

	847.5	15	0	22.19	21.29
		1	0	23.52	22.54
		1	7	23.81	22.53
		1	14	23.44	22.64
		8	0	22.43	21.47
		8	4	22.38	21.48
		8	7	22.42	21.48
		15	0	22.54	21.37
5	816.5	1	0	23.45	22.52
		1	12	23.30	22.40
		1	24	23.28	22.39
		12	0	22.39	21.46
		12	6	22.35	21.35
		12	13	22.24	21.32
		25	0	22.23	21.23
	831.5	1	0	23.30	22.24
		1	12	23.24	22.36
		1	24	23.47	22.34
		12	0	22.04	21.11
		12	6	22.27	21.35
		12	13	22.12	21.19
		25	0	22.11	21.11
	846.5	1	0	23.36	22.64
		1	12	23.45	22.76
		1	24	23.59	22.72
		12	0	22.36	21.17
		12	6	22.38	21.27
		12	13	22.36	21.25
		25	0	22.37	21.35
10	819	1	0	23.24	22.50
		1	24	23.24	22.54
		1	49	23.07	22.60
		25	0	22.29	21.32
		25	12	22.22	21.25
		25	25	22.03	21.03
		50	0	22.11	21.14
	831.5	1	0	23.11	22.25
		1	24	23.19	22.43
		1	49	23.02	22.21
		25	0	22.14	21.20
		25	12	22.16	21.18
		25	25	22.12	21.14
		50	0	22.19	21.13
	844	1	0	23.51	22.68
		1	24	23.60	22.54
		1	49	23.69	22.75
		25	0	22.30	21.37
		25	12	22.32	21.45
		25	25	22.38	21.35
		50	0	22.33	21.35
15	821.5	1	0	23.39	22.79
		1	37	23.46	22.52
		1	74	23.11	22.48
		36	0	22.32	21.34
		36	16	22.35	21.39
		36	35	22.23	21.27
		75	0	22.23	21.23
	831.5	1	0	23.17	22.41
		1	37	23.25	22.39
		1	74	23.25	22.39
		36	0	22.25	21.27
		36	16	22.34	21.27
		36	35	22.31	21.28
		75	0	22.21	21.22
	841.5	1	0	23.37	22.27
		1	37	23.25	22.35
		1	74	23.38	22.23

		36	0	22.30	21.35
		36	16	22.44	21.46
		36	35	22.34	21.41
		75	0	22.48	21.38

<WLAN 2.4GHz Conducted Power>

Mode	Channel	Frequency (MHz)	Conducted Output Power (dBm)			Test Rate Data
			Ant.main	Ant.aux	Total	
802.11b	1	2412	8.13	8.07	/	1 Mbps
	6	2437	8.18	8.06	/	1 Mbps
	13	2472	8.15	8.04	/	1 Mbps
802.11g	1	2412	7.89	7.68	/	6 Mbps
	6	2437	7.96	7.74	/	6 Mbps
	13	2472	7.78	7.68	/	6 Mbps
802.11n(20MHz)	1	2412	4.58	4.23	7.42	6.5 Mbps
	6	2437	4.63	4.19	7.43	6.5 Mbps
	13	2472	4.57	4.22	7.41	6.5 Mbps
802.11n(40MHz)	3	2422	4.68	4.15	7.42	13 Mbps
	6	2437	4.55	4.24	7.41	13 Mbps
	9	2452	4.68	4.12	7.42	13 Mbps

Note: SAR is not required for the following 2.4 GHz OFDM conditions as the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

<WLAN 5GHz U-NI-1 Conducted Power>

Mode	Channel	Frequency (MHz)	Conducted Output Power(dBm)		
			Ant.main	Ant.aux	Total
802.11a	36	5180	6.98	6.86	/
	40	5200	6.95	6.49	/
	48	5240	6.96	6.78	/
802.11n(20MHz)	36	5180	3.96	3.76	6.87
	40	5200	3.98	3.68	6.84
	48	5240	3.94	3.72	6.84
802.11n(40MHz)	38	5190	3.85	3.82	6.81
	46	5230	3.86	3.84	6.78
802.11ac(20MHz)	36	5180	3.92	3.68	6.82
	40	5200	3.89	3.65	6.85
	48	5240	3.87	3.74	6.86
802.11ac(40MHz)	38	5190	3.89	3.85	6.88
	46	5230	3.92	3.74	6.84
802.11ac(80MHz)	42	5210	3.91	3.47	6.71

<WLAN 5GHz U-NI-3 Conducted Power>

Mode	Channel	Frequency (MHz)	Conducted Output Power(dBm)		
			Ant0	Ant1	Sum
802.11a	149	5745	6.92	6.88	/
	157	5785	6.89	6.90	/
	165	5825	6.95	6.87	/
802.11n(20MHz)	149	5745	3.94	3.83	6.90
	157	5785	3.99	3.74	6.88
	165	5825	3.97	3.65	6.82
802.11n(40MHz)	151	5755	3.92	3.68	6.75
	159	5795	3.79	3.75	6.77
802.11ac(20MHz)	149	5745	3.91	3.57	6.80
	157	5785	3.87	3.65	6.81
	165	5825	3.79	3.78	6.78
802.11ac(40MHz)	151	5755	3.86	3.84	6.86
	159	5795	3.88	3.74	6.82
802.11ac(80MHz)	155	5775	3.83	3.8	6.83

<BT Conducted Power>

Mode	channel	Frequency (MHz)	Conducted AVG output power (dBm)
BLE	0	2402	2.297
	19	2440	2.663
	39	2480	2.254

Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Bluetooth Turn up Power (dBm)	Separation Distance (mm)	Frequency (GHz)	Exclusion Thresholds
3.0	5	2.45	0.6

Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion. The test exclusion threshold is $0.6 < 3.0$, SAR testing is not required.

WLAN 2.4GHz Turn up Power (dBm)	Separation Distance (mm)	Frequency (GHz)	Exclusion Thresholds
9.0	5	2.45	2.5

Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion. The test exclusion threshold is $2.5 < 3.0$, SAR testing is not required.

WLAN 5GHz U-NI-1 Turn up Power (dBm)	Separation Distance (mm)	Frequency (GHz)	Exclusion Thresholds
7.0	5	2.45	1.6

Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion. The test exclusion threshold is $1.6 < 3.0$, SAR testing is not required.

5GHz U-NI-3 Turn up Power (dBm)	Separation Distance (mm)	Frequency (GHz)	Exclusion Thresholds
7.0	5	2.45	1.6

Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion. The test exclusion threshold is $1.6 < 3.0$, SAR testing is not required.

4.2. Manufacturing tolerance

UMTS

UMTS Band V			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	23.0	23.0	23.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSDPA(sub-test 1)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSDPA(sub-test 2)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSDPA(sub-test 3)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSDPA(sub-test 4)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 1)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 2)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 3)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 4)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band V HSUPA(sub-test 5)			
Channel	Channel 4132	Channel 4183	Channel 4233
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

UMTS Band II			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	23.0	23.0	23.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSDPA(sub-test 1)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSDPA(sub-test 2)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSDPA(sub-test 3)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0

Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSDPA(sub-test 4)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 1)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 2)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 3)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 4)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
UMTS Band II HSUPA(sub-test 5)			
Channel	Channel 9262	Channel 9400	Channel 9538
Target (dBm)	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

LTE Band 2

BW:1.4MHz [<RB=1>]						
Channel	Channel 18607		Channel 18900		Channel 19193	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:1.4MHz [<RB=3>, <RB=6>]						
Channel	Channel 18607		Channel 18900		Channel 19193	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=1>]						
Channel	Channel 18615		Channel 18900		Channel 19185	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=8>, <RB=15>]						
Channel	Channel 18615		Channel 18900		Channel 19185	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=1>]						
Channel	Channel 18625		Channel 18900		Channel 19175	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=12>, <RB=25>]						
Channel	Channel 18625		Channel 18900		Channel 19175	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=1>]						

Channel	Channel 18650		Channel 18900		Channel 19150	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=25>, <RB=50>]						
Channel	Channel 18650		Channel 18900		Channel 19150	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=1>]						
Channel	Channel 18675		Channel 18900		Channel 19125	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=37>, <RB=75>]						
Channel	Channel 18675		Channel 18900		Channel 19125	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	21.0	20.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:20MHz [<RB=1>]						
Channel	Channel 18700		Channel 18900		Channel 19100	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:20MHz [<RB=50>, <RB=100>]						
Channel	Channel 18700		Channel 18900		Channel 19100	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0

LTE Band 4

BW:1.4MHz [<RB=1>]						
Channel	Channel 19957		Channel 20175		Channel 20393	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:1.4MHz [<RB=3>, <RB=6>]						
Channel	Channel 19957		Channel 20175		Channel 20393	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=1>]						
Channel	Channel 19965		Channel 20175		Channel 20385	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=8>, <RB=15>]						
Channel	Channel 19965		Channel 20175		Channel 20385	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=1>]						
Channel	Channel 19975		Channel 20175		Channel 20375	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=12>, <RB=25>]						
Channel	Channel 19975		Channel 20175		Channel 20375	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0

BW:10MHz [<RB=1>]						
Channel	Channel 20000		Channel 20175		Channel 20350	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=25>, <RB=50>]						
Channel	Channel 20000		Channel 20175		Channel 20350	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=1>]						
Channel	Channel 20025		Channel 20175		Channel 20325	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=37>, <RB=75>]						
Channel	Channel 20025		Channel 20175		Channel 20325	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:20MHz [<RB=1>]						
Channel	Channel 20050		Channel 20175		Channel 20300	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:20MHz [<RB=50>, <RB=100>]						
Channel	Channel 20050		Channel 20175		Channel 20300	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0

LTE Band 5

BW:1.4MHz [<RB=1>]						
Channel	Channel 20407		Channel 20525		Channel 20643	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:1.4MHz [<RB=3>, <RB=6>]						
Channel	Channel 20407		Channel 20525		Channel 20643	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=1>]						
Channel	Channel 20415		Channel 20525		Channel 20635	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	22.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=8>, <RB=15>]						
Channel	Channel 20415		Channel 20525		Channel 20635	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	21.0	22.0	21.0	22.0	21.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=1>]						
Channel	Channel 20425		Channel 20525		Channel 20625	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance ±(dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=12>, <RB=25>]						
Channel	Channel 20425		Channel 20525		Channel 20625	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM

Target (dBm)	21.0	20.0	22.0	21.0	22.0	20.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=1>]						
Channel	Channel 20450		Channel 20525		Channel 20600	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=25>, <RB=50>]						
Channel	Channel 20450		Channel 20525		Channel 20600	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0

LTE Band 7

BW:5MHz [<RB=1>]						
Channel	Channel 20775		Channel 21100		Channel 21425	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	20.0	21.0	20.0	20.0	20.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=12>, <RB=25>]						
Channel	Channel 20775		Channel 21100		Channel 21425	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	20.0	19.0	20.0	19.0	19.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=1>]						
Channel	Channel 20800		Channel 21100		Channel 21400	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	20.0	21.0	20.0	20.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=25>, <RB=50>]						
Channel	Channel 20800		Channel 21100		Channel 21400	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	20.0	19.0	20.0	19.0	19.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=1>]						
Channel	Channel 20825		Channel 21100		Channel 21375	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	20.0	21.0	20.0	20.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=37>, <RB=75>]						
Channel	Channel 20825		Channel 21100		Channel 21375	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	20.0	19.0	20.0	19.0	19.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:20MHz [<RB=1>]						
Channel	Channel 20850		Channel 21100		Channel 21350	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	20.0	21.0	20.0	20.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:20MHz [<RB=50>, <RB=100>]						
Channel	Channel 20850		Channel 21100		Channel 21350	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	20.0	19.0	20.0	20.0	20.0	19.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0

LTE Band 12

BW:1.4MHz [<RB=1>]						
Channel	Channel 23017		Channel 23095		Channel 23173	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	24.0	23.0	23.0	23.0	23.0	23.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:1.4MHz [<RB=3>, <RB=6>]						
Channel	Channel 23017		Channel 23095		Channel 23173	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=1>]						
Channel	Channel 23025		Channel 23095		Channel 23165	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	24.0	23.0	23.0	23.0	24.0	23.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=8>, <RB=15>]						
Channel	Channel 23025		Channel 23095		Channel 23165	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	22.0	22.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=1>]						
Channel	Channel 23035		Channel 23095		Channel 23155	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	23.0	24.0	22.0	23.0	23.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=12>, <RB=25>]						
Channel	Channel 23035		Channel 23095		Channel 23155	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=1>]						
Channel	Channel 23060		Channel 23095		Channel 23130	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	23.0	23.0	23.0	24.0	23.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=25>, <RB=50>]						
Channel	Channel 23060		Channel 23095		Channel 23130	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0

LTE Band 13

BW:5MHz [<RB=1>]						
Channel	Channel 23205		Channel 23230		Channel 23255	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	23.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=12>, <RB=25>]						
Channel	Channel 23205		Channel 23230		Channel 23255	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=1>]						
Channel	Channel 23230					
	QPSK			16QAM		
Target (dBm)	23.0			22.0		
Tolerance $\pm$ (dB)	1.0			1.0		

BW:10MHz [<RB=25>, <RB=50>]		
Channel	Channel 23230	
	QPSK	16QAM
Target (dBm)	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0

LTE Band 25

BW:1.4MHz [<RB=1>]						
Channel	Channel 24047		Channel 23365		Channel 26683	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:1.4MHz [<RB=3>, <RB=6>]						
Channel	Channel 24047		Channel 23365		Channel 26683	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	21.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=1>]						
Channel	Channel 24055		Channel 23365		Channel 26675	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=8>, <RB=15>]						
Channel	Channel 24055		Channel 23365		Channel 26675	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	21.0	22.0	21.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=1>]						
Channel	Channel 24065		Channel 23365		Channel 26665	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=12>, <RB=25>]						
Channel	Channel 24065		Channel 23365		Channel 26665	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	21.0	21.0	22.0	21.0	22.0	20.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=1>]						
Channel	Channel 24090		Channel 23365		Channel 26640	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=25>, <RB=50>]						
Channel	Channel 24090		Channel 23365		Channel 26640	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	21.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=1>]						
Channel	Channel 24115		Channel 23365		Channel 26615	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=37>, <RB=75>]						
Channel	Channel 24115		Channel 23365		Channel 26615	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:20MHz [<RB=1>]						
Channel	Channel 24140		Channel 23365		Channel 26590	

	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	22.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:20MHz [<RB=50>, <RB=100>]						
Channel	Channel 24140		Channel 23365		Channel 26590	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	22.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0

LTE Band 26

BW:1.4MHz [<RB=1>]						
Channel	Channel 26697		Channel 26865		Channel 27033	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	23.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:1.4MHz [<RB=3>, <RB=6>]						
Channel	Channel 26697		Channel 26865		Channel 27033	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=1>]						
Channel	Channel 26705		Channel 26865		Channel 27025	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:3MHz [<RB=8>, <RB=15>]						
Channel	Channel 26705		Channel 26865		Channel 27025	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=1>]						
Channel	Channel 26715		Channel 26865		Channel 27015	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:5MHz [<RB=12>, <RB=25>]						
Channel	Channel 26715		Channel 26865		Channel 27015	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=1>]						
Channel	Channel 26740		Channel 26865		Channel 26990	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:10MHz [<RB=25>, <RB=50>]						
Channel	Channel 26740		Channel 26865		Channel 26990	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=1>]						
Channel	Channel 26765		Channel 26865		Channel 26965	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	23.0	22.0	23.0	22.0	23.0	22.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0
BW:15MHz [<RB=36>, <RB=75>]						
Channel	Channel 26765		Channel 26865		Channel 26965	
	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Target (dBm)	22.0	21.0	22.0	21.0	22.0	21.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0	1.0	1.0	1.0

WiFi 2.4G

Ant.main			
IEEE 802.11b (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	8.0	8.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11g (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	7.0	7.0	7.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	4.0	4.0	4.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11n HT40 (Average)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	4.0	4.0	4.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
Ant.aux			
IEEE 802.11b (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	8.0	8.0	8.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11g (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	7.0	7.0	7.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11n HT20 (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	4.0	4.0	4.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11n HT40 (Average)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	4.0	4.0	4.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
Total			
IEEE 802.11n HT20 (Average)			
Channel	Channel 1	Channel 6	Channel 11
Target (dBm)	7.0	7.0	7.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11n HT40 (Average)			
Channel	Channel 3	Channel 6	Channel 9
Target (dBm)	7.0	7.0	7.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

WLAN 5GHz U-NI-1

Ant.main			
IEEE 802.11a (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	6.0	6.0	6.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11n(20MHz) (Average)			
Channel	Channel 36	Channel 40	Channel 48
Target (dBm)	3.0	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0
IEEE 802.11n(40MHz) (Average)			
Channel	Channel 38	Channel 46	

Target (dBm)	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac(20MHz) (Average)		
Channel	Channel 36	Channel 40
Target (dBm)	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac (40MHz) Average)		
Channel	Channel 38	Channel 46
Target (dBm)	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac(80MHz) Average)		
Channel	Channel 42	
Target (dBm)	3.0	
Tolerance $\pm$ (dB)	1.0	
Ant.aux		
IEEE 802.11a (Average)		
Channel	Channel 36	Channel 40
Target (dBm)	6.0	6.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11n(20MHz) (Average)		
Channel	Channel 36	Channel 40
Target (dBm)	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11n(40MHz) Average)		
Channel	Channel 38	Channel 46
Target (dBm)	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac(20MHz) (Average)		
Channel	Channel 36	Channel 40
Target (dBm)	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac (40MHz) Average)		
Channel	Channel 38	Channel 46
Target (dBm)	3.0	3.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac(80MHz) Average)		
Channel	Channel 42	
Target (dBm)	3.0	
Tolerance $\pm$ (dB)	1.0	
Total		
IEEE 802.11n(20MHz) (Average)		
Channel	Channel 36	Channel 40
Target (dBm)	6.0	6.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11n(40MHz) Average)		
Channel	Channel 38	Channel 46
Target (dBm)	6.0	6.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac(20MHz) (Average)		
Channel	Channel 36	Channel 40
Target (dBm)	6.0	6.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac (40MHz) Average)		
Channel	6.0	6.0
Target (dBm)	13.0	13.0
Tolerance $\pm$ (dB)	1.0	1.0
IEEE 802.11ac(80MHz) Average)		
Channel	Channel 42	
Target (dBm)	6.0	
Tolerance $\pm$ (dB)	1.0	

WLAN 5GHz U-NI-3

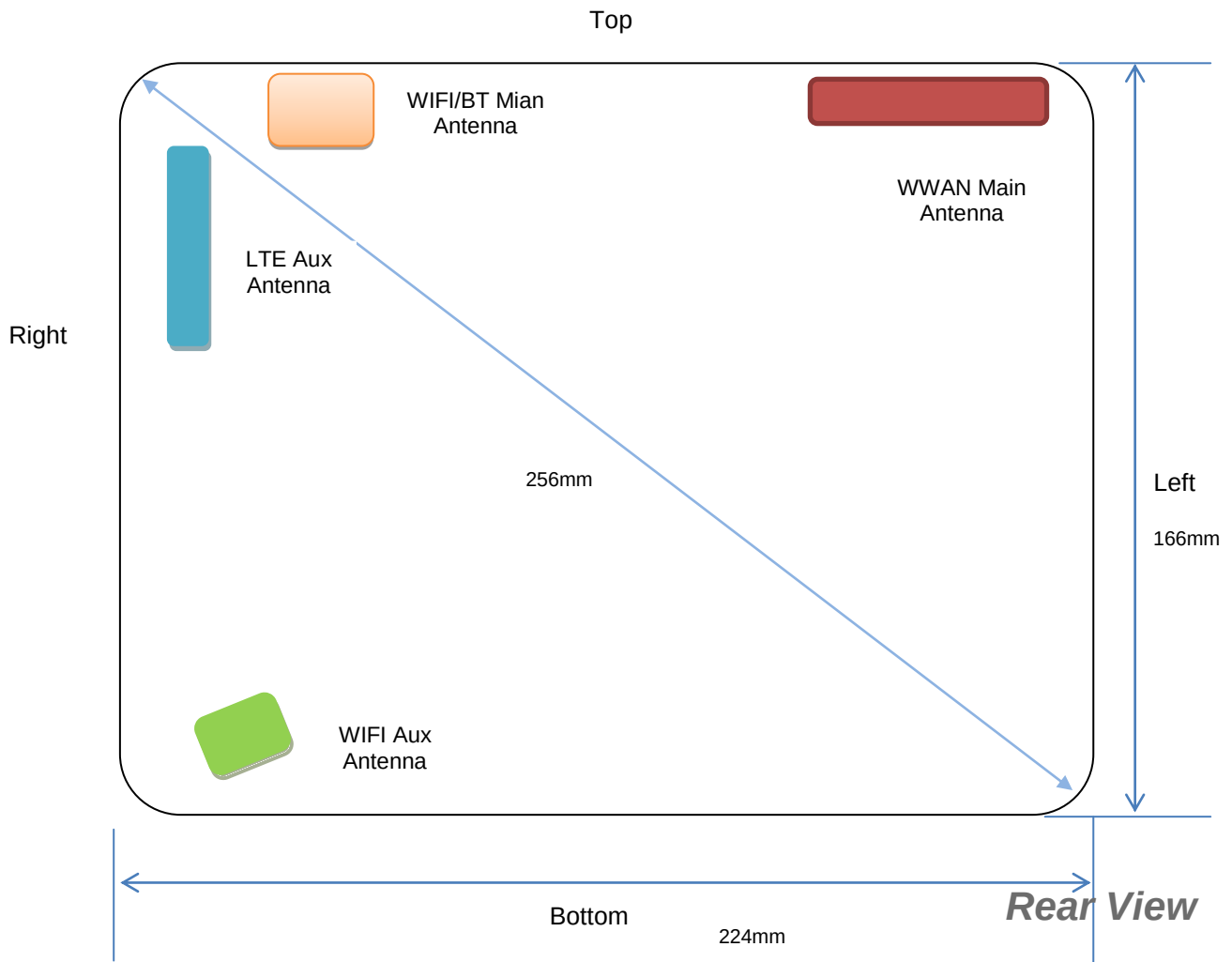
Ant.main			
IEEE 802.11a (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	6.0	6.0	6.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n(20MHz) (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	3.0	3.0	3.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n(40MHz) HT20 (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	3.0	3.0	
Tolerance ±(dB)	1.0	1.0	
IEEE 802.11n(20MHz) (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	3.0	3.0	3.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11ac(40MHz) HT20 (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	3.0	3.0	
Tolerance ±(dB)	1.0	1.0	
IEEE 802.11ac(80MHz) Average)			
Channel	Channel 155		
Target (dBm)	3.0		
Tolerance ±(dB)	1.0		
Ant.aux			
IEEE 802.11a (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	6.0	6.0	6.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n(20MHz) (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	3.0	3.0	3.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n(40MHz) HT20 (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	3.0	3.0	
Tolerance ±(dB)	1.0	1.0	
IEEE 802.11n(20MHz) (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	3.0	3.0	3.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11ac(40MHz) HT20 (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	3.0	3.0	
Tolerance ±(dB)	1.0	1.0	
IEEE 802.11ac(80MHz) Average)			
Channel	Channel 155		
Target (dBm)	3.0		
Tolerance ±(dB)	1.0		
Total			
IEEE 802.11n(20MHz) (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	6.0	6.0	6.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11n(40MHz) (Average)			
Channel	Channel 151	Channel 159	
Target (dBm)	6.0	6.0	

Tolerance ±(dB)	1.0		1.0
IEEE 802.11n(20MHz) (Average)			
Channel	Channel 149	Channel 157	Channel 165
Target (dBm)	6.0	6.0	6.0
Tolerance ±(dB)	1.0	1.0	1.0
IEEE 802.11ac(40MHz) (Average)			
Channel	Channel 151		Channel 159
Target (dBm)	6.0		6.0
Tolerance ±(dB)	1.0		1.0
IEEE 802.11ac(80MHz) Average)			
Channel	Channel 155		
Target (dBm)	6.0		
Tolerance ±(dB)	1.0		

Bluetooth V4.0

BLE-GFSK (Average)			
Channel	Channel 0	Channel 19	Channel 39
Target (dBm)	2.0	2.0	2.0
Tolerance $\pm$ (dB)	1.0	1.0	1.0

4.3. Transmit Antennas and SAR Measurement Position



Antenna information:

WWAN Main Antenna	UMTS/LTE TX/RX
LTE Aux Antenna	LTE RX
WLAN/BT Antenna	WLAN TX/RX
WIFI Aux Antenna	WLAN RX

Note:

- 1). Per KDB648474 D04, because the overall diagonal distance of this devices is 256mm>160mm, it is considered as "Table" device.
- 2). Per KDB648474 D04, 10-g extremity SAR is not required when Body-Worn mode 1-g reported SAR < 1.2 W/Kg.
- 3). According to the KDB941225 D06 Hot Spot SAR v02, the edges with less than 25 mm distance to the antennas need to be tested for SAR.

Distance of The Antenna to the EUT surface and edge (mm)

Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
WWAN	<5	<5	<5	153	<5	152
WLAN	<5	<5	<5	153	164	40

Positions for SAR tests; Hotspot mode

Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
WWAN	Yes	Yes	Yes	No	Yes	No
WLAN	Yes	Yes	Yes	No	No	No

General Note: Referring to KDB 941225 D06 v02, When the overall device length and width are $\geq 9\text{cm} \times 5\text{cm}$, the test distance is 5mm, SAR must be measured for all sides and surfaces with a transmitting antenna located with 25mm from that surface or edge.

4.4. SAR Measurement Results

The calculated SAR is obtained by the following formula:

$$\text{Reported SAR} = \text{Measured SAR} * 10^{(P_{\text{target}} - P_{\text{measured}})/10}$$

$$\text{Scaling factor} = 10^{(P_{\text{target}} - P_{\text{measured}})/10}$$

$$\text{Reported SAR} = \text{Measured SAR} * \text{Scaling factor}$$

Where

P_{target} is the power of manufacturing upper limit;

P_{measured} is the measured power;

Measured SAR is measured SAR at measured power which including power drift)

Reported SAR which including Power Drift and Scaling factor

Duty Cycle

Test Mode	Duty Cycle
UMTS	1:1
LTE	1:1

4.4.1 SAR Results

SAR Values [WCDMA Band V]

SAR values [WCDMA Band V]										
Ch.	Freq. (MHz)	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reported	
measured / reported SAR numbers - Body (hotspot open, distance 0mm)										
4132	826.4	RMC*	Front	23.53	24.00	-1.42	1.114	0.326	0.363	
4132	826.4	RMC*	Rear	23.53	24.00	0.77	1.114	0.644	0.718	Plot 1
4132	826.4	RMC*	Left	23.53	24.00	0.01	1.114	0.121	0.135	
4132	826.4	RMC*	Top	23.53	24.00	2.65	1.114	0.233	0.260	

Remark:

1. The value with black color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

3. RMC* - RMC 12.2kbps mode;

SAR Values [WCDMA Band II]

SAR values [WEDMA Band II]										
Ch.	Freq. (MHz)	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reported	
measured / reported SAR numbers - Body (hotspot open, distance 0mm)										
9262	1852.4	RMC	Front	22.89	23.00	-3.22	1.026	0.676	0.693	
9262	1852.4	RMC	Rear	22.89	23.00	-0.83	1.026	1.103	1.131	Plot 2
9400	1880.0	RMC	Rear	22.64	23.00	1.43	1.086	0.963	1.046	
9538	1907.6	RMC	Rear	22.89	23.00	-2.16	1.026	1.082	1.110	
9262	1852.4	RMC	Left	22.89	23.00	0.02	1.026	0.231	0.237	
9262	1852.4	RMC	Top	22.89	23.00	-3.44	1.026	0.443	0.454	

Remark:

1. The value with black color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

3. RMC* - RMC 12.2kbps mode;

SAR Values [LTE Band 2]

Ch.	Freq. (MHz)	Channel Type (20MHz)	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reported	
measured / reported SAR numbers - Body (hotspot open, distance 0mm)										
18900	1880.0	1RB	Front	23.13	24.00	-0.19	23.13	0.863	1.054	Plot 3
18700	1860.0	1RB	Front	23.05	24.00	1.20	23.05	0.689	0.857	
19100	1900.0	1RB	Front	23.05	24.00	-3.11	23.05	0.746	0.928	
18900	1880.0	1RB	Rear	23.13	24.00	-2.49	23.13	0.511	0.624	
18900	1880.0	1RB	Left	23.13	24.00	2.54	23.13	0.132	0.161	
18900	1880.0	1RB	Top	23.13	24.00	-0.07	23.13	0.369	0.451	
18700	1860.0	50%RB	Front	22.12	23.00	-2.19	22.12	0.525	0.643	
18700	1860.0	50%RB	Rear	22.12	23.00	2.11	22.12	0.392	0.480	
18700	1860.0	50%RB	Left	22.12	23.00	-4.08	22.12	0.099	0.121	
18700	1860.0	50%RB	Top	22.12	23.00	2.54	22.12	0.212	0.260	

SAR Values [LTE Band 4]

Ch.	Freq. (MHz)	Channel Type (20MHz)	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reported	
measured / reported SAR numbers - Body (distance 0mm)										
20050	1720.0	1RB	Front	23.33	24.00	-4.47	1.167	0.666	0.777	Plot 4
20050	1720.0	1RB	Rear	23.33	24.00	0.12	1.167	0.335	0.391	
20050	1720.0	1RB	Left	23.33	24.00	-3.21	1.167	0.149	0.174	
20050	1720.0	1RB	Top	23.33	24.00	1.54	1.167	0.206	0.240	
20050	1720.0	50%RB	Front	22.27	23.00	-0.96	1.183	0.314	0.371	
20050	1720.0	50%RB	Rear	22.27	23.00	-1.12	1.183	0.257	0.304	
20050	1720.0	50%RB	Left	22.27	23.00	0.01	1.183	0.100	0.118	
20050	1720.0	50%RB	Top	22.27	23.00	2.78	1.183	0.183	0.216	

SAR Values [LTE Band 5]

Ch.	Freq. (MHz)	Channel Type (10 MHz)	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR1-g results(W/kg)		Graph Results
								Measured	Reported	
measured / reported SAR numbers - Body (hotspot open, distance 0mm)										
20600	844.0	1RB	Front	23.39	24.00	-4.58	1.151	0.683	0.786	Plot 5
20600	844.0	1RB	Rear	23.39	24.00	1.04	1.151	0.362	0.417	
20600	844.0	1RB	Left	23.39	24.00	2.01	1.151	0.130	0.150	
20600	844.0	1RB	Top	23.39	24.00	-1.44	1.151	0.197	0.227	
20600	844.0	50%RB	Front	22.19	23.00	0.02	1.205	0.411	0.495	
20600	844.0	50%RB	Rear	22.19	23.00	-1.96	1.205	0.208	0.251	
20600	844.0	50%RB	Left	22.19	23.00	-2.63	1.205	0.093	0.112	
20600	844.0	50%RB	Top	22.19	23.00	-1.79	1.205	0.146	0.176	

SAR Values [LTE Band 7]

Ch.	Freq. (MHz)	Channe / Type (20MHz)	Test Position	Conduct ed Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reported	
measured / reported SAR numbers - Body (hotspot open, distance 0mm)										
20850	2510.0	1RB	Front	21.40	22.00	1.55	1.148	0.632	0.726	
20850	2510.0	1RB	Rear	21.40	22.00	-0.29	1.148	0.859	0.986	Plot 6
21100	2535.0	1RB	Rear	21.25	22.00	1.02	1.189	0.671	0.797	
21350	2560.0	1RB	Rear	20.72	21.00	0.33	1.067	0.756	0.806	
20850	2510.0	1RB	Left	21.40	22.00	-1.40	1.148	0.193	0.222	
20800	2510.0	1RB	Top	21.40	22.00	-2.01	1.148	0.306	0.351	
21400	2535.0	50%RB	Front	20.41	21.00	-3.62	1.146	0.411	0.471	
21400	2535.0	50%RB	Rear	20.41	21.00	0.55	1.146	0.639	0.732	
21400	2535.0	50%RB	Left	20.41	21.00	-1.44	1.146	0.101	0.116	
21400	2535.0	50%RB	Top	20.41	21.00	-0.63	1.146	0.236	0.270	

SAR Values [LTE Band 12]

Ch.	Freq. (MHz)	Channel Type (10MHz)	Test Position	Conduct ed Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reporte d	
measured / reported SAR numbers - Body (hotspot open, distance 0mm)										
23130	711.0	1RB	Front	24.04	25.00	-2.00	1.247	0.337	0.420	
23130	711.0	1RB	Rear	24.04	25.00	-3.54	1.247	0.563	0.702	Plot 7
23130	711.0	1RB	Left	24.04	25.00	0.04	1.247	0.086	0.107	
23130	711.0	1RB	Top	24.04	25.00	3.76	1.247	0.199	0.248	
23130	711.0	50%RB	Front	22.85	23.00	-1.21	1.035	0.243	0.252	
23130	711.0	50%RB	Rear	22.85	23.00	0.08	1.035	0.420	0.435	
23130	711.0	50%RB	Left	22.85	23.00	-2.10	1.035	0.079	0.082	
23130	711.0	50%RB	Top	22.85	23.00	-3.78	1.035	0.146	0.151	

SAR Values [LTE Band 13]

Ch.	Freq. (MHz)	Channel Type (10MHz)	Test Position	Conduct ed Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reporte d	
measured / reported SAR numbers - Body (distance 0mm)										
23230	782.0	1RB	Front	23.53	24.00	-1.40	1.114	0.462	0.515	
23230	782.0	1RB	Rear	23.53	24.00	3.08	1.114	0.701	0.784	Plot 8
23230	782.0	1RB	Left	23.53	24.00	2.00	1.114	0.149	0.166	
23230	782.0	1RB	Top	23.53	24.00	-3.61	1.114	0.284	0.316	
23230	782.0	50%RB	Front	22.57	23.00	2.97	1.104	0.369	0.407	
23230	782.0	50%RB	Rear	22.57	23.00	-1.46	1.104	0.553	0.611	
23230	782.0	50%RB	Left	22.57	23.00	0.09	1.104	0.104	0.115	
23230	782.0	50%RB	Top	22.57	23.00	-1.00	1.104	0.206	0.227	

SAR Values [LTE Band 25]

Ch.	Freq. (MHz)	Channel Type (20MHz)	Test Position	Condu cted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reporte d	
measured / reported SAR numbers - Body (hotspot open, distance 0mm)										
26140	1860.0	1RB	Front	23.17	24.00	-0.28	1.211	0.557	0.674	Plot 9
26140	1860.0	1RB	Rear	23.17	24.00	-4.93	1.211	1.002	1.213	
26365	1882.5	1RB	Rear	23.12	24.00	-2.00	1.225	0.869	1.064	
26615	1905.0	1RB	Rear	22.77	23.00	1.38	1.054	0.895	0.944	
26140	1860.0	1RB	Left	23.17	24.00	3.64	1.211	0.159	0.192	
26140	1860.0	1RB	Top	23.17	24.00	-2.50	1.211	0.421	0.510	
26590	1905.0	50%RB	Front	22.46	23.00	4.05	1.132	0.369	0.418	
26590	1905.0	50%RB	Rear	22.46	23.00	1.56	1.132	0.663	0.751	
26590	1905.0	50%RB	Left	22.46	23.00	-1.42	1.132	0.101	0.114	
26590	1905.0	50%RB	Top	22.46	23.00	-0.63	1.132	0.263	0.298	

SAR Values [LTE Band 26]

SAR Values [LTE Band 20]										
Ch.	Freq. (MHz)	Channel Type (10MHz)	Test Position	Conduct ed Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR _{1-g} results(W/kg)		Graph Results
								Measured	Reporte d	
measured / reported SAR numbers - Body (hotspot open, distance 0mm)										
26765	821.5	1RB	Front	23.46	24.00	-1.20	1.132	0.493	0.558	Plot 10
26765	821.5	1RB	Rear	23.46	24.00	0.49	1.132	0.868	0.983	
26865	831.5	1RB	Rear	23.25	24.00	2.44	1.189	0.793	0.942	
26950	841.5	1RB	Rear	23.38	24.00	-3.57	1.153	0.801	0.924	
26765	821.5	1RB	Left	23.46	24.00	0.96	1.132	0.147	0.166	
26765	821.5	1RB	Top	23.46	24.00	-1.42	1.132	0.266	0.301	
26990	844.0	50%RB	Front	22.33	23.00	0.97	1.167	0.351	0.410	
26990	844.0	50%RB	Rear	22.33	23.00	-1.96	1.167	0.516	0.602	
26990	844.0	50%RB	Left	22.33	23.00	2.11	1.167	0.093	0.109	
26990	844.0	50%RB	Top	22.33	23.00	-1.44	1.167	0.187	0.218	

Remark:

1. The value with black color is the maximum SAR Value of each test band.
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

4.4.2 Standalone SAR Test Exclusion Considerations and Estimated SAR

Per KDB447498 requires when the standalone SAR test exclusion of section 4.3.1 is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following to determine simultaneous transmission SAR test exclusion;

• $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})} / x]$ W/kg for test separation distances ≤ 50 mm;

where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.

• 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm

Per FCC KD B447498 D01, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the transmitting antenna in a specific a physical test configuration is ≤ 1.6 W/Kg. When the sum is greater than the SAR limit, SAR test exclusion is determined by the SAR to peak location separation ratio.

$$\text{Ratio} = \frac{(\text{SAR}_1 + \text{SAR}_2)^{1.5}}{(\text{peak location separation, mm})} < 0.04$$

Estimated stand alone SAR					
Communication system	Frequency (MHz)	Configuration	Maximum Power (dBm)	Separation Distance (mm)	Estimated SAR _{1-g} (W/kg)
Bluetooth*	2450	Hotspot	3.00	5	0.083
Bluetooth*	2450	Body-worn	3.00	5	0.083
WiFi 2.4G	2450	Hotspot	9.00	5	0.332
WiFi 2.4G	2450	Body-worn	9.00	5	0.332
WLAN 5GHz U-NI-1	5200	Hotspot	7.00	5	0.209
WLAN 5GHz U-NI-1	5200	Body-worn	7.00	5	0.209
WLAN 5GHz U-NI-3	5800	Hotspot	7.00	5	0.209
WLAN 5GHz U-NI-3	5800	Body-worn	7.00	5	0.209

Remark:s

1. Bluetooth*- Including Lower power Bluetooth
2. Maximum average power including tune-up tolerance;
3. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion
4. Body as body use distance is 0mm from manufacturer declaration of user manual

4.5. Simultaneous TX SAR Considerations

4.5.1 Introduction

The following procedures adopted from "FCC SAR Considerations for Cell Phones with Multiple Transmitters" are applicable to handsets with built-in unlicensed transmitters such as 802.11 a/b/g/n and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

For the DUT, the BT and WiFi modules sharing same antenna, GSM, WCDMA and LTE modules sharing a single antenna; BT/WLAN and GSM/UMTS/LTE can simultaneous transmit;

Application Simultaneous Transmission information:

Air-Interface	Band (MHz)	Type	Simultaneous Transmissions	Voice over Digital Transport(Data)
WCDMA	Band II/ BandV	DT	Yes,WLAN or BT/BLE	N/A
LTE	Band2/Band4/Band5/ Band7/Band12/Band13/ Band25/Band26	DT	Yes,WLAN or BT/BLE	N/A
WLAN	2450	DT	Yes,GSM,GPRS,EDGE,UMTS,LTE	Yes
BLE	2450	DT	Yes,GSM,GPRS,EDGE,UMTS,LTE	N/A

Note: DT-Digital Transport

Note:

WLAN can be active at the same time, but only with interleaving of packages switched on board level. That means that they don't transmit at the same time.

4.5.2 Evaluation of Simultaneous SAR

Body Hotspot Exposure Conditions

Simultaneous transmission SAR for WiFi and UMTS

Test Position	UMTS Band V Reported SAR _{1-g} (W/Kg)	UMTS Band II Reported SAR _{1-g} (W/Kg)	WiFi2.4G Reported SAR _{1-g} (W/Kg)	WLAN 5GHz U-NI-1 (W/Kg)	WLAN 5GHz U-NI-3 (W/Kg)	MAX. Σ SAR _{1-g} (W/Kg)	SAR _{1-g} Limit (W/Kg)	Peak location separation ratio	Simut Meas. Required
Front	0.363	0.693	0.332	0.209	0.209	1.025	1.6	no	no
Rear	0.718	1.131	0.332	0.209	0.209	1.463	1.6	no	no
Left	0.135	0.237	/	/	/	0.237	1.6	no	no
Right	/	/	/	/	/	/	1.6	no	no
Bottom	/	/	/	/	/	/	1.6	no	no
Top	0.260	0.454	0.332	0.209	0.209	0.786	1.6	no	no

Simultaneous transmission SAR for WiFi and LTE

Reported SAR _{1-g} (W/kg)	Test Position					
	Front	Rear	Left	Right	Bottom	Top
LTE Band2	1.054	0.624	0.161	/	/	0.451
LTE Band4	0.777	0.391	0.174	/	/	0.240
LTE Band5	0.786	0.417	0.150	/	/	0.227
LTE Band7	0.726	0.986	0.222	/	/	0.351
LTE Band12	0.420	0.702	0.107	/	/	0.248
LTE Band13	0.515	0.784	0.166	/	/	0.316
LTE Band25	0.674	1.213	0.192	/	/	0.510
LTE Band26	0.558	0.983	0.166	/	/	0.301
WiFi2.4G	0.332	0.332	/	/	/	0.332
WLAN 5GHz U-NI-1	0.209	0.209	/	/	/	0.209
WLAN 5GHz U-NI-3	0.209	0.209	/	/	/	0.209
MAX. Σ SAR _{1-g} (W/kg)	1.386	1.545	0.554	1.344	/	0.842
SAR _{1-g} Limit (W/kg)	1.6	1.6	1.6	1.6	1.6	1.6
Peak location separation ratio	no	no	no	no	no	no
Simut Meas. Required	no	no	no	no	no	no

Simultaneous transmission SAR for BT and UMTS

Test Position	UMTS Band V Reported SAR _{1-g} (W/Kg)	UMTS Band II Reported SAR _{1-g} (W/Kg)	BT Estimated SAR _{1-g} (W/Kg)	MAX. Σ SAR _{1-g} (W/Kg)	SAR _{1-g} Limit (W/Kg)	Peak location separation ratio	Simut Meas. Required
Front	0.363	0.693	0.083	0.776	1.6	no	no
Rear	0.718	1.131	0.083	1.214	1.6	no	no
Left	0.135	0.237	/	0.237	1.6	no	no
Right	/	/	/	/	1.6	no	no
Bottom	/	/	/	/	1.6	no	no
Top	0.260	0.454	0.083	0.537	1.6	no	no

Simultaneous transmission SAR for BT and LTE

Reported SAR _{1-g} (W/kg)	Test Position					
	Front	Rear	Left	Right	Bottom	Top
LTE Band2	1.054	0.624	0.161	/	/	0.451
LTE Band4	0.777	0.391	0.174	/	/	0.240
LTE Band5	0.786	0.417	0.150	/	/	0.227
LTE Band7	0.726	0.986	0.222	/	/	0.351
LTE Band12	0.420	0.702	0.107	/	/	0.248
LTE Band13	0.515	0.784	0.166	/	/	0.316
LTE Band25	0.674	1.213	0.192	/	/	0.510
LTE Band26	0.558	0.983	0.166	/	/	0.301
BT Estimated SAR _{1-g} (W/kg)	0.083	0.083	/	/	/	0.083
MAX. Σ SAR _{1-g} (W/kg)	1.137	1.296	0.305	/	/	0.593
SAR _{1-g} Limit (W/kg)	1.6	1.6	1.6	1.6	1.6	1.6
Peak location separation ratio	no	no	no	no	no	no
Simut Meas. Required	no	no	no	no	no	no

Note:

1. The WiFi and BT share same antenna, so cannot transmit at same time.
2. The value with block color is the maximum values of standalone
3. The value with blue color is the maximum values of Σ SAR_{1-g}

4.6. SAR Measurement Variability

According to KDB865664, Repeated measurements are required only when the measured SAR is ≥ 0.80 W/kg. If the measured SAR value of the initial repeated measurement is < 1.45 W/kg with $\leq 20\%$ variation, only one repeated measurement is required to reaffirm that the results are not expected to have substantial variations, which may introduce significant compliance concerns. A second repeated measurement is required only if the measured result for the initial repeated measurement is within 10% of the SAR limit and vary by more than 20%, which are often related to device and measurement setup difficulties. The following procedures are applied to determine if repeated measurements are required. The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.¹⁹ The repeated measurement results must be clearly identified in the SAR report. All measured SAR, including the repeated results, must be considered to determine compliance and for reporting according to KDB 690783. Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

- 3) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 4) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 5) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .
- 6) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Frequency Band (MHz)	Air Interface	RF Exposure Configuration	Test Position	Repeated SAR (yes/no)	Highest Measured SAR _{1-g} (W/kg)	First Repeated	
						Measured SAR _{1-g} (W/kg)	Largest to Smallest SAR Ratio
750	LTE Band 12	Standalone	Body-Rear	no	0.563	n/a	n/a
	LTE Band 13	Standalone	Body-Rear	no	0.701	n/a	n/a
850	WCDMA Band V	Standalone	Body-Rear	no	0.644	n/a	n/a
	LTE Band 5	Standalone	Body-Front	no	0.683	n/a	n/a
	LTE Band 26	Standalone	Body-Rear	no	0.868	0.812	1.069
1800	LTE Band 4	Standalone	Body-Front	no	0.666	n/a	n/a
1900	WCDMA Band II	Standalone	Body-Rear	no	1.103	0.935	1.180
	LTE Band 2	Standalone	Body-Front	no	0.863	0.796	1.084
	LTE Band 25	Standalone	Body-Rear	no	1.001	0.922	1.086
2600	LTE Band 7	Standalone	Body-Rear	no	0.859	0.743	1.156

Remark:

1. Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20 or 3 (1-g or 10-g respectively)

4.7. General description of test procedures

1. The DUT is tested using CMU 200 communications testers as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted peak power.
2. Test positions as described in the tables above are in accordance with the specified test standard.
3. Tests in body position were performed in that configuration, which generates the highest time based averaged output power (see conducted power results).
4. Tests in head position with GSM were performed in voice mode with 1 timeslot unless GPRS/EGPRS/DTM function allows parallel voice and data traffic on 2 or more timeslots.
5. UMTS was tested in RMC mode with 12.2 kbit/s and TPC bits set to 'all 1'.
6. WiFi was tested in 802.11b/g/n mode with 1 Mbit/s and 6 Mbit/s. According to KDB 248227 the SAR testing for 802.11g/n is not required since When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
7. Required WiFi test channels were selected according to KDB 248227
8. According to FCC KDB pub 248227 D01, When there are multiple test channels with the same measured maximum output power, the channel closest to mid-band frequency is selected for SAR measurement and when there are multiple test channels with the same measured maximum output power and equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

9. According to FCC KDB pub 941225 D06 this device has been tested with 10 mm distance to the phantom for operation in WiFi hot spot mode.
10. Per FCC KDB pub 941225 D06 the edges with antennas within 2.5 cm are required to be evaluated for SAR to cover WiFi hot spot function.
11. According to IEEE 1528 the SAR test shall be performed at middle channel. Testing of top and bottom channel is optional.
12. According to KDB 447498 D01 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
13. IEEE 1528-2003 require the middle channel to be tested first. This generally applies to wireless devices that are designed to operate in technologies with tight tolerances for maximum output power variations across channels in the band.
14. Per KDB648474 D04 require when the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is < 1.2 W/kg.
15. Per KDB648474 D04 require when the separation distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, using the same wireless mode test configuration for voice and data, such as UMTS, LTE and Wi-Fi, and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface)
16. 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g SAR > 1.2 W/kg.
17. Per KDB648474 D04 require for phablet SAR test considerations. For EUT with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.
18. 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g SAR > 1.2 W/kg.

4.8. Measurement Uncertainty (450MHz-6GHz)

Not required as SAR measurement uncertainty analysis is required in SAR reports only when the highest measured SAR in a frequency band is ≥ 1.5 W/kg for 1-g SAR according to KDB865664D01.

4.9. System Check Results

Test mode:750MHz(Body)

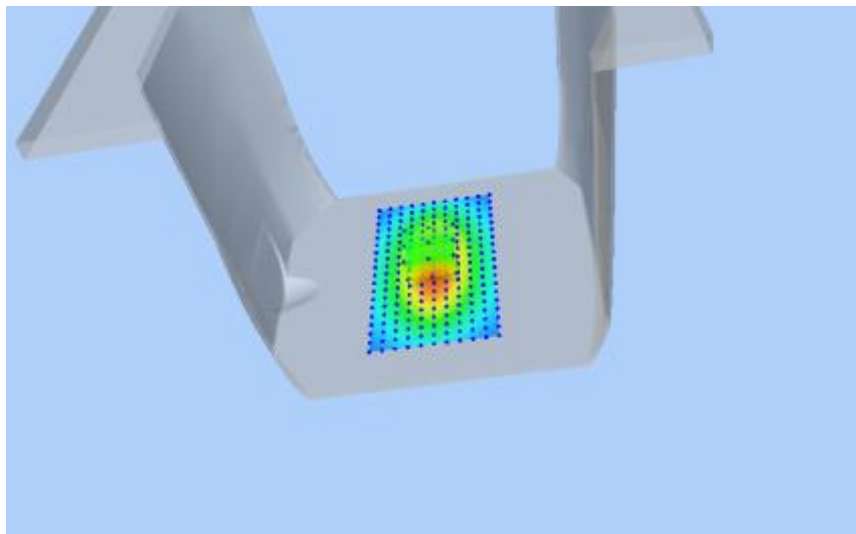
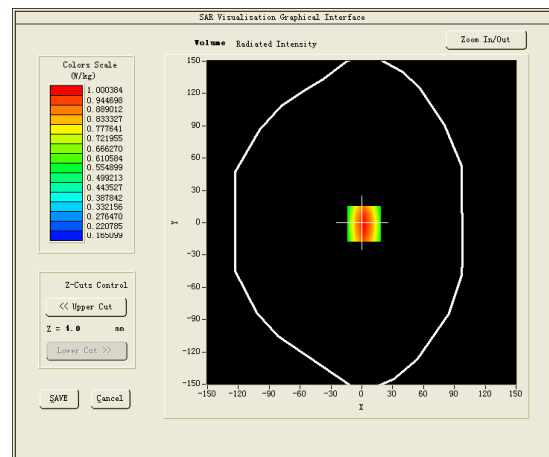
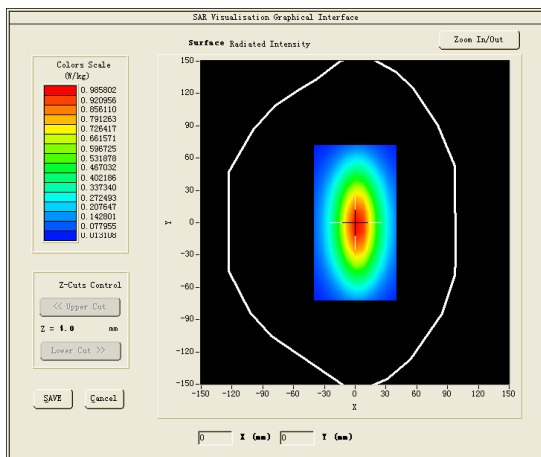
Product Description:Validation

Model:Dipole SID750

E-Field Probe: SSE2(SN 31/17 EPGO324)

Test Date: April 22, 2019

Medium(liquid type)	MSL_750
Frequency (MHz)	750.0000
Relative permittivity (real part)	57.24
Conductivity (S/m)	0.97
Input power	100mW
Crest Factor	1.0
Conversion Factor	1.50
Variation (%)	-1.440000
SAR 10g (W/Kg)	0.562316
SAR 1g (W/Kg)	0.870041
SURFACE SAR	VOLUME SAR



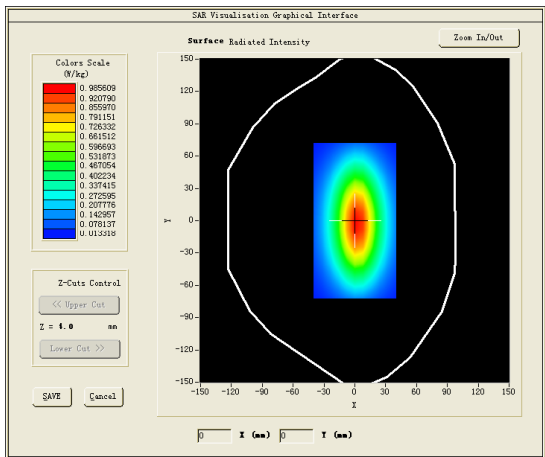
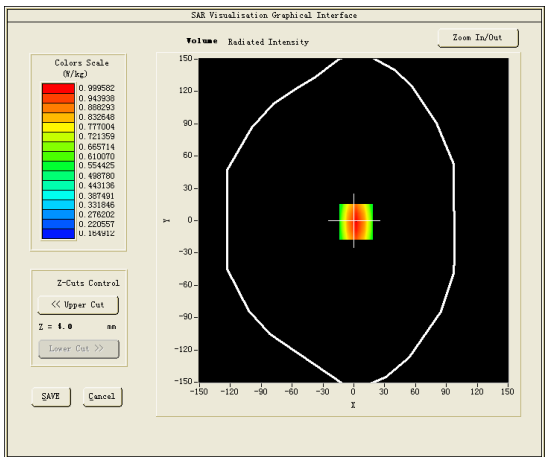
Test mode:835MHz(Body)

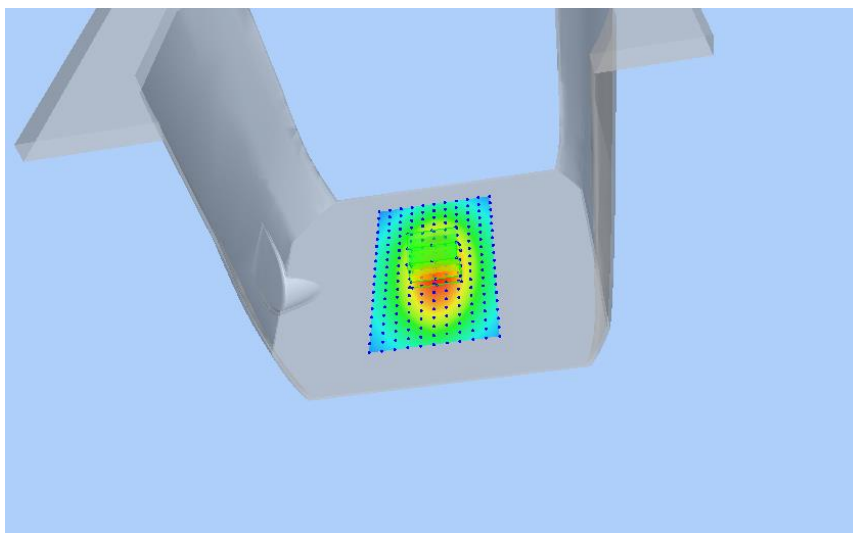
Product Description:Validation

Model:Dipole SID835

E-Field Probe:SSE2(SN 31/17 EPGO324)

Test Date: April 22, 2019

Medium(liquid type)	MSL_850
Frequency (MHz)	835.0000
Relative permittivity (real part)	53.54
Conductivity (S/m)	0.99
Input power	100mW
Crest Factor	1.0
Conversion Factor	1.59
Variation (%)	-3.110000
SAR 10g (W/Kg)	0.648642
SAR 1g (W/Kg)	0.952130
SURFACE SAR	VOLUME SAR
	



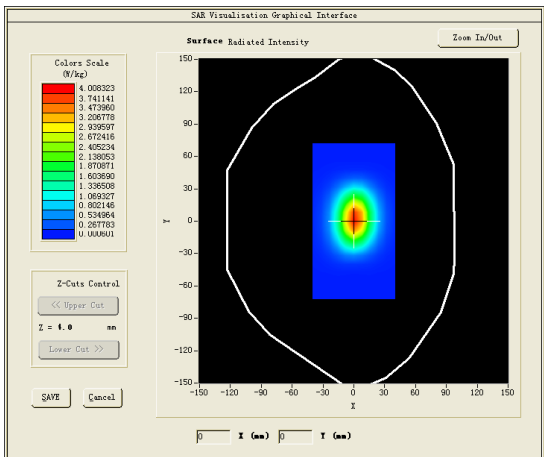
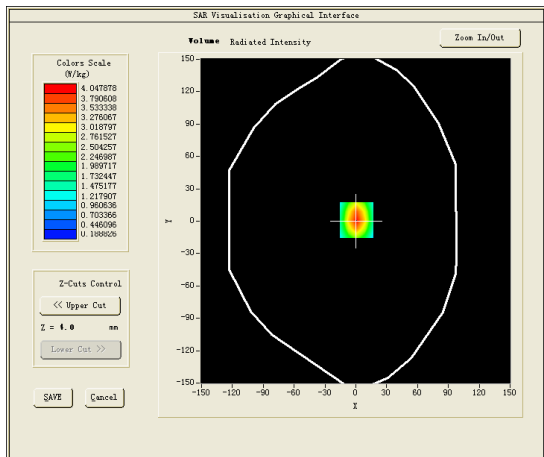
Test mode:1800MHz(Body)

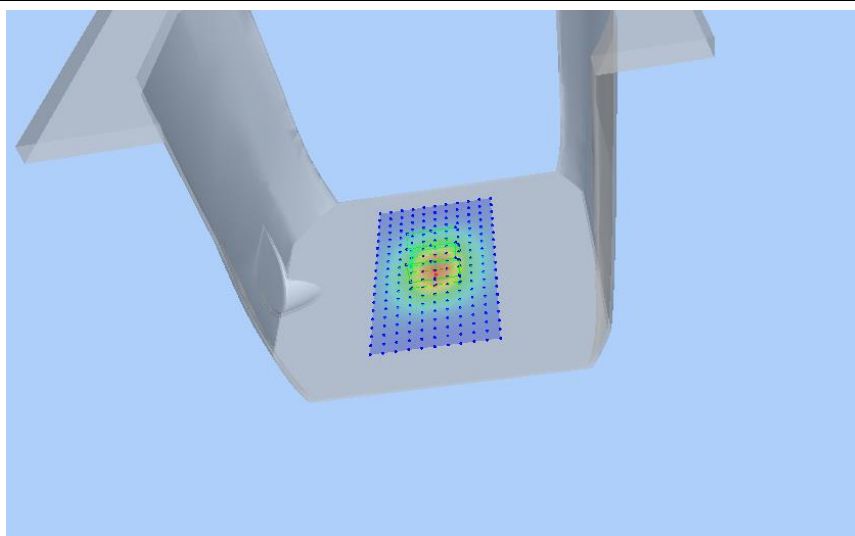
Product Description:Validation

Model :Dipole SID1800

E-Field Probe:SSE2(SN 31/17 EPGO324)

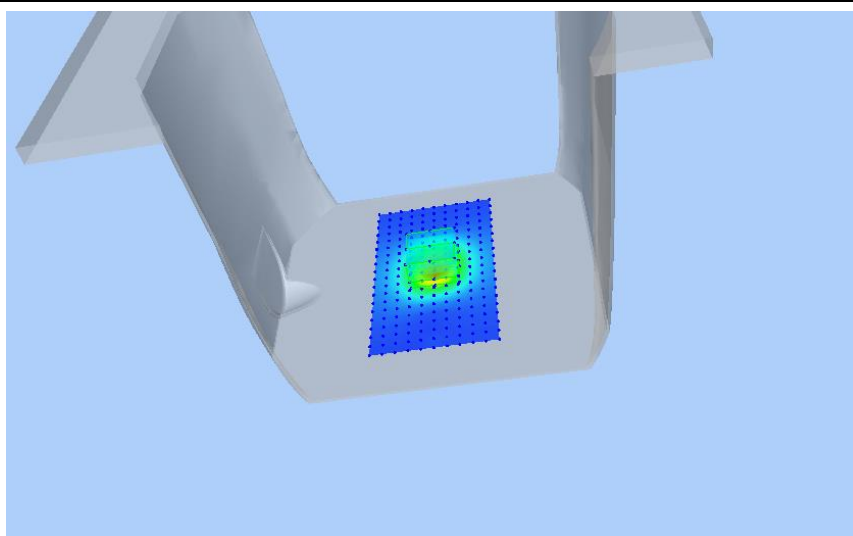
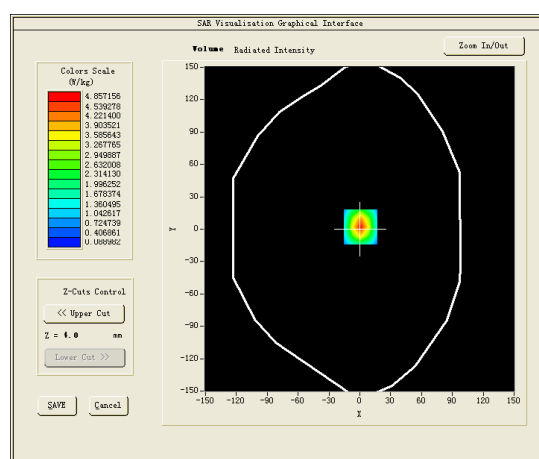
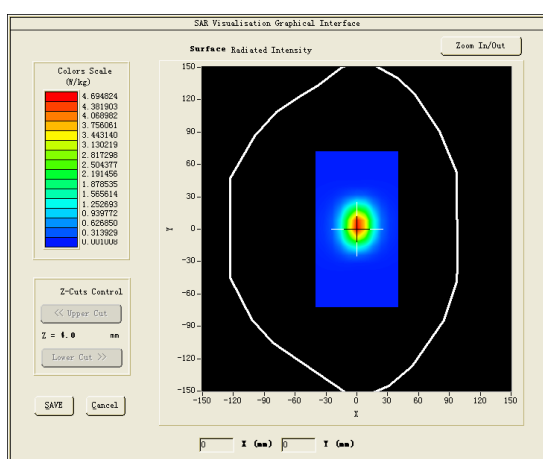
Test Date: April 25, 2019

Medium(liquid type)	MSL_1800
Frequency (MHz)	1800.0000
Relative permittivity (real part)	52.11
Conductivity (S/m)	1.50
Input power	100mW
Crest Factor	1.0
Conversion Factor	1.68
Variation (%)	1.620000
SAR 10g (W/Kg)	2.055421
SAR 1g (W/Kg)	3.851627
SURFACE SAR	VOLUME SAR
	



Test mode:1900MHz(Body)
 Product Description:Validation
 Model :Dipole SID1900
 E-Field Probe: SSE2(SN 31/17 EPGO324)
 Test Date: April 26, 2019

Medium(liquid type)	MSL_1900
Frequency (MHz)	1900.0000
Relative permittivity (real part)	52.97
Conductivity (S/m)	1.55
Input power	100mW
Crest Factor	1.0
Conversion Factor	1.93
Variation (%)	-0.010000
SAR 10g (W/Kg)	2.129312
SAR 1g (W/Kg)	4.266921
SURFACE SAR	VOLUME SAR



Test mode:2600MHz(Body)

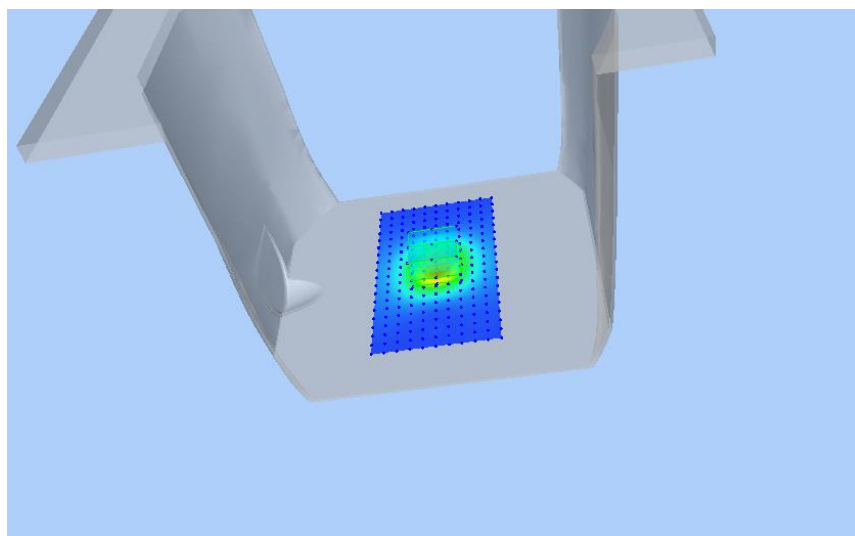
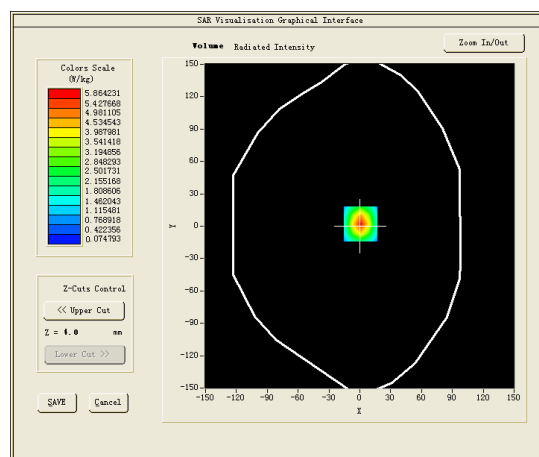
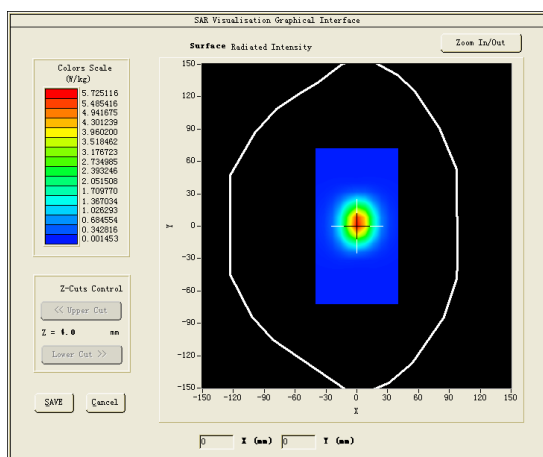
Product Description:Validation

Model:Dipole SID2600

E-Field Probe:SSE2(SN 31/17 EPGO324)

Test Date: May 08, 2019

Medium(liquid type)	MSL_2600
Frequency (MHz)	2600.0000
Relative permittivity (real part)	50.85
Conductivity (S/m)	2.20
Input power	100mW
Crest Factor	1.0
Conversion Factor	1.94
Variation (%)	-1.440000
SAR 10g (W/Kg)	2.426013
SAR 1g (W/Kg)	5.514639
SURFACE SAR	VOLUME SAR



4.10 SAR Test Graph Results

SAR plots for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination according to FCC KDB 865664 D02;

#1

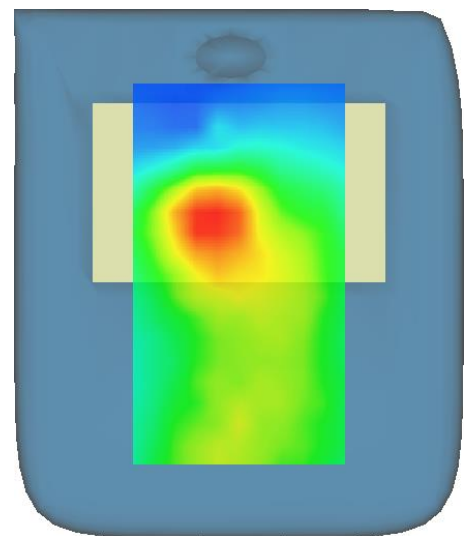
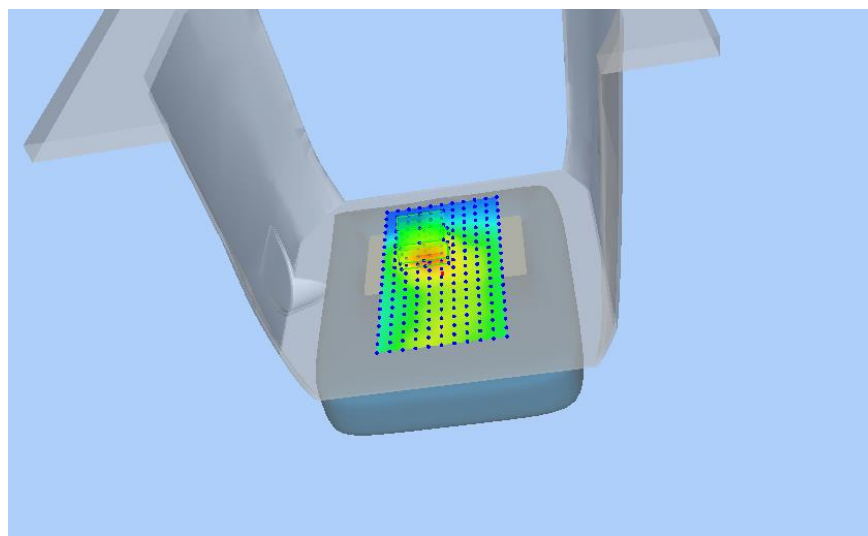
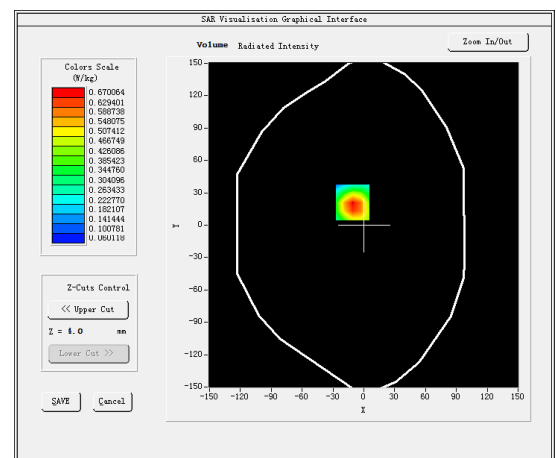
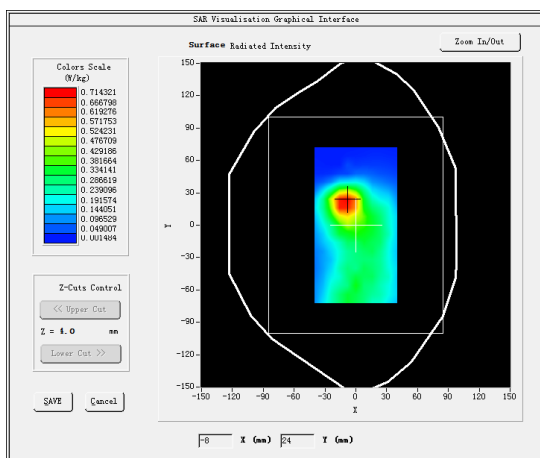
Test Mode: Hotspot WCDMA Band V,Low channel(Body Rear Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 22, 2019

Medium(liquid type)	MSL_850
Frequency (MHz)	826.4000
Relative permittivity (real part)	53.54
Conductivity (S/m)	0.99
E-Field Probe	SN 31/17 EPG0324
Crest Factor	1.0
Conversion Factor	1.59
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Variation (%)	0.770000
SAR 10g (W/Kg)	0.426986
SAR 1g (W/Kg)	0.643967
SURFACE SAR	VOLUME SAR



#2

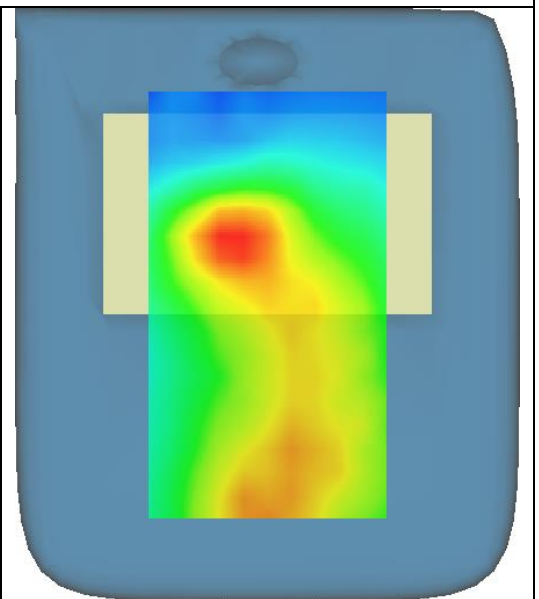
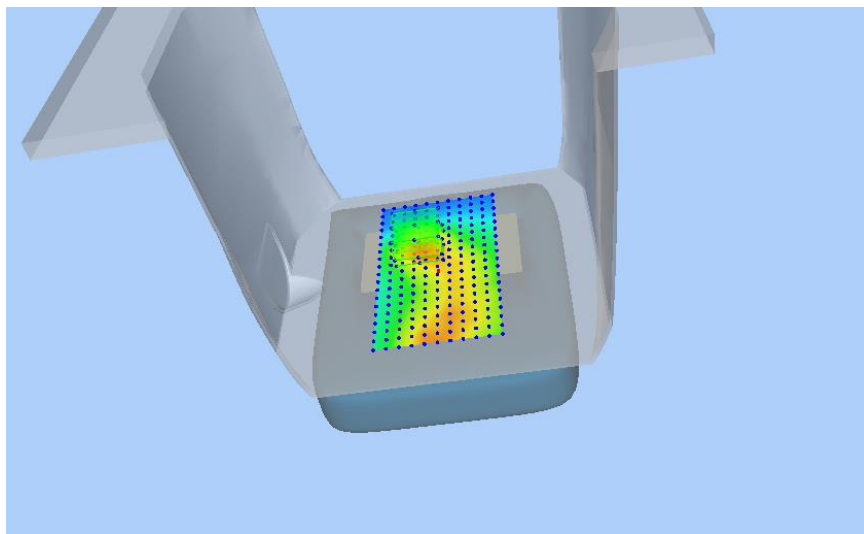
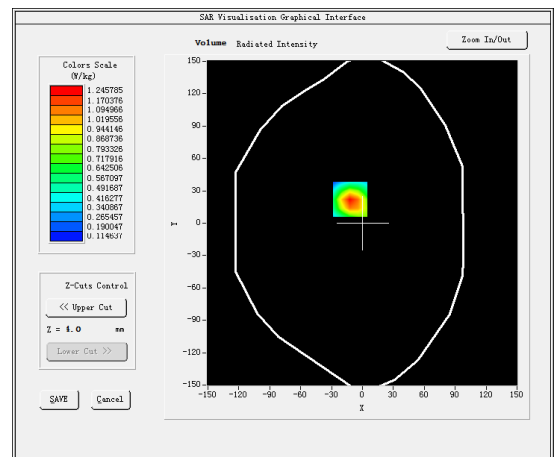
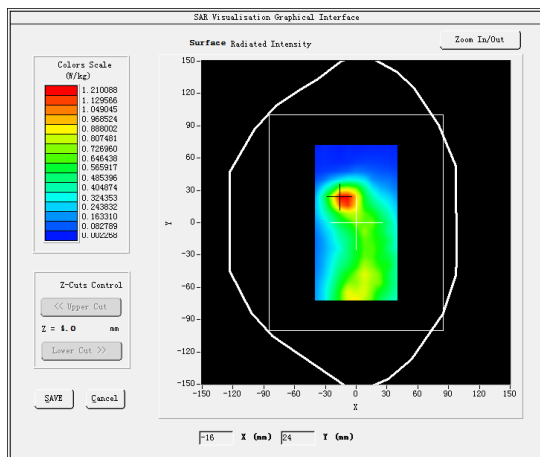
Test Mode: Hotspot WCDMA Band II,Low channel(Body Rear Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 26, 2019

Medium(liquid type)	MSL_1900
Frequency (MHz)	1852.4000
Relative permittivity (real part)	52.97
Conductivity (S/m)	1.55
E-Field Probe	SN 31/17 EPG0324
Crest Factor	1.0
Conversion Factor	1.93
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Variation (%)	-0.830000
SAR 10g (W/Kg)	0.728289
SAR 1g (W/Kg)	1.103205
SURFACE SAR	VOLUME SAR



#3

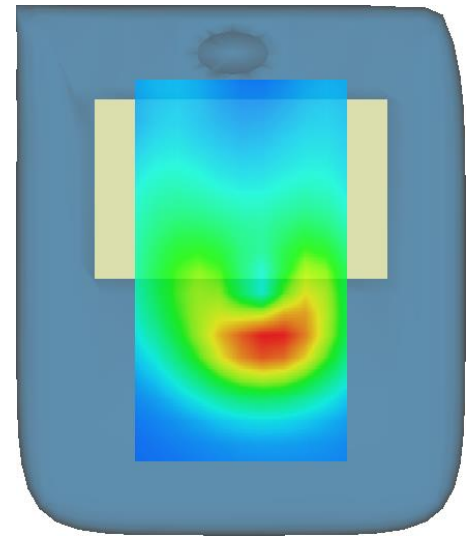
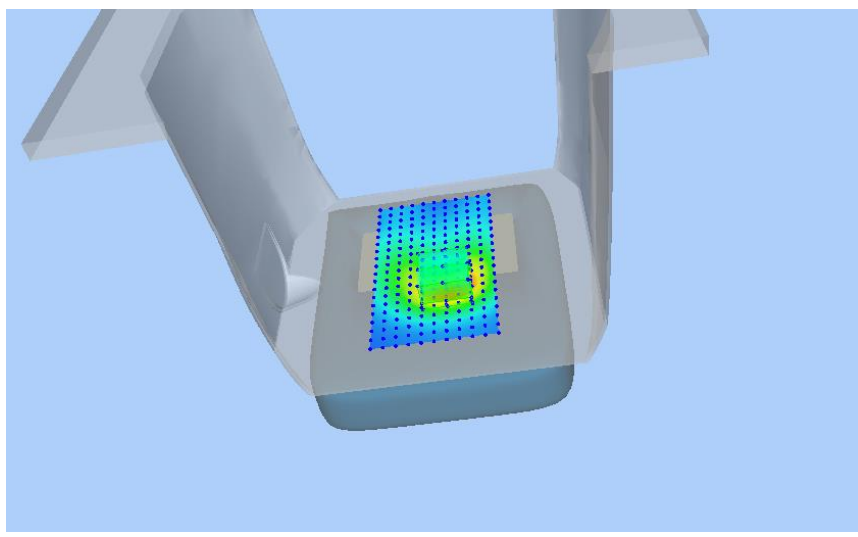
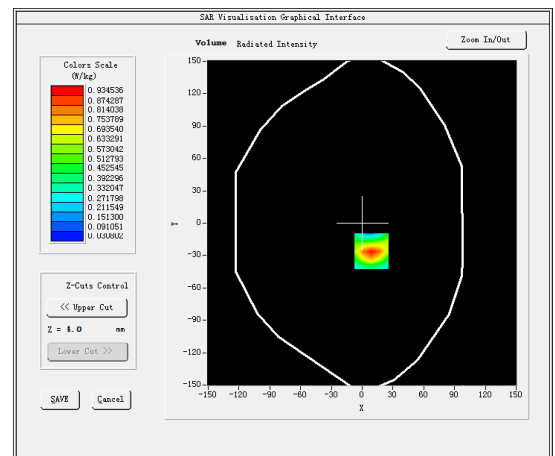
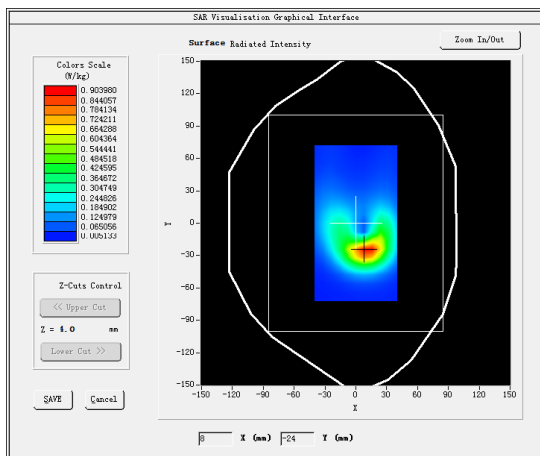
Test Mode: Hotspot LTE Band 2, 1RB,Middle channel(Body Front Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 26, 2019

Medium(liquid type)	MSL_1900
Frequency (MHz)	1880.0000
Relative permittivity (real part)	52.97
Conductivity (S/m)	1.55
E-Field Probe	SN 31/17 EPGO324
Crest Factor	1.0
Conversion Factor	1.93
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Variation (%)	-0.190000
SAR 10g (W/Kg)	0.440273
SAR 1g (W/Kg)	0.863090
SURFACE SAR	VOLUME SAR



#4

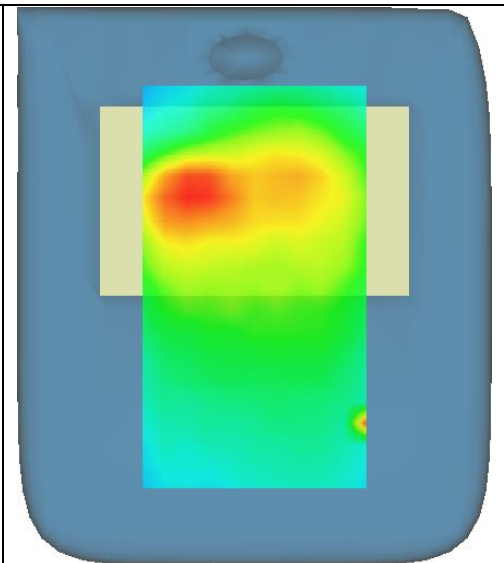
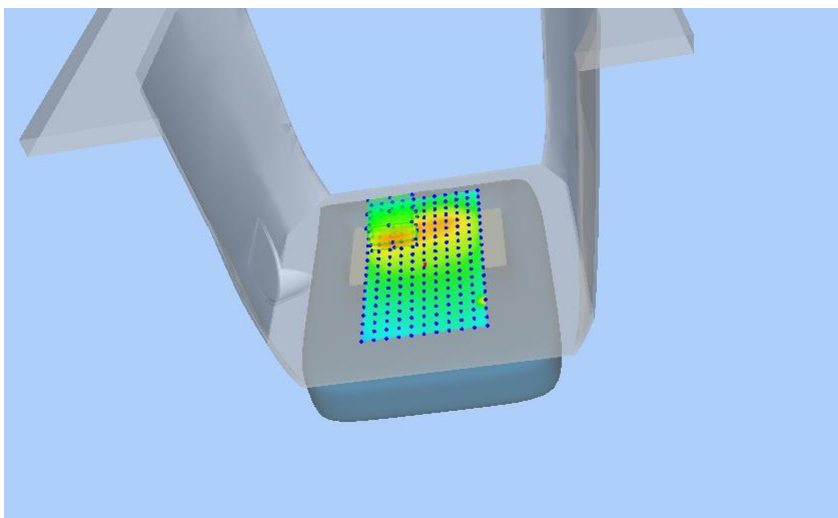
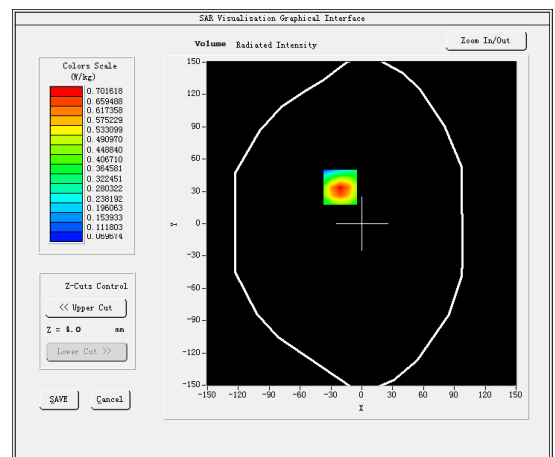
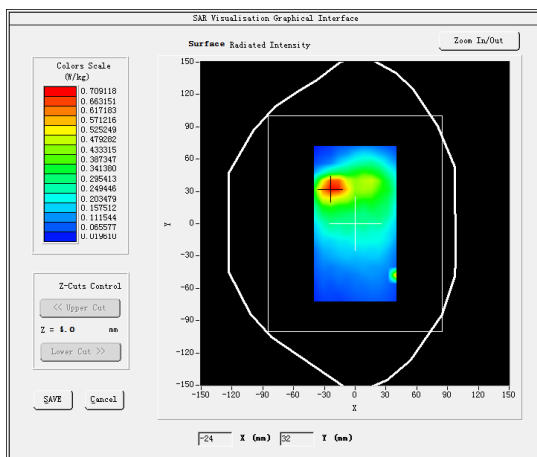
Test Mode: Hotspot LTE Band 4, 1RB, Low channel (Body Front Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 25, 2019

Medium (liquid type)	MSL_1800
Frequency (MHz)	1720.0000
Relative permittivity (real part)	52.11
Conductivity (S/m)	1.50
E-Field Probe	SN 31/17 EPGO324
Crest Factor	1.0
Conversion Factor	1.68
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Variation (%)	-4.470000
SAR 10g (W/Kg)	0.416309
SAR 1g (W/Kg)	0.666028
SURFACE SAR	VOLUME SAR



#5

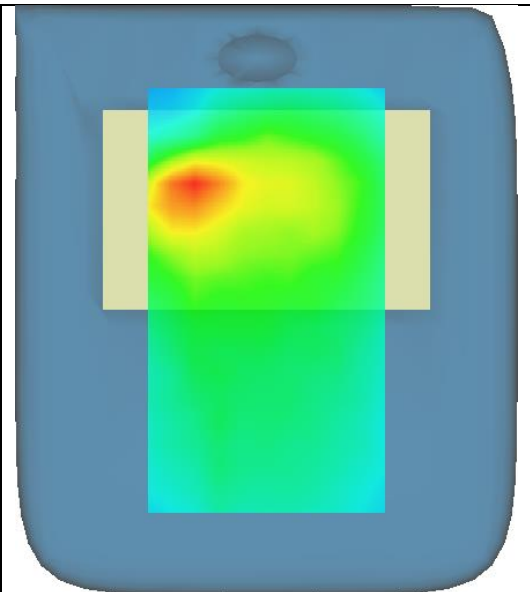
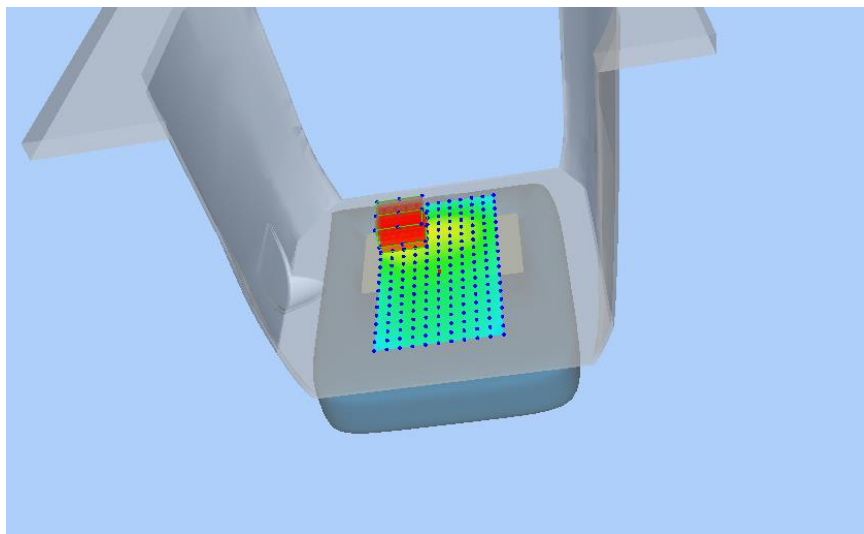
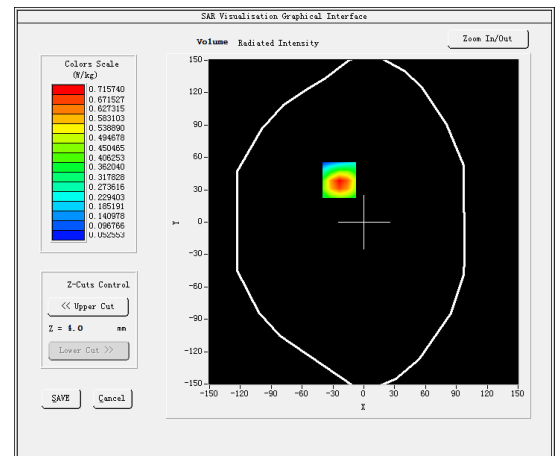
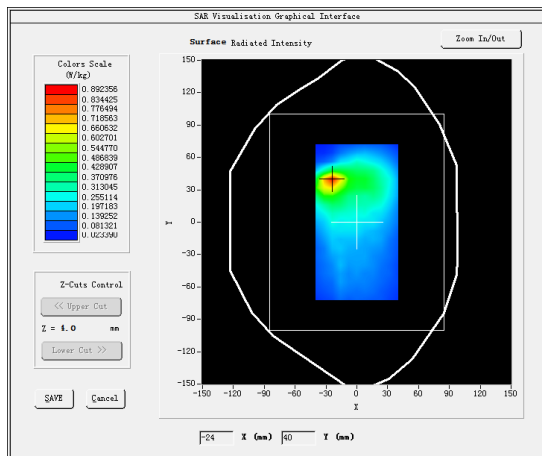
Test Mode: Hotspot LTE Band 5, 1RB, High channel (Body Front Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 22, 2019

Medium(liquid type)	MSL_850
Frequency (MHz)	844.0000
Relative permittivity (real part)	53.54
Conductivity (S/m)	0.99
E-Field Probe	SN 31/17 EPG0324
Crest Factor	1.0
Conversion Factor	1.59
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Variation (%)	-4.580000
SAR 10g (W/Kg)	0.418946
SAR 1g (W/Kg)	0.683247
SURFACE SAR	VOLUME SAR



#6

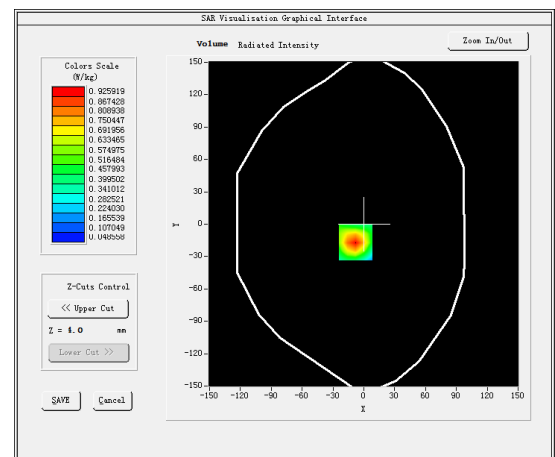
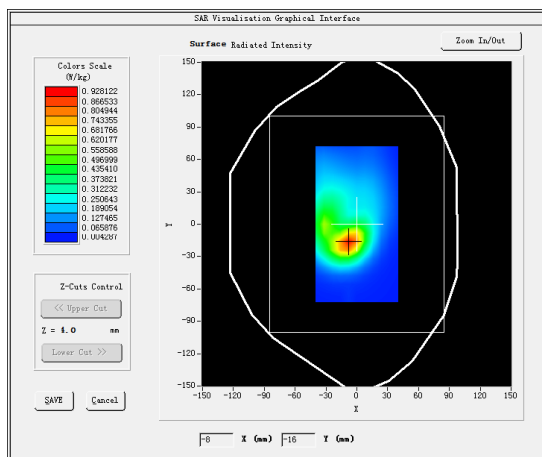
Test Mode: Hotspot LTE Band 7, 1RB, Low channel (Body Rear Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: May 08, 2019

Medium(liquid type)	MSL_2600
Frequency (MHz)	2510.0000
Relative permittivity (real part)	50.85
Conductivity (S/m)	2.20
E-Field Probe	SN 31/17 EPG0324
Crest Factor	1.0
Conversion Factor	1.94
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Variation (%)	-0.290000
SAR 10g (W/Kg)	0.467729
SAR 1g (W/Kg)	0.859022
SURFACE SAR	VOLUME SAR



#7

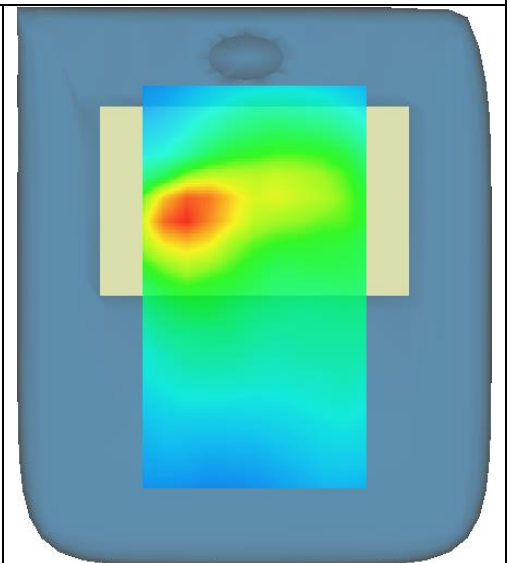
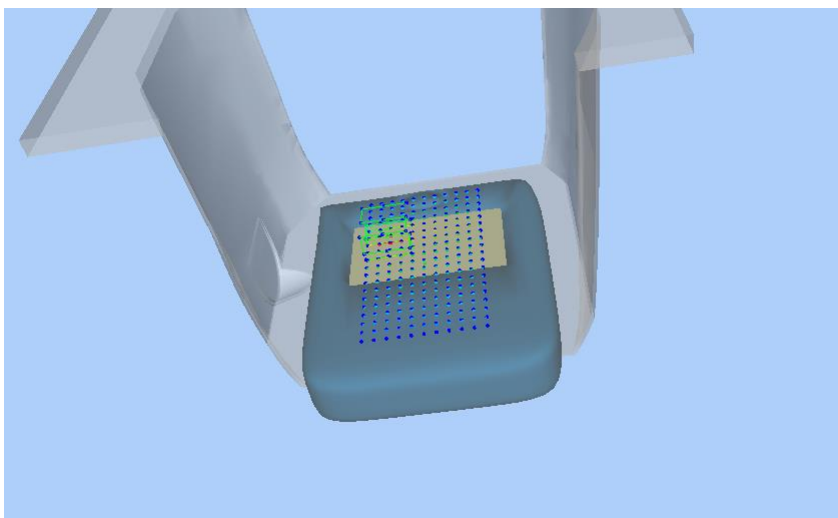
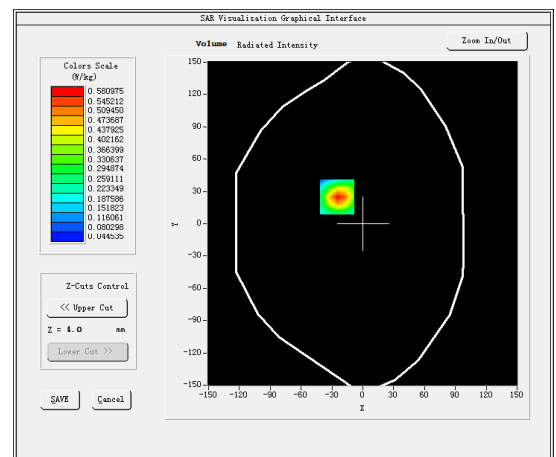
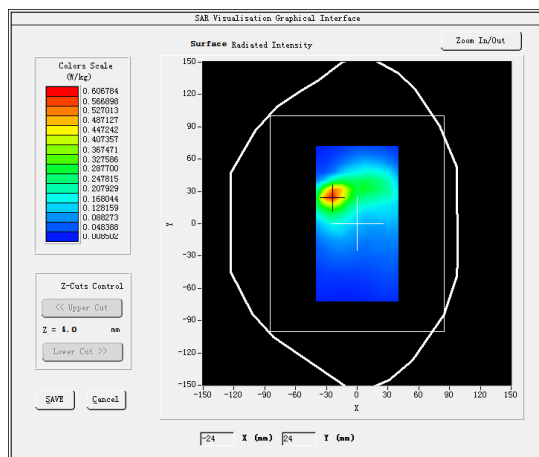
Test Mode: Hotspot LTE Band 12, 1RB, High channel (Body Rear Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 22, 2019

Medium (liquid type)	MSL_750
Frequency (MHz)	711.0000
Relative permittivity (real part)	56.12
Conductivity (S/m)	0.95
E-Field Probe	SN 31/17 EPGO324
Crest Factor	1.0
Conversion Factor	1.50
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Variation (%)	-3.540000
SAR 10g (W/Kg)	0.327830
SAR 1g (W/Kg)	0.563025
SURFACE SAR	VOLUME SAR



#8

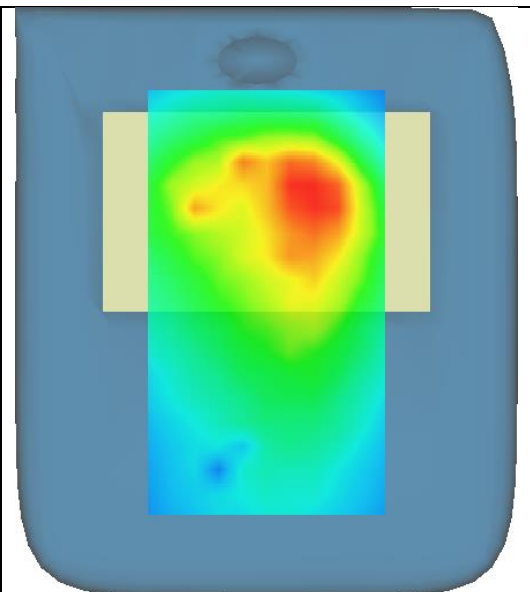
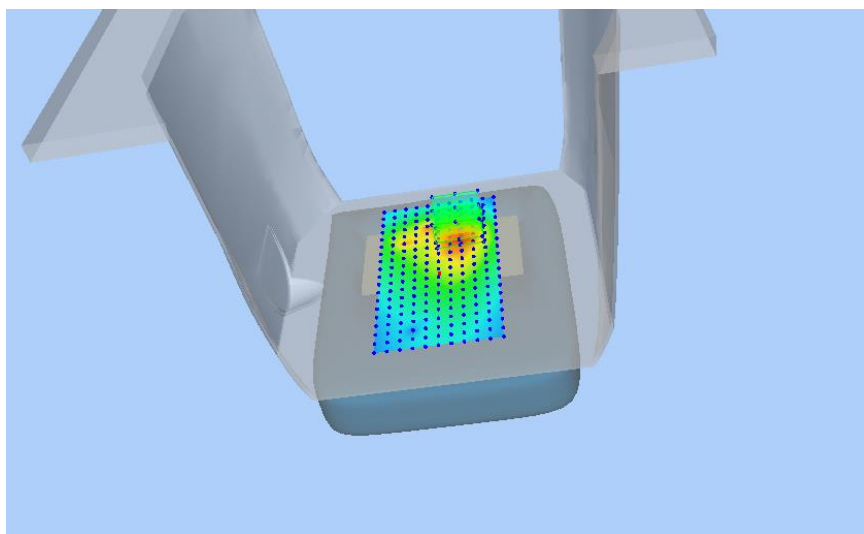
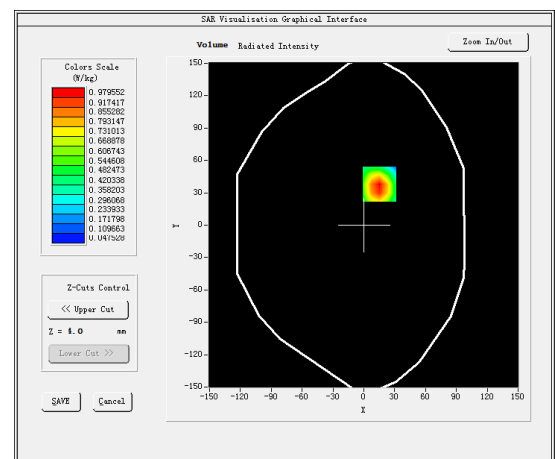
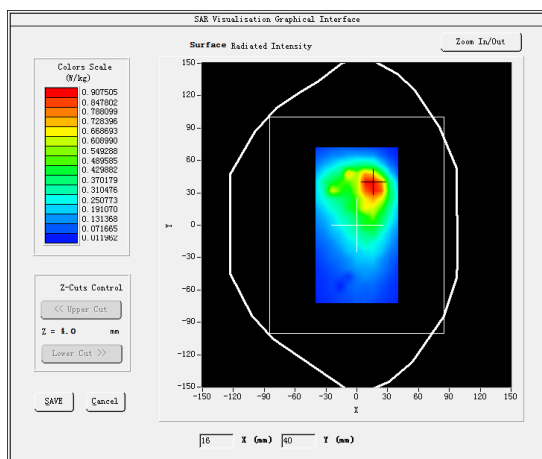
Test Mode: Hotspot LTE Band 13, 1RB,Middle channel(Body Rear Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 22, 2019

Medium(liquid type)	MSL_750
Frequency (MHz)	782.0000
Relative permittivity (real part)	57.24
Conductivity (S/m)	0.97
E-Field Probe	SN 31/17 EPG0324
Crest Factor	1.0
Conversion Factor	1.50
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Variation (%)	3.080000
SAR 10g (W/Kg)	0.534373
SAR 1g (W/Kg)	0.701156
SURFACE SAR	VOLUME SAR



#9

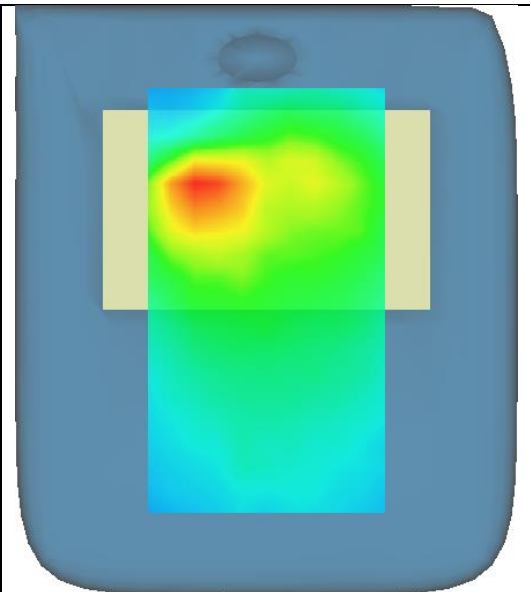
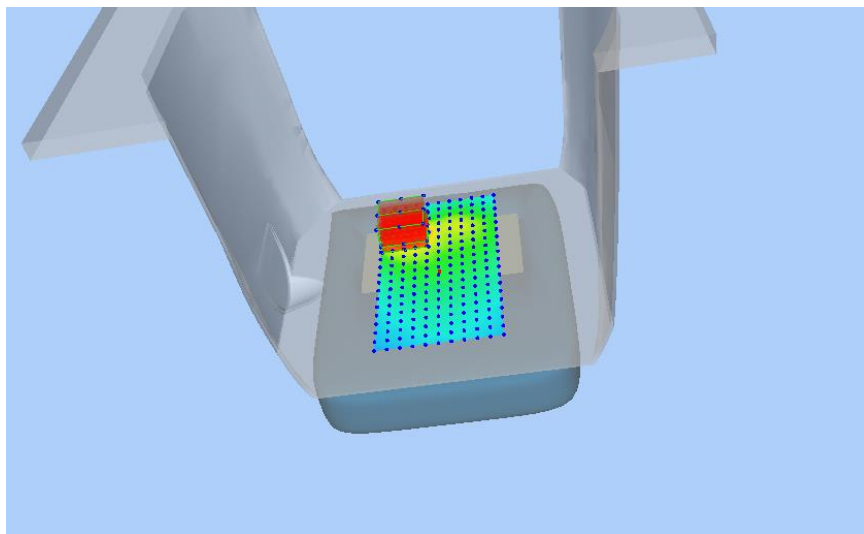
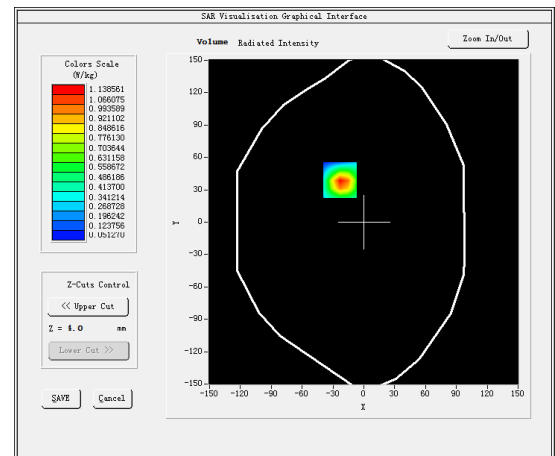
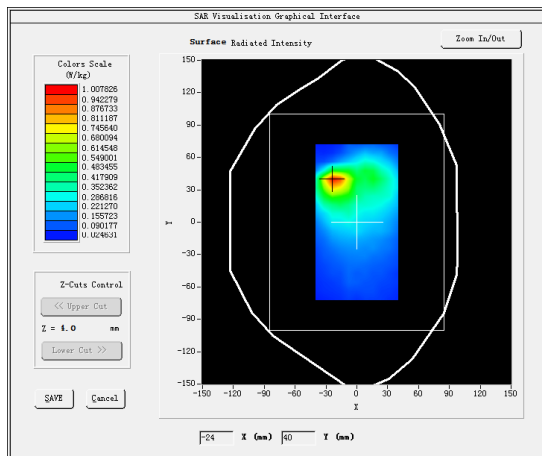
Test Mode: Hotspot LTE Band 25, 1RB, Low channel (Body Rear Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 26, 2019

Medium (liquid type)	MSL_1900
Frequency (MHz)	1860.0000
Relative permittivity (real part)	52.97
Conductivity (S/m)	1.55
E-Field Probe	SN 31/17 EPG0324
Crest Factor	1.0
Conversion Factor	1.93
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Variation (%)	-4.930000
SAR 10g (W/Kg)	0.558922
SAR 1g (W/Kg)	1.000914
SURFACE SAR	VOLUME SAR



#10

Test Mode: Hotspot LTE Band 26, 1RB, Low channel (Body Rear Side)

Product Description: RUGGEDIZED TABLET

Model: 8-DUAL

Test Date: April 22, 2019

Medium (liquid type)	MSL_850
Frequency (MHz)	821.5000
Relative permittivity (real part)	53.54
Conductivity (S/m)	0.99
E-Field Probe	SN 31/17 EPG0324
Crest Factor	1.0
Conversion Factor	1.59
Sensor	4mm
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7, dx=8mm dy=8mm dz=5mm
Variation (%)	0.490000
SAR 10g (W/Kg)	0.541608
SAR 1g (W/Kg)	0.868389
SURFACE SAR	VOLUME SAR

