



FCC RF Test Report

APPLICANT : Bullitt Group
EQUIPMENT : Rugged Smart Phone
BRAND NAME : CAT
MODEL NAME : S48c
FCC ID : ZL5S48C
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(H), 27(L), 27(F),
27(M)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Jun. 06, 2018 and completely tested on Jul. 04, 2018. We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.

Approved by: Eric Shih / Manager



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REVISION HISTORY



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt	PASS	-
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13)	ERP < 3 Watt	PASS	-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 7) (Band 41)	EIRP < 2Watt	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)	EIRP < 1Watt	PASS	-
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(c)(2)(4) §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 41)	§27.53(m)(4)		
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 41)	< 55+10log ₁₀ (P[Watts])		
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22H	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		



4.4	§2.1053 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(f) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 17.78 dB at 5177.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 41)	< 55+10log ₁₀ (P[Watts])		



1 General Description

1.1 Applicant

Bullitt Group

One Valpy, Valpy Street, Reading, Berkshire, England RG1 1AR

1.2 Product Feature of Equipment Under Test

Product Feature	
Equipment	Rugged Smart Phone
Brand Name	CAT
Model Name	S48c
FCC ID	ZL5S48C
EUT supports Radios application	CDMA/EV-DO/GSM/GPRS/EGPRS/WCDMA/HSPA/ HSPA+/DC-HSDPA/LTE/NFC WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
IMEI Code	Conducted: 358016090006507 for LTE Band 5/7/12/13/26/66/41CA 358016090006838 for LTE Band 25/41 358016090012455 for LTE Band 2/4 Radiation: 358016090009337 for LTE Band 2/4/5/7/13/25/41/66 358016090012505 for LTE Band 12/26/41CA
EUT Stage	Identical Prototype



1.3 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz LTE Band 25 : 1850.7MHz ~ 1914.3 MHz LTE Band 26 : 824.7MHz ~ 848.3 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz LTE Band 66 : 1710.7 MHz ~ 1779.3 MHz
Rx Frequency	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz LTE Band 25 : 1930.7MHz ~ 1994.3 MHz LTE Band 26 : 869.7MHz ~ 893.3MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz LTE Band 66 : 2110.7 MHz~ 2199.3 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 5MHz / 10MHz LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 2 : 24.20 dBm LTE Band 4 : 23.89 dBm LTE Band 5 : 24.22 dBm LTE Band 7 : 22.16 dBm LTE Band 12 : 24.39 dBm LTE Band 13 : 24.41 dBm LTE Band 25 : 24.25 dBm LTE Band 26 : 24.25 dBm LTE Band 41 : 25.97 dBm/LTE Band 41_CA : 24.95 dBm LTE Band 66 : 24.05 dBm



Antenna Gain	LTE Band 2 : -0.5 dBi LTE Band 4 : -0.5 dBi LTE Band 5 : -1.2 dBi LTE Band 7 : -0.2 dBi LTE Band 12 : -1.3 dBi LTE Band 13 : -1.3 dBi LTE Band 25 : -0.5 dBi LTE Band 26 : -1.2 dBi LTE Band 41 : -0.2 dBi LTE Band 66 : -0.5 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

1.4 Modification of EUT

No modifications are made to the EUT during all test items.



1.5 Maximum ERF/EIRP Power, Frequency Tolerance, and Emission Designator

LTE Band 2		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1909.3	1M09G7D	-	0.2203	1M09W7D	-	0.2239
3	1851.5 ~ 1908.5	2M73G7D	-	0.2234	2M73W7D	-	0.2198
5	1852.5 ~ 1907.5	4M50G7D	-	0.2218	4M51W7D	-	0.2203
10	1855.0 ~ 1905.0	9M11G7D	0.0014	0.2234	9M05W7D	-	0.2228
15	1857.5 ~ 1902.5	13M5G7D	-	0.2213	13M5W7D	-	0.2213
20	1860.0 ~ 1900.0	18M4G7D	-	0.2344	18M5W7D	-	0.2228
LTE Band 2		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
1.4	1850.7 ~ 1909.3	1M09W7D		-		0.1429	
3	1851.5 ~ 1908.5	2M74W7D		-		0.1435	
5	1852.5 ~ 1907.5	4M51W7D		-		0.1445	
10	1855.0 ~ 1905.0	9M09W7D		-		0.1462	
15	1857.5 ~ 1902.5	13M5W7D		-		0.1442	
20	1860.0 ~ 1900.0	18M5W7D		-		0.1466	
LTE Band 25		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1914.3	1M09G7D	-	0.2307	1M09W7D	-	0.1959
3	1851.5 ~ 1913.5	2M74G7D	-	0.2328	2M75W7D	-	0.1991
5	1852.5 ~ 1912.5	4M49G7D	-	0.2307	4M51W7D	-	0.1972
10	1855.0 ~ 1910.0	9M05G7D	0.0027	0.2323	9M03W7D	-	0.2051
15	1857.5 ~ 1907.5	13M5G7D	-	0.2317	13M5W7D	-	0.2046
20	1860.0 ~ 1905.0	18M4G7D	-	0.2371	18M4W7D	-	0.2023



LTE Band 25		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
1.4	1850.7 ~ 1914.3	1M09W7D		-		0.1439	
3	1851.5 ~ 1913.5	2M75W7D		-		0.1459	
5	1852.5 ~ 1912.5	4M51W7D		-		0.1462	
10	1855.0 ~ 1910.0	9M07W7D		-		0.1479	
15	1857.5 ~ 1907.5	13M5W7D		-		0.1466	
20	1860.0 ~ 1905.0	18M4W7D		-		0.1459	
LTE Band 4		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	1M10G7D	-	0.2061	1M10W7D	-	0.1803
3	1711.5 ~ 1753.5	2M73G7D	-	0.2173	2M73W7D	-	0.1837
5	1712.5 ~ 1752.5	4M53G7D	-	0.2168	4M52W7D	-	0.1762
10	1715.0 ~ 1750.0	9M07G7D	0.0026	0.2153	9M07W7D	-	0.1774
15	1717.5 ~ 1747.5	13M5G7D	-	0.2133	13M5W7D	-	0.1795
20	1720.0 ~ 1745.0	18M5G7D	-	0.2183	18M3W7D	-	0.1683
LTE Band 4		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
1.4	1710.7 ~ 1754.3	1M09W7D		-		0.1315	
3	1711.5 ~ 1753.5	2M73W7D		-		0.1330	
5	1712.5 ~ 1752.5	4M51W7D		-		0.1309	
10	1715.0 ~ 1750.0	9M07W7D		-		0.1303	
15	1717.5 ~ 1747.5	13M4W7D		-		0.1306	
20	1720.0 ~ 1745.0	18M6W7D		-		0.1315	
LTE Band 5		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7 ~ 848.3	1M09G7D	-	0.1183	1M10W7D	-	0.1112
3	825.5 ~ 847.5	2M73G7D	-	0.1208	2M73W7D	-	0.1117
5	826.5 ~ 846.5	4M50G7D	-	0.1211	4M51W7D	-	0.1091
10	829.0 ~ 844.0	9M07G7D	0.0045	0.1222	9M03W7D	-	0.1153



LTE Band 5		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum ERP(W)	
1.4	824.7 ~ 848.3	1M10W7D		-		0.0767	
3	825.5 ~ 847.5	2M73W7D		-		0.0769	
5	826.5 ~ 846.5	4M51W7D		-		0.0778	
10	829.0 ~ 844.0	9M03W7D		-		0.0771	
LTE Band 7		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	4M51G7D	-	0.1538	4M52W7D	-	0.1169
10	2505.0 ~ 2565.0	9M07G7D	0.0015	0.1542	9M03W7D	-	0.1156
15	2507.5 ~ 2562.5	13M4G7D	-	0.1545	13M5W7D	-	0.1211
20	2510.0 ~ 2560.0	18M4G7D	-	0.1570	18M3W7D	-	0.1183
LTE Band 7		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
5	2502.5 ~ 2567.5	4M51W7D		-		0.0906	
10	2505.0 ~ 2565.0	9M07W7D		-		0.0914	
15	2507.5 ~ 2562.5	13M5W7D		-		0.0933	
20	2510.0 ~ 2560.0	18M4W7D		-		0.0918	
LTE Band 12		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	699.7 ~ 715.3	1M10G7D	-	0.1230	1M09W7D	-	0.1102
3	700.5 ~ 714.5	2M75G7D	-	0.1233	2M73W7D	-	0.1130
5	701.5 ~ 713.5	4M50G7D	-	0.1236	4M50W7D	-	0.1107
10	704.0 ~ 711.0	9M07G7D	0.0066	0.1242	9M05W7D	-	0.1074



LTE Band 12		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum ERP(W)	
1.4	699.7 ~ 715.3	1M09W7D		-		0.0798	
3	700.5 ~ 714.5	2M73W7D		-		0.0796	
5	701.5 ~ 713.5	4M50W7D		-		0.0798	
10	704.0 ~ 711.0	9M07W7D		-		0.0796	
LTE Band 13		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	779.5 ~ 784.5	4M50G7D	-	0.1233	4M52W7D	-	0.1099
10	782.0	9M05G7D	0.0070	0.1247	9M01W7D	-	0.0977
LTE Band 13		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum ERP(W)	
5	779.5 ~ 784.5	4M51W7D		-		0.0764	
10	782.0	9M09W7D		-		0.0764	
LTE Band 26		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7 ~ 848.3	1M09G7D	-	0.1169	1M09W7D	-	0.1069
3	825.5 ~ 847.5	2M73G7D	-	0.1180	2M72W7D	-	0.1140
5	826.5 ~ 846.5	4M51G7D	-	0.1191	4M53W7D	-	0.1107
10	829.0 ~ 844.0	8M99G7D	0.0046	0.1189	9M07W7D	-	0.1038
15	831.5 ~ 841.5	13M5G7D	-	0.1230	13M5W7D	-	0.1081
CH26765	821.5	13M4G7D	-	0.1216	13M4W7D	-	0.1009



LTE Band 26		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum ERP(W)	
1.4	824.7 ~ 848.3	1M09W7D		-		0.0736	
3	825.5 ~ 847.5	2M73W7D		-		0.0752	
5	826.5 ~ 846.5	4M51W7D		-		0.0760	
10	829.0 ~ 844.0	9M03W7D		-		0.0759	
15	831.5 ~ 841.5	13M5W7D		-		0.0778	
CH26765	821.5	13M5W7D		-		0.0762	
LTE Band 41		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	4M53G7D	-	0.3724	4M53W7D	-	0.2911
10	2501.0 ~ 2685.0	9M09G7D	0.0030	0.3690	9M03W7D	-	0.3133
15	2503.5 ~ 2682.5	13M5G7D	-	0.3758	13M5W7D	-	0.2891
20	2506.0 ~ 2680.0	18M5G7D	-	0.3776	18M4W7D	-	0.2877
LTE Band 41		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
5	2498.5 ~ 2687.5	4M51W7D		-		0.2312	
10	2501.0 ~ 2685.0	9M09W7D		-		0.2388	
15	2503.5 ~ 2682.5	13M5W7D		-		0.2301	
20	2506.0 ~ 2680.0	18M4W7D		-		0.2296	
LTE Band 66		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1779.3	1M10G7D	-	0.2193	1M10W7D	-	0.182
3	1711.5 ~ 1778.5	2M73G7D	-	0.2178	2M74W7D	-	0.1914
5	1712.5 ~ 1777.5	4M50G7D	-	0.2234	4M50W7D	-	0.1746
10	1715.0 ~ 1775.0	9M07G7D	0.0031	0.2218	9M09W7D	-	0.1841
15	1717.5 ~ 1772.5	13M4G7D	-	0.2249	13M5W7D	-	0.1928
20	1720.0 ~ 1770.0	18M4G7D	-	0.2265	18M5W7D	-	0.1910



LTE Band 66		64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1779.3	1M09W7D	-	0.1330
3	1711.5 ~ 1778.5	2M73W7D	-	0.1321
5	1712.5 ~ 1777.5	4M51W7D	-	0.1318
10	1715.0 ~ 1775.0	9M07W7D	-	0.1324
15	1717.5 ~ 1772.5	13M5W7D	-	0.1346
20	1720.0 ~ 1770.0	18M4W7D	-	0.1340



LTE Band 41 CA		QPSK			16QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	
5MHz+20MHz	23M2G7D	-	0.2729	23M2W7D	-	0.2477	
10MHz+20MHz	28M1G7D	-	0.2735	28M1W7D	-	0.2786	
10MHz+15MHz	23M4G7D	-	0.2767	23M5W7D	-	0.2432	
15MHz+15MHz	28M6G7D	-	0.2541	28M6W7D	-	0.2213	
15MHz+20MHz	32M9G7D	-	0.2985	32M8W7D	-	0.2938	
15MHz+10MHz	23M5G7D	-	0.2786	23M5W7D	-	0.2786	
20MHz+5MHz	23M3G7D	-	0.2472	23M2W7D	-	0.2582	
20MHz+10MHz	28M1G7D	-	0.2904	28M1W7D	-	0.2944	
20MHz+15MHz	32M9G7D	-	0.2606	32M9W7D	-	0.2355	
20MHz+20MHz	37M7G7D	-	0.2410	37M6W7D	-	0.2291	
LTE Band 41 CA		64QAM					
BW (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)	Maximum EIRP(W)			
5MHz+20MHz	23M2W7D		-	0.1514			
10MHz+20MHz	28M0W7D		-	0.1374			
10MHz+15MHz	23M4W7D		-	0.1334			
15MHz+15MHz	28M5W7D		-	0.1387			
15MHz+20MHz	32M8W7D		-	0.1503			
15MHz+10MHz	23M6W7D		-	0.1312			
20MHz+5MHz	23M3W7D		-	0.1507			
20MHz+10MHz	28M0W7D		-	0.1400			
20MHz+15MHz	32M8W7D		-	0.1496			
20MHz+20MHz	37M6W7D		-	0.1734			



1.6 Testing Location

Sportun International (Shenzhen) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0) and the FCC designation No. are CN5018 and CN5019.

Test Site	Sportun International (Shenzhen) Inc.	
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595	
Test Site No.	Sportun Site No.	FCC Test Firm Registration No.
	TH01-SZ	251365
Test Site	Sportun International (Shenzhen) Inc.	
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China TEL: +86-755-3320-2398	
Test Site No.	Sportun Site No.	FCC Test Firm Registration No.
	03CH03-SZ 03CH04-SZ	577730

Note: The test site complies with ANSI C63.4 2014 requirement.



1.7 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2, 22(H), 24(E), 27(H), 27(L), 27(F), 27(M)
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	13	-	-	v		-	-	v	v	v	v	v	v	v	v	v
		-	-		v	-	-	v	v	v	v	v	v	v	v	
	25	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	2						v	v	v	v	v		v	v	v	v
	4						v	v	v	v	v		v	v	v	v
	5				v	-	-	v	v	v	v		v	v	v	v
	7	-	-				v	v	v	v	v		v	v	v	v
	12				v	-	-	v	v	v	v		v	v	v	v
	13	-	-		v	-	-	v	v	v	v		v		v	
	25						v	v	v	v	v		v	v	v	v
	26				v		-	v	v	v	v		v	v	v	v
	41	-	-				v	v	v	v	v		v	v	v	v
	66						v	v	v	v	v		v	v	v	v



Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
26dB and 99% Bandwidth	2	v	v	v	v	v	v	v	v	v				v	v	v
	4	v	v	v	v	v	v	v	v	v				v	v	v
	5	v	v	v	v	-	-	v	v	v				v	v	v
	7	-	-	v	v	v	v	v	v	v				v	v	v
	12	v	v	v	v	-	-	v	v	v				v	v	v
	13	-	-	v		-	-	v	v	v				v	v	v
				v				v	v	v				v		v
	25	v	v	v	v	v	v	v	v	v				v	v	v
	26	v	v	v	v	v	-	v	v	v				v	v	v
	41	-	-	v	v	v	v	v	v	v				v	v	v
Conducted Band Edge	66	v	v	v	v	v	v	v	v	v				v	v	v
	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	13	-	-	v		-	-	v	v	v	v	v	v	v	v	v
				v				v	v	v	v	v	v	v		v
	25	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v



Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
		-	-	v	-	-	-	v	v	v	v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Frequency Stability	2				v			v						v	v	
	4				v			v						v	v	
	5				v	-	-	v						v	v	
	7	-	-	v				v						v	v	
	12			v	-	-		v						v	v	
	13	-	-	v	-	-		v						v	v	
	25			v				v						v	v	
	26			v			-	v						v	v	
	41	-	-	v				v						v	v	
	66			v				v						v	v	

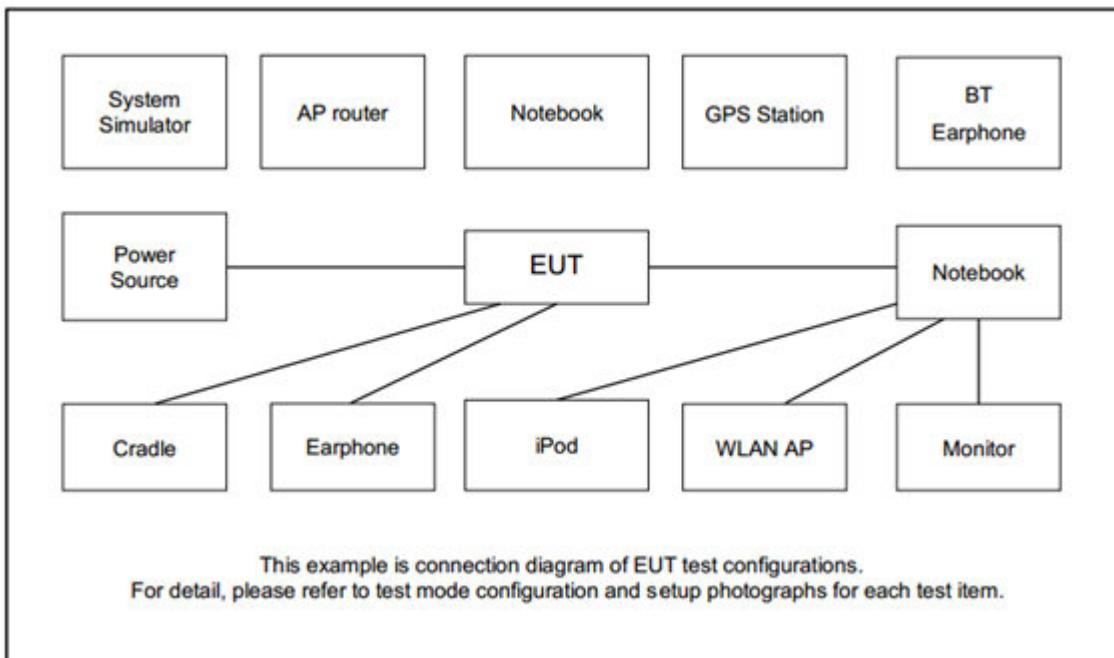


Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	13	-	-	v		-	-	v	v	v	v	v	v	v	v	v
		-	-	v		-	-	v	v	v	v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
Radiated Spurious Emission	66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	2	v	v	v	v	v	v	v				v			v	
	4	v	v	v	v	v	v	v				v			v	
	5	v	v	v	v	-	-	v				v			v	
	7	-	-	v	v	v	v	v				v			v	
	12	v	v	v	v	-	-	v				v			v	
	13	-	-	v	v	-	-	v				v			v	
	25	v	v	v	v	v	v	v				v			v	
	26	v	v	v	v	v	-	v				v			v	
	41	-	-	v	v	v	v	v				v			v	
Note	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.															



Test Items	Band	Bandwidth (MHz)										Modulation			RB #			Test Channel		
		20+20	20+15	15+20	20+10	10+20	20+5	5+20	15+15	15+10	10+15	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
26dB and 99% Bandwidth	41_CA	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	41_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Conducted Spurious Emission	41_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v		v	v	v
E.I.R.P.	41_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v		v	v	v
Radiated Spurious Emission	41_CA	v	v	v	v	v	v	v	v	v	v				v				v	
Note		1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.																		

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GW INSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	Earphone	Apple	MC690ZP/A	N/A	Shielded, 1.0m	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

$$\text{Offset} = \text{RF cable loss} + \text{attenuator factor}.$$

Following shows an offset computation example with cable loss 4.5 dB and 10dB attenuator.

Example :

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.5 + 10 = 14.5 \text{ (dB)}\end{aligned}$$



2.5 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3



LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5



LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3

LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5



LTE Band 25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3

LTE Band 26 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829	836.5	844
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3



LTE Band 41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	39750	40620	41490
	Frequency	2506	2593	2680
15	Channel	39725	40620	41515
	Frequency	2503.5	2593	2682.5
10	Channel	39700	40620	41540
	Frequency	2501	2593	2685
5	Channel	39675	40620	41565
	Frequency	2498.5	2593	2687.5

LTE Band 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3



LTE Band 41 Channel and Frequency List_CA					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	39750	40521	41292
		Frequency	2506.0	2583.1	2660.2
	SCC	Channel	39948	40719	41490
		Frequency	2525.8	2602.9	2680.0
20 + 15	PCC	Channel	39750	40546	41341
		Frequency	2506.0	2585.6	2665.1
	SCC	Channel	39921	40717	41512
		Frequency	2523.1	2602.7	2682.2
15 + 20	PCC	Channel	39728	40523	41319
		Frequency	2503.8	2593.3	2662.9
	SCC	Channel	39899	40694	41490
		Frequency	2520.9	2600.4	2680.0
20 + 10	PCC	Channel	39750	40571	41391
		Frequency	2506.0	2588.1	2670.1
	SCC	Channel	39894	40715	41535
		Frequency	2520.4	2602.5	2684.5
10 + 20	PCC	Channel	39705	40526	41346
		Frequency	2501.5	2583.6	2665.6
	SCC	Channel	39849	40670	41490
		Frequency	2515.9	2598.0	2680.0



LTE Band 41 Channel and Frequency List_CA					
20 + 5	PCC	Channel	39750	40595	41440
		Frequency	2506.0	2590.5	2675.0
	SCC	Channel	39867	40712	41557
		Frequency	2517.7	2602.2	2686.7
5 + 20	PCC	Channel	39683	40528	41373
		Frequency	2499.3	2583.8	2668.3
	SCC	Channel	39800	40645	41490
		Frequency	2511.0	2595.5	2680.0
15 + 15	PCC	Channel	39725	40545	41365
		Frequency	2503.5	2585.5	2667.5
	SCC	Channel	39875	40695	41515
		Frequency	2518.5	2600.5	2682.5
10 + 15	PCC	Channel	39703	40549	41395
		Frequency	2501.3	2585.9	2670.5
	SCC	Channel	39823	40669	41515
		Frequency	2513.3	2597.9	2682.5
15 + 10	PCC	Channel	39725	40571	41417
		Frequency	2503.5	2588.1	2672.7
	SCC	Channel	39845	40691	41537
		Frequency	2515.5	2600.1	2684.7

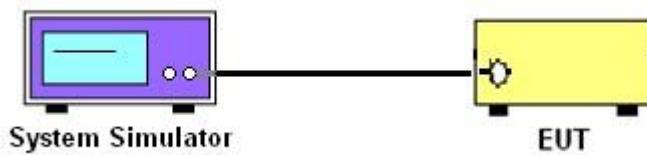
3 Conducted Test Items

3.1 Measuring Instruments

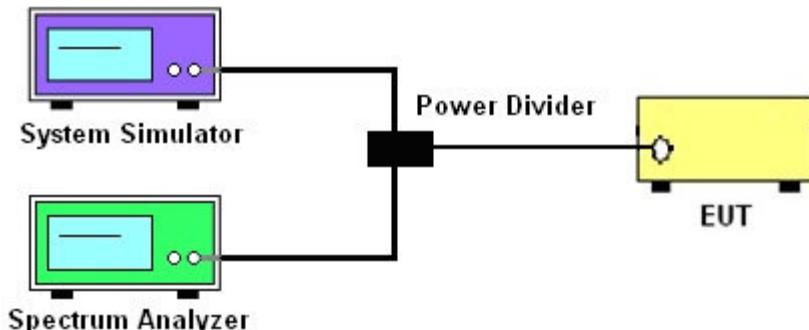
See list of measuring instruments of this test report.

3.2 Test Setup

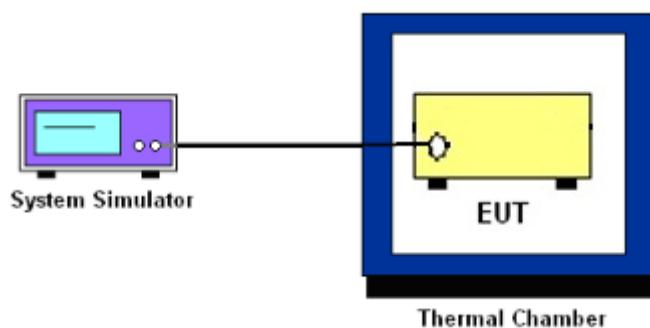
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.



3.4 Conducted Output Power and ERP/EIRP

3.4.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5 and Band 26.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12 and Band 13.

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25 and Band 7 and Band 41.

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4 and Band 66.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.



3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.



3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.



3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least $65 + 10 \log_{10} p(\text{watts})$, dB, for mobile and portable equipment.

27.53 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.



27.53(m)(4)

For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log(P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log(P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log(P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log(P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log(P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6. Set spectrum analyzer with RMS detector.
7. Offset has included the duty factor for LTE Band 41. Duty factor = $10 \log(1/x)$, where x is the measured duty cycle.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. Checked that all the results comply with the emission limit line.

Example:

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB) = -13dBm.

10. For LTE Band 7, 41, the other 40 dB, and 55 dB have additionally applied same calculation above.



3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log(P)$ dB.

For Band 7,41:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $55 + 10 \log(P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Offset has included the duty factor for LTE Band 41. Duty factor = $10 \log(1/x)$, where x is the measured duty cycle.
9. Taking the record of maximum spurious emission.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
11. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm.
12. For Band 7, 41
The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [55+ 10\log(P)]$ (dB)
 $= [30+ 10\log(P)]$ (dBm) - $[55+ 10\log(P)]$ (dB)
 $= -25$ dBm.



3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at $20 \pm 5^{\circ}\text{C}$ and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

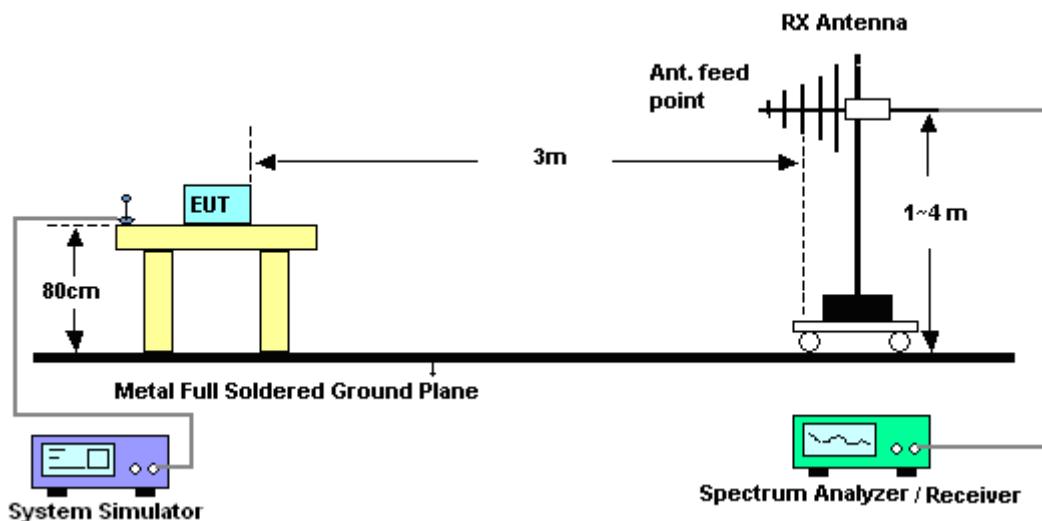
4 Radiated Test Items

4.1 Measuring Instruments

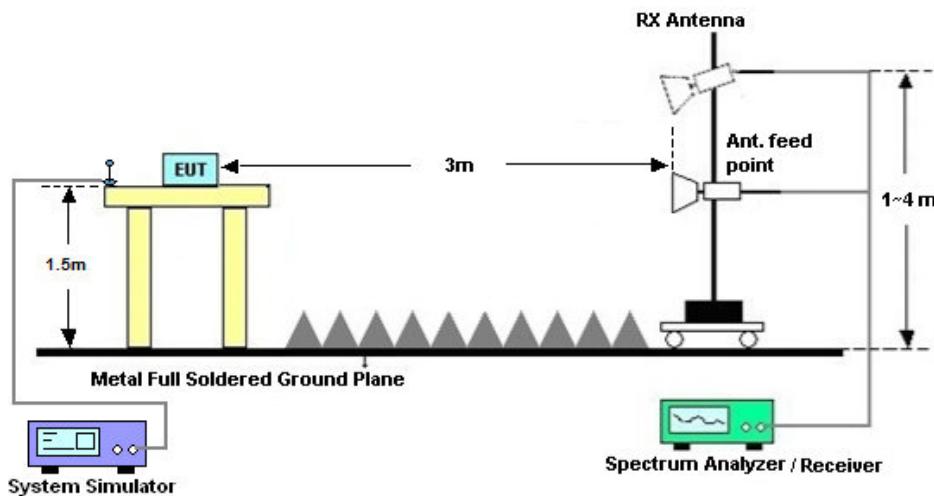
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.



4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log(P)$ dB.

For Band 7, 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log(P)$ dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. $EIRP (\text{dBm}) = S.G. \text{ Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
11. $ERP (\text{dBm}) = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(\text{W}) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13 \text{ dBm.}$$

13. For Band 7, 41:

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	9kHz~40GHz	Apr. 19, 2018	Jun. 10, 2018~Jul. 04, 2018	Apr. 18, 2019	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 20, 2017	Jun. 10, 2018~Jul. 04, 2018	Jul. 19, 2018	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150246	10Hz~44GHz;	Apr. 19, 2018	Jun. 09, 2018~Jul. 02, 2018	Apr. 18, 2019	Radiation (03CH03-SZ)
Bilog Antenna	TeseQ	CBL6112D	35408	30MHz-2GHz	Apr. 19, 2018	Jun. 09, 2018~Jul. 02, 2018	Apr. 18, 2019	Radiation (03CH03-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1355	1GHz~18GHz	Mar. 29, 2018	Jun. 09, 2018~Jul. 02, 2018	Mar. 28, 2019	Radiation (03CH03-SZ)
Amplifier	Burgeon	BPA-530	102210	0.01Hz ~3000MHz	Oct. 19, 2017	Jun. 09, 2018~Jul. 02, 2018	Oct. 18, 2018	Radiation (03CH03-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 18, 2017	Jun. 09, 2018~Jul. 02, 2018	Jul. 17, 2018	Radiation (03CH03-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18GHz-40GHz	Mar. 30, 2018	Jun. 09, 2018~Jul. 02, 2018	Mar. 29, 2019	Radiation (03CH03-SZ)
Amplifier	Agilent Technologies	83017A	MY39501302	500MHz~26.5GHz	Dec. 27, 2017	Jun. 09, 2018~Jul. 02, 2018	Dec. 26, 2018	Radiation (03CH03-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	NCR	Jun. 09, 2018~Jul. 02, 2018	NCR	Radiation (03CH03-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jun. 09, 2018~Jul. 02, 2018	NCR	Radiation (03CH03-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jun. 09, 2018~Jul. 02, 2018	NCR	Radiation (03CH03-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 19, 2018	Jun. 11, 2018~Jun. 12, 2018	Apr. 18, 2019	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Aug. 29, 2017	Jun. 11, 2018~Jun. 12, 2018	Aug 28, 2018	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Jun. 11, 2018~Jun. 12, 2018	Dec. 12, 2018	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Apr. 20 2018	Jun. 11, 2018~Jun. 12, 2018	Apr. 19, 2019	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 19, 2017	Jun. 11, 2018~Jun. 12, 2018	Oct. 18, 2018	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1	1989346	1GHz~18GHz	Jul. 27, 2017	Jun. 11, 2018~Jun. 12, 2018	Jul. 26, 2018	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1988315	18GHz~40GHz	Jul. 27, 2017	Jun. 11, 2018~Jun. 12, 2018	Jul. 26, 2018	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Apr. 19, 2018	Jun. 11, 2018~Jun. 12, 2018	Apr. 18, 2019	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Jun. 11, 2018~Jun. 12, 2018	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jun. 11, 2018~Jun. 12, 2018	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jun. 11, 2018~Jun. 12, 2018	NCR	Radiation (03CH04-SZ)

NCR: No Calibration Required



6 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz) for 03CH03-SZ

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.0dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz) for 03CH03-SZ

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.6dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz) for 03CH03-SZ

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.8dB
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz) for 03CH04-SZ

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz) for 03CH04-SZ

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.1dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz) for 03CH04-SZ

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.9dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	24.12	24.20	23.98
	1	49		24.05	24.13	24.04
	1	99		24.02	24.12	23.90
	50	0		23.83	23.85	23.63
	50	24		23.83	23.79	23.61
	50	50		23.65	23.68	23.56
	100	0		23.78	23.79	23.60
	1	0		23.98	23.92	23.84
20	1	49	16-QAM	23.95	23.87	23.82
	1	99		23.95	23.87	23.76
	50	0		22.95	22.89	22.70
	50	24		22.93	22.91	22.71
	50	50		22.95	22.80	22.75
	100	0		22.88	22.85	22.65
	1	0	64QAM	22.07	22.16	21.97
	1	49		22.10	21.94	22.01
20	1	99		22.13	22.02	21.97
	50	0		21.03	20.99	20.83
	50	24		21.00	20.96	20.86
	50	50		21.03	20.88	20.88
	100	0		20.98	20.91	20.79
	1	0	QPSK	23.80	23.83	23.75
	1	37		23.86	23.81	23.81
15	1	74		23.75	23.79	23.72
	36	0		23.91	23.90	23.81
	36	20		23.94	23.95	23.87
	36	39		23.83	23.90	23.85
	75	0		23.88	23.92	23.78
	1	0		23.85	23.88	23.80



15	1	37	64QAM	23.95	23.89	23.84
15	1	74		23.85	23.85	23.73
15	36	0		22.86	22.75	22.71
15	36	20		22.86	22.90	22.77
15	36	39		22.78	22.81	22.75
15	75	0		22.79	22.84	22.66
15	1	0		22.01	22.00	21.93
15	1	37		22.00	21.99	22.09
15	1	74		21.85	21.97	21.95
15	36	0		20.92	20.92	20.81
15	36	20		21.01	21.00	20.96
15	36	39		20.96	20.90	20.93
15	75	0		20.96	20.91	20.81



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.91	23.96	23.83
	1	25		23.87	23.84	23.80
	1	49		23.85	23.93	23.74
	25	0		23.97	23.90	23.91
	25	12		23.99	23.92	23.90
	25	25		23.87	23.93	23.81
	50	0		23.93	23.99	23.89
10	1	0	16-QAM	23.92	23.97	23.85
	1	25		23.98	23.90	23.85
	1	49		23.95	23.98	23.77
	25	0		22.85	22.76	22.78
	25	12		22.85	22.88	22.79
	25	25		22.79	22.81	22.69
	50	0		22.84	22.86	22.77
10	1	0	64QAM	22.09	22.15	22.05
	1	25		22.04	22.01	22.07
	1	49		22.01	22.06	21.96
	25	0		20.94	20.89	20.92
	25	12		20.91	20.99	20.92
	25	25		20.85	20.92	20.85
	50	0		20.87	20.94	20.89
5	1	0	QPSK	23.82	23.82	23.80
	1	12		23.81	23.83	23.78
	1	24		23.81	23.88	23.71
	12	0		23.86	23.89	23.84
	12	7		23.89	23.89	23.88
	12	13		23.90	23.95	23.80
	25	0		23.92	23.96	23.84
5	1	0	16-QAM	23.83	23.87	23.83
	1	12		23.87	23.93	23.83
	1	24		23.87	23.93	23.72
	12	0		22.76	22.75	22.75
	12	7		22.76	22.76	22.77



5	12	13	64QAM	22.83	22.80	22.73
5	25	0		22.81	22.82	22.71
5	1	0		22.05	22.02	22.05
5	1	12		21.93	22.03	22.10
5	1	24		21.96	22.05	21.95
5	12	0		20.84	20.93	20.98
5	12	7		20.85	20.93	20.98
5	12	13		20.90	20.98	20.92
5	25	0		20.87	20.96	20.89



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.90	23.81	23.78
	1	8		23.89	23.81	23.79
	1	14		23.86	23.90	23.73
	8	0		23.93	23.88	23.83
	8	4		23.90	23.87	23.87
	8	7		23.80	23.96	23.83
	15	0		23.86	23.99	23.85
3	1	0	16-QAM	23.80	23.87	23.83
	1	8		23.86	23.90	23.83
	1	14		23.80	23.92	23.74
	8	0		22.79	22.57	22.77
	8	4		22.80	22.80	22.79
	8	7		22.77	22.87	22.74
	15	0		22.75	22.86	22.78
3	1	0	64QAM	22.00	22.03	22.00
	1	8		22.02	21.99	22.02
	1	14		21.97	22.07	21.97
	8	0		20.93	20.92	20.92
	8	4		20.94	20.93	20.95
	8	7		20.89	20.96	20.89
	15	0		20.88	20.93	20.90
1.4	1	0	QPSK	23.86	23.79	23.70
	1	3		23.93	23.83	23.79
	1	5		23.86	23.76	23.69
	3	0		23.87	23.80	23.76
	3	1		23.87	23.88	23.82
	3	3		23.83	23.79	23.75
	6	0		23.82	23.81	23.79
1.4	1	0	16-QAM	23.91	24.00	23.95
	1	3		23.93	23.97	23.92
	1	5		23.97	24.00	23.89
	3	0		23.84	23.83	23.79
	3	1		23.87	23.90	23.81



1.4	3	3	64QAM	23.79	23.78	23.75
1.4	6	0		22.97	22.95	22.96
1.4	1	0		21.99	21.95	21.96
1.4	1	3		22.05	22.04	22.04
1.4	1	5		21.97	21.90	21.92
1.4	3	0		21.97	21.96	21.95
1.4	3	1		22.01	22.00	21.99
1.4	3	3		21.96	21.93	21.93
1.4	6	0		20.82	20.77	20.82



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.78	23.84	23.69
	1	49		23.81	23.89	23.76
	1	99		23.62	23.63	23.70
	50	0		23.48	23.50	23.42
	50	24		23.42	23.46	23.40
	50	50		23.35	23.36	23.33
	100	0		23.45	23.47	23.40
20	1	0	16-QAM	22.56	22.65	22.76
	1	49		22.45	22.74	22.69
	1	99		22.56	22.48	22.64
	50	0		21.72	21.63	21.66
	50	24		21.66	21.64	21.57
	50	50		21.68	21.64	21.50
	100	0		21.65	21.71	21.59
20	1	0	64QAM	21.46	21.47	21.69
	1	49		21.62	21.66	21.56
	1	99		21.38	21.50	21.48
	50	0		20.58	20.59	20.58
	50	24		20.56	20.52	20.51
	50	50		20.48	20.46	20.39
	100	0		20.53	20.54	20.41
15	1	0	QPSK	23.76	23.74	23.72
	1	37		23.69	23.79	23.74
	1	74		23.63	23.61	23.71
	36	0		23.41	23.51	23.46
	36	20		23.48	23.50	23.40
	36	39		23.47	23.37	23.36
	75	0		23.50	23.43	23.41
15	1	0	16-QAM	22.85	22.67	23.04
	1	37		22.92	22.57	22.73
	1	74		22.33	22.38	22.56
	36	0		21.52	21.67	21.57
	36	20		21.68	21.75	21.59



15	36	39	64QAM	21.59	21.69	21.55
15	75	0		21.69	21.64	21.52
15	1	0		21.50	21.54	21.53
15	1	37		21.48	21.66	21.53
15	1	74		21.38	21.42	21.48
15	36	0		20.46	20.57	20.50
15	36	20		20.58	20.59	20.52
15	36	39		20.51	20.48	20.36
15	75	0		20.51	20.48	20.41



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.78	23.74	23.80
	1	25		23.73	23.83	23.72
	1	49		23.78	23.71	23.74
	25	0		23.48	23.49	23.41
	25	12		23.45	23.47	23.40
	25	25		23.52	23.42	23.34
	50	0		23.55	23.45	23.37
10	1	0	16-QAM	22.88	22.97	22.70
	1	25		22.56	22.88	22.56
	1	49		22.85	22.99	22.61
	25	0		21.46	21.62	21.58
	25	12		21.64	21.66	21.64
	25	25		21.69	21.65	21.49
	50	0		21.70	21.69	21.51
10	1	0	64QAM	21.53	21.57	21.63
	1	25		21.46	21.65	21.55
	1	49		21.53	21.55	21.51
	25	0		20.48	20.53	20.43
	25	12		20.47	20.55	20.45
	25	25		20.50	20.47	20.37
	50	0		20.55	20.51	20.42
5	1	0	QPSK	23.86	23.81	23.74
	1	12		23.75	23.82	23.74
	1	24		23.71	23.71	23.75
	12	0		23.41	23.46	23.39
	12	7		23.44	23.50	23.38
	12	13		23.37	23.45	23.36
	25	0		23.42	23.43	23.38
5	1	0	16-QAM	22.85	22.96	22.86
	1	12		22.55	22.81	22.84
	1	24		22.47	22.41	22.54
	12	0		21.70	21.70	21.66
	12	7		21.54	21.80	21.57



5	12	13	64QAM	21.49	21.53	21.61
5	25	0		21.62	21.70	21.51
5	1	0		21.52	21.67	21.53
5	1	12		21.50	21.65	21.48
5	1	24		21.44	21.59	21.53
5	12	0		20.49	20.59	20.40
5	12	7		20.51	20.61	20.44
5	12	13		20.44	20.54	20.38
5	25	0		20.44	20.54	20.38



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.87	23.81	23.71
	1	8		23.78	23.81	23.82
	1	14		23.73	23.74	23.78
	8	0		23.43	23.47	23.36
	8	4		23.42	23.49	23.48
	8	7		23.39	23.41	23.42
	15	0		23.47	23.45	23.37
3	1	0	16-QAM	22.67	22.95	22.64
	1	8		22.75	22.90	23.04
	1	14		22.56	23.14	22.59
	8	0		21.62	21.77	21.42
	8	4		21.65	21.73	21.61
	8	7		21.62	21.64	21.66
	15	0		21.49	21.78	21.53
3	1	0	64QAM	21.50	21.74	21.51
	1	8		21.50	21.68	21.58
	1	14		21.47	21.64	21.50
	8	0		20.48	20.55	20.40
	8	4		20.49	20.58	20.52
	8	7		20.45	20.56	20.48
	15	0		20.47	20.51	20.37
1.4	1	0	QPSK	23.61	23.54	23.56
	1	3		23.59	23.62	23.61
	1	5		23.51	23.52	23.55
	3	0		23.56	23.60	23.57
	3	1		23.64	23.60	23.64
	3	3		23.56	23.58	23.58
	6	0		23.62	23.60	23.60
1.4	1	0	16-QAM	22.86	23.06	22.86
	1	3		22.70	22.67	22.45
	1	5		22.82	22.67	22.64
	3	0		22.47	22.61	22.63
	3	1		22.59	22.75	22.59



1.4	3	3	64QAM	22.33	22.49	22.40
1.4	6	0		21.75	21.67	21.61
1.4	1	0		21.45	21.63	21.53
1.4	1	3		21.51	21.69	21.58
1.4	1	5		21.46	21.56	21.50
1.4	3	0		21.43	21.60	21.51
1.4	3	1		21.51	21.64	21.57
1.4	3	3		21.47	21.59	21.50
1.4	6	0		20.40	20.46	20.43



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	24.12	24.22	24.00
	1	25		24.13	24.13	23.97
	1	49		24.03	24.03	23.83
	25	0		23.85	23.95	23.56
	25	12		23.84	23.84	23.54
	25	25		23.77	23.79	23.48
	50	0		23.81	23.82	23.54
10	1	0	16-QAM	23.97	23.63	23.93
	1	25		23.85	23.65	23.70
	1	49		23.71	23.70	23.49
	25	0		22.55	22.24	22.14
	25	12		22.29	22.28	22.10
	25	25		22.26	22.17	22.17
	50	0		22.36	22.26	22.26
10	1	0	64QAM	22.15	22.00	22.22
	1	25		22.18	22.07	22.05
	1	49		22.09	22.04	21.84
	25	0		21.06	20.94	20.83
	25	12		21.05	20.94	20.79
	25	25		20.99	20.90	20.93
	50	0		20.97	20.90	20.84
5	1	0	QPSK	24.09	24.03	24.07
	1	12		24.18	24.04	23.90
	1	24		24.09	24.09	23.84
	12	0		23.74	23.73	23.59
	12	7		23.87	23.74	23.60
	12	13		23.82	23.67	23.52
	25	0		23.82	23.67	23.58
5	1	0	16-QAM	23.66	23.63	23.73
	1	12		23.29	23.43	23.15
	1	24		23.35	23.44	23.32
	12	0		22.39	22.45	22.33
	12	7		22.53	22.33	22.34



5	12	13	64QAM	22.38	22.21	22.23
5	25	0		22.40	22.35	22.28
5	1	0		22.16	22.08	22.07
5	1	12		22.26	22.08	21.88
5	1	24		22.10	22.17	21.89
5	12	0		21.10	21.02	20.92
5	12	7		21.21	21.05	20.93
5	12	13		21.15	20.99	20.87
5	25	0		21.05	20.92	20.84



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	24.12	24.05	24.00
	1	8		24.10	24.04	23.86
	1	14		24.17	24.08	23.80
	8	0		23.73	23.66	23.53
	8	4		23.78	23.70	23.57
	8	7		23.80	23.66	23.51
	15	0		23.83	23.70	23.57
3	1	0	16-QAM	23.34	23.51	23.28
	1	8		23.56	23.31	23.51
	1	14		23.77	23.83	23.50
	8	0		22.28	22.33	22.35
	8	4		22.55	22.22	22.23
	8	7		22.57	22.37	22.16
	15	0		22.47	22.21	22.18
3	1	0	64QAM	22.15	22.05	22.02
	1	8		22.21	22.07	21.89
	1	14		22.18	22.17	21.91
	8	0		21.07	20.99	20.88
	8	4		21.10	21.01	20.92
	8	7		21.18	20.78	20.91
	15	0		21.01	20.89	20.80
1.4	1	0	QPSK	24.03	23.96	23.90
	1	3		24.08	24.00	23.88
	1	5		24.03	23.92	23.77
	3	0		23.71	23.61	23.45
	3	1		23.73	23.62	23.49
	3	3		23.67	23.59	23.46
	6	0		23.69	23.62	23.50
1.4	1	0	16-QAM	23.69	23.67	23.16
	1	3		23.37	23.69	23.16
	1	5		23.81	23.27	23.24
	3	0		23.26	23.06	23.18
	3	1		23.15	23.04	23.13



1.4	3	3	64QAM	23.41	23.16	23.02
1.4	6	0		22.25	22.35	22.24
1.4	1	0		22.08	21.97	21.88
1.4	1	3		22.20	22.05	21.96
1.4	1	5		22.10	22.02	21.93
1.4	3	0		22.09	21.96	21.95
1.4	3	1		22.08	22.03	21.96
1.4	3	3		22.08	21.95	21.92
1.4	6	0		20.91	20.82	20.83



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	21.85	21.95	21.90
	1	49		21.96	22.12	21.99
	1	99		22.03	22.16	22.07
	50	0		21.65	21.69	21.64
	50	24		21.69	21.74	21.68
	50	50		21.73	21.75	21.72
	100	0		21.69	21.73	21.68
20	1	0	16-QAM	20.70	20.37	20.41
	1	49		20.44	20.75	20.79
	1	99		20.68	20.34	20.93
	50	0		19.26	19.34	19.47
	50	24		19.35	19.45	19.56
	50	50		19.39	19.46	19.53
	100	0		19.26	19.38	19.46
20	1	0	64QAM	19.62	19.60	19.61
	1	49		19.59	19.65	19.79
	1	99		19.65	19.75	19.83
	50	0		18.46	18.53	18.62
	50	24		18.53	18.60	18.69
	50	50		18.54	18.63	18.71
	100	0		18.48	18.58	18.67
15	1	0	QPSK	22.05	21.99	21.96
	1	37		22.00	22.04	22.01
	1	74		22.09	21.99	22.09
	36	0		21.62	21.66	21.64
	36	20		21.66	21.71	21.71
	36	39		21.69	21.70	21.68
	75	0		21.65	21.68	21.66
15	1	0	16-QAM	20.47	20.70	20.74
	1	37		20.68	20.77	20.94
	1	74		20.93	20.45	21.03
	36	0		19.25	19.36	19.43
	36	20		19.35	19.36	19.50



15	36	39	64QAM	19.39	19.45	19.55
15	75	0		19.33	19.44	19.55
15	1	0		19.61	19.63	19.72
15	1	37		19.58	19.65	19.80
15	1	74		19.70	19.65	19.90
15	36	0		18.47	18.53	18.64
15	36	20		18.50	18.60	18.71
15	36	39		18.54	18.63	18.74
15	75	0		18.45	18.54	18.66



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.05	22.00	21.94
	1	25		21.98	22.01	22.00
	1	49		22.04	21.96	22.08
	25	0		21.63	21.67	21.64
	25	12		21.68	21.73	21.68
	25	25		21.64	21.73	21.71
	50	0		21.67	21.70	21.69
10	1	0	16-QAM	20.83	20.66	20.80
	1	25		20.39	20.55	20.78
	1	49		20.77	20.50	20.69
	25	0		19.21	19.37	19.47
	25	12		19.35	19.37	19.51
	25	25		19.34	19.33	19.46
	50	0		19.28	19.33	19.55
10	1	0	64QAM	19.63	19.66	19.75
	1	25		19.59	19.61	19.73
	1	49		19.57	19.59	19.81
	25	0		18.40	18.49	18.63
	25	12		18.48	18.57	18.67
	25	25		18.46	18.60	18.68
	50	0		18.43	18.54	18.67
5	1	0	QPSK	22.07	22.00	22.00
	1	12		21.99	22.04	22.01
	1	24		21.98	22.05	22.03
	12	0		21.60	21.66	21.65
	12	7		21.67	21.69	21.70
	12	13		21.67	21.66	21.69
	25	0		21.64	21.70	21.68
5	1	0	16-QAM	20.40	20.56	20.88
	1	12		20.68	20.43	20.69
	1	24		20.37	20.76	20.36
	12	0		19.23	19.32	19.49
	12	7		19.28	19.44	19.46



5	12	13	64QAM	19.26	19.35	19.55
5	25	0		19.32	19.30	19.47
5	1	0		19.63	19.65	19.74
5	1	12		19.53	19.62	19.77
5	1	24		19.54	19.62	19.76
5	12	0		18.43	18.53	18.64
5	12	7		18.48	18.58	18.73
5	12	13		18.48	18.57	18.70
5	25	0		18.40	18.52	18.67



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	24.20	24.35	24.27
	1	25		24.38	24.33	24.32
	1	49		24.30	24.39	24.38
	25	0		23.87	23.89	23.86
	25	12		23.85	23.90	23.87
	25	25		23.81	23.88	23.86
	50	0		23.81	23.84	23.76
10	1	0	16-QAM	23.69	23.65	23.30
	1	25		23.75	23.38	23.61
	1	49		23.70	23.29	23.76
	25	0		22.40	22.48	22.46
	25	12		22.52	22.43	22.58
	25	25		22.51	22.40	22.48
	50	0		22.57	22.42	22.45
10	1	0	64QAM	22.13	22.31	22.30
	1	25		22.30	22.33	22.30
	1	49		22.28	22.29	22.46
	25	0		21.14	21.20	21.15
	25	12		21.24	21.17	21.15
	25	25		21.21	21.13	21.13
	50	0		21.24	21.18	21.14
5	1	0	QPSK	24.31	24.33	24.37
	1	12		24.30	24.35	24.29
	1	24		24.34	24.30	24.35
	12	0		23.85	23.90	23.82
	12	7		23.87	23.92	23.87
	12	13		23.91	23.87	23.80
	25	0		23.87	23.88	23.84
5	1	0	16-QAM	23.57	23.30	23.31
	1	12		23.77	23.85	23.77
	1	24		23.82	23.75	23.89
	12	0		22.42	22.45	22.33
	12	7		22.41	22.40	22.42



5	12	13	64QAM	22.60	22.43	22.41
5	25	0		22.53	22.50	22.36
5	1	0		22.23	22.31	22.29
5	1	12		22.28	22.29	22.22
5	1	24		22.33	22.19	22.47
5	12	0		21.17	21.23	21.11
5	12	7		21.20	21.24	21.19
5	12	13		21.24	21.16	21.17
5	25	0		21.12	21.18	21.10



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	24.31	24.32	24.26
	1	8		24.19	24.30	24.35
	1	14		24.27	24.30	24.36
	8	0		23.88	23.84	23.81
	8	4		23.87	23.91	23.81
	8	7		23.86	23.88	23.87
	15	0		23.87	23.88	23.79
3	1	0	16-QAM	23.72	23.61	23.68
	1	8		23.22	23.94	23.80
	1	14		23.78	23.55	23.98
	8	0		22.38	22.57	22.38
	8	4		22.54	22.50	22.43
	8	7		22.47	22.45	22.72
	15	0		22.48	22.61	22.38
3	1	0	64QAM	22.25	22.29	22.19
	1	8		22.13	22.28	22.34
	1	14		22.26	22.24	22.46
	8	0		21.16	21.20	21.13
	8	4		21.18	21.22	21.19
	8	7		21.14	21.18	21.26
	15	0		21.15	21.15	21.10
1.4	1	0	QPSK	24.26	24.25	24.26
	1	3		24.23	24.31	24.35
	1	5		24.13	24.22	24.34
	3	0		23.80	23.79	23.82
	3	1		23.86	23.83	23.88
	3	3		23.67	23.80	23.92
	6	0		23.84	23.83	23.84
1.4	1	0	16-QAM	23.80	23.84	23.68
	1	3		23.38	23.87	23.63
	1	5		23.74	23.54	23.56
	3	0		23.30	23.39	23.32
	3	1		23.39	23.44	23.52



1.4	3	3	64QAM	23.41	23.39	23.49
1.4	6	0		22.53	22.53	22.50
1.4	1	0		22.19	22.18	22.25
1.4	1	3		22.14	22.27	22.47
1.4	1	5		22.08	22.22	22.37
1.4	3	0		22.19	22.17	22.25
1.4	3	1		22.22	22.23	22.31
1.4	3	3		22.06	22.20	22.35
1.4	6	0		21.09	21.08	21.13



LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK		24.41	
10	1	25			24.33	
10	1	49			24.25	
10	25	0			23.92	
10	25	12			23.91	
10	25	25			23.90	
10	50	0			23.91	
10	1	0			23.35	
10	1	25			23.28	
10	1	49			23.23	
10	25	0			22.41	
10	25	12			22.50	
10	25	25			22.36	
10	50	0			22.40	
10	1	0	16-QAM		22.18	
10	1	25			22.24	
10	1	49			22.28	
10	25	0			21.10	
10	25	12			21.13	
10	25	25			21.13	
10	50	0			21.13	
5	1	0			24.34	24.27
5	1	12			24.36	24.30
5	1	24			24.32	24.26
5	12	0	QPSK		23.91	23.85
5	12	7			23.96	23.86
5	12	13			23.92	23.87
5	25	0			23.93	23.87
5	1	0			23.57	23.51
5	1	12			23.47	23.86
5	1	24			23.50	23.78
5	12	0			22.53	22.29
5	12	7			22.50	22.50
16-QAM						



5	12	13	64QAM	22.49	22.49	22.48
5	25	0		22.44	22.46	22.45
5	1	0		22.22	22.22	22.22
5	1	12		22.28	22.25	22.18
5	1	24		22.25	22.21	22.25
5	12	0		21.20	21.19	21.13
5	12	7		21.22	21.18	21.17
5	12	13		21.17	21.17	21.15
5	25	0		21.12	21.12	21.09



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	24.18	24.25	24.11
	1	49		24.13	24.08	24.05
	1	99		23.96	23.97	23.90
	50	0		23.71	23.76	23.66
	50	24		23.70	23.71	23.64
	50	50		23.61	23.65	23.57
	100	0		23.63	23.64	23.62
20	1	0	16-QAM	23.56	23.22	23.47
	1	49		23.54	23.36	23.23
	1	99		23.04	23.00	23.08
	50	0		22.13	22.08	22.17
	50	24		22.03	22.13	22.12
	50	50		22.01	21.98	21.99
	100	0		22.05	22.00	22.05
20	1	0	64QAM	22.14	22.11	22.10
	1	49		22.02	22.10	22.03
	1	99		21.98	21.91	21.82
	50	0		20.97	20.92	20.90
	50	24		20.95	20.94	20.90
	50	50		20.86	20.83	20.82
	100	0		20.93	20.86	20.84
15	1	0	QPSK	24.15	24.11	24.10
	1	37		24.12	24.07	24.04
	1	74		24.00	23.97	23.91
	36	0		23.69	23.66	23.64
	36	20		23.75	23.69	23.63
	36	39		23.65	23.61	23.55
	75	0		23.65	23.64	23.59
15	1	0	16-QAM	23.14	23.19	23.56
	1	37		23.13	23.26	23.61
	1	74		22.80	22.96	23.02
	36	0		22.09	22.06	22.07
	36	20		22.06	22.12	22.12



15	36	39	64QAM	22.09	21.95	22.03
15	75	0		22.09	22.06	22.03
15	1	0		22.16	22.09	22.09
15	1	37		22.14	22.07	22.05
15	1	74		22.01	21.98	21.83
15	36	0		21.01	20.96	20.96
15	36	20		21.02	20.97	20.99
15	36	39		20.94	20.88	20.86
15	75	0		20.97	20.90	20.91



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	24.08	24.04	24.10
	1	25		24.16	24.13	24.03
	1	49		24.15	24.09	23.94
	25	0		23.74	23.68	23.65
	25	12		23.76	23.69	23.65
	25	25		23.65	23.62	23.61
	50	0		23.71	23.65	23.61
10	1	0	16-QAM	23.62	23.32	23.36
	1	25		23.54	23.22	23.14
	1	49		23.48	23.08	22.96
	25	0		22.07	22.10	22.10
	25	12		22.03	22.08	22.02
	25	25		21.98	21.96	22.00
	50	0		22.12	22.07	22.17
10	1	0	64QAM	22.19	22.20	22.09
	1	25		22.09	22.12	22.03
	1	49		22.05	22.04	21.88
	25	0		20.92	20.99	20.93
	25	12		20.92	20.96	20.90
	25	25		20.85	20.92	20.86
	50	0		20.89	20.94	20.91
5	1	0	QPSK	24.00	24.11	24.05
	1	12		24.00	24.13	24.05
	1	24		24.11	24.05	23.99
	12	0		23.73	23.64	23.59
	12	7		23.74	23.70	23.62
	12	13		23.71	23.62	23.58
	25	0		23.71	23.65	23.61
5	1	0	16-QAM	23.22	23.04	23.31
	1	12		23.16	23.12	23.10
	1	24		23.40	23.45	23.21
	12	0		22.09	22.11	22.04
	12	7		22.14	22.12	22.03



5	12	13	64QAM	22.05	22.02	22.02
5	25	0		22.10	22.00	21.99
5	1	0		22.13	22.11	22.09
5	1	12		22.15	22.09	21.92
5	1	24		22.04	22.05	21.86
5	12	0		20.93	21.01	20.93
5	12	7		21.08	21.01	20.91
5	12	13		21.01	20.99	20.89
5	25	0		20.97	20.93	20.84



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	24.17	24.11	24.01
	1	8		24.17	24.11	24.01
	1	14		24.16	24.05	24.01
	8	0		23.71	23.63	23.55
	8	4		23.75	23.69	23.50
	8	7		23.70	23.61	23.44
	15	0		23.72	23.63	23.52
3	1	0	16-QAM	23.49	22.98	23.05
	1	8		23.27	23.37	23.38
	1	14		23.13	23.40	22.96
	8	0		22.10	22.06	22.12
	8	4		22.25	22.02	22.12
	8	7		22.00	22.00	22.00
	15	0		22.11	22.09	21.99
3	1	0	64QAM	22.14	22.08	21.99
	1	8		22.07	22.08	21.91
	1	14		22.06	22.07	21.87
	8	0		21.05	21.01	20.88
	8	4		21.07	21.02	20.92
	8	7		21.04	20.95	20.90
	15	0		21.00	20.90	20.83
1.4	1	0	QPSK	24.13	24.05	23.94
	1	3		24.09	24.12	24.03
	1	5		24.13	24.06	23.88
	3	0		23.67	23.58	23.41
	3	1		23.73	23.64	23.44
	3	3		23.68	23.57	23.37
	6	0		23.67	23.59	23.43
1.4	1	0	16-QAM	23.10	22.87	23.25
	1	3		23.16	23.42	23.07
	1	5		23.05	22.91	22.94
	3	0		22.99	22.83	22.99
	3	1		23.04	23.00	22.97



1.4	3	3	64QAM	23.18	23.05	23.00
1.4	6	0		22.07	22.02	21.94
1.4	1	0		22.05	21.97	21.90
1.4	1	3		22.08	22.02	21.86
1.4	1	5		21.98	21.96	21.84
1.4	3	0		21.99	22.00	21.85
1.4	3	1		22.06	22.02	21.89
1.4	3	3		21.99	21.97	21.85
1.4	6	0		20.85	20.83	20.78



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	24.25	24.06	24.07
	1	37		24.09	24.12	24.08
	1	74		24.15	23.76	24.08
	36	0		23.79	23.63	23.60
	36	20		23.66	23.54	23.58
	36	39		23.57	23.60	23.60
	75	0		23.63	23.48	23.52
15	1	0	16-QAM	23.51	22.95	23.50
	1	37		22.98	23.15	23.37
	1	74		23.18	22.17	23.69
	36	0		22.20	22.23	22.21
	36	20		22.26	22.20	22.33
	36	39		22.23	22.33	22.26
	75	0		22.36	22.21	22.16
15	1	0	64QAM	22.24	22.10	22.09
	1	37		22.13	22.16	22.26
	1	74		22.19	21.05	22.11
	36	0		21.08	20.96	20.94
	36	20		20.99	20.90	21.08
	36	39		20.93	20.95	20.95
	75	0		20.98	20.98	21.04



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	24.01	23.98	24.06
	1	25		24.07	24.04	24.10
	1	49		23.97	23.94	23.98
	25	0		23.67	23.64	23.61
	25	12		23.65	23.62	23.61
	25	25		23.58	23.55	23.64
	50	0		23.62	23.59	23.59
10	1	0	16-QAM	23.51	23.48	23.36
	1	25		23.48	23.45	23.39
	1	49		23.43	23.40	23.19
	25	0		22.16	22.13	22.15
	25	12		22.20	22.17	22.10
	25	25		22.18	22.15	22.22
	50	0		22.16	22.13	22.31
10	1	0	64QAM	22.04	22.01	22.12
	1	25		22.13	22.10	22.15
	1	49		22.14	22.11	22.03
	25	0		20.86	20.83	20.93
	25	12		20.87	20.84	20.91
	25	25		20.93	20.90	20.94
	50	0		20.84	20.81	20.87
5	1	0	QPSK	24.07	24.04	24.11
	1	12		24.07	24.04	24.05
	1	24		24.00	23.97	24.01
	12	0		23.65	23.62	23.66
	12	7		23.64	23.61	23.68
	12	13		23.62	23.59	23.60
	25	0		23.62	23.59	23.65
5	1	0	16-QAM	23.67	23.64	23.63
	1	12		23.79	23.76	23.43
	1	24		23.77	23.74	23.04
	12	0		22.16	22.13	22.26
	12	7		22.26	22.23	22.27



5	12	13	64QAM	22.33	22.30	22.30
5	25	0		22.20	22.17	22.15
5	1	0		22.04	22.01	22.16
5	1	12		22.09	22.06	22.07
5	1	24		22.10	22.07	22.03
5	12	0		20.93	20.90	21.06
5	12	7		20.93	20.90	21.03
5	12	13		21.03	21.00	21.02
5	25	0		20.84	20.81	20.94



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	24.07	24.04	24.06
	1	8		24.02	23.99	24.06
	1	14		24.02	23.99	24.05
	8	0		23.59	23.56	23.59
	8	4		23.62	23.59	23.61
	8	7		23.59	23.56	23.58
	15	0		23.63	23.60	23.62
3	1	0	16-QAM	23.42	23.39	23.36
	1	8		23.92	23.89	23.32
	1	14		23.46	23.43	23.72
	8	0		22.20	22.17	22.22
	8	4		22.31	22.28	22.36
	8	7		22.38	22.35	22.33
	15	0		22.11	22.08	22.23
3	1	0	64QAM	21.97	21.94	22.02
	1	8		22.11	22.08	22.01
	1	14		22.09	22.06	22.01
	8	0		20.92	20.89	20.97
	8	4		20.92	20.89	21.04
	8	7		21.03	21.00	21.01
	15	0		20.83	20.80	20.94
1.4	1	0	QPSK	23.99	23.96	23.97
	1	3		24.02	23.99	24.03
	1	5		23.96	23.93	23.92
	3	0		23.53	23.50	23.52
	3	1		23.57	23.54	23.56
	3	3		23.55	23.52	23.53
	6	0		23.57	23.54	23.57
1.4	1	0	16-QAM	23.54	23.51	23.22
	1	3		23.03	23.00	23.54
	1	5		23.64	23.61	23.23
	3	0		22.96	22.93	23.17
	3	1		23.24	23.21	23.19



1.4	3	3	64QAM	23.27	23.24	23.21
1.4	6	0		22.15	22.12	22.30
1.4	1	0		21.96	21.93	21.95
1.4	1	3		21.99	21.96	22.02
1.4	1	5		21.92	21.89	21.96
1.4	3	0		22.00	21.97	21.97
1.4	3	1		22.02	21.99	22.02
1.4	3	3		21.97	21.94	21.98
1.4	6	0		20.83	20.80	20.84



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	25.72	25.97	25.89
	1	49		25.69	25.91	25.86
	1	99		25.76	25.81	25.78
	50	0		25.39	25.66	25.65
	50	24		25.38	25.41	25.62
	50	50		25.34	25.30	25.64
	100	0		25.36	25.65	25.60
20	1	0	16-QAM	24.39	24.56	24.67
	1	49		24.26	24.79	24.62
	1	99		24.35	24.65	24.50
	50	0		23.45	23.49	23.52
	50	24		23.35	23.54	23.71
	50	50		23.44	23.61	23.68
	100	0		23.31	23.53	23.62
20	1	0	64QAM	23.40	23.65	23.85
	1	49		23.41	23.79	23.80
	1	99		23.45	23.80	23.81
	50	0		22.46	22.71	22.85
	50	24		22.50	22.78	22.76
	50	50		22.50	22.79	22.89
	100	0		22.47	22.77	22.88
15	1	0	QPSK	25.80	25.64	25.82
	1	37		25.82	25.72	25.93
	1	74		25.81	25.66	25.95
	36	0		25.38	25.27	25.54
	36	20		25.30	25.33	25.54
	36	39		25.28	25.30	25.58
	75	0		25.32	25.26	25.55
15	1	0	16-QAM	24.42	24.57	24.68
	1	37		24.40	24.80	24.66
	1	74		24.40	24.66	24.81
	36	0		23.21	23.40	23.55
	36	20		23.29	23.54	23.53



15	36	39	64QAM	23.21	23.69	23.60
15	75	0		23.33	23.50	23.58
15	1	0		23.42	23.70	23.73
15	1	37		23.50	23.79	23.82
15	1	74		23.46	23.79	23.78
15	36	0		22.46	22.70	22.77
15	36	20		22.42	22.78	22.77
15	36	39		22.46	22.76	22.84
15	75	0		22.45	22.73	22.81



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	25.78	25.61	25.40
	1	25		25.85	25.68	25.87
	1	49		25.75	25.71	25.46
	25	0		25.38	25.23	25.67
	25	12		25.43	25.32	25.56
	25	25		25.30	25.25	25.68
	50	0		25.32	25.28	25.71
10	1	0	16-QAM	24.43	24.61	24.79
	1	25		24.38	24.85	24.71
	1	49		24.42	24.71	25.16
	25	0		23.37	23.66	23.95
	25	12		23.34	23.58	23.79
	25	25		23.36	23.53	23.72
	50	0		23.17	23.69	23.87
10	1	0	64QAM	23.49	23.70	23.98
	1	25		23.51	23.83	23.80
	1	49		23.44	23.83	23.93
	25	0		22.57	22.79	23.00
	25	12		22.63	22.86	22.92
	25	25		22.53	22.87	23.06
	50	0		22.43	22.74	22.96
5	1	0	QPSK	25.77	25.61	25.85
	1	12		25.83	25.70	25.91
	1	24		25.77	25.68	25.87
	12	0		25.38	25.26	25.52
	12	7		25.41	25.26	25.57
	12	13		25.40	25.26	25.58
	25	0		25.39	25.24	25.53
5	1	0	16-QAM	24.30	24.65	24.76
	1	12		24.72	24.74	24.83
	1	24		24.47	24.69	24.84
	12	0		23.30	23.53	23.49
	12	7		23.43	23.51	23.56



5	12	13	64QAM	23.34	23.53	23.79
5	25	0		23.37	23.55	23.60
5	1	0		23.43	23.69	23.81
5	1	12		23.50	23.81	23.84
5	1	24		23.54	23.84	23.84
5	12	0		22.56	22.78	22.79
5	12	7		22.59	22.81	22.83
5	12	13		22.59	22.81	22.81
5	25	0		22.57	22.79	22.83



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.89	23.86	23.92
	1	49		23.98	24.05	23.90
	1	99		23.79	23.80	23.70
	50	0		23.49	23.58	23.30
	50	24		23.42	23.36	23.22
	50	50		23.40	23.30	23.26
	100	0		23.45	23.51	23.24
20	1	0	16-QAM	22.71	22.91	23.09
	1	49		23.15	23.31	22.75
	1	99		22.72	22.50	22.88
	50	0		21.72	21.68	21.67
	50	24		21.72	21.66	21.66
	50	50		21.75	21.56	21.78
	100	0		21.65	21.65	21.61
20	1	0	64QAM	21.58	21.67	21.54
	1	49		21.71	21.77	21.74
	1	99		21.53	21.58	21.58
	50	0		20.50	20.57	20.45
	50	24		20.46	20.50	20.42
	50	50		20.42	20.42	20.43
	100	0		20.44	20.50	20.42
15	1	0	QPSK	23.88	23.85	23.76
	1	37		24.02	23.97	23.90
	1	74		23.77	23.73	23.74
	36	0		23.29	23.37	23.20
	36	20		23.35	23.41	23.35
	36	39		23.24	23.26	23.20
	75	0		23.28	23.26	23.16
15	1	0	16-QAM	22.96	23.22	23.01
	1	37		22.89	23.35	23.27
	1	74		22.78	22.62	23.18
	36	0		21.73	21.60	21.60
	36	20		21.69	21.68	21.72



15	36	39	64QAM	21.60	21.50	21.64
15	75	0		21.61	21.63	21.57
15	1	0		21.49	21.68	21.52
15	1	37		21.66	21.79	21.77
15	1	74		21.57	21.55	21.62
15	36	0		20.44	20.52	20.40
15	36	20		20.50	20.57	20.56
15	36	39		20.40	20.41	20.44
15	75	0		20.40	20.45	20.32



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.89	23.80	23.84
	1	25		23.96	23.88	23.81
	1	49		23.76	23.74	23.70
	25	0		23.40	23.35	23.35
	25	12		23.40	23.34	23.29
	25	25		23.33	23.28	23.27
	50	0		23.37	23.32	23.32
10	1	0	16-QAM	22.92	23.15	22.91
	1	25		22.80	23.04	22.93
	1	49		22.62	23.04	22.84
	25	0		21.61	21.67	21.81
	25	12		21.75	21.59	21.71
	25	25		21.72	21.67	21.69
	50	0		21.74	21.73	21.65
10	1	0	64QAM	21.51	21.67	21.72
	1	25		21.59	21.70	21.66
	1	49		21.50	21.50	21.57
	25	0		20.48	20.51	20.49
	25	12		20.49	20.51	20.47
	25	25		20.45	20.44	20.42
	50	0		20.49	20.47	20.46
5	1	0	QPSK	23.71	23.65	23.76
	1	12		23.99	23.90	23.78
	1	24		23.70	23.67	23.60
	12	0		23.35	23.35	23.28
	12	7		23.41	23.43	23.33
	12	13		23.31	23.31	23.22
	25	0		23.36	23.31	23.26
5	1	0	16-QAM	22.76	22.88	22.92
	1	12		22.77	22.69	22.82
	1	24		22.58	22.65	22.69
	12	0		21.80	21.67	21.66
	12	7		21.75	21.74	21.85



5	12	13	64QAM	21.68	21.65	21.77
5	25	0		21.71	21.57	21.69
5	1	0		21.38	21.49	21.61
5	1	12		21.57	21.70	21.69
5	1	24		21.39	21.47	21.49
5	12	0		20.49	20.54	20.50
5	12	7		20.56	20.61	20.58
5	12	13		20.45	20.46	20.45
5	25	0		20.45	20.45	20.43



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.79	23.67	23.78
	1	8		23.88	23.88	23.81
	1	14		23.85	23.73	23.63
	8	0		23.39	23.35	23.25
	8	4		23.45	23.44	23.35
	8	7		23.46	23.37	23.27
	15	0		23.51	23.36	23.31
3	1	0	16-QAM	22.63	22.84	22.73
	1	8		23.04	22.92	23.32
	1	14		22.58	22.97	22.62
	8	0		21.63	21.58	21.72
	8	4		21.68	21.81	21.89
	8	7		21.73	21.66	21.78
	15	0		21.76	21.73	21.76
3	1	0	64QAM	21.41	21.50	21.62
	1	8		21.51	21.71	21.65
	1	14		21.47	21.54	21.55
	8	0		20.41	20.57	20.53
	8	4		20.46	20.60	20.56
	8	7		20.50	20.56	20.51
	15	0		20.51	20.51	20.46
1.4	1	0	QPSK	23.81	23.81	23.81
	1	3		23.90	23.91	23.81
	1	5		23.80	23.77	23.67
	3	0		23.37	23.36	23.29
	3	1		23.43	23.39	23.32
	3	3		23.34	23.36	23.28
	6	0		23.30	23.35	23.30
1.4	1	0	16-QAM	22.60	23.10	22.88
	1	3		22.96	22.96	22.91
	1	5		22.72	22.70	22.95
	3	0		22.62	22.72	22.76
	3	1		22.59	22.74	22.81



1.4	3	3	64QAM	22.65	22.73	22.59
1.4	6	0		21.70	21.69	21.74
1.4	1	0		21.47	21.62	21.62
1.4	1	3		21.49	21.71	21.74
1.4	1	5		21.40	21.55	21.59
1.4	3	0		21.42	21.60	21.56
1.4	3	1		21.48	21.65	21.63
1.4	3	3		21.45	21.60	21.61
1.4	6	0		20.38	20.48	20.55

**CA Power**

CA_41C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	0	0	1	99	1	23.76
			1	0	0	0	1	23.93
			100	0	0	0	100	22.80
			100	0	100	0	200	21.87
			1	0	1	99	2	15.47
			1	0	1	0	2	19.43
			1	99	1	0	2	23.87
			100	0	1	99	101	20.30
		16QAM	0	0	1	99	1	23.16
			1	0	0	0	1	23.35
			100	0	0	0	100	21.90
			100	0	100	0	200	20.92
			1	0	1	99	2	15.88
			1	0	1	0	2	19.84
			1	99	1	0	2	23.20
			100	0	1	99	101	20.42
		64QAM	0	0	1	99	1	22.06
			1	0	0	0	1	22.20
			100	0	0	0	100	20.85
			100	0	100	0	200	20.88
			1	0	1	99	2	15.79
			1	0	1	0	2	19.73
			1	99	1	0	2	21.09
			100	0	1	99	101	20.39



40521	40719	QPSK	0	0	1	99	1	23.54
			1	0	0	0	1	23.79
			100	0	0	0	100	22.81
			100	0	100	0	200	21.85
			1	0	1	99	2	15.40
			1	0	1	0	2	19.49
			1	99	1	0	2	23.65
			100	0	1	99	101	20.40
		16QAM	0	0	1	99	1	23.16
			1	0	0	0	1	23.31
			100	0	0	0	100	21.90
			100	0	100	0	200	20.89
			1	0	1	99	2	15.80
			1	0	1	0	2	19.73
			1	99	1	0	2	23.09
			100	0	1	99	101	20.32
		64QAM	0	0	1	99	1	22.10
			1	0	0	0	1	22.07
			100	0	0	0	100	20.82
			100	0	100	0	200	20.79
			1	0	1	99	2	15.67
			1	0	1	0	2	19.73
			1	99	1	0	2	21.02
			100	0	1	99	101	20.35



41292	41490	QPSK	0	0	1	99	1	23.89
			1	0	0	0	1	23.06
			100	0	0	0	100	22.06
			100	0	100	0	200	22.07
			1	0	1	99	2	15.63
			1	0	1	0	2	19.67
			1	99	1	0	2	24.02
			100	0	1	99	101	20.58
41292	41490	16QAM	0	0	1	99	1	23.41
			1	0	0	0	1	23.80
			100	0	0	0	100	22.25
			100	0	100	0	200	21.25
			1	0	1	99	2	16.08
			1	0	1	0	2	20.13
			1	99	1	0	2	23.63
			100	0	1	99	101	20.70
41292	41490	64QAM	0	0	1	99	1	22.19
			1	0	0	0	1	22.59
			100	0	0	0	100	21.19
			100	0	100	0	200	21.20
			1	0	1	99	2	15.95
			1	0	1	0	2	20.00
			1	99	1	0	2	21.39
			100	0	1	99	101	20.65



CA_41C								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39921	QPSK	100	0	75	0	175	21.59
		QPSK	1	0	1	74	2	15.59
		QPSK	1	99	1	0	2	24.14
		16QAM	100	0	75	0	175	20.79
		16QAM	1	0	1	74	2	16.09
		16QAM	1	99	1	0	2	23.47
		64QAM	100	0	75	0	175	20.60
		64QAM	1	0	1	74	2	15.91
		64QAM	1	99	1	0	2	21.36
40546	40717	QPSK	100	0	75	0	175	21.71
		QPSK	1	0	1	74	2	15.64
		QPSK	1	99	1	0	2	24.35
		16QAM	100	0	75	0	175	20.91
		16QAM	1	0	1	74	2	16.30
		16QAM	1	99	1	0	2	23.52
		64QAM	100	0	75	0	175	20.72
		64QAM	1	0	1	74	2	15.96
		64QAM	1	99	1	0	2	21.57
41341	41512	QPSK	100	0	75	0	175	22.07
		QPSK	1	0	1	74	2	15.68
		QPSK	1	99	1	0	2	24.36
		16QAM	100	0	75	0	175	20.82
		16QAM	1	0	1	74	2	16.56
		16QAM	1	99	1	0	2	23.92
		64QAM	100	0	75	0	175	20.87
		64QAM	1	0	1	74	2	15.98
		64QAM	1	99	1	0	2	21.95



Combination 15MHz+20MHz (75RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39728	39899	QPSK	75	0	100	0	175	22.02
		QPSK	1	0	1	99	2	16.59
		QPSK	1	74	1	0	2	24.95
		16QAM	75	0	100	0	175	21.06
		16QAM	1	0	1	99	2	15.93
		16QAM	1	74	1	0	2	24.61
		64QAM	75	0	100	0	175	21.08
		64QAM	1	0	1	99	2	16.22
		64QAM	1	74	1	0	2	21.97
40523	40694	QPSK	75	0	100	0	175	22.12
		QPSK	1	0	1	99	2	16.64
		QPSK	1	74	1	0	2	24.85
		16QAM	75	0	100	0	175	21.35
		16QAM	1	0	1	99	2	16.07
		16QAM	1	74	1	0	2	24.88
		64QAM	75	0	100	0	175	21.09
		64QAM	1	0	1	99	2	15.87
		64QAM	1	74	1	0	2	21.79
41319	41490	QPSK	75	0	100	0	175	22.12
		QPSK	1	0	1	99	2	16.34
		QPSK	1	74	1	0	2	24.69
		16QAM	75	0	100	0	175	21.08
		16QAM	1	0	1	99	2	16.04
		16QAM	1	74	1	0	2	24.78
		64QAM	75	0	100	0	175	21.16
		64QAM	1	0	1	99	2	16.12
		64QAM	1	74	1	0	2	21.19



Combination 20MHz+10MHz (100RB+50RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
39750	39894	QPSK	100	0	50	0	150	22.56
		QPSK	1	0	1	49	2	16.77
		QPSK	1	99	1	0	2	24.83
		16QAM	100	0	50	0	150	21.62
		16QAM	1	0	1	49	2	16.34
		16QAM	1	99	1	0	2	24.89
		64QAM	100	0	50	0	150	21.48
		64QAM	1	0	1	49	2	16.15
		64QAM	1	99	1	0	2	21.62
40571	40715	QPSK	100	0	50	0	150	22.59
		QPSK	1	0	1	49	2	16.95
		QPSK	1	99	1	0	2	24.71
		16QAM	100	0	50	0	150	21.61
		16QAM	1	0	1	49	2	16.44
		16QAM	1	99	1	0	2	24.82
		64QAM	100	0	50	0	150	21.54
		64QAM	1	0	1	49	2	16.30
		64QAM	1	99	1	0	2	21.66
41391	41535	QPSK	100	0	50	0	150	22.48
		QPSK	1	0	1	49	2	16.57
		QPSK	1	99	1	0	2	24.72
		16QAM	100	0	50	0	150	21.51
		16QAM	1	0	1	49	2	16.13
		16QAM	1	99	1	0	2	24.86
		64QAM	100	0	50	0	150	21.53
		64QAM	1	0	1	49	2	16.31
		64QAM	1	99	1	0	2	21.45



Combination 10MHz+20MHz (50RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
39705	39849	QPSK	50	0	100	0	150	22.43
		QPSK	1	0	1	99	2	16.49
		QPSK	1	49	1	0	2	24.57
		16QAM	50	0	100	0	150	21.39
		16QAM	1	0	1	99	2	15.86
		16QAM	1	49	1	0	2	24.29
		64QAM	50	0	100	0	150	21.35
		64QAM	1	0	1	99	2	16.02
		64QAM	1	49	1	0	2	21.31
40526	40670	QPSK	50	0	100	0	150	22.52
		QPSK	1	0	1	99	2	16.55
		QPSK	1	49	1	0	2	24.38
		16QAM	50	0	100	0	150	21.54
		16QAM	1	0	1	99	2	15.89
		16QAM	1	49	1	0	2	24.65
		64QAM	50	0	100	0	150	21.56
		64QAM	1	0	1	99	2	16.22
		64QAM	1	49	1	0	2	21.46
41346	41490	QPSK	50	0	100	0	150	22.40
		QPSK	1	0	1	99	2	16.53
		QPSK	1	49	1	0	2	24.45
		16QAM	50	0	100	0	150	21.47
		16QAM	1	0	1	99	2	15.91
		16QAM	1	49	1	0	2	24.56
		64QAM	50	0	100	0	150	21.58
		64QAM	1	0	1	99	2	16.00
		64QAM	1	49	1	0	2	21.32



Combination 20MHz+5MHz (100RB+25RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
39750	39867	QPSK	100	0	25	0	125	22.67
		QPSK	1	0	1	24	2	15.89
		QPSK	1	99	1	0	2	24.06
		16QAM	100	0	25	0	125	21.46
		16QAM	1	0	1	24	2	15.05
		16QAM	1	99	1	0	2	24.12
		64QAM	100	0	25	0	125	21.98
		64QAM	1	0	1	24	2	14.95
		64QAM	1	99	1	0	2	21.89
40595	40712	QPSK	100	0	25	0	125	22.52
		QPSK	1	0	1	24	2	15.43
		QPSK	1	99	1	0	2	24.00
		16QAM	100	0	25	0	125	21.68
		16QAM	1	0	1	24	2	14.86
		16QAM	1	99	1	0	2	23.97
		64QAM	100	0	25	0	125	21.28
		64QAM	1	0	1	24	2	14.63
		64QAM	1	99	1	0	2	21.26
41440	41557	QPSK	100	0	25	0	125	22.87
		QPSK	1	0	1	24	2	15.85
		QPSK	1	99	1	0	2	24.13
		16QAM	100	0	25	0	125	21.81
		16QAM	1	0	1	24	2	15.22
		16QAM	1	99	1	0	2	24.32
		64QAM	100	0	25	0	125	21.66
		64QAM	1	0	1	24	2	14.62
		64QAM	1	99	1	0	2	21.67



Combination 5MHz+20MHz (25RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
39683	39800	QPSK	25	0	100	0	125	22.46
		QPSK	1	0	1	99	2	15.65
		QPSK	1	24	1	0	2	24.31
		16QAM	25	0	100	0	125	21.41
		16QAM	1	0	1	99	2	14.92
		16QAM	1	24	1	0	2	24.11
		64QAM	25	0	100	0	125	21.72
		64QAM	1	0	1	99	2	14.96
		64QAM	1	24	1	0	2	21.85
40528	40645	QPSK	25	0	100	0	125	22.65
		QPSK	1	0	1	99	2	15.55
		QPSK	1	24	1	0	2	24.56
		16QAM	25	0	100	0	125	21.43
		16QAM	1	0	1	99	2	14.56
		16QAM	1	24	1	0	2	24.01
		64QAM	25	0	100	0	125	22.00
		64QAM	1	0	1	99	2	15.34
		64QAM	1	24	1	0	2	21.06
41373	41490	QPSK	25	0	100	0	125	22.43
		QPSK	1	0	1	99	2	15.46
		QPSK	1	24	1	0	2	24.15
		16QAM	25	0	100	0	125	21.74
		16QAM	1	0	1	99	2	15.19
		16QAM	1	24	1	0	2	24.14
		64QAM	25	0	100	0	125	21.75
		64QAM	1	0	1	99	2	14.57
		64QAM	1	24	1	0	2	21.78



Combination 15MHz+15MHz (75RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
39725	39875	QPSK	75	0	75	0	150	22.65
		QPSK	1	0	1	74	2	15.75
		QPSK	1	74	1	0	2	24.25
		16QAM	75	0	75	0	150	21.43
		16QAM	1	0	1	74	2	15.24
		16QAM	1	74	1	0	2	23.65
		64QAM	75	0	75	0	150	21.32
		64QAM	1	0	1	74	2	15.18
		64QAM	1	74	1	0	2	21.45
40545	40695	QPSK	75	0	75	0	150	22.46
		QPSK	1	0	1	74	2	15.43
		QPSK	1	74	1	0	2	24.15
		16QAM	75	0	75	0	150	21.34
		16QAM	1	0	1	74	2	15.11
		16QAM	1	74	1	0	2	23.35
		64QAM	75	0	75	0	150	21.41
		64QAM	1	0	1	74	2	15.32
		64QAM	1	74	1	0	2	21.62
41365	41515	QPSK	75	0	75	0	150	22.53
		QPSK	1	0	1	74	2	15.61
		QPSK	1	74	1	0	2	24.12
		16QAM	75	0	75	0	150	21.52
		16QAM	1	0	1	74	2	15.22
		16QAM	1	74	1	0	2	23.41
		64QAM	75	0	75	0	150	21.5
		64QAM	1	0	1	74	2	15.28
		64QAM	1	74	1	0	2	21.51



Combination 15MHz+10MHz (75RB+50RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
39725	39845	QPSK	75	0	50	0	125	22.03
		QPSK	1	0	1	49	2	15.99
		QPSK	1	74	1	0	2	24.36
		16QAM	75	0	50	0	125	20.98
		16QAM	1	0	1	49	2	15.36
		16QAM	1	74	1	0	2	24.43
		64QAM	75	0	50	0	125	21.11
		64QAM	1	0	1	49	2	15.64
		64QAM	1	74	1	0	2	21.08
40571	40691	QPSK	75	0	50	0	125	22.23
		QPSK	1	0	1	49	2	16.37
		QPSK	1	74	1	0	2	24.65
		16QAM	75	0	50	0	125	21.36
		16QAM	1	0	1	49	2	15.21
		16QAM	1	74	1	0	2	24.00
		64QAM	75	0	50	0	125	21.12
		64QAM	1	0	1	49	2	15.91
		64QAM	1	74	1	0	2	21.24
41417	41537	QPSK	75	0	50	0	125	22.24
		QPSK	1	0	1	49	2	16.02
		QPSK	1	74	1	0	2	24.33
		16QAM	75	0	50	0	125	21.42
		16QAM	1	0	1	49	2	16.25
		16QAM	1	74	1	0	2	24.65
		64QAM	75	0	50	0	125	21.37
		64QAM	1	0	1	49	2	16.11
		64QAM	1	74	1	0	2	21.38



Combination 10MHz+15MHz (50RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
39703	39823	QPSK	50	0	75	0	125	22.35
		QPSK	1	49	1	0	2	24.62
		QPSK	1	0	1	74	2	16.12
		16QAM	50	0	75	0	125	21.43
		16QAM	1	49	1	0	2	24.06
		16QAM	1	0	1	74	2	15.48
		64QAM	50	0	75	0	125	21.24
		64QAM	1	49	1	0	2	21.05
		64QAM	1	0	1	74	2	15.28
40549	40669	QPSK	50	0	75	0	125	22.19
		QPSK	1	49	1	0	2	24.33
		QPSK	1	0	1	74	2	16.35
		16QAM	50	0	75	0	125	21.03
		16QAM	1	49	1	0	2	23.86
		16QAM	1	0	1	74	2	16.05
		64QAM	50	0	75	0	125	21.45
		64QAM	1	49	1	0	2	21.23
		64QAM	1	0	1	74	2	16.02
41395	41515	QPSK	50	0	75	0	125	21.98
		QPSK	1	49	1	0	2	23.80
		QPSK	1	0	1	74	2	15.60
		16QAM	50	0	75	0	125	21.12
		16QAM	1	49	1	0	2	23.76
		16QAM	1	0	1	74	2	15.35
		64QAM	50	0	75	0	125	21.20
		64QAM	1	49	1	0	2	21.07
		64QAM	1	0	1	74	2	15.18

**ERP/EIRP**

LTE Band 2 ($G_T - L_C = -0.5 \text{ dBi}$) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	18607	18900	19193	18615	18900	19185	18625	18900	19175
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
Conducted Power (dBm)	23.93	23.83	23.79	23.86	23.99	23.85	23.92	23.96	23.84
Conducted Power (Watts)	0.2472	0.2415	0.2393	0.2432	0.2506	0.2427	0.2466	0.2489	0.2421
EIRP(dBm)	23.43	23.33	23.29	23.36	23.49	23.35	23.42	23.46	23.34
EIRP(Watts)	0.2203	0.2153	0.2133	0.2168	0.2234	0.2163	0.2198	0.2218	0.2158

LTE Band 2 ($G_T - L_C = -0.5 \text{ dBi}$) QPSK									
Bandwidth	10M			15M			20M		
Channel	18650	18900	19150	18675	18900	19125	18650	18900	19100
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
Conducted Power (dBm)	23.93	23.99	23.89	23.94	23.95	23.87	24.12	24.20	23.98
Conducted Power (Watts)	0.2472	0.2506	0.2449	0.2477	0.2483	0.2438	0.2582	0.2630	0.2500
EIRP(dBm)	23.43	23.49	23.39	23.44	23.45	23.37	23.62	23.70	23.48
EIRP(Watts)	0.2203	0.2234	0.2183	0.2208	0.2213	0.2173	0.2301	0.2344	0.2228



LTE Band 2 ($G_T - L_C = -0.5 \text{ dBi}$) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	18607 (Low)	18900 (Mid)	19193 (High)	18615 (Low)	18900 (Mid)	19185 (High)	18625 (Low)	18900 (Mid)	19175 (High)
	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
Conducted Power (dBm)	23.97	24.00	23.89	23.80	23.92	23.74	23.87	23.93	23.83
Conducted Power (Watts)	0.2495	0.2512	0.2449	0.2399	0.2466	0.2366	0.2438	0.2472	0.2415
EIRP(dBm)	23.47	23.50	23.39	23.30	23.42	23.24	23.37	23.43	23.33
EIRP(Watts)	0.2223	0.2239	0.2183	0.2138	0.2198	0.2109	0.2173	0.2203	0.2153

LTE Band 2 ($G_T - L_C = -0.5 \text{ dBi}$) 16QAM									
Bandwidth	10M			15M			20M		
Channel	18650 (Low)	18900 (Mid)	19150 (High)	18675 (Low)	18900 (Mid)	19125 (High)	18650 (Low)	18900 (Mid)	19100 (High)
	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
Conducted Power (dBm)	23.98	23.90	23.85	23.95	23.89	23.84	23.98	23.92	23.84
Conducted Power (Watts)	0.2500	0.2455	0.2427	0.2483	0.2449	0.2421	0.2500	0.2466	0.2421
EIRP(dBm)	23.48	23.40	23.35	23.45	23.39	23.34	23.48	23.42	23.34
EIRP(Watts)	0.2228	0.2188	0.2163	0.2213	0.2183	0.2158	0.2228	0.2198	0.2158



LTE Band 2 ($G_T - L_C = -0.5 \text{ dBi}$) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	18607	18900	19193	18615	18900	19185	18625	18900	19175
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
	22.05	22.04	22.04	21.97	22.07	21.97	21.93	22.03	22.10
Conducted Power (dBm)	0.1603	0.1600	0.1600	0.1574	0.1611	0.1574	0.1560	0.1596	0.1622
EIRP(dBm)	21.55	21.54	21.54	21.47	21.57	21.47	21.43	21.53	21.60
EIRP(Watts)	0.1429	0.1426	0.1426	0.1403	0.1435	0.1403	0.1390	0.1422	0.1445

LTE Band 2 ($G_T - L_C = -0.5 \text{ dBi}$) 64QAM									
Bandwidth	10M			15M			20M		
Channel	18650	18900	19150	18675	18900	19125	18650	18900	19100
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
	22.09	22.15	22.05	22.00	21.99	22.09	22.07	22.16	21.97
Conducted Power (dBm)	0.1618	0.1641	0.1603	0.1585	0.1581	0.1618	0.1611	0.1644	0.1574
EIRP(dBm)	21.59	21.65	21.55	21.50	21.49	21.59	21.57	21.66	21.47
EIRP(Watts)	0.1442	0.1462	0.1429	0.1413	0.1409	0.1442	0.1435	0.1466	0.1403



LTE Band 4 ($G_T - L_C = -0.5 \text{ dBi}$) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	19957 (Low)	20175 (Mid)	20393 (High)	19965 (Low)	20175 (Mid)	20385 (High)	19975 (Low)	20175 (Mid)	20375 (High)
	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Frequency (MHz)									
Conducted Power (dBm)	23.64	23.60	23.64	23.87	23.81	23.71	23.86	23.81	23.74
Conducted Power (Watts)	0.2312	0.2291	0.2312	0.2438	0.2404	0.2350	0.2432	0.2404	0.2366
EIRP(dBm)	23.14	23.10	23.14	23.37	23.31	23.21	23.36	23.31	23.24
EIRP(Watts)	0.2061	0.2042	0.2061	0.2173	0.2143	0.2094	0.2168	0.2143	0.2109

LTE Band 4 ($G_T - L_C = -0.5 \text{ dBi}$) QPSK									
Bandwidth	10M			15M			20M		
Channel	20000 (Low)	20175 (Mid)	20350 (High)	20025 (Low)	20175 (Mid)	20325 (High)	20050 (Low)	20175 (Mid)	20300 (High)
	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Frequency (MHz)									
Conducted Power (dBm)	23.73	23.83	23.72	23.69	23.79	23.74	23.81	23.89	23.76
Conducted Power (Watts)	0.2360	0.2415	0.2355	0.2339	0.2393	0.2366	0.2404	0.2449	0.2377
EIRP(dBm)	23.23	23.33	23.22	23.19	23.29	23.24	23.31	23.39	23.26
EIRP(Watts)	0.2104	0.2153	0.2099	0.2084	0.2133	0.2109	0.2143	0.2183	0.2118



LTE Band 4 ($G_T - L_C = -0.5 \text{ dB}i$) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	19957 (Low)	20175 (Mid)	20393 (High)	19965 (Low)	20175 (Mid)	20385 (High)	19975 (Low)	20175 (Mid)	20375 (High)
	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Frequency (MHz)	Conducted Power (dBm)	22.86	23.06	22.86	22.56	23.14	22.59	22.85	22.96
Conducted Power (Watts)	EIRP(dBm)	0.1932	0.2023	0.1932	0.1803	0.2061	0.1816	0.1928	0.1977
EIRP(Watts)	EIRP(dBm)	22.36	22.56	22.36	22.06	22.64	22.09	22.35	22.46
EIRP(Watts)	EIRP(Watts)	0.1722	0.1803	0.1722	0.1607	0.1837	0.1618	0.1718	0.1762

LTE Band 4 ($G_T - L_C = -0.5 \text{ dB}i$) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20000 (Low)	20175 (Mid)	20350 (High)	20025 (Low)	20175 (Mid)	20325 (High)	20050 (Low)	20175 (Mid)	20300 (High)
	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Frequency (MHz)	Conducted Power (dBm)	22.85	22.99	22.61	22.85	22.67	23.04	22.56	22.65
Conducted Power (Watts)	EIRP(dBm)	0.1928	0.1991	0.1824	0.1928	0.1849	0.2014	0.1803	0.1841
EIRP(dBm)	EIRP(Watts)	22.35	22.49	22.11	22.35	22.17	22.54	22.06	22.15
EIRP(Watts)	EIRP(dBm)	0.1718	0.1774	0.1626	0.1718	0.1648	0.1795	0.1607	0.1641
EIRP(Watts)	EIRP(Watts)	0.1718	0.1774	0.1626	0.1718	0.1648	0.1795	0.1607	0.1683



LTE Band 4 ($G_T - L_C = -0.5 \text{ dB}i$) 64QAM										
Bandwidth	1.4M			3M			5M			
Channel	19957 (Low)	20175 (Mid)	20393 (High)	19965 (Low)	20175 (Mid)	20385 (High)	19975 (Low)	20175 (Mid)	20375 (High)	
	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5	
Frequency (MHz)	Conducted Power (dBm)	21.51	21.69	21.58	21.50	21.74	21.51	21.52	21.67	21.53
Conducted Power (Watts)	EIRP(dBm)	0.1416	0.1476	0.1439	0.1413	0.1493	0.1416	0.1419	0.1469	0.1422
EIRP(Watts)	EIRP(dBm)	21.01	21.19	21.08	21.00	21.24	21.01	21.02	21.17	21.03
EIRP(Watts)	EIRP(Watts)	0.1262	0.1315	0.1282	0.1259	0.1330	0.1262	0.1265	0.1309	0.1268

LTE Band 4 ($G_T - L_C = -0.5 \text{ dB}i$) 64QAM										
Bandwidth	10M			15M			20M			
Channel	20000 (Low)	20175 (Mid)	20350 (High)	20025 (Low)	20175 (Mid)	20325 (High)	20050 (Low)	20175 (Mid)	20300 (High)	
	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745	
Frequency (MHz)	Conducted Power (dBm)	21.46	21.65	21.55	21.48	21.66	21.53	21.46	21.47	21.69
Conducted Power (Watts)	EIRP(dBm)	0.1400	0.1462	0.1429	0.1406	0.1466	0.1422	0.1400	0.1403	0.1476
EIRP(dBm)	EIRP(Watts)	20.96	21.15	21.05	20.98	21.16	21.03	20.96	20.97	21.19
EIRP(Watts)	EIRP(dBm)	0.1247	0.1303	0.1274	0.1253	0.1306	0.1268	0.1247	0.1250	0.1315



LTE Band 5 ($G_T - L_C = -1.2 \text{ dBi}$) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	24.08	24.00	23.88	24.17	24.08	23.80	24.18	24.04	23.90
Conducted Power (Watts)	0.2559	0.2512	0.2443	0.2612	0.2559	0.2399	0.2618	0.2535	0.2455
ERP(dBm)	20.73	20.65	20.53	20.82	20.73	20.45	20.83	20.69	20.55
ERP(Watts)	0.1183	0.1161	0.1130	0.1208	0.1183	0.1109	0.1211	0.1172	0.1135

LTE Band 5 ($G_T - L_C = -1.2 \text{ dBi}$) QPSK			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	24.12	24.22	24.00
Conducted Power (Watts)	0.2582	0.2642	0.2512
ERP(dBm)	20.77	20.87	20.65
ERP(Watts)	0.1194	0.1222	0.1161



LTE Band 5 ($G_T - L_C = -1.2 \text{ dBi}$) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	23.81	23.27	23.24	23.77	23.83	23.50	23.66	23.63	23.73
Conducted Power (Watts)	0.2404	0.2123	0.2109	0.2382	0.2415	0.2239	0.2323	0.2307	0.2360
ERP(dBm)	20.46	19.92	19.89	20.42	20.48	20.15	20.31	20.28	20.38
ERP(Watts)	0.1112	0.0982	0.0975	0.1102	0.1117	0.1035	0.1074	0.1067	0.1091

LTE Band 5 ($G_T - L_C = -1.2 \text{ dBi}$) 16QAM			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	23.97	23.63	23.93
Conducted Power (Watts)	0.2495	0.2307	0.2472
ERP(dBm)	20.62	20.28	20.58
ERP(Watts)	0.1153	0.1067	0.1143



LTE Band 5 ($G_T - L_C = -1.2 \text{ dBi}$) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	22.20	22.05	21.96	22.21	22.07	21.89	22.26	22.08	21.88
Conducted Power (Watts)	0.1660	0.1603	0.1570	0.1663	0.1611	0.1545	0.1683	0.1614	0.1542
ERP(dBm)	18.85	18.70	18.61	18.86	18.72	18.54	18.91	18.73	18.53
ERP(Watts)	0.0767	0.0741	0.0726	0.0769	0.0745	0.0714	0.0778	0.0746	0.0713

LTE Band 5 ($G_T - L_C = -1.2 \text{ dBi}$) 64QAM			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	22.15	22.00	22.22
Conducted Power (Watts)	0.1641	0.1585	0.1667
ERP(dBm)	18.80	18.65	18.87
ERP(Watts)	0.0759	0.0733	0.0771



LTE Band 7 ($G_T - L_C = -0.2 \text{ dBi}$) QPSK			
Bandwidth	5M		
Channel	20775 (Low)	21100 (Mid)	21425 (High)
	2502.5	2535	2567.5
Conducted Power (dBm)	22.07	22.00	22.00
Conducted Power (Watts)	0.1611	0.1585	0.1585
EIRP(dBm)	21.87	21.80	21.80
EIRP(Watts)	0.1538	0.1514	0.1514

LTE Band 7 ($G_T - L_C = -0.2 \text{ dBi}$) QPSK									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Conducted Power (dBm)	22.04	21.96	22.08	22.09	21.99	22.09	22.03	22.16	22.07
Conducted Power (Watts)	0.1600	0.1570	0.1614	0.1618	0.1581	0.1618	0.1596	0.1644	0.1611
EIRP(dBm)	21.84	21.76	21.88	21.89	21.79	21.89	21.83	21.96	21.87
EIRP(Watts)	0.1528	0.1500	0.1542	0.1545	0.1510	0.1545	0.1524	0.1570	0.1538



LTE Band 7 ($G_T - L_C = -0.2 \text{ dB}i$) 16QAM			
Bandwidth	5M		
Channel	20775 (Low)	21100 (Mid)	21425 (High)
	2502.5	2535	2567.5
Conducted Power (dBm)	20.40	20.56	20.88
Conducted Power (Watts)	0.1096	0.1138	0.1225
EIRP(dBm)	20.20	20.36	20.68
EIRP(Watts)	0.1047	0.1086	0.1169

LTE Band 7 ($G_T - L_C = -0.2 \text{ dB}i$) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Conducted Power (dBm)	20.83	20.66	20.80	20.93	20.45	21.03	20.68	20.34	20.93
Conducted Power (Watts)	0.1211	0.1164	0.1202	0.1239	0.1109	0.1268	0.1169	0.1081	0.1239
EIRP(dBm)	20.63	20.46	20.60	20.73	20.25	20.83	20.48	20.14	20.73
EIRP(Watts)	0.1156	0.1112	0.1148	0.1183	0.1059	0.1211	0.1117	0.1033	0.1183



LTE Band 7 ($G_T - L_C = -0.2 \text{ dB}i$) 64QAM			
Bandwidth	5M		
Channel	20775 (Low)	21100 (Mid)	21425 (High)
	2502.5	2535	2567.5
Conducted Power (dBm)	19.53	19.62	19.77
Conducted Power (Watts)	0.0897	0.0916	0.0948
EIRP(dBm)	19.33	19.42	19.57
EIRP(Watts)	0.0857	0.0875	0.0906

LTE Band 7 ($G_T - L_C = -0.2 \text{ dB}i$) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Conducted Power (dBm)	19.57	19.59	19.81	19.70	19.65	19.90	19.65	19.75	19.83
Conducted Power (Watts)	0.0906	0.0910	0.0957	0.0933	0.0923	0.0977	0.0923	0.0944	0.0962
EIRP(dBm)	19.37	19.39	19.61	19.50	19.45	19.70	19.45	19.55	19.63
EIRP(Watts)	0.0865	0.0869	0.0914	0.0891	0.0881	0.0933	0.0881	0.0902	0.0918



LTE Band 12 ($G_T - L_C = -1.3 \text{ dBi}$) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	23017 (Low)	23095 (Mid)	23173 (High)	23025 (Low)	23095 (Mid)	23165 (High)	23035 (Low)	23095 (Mid)	23155 (High)
	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Frequency (MHz)	24.23	24.31	24.35	24.27	24.30	24.36	24.31	24.33	24.37
Conducted Power (dBm)	0.2649	0.2698	0.2723	0.2673	0.2692	0.2729	0.2698	0.2710	0.2735
Conducted Power (Watts)	20.78	20.86	20.90	20.82	20.85	20.91	20.86	20.88	20.92
ERP(dBm)	0.1197	0.1219	0.1230	0.1208	0.1216	0.1233	0.1219	0.1225	0.1236
ERP(Watts)									

LTE Band 12 ($G_T - L_C = -1.3 \text{ dBi}$) QPSK			
Bandwidth	10M		
Channel	23060 (Low)	23095 (Mid)	23130 (High)
	704	707.5	711
Conducted Power (dBm)	24.30	24.39	24.38
Conducted Power (Watts)	0.2692	0.2748	0.2742
ERP(dBm)	20.85	20.94	20.93
ERP(Watts)	0.1216	0.1242	0.1239



LTE Band 12 ($G_T - L_C = -1.3 \text{ dBi}$) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
	23.38	23.87	23.63	23.78	23.55	23.98	23.82	23.75	23.89
Conducted Power (dBm)	0.2178	0.2438	0.2307	0.2388	0.2265	0.2500	0.2410	0.2371	0.2449
ERP(dBm)	19.93	20.42	20.18	20.33	20.10	20.53	20.37	20.30	20.44
ERP(Watts)	0.0984	0.1102	0.1042	0.1079	0.1023	0.1130	0.1089	0.1072	0.1107

LTE Band 12 ($G_T - L_C = -1.3 \text{ dBi}$) 16QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
	23.70	23.29	23.76
Conducted Power (dBm)	0.2344	0.2133	0.2377
Conducted Power (Watts)	0.2344	0.2133	0.2377
ERP(dBm)	20.25	19.84	20.31
ERP(Watts)	0.1059	0.0964	0.1074



LTE Band 12 ($G_T - L_C = -1.3 \text{ dBi}$) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	22.14	22.27	22.47	22.26	22.24	22.46	22.33	22.19	22.47
Conducted Power (Watts)	0.1637	0.1687	0.1766	0.1683	0.1675	0.1762	0.1710	0.1656	0.1766
ERP(dBm)	18.69	18.82	19.02	18.81	18.79	19.01	18.88	18.74	19.02
ERP(Watts)	0.0740	0.0762	0.0798	0.0760	0.0757	0.0796	0.0773	0.0748	0.0798

LTE Band 12 ($G_T - L_C = -1.3 \text{ dBi}$) 64QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	22.28	22.29	22.46
Conducted Power (Watts)	0.1690	0.1694	0.1762
ERP(dBm)	18.83	18.84	19.01
ERP(Watts)	0.0764	0.0766	0.0796



LTE Band 13 ($G_T - L_C = -1.3 \text{ dBi}$) QPSK						
Bandwidth	5M			10M		
Channel	23205 (Low)	23230 (Mid)	23255 (High)	23230		-
				-	(Mid)	-
Frequency (MHz)	779.5	782	784.5	-	782	-
Conducted Power (dBm)	24.36	24.32	24.30	-	24.41	-
Conducted Power (Watts)	0.2729	0.2704	0.2692	-	0.2761	-
ERP(dBm)	20.91	20.87	20.85	-	20.96	-
ERP(Watts)	0.1233	0.1222	0.1216	-	0.1247	-

LTE Band 13 ($G_T - L_C = -1.3 \text{ dBi}$) 16QAM						
Bandwidth	5M			10M		
Channel	23205 (Low)	23230 (Mid)	23255 (High)	23230		-
				-	(Mid)	-
Frequency (MHz)	779.5	782	784.5	-	782	-
Conducted Power (dBm)	23.47	23.48	23.86	-	23.35	-
Conducted Power (Watts)	0.2223	0.2228	0.2432	-	0.2163	-
ERP(dBm)	20.02	20.03	20.41	-	19.90	-
ERP(Watts)	0.1005	0.1007	0.1099	-	0.0977	-



LTE Band 13 ($G_T - L_C = -1.3 \text{ dBi}$) 64QAM						
Bandwidth	5M			10M		
Channel	23205 (Low)	23230 (Mid)	23255 (High)	23230 (Mid)		
	779.5	782	784.5	-	782	-
Conducted Power (dBm)	22.28	22.25	22.18	-	22.28	-
Conducted Power (Watts)	0.1690	0.1679	0.1652	-	0.1690	-
ERP(dBm)	18.83	18.80	18.73	-	18.83	-
ERP(Watts)	0.0764	0.0759	0.0746	-	0.0764	-



LTE Band 25 ($G_T - L_C = -0.5 \text{ dBi}$) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	26407 (Low)	26340 (Mid)	26683 (High)	26055 (Low)	26340 (Mid)	26675 (High)	26065 (Low)	26340 (Mid)	26665 (High)
	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	24.13	24.05	23.94	24.17	24.11	24.01	24.00	24.13	24.05
Conducted Power (Watts)	0.2588	0.2541	0.2477	0.2612	0.2576	0.2518	0.2512	0.2588	0.2541
EIRP(dBm)	23.63	23.55	23.44	23.67	23.61	23.51	23.50	23.63	23.55
EIRP(Watts)	0.2307	0.2265	0.2208	0.2328	0.2296	0.2244	0.2239	0.2307	0.2265

LTE Band 25 ($G_T - L_C = -0.5 \text{ dBi}$) QPSK									
Bandwidth	10M			15M			20M		
Channel	26090 (Low)	26340 (Mid)	26640 (High)	26115 (Low)	26340 (Mid)	26615 (High)	26140 (Low)	26340 (Mid)	26590 (High)
	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	24.16	24.13	24.03	24.15	24.11	24.10	24.18	24.25	24.11
Conducted Power (Watts)	0.2606	0.2588	0.2529	0.2600	0.2576	0.2570	0.2618	0.2661	0.2576
EIRP(dBm)	23.66	23.63	23.53	23.65	23.61	23.60	23.68	23.75	23.61
EIRP(Watts)	0.2323	0.2307	0.2254	0.2317	0.2296	0.2291	0.2333	0.2371	0.2296



LTE Band 25 ($G_T - L_C = -0.5 \text{ dBi}$) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	26407 (Low)	26340 (Mid)	26683 (High)	26055 (Low)	26340 (Mid)	26675 (High)	26065 (Low)	26340 (Mid)	26665 (High)
	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	23.16	23.42	23.07	23.49	22.98	23.05	23.40	23.45	23.21
Conducted Power (Watts)	0.2070	0.2198	0.2028	0.2234	0.1986	0.2018	0.2188	0.2213	0.2094
EIRP(dBm)	22.66	22.92	22.57	22.99	22.48	22.55	22.90	22.95	22.71
EIRP(Watts)	0.1845	0.1959	0.1807	0.1991	0.1770	0.1799	0.1950	0.1972	0.1866

LTE Band 25 ($G_T - L_C = -0.5 \text{ dBi}$) 16QAM									
Bandwidth	10M			15M			20M		
Channel	26090 (Low)	26340 (Mid)	26640 (High)	26115 (Low)	26340 (Mid)	26615 (High)	26140 (Low)	26340 (Mid)	26590 (High)
	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	23.62	23.32	23.36	23.13	23.26	23.61	23.56	23.22	23.47
Conducted Power (Watts)	0.2301	0.2148	0.2168	0.2056	0.2118	0.2296	0.2270	0.2099	0.2223
EIRP(dBm)	23.12	22.82	22.86	22.63	22.76	23.11	23.06	22.72	22.97
EIRP(Watts)	0.2051	0.1914	0.1932	0.1832	0.1888	0.2046	0.2023	0.1871	0.1982



LTE Band 25 ($G_T - L_C = -0.5 \text{ dBi}$) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	26407 (Low)	26340 (Mid)	26683 (High)	26055 (Low)	26340 (Mid)	26675 (High)	26065 (Low)	26340 (Mid)	26665 (High)
	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	22.08	22.02	21.86	22.14	22.08	21.99	22.15	22.09	21.92
Conducted Power (Watts)	0.1614	0.1592	0.1535	0.1637	0.1614	0.1581	0.1641	0.1618	0.1556
EIRP(dBm)	21.58	21.52	21.36	21.64	21.58	21.49	21.65	21.59	21.42
EIRP(Watts)	0.1439	0.1419	0.1368	0.1459	0.1439	0.1409	0.1462	0.1442	0.1387

LTE Band 25 ($G_T - L_C = -0.5 \text{ dBi}$) 64QAM									
Bandwidth	10M			15M			20M		
Channel	26090 (Low)	26340 (Mid)	26640 (High)	26115 (Low)	26340 (Mid)	26615 (High)	26140 (Low)	26340 (Mid)	26590 (High)
	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	22.19	22.20	22.09	22.16	22.09	22.09	22.14	22.11	22.10
Conducted Power (Watts)	0.1656	0.1660	0.1618	0.1644	0.1618	0.1618	0.1637	0.1626	0.1622
EIRP(dBm)	21.69	21.70	21.59	21.66	21.59	21.59	21.64	21.61	21.60
EIRP(Watts)	0.1476	0.1479	0.1442	0.1466	0.1442	0.1442	0.1459	0.1449	0.1445



LTE Band 26 ($G_T - L_C = -1.2 \text{ dBi}$) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	26797	26915	27033	26805	26915	27025	26815	26915	27015
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	24.02	23.99	24.03	24.07	24.04	24.06	24.07	24.04	24.11
Conducted Power (Watts)	0.2523	0.2506	0.2529	0.2553	0.2535	0.2547	0.2553	0.2535	0.2576
ERP(dBm)	20.67	20.64	20.68	20.72	20.69	20.71	20.72	20.69	20.76
ERP(Watts)	0.1167	0.1159	0.1169	0.1180	0.1172	0.1178	0.1180	0.1172	0.1191

LTE Band 26 ($G_T - L_C = -1.2 \text{ dBi}$) QPSK							
Bandwidth	10M			15M			15M
Channel	26840	26915	26990	26865	26915	26965	26765
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)
Frequency (MHz)	829	836.5	844	831.5	836.5	841.5	821.5
Conducted Power (dBm)	24.07	24.04	24.10	24.25	24.06	24.07	24.20
Conducted Power (Watts)	0.2553	0.2535	0.2570	0.2661	0.2547	0.2553	0.2630
ERP(dBm)	20.72	20.69	20.75	20.90	20.71	20.72	20.85
ERP(Watts)	0.1180	0.1172	0.1189	0.1230	0.1178	0.1180	0.1216



LTE Band 26 ($G_T - L_C = -1.2 \text{ dBi}$) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	26797	26915	27033	26805	26915	27025	26815	26915	27015
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	23.64	23.61	23.23	23.92	23.89	23.32	23.79	23.76	23.43
Conducted Power (Watts)	0.2312	0.2296	0.2104	0.2466	0.2449	0.2148	0.2393	0.2377	0.2203
ERP(dBm)	20.29	20.26	19.88	20.57	20.54	19.97	20.44	20.41	20.08
ERP(Watts)	0.1069	0.1062	0.0973	0.1140	0.1132	0.0993	0.1107	0.1099	0.1019

LTE Band 26 ($G_T - L_C = -1.2 \text{ dBi}$) 16QAM							
Bandwidth	10M			15M			15M
Channel	26840	26915	26990	26865	26915	26965	26765
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)
Frequency (MHz)	829	836.5	844	831.5	836.5	841.5	821.5
Conducted Power (dBm)	23.51	23.48	23.36	23.18	22.17	23.69	23.39
Conducted Power (Watts)	0.2244	0.2228	0.2168	0.2080	0.1648	0.2339	0.2183
ERP(dBm)	20.16	20.13	20.01	19.83	18.82	20.34	20.04
ERP(Watts)	0.1038	0.1030	0.1002	0.0962	0.0762	0.1081	0.1009



LTE Band 26 ($G_T - L_C = -1.2 \text{ dBi}$) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	26797	26915	27033	26805	26915	27025	26815	26915	27015
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	21.99	21.96	22.02	22.11	22.08	22.01	22.04	22.01	22.16
Conducted Power (Watts)	0.1581	0.1570	0.1592	0.1626	0.1614	0.1589	0.1600	0.1589	0.1644
ERP(dBm)	18.64	18.61	18.67	18.76	18.73	18.66	18.69	18.66	18.81
ERP(Watts)	0.0731	0.0726	0.0736	0.0752	0.0746	0.0735	0.0740	0.0735	0.0760

LTE Band 26 ($G_T - L_C = -1.2 \text{ dBi}$) 64QAM							
Bandwidth	10M			15M			15M
Channel	26840	26915	26990	26865	26915	26965	26765
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)
Frequency (MHz)	829	836.5	844	831.5	836.5	841.5	821.5
Conducted Power (dBm)	22.13	22.10	22.15	22.13	22.16	22.26	22.17
Conducted Power (Watts)	0.1633	0.1622	0.1641	0.1633	0.1644	0.1683	0.1648
ERP(dBm)	18.78	18.75	18.80	18.78	18.81	18.91	18.82
ERP(Watts)	0.0755	0.0750	0.0759	0.0755	0.0760	0.0778	0.0762



LTE Band 41 ($G_T - L_C = -0.2 \text{ dBi}$) QPSK									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	25.83	25.70	25.91	25.85	25.68	25.87	25.81	25.66	25.95
Conducted Power (Watts)	0.3828	0.3715	0.3899	0.3846	0.3698	0.3864	0.3811	0.3681	0.3936
EIRP(dBm)	25.63	25.50	25.71	25.65	25.48	25.67	25.61	25.46	25.75
EIRP(Watts)	0.3656	0.3548	0.3724	0.3673	0.3532	0.3690	0.3639	0.3516	0.3758

LTE Band 41 ($G_T - L_C = -0.2 \text{ dBi}$) QPSK			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	25.72	25.97	25.89
Conducted Power (Watts)	0.3733	0.3954	0.3882
EIRP(dBm)	25.52	25.77	25.69
EIRP(Watts)	0.3565	0.3776	0.3707



LTE Band 41 ($G_T - L_C = -0.2 \text{ dBi}$) 16QAM									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	24.47	24.69	24.84	24.42	24.71	25.16	24.40	24.66	24.81
Conducted Power (Watts)	0.2799	0.2944	0.3048	0.2767	0.2958	0.3281	0.2754	0.2924	0.3027
EIRP(dBm)	24.27	24.49	24.64	24.22	24.51	24.96	24.20	24.46	24.61
EIRP(Watts)	0.2673	0.2812	0.2911	0.2642	0.2825	0.3133	0.2630	0.2793	0.2891

LTE Band 41 ($G_T - L_C = -0.2 \text{ dBi}$) 16QAM			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	24.26	24.79	24.62
Conducted Power (Watts)	0.2667	0.3013	0.2897
EIRP(dBm)	24.06	24.59	24.42
EIRP(Watts)	0.2547	0.2877	0.2767



LTE Band 41 ($G_T - L_C = -0.2 \text{ dBi}$) 64QAM									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	23.54	23.84	23.84	23.49	23.70	23.98	23.50	23.79	23.82
Conducted Power (Watts)	0.2259	0.2421	0.2421	0.2234	0.2344	0.2500	0.2239	0.2393	0.2410
EIRP(dBm)	23.34	23.64	23.64	23.29	23.50	23.78	23.30	23.59	23.62
EIRP(Watts)	0.2158	0.2312	0.2312	0.2133	0.2239	0.2388	0.2138	0.2286	0.2301

LTE Band 41 ($G_T - L_C = -0.2 \text{ dBi}$) 64QAM			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	23.45	23.80	23.81
Conducted Power (Watts)	0.2213	0.2399	0.2404
EIRP(dBm)	23.25	23.60	23.61
EIRP(Watts)	0.2113	0.2291	0.2296



LTE Band 66 (GT - LC = -0.5dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	131979 (Low)	132322 (Mid)	132665 (High)	131987 (Low)	132322 (Mid)	132657 (High)	131997 (Low)	132322 (Mid)	132647 (High)
	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	23.90	23.91	23.81	23.88	23.88	23.81	23.99	23.90	23.78
Conducted Power (Watts)	0.2455	0.2460	0.2404	0.2443	0.2443	0.2404	0.2506	0.2455	0.2388
EIRP(dBm)	23.40	23.41	23.31	23.38	23.38	23.31	23.49	23.40	23.28
EIRP(Watts)	0.2188	0.2193	0.2143	0.2178	0.2178	0.2143	0.2234	0.2188	0.2128

LTE Band 66 (GT - LC = -0.5 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	132022 (Low)	132322 (Mid)	132622 (High)	132047 (Low)	132322 (Mid)	132597 (High)	132072 (Low)	132322 (Mid)	132572 (Mid)
	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	23.96	23.88	23.81	24.02	23.97	23.90	23.98	24.05	23.90
Conducted Power (Watts)	0.2489	0.2443	0.2404	0.2523	0.2495	0.2455	0.2500	0.2541	0.2455
EIRP(dBm)	23.46	23.38	23.31	23.52	23.47	23.40	23.48	23.55	23.40
EIRP(Watts)	0.2218	0.2178	0.2143	0.2249	0.2223	0.2188	0.2228	0.2265	0.2188



LTE Band 66 (GT - LC = -0.5 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	22.60	23.10	22.88	23.04	22.92	23.32	22.76	22.88	22.92
Conducted Power (Watts)	0.1820	0.2042	0.1941	0.2014	0.1959	0.2148	0.1888	0.1941	0.1959
EIRP(dBm)	22.10	22.60	22.38	22.54	22.42	22.82	22.26	22.38	22.42
EIRP(Watts)	0.1622	0.1820	0.1730	0.1795	0.1746	0.1914	0.1683	0.1730	0.1746

LTE Band 66 (GT - LC = -0.5 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	22.92	23.15	22.91	22.89	23.35	23.27	23.15	23.31	22.75
Conducted Power (Watts)	0.1959	0.2065	0.1954	0.1945	0.2163	0.2123	0.2065	0.2143	0.1884
EIRP(dBm)	22.42	22.65	22.41	22.39	22.85	22.77	22.65	22.81	22.25
EIRP(Watts)	0.1746	0.1841	0.1742	0.1734	0.1928	0.1892	0.1841	0.1910	0.1679



LTE Band 66 (GT - LC = -0.5 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	21.49	21.71	21.74	21.51	21.71	21.65	21.57	21.70	21.69
Conducted Power (Watts)	0.1409	0.1483	0.1493	0.1416	0.1483	0.1462	0.1435	0.1479	0.1476
EIRP(dBm)	20.99	21.21	21.24	21.01	21.21	21.15	21.07	21.20	21.19
EIRP(Watts)	0.1256	0.1321	0.1330	0.1262	0.1321	0.1303	0.1279	0.1318	0.1315

LTE Band 66 (GT - LC = -0.5 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	21.51	21.67	21.72	21.66	21.79	21.77	21.71	21.77	21.74
Conducted Power (Watts)	0.1416	0.1469	0.1486	0.1466	0.1510	0.1503	0.1483	0.1503	0.1493
EIRP(dBm)	21.01	21.17	21.22	21.16	21.29	21.27	21.21	21.27	21.24
EIRP(Watts)	0.1262	0.1309	0.1324	0.1306	0.1346	0.1340	0.1321	0.1340	0.1330

**CA EIRP**

LTE Band 41 CA (GT - LC = -0.2 dBi) QPSK									
Bandwidth	15M + 15M			5M + 20M			20M + 5M		
Channel PCC	39725	40545	41365	39683	40528	41373	39750	40595	41440
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39875	40695	41515	39800	40645	41490	39867	40712	41557
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	24.25	24.15	24.12	24.31	24.56	24.15	24.06	24.00	24.13
Conducted Power (Watts)	0.2661	0.2600	0.2582	0.2698	0.2858	0.2600	0.2547	0.2512	0.2588
EIRP(dBm)	24.05	23.95	23.92	24.11	24.36	23.95	23.86	23.80	23.93
EIRP(Watts)	0.2541	0.2483	0.2466	0.2576	0.2729	0.2483	0.2432	0.2399	0.2472

LTE Band 41 CA (GT - LC = -0.2 dBi) QPSK									
Bandwidth	10M + 20M			20M + 10M			15M + 20M		
Channel PCC	39705	40526	41346	39750	40571	41391	39728	40523	41319
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39849	40670	41490	39894	40715	41535	39899	40694	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	24.57	24.38	24.45	24.83	24.71	24.72	24.95	24.85	24.69
Conducted Power (Watts)	0.2864	0.2742	0.2786	0.3041	0.2958	0.2965	0.3126	0.3055	0.2944
EIRP(dBm)	24.37	24.18	24.25	24.63	24.51	24.52	24.75	24.65	24.49
EIRP(Watts)	0.2735	0.2618	0.2661	0.2904	0.2825	0.2831	0.2985	0.2917	0.2812



LTE Band 41 CA (GT - LC = -0.2 dB) QPSK						
Bandwidth	20M+15M			20M+20M		
Channel PCC	39750 (Low)	40546 (Mid)	41341 (High)	39750 (Low)	40521 (Mid)	41292 (High)
	39921 (Low)	40717 (Mid)	41512 (High)	39948 (Low)	40719 (Mid)	41490 (High)
Conducted Power (dBm)	24.14	24.35	24.36	23.93	23.79	24.02
Conducted Power (Watts)	0.2594	0.2723	0.2729	0.2472	0.2393	0.2523
EIRP(dBm)	23.94	24.15	24.16	23.73	23.59	23.82
EIRP(Watts)	0.2477	0.2600	0.2606	0.2360	0.2286	0.2410

LTE Band 41 CA (GT - LC = -0.2 dB) QPSK						
Bandwidth	15M+10M			10M+15M		
Channel PCC	39725 (Low)	40571 (Mid)	41417 (High)	39703 (Low)	40549 (Mid)	41395 (High)
	39845 (Low)	40691 (Mid)	41537 (High)	39823 (Low)	40669 (Mid)	41490 (High)
Conducted Power (dBm)	24.36	24.65	24.33	24.62	24.33	23.80
Conducted Power (Watts)	0.2729	0.2917	0.2710	0.2897	0.2710	0.2399
EIRP(dBm)	24.16	24.45	24.13	24.42	24.13	23.60
EIRP(Watts)	0.2606	0.2786	0.2588	0.2767	0.2588	0.2291



LTE Band 41 CA (GT - LC = -0.2 dBi) 16QAM									
Bandwidth	15M + 15M			5M + 20M			20M + 5M		
Channel PCC	39725	40545	41365	39683	40528	41373	39750	40595	41440
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39875	40695	41515	39800	40645	41490	39867	40712	41557
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.65	23.35	23.41	24.11	24.01	24.14	24.12	23.97	24.32
Conducted Power (Watts)	0.2317	0.2163	0.2193	0.2576	0.2518	0.2594	0.2582	0.2495	0.2704
EIRP(dBm)	23.45	23.15	23.21	23.91	23.81	23.94	23.92	23.77	24.12
EIRP(Watts)	0.2213	0.2065	0.2094	0.2460	0.2404	0.2477	0.2466	0.2382	0.2582

LTE Band 41 CA (GT - LC = -0.2 dBi) 16QAM									
Bandwidth	10M + 20M			20M + 10M			15M + 20M		
Channel PCC	39705	40526	41346	39750	40571	41391	39728	40523	41319
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39849	40670	41490	39894	40715	41535	39899	40694	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	24.29	24.65	24.56	24.89	24.82	24.86	24.61	24.88	24.78
Conducted Power (Watts)	0.2685	0.2917	0.2858	0.3083	0.3034	0.3062	0.2891	0.3076	0.3006
EIRP(dBm)	24.09	24.45	24.36	24.69	24.62	24.66	24.41	24.68	24.58
EIRP(Watts)	0.2564	0.2786	0.2729	0.2944	0.2897	0.2924	0.2761	0.2938	0.2871



LTE Band 41 CA (GT - LC = -0.2 dBi) 16QAM						
Bandwidth	20M+15M			20M+20M		
Channel PCC	39750 (Low)	40546 (Mid)	41341 (High)	39750 (Low)	40521 (Mid)	41292 (High)
	39921 (Low)	40717 (Mid)	41512 (High)	39948 (Low)	40719 (Mid)	41490 (High)
Conducted Power (dBm)	23.47	23.52	23.92	23.35	23.31	23.80
Conducted Power (Watts)	0.2223	0.2249	0.2466	0.2163	0.2143	0.2399
EIRP(dBm)	23.27	23.32	23.72	23.15	23.11	23.60
EIRP(Watts)	0.2123	0.2148	0.2355	0.2065	0.2046	0.2291

LTE Band 41 CA (GT - LC = -0.2 dBi) 16QAM						
Bandwidth	15M+10M			10M+15M		
Channel PCC	39725 (Low)	40571 (Mid)	41417 (High)	39703 (Low)	40549 (Mid)	41395 (High)
	39845 (Low)	40691 (Mid)	41537 (High)	39823 (Low)	40669 (Mid)	41490 (High)
Conducted Power (dBm)	24.43	24.00	24.65	24.06	23.86	23.76
Conducted Power (Watts)	0.2773	0.2512	0.2917	0.2547	0.2432	0.2377
EIRP(dBm)	24.23	23.80	24.45	23.86	23.66	23.56
EIRP(Watts)	0.2649	0.2399	0.2786	0.2432	0.2323	0.2270



LTE Band 41 CA (GT - LC = -0.2 dBi) 64QAM									
Bandwidth	15M + 15M			5M + 20M			20M + 5M		
Channel PCC	39725	40545	41365	39683	40528	41373	39750	40595	41440
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39875	40695	41515	39800	40645	41490	39867	40712	41557
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.45	21.62	21.51	21.85	22.00	21.78	21.98	21.28	21.67
Conducted Power (Watts)	0.1396	0.1452	0.1416	0.1531	0.1585	0.1507	0.1578	0.1343	0.1469
EIRP(dBm)	21.25	21.42	21.31	21.65	21.80	21.58	21.78	21.08	21.47
EIRP(Watts)	0.1334	0.1387	0.1352	0.1462	0.1514	0.1439	0.1507	0.1282	0.1403

LTE Band 41 CA (GT - LC = -0.2 dBi) 64QAM									
Bandwidth	10M + 20M			20M + 10M			15M + 20M		
Channel PCC	39705	40526	41346	39750	40571	41391	39728	40523	41319
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	39849	40670	41490	39894	40715	41535	39899	40694	41490
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.35	21.56	21.58	21.62	21.66	21.53	21.97	21.79	21.19
Conducted Power (Watts)	0.1365	0.1432	0.1439	0.1452	0.1466	0.1422	0.1574	0.1510	0.1315
EIRP(dBm)	21.15	21.36	21.38	21.42	21.46	21.33	21.77	21.59	20.99
EIRP(Watts)	0.1303	0.1368	0.1374	0.1387	0.1400	0.1358	0.1503	0.1442	0.1256



LTE Band 41 CA (GT - LC = -0.2 dB) 64QAM						
Bandwidth	20M+15M			20M+20M		
Channel PCC	39750 (Low)	40546 (Mid)	41341 (High)	39750 (Low)	40521 (Mid)	41292 (High)
	39921 (Low)	40717 (Mid)	41512 (High)	39948 (Low)	40719 (Mid)	41490 (High)
Conducted Power (dBm)	21.36	21.57	21.95	22.20	22.10	22.59
Conducted Power (Watts)	0.1368	0.1435	0.1567	0.1660	0.1622	0.1816
EIRP(dBm)	21.16	21.37	21.75	22.00	21.90	22.39
EIRP(Watts)	0.1306	0.1371	0.1496	0.1585	0.1549	0.1734

LTE Band 41 CA (GT - LC = -0.2 dB) 64QAM						
Bandwidth	15M+10M			10M+15M		
Channel PCC	39725 (Low)	40571 (Mid)	41417 (High)	39703 (Low)	40549 (Mid)	41395 (High)
	39845 (Low)	40691 (Mid)	41537 (High)	39823 (Low)	40669 (Mid)	41490 (High)
Conducted Power (dBm)	21.11	21.24	21.38	21.24	21.45	21.20
Conducted Power (Watts)	0.1291	0.1330	0.1374	0.1330	0.1396	0.1318
EIRP(dBm)	20.91	21.04	21.18	21.04	21.25	21.00
EIRP(Watts)	0.1233	0.1271	0.1312	0.1271	0.1334	0.1259



Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.30	4.12	4.35	5.45	PASS
Middle CH	2.67	4.35	3.77	5.62	
Highest CH	3.04	4.35	4.29	5.48	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	4.49	5.39	PASS		
Middle CH	3.74	5.57			
Highest CH	4.38	5.42			

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.13	3.80	3.68	4.96	PASS
Middle CH	3.28	4.23	3.83	5.42	
Highest CH	3.62	4.41	4.17	5.65	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	3.71	4.78	PASS		
Middle CH	4.06	5.30			
Highest CH	4.49	5.51			

Mode	LTE Band 5 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.42	4.43	4.38	5.68	PASS
Middle CH	3.07	4.14	4.23	5.25	
Highest CH	3.22	4.32	4.35	5.54	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	4.23	5.51	PASS		
Middle CH	4.26	5.30			
Highest CH	4.14	5.45			



Mode	LTE Band 7 / 20MHz							
Mod.	QPSK		16QAM		Limit: 13dB			
RB Size	1RB	Full RB	1RB	Full RB	Result			
Lowest CH	3.04	4.14	4.35	5.36	PASS			
Middle CH	3.04	4.03	4.52	5.22				
Highest CH	3.13	4.09	4.43	5.36				
Mod.	64QAM		Limit: 13dB					
RB Size	1RB	Full RB	Result					
Lowest CH	4.38	5.36	PASS					
Middle CH	4.64	5.28						
Highest CH	4.43	5.42						

Mode	LTE Band 12 / 10MHz							
Mod.	QPSK		16QAM		Limit: 13dB			
RB Size	1RB	Full RB	1RB	Full RB	Result			
Lowest CH	3.36	4.49	4.58	5.59	PASS			
Middle CH	3.48	4.41	4.81	5.59				
Highest CH	3.57	4.41	4.93	5.62				
Mod.	64QAM		Limit: 13dB					
RB Size	1RB	Full RB	Result					
Lowest CH	4.46	5.59	PASS					
Middle CH	4.72	5.62						
Highest CH	4.99	5.62						

Mode	LTE Band 13 / 10MHz							
Mod.	QPSK		16QAM		Limit: 13dB			
RB Size	1RB	Full RB	1RB	Full RB	Result			
Lowest CH	-	-	-	-	PASS			
Middle CH	3.07	4.14	3.68	5.30				
Highest CH	-	-	-	-				
Mod.	64QAM		Limit: 13dB					
RB Size	1RB	Full RB	Result					
Lowest CH	-	-	PASS					
Middle CH	3.68	5.39						
Highest CH	-	-						



Mode	LTE Band 25 / 20MHz							
Mod.	QPSK		16QAM		Limit: 13dB			
RB Size	1RB	Full RB	1RB	Full RB	Result			
Lowest CH	3.30	4.12	4.46	5.33	PASS			
Middle CH	2.64	4.38	3.51	5.59				
Highest CH	2.67	4.38	3.80	5.54				
Mod.	64QAM		Limit: 13dB					
RB Size	1RB	Full RB	Result					
Lowest CH	4.32	5.33	PASS					
Middle CH	3.71	5.54						
Highest CH	3.80	5.45						

Mode	LTE Band 26 / 15MHz							
Mod.	QPSK		16QAM		Limit: 13dB			
RB Size	1RB	Full RB	1RB	Full RB	Result			
Lowest CH	3.91	4.87	4.87	5.62	PASS			
Middle CH	3.91	4.9	4.96	5.62				
Highest CH	3.88	4.96	5.16	5.77				
Mod.	64QAM		Limit: 13dB					
RB Size	1RB	Full RB	Result					
Lowest CH	5.25	5.68	PASS					
Middle CH	5.22	5.77						
Highest CH	5.07	5.74						

Mode	LTE Band 41 / 20MHz							
Mod.	QPSK		16QAM		Limit: 13dB			
RB Size	1RB	Full RB	1RB	Full RB	Result			
Lowest CH	4.2	4.41	6.99	6.17	PASS			
Middle CH	4.23	6.09	6.46	6.20				
Highest CH	4.35	5.01	6.06	6.26				
Mod.	64QAM		Limit: 13dB					
RB Size	1RB	Full RB	Result					
Lowest CH	6.20	6.67	PASS					
Middle CH	5.59	6.29						
Highest CH	6.03	6.49						



Mode	LTE Band 66 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.30	3.25	4.61	4.64	PASS
Middle CH	3.68	4.03	4.58	5.33	
Highest CH	3.45	4.38	4.52	5.62	

Mode	64QAM		Limit: 13dB
RB Size	1RB	Full RB	Result
Lowest CH	4.29	4.32	PASS
Middle CH	4.87	5.33	
Highest CH	4.64	5.62	

