

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)	
64QAM	1717.5	132047	15MHz	1	0	18.71	
				1	38	18.59	
				1	74	18.58	
				36	0	17.73	
				36	18	17.74	
				36	39	17.72	
				75	0	17.70	
	1745	132322		1	0	18.70	
				1	38	18.71	
				1	74	18.62	
				36	0	17.71	
				36	18	17.76	
				36	39	17.76	
				75	0	17.69	
	1772.5	132597		1	0	18.77	
				1	38	18.71	
				1	74	18.75	
				36	0	17.74	
				36	18	17.89	
				36	39	17.79	
				75	0	17.68	
	256QAM	1717.5		132047	1	0	15.95
					1	38	15.77
					1	74	16.12
36			0		15.61		
36			18		15.76		
36			39		15.79		
75			0		15.70		
1745		132322	1	0	16.05		
			1	38	16.23		
			1	74	15.94		
			36	0	15.77		
			36	18	15.72		
			36	39	15.82		
			75	0	15.77		
1772.5		132597	1	0	16.10		
			1	38	16.02		
			1	74	15.81		
			36	0	15.80		
			36	18	15.88		
			36	39	15.78		
			75	0	15.74		

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
QPSK	1720	132072	20MHz	1	0	20.69
				1	50	20.80
				1	99	20.71
				50	0	19.81
				50	25	19.74
				50	50	19.75
				100	0	19.85
	1745	132322		1	0	20.67
				1	50	20.92
				1	99	20.82
				50	0	19.91
				50	25	19.92
				50	50	19.82
				100	0	19.78
	1770	132572		1	0	20.70
				1	50	20.86
				1	99	20.64
				50	0	19.96
				50	25	19.80
				50	50	19.91
16QAM	1720	132072		100	0	19.95
				1	0	19.76
				1	50	19.91
				1	99	19.96
				50	0	18.77
				50	25	18.83
	1745	132322		50	50	18.85
				100	0	18.77
				1	0	20.12
				1	50	19.72
			1	99	20.33	
			50	0	18.94	
	1770	132572	50	25	18.89	
50			50	18.95		
100			0	18.80		
1			0	20.03		
1			50	20.25		
1			99	20.08		
50			0	18.95		
50	25	18.88				
50	50	18.93				
100	0	18.82				

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
64QAM	1720	132072	20MHz	1	0	18.66
				1	50	18.78
				1	99	18.61
				50	0	17.77
				50	25	17.66
				50	50	17.73
				100	0	17.80
	1745	132322		1	0	18.64
				1	50	18.86
				1	99	18.80
				50	0	17.83
				50	25	17.83
				50	50	17.73
				100	0	17.71
	1770	132572		1	0	18.63
				1	50	18.81
				1	99	18.56
				50	0	17.90
				50	25	17.75
				50	50	17.85
256QAM	1720	132072		100	0	17.93
				1	0	15.72
				1	50	15.83
				1	99	15.93
				50	0	15.73
				50	25	15.80
				50	50	15.82
	100	0		15.67		
	1745	132322		1	0	16.08
				1	50	15.70
			1	99	16.23	
			50	0	15.90	
			50	25	15.81	
			50	50	15.88	
			100	0	15.77	
	1770	132572	1	0	15.98	
			1	50	16.22	
			1	99	16.01	
			50	0	15.88	
			50	25	15.86	
50			50	15.88		
100	0	15.77				

LTE UL CA and DL CA

Uplink CA:

Combination	Modulation	PCC						SCC					Ful power		Hotspot on	
		Band	BW (MHz)	UL Channel	UL# RB	UL RB Offset	DL Channel	Band	BW (MHz)	UL Channel	UL# RB	UL RB Offset	Power	Tune-up(dBm)	Power	Tune-up(dBm)
CA_7C	QPSK	7	20	20850	1	99	2850	7	20	21048	1	0	23.15	24.00	20.85	22.00
CA_7C	QPSK	7	20	21100	1	99	3100	7	20	21298	1	0	23.10	24.00	20.84	22.00
CA_7C	QPSK	7	20	21100	1	0	3100	7	20	20902	1	99	23.13	24.00	20.86	22.00
CA_7C	QPSK	7	20	21350	1	0	3350	7	20	21152	1	99	23.16	24.00	20.95	22.00

Combination	Modulation	PCC						SCC					Receiver off		Receiver on	
		Band	BW (MHz)	UL Channel	UL# RB	UL RB Offset	DL Channel	Band	BW (MHz)	UL Channel	UL# RB	UL RB Offset	Power	Tune-up(dBm)	Power	Power
CA_38C	QPSK	38	20	37850	1	99	37850	38	20	38048	1	0	22.07	24.00	18.15	20.00
CA_38C	QPSK	38	20	37901	1	99	37901	38	20	38099	1	0	22.01	24.00	18.14	20.00
CA_38C	QPSK	38	20	38099	1	0	38099	38	20	37901	1	99	22.06	24.00	18.10	20.00
CA_38C	QPSK	38	20	38150	1	0	38150	38	20	37952	1	99	22.04	24.00	18.16	20.00

Combination	Modulation	PCC						SCC					Receiver off		Receiver on	
		Band	BW (MHz)	UL Channel	UL# RB	UL RB Offset	DL Channel	Band	BW (MHz)	UL Channel	UL# RB	UL RB Offset	Power	Tune-up(dBm)	Power	Tune-up(dBm)
CA_41C	QPSK	41	20	39750	1	99	39750	41	20	39948	1	0	23.06	24.00	18.82	20.00
CA_41C	QPSK	41	20	40185	1	99	40185	41	20	40383	1	0	23.05	24.00	19.00	20.00
CA_41C	QPSK	41	20	40620	1	99	40620	41	20	40818	1	0	22.89	24.00	18.91	20.00
CA_41C	QPSK	41	20	41055	1	99	41055	41	20	40857	1	0	22.90	24.00	18.98	20.00
CA_41C	QPSK	41	20	41490	1	99	41490	41	20	41292	1	0	22.85	24.00	18.88	20.00
CA_41C	QPSK	41	20	39750	1	0	39750	41	20	39948	1	99	22.94	24.00	18.98	20.00
CA_41C	QPSK	41	20	40185	1	0	40185	41	20	40383	1	99	22.74	24.00	18.81	20.00
CA_41C	QPSK	41	20	40620	1	0	40620	41	20	40818	1	99	22.95	24.00	18.75	20.00
CA_41C	QPSK	41	20	41055	1	0	41055	41	20	40857	1	99	22.85	24.00	18.76	20.00
CA_41C	QPSK	41	20	41490	1	0	41490	41	20	41292	1	99	22.87	24.00	18.89	20.00

Note:

- 1) This device supports uplink carrier aggregation for LTE CA_7C, CA_38C, CA_41C with a maximum of two 20MHz component carriers.
- 2) According to FCC guidance, the output power with uplink CA active was measured for the high / middle / low channel configuration with the highest reported SAR for each exposure condition, the power was measured with wideband signal integration over both component carriers.
- 3) In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs.
- 4) Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05.

Downlink CA:

The conducted power measurement results of downlink LTE CA Conducted Power are as below, so the downlink only carrier aggregation conditions for this device can be excluded from SAR testing

In applying the existing power measurement procedures for DL CA SAR test exclusion, the configurations that require power measurements are highlighted in the table as below:

1 Band / 2CC	2 Bands / 2CC	2 Bands / 3CC	2 Bands / 4CC	3 Bands / 3CC	3 Bands / 4CC
CA_2A-2A					CA_2A-2A-5A-66A
	CA_2A-4A			CA_2A-4A-13A	
	CA_2A-5A			CA_2A-4A-5A	
	CA_2A-7A			CA_2A-4A-7A	CA_2A-4A-7A-7A
	CA_2A-12A			CA_2A-4A-12A	
	CA_2A-13A			CA_2A-4A-13A	
	CA_2A-66A			CA_2A-13A-66A	
CA_12B		CA_2A-12B			
CA_2C					
CA_4A-4A		CA_2A-4A-4A			
	CA_4A-5A			CA_2A-4A-5A	
	CA_4A-7A			CA_2A-4A-7A	CA_2A-4A-7A-7A
	CA_4A-12A			CA_2A-4A-12A	
	CA_4A-13A			CA_2A-4A-13A	
	CA_5A-7A				
	CA_5A-66A	CA_5A-66A-66A			CA_2A-5A-66A-66A
CA_7A-7A		CA_2A-7A-7A			CA_2A-4A-7A-7A
	CA_7A-12A			CA_2A-7A-12A	CA_2A-2A-7A-12A
	CA_7A-66A			CA_7A-12A-66A	
CA_7C		CA_4A-7C			
	CA_12A-66A			CA_7A-12A-66A	
	CA_13A-66A			CA_2A-13A-66A	
CA_38C					
CA_41C					
CA_41A-41A					
CA_66A-66A		CA_5A-66A-66A			CA_2A-5A-66A-66A
		CA_4A-4A-7A			
		CA_4A-7A-7A			CA_2A-4A-7A-7A
				CA_4A-7A-12A	
		CA_4A-12B			
		CA_5A-7C			
		CA_7A-66A-66A			CA_2A-7A-66A-66A
		CA_7C-13A			
		CA_12A-66A-66A			
		CA_13A-66A-66A			
		CA_13A-66B			
		CA_13A-66C			
			CA_2A-2A-66A-66A		

DL LTE CA Class	Full Power																				Power(dBm)		
	PCC							SCC1				SCC2				SCC3							
	LTE Band	BW (MHz)	Modulation	UL Freq. (MHz)	UL Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	DL LTE CA Tx.Power	LTE Rel 8 Tx.Power	Tune-up	
CA_2C	Band 2	20M	QPSK	1860	18700	1	50	Band 2	20M	1959.8	898	/	/	/	/	/	/	/	/	22.61	22.72	24.00	
CA_38C	Band 38	20M	QPSK	2580	37850	1	50	Band 38	20M	2599.8	38048	/	/	/	/	/	/	/	/	22.20	22.32	24.00	
CA_41C	Band 41	20M	QPSK	2506	39750	1	99	Band 41	20M	2525.8	39948	/	/	/	/	/	/	/	/	22.99	23.07	24.00	
CA_41A-41A	Band 41	20M	QPSK	2506	39750	1	99	Band 41	20M	2680	41490	/	/	/	/	/	/	/	/	22.97	23.07	24.00	
CA_5A-7A	Band 5	10M	QPSK	844	20600	1	25	Band 7	20M	2655	3100	/	/	/	/	/	/	/	/	22.58	22.65	24.00	
CA_5A-7A	Band 7	20M	QPSK	2560	21350	1	50	Band 5	10M	881.5	2525	/	/	/	/	/	/	/	/	23.10	23.18	24.00	
CA_2A-12B	Band 2	20M	QPSK	1860	18700	1	50	Band 12	10M	741	5130	Band 12	10M	733.8	5058	/	/	/	/	22.60	22.72	24.00	
CA_2A-12B	Band 12	10M	QPSK	711	23130	1	25	Band 12	10M	733.8	5058	Band 2	20M	1960	900	/	/	/	/	22.68	22.77	24.00	
CA_2A-4A-4A	Band 2	20M	QPSK	1860	18700	1	50	Band 4	20M	2120	2050	Band 4	20M	2145	2300	/	/	/	/	22.63	22.72	24.00	
CA_2A-4A-4A	Band 4	20M	QPSK	1745	20300	1	50	Band 4	20M	2120	2050	Band 2	20M	1960	900	/	/	/	/	22.30	22.40	24.00	
CA_4A-7C	Band 4	20M	QPSK	1745	20300	1	50	Band 7	20M	2660.2	3152	Band 7	20M	2680	3350	/	/	/	/	22.29	22.40	24.00	
CA_4A-7C	Band 7	20M	QPSK	2560	21350	1	50	Band 7	20M	2660.2	3152	Band 4	20M	2132.5	2175	/	/	/	/	23.08	23.18	24.00	
CA_4A-4A-7A	Band 4	20M	QPSK	1745	20300	1	50	Band 4	20M	2120	2050	Band 7	20M	2655	3100	/	/	/	/	22.31	22.40	24.00	
CA_4A-4A-7A	Band 7	20M	QPSK	2560	21350	1	50	Band 4	20M	2120	2050	Band 4	20M	2145	2300	/	/	/	/	23.11	23.18	24.00	
CA_4A-12B	Band 4	20M	QPSK	1745	20300	1	50	Band 12	10M	741	5130	Band 12	10M	733.8	5058	/	/	/	/	22.32	22.40	24.00	
CA_4A-12B	Band 12	10M	QPSK	711	23130	1	25	Band 12	10M	733.8	5058	Band 4	20M	2132.5	2175	/	/	/	/	22.69	22.77	24.00	
CA_5A-7C	Band 5	10M	QPSK	844	20600	1	25	Band 7	20M	2660.2	3152	Band 7	20M	2680	3350	/	/	/	/	22.55	22.65	24.00	
CA_5A-7C	Band 7	20M	QPSK	2560	21350	1	50	Band 7	20M	2660.2	3152	Band 5	10M	881.5	2525	/	/	/	/	23.06	23.18	24.00	
CA_7C-13A	Band 7	20M	QPSK	2560	21350	1	50	Band 7	20M	2660.2	3152	Band 13	10M	751	5230	/	/	/	/	23.13	23.18	24.00	
CA_7C-13A	Band 13	10M	QPSK	782	23230	1	25	Band 7	20M	2660.2	3152	Band 7	20M	2680	3350	/	/	/	/	22.87	22.99	24.00	
CA_12A-66A-66A	Band 12	10M	QPSK	711	23130	1	25	Band 66	20M	2170	67036	Band 66	20M	2120	66536	/	/	/	/	22.67	22.77	24.00	
CA_12A-66A-66A	Band 66	20M	QPSK	1770	132572	1	50	Band 66	20M	2120	66536	Band 12	10M	737.5	5095	/	/	/	/	22.70	22.81	24.00	
CA_13A-66A-66A	Band 13	10M	QPSK	782	23230	1	25	Band 66	20M	2170	67036	Band 66	20M	2120	66536	/	/	/	/	22.67	22.77	24.00	
CA_13A-66A-66A	Band 66	20M	QPSK	1770	132572	1	50	Band 66	20M	2120	66536	Band 13	10M	751	5230	/	/	/	/	22.88	22.99	24.00	
CA_13A-66B	Band 13	10M	QPSK	782	23230	1	25	Band 66	20M	2170	67036	Band 66	20M	2177.2	67108	/	/	/	/	22.69	22.77	24.00	
CA_13A-66B	Band 66	20M	QPSK	1770	132572	1	50	Band 66	20M	2177.2	67108	Band 13	10M	751	5230	/	/	/	/	22.85	22.99	24.00	
CA_13A-66C	Band 13	10M	QPSK	782	23230	1	25	Band 66	20M	2170	67036	Band 66	20M	2189.8	67234	/	/	/	/	22.70	22.77	24.00	
CA_13A-66C	Band 66	20M	QPSK	1770	132572	1	50	Band 66	20M	2189.8	67234	Band 13	10M	751	5230	/	/	/	/	22.90	22.99	24.00	
CA_2A-2A-66A-66A	Band 2	20M	QPSK	1860	18700	1	50	Band 2	20M	1980	1100	Band 66	20M	2170	67036	Band 66	20M	2120	66536	22.58	22.72	24.00	
CA_2A-2A-66A-66A	Band 66	20M	QPSK	1770	132572	1	50	Band 66	20M	2120	66536	Band 2	20M	1940	700	Band 2	20M	1980	1100	22.84	22.99	24.00	
CA_2A-4A-5A	Band 2	20M	QPSK	1860	18700	1	50	Band 4	20M	2132.5	2175	Band 5	10M	881.5	2525	/	/	/	/	22.60	22.72	24.00	
CA_2A-4A-5A	Band 4	20M	QPSK	1745	20300	1	50	Band 5	10M	881.5	2525	Band 2	20M	1960	900	/	/	/	/	22.32	22.40	24.00	
CA_2A-4A-5A	Band 5	10M	QPSK	844	20600	1	25	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	/	/	/	/	22.53	22.65	24.00	
CA_2A-4A-12A	Band 2	20M	QPSK	1860	18700	1	50	Band 4	20M	2132.5	2175	Band 12	10M	737.5	5095	/	/	/	/	22.56	22.72	24.00	
CA_2A-4A-12A	Band 4	20M	QPSK	1745	20300	1	50	Band 12	10M	737.5	5095	Band 2	20M	1960	900	/	/	/	/	22.28	22.40	24.00	
CA_2A-4A-12A	Band 12	10M	QPSK	711	23130	1	25	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	/	/	/	/	22.65	22.77	24.00	
CA_2A-4A-13A	Band 2	20M	QPSK	1860	18700	1	50	Band 4	20M	2132.5	2175	Band 13	10M	751	5230	/	/	/	/	22.55	22.72	24.00	
CA_2A-4A-13A	Band 4	20M	QPSK	1745	20300	1	50	Band 13	10M	751	5230	Band 2	20M	1960	900	/	/	/	/	22.29	22.40	24.00	
CA_2A-4A-13A	Band 13	10M	QPSK	782	23230	1	25	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	/	/	/	/	22.66	22.77	24.00	
CA_2A-13A-66A	Band 2	20M	QPSK	1860	18700	1	50	Band 13	10M	751	5230	Band 66	20M	2145	66786	/	/	/	/	22.58	22.72	24.00	
CA_2A-13A-66A	Band 13	10M	QPSK	782	23230	1	50	Band 66	20M	2145	66786	Band 2	20M	1960	900	/	/	/	/	22.68	22.77	24.00	
CA_2A-13A-66A	Band 66	20M	QPSK	1770	132572	1	50	Band 2	20M	1960	900	Band 13	10M	751	5230	/	/	/	/	22.89	22.99	24.00	
CA_7A-12A-66A	Band 7	20M	QPSK	2560	21350	1	50	Band 12	10M	737.5	5095	Band 66	20M	2145	66786	/	/	/	/	23.09	23.18	24.00	
CA_7A-12A-66A	Band 12	10M	QPSK	711	23130	1	25	Band 66	20M	2145	66786	Band 7	20M	2655	3100	/	/	/	/	22.69	22.77	24.00	
CA_7A-12A-66A	Band 66	20M	QPSK	1770	132572	1	50	Band 7	20M	2655	3100	Band 12	10M	737.5	5095	/	/	/	/	22.83	22.99	24.00	
CA_4A-7A-12A	Band 4	20M	QPSK	1745	20300	1	50	Band 7	20M	2655	3100	Band 12	10M	737.5	5095	/	/	/	/	22.28	22.40	24.00	
CA_4A-7A-12A	Band 7	20M	QPSK	2560	21350	1	50	Band 12	10M	737.5	5095	Band 4	20M	2132.5	2175	/	/	/	/	23.04	23.18	24.00	
CA_4A-7A-12A	Band 12	10M	QPSK	711	23130	1	25	Band 4	20M	2132.5	2175	Band 7	20M	2655	3100	/	/	/	/	22.64	22.77	24.00	
CA_2A-4A-7A-7A	Band 2	20M	QPSK	1860	18700	1	50	Band 4	20M	2132.5	2175	Band 7	20M	2630	2850	Band 7	20M	2680	3350	22.56	22.72	24.00	
CA_2A-4A-7A-7A	Band 4	20M	QPSK	1745	20300	1	50	Band 2	20M	1960	900	Band 7	20M	2630	2850	Band 7	20M	2680	3350	22.29	22.40	24.00	
CA_2A-4A-7A-7A	Band 7	20M	QPSK	2560	21350	1	50	Band 7	20M	2630	2850	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	23.06	23.18	24.00	
CA_2A-2A-5A-66A	Band 2	20M	QPSK	1860	18700	1	50	Band 2	20M	1980	1100	Band 5	10M	881.5	2525	Band 66	20M	2145	66786	22.61	22.72	24.00	
CA_2A-2A-5A-66A	Band 5	10M	QPSK	844	20600	1	25	Band 66	20M	2145	66786	Band 2	20M	1940	700	Band 2	20M	1980	1				

Hotspot on																							
DL LTE CA Class	PCC							SCC1				SCC2				SCC3				Power(dBm)			
	LTE Band	BW (MHz)	Modulation	UL Freq. (MHz)	UL Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	DL LTE CA Tx.Power	LTE Rel 8 Tx.Power	Tune-up	
CA_5A-7A	Band 7	20M	QPSK	2560	21350	1	50	Band 5	10M	881.5	2525	/	/	/	/	/	/	/	/	20.85	20.98	22.00	
CA_4A-7C	Band 7	20M	QPSK	2560	21350	1	50	Band 7	20M	2660.2	3152	Band 4	20M	2132.5	2175	/	/	/	/	20.87	20.98	22.00	
CA_4A-4A-7A	Band 7	20M	QPSK	2560	21350	1	50	Band 4	20M	2120	2050	Band 4	20M	2145	2300	/	/	/	/	20.86	20.98	22.00	
CA_5A-7C	Band 7	20M	QPSK	2560	21350	1	50	Band 7	20M	2660.2	3152	Band 5	10M	881.5	2525	/	/	/	/	20.81	20.98	22.00	
CA_7C-13A	Band 7	20M	QPSK	2560	21350	1	50	Band 7	20M	2660.2	3152	Band 13	10M	751	5230	/	/	/	/	20.84	20.98	22.00	
CA_7A-12A-66A	Band 7	20M	QPSK	2560	21350	1	50	Band 12	10M	737.5	5095	Band 66	20M	2145	66786	/	/	/	/	20.90	20.98	22.00	
CA_4A-7A-12A	Band 7	20M	QPSK	2560	21350	1	50	Band 12	10M	737.5	5095	Band 4	20M	2132.5	2175	/	/	/	/	20.84	20.98	22.00	
CA_2A-4A-7A-7A	Band 7	20M	QPSK	2560	21350	1	50	Band 7	20M	2630	2850	Band 2	20M	1960	900	Band 4	20M	2132.5	2175	20.89	20.98	22.00	
CA_2A-2A-7A-12A	Band 7	20M	QPSK	2560	21350	1	50	Band 12	10M	737.5	5095	Band 2	20M	1940	700	Band 2	20M	1980	1100	20.88	20.98	22.00	
CA_2A-7A-66A-66A	Band 7	20M	QPSK	2560	21350	1	50	Band 2	20M	1960	900	Band 66	20M	2170	67036	Band 66	20M	2120	66536	20.86	20.98	22.00	
Receiver on																							
DL LTE CA Class	PCC							SCC1				SCC2				SCC3				Power(dBm)			
	LTE Band	BW (MHz)	Modulation	UL Freq. (MHz)	UL Channel	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	DL LTE CA Tx.Power	LTE Rel 8 Tx.Power	Tune-up	
CA_38C	Band 38	20M	QPSK	2580	37850	1	99	Band 38	20M	2599.8	38048	/	/	/	/	/	/	/	/	18.21	18.33	20.00	
CA_41C	Band 41	20M	QPSK	2506	39750	1	99	Band 41	20M	2525.8	39948	/	/	/	/	/	/	/	/	18.91	19.02	20.00	
CA_41A-41A	Band 41	20M	QPSK	2506	39750	1	99	Band 41	20M	2680	41490	/	/	/	/	/	/	/	/	18.90	19.02	20.00	

Note:

The downlink LTE CA SAR test is not required since the maximum output power for downlink LTE CA was not more than 0.25dB higher than the maximum output power for without downlink LTE CA.

6.5 5G NR Measurement result

1. For this report, NR Band n2/n5/n7/n38/n41/n66/n71/n78 support SN and NSA mode. NSA mode operations are possible only with LTE under EN-DC mode and the operations are possible as following table:

Band/Antenna		N78	N38	N41	N2	N5	N7	N66	N71
		Ant2	Ant1	Ant1	Ant1	Ant4	Ant1	Ant1	Ant4
LTE B7	Ant4	v				v		v	v
LTE B2	Ant5	v	v	v		v	v	v	v
LTE B5	Ant4	v	v		v		v	v	
LTE B12	Ant4	v	v	v	v		v	v	
LTE B13	Ant4	v			v		v	v	
LTE B66	Ant5	v	v	v	v	v			v
LTE B4	Ant5			v					

2. The general information supported by the NR band is as following table:

Band		n2	n5	n7	n38	n41	n66	n71	n78
NR mode	SA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	NSA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Modulation	DFT-s-OFDM	PI/2 BPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		QPSK	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	CP-OFDM	16QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		64QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		256QAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
		Duty Cycle	100%	100%	100%	25%	25%	100%	100%

Band	SCS	Bandwidth												
		5Mhz	10Mhz	15Mhz	20Mhz	25Mhz	30Mhz	40Mhz	50Mhz	60Mhz	70Mhz	80Mhz	90Mhz	100Mhz
n2	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n5	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n7	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n38	15KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	Yes	N/A	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A
n41	15KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	Yes	N/A	Yes	Yes	Yes	Yes	N/A	Yes	Yes	Yes
n66	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n71	15KHZ	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
n78	15KHZ	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	30KHZ	N/A	N/A	N/A	Yes	N/A	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
- For DFT-OFDM and CP-OFDM output power measurement reduction, according to 3GPP 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
 - For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, for PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the PI/2 BPSK/16QAM/64QMA/256QAM and smaller bandwidth output power will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth.
 - SAR testing start with the largest SCS and 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.
 - 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - 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.
 - PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - Smaller SCS/bandwidth output power for each RB allocation configuration for this device will 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.

4. MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS 38.101-1 Section 6.2.2 under Table 6.2.2 -1.

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	PI/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 ²
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability powerBoosting-pi2BPSK and if the IE powerBoostPi2BPSK is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE powerBoostPi2BPSK is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

5. For FDD NR Band operation does not have the fixed UL/DL frame structure, but during the transmitting/receiving it can be operated in the slot structure of 100% UL duty cycle, we are proposing the conservative way to evaluate SAR at 100% duty cycle. For the purpose of test NR Band standalone SAR, and also test SAR level at 100% TX duty cycle.

6. For 5G NR Sub6GHz SISO Mode, SAR Test plan as below:

1) For 5G NR NSA mode with the same UL EN_DC combination but different DL EN_DC combinations, eg: EN-DC configuration: UL DC_7A_n5 (UL two bands) with DL DC_7C_n5 (DL two bands)

a) The UL EN-DC configuration, including the Tx antenna configuration, RF path, the channel bandwidth and other operating parameters are the same.

b) The maximum output power, including tolerance, for the UL EN-DC configuration with DL two or more bands must be $\leq$ the same UL EN-DC configuration with DL two bands only to qualify for the SAR test exclusion.

7. For EN-DC SAR, as the existing SAR test system cannot test the multiple different frequency bands simultaneous Transmission SAR at the same time, we suggest that the conservative “max + max” multi-Tx and SAR scaling method can be used to evaluate the inter-band Uplink EN-DC SAR from standalone SAR test results of each LTE and NR EN-DC component band and the conservative “max + max” multi-Tx method to combine the scaled SAR value from each EN-DC component band as the inter-band Uplink EN-DC SAR. All Simultaneous Transmission Scenarios will be evaluated independently in the final SAR report.

8. When the reported SAR for and EN DC configuration is greater than 1.2 W/kg, EN DC SAR is also required for other NR based test channels.

9. EN DC SAR is also required for standalone NR configurations greater than 1.2 W/kg when scaled to the EN DC power level.

N2(Receiver off)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)	
DFT-s-OFDM PI/2 BPSK	1860	372000	20MHz	1	1	22.86	
				1	53	22.79	
				1	104	22.80	
				50	0	22.16	
				50	28	22.81	
				50	56	22.00	
				100	0	22.09	
	1880	376000		1	1	22.89	
				1	53	22.81	
				1	104	22.85	
				50	0	22.19	
				50	28	22.86	
				50	56	22.05	
				100	0	22.09	
	1900	380000		1	1	22.89	
				1	53	22.76	
				1	104	22.85	
				50	0	22.16	
				50	28	22.81	
				50	56	22.00	
				100	0	22.04	
	DFT-s-OFDM QPSK	1860		372000	1	1	22.90
					1	53	22.80
					1	104	22.81
50					0	22.03	
50					28	22.90	
50					56	22.02	
100					0	22.02	
1880		376000		1	1	22.91	
				1	53	22.85	
				1	104	22.84	
				50	0	22.05	
				50	28	22.92	
				50	56	22.06	
				100	0	22.05	
1900		380000		1	1	22.89	
				1	53	22.83	
				1	104	22.80	
				50	0	22.00	
				50	28	22.89	
				50	56	22.05	
				100	0	22.01	
DFT-s-OFDM 16QAM		1860	372000	1	1	22.17	
		1880	376000	1	1	22.20	
		1900	380000	1	1	22.16	
DFT-s-OFDM 64QAM	1860	372000	1	1	20.54		
	1880	376000	1	1	20.54		
	1900	380000	1	1	20.52		
DFT-s-OFDM 256QAM	1860	372000	1	1	18.62		
	1880	376000	1	1	18.63		
	1900	380000	1	1	18.62		

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm) (dBm)
CP-OFDM QPSK	1860	372000	20MHz	1	1	21.01
	1880	376000		1	1	21.05
	1900	380000		1	1	20.90
DFT-s-OFDM QPSK	1857.5	371500	15MHz	1	1	22.80
	1880	376000		1	1	22.85
	1902.5	380500		1	1	22.87
DFT-s-OFDM QPSK	1855	371000	10MHz	1	1	22.78
	1880	376000		1	1	22.84
	1905	381000		1	1	22.88
DFT-s-OFDM QPSK	1852.5	370500	5MHz	1	1	22.81
	1880	376000		1	1	22.90
	1907.5	381500		1	1	22.87

N2(Receiver on)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	1860	372000	20MHz	1	1	16.94
				1	53	16.86
				1	104	16.87
				50	0	17.20
				50	28	16.89
				50	56	17.06
				100	0	17.17
	1880	376000		1	1	16.95
				1	53	16.83
				1	104	16.90
				50	0	17.26
				50	28	16.89
				50	56	17.10
				100	0	17.12
	1900	380000		1	1	16.94
				1	53	16.79
				1	104	16.89
				50	0	17.24
				50	28	16.84
				50	56	17.02
				100	0	17.09
DFT-s-OFDM QPSK	1860	372000		1	1	16.98
				1	53	16.88
				1	104	16.86
				50	0	17.08
				50	28	16.97
				50	56	17.06
				100	0	17.04
	1880	376000		1	1	16.99
				1	53	16.91
				1	104	16.89
				50	0	17.10

	1900	380000	50	28	17.11
			50	56	17.10
			100	0	17.09
			1	1	16.97
			1	53	16.85
			1	104	16.86
			50	0	17.06
			50	28	16.91
			50	56	17.08
			100	0	17.05
			1	1	17.21
			1	1	17.24
DFT-s-OFDM 16QAM	1860	372000	1	1	17.20
	1880	376000	1	1	17.10
	1900	380000	1	1	17.10
DFT-s-OFDM 64QAM	1860	372000	1	1	17.10
	1880	376000	1	1	17.10
	1900	380000	1	1	17.10
DFT-s-OFDM 256QAM	1860	372000	1	1	17.15
	1880	376000	1	1	17.20
	1900	380000	1	1	17.20

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
						(dBm)
CP-OFDM QPSK	1860	372000	20MHz	1	1	16.56
	1880	376000		1	1	16.60
	1900	380000		1	1	16.48
DFT-s-OFDM QPSK	1857.5	371500	15MHz	1	1	16.85
	1880	376000		1	1	16.88
	1902.5	380500		1	1	16.91
DFT-s-OFDM QPSK	1855	371000	10MHz	1	1	16.85
	1880	376000		1	1	16.85
	1905	381000		1	1	16.92
DFT-s-OFDM QPSK	1852.5	370500	5MHz	1	1	16.88
	1880	376000		1	1	16.92
	1907.5	381500		1	1	16.89

N2(NSA Hotspot on & Sensor on)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	1860	372000	20MHz	1	1	21.94
				1	53	21.84
				1	104	21.88
				50	0	22.08
				50	28	21.84
				50	56	21.95
	1880	376000		100	0	22.01
				1	1	21.98
				1	53	21.89
				1	104	21.94
				50	0	22.14
				50	28	21.93

	1900	380000	50	56	21.96
			100	0	22.01
			1	1	21.91
			1	53	21.78
			1	104	21.91
			50	0	22.13
			50	28	21.89
			50	56	21.93
			100	0	21.98
			1	1	21.98
DFT-s-OFDM QPSK	1860	372000	1	53	21.82
			1	104	21.86
			50	0	21.95
			50	28	21.97
			50	56	21.94
			100	0	21.99
	1880	376000	1	1	21.99
			1	53	21.94
			1	104	21.93
			50	0	22.00
			50	28	21.98
			50	56	21.98
	1900	380000	100	0	21.96
			1	1	21.96
			1	53	21.91
			1	104	21.85
			50	0	21.91
			50	28	21.97
DFT-s-OFDM 16QAM	1860	372000	50	56	21.98
	1880	376000	100	0	21.93
	1900	380000	1	1	22.13
DFT-s-OFDM 64QAM	1860	372000	1	1	22.16
	1880	376000	1	1	22.13
	1900	380000	1	1	20.52
DFT-s-OFDM 256QAM	1860	372000	1	1	20.46
	1880	376000	1	1	20.50
	1900	380000	1	1	20.50
	1860	372000	1	1	18.59
	1880	376000	1	1	18.56
	1900	380000	1	1	18.60

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm) (dBm)
CP-OFDM QPSK	1860	372000	20MHz	1	1	20.99
	1880	376000		1	1	21.00
	1900	380000		1	1	20.82
DFT-s-OFDM QPSK	1857.5	371500	15MHz	1	1	21.84
	1880	376000		1	1	21.87
	1902.5	380500		1	1	21.89
DFT-s-OFDM QPSK	1855	371000	10MHz	1	1	21.81
	1880	376000		1	1	21.93
	1905	381000		1	1	21.95
DFT-s-OFDM QPSK	1852.5	370500	5MHz	1	1	21.89
	1880	376000		1	1	21.94
	1907.5	381500		1	1	21.95

N5

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	834	166800	20MHz	1	1	22.08
				1	53	22.42
				1	104	22.04
				50	0	21.78
				50	28	22.35
				50	56	21.83
				100	0	21.85
	836.5	167300		1	1	22.12
				1	53	22.44
				1	104	22.08
				50	0	21.78
				50	28	22.38
				50	56	21.84
				100	0	21.88
	839	167800		1	1	22.07
				1	53	22.42
				1	104	22.03
				50	0	21.76
				50	28	22.38
				50	56	21.84
				100	0	21.83
DFT-s-OFDM QPSK	834	166800		1	1	22.13
				1	53	22.46
				1	104	22.10
				50	0	21.73
				50	28	22.38
				50	56	21.64
				100	0	21.65
	836.5	167300		1	1	22.16
				1	53	22.49
			1	104	22.15	
			50	0	21.74	
			50	28	22.40	
			50	56	21.65	
			100	0	21.66	
	839	167800	1	1	22.15	
			1	53	22.46	
			1	104	22.11	
			50	0	21.74	
			50	28	22.37	
			50	56	21.65	
			100	0	21.66	
DFT-s-OFDM 16QAM	834	166800	1	1	21.18	
	836.5	167300	1	1	21.23	
	839	167800	1	1	21.22	
DFT-s-OFDM 64QAM	834	166800	1	1	20.92	
	836.5	167300	1	1	20.96	
	839	167800	1	1	20.95	
DFT-s-OFDM 256QAM	834	166800	1	1	18.91	
	836.5	167300	1	1	18.95	
	839	167800	1	1	18.94	

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm) (dBm)
CP-OFDM QPSK	834	166800	20MHz	1	1	21.45
	836.5	167300		1	1	21.50
	839	167800		1	1	21.40
DFT-s-OFDM QPSK	831.5	166300	15MHz	1	1	22.44
	836.5	167300		1	1	22.45
	841.5	168300		1	1	22.36
DFT-s-OFDM QPSK	829	165800	10MHz	1	1	22.35
	836.5	167300		1	1	22.41
	844	168800		1	1	22.34
DFT-s-OFDM QPSK	826.5	165300	5MHz	1	1	22.35
	836.5	167300		1	1	22.43
	846.5	169300		1	1	22.34

N7(Full power)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	2510	502000	20MHz	1	1	22.81
				1	53	22.71
				1	104	22.61
				50	0	21.72
				50	28	22.53
				50	56	21.60
				100	0	21.55
	2535	507000		1	1	22.82
				1	53	22.75
				1	104	22.65
				50	0	21.76
				50	28	22.56
				50	56	21.64
				100	0	21.56
	2560	512000		1	1	22.80
				1	53	22.70
				1	104	22.64
				50	0	21.71
				50	28	22.51
				50	56	21.61
				100	0	21.51
DFT-s-OFDM QPSK	2510	502000		1	1	22.82
				1	53	22.72
				1	104	22.51
				50	0	21.71
				50	28	22.51
				50	56	21.59
				100	0	21.52
	2535	507000		1	1	22.83
				1	53	22.75
				1	104	22.56
				50	0	21.74

	2560	512000	50	28	22.55
			50	56	21.60
			100	0	21.56
			1	1	22.82
			1	53	22.73
			1	104	22.53
			50	0	21.72
			50	28	22.55
			50	56	21.57
			100	0	21.56
			1	1	22.12
			1	1	22.23
DFT-s-OFDM 16QAM	2510	502000	1	1	22.20
	2535	507000	1	1	20.89
	2560	512000	1	1	21.00
DFT-s-OFDM 64QAM	2510	502000	1	1	20.92
	2535	507000	1	1	18.83
	2560	512000	1	1	18.95
DFT-s-OFDM 256QAM	2510	502000	1	1	18.96
	2535	507000			
	2560	512000			

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm) (dBm)
CP-OFDM QPSK	2510	502000	20MHz	1	1	21.98
	2535	507000		1	1	21.90
	2560	512000		1	1	21.99
DFT-s-OFDM QPSK	2507.5	501500	15MHz	1	1	22.65
	2535	507000		1	1	22.65
	2562.5	512500		1	1	22.41
DFT-s-OFDM QPSK	2505	501000	10MHz	1	1	22.45
	2535	507000		1	1	22.41
	2565	513000		1	1	22.60
DFT-s-OFDM QPSK	2502.5	500500	5MHz	1	1	22.60
	2535	507000		1	1	22.66
	2567.5	513500		1	1	22.74

N7(Receiver on)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)	
DFT-s-OFDM PI/2 BPSK	2510	502000	20MHz	1	1	18.27	
				1	53	18.19	
				1	104	18.03	
				50	0	18.24	
				50	28	18.01	
				50	56	18.16	
	2535	507000		100	0	18.08	
				1	1	18.26	
				1	53	18.19	
				1	104	18.07	
				50	0	18.31	
				50	28	17.98	
				50	56	18.21	
				100	0	18.13	
	2560	512000			1	1	18.28

			1	53	18.14
			1	104	18.07
			50	0	18.29
			50	28	17.93
			50	56	18.17
			100	0	18.09
DFT-s-OFDM QPSK	2510	502000	1	1	18.29
			1	53	18.17
			1	104	17.98
			50	0	18.25
			50	28	17.95
			50	56	18.12
			100	0	18.04
	2535	507000	1	1	18.30
			1	53	18.20
			1	104	17.99
			50	0	18.27
			50	28	18.01
			50	56	18.15
			100	0	18.11
	2560	512000	1	1	18.29
			1	53	18.17
			1	104	17.96
			50	0	18.27
			50	28	18.03
			50	56	18.15
			100	0	18.14
DFT-s-OFDM 16QAM	2510	502000	1	1	18.69
	2535	507000	1	1	18.77
	2560	512000	1	1	18.72
DFT-s-OFDM 64QAM	2510	502000	1	1	18.42
	2535	507000	1	1	18.43
	2560	512000	1	1	18.51
DFT-s-OFDM 256QAM	2510	502000	1	1	18.79
	2535	507000	1	1	18.75
	2560	512000	1	1	18.85

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
						(dBm)
CP-OFDM QPSK	2510	502000	20MHz	1	1	18.51
	2535	507000		1	1	18.47
	2560	512000		1	1	18.54
DFT-s-OFDM QPSK	2507.5	501500	15MHz	1	1	18.12
	2535	507000		1	1	18.08
	2562.5	512500		1	1	17.87
DFT-s-OFDM QPSK	2505	501000	10MHz	1	1	17.91
	2535	507000		1	1	17.86
	2565	513000		1	1	18.05
DFT-s-OFDM QPSK	2502.5	500500	5MHz	1	1	18.08
	2535	507000		1	1	18.12
	2567.5	513500		1	1	18.21

N7(Hotspot on)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)	
DFT-s-OFDM PI/2 BPSK	2510	502000	20MHz	1	1	20.89	
				1	53	20.74	
				1	104	20.63	
				50	0	20.75	
				50	28	20.55	
				50	56	20.67	
				100	0	20.62	
	2535	507000		1	1	20.84	
				1	53	20.83	
				1	104	20.73	
				50	0	20.79	
				50	28	20.62	
				50	56	20.69	
				100	0	20.64	
	2560	512000		1	1	20.87	
				1	53	20.75	
				1	104	20.66	
				50	0	20.78	
				50	28	20.59	
				50	56	20.65	
				100	0	20.53	
	DFT-s-OFDM QPSK	2510		502000	1	1	20.87
					1	53	20.77
					1	104	20.59
50					0	20.78	
50					28	20.58	
50					56	20.64	
100					0	20.58	
2535		507000		1	1	20.90	
				1	53	20.82	
				1	104	20.63	
				50	0	20.80	
				50	28	20.57	
				50	56	20.65	
				100	0	20.62	
2560		512000		1	1	20.88	
				1	53	20.79	
				1	104	20.57	
				50	0	20.79	
				50	28	20.57	
				50	56	20.61	
				100	0	20.59	
DFT-s-OFDM 16QAM		2510	502000	1	1	20.17	
		2535	507000	1	1	20.30	
		2560	512000	1	1	20.23	
DFT-s-OFDM 64QAM	2510	502000	1	1	20.88		
	2535	507000	1	1	20.97		
	2560	512000	1	1	20.86		
DFT-s-OFDM 256QAM	2510	502000	1	1	18.79		
	2535	507000	1	1	18.91		
	2560	512000	1	1	18.87		

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm) (dBm)
CP-OFDM QPSK	2510	502000	20MHz	1	1	20.04
	2535	507000		1	1	20.05
	2560	512000		1	1	20.07
DFT-s-OFDM QPSK	2507.5	501500	15MHz	1	1	20.71
	2535	507000		1	1	20.70
	2562.5	512500		1	1	20.47
DFT-s-OFDM QPSK	2505	501000	10MHz	1	1	20.53
	2535	507000		1	1	20.62
	2565	513000		1	1	20.73
DFT-s-OFDM QPSK	2502.5	500500	5MHz	1	1	20.64
	2535	507000		1	1	20.72
	2567.5	513500		1	1	20.82

N38

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	2590	518000	40MHz	1	1	22.63
				1	108	22.71
				1	214	22.52
				108	0	21.62
				108	54	22.51
				108	108	21.56
				216	0	21.54
	2595	519000		1	1	22.63
				1	108	22.74
				1	214	22.56
				108	0	21.65
				108	54	22.56
				108	108	21.56
				216	0	21.55
	2600	520000		1	1	22.68
				1	108	22.75
				1	214	22.57
				108	0	21.68
				108	54	22.61
				108	108	21.58
				216	0	21.60
DFT-s-OFDM QPSK	2590	518000	1	1	22.56	
			1	108	22.74	
			1	214	22.56	
			108	0	21.52	
			108	54	22.41	
			108	108	21.54	
			216	0	21.53	
	2595	519000	1	1	22.59	

			1	108	22.79
			1	214	22.61
			108	0	21.55
			108	54	22.44
			108	108	21.56
			216	0	21.55
			1	1	22.59
	2600	520000	1	108	22.77
			1	214	22.62
			108	0	21.60
			108	54	22.43
			108	108	21.60
			216	0	21.59
			1	1	22.34
			1	1	22.41
DFT-s-OFDM 16QAM	2590	518000	1	1	22.36
	2595	519000	1	1	20.88
	2600	520000	1	1	20.91
DFT-s-OFDM 64QAM	2590	518000	1	1	20.93
	2595	519000	1	1	18.84
	2600	520000	1	1	18.89
DFT-s-OFDM 256QAM	2590	518000	1	1	18.93
	2595	519000			
	2600	520000			

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
						(dBm)
CP-OFDM QPSK	2590	518000	40MHz	1	1	21.75
	2595	519000		1	1	21.89
	2600	520000		1	1	21.90
DFT-s-OFDM QPSK	2585	517000	30MHz	1	1	22.60
	2595	519000		1	1	22.65
	2605	521000		1	1	22.70
DFT-s-OFDM QPSK	2580	516000	20MHz	1	1	22.51
	2595	519000		1	1	22.56
	2610	522000		1	1	22.65

N41

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	2546.01	509202	100MHz	1	1	22.54
				1	137	22.40
				1	271	22.45
				135	0	21.58
				135	69	22.44
				135	138	21.46
				270	0	21.43
	2569.5	513900		1	1	22.45
				1	137	22.40

				1	271	22.45
				135	0	21.51
				135	69	22.36
				135	138	21.43
				270	0	21.35
				1	1	22.45
				1	137	22.35
				1	271	22.40
				135	0	21.49
				135	69	22.35
				135	138	21.39
				270	0	21.35
				1	1	22.48
				1	137	22.39
				1	271	22.41
				135	0	21.50
				135	69	22.35
				135	138	21.42
				270	0	21.40
				1	1	22.55
				1	137	22.45
				1	271	22.47
DFT-s-OFDM QPSK	2592.99	518598		135	0	21.58
				135	69	22.44
				135	138	21.45
				270	0	21.41
				1	1	22.51
				1	137	22.45
				1	271	22.48
				135	0	21.59
				135	69	22.42
				135	138	21.46
				270	0	21.64
				1	1	22.49
				1	137	22.37
				1	271	22.45
				135	0	21.52
				135	69	22.36
				135	138	21.45
				270	0	21.55
				1	1	22.55
				1	137	22.36
				1	271	22.41
	2616.51	523302		135	0	21.51
				135	69	22.45
				135	138	21.41
				270	0	21.55
				1	1	22.49
				1	137	22.38
				1	271	22.41
				135	0	21.51
				135	69	22.45
				135	138	21.41
				270	0	21.55
				1	1	22.49
				1	137	22.38
				1	271	22.41
				135	0	21.51
				135	69	22.45
				135	138	21.41
				270	0	21.55
				1	1	22.49
				1	137	22.38
				1	271	22.41

				1	271	22.41
				135	0	21.54
				135	69	22.37
				135	138	21.45
				270	0	21.59
				1	1	22.54
				1	137	22.45
				1	271	22.51
				135	0	21.56
				135	69	22.44
				135	138	21.48
				270	0	21.65
				1	271	22.45
				1	271	22.35
DFT-s-OFDM 16QAM	2546.01	509202		1	271	22.41
	2569.5	513900		1	271	22.36
	2592.99	518598		1	271	22.12
	2616.51	523302		1	271	20.82
	2640	528000		1	271	20.85
DFT-s-OFDM 64QAM	2546.01	509202		1	271	20.95
	2569.5	513900		1	271	20.97
	2592.99	518598		1	271	20.82
	2616.51	523302		1	271	18.89
	2640	528000		1	271	18.55
DFT-s-OFDM 256QAM	2546.01	509202		1	271	18.65
	2569.5	513900		1	271	18.70
	2592.99	518598		1	271	18.65
	2616.51	523302		1	271	18.70
	2640	528000		1	271	18.65

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
CP-OFDM QPSK	2546.01	509202	100MHz	1	271	21.85
	2569.5	513900		1	271	21.95
	2592.99	518598		1	271	21.84
	2616.51	523302		1	271	21.81
	2640	528000		1	271	21.85
DFT-s-OFDM QPSK	2541	508200	90MHz	1	271	22.41
	2567.01	513402		1	271	22.40
	2592.99	518598		1	271	22.35
	2619	523800		1	271	22.34
	2644.98	528996		1	271	22.35
DFT-s-OFDM QPSK	2536.02	507204	80MHz	1	271	22.15
	2564.52	512904		1	271	22.25
	2592.99	518598		1	271	22.15
	2621.49	524298		1	271	22.30
	2649.99	529998		1	271	22.31
DFT-s-OFDM QPSK	2526	505200	60MHz	1	271	22.30
	2559.51	511902		1	271	22.41
	2592.99	518598		1	271	22.33
	2626.5	525300		1	271	22.34
	2659.98	531996		1	271	22.24
DFT-s-OFDM	2521.02	504202	50MHz	1	271	22.34

QPSK	2557	511400		1	271	22.41
	2592.99	518598		1	271	22.34
	2628.99	525798		1	271	22.33
	2664.99	532998		1	271	22.34
DFT-s-OFDM QPSK	2516.01	503202	40MHz	1	271	22.35
	2554.5	510900		1	271	22.36
	2592.99	518598		1	271	22.31
	2631.495	526299		1	271	22.40
	2670	534000		1	271	22.34
DFT-s-OFDM QPSK	2511	502204	30MHz	1	271	22.22
	2552.005	510401		1	271	22.37
	2592.99	518598		1	271	22.19
	2624.55	526797		1	271	22.42
	2674.98	534996		1	271	22.47
DFT-s-OFDM QPSK	2506.02	501204	20MHz	1	271	22.31
	2549.505	509901		1	271	22.33
	2592.99	518598		1	271	22.30
	2636.49	527298		1	271	22.34
	2679.99	535998		1	271	22.41

N66(Full power)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	1720	344000	20MHz	1	1	22.79
				1	53	22.73
				1	104	22.70
				50	0	22.11
				50	28	22.75
				50	56	21.93
				100	0	22.00
	1745	349000		1	1	22.82
				1	53	22.74
				1	104	22.76
				50	0	22.10
				50	28	22.81
				50	56	21.96
				100	0	22.02
	1770	354000		1	1	22.84
				1	53	22.68
				1	104	22.80
				50	0	22.11
				50	28	22.71
				50	56	21.93
				100	0	21.95
DFT-s-OFDM QPSK	1720	344000		1	1	22.82
				1	53	22.72
				1	104	22.74
				50	0	21.97
				50	28	22.72
				50	56	21.93

	1745	349000	100	0	21.92
			1	1	22.84
			1	53	22.80
			1	104	22.74
			50	0	21.98
			50	28	22.73
			50	56	21.98
			100	0	21.97
	1770	354000	1	1	22.82
			1	53	22.76
			1	104	22.75
			50	0	21.91
			50	28	22.69
			50	56	22.00
			100	0	21.91
			1	1	22.09
DFT-s-OFDM 16QAM	1720	344000	1	1	22.10
	1745	349000	1	1	22.06
	1770	354000	1	1	20.44
DFT-s-OFDM 64QAM	1720	344000	1	1	20.44
	1745	349000	1	1	20.42
	1770	354000	1	1	18.53
DFT-s-OFDM 256QAM	1720	344000	1	1	18.58
	1745	349000	1	1	18.53
	1770	354000			

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
						(dBm)
CP-OFDM QPSK	1720	344000	20MHz	1	1	21.81
	1745	349000		1	1	21.85
	1770	354000		1	1	21.70
DFT-s-OFDM QPSK	1717.5	343500	15MHz	1	1	22.74
	1745	349000		1	1	22.79
	1772.5	354500		1	1	22.78
DFT-s-OFDM QPSK	1715	343000	10MHz	1	1	22.70
	1740	349000		1	1	22.80
	1765	355000		1	1	22.78
DFT-s-OFDM QPSK	1712.5	342500	5MHz	1	1	22.75
	1745	349000		1	1	22.78
	1777.5	355500		1	1	22.80

N66(Receiver on)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	1720	344000	20MHz	1	1	18.87
				1	53	18.76
				1	104	18.74
				50	0	19.16
				50	28	18.78
				50	56	18.98
				100	0	19.05
	1745	349000		1	1	18.86
				1	53	18.77
				1	104	18.81
				50	0	19.14
				50	28	18.83
				50	56	18.98
				100	0	19.08
	1770	354000		1	1	18.89
				1	53	18.72
				1	104	18.85
				50	0	19.16
				50	28	18.73
				50	56	19.00
				100	0	19.01
DFT-s-OFDM QPSK	1720	344000		1	1	18.87
				1	53	18.75
				1	104	18.80
				50	0	19.00
				50	28	19.02
				50	56	19.01
				100	0	18.99
	1745	349000		1	1	18.88
				1	53	18.83
				1	104	18.81
				50	0	19.00
				50	28	19.03
				50	56	19.02
				100	0	19.03
	1770	354000		1	1	18.87
				1	53	18.83
				1	104	18.77
				50	0	18.95
				50	28	19.01
				50	56	19.01
				100	0	18.97
DFT-s-OFDM 16QAM	1720	344000		1	1	19.12
	1745	349000		1	1	19.17
	1770	354000		1	1	19.09
DFT-s-OFDM 64QAM	1720	344000		1	1	18.87
	1745	349000		1	1	18.86
	1770	354000		1	1	18.88
DFT-s-OFDM 256QAM	1720	344000		1	1	18.53
	1745	349000		1	1	18.58
	1770	354000		1	1	18.53

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm) (dBm)
CP-OFDM QPSK	1720	344000	20MHz	1	1	19.25
	1745	349000		1	1	19.32
	1770	354000		1	1	19.17
DFT-s-OFDM QPSK	1717.5	343500	15MHz	1	1	18.77
	1745	349000		1	1	18.84
	1772.5	354500		1	1	18.85
DFT-s-OFDM QPSK	1715	343000	10MHz	1	1	18.78
	1740	349000		1	1	18.82
	1765	355000		1	1	18.80
DFT-s-OFDM QPSK	1712.5	342500	5MHz	1	1	18.82
	1745	349000		1	1	18.84
	1777.5	355500		1	1	18.88

N66(NSA Hotspot on & Sensor on)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	1720	344000	20MHz	1	1	21.82
				1	53	21.77
				1	104	21.74
				50	0	22.07
				50	28	21.81
				50	56	21.86
				100	0	21.95
	1745	349000		1	1	21.85
				1	53	21.76
				1	104	21.81
				50	0	22.02
				50	28	21.87
				50	56	21.87
				100	0	21.98
	1770	354000		1	1	21.90
				1	53	21.77
				1	104	21.87
				50	0	22.05
				50	28	21.78
				50	56	21.86
				100	0	21.89
DFT-s-OFDM QPSK	1720	344000		1	1	21.99
				1	53	21.79
				1	104	21.80
				50	0	21.91
				50	28	21.81
				50	56	21.85
				100	0	21.89
	1745	349000		1	1	22.01

			1	53	21.84
			1	104	21.80
			50	0	21.99
			50	28	21.99
			50	56	21.94
			100	0	21.92
	1770	354000	1	1	21.98
			1	53	21.84
			1	104	21.82
			50	0	21.84
			50	28	21.75
			50	56	21.98
			100	0	21.84
			1	1	22.00
			1	1	22.04
			1	1	21.97
DFT-s-OFDM 16QAM	1720	344000	1	1	20.40
	1745	349000	1	1	20.35
	1770	354000	1	1	20.37
DFT-s-OFDM 64QAM	1720	344000	1	1	18.50
	1745	349000	1	1	18.50
	1770	354000	1	1	18.48

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
						(dBm)
CP-OFDM QPSK	1720	344000	20MHz	1	1	21.79
	1745	349000		1	1	21.78
	1770	354000		1	1	21.65
DFT-s-OFDM QPSK	1717.5	343500	15MHz	1	1	21.81
	1745	349000		1	1	21.81
	1772.5	354500		1	1	21.80
DFT-s-OFDM QPSK	1715	343000	10MHz	1	1	21.75
	1740	349000		1	1	21.85
	1765	355000		1	1	21.86
DFT-s-OFDM QPSK	1712.5	342500	5MHz	1	1	21.80
	1745	349000		1	1	21.84
	1777.5	355500		1	1	21.87

N71

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)	
DFT-s-OFDM PI/2 BPSK	673	134600	20MHz	1	1	22.29	
				1	53	22.37	
				1	104	22.30	
				50	0	21.14	
				50	28	22.12	
				50	56	21.27	
				100	0	21.40	
	680.5	136100		1	1	22.31	
				1	53	22.38	
				1	104	22.34	
				50	0	21.15	
				50	28	22.15	
				50	56	21.32	
				100	0	21.41	
	688	137600		1	1	22.30	
				1	53	22.35	
				1	104	22.34	
				50	0	21.13	
				50	28	22.10	
				50	56	21.29	
				100	0	21.38	
	DFT-s-OFDM QPSK	673		134600	1	1	22.38
					1	53	22.36
					1	104	22.34
50					0	21.19	
50					28	22.34	
50					56	21.40	
100					0	21.59	
680.5		136100		1	1	22.45	
				1	53	22.41	
				1	104	22.39	
				50	0	21.21	
				50	28	22.35	
				50	56	21.41	
				100	0	21.59	
688		137600		1	1	22.41	
				1	53	22.40	
				1	104	22.39	
				50	0	21.16	
				50	28	22.34	
				50	56	21.38	
				100	0	21.57	
DFT-s-OFDM 16QAM		673	134600	1	1	22.01	
		680.5	136100	1	1	22.02	
		688	137600	1	1	21.98	
DFT-s-OFDM 64QAM	673	134600	1	1	20.89		
	680.5	136100	1	1	20.92		
	688	137600	1	1	20.91		
DFT-s-OFDM 256QAM	673	134600	1	1	19.06		
	680.5	136100	1	1	19.09		
	688	137600	1	1	19.05		

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm) (dBm)
CP-OFDM QPSK	673	134600	20MHz	1	1	21.55
	680.5	136100		1	1	21.55
	688	137600		1	1	21.55
DFT-s-OFDM QPSK	670.5	134100	15MHz	1	1	22.36
	680.5	136100		1	1	22.35
	690.5	138100		1	1	22.31
DFT-s-OFDM QPSK	668	133600	10MHz	1	1	22.09
	680.5	136100		1	1	22.15
	693	138600		1	1	22.15
DFT-s-OFDM QPSK	665.5	133100	5MHz	1	1	22.34
	680.5	136100		1	1	22.35
	695.5	139100		1	1	22.24

N78(Class 2 Full power)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	/	/	100MHz	1	1	/
				1	137	/
				1	271	/
				135	0	/
				135	69	/
				135	138	/
				270	0	/
	3500	633334		1	1	24.88
				1	137	24.74
				1	271	24.69
				135	0	23.90
				135	69	24.77
				135	138	23.82
				270	0	23.41
	/	/		1	1	/
				1	137	/
				1	271	/
				135	0	/
				135	69	/
				135	138	/
				270	0	/
DFT-s-OFDM QPSK	/	/		1	1	/
				1	137	/
				1	271	/
				135	0	/
				135	69	/
				135	138	/
				270	0	/
	3500	633334		1	1	24.84
				1	137	24.66
				1	271	24.90
				135	0	23.52

	/	/	135	69	24.89
			135	138	23.29
			270	0	23.83
			1	1	/
			1	137	/
			1	271	/
			135	0	/
			135	69	/
			135	138	/
			270	0	/
DFT-s-OFDM 16QAM	/	/	1	1	/
	3500	633334	1	1	23.89
	/	/	1	1	/
DFT-s-OFDM 64QAM	/	/	1	1	/
	3500	633334	1	1	22.88
	/	/	1	1	/
DFT-s-OFDM 256QAM	/	/	1	1	/
	3500	633334	1	1	20.98
	/	/	1	1	/

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm) (dBm)
CP-OFDM QPSK	/	/	100MHz	1	1	/
	3500	633334		1	1	23.12
	/	/		1	1	/
DFT-s-OFDM QPSK	3495	633000	90MHz	1	1	24.82
	3500	633334		1	1	24.79
	3505.02	633668		1	1	24.78
DFT-s-OFDM QPSK	3490.02	632668	80MHz	1	1	24.81
	3500	633334		1	1	24.82
	3510	634000		1	1	24.85
DFT-s-OFDM QPSK	3485.01	632334	70MHz	1	1	24.80
	3500	633334		1	1	24.85
	3515.01	634334		1	1	24.81
DFT-s-OFDM QPSK	3480	632000	60MHz	1	1	24.83
	3500	633334		1	1	24.76
	3520.02	634668		1	1	24.81
DFT-s-OFDM QPSK	3475.02	631668	50MHz	1	1	24.87
	3500	633334		1	1	24.81
	3525	635000		1	1	24.82
DFT-s-OFDM QPSK	3470.01	631334	40MHz	1	1	24.86
	3500	633334		1	1	24.84
	3530.01	635334		1	1	24.79
DFT-s-OFDM QPSK	3465	631000	30MHz	1	1	24.80
	3500	633334		1	1	24.85
	3535.02	635668		1	1	24.81
DFT-s-OFDM QPSK	3460.02	630668	20MHz	1	1	24.80
	3500	633334		1	1	24.85
	3540	636000		1	1	24.81

N78(Class 2 Receiver on)

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
DFT-s-OFDM PI/2 BPSK	/	/	100MHz	1	1	/
				1	137	/
				1	271	/
				135	0	/
				135	69	/
				135	138	/
				270	0	/
	3500	633334		1	1	21.92
				1	137	21.82
				1	271	21.75
				135	0	21.86
				135	69	21.84
				135	138	21.79
				270	0	21.38
	/	/		1	1	/
				1	137	/
				1	271	/
				135	0	/
				135	69	/
				135	138	/
				270	0	/
DFT-s-OFDM QPSK	/	/		1	1	/
				1	137	/
				1	271	/
				135	0	/
				135	69	/
				135	138	/
				270	0	/
	3500	633334		1	1	21.91
				1	137	21.71
				1	271	21.98
				135	0	21.48
				135	69	21.93
				135	138	21.26
				270	0	21.79
	/	/		1	1	/
				1	137	/
				1	271	/
				135	0	/
				135	69	/
				135	138	/
				270	0	/
DFT-s-OFDM 16QAM	/	/		1	1	/
	3500	633334		1	1	21.86
	/	/		1	1	/
DFT-s-OFDM 64QAM	/	/		1	1	/
	3500	633334		1	1	21.82
	/	/		1	1	/
DFT-s-OFDM 256QAM	/	/		1	1	/
	3500	633334		1	1	20.98
	/	/		1	1	/

Modulation	Carrier frequency(MHz)	UL Channel	Bandwidth	RB size	RB offset	Conducted Power(dBm)
						(dBm)
CP-OFDM QPSK	1860	/	100MHz	1	1	/
	1880	633334		1	1	21.60
	1900	/		1	1	/
DFT-s-OFDM QPSK	3495	633000	90MHz	1	1	21.78
	3500	633334		1	1	21.72
	3505.02	633668		1	1	21.75
DFT-s-OFDM QPSK	3490.02	632668	80MHz	1	1	21.78
	3500	633334		1	1	21.75
	3510	634000		1	1	21.78
DFT-s-OFDM QPSK	3485.01	632334	70MHz	1	1	21.73
	3500	633334		1	1	21.79
	3515.01	634334		1	1	21.75
DFT-s-OFDM QPSK	3480	632000	60MHz	1	1	21.79
	3500	633334		1	1	21.70
	3520.02	634668		1	1	21.76
DFT-s-OFDM QPSK	3475.02	631668	50MHz	1	1	21.82
	3500	633334		1	1	21.75
	3525	635000		1	1	21.75
DFT-s-OFDM QPSK	3470.01	631334	40MHz	1	1	21.81
	3500	633334		1	1	21.82
	3530.01	635334		1	1	21.76
DFT-s-OFDM QPSK	3465	631000	30MHz	1	1	21.73
	3500	633334		1	1	21.79
	3535.02	635668		1	1	21.75
DFT-s-OFDM QPSK	3460.02	630668	20MHz	1	1	21.73
	3500	633334		1	1	21.79
	3540	636000		1	1	21.75

6.5 Bluetooth Measurement result

BT

Duty Cycle

Modulation Type	Frequency (MHz)	Duty Cycle
GFSK(DH5)	2402	76.9%
π 4/DQPSK(2DH5)	2402	63.47%
8DPSK(3DH5)	2402	77.07%

Conducted Power

Modulation type	Conducted Average Power(dBm)		
	2402MHz	2441MHz	2480MHz
GFSK	11.84	11.89	11.85
π 4DQPSK	9.54	9.84	9.66
8DPSK	9.67	9.97	9.95

BLE

Duty Cycle

Modulation Type	Frequency (MHz)	Duty Cycle
GFSK (LE 1Mbps)	2402	62.9%
GFSK (LE 2Mbps)	2402	33.33%

Conducted Power

Modulation type	Conducted Average Power(dBm)		
	2402MHz	2440MHz	2480MHz
GFSK (LE 1Mbps)	6.24	6.85	7.48
GFSK (LE 2Mbps)	5.16	5.97	7.44

6.6 Wi-Fi Measurement result

WIFI 2.4GHz

Duty Cycle

Modulation Type	Frequency (MHz)	Duty Cycle
802.11b	2412	99.41%
802.11g	2412	98.54%
802.11n HT20	2412	98.44%
802.11n HT40	2412	94.9%

Conducted power

Mode	Freq(MHz)	Conducted average power output(dBm)	
		Receiver off	Receiver on
802.11b	2412MHz	18.01	14.80
	2437MHz	18.10	14.84
	2462MHz	17.67	14.47
802.11g	2412MHz	16.39	13.42
	2437MHz	15.91	12.98
	2462MHz	15.82	12.86
802.11n20M	2412MHz	16.21	13.29
	2437MHz	15.83	12.85
	2462MHz	15.78	12.81
802.11n40M	2422MHz	15.52	12.57
	2437MHz	15.58	12.66
	2452MHz	15.77	12.84

WIFI 5GHz(U-NII-1)

Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)
802.11a	5180	98.18%
802.11n HT20	5180	97.93%
802.11n HT40	5190	96.88%
802.11ac VHT20	5180	98.45%
802.11ac VHT40	5190	96.91%
802.11ac VHT80	5210	93.88%

Conducted power

mode	Freq (MHz)	Conducted average power output(dBm)	
		Receiver off	Receiver on
802.11a	5180	16.08	13.15
	5200	16.47	13.55
	5220	16.82	13.93
	5240	16.88	13.96
802.11n-HT20	5180	16.02	13.08
	5200	16.31	13.37
	5220	16.74	13.82
	5240	16.79	13.86
802.11n-HT40	5190	15.36	12.41
	5230	15.97	13.01
802.11ac 20M	5180	15.03	12.09
	5200	15.21	12.25
	5220	15.50	12.55
	5240	15.49	12.56
802.11ac 40M	5190	15.19	12.26
	5230	15.67	12.70
802.11ac 80M	5210	15.19	12.27

WIFI 5GHz(U-NII-2A)

Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)
802.11a	5260	98.18%
802.11n HT20	5260	97.93%
802.11n HT40	5270	96.88%
802.11ac VHT20	5260	98.45%
802.11ac VHT40	5270	96.91%
802.11ac VHT80	5290	93.88%

Conducted power

mode	Freq (MHz)	Conducted average power output(dBm)	
		Receiver off	Receiver on
802.11a	5260	16.78	13.95
	5280	16.45	13.51
	5300	16.65	13.97
	5320	16.79	14.03
802.11n-HT20	5260	16.48	13.52
	5280	16.43	13.51
	5300	16.18	13.26
	5320	16.16	13.22
802.11n-HT40	5270	15.98	13.05
	5310	15.49	12.51
802.11ac 20M	5260	15.57	12.64
	5280	15.50	12.53
	5300	15.29	12.34
	5320	15.15	12.22
802.11ac 40M	5270	15.65	12.72
	5310	15.34	12.41
802.11ac 80M	5290	15.28	12.30

WIFI 5GHz(U-NII-2C)

Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)
802.11a	5500	98.18%
802.11n HT20	5500	97.93%
802.11n HT40	5510	96.88%
802.11ac VHT20	5500	98.45%
802.11ac VHT40	5510	96.91%
802.11ac VHT80	5530	93.88%

Conducted power

mode	Freq (MHz)	Conducted average power output(dBm)	
		Receiver off	Receiver on
802.11a	5500	16.16	13.24
	5520	16.11	13.18
	5540	16.03	13.11
	5560	16.02	13.04
	5580	16.01	13.08
	5600	16.02	13.09
	5620	16.04	13.12
	5640	16.04	13.10
	5660	16.39	13.42
	5680	16.54	13.60
	5700	16.88	13.95
	5720	16.87	13.93
802.11n-HT20	5500	16.04	13.10
	5520	16.04	13.06
	5540	16.03	13.08
	5560	16.05	13.12
	5580	16.02	13.07
	5600	16.01	13.08
	5620	16.06	13.12
	5640	16.03	13.08
	5660	16.08	13.15
	5680	16.24	13.30
	5700	16.48	13.54
	5720	16.59	13.67
802.11n-HT40	5510	15.15	12.20
	5550	15.05	12.13
	5590	15.02	12.05
	5630	15.34	12.37
	5670	15.47	12.54
	5710	15.86	12.90
802.11ac 20M	5500	15.01	12.05
	5520	15.02	12.07
	5540	15.08	12.15

	5560	15.06	12.09
	5580	15.04	12.08
	5600	15.01	12.09
	5620	15.04	12.12
	5640	15.08	12.15
	5660	15.12	12.17
	5680	15.16	12.22
	5700	15.39	12.46
	5720	15.59	12.65
802.11ac 40M	5510	15.05	12.07
	5550	15.04	12.06
	5590	15.06	12.10
	5630	15.24	12.29
	5670	15.30	12.35
	5710	15.65	12.69
802.11ac 80M	5530	15.11	12.13
	5610	15.02	12.09
	5690	15.27	12.34

WIFI 5GHz(U-NII-3)

Duty Cycle

Test Mode	Frequency (MHz)	Duty Cycle (%)
802.11a	5745	98.18%
802.11n HT20	5745	97.93%
802.11n HT40	5755	96.88%
802.11ac VHT20	5745	98.45%
802.11ac VHT40	5755	96.91%
802.11ac VHT80	5775	93.88%

Conducted power

mode	Freq (MHz)	Conducted average power output(dBm)	
		Receiver off	Receiver on
802.11a	5745	16.93	13.90
	5765	16.87	13.87
	5785	16.82	13.87
	5805	16.49	13.51
	5825	16.47	13.54
802.11n-HT20	5745	16.54	13.58
	5765	16.62	13.65
	5785	16.55	13.61
	5805	16.39	13.44
	5825	16.29	13.35
802.11n-HT40	5755	15.78	12.81
	5795	15.86	12.91
802.11ac 20M	5745	15.33	12.36
	5765	15.47	12.50
	5785	15.57	12.62
	5805	15.30	12.32
	5825	15.17	12.23
802.11ac 40M	5755	15.49	12.55
	5795	15.59	12.61
802.11ac 80M	5775	15.35	12.37

6.7 Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

Method1:

According to the KDB447498 4.3.1 (1)

For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

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

- 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

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

This is equivalent to $[(\text{max. power of channel, including tune-up tolerance, mW}) / (60 / \sqrt{f} \text{ (GHz)})] \cdot [20 \text{ mm} / (\text{min. test separation distance, mm})] \leq 1.0$ for 1-g SAR; also see Appendix A for approximate exclusion threshold values at selected frequencies and distances.

Method2:

According to the KDB447498 appendix A

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table.

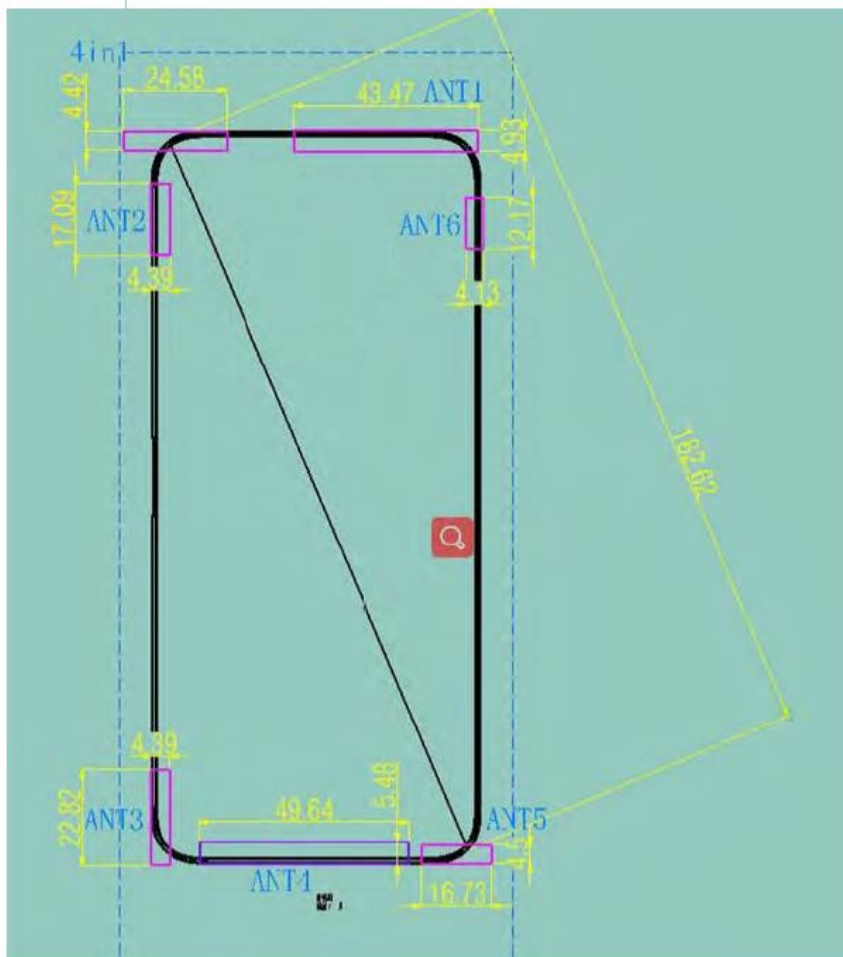
MHz	5	10	15	20	25	mm
150	39	77	116	155	194	SAR Test Exclusion Threshold (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	

Summary of Transmitters

Band/Mode	Max conducted power adjusted for tune-up tolerance(mW)	Exposure condition	SAR test exclusion threshold (mW)	Standalone SAR Required
BT/BLE	20.0	Head	10	Yes
		Body-worn/Hotspot	19	Yes
Wi-Fi 2.4GHz	39.8	Head	10	Yes
	79.4	Body-worn/Hotspot	19	Yes
Wi-Fi 5GHz (U-NII-1)	31.6	Head	7	Yes
	63.1	Body-worn/Hotspot	13	Yes
Wi-Fi 5GHz (U-NII-2A)	31.6	Head	7	Yes
	63.1	Body-worn/Hotspot	13	Yes
Wi-Fi 5GHz (U-NII-2C)	31.6	Head	6	Yes
	63.1	Body-worn/Hotspot	13	Yes
Wi-Fi 5GHz (U-NII-3)	31.6	Head	6	Yes
	63.1	Body-worn/Hotspot	12	Yes

6.8 RF exposure conditions

Refer to the follow picture “Antenna information” for the specific details of the antenna-to-antenna and antenna-to-edge(s) distances.



All of Implementation antenna

Antenna	Support Band
Ant1	GSM1900,WCDMA B2/4,LTE B38/41,NR Band 2/7/38/41/66
Ant2	NR Band 78
Ant3	Only RX
Ant4	GSM850,WCDMA B5,LTE B5/7/12/13/17/26,NR Band 5/71
Ant5	LTE Band 2/4/25/66
Ant6	Only RX
Ant7	WIFI 2.4G,WIFI 5G,BT

Note: we defined these position when we face the screen of EUT, the reason why we perform SAR test for these edges is that the structures of antennas is close to our body, and for the other edges do not necessary cause we already consider the worst case.

6.8.1 Head Exposure Conditions For WWAN

Test Configurations	SAR Required	Note
Left Touch	Yes	/
Left Tilt (15°)	Yes	/
Right Touch	Yes	/
Right Tilt (15°)	Yes	/

For WLAN

Test Configurations	SAR Required	Note
Left Touch	Yes	/
Left Tilt (15°)	Yes	/
Right Touch	Yes	/
Right Tilt (15°)	Yes	/

For BT/BLE

Test Configurations	SAR Required	Note
Left Touch	Yes	/
Left Tilt (15°)	Yes	/
Right Touch	Yes	/
Right Tilt (15°)	Yes	/

6.8.2 Body Worn Exposure conditions

For WWAN

Test Configurations	SAR Required	Note
Back	Yes	/
Front	Yes	/

For WLAN

Test Configurations	SAR Required	Note
Back	Yes	/
Front	Yes	/

For BT/BLE

Test Configurations	SAR Required	Note
Back	Yes	/
Front	Yes	/

6.8.3 Hotspot Exposure conditions For WWAN ANT1

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	<25mm
Front	Yes*	<25mm
Top	Yes	<25mm
Bottom	No	>25mm
Left	Yes	<25mm
Right	Yes	<25mm

For WWAN ANT2

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	<25mm
Front	Yes*	<25mm
Top	Yes	<25mm
Bottom	No	>25mm
Left	No	>25mm
Right	Yes	<25mm

For WWAN ANT4

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	<25mm
Front	Yes*	<25mm
Top	No	>25mm
Bottom	Yes	<25mm
Left	Yes	<25mm
Right	Yes	<25mm

For WLAN ANT5

Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes*	<25mm
Front	Yes*	<25mm
Top	No	>25mm
Bottom	Yes	<25mm
Left	Yes	<25mm
Right	No	>25mm

For BT/BLE

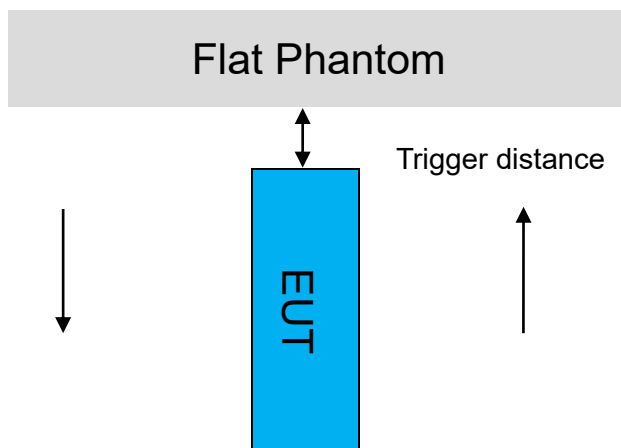
Test Configurations	SAR Required	Antenna-to-edge(s) distances
Back	Yes	<25mm
Front	Yes	<25mm
Top	Yes	<25mm
Bottom	No	>25mm
Left	No	>25mm
Right	Yes	<25mm

Note*: For hotspot mode, it's not necessary test Rear and Front position for several bands which there is no "hotspot power reduction" scheme. Because we already test these positions without hotspot mode in Body Exposure conditions.

6.8.4 Proximity Sensor Triggering Test

Proximity sensor triggering distances:

The Proximity sensor triggering was applied to WWAN antenna. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.

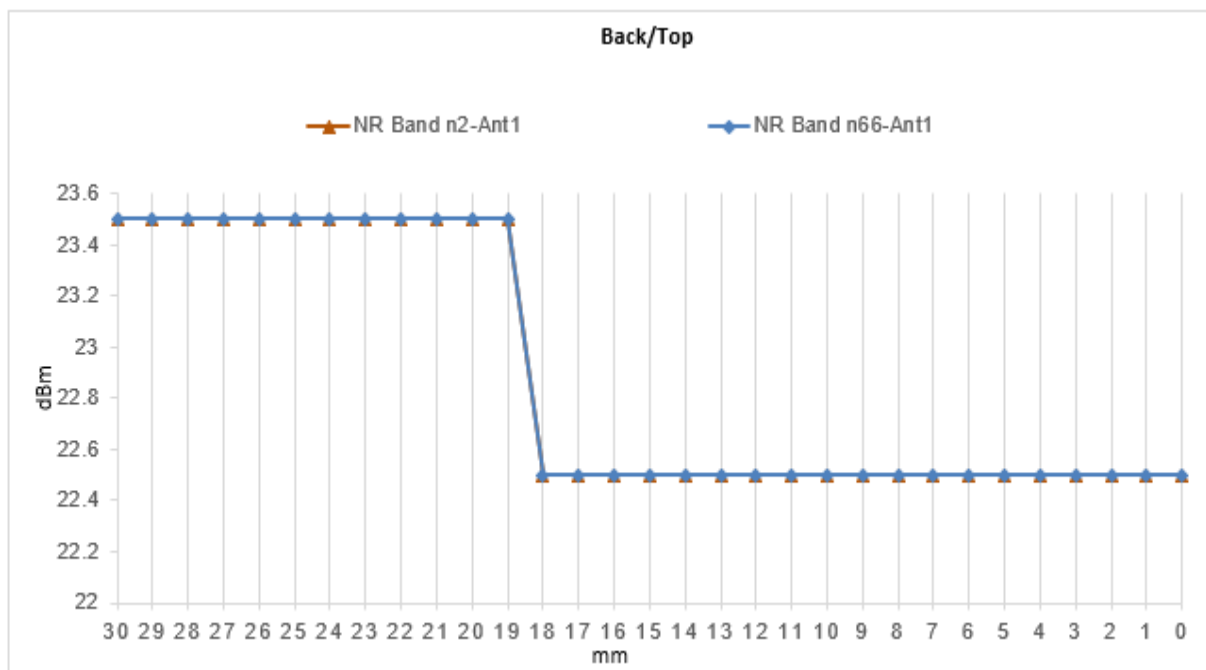
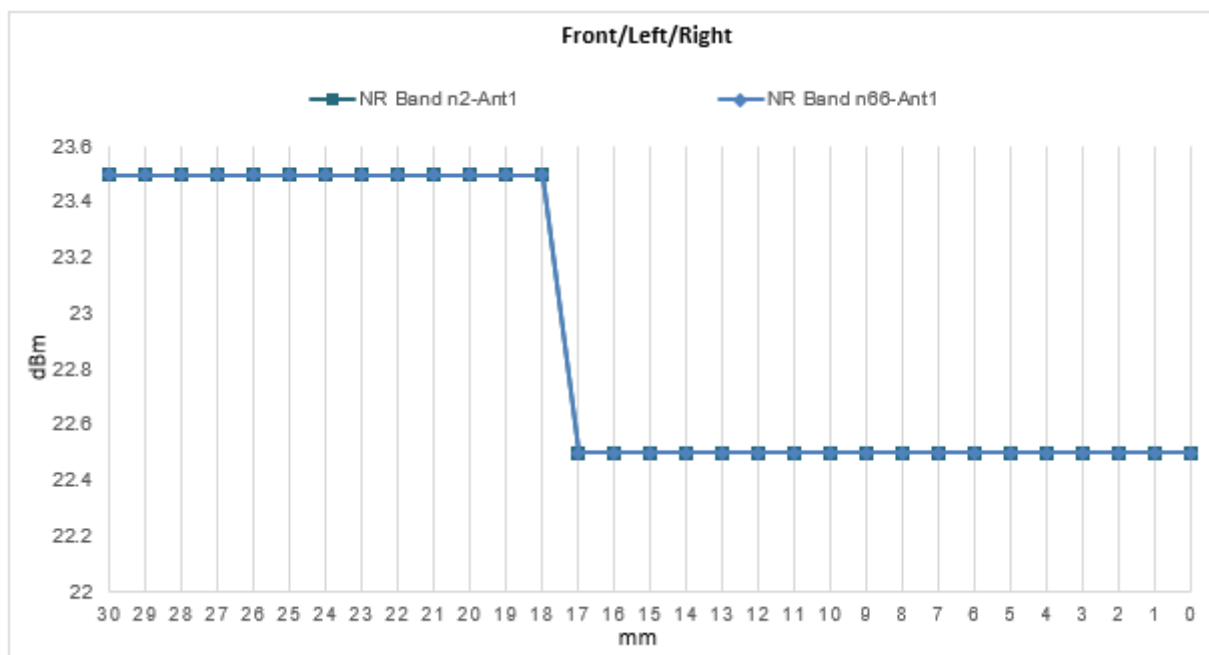


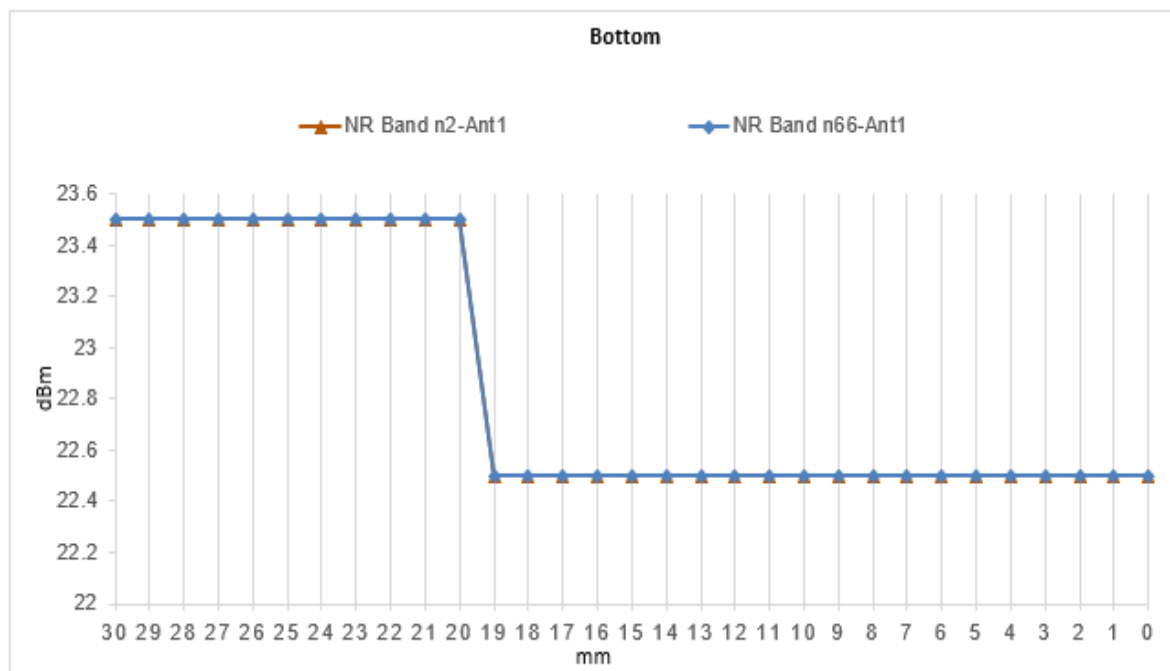
Proximity Sensor Triggering Distance(mm)	
Antenna	Ant1
Band	NR Band n2/66
Position	Front/Back/Left/Right/Top/Bottom
Minimum	Front/Left/Right:17, Back/Top:18, Bottom:19
Required SAR Test	Front/Left/Right:16, Back/Top:17, Bottom:18

Note:

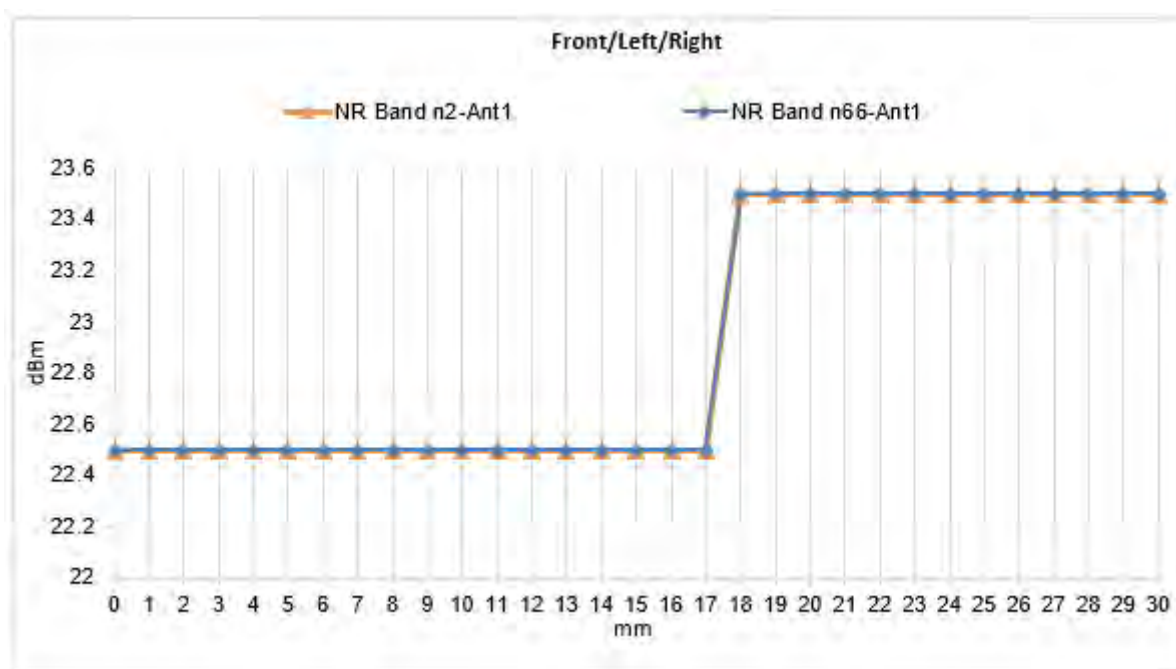
SAR tests with proximity sensor power reduction are only required for the sides of frequency bands in the table above. For the other sides or other frequency bands of the device, SAR is still tested at the maximum power level with sensor off.

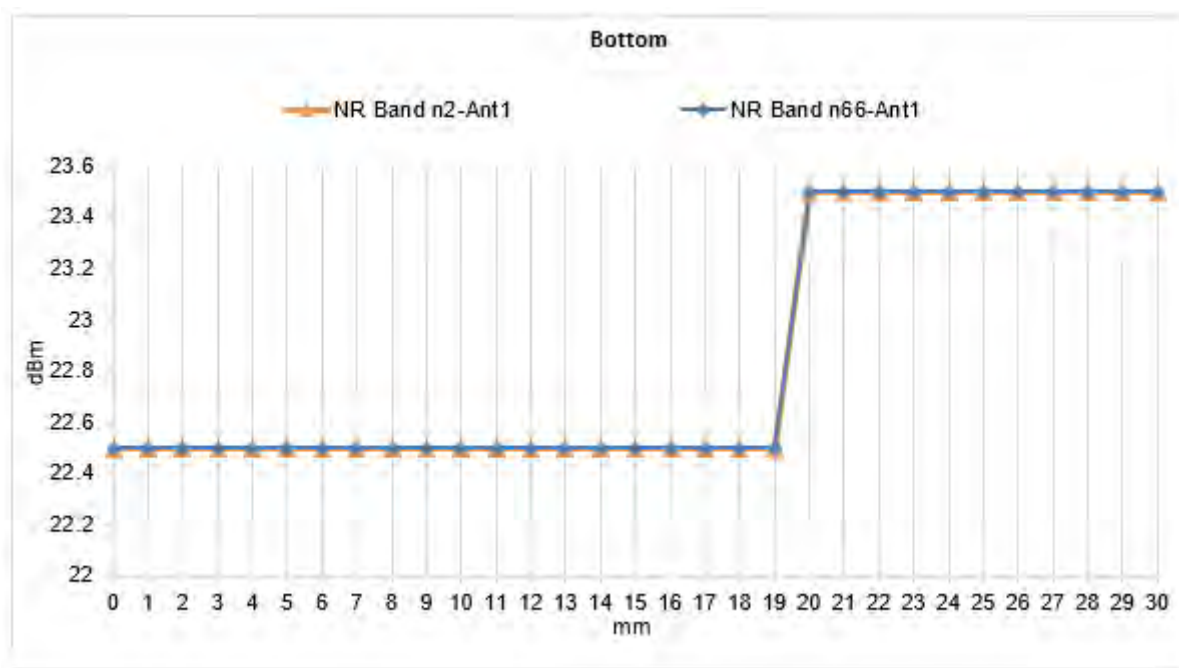
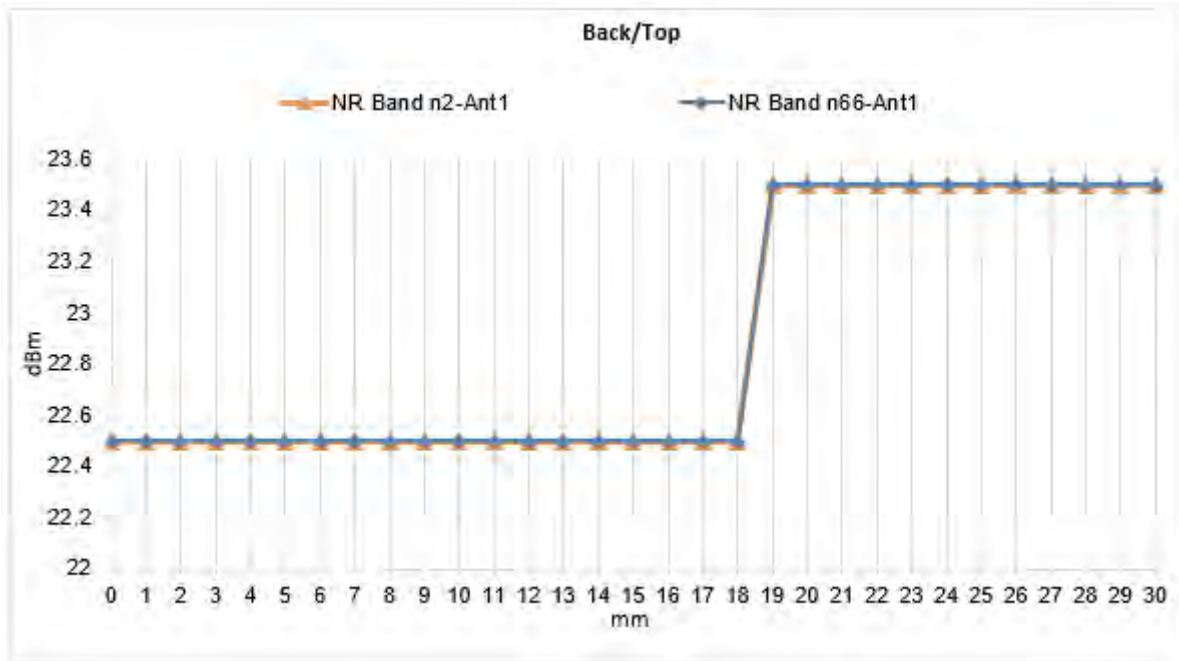
● DUT Moving Toward(Trigger)the Phantom





- DUT Moving Away(Release) from the Phantom





Proximity sensor coverage

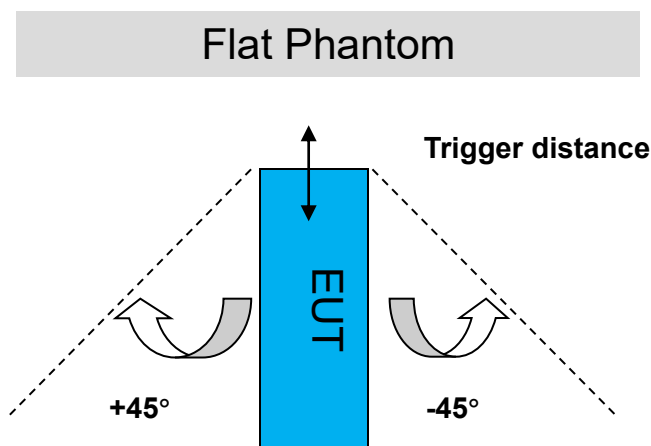
If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. For p-sensor coverage testing, the device is moved and “along the direction of maximum antenna and sensor offset”.

The proximity sensor and main antenna use same metallic electrode, so there is no spatial offset.

Device tilt angle influences to proximity sensor triggering

The influence of device tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom.

Rotating the tablet around the edge next to the phantom in $\leq 10^\circ$ increments until the tablet is $\pm 45^\circ$ from the vertical position at 0° , and the maximum output power remains in the reduced mode.



Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering for Top Side													
Band (MHz)	Minimum trigger distance Per KDB616217§6.2	Minimum trigger distance at which power reduction was maintained over $\pm 45^\circ$	Power Reduction Status										
			-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
NR Band n2	Left/Right:17, Top:18, Bottom:19	Left/Right:17, Top:18, Bottom:19	on	on	on	on	on	on	on	on	on	on	on
NR Band n66	Left/Right:17, Top:18, Bottom:19	Left/Right:17, Top:18, Bottom:19	on	on	on	on	on	on	on	on	on	on	on

6.9 System Checking

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyser. For the measurement of the following parameters the SPEAG DAKS-3.5 dielectric parameter probe is used, representing the open-ended coaxial probe measurement procedure.

Freq. (MHz)	Liquid parameters	measured	Target	Delta (%)	Tolerance (%)	Verdict	Measured Date
750	ϵ_r	41.256	41.9	-1.54	± 5	Pass	2021.08.19
	σ [S/m]	0.888	0.89	-0.22	± 5	Pass	
750	ϵ_r	43.015	41.9	2.66	± 5	Pass	2021.08.20
	σ [S/m]	0.879	0.89	-1.24	± 5	Pass	
835	ϵ_r	40.545	41.5	-2.30	± 5	Pass	2021.08.18
	σ [S/m]	0.904	0.9	0.44	± 5	Pass	
835	ϵ_r	41.546	41.5	0.11	± 5	Pass	2021.08.21
	σ [S/m]	0.904	0.9	0.44	± 5	Pass	
1800	ϵ_r	38.681	40	-3.30	± 5	Pass	2021.08.22
	σ [S/m]	1.391	1.4	-0.64	± 5	Pass	
1800	ϵ_r	40.070	40	0.18	± 5	Pass	2021.08.23
	σ [S/m]	1.375	1.4	-1.79	± 5	Pass	
1800	ϵ_r	40.667	40	1.67	± 5	Pass	2021.08.24
	σ [S/m]	1.311	1.4	-6.36	± 5	Pass	
1800	ϵ_r	40.597	40	1.49	± 5	Pass	2021.08.25
	σ [S/m]	1.313	1.4	-6.21	± 5	Pass	
2000	ϵ_r	40.032	40	0.08	± 5	Pass	2021.08.24
	σ [S/m]	1.455	1.4	3.93	± 5	Pass	
2000	ϵ_r	39.899	40	-0.25	± 5	Pass	2021.08.25
	σ [S/m]	1.456	1.4	4.00	± 5	Pass	
2450	ϵ_r	38.692	39.2	-1.30	± 5	Pass	2021/08/21
	σ [S/m]	1.824	1.8	1.33	± 5	Pass	
2600	ϵ_r	37.908	39	-2.80	± 5	Pass	2021/08/18
	σ [S/m]	1.999	1.96	1.99	± 5	Pass	
2600	ϵ_r	37.756	39	-3.19	± 5	Pass	2021/08/19
	σ [S/m]	2.022	1.96	3.16	± 5	Pass	
2600	ϵ_r	37.884	39	-2.86	± 5	Pass	2021/08/20
	σ [S/m]	1.961	1.96	0.05	± 5	Pass	
3500	ϵ_r	38.514	37.9	1.62	± 5	Pass	2021/08/24
	σ [S/m]	3.002	2.91	3.16	± 5	Pass	
3700	ϵ_r	37.885	37.7	0.49	± 5	Pass	2021/08/24
	σ [S/m]	3.235	3.12	3.69	± 5	Pass	
5200	ϵ_r	36.150	36	0.42	± 5	Pass	2021/08/22
	σ [S/m]	4.683	4.66	0.49	± 5	Pass	
5300	ϵ_r	35.423	35.9	-1.33	± 5	Pass	2021/08/22
	σ [S/m]	4.780	4.76	0.42	± 5	Pass	
5600	ϵ_r	35.059	35.5	-1.24	± 5	Pass	2021/08/22
	σ [S/m]	5.157	5.07	1.72	± 5	Pass	
5800	ϵ_r	34.496	35.3	-2.28	± 5	Pass	2021/08/23
	σ [S/m]	5.380	5.27	2.09	± 5	Pass	

Note: For DASY system, the conservative tolerance 5% could expand to 10% when the frequency under 3GHz

A system check measurement was made following once the determination of the dielectric parameters of the simulant, using the dipole validation kit. The system checking results (dielectric parameters and SAR values) are given in the table below.

Freq.(MHz)	SAR measured		Target	Delta (%)	Tolerance (%)	Verdict	Measured Date
	(normalized to 1W)		(Ref. Value)				
750	1g	8.64	8.4	2.86	±10	Pass	2021.08.19
	10g	5.68	5.7	-0.35	±10	Pass	
750	1g	8.60	8.4	2.38	±10	Pass	2021.08.20
	10g	5.60	5.7	-1.75	±10	Pass	
835	1g	10.00	9.38	6.61	±10	Pass	2021.08.18
	10g	6.52	6.25	4.32	±10	Pass	
835	1g	10.08	9.38	7.46	±10	Pass	2021.08.21
	10g	6.56	6.25	4.96	±10	Pass	
1800	1g	39.32	38.9	1.08	±10	Pass	2021.08.22
	10g	20.92	20.3	3.05	±10	Pass	
1800	1g	39.96	38.9	2.72	±10	Pass	2021.08.23
	10g	21.20	20.3	4.43	±10	Pass	
1800	1g	37.12	38.9	-4.58	±10	Pass	2021.08.24
	10g	19.72	20.3	-2.86	±10	Pass	
1800	1g	37.04	38.9	-4.78	±10	Pass	2021.08.25
	10g	19.68	20.3	-3.05	±10	Pass	
2000	1g	42.40	41	3.41	±10	Pass	2021.08.24
	10g	21.88	20.5	6.73	±10	Pass	
2000	1g	42.80	41	4.39	±10	Pass	2021.08.25
	10g	21.96	20.5	7.12	±10	Pass	
2450	1g	53.20	53	0.38	±10	Pass	2021/08/21
	10g	24.60	24.5	0.41	±10	Pass	
2600	1g	55.20	56.5	-2.30	±10	Pass	2021/08/18
	10g	24.64	25.4	-2.99	±10	Pass	
2600	1g	56.40	56.5	-0.18	±10	Pass	2021/08/19
	10g	25.00	25.4	-1.57	±10	Pass	
2600	1g	55.20	56.5	-2.30	±10	Pass	2021/08/20
	10g	24.76	25.4	-2.52	±10	Pass	
3500	1g	65.90	67.4	-2.23	±10	Pass	2021/08/24
	10g	24.80	25.3	-1.98	±10	Pass	
3700	1g	63.60	68.8	-7.56	±10	Pass	2021/08/24
	10g	23.20	24.9	-6.83	±10	Pass	
5200	1g	77.70	75.9	2.37	±10	Pass	2021/08/22
	10g	22.40	21.4	4.67	±10	Pass	
5300	1g	82.00	78	5.13	±10	Pass	2021/08/22
	10g	23.60	22	7.27	±10	Pass	
5600	1g	85.60	80	7.00	±10	Pass	2021/08/22
	10g	24.40	22.6	7.96	±10	Pass	
5800	1g	81.20	78.5	3.44	±10	Pass	2021/08/23
	10g	23.10	21.9	5.48	±10	Pass	

6.10 SAR TEST RESULT

In order to determine the largest value of the peak spatial-average SAR of a handset, all device positions, configurations, and operational modes should be tested for each frequency band according to Steps 1 to 3 below.

Step 1: The tests should be performed at the channel that is closest to the center of the transmit frequency band.

a) All device positions (cheek and tilt, for both left and right sides of the SAM phantom),
b) All configurations for each device position in a), e.g., antenna extended and retracted, and
c) All operational modes for each device position in item a) and configuration in item b) in each frequency band, e.g., analog and digital, If more than three frequencies need to be tested (i.e., $N_c > 3$), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing the highest peak spatial-average SAR determined in Step 1 for each frequency, perform all tests at all other test frequency channels, e.g., lowest and highest frequencies. In addition, for all other conditions (device position, configuration, and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies should be tested as well.

Step 3: Examine all data to determine the largest value of the peak.

Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.

Scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.

Duty Factor = 1 / Duty Cycle(%)

For cellular network:

Reported SAR (W/kg) = Measured SAR (W/kg) * Scaling Factor

For WLAN

Reported SAR (W/kg) = Measured SAR (W/kg) * Scaling Factor * Duty factor

2. Per KDB 447498 D01v06, for each exposure position, if the highest output channel reported SAR ≤ 0.8 W/kg, other channels SAR testing are not necessary.

3. The distance between the EUT and the phantom bottom is 10mm.

4. The EN-DC is reduced by XdB therefore power (the power reduced can be refer to Appendix E) and SAR was estimated based on standalone results.

5. The Simultaneous is reduced by XdB therefore power (the power reduced can be refer to Appendix E) and SAR was estimated based on standalone results.

Mode		Duty cycle	Duty factor	Note
Licensed Frequency	GSM 850	25%	NA	According to the theory, we configured duty cycle with relevant value on the communication tester, so correction factor do not need such as “duty factor”
	GSM 1900	37.5%		
	WCDMA Band	100%		
	FDD-LTE Band	100%		
	TDD-LTE Band	63.3%		
Unlicensed Frequency	BT DH5	76.9%	1.3	SRTC perform SAR test with non-signaling mode, and duty factor shall be considered because of the uncertainty of data traffic.
	WIFI 2.4GHz 802.11b	99.41%	1.006	
	WIFI 5GHz 802.11a	98.18%	1.018	