FCC SAR TEST REPORT

FCC ID	:	**ACJFZA3A20A**
Equipment	:	**Radio module**
Brand Name	:	**Panasonic**
Model Name	:	**WW18A**
Marketing Name	:	**WW18A**
Applicant	:	**Panasonic Corporation of North America Two Riverfront Plaza, 9th Floor, Newark, NJ 07102-5490**
Manufacturer	:	**Panasonic Mobile Communications Co., Ltd. 600 Saedo-cho, Tsuzuki-ku, Yokohama City 224-8539, Japan**
Standard	:	**FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013**

The product was installed into Tablet Computer (Brand Name Panasonic, Model Name: FZ-A3) during test.

The product was received on Nov. 25, 2019 and testing was started from Dec. 13, 2019 and completed on Dec. 18, 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 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.

Cona Huang

Approved by: Cona Huang / Deputy Manager

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

Table of Contents

1. Statement of Compliance 4
2. Guidance Applied 4
3. Equipment Under Test (EUT) Information 5
3.1 General Information 5
4. RF Exposure Limits 6
4.1 Uncontrolled Environment 6
4.2 Controlled Environment 6
5. Simultaneous Transmission Analysis 7
5.1 Body Exposure Conditions 8
5.2 SPLSR Evaluation and Analysis 10
6. Uncertainty Assessment 21
7. References 21

History of this test report

Report No.	Version	Description	Issued Date
FA992410-05	01	Initial issue of report	Apr. 16, 2020

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Panasonic Corporation of North America, Radio module, WW18A, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary Body 1g SAR (W/kg)	Highest Simultaneous Transmission 1g SAR (W/kg)
Licensed	WCDMA II	1.12	1.56
	WCDMA IV	1.03	
	WCDMA V	1.02	
	LTE Band 2	1.03	
	LTE Band 7	1.18	
	LTE Band 12	1.20	
	LTE Band 13	1.04	
	LTE Band 14	1.18	
	LTE Band 5 / 26	1.07	
	LTE Band 41	1.18	
	LTE Band 4 / 66	1.11	
DTS	2.4GHz WLAN	0.91	1.41
NII	5GHz WLAN	1.23	1.56
DSS	Bluetooth	0.31	1.56
Date of Testing:		2019/12/13 ~ 2019/12/18	

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 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Radio module
Brand Name	Panasonic
Model Name	WW18A
Marketing Name	WW18A
FCC ID	ACJFZA3A20A
S/N	75eec4ed
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: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 14: 790.5 MHz ~ 795.5 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz
Mode	RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM
Remark: 1. This is a variant report to add simultaneous transmit configuration, all the test cases are referred from Sporton SAR test report, report number: FA992410-02 (FCC ID: ACJFZA3A20A)	

Host Information	
Equipment Name	Tablet Computer
Brand Name	Panasonic
Model Name	FZ-A3
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 NFC : 13.56 MHz
Mode	WLAN: 802.11a/b/g/n/ac HT20 / HT40 / VHT20 / VHT40 / VHT80 Bluetooth BR/EDR/LE NFC:ASK
EUT Stage	Production Unit

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. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN + 2.4GHz WLAN ANT 0 + 2.4GHz WLAN ANT 1	Yes
2.	WWAN + Bluetooth ANT 0 + 2.4GHz WLAN ANT 1	Yes
3.	WWAN + 5GHz WLAN ANT 0 + 5GHz WLAN ANT 1	Yes
4.	WWAN + Bluetooth ANT 0 + 5GHz WLAN ANT 1	Yes
5.	WWAN + 5GHz WLAN ANT 0 + 5GHz WLAN ANT 1 + Bluetooth ANT 0	Yes

General Note:

1. The WLAN / Bluetooth module is also integrated into this host, WLAN /Bluetooth power and WLAN SAR testing results which can be referred to Sporton SAR Test Report, Report No.: FA992410-04 (FCC ID: ACJFZA3A).
2. All licensed modes share the same antenna part and cannot transmit simultaneously.
3. 2.4GHz WLAN and Bluetooth share the same antenna 0, and cannot transmit simultaneously.
4. 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.
5. The Scaled SAR summation is calculated based on the same configuration and test position.
6. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
   iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
   v) The SPLSR calculated results please refer to section 5.2.
7. Configurations #3 and #4 are covered by #5
8. The WLAN/BT SAR values used in the simultaneous assessment for RF exposure are from the original report (FCC ID: ACJFZA3A) and include measurements scaled to a higher maximum power than the device will support after the proposed changes to allow simultaneous 5GHz WLAN and Bluetooth operation. The simultaneous evaluation is therefore a conservative estimate to demonstrate compliance without the need for a volume scan or additional SAR evaluation.

5.1 Body Exposure Conditions

WWAN Band		Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+4+5+6 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+2+3 SPLSR	1+2+3 Case No	1+4+5+6 SPLSR	1+4+5+6 Case No	1+3+6 SPLSR	1+3+6 Case No
			WWAN	2.4GHz WLAN Ant 0	2.4GHz WLAN Ant 1	5GHz WLAN Ant 0	5GHz WLAN Ant 1	Bluetooth Ant 0									
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)									
WCDMA	WCDMA II	Bottom Face at 20mm	1.118	0.906	0.718	0.811	1.056	0.314	2.742	3.299	2.150	0.02	Case 1	0.03	Case 23	0.02	Case 45
		Edge 1 at 22mm	0.489		0.414		0.572		0.903	1.061	0.903						
		Bottom Face at 0mm	1.095	0.906	0.718	0.811	1.056	0.314	2.719	3.276	2.127	0.02	Case 2	0.03	Case 24	0.02	Case 46
		Edge 1 at 0mm	0.621		0.414		0.572		1.035	1.193	1.035						
		Edge 2 at 0mm	0.263						0.263	0.263	0.263						
	WCDMA IV	Bottom Face at 20mm	0.658	0.906	0.718	0.811	1.056	0.314	2.282	2.839	1.690	0.02	Case 3	0.02	Case 25	0.01	Case 47
		Edge 1 at 22mm	0.403		0.414		0.572		0.817	0.975	0.817						
		Bottom Face at 0mm	1.029	0.906	0.718	0.811	1.056	0.314	2.653	3.210	2.061	0.02	Case 4	0.02	Case 26	0.02	Case 48
		Edge 1 at 0mm	0.477		0.414		0.572		0.891	1.049	0.891						
		Edge 2 at 0mm	0.142						0.142	0.142	0.142						
	WCDMA V	Bottom Face at 20mm	0.232	0.906	0.718	0.811	1.056	0.314	1.856	2.413	1.264	0.02	Case 5	0.02	Case 27		
		Edge 1 at 22mm	0.087		0.414		0.572		0.501	0.659	0.501						
		Bottom Face at 0mm	1.020	0.906	0.718	0.811	1.056	0.314	2.644	3.201	2.052	0.02	Case 6	0.02	Case 28	0.02	Case 49
		Edge 1 at 0mm	0.328		0.414		0.572		0.742	0.900	0.742						
		Edge 2 at 0mm	0.154						0.154	0.154	0.154						
LTE	LTE Band 2	Bottom Face at 20mm	0.740	0.906	0.718	0.811	1.056	0.314	2.364	2.921	1.772	0.02	Case 7	0.02	Case 29	0.01	Case 50
		Edge 1 at 22mm	0.431		0.414		0.572		0.845	1.003	0.845						
		Bottom Face at 0mm	1.027	0.906	0.718	0.811	1.056	0.314	2.651	3.208	2.059	0.02	Case 8	0.02	Case 30	0.02	Case 51
		Edge 1 at 0mm	0.468		0.414		0.572		0.882	1.040	0.882						
		Edge 2 at 0mm	0.263						0.263	0.263	0.263						
	LTE Band 7	Bottom Face at 20mm	0.188	0.906	0.718	0.811	1.056	0.314	1.812	2.369	1.220	0.02	Case 9	0.02	Case 31		
		Edge 1 at 22mm	0.281		0.414		0.572		0.695	0.853	0.695						
		Bottom Face at 0mm	1.178	0.906	0.718	0.811	1.056	0.314	2.802	3.359	2.210	0.02	Case 10	0.02	Case 32	0.02	Case 52
		Edge 1 at 0mm	0.992		0.414		0.572		1.406	1.564	1.406						
		Edge 2 at 0mm	0.308						0.308	0.308	0.308						
	LTE Band 12	Bottom Face at 20mm	0.116	0.906	0.718	0.811	1.056	0.314	1.740	2.297	1.148	0.02	Case 11	0.02	Case 33		
		Edge 1 at 22mm	0.030		0.414		0.572		0.444	0.602	0.444						
		Bottom Face at 0mm	1.198	0.906	0.718	0.811	1.056	0.314	2.822	3.379	2.230	0.02	Case 12	0.03	Case 34	0.02	Case 53
		Edge 1 at 0mm	0.315		0.414		0.572		0.729	0.887	0.729						
		Edge 2 at 0mm	0.123						0.123	0.123	0.123						
	LTE Band 13	Bottom Face at 20mm	0.165	0.906	0.718	0.811	1.056	0.314	1.789	2.346	1.197	0.02	Case 13	0.02	Case 35		
		Edge 1 at 22mm	0.052		0.414		0.572		0.466	0.624	0.466						
		Bottom Face at 0mm	1.042	0.906	0.718	0.811	1.056	0.314	2.666	3.223	2.074	0.02	Case 14	0.02	Case 36	0.02	Case 54
		Edge 1 at 0mm	0.680		0.414		0.572		1.094	1.252	1.094						
		Edge 2 at 0mm	0.144						0.144	0.144	0.144						
	LTE Band 14	Bottom Face at 20mm	0.175	0.906	0.718	0.811	1.056	0.314	1.799	2.356	1.207	0.02	Case 15	0.02	Case 37		
		Edge 1 at 22mm	0.062		0.414		0.572		0.476	0.634	0.476						
		Bottom Face at 0mm	1.178	0.906	0.718	0.811	1.056	0.314	2.802	3.359	2.210	0.02	Case 16	0.03	Case 38	0.02	Case 55
		Edge 1 at 0mm	0.740		0.414		0.572		1.154	1.312	1.154						
		Edge 2 at 0mm	0.132						0.132	0.132	0.132						
	LTE Band 26	Bottom Face at 20mm	0.227	0.906	0.718	0.811	1.056	0.314	1.851	2.408	1.259	0.02	Case 17	0.02	Case 39		
		Edge 1 at 22mm	0.095		0.414		0.572		0.509	0.667	0.509						
		Bottom Face at 0mm	1.069	0.906	0.718	0.811	1.056	0.314	2.693	3.250	2.101	0.02	Case 18	0.02	Case 40	0.02	Case 56
		Edge 1 at 0mm	0.399		0.414		0.572		0.813	0.971	0.813						
		Edge 2 at 0mm	0.148						0.148	0.148	0.148						
	LTE Band 41	Bottom Face at 20mm	0.122	0.906	0.718	0.811	1.056	0.314	1.746	2.303	1.154	0.02	Case 19	0.02	Case 41		
		Edge 1 at 22mm	0.108		0.414		0.572		0.522	0.680	0.522						
		Bottom Face at 0mm	1.175	0.906	0.718	0.811	1.056	0.314	2.799	3.356	2.207	0.02	Case 20	0.02	Case 42	0.02	Case 57

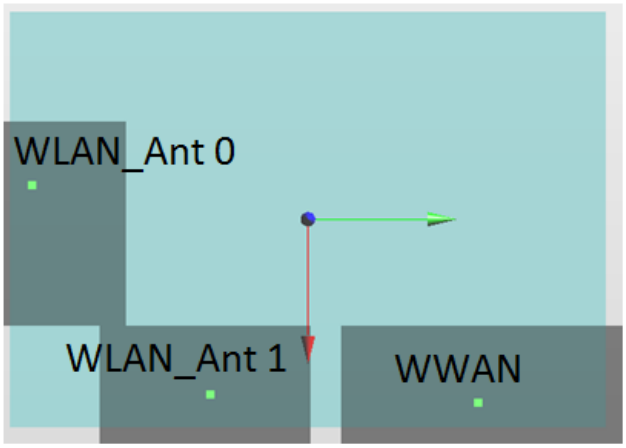
		Edge 1 at 0mm	0.468		0.414		0.572		**0.882**	**1.040**	**0.882**						
		Edge 2 at 0mm	0.236						**0.236**	**0.236**	**0.236**						
	LTE Band 66	Bottom Face at 20mm	0.635	0.906	0.718	0.811	1.056	0.314	**2.259**	**2.816**	**1.667**	**0.02**	**Case 21**	**0.02**	**Case 43**	**0.01**	**Case 58**
		Edge 1 at 22mm	0.405		0.414		0.572		**0.819**	**0.977**	**0.819**						
		Bottom Face at 0mm	1.110	0.906	0.718	0.811	1.056	0.314	**2.734**	**3.291**	**2.142**	**0.02**	**Case 22**	**0.03**	**Case 44**	**0.02**	**Case 59**
		Edge 1 at 0mm	0.507		0.414		0.572		**0.921**	**1.079**	**0.921**						
		Edge 2 at 0mm	0.141						**0.141**	**0.141**	**0.141**						

5.2 SPLSR Evaluation and Analysis

General Note:

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

Bottom Face

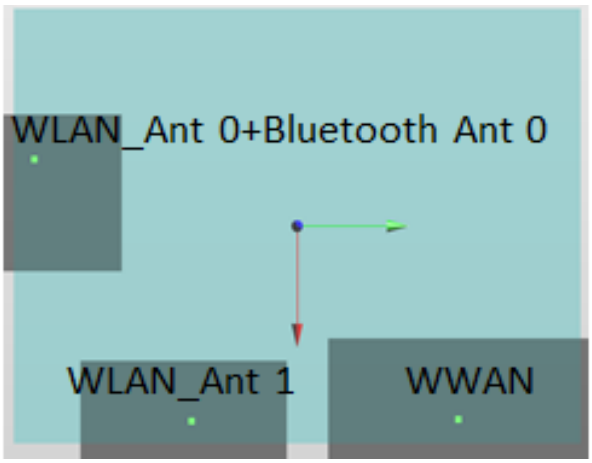


	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 1	WCDMA II	Bottom Face	1.118	20	84.5	73.6	-0.03	221.4	2.02	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	WCDMA II	Bottom Face	1.118	20	84.5	73.6	-0.03	121.2	1.84	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 2	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA II	Bottom Face	1.095	0	84.5	73.6	-0.03	221.4	2.00	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	WCDMA II	Bottom Face	1.095	0	84.5	73.6	-0.03	121.2	1.81	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 3	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Bottom Face	0.658	20	84.5	74.8	-0.02	222.5	1.56	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	WCDMA IV	Bottom Face	0.658	20	84.5	74.8	-0.02	122.4	1.38	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 4	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Bottom Face	1.029	0	84.5	74.8	-0.02	222.5	1.94	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	WCDMA IV	Bottom Face	1.029	0	84.5	74.8	-0.02	122.4	1.75	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 5	WCDMA V	Bottom Face	0.232	20	84.6	77.9	-0.1	225.3	1.14	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	WCDMA V	Bottom Face	0.232	20	84.6	77.9	-0.1	125.5	0.95	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 6	WCDMA V	Bottom Face	1.02	0	84.6	77.9	-0.1	225.3	1.93	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	WCDMA V	Bottom Face	1.02	0	84.6	77.9	-0.1	125.5	1.74	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 7	LTE Band 2	Bottom Face	0.74	20	85.6	74.4	0.56	222.6	1.65	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 2	Bottom Face	0.74	20	85.6	74.4	0.56	122.1	1.46	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 8	LTE Band 2	Bottom Face	1.027	0	85.6	74.4	0.56	222.6	1.93	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 2	Bottom Face	1.027	0	85.6	74.4	0.56	122.1	1.75	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 9	LTE Band 7	Bottom Face	0.188	20	74.4	103.6	-0.18	244.7	1.09	0.00	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 7	Bottom Face	0.188	20	74.4	103.6	-0.18	151.4	0.91	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 10	LTE Band 7	Bottom Face	1.178	0	74.4	103.6	-0.18	244.7	2.08	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 7	Bottom Face	1.178	0	74.4	103.6	-0.18	151.4	1.90	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 11	LTE Band 12	Bottom Face	0.116	20	85	76.4	2.78	224.2	1.02	0.00	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 12	Bottom Face	0.116	20	85	76.4	2.78	124.1	0.83	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 12	LTE Band 12	Bottom Face	1.198	0	85	76.4	2.78	224.2	2.10	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 12	Bottom Face	1.198	0	85	76.4	2.78	124.1	1.92	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 13	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Bottom Face	0.165	20	85	79.5	2.83	226.9	1.07	0.00	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 13	Bottom Face	0.165	20	85	79.5	2.83	127.2	0.88	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 14	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Bottom Face	1.042	0	85	79.5	2.83	226.9	1.95	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 13	Bottom Face	1.042	0	85	79.5	2.83	127.2	1.76	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 15	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 14	Bottom Face	0.175	20	86.5	79.5	2.07	227.6	1.08	0.00	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 14	Bottom Face	0.175	20	86.5	79.5	2.07	127.2	0.89	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 16	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 14	Bottom Face	1.178	0	86.5	79.5	2.07	227.6	2.08	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 14	Bottom Face	1.178	0	86.5	79.5	2.07	127.2	1.90	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 17	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 26	Bottom Face	0.227	20	81.1	82.6	-0.06	228.0	1.13	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 26	Bottom Face	0.227	20	81.1	82.6	-0.06	130.2	0.95	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 18	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 26	Bottom Face	1.069	0	81.1	82.6	-0.06	228.0	1.98	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 26	Bottom Face	1.069	0	81.1	82.6	-0.06	130.2	1.79	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				

	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 19	LTE Band 41	Bottom Face	0.122	20	84	99.8	0.63	244.9	1.03	0.00	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 41	Bottom Face	0.122	20	84	99.8	0.63	147.4	0.84	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 20	LTE Band 41	Bottom Face	1.175	0	84	99.8	0.63	244.9	2.08	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 41	Bottom Face	1.175	0	84	99.8	0.63	147.4	1.89	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 21	LTE Band 66	Bottom Face	0.635	20	85.5	76	0.42	224.0	1.54	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 66	Bottom Face	0.635	20	85.5	76	0.42	123.7	1.35	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 22	LTE Band 66	Bottom Face	1.11	0	85.5	76	0.42	224.0	2.02	0.01	Not required
	WLAN2.4GHz_Ant 0		0.906	0	-14.99	-124.2	-0.2				
	LTE Band 66	Bottom Face	1.11	0	85.5	76	0.42	123.7	1.83	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	WLAN2.4GHz_Ant 0	Bottom Face	0.906	0	-14.99	-124.2	-0.2	123.1	1.62	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				

Bottom Face


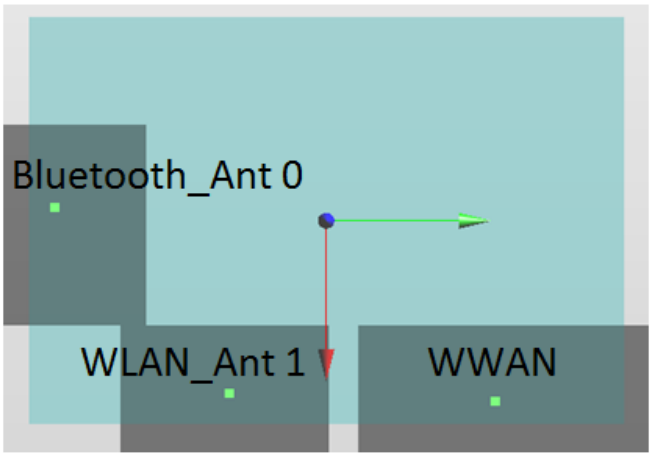
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 23	WCDMA II	Bottom Face	1.118	20	84.5	73.6	-0.03	229.6	2.24	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	WCDMA II	Bottom Face	1.118	20	84.5	73.6	-0.03	123.8	2.17	0.03	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 24	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA II	Bottom Face	1.095	0	84.5	73.6	-0.03	229.6	2.22	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	WCDMA II	Bottom Face	1.095	0	84.5	73.6	-0.03	123.8	2.15	0.03	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 25	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Bottom Face	0.658	20	84.5	74.8	-0.02	230.6	1.78	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	WCDMA IV	Bottom Face	0.658	20	84.5	74.8	-0.02	125.0	1.71	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 26	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Bottom Face	1.029	0	84.5	74.8	-0.02	230.6	2.15	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	WCDMA IV	Bottom Face	1.029	0	84.5	74.8	-0.02	125.0	2.09	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 27	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA V	Bottom Face	0.232	20	84.6	77.9	-0.1	233.4	1.36	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	WCDMA V	Bottom Face	0.232	20	84.6	77.9	-0.1	128.1	1.29	0.01	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				

	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 28	**Band**	**Position**	**SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
	WCDMA V	Bottom Face	1.02	0	84.6	77.9	-0.1	233.4	2.15	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	WCDMA V	Bottom Face	1.02	0	84.6	77.9	-0.1	128.1	2.08	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 29	**Band**	**Position**	**SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
	LTE Band 2	Bottom Face	0.74	20	85.6	74.4	0.56	230.8	1.87	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 2	Bottom Face	0.74	20	85.6	74.4	0.56	124.6	1.80	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 30	**Band**	**Position**	**SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
	LTE Band 2	Bottom Face	1.027	0	85.6	74.4	0.56	230.8	2.15	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 2	Bottom Face	1.027	0	85.6	74.4	0.56	124.6	2.08	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 31	**Band**	**Position**	**SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
	LTE Band 7	Bottom Face	0.188	20	74.4	103.6	-0.18	251.7	1.31	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 7	Bottom Face	0.188	20	74.4	103.6	-0.18	154.2	1.24	0.01	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 32	**Band**	**Position**	**SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
	LTE Band 7	Bottom Face	1.178	0	74.4	103.6	-0.18	251.7	2.30	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 7	Bottom Face	1.178	0	74.4	103.6	-0.18	154.2	2.23	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 33	**Band**	**Position**	**SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
	LTE Band 12	Bottom Face	0.116	20	85	76.4	2.78	232.3	1.24	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 12	Bottom Face	0.116	20	85	76.4	2.78	126.6	1.17	0.01	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 34	**Band**	**Position**	**SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
	LTE Band 12	Bottom Face	1.198	0	85	76.4	2.78	232.3	2.32	0.02	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 12	Bottom Face	1.198	0	85	76.4	2.78	126.6	2.25	0.03	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				

	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 35	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Bottom Face	0.165	20	85	79.5	2.83	235.0	1.29	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 13	Bottom Face	0.165	20	85	79.5	2.83	129.7	1.22	0.01	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 36	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Bottom Face	1.042	0	85	79.5	2.83	235.0	2.17	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 13	Bottom Face	1.042	0	85	79.5	2.83	129.7	2.10	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 37	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 14	Bottom Face	0.175	20	86.5	79.5	2.07	235.7	1.30	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 14	Bottom Face	0.175	20	86.5	79.5	2.07	129.7	1.23	0.01	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 38	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 14	Bottom Face	1.178	0	86.5	79.5	2.07	235.7	2.30	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 14	Bottom Face	1.178	0	86.5	79.5	2.07	129.7	2.23	0.03	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 39	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 26	Bottom Face	0.227	20	81.1	82.6	-0.06	235.8	1.35	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 26	Bottom Face	0.227	20	81.1	82.6	-0.06	132.9	1.28	0.01	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 40	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 26	Bottom Face	1.069	0	81.1	82.6	-0.06	235.8	2.19	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 26	Bottom Face	1.069	0	81.1	82.6	-0.06	132.9	2.13	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 41	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Bottom Face	0.122	20	84	99.8	0.63	252.4	1.25	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 41	Bottom Face	0.122	20	84	99.8	0.63	150.0	1.18	0.01	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				

	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 42	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Bottom Face	1.175	0	84	99.8	0.63	252.4	2.30	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 41	Bottom Face	1.175	0	84	99.8	0.63	150.0	2.23	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 43	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Bottom Face	0.635	20	85.5	76	0.42	232.2	1.76	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 66	Bottom Face	0.635	20	85.5	76	0.42	126.2	1.69	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
Case 44	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Bottom Face	1.11	0	85.5	76	0.42	232.2	2.24	0.01	Not required
	WLAN5GHz_Ant 0 + Bluetooth Ant 0		1.125	0	-30	-125.4	0.43				
	LTE Band 66	Bottom Face	1.11	0	85.5	76	0.42	126.2	2.17	0.03	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				
	WLAN5GHz_Ant 0 + Bluetooth Ant 0	Bottom Face	1.125	0	-30	-125.4	0.43	137.7	2.18	0.02	Not required
	WLAN5GHz_Ant 1		1.056	0	85.4	-50.2	-0.2				

Bottom Face



	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 45	WCDMA II	Bottom Face	1.118	20	84.5	73.6	-0.03	221.9	1.43	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	WCDMA II	Bottom Face	1.118	20	84.5	73.6	-0.03	121.2	1.84	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 46	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA II	Bottom Face	1.095	0	84.5	73.6	-0.03	221.9	1.41	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	WCDMA II	Bottom Face	1.095	0	84.5	73.6	-0.03	121.2	1.81	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 47	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Bottom Face	0.658	20	84.5	74.8	-0.02	222.9	0.97	0.00	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	WCDMA IV	Bottom Face	0.658	20	84.5	74.8	-0.02	122.4	1.38	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 48	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA IV	Bottom Face	1.029	0	84.5	74.8	-0.02	222.9	1.34	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	WCDMA IV	Bottom Face	1.029	0	84.5	74.8	-0.02	122.4	1.75	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 49	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA V	Bottom Face	1.02	0	84.6	77.9	-0.1	225.8	1.33	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	WCDMA V	Bottom Face	1.02	0	84.6	77.9	-0.1	125.5	1.74	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				

	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 50	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 2	Bottom Face	0.74	20	85.6	74.4	0.56	223.1	1.05	0.00	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 2	Bottom Face	0.74	20	85.6	74.4	0.56	122.1	1.46	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 51	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 2	Bottom Face	1.027	0	85.6	74.4	0.56	223.1	1.34	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 2	Bottom Face	1.027	0	85.6	74.4	0.56	122.1	1.75	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 52	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Bottom Face	1.178	0	74.4	103.6	-0.18	245.2	1.49	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 7	Bottom Face	1.178	0	74.4	103.6	-0.18	151.4	1.90	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 53	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 12	Bottom Face	1.198	0	85	76.4	2.78	224.6	1.51	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 12	Bottom Face	1.198	0	85	76.4	2.78	124.1	1.92	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 54	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Bottom Face	1.042	0	85	79.5	2.83	227.4	1.36	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 13	Bottom Face	1.042	0	85	79.5	2.83	127.2	1.76	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 55	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 14	Bottom Face	1.178	0	86.5	79.5	2.07	228.1	1.49	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 14	Bottom Face	1.178	0	86.5	79.5	2.07	127.2	1.90	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 56	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 26	Bottom Face	1.069	0	81.1	82.6	-0.06	228.5	1.38	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 26	Bottom Face	1.069	0	81.1	82.6	-0.06	130.2	1.79	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				

	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 57	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Bottom Face	1.175	0	84	99.8	0.63	245.4	1.49	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 41	Bottom Face	1.175	0	84	99.8	0.63	147.4	1.89	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 58	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Bottom Face	0.635	20	85.5	76	0.42	224.5	0.95	0.00	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 66	Bottom Face	0.635	20	85.5	76	0.42	123.7	1.35	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
Case 59	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 66	Bottom Face	1.11	0	85.5	76	0.42	224.5	1.42	0.01	Not required
	Bluetooth_Ant 0		0.314	0	-14.37	-125	-1.91				
	LTE Band 66	Bottom Face	1.11	0	85.5	76	0.42	123.7	1.83	0.02	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				
	Bluetooth_Ant 0	Bottom Face	0.314	0	-14.37	-125	-1.91	123.2	1.03	0.01	Not required
	WLAN2.4GHz_Ant 1		0.718	0	81.42	-47.6	-1.17				

Test Engineer： Jay Jian Randy Lin Carter Jhuang James Chou and Andy Chiang

6. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.

7. References

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

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

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

[4] SPEAG DASY System Handbook

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

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

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

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

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