1 n71	20M	BPSK	1	1	Bottom of Laptop	11mm	Laptop	DSI0,1	136100	680.5	23.52	25.00	1.406	-0.04	0.444	0.624
	FR1 n71	20M	BPSK	50	0	Bottom of Laptop	11mm	Laptop	DSI0,1	136100	680.5	23.44	25.00	1.432	0.09	0.428	0.613
	FR1 n71	20M	BPSK	1	1	Bottom Face	17mm	Tablet	DSI0,1	136100	680.5	23.52	25.00	1.406	0	0.426	0.599
	FR1 n71	20M	BPSK	50	0	Bottom Face	17mm	Tablet	DSI0,1	136100	680.5	23.44	25.00	1.432	-0.02	0.409	0.586
	FR1 n71	20M	BPSK	1	1	Edge 1	0mm	Tablet	DSI0,1	136100	680.5	23.52	25.00	1.406	-0.07	0.077	0.108
	FR1 n71	20M	BPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	136100	680.5	23.44	25.00	1.432	-0.1	0.056	0.080
	FR1 n71	20M	BPSK	1	1	Edge 2	19mm	Tablet	DSI0,1	136100	680.5	23.52	25.00	1.406	-0.04	0.011	0.015
	FR1 n71	20M	BPSK	50	0	Edge 2	19mm	Tablet	DSI0,1	136100	680.5	23.44	25.00	1.432	-0.03	0.009	0.013
	FR1 n71_Ant 2	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	DSI2	136100	680.5	18.44	19.50	1.276	0.05	0.914	1.167
	FR1 n71_Ant 2	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	DSI2	136100	680.5	18.43	19.50	1.279	0.03	0.895	1.145
	FR1 n71_Ant 2	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	DSI2	136100	680.5	18.36	19.50	1.300	0	0.894	1.162
	FR1 n71_Ant 2	20M	BPSK	1	1	Bottom Face	0mm	Tablet	DSI3	136100	680.5	18.04	19.00	1.247	0.1	0.922	1.150
	FR1 n71_Ant 2	20M	BPSK	50	0	Bottom Face	0mm	Tablet	DSI3	136100	680.5	17.97	19.00	1.268	-0.06	0.895	1.135
	FR1 n71_Ant 2	20M	BPSK	100	0	Bottom Face	0mm	Tablet	DSI3	136100	680.5	17.92	19.00	1.282	-0.03	0.890	1.141
	FR1 n71_Ant 2	20M	BPSK	1	1	Edge 4	0mm	Tablet	DSI3	136100	680.5	18.04	19.00	1.247	0.08	0.713	0.889
	FR1 n71_Ant 2	20M	BPSK	50	0	Edge 4	0mm	Tablet	DSI3	136100	680.5	17.97	19.00	1.268	0	0.700	0.887
	FR1 n71_Ant 2	20M	BPSK	100	0	Edge 4	0mm	Tablet	DSI3	136100	680.5	17.92	19.00	1.282	-0.03	0.688	0.882
	FR1 n71_Ant 2	20M	BPSK	1	1	Bottom of Laptop	12mm	Laptop	DSI0,1	136100	680.5	23.71	25.00	1.346	-0.09	0.340	0.458
	FR1 n71_Ant 2	20M	BPSK	50	0	Bottom of Laptop	12mm	Laptop	DSI0,1	136100	680.5	23.36	25.00	1.459	-0.08	0.309	0.451
	FR1 n71_Ant 2	20M	BPSK	1	1	Bottom Face	15mm	Tablet	DSI0,1	136100	680.5	23.71	25.00	1.346	-0.09	0.226	0.304
	FR1 n71_Ant 2	20M	BPSK	50	0	Bottom Face	15mm	Tablet	DSI0,1	136100	680.5	23.36	25.00	1.459	-0.01	0.204	0.298
	FR1 n71_Ant 2	20M	BPSK	1	1	Edge 1	0mm	Tablet	DSI0,1	136100	680.5	23.71	25.00	1.346	0.05	0.081	0.109
	FR1 n71_Ant 2	20M	BPSK	50	0	Edge 1	0mm	Tablet	DSI0,1	136100	680.5	23.36	25.00	1.459	0.06	0.068	0.099
	FR1 n71_Ant 2	20M	BPSK	1	1	Edge 4	20mm	Tablet	DSI0,1	136100	680.5	23.71	25.00	1.346	-0.06	0.005	0.007
	FR1 n71_Ant 2	20M	BPSK	50	0	Edge 4	20mm	Tablet	DSI0,1	136100	680.5	23.36	25.00	1.459	-0.07	0.003	0.004

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Configure (Tablet / Laptop)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
20	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 1	Laptop	6	2437	12.90	13.50	1.148	98.25	1.018	0.18	0.911	1.065
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 1	Laptop	1	2412	12.80	13.50	1.175	98.25	1.018	0.01	0.833	0.996
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 1	Laptop	11	2462	12.80	13.50	1.175	98.25	1.018	0.07	0.868	1.038
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 1	Tablet	6	2437	12.90	13.50	1.148	98.25	1.018	-0.09	0.087	0.101
	WLAN2.4GHz	802.11b 1Mbps	Edge 3	0mm	Ant 1	Tablet	6	2437	12.90	13.50	1.148	98.25	1.018	0.14	0.175	0.204
	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 2	Laptop	11	2462	13.20	13.50	1.072	99.04	1.010	-0.08	0.492	0.532
	WLAN2.4GHz	802.11b 1Mbps	Bottom Face	0mm	Ant 2	Tablet	11	2462	13.20	13.50	1.072	99.04	1.010	0.07	0.139	0.151
	WLAN2.4GHz	802.11b 1Mbps	Edge 3	0mm	Ant 2	Tablet	11	2462	13.20	13.50	1.072	99.04	1.010	0	0.250	0.271
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 1	Laptop	58	5290	9.50	10.00	1.122	91.94	1.088	-0.02	0.485	0.592
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1	Tablet	58	5290	9.50	10.00	1.122	91.94	1.088	0.03	0.182	0.222
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 1	Tablet	58	5290	9.50	10.00	1.122	91.94	1.088	-0.04	0.276	0.337
21	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	Laptop	58	5290	9.60	10.00	1.096	92.00	1.087	-0.14	0.885	1.055
	WLAN5GHz	802.11n-HT40 MCS0	Bottom of Laptop	0mm	Ant 2	Laptop	62	5310	9.70	10.00	1.072	95.18	1.051	-0.06	0.833	0.938
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 2	Tablet	58	5290	9.60	10.00	1.096	92.00	1.087	0.03	0.077	0.092
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 2	Tablet	58	5290	9.60	10.00	1.096	92.00	1.087	0.07	0.174	0.208
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 1	Laptop	122	5610	9.50	10.00	1.122	91.94	1.088	-0.06	0.634	0.774
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1	Tablet	122	5610	9.50	10.00	1.122	91.94	1.088	0.07	0.074	0.090
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 1	Tablet	122	5610	9.50	10.00	1.122	91.94	1.088	-0.16	0.184	0.225
22	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	Laptop	138	5690	9.70	10.00	1.072	92.00	1.087	-0.12	0.866	1.009
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	Laptop	106	5530	9.50	10.00	1.122	92.00	1.087	-0.01	0.728	0.888
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 2	Tablet	138	5690	9.70	10.00	1.072	92.00	1.087	0.06	0.085	0.099
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 2	Tablet	138	5690	9.70	10.00	1.072	92.00	1.087	0.09	0.206	0.240
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 1	Laptop	155	5775	10.00	10.50	1.122	91.94	1.088	-0.14	0.731	0.892
	WLAN5GHz	802.11n-HT40 MCS0	Bottom of Laptop	0mm	Ant 1	Laptop	159	5795	9.80	10.50	1.175	95.76	1.044	0.02	0.664	0.814
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 1	Tablet	155	5775	10.00	10.50	1.122	91.94	1.088	-0.05	0.063	0.077
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 1	Tablet	155	5775	10.00	10.50	1.122	91.94	1.088	-0.05	0.223	0.272
23	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	Laptop	155	5775	10.10	10.50	1.096	92.00	1.087	-0.02	0.957	1.141
	WLAN5GHz	802.11n-HT40 MCS0	Bottom of Laptop	0mm	Ant 2	Laptop	151	5755	10.20	10.50	1.072	95.18	1.051	0.03	0.944	1.063
	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom Face	0mm	Ant 2	Tablet	155	5775	10.10	10.50	1.096	92.00	1.087	0.15	0.093	0.111
	WLAN5GHz	802.11ac-VHT80 MCS0	Edge 3	0mm	Ant 2	Tablet	155	5775	10.10	10.50	1.096	92.00	1.087	0.06	0.223	0.266

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Configure (Tablet / Laptop)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
24	Bluetooth	3Mbps	Bottom of Laptop	0mm	Ant 2	Laptop	78	2480	6.62	7.00	1.092	76.47	1.089	0.03	0.029	0.035
	Bluetooth	3Mbps	Bottom Face	0mm	Ant 2	Tablet	78	2480	6.62	7.00	1.092	76.47	1.089	0.02	0.011	0.013
	Bluetooth	3Mbps	Edge 3	0mm	Ant 2	Tablet	78	2480	6.62	7.00	1.092	76.47	1.089	0.01	0.001	0.001

16.2 Repeated SAR Measurement

Case No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 7	20M_QPSK_1_0	Bottom of Laptop	0mm	-	21350	2560	21.35	21.70	1.084		1.000	-0.12	1.050	-	1.138
2nd	LTE Band 7	20M_QPSK_1_0	Bottom of Laptop	0mm	-	21350	2560	21.35	21.70	1.084		1.000	0.03	1.010	1.04	1.095
1st	LTE Band 14	10M_QPSK_1_0	Bottom Face	0mm	-	23330	793	16.58	16.60	1.005		1.000	-0.03	1.110	-	1.115
2nd	LTE Band 14	10M_QPSK_1_0	Bottom Face	0mm	-	23330	793	16.58	16.60	1.005		1.000	-0.13	1.070	1.04	1.075
1st	LTE Band 25	20M_QPSK_1_0	Bottom Face	0mm	-	26140	1860	14.92	15.10	1.042		1.000	0.08	1.130	-	1.178
2nd	LTE Band 25	20M_QPSK_1_0	Bottom Face	0mm	-	26140	1860	14.92	15.10	1.042		1.000	-0.09	1.070	1.06	1.115
1st	LTE Band 26	15M_QPSK_1_0	Bottom Face	0mm	-	26865	831.5	15.75	15.80	1.012		1.000	-0.07	1.090	-	1.103
2nd	LTE Band 26	15M_QPSK_1_0	Bottom Face	0mm	-	26865	831.5	15.75	15.80	1.012		1.000	-0.16	1.050	1.04	1.062
1st	LTE Band 30	10M_QPSK_1_0	Bottom Face	0mm	-	27710	2310	12.09	12.10	1.002		1.000	-0.06	1.030	-	1.032
2nd	LTE Band 30	10M_QPSK_1_0	Bottom Face	0mm	-	27710	2310	12.09	12.10	1.002		1.000	0.11	1.010	1.02	1.012
1st	LTE Band 48_Ant 2	20M_QPSK_1_0	Bottom Face	0mm	-	55830	3609	13.91	14.00	1.021	62.90	1.006	0.04	1.150	-	1.181
2nd	LTE Band 48_Ant 2	20M_QPSK_1_0	Bottom Face	0mm	-	55830	3609	13.91	14.00	1.021	62.90	1.006	0.07	1.110	1.04	1.14
1st	LTE Band 66	20M_QPSK_1_0	Bottom Face	0mm	-	132072	1720	12.80	12.80	1.000		1.000	-0.11	1.040	-	1.04
2nd	LTE Band 66	20M_QPSK_1_0	Bottom Face	0mm	-	132072	1720	12.80	12.80	1.000		1.000	-0.08	1.020	1.02	1.02
1st	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 1	6	2437	12.90	13.50	1.148	98.25	1.018	0.18	0.911	-	1.065
2nd	WLAN2.4GHz	802.11b 1Mbps	Bottom of Laptop	0mm	Ant 1	6	2437	12.90	13.50	1.148	98.25	1.018	0.05	0.889	1.02	1.039
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	58	5290	9.60	10.00	1.096	92.00	1.087	-0.14	0.885	-	1.055
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	58	5290	9.60	10.00	1.096	92.00	1.087	-0.02	0.853	1.04	1.017
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	138	5690	9.70	10.00	1.072	92.00	1.087	-0.12	0.866	-	1.009
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	138	5690	9.70	10.00	1.072	92.00	1.087	0.12	0.814	1.06	0.948
1st	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	155	5775	10.10	10.50	1.096	92.00	1.087	-0.02	0.957	-	1.141
2nd	WLAN5GHz	802.11ac-VHT80 MCS0	Bottom of Laptop	0mm	Ant 2	155	5775	10.10	10.50	1.096	92.00	1.087	-0.04	0.918	1.04	1.094

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

16.3 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required

	LTE Band 41	LTE Band 41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	12.9	14.5
Reported 1g SAR (W/kg)	1.08	1.159
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	12.34	12.20
Linearity SAR(W/kg)	1.07	
% deviation from expected linearity		8.54%

17. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN + WLAN2.4GHz Ant 1 + WLAN 2.4GHz Ant 2 + FR 1	Yes
2.	WWAN + WLAN2.4GHz Ant 1 + Bluetooth Ant 2 + FR 1	Yes
3.	WWAN + WLAN5GHz Ant 1 + WLAN 5GHz Ant 2 + FR 1	Yes
4.	WWAN + WLAN5GHz Ant 1 + Bluetooth Ant 2 + FR 1	Yes
5.	WWAN + WLAN2.4GHz Ant 1 + WLAN 5GHz Ant 2 + FR 1	Yes
6.	WWAN + WLAN2.4GHz Ant 2 + WLAN 5GHz Ant 1 + FR 1	Yes

General Note:

1. The Scaled SAR summation is calculated based on the same configuration and test position.
2. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
   iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
   v) The SPLSR calculated results please refer to section 17.3.

17.1 5G NR + LTE + WLAN + BT Sim-Tx analysis

In 5G NR + LTE + WLAN + BT simultaneous transmission, 5G NR and LTE transmission are managed and controlled by Qualcomm® Smart Transmit, while the RF exposure from WLAN and BT radios is managed using legacy approach, i.e., through a fixed power back-off if needed.
Since WLAN and BT do not employ time-averaging, 1gSAR and 10gSAR measurement for WLAN and BT need to be conducted at their corresponding rated power following current FCC test procedures to determine reported SAR values.
Smart Transmit current implementation assumes hotspots from 5G NR and LTE are collocated. Therefore, for a total of 100% exposure margin, if LTE uses x%, then the exposure margin left for 5G NR is capped to (100-x)%. Thus, the compliance equation for LTE + 5G NR is

$$x\% * A + (100-x)\% * B \leq 1.0,$$

Where, A is normalized reported time-averaged SAR exposure ratio from LTE, and A ≤ 1.0; B is normalized reported time-averaged exposure ratio from 5G NR (i.e., PD exposure for 5G FR2 or SAR exposure for 5G FR1), and B ≤1.0.
Let C = normalized reported SAR exposure ratio from WLAN+BT, then for compliance,

$$x\% * A + (100-x)\% * B + C \leq 1.0 \qquad (1)$$

$$x\% * A + (100-x)\% * B \leq x\% * \max(A, B) + (100-x)\% * \max(A, B) \leq \max(A, B)$$

$$x\% * A + (100-x)\% * B + C \leq \max(A, B) + C \leq 1.0 \qquad (2)$$

if A + C ≤ 1.0 and B + C ≤ 1.0 can be proven, then “x% * A + (100-x)% * B + C ≤ 1.0”. Therefore simultaneous transmission analysis for 5G NR + LTE + WLAN + BT can be performed in two steps

Step 1: Prove total exposure ratio (TER) of LTE + WLAN + BT < 1
Step 2: Prove total exposure ratio (TER) of 5G NR + WLAN + BT < 1

17.2 Body Exposure Conditions

WWAN Band	Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1 1g SAR (W/kg)	3 2.4GHz WLAN Ant 2 1g SAR (W/kg)	4 5GHz WLAN Ant 1 1g SAR (W/kg)	5 5GHz WLAN Ant 2 1g SAR (W/kg)	6 Bluetooth Ant 2 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+4+5 Summed 1g SAR (W/kg)	1+4+6 Summed 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	SPLSR	Case No
WCDMA II	Bottom of Laptop at 11mm	0.362	1.065	0.532	0.892	1.141	0.035	1.959	1.462	2.395	1.289	2.568	1.786	0.01	Case 1
	Bottom Face at 17mm	1.135	0.101	0.151	0.222	0.111	0.013	1.387	1.249	1.468	1.370	1.347	1.508		
	Edge 2 at 19mm	0.070						0.070	0.070	0.070	0.070	0.070	0.070		
	Bottom of Laptop at 0mm	1.124	1.065	0.532	0.892	1.141	0.035	2.721	2.224	3.157	2.051	3.330	2.548	0.02	Case 2
	Bottom Face at 0mm	1.167	0.101	0.151	0.222	0.111	0.013	1.419	1.281	1.500	1.402	1.379	1.540		
	Edge 1 at 0mm	0.539						0.539	0.539	0.539	0.539	0.539	0.539		
	Edge 2 at 0mm	0.285						0.285	0.285	0.285	0.285	0.285	0.285		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
WCDMA IV	Bottom of Laptop at 11mm	0.722	1.065	0.532	0.892	1.141	0.035	2.319	1.822	2.755	1.649	2.928	2.146	0.02	Case 3
	Bottom Face at 17mm	0.843	0.101	0.151	0.222	0.111	0.013	1.095	0.957	1.176	1.078	1.055	1.216		
	Edge 2 at 19mm	0.045						0.045	0.045	0.045	0.045	0.045	0.045		
	Bottom of Laptop at 0mm	1.070	1.065	0.532	0.892	1.141	0.035	2.667	2.170	3.103	1.997	3.276	2.494	0.02	Case 4
	Bottom Face at 0mm	1.159	0.101	0.151	0.222	0.111	0.013	1.411	1.273	1.492	1.394	1.371	1.532		
	Edge 1 at 0mm	0.536						0.536	0.536	0.536	0.536	0.536	0.536		
	Edge 2 at 0mm	0.189						0.189	0.189	0.189	0.189	0.189	0.189		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
WCDMA V	Bottom of Laptop at 11mm	0.846	1.065	0.532	0.892	1.141	0.035	2.443	1.946	2.879	1.773	3.052	2.270	0.02	Case 5
	Bottom Face at 17mm	0.392	0.101	0.151	0.222	0.111	0.013	0.644	0.506	0.725	0.627	0.604	0.765		
	Edge 2 at 19mm	0.019						0.019	0.019	0.019	0.019	0.019	0.019		
	Bottom of Laptop at 0mm	1.065	1.065	0.532	0.892	1.141	0.035	2.662	2.165	3.098	1.992	3.271	2.489	0.02	Case 6
	Bottom Face at 0mm	1.139	0.101	0.151	0.222	0.111	0.013	1.391	1.253	1.472	1.374	1.351	1.512		
	Edge 1 at 0mm	0.405						0.405	0.405	0.405	0.405	0.405	0.405		
	Edge 2 at 0mm	0.329						0.329	0.329	0.329	0.329	0.329	0.329		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 7	Bottom of Laptop at 11mm	0.639	1.065	0.532	0.892	1.141	0.035	2.236	1.739	2.672	1.566	2.845	2.063	0.01	Case 7
	Bottom Face at 17mm	0.590	0.101	0.151	0.222	0.111	0.013	0.842	0.704	0.923	0.825	0.802	0.963		
	Edge 2 at 19mm	0.036						0.036	0.036	0.036	0.036	0.036	0.036		
	Bottom of Laptop at 0mm	1.138	1.065	0.532	0.892	1.141	0.035	2.735	2.238	3.171	2.065	3.344	2.562	0.02	Case 8
	Bottom Face at 0mm	1.039	0.101	0.151	0.222	0.111	0.013	1.291	1.153	1.372	1.274	1.251	1.412		
	Edge 1 at 0mm	0.283						0.283	0.283	0.283	0.283	0.283	0.283		
	Edge 2 at 0mm	0.268						0.268	0.268	0.268	0.268	0.268	0.268		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 12	Bottom of Laptop at 11mm	0.544	1.065	0.532	0.892	1.141	0.035	2.141	1.644	2.577	1.471	2.750	1.968	0.01	Case 9
	Bottom Face at 17mm	0.342	0.101	0.151	0.222	0.111	0.013	0.594	0.456	0.675	0.577	0.554	0.715		
	Edge 2 at 19mm	0.013						0.013	0.013	0.013	0.013	0.013	0.013		
	Bottom of Laptop at 0mm	1.179	1.065	0.532	0.892	1.141	0.035	2.776	2.279	3.212	2.106	3.385	2.603	0.02	Case 10
	Bottom Face at 0mm	1.181	0.101	0.151	0.222	0.111	0.013	1.433	1.295	1.514	1.416	1.393	1.554		
	Edge 1 at 0mm	0.114						0.114	0.114	0.114	0.114	0.114	0.114		
	Edge 2 at 0mm	0.758						0.758	0.758	0.758	0.758	0.758	0.758		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 12_ANT 2	Bottom of Laptop at 12mm	0.594	1.065	0.532	0.892	1.141	0.035	2.191	1.694	2.627	1.521	2.800	2.018	0.01	Case 11
	Bottom Face at 15mm	0.451	0.101	0.151	0.222	0.111	0.013	0.703	0.565	0.784	0.686	0.663	0.824		
	Edge 4 at 20mm	0.144						0.144	0.144	0.144	0.144	0.144	0.144		
	Bottom of Laptop at 0mm	1.146	1.065	0.532	0.892	1.141	0.035	2.743	2.246	3.179	2.073	3.352	2.570	0.02	Case 12
	Bottom Face at 0mm	1.152	0.101	0.151	0.222	0.111	0.013	1.404	1.266	1.485	1.387	1.364	1.525		
	Edge 1 at 0mm	0.285						0.285	0.285	0.285	0.285	0.285	0.285		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
	Edge 4 at 0mm	0.701						0.701	0.701	0.701	0.701	0.701	0.701		

LTE Band 13	Bottom of Laptop at 11mm	0.982	1.065	0.532	0.892	1.141	0.035	2.579	2.082	3.015	1.909	3.188	2.406	0.02	Case 13
	Bottom Face at 17mm	0.725	0.101	0.151	0.222	0.111	0.013	0.977	0.839	1.058	0.960	0.937	1.098		
	Edge 2 at 19mm	0.015						0.015	0.015	0.015	0.015	0.015	0.015		
	Bottom of Laptop at 0mm	1.038	1.065	0.532	0.892	1.141	0.035	2.635	2.138	3.071	1.965	3.244	2.462	0.02	Case 14
	Bottom Face at 0mm	1.049	0.101	0.151	0.222	0.111	0.013	1.301	1.163	1.382	1.284	1.261	1.422		
	Edge 1 at 0mm	0.408						0.408	0.408	0.408	0.408	0.408	0.408		
	Edge 2 at 0mm	0.550						0.550	0.550	0.550	0.550	0.550	0.550		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 13_ANT 2	Bottom of Laptop at 12mm	0.667	1.065	0.532	0.892	1.141	0.035	2.264	1.767	2.700	1.594	2.873	2.091	0.01	Case 15
	Bottom Face at 15mm	0.799	0.101	0.151	0.222	0.111	0.013	1.051	0.913	1.132	1.034	1.011	1.172		
	Edge 4 at 20mm	0.152						0.152	0.152	0.152	0.152	0.152	0.152		
	Bottom of Laptop at 0mm	1.121	1.065	0.532	0.892	1.141	0.035	2.718	2.221	3.154	2.048	3.327	2.545	0.02	Case 16
	Bottom Face at 0mm	1.156	0.101	0.151	0.222	0.111	0.013	1.408	1.270	1.489	1.391	1.368	1.529		
	Edge 1 at 0mm	0.530						0.530	0.530	0.530	0.530	0.530	0.530		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
	Edge 4 at 0mm	0.262						0.262	0.262	0.262	0.262	0.262	0.262		
LTE Band 14	Bottom of Laptop at 11mm	0.996	1.065	0.532	0.892	1.141	0.035	2.593	2.096	3.029	1.923	3.202	2.420	0.02	Case 17
	Bottom Face at 17mm	0.772	0.101	0.151	0.222	0.111	0.013	1.024	0.886	1.105	1.007	0.984	1.145		
	Edge 2 at 19mm	0.021						0.021	0.021	0.021	0.021	0.021	0.021		
	Bottom of Laptop at 0mm	1.046	1.065	0.532	0.892	1.141	0.035	2.643	2.146	3.079	1.973	3.252	2.470	0.02	Case 18
	Bottom Face at 0mm	1.115	0.101	0.151	0.222	0.111	0.013	1.367	1.229	1.448	1.350	1.327	1.488		
	Edge 1 at 0mm	0.358						0.358	0.358	0.358	0.358	0.358	0.358		
	Edge 2 at 0mm	0.508						0.508	0.508	0.508	0.508	0.508	0.508		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 14_ANT 2	Bottom of Laptop at 12mm	0.647	1.065	0.532	0.892	1.141	0.035	2.244	1.747	2.680	1.574	2.853	2.071	0.01	Case 19
	Bottom Face at 15mm	0.661	0.101	0.151	0.222	0.111	0.013	0.913	0.775	0.994	0.896	0.873	1.034		
	Edge 4 at 20mm	0.191						0.191	0.191	0.191	0.191	0.191	0.191		
	Bottom of Laptop at 0mm	1.122	1.065	0.532	0.892	1.141	0.035	2.719	2.222	3.155	2.049	3.328	2.546	0.02	Case 20
	Bottom Face at 0mm	1.175	0.101	0.151	0.222	0.111	0.013	1.427	1.289	1.508	1.410	1.387	1.548		
	Edge 1 at 0mm	0.427						0.427	0.427	0.427	0.427	0.427	0.427		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
	Edge 4 at 0mm	0.227						0.227	0.227	0.227	0.227	0.227	0.227		
LTE Band 25	Bottom of Laptop at 11mm	0.980	1.065	0.532	0.892	1.141	0.035	2.577	2.080	3.013	1.907	3.186	2.404	0.02	Case 21
	Bottom Face at 17mm	0.760	0.101	0.151	0.222	0.111	0.013	1.012	0.874	1.093	0.995	0.972	1.133		
	Edge 2 at 19mm	0.064						0.064	0.064	0.064	0.064	0.064	0.064		
	Bottom of Laptop at 0mm	1.055	1.065	0.532	0.892	1.141	0.035	2.652	2.155	3.088	1.982	3.261	2.479	0.02	Case 22
	Bottom Face at 0mm	1.178	0.101	0.151	0.222	0.111	0.013	1.430	1.292	1.511	1.413	1.390	1.551		
	Edge 1 at 0mm	0.551						0.551	0.551	0.551	0.551	0.551	0.551		
	Edge 2 at 0mm	0.348						0.348	0.348	0.348	0.348	0.348	0.348		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 26	Bottom of Laptop at 11mm	0.754	1.065	0.532	0.892	1.141	0.035	2.351	1.854	2.787	1.681	2.960	2.178	0.01	Case 23
	Bottom Face at 17mm	0.595	0.101	0.151	0.222	0.111	0.013	0.847	0.709	0.928	0.830	0.807	0.968		
	Edge 2 at 19mm	0.023						0.023	0.023	0.023	0.023	0.023	0.023		
	Bottom of Laptop at 0mm	1.152	1.065	0.532	0.892	1.141	0.035	2.749	2.252	3.185	2.079	3.358	2.576	0.02	Case 24
	Bottom Face at 0mm	1.103	0.101	0.151	0.222	0.111	0.013	1.355	1.217	1.436	1.338	1.315	1.476		
	Edge 1 at 0mm	0.251						0.251	0.251	0.251	0.251	0.251	0.251		
	Edge 2 at 0mm	0.205						0.205	0.205	0.205	0.205	0.205	0.205		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 26_ANT 2	Bottom of Laptop at 12mm	0.516	1.065	0.532	0.892	1.141	0.035	2.113	1.616	2.549	1.443	2.722	1.940	0.01	Case 25
	Bottom Face at 15mm	0.280	0.101	0.151	0.222	0.111	0.013	0.532	0.394	0.613	0.515	0.492	0.653		
	Edge 4 at 20mm	0.161						0.161	0.161	0.161	0.161	0.161	0.161		
	Bottom of Laptop at 0mm	1.150	1.065	0.532	0.892	1.141	0.035	2.747	2.250	3.183	2.077	3.356	2.574	0.02	Case 26
	Bottom Face at 0mm	1.138	0.101	0.151	0.222	0.111	0.013	1.390	1.252	1.471	1.373	1.350	1.511		
	Edge 1 at 0mm	0.059						0.059	0.059	0.059	0.059	0.059	0.059		

	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
	Edge 4 at 0mm	0.214						0.214	0.214	0.214	0.214	0.214	0.214		
LTE Band 30	Bottom of Laptop at 11mm	0.696	1.065	0.532	0.892	1.141	0.035	2.293	1.796	2.729	1.623	2.902	2.120	0.02	Case 27
	Bottom Face at 17mm	1.142	0.101	0.151	0.222	0.111	0.013	1.394	1.256	1.475	1.377	1.354	1.515		
	Edge 2 at 19mm	0.149						0.149	0.149	0.149	0.149	0.149	0.149		
	Bottom of Laptop at 0mm	1.015	1.065	0.532	0.892	1.141	0.035	2.612	2.115	3.048	1.942	3.221	2.439	0.02	Case 28
	Bottom Face at 0mm	1.032	0.101	0.151	0.222	0.111	0.013	1.284	1.146	1.365	1.267	1.244	1.405		
	Edge 1 at 0mm	0.339						0.339	0.339	0.339	0.339	0.339	0.339		
	Edge 2 at 0mm	0.093						0.093	0.093	0.093	0.093	0.093	0.093		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 41	Bottom of Laptop at 11mm	0.403	1.065	0.532	0.892	1.141	0.035	2.000	1.503	2.436	1.330	2.609	1.827	0.01	Case 29
	Bottom Face at 17mm	0.378	0.101	0.151	0.222	0.111	0.013	0.630	0.492	0.711	0.613	0.590	0.751		
	Edge 2 at 19mm	0.026						0.026	0.026	0.026	0.026	0.026	0.026		
	Bottom of Laptop at 0mm	0.898	1.065	0.532	0.892	1.141	0.035	2.495	1.998	2.931	1.825	3.104	2.322	0.02	Case 30
	Bottom Face at 0mm	1.159	0.101	0.151	0.222	0.111	0.013	1.411	1.273	1.492	1.394	1.371	1.532		
	Edge 1 at 0mm	0.217						0.217	0.217	0.217	0.217	0.217	0.217		
	Edge 2 at 0mm	0.161						0.161	0.161	0.161	0.161	0.161	0.161		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 48_Ant 2	Bottom of Laptop at 12mm	0.366	1.065	0.532	0.892	1.141	0.035	1.963	1.466	2.399	1.293	2.572	1.790	0.01	Case 33
	Bottom Face at 15mm	0.575	0.101	0.151	0.222	0.111	0.013	0.827	0.689	0.908	0.810	0.787	0.948		
	Edge 4 at 20mm	0.097						0.097	0.097	0.097	0.097	0.097	0.097		
	Bottom of Laptop at 0mm	1.148	1.065	0.532	0.892	1.141	0.035	2.745	2.248	3.181	2.075	3.354	2.572	0.02	Case 34
	Bottom Face at 0mm	1.181	0.101	0.151	0.222	0.111	0.013	1.433	1.295	1.514	1.416	1.393	1.554		
	Edge 1 at 0mm	0.367						0.367	0.367	0.367	0.367	0.367	0.367		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
	Edge 4 at 0mm	0.267						0.267	0.267	0.267	0.267	0.267	0.267		
LTE Band 66	Bottom of Laptop at 11mm	1.109	1.065	0.532	0.892	1.141	0.035	2.706	2.209	3.142	2.036	3.315	2.533	0.02	Case 35
	Bottom Face at 17mm	1.045	0.101	0.151	0.222	0.111	0.013	1.297	1.159	1.378	1.280	1.257	1.418		
	Edge 2 at 19mm	0.056						0.056	0.056	0.056	0.056	0.056	0.056		
	Bottom of Laptop at 0mm	1.010	1.065	0.532	0.892	1.141	0.035	2.607	2.110	3.043	1.937	3.216	2.434	0.02	Case 36
	Bottom Face at 0mm	1.040	0.101	0.151	0.222	0.111	0.013	1.292	1.154	1.373	1.275	1.252	1.413		
	Edge 1 at 0mm	0.501						0.501	0.501	0.501	0.501	0.501	0.501		
	Edge 2 at 0mm	0.190						0.190	0.190	0.190	0.190	0.190	0.190		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 71	Bottom of Laptop at 11mm	0.564	1.065	0.532	0.892	1.141	0.035	2.161	1.664	2.597	1.491	2.770	1.988	0.01	Case 37
	Bottom Face at 17mm	0.332	0.101	0.151	0.222	0.111	0.013	0.584	0.446	0.665	0.567	0.544	0.705		
	Edge 2 at 19mm	0.028						0.028	0.028	0.028	0.028	0.028	0.028		
	Bottom of Laptop at 0mm	1.159	1.065	0.532	0.892	1.141	0.035	2.756	2.259	3.192	2.086	3.365	2.583	0.02	Case 38
	Bottom Face at 0mm	1.095	0.101	0.151	0.222	0.111	0.013	1.347	1.209	1.428	1.330	1.307	1.468		
	Edge 1 at 0mm	0.093						0.093	0.093	0.093	0.093	0.093	0.093		
	Edge 2 at 0mm	0.607						0.607	0.607	0.607	0.607	0.607	0.607		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
LTE Band 71_Ant 2	Bottom of Laptop at 12mm	0.426	1.065	0.532	0.892	1.141	0.035	2.023	1.491	2.459	0.958	2.632	1.850	0.01	Case 39
	Bottom Face at 15mm	0.401	0.101	0.151	0.222	0.111	0.013	0.653	0.502	0.734	0.552	0.613	0.774		
	Edge 4 at 20mm	0.196						0.196	0.196	0.196	0.196	0.196	0.196		
	Bottom of Laptop at 0mm	1.152	1.065	0.532	0.892	1.141	0.035	2.749	2.217	3.185	1.684	3.358	2.576	0.02	Case 40
	Bottom Face at 0mm	1.025	0.101	0.151	0.222	0.111	0.013	1.277	1.126	1.358	1.176	1.237	1.398		
	Edge 1 at 0mm	0.054						0.054	0.054	0.054	0.054	0.054	0.054		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.204	0.603	0.271	0.470	0.608		
	Edge 4 at 0mm	1.148						1.148	1.148	1.148	1.148	1.148	1.148		

WWAN Band	Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1 1g SAR (W/kg)	3 2.4GHz WLAN Ant 2 1g SAR (W/kg)	4 5GHz WLAN Ant 1 1g SAR (W/kg)	5 5GHz WLAN Ant 2 1g SAR (W/kg)	6 Bluetooth Ant 2 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+4+5 Summed 1g SAR (W/kg)	1+4+6 Summed 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	SPLSR	Case No
FR1 n2	Bottom of Laptop at 11mm	1.074	1.065	0.532	0.892	1.141	0.035	2.671	2.174	3.107	2.001	3.280	2.498	0.02	Case 41
	Bottom Face at 17mm	1.167	0.101	0.151	0.222	0.111	0.013	1.419	1.281	1.500	1.402	1.379	1.540		
	Edge 2 at 19mm	0.075						0.075	0.075	0.075	0.075	0.075	0.075		
	Bottom of Laptop at 0mm	1.171	1.065	0.532	0.892	1.141	0.035	2.768	2.271	3.204	2.098	3.377	2.595	0.02	Case 42
	Bottom Face at 0mm	1.157	0.101	0.151	0.222	0.111	0.013	1.409	1.271	1.490	1.392	1.369	1.530		
	Edge 1 at 0mm	0.753						0.753	0.753	0.753	0.753	0.753	0.753		
	Edge 2 at 0mm	0.517						0.517	0.517	0.517	0.517	0.517	0.517		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
FR1 n5	Bottom of Laptop at 11mm	0.621	1.065	0.532	0.892	1.141	0.035	2.218	1.721	2.654	1.548	2.827	2.045	0.01	Case 43
	Bottom Face at 17mm	0.264	0.101	0.151	0.222	0.111	0.013	0.516	0.378	0.597	0.499	0.476	0.637		
	Edge 2 at 19mm	0.025						0.025	0.025	0.025	0.025	0.025	0.025		
	Bottom of Laptop at 0mm	1.165	1.065	0.532	0.892	1.141	0.035	2.762	2.265	3.198	2.092	3.371	2.589	0.02	Case 44
	Bottom Face at 0mm	1.150	0.101	0.151	0.222	0.111	0.013	1.402	1.264	1.483	1.385	1.362	1.523		
	Edge 1 at 0mm	0.269						0.269	0.269	0.269	0.269	0.269	0.269		
	Edge 2 at 0mm	0.153						0.153	0.153	0.153	0.153	0.153	0.153		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
FR1 n5_Ant 2	Bottom of Laptop at 12mm	0.419	1.065	0.532	0.892	1.141	0.035	2.016	1.519	2.452	1.346	2.625	1.843	0.01	Case 45
	Bottom Face at 15mm	0.213	0.101	0.151	0.222	0.111	0.013	0.465	0.327	0.546	0.448	0.425	0.586		
	Edge 4 at 20mm	0.018						0.018	0.018	0.018	0.018	0.018	0.018		
	Bottom of Laptop at 0mm	1.179	1.065	0.532	0.892	1.141	0.035	2.776	2.279	3.212	2.106	3.385	2.603	0.02	Case 46
	Bottom Face at 0mm	1.161	0.101	0.151	0.222	0.111	0.013	1.413	1.275	1.494	1.396	1.373	1.534		
	Edge 1 at 0mm	0.186						0.186	0.186	0.186	0.186	0.186	0.186		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
	Edge 4 at 0mm	0.246						0.246	0.246	0.246	0.246	0.246	0.246		
FR1 n41	Bottom of Laptop at 11mm	0.976	1.065	0.532	0.892	1.141	0.035	2.573	2.076	3.009	1.903	3.182	2.400	0.02	Case 47
	Bottom Face at 17mm	0.960	0.101	0.151	0.222	0.111	0.013	1.212	1.074	1.293	1.195	1.172	1.333		
	Edge 2 at 19mm	0.006						0.006	0.006	0.006	0.006	0.006	0.006		
	Bottom of Laptop at 0mm	1.178	1.065	0.532	0.892	1.141	0.035	2.775	2.278	3.211	2.105	3.384	2.602	0.02	Case 48
	Bottom Face at 0mm	1.169	0.101	0.151	0.222	0.111	0.013	1.421	1.283	1.502	1.404	1.381	1.542		
	Edge 1 at 0mm	0.775						0.775	0.775	0.775	0.775	0.775	0.775		
	Edge 2 at 0mm	0.196						0.196	0.196	0.196	0.196	0.196	0.196		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
FR1 n41_Ant 2	Bottom of Laptop at 12mm	0.689	1.065	0.532	0.892	1.141	0.035	2.286	1.789	2.722	1.616	2.895	2.113	0.01	Case 49
	Bottom Face at 15mm	0.993	0.101	0.151	0.222	0.111	0.013	1.245	1.107	1.326	1.228	1.205	1.366		
	Edge 4 at 20mm	0.016						0.016	0.016	0.016	0.016	0.016	0.016		
	Bottom of Laptop at 0mm	1.167	1.065	0.532	0.892	1.141	0.035	2.764	2.267	3.200	2.094	3.373	2.591	0.02	Case 50
	Bottom Face at 0mm	1.165	0.101	0.151	0.222	0.111	0.013	1.417	1.279	1.498	1.400	1.377	1.538		
	Edge 1 at 0mm	0.213						0.213	0.213	0.213	0.213	0.213	0.213		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
	Edge 4 at 0mm	0.108						0.108	0.108	0.108	0.108	0.108	0.108		
FR1 n66	Bottom of Laptop at 11mm	0.618	1.065	0.532	0.892	1.141	0.035	2.215	1.718	2.651	1.545	2.824	2.042	0.01	Case 51
	Bottom Face at 17mm	1.008	0.101	0.151	0.222	0.111	0.013	1.260	1.122	1.341	1.243	1.220	1.381		
	Edge 2 at 19mm	0.153						0.153	0.153	0.153	0.153	0.153	0.153		
	Bottom of Laptop at 0mm	1.178	1.065	0.532	0.892	1.141	0.035	2.775	2.278	3.211	2.105	3.384	2.602	0.02	Case 52
	Bottom Face at 0mm	1.177	0.101	0.151	0.222	0.111	0.013	1.429	1.291	1.510	1.412	1.389	1.550		
	Edge 1 at 0mm	0.735						0.735	0.735	0.735	0.735	0.735	0.735		
	Edge 2 at 0mm	0.560						0.560	0.560	0.560	0.560	0.560	0.560		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		

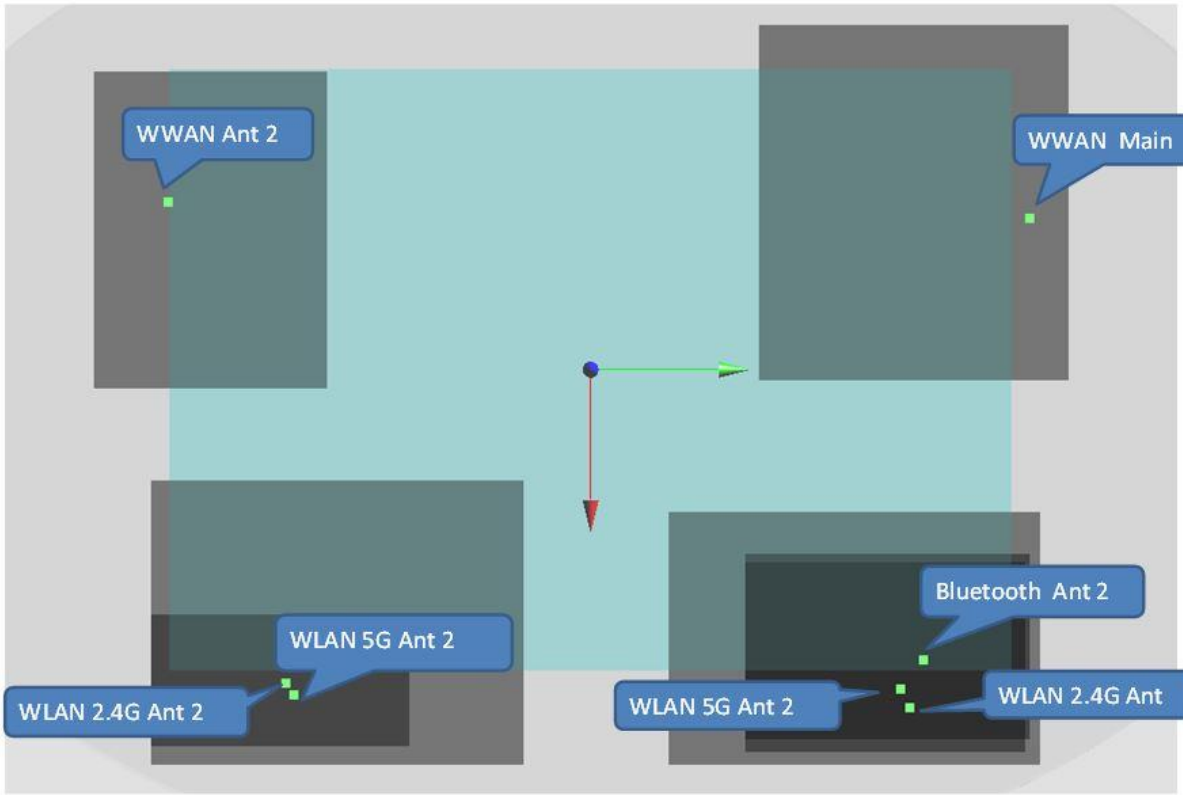
FR1 n71	Bottom of Laptop at 11mm	0.624	1.065	0.532	0.892	1.141	0.035	2.221	1.724	2.657	1.551	2.830	2.048	0.01	Case 53
	Bottom Face at 17mm	0.599	0.101	0.151	0.222	0.111	0.013	0.851	0.713	0.932	0.834	0.811	0.972		
	Edge 2 at 19mm	0.015						0.015	0.015	0.015	0.015	0.015	0.015		
	Bottom of Laptop at 0mm	1.173	1.065	0.532	0.892	1.141	0.035	2.770	2.273	3.206	2.100	3.379	2.597	0.02	Case 54
	Bottom Face at 0mm	1.153	0.101	0.151	0.222	0.111	0.013	1.405	1.267	1.486	1.388	1.365	1.526		
	Edge 1 at 0mm	0.108						0.108	0.108	0.108	0.108	0.108	0.108		
	Edge 2 at 0mm	0.771						0.771	0.771	0.771	0.771	0.771	0.771		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
FR1 n71_Ant 2	Bottom of Laptop at 12mm	0.458	1.065	0.532	0.892	1.141	0.035	2.055	1.558	2.491	1.385	2.664	1.882	0.01	Case 55
	Bottom Face at 15mm	0.304	0.101	0.151	0.222	0.111	0.013	0.556	0.418	0.637	0.539	0.516	0.677		
	Edge 4 at 20mm	0.007						0.007	0.007	0.007	0.007	0.007	0.007		
	Bottom of Laptop at 0mm	1.167	1.065	0.532	0.892	1.141	0.035	2.764	2.267	3.200	2.094	3.373	2.591	0.02	Case 56
	Bottom Face at 0mm	1.150	0.101	0.151	0.222	0.111	0.013	1.402	1.264	1.483	1.385	1.362	1.523		
	Edge 1 at 0mm	0.109						0.109	0.109	0.109	0.109	0.109	0.109		
	Edge 3 at 0mm		0.204	0.271	0.337	0.266	0.001	0.475	0.205	0.603	0.338	0.470	0.608		
	Edge 4 at 0mm	0.889						0.889	0.889	0.889	0.889	0.889	0.889		

17.3 SPLSR Evaluation and Analysis

General Note:

1. SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*). If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary
2. The detail hotspot point for each transmitter in each exposure condition are showing as below figure and the minimum 3D distance for each sum combination is used for SPLSR analysis.

Hotspot point for each transmit antenna



	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 1	WCDMA II	Bottom of Laptop	0.362	11	-45.9	159.4	-2.65	174.2	0.89	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	WCDMA II	Bottom of Laptop	0.362	11	-45.9	159.4	-2.65	322.4	1.43	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	WCDMA II	Bottom of Laptop	0.362	11	-45.9	159.4	-2.65	176.2	0.40	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	WCDMA II	Bottom of Laptop	0.362	11	-45.9	159.4	-2.65	158.2	1.50	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	WCDMA II	Bottom of Laptop	0.362	11	-45.9	159.4	-2.65	323.3	1.25	0.00	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 2	WCDMA II	Bottom of Laptop	1.124	0	-39.8	156.5	0.14	167.6	1.66	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	WCDMA II	Bottom of Laptop	1.124	0	-39.8	156.5	0.14	316.7	2.19	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	WCDMA II	Bottom of Laptop	1.124	0	-39.8	156.5	0.14	169.6	1.16	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	WCDMA II	Bottom of Laptop	1.124	0	-39.8	156.5	0.14	151.7	2.27	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	WCDMA II	Bottom of Laptop	1.124	0	-39.8	156.5	0.14	317.7	2.02	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 3	WCDMA IV	Bottom of Laptop	0.722	11	-44.5	152	-2.88	171.4	1.25	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	WCDMA IV	Bottom of Laptop	0.722	11	-44.5	152	-2.88	315.3	1.79	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	WCDMA IV	Bottom of Laptop	0.722	11	-44.5	152	-2.88	173.4	0.76	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	WCDMA IV	Bottom of Laptop	0.722	11	-44.5	152	-2.88	155.6	1.86	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	WCDMA IV	Bottom of Laptop	0.722	11	-44.5	152	-2.88	316.2	1.61	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 4	WCDMA IV	Bottom of Laptop	1.07	0	-38.3	156.6	-0.66	166.1	1.60	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	WCDMA IV	Bottom of Laptop	1.07	0	-38.3	156.6	-0.66	316.0	2.14	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	WCDMA IV	Bottom of Laptop	1.07	0	-38.3	156.6	-0.66	168.2	1.11	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	WCDMA IV	Bottom of Laptop	1.07	0	-38.3	156.6	-0.66	150.2	2.21	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	WCDMA IV	Bottom of Laptop	1.07	0	-38.3	156.6	-0.66	317.1	1.96	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 5	WCDMA V	Bottom of Laptop	0.846	11	-65.4	165.5	-2.29	194.5	1.38	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	WCDMA V	Bottom of Laptop	0.846	11	-65.4	165.5	-2.29	338.1	1.91	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	WCDMA V	Bottom of Laptop	0.846	11	-65.4	165.5	-2.29	196.6	0.88	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	WCDMA V	Bottom of Laptop	0.846	11	-65.4	165.5	-2.29	178.6	1.99	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	WCDMA V	Bottom of Laptop	0.846	11	-65.4	165.5	-2.29	338.7	1.74	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 6	WCDMA V	Bottom of Laptop	1.065	0	-62.4	164	0.11	191.3	1.60	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	WCDMA V	Bottom of Laptop	1.065	0	-62.4	164	0.11	335.2	2.13	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	WCDMA V	Bottom of Laptop	1.065	0	-62.4	164	0.11	193.3	1.10	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	WCDMA V	Bottom of Laptop	1.065	0	-62.4	164	0.11	175.3	2.21	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	WCDMA V	Bottom of Laptop	1.065	0	-62.4	164	0.11	335.8	1.96	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 7	LTE B7	Bottom of Laptop	0.639	11	-63.4	148.6	-2.65	189.5	1.17	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B7	Bottom of Laptop	0.639	11	-63.4	148.6	-2.65	323.0	1.70	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B7	Bottom of Laptop	0.639	11	-63.4	148.6	-2.65	191.5	0.67	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B7	Bottom of Laptop	0.639	11	-63.4	148.6	-2.65	173.8	1.78	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B7	Bottom of Laptop	0.639	11	-63.4	148.6	-2.65	323.5	1.53	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 8	LTE B7	Bottom of Laptop	1.138	0	-41	152.2	1.6	168.0	1.67	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B7	Bottom of Laptop	1.138	0	-41	152.2	1.6	313.7	2.20	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B7	Bottom of Laptop	1.138	0	-41	152.2	1.6	170.0	1.17	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B7	Bottom of Laptop	1.138	0	-41	152.2	1.6	152.1	2.28	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B7	Bottom of Laptop	1.138	0	-41	152.2	1.6	314.6	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 9	LTE B12	Bottom of Laptop	0.544	11	-65.7	167.5	-2.33	195.3	1.08	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B12	Bottom of Laptop	0.544	11	-65.7	167.5	-2.33	339.9	1.61	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B12	Bottom of Laptop	0.544	11	-65.7	167.5	-2.33	197.3	0.58	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B12	Bottom of Laptop	0.544	11	-65.7	167.5	-2.33	179.3	1.69	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B12	Bottom of Laptop	0.544	11	-65.7	167.5	-2.33	340.5	1.44	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 10	LTE B12	Bottom of Laptop	1.179	0	-55.9	166.8	-2.76	185.6	1.71	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B12	Bottom of Laptop	1.179	0	-55.9	166.8	-2.76	333.9	2.24	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B12	Bottom of Laptop	1.179	0	-55.9	166.8	-2.76	187.6	1.21	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B12	Bottom of Laptop	1.179	0	-55.9	166.8	-2.76	169.6	2.32	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B12	Bottom of Laptop	1.179	0	-55.9	166.8	-2.76	334.8	2.07	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 11	LTE B12 Ant 2	Bottom of Laptop	0.594	12	-66.7	-166.4	-2.5	345.9	1.13	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B12 Ant 2	Bottom of Laptop	0.594	12	-66.7	-166.4	-2.5	197.2	1.66	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B12 Ant 2	Bottom of Laptop	0.594	12	-66.7	-166.4	-2.5	346.6	0.63	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B12 Ant 2	Bottom of Laptop	0.594	12	-66.7	-166.4	-2.5	343.1	1.74	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B12 Ant 2	Bottom of Laptop	0.594	12	-66.7	-166.4	-2.5	190.0	1.49	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 12	LTE B12 Ant 2	Bottom of Laptop	1.146	0	-60.3	-161.9	-2.06	338.6	1.68	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B12 Ant 2	Bottom of Laptop	1.146	0	-60.3	-161.9	-2.06	189.8	2.21	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B12 Ant 2	Bottom of Laptop	1.146	0	-60.3	-161.9	-2.06	339.3	1.18	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B12 Ant 2	Bottom of Laptop	1.146	0	-60.3	-161.9	-2.06	336.0	2.29	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B12 Ant 2	Bottom of Laptop	1.146	0	-60.3	-161.9	-2.06	182.7	2.04	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 13	LTE B13	Bottom of Laptop	0.982	11	-64.1	166	-2.39	193.4	1.51	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B13	Bottom of Laptop	0.982	11	-64.1	166	-2.39	337.8	2.05	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B13	Bottom of Laptop	0.982	11	-64.1	166	-2.39	195.4	1.02	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B13	Bottom of Laptop	0.982	11	-64.1	166	-2.39	177.4	2.12	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B13	Bottom of Laptop	0.982	11	-64.1	166	-2.39	338.4	1.87	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 14	LTE B13	Bottom of Laptop	1.038	0	-59.1	163.8	-2.77	188.0	1.57	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B13	Bottom of Laptop	1.038	0	-59.1	163.8	-2.77	333.2	2.10	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B13	Bottom of Laptop	1.038	0	-59.1	163.8	-2.77	190.1	1.07	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B13	Bottom of Laptop	1.038	0	-59.1	163.8	-2.77	172.1	2.18	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B13	Bottom of Laptop	1.038	0	-59.1	163.8	-2.77	333.9	1.93	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 15	LTE B13 Ant 2	Bottom of Laptop	0.667	12	-66.5	-165.1	-2.54	344.7	1.20	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B13 Ant 2	Bottom of Laptop	0.667	12	-66.5	-165.1	-2.54	196.6	1.73	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B13 Ant 2	Bottom of Laptop	0.667	12	-66.5	-165.1	-2.54	345.4	0.70	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B13 Ant 2	Bottom of Laptop	0.667	12	-66.5	-165.1	-2.54	341.9	1.81	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B13 Ant 2	Bottom of Laptop	0.667	12	-66.5	-165.1	-2.54	189.5	1.56	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 16	LTE B13 Ant 2	Bottom of Laptop	1.121	0	-60.5	-162	-2.08	338.8	1.65	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B13 Ant 2	Bottom of Laptop	1.121	0	-60.5	-162	-2.08	190.1	2.19	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B13 Ant 2	Bottom of Laptop	1.121	0	-60.5	-162	-2.08	339.5	1.16	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B13 Ant 2	Bottom of Laptop	1.121	0	-60.5	-162	-2.08	336.2	2.26	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B13 Ant 2	Bottom of Laptop	1.121	0	-60.5	-162	-2.08	182.9	2.01	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 17	LTE B14	Bottom of Laptop	0.996	11	-65.7	166	-2.35	194.9	1.53	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B14	Bottom of Laptop	0.996	11	-65.7	166	-2.35	338.7	2.06	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B14	Bottom of Laptop	0.996	11	-65.7	166	-2.35	197.0	1.03	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B14	Bottom of Laptop	0.996	11	-65.7	166	-2.35	179.0	2.14	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B14	Bottom of Laptop	0.996	11	-65.7	166	-2.35	339.3	1.89	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 18	LTE B14	Bottom of Laptop	1.046	0	-59	162.4	-2.75	187.6	1.58	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B14	Bottom of Laptop	1.046	0	-59	162.4	-2.75	331.9	2.11	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B14	Bottom of Laptop	1.046	0	-59	162.4	-2.75	189.7	1.08	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B14	Bottom of Laptop	1.046	0	-59	162.4	-2.75	171.7	2.19	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B14	Bottom of Laptop	1.046	0	-59	162.4	-2.75	332.6	1.94	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 19	LTE B14 Ant 2	Bottom of Laptop	0.647	12	-60.5	-162	-2.08	338.8	1.18	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B14 Ant 2	Bottom of Laptop	0.647	12	-60.5	-162	-2.08	190.1	1.71	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B14 Ant 2	Bottom of Laptop	0.647	12	-60.5	-162	-2.08	339.5	0.68	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B14 Ant 2	Bottom of Laptop	0.647	12	-60.5	-162	-2.08	336.2	1.79	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B14 Ant 2	Bottom of Laptop	0.647	12	-60.5	-162	-2.08	182.9	1.54	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 20	LTE B14 Ant 2	Bottom of Laptop	1.122	0	-66.5	-165.1	-2.54	344.7	1.65	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B14 Ant 2	Bottom of Laptop	1.122	0	-66.5	-165.1	-2.54	196.6	2.19	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B14 Ant 2	Bottom of Laptop	1.122	0	-66.5	-165.1	-2.54	345.4	1.16	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B14 Ant 2	Bottom of Laptop	1.122	0	-66.5	-165.1	-2.54	341.9	2.26	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B14 Ant 2	Bottom of Laptop	1.122	0	-66.5	-165.1	-2.54	189.5	2.01	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 21	LTE B25	Bottom of Laptop	0.98	11	-41.4	159.5	-2.79	169.8	1.51	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B25	Bottom of Laptop	0.98	11	-41.4	159.5	-2.79	320.1	2.05	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B25	Bottom of Laptop	0.98	11	-41.4	159.5	-2.79	171.8	1.02	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B25	Bottom of Laptop	0.98	11	-41.4	159.5	-2.79	153.9	2.12	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B25	Bottom of Laptop	0.98	11	-41.4	159.5	-2.79	321.1	1.87	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 22	LTE B25	Bottom of Laptop	1.055	0	-42.9	155.1	0.98	170.4	1.59	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B25	Bottom of Laptop	1.055	0	-42.9	155.1	0.98	317.1	2.12	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B25	Bottom of Laptop	1.055	0	-42.9	155.1	0.98	172.4	1.09	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B25	Bottom of Laptop	1.055	0	-42.9	155.1	0.98	154.5	2.20	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B25	Bottom of Laptop	1.055	0	-42.9	155.1	0.98	318.1	1.95	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 23	LTE B26	Bottom of Laptop	0.754	11	-64	-164.4	-2.41	342.7	1.29	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B26	Bottom of Laptop	0.754	11	-64	-164.4	-2.41	194.1	1.82	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B26	Bottom of Laptop	0.754	11	-64	-164.4	-2.41	343.5	0.79	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B26	Bottom of Laptop	0.754	11	-64	-164.4	-2.41	340.0	1.90	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B26	Bottom of Laptop	0.754	11	-64	-164.4	-2.41	186.9	1.65	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 24	LTE B26	Bottom of Laptop	1.152	0	-62.1	165.5	-0.74	191.3	1.68	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B26	Bottom of Laptop	1.152	0	-62.1	165.5	-0.74	336.2	2.22	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B26	Bottom of Laptop	1.152	0	-62.1	165.5	-0.74	193.3	1.19	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B26	Bottom of Laptop	1.152	0	-62.1	165.5	-0.74	175.3	2.29	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B26	Bottom of Laptop	1.152	0	-62.1	165.5	-0.74	336.9	2.04	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 25	LTE B26 Ant 2	Bottom of Laptop	0.516	12	-64.9	-165.1	-2.57	343.8	1.05	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B26 Ant 2	Bottom of Laptop	0.516	12	-64.9	-165.1	-2.57	195.1	1.58	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B26 Ant 2	Bottom of Laptop	0.516	12	-64.9	-165.1	-2.57	344.6	0.55	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B26 Ant 2	Bottom of Laptop	0.516	12	-64.9	-165.1	-2.57	341.1	1.66	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B26 Ant 2	Bottom of Laptop	0.516	12	-64.9	-165.1	-2.57	187.9	1.41	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 26	LTE B26 Ant 2	Bottom of Laptop	1.15	0	-60.5	-160.5	-1.05	337.5	1.68	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B26 Ant 2	Bottom of Laptop	1.15	0	-60.5	-160.5	-1.05	189.7	2.22	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B26 Ant 2	Bottom of Laptop	1.15	0	-60.5	-160.5	-1.05	338.3	1.19	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B26 Ant 2	Bottom of Laptop	1.15	0	-60.5	-160.5	-1.05	334.9	2.29	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B26 Ant 2	Bottom of Laptop	1.15	0	-60.5	-160.5	-1.05	182.5	2.04	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 27	LTE B30	Bottom of Laptop	0.696	11	-55.4	147.4	-2.79	181.4	1.23	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B30	Bottom of Laptop	0.696	11	-55.4	147.4	-2.79	317.5	1.76	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B30	Bottom of Laptop	0.696	11	-55.4	147.4	-2.79	183.4	0.73	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B30	Bottom of Laptop	0.696	11	-55.4	147.4	-2.79	165.7	1.84	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B30	Bottom of Laptop	0.696	11	-55.4	147.4	-2.79	318.1	1.59	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 28	LTE B30	Bottom of Laptop	1.015	0	-43.4	157.4	-0.68	171.3	1.55	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B30	Bottom of Laptop	1.015	0	-43.4	157.4	-0.68	319.3	2.08	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B30	Bottom of Laptop	1.015	0	-43.4	157.4	-0.68	173.3	1.05	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B30	Bottom of Laptop	1.015	0	-43.4	157.4	-0.68	155.4	2.16	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B30	Bottom of Laptop	1.015	0	-43.4	157.4	-0.68	320.3	1.91	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 29	LTE B41	Bottom of Laptop	0.403	11	-65	148.8	-2.62	191.1	0.94	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B41	Bottom of Laptop	0.403	11	-65	148.8	-2.62	324.1	1.47	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B41	Bottom of Laptop	0.403	11	-65	148.8	-2.62	193.1	0.44	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B41	Bottom of Laptop	0.403	11	-65	148.8	-2.62	175.4	1.54	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B41	Bottom of Laptop	0.403	11	-65	148.8	-2.62	324.5	1.30	0.00	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 30	LTE B41	Bottom of Laptop	0.898	0	-42.6	152.2	1.57	169.5	1.43	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B41	Bottom of Laptop	0.898	0	-42.6	152.2	1.57	314.5	1.96	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B41	Bottom of Laptop	0.898	0	-42.6	152.2	1.57	171.6	0.93	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B41	Bottom of Laptop	0.898	0	-42.6	152.2	1.57	153.7	2.04	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B41	Bottom of Laptop	0.898	0	-42.6	152.2	1.57	315.4	1.79	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 33	LTE B48 Ant 2	Bottom of Laptop	0.366	12	-48.1	-149	0.11	321.1	0.90	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B48 Ant 2	Bottom of Laptop	0.366	12	-48.1	-149	0.11	175.1	1.43	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B48 Ant 2	Bottom of Laptop	0.366	12	-48.1	-149	0.11	321.9	0.40	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B48 Ant 2	Bottom of Laptop	0.366	12	-48.1	-149	0.11	318.7	1.51	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B48 Ant 2	Bottom of Laptop	0.366	12	-48.1	-149	0.11	168.1	1.26	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 34	LTE B48 Ant 2	Bottom of Laptop	1.148	0	-46.6	-157	0.08	327.1	1.68	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B48 Ant 2	Bottom of Laptop	1.148	0	-46.6	-157	0.08	175.4	2.21	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B48 Ant 2	Bottom of Laptop	1.148	0	-46.6	-157	0.08	327.8	1.18	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B48 Ant 2	Bottom of Laptop	1.148	0	-46.6	-157	0.08	325.0	2.29	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B48 Ant 2	Bottom of Laptop	1.148	0	-46.6	-157	0.08	168.2	2.04	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 35	LTE B66	Bottom of Laptop	1.109	11	-43.3	165.5	-2.61	173.1	1.64	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B66	Bottom of Laptop	1.109	11	-43.3	165.5	-2.61	326.2	2.17	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B66	Bottom of Laptop	1.109	11	-43.3	165.5	-2.61	175.1	1.14	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B66	Bottom of Laptop	1.109	11	-43.3	165.5	-2.61	157.0	2.25	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B66	Bottom of Laptop	1.109	11	-43.3	165.5	-2.61	327.3	2.00	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 36	LTE B66	Bottom of Laptop	1.01	0	-38.6	153.6	-2.88	165.8	1.54	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B66	Bottom of Laptop	1.01	0	-38.6	153.6	-2.88	313.6	2.08	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B66	Bottom of Laptop	1.01	0	-38.6	153.6	-2.88	167.9	1.05	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B66	Bottom of Laptop	1.01	0	-38.6	153.6	-2.88	150.0	2.15	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B66	Bottom of Laptop	1.01	0	-38.6	153.6	-2.88	314.6	1.90	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 37	LTE B71	Bottom of Laptop	0.564	11	-64	165.8	-2.4	193.2	1.10	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B71	Bottom of Laptop	0.564	11	-64	165.8	-2.4	337.5	1.63	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B71	Bottom of Laptop	0.564	11	-64	165.8	-2.4	195.3	0.60	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B71	Bottom of Laptop	0.564	11	-64	165.8	-2.4	177.3	1.71	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B71	Bottom of Laptop	0.564	11	-64	165.8	-2.4	338.2	1.46	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 38	LTE B71	Bottom of Laptop	1.159	0	-52.8	162.3	-1.1	181.5	1.69	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B71	Bottom of Laptop	1.159	0	-52.8	162.3	-1.1	328.5	2.22	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B71	Bottom of Laptop	1.159	0	-52.8	162.3	-1.1	183.6	1.19	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B71	Bottom of Laptop	1.159	0	-52.8	162.3	-1.1	165.6	2.30	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B71	Bottom of Laptop	1.159	0	-52.8	162.3	-1.1	329.3	2.05	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 39	LTE B71 Ant 2	Bottom of Laptop	0.426	12	-66.6	-167.9	-2.49	347.1	0.96	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B71 Ant 2	Bottom of Laptop	0.426	12	-66.6	-167.9	-2.49	197.5	1.49	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B71 Ant 2	Bottom of Laptop	0.426	12	-66.6	-167.9	-2.49	347.8	0.46	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B71 Ant 2	Bottom of Laptop	0.426	12	-66.6	-167.9	-2.49	344.4	1.57	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B71 Ant 2	Bottom of Laptop	0.426	12	-66.6	-167.9	-2.49	190.2	1.32	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 40	LTE B71 Ant 2	Bottom of Laptop	1.152	0	-61.7	-158.8	-0.17	336.8	1.68	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	LTE B71 Ant 2	Bottom of Laptop	1.152	0	-61.7	-158.8	-0.17	190.5	2.22	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	LTE B71 Ant 2	Bottom of Laptop	1.152	0	-61.7	-158.8	-0.17	337.5	1.19	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	LTE B71 Ant 2	Bottom of Laptop	1.152	0	-61.7	-158.8	-0.17	334.0	2.29	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	LTE B71 Ant 2	Bottom of Laptop	1.152	0	-61.7	-158.8	-0.17	183.3	2.04	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 41	FR1 n2	Bottom of Laptop	1.074	11	-40.2	165.5	-2.99	170.1	1.61	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n2	Bottom of Laptop	1.074	11	-40.2	165.5	-2.99	324.7	2.14	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n2	Bottom of Laptop	1.074	11	-40.2	165.5	-2.99	172.1	1.11	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n2	Bottom of Laptop	1.074	11	-40.2	165.5	-2.99	154.0	2.22	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n2	Bottom of Laptop	1.074	11	-40.2	165.5	-2.99	325.8	1.97	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 42	FR1 n2	Bottom of Laptop	1.171	0	-37.2	158.1	1.04	165.4	1.70	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n2	Bottom of Laptop	1.171	0	-37.2	158.1	1.04	316.8	2.24	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n2	Bottom of Laptop	1.171	0	-37.2	158.1	1.04	167.4	1.21	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n2	Bottom of Laptop	1.171	0	-37.2	158.1	1.04	149.4	2.31	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n2	Bottom of Laptop	1.171	0	-37.2	158.1	1.04	317.8	2.06	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 43	FR1 n5	Bottom of Laptop	0.621	11	-71.1	168.5	-2.51	200.8	1.15	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n5	Bottom of Laptop	0.621	11	-71.1	168.5	-2.51	343.8	1.69	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n5	Bottom of Laptop	0.621	11	-71.1	168.5	-2.51	202.8	0.66	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n5	Bottom of Laptop	0.621	11	-71.1	168.5	-2.51	184.8	1.76	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n5	Bottom of Laptop	0.621	11	-71.1	168.5	-2.51	344.3	1.51	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 44	FR1 n5	Bottom of Laptop	1.165	0	-58.4	165.4	-0.46	187.7	1.70	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n5	Bottom of Laptop	1.165	0	-58.4	165.4	-0.46	334.1	2.23	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n5	Bottom of Laptop	1.165	0	-58.4	165.4	-0.46	189.7	1.20	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n5	Bottom of Laptop	1.165	0	-58.4	165.4	-0.46	171.7	2.31	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n5	Bottom of Laptop	1.165	0	-58.4	165.4	-0.46	334.9	2.06	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 45	FR1 n5 Ant 2	Bottom of Laptop	0.419	12	-71.8	-156.7	-2.8	340.7	0.95	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n5 Ant 2	Bottom of Laptop	0.419	12	-71.8	-156.7	-2.8	199.8	1.48	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n5 Ant 2	Bottom of Laptop	0.419	12	-71.8	-156.7	-2.8	341.6	0.45	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n5 Ant 2	Bottom of Laptop	0.419	12	-71.8	-156.7	-2.8	337.5	1.56	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n5 Ant 2	Bottom of Laptop	0.419	12	-71.8	-156.7	-2.8	192.8	1.31	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 46	FR1 n5 Ant 2	Bottom of Laptop	1.179	0	-61.5	-155.1	-1.12	333.6	1.71	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n5 Ant 2	Bottom of Laptop	1.179	0	-61.5	-155.1	-1.12	189.4	2.24	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n5 Ant 2	Bottom of Laptop	1.179	0	-61.5	-155.1	-1.12	334.4	1.21	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n5 Ant 2	Bottom of Laptop	1.179	0	-61.5	-155.1	-1.12	330.8	2.32	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n5 Ant 2	Bottom of Laptop	1.179	0	-61.5	-155.1	-1.12	182.4	2.07	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 47	FR1 n41	Bottom of Laptop	0.976	11	-62.2	155.4	-2.81	189.4	1.51	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n41	Bottom of Laptop	0.976	11	-62.2	155.4	-2.81	327.9	2.04	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n41	Bottom of Laptop	0.976	11	-62.2	155.4	-2.81	191.4	1.01	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n41	Bottom of Laptop	0.976	11	-62.2	155.4	-2.81	173.6	2.12	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n41	Bottom of Laptop	0.976	11	-62.2	155.4	-2.81	328.5	1.87	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 48	FR1 n41	Bottom of Laptop	1.178	0	-41.8	154.2	1.16	169.1	1.71	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n41	Bottom of Laptop	1.178	0	-41.8	154.2	1.16	315.8	2.24	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n41	Bottom of Laptop	1.178	0	-41.8	154.2	1.16	171.1	1.21	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n41	Bottom of Laptop	1.178	0	-41.8	154.2	1.16	153.2	2.32	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n41	Bottom of Laptop	1.178	0	-41.8	154.2	1.16	316.7	2.07	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 49	FR1 n41 Ant 2	Bottom of Laptop	0.689	12	-59.4	-139.4	-3.17	319.4	1.22	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n41 Ant 2	Bottom of Laptop	0.689	12	-59.4	-139.4	-3.17	184.7	1.75	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n41 Ant 2	Bottom of Laptop	0.689	12	-59.4	-139.4	-3.17	320.3	0.72	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n41 Ant 2	Bottom of Laptop	0.689	12	-59.4	-139.4	-3.17	316.3	1.83	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n41 Ant 2	Bottom of Laptop	0.689	12	-59.4	-139.4	-3.17	177.9	1.58	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 50	FR1 n41 Ant 2	Bottom of Laptop	1.167	0	-70.8	-143.4	0.22	329.3	1.70	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n41 Ant 2	Bottom of Laptop	1.167	0	-70.8	-143.4	0.22	196.5	2.23	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n41 Ant 2	Bottom of Laptop	1.167	0	-70.8	-143.4	0.22	330.2	1.20	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n41 Ant 2	Bottom of Laptop	1.167	0	-70.8	-143.4	0.22	325.8	2.31	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n41 Ant 2	Bottom of Laptop	1.167	0	-70.8	-143.4	0.22	189.7	2.06	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 51	FR1 n66	Bottom of Laptop	0.618	11	-48.1	160.9	-2.95	176.6	1.15	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n66	Bottom of Laptop	0.618	11	-48.1	160.9	-2.95	324.8	1.68	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n66	Bottom of Laptop	0.618	11	-48.1	160.9	-2.95	178.7	0.65	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n66	Bottom of Laptop	0.618	11	-48.1	160.9	-2.95	160.7	1.76	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n66	Bottom of Laptop	0.618	11	-48.1	160.9	-2.95	325.7	1.51	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 52	FR1 n66	Bottom of Laptop	1.178	0	-38.8	156.6	1.05	166.6	1.71	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n66	Bottom of Laptop	1.178	0	-38.8	156.6	1.05	316.3	2.24	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n66	Bottom of Laptop	1.178	0	-38.8	156.6	1.05	168.7	1.21	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n66	Bottom of Laptop	1.178	0	-38.8	156.6	1.05	150.7	2.32	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n66	Bottom of Laptop	1.178	0	-38.8	156.6	1.05	317.3	2.07	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 53	FR1 n71	Bottom of Laptop	0.624	11	-64.6	169.2	-2.61	194.6	1.16	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n71	Bottom of Laptop	0.624	11	-64.6	169.2	-2.61	340.7	1.69	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n71	Bottom of Laptop	0.624	11	-64.6	169.2	-2.61	196.7	0.66	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n71	Bottom of Laptop	0.624	11	-64.6	169.2	-2.61	178.6	1.77	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n71	Bottom of Laptop	0.624	11	-64.6	169.2	-2.61	341.4	1.52	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 54	FR1 n71	Bottom of Laptop	1.173	0	-56.9	166.5	0.88	186.5	1.71	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n71	Bottom of Laptop	1.173	0	-56.9	166.5	0.88	334.2	2.24	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n71	Bottom of Laptop	1.173	0	-56.9	166.5	0.88	188.5	1.21	0.01	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n71	Bottom of Laptop	1.173	0	-56.9	166.5	0.88	170.5	2.31	0.02	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n71	Bottom of Laptop	1.173	0	-56.9	166.5	0.88	335.0	2.07	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 55	FR1 n71 Ant 2	Bottom of Laptop	0.458	12	-72.6	-160.9	-2.72	344.6	0.99	0.00	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n71 Ant 2	Bottom of Laptop	0.458	12	-72.6	-160.9	-2.72	201.5	1.52	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n71 Ant 2	Bottom of Laptop	0.458	12	-72.6	-160.9	-2.72	345.4	0.49	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n71 Ant 2	Bottom of Laptop	0.458	12	-72.6	-160.9	-2.72	341.5	1.60	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n71 Ant 2	Bottom of Laptop	0.458	12	-72.6	-160.9	-2.72	194.5	1.35	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 56	FR1 n71 Ant 2	Bottom of Laptop	1.167	0	-58.6	-156.5	0.08	333.1	1.70	0.01	Not required
	2.4G Ant 2		0.532	0	124.2	122	-1.16				
	FR1 n71 Ant 2	Bottom of Laptop	1.167	0	-58.6	-156.5	0.08	186.9	2.23	0.02	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	236.8	1.60	0.01	Not required
	2.4G Ant 1		1.065	0	123.6	-114.8	-1.16				
	FR1 n71 Ant 2	Bottom of Laptop	1.167	0	-58.6	-156.5	0.08	333.9	1.20	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	236.4	1.10	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	FR1 n71 Ant 2	Bottom of Laptop	1.167	0	-58.6	-156.5	0.08	330.5	2.31	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	FR1 n71 Ant 2	Bottom of Laptop	1.167	0	-58.6	-156.5	0.08	179.8	2.06	0.02	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 2	Bottom of Laptop	1.141	0	109.2	128.2	0.51	247.9	2.03	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				
	5G Ant 1	Bottom of Laptop	0.892	0	117.4	-119.6	-0.04	241.4	0.93	0.00	Not required
	BT Ant 2		0.035	0	126.2	121.6	-0.59				
	2.4G Ant 1	Bottom of Laptop	1.065	0	123.6	-114.8	-1.16	243.4	2.21	0.01	Not required
	5G Ant 2		1.141	0	109.2	128.2	0.51				
	2.4G Ant 2	Bottom of Laptop	0.532	0	124.2	122	-1.16	241.7	1.42	0.01	Not required
	5G Ant 1		0.892	0	117.4	-119.6	-0.04				

Test Engineer： Lemon Su and Mood Huang

18. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.
Declaration of Conformity:
The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

19. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] SPEAG DASY System Handbook

[5] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[6] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[7] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[8] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[9] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

[10] FCC KDB 616217 D04 v01r02, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, Oct 2015

[11] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[12] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.