



10. Conducted Power Measurement

10.1 Test Result

WCDMA

Band	WCDMA Band V			WCDMA Band IV			WCDMA Band II		
Channel	4132	4183	4233	1312	1413	1513	9262	9400	9538
Frequency (MHz)	826.4	836.6	846.6	1712.6	1740	1752.4	1852.4	1880.0	1907.6
AMR 12.2Kbps	23.17	23.26	23.43	23.41	23.41	23.22	23.47	22.87	22.86
RMC 12.2Kbps	23.27	23.32	23.51	23.45	23.45	23.24	23.52	22.98	23.01
HSDPA Subtest-1	22.47	22.32	22.40	22.38	22.39	22.22	22.09	22.08	22.11
HSDPA Subtest-2	22.04	22.16	22.46	22.25	22.67	22.34	22.04	22.01	22.19
HSDPA Subtest-3	21.37	21.32	21.25	21.25	21.40	21.37	22.03	21.11	20.98
HSDPA Subtest-4	20.78	20.66	20.73	20.88	21.11	21.21	22.15	21.00	20.53
HSUPA Subtest-1	21.24	21.20	21.40	21.59	22.19	21.33	21.25	21.10	21.38
HSUPA Subtest-2	21.28	21.68	21.18	21.42	21.80	21.34	21.20	21.12	21.18
HSUPA Subtest-3	21.26	21.47	21.79	21.64	21.24	21.31	21.29	21.09	21.05
HSUPA Subtest-4	21.21	21.13	21.36	21.65	21.47	21.14	21.21	21.08	21.24
HSUPA Subtest-5	21.66	21.49	21.78	21.42	21.37	21.43	21.20	21.11	21.19

According to 3GPP 25.101 sub-clause 6.2.2 , the maximum output power is allowed to be reduced by following the table.

Table 6.1A: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	$0 \leq CM \leq 3.5$	MAX(CM-1,0)
Note: CM=1 for $\beta_c/\beta_d=12/15$, $\beta_{hs}/\beta_c=24/15$.For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.



WLAN (2.4Gband)

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)		
			Antenna A	Antenna B	Antenna A+B
802.11b	1	2412	19.41	20.02	N/A
	7	2442	21.06	21.15	N/A
	11	2462	19.99	20.82	N/A
	12	2467	17.74	17.92	N/A
	13	2472	14.93	14.42	N/A
802.11g	1	2412	16.56	17.10	N/A
	7	2442	20.76	21.04	N/A
	11	2462	16.81	16.73	N/A
	12	2467	13.72	13.62	N/A
	13	2472	-5.65	-5.66	N/A
802.11n20(HT0)	1	2412	15.96	16.70	N/A
	7	2442	20.67	21.10	N/A
	11	2462	16.12	16.31	N/A
	12	2467	13.48	13.56	N/A
	13	2472	-5.79	-5.86	N/A
802.11n20(HT8)	1	2412	14.85	14.15	17.53
	7	2442	17.66	17.46	20.58
	11	2462	14.79	14.34	17.59
	12	2467	12.35	11.86	15.13
	13	2472	-8.53	-8.52	-5.51
802.11n40(HT0)	3	2422	13.78	13.37	N/A
	7	2442	15.82	15.88	N/A
	9	2452	14.52	14.37	N/A
	10	2457	11.11	11.01	N/A
	11	2462	3.43	2.92	N/A
802.11n40(HT8)	3	2422	11.80	11.61	14.72
	7	2442	14.48	14.41	17.46
	9	2452	13.69	12.79	16.28
	10	2457	10.63	10.30	13.48
	11	2462	1.81	2.70	5.29



WLAN (5.2Gband)

Mode	Rate	Channel	Freq. (MHz)	Antenna	Average Power (dBm)
802.11a	6Mbps	36	5180	SISO CHAIN A	17.42
				SISO CHAIN B	17.72
		40	5200	SISO CHAIN A	20.62
				SISO CHAIN B	20.54
		48	5240	SISO CHAIN A	21.06
				SISO CHAIN B	21.23
802.11n20	HT0	36	5180	SISO CHAIN A	17.13
				SISO CHAIN B	17.40
		40	5200	SISO CHAIN A	19.95
				SISO CHAIN B	20.47
		48	5240	SISO CHAIN A	21.18
				SISO CHAIN B	21.05
	HT8	36	5180	MIMO CHAIN A	17.15
				MIMO CHAIN B	17.48
				Combined A+B	20.33
		40	5200	MIMO CHAIN A	19.24
				MIMO CHAIN B	19.05
				Combined A+B	22.15
		48	5240	MIMO CHAIN A	19.87
				MIMO CHAIN B	19.74
				Combined A+B	22.81



Mode	Rate	Channel	Freq. (MHz)	Antenna	Average Power (dBm)
802.11n40	HT0	38	5190	SISO CHAIN A	17.89
				SISO CHAIN B	17.74
		46	5230	SISO CHAIN A	19.26
				SISO CHAIN B	18.65
	HT8	38	5190	MIMO CHAIN A	14.69
				MIMO CHAIN B	14.73
				Combined A+B	17.72
		46	5230	MIMO CHAIN A	18.43
				MIMO CHAIN B	18.10
				Combined A+B	21.28
802.11ac80	VHT0	42ac80	5210	SISO CHAIN A	17.88
				SISO CHAIN B	17.89
				MIMO CHAIN A	15.00
				MIMO CHAIN B	13.86
				Combined A+B	17.48
802.11ac160	VHT0	50ac160	5250	SISO CHAIN A	12.85
				SISO CHAIN B	13.28
				MIMO CHAIN A	10.96
				MIMO CHAIN B	10.02
				Combined A+B	13.52

BLE

Mode	Channel Number	Frequency (MHz)	Average Power (dBm)
GFSK(1Mbps)	0	2402	8.41
	19	2440	8.89
	39	2480	9.95



LTE Conducted Power

General Note:

1. Anritsu CMW500 base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05, 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.
4. Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05, 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.
6. Per KDB 941225 D05, 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 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, 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 D05, smaller bandwidth SAR testing is not required.



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.24	23.09	22.97
1.4	1	2		23.45	23.28	23.02
1.4	1	5		23.55	23.09	22.94
1.4	6	0		22.28	22.00	21.74
1.4	1	0	16-QAM	22.43	22.19	21.93
1.4	1	2		22.56	22.17	22.06
1.4	1	5		22.27	22.19	21.92
1.4	6	0		21.31	21.07	20.90
3	1	0	QPSK	23.50	23.28	23.07
3	1	8		23.34	23.48	22.94
3	1	15		23.29	22.91	22.88
3	15	0		22.30	22.02	21.91
3	1	8	16-QAM	22.56	22.39	22.58
3	1	15		22.51	22.14	22.32
3	1	0		22.45	22.24	22.35
3	15	0		21.28	21.07	20.86
5	1	0	QPSK	23.59	23.41	23.27
5	1	13		23.55	23.24	23.23
5	1	24		23.52	23.20	23.02
5	25	0		22.26	22.03	22.01
5	1	0	16-QAM	23.02	23.39	22.25
5	1	13		22.81	23.22	22.09
5	1	24		22.75	23.21	22.12
5	25	0		21.26	22.01	21.14
10	1	0	QPSK	23.68	23.48	23.68
10	1	25		23.30	23.15	23.30
10	1	49		23.32	23.27	23.32
10	50	0		22.38	22.19	22.38
10	1	0	16-QAM	22.84	22.42	22.84
10	1	25		22.70	22.09	22.70
10	1	49		22.76	22.16	22.76
10	50	0		21.38	21.7	21.38



LTE BAND 4

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.88	23.80	23.77
15	1	38		23.25	23.26	23.08
15	1	74		23.42	23.60	23.13
15	75	0		22.43	22.32	22.16
15	1	0	16-QAM	22.95	23.11	23.23
15	1	38		22.45	22.50	22.59
15	1	75		22.68	22.83	22.70
15	75	0		22.38	21.44	21.18
20	1	0	QPSK	23.40	23.97	23.71
20	1	50		23.39	23.27	23.13
20	1	99		23.64	23.61	23.26
20	100	0		22.56	22.48	22.32
20	1	0	16-QAM	23.31	23.19	23.37
20	1	50		22.61	22.42	22.64
20	1	99		22.93	22.76	22.85
20	100	0		21.46	21.50	21.34



LTE BAND 7

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.93	22.57	22.27
5	1	13		22.81	22.31	22.02
5	1	24		22.68	22.40	21.13
5	25	0		21.27	21.18	20.93
5	1	0	16-QAM	21.87	21.52	21.06
5	1	13		21.73	21.47	20.85
5	1	24		21.60	21.37	20.01
5	25	0		20.18	20.29	20.03
10	1	0	QPSK	22.72	22.93	22.55
10	1	25		22.57	22.77	22.33
10	1	49		22.33	22.72	21.19
10	50	0		21.34	21.28	21.17
10	1	0	16-QAM	22.23	21.33	22.03
10	1	25		22.09	21.44	21.84
10	1	49		21.93	21.14	20.56
10	50	0		20.41	20.25	20.36
15	1	0	QPSK	22.57	22.88	22.07
15	1	38		22.46	22.59	22.04
15	1	74		22.04	22.42	21.22
15	75	0		21.19	21.16	20.93
15	1	0	16-QAM	22.14	21.89	21.68
15	1	38		21.86	21.66	21.44
15	1	75		21.54	21.25	20.98
15	75	0		20.26	20.15	20.03
20	1	0	QPSK	22.67	22.22	21.80
20	1	50		22.40	22.51	21.00
20	1	99		21.97	21.73	21.28
20	100	0		21.15	21.24	20.89
20	1	0	16-QAM	21.54	22.02	21.62
20	1	50		21.46	21.43	21.73
20	1	99		20.91	21.06	21.10
20	100	0		20.16	20.22	19.90



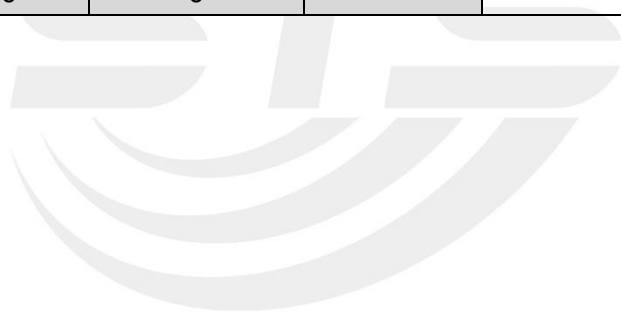
LTE BAND 12

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.84	23.78	23.71
1.4	1	2		23.76	23.67	23.54
1.4	1	5		23.99	23.77	23.74
1.4	6	0		22.28	22.31	22.26
1.4	1	0	16-QAM	22.56	23.05	22.06
1.4	1	2		22.71	23.08	22.06
1.4	1	5		22.50	22.87	21.93
1.4	6	0		21.29	21.17	21.36
3	1	0	QPSK	23.30	23.43	23.91
3	1	8		23.55	23.28	23.86
3	1	15		23.24	23.52	23.61
3	15	0		22.14	22.28	22.31
3	1	0	16-QAM	22.99	22.77	23.01
3	1	8		22.82	22.62	22.55
3	1	15		22.95	22.70	22.79
3	15	0		21.30	21.38	21.36
5	1	0	QPSK	23.43	23.80	23.61
5	1	13		23.30	23.90	23.52
5	1	24		23.50	23.65	23.59
5	25	0		22.12	22.36	22.20
5	1	0	16-QAM	22.26	22.94	22.62
5	1	13		22.40	22.66	22.55
5	1	24		22.51	22.79	22.62
5	25	0		21.30	21.37	21.34
10	1	0	QPSK	23.65	23.95	23.67
10	1	25		23.61	23.91	23.84
10	1	49		23.44	23.85	23.74
10	50	0		22.36	22.53	22.45
10	1	0	16-QAM	23.11	22.61	23.17
10	1	25		22.86	22.68	23.32
10	1	49		22.99	22.54	23.25
10	50	0		21.39	21.43	21.50



LTE BAND 13

LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.11	23.72	23.70
5	1	13		23.89	23.55	23.52
5	1	24		23.88	23.65	23.23
5	25	0		22.71	22.35	22.28
5	1	0	16-QAM	20.93	22.78	22.43
5	1	13		22.88	22.61	22.72
5	1	24		22.96	22.65	22.25
5	25	0		21.73	21.47	21.56
10	1	0	QPSK	-	22.30	-
10	1	25		-	23.93	-
10	1	49		-	23.47	-
10	50	0		-	22.73	-
10	1	0	16-QAM	-	21.91	-
10	1	25		-	23.56	-
10	1	49		-	23.07	-
10	50	0		-	21.73	-





LTE BAND 25

LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.79	23.66	23.63
1.4	1	2		23.59	23.60	23.54
1.4	1	5		23.66	23.59	23.60
1.4	6	0		22.26	22.06	22.20
1.4	1	0	16-QAM	22.71	22.47	22.59
1.4	1	2		22.74	22.57	23.09
1.4	1	5		22.59	22.45	22.63
1.4	6	0		21.37	21.08	21.00
3	1	0	QPSK	23.76	23.31	23.49
3	1	8		23.67	23.21	23.52
3	1	15		23.56	23.34	23.35
3	15	0		22.47	22.15	22.26
3	1	0	16-QAM	23.31	22.43	23.04
3	1	8		23.02	22.42	22.92
3	1	15		23.17	22.62	23.18
3	15	0		21.54	21.12	21.02
5	1	0	QPSK	23.78	23.75	23.58
5	1	13		23.51	22.36	23.36
5	1	24		23.39	22.23	23.55
5	25	0		22.32	21.42	22.24
5	1	0	16-QAM	22.55	22.68	22.68
5	1	13		22.36	22.45	22.44
5	1	24		22.23	22.49	22.43
5	25	0		21.42	21.19	21.02
10	1	0	QPSK	23.99	23.93	23.84
10	1	25		22.63	23.82	23.64
10	1	49		23.70	23.88	23.52
10	50	0		22.52	22.39	22.32
10	1	0	16-QAM	23.42	22.56	23.27
10	1	25		22.97	22.39	23.27
10	1	49		23.21	22.32	23.22
10	50	0		21.53	21.31	21.31



LTE BAND 25

LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.90	23.61	23.99
15	1	38		23.31	23.06	23.10
15	1	74		23.67	23.09	23.32
15	75	0		22.40	22.14	22.12
15	1	0	16-QAM	23.52	22.84	23.03
15	1	38		22.84	22.29	22.35
15	1	74		23.43	22.67	22.58
15	75	0		21.36	21.21	20.81
20	1	0	QPSK	23.85	23.94	23.85
20	1	50		23.55	23.30	23.05
20	1	99		23.81	23.31	23.29
20	100	0		22.52	22.06	22.24
20	1	0	16-QAM	23.33	23.12	23.56
20	1	50		22.54	22.27	22.46
20	1	99		22.66	23.01	23.03
20	100	0		21.46	21.14	21.02





LTE BAND 26

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.83	23.84	23.53
1.4	1	2		23.63	23.80	23.72
1.4	1	5		23.67	23.72	23.48
1.4	6	0		22.26	22.08	22.49
1.4	1	0	16-QAM	22.58	22.80	22.54
1.4	1	2		22.74	22.79	22.93
1.4	1	5		22.39	22.66	22.54
1.4	6	0		21.24	21.60	21.17
3	1	0	QPSK	23.45	23.49	23.87
3	1	8		23.57	23.33	23.96
3	1	15		23.34	23.29	22.98
3	15	0		22.22	22.46	22.52
3	1	0	16-QAM	23.26	23.12	22.93
3	1	8		22.60	23.05	22.72
3	1	15		22.81	22.93	22.29
3	15	0		21.08	21.42	21.70
5	1	0	QPSK	23.50	23.68	23.81
5	1	13		23.31	23.92	23.29
5	1	24		23.33	23.67	23.38
5	25	0		22.10	22.16	22.08
5	1	0	16-QAM	22.37	22.98	22.59
5	1	13		22.43	22.61	22.55
5	1	24		22.27	22.71	22.59
5	25	0		21.21	21.15	21.13
10	1	0	QPSK	23.70	23.98	23.96
10	1	25		23.51	23.94	23.83
10	1	49		23.43	23.82	23.66
10	50	0		22.41	22.66	22.57
10	1	0	16-QAM	23.06	22.66	23.02
10	1	25		22.97	22.72	23.15
10	1	49		23.05	22.60	22.47
10	50	0		22.02	21.57	21.92



LTE BAND 26

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.83	23.50	23.96
15	1	38		23.25	23.57	23.84
15	1	74		23.20	23.35	23.78
15	75	0		22.29	22.75	22.58
15	1	0	16-QAM	22.98	22.81	23.12
15	1	38		22.90	22.78	22.99
15	1	74		22.84	22.70	22.84
15	75	0		21.78	21.53	21.57





LTE BAND 30

LTE Band 30 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.57	22.88	22.70
5	1	13		22.60	22.95	22.52
5	1	24		20.47	22.58	22.50
5	25	0		21.28	21.30	21.22
5	1	0	16-QAM	21.54	21.65	21.68
5	1	13		21.43	21.67	21.58
5	1	24		21.44	21.61	21.47
5	25	0		20.45	20.27	19.92
10	1	0	QPSK	-	22.81	-
10	1	25		-	22.74	-
10	1	49		-	22.66	-
10	50	0		-	21.46	-
10	1	0	16-QAM	-	22.15	-
10	1	25		-	22.43	-
10	1	49		-	22.12	-
10	50	0		-	20.46	-



LTE BAND 41

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21.26	21.22	21.01
5	1	13		21.28	21.11	20.87
5	1	24		21.23	21.06	20.76
5	25	0		20.15	19.97	20.12
5	1	0	16-QAM	20.07	19.91	20.18
5	1	13		20.47	20.06	20.19
5	1	24		20.44	19.95	19.77
5	25	0		19.19	19.99	19.20
10	1	0	QPSK	21.21	21.09	21.05
10	1	25		21.32	21.00	20.81
10	1	49		21.20	20.77	20.53
10	50	0		20.17	19.95	20.12
10	1	0	16-QAM	20.56	20.07	20.24
10	1	25		21.16	20.18	20.18
10	1	49		20.78	19.73	19.70
10	50	0		19.18	18.94	19.20
15	1	0	QPSK	21.08	21.03	21.29
15	1	38		19.51	20.02	19.97
15	1	74		19.89	20.77	20.74
15	75	0		19.45	19.89	20.33
15	1	0	16-QAM	20.03	20.30	20.42
15	1	38		18.96	19.32	20.28
15	1	74		19.52	19.94	20.11
15	75	0		18.50	18.93	19.42
20	1	0	QPSK	21.09	21.20	21.37
20	1	50		19.94	21.30	21.53
20	1	99		19.46	20.79	21.29
20	100	0		18.72	19.87	20.39
20	1	0	16-QAM	19.62	20.17	20.65
20	1	50		19.63	20.12	20.21
20	1	99		19.21	19.87	20.07
20	100	0		18.69	18.89	19.28



10.2 Tune-up Power

Mode	WCDMA Band V(AVG)	WCDMA Band IV(AVG)	WCDMA Band II(AVG)
AMR	23±1dBm	23±1dBm	22.5±1dBm
RMC	23±1dBm	23±1dBm	22.6±1dBm
HSDPA Subtest-1	22±1dBm	22±1dBm	22±1dBm
HSDPA Subtest-2	22±1dBm	22±1dBm	22±1dBm
HSDPA Subtest-3	21±1dBm	21±1dBm	21.1±1dBm
HSDPA Subtest-4	20±1dBm	20.5±1dBm	21.5±1dBm
HSUPA Subtest-1	21±1dBm	21.3±1dBm	21±1dBm
HSUPA Subtest-2	21±1dBm	21±1dBm	21±1dBm
HSUPA Subtest-3	21±1dBm	21±1dBm	21±1dBm
HSUPA Subtest-4	21±1dBm	21±1dBm	21±1dBm
HSUPA Subtest-5	21±1dBm	21±1dBm	21±1dBm

Mode		WLAN(AVG)		
		ANT A	ANT B	ANT A+B
IEEE 802.11b		20.4±1dBm	21±1dBm	N/A
IEEE 802.11g	Low	16±1dBm	17±1dBm	N/A
	Middle	20±1dBm	21±1dBm	N/A
	High	16±1dBm	16±1dBm	N/A
IEEE 802.11n20(HT0)	Low	15±1dBm	16±1dBm	N/A
	Middle	20±1dBm	21±1dBm	N/A
	High	16±1dBm	16±1dBm	N/A
IEEE 802.11n20(HT8)	Low	14±1dBm	14±1dBm	17±1dBm
	Middle	17±1dBm	17±1dBm	20±1dBm
	High	14±1dBm	14±1dBm	17±1dBm
IEEE 802.11n40(HT0)	Low	13±1dBm	13±1dBm	N/A
	Middle	15±1dBm	15±1dBm	N/A
	High	14±1dBm	14±1dBm	N/A
IEEE 802.11n40(HT8)	Low	11±1dBm	11±1dBm	14±1dBm
	Middle	14±1dBm	14±1dBm	17±1dBm
	High	13±1dBm	12±1dBm	16±1dBm



Mode	Rate	Channel	Freq. (MHz)	Antenna	Average Power (dBm)	
802.11a	6Mbps	36	5180	SISO CHAIN A	17±1dBm	
				SISO CHAIN B	17±1dBm	
		40	5200	SISO CHAIN A	20±1dBm	
				SISO CHAIN B	20±1dBm	
		48	5240	SISO CHAIN A	21±1dBm	
				SISO CHAIN B	21±1dBm	
802.11n20	HT0	36	5180	SISO CHAIN A	17±1dBm	
				SISO CHAIN B	17±1dBm	
		40	5200	SISO CHAIN A	19±1dBm	
				SISO CHAIN B	20±1dBm	
		48	5240	SISO CHAIN A	21±1dBm	
				SISO CHAIN B	21±1dBm	
	HT8	36	5180	MIMO CHAIN A	17±1dBm	
				MIMO CHAIN B	17±1dBm	
				Combined A+B	20±1dBm	
		40	5200	MIMO CHAIN A	19±1dBm	
				MIMO CHAIN B	19±1dBm	
				Combined A+B	22±1dBm	
	48	5240	MIMO CHAIN A	19±1dBm		
			MIMO CHAIN B	19±1dBm		
			Combined A+B	22±1dBm		
	802.11n40	HT0	38	5190	SISO CHAIN A	17±1dBm
					SISO CHAIN B	17±1dBm
			46	5230	SISO CHAIN A	19±1dBm
SISO CHAIN B					18±1dBm	
HT8		38	5190	MIMO CHAIN A	14±1dBm	
				MIMO CHAIN B	14±1dBm	
				Combined A+B	17±1dBm	
		46	5230	MIMO CHAIN A	18±1dBm	
				MIMO CHAIN B	18±1dBm	
				Combined A+B	21±1dBm	



802.11ac80	VHT0	42ac80	5210	SISO CHAIN A	17±1dBm
				SISO CHAIN B	17±1dBm
				MIMO CHAIN A	15±1dBm
				MIMO CHAIN B	13±1dBm
				Combined A+B	17±1dBm
802.11ac160	VHT0	50ac160	5250	SISO CHAIN A	12±1dBm
				SISO CHAIN B	13±1dBm
				MIMO CHAIN A	10±1dBm
				MIMO CHAIN B	10±1dBm
				Combined A+B	13±1dBm

Mode	BLE(AVG)
GFSK	9±1dBm



LTE

BW[MHz]	RB Size	Mode	Band 4	Band 7	Band 12	Band 25	Band 26
1.4	1	QPSK	23±1dBm	N/A	23±1dBm	23±1dBm	23±1dBm
1.4	6		22±1dBm	N/A	22±1dBm	22±1dBm	22±1dBm
1.4	1	16- QAM	22±1dBm	N/A	22.1±1dBm	23±1dBm	22±1dBm
1.4	6		21±1dBm	N/A	21±1dBm	21±1dBm	21±1dBm
3	1	QPSK	23±1dBm	N/A	23±1dBm	23±1dBm	23±1dBm
3	15		22±1dBm	N/A	22±1dBm	22±1dBm	22±1dBm
3	1	16- QAM	22±1dBm	N/A	23±1dBm	23±1dBm	23±1dBm
3	15		21±1dBm	N/A	21±1dBm	21±1dBm	21±1dBm
5	1	QPSK	23±1dBm	22±1dBm	23±1dBm	23±1dBm	23±1dBm
5	25		22±1dBm	21±1dBm	22±1dBm	22±1dBm	22±1dBm
5	1	16- QAM	23±1dBm	21±1dBm	22±1dBm	22±1dBm	22±1dBm
5	25		22±1dBm	20±1dBm	21±1dBm	21±1dBm	21±1dBm
10	1	QPSK	23±1dBm	22±1dBm	23±1dBm	23±1dBm	23±1dBm
10	50		22±1dBm	21±1dBm	22±1dBm	22±1dBm	22±1dBm
10	1	16- QAM	22±1dBm	22±1dBm	23±1dBm	23±1dBm	23±1dBm
10	50		21±1dBm	20±1dBm	21±1dBm	21±1dBm	22±1dBm
15	1	QPSK	23±1dBm	22±1dBm	N/A	23±1dBm	23±1dBm
15	75		22±1dBm	21±1dBm	N/A	22±1dBm	22±1dBm
15	1	16- QAM	23±1dBm	21.2±1dBm	N/A	23±1dBm	23±1dBm
15	75		22±1dBm	20±1dBm	N/A	21±1dBm	21±1dBm
20	1	QPSK	23±1dBm	22±1dBm	N/A	23±1dBm	N/A
20	100		22±1dBm	21±1dBm	N/A	22±1dBm	N/A
20	1	16- QAM	23±1dBm	22±1dBm	N/A	23±1dBm	N/A
20	100		21±1dBm	20±1dBm	N/A	21±1dBm	N/A



LTE Band 13						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22±1dBm	23±1dBm	23±1dBm
5	1	13		23±1dBm	23±1dBm	23±1dBm
5	1	24		23±1dBm	23±1dBm	23±1dBm
5	25	0		22±1dBm	22±1dBm	22±1dBm
5	1	0	16-QAM	20±1dBm	22±1dBm	22±1dBm
5	1	13		22±1dBm	22±1dBm	22±1dBm
5	1	24		22±1dBm	22±1dBm	22±1dBm
5	25	0		21±1dBm	21±1dBm	21±1dBm
10	1	0	QPSK	-	22±1dBm	-
10	1	25		-	23±1dBm	-
10	1	49		-	23±1dBm	-
10	50	0		-	22±1dBm	-
10	1	0	16-QAM	-	21±1dBm	-
10	1	25		-	23±1dBm	-
10	1	49		-	23±1dBm	-
10	50	0		-	21±1dBm	-

LTE Band 30						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22±1dBm	22±1dBm	22±1dBm
5	1	13		22±1dBm	22±1dBm	22±1dBm
5	1	24		20±1dBm	22±1dBm	22±1dBm
5	25	0		21±1dBm	21±1dBm	21±1dBm
5	1	0	16-QAM	21±1dBm	21±1dBm	21±1dBm
5	1	13		21±1dBm	21±1dBm	21±1dBm
5	1	24		21±1dBm	21±1dBm	21±1dBm
5	25	0		20±1dBm	20±1dBm	19±1dBm
10	1	0	QPSK	-	22±1dBm	-
10	1	25		-	22±1dBm	-
10	1	49		-	22±1dBm	-
10	50	0		-	21±1dBm	-
10	1	0	16-QAM	-	22±1dBm	-
10	1	25		-	22±1dBm	-
10	1	49		-	22±1dBm	-
10	50	0		-	20±1dBm	-



LTE Band 41						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	21±1dBm	21±1dBm	21±1dBm
5	1	13		21±1dBm	21±1dBm	20±1dBm
5	1	24		21±1dBm	21±1dBm	20±1dBm
5	25	0		20±1dBm	19±1dBm	20±1dBm
5	1	0	16-QAM	20±1dBm	19±1dBm	20±1dBm
5	1	13		20±1dBm	20±1dBm	20±1dBm
5	1	24		20±1dBm	19±1dBm	19±1dBm
5	25	0		19±1dBm	19±1dBm	19±1dBm
10	1	0	QPSK	21±1dBm	21±1dBm	21±1dBm
10	1	25		21±1dBm	21±1dBm	20±1dBm
10	1	49		21±1dBm	20±1dBm	20±1dBm
10	50	0		20±1dBm	19±1dBm	20±1dBm
10	1	0	16-QAM	20±1dBm	20±1dBm	20±1dBm
10	1	25		21±1dBm	20±1dBm	20±1dBm
10	1	49		20±1dBm	19±1dBm	19±1dBm
10	50	0		19±1dBm	18±1dBm	19±1dBm
15	1	0	QPSK	21±1dBm	21±1dBm	21±1dBm
15	1	38		19±1dBm	20±1dBm	19±1dBm
15	1	74		19±1dBm	20±1dBm	20±1dBm
15	75	0		19±1dBm	19±1dBm	20±1dBm
15	1	0	16-QAM	20±1dBm	20±1dBm	20±1dBm
15	1	38		18±1dBm	19±1dBm	20±1dBm
15	1	74		19±1dBm	19±1dBm	20±1dBm
15	75	0		18±1dBm	18±1dBm	19±1dBm
20	1	0	QPSK	21±1dBm	21±1dBm	21±1dBm
20	1	50		19±1dBm	21±1dBm	21±1dBm
20	1	99		19±1dBm	20±1dBm	21±1dBm
20	100	0		18±1dBm	19±1dBm	20±1dBm
20	1	0	16-QAM	19±1dBm	20±1dBm	20±1dBm
20	1	50		19±1dBm	20±1dBm	20±1dBm
20	1	99		19±1dBm	19±1dBm	20±1dBm
20	100	0		18±1dBm	18±1dBm	19±1dBm

11. EUT And Test Setup Photo

11.1 EUT Photo

Front side



Back side



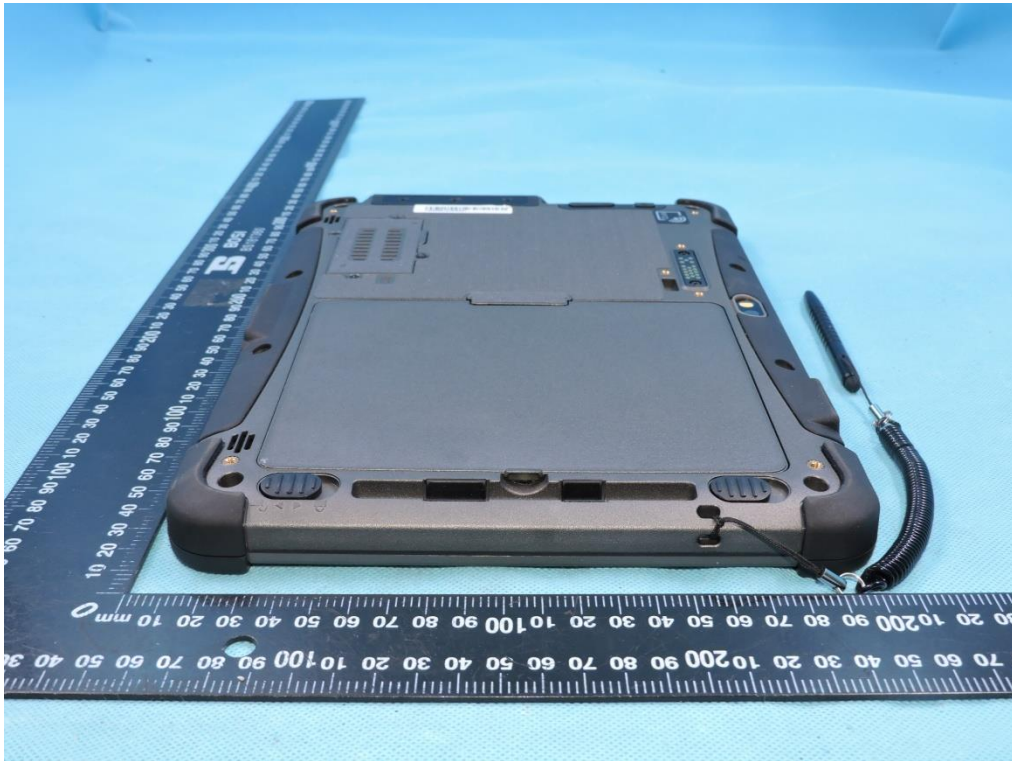
Top side



Bottom side



Left side



Right side

