

## **Appendix E. Maximum Target Conducted Power**

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.

<b>WCDMA Tune-up Full Power</b>		
<b>Mode</b>	<b>RMC 12.2K</b>	<b>HSDPA / DC-HSDPA / HSUPA</b>
	<b>Maximum Target Power</b>	<b>Maximum Target Power</b>
WCDMA Band II	22.5	22.5
WCDMA Band V	23.0	23.0

LTE Tune-up Full Power				
Mode	QPSK	16QAM	64QAM	256QAM
	Maximum Target Power	Maximum Target Power	Maximum Target Power	Maximum Target Power
LTE 2	23.0	22.0		
LTE 4	23.0	22.0		
LTE 12	23.5	22.5		

WLAN Tune-up Power			
WLAN2.4GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11b	1	2412	20.0
	6	2437	20.0
	11	2462	17.5
802.11g	1	2412	14.5
	6	2437	19.5
	11	2462	12.5
802.11n HT20	1	2412	14.5
	6	2437	19.5
	11	2462	11.5

WLAN Tune-up Power			
Bluetooth			
Mode	Channel	Frequency	Ant 0 Max Tune up
BR / EDR	0	2402	12.5
	39	2441	12.5
	78	2480	12.5
LE	0	2402	3.5
	19	2440	3.5
	39	2480	3.5

WLAN Tune-up Power			
WLAN 5.2GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11a	36	5180	17.5
	40	5200	17.5
	44	5220	17.5
	48	5240	15.0
802.11n HT20	36	5180	16.5
	40	5200	17.5
	44	5220	17.0
	48	5240	15.5
802.11n HT40	38	5190	13.0
	46	5230	12.0

WLAN Tune-up Power			
WLAN 5.3GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11a	52	5260	15.5
	56	5280	15.0
	60	5300	15.5
	64	5320	15.5
802.11n HT20	52	5260	15.5
	56	5280	15.5
	60	5300	15.5
	64	5320	15.5
802.11n HT40	54	5270	15.5
	62	5310	12.5

WLAN Tune-up Power			
WLAN 5.6GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11a	100	5500	15.0
	116	5580	15.0
	120	5600	14.0
	124	5620	14.0
	132	5660	14.0
	140	5700	14.0
	144	5720	13.5
802.11n HT20	100	5500	14.5
	116	5580	14.5
	120	5600	14.0
	124	5620	14.0
	132	5660	14.0
	140	5700	14.0
	144	5720	14.0
802.11n HT40	102	5510	11.0
	110	5550	15.0
	118	5590	14.5
	126	5630	14.5
	134	5670	14.5
	142	5710	14.0



WLAN Tune-up Power			
WLAN 5.8GHz			
Mode	Channel	Frequency	SISO Ant 0 Max Tune up
802.11a	149	5745	17.0
	153	5765	16.5
	157	5785	16.5
	161	5805	16.0
	165	5825	16.0
802.11n HT20	149	5745	17.0
	153	5765	16.5
	157	5785	16.5
	161	5805	16.0
	165	5825	16.0
802.11n HT40	151	5755	16.0
	159	5795	17.0

## **Appendix F. Measured Conducted Power**

The measuring conducted power (Unit: dBm) are shown as below.

WWAN WCDMA Conducted Power (Full)						
Band	WCDMA II			WCDMA V		
TX Channel	9262	9400	9538	4132	4182	4233
Rx Channel	9662	9800	9938	4357	4407	4458
Frequency	1852.4	1880	1907.6	826.4	836.4	846.6
RMC 12.2K	22.01	22.19	22.05	22.98	22.95	22.89
HSDPA Subtest-1	21.72	21.90	21.76	22.44	22.41	22.35
HSDPA Subtest-2	21.67	21.85	21.71	22.42	22.39	22.33
HSDPA Subtest-3	21.23	21.41	21.27	21.95	21.92	21.86
HSDPA Subtest-4	21.21	21.39	21.25	21.94	21.91	21.85
DC-HSDPA Subtest-1	21.61	21.79	21.65	22.35	22.32	22.26
DC-HSDPA Subtest-2	21.56	21.74	21.60	22.33	22.30	22.24
DC-HSDPA Subtest-3	21.12	21.30	21.16	21.86	21.83	21.77
DC-HSDPA Subtest-4	21.10	21.28	21.14	21.85	21.82	21.76
HSUPA Subtest-1	21.17	21.35	21.21	21.78	21.75	21.69
HSUPA Subtest-2	19.67	19.85	19.71	20.48	20.45	20.39
HSUPA Subtest-3	20.56	20.74	20.60	21.35	21.32	21.26
HSUPA Subtest-4	19.28	19.46	19.32	20.76	20.73	20.67
HSUPA Subtest-5	21.63	21.81	21.67	22.44	22.41	22.35

WWAN LTE Conducted Power (Full)						
LTE Band 2						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		18700	18900	19100
		Frequency (MHz)		1860	1880	1900
20M	QPSK	1	0	22.31	22.42	22.43
		1	50	22.22	22.33	22.34
		1	99	22.00	22.11	22.12
		50	0	21.28	21.39	21.41
		50	25	21.06	21.17	21.18
		50	50	21.03	21.14	21.15
		100	0	21.10	21.21	21.22
	16QAM	1	0	21.40	21.51	21.52
		1	50	21.33	21.44	21.45
		1	99	21.28	21.39	21.40
		50	0	20.25	20.36	20.37
		50	25	20.23	20.34	20.35
		50	50	20.20	20.31	20.32
		100	0	20.16	20.27	20.28
BW	MCS Index	Channel		18675	18900	19125
		Frequency (MHz)		1857.5	1880	1902.5
15M	QPSK	1	0	22.28	22.39	22.40
		1	37	22.19	22.30	22.31
		1	74	21.97	22.08	22.09
		36	0	21.15	21.26	21.27
		36	19	21.03	21.14	21.15
		36	39	21.00	21.11	21.12
		75	0	21.07	21.18	21.19
	16QAM	1	0	21.37	21.48	21.49
		1	37	21.30	21.41	21.42
		1	74	21.25	21.36	21.37
		36	0	20.22	20.33	20.34
		36	19	20.20	20.31	20.32
		36	39	20.17	20.28	20.29
		75	0	20.13	20.24	20.25

WWAN LTE Conducted Power (Full)						
LTE Band 2						
BW	MCS Index	Channel		18650	18900	19150
		Frequency (MHz)		1855	1880	1905
10M	QPSK	1	0	22.23	22.34	22.35
		1	24	22.14	22.25	22.26
		1	49	21.92	22.03	22.04
		25	0	21.10	21.21	21.22
		25	12	20.98	21.09	21.10
		25	25	20.95	21.06	21.07
		50	0	21.02	21.13	21.14
	16QAM	1	0	21.32	21.43	21.44
		1	24	21.25	21.36	21.37
		1	49	21.20	21.31	21.32
		25	0	20.17	20.28	20.29
		25	12	20.15	20.26	20.27
		25	25	20.12	20.23	20.24
		50	0	20.08	20.19	20.20
BW	MCS Index	Channel		18625	18900	19175
		Frequency (MHz)		1852.5	1880	1907.5
5M	QPSK	1	0	22.19	22.30	22.31
		1	12	22.10	22.21	22.22
		1	24	21.88	21.99	22.00
		12	0	21.06	21.17	21.18
		12	6	20.94	21.05	21.06
		12	13	20.91	21.02	21.03
		25	0	20.98	21.09	21.10
	16QAM	1	0	21.28	21.39	21.40
		1	12	21.21	21.32	21.33
		1	24	21.16	21.27	21.28
		12	0	20.13	20.24	20.25
		12	6	20.11	20.22	20.23
		12	13	20.08	20.19	20.20
		25	0	20.04	20.15	20.16

WWAN LTE Conducted Power (Full)						
LTE Band 2						
BW	MCS Index	Channel		18615	18900	19185
		Frequency (MHz)		1851.5	1880	1908.5
3M	QPSK	1	0	22.15	22.26	22.27
		1	7	22.06	22.17	22.18
		1	14	21.84	21.95	21.96
		8	0	21.02	21.13	21.14
		8	3	20.90	21.01	21.02
		8	7	20.87	20.98	20.99
		15	0	20.94	21.05	21.06
	16QAM	1	0	21.24	21.35	21.36
		1	7	21.17	21.28	21.29
		1	14	21.12	21.23	21.24
		8	0	20.09	20.20	20.21
		8	3	20.07	20.18	20.19
		8	7	20.04	20.15	20.16
		15	0	20.00	20.11	20.12
BW	MCS Index	Channel		18607	18900	19193
		Frequency (MHz)		1850.7	1880	1909.3
1.4M	QPSK	1	0	22.10	22.21	22.22
		1	2	22.01	22.12	22.13
		1	5	21.79	21.90	21.91
		3	0	22.02	22.13	22.14
		3	1	21.90	22.01	22.02
		3	3	21.87	21.98	21.99
		6	0	20.89	21.00	21.01
	16QAM	1	0	21.19	21.30	21.31
		1	2	21.12	21.23	21.24
		1	5	21.07	21.18	21.19
		3	0	21.18	21.29	21.30
		3	1	21.16	21.27	21.28
		3	3	21.13	21.24	21.25
		6	0	19.95	20.06	20.07

WWAN LTE Conducted Power (Full)						
LTE Band 4						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		20050	20175	20300
		Frequency (MHz)		1720	1732.5	1745
20M	QPSK	1	0	22.52	22.81	22.42
		1	50	22.13	22.42	22.03
		1	99	21.83	22.12	21.73
		50	0	21.13	21.42	21.03
		50	25	21.05	21.34	20.95
		50	50	20.92	21.21	20.82
		100	0	21.03	21.32	20.93
	16QAM	1	0	21.38	21.67	21.28
		1	50	21.26	21.55	21.16
		1	99	20.82	21.11	20.72
		50	0	20.32	20.61	20.22
		50	25	20.13	20.42	20.03
		50	50	19.90	20.19	19.80
		100	0	20.08	20.37	19.98
BW	MCS Index	Channel		20025	20175	20325
		Frequency (MHz)		1717.5	1732.5	1747.5
15M	QPSK	1	0	22.46	22.75	22.36
		1	37	22.07	22.36	21.97
		1	74	21.77	22.06	21.67
		36	0	21.07	21.36	20.97
		36	19	20.99	21.28	20.89
		36	39	20.86	21.15	20.76
		75	0	20.97	21.26	20.87
	16QAM	1	0	21.32	21.61	21.22
		1	37	21.20	21.49	21.10
		1	74	20.76	21.05	20.66
		36	0	20.26	20.55	20.16
		36	19	20.07	20.36	19.97
		36	39	19.84	20.13	19.74
		75	0	20.02	20.31	19.92

WWAN LTE Conducted Power (Full)						
LTE Band 4						
BW	MCS Index	Channel		20000	20175	20350
		Frequency (MHz)		1715	1732.5	1750
10M	QPSK	1	0	22.43	22.72	22.33
		1	24	22.04	22.33	21.94
		1	49	21.74	22.03	21.64
		25	0	21.04	21.33	20.94
		25	12	20.96	21.25	20.86
		25	25	20.83	21.12	20.73
		50	0	20.94	21.23	20.84
	16QAM	1	0	21.29	21.58	21.19
		1	24	21.17	21.46	21.07
		1	49	20.73	21.02	20.63
		25	0	20.23	20.52	20.13
		25	12	20.04	20.33	19.94
		25	25	19.81	20.10	19.71
		50	0	19.99	20.28	19.89
BW	MCS Index	Channel		19975	20175	20375
		Frequency (MHz)		1712.5	1732.5	1752.5
5M	QPSK	1	0	22.39	22.68	22.29
		1	12	22.00	22.29	21.90
		1	24	21.70	21.99	21.60
		12	0	21.00	21.29	20.90
		12	6	20.92	21.21	20.82
		12	13	20.79	21.08	20.69
		25	0	20.90	21.19	20.80
	16QAM	1	0	21.25	21.54	21.15
		1	12	21.13	21.42	21.03
		1	24	20.69	20.98	20.59
		12	0	20.19	20.48	20.09
		12	6	20.00	20.29	19.90
		12	13	19.77	20.06	19.67
		25	0	19.95	20.24	19.85



WWAN LTE Conducted Power (Full)						
LTE Band 4						
BW	MCS Index	Channel		19965	20175	20385
		Frequency (MHz)		1711.5	1732.5	1753.5
3M	QPSK	1	0	22.34	22.63	22.24
		1	7	21.95	22.24	21.85
		1	14	21.65	21.94	21.55
		8	0	20.95	21.24	20.85
		8	3	20.87	21.16	20.77
		8	7	20.74	21.03	20.64
		15	0	20.85	21.14	20.75
	16QAM	1	0	21.20	21.49	21.10
		1	7	21.08	21.37	20.98
		1	14	20.64	20.93	20.54
		8	0	20.14	20.43	20.04
		8	3	19.95	20.24	19.85
		8	7	19.72	20.01	19.62
		15	0	19.90	20.19	19.80
BW	MCS Index	Channel		19957	20175	20393
		Frequency (MHz)		1710.7	1732.5	1754.3
1.4M	QPSK	1	0	22.31	22.60	22.21
		1	2	21.92	22.21	21.82
		1	5	21.62	21.91	21.52
		3	0	21.25	21.54	21.15
		3	1	21.17	21.46	21.07
		3	3	21.04	21.33	21.14
		6	0	20.82	21.11	20.72
	16QAM	1	0	21.17	21.46	21.07
		1	2	21.05	21.34	20.95
		1	5	20.61	20.90	20.51
		3	0	20.86	21.15	20.76
		3	1	20.67	20.96	20.57
		3	3	20.44	20.73	20.34
		6	0	19.87	20.16	19.77

WWAN LTE Conducted Power (Full)						
LTE Band 12						
BW	MCS Index	RB Size	RB Offset	Low	Mid	High
		Channel		23060	23095	23130
		Frequency (MHz)		704	707.5	711
10M	QPSK	1	0	23.13	23.17	23.46
		1	24	23.11	23.15	23.44
		1	49	23.04	23.08	23.37
		25	0	22.09	22.13	22.42
		25	12	21.99	22.03	22.32
		25	25	21.97	22.01	22.30
		50	0	22.00	22.04	22.33
	16QAM	1	0	22.13	22.17	22.46
		1	24	22.12	22.16	22.45
		1	49	22.07	22.11	22.40
		25	0	21.14	21.18	21.47
		25	12	21.05	21.09	21.38
		25	25	20.97	21.01	21.30
		50	0	20.85	20.89	21.18
BW	MCS Index	Channel		23035	23095	23155
		Frequency (MHz)		701.5	707.5	713.5
5M	QPSK	1	0	23.08	23.12	23.41
		1	12	23.06	23.10	23.39
		1	24	22.99	23.03	23.32
		12	0	22.04	22.08	22.37
		12	6	21.94	21.98	22.27
		12	13	21.92	21.96	22.25
		25	0	21.95	21.99	22.28
	16QAM	1	0	22.08	22.12	22.41
		1	12	22.07	22.11	22.40
		1	24	22.02	22.06	22.35
		12	0	21.09	21.13	21.42
		12	6	21.00	21.04	21.33
		12	13	20.92	20.96	21.25
		25	0	20.80	20.84	21.13

WWAN LTE Conducted Power (Full)						
LTE Band 12						
BW	MCS Index	Channel		23025	23095	23165
		Frequency (MHz)		700.5	707.5	714.5
3M	QPSK	1	0	23.05	23.09	23.38
		1	7	23.03	23.07	23.36
		1	14	22.96	23.00	23.29
		8	0	22.01	22.05	22.34
		8	3	21.91	21.95	22.24
		8	7	21.89	21.93	22.22
		15	0	21.92	21.96	22.25
	16QAM	1	0	22.05	22.09	22.38
		1	7	22.04	22.08	22.37
		1	14	21.99	22.03	22.32
		8	0	21.06	21.10	21.39
		8	3	20.97	21.01	21.30
		8	7	20.89	20.93	21.22
		15	0	20.77	20.81	21.10
BW	MCS Index	Channel		23017	23095	23173
		Frequency (MHz)		699.7	707.5	715.3
1.4M	QPSK	1	0	23.01	23.05	23.34
		1	2	22.99	23.03	23.32
		1	5	22.92	22.96	23.25
		3	0	22.86	22.90	23.19
		3	1	22.76	22.80	23.09
		3	3	22.74	22.78	23.07
		6	0	21.88	21.92	22.21
	16QAM	1	0	22.01	22.05	22.34
		1	2	22.00	22.04	22.33
		1	5	21.95	21.99	22.28
		3	0	21.88	21.92	22.21
		3	1	21.79	21.83	22.12
		3	3	21.71	21.75	22.04
		6	0	20.73	20.77	21.06

WLAN Conducted Power			
WLAN2.4GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11b	1	2412	19.16
	6	2437	19.94
	11	2462	17.25

Bluetooth Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
BR / EDR	0	2402	12.22
	39	2441	11.75
	78	2480	12.26

WLAN 5.2GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11a	36	5180	16.93
	40	5200	17.27
	44	5220	16.86
	48	5240	14.63

WLAN 5.6GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11n HT40	102	5510	10.97
	110	5550	14.52
	118	5590	14.03
	126	5630	14.26
	134	5670	14.12
	142	5710	13.53

WLAN 5.8GHz Ant 0			
Mode	Channel	Frequency	SISO Ant 0 Avg. Power
802.11n HT40	151	5755	15.82
	159	5795	16.52

## **Appendix G. SAR Summation Analysis.**

SAR Summation Analysis are shown as follows.

Simultaneous Transmission SAR Evaluation				
Band	Position	A	B	A+B
		Max WWAN	BT Ant 0	Summimg result
		10g SAR W/kg	10g SAR W/kg	10g SAR W/kg
WCDMA II	Front Face	0.08	0.00	0.08
	Rear Face	2.43	0.05	2.48
	Left Side	0.19	0.00	0.19
	Right Side	0.25	0.22	0.47
	Top Side	0.93	0.05	0.98
	Bottom Side	0.00	0.00	0.00
WCDMA V	Front Face	0.13	0.00	0.13
	Rear Face	0.52	0.05	0.57
	Left Side	0.17	0.00	0.17
	Right Side	0.27	0.22	0.49
	Top Side	0.15	0.05	0.20
	Bottom Side	0.00	0.00	0.00
LTE 2	Front Face	0.10	0.00	0.10
	Rear Face	2.78	0.05	2.83
	Left Side	0.23	0.00	0.23
	Right Side	0.28	0.22	0.50
	Top Side	1.05	0.05	1.10
	Bottom Side	0.00	0.00	0.00
LTE 4	Front Face	0.04	0.00	0.04
	Rear Face	2.96	0.05	3.01
	Left Side	0.20	0.00	0.20
	Right Side	0.14	0.22	0.36
	Top Side	0.77	0.05	0.82
	Bottom Side	0.00	0.00	0.00
LTE 12	Front Face	0.06	0.00	0.06
	Rear Face	0.24	0.05	0.24
	Left Side	0.06	0.00	0.06
	Right Side	0.29	0.22	0.29
	Top Side	0.05	0.05	0.05
	Bottom Side	0.00	0.00	0.00