



FCC SAR TEST REPORT

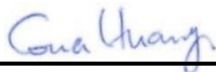
FCC ID : EJE-EM7455D1
Equipment : LTE Module
Brand Name : Sierra Wireless Inc.
Model Name : EM7455
Applicant : FUJITSU CLIENT COMPUTING LIMITED
1-1, Kamikodanaka 4-chome, Nakahara-ku,
Kawasaki, 211-8588 Japan
Manufacturer : FUJITSU CLIENT COMPUTING LIMITED
1-1, Kamikodanaka 4-chome, Nakahara-ku,
Kawasaki, 211-8588 Japan
Standard : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013

The product was installed into Tablet PC (Brand Name FUJITSU, Model Name: T939,) during test.

The product was received on Jan. 03, 2019 and testing was started from Jan. 17, 2019 and completed on Jan. 23, 2019. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this variant 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

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Table of Contents

1. Statement of Compliance 4

2. Guidance Applied..... 4

3. Equipment Under Test (EUT) Information 5

 3.1 General Information 5

 3.2 General LTE SAR Test and Reporting Considerations 7

4. RF Exposure Limits..... 9

 4.1 Uncontrolled Environment..... 9

 4.2 Controlled Environment..... 9

5. Specific Absorption Rate (SAR).....10

 5.1 Introduction10

 5.2 SAR Definition.....10

6. System Description and Setup11

 6.1 E-Field Probe12

 6.2 Data Acquisition Electronics (DAE)12

 6.3 Phantom.....13

 6.4 Device Holder.....14

7. Measurement Procedures15

 7.1 Spatial Peak SAR Evaluation15

 7.2 Power Reference Measurement.....16

 7.3 Area Scan16

 7.4 Zoom Scan.....17

 7.5 Volume Scan Procedures.....17

 7.6 Power Drift Monitoring.....17

8. Test Equipment List18

9. System Verification19

 9.1 Tissue Simulating Liquids.....19

 9.2 Tissue Verification20

 9.3 System Performance Check Results.....21

10. RF Exposure Positions21

 10.1 SAR Testing for Tablet.....21

11. Conducted RF Output Power (Unit: dBm).....22

12. Antenna Location59

13. SAR Test Results61

 13.1 Body SAR61

 13.2 Repeated SAR Measurement63

14. Simultaneous Transmission Analysis64

 14.1 Body Exposure Conditions65

 14.2 SPLSR Evaluation and Analysis.....67

15. Uncertainty Assessment79

16. References79

Appendix A. Plots of System Performance Check

Appendix B. Plots of High SAR Measurement

Appendix C. DASYS Calibration Certificate

Appendix D. Test Setup Photos



History of this test report

Report No.	Version	Description	Issued Date
FA8D3109-01	01	Initial issue of report	Mar. 27, 2019



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for FUJITSU CLIENT COMPUTING LIMITED, LTE Module, EM7455, are as follows.

Table with 4 columns: Equipment Class, Frequency Band, Highest SAR Summary (Body, 1g SAR (W/kg)), and Highest Simultaneous Transmission (1g SAR (W/kg)). Rows include WCDMA II-IV, LTE Bands 4, 7, 12, 13, 2/25, 5/26, and 41. The highest SAR value is 1.40 W/kg for LTE Band 12.

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. 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: Wan Liu

2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- 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



3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	LTE Module
Brand Name	Sierra Wireless Inc.
Model Name	EM7455
FCC ID	EJE-EM7455D1
S/N	CCAI15Z10160T0
Wireless Technology and Frequency Range	WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 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 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 41: 2496 MHz ~ 2690 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM
EUT Stage	Pre-Production Unit
Remark:	
<ol style="list-style-type: none"> The WWAN module will be integrated into below host (FCC ID: EJE-WB0108, Fujitsu, T939), and below host is the same FCC ID: EJE-WB0101, sporton report no: FA6O1408 (Fujitsu, T937), the two hosts which the WWAN module, WLAN/WWAN antenna, housing, component layout are the same, only difference is the WLAN module is change from Intel 8265NGW to Intel 9560NGW, P-sensor chip also change from IQS263 to IQS231A and the CMU platform is changed, The test result in this report is spot check worst case according to FCC ID: EJE-EM7455D1, Sporton report no.: FA6O1408-01 to check the above change was not impact RF exposure compliance, for this report also the WWAN DPR level and the P-sensor trigger distance was not changed, please refer to P-sensor operation description for the detail. 	

Host Information	
Equipment Name	Tablet PC
Brand Name	FUJITSU
Model Name	T939
FCC ID	EJE-WB0108
Integrated WLAN Module	Brand Name: Intel Model Name: 9560NGW
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE

WWAN Antenna Information			
Manufacturer	NISSEI ELECTRIC CO. LTD.	Main Antenna Peak gain(dBi)	WCDMA Band II: -2.23 WCDMA Band IV:-2.68 WCDMA Band V: -3.13 LTE Band 2: -2.23 LTE Band 4: -2.68 LTE Band 5: -3.13 LTE Band 7: -3.06 LTE Band 12: -3.70 LTE Band 13: -2.55 LTE Band 25: -2.23 LTE Band 26: -3.13 LTE Band 41: -3.06
P/N	CP699195	Type	Monopole
Manufacturer	NISSEI ELECTRIC CO. LTD.	Aux Antenna Peak gain(dBi)	WCDMA Band II: -2.28 WCDMA Band IV: -2.49 WCDMA Band V: -2.76 LTE Band 2: -2.28 LTE Band 4: -2.49 LTE Band 5: -2.76 LTE Band 7: -6.31 LTE Band 12: -8.13 LTE Band 13: -2.77 LTE Band 25: -2.28 LTE Band 26: -2.76 LTE Band 41: -6.31
P/N	CP699194	Type	PIFA

WLAN Antenna Information								
Manufacturer	NISSEI ELECTRIC CO., LTD.							
Antenna Type	PIFA Antenna							
Part No.	CP699192							
Peak gain	Main Antenna :				Aux Antenna :			
	2400~2483.5MHz	0.11dBi	5470~5725MHz	1.61dBi	2400~2483.5MHz	-0.56dBi	5470~5725MHz	-0.85dBi
	5150~5250MHz	2.31dBi	5725~5850MHz	2.08dBi	5150~5250MHz	-0.92dBi	5725~5850MHz	-0.83dBi
	5250~5350MHz	2.99dBi			5250~5350MHz	-0.68dBi		



3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																		
FCC ID	EJE-EM7455D1																																																	
Equipment Name	LTE Module																																																	
Operating Frequency Range of each LTE transmission band	LTE Band 02: 1850 MHz ~ 1910 MHz LTE Band 04: 1710 MHz ~ 1755 MHz LTE Band 05: 824 MHz ~ 849 MHz LTE Band 07: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 41: 2496 MHz ~ 2690 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 25: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz																																																	
uplink modulations used	QPSK, and 16QAM																																																	
LTE Voice / Data requirements	Data only																																																	
LTE MPR permanently built-in by design	<p style="text-align: center;">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>QPSK</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>> 5</td> <td>> 4</td> <td>> 8</td> <td>> 12</td> <td>> 16</td> <td>> 18</td> <td>≤ 2</td> </tr> </tbody> </table>												Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)																																											
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																												
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																											
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																											
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																											
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 verification please referred to FCC ID: EJE-EN7455D1, Sporton Report FA6O1408-01, page66.																																																	
LTE Carrier Aggregation Additional Information	This device does not support full CA features on 3GPP Release 10. It supports a maximum of 2 carriers in the downlink only. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. Due to carrier capability, only the combinations listed above are supported. The following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICl, 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		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	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844				
LTE Band 7																
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 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	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560				
LTE Band 12																
	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	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711				
LTE Band 13																
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz				Bandwidth 20 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782		23230		782	
M	23230		782		23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782		23230		782	
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		Bandwidth 20 MHz					
	Ch. #	Freq. (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	26765	821.5				
M	26865	831.5	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	26965	841.5				
LTE Band 41																
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 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	39675	2498.5	39700	2501	39725	2503.5	39750	2506	39750	2506	39750	2506				
L	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5	40185	2549.5	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593	40620	2593	40620	2593				
H	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5	41055	2636.5	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680	41490	2680	41490	2680				



4. RF Exposure Limits

4.1 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.

4.2 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.



5. Specific Absorption Rate (SAR)

5.1 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.

5.2 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:

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

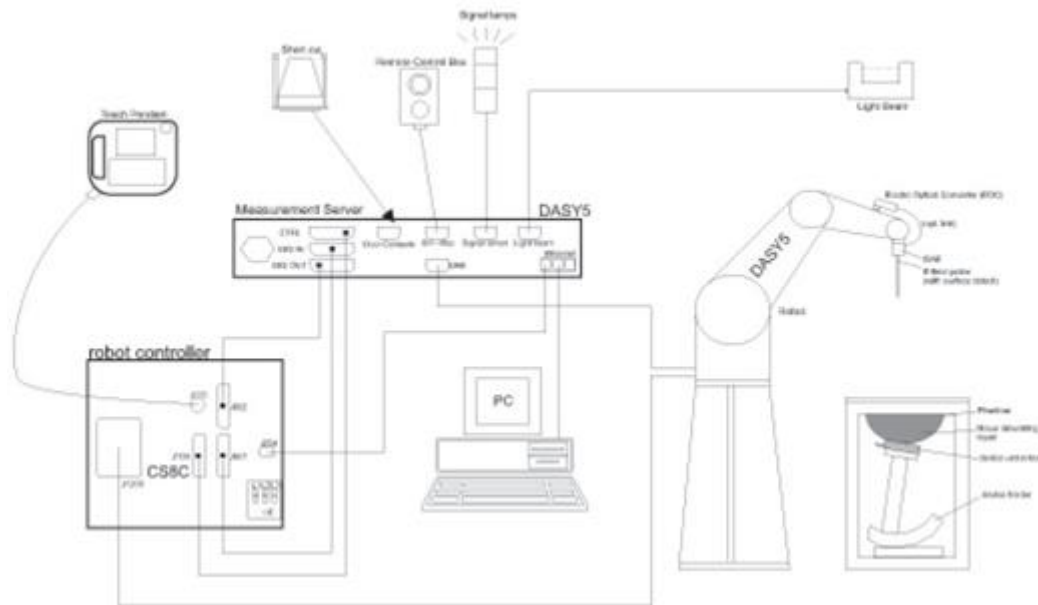
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

6. 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.


6.1 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 μ W/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 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/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	

6.2 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


6.3 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.

6.4 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

7. 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

7.1 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 from 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



7.2 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.

7.3 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 dB) 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ 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.	

7.4 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: $\Delta x_{Zoom}, \Delta y_{Zoom}$		≤ 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 1 st 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 <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> 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.				

7.5 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.

7.6 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.



8. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	Sep. 05, 2018	Sep. 04, 2019
SPEAG	835MHz System Validation Kit	D835V2	499	Sep. 06, 2018	Sep. 05, 2019
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 19, 2018	Nov. 18, 2019
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Sep. 11, 2018	Sep. 10, 2019
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 31, 2018	Aug. 30, 2019
SPEAG	Data Acquisition Electronics	DAE4	1399	Nov. 16, 2018	Nov. 15, 2019
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Sep. 27, 2018	Sep. 26, 2019
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2018	Nov. 11, 2019
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Apr. 17, 2018	Apr. 16, 2019
Agilent	Wireless Communication Test Set	E5515C	MY50266977	May. 21, 2018	May. 20, 2019
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Dec. 11, 2018	Dec. 10, 2019
Agilent	ENA Network Analyzer	E5071C	MY46104758	Sep. 19, 2018	Sep. 18, 2019
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 19, 2018	Sep. 18, 2019
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3169	Sep. 11, 2018	Sep. 10, 2019
Anritsu	Power Meter	ML2495A	1419002	May. 18, 2018	May. 17, 2019
Anritsu	Power Sensor	MA2411B	1339124	May. 18, 2018	May. 17, 2019
Anritsu	Power Meter	ML2495A	1240001	Sep. 13, 2018	Sep. 12, 2019
Anritsu	Power Sensor	MA2411B	1207349	Sep. 13, 2018	Sep. 12, 2019
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 28, 2018	Aug. 27, 2019
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 23, 2018	Jun. 22, 2019
Mini-Circuits	Power Amplifier	ZVE-8G+	6382	Aug. 09, 2018	Aug. 08, 2019
Mini-Circuits	Power Amplifier	ZHL-42W+	15542	Aug. 09, 2018	Aug. 08, 2019
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.

9. System Verification

9.1 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.

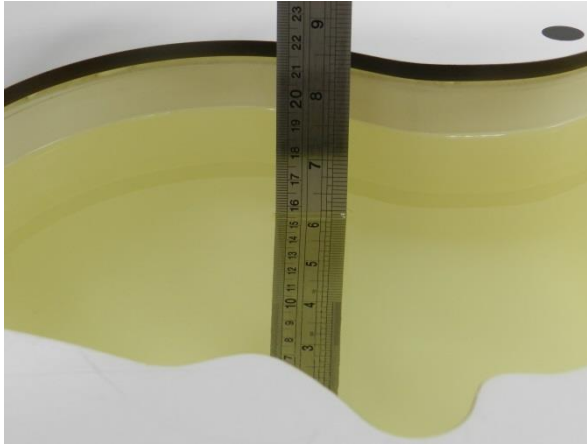


Fig 10.1 Photo of Liquid Height for Head SAR

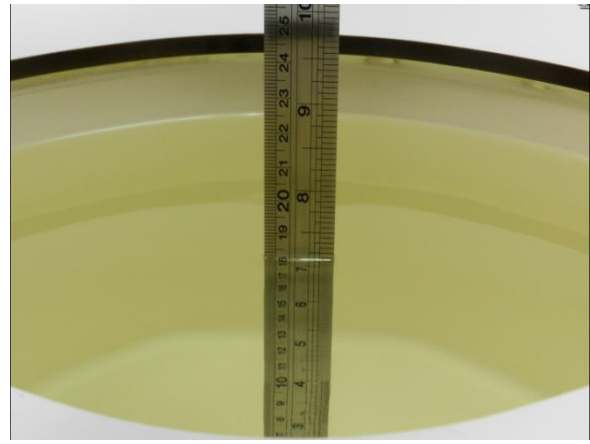


Fig 10.2 Photo of Liquid Height for Body SAR

9.2 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 (ϵ_r)
For Head								
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
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

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)	Tissue Type	Liquid Temp. ($^{\circ}$ C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	MSL	22.4	0.963	54.264	0.96	55.50	0.31	-2.23	± 5	2019/1/17
750	MSL	22.6	0.969	55.292	0.96	55.50	0.94	-0.37	± 5	2019/1/23
835	MSL	22.4	1.013	56.678	0.97	55.20	4.43	2.68	± 5	2019/1/17
1750	MSL	22.4	1.527	54.161	1.49	53.40	2.48	1.43	± 5	2019/1/17
1900	MSL	22.4	1.559	51.910	1.52	53.30	2.57	-2.61	± 5	2019/1/17
2600	MSL	22.3	2.234	51.728	2.16	52.50	3.43	-1.47	± 5	2019/1/17

9.3 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)	Tissue Type	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 (%)
2019/1/17	750	MSL	250	D750V3-1012	EX3DV4 - SN3931	DAE4 Sn1399	2.32	8.76	9.28	5.94
2019/1/23	750	MSL	250	D750V3-1012	EX3DV4 - SN3931	DAE4 Sn1399	2.33	8.76	9.32	6.39
2019/1/17	835	MSL	250	D835V2-499	EX3DV4 - SN3931	DAE4 Sn1399	2.67	9.82	10.68	8.76
2019/1/17	1750	MSL	250	D1750V2-1068	EX3DV4 - SN3931	DAE4 Sn1399	9.89	37.00	39.56	6.92
2019/1/17	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN3931	DAE4 Sn1399	10.70	40.20	42.8	6.47
2019/1/17	2600	MSL	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	14.20	55.30	56.8	2.71

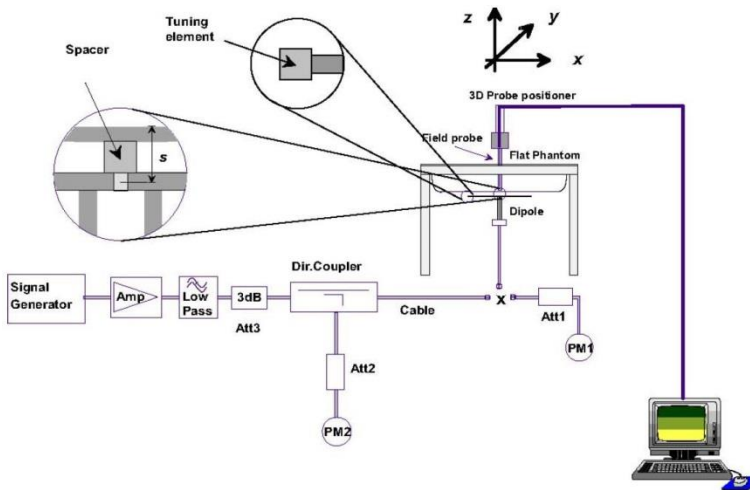


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

10. RF Exposure Positions

10.1 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.



11. Conducted RF Output Power (Unit: dBm)

<WCDMA Conducted Power>

<Default Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938	1537	1638	1738	4357	4407	4458			
Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6			
3GPP Rel 99	RMC 12.2Kbps	22.97	22.84	22.88	24.00	23.05	23.12	23.15	24.00	22.36	22.46	22.51	24.00
3GPP Rel 6	HSDPA Subtest-1	22.91	22.73	22.86	24.00	22.35	22.45	22.64	24.00	22.15	22.22	22.01	24.00
3GPP Rel 6	HSDPA Subtest-2	22.86	22.88	22.95	24.00	22.26	22.50	22.71	24.00	22.05	22.27	21.97	24.00
3GPP Rel 6	HSDPA Subtest-3	22.35	22.47	22.52	23.50	21.80	21.92	22.22	23.50	21.54	21.66	21.65	23.50
3GPP Rel 6	HSDPA Subtest-4	22.27	22.45	22.43	23.50	21.76	21.98	22.14	23.50	21.57	21.80	21.68	23.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.87	22.80	22.93	24.00	22.18	22.38	22.60	24.00	21.99	22.27	22.03	24.00
3GPP Rel 8	DC-HSDPA Subtest-2	22.84	22.87	22.88	24.00	22.21	22.34	22.67	24.00	22.00	22.15	21.97	24.00
3GPP Rel 8	DC-HSDPA Subtest-3	22.32	22.29	22.38	23.50	21.67	21.79	22.02	23.50	21.60	21.61	21.59	23.50
3GPP Rel 8	DC-HSDPA Subtest-4	22.36	22.34	22.31	23.50	21.72	21.93	22.07	23.50	21.52	21.62	21.60	23.50
3GPP Rel 6	HSUPA Subtest-1	22.86	22.76	22.63	24.00	22.00	22.10	22.05	24.00	22.06	22.10	22.09	24.00
3GPP Rel 6	HSUPA Subtest-2	21.79	21.81	21.86	22.00	21.05	21.17	21.17	22.00	20.75	20.83	20.84	22.00
3GPP Rel 6	HSUPA Subtest-3	21.89	21.91	21.80	23.00	21.05	21.31	21.33	23.00	21.16	21.19	21.04	23.00
3GPP Rel 6	HSUPA Subtest-4	21.72	21.71	21.58	22.00	21.23	21.41	21.31	22.00	20.93	21.25	20.93	22.00
3GPP Rel 6	HSUPA Subtest-5	22.70	22.92	22.94	24.00	22.23	22.39	22.69	24.00	22.06	22.25	22.14	24.00

<Reduced Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938	1537	1638	1738	4357	4407	4458			
Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6	826.4	836.4	846.6			
3GPP Rel 99	RMC 12.2Kbps	18.65	18.59	18.63	19.50	19.36	19.40	19.61	20.00	21.58	21.67	21.85	22.50
3GPP Rel 6	HSDPA Subtest-1	18.55	18.56	18.18	19.50	19.34	19.31	19.54	20.00	21.50	21.66	21.80	22.50
3GPP Rel 6	HSDPA Subtest-2	18.59	18.49	18.12	19.50	19.24	19.25	19.49	20.00	21.44	21.71	21.80	22.50
3GPP Rel 6	HSDPA Subtest-3	18.18	18.12	17.79	19.00	18.86	18.83	19.06	19.50	21.01	21.17	21.31	22.00
3GPP Rel 6	HSDPA Subtest-4	18.08	18.09	17.71	19.00	18.76	18.77	19.01	19.50	20.95	21.22	21.31	22.00
3GPP Rel 8	DC-HSDPA Subtest-1	18.58	18.56	18.20	19.50	19.33	19.33	19.47	20.00	21.46	21.75	21.77	22.50
3GPP Rel 8	DC-HSDPA Subtest-2	18.50	18.50	18.15	19.50	19.18	19.19	19.41	20.00	21.52	21.61	21.73	22.50
3GPP Rel 8	DC-HSDPA Subtest-3	18.13	18.02	17.76	19.00	18.80	18.80	18.94	19.50	21.10	21.18	21.38	22.00
3GPP Rel 8	DC-HSDPA Subtest-4	18.04	18.07	17.67	19.00	18.65	18.66	18.88	19.50	21.02	21.22	21.34	22.00
3GPP Rel 6	HSUPA Subtest-1	18.49	18.46	18.12	19.50	19.28	19.39	19.51	20.00	21.55	21.57	21.76	22.50
3GPP Rel 6	HSUPA Subtest-2	16.60	16.57	16.23	17.50	17.20	17.31	17.43	18.00	19.06	19.08	19.27	20.50
3GPP Rel 6	HSUPA Subtest-3	17.54	17.51	17.17	18.50	18.26	18.37	18.49	19.00	20.12	20.14	20.33	21.50
3GPP Rel 6	HSUPA Subtest-4	16.57	16.51	16.17	17.50	17.12	17.36	17.35	18.00	19.05	19.16	19.28	20.50
3GPP Rel 6	HSUPA Subtest-5	18.67	18.57	18.30	19.50	19.36	19.30	19.54	20.00	21.58	21.62	21.79	22.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	16.10	16.04	15.71	17.00	16.90	16.84	17.08	17.50	19.07	19.16	19.30	20.00



<LTE Conducted Power>

<Default Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	22.36	22.34	22.29	24	0
20	QPSK	1	49	22.43	22.49	22.25		
20	QPSK	1	99	22.08	22.20	22.01		
20	QPSK	50	0	21.36	21.34	21.29	23	1
20	QPSK	50	24	21.43	21.49	21.25		
20	QPSK	50	50	21.08	21.20	21.01		
20	QPSK	100	0	21.34	21.35	21.28	23	1
20	16QAM	1	0	21.27	21.36	21.33		
20	16QAM	1	49	21.43	21.41	21.27		
20	16QAM	1	99	21.01	21.28	21.06	22	2
20	16QAM	50	0	20.27	20.42	20.29		
20	16QAM	50	24	20.36	20.42	20.16		
20	16QAM	50	50	20.05	20.28	20.07	22	2
20	16QAM	100	0	20.27	20.32	20.31		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	22.26	22.24	22.19	24	0
15	QPSK	1	37	22.33	22.39	22.15		
15	QPSK	1	74	22.21	22.10	22.30		
15	QPSK	36	0	21.90	21.24	21.19	23	1
15	QPSK	36	20	21.33	21.39	21.15		
15	QPSK	36	39	21.52	21.10	21.35		
15	QPSK	75	0	21.24	21.25	21.18	23	1
15	16QAM	1	0	21.17	21.26	21.23		
15	16QAM	1	37	21.33	21.31	21.17		
15	16QAM	1	74	21.22	21.18	21.23	22	2
15	16QAM	36	0	20.31	20.52	20.19		
15	16QAM	36	20	20.37	20.41	20.17		
15	16QAM	36	39	20.05	20.29	20.11	22	2
15	16QAM	75	0	20.17	20.24	20.22		
Channel				18650	18900	19150		
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.18	22.22	22.27	24	0
10	QPSK	1	25	22.26	22.47	22.22		
10	QPSK	1	49	22.26	22.16	22.32		
10	QPSK	25	0	21.92	21.24	21.17	23	1
10	QPSK	25	12	21.42	21.34	21.05		
10	QPSK	25	25	21.59	21.13	21.27		
10	QPSK	50	0	21.16	21.34	21.15	23	1
10	16QAM	1	0	21.17	21.32	21.29		
10	16QAM	1	25	21.37	21.37	21.17		
10	16QAM	1	49	21.22	21.19	21.28	22	2
10	16QAM	25	0	20.23	20.47	20.23		
10	16QAM	25	12	20.43	20.44	20.12		
10	16QAM	25	25	20.11	20.27	20.02	22	2
10	16QAM	50	0	20.37	20.26	20.26		



FCC SAR TEST REPORT

Report No. : FA8D3109-01

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.27	22.28	22.33	24	0
5	QPSK	1	12	22.28	22.32	22.16		
5	QPSK	1	24	22.35	22.21	22.23		
5	QPSK	12	0	21.86	21.25	21.15	23	1
5	QPSK	12	7	21.36	21.39	21.04		
5	QPSK	12	13	21.65	21.19	21.31		
5	QPSK	25	0	21.13	21.27	21.17	23	1
5	16QAM	1	0	21.27	21.36	21.22		
5	16QAM	1	12	21.32	21.27	21.12		
5	16QAM	1	24	21.24	21.11	21.18	22	2
5	16QAM	12	0	20.21	20.45	20.20		
5	16QAM	12	7	20.44	20.37	20.22		
5	16QAM	12	13	20.00	20.31	20.08	22	2
5	16QAM	12	13	20.00	20.31	20.08		
5	16QAM	25	0	20.17	20.26	20.26		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.18	22.25	22.34	24	0
3	QPSK	1	8	22.24	22.38	22.25		
3	QPSK	1	14	22.37	22.36	22.22		
3	QPSK	8	0	21.84	21.20	21.15	23	1
3	QPSK	8	4	21.43	21.47	20.96		
3	QPSK	8	7	21.57	21.21	21.31		
3	QPSK	15	0	21.06	21.23	21.23	23	1
3	16QAM	1	0	21.28	21.44	21.15		
3	16QAM	1	8	21.39	21.17	21.16		
3	16QAM	1	14	21.34	21.04	21.25	22	2
3	16QAM	8	0	20.26	20.52	20.22		
3	16QAM	8	4	20.31	20.52	20.13		
3	16QAM	8	7	20.09	20.33	20.10	22	2
3	16QAM	8	7	20.09	20.33	20.10		
3	16QAM	15	0	20.18	20.27	20.29		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.21	22.34	22.38	24	0
1.4	QPSK	1	3	22.23	22.36	22.30		
1.4	QPSK	1	5	22.47	22.36	22.27		
1.4	QPSK	3	0	21.74	21.16	21.10	23	1
1.4	QPSK	3	1	21.51	21.55	21.04		
1.4	QPSK	3	3	21.63	21.11	21.33		
1.4	QPSK	6	0	21.10	21.23	21.13	23	1
1.4	16QAM	1	0	21.36	21.36	21.23		
1.4	16QAM	1	3	21.41	21.07	21.16		
1.4	16QAM	1	5	21.27	21.07	21.20	23	1
1.4	16QAM	3	0	21.26	21.26	21.13		
1.4	16QAM	3	1	21.31	21.20	21.06		
1.4	16QAM	3	3	21.17	21.12	21.10	22	2
1.4	16QAM	3	3	21.17	21.12	21.10		
1.4	16QAM	6	0	20.31	20.52	20.13		



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	22.55	22.43	22.68	24	0
20	QPSK	1	49	22.64	22.60	22.66		
20	QPSK	1	99	22.39	22.21	22.36		
20	QPSK	50	0	21.36	21.43	21.21	23	1
20	QPSK	50	24	21.49	21.44	21.35		
20	QPSK	50	50	21.10	21.23	21.23		
20	QPSK	100	0	21.33	21.36	21.29		
20	16QAM	1	0	21.32	21.40	21.29	23	1
20	16QAM	1	49	21.53	21.33	21.31		
20	16QAM	1	99	21.33	21.18	21.10		
20	16QAM	50	0	20.50	20.44	20.28	22	2
20	16QAM	50	24	20.40	20.40	20.08		
20	16QAM	50	50	20.14	20.37	20.14		
20	16QAM	100	0	20.23	20.35	20.24		
Channel				20025	20175	20325		
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.47	22.34	22.59	24	0
15	QPSK	1	37	22.62	22.51	22.60		
15	QPSK	1	74	22.34	22.21	22.36		
15	QPSK	36	0	21.29	21.36	21.12	23	1
15	QPSK	36	20	21.39	21.34	21.29		
15	QPSK	36	39	21.05	21.20	21.20		
15	QPSK	75	0	21.30	21.27	21.20		
15	16QAM	1	0	21.25	21.38	21.21	23	1
15	16QAM	1	37	21.53	21.27	21.30		
15	16QAM	1	74	21.30	21.17	21.00		
15	16QAM	36	0	20.41	20.43	20.23	22	2
15	16QAM	36	20	20.39	20.32	20.04		
15	16QAM	36	39	20.08	20.32	20.10		
15	16QAM	75	0	20.19	20.33	20.19		
Channel				20000	20175	20350		
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.44	22.41	22.64	24	0
10	QPSK	1	25	22.59	22.46	22.59		
10	QPSK	1	49	22.30	22.08	22.22		
10	QPSK	25	0	21.25	21.29	21.08	23	1
10	QPSK	25	12	21.44	21.43	21.26		
10	QPSK	25	25	21.06	21.12	21.09		
10	QPSK	50	0	21.17	21.23	21.11		
10	16QAM	1	0	21.15	21.33	21.14	23	1
10	16QAM	1	25	21.39	21.25	21.25		
10	16QAM	1	49	21.24	21.04	20.96		
10	16QAM	25	0	20.39	20.30	20.19	22	2
10	16QAM	25	12	20.29	20.36	20.03		
10	16QAM	25	25	20.12	20.34	20.10		
10	16QAM	50	0	20.17	20.28	20.16		



Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.33	22.26	22.59	24	0
5	QPSK	1	12	22.50	22.48	22.46		
5	QPSK	1	24	22.23	22.05	22.22		
5	QPSK	12	0	21.17	21.26	21.08	23	1
5	QPSK	12	7	21.32	21.22	21.19		
5	QPSK	12	13	21.23	21.16	21.20		
5	QPSK	25	0	21.28	21.24	21.14	23	1
5	16QAM	1	0	21.18	21.28	21.15		
5	16QAM	1	12	21.33	21.16	21.12		
5	16QAM	1	24	21.24	21.20	21.20	22	2
5	16QAM	12	0	20.37	20.35	20.12		
5	16QAM	12	7	20.32	20.32	20.00		
5	16QAM	12	13	20.03	20.30	20.05	22	2
5	16QAM	12	13	20.03	20.30	20.05		
5	16QAM	25	0	20.03	20.23	20.16		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.33	22.16	22.37	24	0
3	QPSK	1	8	22.43	22.53	22.44		
3	QPSK	1	14	22.26	22.08	22.17		
3	QPSK	8	0	21.16	21.26	20.97	23	1
3	QPSK	8	4	21.22	21.26	21.12		
3	QPSK	8	7	21.19	20.99	21.16		
3	QPSK	15	0	21.16	21.15	20.99	23	1
3	16QAM	1	0	21.13	21.19	21.15		
3	16QAM	1	8	21.46	21.18	21.13		
3	16QAM	1	14	21.11	21.14	21.15	22	2
3	16QAM	8	0	20.26	20.34	20.18		
3	16QAM	8	4	20.20	20.20	19.92		
3	16QAM	8	7	19.79	20.16	19.86	22	2
3	16QAM	8	7	19.79	20.16	19.86		
3	16QAM	15	0	20.08	20.14	19.97	22	2
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.31	22.12	22.35	24	0
1.4	QPSK	1	3	22.42	22.46	22.52		
1.4	QPSK	1	5	22.15	22.02	22.19		
1.4	QPSK	3	0	22.18	21.99	22.22		
1.4	QPSK	3	1	22.29	22.33	22.39		
1.4	QPSK	3	3	22.02	21.89	22.06	23	1
1.4	QPSK	6	0	21.29	21.33	21.39	23	1
1.4	16QAM	1	0	21.29	21.23	21.37	23	1
1.4	16QAM	1	3	21.26	21.15	21.29		
1.4	16QAM	1	5	21.23	21.10	21.20		
1.4	16QAM	3	0	21.19	21.02	21.13		
1.4	16QAM	3	1	21.17	21.20	21.05		
1.4	16QAM	3	3	21.09	21.15	21.03	22	2
1.4	16QAM	3	3	21.09	21.15	21.03		
1.4	16QAM	6	0	20.00	20.16	20.36	22	2



<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.46	22.56	22.63		
10	QPSK	1	25	22.62	22.56	22.60	24	0
10	QPSK	1	49	22.31	22.29	22.43		
10	QPSK	25	0	21.41	21.50	21.14		
10	QPSK	25	12	21.56	21.41	21.30	23	1
10	QPSK	25	25	21.18	21.13	21.18		
10	QPSK	50	0	21.25	21.30	21.21		
10	16QAM	1	0	21.35	21.43	21.37	23	1
10	16QAM	1	25	21.44	21.30	21.23		
10	16QAM	1	49	21.37	21.16	21.09		
10	16QAM	25	0	20.45	20.35	20.31	22	2
10	16QAM	25	12	20.40	20.35	20.00		
10	16QAM	25	25	20.10	20.45	20.13		
10	16QAM	50	0	20.18	20.26	20.31		
Channel				20425	20525	20625		
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.43	22.46	22.59		
5	QPSK	1	12	22.59	22.49	22.57	24	0
5	QPSK	1	24	22.24	22.21	22.41		
5	QPSK	12	0	21.35	21.43	21.13		
5	QPSK	12	7	21.52	21.34	21.21	23	1
5	QPSK	12	13	21.15	21.03	21.18		
5	QPSK	25	0	21.20	21.29	21.11		
5	16QAM	1	0	21.27	21.39	21.37	23	1
5	16QAM	1	12	21.37	21.22	21.23		
5	16QAM	1	24	21.27	21.10	21.02		
5	16QAM	12	0	20.37	20.30	20.26	22	2
5	16QAM	12	7	20.39	20.30	20.20		
5	16QAM	12	13	20.09	20.41	20.12		
5	16QAM	25	0	20.08	20.17	20.29		
Channel				20415	20525	20635		
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.29	22.42	22.57		
3	QPSK	1	8	22.52	22.49	22.50	24	0
3	QPSK	1	14	22.21	22.23	22.36		
3	QPSK	8	0	21.36	21.41	21.09		
3	QPSK	8	4	21.43	21.31	21.20	23	1
3	QPSK	8	7	21.09	21.22	21.03		
3	QPSK	15	0	21.10	21.15	21.12		
3	16QAM	1	0	21.30	21.38	21.23	23	1
3	16QAM	1	8	21.32	21.16	21.12		
3	16QAM	1	14	21.19	21.06	21.31		
3	16QAM	8	0	20.30	20.23	20.17	22	2
3	16QAM	8	4	20.21	20.21	20.12		
3	16QAM	8	7	20.01	20.35	20.05		
3	16QAM	15	0	20.09	20.25	20.18		



Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.30	22.04	22.28	24	0
1.4	QPSK	1	3	22.42	22.46	22.43		
1.4	QPSK	1	5	22.06	21.94	22.16		
1.4	QPSK	3	0	22.12	21.97	22.15		
1.4	QPSK	3	1	22.22	22.31	22.38		
1.4	QPSK	3	3	22.24	22.32	22.05		
1.4	QPSK	6	0	21.25	21.26	21.37	23	1
1.4	16QAM	1	0	21.28	21.14	21.36	23	1
1.4	16QAM	1	3	21.16	21.13	21.28		
1.4	16QAM	1	5	21.17	21.10	21.16		
1.4	16QAM	3	0	21.10	21.02	21.05		
1.4	16QAM	3	1	21.07	21.12	21.01		
1.4	16QAM	3	3	21.09	21.15	20.99		
1.4	16QAM	6	0	20.27	20.16	20.28	22	2



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	21.41	21.35	21.09		
20	QPSK	1	49	21.35	21.30	21.18	23	0
20	QPSK	1	99	21.25	21.29	21.13		
20	QPSK	50	0	20.41	20.35	20.09		
20	QPSK	50	24	20.35	20.30	20.18	22	1
20	QPSK	50	50	20.25	20.29	20.13		
20	QPSK	100	0	20.20	20.23	20.19		
20	16QAM	1	0	20.36	20.37	20.18	22	1
20	16QAM	1	49	20.42	20.30	20.22		
20	16QAM	1	99	20.30	20.32	20.07		
20	16QAM	50	0	19.41	19.35	19.09	21	2
20	16QAM	50	24	19.35	19.30	19.18		
20	16QAM	50	50	19.25	19.29	19.13		
20	16QAM	100	0	19.20	19.23	19.19		
Channel				20825	21100	21375		
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	21.39	21.25	21.08		
15	QPSK	1	37	21.30	21.30	21.13	23	0
15	QPSK	1	74	21.21	21.21	21.06		
15	QPSK	36	0	20.34	20.29	20.02		
15	QPSK	36	20	20.27	20.21	20.16	22	1
15	QPSK	36	39	20.21	20.27	20.03		
15	QPSK	75	0	20.15	20.19	20.18		
15	16QAM	1	0	20.31	20.33	20.16	22	1
15	16QAM	1	37	20.40	20.29	20.17		
15	16QAM	1	74	20.25	20.30	20.03		
15	16QAM	36	0	19.31	19.32	19.05	21	2
15	16QAM	36	20	19.28	19.23	19.11		
15	16QAM	36	39	19.16	19.27	19.06		
15	16QAM	75	0	19.19	19.17	19.12		
Channel				20800	21100	21400		
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	21.38	21.15	21.05		
10	QPSK	1	25	21.22	21.30	21.12	23	0
10	QPSK	1	49	21.15	21.19	21.06		
10	QPSK	25	0	20.25	20.23	20.36		
10	QPSK	25	12	20.24	20.11	20.12	22	1
10	QPSK	25	25	20.15	20.21	20.02		
10	QPSK	50	0	20.14	20.12	20.16		
10	16QAM	1	0	20.29	20.26	20.13	22	1
10	16QAM	1	25	20.37	20.20	20.08		
10	16QAM	1	49	20.20	20.28	20.13		
10	16QAM	25	0	19.22	19.31	19.20	21	2
10	16QAM	25	12	19.18	19.18	19.11		
10	16QAM	25	25	19.08	19.22	19.01		
10	16QAM	50	0	19.16	19.17	19.05		



Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	21.30	21.05	21.20	23	0
5	QPSK	1	12	21.18	21.30	21.13		
5	QPSK	1	24	21.13	21.18	21.05		
5	QPSK	12	0	20.17	20.21	20.21	22	1
5	QPSK	12	7	20.14	20.11	20.02		
5	QPSK	12	13	20.14	20.18	20.01		
5	QPSK	25	0	20.12	20.08	20.07		
5	16QAM	1	0	20.25	20.25	20.06	22	1
5	16QAM	1	12	20.37	20.16	20.01		
5	16QAM	1	24	20.12	20.19	20.13		
5	16QAM	12	0	19.19	19.21	19.10	21	2
5	16QAM	12	7	19.09	19.16	19.01		
5	16QAM	12	13	19.06	19.13	19.21		
5	16QAM	25	0	19.10	19.15	19.23		



<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		0
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	22.88	22.73	22.81		
10	QPSK	1	25	22.52	22.46	22.54	24	0
10	QPSK	1	49	22.25	22.26	22.42		
10	QPSK	25	0	21.49	21.42	21.23		
10	QPSK	25	12	21.54	21.43	21.27	23	1
10	QPSK	25	25	21.27	21.03	21.10		
10	QPSK	50	0	21.20	21.20	21.24		
10	16QAM	1	0	21.29	21.34	21.41	23	1
10	16QAM	1	25	21.39	21.30	21.15		
10	16QAM	1	49	21.42	21.25	21.03		
10	16QAM	25	0	20.46	20.40	20.35	22	2
10	16QAM	25	12	20.34	20.34	20.03		
10	16QAM	25	25	20.20	20.52	20.04		
10	16QAM	50	0	20.09	20.24	20.29		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	22.82	22.66	22.81		
5	QPSK	1	12	22.47	22.43	22.49	24	0
5	QPSK	1	24	22.24	22.17	22.34		
5	QPSK	12	0	21.42	21.37	21.23		
5	QPSK	12	7	21.46	21.38	21.26	23	1
5	QPSK	12	13	21.23	21.03	21.01		
5	QPSK	25	0	21.18	21.12	21.23		
5	16QAM	1	0	21.24	21.25	21.32	23	1
5	16QAM	1	12	21.33	21.20	21.11		
5	16QAM	1	24	21.37	21.21	21.25		
5	16QAM	12	0	20.41	20.40	20.25	22	2
5	16QAM	12	7	20.33	20.27	20.23		
5	16QAM	12	13	20.16	20.50	20.13		
5	16QAM	25	0	20.02	20.20	20.24		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	22.79	22.57	22.67		
3	QPSK	1	8	22.41	22.42	22.50	24	0
3	QPSK	1	14	22.13	22.06	22.37		
3	QPSK	8	0	21.38	21.31	21.17		
3	QPSK	8	4	21.40	21.38	21.13	23	1
3	QPSK	8	7	21.09	21.13	21.01		
3	QPSK	15	0	21.11	21.11	21.09		
3	16QAM	1	0	21.19	21.29	21.28	23	1
3	16QAM	1	8	21.26	21.12	21.06		
3	16QAM	1	14	21.31	21.15	21.17		
3	16QAM	8	0	20.43	20.27	20.22	22	2
3	16QAM	8	4	20.24	20.24	20.22		
3	16QAM	8	7	20.17	20.50	20.05		
3	16QAM	15	0	20.07	20.06	20.20		



Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.24	22.09	22.36	24	0
1.4	QPSK	1	3	22.42	22.36	22.38		
1.4	QPSK	1	5	22.10	21.85	22.09		
1.4	QPSK	3	0	22.07	22.05	22.13		
1.4	QPSK	3	1	22.17	22.29	22.33		
1.4	QPSK	3	3	22.16	22.23	22.04		
1.4	QPSK	6	0	21.33	21.32	21.45	23	1
1.4	16QAM	1	0	21.31	21.16	21.31	23	1
1.4	16QAM	1	3	21.12	21.23	21.30		
1.4	16QAM	1	5	21.24	21.18	21.26		
1.4	16QAM	3	0	21.11	21.08	21.00		
1.4	16QAM	3	1	21.12	21.20	21.14		
1.4	16QAM	3	3	21.16	21.11	21.05		
1.4	16QAM	6	0	20.23	20.11	20.24	22	2



<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		22.78		24	0
10	QPSK	1	25		22.86			
10	QPSK	1	49		22.61			
10	QPSK	25	0		21.74		23	1
10	QPSK	25	12		21.82			
10	QPSK	25	25		21.65			
10	QPSK	50	0		21.67		23	1
10	16QAM	1	0		21.66			
10	16QAM	1	25		21.55			
10	16QAM	1	49		21.57		22	2
10	16QAM	25	0		20.56			
10	16QAM	25	12		20.58			
10	16QAM	25	25		20.72		22	2
10	16QAM	50	0		20.64			
Channel				23205	23230	23255		
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.86	22.73	22.71	24	0
5	QPSK	1	12	22.48	22.34	22.42		
5	QPSK	1	24	22.25	22.21	22.29		
5	QPSK	12	0	21.32	21.30	21.30	23	1
5	QPSK	12	7	21.51	21.40	21.35		
5	QPSK	12	13	21.14	21.09	21.11		
5	QPSK	25	0	21.23	21.12	21.14	23	1
5	16QAM	1	0	21.28	21.15	21.28		
5	16QAM	1	12	21.41	21.24	21.15		
5	16QAM	1	24	21.30	21.24	21.25	22	2
5	16QAM	12	0	20.45	20.46	20.33		
5	16QAM	12	7	20.41	20.29	20.31		
5	16QAM	12	13	20.14	20.50	20.16	22	2
5	16QAM	25	0	20.10	20.11	20.18		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	22.57	22.54	22.48	24	0
20	QPSK	1	49	22.53	22.42	22.56		
20	QPSK	1	99	22.25	22.31	22.47		
20	QPSK	50	0	21.41	21.49	21.27	23	1
20	QPSK	50	24	21.53	21.45	21.31		
20	QPSK	50	50	21.36	21.07	21.17		
20	QPSK	100	0	21.14	21.12	21.21		
20	16QAM	1	0	21.27	21.44	21.35	23	1
20	16QAM	1	49	21.46	21.36	21.21		
20	16QAM	1	99	21.44	21.18	21.13		
20	16QAM	50	0	20.44	20.44	20.41	22	2
20	16QAM	50	24	20.42	20.26	20.22		
20	16QAM	50	50	20.12	20.47	20.13		
20	16QAM	100	0	20.02	20.34	20.31		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	22.47	22.44	22.46	24	0
15	QPSK	1	37	22.48	22.35	22.53		
15	QPSK	1	74	22.25	22.25	22.40		
15	QPSK	36	0	21.41	21.43	21.21	23	1
15	QPSK	36	20	21.48	21.43	21.22		
15	QPSK	36	39	21.26	21.02	21.17		
15	QPSK	75	0	21.11	21.10	21.12		
15	16QAM	1	0	21.26	21.38	21.30	23	1
15	16QAM	1	37	21.38	21.30	21.19		
15	16QAM	1	74	21.40	21.14	21.06		
15	16QAM	36	0	20.37	20.40	20.36	22	2
15	16QAM	36	20	20.41	20.21	20.13		
15	16QAM	36	39	20.11	20.43	20.05		
15	16QAM	75	0	20.26	20.24	20.25		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	22.43	22.38	22.30	24	0
10	QPSK	1	25	22.40	22.25	22.48		
10	QPSK	1	49	22.24	22.23	22.41		
10	QPSK	25	0	21.32	21.45	21.19	23	1
10	QPSK	25	12	21.44	21.39	21.25		
10	QPSK	25	25	21.21	21.03	21.08		
10	QPSK	50	0	21.02	21.00	21.15		
10	16QAM	1	0	21.12	21.25	21.22	23	1
10	16QAM	1	25	21.35	21.23	21.09		
10	16QAM	1	49	21.37	21.03	21.04		
10	16QAM	25	0	20.31	20.32	20.34	22	2
10	16QAM	25	12	20.29	20.17	20.15		
10	16QAM	25	25	20.06	20.37	20.24		
10	16QAM	50	0	20.23	20.23	20.24		



FCC SAR TEST REPORT

Report No. : FA8D3109-01

Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	22.36	22.34	22.26	24	0
5	QPSK	1	12	22.34	22.20	22.45		
5	QPSK	1	24	22.04	22.27	22.30		
5	QPSK	12	0	21.23	21.41	21.09	23	1
5	QPSK	12	7	21.36	21.31	21.19		
5	QPSK	12	13	21.20	21.18	21.08		
5	QPSK	25	0	21.19	21.18	21.10	23	1
5	16QAM	1	0	21.03	21.27	21.23		
5	16QAM	1	12	21.32	21.19	21.23		
5	16QAM	1	24	21.17	21.07	21.23	22	2
5	16QAM	12	0	20.23	20.38	20.25		
5	16QAM	12	7	20.23	20.13	20.05		
5	16QAM	12	13	20.07	20.32	20.31	22	2
5	16QAM	25	0	20.18	20.23	20.10		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.32	22.35	22.36	24	0
3	QPSK	1	8	22.33	22.26	22.29		
3	QPSK	1	14	21.93	22.00	22.32		
3	QPSK	8	0	21.30	21.27	21.05	23	1
3	QPSK	8	4	21.29	21.09	21.08		
3	QPSK	8	7	21.17	21.18	21.18		
3	QPSK	15	0	21.16	21.19	21.18	23	1
3	16QAM	1	0	21.06	21.19	21.18		
3	16QAM	1	8	21.25	21.18	21.17		
3	16QAM	1	14	21.27	21.08	21.15	22	2
3	16QAM	8	0	20.30	20.29	20.19		
3	16QAM	8	4	20.24	20.07	20.00		
3	16QAM	8	7	20.12	20.25	20.21	22	2
3	16QAM	15	0	20.16	20.18	20.05		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	22.16	22.01	22.31	24	0
1.4	QPSK	1	3	22.35	22.36	22.38		
1.4	QPSK	1	5	22.04	22.28	22.01		
1.4	QPSK	3	0	22.07	22.00	22.06		
1.4	QPSK	3	1	22.10	22.28	22.27		
1.4	QPSK	3	3	22.13	22.22	22.01	23	1
1.4	QPSK	6	0	21.31	21.29	21.38		
1.4	16QAM	1	0	21.21	21.15	21.24	23	1
1.4	16QAM	1	3	21.11	21.16	21.25		
1.4	16QAM	1	5	21.22	21.11	21.23		
1.4	16QAM	3	0	21.03	21.03	21.11		
1.4	16QAM	3	1	21.06	21.15	21.06		
1.4	16QAM	3	3	21.14	21.09	21.05		
1.4	16QAM	6	0	20.17	20.03	20.14	22	2



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	22.31	22.19	22.27		
15	QPSK	1	37	22.29	22.18	22.20	24	0
15	QPSK	1	74	22.29	22.16	22.10		
15	QPSK	36	0	21.47	21.36	21.38		
15	QPSK	36	20	21.41	21.33	21.35	23	1
15	QPSK	36	39	21.40	21.27	21.27		
15	QPSK	75	0	21.31	21.20	21.26		
15	16QAM	1	0	21.44	21.44	21.47	23	1
15	16QAM	1	37	21.39	21.38	21.40		
15	16QAM	1	74	21.38	21.34	21.19		
15	16QAM	36	0	20.31	20.20	20.22	22	2
15	16QAM	36	20	20.25	20.17	20.19		
15	16QAM	36	39	20.24	20.11	20.11		
15	16QAM	75	0	20.15	20.04	20.10		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	22.26	22.10	22.20	24	0
10	QPSK	1	25	22.24	22.08	22.14		
10	QPSK	1	49	22.20	22.12	22.04		
10	QPSK	25	0	21.41	21.31	21.36	23	1
10	QPSK	25	12	21.33	21.23	21.31		
10	QPSK	25	25	21.33	21.20	21.27		
10	QPSK	50	0	21.26	21.11	21.18	23	1
10	16QAM	1	0	21.40	21.38	21.45		
10	16QAM	1	25	21.33	21.30	21.39		
10	16QAM	1	49	21.37	21.33	21.17	22	2
10	16QAM	25	0	20.21	20.12	20.17		
10	16QAM	25	12	20.17	20.13	20.18		
10	16QAM	25	25	20.23	20.10	20.08		
10	16QAM	50	0	20.14	20.00	20.05		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	22.12	22.15	22.19	24	0
5	QPSK	1	12	22.23	22.14	22.09		
5	QPSK	1	24	22.23	22.09	22.02		
5	QPSK	12	0	21.38	21.26	21.29	23	1
5	QPSK	12	7	21.32	21.22	21.29		
5	QPSK	12	13	21.32	21.14	21.10		
5	QPSK	25	0	21.22	21.17	21.20	23	1
5	16QAM	1	0	21.38	21.39	21.34		
5	16QAM	1	12	21.26	21.24	21.33		
5	16QAM	1	24	21.32	21.27	21.10	22	2
5	16QAM	12	0	20.18	20.12	20.06		
5	16QAM	12	7	20.10	20.09	20.05		
5	16QAM	12	13	20.15	20.04	20.12		
5	16QAM	25	0	20.01	20.11	20.01		



Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	22.17	22.09	22.13	24	0
3	QPSK	1	8	22.10	22.20	22.07		
3	QPSK	1	14	22.10	22.03	22.16		
3	QPSK	8	0	21.40	21.19	21.14	23	1
3	QPSK	8	4	21.31	21.22	21.22		
3	QPSK	8	7	21.23	21.12	21.21		
3	QPSK	15	0	21.24	21.05	21.07		
3	16QAM	1	0	21.25	21.33	21.37	23	1
3	16QAM	1	8	21.21	21.20	21.20		
3	16QAM	1	14	21.18	21.18	21.01		
3	16QAM	8	0	20.23	20.19	20.06	22	2
3	16QAM	8	4	20.08	20.00	20.09		
3	16QAM	8	7	20.10	20.14	20.13		
3	16QAM	15	0	20.02	20.17	20.17		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	22.26	22.21	22.49	24	0
1.4	QPSK	1	3	22.52	22.46	22.58		
1.4	QPSK	1	5	22.20	22.39	22.20		
1.4	QPSK	3	0	22.27	22.16	22.24		
1.4	QPSK	3	1	22.30	22.38	22.39		
1.4	QPSK	3	3	22.33	22.42	22.20		
1.4	QPSK	6	0	21.44	21.42	21.53	23	1
1.4	16QAM	1	0	21.38	21.35	21.44	23	1
1.4	16QAM	1	3	21.29	21.30	21.38		
1.4	16QAM	1	5	21.35	21.27	21.38		
1.4	16QAM	3	0	21.14	21.19	21.21		
1.4	16QAM	3	1	21.23	21.26	21.25		
1.4	16QAM	3	3	21.29	21.29	21.23		
1.4	16QAM	6	0	20.34	20.23	20.33	22	2



<Reduced Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	18.58	18.61	18.40	19.5	0
20	QPSK	1	49	18.52	18.53	18.34		
20	QPSK	1	99	18.47	18.53	18.24		
20	QPSK	50	0	18.44	18.43	18.22	19.5	0
20	QPSK	50	24	18.40	18.37	18.19		
20	QPSK	50	50	18.35	18.31	18.16		
20	QPSK	100	0	18.32	18.26	18.10		
20	16QAM	1	0	18.54	18.53	18.39	19.5	0
20	16QAM	1	49	18.42	18.53	18.25		
20	16QAM	1	99	18.40	18.50	18.21		
20	16QAM	50	0	18.39	18.34	18.20	19.5	0
20	16QAM	50	24	18.34	18.34	18.09		
20	16QAM	50	50	18.31	18.24	18.06		
20	16QAM	100	0	18.27	18.26	18.08		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	18.58	18.54	18.37	19.5	0
15	QPSK	1	37	18.49	18.47	18.27		
15	QPSK	1	74	18.47	18.43	18.21		
15	QPSK	36	0	18.35	18.33	18.21	19.5	0
15	QPSK	36	20	18.35	18.31	18.12		
15	QPSK	36	39	18.34	18.27	18.16		
15	QPSK	75	0	18.27	18.23	18.10		
15	16QAM	1	0	18.48	18.46	18.34	19.5	0
15	16QAM	1	37	18.35	18.43	18.18		
15	16QAM	1	74	18.35	18.50	18.14		
15	16QAM	36	0	18.33	18.33	18.12	19.5	0
15	16QAM	36	20	18.25	18.24	18.04		
15	16QAM	36	39	18.30	18.22	18.05		
15	16QAM	75	0	18.22	18.24	18.04		
Channel				18650	18900	19150		
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	18.48	18.46	18.35	19.5	0
10	QPSK	1	25	18.45	18.40	18.20		
10	QPSK	1	49	18.47	18.36	18.20		
10	QPSK	25	0	18.26	18.32	18.21	19.5	0
10	QPSK	25	12	18.27	18.24	18.12		
10	QPSK	25	25	18.33	18.17	18.07		
10	QPSK	50	0	18.23	18.15	18.03		
10	16QAM	1	0	18.41	18.36	18.33	19.5	0
10	16QAM	1	25	18.34	18.36	18.10		
10	16QAM	1	49	18.35	18.49	18.10		
10	16QAM	25	0	18.27	18.25	18.09	19.5	0
10	16QAM	25	12	18.15	18.15	17.95		
10	16QAM	25	25	18.25	18.18	18.04		
10	16QAM	50	0	18.18	18.21	18.03		



FCC SAR TEST REPORT

Report No. : FA8D3109-01

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	18.43	18.43	18.28	19.5	0
5	QPSK	1	12	18.45	18.35	18.12		
5	QPSK	1	24	18.44	18.34	18.19		
5	QPSK	12	0	18.18	18.31	18.15	19.5	0
5	QPSK	12	7	18.17	18.18	18.03		
5	QPSK	12	13	18.23	18.15	18.05		
5	QPSK	25	0	18.19	18.05	17.94		
5	16QAM	1	0	18.37	18.30	18.29	19.5	0
5	16QAM	1	12	18.31	18.29	18.07		
5	16QAM	1	24	18.26	18.42	18.07		
5	16QAM	12	0	18.23	18.22	17.99	19.5	0
5	16QAM	12	7	18.06	18.15	17.94		
5	16QAM	12	13	18.21	18.10	18.00		
5	16QAM	25	0	18.10	18.13	18.00		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	18.33	18.43	18.22	19.5	0
3	QPSK	1	8	18.36	18.32	18.12		
3	QPSK	1	14	18.43	18.30	18.16		
3	QPSK	8	0	18.09	18.30	18.11	19.5	0
3	QPSK	8	4	18.13	18.15	17.93		
3	QPSK	8	7	18.21	18.10	17.98		
3	QPSK	15	0	18.19	18.01	17.86		
3	16QAM	1	0	18.32	18.30	18.23	19.5	0
3	16QAM	1	8	18.24	18.25	18.02		
3	16QAM	1	14	18.20	18.32	18.05		
3	16QAM	8	0	18.16	18.12	17.99	19.5	0
3	16QAM	8	4	17.98	18.14	17.89		
3	16QAM	8	7	18.14	18.06	17.91		
3	16QAM	15	0	18.07	18.12	17.98		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	18.31	18.38	18.21	19.5	0
1.4	QPSK	1	3	18.26	18.32	18.07		
1.4	QPSK	1	5	18.41	18.27	18.11		
1.4	QPSK	3	0	17.99	18.21	18.03		
1.4	QPSK	3	1	18.07	18.09	17.85		
1.4	QPSK	3	3	18.18	18.08	17.92		
1.4	QPSK	6	0	18.17	17.91	17.77	19.5	0
1.4	16QAM	1	0	18.22	18.20	18.16	19.5	0
1.4	16QAM	1	3	18.22	18.18	18.01		
1.4	16QAM	1	5	18.16	18.30	18.00		
1.4	16QAM	3	0	18.13	18.04	17.95		
1.4	16QAM	3	1	17.98	18.07	17.88		
1.4	16QAM	3	3	18.10	18.01	17.86		
1.4	16QAM	6	0	17.99	18.06	17.91	19.5	0



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	19.59	19.71	19.75	20	0
20	QPSK	1	49	19.59	19.60	19.71		
20	QPSK	1	99	19.50	19.52	19.70		
20	QPSK	50	0	19.40	19.48	19.70	20	0
20	QPSK	50	24	19.47	19.45	19.67		
20	QPSK	50	50	19.31	19.41	19.61		
20	QPSK	100	0	19.44	19.41	19.59		
20	16QAM	1	0	19.24	19.34	19.51	20	0
20	16QAM	1	49	19.37	19.39	19.56		
20	16QAM	1	99	19.17	19.24	19.42		
20	16QAM	50	0	19.28	19.38	19.48	20	0
20	16QAM	50	24	19.10	19.20	19.38		
20	16QAM	50	50	19.21	19.34	19.39		
20	16QAM	100	0	19.10	19.15	19.30		
Channel				20025	20175	20325		
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	19.54	19.58	19.73	20	0
15	QPSK	1	37	19.53	19.58	19.71		
15	QPSK	1	74	19.46	19.43	19.69		
15	QPSK	36	0	19.40	19.47	19.70	20	0
15	QPSK	36	20	19.38	19.36	19.67		
15	QPSK	36	39	19.25	19.31	19.58		
15	QPSK	75	0	19.37	19.35	19.56		
15	16QAM	1	0	19.20	19.33	19.45	20	0
15	16QAM	1	37	19.28	19.38	19.56		
15	16QAM	1	74	19.11	19.17	19.32		
15	16QAM	36	0	19.27	19.34	19.48	20	0
15	16QAM	36	20	19.00	19.16	19.36		
15	16QAM	36	39	19.21	19.27	19.38		
15	16QAM	75	0	19.08	19.11	19.21		
Channel				20000	20175	20350		
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	19.52	19.58	19.62	20	0
10	QPSK	1	25	19.45	19.46	19.65		
10	QPSK	1	49	19.43	19.44	19.63		
10	QPSK	25	0	19.29	19.31	19.62	20	0
10	QPSK	25	12	19.30	19.35	19.57		
10	QPSK	25	25	19.31	19.39	19.55		
10	QPSK	50	0	19.39	19.26	19.45		
10	16QAM	1	0	19.07	19.22	19.41	20	0
10	16QAM	1	25	19.20	19.28	19.46		
10	16QAM	1	49	19.08	19.18	19.32		
10	16QAM	25	0	19.15	19.23	19.28	20	0
10	16QAM	25	12	18.96	19.17	19.26		
10	16QAM	25	25	19.08	19.26	19.29		
10	16QAM	50	0	18.92	19.08	19.27		



Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	19.47	19.52	19.58	20	0
5	QPSK	1	12	19.39	19.40	19.58		
5	QPSK	1	24	19.41	19.32	19.63		
5	QPSK	12	0	19.19	19.44	19.44	20	0
5	QPSK	12	7	19.27	19.31	19.52		
5	QPSK	12	13	19.21	19.20	19.45		
5	QPSK	25	0	19.36	19.30	19.37	20	0
5	16QAM	1	0	19.07	19.21	19.28		
5	16QAM	1	12	19.10	19.30	19.35		
5	16QAM	1	24	19.06	19.11	19.27	20	0
5	16QAM	12	0	19.14	19.18	19.38		
5	16QAM	12	7	18.83	18.95	19.24		
5	16QAM	12	13	19.08	19.09	19.29	20	0
5	16QAM	25	0	18.88	18.98	19.11		
Channel				19965	20175	20385		
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	19.46	19.41	19.62	20	0
3	QPSK	1	8	19.41	19.28	19.50		
3	QPSK	1	14	19.27	19.43	19.59		
3	QPSK	8	0	19.22	19.28	19.47	20	0
3	QPSK	8	4	19.29	19.22	19.48		
3	QPSK	8	7	19.07	19.27	19.39		
3	QPSK	15	0	19.22	19.17	19.41	20	0
3	16QAM	1	0	19.01	19.09	19.36		
3	16QAM	1	8	19.17	19.22	19.36		
3	16QAM	1	14	18.86	18.91	19.08	20	0
3	16QAM	8	0	19.06	19.24	19.20		
3	16QAM	8	4	18.97	18.95	19.20		
3	16QAM	8	7	19.00	19.11	19.28	20	0
3	16QAM	15	0	18.89	18.91	19.17		
Channel				19957	20175	20393		
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	19.30	19.50	19.67	20	0
1.4	QPSK	1	3	19.46	19.34	19.40		
1.4	QPSK	1	5	19.23	19.26	19.55		
1.4	QPSK	3	0	19.07	19.20	19.38	20	0
1.4	QPSK	3	1	19.18	19.20	19.34		
1.4	QPSK	3	3	19.02	19.15	19.31		
1.4	QPSK	6	0	19.27	19.06	19.32	20	0
1.4	16QAM	1	0	19.06	19.00	19.32	20	0
1.4	16QAM	1	3	19.09	19.17	19.39		
1.4	16QAM	1	5	18.97	19.05	19.13		
1.4	16QAM	3	0	19.05	19.23	19.14	20	0
1.4	16QAM	3	1	18.92	19.01	19.08		
1.4	16QAM	3	3	18.92	19.06	19.23		
1.4	16QAM	6	0	18.97	18.90	18.94	20	0



<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600	22.5	0
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	21.60	21.67	21.80		
10	QPSK	1	25	21.51	21.57	21.79	22.5	0
10	QPSK	1	49	21.58	21.65	21.74		
10	QPSK	25	0	21.52	21.65	21.78		
10	QPSK	25	12	21.55	21.67	21.71	22.5	0
10	QPSK	25	25	21.53	21.64	21.76		
10	QPSK	50	0	21.54	21.62	21.52		
10	16QAM	1	0	21.41	21.51	21.75	22.5	0
10	16QAM	1	25	21.56	21.65	21.66		
10	16QAM	1	49	21.48	21.62	21.77		
10	16QAM	25	0	21.52	21.58	21.64	22.5	0
10	16QAM	25	12	21.48	21.60	21.75		
10	16QAM	25	25	21.47	21.55	21.74		
10	16QAM	50	0	21.36	21.41	21.68	22.5	0
Channel				20425	20525	20625		
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	21.54	21.62	21.72	22.5	0
5	QPSK	1	12	21.46	21.52	21.71		
5	QPSK	1	24	21.56	21.55	21.71		
5	QPSK	12	0	21.50	21.63	21.72	22.5	0
5	QPSK	12	7	21.46	21.60	21.70		
5	QPSK	12	13	21.50	21.63	21.72		
5	QPSK	25	0	21.48	21.61	21.50	22.5	0
5	16QAM	1	0	21.31	21.49	21.70		
5	16QAM	1	12	21.46	21.55	21.57		
5	16QAM	1	24	21.44	21.61	21.69	22.5	0
5	16QAM	12	0	21.47	21.50	21.60		
5	16QAM	12	7	21.44	21.55	21.73		
5	16QAM	12	13	21.40	21.48	21.69	22.5	0
5	16QAM	12	13	21.40	21.48	21.69		
5	16QAM	25	0	21.32	21.40	21.61		
Channel				20415	20525	20635	22.5	0
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	21.53	21.57	21.71		
3	QPSK	1	8	21.40	21.41	21.76	22.5	0
3	QPSK	1	14	21.44	21.50	21.68		
3	QPSK	8	0	21.43	21.49	21.58		
3	QPSK	8	4	21.50	21.56	21.61	22.5	0
3	QPSK	8	7	21.45	21.54	21.58		
3	QPSK	15	0	21.43	21.52	21.37		
3	16QAM	1	0	21.40	21.35	21.64	22.5	0
3	16QAM	1	8	21.46	21.59	21.59		
3	16QAM	1	14	21.33	21.53	21.67		
3	16QAM	8	0	21.43	21.54	21.48	22.5	0
3	16QAM	8	4	21.38	21.44	21.61		
3	16QAM	8	7	21.34	21.45	21.57		
3	16QAM	15	0	21.35	21.35	21.60	22.5	0
3	16QAM	15	0	21.35	21.35	21.60		
3	16QAM	15	0	21.35	21.35	21.60		



Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	21.46	21.47	21.67	22.5	0
1.4	QPSK	1	3	21.43	21.38	21.62		
1.4	QPSK	1	5	21.39	21.44	21.58		
1.4	QPSK	3	0	21.33	21.57	21.66		
1.4	QPSK	3	1	21.35	21.50	21.52		
1.4	QPSK	3	3	21.36	21.56	21.62		
1.4	QPSK	6	0	21.38	21.44	21.46	22.5	0
1.4	16QAM	1	0	21.38	21.32	21.59	22.5	0
1.4	16QAM	1	3	21.49	21.50	21.46		
1.4	16QAM	1	5	21.25	21.56	21.70		
1.4	16QAM	3	0	21.40	21.51	21.48		
1.4	16QAM	3	1	21.33	21.51	21.56		
1.4	16QAM	3	3	21.26	21.38	21.57		
1.4	16QAM	6	0	21.25	21.27	21.61	22.5	0



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	17.39	17.33	17.12	17.5	0
20	QPSK	1	49	17.35	17.23	17.12		
20	QPSK	1	99	17.34	17.24	17.03		
20	QPSK	50	0	17.33	17.27	17.12	17.5	0
20	QPSK	50	24	17.35	17.19	17.04		
20	QPSK	50	50	17.24	17.14	17.09		
20	QPSK	100	0	17.31	17.22	17.10		
20	16QAM	1	0	17.30	17.19	17.00	17.5	0
20	16QAM	1	49	17.15	17.26	17.08		
20	16QAM	1	99	17.24	17.22	17.07		
20	16QAM	50	0	17.29	17.17	17.20	17.5	0
20	16QAM	50	24	17.14	17.23	17.21		
20	16QAM	50	50	17.18	17.15	17.07		
20	16QAM	100	0	17.21	17.15	17.10		
Channel				20825	21100	21375		
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	17.35	17.29	17.03	17.5	0
15	QPSK	1	37	17.30	17.19	17.02		
15	QPSK	1	74	17.30	17.22	16.96		
15	QPSK	36	0	17.23	17.22	17.06	17.5	0
15	QPSK	36	20	17.34	17.12	16.95		
15	QPSK	36	39	17.14	17.10	17.00		
15	QPSK	75	0	17.30	17.17	17.04		
15	16QAM	1	0	17.21	17.19	16.97	17.5	0
15	16QAM	1	37	17.05	17.24	17.06		
15	16QAM	1	74	17.22	17.19	17.05		
15	16QAM	36	0	17.29	17.10	17.11	17.5	0
15	16QAM	36	20	17.08	17.19	17.13		
15	16QAM	36	39	17.17	17.14	17.06		
15	16QAM	75	0	17.19	17.15	17.01		
Channel				20800	21100	21400		
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	17.30	17.32	17.11	17.5	0
10	QPSK	1	25	17.28	17.18	17.09		
10	QPSK	1	49	17.29	17.22	16.93		
10	QPSK	25	0	17.32	17.23	17.09	17.5	0
10	QPSK	25	12	17.25	17.13	16.95		
10	QPSK	25	25	17.21	17.09	17.09		
10	QPSK	50	0	17.24	17.16	17.02		
10	16QAM	1	0	17.30	17.09	16.93	17.5	0
10	16QAM	1	25	17.09	17.16	17.06		
10	16QAM	1	49	17.19	17.21	17.02		
10	16QAM	25	0	17.20	17.16	17.17	17.5	0
10	16QAM	25	12	17.12	17.23	17.12		
10	16QAM	25	25	17.12	17.08	17.01		
10	16QAM	50	0	17.21	17.10	17.03		



Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	17.36	17.31	17.05	17.5	0
5	QPSK	1	12	17.28	17.19	17.09		
5	QPSK	1	24	17.28	17.19	16.98		
5	QPSK	12	0	17.29	17.21	17.07	17.5	0
5	QPSK	12	7	17.29	17.18	16.98		
5	QPSK	12	13	17.16	17.08	17.02		
5	QPSK	25	0	17.24	17.19	17.05		
5	16QAM	1	0	17.27	17.10	16.93	17.5	0
5	16QAM	1	12	17.14	17.25	17.06		
5	16QAM	1	24	17.17	17.15	16.99		
5	16QAM	12	0	17.26	17.08	17.13	17.5	0
5	16QAM	12	7	17.14	17.14	17.15		
5	16QAM	12	13	17.10	17.08	17.07		
5	16QAM	25	0	17.15	17.09	17.01		



<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	20.88	20.83	20.85		
10	QPSK	1	25	20.90	20.84	20.87	22	0
10	QPSK	1	49	20.89	20.82	20.86		
10	QPSK	25	0	20.90	20.79	20.88		
10	QPSK	25	12	20.78	20.76	20.74	22	0
10	QPSK	25	25	20.83	20.76	20.86		
10	QPSK	50	0	20.82	20.77	20.83		
10	16QAM	1	0	20.92	20.78	20.87	22	0
10	16QAM	1	25	20.88	20.83	20.80		
10	16QAM	1	49	20.60	20.87	20.85		
10	16QAM	25	0	20.85	20.75	20.81	22	0
10	16QAM	25	12	20.69	20.68	20.77		
10	16QAM	25	25	20.91	20.82	20.80		
10	16QAM	50	0	20.78	20.71	20.87		
Channel				23035	23095	23155		
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	20.89	20.76	20.87		
5	QPSK	1	12	20.86	20.69	20.79	22	0
5	QPSK	1	24	20.81	20.73	20.86		
5	QPSK	12	0	20.85	20.73	20.83		
5	QPSK	12	7	20.68	20.68	20.64	22	0
5	QPSK	12	13	20.78	20.67	20.79		
5	QPSK	25	0	20.75	20.74	20.75		
5	16QAM	1	0	20.83	20.73	20.77	22	0
5	16QAM	1	12	20.82	20.83	20.79		
5	16QAM	1	24	20.59	20.80	20.81		
5	16QAM	12	0	20.79	20.68	20.74	22	0
5	16QAM	12	7	20.67	20.64	20.68		
5	16QAM	12	13	20.82	20.81	20.80		
5	16QAM	25	0	20.76	20.70	20.85		
Channel				23025	23095	23165		
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	20.92	20.82	20.83		
3	QPSK	1	8	20.78	20.75	20.72	22	0
3	QPSK	1	14	20.80	20.76	20.82		
3	QPSK	8	0	20.84	20.77	20.83		
3	QPSK	8	4	20.75	20.71	20.74	22	0
3	QPSK	8	7	20.75	20.75	20.85		
3	QPSK	15	0	20.74	20.71	20.80		
3	16QAM	1	0	20.87	20.69	20.81	22	0
3	16QAM	1	8	20.87	20.73	20.75		
3	16QAM	1	14	20.59	20.81	20.84		
3	16QAM	8	0	20.77	20.73	20.79	22	0
3	16QAM	8	4	20.59	20.68	20.71		
3	16QAM	8	7	20.87	20.74	20.76		
3	16QAM	15	0	20.71	20.69	20.81		



Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	20.82	20.76	20.77	22	0
1.4	QPSK	1	3	20.88	20.77	20.79		
1.4	QPSK	1	5	20.89	20.82	20.82		
1.4	QPSK	3	0	20.87	20.71	20.78		
1.4	QPSK	3	1	20.76	20.69	20.69		
1.4	QPSK	3	3	20.82	20.76	20.84		
1.4	QPSK	6	0	20.73	20.76	20.74	22	0
1.4	16QAM	1	0	20.90	20.69	20.83	22	0
1.4	16QAM	1	3	20.78	20.75	20.73		
1.4	16QAM	1	5	20.56	20.84	20.79		
1.4	16QAM	3	0	20.79	20.65	20.78		
1.4	16QAM	3	1	20.62	20.60	20.74		
1.4	16QAM	3	3	20.89	20.77	20.74		
1.4	16QAM	6	0	20.69	20.65	20.79	22	0



<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		19.53		21	0
10	QPSK	1	25		19.51			
10	QPSK	1	49		19.48			
10	QPSK	25	0		19.47		21	0
10	QPSK	25	12		19.49			
10	QPSK	25	25		19.51			
10	QPSK	50	0		19.41			
10	16QAM	1	0		19.44		21	0
10	16QAM	1	25		19.43			
10	16QAM	1	49		19.33			
10	16QAM	25	0		19.48		21	0
10	16QAM	25	12		19.47			
10	16QAM	25	25		19.38			
10	16QAM	50	0		19.39			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	19.52	19.44	19.52	21	0
5	QPSK	1	12	19.42	19.50	19.50		
5	QPSK	1	24	19.48	19.43	19.45		
5	QPSK	12	0	19.47	19.41	19.40	21	0
5	QPSK	12	7	19.43	19.40	19.40		
5	QPSK	12	13	19.45	19.51	19.48		
5	QPSK	25	0	19.40	19.35	19.40		
5	16QAM	1	0	19.41	19.37	19.44	21	0
5	16QAM	1	12	19.38	19.43	19.43		
5	16QAM	1	24	19.33	19.33	19.38		
5	16QAM	12	0	19.48	19.40	19.38	21	0
5	16QAM	12	7	19.43	19.46	19.45		
5	16QAM	12	13	19.35	19.38	19.34		
5	16QAM	12	13	19.35	19.38	19.34		
5	16QAM	25	0	19.36	19.33	19.39		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	18.79	18.74	18.62	19.5	0
20	QPSK	1	49	18.51	18.50	18.32		
20	QPSK	1	99	18.43	18.42	18.24		
20	QPSK	50	0	18.53	18.52	18.34	19.5	0
20	QPSK	50	24	18.51	18.54	18.32		
20	QPSK	50	50	18.47	18.50	18.30		
20	QPSK	100	0	18.35	18.36	18.17		
20	16QAM	1	0	18.49	18.44	18.25	19.5	0
20	16QAM	1	49	18.56	18.53	18.32		
20	16QAM	1	99	18.45	18.42	18.31		
20	16QAM	50	0	18.37	18.39	18.16	19.5	0
20	16QAM	50	24	18.52	18.51	18.26		
20	16QAM	50	50	18.44	18.48	18.23		
20	16QAM	100	0	18.45	18.43	18.21		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	18.56	18.53	18.34	19.5	0
15	QPSK	1	37	18.46	18.50	18.31		
15	QPSK	1	74	18.33	18.42	18.24		
15	QPSK	36	0	18.49	18.43	18.28	19.5	0
15	QPSK	36	20	18.48	18.52	18.31		
15	QPSK	36	39	18.47	18.41	18.30		
15	QPSK	75	0	18.25	18.30	18.11		
15	16QAM	1	0	18.41	18.38	18.21	19.5	0
15	16QAM	1	37	18.47	18.43	18.22		
15	16QAM	1	74	18.42	18.34	18.28		
15	16QAM	36	0	18.31	18.30	18.10	19.5	0
15	16QAM	36	20	18.43	18.41	18.23		
15	16QAM	36	39	18.36	18.43	18.17		
15	16QAM	75	0	18.41	18.40	18.20		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	18.49	18.57	18.40	19.5	0
10	QPSK	1	25	18.44	18.40	18.31		
10	QPSK	1	49	18.34	18.42	18.20		
10	QPSK	25	0	18.53	18.43	18.32	19.5	0
10	QPSK	25	12	18.51	18.44	18.28		
10	QPSK	25	25	18.44	18.46	18.20		
10	QPSK	50	0	18.35	18.31	18.13		
10	16QAM	1	0	18.40	18.44	18.25	19.5	0
10	16QAM	1	25	18.55	18.50	18.22		
10	16QAM	1	49	18.41	18.37	18.22		
10	16QAM	25	0	18.33	18.37	18.09	19.5	0
10	16QAM	25	12	18.52	18.43	18.25		
10	16QAM	25	25	18.43	18.44	18.16		
10	16QAM	50	0	18.40	18.42	18.14		



Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	18.58	18.48	18.38	19.5	0
5	QPSK	1	12	18.42	18.47	18.24		
5	QPSK	1	24	18.33	18.40	18.22		
5	QPSK	12	0	18.45	18.49	18.29	19.5	0
5	QPSK	12	7	18.47	18.46	18.26		
5	QPSK	12	13	18.39	18.49	18.30		
5	QPSK	25	0	18.32	18.26	18.07	19.5	0
5	16QAM	1	0	18.45	18.42	18.17		
5	16QAM	1	12	18.47	18.45	18.31		
5	16QAM	1	24	18.41	18.39	18.30	19.5	0
5	16QAM	12	0	18.32	18.39	18.16		
5	16QAM	12	7	18.51	18.41	18.23		
5	16QAM	12	13	18.37	18.40	18.14	19.5	0
5	16QAM	12	13	18.37	18.40	18.14		
5	16QAM	25	0	18.38	18.41	18.18		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	18.53	18.54	18.30	19.5	0
3	QPSK	1	8	18.47	18.46	18.29		
3	QPSK	1	14	18.38	18.32	18.22		
3	QPSK	8	0	18.47	18.47	18.33	19.5	0
3	QPSK	8	4	18.46	18.54	18.25		
3	QPSK	8	7	18.41	18.40	18.21		
3	QPSK	15	0	18.34	18.28	18.10	19.5	0
3	16QAM	1	0	18.47	18.41	18.20		
3	16QAM	1	8	18.54	18.49	18.25		
3	16QAM	1	14	18.38	18.39	18.24	19.5	0
3	16QAM	8	0	18.34	18.36	18.16		
3	16QAM	8	4	18.44	18.51	18.22		
3	16QAM	8	7	18.39	18.42	18.14	19.5	0
3	16QAM	8	7	18.39	18.42	18.14		
3	16QAM	15	0	18.41	18.39	18.15		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	18.52	18.47	18.28	19.5	0
1.4	QPSK	1	3	18.41	18.44	18.30		
1.4	QPSK	1	5	18.28	18.32	18.23		
1.4	QPSK	3	0	18.47	18.38	18.28	19.5	0
1.4	QPSK	3	1	18.38	18.52	18.24		
1.4	QPSK	3	3	18.37	18.41	18.20		
1.4	QPSK	6	0	18.17	18.28	18.05	19.5	0
1.4	16QAM	1	0	18.36	18.32	18.14	19.5	0
1.4	16QAM	1	3	18.43	18.41	18.21		
1.4	16QAM	1	5	18.33	18.25	18.20		
1.4	16QAM	3	0	18.28	18.29	18.09	19.5	0
1.4	16QAM	3	1	18.43	18.39	18.23		
1.4	16QAM	3	3	18.35	18.37	18.08		
1.4	16QAM	6	0	18.40	18.36	18.19	19.5	0



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	21.57	21.46	21.49		
15	QPSK	1	37	21.55	21.51	21.46	22.5	0
15	QPSK	1	74	21.52	21.48	21.45		
15	QPSK	36	0	21.51	21.44	21.39		
15	QPSK	36	20	21.51	21.49	21.49	22.5	0
15	QPSK	36	39	21.52	21.47	21.44		
15	QPSK	75	0	21.51	21.45	21.45		
15	16QAM	1	0	21.55	21.39	21.40	22.5	0
15	16QAM	1	37	21.48	21.44	21.38		
15	16QAM	1	74	21.52	21.38	21.40		
15	16QAM	36	0	21.46	21.42	21.29	22.5	0
15	16QAM	36	20	21.48	21.41	21.39		
15	16QAM	36	39	21.49	21.37	21.38		
15	16QAM	75	0	21.48	21.41	21.39		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	21.47	21.41	21.41	22.5	0
10	QPSK	1	25	21.48	21.42	21.46		
10	QPSK	1	49	21.44	21.41	21.43		
10	QPSK	25	0	21.49	21.44	21.35	22.5	0
10	QPSK	25	12	21.41	21.49	21.48		
10	QPSK	25	25	21.45	21.38	21.43		
10	QPSK	50	0	21.41	21.38	21.42	22.5	0
10	16QAM	1	0	21.46	21.33	21.39		
10	16QAM	1	25	21.40	21.43	21.30		
10	16QAM	1	49	21.46	21.35	21.39	22.5	0
10	16QAM	25	0	21.41	21.37	21.20		
10	16QAM	25	12	21.42	21.40	21.31		
10	16QAM	25	25	21.39	21.35	21.31		
10	16QAM	50	0	21.41	21.36	21.37		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	21.55	21.37	21.46	22.5	0
5	QPSK	1	12	21.45	21.46	21.40		
5	QPSK	1	24	21.42	21.46	21.43		
5	QPSK	12	0	21.51	21.35	21.36	22.5	0
5	QPSK	12	7	21.41	21.42	21.48		
5	QPSK	12	13	21.45	21.42	21.37		
5	QPSK	25	0	21.44	21.44	21.39	22.5	0
5	16QAM	1	0	21.51	21.34	21.40		
5	16QAM	1	12	21.39	21.39	21.29		
5	16QAM	1	24	21.49	21.29	21.38	22.5	0
5	16QAM	12	0	21.44	21.39	21.22		
5	16QAM	12	7	21.44	21.41	21.39		
5	16QAM	12	13	21.48	21.35	21.34		
5	16QAM	25	0	21.41	21.33	21.30		



Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	21.53	21.45	21.47	22.5	0
3	QPSK	1	8	21.45	21.49	21.40		
3	QPSK	1	14	21.51	21.42	21.35		
3	QPSK	8	0	21.44	21.44	21.29	22.5	0
3	QPSK	8	4	21.41	21.39	21.41		
3	QPSK	8	7	21.49	21.41	21.43		
3	QPSK	15	0	21.50	21.38	21.38		
3	16QAM	1	0	21.53	21.35	21.33	22.5	0
3	16QAM	1	8	21.40	21.35	21.32		
3	16QAM	1	14	21.51	21.28	21.35		
3	16QAM	8	0	21.44	21.33	21.26	22.5	0
3	16QAM	8	4	21.41	21.38	21.29		
3	16QAM	8	7	21.44	21.27	21.29		
3	16QAM	15	0	21.48	21.38	21.35		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	21.49	21.40	21.46	22.5	0
1.4	QPSK	1	3	21.55	21.50	21.36		
1.4	QPSK	1	5	21.52	21.41	21.37		
1.4	QPSK	3	0	21.46	21.38	21.39		
1.4	QPSK	3	1	21.47	21.44	21.39		
1.4	QPSK	3	3	21.49	21.46	21.38		
1.4	QPSK	6	0	21.45	21.45	21.42	22.5	0
1.4	16QAM	1	0	21.45	21.39	21.34	22.5	0
1.4	16QAM	1	3	21.45	21.38	21.28		
1.4	16QAM	1	5	21.48	21.33	21.32		
1.4	16QAM	3	0	21.36	21.35	21.27		
1.4	16QAM	3	1	21.40	21.31	21.36		
1.4	16QAM	3	3	21.46	21.29	21.28		
1.4	16QAM	6	0	21.39	21.41	21.37	22.5	0

<TDD LTE SAR Measurement>

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.

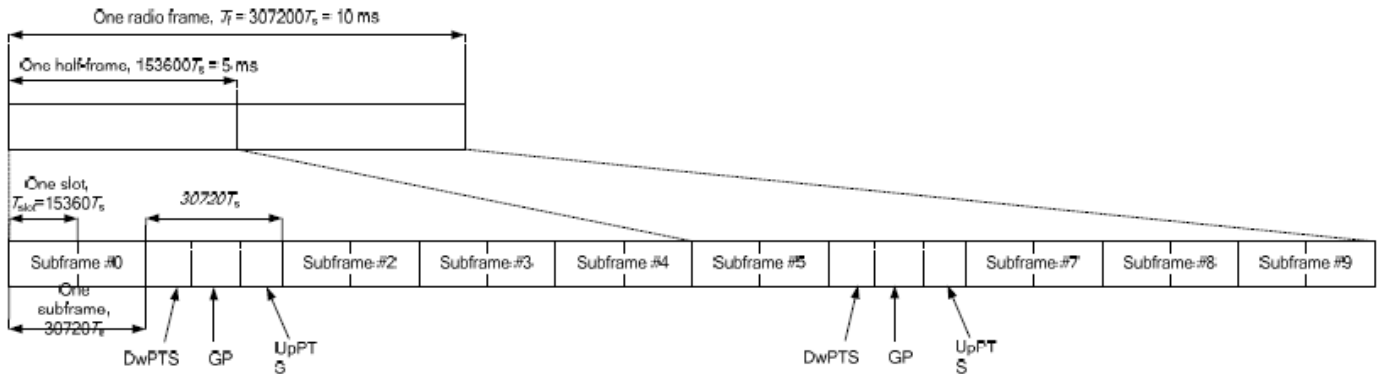


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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

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 subframes, 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.



Default Power Mode

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	21.34	21.26	21.55	21.25	21.51	23	0
20	QPSK	1	49	21.33	21.26	21.53	21.15	21.51		
20	QPSK	1	99	21.23	21.21	21.44	21.12	21.41		
20	QPSK	50	0	20.45	20.37	20.66	20.36	20.62	22	1
20	QPSK	50	24	20.44	20.37	20.64	20.26	20.62		
20	QPSK	50	50	20.34	20.32	20.55	20.23	20.52		
20	QPSK	100	0	20.26	20.24	20.47	20.15	20.44	22	1
20	16QAM	1	0	20.42	20.37	20.63	20.28	20.59		
20	16QAM	1	49	20.47	20.39	20.64	20.30	20.54		
20	16QAM	1	99	20.40	20.31	20.47	20.25	20.55	21	2
20	16QAM	50	0	19.60	19.52	19.81	19.51	19.77		
20	16QAM	50	24	19.59	19.52	19.79	19.41	19.77		
20	16QAM	50	50	19.49	19.47	19.70	19.38	19.67	21	2
20	16QAM	100	0	19.41	19.39	19.62	19.30	19.59		
Channel				39725	40173	40620	41068	41515		
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	21.32	21.23	21.48	21.17	21.43	23	0
15	QPSK	1	37	21.32	21.23	21.46	21.14	21.44		
15	QPSK	1	74	21.14	21.20	21.40	21.06	21.34		
15	QPSK	36	0	20.38	20.36	20.58	20.29	20.58	22	1
15	QPSK	36	20	20.42	20.29	20.60	20.25	20.60		
15	QPSK	36	39	20.34	20.26	20.51	20.18	20.42		
15	QPSK	75	0	20.17	20.24	20.45	20.10	20.42	22	1
15	16QAM	1	0	20.36	20.27	20.58	20.20	20.50		
15	16QAM	1	37	20.40	20.35	20.56	20.30	20.50		
15	16QAM	1	74	20.40	20.30	20.46	20.16	20.51	21	2
15	16QAM	36	0	19.59	19.46	19.79	19.43	19.76		
15	16QAM	36	20	19.51	19.47	19.76	19.38	19.76		
15	16QAM	36	39	19.47	19.42	19.64	19.28	19.65	21	2
15	16QAM	75	0	19.34	19.39	19.57	19.23	19.58		
Channel				39700	40160	40620	41080	41540		
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	21.25	21.16	21.43	21.13	21.42	23	0
10	QPSK	1	25	21.31	21.19	21.44	21.12	21.35		
10	QPSK	1	49	21.05	21.18	21.36	21.01	21.24		
10	QPSK	25	0	20.31	20.32	20.57	20.21	20.53	22	1
10	QPSK	25	12	20.36	20.24	20.55	20.18	20.55		
10	QPSK	25	25	20.26	20.25	20.47	20.14	20.33		
10	QPSK	50	0	20.15	20.16	20.40	20.02	20.32	22	1
10	16QAM	1	0	20.28	20.23	20.53	20.17	20.41		
10	16QAM	1	25	20.31	20.32	20.53	20.23	20.44		
10	16QAM	1	49	20.37	20.26	20.39	20.06	20.44	21	2
10	16QAM	25	0	19.56	19.38	19.79	19.43	19.68		
10	16QAM	25	12	19.49	19.42	19.70	19.38	19.74		
10	16QAM	25	25	19.38	19.35	19.64	19.21	19.65	21	2
10	16QAM	50	0	19.32	19.38	19.50	19.15	19.50		



Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	21.21	21.12	21.42	21.10	21.40	23	0
5	QPSK	1	12	21.28	21.10	21.41	21.04	21.35		
5	QPSK	1	24	21.04	21.11	21.34	21.06	21.17		
5	QPSK	12	0	20.25	20.26	20.47	20.15	20.46	22	1
5	QPSK	12	7	20.33	20.15	20.51	20.17	20.51		
5	QPSK	12	13	20.24	20.15	20.47	20.12	20.32		
5	QPSK	25	0	20.13	20.16	20.33	19.93	20.30		
5	16QAM	1	0	20.27	20.14	20.53	20.08	20.38	22	1
5	16QAM	1	12	20.26	20.29	20.47	20.19	20.43		
5	16QAM	1	24	20.29	20.23	20.39	20.03	20.39		
5	16QAM	12	0	19.53	19.36	19.79	19.39	19.58	21	2
5	16QAM	12	7	19.41	19.41	19.66	19.35	19.65		
5	16QAM	12	13	19.34	19.32	19.59	19.11	19.63		
5	16QAM	25	0	19.24	19.35	19.44	19.07	19.50		



Reduced Power Mode

<LTE Band 41>

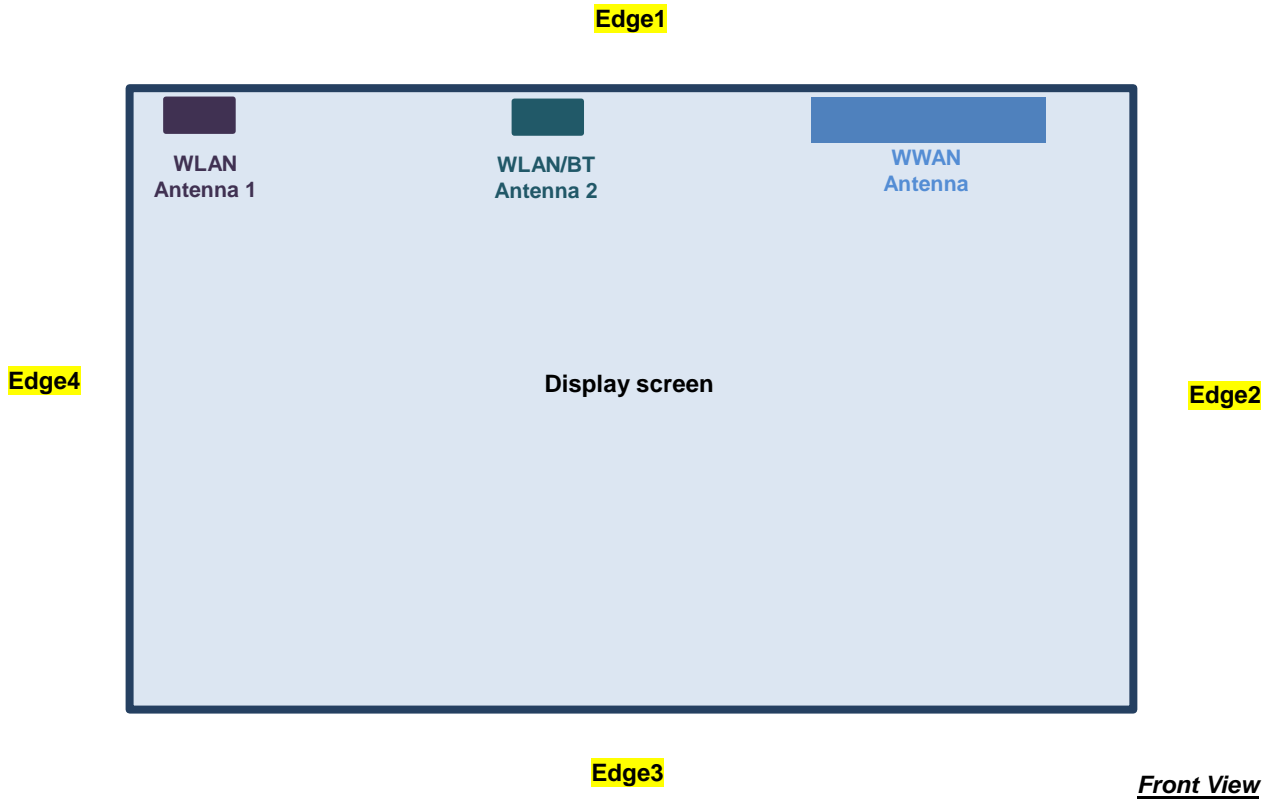
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)		
Channel				39750	40185	40620	41055	41490				
Frequency (MHz)				2506	2549.5	2593	2636.5	2680				
20	QPSK	1	0	18.68	18.52	18.83	18.51	18.76	19.5	0		
20	QPSK	1	49	18.66	18.47	18.78	18.41	18.67				
20	QPSK	1	99	18.59	18.52	18.82	18.43	18.66				
20	QPSK	50	0	18.68	18.48	18.75	18.49	18.71	19.5	0		
20	QPSK	50	24	18.68	18.43	18.82	18.50	18.67				
20	QPSK	50	50	18.65	18.44	18.78	18.32	18.65				
20	QPSK	100	0	18.60	18.48	18.78	18.51	18.75	19.5	0		
20	16QAM	1	0	18.60	18.42	18.62	18.51	18.67				
20	16QAM	1	49	18.57	18.47	18.70	18.37	18.58				
20	16QAM	1	99	18.55	18.42	18.77	18.36	18.57	19.5	0		
20	16QAM	50	0	18.63	18.38	18.66	18.47	18.64				
20	16QAM	50	24	18.61	18.40	18.76	18.47	18.57				
20	16QAM	50	50	18.60	18.37	18.77	18.31	18.58	19.5	0		
20	16QAM	100	0	18.55	18.41	18.75	18.44	18.65				
Channel				39725	40173	40620	41068	41515			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5				
15	QPSK	1	0	18.58	18.45	18.82	18.45	18.69				
15	QPSK	1	37	18.59	18.46	18.74	18.31	18.57	19.5	0		
15	QPSK	1	74	18.54	18.49	18.81	18.43	18.65				
15	QPSK	36	0	18.62	18.40	18.73	18.48	18.67				
15	QPSK	36	20	18.65	18.41	18.74	18.49	18.57	19.5	0		
15	QPSK	36	39	18.64	18.43	18.70	18.32	18.56				
15	QPSK	75	0	18.60	18.44	18.68	18.50	18.67				
15	16QAM	1	0	18.55	18.42	18.60	18.48	18.57	19.5	0		
15	16QAM	1	37	18.55	18.40	18.64	18.35	18.53				
15	16QAM	1	74	18.52	18.35	18.71	18.27	18.48				
15	16QAM	36	0	18.61	18.28	18.57	18.44	18.55	19.5	0		
15	16QAM	36	20	18.57	18.31	18.68	18.44	18.48				
15	16QAM	36	39	18.57	18.37	18.76	18.26	18.51				
15	16QAM	75	0	18.46	18.34	18.69	18.36	18.63	19.5	0		
Channel				39700	40160	40620	41080	41540			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685				
10	QPSK	1	0	18.63	18.47	18.79	18.50	18.75				
10	QPSK	1	25	18.62	18.46	18.77	18.33	18.67	19.5	0		
10	QPSK	1	49	18.50	18.51	18.73	18.38	18.62				
10	QPSK	25	0	18.64	18.43	18.69	18.39	18.68				
10	QPSK	25	12	18.68	18.39	18.79	18.41	18.60	19.5	0		
10	QPSK	25	25	18.56	18.43	18.78	18.29	18.60				
10	QPSK	50	0	18.50	18.48	18.77	18.44	18.70				
10	16QAM	1	0	18.58	18.34	18.57	18.42	18.62	19.5	0		
10	16QAM	1	25	18.52	18.37	18.60	18.31	18.58				
10	16QAM	1	49	18.55	18.33	18.69	18.27	18.49				
10	16QAM	25	0	18.60	18.28	18.58	18.45	18.62	19.5	0		
10	16QAM	25	12	18.60	18.36	18.70	18.43	18.48				
10	16QAM	25	25	18.53	18.28	18.72	18.31	18.56				
10	16QAM	50	0	18.50	18.35	18.69	18.36	18.64	19.5	0		



Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	18.66	18.44	18.81	18.47	18.68	19.5	0
5	QPSK	1	12	18.56	18.43	18.70	18.36	18.59		
5	QPSK	1	24	18.51	18.42	18.77	18.41	18.59		
5	QPSK	12	0	18.61	18.40	18.75	18.46	18.71	19.5	0
5	QPSK	12	7	18.63	18.41	18.82	18.50	18.67		
5	QPSK	12	13	18.59	18.34	18.74	18.28	18.61		
5	QPSK	25	0	18.59	18.46	18.78	18.41	18.69	19.5	0
5	16QAM	1	0	18.60	18.35	18.58	18.45	18.64		
5	16QAM	1	12	18.50	18.37	18.65	18.37	18.56		
5	16QAM	1	24	18.50	18.39	18.68	18.32	18.55	19.5	0
5	16QAM	12	0	18.61	18.34	18.63	18.38	18.54		
5	16QAM	12	7	18.60	18.31	18.71	18.44	18.55		
5	16QAM	12	13	18.58	18.28	18.77	18.26	18.55	19.5	0
5	16QAM	25	0	18.50	18.33	18.74	18.38	18.60		

12. Antenna Location

<For Tablet>

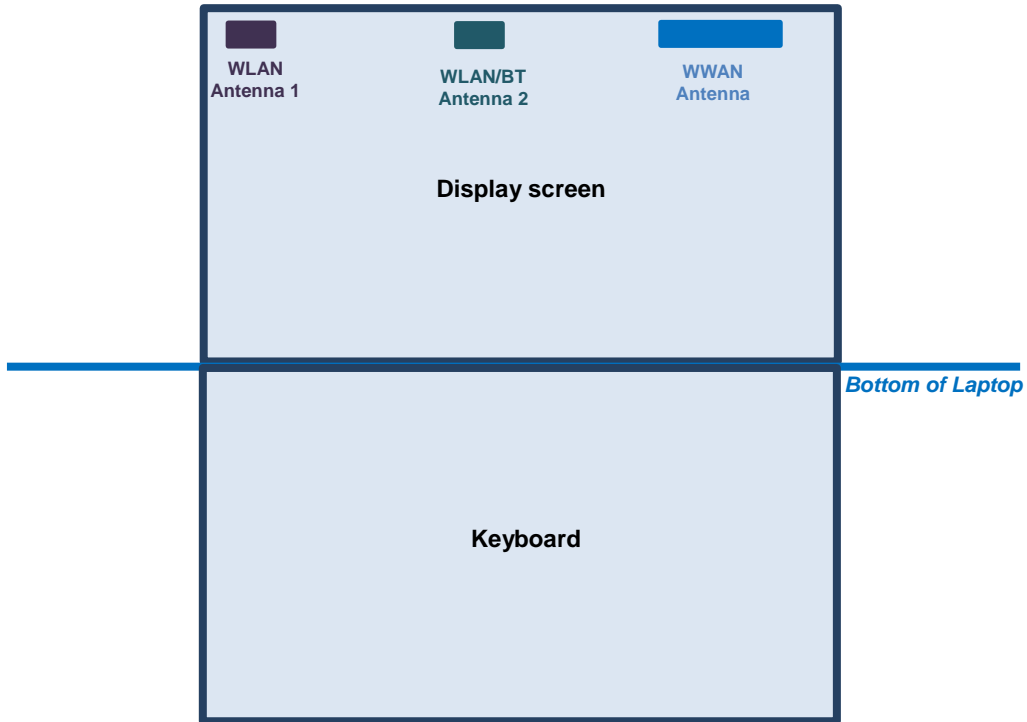


Front View

The separation distance for antenna to edge :

Antenna	To Edge1 (mm)	To Edge2 (mm)	To Edge3 (mm)	To Edge4 (mm)
WWAN Antenna	2.6	32.7	225	180
WLAN Antenna 1	5.1	291	225	11
WLAN / BT Antenna 2	5.1	187	225	116

<For Laptop>



The separation distance for antenna to edge:

Antenna	To Bottom of Laptop (mm)
WWAN Antenna	225
WLAN Antenna 1	225
WLAN Antenna 2	225



13. SAR Test Results

General Note:

1. The below test result in this report is spot check worst case according to FCC ID: EJE-EM7455D1, Sporton report no.: FA6O1408-01 to check the above change was not impact RF exposure compliance, for this report also the WWAN DPR level and the P-sensor trigger distance was not changed, please refer to P-sensor operation description for the detail.
2. For LTE B12 due to spot check result is higher than original report FCC ID: EJE-EM7455D1, Sporton report no.: FA6O1408-01, therefore, for LTE B12 is re-testing all required exposure position.
3. 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 WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. 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.
4. 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
5. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.

13.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
01	WCDMA II	RMC 12.2Kbps	Edge 1	0mm	ON	9538	1907.6	18.63	19.50	1.222	-0.09	0.858	1.048
	WCDMA II	RMC 12.2Kbps	Edge 1	0mm	ON	9262	1852.4	18.65	19.50	1.216	-0.01	0.838	1.019
	WCDMA II	RMC 12.2Kbps	Edge 1	0mm	ON	9400	1880	18.59	19.50	1.233	-0.09	0.827	1.020
	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	ON	1413	1732.6	19.40	20.00	1.148	-0.07	0.994	1.141
	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	ON	1312	1712.4	19.36	20.00	1.159	-0.11	0.981	1.137
02	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	ON	1513	1752.6	19.61	20.00	1.094	-0.1	1.060	1.160
	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	ON	4182	836.4	21.67	22.50	1.211	-0.12	0.866	1.048
	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	ON	4132	826.4	21.58	22.50	1.236	-0.13	0.841	1.039
03	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	ON	4233	846.6	21.85	22.50	1.161	-0.1	0.909	1.056



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
04	LTE Band 4	20M	QPSK	100	0	Edge 1	0mm	ON	20175	1732.5	19.41	20.00	1.146	-0.14	0.971	1.112
	LTE Band 7	20M	QPSK	1	0	Edge 1	14mm	OFF	21350	2560	21.09	23.00	1.552	-0.11	0.577	0.896
05	LTE Band 7	20M	QPSK	1	0	Edge 1	14mm	OFF	20850	2510	21.41	23.00	1.442	-0.12	0.855	1.233
	LTE Band 7	20M	QPSK	1	0	Edge 1	14mm	OFF	21100	2535	21.35	23.00	1.462	-0.12	0.711	1.040
	LTE Band 12	10M	QPSK	1	25	Bottom Face	0mm	ON	23095	707.5	20.84	22.00	1.306	-0.02	0.421	0.550
	LTE Band 12	10M	QPSK	25	0	Bottom Face	0mm	ON	23095	707.5	20.79	22.00	1.321	-0.03	0.417	0.551
06	LTE Band 12	10M	QPSK	1	25	Edge 1	0mm	ON	23095	707.5	20.84	22.00	1.306	0.03	1.070	1.398
	LTE Band 12	10M	QPSK	25	0	Edge 1	0mm	ON	23095	707.5	20.79	22.00	1.321	-0.03	1.050	1.387
	LTE Band 12	10M	QPSK	50	0	Edge 1	0mm	ON	23095	707.5	20.77	22.00	1.327	0.04	1.030	1.367
	LTE Band 12	10M	QPSK	1	0	Bottom Face	2mm	OFF	23095	707.5	22.73	24.00	1.340	-0.03	0.441	0.591
	LTE Band 12	10M	QPSK	25	12	Bottom Face	2mm	OFF	23095	707.5	21.43	23.00	1.435	-0.08	0.352	0.505
	LTE Band 12	10M	QPSK	1	0	Edge 1	14mm	OFF	23095	707.5	22.73	24.00	1.340	0.05	0.291	0.390
	LTE Band 12	10M	QPSK	25	12	Edge 1	14mm	OFF	23095	707.5	21.43	23.00	1.435	-0.02	0.236	0.339
	LTE Band 12	10M	QPSK	1	0	Edge 2	0mm	OFF	23095	707.5	22.73	24.00	1.340	0.07	0.332	0.445
	LTE Band 12	10M	QPSK	25	12	Edge 2	0mm	OFF	23095	707.5	21.43	23.00	1.435	0.02	0.259	0.372
07	LTE Band 13	10M	QPSK	50	0	Edge 1	0mm	ON	23230	782	19.41	21.00	1.442	-0.14	0.714	1.030
	LTE Band 25	20M	QPSK	1	0	Edge 1	0mm	ON	26590	1905	18.62	19.50	1.225	-0.09	0.846	1.036
	LTE Band 25	20M	QPSK	1	0	Edge 1	0mm	ON	26140	1860	18.79	19.50	1.178	-0.04	0.889	1.047
08	LTE Band 25	20M	QPSK	1	0	Edge 1	0mm	ON	26340	1880	18.74	19.50	1.191	-0.07	0.892	1.063
09	LTE Band 26	15M	QPSK	1	0	Edge 1	0mm	ON	26865	831.5	21.46	22.50	1.271	-0.14	0.810	1.029

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)
10	LTE Band 41	20M	QPSK	1	0	Edge 1	0mm	ON	40620	2593	18.83	19.50	1.167	62.9	1.006	-0.05	0.952	1.117
	LTE Band 41	20M	QPSK	1	0	Edge 1	0mm	ON	39750	2506	18.68	19.50	1.208	62.9	1.006	-0.12	0.862	1.047
	LTE Band 41	20M	QPSK	1	0	Edge 1	0mm	ON	40185	2549.5	18.52	19.50	1.253	62.9	1.006	0.06	0.881	1.111
	LTE Band 41	20M	QPSK	1	0	Edge 1	0mm	ON	41055	2636.5	18.51	19.50	1.256	62.9	1.006	0.11	0.531	0.671
	LTE Band 41	20M	QPSK	1	0	Edge 1	0mm	ON	41490	2680	18.76	19.50	1.186	62.9	1.006	-0.09	0.335	0.400



13.2 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	ON	1513	1752.6	19.61	20.00	1.094	-	1.000	-0.1	1.060	-	1.160
2nd	WCDMA IV	RMC 12.2Kbps	Edge 1	0mm	ON	1513	1752.6	19.61	20.00	1.094	-	1.000	0.14	1.030	1.03	1.127
1st	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	ON	4233	846.6	21.85	22.50	1.161	-	1.000	-0.1	0.909	-	1.056
2nd	WCDMA V	RMC 12.2Kbps	Edge 1	0mm	ON	4233	846.6	21.85	22.50	1.161	-	1.000	0.04	0.894	1.02	1.038
1st	LTE Band 7	20M_QPSK_1_0	Edge 1	14mm	OFF	20850	2510	21.41	23.00	1.442	-	1.000	-0.12	0.855	-	1.233
2nd	LTE Band 7	20M_QPSK_1_0	Edge 1	14mm	OFF	20850	2510	21.41	23.00	1.442	-	1.000	0.07	0.833	1.03	1.201
1st	LTE Band 12	10M_QPSK_1_25	Edge 1	0mm	ON	23095	707.5	20.84	22.00	1.306	-	1.000	0.03	1.070	-	1.398
2nd	LTE Band 12	10M_QPSK_1_25	Edge 1	0mm	ON	23095	707.5	20.84	22.00	1.306	-	1.000	0.06	1.060	1.01	1.385
1st	LTE Band 25	20M_QPSK_1_0	Edge 1	0mm	ON	26340	1880	18.74	19.50	1.191	-	1.000	-0.07	0.892	-	1.063
2nd	LTE Band 25	20M_QPSK_1_0	Edge 1	0mm	ON	26340	1880	18.74	19.50	1.191	-	1.000	0.03	0.869	1.03	1.035
1st	LTE Band 41	20M_QPSK_1_0	Edge 1	0mm	ON	40620	2593	18.83	19.50	1.167	62.9	1.006	-0.05	0.952	-	1.117
2nd	LTE Band 41	20M_QPSK_1_0	Edge 1	0mm	ON	40620	2593	18.83	19.50	1.167	62.9	1.006	0.06	0.941	1.01	1.105

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8W/kg$.
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.

14. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN + 2.4GHz WLAN ANT 1 + 2.4GHz WLAN ANT 2	Yes
2.	WWAN + 5GHz WLAN ANT 1 + 5GHz WLAN ANT 2	Yes
3.	WWAN + 2.4GHz WLAN ANT 1+ Bluetooth ANT 2	Yes
4.	WWAN + 5GHz WLAN ANT 1 + Bluetooth ANT 2	Yes
5.	WWAN + 5GHz WLAN ANT 1 + 5GHz WLAN ANT 2 + Bluetooth ANT 2	Yes

General Note:

1. The WLAN/BT module Brand name Intel Model: 9560NGW installed in host T939 is full tested under FCC ID: EJE-WB0108 , Sporton Report No.: Report No. FA8D3109. In this report simultaneous transmission analysis of WLAN/BT and WWAN transmitters are reported.
2. All the WWAN result is referring to FCC ID: EJE-EM7455D1, Sporton report No.: FA6O1408-01 and also used perform simultaneous transmission analysis; due to the result is the worst case for summation, except LTE B12 is used the result in this report.
3. The worst case reported SAR for each configuration was used for SAR summation. Therefore, the following summations represent the absolute worst cases for simultaneous transmission analysis
4. WLAN and Bluetooth share the same antenna2, and cannot transmit simultaneously.
5. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
6. The Scaled SAR summation is calculated based on the same configuration and test position.
7. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, 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 $SPLSR \leq 0.04$, 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 14.2.



14.1 Body Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+4+5	1+2+6	1+4+6	1+4+5+6	1+2+3	1+2+3	1+4+5	1+4+5	1+2+6	1+4+6	1+4+6	1+4+5+6	1+4+5+6			
		WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	5GHz WLAN Ant 1	5GHz WLAN Ant 2	Bluetooth Ant 2	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	
WCDMA	WCDMA II	Bottom Face at 2mm	0.919	0.114	0.161	0.064	0.081	0.045	1.194	1.064	1.078	1.028	1.109											
		Edge 1 at 14mm	0.890	0.346	0.172	0.912	1.110	0.051	1.408	2.912	1.287	1.853	2.963			0.03	Case 1			0.01	Case 2	0.03	Case 3	
		Bottom Face at 0mm	0.447	0.114	0.161	0.064	0.081	0.045	0.722	0.592	0.606	0.556	0.637											
		Edge 1 at 0mm	1.064	0.346	0.172	0.912	1.110	0.051	1.582	3.086	1.461	2.027	3.137			0.03	Case 4			0.01	Case 5	0.03	Case 6	
		Edge 2 at 0mm	0.554						0.554	0.554	0.554	0.554	0.554											
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171											
	WCDMA IV	Bottom Face at 2mm	1.002	0.114	0.161	0.064	0.081	0.045	1.277	1.147	1.161	1.111	1.192											
		Edge 1 at 14mm	1.032	0.346	0.172	0.912	1.110	0.051	1.550	3.054	1.429	1.995	3.105			0.03	Case 7			0.01	Case 8	0.03	Case 9	
		Bottom Face at 0mm	0.649	0.114	0.161	0.064	0.081	0.045	0.924	0.794	0.808	0.758	0.839											
		Edge 1 at 0mm	1.165	0.346	0.172	0.912	1.110	0.051	1.683	3.187	1.562	2.128	3.238	0.01	Case 10	0.03	Case 11			0.01	Case 12	0.03	Case 13	
		Edge 2 at 0mm	0.425						0.425	0.425	0.425	0.425	0.425											
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171											
	WCDMA V	Bottom Face at 2mm	0.472	0.114	0.161	0.064	0.081	0.045	0.747	0.617	0.631	0.581	0.662											
		Edge 1 at 14mm	0.502	0.346	0.172	0.912	1.110	0.051	1.020	2.524	0.899	1.465	2.575			0.03	Case 14					0.03	Case 15	
		Bottom Face at 0mm	0.666	0.114	0.161	0.064	0.081	0.045	0.941	0.811	0.825	0.775	0.856											
		Edge 1 at 0mm	1.058	0.346	0.172	0.912	1.110	0.051	1.576	3.080	1.455	2.021	3.131			0.03	Case 16			0.01	Case 17	0.03	Case 18	
		Edge 2 at 0mm	0.226						0.226	0.226	0.226	0.226	0.226											
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171											
LTE	LTE Band 4	Bottom Face at 2mm	0.638	0.114	0.161	0.064	0.081	0.045	0.913	0.783	0.797	0.747	0.828											
		Edge 1 at 14mm	0.887	0.346	0.172	0.912	1.110	0.051	1.405	2.909	1.284	1.850	2.960			0.03	Case 19			0.01	Case 20	0.03	Case 21	
		Bottom Face at 0mm	0.532	0.114	0.161	0.064	0.081	0.045	0.807	0.677	0.691	0.641	0.722											
		Edge 1 at 0mm	1.118	0.346	0.172	0.912	1.110	0.051	1.636	3.140	1.515	2.081	3.191	0.01	Case 22	0.03	Case 23			0.01	Case 24	0.03	Case 25	
		Edge 2 at 0mm	0.270						0.270	0.270	0.270	0.270	0.270											
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171											
	LTE Band 7	Bottom Face at 2mm	0.846	0.114	0.161	0.064	0.081	0.045	1.121	0.991	1.005	0.955	1.036											
		Edge 1 at 14mm	1.362	0.346	0.172	0.912	1.110	0.051	1.880	3.384	1.759	2.325	3.435	0.02	Case 26	0.04	Case 27	0.02	Case 28	0.02	Case 29	0.04	Case 30	
		Bottom Face at 0mm	0.338	0.114	0.161	0.064	0.081	0.045	0.613	0.483	0.497	0.447	0.528											
		Edge 1 at 0mm	1.134	0.346	0.172	0.912	1.110	0.051	1.652	3.156	1.531	2.097	3.207	0.01	Case 31	0.04	Case 32			0.01	Case 33	0.04	Case 34	
		Edge 2 at 0mm	0.055						0.055	0.055	0.055	0.055	0.055											
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171											



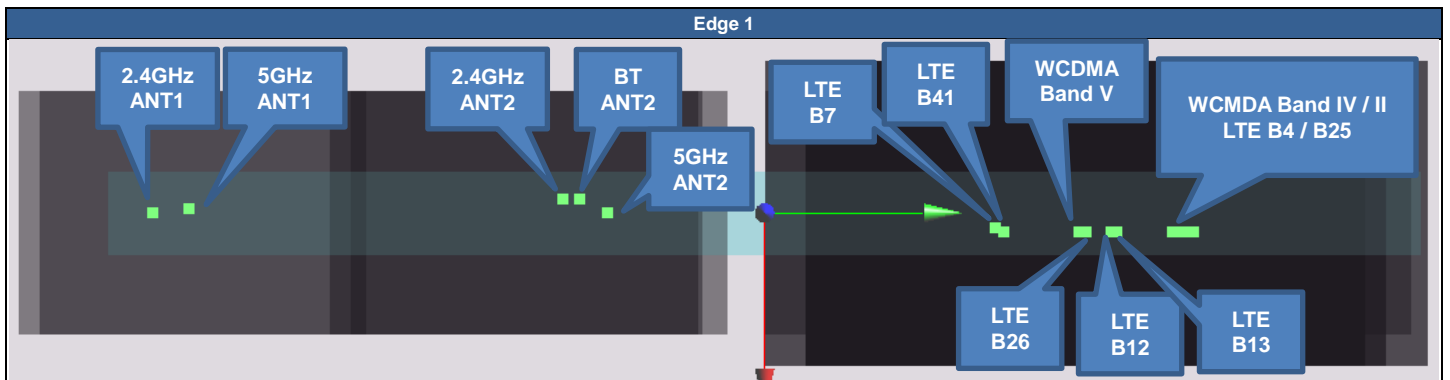
WWAN Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+4+5	1+2+6	1+4+6	1+4+5+6	1+2+3	1+2+3	1+4+5	1+4+5	1+2+6	1+2+6	1+4+6	1+4+6	1+4+5+6	1+4+5+6			
		WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	5GHz WLAN Ant 1	5GHz WLAN Ant 2	Bluetooth Ant 2	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	SPLSR	Case No	
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)																		
LTE	LTE Band 12	Bottom Face at 2mm	0.591	0.114	0.161	0.064	0.081	0.045	0.866	0.736	0.750	0.700	0.781												
		Edge 1 at 14mm	0.390	0.346	0.172	0.912	1.110	0.051	0.908	2.412	0.787	1.353	2.463			0.03	Case 35						0.03	Case 36	
		Bottom Face at 0mm	0.551	0.114	0.161	0.064	0.081	0.045	0.826	0.696	0.710	0.660	0.741												
		Edge 1 at 0mm	1.398	0.346	0.172	0.912	1.110	0.051	1.916	3.420	1.795	2.361	3.471	0.02	Case 65	0.03	Case 37	0.01	Case 66	0.01	Case 38	0.03	Case 39	Case 39	
		Edge 2 at 0mm	0.445						0.445	0.445	0.445	0.445	0.445												
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171												
	LTE Band 13	Bottom Face at 2mm	0.676	0.114	0.161	0.064	0.081	0.045	0.951	0.821	0.835	0.785	0.866												
		Edge 1 at 14mm	0.459	0.346	0.172	0.912	1.110	0.051	0.977	2.481	0.856	1.422	2.532			0.03	Case 40						0.03	Case 41	
		Bottom Face at 0mm	0.519	0.114	0.161	0.064	0.081	0.045	0.794	0.664	0.678	0.628	0.709												
		Edge 1 at 0mm	1.080	0.346	0.172	0.912	1.110	0.051	1.598	3.102	1.477	2.043	3.153	0.01	Case 42	0.03	Case 43			0.01	Case 44	0.03	Case 45	Case 45	
		Edge 2 at 0mm	0.242						0.242	0.242	0.242	0.242	0.242												
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171												
	LTE Band 25	Bottom Face at 2mm	0.910	0.114	0.161	0.064	0.081	0.045	1.185	1.055	1.069	1.019	1.100												
		Edge 1 at 14mm	0.884	0.346	0.172	0.912	1.110	0.051	1.402	2.906	1.281	1.847	2.957			0.03	Case 46			0.01	Case 47	0.03	Case 48	Case 48	
		Bottom Face at 0mm	0.414	0.114	0.161	0.064	0.081	0.045	0.689	0.559	0.573	0.523	0.604												
		Edge 1 at 0mm	1.067	0.346	0.172	0.912	1.110	0.051	1.585	3.089	1.464	2.030	3.140			0.03	Case 49			0.01	Case 50	0.03	Case 51	Case 51	
		Edge 2 at 0mm	0.501						0.501	0.501	0.501	0.501	0.501												
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171												
	LTE Band 26	Bottom Face at 2mm	0.526	0.114	0.161	0.064	0.081	0.045	0.801	0.671	0.685	0.635	0.716												
		Edge 1 at 14mm	0.456	0.346	0.172	0.912	1.110	0.051	0.974	2.478	0.853	1.419	2.529			0.03	Case 52						0.03	Case 53	
		Bottom Face at 0mm	0.671	0.114	0.161	0.064	0.081	0.045	0.946	0.816	0.830	0.780	0.861												
		Edge 1 at 0mm	1.065	0.346	0.172	0.912	1.110	0.051	1.583	3.087	1.462	2.028	3.138			0.03	Case 54			0.01	Case 55	0.03	Case 56	Case 56	
		Edge 2 at 0mm	0.185						0.185	0.185	0.185	0.185	0.185												
		Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171												
LTE Band 41	Bottom Face at 2mm	0.702	0.114	0.161	0.064	0.081	0.045	0.977	0.847	0.861	0.811	0.892													
	Edge 1 at 14mm	1.130	0.346	0.172	0.912	1.110	0.051	1.648	3.152	1.527	2.093	3.203	0.02	Case 57	0.04	Case 58			0.02	Case 59	0.04	Case 60	Case 60		
	Bottom Face at 0mm	0.436	0.114	0.161	0.064	0.081	0.045	0.711	0.581	0.595	0.545	0.626													
	Edge 1 at 0mm	1.144	0.346	0.172	0.912	1.110	0.051	1.662	3.166	1.541	2.107	3.217	0.01	Case 61	0.01	Case 62			0.02	Case 63	0.04	Case 64	Case 64		
	Edge 2 at 0mm	0.062						0.062	0.062	0.062	0.062	0.062													
	Edge 4 at 0mm		0.432		0.171			0.432	0.171	0.432	0.171	0.171													

14.2 SPLSR Evaluation and Analysis

General Note:

- SPLSR = $(SAR_1 + SAR_2)^{1.5} / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary
- Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Therefore, the adjacent transmit antennas will be summed first, and then the SPLSR calculation will be evaluated with the farther transmitted antennas
- 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.

<Each transmitter hot point and SPLSR analysis for Edge 1 exposure position>



Case 1	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
WCDMA II	Edge 1	WLAN5G Ant 1	0.89	14	2	93.8	-2.3	233.6	1.80	0.01	Not required
		WLAN5G Ant 2	0.912	0	-1	-139.8	-5.55				
WCDMA II	Edge 1	WLAN5G Ant 1	0.89	14	2	93.8	-2.3	131.9	2.00	0.02	Not required
		WLAN5G Ant 2	1.11	0	-0.8	-38	-5.99				
WLAN5G Ant 1	Edge 1	WLAN5G Ant 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
		WLAN5G Ant 2	1.11	0	-0.8	-38	-5.99				

Case 2	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
WCDMA II	Edge 1	WLAN5G Ant 1	0.89	14	2	93.8	-2.3	233.6	1.80	0.01	Not required
		WLAN5G Ant 2	0.912	0	-1	-139.8	-5.55				
WCDMA II	Edge 1	BT Ant 2	0.89	14	2	93.8	-2.3	136.7	0.94	0.01	Not required
		BT Ant 2	0.051	0	-2.6	-42.8	-1.77				
WLAN5G Ant 1	Edge 1	WLAN5G Ant 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
		BT Ant 2	0.051	0	-2.6	-42.8	-1.77				

Case 3	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
WCDMA II	Edge 1	WLAN5G Ant 1	0.89	14	2	93.8	-2.3	233.6	1.80	0.01	Not required
		WLAN5G Ant 2	0.912	0	-1	-139.8	-5.55				
WCDMA II	Edge 1	5G Ant 2 + BT Ant 2	0.89	14	2	93.8	-2.3	131.9	2.05	0.02	Not required
		5G Ant 2 + BT Ant 2	1.161	0	-0.8	-38	-5.99				
WLAN5G Ant 1	Edge 1	WLAN5G Ant 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
		5G Ant 2 + BT Ant 2	1.161	0	-0.8	-38	-5.99				

Case 4	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA II	Edge 1	1.064	0	3.5	110.9	-1.85	250.8	1.98	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA II	Edge 1	1.064	0	3.5	110.9	-1.85	149.0	2.17	0.02	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					

Case 5	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA II	Edge 1	1.064	0	3.5	110.9	-1.85	250.8	1.98	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA II	Edge 1	1.064	0	3.5	110.9	-1.85	153.8	1.12	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					

Case 6	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA II	Edge 1	1.064	0	3.5	110.9	-1.85	250.8	1.98	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA II	Edge 1	1.064	0	3.5	110.9	-1.85	149.0	2.23	0.02	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					

Case 7	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Edge 1	1.032	14	2	85	-2.43	224.8	1.94	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA IV	Edge 1	1.032	14	2	85	-2.43	123.1	2.14	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					

Case 8	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Edge 1	1.032	14	2	85	-2.43	224.8	1.94	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA IV	Edge 1	1.032	14	2	85	-2.43	127.9	1.08	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					

Case 9	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Edge 1	1.032	14	2	85	-2.43	224.8	1.94	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA IV	Edge 1	1.032	14	2	85	-2.43	123.1	2.19	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					



Case 10	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Edge 1	1.165	0	3.5	105.9	2.4	253.6	1.51	0.01	Not required
WLAN2.4G Ant 1	0.346		0	-4	-147.6	1.34					
WCDMA IV	Edge 1	1.165	0	3.5	105.9	2.4	151.6	1.34	0.01	Not required	
WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44					
WLAN2.4G Ant 1	Edge 1	0.346	0	-4	-147.6	1.34	102.0	0.52	0.00	Not required	
WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44					

Case 11	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Edge 1	1.165	0	3.5	105.9	2.4	245.9	2.08	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA IV	Edge 1	1.165	0	3.5	105.9	2.4	144.2	2.28	0.02	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					

Case 12	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Edge 1	1.165	0	3.5	105.9	2.4	245.9	2.08	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA IV	Edge 1	1.165	0	3.5	105.9	2.4	148.9	1.22	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					

Case 13	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA IV	Edge 1	1.165	0	3.5	105.9	2.4	245.9	2.08	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA IV	Edge 1	1.165	0	3.5	105.9	2.4	144.2	2.33	0.02	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					

Case 14	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA V	Edge 1	0.502	14	2.1	84.7	-2.36	224.5	1.41	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA V	Edge 1	0.502	14	2.1	84.7	-2.36	122.8	1.61	0.02	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					

Case 15	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA V	Edge 1	0.502	14	2.1	84.7	-2.36	224.5	1.41	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA V	Edge 1	0.502	14	2.1	84.7	-2.36	122.8	1.66	0.02	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					

Case 16	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA V	Edge 1	1.058	0	3.5	82.9	-2.27	222.8	1.97	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA V	Edge 1	1.058	0	3.5	82.9	-2.27	121.0	2.17	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					

Case 17	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA V	Edge 1	1.058	0	3.5	82.9	-2.27	222.8	1.97	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA V	Edge 1	1.058	0	3.5	82.9	-2.27	125.8	1.11	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					

Case 18	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WCDMA V	Edge 1	1.058	0	3.5	82.9	-2.27	222.8	1.97	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
WCDMA V	Edge 1	1.058	0	3.5	82.9	-2.27	121.0	2.22	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					

Case 19	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Edge 1	0.887	14	3.6	85	-2.39	224.9	1.80	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
LTE Band 4	Edge 1	0.887	14	3.6	85	-2.39	123.1	2.00	0.02	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					

Case 20	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Edge 1	0.887	14	3.6	85	-2.39	224.9	1.80	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
LTE Band 4	Edge 1	0.887	14	3.6	85	-2.39	128.0	0.94	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					

Case 21	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	Edge 1	0.887	14	3.6	85	-2.39	224.9	1.80	0.01	Not required
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
LTE Band 4	Edge 1	0.887	14	3.6	85	-2.39	123.1	2.05	0.02	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					



Case 22	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 22	LTE Band 4	Edge 1	1.118	0	3.5	109.4	-1.9	257.1	1.46	0.01	Not required
	WLAN2.4G Ant 1		0.346	0	-4	-147.6	1.34				
Case 22	LTE Band 4	Edge 1	1.118	0	3.5	109.4	-1.9	155.1	1.29	0.01	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				
Case 22	WLAN2.4G Ant 1	Edge 1	0.346	0	-4	-147.6	1.34	102.0	0.52	0.00	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				

Case 23	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 23	LTE Band 4	Edge 1	1.118	0	3.5	109.4	-1.9	249.3	2.03	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 23	LTE Band 4	Edge 1	1.118	0	3.5	109.4	-1.9	147.5	2.23	0.02	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
Case 23	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

Case 24	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 24	LTE Band 4	Edge 1	1.118	0	3.5	109.4	-1.9	249.3	2.03	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 24	LTE Band 4	Edge 1	1.118	0	3.5	109.4	-1.9	152.3	1.17	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				
Case 24	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				

Case 25	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 25	LTE Band 4	Edge 1	1.118	0	3.5	109.4	-1.9	249.3	2.03	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 25	LTE Band 4	Edge 1	1.118	0	3.5	109.4	-1.9	147.5	2.28	0.02	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
Case 25	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

Case 26	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 26	LTE Band 7	Edge 1	1.362	14	3.6	54.2	-2.76	202.0	1.71	0.01	Not required
	WLAN2.4G Ant 1		0.346	0	-4	-147.6	1.34				
Case 26	LTE Band 7	Edge 1	1.362	14	3.6	54.2	-2.76	100.0	1.53	0.02	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				
Case 26	WLAN2.4G Ant 1	Edge 1	0.346	0	-4	-147.6	1.34	102.0	0.52	0.00	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				

Case 27	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 27	LTE Band 7	Edge 1	1.362	14	3.6	54.2	-2.76	194.1	2.27	0.02	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 27	LTE Band 7	Edge 1	1.362	14	3.6	54.2	-2.76	92.4	2.47	0.04	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
Case 27	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				



Case 28	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
LTE Band 7	WLAN2.4G Ant 1	Edge 1	1.362	14	3.6	54.2	-2.76	202.0	1.71	0.01	Not required
			0.346	0	-4	-147.6	1.34				
LTE Band 7	BT Ant 2	Edge 1	1.362	14	3.6	54.2	-2.76	97.2	1.41	0.02	Not required
			0.051	0	-2.6	-42.8	-1.77				
WLAN2.4G Ant 1	BT Ant 2	Edge 1	0.346	0	-4	-147.6	1.34	104.9	0.40	0.00	Not required
			0.051	0	-2.6	-42.8	-1.77				

Case 29	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
LTE Band 7	WLAN5G Ant 1	Edge 1	1.362	14	3.6	54.2	-2.76	194.1	2.27	0.02	Not required
			0.912	0	-1	-139.8	-5.55				
LTE Band 7	BT Ant 2	Edge 1	1.362	14	3.6	54.2	-2.76	97.2	1.41	0.02	Not required
			0.051	0	-2.6	-42.8	-1.77				
WLAN5G Ant 1	BT Ant 2	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
			0.051	0	-2.6	-42.8	-1.77				

Case 30	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
LTE Band 7	WLAN5G Ant 1	Edge 1	1.362	14	3.6	54.2	-2.76	194.1	2.27	0.02	Not required
			0.912	0	-1	-139.8	-5.55				
LTE Band 7	5G Ant 2 + BT Ant 2	Edge 1	1.362	14	3.6	54.2	-2.76	92.4	2.52	0.04	Not required
			1.161	0	-0.8	-38	-5.99				
WLAN5G Ant 1	5G Ant 2 + BT Ant 2	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
			1.161	0	-0.8	-38	-5.99				

Case 31	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
LTE Band 7	WLAN2.4G Ant 1	Edge 1	1.134	0	4.6	55.4	1.85	203.2	1.48	0.01	Not required
			0.346	0	-4	-147.6	1.34				
LTE Band 7	WLAN2.4G Ant 2	Edge 1	1.134	0	4.6	55.4	1.85	101.3	1.31	0.01	Not required
			0.172	0	-2.6	-45.6	0.44				
WLAN2.4G Ant 1	WLAN2.4G Ant 2	Edge 1	0.346	0	-4	-147.6	1.34	102.0	0.52	0.00	Not required
			0.172	0	-2.6	-45.6	0.44				

Case 32	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
LTE Band 7	WLAN5G Ant 1	Edge 1	1.134	0	4.6	55.4	1.85	195.4	2.05	0.01	Not required
			0.912	0	-1	-139.8	-5.55				
LTE Band 7	WLAN5G Ant 2	Edge 1	1.134	0	4.6	55.4	1.85	93.9	2.24	0.04	Not required
			1.11	0	-0.8	-38	-5.99				
WLAN5G Ant 1	WLAN5G Ant 2	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
			1.11	0	-0.8	-38	-5.99				

Case 33	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
LTE Band 7	WLAN5G Ant 1	Edge 1	1.134	0	4.6	55.4	1.85	195.4	2.05	0.01	Not required
			0.912	0	-1	-139.8	-5.55				
LTE Band 7	BT Ant 2	Edge 1	1.134	0	4.6	55.4	1.85	98.5	1.19	0.01	Not required
			0.051	0	-2.6	-42.8	-1.77				
WLAN5G Ant 1	BT Ant 2	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
			0.051	0	-2.6	-42.8	-1.77				



Case 34	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 34	LTE Band 7	Edge 1	1.134	0	4.6	55.4	1.85	195.4	2.05	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 34	LTE Band 7	Edge 1	1.134	0	4.6	55.4	1.85	93.9	2.30	0.04	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
Case 34	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

Case 35	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 35	LTE Band 12	Edge 1	0.39	14	2.1	81.4	-2.41	221.2	1.30	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 35	LTE Band 12	Edge 1	0.39	14	2.1	81.4	-2.41	119.5	1.50	0.02	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
Case 35	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

Case 36	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 36	LTE Band 12	Edge 1	0.39	14	2.1	81.4	-2.41	221.2	1.30	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 36	LTE Band 12	Edge 1	0.39	14	2.1	81.4	-2.41	119.5	1.55	0.02	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
Case 36	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

Case 37	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 37	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	218.0	2.31	0.02	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 37	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	116.2	2.51	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
Case 37	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

Case 38	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 38	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	218.0	2.31	0.02	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 38	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	121.1	1.45	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				
Case 38	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				

Case 39	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 39	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	218.0	2.31	0.02	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 39	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	116.2	2.56	0.04	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
Case 39	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

Case 40	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 40	LTE Band 13	Edge 1	0.459	14	3.6	83.1	-2.39	223.0	1.37	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 40	LTE Band 13	Edge 1	0.459	14	3.6	83.1	-2.39	121.2	1.57	0.02	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
Case 40	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

Case 41	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 41	LTE Band 13	Edge 1	0.459	14	3.6	83.1	-2.39	223.0	1.37	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 41	LTE Band 13	Edge 1	0.985	14	3.6	83.1	-2.39	121.2	2.15	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
Case 41	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

Case 42	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 42	LTE Band 13	Edge 1	1.08	0	3.5	77	-2.34	224.8	1.43	0.01	Not required
	WLAN2.4G Ant 1		0.346	0	-4	-147.6	1.34				
Case 42	LTE Band 13	Edge 1	1.08	0	3.5	77	-2.34	122.8	1.25	0.01	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				
Case 42	WLAN2.4G Ant 1	Edge 1	0.346	0	-4	-147.6	1.34	102.0	0.52	0.00	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				

Case 43	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 43	LTE Band 13	Edge 1	1.08	0	3.5	77	-2.34	216.9	1.99	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 43	LTE Band 13	Edge 1	1.08	0	3.5	77	-2.34	115.1	2.19	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
Case 43	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

Case 44	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 44	LTE Band 13	Edge 1	1.08	0	3.5	77	-2.34	216.9	1.99	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 44	LTE Band 13	Edge 1	1.08	0	3.5	77	-2.34	120.0	1.13	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				
Case 44	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				

Case 45	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 45	LTE Band 13	Edge 1	1.08	0	3.5	77	-2.34	216.9	1.99	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 45	LTE Band 13	Edge 1	1.08	0	3.5	77	-2.34	115.1	2.24	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
Case 45	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				



Case 46	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 46	LTE Band 25	Edge 1	0.884	14	2	93.9	-2.27	233.7	1.80	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 46	LTE Band 25	Edge 1	0.884	14	2	93.9	-2.27	132.0	1.99	0.02	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
Case 46	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

Case 47	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 47	LTE Band 25	Edge 1	0.884	14	2	93.9	-2.27	233.7	1.80	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 47	LTE Band 25	Edge 1	0.884	14	2	93.9	-2.27	136.8	0.94	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				
Case 47	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				

Case 48	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 48	LTE Band 25	Edge 1	0.884	14	2	93.9	-2.27	233.7	1.80	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 48	LTE Band 25	Edge 1	0.884	14	2	93.9	-2.27	132.0	2.05	0.02	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
Case 48	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

Case 49	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 49	LTE Band 25	Edge 1	1.067	0	3.5	107.4	2.35	247.4	1.98	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 49	LTE Band 25	Edge 1	1.067	0	3.5	107.4	2.35	145.7	2.18	0.02	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
Case 49	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

Case 50	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 50	LTE Band 25	Edge 1	1.067	0	3.5	107.4	2.35	247.4	1.98	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 50	LTE Band 25	Edge 1	1.067	0	3.5	107.4	2.35	150.4	1.12	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				
Case 50	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				

Case 51	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 51	LTE Band 25	Edge 1	1.067	0	3.5	107.4	2.35	247.4	1.98	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
Case 51	LTE Band 25	Edge 1	1.067	0	3.5	107.4	2.35	145.7	2.23	0.02	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
Case 51	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 52	LTE Band 26	Edge 1	0.456	14	2.1	81.5	-2.43	221.3	1.37	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
	LTE Band 26	Edge 1	0.456	14	2.1	81.5	-2.43	119.6	1.57	0.02	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 53	LTE Band 26	Edge 1	0.456	14	2.1	81.5	-2.43	221.3	1.37	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
	LTE Band 26	Edge 1	0.456	14	2.1	81.5	-2.43	119.6	1.62	0.02	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 54	LTE Band 26	Edge 1	1.065	0	3.5	78.5	2.06	218.5	1.98	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
	LTE Band 26	Edge 1	1.065	0	3.5	78.5	2.06	116.9	2.18	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				
	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required
	WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 55	LTE Band 26	Edge 1	1.065	0	3.5	78.5	2.06	218.5	1.98	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
	LTE Band 26	Edge 1	1.065	0	3.5	78.5	2.06	121.5	1.12	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				
	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 56	LTE Band 26	Edge 1	1.065	0	3.5	78.5	2.06	218.5	1.98	0.01	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
	LTE Band 26	Edge 1	1.065	0	3.5	78.5	2.06	116.9	2.23	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 57	LTE Band 41	Edge 1	1.13	14	4.8	52.4	-2.74	200.2	1.48	0.01	Not required
	WLAN2.4G Ant 1		0.346	0	-4	-147.6	1.34				
	LTE Band 41	Edge 1	1.13	14	4.8	52.4	-2.74	98.3	1.30	0.02	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				
	WLAN2.4G Ant 1	Edge 1	0.346	0	-4	-147.6	1.34	102.0	0.52	0.00	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				



Case 58	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Edge 1	1.13	14	4.8	52.4	-2.74				
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
LTE Band 41	Edge 1	1.13	14	4.8	52.4	-2.74	90.6	2.24	0.04	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					

Case 59	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Edge 1	1.13	14	4.8	52.4	-2.74				
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
LTE Band 41	Edge 1	1.13	14	4.8	52.4	-2.74	95.5	1.18	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					

Case 60	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Edge 1	1.13	14	4.8	52.4	-2.74				
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
LTE Band 41	Edge 1	1.13	14	4.8	52.4	-2.74	90.6	2.29	0.04	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required	
5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99					

Case 61	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Edge 1	1.144	0	3.6	55.6	1.86				
WLAN2.4G Ant 1	0.346		0	-4	-147.6	1.34					
LTE Band 41	Edge 1	1.144	0	3.6	55.6	1.86	101.4	1.32	0.01	Not required	
WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44					
WLAN2.4G Ant 1	Edge 1	0.346	0	-4	-147.6	1.34	102.0	0.52	0.00	Not required	
WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44					

Case 62	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Edge 1	1.144	0	3.6	55.6	1.86				
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
LTE Band 41	Edge 1	1.144	0	3.6	55.6	1.86	94.0	2.25	0.04	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.02	0.03	Not required	
WLAN5G Ant 2		1.11	0	-0.8	-38	-5.99					

Case 63	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Edge 1	1.144	0	3.6	55.6	1.86				
WLAN5G Ant 1	0.912		0	-1	-139.8	-5.55					
LTE Band 41	Edge 1	1.144	0	3.6	55.6	1.86	98.7	1.20	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					
WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	97.1	0.96	0.01	Not required	
BT Ant 2		0.051	0	-2.6	-42.8	-1.77					

Case 64	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 41	Edge 1	1.144	0	3.6	55.6	1.86	195.6	2.06	0.02	Not required
	WLAN5G Ant 1		0.912	0	-1	-139.8	-5.55				
	LTE Band 41	Edge 1	1.144	0	3.6	55.6	1.86	94.0	2.31	0.04	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				
	WLAN5G Ant 1	Edge 1	0.912	0	-1	-139.8	-5.55	101.8	2.07	0.03	Not required
	5G Ant 2 + BT Ant 2		1.161	0	-0.8	-38	-5.99				

Case 65	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	225.9	1.74	0.01	Not required
	WLAN2.4G Ant 1		0.346	0	-4	-147.6	1.34				
	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	123.9	1.57	0.02	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				
	WLAN2.4G Ant 1	Edge 1	0.346	0	-4	-147.6	1.34	102.0	0.52	0.00	Not required
	WLAN2.4G Ant 2		0.172	0	-2.6	-45.6	0.44				

Case 66	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	225.9	1.74	0.01	Not required
	WLAN2.4G Ant 1		0.346	0	-4	-147.6	1.34				
	LTE Band 12	Edge 1	1.398	0	3.5	78.1	-2.32	121.1	1.45	0.01	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				
	WLAN2.4G Ant 1	Edge 1	0.346	0	-4	-147.6	1.34	104.9	0.40	0.00	Not required
	BT Ant 2		0.051	0	-2.6	-42.8	-1.77				

Test Engineer : Willy Yu White Huang Wilson Lin Lemon Su and Jay Jian



15. 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 $\leq 30\%$, 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.

16. 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 447498 D02 v02r01, "SAR Measurement Procedures for USB Dongle Transmitters", Oct 2015.
- [8] FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [9] FCC KDB 941225 D07 v01r02, " SAR Evaluation Procedures for UMPC Mini-Tablet Devices", Oct 2015.
- [10] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [11] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.