



<FR1 n77 HPUE Reduced Power
(Main)> (Part 27Q)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				633334	633332	633332	
Frequency (MHz)				3500.01	3499.98	3499.98	
100	PI/2 BPSK	1	1	15.45	15.19	15.19	16.5
100	PI/2 BPSK	1	137	16.14	15.93	15.93	
100	PI/2 BPSK	1	271	15.40	15.96	15.96	
100	PI/2 BPSK	135	0	16.10	15.70	15.70	16.5
100	PI/2 BPSK	135	69	16.05	15.88	15.89	16.5
100	PI/2 BPSK	135	138	16.05	15.82	15.84	16.5
100	PI/2 BPSK	270	0	16.00	15.85	15.85	
100	QPSK	1	1	15.38	15.11	15.11	16.5
100	QPSK	1	137	16.11	15.89	15.89	
100	QPSK	1	271	15.37	15.96	15.96	
100	QPSK	135	0	16.01	15.68	15.68	16.5
100	QPSK	135	69	16.00	16.08	16.08	
100	QPSK	135	138	15.95	16.04	16.04	
100	QPSK	270	0	15.97	15.77	15.77	16.5
100	16QAM	1	1	15.69	15.49	15.49	16.5
100	64QAM	1	1	15.75	15.39	15.39	16.5
100	256QAM	1	1	15.71	15.45	15.45	16.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	15.37	15.08	15.05	16.5
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	15.28	15.04	15.08	16.5
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	15.28	15.03	15.07	16.5
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	15.38	15.02	15.03	16.5
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	15.29	15.11	15.04	16.5
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	15.28	15.11	15.02	16.5
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	15.34	15.09	15.03	16.5



<FR1 n77 HPUE Default Power (MIMO2)> (Part 27Q)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				633334	633332	633332	
Frequency (MHz)				3500.01	3499.98	3499.98	
100	PI/2 BPSK	1	1	25.89	25.83	25.83	27.0
100	PI/2 BPSK	1	137	25.88	26.39	26.39	
100	PI/2 BPSK	1	271	25.86	25.75	25.75	
100	PI/2 BPSK	135	0	25.60	25.55	25.55	26.5
100	PI/2 BPSK	135	69	26.44	26.45	26.45	27.0
100	PI/2 BPSK	135	138	25.77	25.78	25.78	26.5
100	PI/2 BPSK	270	0	25.70	25.69	25.69	
100	QPSK	1	1	25.88	25.77	25.77	27.0
100	QPSK	1	137	26.23	26.15	26.15	
100	QPSK	1	271	25.83	25.65	25.65	
100	QPSK	135	0	25.15	25.14	25.14	27.0
100	QPSK	135	69	26.41	26.42	26.42	
100	QPSK	135	138	25.31	25.33	25.33	
100	QPSK	270	0	25.23	25.24	25.24	26.0
100	16QAM	1	1	24.92	24.94	24.94	26.0
100	64QAM	1	1	23.67	23.54	23.54	24.5
100	256QAM	1	1	20.96	20.98	20.98	22.5
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	25.82	25.74	25.74	27.0
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	25.79	25.73	25.73	27.0
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	25.81	25.80	25.80	27.0
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	25.86	25.80	25.80	27.0
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	25.82	25.75	25.75	27.0
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	25.79	25.77	25.77	27.0
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	25.89	25.81	25.81	27.0



<FR1 n77 HPUE Reduced Power (MIMO2)> (Part 27Q)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				633334	633332	633332	
Frequency (MHz)				3500.01	3499.98	3499.98	
100	PI/2 BPSK	1	1	13.17	13.20	13.20	14.5
100	PI/2 BPSK	1	137	13.96	14.01	14.01	
100	PI/2 BPSK	1	271	13.73	13.74	13.74	
100	PI/2 BPSK	135	0	13.78	13.79	13.79	14.5
100	PI/2 BPSK	135	69	13.96	13.98	13.98	14.5
100	PI/2 BPSK	135	138	13.92	13.94	13.94	14.5
100	PI/2 BPSK	270	0	13.88	13.90	13.90	
100	QPSK	1	1	13.16	13.24	13.24	14.5
100	QPSK	1	137	13.94	13.80	13.80	
100	QPSK	1	271	13.64	13.75	13.75	
100	QPSK	135	0	13.72	13.81	13.81	14.5
100	QPSK	135	69	13.95	13.97	13.97	
100	QPSK	135	138	13.87	13.94	13.94	
100	QPSK	270	0	13.83	13.90	13.90	14.0
100	16QAM	1	1	13.40	13.43	13.43	14.0
100	64QAM	1	1	13.29	13.30	13.30	14.0
100	256QAM	1	1	13.59	13.55	13.55	14.0
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	13.14	13.15	13.11	14.5
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	13.11	13.11	13.19	14.5
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	13.07	13.13	13.18	14.5
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	13.10	13.17	13.18	14.5
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	13.10	13.11	13.14	14.5
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	13.12	13.14	13.15	14.5
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	13.07	13.11	13.20	14.5



<FR1 n78 HPUE Default Power (Main)> (Part 270)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	650000	650000	Tune-up limit (dBm)
Frequency (MHz)				3750	3750	3750	
100	PI/2 BPSK	1	1		25.39		26.5
100	PI/2 BPSK	1	137		26.19		
100	PI/2 BPSK	1	271		25.88		
100	PI/2 BPSK	135	0		25.20		26.0
100	PI/2 BPSK	135	69		25.94		26.5
100	PI/2 BPSK	135	138		25.47		26.0
100	PI/2 BPSK	270	0		25.33		
100	QPSK	1	1		24.56		26.5
100	QPSK	1	137		25.46		
100	QPSK	1	271		25.40		
100	QPSK	135	0		24.77		26.5
100	QPSK	135	69		25.99		
100	QPSK	135	138		25.01		
100	QPSK	270	0		24.86		25.5
100	16QAM	1	1		23.88		25.5
100	64QAM	1	1		22.65		24.0
100	256QAM	1	1		20.45		22.0
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	25.29	25.20	25.11	26.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	25.18	25.27	25.25	26.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	25.23	25.34	25.20	26.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	25.10	25.21	25.24	26.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	25.22	25.29	25.10	26.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	25.13	25.34	25.27	26.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	25.19	25.36	25.10	26.5



<FR1 n78 HPUE Reduced Power
(Main)> (Part 270)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	650000	650000	
Frequency (MHz)				3750	3750	3750	
100	PI/2 BPSK	1	1		15.10		16.5
100	PI/2 BPSK	1	137		15.66		
100	PI/2 BPSK	1	271		15.69		
100	PI/2 BPSK	135	0		15.70		16.5
100	PI/2 BPSK	135	69		15.83		16.5
100	PI/2 BPSK	135	138		15.77		16.5
100	PI/2 BPSK	270	0		15.75		
100	QPSK	1	1		15.02		16.5
100	QPSK	1	137		15.63		
100	QPSK	1	271		15.65		
100	QPSK	135	0		15.67		16.5
100	QPSK	135	69		15.77		
100	QPSK	135	138		15.73		
100	QPSK	270	0		15.66		16.5
100	16QAM	1	1		15.55		16.5
100	64QAM	1	1		15.58		16.5
100	256QAM	1	1		15.48		16.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	15.06	15.05	15.11	16.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	15.00	15.03	15.09	16.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	15.09	15.11	15.06	16.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	15.06	15.09	15.03	16.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	15.05	15.08	15.11	16.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	15.08	15.02	15.01	16.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	15.07	15.05	15.01	16.5



<FR1 n78 HPUE Default Power (MIMO2)> (Part 270)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	650000	650000	
Frequency (MHz)				3750	3750	3750	
100	PI/2 BPSK	1	1		25.11		27.0
100	PI/2 BPSK	1	137		25.73		
100	PI/2 BPSK	1	271		25.85		
100	PI/2 BPSK	135	0		25.31		26.5
100	PI/2 BPSK	135	69		25.68		27.0
100	PI/2 BPSK	135	138		25.60		26.5
100	PI/2 BPSK	270	0		25.44		
100	QPSK	1	1		25.01		27.0
100	QPSK	1	137		25.60		
100	QPSK	1	271		25.80		
100	QPSK	135	0		24.84		26.0
100	QPSK	135	69		25.57		
100	QPSK	135	138		25.10		
100	QPSK	270	0		24.95		26.0
100	16QAM	1	1		24.06		26.0
100	64QAM	1	1		22.61		24.5
100	256QAM	1	1		20.67		22.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	25.04	25.07	25.16	27.0
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	25.06	25.14	25.15	27.0
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	25.02	25.17	25.11	27.0
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	25.00	25.01	25.04	27.0
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	25.16	25.06	25.10	27.0
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	25.18	25.09	25.19	27.0
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	25.06	25.07	25.19	27.0



<FR1 n78 HPUE Reduced Power (MIMO2)> (Part 270)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	650000	650000	
Frequency (MHz)				3750	3750	3750	
100	PI/2 BPSK	1	1		12.76		14.5
100	PI/2 BPSK	1	137		13.51		
100	PI/2 BPSK	1	271		13.41		
100	PI/2 BPSK	135	0		13.39		14.5
100	PI/2 BPSK	135	69		13.68		14.5
100	PI/2 BPSK	135	138		13.59		14.5
100	PI/2 BPSK	270	0		13.50		
100	QPSK	1	1		12.71		14.5
100	QPSK	1	137		13.44		
100	QPSK	1	271		13.37		
100	QPSK	135	0		13.41		14.0
100	QPSK	135	69		13.66		
100	QPSK	135	138		13.62		
100	QPSK	270	0		13.54		14.0
100	16QAM	1	1		12.92		14.0
100	64QAM	1	1		12.88		13.5
100	256QAM	1	1		12.73		13.5
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	12.66	12.75	12.72	14.5
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	12.76	12.69	12.66	14.5
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	12.72	12.67	12.73	14.5
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	12.73	12.76	12.75	14.5
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	12.64	12.74	12.68	14.5
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	12.65	12.75	12.67	14.5
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	12.70	12.67	12.71	14.5
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	12.68	12.68	12.69	14.5



14. WiFi/Bluetooth Output Power (Unit: dBm)

Main						
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	17.00	17.00	100.00
		6	2437	16.70	17.00	
		11	2462	17.00	17.00	

Aux						
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	17.00	17.00	100.00
		6	2437	16.70	17.00	
		11	2462	17.00	17.00	

Aux						
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11ac-VHT160 MCS0	50	5250	13.80	14.00	100.00

Main						
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11ac-VHT80 MCS0	138	5690	13.90	14.00	100.00
	802.11ac-VHT160 MCS0	114	5570	13.80	14.00	100.00

WiFi 6E				Main		
WiFi 6E	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11ax-HE160 MCS0	15	6025	13.40	13.50	100.00
		47	6185	13.40	13.50	
		111	6505	13.20	13.50	
		175	6825	13.20	13.50	
		207	6985	13.30	13.50	

Aux						
WiFi 6E	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11ax-HE160 MCS0	15	6025	13.50	13.50	100.00
		47	6185	13.30	13.50	
		111	6505	13.30	13.50	
		175	6825	13.40	13.50	
		207	6985	13.30	13.50	



<2.4GHz Bluetooth>

Aux			
Mode	Channel	Frequency (MHz)	Average power (dBm)
			1Mbps
BR	CH 78	2480	9.70
Tune-up Limit			10.00



<SAR test exclusion table>

General Note:

- The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
- Maximum power is the source-based time-average power and represents the maximum RF output power among production units
- Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
- Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
- 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(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
- Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following
 - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · (f(MHz)/150)] mW, at 100 MHz to 1500 MHz
 - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz

Main

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 71/n71	LTE Band 12	LTE Band 13	LTE Band 14	LTE Band 17	LTE Band 5/n5	LTE Band 26	LTE Band 4	LTE Band 66/n66	LTE Band 2/n2	LTE Band 25/n25	LTE Band 30/n30	LTE Band 7/n7	LTE Band 38/n38	LTE Band 41/n41	LTE Band 48	LTE Band n77/n78
	Calculated Frequency (MHz)	846	1750	1907	695	715	784	795	713	848	848	1754	1779	1909	1914	2312	2567	2617	2687	3697	3975
Maximum power (dBm)	24.5	24.5	24.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0	24.0	24.0	24.0	24.0	23.0	24.0	24.0	23.5	22.0	24.0	
Maximum rated power(mW)	281.84	281.84	281.84	316.23	316.23	316.23	316.23	316.23	316.23	316.23	251.19	251.19	251.19	251.19	199.53	251.19	251.19	223.87	158.49	251.19	
Bottom Face	5.0																				
Separation distance(mm)	5.0																				
exclusion threshold	51.9	74.6	77.8	52.7	53.5	56.0	56.4	53.4	58.2	58.2	66.5	67.0	69.4	69.5	60.7	80.5	81.3	73.4	61.0	100.2	
Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	5.0																				
Separation distance(mm)	5.0																				
exclusion threshold	51.9	74.6	77.8	52.7	53.5	56.0	56.4	53.4	58.2	58.2	66.5	67.0	69.4	69.5	60.7	80.5	81.3	73.4	61.0	100.2	
Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	5.0																				
Separation distance(mm)	5.0																				
exclusion threshold	51.9	74.6	77.8	52.7	53.5	56.0	56.4	53.4	58.2	58.2	66.5	67.0	69.4	69.5	60.7	80.5	81.3	73.4	61.0	100.2	
Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 3	263.5																				
Separation distance(mm)	263.5																				
exclusion threshold	1367.0	2248.0	2244.0	1169.0	1195.0	1285.0	1300.0	1192.0	1370.0	1370.0	2248.0	2247.0	2244.0	2243.0	2234.0	2229.0	2228.0	2227.0	2213.0	2210.0	
Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Edge 4	261.1																				
Separation distance(mm)	261.1																				
exclusion threshold	1354.0	2224.0	2220.0	1158.0	1184.0	1273.0	1287.0	1181.0	1356.0	1356.0	2224.0	2223.0	2220.0	2219.0	2210.0	2205.0	2204.0	2203.0	2189.0	2186.0	
Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Aux

Exposure Position	Wireless Interface	LTE Band 41	LTE Band n77 / n78
	Calculated Frequency (MHz)	2687	3975
	Maximum power (dBm)	10.0	7.0
	Maximum rated power(mW)	10.00	5.01
Bottom Face	Separation distance(mm)	5.0	
	exclusion threshold	3.3	2.0
	Testing required?	Yes	No
Edge 1	Separation distance(mm)	5.0	
	exclusion threshold	3.3	2.0
	Testing required?	Yes	No
Edge 2	Separation distance(mm)	261.0	
	exclusion threshold	2202.0	2185.0
	Testing required?	No	No
Edge 3	Separation distance(mm)	265.1	
	exclusion threshold	2243.0	2226.0
	Testing required?	No	No
Edge 4	Separation distance(mm)	5.0	
	exclusion threshold	3.3	2.0
	Testing required?	Yes	No

MIMO 1

Exposure Position	Wireless Interface	LTE Band 41	LTE Band n77/n78
	Calculated Frequency (MHz)	2687	3975
	Maximum power (dBm)	8.0	2.5
	Maximum rated power(mW)	6.31	1.78
Bottom Face	Separation distance(mm)	5.0	
	exclusion threshold	2.1	0.7
	Testing required?	No	No
Edge 1	Separation distance(mm)	5.0	
	exclusion threshold	2.1	0.7
	Testing required?	No	No
Edge 2	Separation distance(mm)	38.3	
	exclusion threshold	0.3	0.1
	Testing required?	No	No
Edge 3	Separation distance(mm)	335.9	
	exclusion threshold	2951.0	2934.0
	Testing required?	No	No
Edge 4	Separation distance(mm)	212.1	
	exclusion threshold	1713.0	1696.0
	Testing required?	No	No



MIMO 2

Exposure Position	Wireless Interface	WCDMA Band IV	WCDMA Band II	LTE Band 4	LTE Band 66/n66	LTE Band 2/n2	LTE Band 25/n25	LTE Band 30/n30	LTE Band 7/n7	LTE Band 38/n38	LTE Band 41/n41	LTE Band 48	LTE Band n77/n78
	Calculated Frequency (MHz)	1750	1907	1754	1779	1909	1914	2312	2567	2617	2687	3697	3975
	Maximum power (dBm)	24.0	24.0	24.0	24.0	24.0	24.0	23.0	24.0	24.0	24.0	22.0	24.0
	Maximum rated power(mW)	251.19	251.19	251.19	251.19	251.19	251.19	199.53	251.19	251.19	251.19	158.49	251.19
Bottom Face	Separation distance(mm)	5.0											
	exclusion threshold	66.5	69.4	66.5	67.0	69.4	69.5	60.7	80.5	81.3	82.4	61.0	100.2
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	5.0											
	exclusion threshold	66.5	69.4	66.5	67.0	69.4	69.5	60.7	80.5	81.3	82.4	61.0	100.2
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	Separation distance(mm)	153.8											
	exclusion threshold	1151.0	1147.0	1151.0	1150.0	1147.0	1146.0	1137.0	1132.0	1131.0	1130.0	1116.0	1113.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No
Edge 3	Separation distance(mm)	335.9											
	exclusion threshold	2972.0	2968.0	2972.0	2971.0	2968.0	2967.0	2958.0	2953.0	2952.0	2951.0	2937.0	2934.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	78.0											
	exclusion threshold	393.0	389.0	393.0	392.0	389.0	388.0	379.0	374.0	373.0	372.0	358.0	355.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No



15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
 1. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in sensor trigger distance was performed according to section 4. The test results just verification the sensor trigger distance to meet KDB 616217 requirement, when in normal usage will not operate at trigger distance, therefore, these results were not using performed Sim-Tx analysis
 2. The Intel AX211D2W WLAN/BT module is also integrated into Lenovo TP00144A host. The 2.4GHz, 5/6GHz and Bluetooth SAR results are referenced from Intel SAR report, report number: 220627-03.TR04 (FCC ID: PD9AX211D2) and these SAR results are also used to perform simultaneous transmission analysis. In this report additional WLAN/BT SAR testing was using for SPLSR analysis, if additional WLAN/BT SAR result is higher than Intel report, the result also using for Sim-Tx analysis.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq 1/4$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than $1/4$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

**LTE Note:**

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. The maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion.
 - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

5G NR Note:

1. The device support SCS 15KHz and 30KHz for NR FDD and TDD and have the same maximum power, in this report only select SCS 15KHz for NR FDD and SCS 30KHz for NR TDD power measurement, due to SCS 15KHz for FDD and SCS 30KHz for TDD have highest support bandwidth, and the NR SAR is $< 1g$ SAR 1.45W/kg. Output power and SAR measurement for SCS30KHz for FDD and SCS15KHz for TDD shall be not necessary.
2. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
 - a. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
 - b. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not $\frac{1}{2}$ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - d. Smaller bandwidth output power for each RB allocation configuration for this device is not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - e. The NR n5/41/66/71/77 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth.
 - f. The NR n2/38 SAR test was covered by NR n25/41; due to SAR test for overlapping NR bands can be reduced if the maximum power including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion and the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
 - g. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission



15.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	9400	1880	15.77	16.50	1.183	-0.12	0.912	1.079
01	WCDMA II_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	9262	1852.4	15.74	16.50	1.191	-0.1	0.961	1.145
	WCDMA II_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	9538	1907.6	15.70	16.50	1.202	-0.18	0.838	1.007
	WCDMA II_Main	RMC 12.2Kbps	Edge 1	0mm	ON	9400	1880	15.77	16.50	1.183	0.1	0.390	0.461
	WCDMA II_Main	RMC 12.2Kbps	Edge 2	0mm	ON	9400	1880	15.77	16.50	1.183	-0.15	0.587	0.694
	WCDMA II_Main	RMC 12.2Kbps	Bottom Face	19mm	OFF	9400	1880	23.45	24.50	1.274	-0.06	0.211	0.269
	WCDMA II_Main	RMC 12.2Kbps	Edge 1	11mm	OFF	9400	1880	23.45	24.50	1.274	-0.14	0.541	0.689
	WCDMA II_Main	RMC 12.2Kbps	Edge 2	20mm	OFF	9400	1880	23.45	24.50	1.274	-0.16	0.192	0.245
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom Face	0mm	ON	9400	1880	11.52	12.50	1.253	0.08	0.448	0.561
	WCDMA II_MIMO 2	RMC 12.2Kbps	Edge 1	0mm	ON	9400	1880	11.52	12.50	1.253	0.02	0.858	1.075
	WCDMA II_MIMO 2	RMC 12.2Kbps	Edge 1	0mm	ON	9262	1852.4	11.50	12.50	1.259	0.17	0.829	1.044
	WCDMA II_MIMO 2	RMC 12.2Kbps	Edge 1	0mm	ON	9538	1907.6	11.47	12.50	1.268	0.01	0.881	1.117
	WCDMA II_MIMO 2	RMC 12.2Kbps	Bottom Face	20mm	OFF	9400	1880	23.14	24.00	1.219	-0.12	0.352	0.429
	WCDMA II_MIMO 2	RMC 12.2Kbps	Edge 1	25mm	OFF	9400	1880	23.14	24.00	1.219	0.01	0.354	0.432
	WCDMA IV_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	1413	1732.6	16.15	16.50	1.084	-0.01	0.919	0.996
	WCDMA IV_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	1312	1712.4	16.14	16.50	1.086	-0.02	0.910	0.989
	WCDMA IV_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	1513	1752.6	16.12	16.50	1.091	-0.15	1.040	1.135
	WCDMA IV_Main	RMC 12.2Kbps	Edge 1	0mm	ON	1413	1732.6	16.15	16.50	1.084	-0.18	0.695	0.753
	WCDMA IV_Main	RMC 12.2Kbps	Edge 2	0mm	ON	1413	1732.6	16.15	16.50	1.084	-0.15	0.525	0.569
	WCDMA IV_Main	RMC 12.2Kbps	Bottom Face	19mm	OFF	1413	1732.6	23.67	24.50	1.211	-0.03	0.490	0.593
	WCDMA IV_Main	RMC 12.2Kbps	Edge 1	11mm	OFF	1413	1732.6	23.67	24.50	1.211	-0.03	0.784	0.949
	WCDMA IV_Main	RMC 12.2Kbps	Edge 1	11mm	OFF	1312	1712.4	23.66	24.50	1.213	0.04	0.755	0.916
	WCDMA IV_Main	RMC 12.2Kbps	Edge 1	11mm	OFF	1513	1752.6	23.65	24.50	1.216	0.12	0.761	0.926
	WCDMA IV_Main	RMC 12.2Kbps	Edge 2	20mm	OFF	1413	1732.6	23.67	24.50	1.211	-0.01	0.456	0.552
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom Face	0mm	ON	1413	1732.6	12.29	13.00	1.178	0.06	0.538	0.634
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Edge 1	0mm	ON	1413	1732.6	12.29	13.00	1.178	0.18	0.972	1.145
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Edge 1	0mm	ON	1312	1712.4	12.19	13.00	1.205	0.02	0.948	1.142
02	WCDMA IV_MIMO 2	RMC 12.2Kbps	Edge 1	0mm	ON	1513	1752.6	12.25	13.00	1.189	0.12	0.975	1.159
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Bottom Face	20mm	OFF	1413	1732.6	23.45	24.00	1.135	0.07	0.249	0.283
	WCDMA IV_MIMO 2	RMC 12.2Kbps	Edge 1	25mm	OFF	1413	1732.6	23.45	24.00	1.135	0.18	0.241	0.274
03	WCDMA V_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	4132	826.4	19.43	20.50	1.279	0.02	0.851	1.089
	WCDMA V_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	4182	836.4	19.39	20.50	1.291	-0.11	0.819	1.058
	WCDMA V_Main	RMC 12.2Kbps	Bottom Face	0mm	ON	4233	846.6	19.31	20.50	1.315	-0.05	0.800	1.052
	WCDMA V_Main	RMC 12.2Kbps	Edge 1	0mm	ON	4132	826.4	19.43	20.50	1.279	-0.11	0.446	0.571
	WCDMA V_Main	RMC 12.2Kbps	Edge 2	0mm	ON	4132	826.4	19.43	20.50	1.279	0.12	0.806	1.031
	WCDMA V_Main	RMC 12.2Kbps	Edge 2	0mm	ON	4182	836.4	19.39	20.50	1.291	0.06	0.774	0.999
	WCDMA V_Main	RMC 12.2Kbps	Edge 2	0mm	ON	4233	846.6	19.31	20.50	1.315	-0.04	0.755	0.993
	WCDMA V_Main	RMC 12.2Kbps	Bottom Face	19mm	OFF	4132	826.4	23.32	24.50	1.312	-0.05	0.146	0.192
	WCDMA V_Main	RMC 12.2Kbps	Edge 1	11mm	OFF	4132	826.4	23.32	24.50	1.312	0.11	0.076	0.100
	WCDMA V_Main	RMC 12.2Kbps	Edge 2	20mm	OFF	4132	826.4	23.32	24.50	1.312	-0.05	0.138	0.181



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7_Main	20M	QPSK	1	0	Bottom Face	0mm	ON	21100	2535	13.20	13.50	1.072	0	1.080	1.157
	LTE Band 7_Main	20M	QPSK	1	0	Bottom Face	0mm	ON	20850	2510	13.15	13.50	1.084	-0.04	1.040	1.127
04	LTE Band 7_Main	20M	QPSK	1	0	Bottom Face	0mm	ON	21350	2560	13.09	13.50	1.099	-0.04	1.090	1.198
	LTE Band 7_Main	20M	QPSK	50	0	Bottom Face	0mm	ON	21100	2535	13.16	13.50	1.081	0.12	1.050	1.136
	LTE Band 7_Main	20M	QPSK	50	0	Bottom Face	0mm	ON	20850	2510	13.11	13.50	1.094	-0.14	1.020	1.116
	LTE Band 7_Main	20M	QPSK	50	0	Bottom Face	0mm	ON	21350	2560	13.05	13.50	1.109	-0.02	1.070	1.187
	LTE Band 7_Main	20M	QPSK	100	0	Bottom Face	0mm	ON	21100	2535	13.18	13.50	1.076	0.14	1.050	1.130
	LTE Band 7_Main	20M	QPSK	1	0	Edge 1	0mm	ON	21100	2535	13.20	13.50	1.072	0.02	0.119	0.128
	LTE Band 7_Main	20M	QPSK	50	0	Edge 1	0mm	ON	21100	2535	13.16	13.50	1.081	0.02	0.120	0.130
	LTE Band 7_Main	20M	QPSK	1	0	Edge 2	0mm	ON	21100	2535	13.20	13.50	1.072	-0.12	0.984	1.054
	LTE Band 7_Main	20M	QPSK	1	0	Edge 2	0mm	ON	20850	2510	13.15	13.50	1.084	-0.18	0.945	1.024
	LTE Band 7_Main	20M	QPSK	1	0	Edge 2	0mm	ON	21350	2560	13.09	13.50	1.099	0.02	0.994	1.092
	LTE Band 7_Main	20M	QPSK	50	0	Edge 2	0mm	ON	21100	2535	13.16	13.50	1.081	-0.14	0.954	1.032
	LTE Band 7_Main	20M	QPSK	50	0	Edge 2	0mm	ON	20850	2510	13.11	13.50	1.094	0.08	0.928	1.015
	LTE Band 7_Main	20M	QPSK	50	0	Edge 2	0mm	ON	21350	2560	13.05	13.50	1.109	-0.02	0.974	1.080
	LTE Band 7_Main	20M	QPSK	100	0	Edge 2	0mm	ON	21100	2535	13.18	13.50	1.076	-0.06	0.954	1.027
	LTE Band 7_Main	20M	QPSK	1	0	Bottom Face	19mm	OFF	21100	2535	23.78	24.00	1.052	0.09	0.625	0.657
	LTE Band 7_Main	20M	QPSK	50	0	Bottom Face	19mm	OFF	21100	2535	22.82	23.00	1.042	-0.06	0.421	0.439
	LTE Band 7_Main	20M	QPSK	1	0	Edge 1	11mm	OFF	21100	2535	23.78	24.00	1.052	0	0.225	0.237
	LTE Band 7_Main	20M	QPSK	50	0	Edge 1	11mm	OFF	21100	2535	22.82	23.00	1.042	-0.17	0.177	0.184
	LTE Band 7_Main	20M	QPSK	1	0	Edge 2	20mm	OFF	21100	2535	23.78	24.00	1.052	-0.1	0.754	0.793
	LTE Band 7_Main	20M	QPSK	50	0	Edge 2	20mm	OFF	21100	2535	22.82	23.00	1.042	-0.04	0.586	0.611
	LTE Band 7C_Main	20M	QPSK	1	0	Bottom Face	0mm	ON	21100	2535	11.74	13.50	1.500	-0.03	0.736	1.104
	LTE Band 7C_Main	20M	QPSK	1	0	Bottom Face	0mm	ON	20850	2510	11.65	13.50	1.531	0.01	0.625	0.957
	LTE Band 7C_Main	20M	QPSK	1	0	Bottom Face	0mm	ON	21350	2560	11.72	13.50	1.507	0.02	0.730	1.100
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	20850	2510	10.50	11.00	1.122	-0.04	0.910	1.021
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	21100	2535	10.44	11.00	1.138	0.09	0.893	1.016
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	21350	2560	10.39	11.00	1.151	0.01	0.874	1.006
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Bottom Face	0mm	ON	20850	2510	10.49	11.00	1.125	0.08	0.899	1.011
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Bottom Face	0mm	ON	21100	2535	10.44	11.00	1.138	-0.11	0.864	0.983
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Bottom Face	0mm	ON	21350	2560	10.48	11.00	1.127	0.03	0.846	0.954
	LTE Band 7_MIMO 2	20M	QPSK	100	0	Bottom Face	0mm	ON	21350	2560	10.47	11.00	1.130	-0.13	0.855	0.966
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Edge 1	0mm	ON	20850	2510	10.50	11.00	1.122	-0.05	0.701	0.787
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Edge 1	0mm	ON	20850	2510	10.49	11.00	1.125	0.03	0.693	0.779
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Bottom Face	20mm	OFF	20850	2510	23.50	24.00	1.122	0.18	0.350	0.393
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Bottom Face	20mm	OFF	20850	2510	22.51	23.00	1.119	-0.19	0.279	0.312
	LTE Band 7_MIMO 2	20M	QPSK	1	0	Edge 1	25mm	OFF	20850	2510	23.50	24.00	1.122	0.12	0.412	0.462
	LTE Band 7_MIMO 2	20M	QPSK	50	0	Edge 1	25mm	OFF	20850	2510	22.51	23.00	1.119	-0.18	0.348	0.390
	LTE Band 7C_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	21350	2560	10.40	11.00	1.148	0.02	0.696	0.799
05	LTE Band 12_Main	10M	QPSK	1	0	Bottom Face	0mm	ON	23095	707.5	19.83	20.50	1.167	0.18	0.965	1.126
	LTE Band 12_Main	10M	QPSK	25	0	Bottom Face	0mm	ON	23095	707.5	19.79	20.50	1.178	-0.14	0.937	1.103
	LTE Band 12_Main	10M	QPSK	50	0	Bottom Face	0mm	ON	23095	707.5	19.77	20.50	1.183	0.08	0.947	1.120
	LTE Band 12_Main	10M	QPSK	1	0	Edge 1	0mm	ON	23095	707.5	19.83	20.50	1.167	0.18	0.494	0.576
	LTE Band 12_Main	10M	QPSK	25	0	Edge 1	0mm	ON	23095	707.5	19.79	20.50	1.178	0.06	0.489	0.576
	LTE Band 12_Main	10M	QPSK	1	0	Edge 2	0mm	ON	23095	707.5	19.83	20.50	1.167	0.02	0.584	0.681
	LTE Band 12_Main	10M	QPSK	25	0	Edge 2	0mm	ON	23095	707.5	19.79	20.50	1.178	0.06	0.567	0.668
	LTE Band 12_Main	10M	QPSK	1	0	Bottom Face	19mm	OFF	23095	707.5	24.25	25.00	1.189	0.16	0.168	0.200
	LTE Band 12_Main	10M	QPSK	25	0	Bottom Face	19mm	OFF	23095	707.5	23.24	24.00	1.191	-0.06	0.127	0.151
	LTE Band 12_Main	10M	QPSK	1	0	Edge 1	11mm	OFF	23095	707.5	24.25	25.00	1.189	0.07	0.102	0.121
	LTE Band 12_Main	10M	QPSK	25	0	Edge 1	11mm	OFF	23095	707.5	23.24	24.00	1.191	0.07	0.090	0.107
	LTE Band 12_Main	10M	QPSK	1	0	Edge 2	20mm	OFF	23095	707.5	24.25	25.00	1.189	0.14	0.178	0.212
	LTE Band 12_Main	10M	QPSK	25	0	Edge 2	20mm	OFF	23095	707.5	23.24	24.00	1.191	-0.07	0.111	0.132



FCC SAR TEST REPORT

Report No.: FA271304

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
09	LTE Band 26_Main	15M	QPSK	1	0	Bottom Face	0mm	ON	26865	831.5	19.68	20.50	1.208	0.15	0.933	1.127
	LTE Band 26_Main	15M	QPSK	36	0	Bottom Face	0mm	ON	26865	831.5	19.70	20.50	1.202	0.13	0.924	1.111
	LTE Band 26_Main	15M	QPSK	75	0	Bottom Face	0mm	ON	26865	831.5	19.67	20.50	1.211	0.05	0.915	1.108
	LTE Band 26_Main	15M	QPSK	1	0	Edge 1	0mm	ON	26865	831.5	19.68	20.50	1.208	0	0.395	0.477
	LTE Band 26_Main	15M	QPSK	36	0	Edge 1	0mm	ON	26865	831.5	19.70	20.50	1.202	0.19	0.382	0.459
	LTE Band 26_Main	15M	QPSK	1	0	Edge 2	0mm	ON	26865	831.5	19.68	20.50	1.208	0.15	0.860	1.039
	LTE Band 26_Main	15M	QPSK	36	0	Edge 2	0mm	ON	26865	831.5	19.70	20.50	1.202	-0.11	0.827	0.994
	LTE Band 26_Main	15M	QPSK	75	0	Edge 2	0mm	ON	26865	831.5	19.67	20.50	1.211	0.12	0.846	1.024
	LTE Band 26_Main	15M	QPSK	1	0	Bottom Face	19mm	OFF	26865	831.5	24.25	25.00	1.189	0.07	0.266	0.316
	LTE Band 26_Main	15M	QPSK	36	0	Bottom Face	19mm	OFF	26865	831.5	23.23	24.00	1.194	0.15	0.208	0.248
	LTE Band 26_Main	15M	QPSK	1	0	Edge 1	11mm	OFF	26865	831.5	24.25	25.00	1.189	-0.05	0.115	0.137
	LTE Band 26_Main	15M	QPSK	36	0	Edge 1	11mm	OFF	26865	831.5	23.23	24.00	1.194	-0.14	0.091	0.109
	LTE Band 26_Main	15M	QPSK	1	0	Edge 2	20mm	OFF	26865	831.5	24.25	25.00	1.189	0.17	0.225	0.267
	LTE Band 26_Main	15M	QPSK	36	0	Edge 2	20mm	OFF	26865	831.5	23.23	24.00	1.194	-0.01	0.175	0.209
	LTE Band 5B_Main	10M	QPSK	1	0	Bottom Face	0mm	ON	20525	836.5	19.17	20.50	1.358	0.02	0.762	1.035
	LTE Band 30_Main	10M	QPSK	1	0	Bottom Face	0mm	ON	27710	2310	13.74	14.00	1.062	-0.19	1.020	1.083
	LTE Band 30_Main	10M	QPSK	25	0	Bottom Face	0mm	ON	27710	2310	13.68	14.00	1.076	-0.13	0.990	1.066
	LTE Band 30_Main	10M	QPSK	50	0	Bottom Face	0mm	ON	27710	2310	13.69	14.00	1.074	-0.19	0.983	1.056
	LTE Band 30_Main	10M	QPSK	1	0	Edge 1	0mm	ON	27710	2310	13.74	14.00	1.062	-0.01	0.307	0.326
	LTE Band 30_Main	10M	QPSK	25	0	Edge 1	0mm	ON	27710	2310	13.68	14.00	1.076	0.05	0.288	0.310
	LTE Band 30_Main	10M	QPSK	1	0	Edge 2	0mm	ON	27710	2310	13.74	14.00	1.062	-0.02	0.918	0.975
	LTE Band 30_Main	10M	QPSK	25	0	Edge 2	0mm	ON	27710	2310	13.68	14.00	1.076	-0.1	0.767	0.826
	LTE Band 30_Main	10M	QPSK	50	0	Edge 2	0mm	ON	27710	2310	13.69	14.00	1.074	0.01	0.885	0.950
	LTE Band 30_Main	10M	QPSK	1	0	Bottom Face	19mm	OFF	27710	2310	22.73	23.00	1.064	-0.16	0.369	0.393
	LTE Band 30_Main	10M	QPSK	25	0	Bottom Face	19mm	OFF	27710	2310	21.70	22.00	1.072	0.01	0.272	0.291
	LTE Band 30_Main	10M	QPSK	1	0	Edge 1	11mm	OFF	27710	2310	22.73	23.00	1.064	0.06	0.538	0.573
	LTE Band 30_Main	10M	QPSK	25	0	Edge 1	11mm	OFF	27710	2310	21.70	22.00	1.072	0.17	0.426	0.456
	LTE Band 30_Main	10M	QPSK	1	0	Edge 2	20mm	OFF	27710	2310	22.73	23.00	1.064	-0.1	0.466	0.496
	LTE Band 30_Main	10M	QPSK	25	0	Edge 2	20mm	OFF	27710	2310	21.70	22.00	1.072	0.14	0.410	0.439
10	LTE Band 30_MIMO 2	10M	QPSK	1	0	Bottom Face	0mm	ON	27710	2310	9.96	10.50	1.132	-0.07	0.968	1.096
	LTE Band 30_MIMO 2	10M	QPSK	25	0	Bottom Face	0mm	ON	27710	2310	9.78	10.50	1.180	0.03	0.924	1.091
	LTE Band 30_MIMO 2	10M	QPSK	50	0	Bottom Face	0mm	ON	27710	2310	9.54	10.50	1.247	0.11	0.806	1.005
	LTE Band 30_MIMO 2	10M	QPSK	1	0	Edge 1	0mm	ON	27710	2310	9.96	10.50	1.132	0.01	0.656	0.743
	LTE Band 30_MIMO 2	10M	QPSK	25	0	Edge 1	0mm	ON	27710	2310	9.78	10.50	1.180	-0.04	0.601	0.709
	LTE Band 30_MIMO 2	10M	QPSK	1	0	Bottom Face	20mm	OFF	27710	2310	22.32	23.00	1.169	-0.05	0.281	0.329
	LTE Band 30_MIMO 2	10M	QPSK	25	0	Bottom Face	20mm	OFF	27710	2310	21.27	22.00	1.183	0.14	0.228	0.270
	LTE Band 30_MIMO 2	10M	QPSK	1	0	Edge 1	25mm	OFF	27710	2310	22.32	23.00	1.169	-0.13	0.661	0.773
	LTE Band 30_MIMO 2	10M	QPSK	25	0	Edge 1	25mm	OFF	27710	2310	21.27	22.00	1.183	0.13	0.521	0.616



Table with 17 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Test Position, Gap (mm), Power Reduction, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Rows include various LTE bands (66, 66B, 66C, 66 MIMO 2, 71) and test configurations.



<TDD LTE SAR>

Table with columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Test Position, Gap (mm), Power Reduction, Ch., Freq. (MHz), Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Duty Cycle %, Duty Cycle Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Rows include LTE Band 38 and LTE Band 41 configurations.



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	41055	2636.5	13.31	13.50	1.045	62.9	1.006	0.12	0.901	0.947
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	39750	2506	13.29	13.50	1.050	62.9	1.006	-0.17	0.943	0.996
14	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	40185	2549.5	13.18	13.50	1.076	62.9	1.006	-0.01	1.070	1.159
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	40620	2593	13.25	13.50	1.059	62.9	1.006	0.14	0.905	0.964
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	41490	2680	13.13	13.50	1.089	62.9	1.006	0.14	0.862	0.944
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom Face	0mm	ON	41055	2636.5	13.29	13.50	1.050	62.9	1.006	0.16	0.602	0.636
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom Face	0mm	ON	39750	2506	13.28	13.50	1.052	62.9	1.006	0.04	0.784	0.830
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom Face	0mm	ON	40185	2549.5	13.18	13.50	1.076	62.9	1.006	-0.11	0.817	0.885
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom Face	0mm	ON	40620	2593	13.17	13.50	1.079	62.9	1.006	0.16	0.745	0.809
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom Face	0mm	ON	41490	2680	13.04	13.50	1.112	62.9	1.006	0.18	0.632	0.707
	LTE Band 41_MIMO 2	20M	QPSK	100	0	Bottom Face	0mm	ON	41055	2636.5	13.21	13.50	1.069	62.9	1.006	0.05	0.807	0.868
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Edge 1	0mm	ON	41055	2636.5	13.31	13.50	1.045	62.9	1.006	-0.03	0.810	0.851
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Edge 1	0mm	ON	39750	2506	13.29	13.50	1.050	62.9	1.006	0.05	0.848	0.895
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Edge 1	0mm	ON	40185	2549.5	13.18	13.50	1.076	62.9	1.006	0.06	0.962	1.042
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Edge 1	0mm	ON	40620	2593	13.25	13.50	1.059	62.9	1.006	-0.12	0.814	0.867
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Edge 1	0mm	ON	41490	2680	13.13	13.50	1.089	62.9	1.006	-0.01	0.775	0.849
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Edge 1	0mm	ON	41055	2636.5	13.29	13.50	1.050	62.9	1.006	-0.05	0.802	0.847
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Edge 1	0mm	ON	39750	2506	13.28	13.50	1.052	62.9	1.006	-0.12	0.812	0.859
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Edge 1	0mm	ON	40185	2549.5	13.18	13.50	1.076	62.9	1.006	0.08	0.748	0.810
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Edge 1	0mm	ON	40620	2593	13.17	13.50	1.079	62.9	1.006	0.12	0.761	0.826
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Edge 1	0mm	ON	41490	2680	13.04	13.50	1.112	62.9	1.006	-0.13	0.786	0.879
	LTE Band 41_MIMO 2	20M	QPSK	100	0	Edge 1	0mm	ON	41055	2636.5	13.21	13.50	1.069	62.9	1.006	0.02	0.741	0.797
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Bottom Face	20mm	OFF	41055	2636.5	23.88	24.00	1.028	62.9	1.006	0.12	0.236	0.244
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Bottom Face	20mm	OFF	41055	2636.5	22.95	23.00	1.012	62.9	1.006	-0.17	0.181	0.184
	LTE Band 41_MIMO 2	20M	QPSK	1	0	Edge 1	25mm	OFF	41055	2636.5	23.88	24.00	1.028	62.9	1.006	0.17	0.579	0.599
	LTE Band 41_MIMO 2	20M	QPSK	50	0	Edge 1	25mm	OFF	41055	2636.5	22.95	23.00	1.012	62.9	1.006	0.03	0.433	0.441
	LTE Band 41_HPUE_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	41055	2636.5	13.12	13.50	1.091	42.9	1.009	-0.06	0.709	0.781
	LTE Band 41_HPUE_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	39750	2506	12.89	13.50	1.151	42.9	1.009	-0.17	0.671	0.779
	LTE Band 41_HPUE_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	40185	2549.5	12.83	13.50	1.167	42.9	1.009	0.03	0.669	0.788
	LTE Band 41_HPUE_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	40620	2593	12.74	13.50	1.191	42.9	1.009	-0.01	0.655	0.787
	LTE Band 41_HPUE_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	41490	2680	12.72	13.50	1.197	42.9	1.009	0.02	0.644	0.778
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	41055	2636.5	12.81	13.50	1.172	62.9	1.006	-0.07	0.774	0.913
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	39750	2506	11.85	13.50	1.462	62.9	1.006	0.01	0.781	1.149
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	40185	2549.5	12.73	13.50	1.194	62.9	1.006	0.02	0.937	1.125
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	40620	2593	12.58	13.50	1.236	62.9	1.006	0.09	0.808	1.005
	LTE Band 41C_MIMO 2	20M	QPSK	1	0	Bottom Face	0mm	ON	41490	2680	12.62	13.50	1.225	62.9	1.006	-0.04	0.773	0.952



<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
16	FR1 n5_Main	20M	BPSK	1	53	Bottom Face	0mm	ON	167300	836.5	20.18	20.50	1.076	0.07	0.968	1.042
	FR1 n5_Main	20M	BPSK	50	28	Bottom Face	0mm	ON	167300	836.5	20.26	20.50	1.057	-0.14	0.963	1.018
	FR1 n5_Main	20M	BPSK	100	0	Bottom Face	0mm	ON	167300	836.5	20.20	20.50	1.072	0.13	0.552	0.591
	FR1 n5_Main	20M	BPSK	1	53	Edge 1	0mm	ON	167300	836.5	20.18	20.50	1.076	-0.05	0.417	0.449
	FR1 n5_Main	20M	BPSK	50	28	Edge 1	0mm	ON	167300	836.5	20.26	20.50	1.057	-0.12	0.374	0.395
	FR1 n5_Main	20M	BPSK	1	53	Edge 2	0mm	ON	167300	836.5	20.18	20.50	1.076	-0.12	0.668	0.719
	FR1 n5_Main	20M	BPSK	50	28	Edge 2	0mm	ON	167300	836.5	20.26	20.50	1.057	-0.09	0.444	0.469
	FR1 n5_Main	20M	BPSK	1	53	Bottom Face	19mm	OFF	167300	836.5	24.09	25.00	1.233	0.04	0.228	0.281
	FR1 n5_Main	20M	BPSK	50	28	Bottom Face	19mm	OFF	167300	836.5	24.16	25.00	1.213	0.08	0.176	0.214
	FR1 n5_Main	20M	BPSK	1	53	Edge 1	11mm	OFF	167300	836.5	24.09	25.00	1.233	-0.08	0.112	0.138
	FR1 n5_Main	20M	BPSK	50	28	Edge 1	11mm	OFF	167300	836.5	24.16	25.00	1.213	0.13	0.108	0.131
	FR1 n5_Main	20M	BPSK	1	53	Edge 2	20mm	OFF	167300	836.5	24.09	25.00	1.233	0.03	0.247	0.305
	FR1 n5_Main	20M	BPSK	50	28	Edge 2	20mm	OFF	167300	836.5	24.16	25.00	1.213	0.02	0.185	0.224
	FR1 n7_Main	20M	BPSK	1	1	Bottom Face	0mm	ON	512000	2560	13.59	14.00	1.099	0.17	0.890	0.978
	FR1 n7_Main	20M	BPSK	1	1	Bottom Face	0mm	ON	502000	2510	13.49	14.00	1.125	-0.16	0.661	0.743
	FR1 n7_Main	20M	BPSK	1	1	Bottom Face	0mm	ON	507000	2535	13.58	14.00	1.102	0.11	0.736	0.811
17	FR1 n7_Main	20M	BPSK	50	28	Bottom Face	0mm	ON	512000	2560	13.69	14.00	1.074	-0.04	1.050	1.128
	FR1 n7_Main	20M	BPSK	50	28	Bottom Face	0mm	ON	502000	2510	13.55	14.00	1.109	-0.06	0.702	0.779
	FR1 n7_Main	20M	BPSK	50	28	Bottom Face	0mm	ON	507000	2535	13.66	14.00	1.081	0.12	0.801	0.866
	FR1 n7_Main	20M	BPSK	100	0	Bottom Face	0mm	ON	512000	2560	13.52	14.00	1.117	0.02	0.942	1.052
	FR1 n7_Main	20M	BPSK	1	1	Edge 1	0mm	ON	512000	2560	13.59	14.00	1.099	-0.18	0.052	0.057
	FR1 n7_Main	20M	BPSK	50	28	Edge 1	0mm	ON	512000	2560	13.69	14.00	1.074	-0.04	0.054	0.058
	FR1 n7_Main	20M	BPSK	1	1	Edge 2	0mm	ON	512000	2560	13.59	14.00	1.099	0.01	0.723	0.795
	FR1 n7_Main	20M	BPSK	50	28	Edge 2	0mm	ON	512000	2560	13.69	14.00	1.074	0.04	0.815	0.875
	FR1 n7_Main	20M	BPSK	50	28	Edge 2	0mm	ON	502000	2510	13.55	14.00	1.109	0.16	0.545	0.605
	FR1 n7_Main	20M	BPSK	50	28	Edge 2	0mm	ON	507000	2535	13.66	14.00	1.081	0.15	0.622	0.673
	FR1 n7_Main	20M	BPSK	100	0	Edge 2	0mm	ON	512000	2560	13.52	14.00	1.117	0.11	0.731	0.816
	FR1 n7_Main	20M	BPSK	1	1	Bottom Face	19mm	OFF	512000	2560	23.77	24.00	1.054	0.08	0.306	0.323
	FR1 n7_Main	20M	BPSK	50	28	Bottom Face	19mm	OFF	512000	2560	23.76	24.00	1.057	0.18	0.330	0.349
	FR1 n7_Main	20M	BPSK	1	1	Edge 1	11mm	OFF	512000	2560	23.77	24.00	1.054	0.06	0.151	0.159
	FR1 n7_Main	20M	BPSK	50	28	Edge 1	11mm	OFF	512000	2560	23.76	24.00	1.057	0.08	0.169	0.179
	FR1 n7_Main	20M	BPSK	1	1	Edge 2	20mm	OFF	512000	2560	23.77	24.00	1.054	-0.17	0.470	0.496
	FR1 n7_Main	20M	BPSK	50	28	Edge 2	20mm	OFF	512000	2560	23.76	24.00	1.057	-0.01	0.511	0.540
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom Face	0mm	ON	512000	2560	10.32	11.00	1.169	-0.19	0.764	0.893
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom Face	0mm	ON	502000	2510	10.22	11.00	1.197	0.15	0.773	0.925
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom Face	0mm	ON	507000	2535	10.13	11.00	1.222	-0.01	0.768	0.938
	FR1 n7_MIMO 2	20M	BPSK	50	28	Bottom Face	0mm	ON	512000	2560	10.38	11.00	1.153	0.03	0.821	0.947
	FR1 n7_MIMO 2	20M	BPSK	50	28	Bottom Face	0mm	ON	502000	2510	10.35	11.00	1.161	0.05	0.873	1.014
	FR1 n7_MIMO 2	20M	BPSK	50	28	Bottom Face	0mm	ON	507000	2535	10.20	11.00	1.202	0.15	0.790	0.950
	FR1 n7_MIMO 2	20M	BPSK	100	0	Bottom Face	0mm	ON	512000	2560	10.32	11.00	1.169	-0.12	0.694	0.812
	FR1 n7_MIMO 2	20M	BPSK	1	1	Edge 1	0mm	ON	512000	2560	10.32	11.00	1.169	-0.17	0.712	0.833
	FR1 n7_MIMO 2	20M	BPSK	1	1	Edge 1	0mm	ON	502000	2510	10.22	11.00	1.197	-0.13	0.703	0.841
	FR1 n7_MIMO 2	20M	BPSK	1	1	Edge 1	0mm	ON	507000	2535	10.13	11.00	1.222	0.03	0.707	0.864
	FR1 n7_MIMO 2	20M	BPSK	50	28	Edge 1	0mm	ON	512000	2560	10.38	11.00	1.153	0.06	0.690	0.796
	FR1 n7_MIMO 2	20M	BPSK	100	0	Edge 1	0mm	ON	512000	2560	10.32	11.00	1.169	-0.02	0.639	0.747
	FR1 n7_MIMO 2	20M	BPSK	1	1	Bottom Face	20mm	OFF	512000	2560	23.47	24.00	1.130	0.02	0.294	0.332
	FR1 n7_MIMO 2	20M	BPSK	50	28	Bottom Face	20mm	OFF	512000	2560	23.45	24.00	1.135	-0.14	0.308	0.350
	FR1 n7_MIMO 2	20M	BPSK	1	1	Edge 1	25mm	OFF	512000	2560	23.47	24.00	1.130	0.14	0.435	0.491
	FR1 n7_MIMO 2	20M	BPSK	50	28	Edge 1	25mm	OFF	512000	2560	23.45	24.00	1.135	-0.16	0.433	0.491



FCC SAR TEST REPORT

Report No.: FA271304

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
20	FR1 n41_Main	100M	BPSK	1	137	Bottom Face	0mm	ON	518598	2592.99	12.82	14.00	1.312	-0.08	0.898	1.178
	FR1 n41_Main	100M	BPSK	135	69	Bottom Face	0mm	ON	518598	2592.99	13.12	14.00	1.225	-0.05	0.975	1.194
	FR1 n41_Main	100M	BPSK	270	0	Bottom Face	0mm	ON	518598	2592.99	13.21	14.00	1.199	0.17	0.814	0.976
	FR1 n41_Main	100M	BPSK	1	137	Edge 1	0mm	ON	518598	2592.99	12.82	14.00	1.312	0.07	0.115	0.151
	FR1 n41_Main	100M	BPSK	135	69	Edge 1	0mm	ON	518598	2592.99	13.12	14.00	1.225	0.12	0.166	0.203
	FR1 n41_Main	100M	BPSK	1	137	Edge 2	0mm	ON	518598	2592.99	12.82	14.00	1.312	0.09	0.518	0.680
	FR1 n41_Main	100M	BPSK	135	69	Edge 2	0mm	ON	518598	2592.99	13.12	14.00	1.225	0.18	0.623	0.763
	FR1 n41_Main	100M	BPSK	270	0	Edge 2	0mm	ON	518598	2592.99	13.21	14.00	1.199	0.02	0.807	0.968
	FR1 n41_Main	100M	BPSK	1	137	Bottom Face	19mm	OFF	518598	2592.99	22.89	23.50	1.151	0.07	0.260	0.299
	FR1 n41_Main	100M	BPSK	135	69	Bottom Face	19mm	OFF	518598	2592.99	22.58	23.50	1.236	-0.13	0.228	0.282
	FR1 n41_Main	100M	BPSK	1	137	Edge 1	11mm	OFF	518598	2592.99	22.89	23.50	1.151	0.19	0.098	0.113
	FR1 n41_Main	100M	BPSK	135	69	Edge 1	11mm	OFF	518598	2592.99	22.58	23.50	1.236	-0.06	0.089	0.110
	FR1 n41_Main	100M	BPSK	1	137	Edge 2	20mm	OFF	518598	2592.99	22.89	23.50	1.151	-0.11	0.422	0.486
	FR1 n41_Main	100M	BPSK	135	69	Edge 2	20mm	OFF	518598	2592.99	22.58	23.50	1.236	-0.1	0.329	0.407
	FR1 n41_HPUE_Main	100M	BPSK	135	69	Bottom Face	0mm	ON	518598	2592.99	15.82	17.00	1.312	-0.08	0.878	1.152
	FR1 n41_Aux	100M	BPSK	1	271	Bottom Face	0mm	OFF	518598	2592.99	9.80	10.00	1.047	0.07	0.325	0.340
	FR1 n41_Aux	100M	BPSK	135	138	Bottom Face	0mm	OFF	518598	2592.99	9.98	10.00	1.005	-0.13	0.353	0.355
	FR1 n41_Aux	100M	BPSK	1	271	Edge 1	0mm	OFF	518598	2592.99	9.80	10.00	1.047	0.05	0.026	0.027
	FR1 n41_Aux	100M	BPSK	135	138	Edge 1	0mm	OFF	518598	2592.99	9.98	10.00	1.005	-0.12	0.028	0.028
	FR1 n41_Aux	100M	BPSK	1	271	Edge 4	0mm	OFF	518598	2592.99	9.80	10.00	1.047	-0.12	0.232	0.243
FR1 n41_Aux	100M	BPSK	135	138	Edge 4	0mm	OFF	518598	2592.99	9.98	10.00	1.005	-0.16	0.239	0.240	
FR1 n41_MIMO 1	100M	BPSK	1	271	Bottom Face	0mm	OFF	518598	2592.99	7.68	8.00	1.076	-0.19	0.298	0.321	
FR1 n41_MIMO 1	100M	BPSK	135	138	Bottom Face	0mm	OFF	518598	2592.99	7.85	8.00	1.035	-0.06	0.324	0.335	
FR1 n41_MIMO 1	100M	BPSK	1	271	Edge 1	0mm	OFF	518598	2592.99	7.68	8.00	1.076	-0.15	0.270	0.291	
FR1 n41_MIMO 1	100M	BPSK	135	138	Edge 1	0mm	OFF	518598	2592.99	7.85	8.00	1.035	-0.19	0.254	0.263	
FR1 n41_MIMO 1	100M	BPSK	1	271	Edge 2	0mm	OFF	518598	2592.99	7.68	8.00	1.076	-0.11	0.012	0.013	
FR1 n41_MIMO 1	100M	BPSK	135	138	Edge 2	0mm	OFF	518598	2592.99	7.85	8.00	1.035	0.04	0.012	0.012	
FR1 n41_MIMO 2	100M	BPSK	1	137	Bottom Face	0mm	ON	518598	2592.99	11.28	12.00	1.180	-0.19	0.781	0.922	
FR1 n41_MIMO 2	100M	BPSK	135	69	Bottom Face	0mm	ON	518598	2592.99	11.48	12.00	1.127	0.08	0.992	1.118	
FR1 n41_MIMO 2	100M	BPSK	270	0	Bottom Face	0mm	ON	518598	2592.99	11.46	12.00	1.132	0.02	0.947	1.072	
FR1 n41_MIMO 2	100M	BPSK	1	137	Edge 1	0mm	ON	518598	2592.99	11.28	12.00	1.180	-0.13	0.695	0.820	
FR1 n41_MIMO 2	100M	BPSK	135	69	Edge 1	0mm	ON	518598	2592.99	11.48	12.00	1.127	0.05	0.704	0.794	
FR1 n41_MIMO 2	100M	BPSK	270	0	Edge 1	0mm	ON	518598	2592.99	11.46	12.00	1.132	0.03	0.920	1.042	
FR1 n41_MIMO 2	100M	BPSK	1	137	Bottom Face	20mm	OFF	518598	2592.99	22.77	24.00	1.327	0.02	0.141	0.187	
FR1 n41_MIMO 2	100M	BPSK	135	69	Bottom Face	20mm	OFF	518598	2592.99	22.91	24.00	1.285	-0.15	0.145	0.186	
FR1 n41_MIMO 2	100M	BPSK	1	137	Edge 1	25mm	OFF	518598	2592.99	22.77	24.00	1.327	0.15	0.178	0.236	
FR1 n41_MIMO 2	100M	BPSK	135	69	Edge 1	25mm	OFF	518598	2592.99	22.91	24.00	1.285	-0.11	0.193	0.248	
FR1 n41_HPUE_MIMO 2	100M	BPSK	135	69	Bottom Face	0mm	ON	518598	2592.99	14.27	15.00	1.183	-0.06	0.873	1.033	
FR1 n66_Main	40M	BPSK	1	108	Bottom Face	0mm	ON	349000	1745	16.96	17.00	1.009	0.08	1.080	1.090	
21	FR1 n66_Main	40M	BPSK	108	54	Bottom Face	0mm	ON	349000	1745	16.94	17.00	1.014	-0.18	1.140	1.156
	FR1 n66_Main	40M	BPSK	216	0	Bottom Face	0mm	ON	349000	1745	16.76	17.00	1.057	-0.1	1.020	1.078
	FR1 n66_Main	40M	BPSK	1	108	Edge 1	0mm	ON	349000	1745	16.96	17.00	1.009	0.06	0.873	0.881
	FR1 n66_Main	40M	BPSK	108	54	Edge 1	0mm	ON	349000	1745	16.94	17.00	1.014	0.19	0.988	1.002
	FR1 n66_Main	40M	BPSK	216	0	Edge 1	0mm	ON	349000	1745	16.76	17.00	1.057	0.04	0.891	0.942
	FR1 n66_Main	40M	BPSK	1	108	Edge 2	0mm	ON	349000	1745	16.96	17.00	1.009	0.04	0.726	0.733
	FR1 n66_Main	40M	BPSK	108	54	Edge 2	0mm	ON	349000	1745	16.94	17.00	1.014	0.01	0.559	0.567
	FR1 n66_Main	40M	BPSK	1	108	Bottom Face	19mm	OFF	349000	1745	23.96	24.00	1.009	0.18	0.401	0.405
	FR1 n66_Main	40M	BPSK	108	54	Bottom Face	19mm	OFF	349000	1745	23.94	24.00	1.014	-0.14	0.421	0.427
	FR1 n66_Main	40M	BPSK	1	108	Edge 1	11mm	OFF	349000	1745	23.96	24.00	1.009	0.1	0.795	0.802
	FR1 n66_Main	40M	BPSK	108	54	Edge 1	11mm	OFF	349000	1745	23.94	24.00	1.014	0.05	0.815	0.826
	FR1 n66_Main	40M	BPSK	216	0	Edge 1	11mm	OFF	349000	1745	23.27	23.50	1.054	-0.01	0.720	0.759
	FR1 n66_Main	40M	BPSK	1	108	Edge 2	20mm	OFF	349000	1745	23.96	24.00	1.009	0.11	0.361	0.364
	FR1 n66_Main	40M	BPSK	108	54	Edge 2	20mm	OFF	349000	1745	23.94	24.00	1.014	0.08	0.414	0.420
	FR1 n66_MIMO 2	40M	BPSK	1	108	Bottom Face	0mm	ON	349000	1745	12.66	13.50	1.213	0.12	0.848	1.029
	FR1 n66_MIMO 2	40M	BPSK	108	54	Bottom Face	0mm	ON	349000	1745	12.64	13.50	1.219	0.07	0.855	1.042
	FR1 n66_MIMO 2	40M	BPSK	216	0	Bottom Face	0mm	ON	349000	1745	12.32	13.50	1.312	0.05	0.743	0.975
	FR1 n66_MIMO 2	40M	BPSK	1	108	Edge 1	0mm	ON	349000	1745	12.66	13.50	1.213	0.03	0.697	0.846
	FR1 n66_MIMO 2	40M	BPSK	108	54	Edge 1	0mm	ON	349000	1745	12.64	13.50	1.219	-0.05	0.680	0.829
	FR1 n66_MIMO 2	40M	BPSK	216	0	Edge 1	0mm	ON	349000	1745	12.32	13.50	1.312	0.16	0.673	0.883
FR1 n66_MIMO 2	40M	BPSK	1	108	Bottom Face	20mm	OFF	349000	1745	23.81	24.00	1.045	0.09	0.279	0.291	
FR1 n66_MIMO 2	40M	BPSK	108	54	Bottom Face	20mm	OFF	349000	1745	23.85	24.00	1.035	0.02	0.287	0.297	
FR1 n66_MIMO 2	40M	BPSK	1	108	Edge 1	25mm	OFF	349000	1745	23.81	24.00	1.045	-0.12	0.270	0.282	
FR1 n66_MIMO 2	40M	BPSK	108	54	Edge 1	25mm	OFF	349000	1745	23.85	24.00	1.035	-0.11	0.282	0.292	



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n71_Main	20M	BPSK	1	53	Bottom Face	0mm	ON	136100	680.5	19.00	20.00	1.259	-0.12	0.591	0.744
	FR1 n71_Main	20M	BPSK	50	28	Bottom Face	0mm	ON	136100	680.5	19.04	20.00	1.247	0.13	0.564	0.704
	FR1 n71_Main	20M	BPSK	1	53	Edge 1	0mm	ON	136100	680.5	19.00	20.00	1.259	0.07	0.318	0.400
	FR1 n71_Main	20M	BPSK	50	28	Edge 1	0mm	ON	136100	680.5	19.04	20.00	1.247	-0.14	0.246	0.307
22	FR1 n71_Main	20M	BPSK	1	53	Edge 2	0mm	ON	136100	680.5	19.00	20.00	1.259	-0.06	0.898	1.131
	FR1 n71_Main	20M	BPSK	50	28	Edge 2	0mm	ON	136100	680.5	19.04	20.00	1.247	0.07	0.728	0.908
	FR1 n71_Main	20M	BPSK	100	0	Edge 2	0mm	ON	136100	680.5	18.98	20.00	1.265	0.02	0.743	0.940
	FR1 n71_Main	20M	BPSK	1	53	Bottom Face	19mm	OFF	136100	680.5	23.97	25.00	1.268	0.17	0.141	0.179
	FR1 n71_Main	20M	BPSK	50	28	Bottom Face	19mm	OFF	136100	680.5	23.96	25.00	1.271	0.14	0.107	0.136
	FR1 n71_Main	20M	BPSK	1	53	Edge 1	11mm	OFF	136100	680.5	23.97	25.00	1.268	-0.12	0.086	0.109
	FR1 n71_Main	20M	BPSK	50	28	Edge 1	11mm	OFF	136100	680.5	23.96	25.00	1.271	-0.06	0.077	0.098
	FR1 n71_Main	20M	BPSK	1	53	Edge 2	20mm	OFF	136100	680.5	23.97	25.00	1.268	-0.19	0.147	0.186
	FR1 n71_Main	20M	BPSK	50	28	Edge 2	20mm	OFF	136100	680.5	23.96	25.00	1.271	-0.12	0.135	0.172



FCC SAR TEST REPORT

Report No.: FA271304

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77_Main	100M	BPSK	1	137	Bottom Face	0mm	ON	656000	3840	13.46	13.50	1.009	0.01	0.904	0.912
	FR1 n77_Main	100M	BPSK	135	69	Bottom Face	0mm	ON	656000	3840	13.45	13.50	1.012	-0.1	0.972	0.983
	FR1 n77_Main	100M	BPSK	270	0	Bottom Face	0mm	ON	656000	3840	13.41	13.50	1.021	0.01	0.897	0.916
	FR1 n77_Main	100M	BPSK	1	137	Edge 1	0mm	ON	656000	3840	13.46	13.50	1.009	-0.05	0.577	0.582
	FR1 n77_Main	100M	BPSK	135	69	Edge 1	0mm	ON	656000	3840	13.45	13.50	1.012	-0.02	0.531	0.537
	FR1 n77_Main	100M	BPSK	1	137	Edge 2	0mm	ON	656000	3840	13.46	13.50	1.009	0.14	0.703	0.710
	FR1 n77_Main	100M	BPSK	135	69	Edge 2	0mm	ON	656000	3840	13.45	13.50	1.012	0.13	0.695	0.703
	FR1 n77_Main	100M	BPSK	270	0	Edge 2	0mm	ON	656000	3840	13.41	13.50	1.021	0.13	0.684	0.698
	FR1 n77_Main	100M	BPSK	1	137	Bottom Face	19mm	OFF	656000	3840	23.73	24.00	1.064	-0.04	0.214	0.228
	FR1 n77_Main	100M	BPSK	135	69	Bottom Face	19mm	OFF	656000	3840	23.75	24.00	1.059	-0.18	0.172	0.182
	FR1 n77_Main	100M	BPSK	1	137	Edge 1	11mm	OFF	656000	3840	23.73	24.00	1.064	-0.05	0.229	0.244
	FR1 n77_Main	100M	BPSK	135	69	Edge 1	11mm	OFF	656000	3840	23.75	24.00	1.059	-0.14	0.248	0.263
	FR1 n77_Main	100M	BPSK	1	137	Edge 2	20mm	OFF	656000	3840	23.73	24.00	1.064	-0.19	0.451	0.480
	FR1 n77_Main	100M	BPSK	135	69	Edge 2	20mm	OFF	656000	3840	23.75	24.00	1.059	0.15	0.353	0.374
	FR1 n77_HPUE_Main	100M	BPSK	135	69	Bottom Face	0mm	ON	656000	3840	16.43	16.50	1.016	-0.19	0.935	0.950
	FR1 n77_Main	100M	BPSK	1	137	Bottom Face	0mm	ON	633332	3499.98	13.37	13.50	1.030	0.08	0.750	0.773
	FR1 n77_Main	100M	BPSK	135	69	Bottom Face	0mm	ON	633332	3499.98	13.35	13.50	1.035	-0.16	0.765	0.792
	FR1 n77_Main	100M	BPSK	270	0	Bottom Face	0mm	ON	633332	3499.98	13.17	13.50	1.079	0.15	0.643	0.694
	FR1 n77_Main	100M	BPSK	1	137	Edge 1	0mm	ON	633332	3499.98	13.37	13.50	1.030	-0.19	0.992	1.022
	FR1 n77_Main	100M	BPSK	135	69	Edge 1	0mm	ON	633332	3499.98	13.35	13.50	1.035	-0.13	0.983	1.018
	FR1 n77_Main	100M	BPSK	270	0	Edge 1	0mm	ON	633332	3499.98	13.17	13.50	1.079	0.17	0.919	0.992
	FR1 n77_Main	100M	BPSK	1	137	Edge 2	0mm	ON	633332	3499.98	13.37	13.50	1.030	-0.01	0.830	0.855
	FR1 n77_Main	100M	BPSK	135	69	Edge 2	0mm	ON	633332	3499.98	13.35	13.50	1.035	-0.17	0.803	0.831
	FR1 n77_Main	100M	BPSK	270	0	Edge 2	0mm	ON	633332	3499.98	13.17	13.50	1.079	-0.1	0.780	0.842
	FR1 n77_Main	100M	BPSK	1	137	Bottom Face	19mm	OFF	633332	3499.98	23.12	24.00	1.225	0.15	0.329	0.403
	FR1 n77_Main	100M	BPSK	135	69	Bottom Face	19mm	OFF	633332	3499.98	22.97	24.00	1.268	0.04	0.311	0.394
	FR1 n77_Main	100M	BPSK	1	137	Edge 1	11mm	OFF	633332	3499.98	23.12	24.00	1.225	0	0.545	0.667
	FR1 n77_Main	100M	BPSK	135	69	Edge 1	11mm	OFF	633332	3499.98	22.97	24.00	1.268	-0.06	0.568	0.720
	FR1 n77_Main	100M	BPSK	1	137	Edge 2	20mm	OFF	633332	3499.98	23.12	24.00	1.225	-0.18	0.627	0.768
	FR1 n77_Main	100M	BPSK	135	69	Edge 2	20mm	OFF	633332	3499.98	22.97	24.00	1.268	-0.05	0.649	0.823
	FR1 n77_Main	100M	BPSK	270	0	Edge 2	20mm	OFF	633332	3499.98	22.83	23.50	1.167	-0.14	0.623	0.727
	FR1 n77_HPUE_Main	100M	BPSK	1	137	Edge 1	0mm	ON	633332	3499.98	15.93	16.50	1.140	-0.12	0.850	0.969
	FR1 n77_Aux	100M	BPSK	1	137	Bottom Face	0mm	OFF	656000	3840	6.95	7.00	1.012	0.09	0.323	0.327
	FR1 n77_Aux	100M	BPSK	135	69	Bottom Face	0mm	OFF	656000	3840	6.98	7.00	1.005	-0.19	0.353	0.355
	FR1 n77_Aux	100M	BPSK	1	137	Edge 1	0mm	OFF	656000	3840	6.95	7.00	1.012	0.04	0.225	0.228
	FR1 n77_Aux	100M	BPSK	135	69	Edge 1	0mm	OFF	656000	3840	6.98	7.00	1.005	0.08	0.227	0.228
	FR1 n77_Aux	100M	BPSK	1	137	Edge 4	0mm	OFF	656000	3840	6.95	7.00	1.012	-0.18	0.213	0.215
	FR1 n77_Aux	100M	BPSK	135	69	Edge 4	0mm	OFF	656000	3840	6.98	7.00	1.005	0.15	0.204	0.205
	FR1 n77_Aux	100M	BPSK	1	137	Bottom Face	0mm	OFF	633332	3499.98	6.52	7.00	1.117	0.06	0.290	0.324
	FR1 n77_Aux	100M	BPSK	135	69	Bottom Face	0mm	OFF	633332	3499.98	6.66	7.00	1.081	-0.01	0.304	0.329
	FR1 n77_Aux	100M	BPSK	1	137	Edge 1	0mm	OFF	633332	3499.98	6.52	7.00	1.117	-0.05	0.239	0.267
	FR1 n77_Aux	100M	BPSK	135	69	Edge 1	0mm	OFF	633332	3499.98	6.66	7.00	1.081	-0.06	0.225	0.243
	FR1 n77_Aux	100M	BPSK	1	137	Edge 4	0mm	OFF	633332	3499.98	6.52	7.00	1.117	-0.07	0.196	0.219
	FR1 n77_Aux	100M	BPSK	135	69	Edge 4	0mm	OFF	633332	3499.98	6.66	7.00	1.081	-0.02	0.190	0.205



FCC SAR TEST REPORT

Report No.: FA271304

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n77_MIMO 1	100M	BPSK	1	137	Bottom Face	0mm	OFF	656000	3840	2.30	2.50	1.047	-0.09	0.145	0.152
	FR1 n77_MIMO 1	100M	BPSK	135	69	Bottom Face	0mm	OFF	656000	3840	1.81	2.50	1.172	0.05	0.165	0.193
	FR1 n77_MIMO 1	100M	BPSK	1	137	Edge 1	0mm	OFF	656000	3840	2.30	2.50	1.047	0.18	0.295	0.309
	FR1 n77_MIMO 1	100M	BPSK	135	69	Edge 1	0mm	OFF	656000	3840	1.81	2.50	1.172	-0.02	0.302	0.354
	FR1 n77_MIMO 1	100M	BPSK	1	137	Edge 2	0mm	OFF	656000	3840	2.30	2.50	1.047	-0.12	0.026	0.027
	FR1 n77_MIMO 1	100M	BPSK	135	69	Edge 2	0mm	OFF	656000	3840	1.81	2.50	1.172	-0.07	0.024	0.028
	FR1 n77_MIMO 1	100M	BPSK	1	137	Bottom Face	0mm	OFF	633332	3499.98	2.42	2.50	1.019	0.11	0.095	0.097
	FR1 n77_MIMO 1	100M	BPSK	135	69	Bottom Face	0mm	OFF	633332	3499.98	2.38	2.50	1.028	-0.04	0.097	0.100
	FR1 n77_MIMO 1	100M	BPSK	1	137	Edge 1	0mm	OFF	633332	3499.98	2.42	2.50	1.019	-0.05	0.083	0.085
	FR1 n77_MIMO 1	100M	BPSK	135	69	Edge 1	0mm	OFF	633332	3499.98	2.38	2.50	1.028	0.02	0.079	0.081
	FR1 n77_MIMO 1	100M	BPSK	1	137	Edge 2	0mm	OFF	633332	3499.98	2.42	2.50	1.019	-0.16	0.005	0.005
	FR1 n77_MIMO 1	100M	BPSK	135	69	Edge 2	0mm	OFF	633332	3499.98	2.38	2.50	1.028	0.02	0.006	0.006
23	FR1 n77_MIMO 2	100M	BPSK	1	137	Bottom Face	0mm	ON	656000	3840	11.33	11.50	1.040	-0.01	1.090	1.134
	FR1 n77_MIMO 2	100M	BPSK	135	69	Bottom Face	0mm	ON	656000	3840	11.38	11.50	1.028	0.09	0.994	1.022
	FR1 n77_MIMO 2	100M	BPSK	270	0	Bottom Face	0mm	ON	656000	3840	11.27	11.50	1.054	-0.02	0.848	0.894
	FR1 n77_MIMO 2	100M	BPSK	1	137	Edge 1	0mm	ON	656000	3840	11.33	11.50	1.040	0	0.866	0.901
	FR1 n77_MIMO 2	100M	BPSK	135	69	Edge 1	0mm	ON	656000	3840	11.38	11.50	1.028	-0.08	0.985	1.013
	FR1 n77_MIMO 2	100M	BPSK	270	0	Edge 1	0mm	ON	656000	3840	11.27	11.50	1.054	-0.03	0.901	0.950
	FR1 n77_MIMO 2	100M	BPSK	1	137	Bottom Face	20mm	OFF	656000	3840	23.89	24.00	1.026	0.15	0.396	0.406
	FR1 n77_MIMO 2	100M	BPSK	135	69	Bottom Face	20mm	OFF	656000	3840	23.93	24.00	1.016	-0.04	0.424	0.431
	FR1 n77_MIMO 2	100M	BPSK	1	137	Edge 1	25mm	OFF	656000	3840	23.89	24.00	1.026	0.1	1.080	1.108
	FR1 n77_MIMO 2	100M	BPSK	135	69	Edge 1	25mm	OFF	656000	3840	23.93	24.00	1.016	-0.19	1.024	1.041
	FR1 n77_MIMO 2	100M	BPSK	270	0	Edge 1	25mm	OFF	656000	3840	23.72	24.00	1.067	0.06	0.925	0.987
	FR1 n77_HPUE_MIMO 2	100M	BPSK	1	137	Bottom Face	0mm	ON	656000	3840	14.10	14.50	1.096	-0.03	0.986	1.081
	FR1 n77_MIMO 2	100M	BPSK	1	137	Bottom Face	0mm	ON	633332	3499.98	10.53	11.50	1.250	0.08	0.819	1.024
	FR1 n77_MIMO 2	100M	BPSK	135	69	Bottom Face	0mm	ON	633332	3499.98	10.61	11.50	1.227	-0.11	0.830	1.019
	FR1 n77_MIMO 2	100M	BPSK	270	0	Bottom Face	0mm	ON	633332	3499.98	10.59	11.50	1.233	-0.04	0.737	0.909
	FR1 n77_MIMO 2	100M	BPSK	1	137	Edge 1	0mm	ON	633332	3499.98	10.53	11.50	1.250	-0.04	0.698	0.873
	FR1 n77_MIMO 2	100M	BPSK	135	69	Edge 1	0mm	ON	633332	3499.98	10.61	11.50	1.227	-0.13	0.765	0.939
	FR1 n77_MIMO 2	100M	BPSK	270	0	Edge 1	0mm	ON	633332	3499.98	10.59	11.50	1.233	0.03	0.830	1.023
	FR1 n77_MIMO 2	100M	BPSK	1	137	Bottom Face	20mm	OFF	633332	3499.98	23.03	24.00	1.250	-0.02	0.347	0.434
	FR1 n77_MIMO 2	100M	BPSK	135	69	Bottom Face	20mm	OFF	633332	3499.98	23.04	24.00	1.247	-0.1	0.331	0.413
	FR1 n77_MIMO 2	100M	BPSK	1	137	Edge 1	25mm	OFF	633332	3499.98	23.03	24.00	1.250	-0.02	0.490	0.613
	FR1 n77_MIMO 2	100M	BPSK	135	69	Edge 1	25mm	OFF	633332	3499.98	23.04	24.00	1.247	-0.1	0.490	0.611
	FR1 n77_HPUE_MIMO 2	100M	BPSK	1	137	Bottom Face	0mm	ON	633332	3499.98	14.01	14.50	1.119	-0.11	0.835	0.935



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
24	WLAN2.4GHz_Main	802.11b 1Mbps	Bottom Face	0mm	1	2412	17.00	17.00	1.000	100	1.000	-0.01	0.573	0.573
	WLAN2.4GHz_Main	802.11b 1Mbps	Edge 1	0mm	1	2412	17.00	17.00	1.000	100	1.000	-0.02	0.053	0.053
	WLAN2.4GHz_Aux	802.11b 1Mbps	Bottom Face	0mm	1	2412	17.00	17.00	1.000	100	1.000	0.16	0.180	0.180
	WLAN2.4GHz_Aux	802.11b 1Mbps	Edge 1	0mm	1	2412	17.00	17.00	1.000	100	1.000	-0.04	0.242	0.242
25	WLAN5GHz_Main	802.11ac-VHT80 MCS0	Bottom Face	0mm	138	5690	13.90	14.00	1.023	100	1.000	0.05	0.457	0.468
	WLAN5GHz_Main	802.11ac-VHT80 MCS0	Edge 1	0mm	138	5690	13.90	14.00	1.023	100	1.000	0.09	0.053	0.054
26	WLAN5GHz_Aux	802.11ac-VHT160 MCS0	Edge 1	0mm	50	5250	13.80	14.00	1.047	100	1.000	-0.08	1.070	1.120
	WLAN6GHz_Main	802.11ax-HE160 MCS0	Bottom Face	0mm	207	6985	13.30	13.50	1.047	100	1.000	-0.08	0.404	0.423
27	WLAN6GHz_Aux	802.11ax-HE160 MCS0	Bottom Face	0mm	207	6985	13.30	13.50	1.047	100	1.000	0.06	1.140	1.194

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth_Aux	1Mbps	Bottom Face	0mm	78	2480	9.70	10.00	1.072	77	1.082	0.05	0.015	0.017
28	Bluetooth_Aux	1Mbps	Edge 1	0mm	78	2480	9.70	10.00	1.072	77	1.082	-0.08	0.016	0.019



15.2 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 7_Main	20M_QPSK_1_0	Bottom Face	0mm	ON	21350	2560	13.09	13.50	1.099	-	-	-0.04	1.090	-	1.198
2nd	LTE Band 7_Main	20M_QPSK_1_0	Bottom Face	0mm	ON	21350	2560	13.09	13.50	1.099	-	-	-0.08	1.040	1.05	1.143
1st	LTE Band 14_Main	10M_QPSK_1_0	Bottom Face	0mm	ON	23330	793	19.30	20.00	1.175	-	-	0.07	0.983	-	1.155
2nd	LTE Band 14_Main	10M_QPSK_1_0	Bottom Face	0mm	ON	23330	793	19.30	20.00	1.175	-	-	0.16	0.974	1.01	1.144
1st	LTE Band 48_MIMO 2	20M_QPSK_1_0	Bottom Face	0mm	ON	56150	3641	11.89	13.00	1.291	62.9	1.006	0.13	0.878	-	1.140
2nd	LTE Band 48_MIMO 2	20M_QPSK_1_0	Bottom Face	0mm	ON	56150	3641	11.89	13.00	1.291	62.9	1.006	0.13	0.867	1.01	1.126
1st	FR1 n5_Main	20M_BPSK_1_53	Bottom Face	0mm	ON	167300	836.5	20.18	20.50	1.076	-	-	0.07	0.968	-	1.042
2nd	FR1 n5_Main	20M_BPSK_1_53	Bottom Face	0mm	ON	167300	836.5	20.18	20.50	1.076	-	-	0.06	0.951	1.02	1.024
1st	FR1 n25_MIMO 2	20M_BPSK_1_53	Edge 1	0mm	ON	381000	1905	12.79	13.00	1.050	-	-	-0.05	1.120	-	1.175
2nd	FR1 n25_MIMO 2	20M_BPSK_1_53	Edge 1	0mm	ON	381000	1905	12.79	13.00	1.050	-	-	0.14	1.080	1.04	1.134
1st	FR1 n30_Main	10M_BPSK_1_50	Bottom Face	0mm	ON	462000	2310	14.12	14.50	1.091	-	-	0.16	1.090	-	1.190
2nd	FR1 n30_Main	10M_BPSK_1_50	Bottom Face	0mm	ON	462000	2310	14.12	14.50	1.091	-	-	0.16	1.030	1.06	1.124
1st	FR1 n66_Main	40M_BPSK_108_54	Bottom Face	0mm	ON	349000	1745	16.94	17.00	1.014	-	-	-0.18	1.140	-	1.156
2nd	FR1 n66_Main	40M_BPSK_108_54	Bottom Face	0mm	ON	349000	1745	16.94	17.00	1.014	-	-	0.08	1.090	1.05	1.105
1st	FR1 n77_Main	100M_BPSK_1_137	Edge 1	0mm	ON	633332	3499.98	13.37	13.50	1.030	-	-	-0.19	0.992	-	1.022
2nd	FR1 n77_Main	100M_BPSK_1_137	Edge 1	0mm	ON	633332	3499.98	13.37	13.50	1.030	-	-	0.02	0.978	1.01	1.008
1st	FR1 n77_MIMO 2	100M_BPSK_1_137	Bottom Face	0mm	ON	656000	3840	11.33	11.50	1.040	-	-	-0.01	1.090	-	1.134
2nd	FR1 n77_MIMO 2	100M_BPSK_1_137	Bottom Face	0mm	ON	656000	3840	11.33	11.50	1.040	-	-	0.05	1.040	1.05	1.082

General Note:

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

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

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

Use PC3 power level and SAR to estimated PC2 SAR linearly, and check if the deviation from the measured PC2 SAR is <10%

LTE Band 41_Main Ant	LTE Band 41	LTE Band 41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	14	14
Reported 1g SAR (W/kg)	1.072	0.765
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	15.90	10.88
Linearity SAR(W/kg)	0.73	
% deviation from expected linearity		4.32%

LTE Band 41_MIMO 2 Ant	LTE Band 41	LTE Band 41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	13.5	13.5
Reported 1g SAR (W/kg)	1.159	0.788
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	14.17	9.69
Linearity SAR(W/kg)	0.79	
% deviation from expected linearity		-0.61%

FR1 n41_Main Ant	FR1 n41	FR1 n41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	14	17
Reported 1g SAR (W/kg)	1.194	1.152
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	25.12	25.06
Linearity SAR(W/kg)	1.19	
% deviation from expected linearity		-3.29%

FR1 n41_MIMO 2 Ant	FR1 n41	FR1 n41
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	12	15
Reported 1g SAR (W/kg)	1.118	1.033
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	15.85	15.81
Linearity SAR(W/kg)	1.12	
% deviation from expected linearity		-7.38%



FR1 n77_Main Ant	FR1 n77	FR1 n77
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	13.5	16.5
Reported 1g SAR (W/kg)	1.022	0.969
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	22.39	22.33
Linearity SAR(W/kg)	1.02	
% deviation from expected linearity		-4.96%

FR1 n77_MIMO 2 Ant	FR1 n77	FR1 n77
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	11.5	14.5
Reported 1g SAR (W/kg)	1.134	1.081
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	14.13	14.09
Linearity SAR(W/kg)	1.13	
% deviation from expected linearity		-4.45%

16. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN Main + WWAN MIMO 2 + 2.4GHz WLAN Main Ant + 2.4GHz WLAN Aux Ant	Yes
2.	WWAN Main + WWAN MIMO 2 + 2.4GHz WLAN Main Ant + Bluetooth Aux Ant	Yes
3.	WWAN Main + WWAN MIMO 2 + 5/6GHz WLAN Main Ant + 5/6GHz WLAN Aux Ant + Bluetooth Aux Ant	Yes
4.	WWAN MIMO 1 + 2.4GHz WLAN Main Ant + 2.4GHz WLAN Aux Ant	Yes
5.	WWAN MIMO 1 + 2.4GHz WLAN Main Ant + Bluetooth Aux Ant	Yes
6.	WWAN MIMO 1 + 5/6GHz WLAN Main Ant + 5/6GHz WLAN Aux Ant + Bluetooth Aux Ant	Yes
7.	WWAN Aux+ 2.4GHz WLAN Main Ant + 2.4GHz Aux WLAN Ant	Yes
8.	WWAN Aux + 2.4GHz WLAN Main Ant + Bluetooth Aux Ant	Yes
9.	WWAN Aux + 5/6GHz WLAN Main Ant + 5/6GHz Main WLAN Ant + Bluetooth Aux Ant	Yes

General Note:

1. The Intel AX211D2W WLAN/BT module is also integrated into Lenovo TP00144A host. The 2.4GHz, 5/6GHz and Bluetooth SAR results are referenced from Intel SAR report, report number: 220627-03.TR04 (FCC ID: PD9AX211D2) and these SAR results are also used to perform simultaneous transmission analysis.
2. The worst case SAR from each WWAN transmit antenna is used for Sim-Tx analysis. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for this device and it is conservative.
3. The Sim-Tx analysis for EN-DC active is choose the worst case standalone SAR from the WWAN main and MIMO2 antenna within the exposure positions, regardless of whether the EN-DC combinations. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for this device and it is conservative.
4. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\min(\text{separation distance, mm}), \text{and the peak separation distance is determined from the square root of } [(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2])$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - iii) If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
 - v) The SPLSR calculated results please refer to section 16.2.

16.1 Body Exposure Conditions

Main & MIMO 2

Exposure Position	0	1	2	3	4	5	6	0+1+2+3 Summed 1g SAR (W/kg)	0+1+2+6 Summed 1g SAR (W/kg)	0+1+4+5+6 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN Main Ant	Maximum WWAN MIMO2 Ant	WLAN2.4GHz Main Ant	WLAN2.4GHz Aux Ant	WLAN5/6GHz Main Ant	WLAN5/6GHz Aux Ant	Bluetooth Aux Ant					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom Face at 0mm	1.198	1.159	0.573	0.400	0.468	1.194	0.050	3.330	2.980	4.069	0.04	Case 1
Edge 1 at 0mm	1.022	1.175	0.400	0.550	0.400	1.150	0.080	3.147	2.677	3.827	0.04	Case 4
Edge 2 at 0mm	1.131							1.131	1.131	1.131		

MIMO 1

Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+4+5+6 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN MIMO1 Ant	WLAN2.4GHz Main Ant	WLAN2.4GHz Aux Ant	WLAN5/6GHz Main Ant	WLAN5/6GHz Aux Ant	Bluetooth Aux Ant					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom Face at 0mm	0.335	0.573	0.400	0.468	1.194	0.050	1.308	0.958	2.047	0.01	Case 2
Edge 1 at 0mm	0.354	0.400	0.550	0.400	1.150	0.080	1.304	0.834	1.984	0.02	Case 5
Edge 2 at 0mm	0.028						0.028	0.028	0.028		

Aux

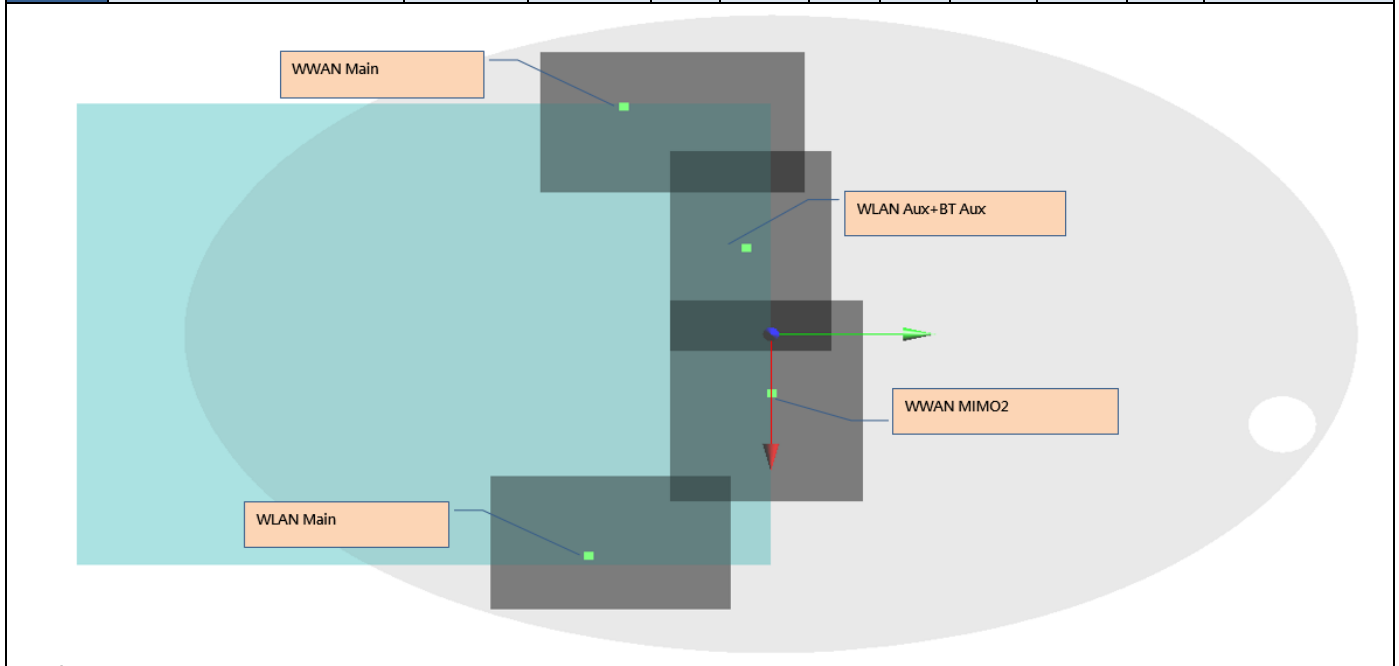
Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+2+6 Summed 1g SAR (W/kg)	1+4+5+6 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN Aux Ant	WLAN2.4GHz Main Ant	WLAN2.4GHz Aux Ant	WLAN5/6GHz Main Ant	WLAN5/6GHz Aux Ant	Bluetooth Aux Ant					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Bottom Face at 0mm	0.355	0.573	0.400	0.468	1.194	0.050	1.328	0.978	2.067	0.01	Case 3
Edge 1 at 0mm	0.267	0.400	0.550	0.400	1.150	0.080	1.217	0.747	1.897	0.03	Case 6
Edge 4 at 0mm	0.243	0.480	0.400	0.500	0.400	0.400	1.123	1.123	1.543		

16.2 SPLSR Evaluation and Analysis

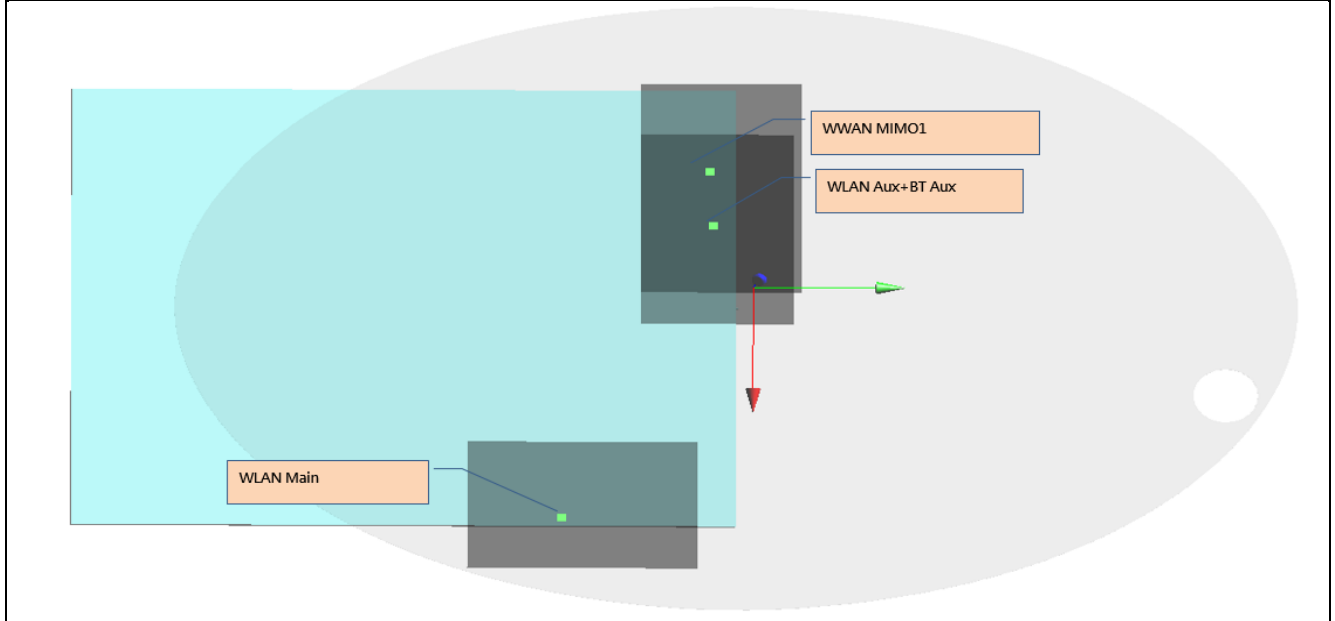
General Note:

1. Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Therefore, the adjacent transmit antennas will be summed first, and then the SPLSR calculation will be evaluated with the farther transmitted antennas.
2. $SPLSR = (SAR_1 + SAR_2)^{1.5} / (min. \text{ separation distance, mm})$. If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary
3. 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.

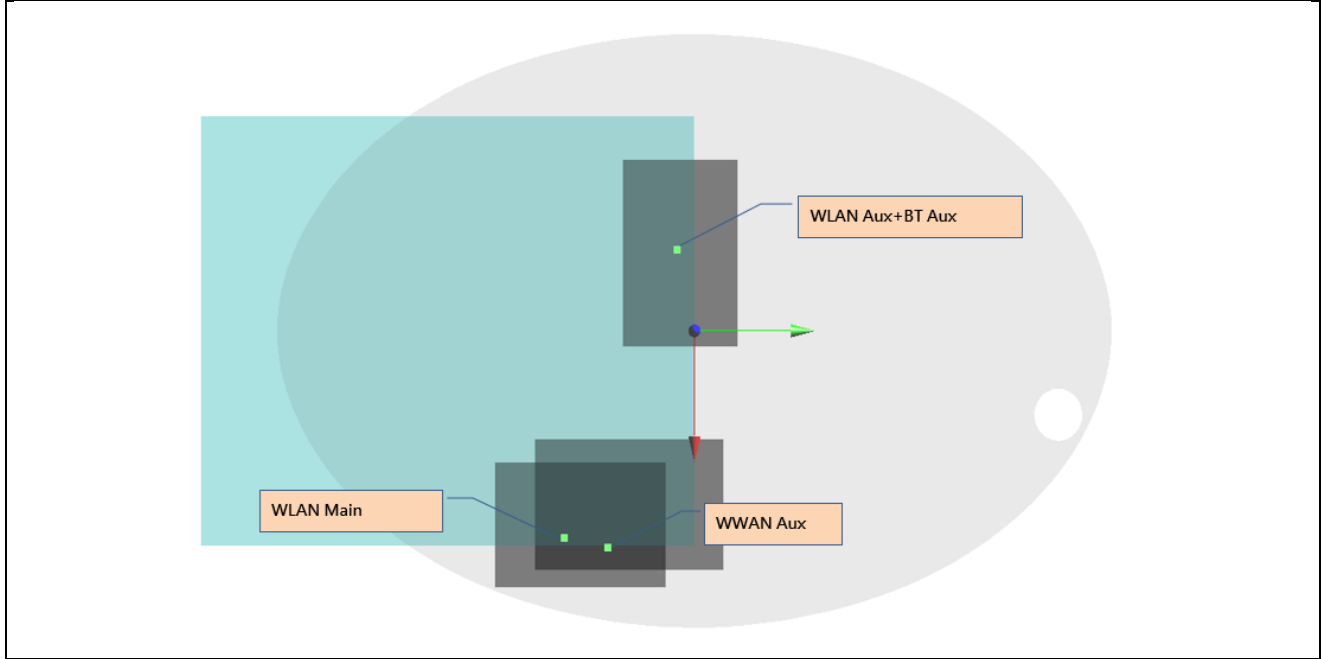
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 1	WWAN Main	Bottom Face	1.198	0	-137.6	-72	-0.99	189.2	2.36	0.02	Not required
	WWAN MIMO 2		1.159	0	37.2	0.4	-2.14				
	WWAN Main	Bottom Face	1.198	0	-137.6	-72	-0.99	274.9	1.67	0.01	Not required
	WLAN 5/6GHz Main		0.468	0	136.6	-91.6	-0.2				
	WWAN Main	Bottom Face	1.198	0	-137.6	-72	-0.99	103.4	2.44	0.04	Not required
	WLAN 5/6GHz Aux+BT Aux		1.244	0	-54.86	-9.92	-0.73				
	WWAN MIMO 2	Bottom Face	1.159	0	37.2	0.4	-2.14	135.5	1.63	0.02	Not required
	WLAN 5/6GHz Main		0.468	0	136.6	-91.6	-0.2				
	WWAN MIMO 2	Bottom Face	1.159	0	37.2	0.4	-2.14	92.6	2.40	0.04	Not required
	WLAN 5/6GHz Aux+BT Aux		1.244	0	-54.86	-9.92	-0.73				
	WLAN Main	Bottom Face	0.468	0	136.6	-91.6	-0.2	208.2	1.71	0.01	Not required
	WLAN 5/6GHz Aux+BT Aux		1.244	0	-54.86	-9.92	-0.73				
	WWAN Main	Bottom Face	1.198	0	-137.6	-72	-0.99	279.7	1.77	0.01	Not required
	WLAN2.4GHz Main		0.573	0	141.6	-88.4	-0.5				
	WWAN Main	Bottom Face	1.198	0	-137.6	-72	-0.99	109.3	1.60	0.02	Not required
	WLAN2.4GHz Aux		0.400	0	-49.6	-7.2	-1.49				
	WWAN MIMO 2	Bottom Face	1.159	0	37.2	0.4	-2.14	137.1	1.73	0.02	Not required
	WLAN2.4GHz Main		0.573	0	141.6	-88.4	-0.5				
	WWAN MIMO 2	Bottom Face	1.159	0	37.2	0.4	-2.14	87.1	1.56	0.02	Not required
	WLAN2.4GHz Aux		0.400	0	-49.6	-7.2	-1.49				
WLAN2.4GHz Main	Bottom Face	0.573	0	141.6	-88.4	-0.5	207.7	0.97	0.00	Not required	
WLAN2.4GHz Aux		0.400	0	-49.6	-7.2	-1.49					
WLAN2.4GHz Main	Bottom Face	0.573	0	141.6	-88.4	-0.5	211.6	0.62	0.00	Not required	
BT Aux		0.050	0	-54.86	-9.92	-0.73					



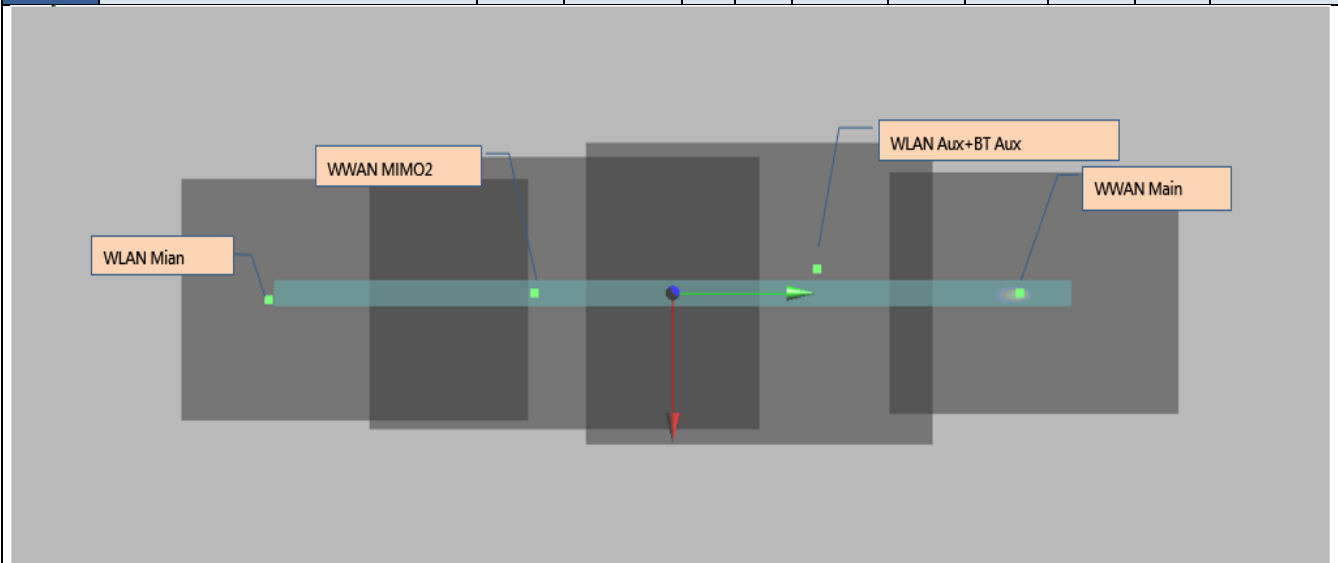
Case 2	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WWAN MIMO 1 + WLAN 5/6GHz Aux+BT Aux	Bottom Face	1.579	0	-54.86	-9.92	-0.73	208.2	2.05	0.01	Not required
	WLAN 5/6GHz Main		0.468	0	136.6	-91.6	-0.2				



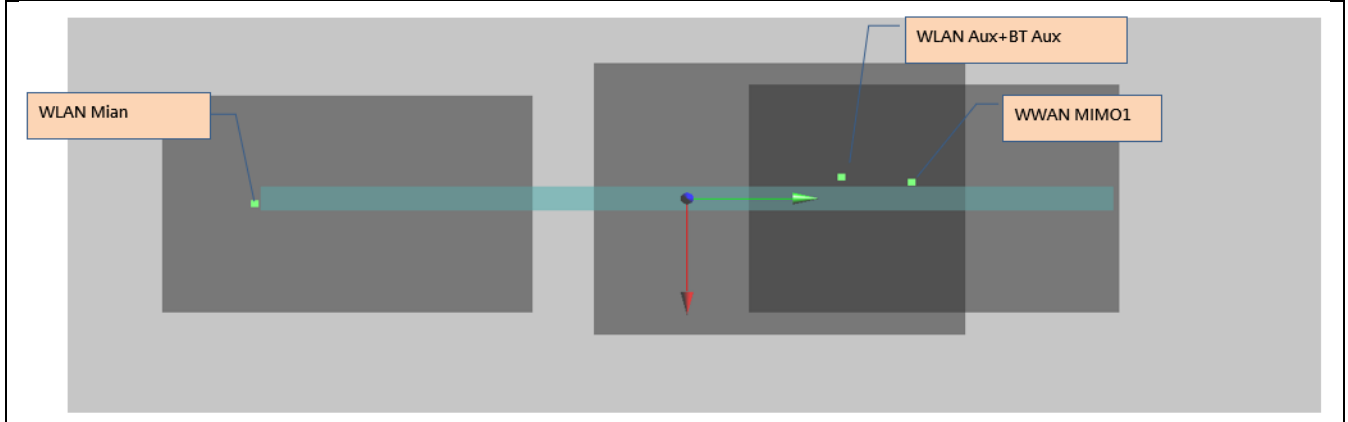
Case 3	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WWAN Aux	Bottom Face	0.355	0	139.4	-28	-0.56	63.7	0.82	0.01	Not required
	WLAN 5/6GHz Main		0.468	0	136.6	-91.6	-0.2				
	WWAN Aux	Bottom Face	0.355	0	139.4	-28	-0.56	195.1	1.60	0.01	Not required
	WLAN 5/6GHz Aux+BT Aux		1.244	0	-54.86	-9.92	-0.73				
	WLAN 5/6GHz Main	Bottom Face	0.468	0	136.6	-91.6	-0.2	208.2	1.71	0.01	Not required
	WLAN 5/6GHz Aux+BT Aux		1.244	0	-54.86	-9.92	-0.73				



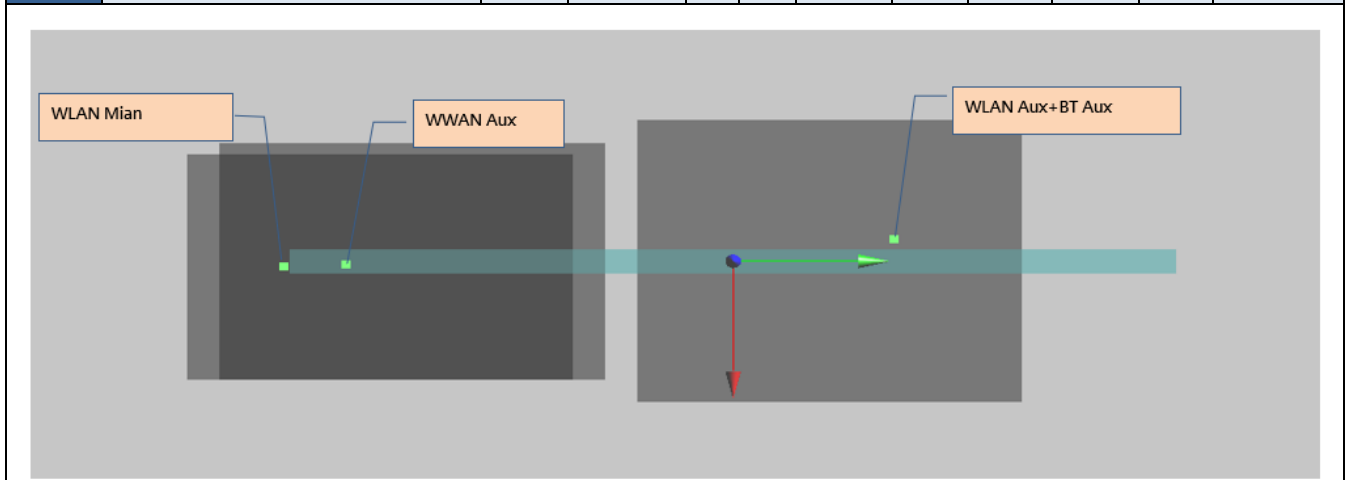
	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
Case 4	WWAN Main	Edge 1	1.022	0	0	118.4	1.3	172.8	2.20	0.02	Not required
	WWAN MIMO 2		1.175	0	0	-54.4	0.38				
	WWAN Main	Edge 1	1.022	0	0	118.4	1.3	261.6	1.42	0.01	Not required
	WLAN 5/6GHz Main		0.400	0	2	-143.2	-0.37				
	WWAN Main	Edge 1	1.022	0	0	118.4	1.3	75.7	2.25	0.04	Not required
	WLAN 5/6GHz Aux+BT Aux		1.230	0	-3.2	42.8	0.2				
	WWAN MIMO 2	Edge 1	1.175	0	0	-54.4	0.38	88.8	1.58	0.02	Not required
	WLAN 5/6GHz Main		0.400	0	2	-143.2	-0.37				
	WWAN MIMO 2	Edge 1	1.175	0	0	-54.4	0.38	97.3	2.41	0.04	Not required
	WLAN 5/6GHz Aux+BT Aux		1.230	0	-3.2	42.8	0.2				
	WLAN 5/6GHz Main	Edge 1	0.400	0	2	-143.2	-0.37	186.1	1.63	0.01	Not required
	WLAN 5/6GHz Aux+BT Aux		1.230	0	-3.2	42.8	0.2				
	WWAN Main	Edge 1	1.022	0	0	118.4	1.3	251.2	1.42	0.01	Not required
	WLAN2.4GHz Main		0.400	0	2.2	-132.8	-0.03				
	WWAN Main	Edge 1	1.022	0	0	118.4	1.3	64.3	1.57	0.03	Not required
	WLAN2.4GHz Aux		0.550	0	-3.6	54.2	-0.15				
	WWAN MIMO 2	Edge 1	1.175	0	0	-54.4	0.38	78.4	1.58	0.03	Not required
	WLAN2.4GHz Main		0.400	0	2.2	-132.8	-0.03				
	WWAN MIMO 2	Edge 1	1.175	0	2	-143.2	-0.37	197.5	1.73	0.01	Not required
	WLAN2.4GHz Aux		0.550	0	-3.6	54.2	-0.15				
WLAN2.4GHz Main	Edge 1	0.400	0	2.2	-132.8	-0.03	187.1	0.95	0.00	Not required	
WLAN2.4GHz Aux		0.550	0	-3.6	54.2	-0.15					
WLAN2.4GHz Main	Edge 1	0.400	0	2.2	-132.8	-0.03	175.7	0.48	0.00	Not required	
BT Aux		0.080	0	-3.2	42.8	0.2					



Case 5	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WWAN MIMO1+WLAN 5/6GHz Aux+BT Aux	Edge 1	1.584	0	-3.2	42.8	0.2	186.1	1.98	0.02	Not required
	WLAN 5/6GHz Main		0.400	0	2	-143.2	-0.37				



Case 6	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (cm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	WWAN Aux	Edge 1	0.267	0	1.2	-124.4	0.08	18.8	0.67	0.03	Not required
	WLAN 5/6GHz Main		0.400	0	2	-143.2	-0.37				
	WWAN Aux	Edge 1	0.267	0	1.2	-124.4	0.08	167.3	1.50	0.01	Not required
	WLAN 5/6GHz Aux+BT Aux		1.230	0	-3.2	42.8	0.2				
	WLAN 5/6GHz Main	Edge 1	0.400	0	2	-143.2	-0.37	186.1	1.63	0.01	Not required
	WLAN 5/6GHz Aux+BT Aux		1.230	0	-3.2	42.8	0.2				



Test Engineer : Chris Yang, Jeff Tsao and Shane Song



17. Uncertainty Assessment

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

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

18. 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 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [6] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [7] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [8] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 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.