TEST REPORT

Product Name:	Module
Trade Mark:	CINTERION
Model No. / HVIN:	PLS63-W
Report Number:	200722016RFM-2
Test Standards:	FCC 47 CFR Part 22,FCC 47 CFR Part 24 FCC 47 CFR Part 27,FCC 47 CFR Part 90 RSS-130 Issue 2, RSS-132 Issue 3 RSS-133 Issue 6, RSS-139 Issue 3 RSS-199 Issue 3, RSS-Gen Issue 5
FCC ID:	QIPPLS63-W
IC:	7830A-PLS63W
Test Result:	PASS
Date of Issue:	February 3, 2021

Prepared for:

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Date: February 3, 2021

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Version

Version No.	Date	Description
V1.0	February 3, 2021	Original

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1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	Thales DIS AIS Deutschland GmbH
Address of Applicant:	Siemensdamm 50, 13629 Berlin, Germany
Manufacturer:	Thales DIS AIS Deutschland GmbH
Address of Manufacturer:	Werinherstr.81, 81541 Munich, Germany

1.2 EUT INFORMATION

1.2.1 General Description of EUT

Product Name:	Module	
Model No.:	PLS63-W	
Trade Mark:	CINTERION	
DUT Stage:	Production Unit	
EUT Supports Function:	GSM Bands:	GSM850/1900
	UTRA Bands:	Band II/ Band IV/ Band V
	E-UTRA Bands:	FDD Band 2/ Band 4/ Band 5/ Band 7/ Band 12/ Band 13/ Band 26/ Band 66
		TDD Band 38/ Band 41
Original Sample Received Date:	July 24, 2020	
Original Sample Tested Date:	August 2, 2020 to August 21, 2020	
Sample Received Date:	December 3, 2020	
Sample Tested Date:	December 12, 2020 to December 14, 2020	
EUT identification	200722014-A01/2	
Firmware number	MDM9607.TX.1.0-00097-STD.PROD-1.366947.1.367976.1	

1.2.2 Description of Accessories

None.

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Support Networks:	LTE	
Type of Modulation:	LTE Band 2/4/5/7/12/13/26/38/41/66	QPSK, 16QAM
Antenna Type:	External Antenna	
Antenna Gain:	LTE Band 2:	50 ohm terminal (0dBi)
	LTE Band 4:	50 ohm terminal (0dBi)
	LTE Band 5:	50 ohm terminal (0dBi)
	LTE Band 7:	50 ohm terminal (0dBi)
	LTE Band 12:	50 ohm terminal (0dBi)
	LTE Band 13:	50 ohm terminal (0dBi)
	LTE Band 26:	50 ohm terminal (0dBi)
	LTE Band 38:	50 ohm terminal (0dBi)
	LTE Band 41:	50 ohm terminal (0dBi)
	LTE Band 66:	50 ohm terminal (0dBi)
Normal Test Voltage:	3.8 Vdc	
Extreme Test Voltage:	3.2 to 4.5 Vdc	
Extreme Test	-30 °C to +65 °C	

Temperature:	

Summary of Results:

Bands	BW (MHz)	Modulation	Frequency Range (MHz)	Max RF Output Power (dBm) Conducted (Average)	Max RF Output Power (dBm) ERP/EIRP (Average)	EIRP (W)	99% BW (MHz)	Emission Designator
2	1.4	QPSK	1850.7-1909.3	23.56	23.56	0.22699	1.1002	1M10G7D
		16QAM		23.58	23.58	0.22803	1.1031	1M10W7D
	3	QPSK	1851.5-1908.5	23.49	23.49	0.22336	2.7074	2M71G7D
		16QAM		23.49	23.49	0.22336	2.6966	2M70W7D
	5	QPSK	1852.5-1907.5	23.55	23.55	0.22646	4.5374	4M54G7D
		16QAM		23.58	23.58	0.22803	4.5323	4M53W7D
	10	QPSK	1855.0-1905.0	23.66	23.66	0.23227	8.9731	8M97G7D
		16QAM		23.49	23.49	0.22336	8.9726	8M97W7D
	15	QPSK	1857.5-1902.5	23.62	23.62	0.23014	13.435	13M4G7D
		16QAM		23.57	23.57	0.22751	13.447	13M4W7D
	20	QPSK	1860.0-1900.0	23.67	23.67	0.23281	17.940	17M9G7D
		16QAM		23.64	23.64	0.23121	17.968	18M0W7D
4	1.4	QPSK	1710.7-1754.3	23.16	23.16	0.20701	1.1094	1M11G7D
		16QAM		22.33	22.33	0.17100	1.1047	1M10W7D
	3	QPSK	1711.5-1753.5	22.98	22.98	0.19861	2.7084	2M71G7D
		16QAM		22.36	22.36	0.17219	2.6975	2M70W7D
	5	QPSK	1712.5-1752.5	22.90	22.90	0.19498	4.5253	4M53G7D
		16QAM		22.38	22.38	0.17298	4.5350	4M54W7D
	10	QPSK	1715-1750	22.87	22.87	0.19364	8.9678	8M97G7D
		16QAM		22.31	22.31	0.17022	8.9847	8M98W7D
	15	QPSK	1717.5-1747.5	22.84	22.84	0.19231	13.458	13M5G7D
		16QAM		22.33	22.33	0.17100	13.455	13M5W7D
	20	QPSK	1720-1745	23.01	23.01	0.19999	17.964	18M0G7D
		16QAM		22.38	22.38	0.17298	17.944	17M9W7D
5	1.4	QPSK	824.7-848.3	23.40	21.25	0.13335	1.1056	1M11G7D
		16QAM		22.79	20.64	0.11588	1.1004	1M10W7D
	3	QPSK	825.5-847.5	23.53	21.38	0.13740	2.7038	2M70G7D
		16QAM		22.90	20.75	0.11885	2.6994	2M70W7D
	5	QPSK	826.5-846.5	23.57	21.42	0.13868	4.5297	4M53G7D
		16QAM		22.72	20.57	0.11402	4.5157	4M52W7D
	10	QPSK	829-844	23.58	21.43	0.13900	9.0037	9M00G7D
		16QAM		22.90	20.75	0.11885	8.9986	9M00W7D

Summary of Results:

Bands	BW (MHz)	Modulation	Frequency Range (MHz)	Max RF Output Power (dBm) Conducted (Average)	Max RF Output Power (dBm) ERP/EIRP (Average)	EIRP (W)	99% BW (MHz)	Emission Designator
7	5	QPSK	2502.5-2567.5	22.84	22.84	0.19231	4.5384	4M54G7D
		16QAM		23.15	23.15	0.20654	4.5304	4M53W7D
	10	QPSK	2505-2565	22.90	22.90	0.19498	8.9800	8M98G7D
		16QAM		23.11	23.11	0.20464	8.9805	8M98W7D
	15	QPSK	2507.5-2562.5	22.91	22.91	0.19543	13.487	13M5G7D
		16QAM		23.06	23.06	0.20230	13.473	13M5W7D
	20	QPSK	2510-2560	23.00	23.00	0.19953	17.973	18M0G7D
		16QAM		22.68	22.68	0.18535	17.922	17M9W7D
12	1.4	QPSK	699.7-715.3	23.93	21.78	0.15066	1.0998	1M10G7D
		16QAM		23.58	21.43	0.13900	1.1005	1M10W7D
	3	QPSK	700.5-714.5	23.68	21.53	0.14223	2.7033	2M70G7D
		16QAM		23.48	21.33	0.13583	2.6991	2M70W7D
	5	QPSK	701.5-713.5	23.71	21.56	0.14322	4.5347	4M53G7D
		16QAM		23.48	21.33	0.13583	4.5242	4M52W7D
	10	QPSK	704-711	23.83	21.68	0.14723	9.0110	9M01G7D
		16QAM		23.54	21.39	0.13772	8.9812	8M98W7D
13	5	QPSK	779.5-784.5	23.34	21.19	0.13152	4.5254	4M53G7D
		16QAM		23.11	20.96	0.12474	4.5293	4M53W7D
	10	QPSK	782-782	23.39	21.24	0.13305	8.9404	8M94G7D
		16QAM		23.11	20.96	0.12474	8.9583	8M96W7D
26	1.4	QPSK	824.7-848.3	23.24	21.09	0.12853	1.1074	1M11G7D
		16QAM		23.41	21.26	0.13366	1.1002	1M10W7D
	3	QPSK	825.5-847.5	23.16	21.01	0.12618	2.7128	2M71G7D
		16QAM		23.43	21.28	0.13428	2.6964	2M70W7D
	5	QPSK	826.5-846.5	23.12	20.97	0.12503	4.5284	4M53G7D
		16QAM		23.43	21.28	0.13428	4.5316	4M53W7D
	10	QPSK	829-844	23.20	21.05	0.12735	8.9932	8M99G7D
		16QAM		23.33	21.18	0.13122	8.9981	9M00W7D
	15	QPSK	831.5-841.5	23.29	21.14	0.13002	13.472	13M5G7D
		16QAM		23.44	21.29	0.13459	13.486	13M5W7D

Summary of Results:

Bands	BW (MHz)	Modulation	Frequency Range (MHz)	Max RF Output Power (dBm) Conducted (Average)	Max RF Output Power (dBm) ERP/EIRP (Average)	EIRP (W)	99% BW (MHz)	Emission Designator
26 (Part 90S)	1.4	QPSK	814.7-823.3	23.21	21.06	0.12764	1.1102	1M11G7D
		16QAM		23.38	21.23	0.13274	1.1013	1M10W7D
	3	QPSK	815.5-822.5	23.13	20.98	0.12531	2.7035	2M70G7D
		16QAM		23.40	21.25	0.13335	2.6921	2M69W7D
	5	QPSK	816.5-821.5	23.09	20.94	0.12417	4.5130	4M51G7D
		16QAM		23.40	21.25	0.13335	4.5312	4M53W7D
	10	QPSK	819	22.94	20.79	0.11995	8.9477	8M95G7D
		16QAM		22.96	20.81	0.12050	8.9588	8M96W7D
38	5	QPSK	2572.5-2617.5	22.84	22.84	0.19231	4.5188	4M52G7D
		16QAM		23.15	23.15	0.20654	4.5239	4M52W7D
	10	QPSK	2575-2615	22.90	22.90	0.19498	9.0205	9M02G7D
		16QAM		23.11	23.11	0.20464	8.9975	9M00W7D
	15	QPSK	2577.5-2612.5	22.91	22.91	0.19543	13.471	13M5G7D
		16QAM		23.06	23.06	0.20230	13.505	13M5W7D
	20	QPSK	2580-2610	22.95	22.95	0.19724	17.989	18M0G7D
		16QAM		23.19	23.19	0.20845	17.971	18M0W7D
41	5	QPSK	2537.5-2652.5	23.49	23.49	0.22336	4.5320	4M53G7D
		16QAM		23.13	23.13	0.20559	4.5203	4M52W7D
	10	QPSK	2540-2650	23.38	23.38	0.21777	8.9981	9M00G7D
		16QAM		23.18	23.18	0.20797	9.0131	9M01W7D
	15	QPSK	2542.5-2647.5	23.50	23.50	0.22387	13.495	13M5G7D
		16QAM		23.10	23.10	0.20417	13.482	13M5W7D
	20	QPSK	2545-2645	23.56	23.56	0.22699	17.959	18M0G7D
		16QAM		23.22	23.22	0.20989	17.961	18M0W7D
66	1.4	QPSK	1710.7-1779.3	23.56	23.56	0.22699	1.1085	1M11G7D
		16QAM		23.58	23.58	0.22803	1.0999	1M10W7D
	3	QPSK	1711.5-1778.5	23.49	23.49	0.22336	2.7177	2M72G7D
		16QAM		23.49	23.49	0.22336	2.7215	2M72W7D
	5	QPSK	1712.5-1777.5	23.55	23.55	0.22646	4.5291	4M53G7D
		16QAM		23.58	23.58	0.22803	4.5376	4M54W7D
	10	QPSK	1715-1775	23.66	23.66	0.23227	8.9893	8M99G7D
		16QAM		23.49	23.49	0.22336	8.9816	8M98W7D
	15	QPSK	1717.5-1772.5	23.62	23.62	0.23014	13.462	13M5G7D
		16QAM		23.57	23.57	0.22751	13.475	13M5W7D
	20	QPSK	1720-1770	23.05	23.05	0.20184	17.943	17M9G7D
		16QAM		22.79	22.79	0.19011	17.904	17M9W7D

1.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
Adaptor	N/A	CD139	20359	Applicant
PCB board	N/A	DSB75	--	Applicant
PCB board	N/A	AH8	--	Applicant
50 ohm terminal	N/A	N/A	N/A	UnionTrust

2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
--	--	--	--	--

1.5 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China 518109
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

1.6 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069
The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01
Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories
CAB identifier: CN0032

FCC Accredited Lab.
Designation Number: CN1194
Test Firm Registration Number: 259480

1.7 DEVIATION FROM STANDARDS

None.

1.8 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

1.10 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Conducted emission 9KHz-150KHz	±3.2 dB
2	Conducted emission 150KHz-30MHz	±2.7 dB
3	Radiated spurious emissions 30MHz-1GHz	± 4.9 dB
4	Radiated spurious emissions 1GHz-18GHz	± 4.8 dB
5	Radiated spurious emissions 18GHz-40GHz	± 5.1 dB
6	Occupied Bandwidth	± 1.86 %
7	DC Supply Voltages	± 0.68 %
8	Temperature	± 0.62 °C
9	Humidity	± 3.9 %
10	Conducted spurious emissions	± 2.7 dB
11	DC Supply Voltages	± 0.68 %
12	AC Supply Voltages	± 1.2 %
13	Radio Frequency	± 6.5 x 10^{-8}
14	RF Power, Conducted	± 0.9 dB

2. TEST SUMMARY

FCC 47 CFR Part 24 Test Cases (Band 2)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c) RSS-133 Issue 6, Section 6.4	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c) RSS-133 Issue 6, Section 6.4	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	FCC 47 CFR Part 24.232(d) RSS-133 Issue 6, Section 6.4	KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 24.238(b) RSS-Gen Issue 5, Section 6.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Band Edge at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a) RSS-133 Issue 6, Section 6.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)(b) RSS-133 Issue 6, Section 6.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 24.238(a)(b) RSS-133 Issue 6, Section 6.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 24.235 RSS-133 Issue 6, Section 6.3	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note

FCC 47 CFR Part 27 Test Cases (LTE Band 4 & Band 66)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4) RSS-139 Issue 3, Section 6.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4) RSS-139 Issue 3, Section 6.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5) RSS-139 Issue 3, Section 6.5	KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) FCC 47 CFR Part 27.53(h) RSS-Gen Issue 5, Section 6.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(h)(1) RSS-139 Issue 3, Section 6.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(h) RSS-139 Issue 3, Section 6.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(h) RSS-139 Issue 3, Section 6.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54 RSS-139 Issue 3, Section 6.4	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note

FCC 47 CFR Part 22 Test Cases (Band 5 & Band 26)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a) RSS-132 Issue 3, Section 5.4	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a) RSS-132 Issue 3, Section 5.4	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	FCC 47 CFR Part 22.913(a) RSS-132 Issue 3, Section 5.4	KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) RSS-Gen Issue 5, Section 6.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Band Edge at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a) RSS-132 Issue 3, Section 5.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)(b) RSS-132 Issue 3, Section 5.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 22.917(a)(b) RSS-132 Issue 3, Section 5.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 22.355 RSS-132 Issue 3, Section 5.3	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note

FCC 47 CFR Part 27 Test Cases (LTE Band 7 & Band 38 & Band 41)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Equivalent Isotropic Radiated Power (EIRP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(h)(2) RSS-199 Issue 3, Section 4.4	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(h)(2) RSS-199 Issue 3, Section 4.4	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5) RSS-199 Issue 3, Section 4.4	KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) RSS-Gen Issue 5, Section 6.7 RSS-199 Issue 3, Section 4.2	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(m)(4) RSS-199 Issue 3, Section 4.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(m)(4) RSS-199 Issue 3, Section 4.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(m)(4) RSS-199 Issue 3, Section 4.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54 RSS-199 Issue 3, Section 4.3	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note

FCC 47 CFR Part 27 Test Cases (LTE Band 12)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10) RSS-130 Issue 2, Section 4.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10) RSS-130 Issue 2, Section 4.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5) RSS-130 Issue 2, Section 4.6	KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) FCC 47 CFR Part 27.53(g) RSS-Gen Issue 5, Section 6.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(g) RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(g) RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(g) RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54 RSS-130 Issue 2, Section 4.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note

FCC 47 CFR Part 27 Test Cases (LTE Band 13)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(b)(10) RSS-130 Issue 2, Section 4.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(b)(10) RSS-130 Issue 2, Section 4.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5) RSS-130 Issue 2, Section 4.6	KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) RSS-Gen Issue 5, Section 6.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Band Edge at antenna terminals	FCC 47 CFR Part 27.53 RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53 RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53 RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54 RSS-130 Issue 2, Section 4.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note

FCC 47 CFR Part 90 Test Cases (LTE Band 26)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046 & FCC 47 CFR Part 90.635	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	See Note
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 90.635	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	N/A	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	RSS-Gen Issue 5, Section 6.7	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	See Note
Emission Mask	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 90.691	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 90.691	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 90.691	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 90.213	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	See Note

Note:

Difference description:

1) There are hardware differences between PLS63-W and PLS83-W Module. For detailed PCB board and component differences, see the difference statement document

2) The HSPA Category level of PLS63-W is 8, different from PLS83-W Cat 14.

Test Plan:

1)According to the difference description, PLS63-W shares the same data from the PLS83-X original report(Report No.: 200722013RFM-2), and test the new data of the spurious radiation items.

3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☒	3M Chamber & Accessory Equipment	ETS-LINDGREN	3M	N/A	Dec. 03, 2018	Dec. 03, 2021
☒	Receiver	R&S	ESIB26	100114	Nov. 24, 2019	Nov. 23, 2020
					Nov. 18, 2020	Nov. 17, 2021
☒	Broadband Antenna	ETS-LINDGREN	3142E	00201566	Nov. 16, 2019	Nov. 15, 2020
					Nov. 14, 2020	Nov. 13, 2021
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	Nov. 16, 2019	Nov. 15, 2020
					Nov. 14, 2020	Nov. 13, 2021
☒	Preamplifier	HP	8447F	2805A02960	Nov. 16, 2019	Nov. 15, 2020
					Nov. 10, 2020	Nov. 9, 2021
☒	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201874	Nov. 16, 2019	Nov. 15, 2020
					May 30, 2020	May 29, 2021
☒	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	Nov. 16, 2019	Nov. 15, 2020
					Nov. 14, 2020	Nov. 13, 2021
☒	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☒	Test Software	Audix	e3	Software Version: 9.160323		

RF Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☒	Receiver	R&S	ESR7	1316.3003K07 -101181-K3	Nov. 24, 2019	Nov. 23, 2020
☒	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	Nov. 24, 2019	Nov. 23, 2020
☒	Wideband Radio Communication Tester	R&S	CMW500	120932	Jul.20, 2020	Jul.19, 2021
☐	Wideband Radio Communication Tester	R&S	CMW500	119583	Jul.20, 2020	Jul.19, 2021
☐	Universal Radio Communication Tester	R&S	CMU200	114713	Nov. 24, 2019	Nov. 23, 2020
☒	DC Source	KIKUSUI	PWR400L	LK003024	Sep. 09, 2019	Sep. 08, 2020
☐	Temp & Humidity chamber	Espec	GL(U)04K A(W)	16921H201P3	Sep. 09, 2019	Sep. 08, 2020
☒	Temp & Humidity chamber	Votisch	VT4002	58566133290 020	May.11, 2020	May.10, 2021

4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

Test Environment	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage (V)	Relative Humidity (%)
TN/VN	+15 to +35	3.8	20 to 75
TL/VL	-30	3.2	20 to 75
TH/VL	+65	3.2	20 to 75
TL/VH	-30	4.5	20 to 75
TH/VH	+65	4.5	20 to 75

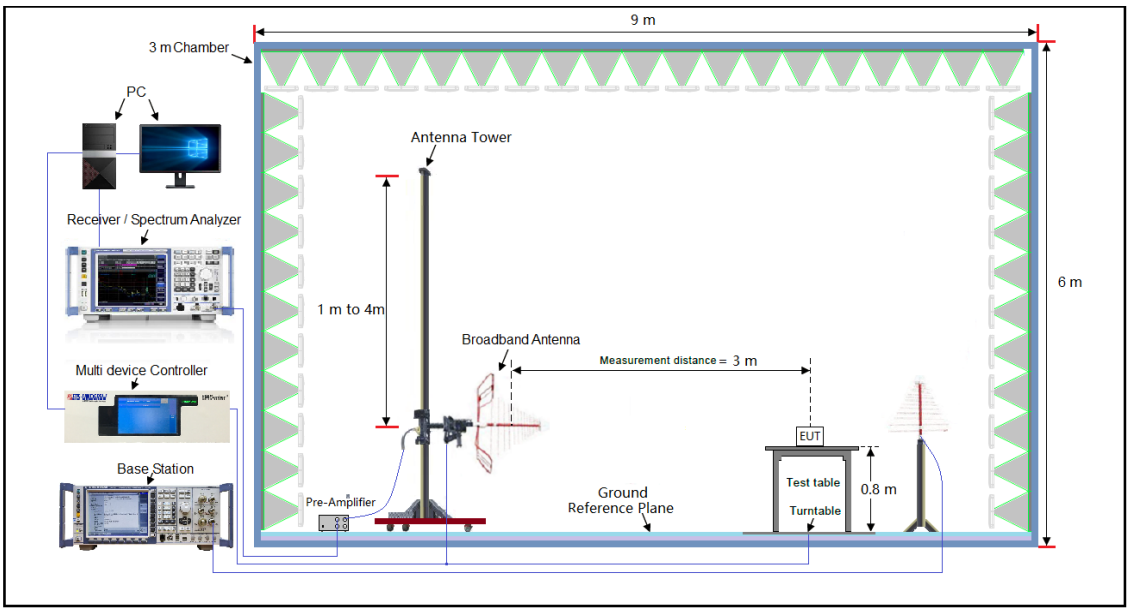
Remark:

1) The EUT just work in such extreme temperature of -30 °C to +65 °C and the extreme voltage of 3.2 V to 4.5 V, so here the EUT is tested in the temperature of -30 °C to +65 °C and the voltage of 3.2 V to 4.5 V.
2) VN: Normal Voltage; TN: Normal Temperature;
   TL: Low Extreme Test Temperature; TH: High Extreme Test Temperature;
   VL: Low Extreme Test Voltage; VH: High Extreme Test Voltage.

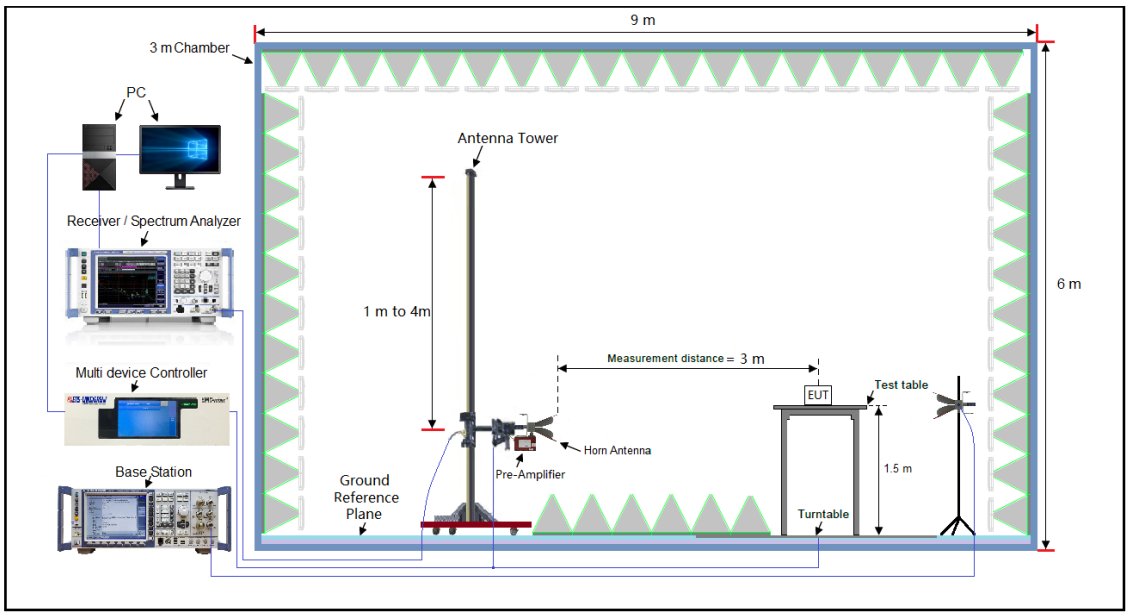
4.2 TEST SETUP

4.2.1 For Radiated Emissions test setup

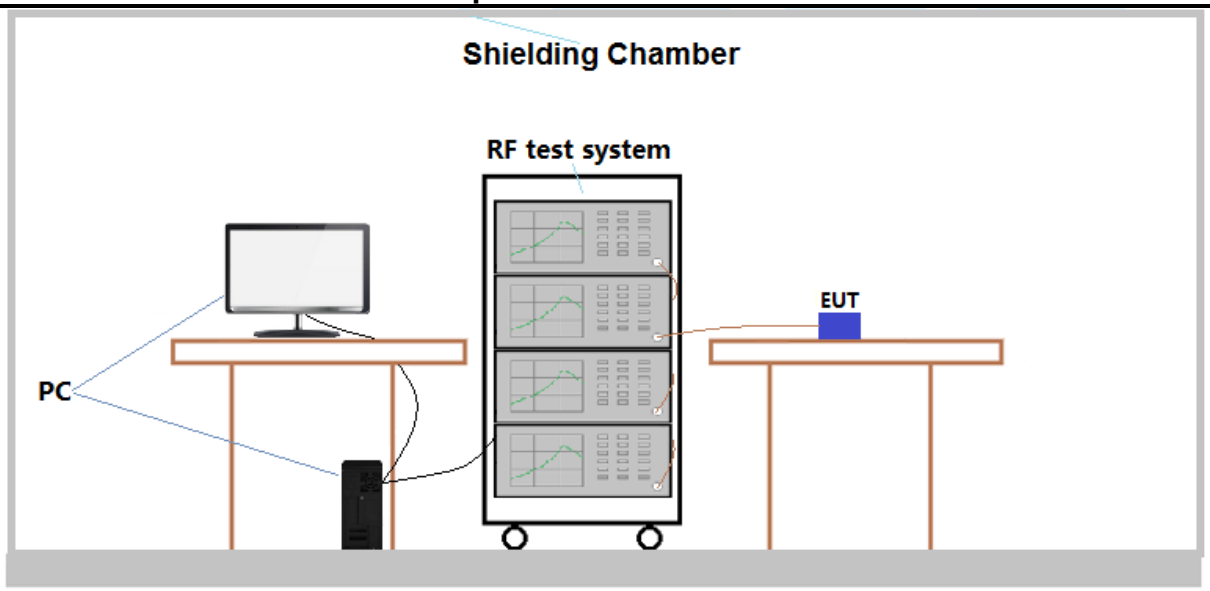
Radiated Emissions 30MHz to 1GHz Test setup



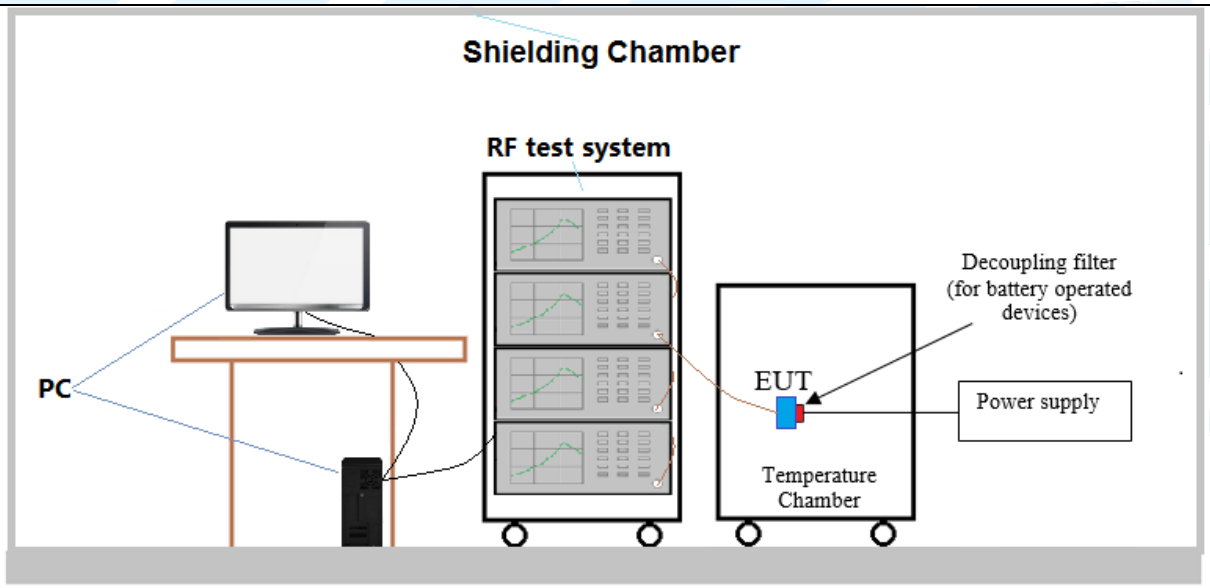
Radiated Emissions Above 1GHz Test setup



4.2.2 For Conducted RF test setup



Normal Environment



Extreme Environment

4.3 TEST CHANNELS

Band	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink (MHz)
LTE Band 2 TX: 1850-1910MHz	Low Range	1.4	18607	1850.7
		3	18615	1851.5
		5	18625	1852.5
		10	18650	1855
		15	18675	1857.5
		20	18700	1860
	Middle Range	1.4/3/5/10/15/20	18900	1880
	High Range	1.4	19193	1909.3
		3	19185	1908.5
		5	19175	1907.5
		10	19150	1905
		15	19125	1902.5
		20	19100	1900
LTE Band 4 TX: 1710-1755MHz	Low Range	1.4	19957	1710.7
		3	19965	1711.5
		5	19975	1712.5
		10	20000	1715
		15	20025	1717.5
		20	20050	1720
	Middle Range	1.4/3/5/10/ 15/20	20175	1732.5
	High Range	1.4	20393	1754.3
		3	20385	1753.5
		5	20375	1752.5
		10	20350	1750
		15	20325	1747.5
		20	20300	1745
LTE band 5 TX: 824–849MHz	Low Range	1.4	20407	824.7
		3	20415	825.5
		5	20425	826.5
		10	20450	829
	Middle Range	1.4/3/5/10	20525	836.5
	High Range	1.4	20643	848.3
		3	20635	847.5
		5	20625	846.5
		10	20600	844
LTE Band 7 TX: 2500-2570MHz	Low Range	5	20775	2502.5
		10	20800	2505
		15	20825	2507.5
		20	20850	2510
	Middle Range	5/10/15/20	21100	2535
	High Range	5	21425	2567.5
		10	21400	2565
		15	21375	2562.5

		20	21350	2560
LTE Band 12 TX: 699-716MHz	Low Range	1.4	23017	699.7
		3	23025	700.5
		5	23035	701.5
		10	23060	704
	Middle Range	1.4/3/5/10	23095	707.5
	High Range	1.4	23173	715.3
		3	23165	714.5
		5	23155	713.5
		10	23130	711
LTE Band 13 TX: 777-787MHz	Low Range	5	23205	779.5
		10	23230	782
	Middle Range	5/10	23230	782
	High Range	5	23255	784.5
		10	23230	782
LTE band 26 TX:824–849MHz	Low Range	1.4	26797	824.7
		3	26805	825.5
		5	26815	826.5
		10	26840	829
		15	26865	831.5
	Middle Range	1.4/3/5/10/15	26915	836.5
	High Range	1.4	27033	848.3
		3	27025	847.5
		5	27015	846.5
		10	26990	844
		15	26965	841.5
LTE band 26 TX: 814-824MHz	Low Range	1.4	26697	814.7
		3	26705	815.5
		5	26715	816.5
		10	/	/
		15	26765	821.5
	Middle Range	1.4/3/5/10	26740	819
	High Range	1.4	26783	823.3
		3	26775	822.5
		5	26765	821.5
		10	/	/
		15	/	/
LTE Band 38 TX: 2570-2620MHz	Low Range	5	37775	2572.5
		10	37800	2575
		15	37825	2577.5
		20	37850	2580
	Middle Range	5/10/ 15/20	38000	2595
	High Range	5	38225	2617.5
		10	38200	2615
		15	38175	2612.5
		20	38150	2610

LTE Band 41 TX: 2496-2690MHz	Low Range	5	40065	2537.5
		10	40090	2540
		15	40115	2542.5
		20	40140	2545
	Middle Range	5/10/ 15/20	40640	2595
	High Range	5	41215	2652.5
		10	41190	2650
		15	41165	2647.5
		20	41140	2645
LTE Band 66 TX: 1710-1780MHz	Low Range	1.4	131979	1710.7
		3	131987	1711.5
		5	131997	1712.5
		10	132022	1715
		15	132047	1717.5
		20	132072	1720
	Middle Range	1.4/3/5/10/ 15/20	132322	1745
	High Range	1.4	132665	1779.3
		3	132657	1778.5
		5	132647	1777.5
		10	132622	1775
		15	132597	1772.5
		20	132572	1770

4.4 SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. Only the worst case data were recorded in this test report.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X/Y/Z axis, and antenna ports.
The worst case was found when positioned as the table below.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1 MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Band	Mode	Antenna Port	Worst-case axis positioning
LTE Band 2	1TX	Chain 0	Z axis
LTE Band 4	1TX	Chain 0	Z axis
LTE Band 5	1TX	Chain 0	Z axis
LTE Band 7	1TX	Chain 0	Z axis
LTE Band 12	1TX	Chain 0	Z axis
LTE Band 13	1TX	Chain 0	Z axis
LTE Band 26	1TX	Chain 0	Z axis
LTE Band 38	1TX	Chain 0	Z axis
LTE Band 41	1TX	Chain 0	Z axis
LTE Band 66	1TX	Chain 0	Z axis

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

4.5 PRE-SCAN

Pre-scan under all rate at lowest middle and highest channel, find the transmitter power as below.

4.5.1 LTE Band 2

LTE Band 2 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 1.4 MHz						Channel Bandwidth: 3 MHz				
QPSK	1	0	22.60	22.76	22.74	1	0	22.58	22.74	22.81
	1	2	23.05	23.56	22.67	1	7	23.13	23.49	22.59
	1	5	22.64	23.01	22.83	1	14	22.67	22.90	22.90
	3	0	23.08	23.15	23.12	8	0	22.07	22.15	22.08
	3	1	22.94	23.03	22.93	8	3	21.99	22.06	21.94
	3	3	23.02	23.30	23.09	8	7	22.01	22.30	22.18
	6	0	21.77	22.17	21.88	15	0	21.84	22.25	21.89
16QAM	1	0	22.90	22.26	23.17	1	0	22.95	22.26	23.29
	1	2	23.53	23.27	23.58	1	7	23.42	23.17	23.49
	1	5	22.48	22.10	22.99	1	14	22.34	22.27	22.98
	3	0	22.69	22.99	22.67	8	0	21.56	21.84	21.78
	3	1	22.71	22.98	22.68	8	3	21.74	21.91	21.82
	3	3	22.65	22.97	22.87	8	7	21.74	21.97	21.85
	6	0	21.59	21.85	21.91	15	0	21.52	21.90	21.85
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	22.64	22.77	22.83	1	0	22.70	22.65	22.81
	1	12	22.98	23.55	22.60	1	24	23.09	23.66	22.68
	1	24	22.74	22.98	22.95	1	49	22.66	23.02	22.90
	12	0	22.02	22.24	22.04	25	0	22.06	22.25	22.20
	12	6	21.86	22.04	22.08	25	12	21.99	22.03	22.00
	12	13	22.13	22.32	22.17	25	25	21.99	22.16	22.04
	25	0	21.85	22.20	22.02	50	0	21.84	22.18	22.01
16QAM	1	0	23.04	22.19	23.12	1	0	23.05	22.23	23.29
	1	12	23.58	23.34	23.51	1	24	23.49	23.15	23.46
	1	24	22.38	22.21	22.90	1	49	22.48	22.21	22.88
	12	0	21.57	21.96	21.74	25	0	21.57	21.83	21.77
	12	6	21.61	22.06	21.84	25	12	21.60	21.90	21.79
	12	13	21.61	22.05	21.98	25	25	21.66	21.99	21.82
	25	0	21.50	22.02	21.94	50	0	21.56	21.88	21.82
Channel Bandwidth: 15 MHz						Channel Bandwidth: 20 MHz				
QPSK	1	0	22.72	22.63	22.83	1	0	22.75	22.77	22.88
	1	37	22.95	23.62	22.51	1	50	23.15	**23.67**	22.70
	1	74	22.73	22.93	22.92	1	99	22.80	23.08	22.99
	37	0	22.08	22.22	22.09	50	0	22.12	22.30	22.22
	37	19	21.98	22.04	22.06	50	25	22.04	22.20	22.12
	37	39	22.09	22.28	22.14	50	50	22.16	22.33	22.19
	75	0	21.81	22.16	21.90	100	0	21.91	22.27	22.06
16QAM	1	0	23.00	22.21	23.21	1	0	23.07	22.30	23.31
	1	37	23.57	23.34	23.52	1	50	23.58	23.35	23.64
	1	74	22.45	22.16	23.01	1	99	22.53	22.30	23.07
	37	0	21.52	21.96	21.75	50	0	21.70	22.01	21.83
	37	19	21.73	22.01	21.78	50	25	21.75	22.10	21.85
	37	39	21.72	22.01	21.97	50	50	21.76	22.08	21.99
	75	0	21.45	21.95	21.81	100	0	21.61	22.03	21.95

4.5.2 LTE Band 4

LTE Band 4 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 1.4 MHz						Channel Bandwidth: 3 MHz				
QPSK	1	0	22.54	22.68	22.85	1	0	22.50	22.77	22.98
	1	2	22.58	22.73	22.48	1	7	22.70	22.67	22.49
	1	5	22.39	22.52	22.60	1	14	22.38	22.43	22.49
	3	0	22.71	22.67	23.16	8	0	21.79	21.69	22.10
	3	1	23.07	22.54	22.61	8	3	22.00	21.56	21.75
	3	3	22.90	22.34	22.80	8	7	21.80	21.36	21.75
	6	0	21.37	21.71	21.75	15	0	21.46	21.65	21.73
16QAM	1	0	21.90	22.27	21.86	1	0	21.97	22.36	21.88
	1	2	22.03	22.33	21.76	1	7	22.15	22.20	21.83
	1	5	21.50	21.35	21.93	1	14	21.46	21.36	21.92
	3	0	20.99	21.36	21.26	8	0	19.93	20.36	20.26
	3	1	21.22	21.24	21.05	8	3	20.23	20.21	20.16
	3	3	21.28	21.34	21.24	8	7	20.26	20.33	20.35
	6	0	20.20	20.56	20.60	15	0	20.36	20.59	20.63
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	22.54	22.65	22.90	1	0	22.54	22.65	22.87
	1	12	22.68	22.67	22.46	1	24	22.59	22.71	22.48
	1	24	22.43	22.59	22.59	1	49	22.43	22.42	22.51
	12	0	21.90	21.64	22.09	25	0	21.77	21.66	22.23
	12	6	21.95	21.50	21.72	25	12	21.95	21.45	21.73
	12	13	21.81	21.52	21.71	25	25	21.91	21.38	21.69
	25	0	21.42	21.65	21.80	50	0	21.37	21.57	21.76
16QAM	1	0	22.01	22.36	21.85	1	0	21.99	22.31	21.92
	1	12	21.99	22.38	21.77	1	24	22.02	22.23	21.89
	1	24	21.53	21.38	21.93	1	49	21.40	21.28	21.87
	12	0	19.95	20.43	20.41	25	0	19.99	20.41	20.40
	12	6	20.12	20.27	20.08	25	12	20.07	20.23	20.16
	12	13	20.26	20.38	20.38	25	25	20.26	20.38	20.33
	25	0	20.36	20.53	20.66	50	0	20.33	20.55	20.63
Channel Bandwidth: 15 MHz						Channel Bandwidth: 20 MHz				
QPSK	1	0	22.58	22.76	22.84	1	0	22.62	22.81	**23.01**
	1	37	22.53	22.78	22.55	1	50	22.70	22.83	22.59
	1	74	22.25	22.54	22.64	1	99	22.45	22.61	22.66
	37	0	21.72	21.60	22.20	50	0	21.90	21.78	22.23
	37	19	22.06	21.56	21.74	50	25	22.13	21.57	21.75
	37	39	21.78	21.43	21.78	50	50	21.92	21.53	21.81
	75	0	21.39	21.63	21.77	100	0	21.48	21.76	21.82
16QAM	1	0	21.89	22.33	21.88	1	0	22.06	22.37	21.98
	1	37	22.17	22.23	21.82	1	50	22.17	22.38	21.94
	1	74	21.49	21.27	22.02	1	99	21.57	21.41	22.05
	37	0	20.07	20.36	20.28	50	0	20.08	20.49	20.44
	37	19	20.12	20.20	20.16	50	25	20.27	20.38	20.21
	37	39	20.15	20.40	20.25	50	50	20.34	20.46	20.39
	75	0	20.18	20.64	20.50	100	0	20.37	20.65	20.66

4.5.3 LTE Band 5

LTE Band 5 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 1.4 MHz						Channel Bandwidth: 3 MHz				
QPSK	1	0	22.97	23.35	23.40	1	0	22.98	23.38	23.45
	1	2	23.28	23.39	23.27	1	7	23.27	23.53	23.32
	1	5	23.20	23.21	23.36	1	14	23.37	23.30	23.22
	3	0	23.31	23.25	23.12	8	0	22.33	22.41	22.11
	3	1	23.28	23.22	22.98	8	3	22.22	22.23	22.01
	3	3	23.09	23.13	23.08	8	7	22.16	22.17	22.16
	6	0	22.14	22.02	22.11	15	0	22.18	22.09	22.11
16QAM	1	0	22.06	22.39	22.56	1	0	21.97	22.31	22.53
	1	2	22.79	22.49	22.07	1	7	22.90	22.41	21.99
	1	5	21.95	22.49	21.65	1	14	21.92	22.47	21.82
	3	0	22.26	22.03	21.90	8	0	21.23	21.04	20.95
	3	1	22.35	22.10	22.01	8	3	21.36	21.06	21.04
	3	3	22.18	22.17	22.12	8	7	21.18	21.16	21.21
	6	0	20.97	21.08	21.21	15	0	20.93	21.03	21.20
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	23.04	23.34	23.48	1	0	23.08	23.48	23.56
	1	12	23.26	23.57	23.40	1	24	23.45	**23.58**	23.43
	1	24	23.19	23.34	23.31	1	49	23.39	23.36	23.38
	12	0	22.21	22.30	22.11	25	0	22.35	22.41	22.12
	12	6	22.18	22.17	21.96	25	12	22.31	22.37	22.13
	12	13	22.15	22.13	22.12	25	25	22.26	22.22	22.16
	25	0	22.25	22.13	22.07	50	0	22.28	22.21	22.17
16QAM	1	0	21.97	22.45	22.48	1	0	22.09	22.48	22.66
	1	12	22.72	22.35	22.06	1	24	22.90	22.50	22.11
	1	24	22.02	22.46	21.78	1	49	22.08	22.52	21.85
	12	0	21.22	21.05	20.89	25	0	21.30	21.12	21.04
	12	6	21.27	20.99	20.96	25	12	21.40	21.13	21.09
	12	13	21.18	21.18	21.23	25	25	21.20	21.24	21.31
	25	0	20.89	21.09	21.08	50	0	21.04	21.16	21.23

4.5.4 LTE Band 7

LTE Band 7 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	22.79	22.49	22.84	1	0	22.78	22.36	22.90
	1	12	22.76	22.74	22.75	1	24	22.80	22.74	22.85
	1	24	22.54	22.80	22.65	1	49	22.63	22.77	22.64
	12	0	21.90	21.58	21.42	25	0	21.89	21.73	21.38
	12	6	21.93	21.48	21.70	25	12	21.89	21.36	21.67
	12	13	21.83	21.70	21.64	25	25	21.72	21.65	21.66
	25	0	21.82	21.65	21.83	50	0	21.76	21.81	21.92
16QAM	1	0	22.00	21.96	21.92	1	0	21.96	21.94	21.95
	1	12	22.39	23.15	22.46	1	24	22.41	23.11	22.51
	1	24	21.93	22.00	22.20	1	49	21.93	21.93	22.25
	12	0	21.54	21.21	21.17	25	0	21.54	21.27	21.16
	12	6	21.55	21.28	21.49	25	12	21.54	21.13	21.54
	12	13	21.42	21.43	21.59	25	25	21.45	21.40	21.49
	25	0	21.41	21.34	21.52	50	0	21.32	21.47	21.41
Channel Bandwidth: 15 MHz						Channel Bandwidth: 20 MHz				
QPSK	1	0	22.77	22.41	22.80	1	0	22.78	22.83	22.69
	1	37	22.87	22.88	22.73	1	50	22.81	22.60	**23.00**
	1	74	22.59	22.91	22.81	1	99	22.73	22.88	22.56
	37	0	21.92	21.56	21.42	50	0	22.41	21.95	21.80
	37	19	21.75	21.37	21.71	50	25	22.45	21.95	21.72
	37	39	21.80	21.72	21.66	50	50	22.30	21.94	21.75
	75	0	21.92	21.75	21.84	100	0	22.36	21.87	21.76
16QAM	1	0	21.97	21.81	21.83	1	0	22.28	22.54	22.59
	1	37	22.48	23.06	22.62	1	50	22.68	22.54	22.58
	1	74	21.93	21.87	22.26	1	99	22.53	22.23	22.14
	37	0	21.45	21.35	21.13	50	0	21.92	21.68	21.80
	37	19	21.37	21.12	21.43	50	25	21.83	21.65	21.72
	37	39	21.29	21.26	21.49	50	50	21.67	21.78	21.48
	75	0	21.32	21.37	21.56	100	0	21.76	21.59	21.56

4.5.5 LTE Band 12

LTE Band 12 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 1.4 MHz						Channel Bandwidth: 3 MHz				
QPSK	1	0	23.59	23.42	22.95	1	0	23.57	23.36	22.84
	1	2	23.77	23.54	23.41	1	7	23.68	23.58	23.30
	1	5	23.53	23.01	23.52	1	14	23.56	23.07	23.62
	3	0	23.58	23.32	23.48	8	0	22.59	22.42	22.65
	3	1	23.88	23.37	23.48	8	3	22.84	22.38	22.62
	3	3	23.93	23.32	23.52	8	7	22.83	22.22	22.50
	6	0	23.10	22.34	22.39	15	0	23.15	22.39	22.42
16QAM	1	0	23.11	23.12	23.28	1	0	23.14	23.16	23.28
	1	2	23.45	23.22	23.09	1	7	23.48	23.31	23.11
	1	5	23.47	22.86	23.13	1	14	23.39	22.97	23.31
	3	0	23.09	23.38	23.58	8	0	22.15	22.29	22.48
	3	1	23.17	23.21	23.29	8	3	22.24	22.21	22.30
	3	3	23.07	23.24	23.39	8	7	22.09	22.16	22.46
	6	0	22.27	22.21	22.36	15	0	22.28	22.20	22.22
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	23.57	23.36	23.00	1	0	23.63	23.52	23.04
	1	12	23.71	23.59	23.39	1	24	**23.83**	23.64	23.47
	1	24	23.44	22.96	23.64	1	49	23.61	23.16	23.67
	12	0	22.69	22.38	22.50	25	0	22.71	22.44	22.66
	12	6	22.79	22.31	22.46	25	12	22.93	22.42	22.64
	12	13	22.77	22.37	22.38	25	25	22.97	22.41	22.52
	25	0	23.23	22.42	22.29	50	0	23.24	22.46	22.42
16QAM	1	0	23.21	23.07	23.28	1	0	23.28	23.19	23.37
	1	12	23.48	23.23	23.11	1	24	23.54	23.33	23.15
	1	24	23.33	22.84	23.16	1	49	23.47	23.00	23.32
	12	0	22.14	22.36	22.46	25	0	22.29	22.44	22.60
	12	6	22.21	22.28	22.37	25	12	22.30	22.35	22.38
	12	13	22.08	22.06	22.43	25	25	22.25	22.26	22.46
	25	0	22.18	22.18	22.29	50	0	22.30	22.36	22.38

4.5.6 LTE Band 13

LTE Band 13 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	22.70	22.77	22.78	1	0	/	22.80	/
	1	12	23.34	23.30	23.32	1	24	/	**23.39**	/
	1	24	22.61	22.78	22.70	1	49	/	22.79	/
	12	0	21.97	22.12	22.03	25	0	/	22.12	/
	12	6	22.12	22.01	21.99	25	12	/	22.13	/
	12	13	22.08	21.96	22.05	25	25	/	22.15	/
	25	0	21.95	21.97	22.05	50	0	/	22.12	/
16QAM	1	0	22.54	22.50	22.55	1	0	/	22.60	/
	1	12	22.95	23.11	23.06	1	24	/	23.11	/
	1	24	22.46	22.61	22.57	1	49	/	22.64	/
	12	0	21.80	21.84	21.90	25	0	/	21.96	/
	12	6	21.64	21.71	21.78	25	12	/	21.79	/
	12	13	21.89	21.83	21.73	25	25	/	21.92	/
	25	0	21.54	21.59	21.61	50	0	/	21.62	/

4.5.7 LTE Band 26

LTE Band 26 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 1.4 MHz						Channel Bandwidth: 3 MHz				
QPSK	1	0	23.03	22.67	22.92	1	0	23.00	22.81	22.91
	1	2	23.10	23.03	23.08	1	7	23.04	23.16	23.01
	1	5	22.78	23.24	22.63	1	14	22.72	23.11	22.65
	3	0	23.20	23.01	23.19	8	0	22.14	22.07	22.07
	3	1	23.20	23.17	23.06	8	3	22.31	22.14	22.16
	3	3	23.09	23.11	23.20	8	7	22.14	22.16	22.04
	6	0	22.20	22.20	22.31	15	0	22.16	22.32	22.17
16QAM	1	0	23.30	23.29	22.93	1	0	23.41	23.33	22.94
	1	2	23.41	23.27	22.85	1	7	23.43	23.37	22.79
	1	5	23.29	23.36	22.08	1	14	23.14	23.34	22.18
	3	0	23.05	22.97	22.85	8	0	22.08	21.83	21.77
	3	1	23.40	23.37	23.22	8	3	22.43	22.30	22.36
	3	3	22.90	23.04	22.84	8	7	21.77	22.07	21.85
	6	0	22.03	22.01	22.04	15	0	22.13	21.93	21.97
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	22.94	22.84	22.83	1	0	23.04	22.77	22.89
	1	12	22.97	23.01	23.08	1	24	23.11	22.99	22.97
	1	24	22.87	23.12	22.74	1	49	22.72	23.20	22.62
	12	0	22.04	22.01	22.07	25	0	22.08	22.08	22.12
	12	6	22.33	22.30	21.99	25	12	22.27	22.20	22.00
	12	13	22.01	22.06	22.20	25	25	22.10	22.22	22.20
	25	0	22.27	22.34	22.29	50	0	22.13	22.33	22.19
16QAM	1	0	23.43	23.29	23.00	1	0	23.25	23.28	22.99
	1	12	23.31	23.33	22.86	1	24	23.25	23.28	22.80
	1	24	23.17	23.41	22.26	1	49	23.23	23.33	22.10
	12	0	21.99	21.98	21.75	25	0	22.08	21.83	21.74
	12	6	22.38	22.22	22.29	25	12	22.42	22.27	22.26
	12	13	21.79	22.05	21.89	25	25	21.82	22.19	21.86
	25	0	22.09	21.96	22.05	50	0	21.98	22.06	22.09

LTE Band 26					
Modulation	RB		Test Channel		
	Size	Offset	Low	Mid	High
Channel Bandwidth: 15 MHz					
QPSK	1	0	23.13	22.86	23.03
	1	12	23.14	23.17	23.17
	1	24	22.89	**23.29**	22.82
	12	0	22.23	22.17	22.23
	12	6	22.40	22.33	22.17
	12	13	22.17	22.24	22.22
	25	0	22.28	22.36	22.37
16QAM	1	0	23.44	23.41	23.01
	1	12	23.44	23.43	22.88
	1	24	23.31	23.42	22.26
	12	0	22.16	22.02	21.87
	12	6	22.43	22.39	22.36
	12	13	21.94	22.21	21.96
	25	0	22.18	22.09	22.15

4.5.8 LTE Band 26 (Part 90S)

LTE Band 26 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
	Channel Bandwidth: 1.4 MHz					Channel Bandwidth: 3 MHz				
QPSK	1	0	23.00	22.64	22.89	1	0	22.97	22.78	22.88
	1	2	23.07	23.00	23.05	1	7	23.01	23.13	22.98
	1	5	22.75	23.21	22.60	1	14	22.69	23.08	22.62
	3	0	23.17	22.98	23.16	8	0	22.11	22.04	22.04
	3	1	23.17	23.14	23.03	8	3	22.28	22.11	22.13
	3	3	23.06	23.08	23.17	8	7	22.11	22.13	22.01
	6	0	22.17	22.17	22.28	15	0	22.13	22.29	22.14
16QAM	1	0	23.27	23.26	22.90	1	0	23.38	23.30	22.91
	1	2	23.38	23.24	22.82	1	7	23.40	23.34	22.76
	1	5	23.26	23.33	22.05	1	14	23.11	23.31	22.15
	3	0	23.02	22.94	22.82	8	0	22.05	21.80	21.74
	3	1	23.37	23.34	23.19	8	3	22.40	22.27	22.33
	3	3	22.87	23.01	22.81	8	7	21.74	22.04	21.82
	6	0	22.00	21.98	22.01	15	0	22.10	21.90	21.94
	Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz				
QPSK	1	0	22.91	22.81	22.80	1	0	/	22.86	/
	1	12	22.94	22.98	23.05	1	24	/	22.94	/
	1	24	22.84	23.09	22.71	1	49	/	22.59	/
	12	0	22.01	21.98	22.04	25	0	/	22.09	/
	12	6	22.30	22.27	21.96	25	12	/	21.97	/
	12	13	21.98	22.03	22.17	25	25	/	22.17	/
	25	0	22.24	22.31	22.26	50	0	/	22.16	/
16QAM	1	0	23.40	23.26	22.97	1	0	/	22.96	/
	1	12	23.28	23.30	22.83	1	24	/	22.77	/
	1	24	23.14	23.38	22.23	1	49	/	22.07	/
	12	0	21.96	21.95	21.72	25	0	/	21.71	/
	12	6	22.35	22.19	22.26	25	12	/	22.23	/
	12	13	21.76	22.02	21.86	25	25	/	21.83	/
	25	0	22.06	21.93	22.02	50	0	/	22.06	/

4.5.9 LTE Band 38

LTE Band 38 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	22.79	22.49	22.84	1	0	22.78	22.36	22.90
	1	12	22.76	22.74	22.75	1	24	22.80	22.74	22.85
	1	24	22.54	22.80	22.65	1	49	22.63	22.77	22.64
	12	0	21.90	21.58	21.42	25	0	21.89	21.73	21.38
	12	6	21.93	21.48	21.70	25	12	21.89	21.36	21.67
	12	13	21.83	21.70	21.64	25	25	21.72	21.65	21.66
	25	0	21.82	21.65	21.83	50	0	21.76	21.81	21.92
16QAM	1	0	22.00	21.96	21.92	1	0	21.96	21.94	21.95
	1	12	22.39	23.15	22.46	1	24	22.41	23.11	22.51
	1	24	21.93	22.00	22.20	1	49	21.93	21.93	22.25
	12	0	21.54	21.21	21.17	25	0	21.54	21.27	21.16
	12	6	21.55	21.28	21.49	25	12	21.54	21.13	21.54
	12	13	21.42	21.43	21.59	25	25	21.45	21.40	21.49
	25	0	21.41	21.34	21.52	50	0	21.32	21.47	21.41
Channel Bandwidth: 15 MHz						Channel Bandwidth: 20 MHz				
QPSK	1	0	22.77	22.41	22.80	1	0	22.89	22.54	**22.95**
	1	37	22.87	22.88	22.73	1	50	22.94	22.89	22.86
	1	74	22.59	22.91	22.81	1	99	22.72	**22.95**	22.82
	37	0	21.92	21.56	21.42	50	0	22.02	21.74	21.55
	37	19	21.75	21.37	21.71	50	25	21.94	21.56	21.79
	37	39	21.80	21.72	21.66	50	50	21.92	21.75	21.73
	75	0	21.92	21.75	21.84	100	0	21.93	21.81	21.95
16QAM	1	0	21.97	21.81	21.83	1	0	22.15	21.97	22.00
	1	37	22.48	23.06	22.62	1	50	22.57	23.19	22.64
	1	74	21.93	21.87	22.26	1	99	22.10	22.04	22.27
	37	0	21.45	21.35	21.13	50	0	21.63	21.40	21.27
	37	19	21.37	21.12	21.43	50	25	21.55	21.30	21.56
	37	39	21.29	21.26	21.49	50	50	21.48	21.46	21.67
	75	0	21.32	21.37	21.56	100	0	21.46	21.50	21.57

4.5.10 LTE Band 41

LTE Band 41 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	22.95	22.74	22.25	1	0	23.05	22.90	22.32
	1	12	23.05	23.05	22.43	1	24	23.04	22.93	22.50
	1	24	23.49	22.69	22.11	1	49	23.38	22.79	22.03
	12	0	21.92	21.52	21.45	25	0	21.87	21.59	21.53
	12	6	22.04	21.33	21.44	25	12	22.07	21.33	21.53
	12	13	21.94	21.72	21.28	25	25	21.91	21.83	21.33
	25	0	21.90	21.79	21.42	50	0	21.97	21.75	21.51
16QAM	1	0	23.00	22.74	22.19	1	0	22.84	22.72	22.27
	1	12	22.99	23.02	22.42	1	24	22.96	22.99	22.38
	1	24	23.13	22.86	22.18	1	49	23.18	22.68	22.18
	12	0	21.96	21.41	21.41	25	0	22.04	21.32	21.38
	12	6	21.96	21.50	21.60	25	12	21.92	21.44	21.65
	12	13	21.82	21.70	21.41	25	25	21.86	21.84	21.33
	25	0	21.95	21.53	21.54	50	0	21.89	21.55	21.57
Channel Bandwidth: 15 MHz						Channel Bandwidth: 20 MHz				

QPSK	1	0	23.04	22.79	22.20	1	0	23.08	22.92	22.40
	1	37	22.91	23.10	22.48	1	50	23.09	23.11	22.59
	1	74	23.50	22.82	22.14	1	99	**23.56**	22.87	22.15
	37	0	21.98	21.59	21.38	50	0	22.05	21.72	21.57
	37	19	22.09	21.41	21.50	50	25	22.11	21.51	21.59
	37	39	21.89	21.78	21.40	50	50	22.01	21.86	21.45
	75	0	21.96	21.72	21.52	100	0	22.00	21.89	21.53
16QAM	1	0	22.91	22.87	22.19	1	0	23.03	22.87	22.35
	1	37	22.98	22.88	22.52	1	50	23.09	23.06	22.55
	1	74	23.10	22.75	22.13	1	99	23.22	22.87	22.19
	37	0	22.02	21.43	21.46	50	0	22.12	21.49	21.56
	37	19	21.97	21.42	21.59	50	25	22.11	21.52	21.75
	37	39	21.95	21.71	21.36	50	50	22.01	21.86	21.44
	75	0	22.00	21.60	21.62	100	0	22.00	21.73	21.67

4.5.11 LTE Band 66

LTE Band 66 Maximum Average Power (dBm)										
Modulation	RB		Test Channel			RB		Test Channel		
	Size	Offset	Low	Mid	High	Size	Offset	Low	Mid	High
Channel Bandwidth: 1.4 MHz						Channel Bandwidth: 3 MHz				
QPSK	1	0	22.60	22.76	22.74	1	0	22.58	22.74	22.81
	1	2	23.05	23.56	22.67	1	7	23.13	23.49	22.59
	1	5	22.64	23.01	22.83	1	14	22.67	22.90	22.90
	3	0	23.08	23.15	23.12	8	0	22.07	22.15	22.08
	3	1	22.94	23.03	22.93	8	3	21.99	22.06	21.94
	3	3	23.02	23.30	23.09	8	7	22.01	22.30	22.18
	6	0	21.77	22.17	21.88	15	0	21.84	22.25	21.89
16QAM	1	0	22.90	22.26	23.17	1	0	22.95	22.26	23.29
	1	2	23.53	23.27	23.58	1	7	23.42	23.17	23.49
	1	5	22.48	22.10	22.99	1	14	22.34	22.27	22.98
	3	0	22.69	22.99	22.67	8	0	21.56	21.84	21.78
	3	1	22.71	22.98	22.68	8	3	21.74	21.91	21.82
	3	3	22.65	22.97	22.87	8	7	21.74	21.97	21.85
	6	0	21.59	21.85	21.91	15	0	21.52	21.90	21.85
Channel Bandwidth: 5 MHz						Channel Bandwidth: 10 MHz				
QPSK	1	0	22.64	22.77	22.83	1	0	22.70	22.65	22.81
	1	12	22.98	23.55	22.60	1	24	23.09	23.66	22.68
	1	24	22.74	22.98	22.95	1	49	22.66	23.02	22.90
	12	0	22.02	22.24	22.04	25	0	22.06	22.25	22.20
	12	6	21.86	22.04	22.08	25	12	21.99	22.03	22.00
	12	13	22.13	22.32	22.17	25	25	21.99	22.16	22.04
	25	0	21.85	22.20	22.02	50	0	21.84	22.18	22.01
16QAM	1	0	23.04	22.19	23.12	1	0	23.05	22.23	23.29
	1	12	23.58	23.34	23.51	1	24	23.49	23.15	23.46
	1	24	22.38	22.21	22.90	1	49	22.48	22.21	22.88
	12	0	21.57	21.96	21.74	25	0	21.57	21.83	21.77
	12	6	21.61	22.06	21.84	25	12	21.60	21.90	21.79
	12	13	21.61	22.05	21.98	25	25	21.66	21.99	21.82
	25	0	21.50	22.02	21.94	50	0	21.56	21.88	21.82
Channel Bandwidth: 15 MHz						Channel Bandwidth: 20 MHz				
QPSK	1	0	22.72	22.63	22.83	1	0	22.34	22.34	22.50
	1	37	22.95	23.62	22.51	1	50	22.71	**23.05**	22.94
	1	74	22.73	22.93	22.92	1	99	22.81	22.84	22.15
	37	0	22.08	22.22	22.09	50	0	21.97	22.22	21.65
	37	19	21.98	22.04	22.06	50	25	22.11	22.05	21.64
	37	39	22.09	22.28	22.14	50	50	22.20	22.01	21.38
	75	0	21.81	22.16	21.90	100	0	22.09	22.07	21.55
16QAM	1	0	23.00	22.21	23.21	1	0	22.05	22.34	22.32
	1	37	23.57	23.34	23.52	1	50	22.38	22.45	22.79
	1	74	22.45	22.16	23.01	1	99	22.51	22.32	22.02
	37	0	21.52	21.96	21.75	50	0	21.19	21.42	21.39
	37	19	21.73	22.01	21.78	50	25	22.03	21.56	21.66
	37	39	21.72	22.01	21.97	50	50	21.57	21.69	21.26
	75	0	21.45	21.95	21.81	100	0	21.67	22.04	21.59

Pre-scan all bandwidth and RB, find worse case mode are chosen to the report, the LTE worse case mode applicability and tested channel detail as below:

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
ERP/EIRP	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☒	☐	☐	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	13	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☒	☐	☐	☒	☒	☒
	38	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
Conducted output power	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☒	☒	☒	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒
	13	-	-	☒	☒	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☒	☒	☒	☒	☒	☒
	38	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
99%&26dB Bandwidth	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☐	☐	☒	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☐	☐	☒	☒	☒	☒
	13	-	-	☒	☒	-	-	☒	☒	☒	☐	☐	☒	☒	☒	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☐	☐	☒	☒	☒	☒
	38	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
peak-to-average ratio	2	☐	☐	☐	☐	☐	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	4	☐	☐	☐	☐	☐	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	5	☐	☐	☐	☒	--	--	☒	☒	☒	☒	☐	☒	☒	☐	☒
	7	-	-	☐	☐	☐	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	12	☐	☐	☐	☒	-	-	☒	☒	☒	☒	☐	☒	☒	☐	☒
	13	-	-	☐	☒	-	-	☒	☒	☒	☒	☐	☒	☒	☐	☒
	26	☐	☐	☐	☐	☒	--	☒	☒	☒	☒	☐	☒	☒	☐	☒
	38	-	-	☐	☐	☐	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	41	-	-	☐	☐	☐	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	66	☐	☐	☐	☐	☐	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Band Edge at antenna terminals	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☒	☐	☒	☒	☐	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☒	☐	☒	☒	☐	☒
	13	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☒	☒	☐	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☒	☐	☒	☒	☐	☒
	38	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☒	☒	☐	☒
Spurious emissions at antenna terminals	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☒	☐	☐	☒	☒	☒
	7	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	13	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☒	☐	☐	☒	☒	☒
	38	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Field strength of spurious radiation	2	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	4	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	5	☐	☐	☐	☒	--	--	☒	☐	☐	☒	☐	☐	☒	☒	☒
	7	-	-	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	12	☐	☐	☐	☒	-	-	☒	☐	☐	☒	☐	☐	☒	☒	☒
	13	-	-	☐	☒	-	-	☒	☐	☐	☒	☐	☐	☒	☒	☒
	26	☐	☐	☐	☐	☒	--	☒	☐	☐	☒	☐	☐	☒	☒	☒
	38	-	-	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	41	-	-	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	66	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
Frequency stability	2	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	4	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	5	☐	☐	☐	☒	--	--	☒	☐	☐	☐	☐	☒	☐	☒	☐
	7	-	-	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	12	☐	☐	☐	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐
	13	-	-	☐	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐
	26	☐	☐	☐	☐	☒	--	☒	☐	☐	☐	☐	☒	☐	☒	☐
	38	-	-	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	41	-	-	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐
	66	☐	☐	☐	☐	☐	☒	☒	☐	☐	☐	☐	☒	☐	☒	☐

Remark:
The mark "☒" means is chosen for testing; The mark "☐" means is not chosen for testing;
The mark "-" means is not supported bandwidth

5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

5.1 REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 22	Public Mobile Services
3	FCC 47 CFR Part 27	Miscellaneous Wireless Communications Services
4	FCC 47 CFR Part 24	Personal Communications Services
5	FCC 47 CFR Part 90	Private Land Mobile Radio Services
6	ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
7	RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus
8	RSS-130 Issue 2	Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz
9	RSS-132 Issue 3	Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
10	RSS-133 Issue 6	2 GHz Personal Communications Services Aussi disponible
11	RSS-139 Issue 3	Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz
12	RSS-199 Issue 3	Broadband Radio Service (BRS) Equipment Operating in the Band 2500–2690 MHz
13	KDB 971168 D01	KDB 971168 D01 Power Meas License Digital Systems v03r01

5.2 ERP OR EIRP

Test Requirement: FCC 47 CFR Part 2.1046(a)
LTE Band 2: FCC 47 CFR Part 24.232(c), RSS-133 Issue 6, Section 6.4
LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.50(d)(4), RSS-139 Issue 3, Section 6.5
LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.913(a), RSS-132 Issue 3, Section 5.4
LTE Band 7 & Band 38 & Band 41: FCC 47 CFR Part 27.50(h)(2), RSS-199 Issue 3, Section 4.4
LTE Band 12: FCC 47 CFR Part 27.50(c)(10), RSS-130 Issue 2, Section 4.6
LTE Band 13: FCC 47 CFR Part 27.50(b)(10), RSS-130 Issue 2, Section 4.6
LTE Band 26: FCC 47 CFR Part 90.635

Test Method: KDB 971168 D01v03r01 Section 5.6 & ANSI C63.26-2015

Limit:

FCC 47 CFR Part 22.913(a):
The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

FCC 47 CFR Part 24.232(c):
Mobile and portable stations are limited to 2 watts EIRP.

FCC 47 CFR Part 27.50(d)(4):
Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

FCC 47 CFR Part 27.50(c)(10):
Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

FCC 47 CFR Part 27.50(h)(2):
Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

FCC 47 CFR Part 27.50(b)(10):
Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

FCC 47 CFR Part 90.635:
(a) The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.
(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).
Table—Equivalent Power and Antenna Heights for Base Stations in the 851–869 MHz and 935–940 MHz Bands Which Have a Requirement for a 32 km (20 mi) Service Area Radius

1. Power is given in terms of effective radiated power (ERP).
2. Applicants in the Los Angeles, CA, area who demonstrate a need to serve both the downtown and fringe areas will be permitted to utilize an ERP of 1 kw at the following mountaintop sites: Santiago Park, Sierra Peak, Mount Lukens, and Mount Wilson.
3. Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw (ERP).
4. Licensees in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

RSS-130 Issue 2, Section 4.6,
4.6.2 Frequency bands 617-652 MHz and 663-698 MHz

The e.r.p. shall not exceed 3 watts for mobile equipment, fixed subscriber equipment and portable equipment.

4.6.3 Frequency bands 698-756 MHz and 777-787 MHz

The e.r.p. shall not exceed 30 watts for mobile equipment and outdoor fixed subscriber equipment. The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

RSS-132 Issue 3, Section 5.4,
The transmitter output power shall be measured in terms of average power. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts.

RSS-133 Issue 6, Section 6.4
The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510. Moreover, base station transmitters operating in the band 1930-1995 MHz shall not have output power exceeding 100 watts.

RSS-139 Issue 3, Section 6.5
The equivalent isotropically radiated power (e.i.r.p.) for mobile and portable transmitters shall not exceed one watt. The e.i.r.p. for fixed and base stations in the band 1710-1780 MHz shall not exceed one watt.

RSS-199 Issue 3, Section 4.4,
For mobile subscriber equipment, the e.i.r.p. shall not exceed 2 W. For fixed subscriber equipment, the transmitter output power shall not exceed 2 W and the e.i.r.p. shall be limited to 40 W.

Test Procedure:

$$\text{ERP or EIRP} = P_{Meas} + G_T - L_C$$

where:
ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;
G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
1) L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

Test Setup:	Refer to section 4.2.1 for details.
Instruments Used:	Refer to section 3 for details
Test Mode:	Link mode
Test Results:	Pass
Test Data:	See table below

5.2.1 LTE Band 2

LTE Band 2 Maximum EIRP (dBm)					
Channel	QPSK; RB:1	16QAM; RB:1	64QAM; RB:1	Limit (dBm)	Result
Channel Bandwidth: 1.4MHz					
Lowest	23.05	23.53	/	33.01	Pass
Middle	23.56	23.27	/	33.01	Pass
Highest	22.67	23.58	/	33.01	Pass
Channel Bandwidth: 3MHz					
Lowest	23.13	23.42	/	33.01	Pass
Middle	23.49	23.17	/	33.01	Pass
Highest	22.59	23.49	/	33.01	Pass
Channel Bandwidth: 5MHz					
Lowest	22.98	23.58	/	33.01	Pass
Middle	23.55	23.34	/	33.01	Pass
Highest	22.60	23.51	/	33.01	Pass
Channel Bandwidth: 10MHz					
Lowest	23.09	23.49	/	33.01	Pass
Middle	23.66	23.15	/	33.01	Pass
Highest	22.68	23.46	/	33.01	Pass
Channel Bandwidth: 15MHz					
Lowest	22.95	23.57	/	33.01	Pass
Middle	23.62	23.34	/	33.01	Pass
Highest	22.51	23.52	/	33.01	Pass
Channel Bandwidth: 20MHz					
Lowest	23.15	23.58	/	33.01	Pass
Middle	23.67	23.35	/	33.01	Pass
Highest	22.70	23.64	/	33.01	Pass

5.2.2 LTE Band 4

LTE Band 4 Maximum EIRP (dBm)					
Channel	QPSK; RB:1	16QAM; RB:1	64QAM; RB:1	Limit (dBm)	Result
Channel Bandwidth: 1.4MHz					
Lowest	22.71	22.03	/	30.00	Pass
Middle	22.67	22.33	/	30.00	Pass
Highest	23.16	21.76	/	30.00	Pass
Channel Bandwidth: 3MHz					
Lowest	22.50	21.97	/	30.00	Pass
Middle	22.77	22.36	/	30.00	Pass
Highest	22.98	21.88	/	30.00	Pass
Channel Bandwidth: 5MHz					
Lowest	22.54	21.99	/	30.00	Pass
Middle	22.65	22.38	/	30.00	Pass
Highest	22.90	21.77	/	30.00	Pass
Channel Bandwidth: 10MHz					
Lowest	22.54	21.99	/	30.00	Pass
Middle	22.65	22.31	/	30.00	Pass
Highest	22.87	21.92	/	30.00	Pass
Channel Bandwidth: 15MHz					
Lowest	22.58	21.89	/	30.00	Pass
Middle	22.76	22.33	/	30.00	Pass
Highest	22.84	21.88	/	30.00	Pass
Channel Bandwidth: 20MHz					
Lowest	22.62	22.17	/	30.00	Pass
Middle	22.81	22.38	/	30.00	Pass
Highest	23.01	21.94	/	30.00	Pass

5.2.3 LTE Band 5

LTE Band 5 Maximum ERP (dBm)					
Channel	QPSK; RB:1	16QAM; RB:1	64QAM; RB:1	Limit (dBm)	Result
Channel Bandwidth: 1.4MHz					
Lowest	20.82	20.64	/	38.45	Pass
Middle	21.20	20.34	/	38.45	Pass
Highest	21.25	19.92	/	38.45	Pass
Channel Bandwidth: 3MHz					
Lowest	21.12	20.75	/	38.45	Pass
Middle	21.38	20.26	/	38.45	Pass
Highest	21.17	19.84	/	38.45	Pass
Channel Bandwidth: 5MHz					
Lowest	21.11	20.57	/	38.45	Pass
Middle	21.42	20.20	/	38.45	Pass
Highest	21.25	19.91	/	38.45	Pass
Channel Bandwidth: 10MHz					
Lowest	21.30	20.75	/	38.45	Pass
Middle	21.43	20.35	/	38.45	Pass
Highest	21.28	19.96	/	38.45	Pass

5.2.4 LTE Band 7

LTE Band 7 Maximum EIRP (dBm)					
Channel	QPSK; RB:1	16QAM; RB:1	64QAM; RB:1	Limit (dBm)	Result
Channel Bandwidth: 5MHz					
Lowest	22.79	22.39	/	33.01	Pass
Middle	22.49	23.15	/	33.01	Pass
Highest	22.84	22.46	/	33.01	Pass
Channel Bandwidth: 10MHz					
Lowest	22.78	22.41	/	33.01	Pass
Middle	22.36	23.11	/	33.01	Pass
Highest	22.90	22.51	/	33.01	Pass
Channel Bandwidth: 15MHz					
Lowest	22.59	22.48	/	33.01	Pass
Middle	22.91	23.06	/	33.01	Pass
Highest	22.81	22.62	/	33.01	Pass
Channel Bandwidth: 20MHz					
Lowest	22.81	22.68	/	33.01	Pass
Middle	22.60	22.54	/	33.01	Pass
Highest	23.00	22.58	/	33.01	Pass

5.2.5 LTE Band 12

LTE Band 12 Maximum ERP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 1.4MHz					
Lowest	21.78	20.94	/	34.77	Pass
Middle	21.17	21.23	/	34.77	Pass
Highest	21.37	21.43	/	34.77	Pass
Channel Bandwidth: 3MHz					
Lowest	21.53	21.33	/	34.77	Pass
Middle	21.43	21.16	/	34.77	Pass
Highest	21.15	20.96	/	34.77	Pass
Channel Bandwidth: 5MHz					
Lowest	21.56	21.33	/	34.77	Pass
Middle	21.44	21.08	/	34.77	Pass
Highest	21.24	20.96	/	34.77	Pass
Channel Bandwidth: 10MHz					
Lowest	21.68	21.39	/	34.77	Pass
Middle	21.49	21.18	/	34.77	Pass
Highest	21.32	21.00	/	34.77	Pass

5.2.6 LTE Band 13

LTE Band 13 Maximum ERP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 5MHz					
Lowest	21.19	20.80	/	34.77	Pass
Middle	21.15	20.96	/	34.77	Pass
Highest	21.17	20.91	/	34.77	Pass
Channel Bandwidth: 10MHz					
Lowest	/	/	/	34.77	Pass
Middle	21.24	20.96	/	34.77	Pass
Highest	/	/	/	34.77	Pass

5.2.7 LTE Band 26

LTE Band 26 Maximum ERP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 1.4MHz					
Lowest	20.63	21.26	/	38.45	Pass
Middle	21.09	21.12	/	38.45	Pass
Highest	20.48	20.70	/	38.45	Pass
Channel Bandwidth: 3MHz					
Lowest	20.89	21.28	/	38.45	Pass
Middle	21.01	21.22	/	38.45	Pass
Highest	20.86	20.64	/	38.45	Pass
Channel Bandwidth: 5MHz					

Lowest	20.72	21.28	/	38.45	Pass
Middle	20.97	21.14	/	38.45	Pass
Highest	20.59	20.85	/	38.45	Pass
Channel Bandwidth: 10MHz					
Lowest	20.57	21.08	/	38.45	Pass
Middle	21.05	21.18	/	38.45	Pass
Highest	20.47	19.95	/	38.45	Pass
Channel Bandwidth: 15MHz					
Lowest	20.74	21.29	/	38.45	Pass
Middle	21.14	21.26	/	38.45	Pass
Highest	20.67	20.86	/	38.45	Pass

5.2.8 LTE Band 26 (Part 90S)

LTE Band 26 Maximum ERP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 1.4MHz					
Lowest	20.60	21.23	/	50	Pass
Middle	21.06	21.09	/	50	Pass
Highest	20.45	20.67	/	50	Pass
Channel Bandwidth: 3MHz					
Lowest	20.86	21.25	/	50	Pass
Middle	20.98	21.19	/	50	Pass
Highest	20.83	20.61	/	50	Pass
Channel Bandwidth: 5MHz					
Lowest	20.69	21.25	/	50	Pass
Middle	20.94	21.11	/	50	Pass
Highest	20.56	20.82	/	50	Pass
Channel Bandwidth: 10MHz					
Middle	20.79	20.81	/	50	Pass

5.2.9 LTE Band 38

LTE Band 38 Maximum EIRP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 5MHz					
Lowest	22.79	22.39	/	33.01	Pass
Middle	22.49	23.15	/	33.01	Pass
Highest	22.84	22.46	/	33.01	Pass
Channel Bandwidth: 10MHz					
Lowest	22.78	22.41	/	33.01	Pass
Middle	22.36	23.11	/	33.01	Pass
Highest	22.90	22.51	/	33.01	Pass
Channel Bandwidth: 15MHz					
Lowest	22.59	22.48	/	33.01	Pass
Middle	22.91	23.06	/	33.01	Pass
Highest	22.81	22.62	/	33.01	Pass
Channel Bandwidth: 20MHz					
Lowest	22.89	22.57	/	33.01	Pass
Middle	22.54	23.19	/	33.01	Pass
Highest	22.95	22.64	/	33.01	Pass

5.2.10 LTE Band 41

LTE Band 41 Maximum EIRP (dBm)					
Channel	**QPSK; RB:1**	**16QAM; RB:1**	**64QAM; RB:1**	**Limit (dBm)**	**Result**
Channel Bandwidth: 5MHz					
Lowest	23.49	23.13	/	33.01	Pass
Middle	22.69	22.86	/	33.01	Pass
Highest	22.11	22.18	/	33.01	Pass
Channel Bandwidth: 10MHz					
Lowest	23.38	23.18	/	33.01	Pass
Middle	22.79	22.68	/	33.01	Pass
Highest	22.03	22.18	/	33.01	Pass
Channel Bandwidth: 15MHz					
Lowest	23.50	23.10	/	33.01	Pass
Middle	22.82	22.75	/	33.01	Pass
Highest	22.14	22.13	/	33.01	Pass
Channel Bandwidth: 20MHz					
Lowest	23.56	23.22	/	33.01	Pass
Middle	22.87	22.87	/	33.01	Pass
Highest	22.15	22.19	/	33.01	Pass

5.2.11 LTE Band 66

LTE Band 66 Maximum EIRP (dBm)					
Channel	QPSK; RB:1	16QAM; RB:1	64QAM; RB:1	Limit (dBm)	Result
Channel Bandwidth: 1.4MHz					
Lowest	23.05	23.53	/	30.00	Pass
Middle	23.56	23.27	/	30.00	Pass
Highest	22.67	23.58	/	30.00	Pass
Channel Bandwidth: 3MHz					
Lowest	23.13	23.42	/	30.00	Pass
Middle	23.49	23.17	/	30.00	Pass
Highest	22.59	23.49	/	30.00	Pass
Channel Bandwidth: 5MHz					
Lowest	22.98	23.58	/	30.00	Pass
Middle	23.55	23.34	/	30.00	Pass
Highest	22.60	23.51	/	30.00	Pass
Channel Bandwidth: 10MHz					
Lowest	23.09	23.49	/	30.00	Pass
Middle	23.66	23.15	/	30.00	Pass
Highest	22.68	23.46	/	30.00	Pass
Channel Bandwidth: 15MHz					
Lowest	22.95	23.57	/	30.00	Pass
Middle	23.62	23.34	/	30.00	Pass
Highest	22.51	23.52	/	30.00	Pass
Channel Bandwidth: 20MHz					
Lowest	22.71	22.38	/	30.00	Pass
Middle	23.05	22.45	/	30.00	Pass
Highest	22.94	22.79	/	30.00	Pass

5.3 CONDUCTED OUTPUT POWER

Test Requirement:
FCC 47 CFR Part 2.1046(a)
LTE Band 2: FCC 47 CFR Part 24.232(c), RSS-133 Issue 6, Section 6.4
LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.50(d)(4), RSS-139 Issue 3, Section 6.5
LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.913(a), RSS-132 Issue 3, Section 5.4
LTE Band 7 & Band 38 & Band 41: FCC 47 CFR Part 27.50(h)(2), RSS-199 Issue 3, Section 4.4
LTE Band 12: FCC 47 CFR Part 27.50(c)(10), RSS-130 Issue 2, Section 4.6
LTE Band 13: FCC 47 CFR Part 27.50(b)(10), RSS-130 Issue 2, Section 4.6
LTE Band 26: FCC 47 CFR Part 90.635

Test Method: KDB 971168 D01v03r01 & ANSI C63.26-2015

Limit:

FCC 47 CFR Part 22.913(a):
The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

FCC 47 CFR Part 24.232(c):
Mobile and portable stations are limited to 2 watts EIRP.

FCC 47 CFR Part 27.50(d)(4):
Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

FCC 47 CFR Part 27.50(c)(10):
Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

FCC 47 CFR Part 27.50(h)(2):
Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

FCC 47 CFR Part 27.50(b)(10):
Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

FCC 47 CFR Part 90.635:
(a) The effective radiated power and antenna height for base stations may not exceed 1 kilowatt (30 dBw) and 304 m. (1,000 ft.) above average terrain (AAT), respectively, or the equivalent thereof as determined from the Table. These are maximum values, and applicants will be required to justify power levels and antenna heights requested.
(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).
Table—Equivalent Power and Antenna Heights for Base Stations in the 851–869 MHz and 935–940 MHz

1. Power is given in terms of effective radiated power (ERP).
2. Applicants in the Los Angeles, CA, area who demonstrate a need to serve both the downtown and fringe areas will be permitted to utilize an ERP of 1 kw at the following mountaintop sites: Santiago Park, Sierra Peak, Mount Lukens, and Mount Wilson.
3. Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw (ERP).
4. Licensees in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

RSS-130 Issue 2, Section 4.6,
4.6.2 Frequency bands 617-652 MHz and 663-698 MHz

The e.r.p. shall not exceed 3 watts for mobile equipment, fixed subscriber equipment and portable equipment.

4.6.3 Frequency bands 698-756 MHz and 777-787 MHz

The e.r.p. shall not exceed 30 watts for mobile equipment and outdoor fixed subscriber equipment. The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

RSS-132 Issue 3, Section 5.4,
The transmitter output power shall be measured in terms of average power. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts.

RSS-133 Issue 6, Section 6.4
The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510. Moreover, base station transmitters operating in the band 1930-1995 MHz shall not have output power exceeding 100 watts.

RSS-139 Issue 3, Section 6.5
The equivalent isotropically radiated power (e.i.r.p.) for mobile and portable transmitters shall not exceed one watt. The e.i.r.p. for fixed and base stations in the band 1710-1780 MHz shall not exceed one watt.

RSS-199 Issue 3, Section 4.4,
For mobile subscriber equipment, the e.i.r.p. shall not exceed 2 W. For fixed subscriber equipment, the transmitter output power shall not exceed 2 W and the e.i.r.p. shall be limited to 40 W.

Test Procedure:
The EUT was set up for the maximum power with LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup:	Refer to section 4.2.2 for details.
Instruments Used:	Refer to section 3 for details
Test Mode:	Link mode
Test Results:	Pass
Test Data:	The full result refer to section 4.5 for details.

5.4 PEAK-TO-AVERAGE RATIO

Test Requirement:
LTE Band 2: FCC 47 CFR Part 24.232(d), RSS-133 Issue 6, Section 6.4
LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.50(d)(5), RSS-139 Issue 3, Section 6.5
LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.913(a), RSS-132 Issue 3, Section 5.4
LTE Band 7 & Band 38 & Band 41: FCC 47 CFR Part 27.50(d)(5), RSS-199 Issue 3, Section 4.4
LTE Band 12: FCC 47 CFR Part 27.50(d)(5), RSS-130 Issue 2, Section 4.6
LTE Band 13: FCC 47 CFR Part 27.50(d)(5), RSS-130 Issue 2, Section 4.6

Test Method: KDB 971168 D01v03r01 Section 5.7

Limit: 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

Test Procedure:
The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.
a) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth
b) Set the number of counts to a value that stabilizes the measured CCDF curve
c) Record the maximum PAPR level associated with a probability of 0.1 %

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.2.2 for details.
Instruments Used: Refer to section 3 for details
Test Mode: Link mode
Test Results: Pass
Test Data: See table below

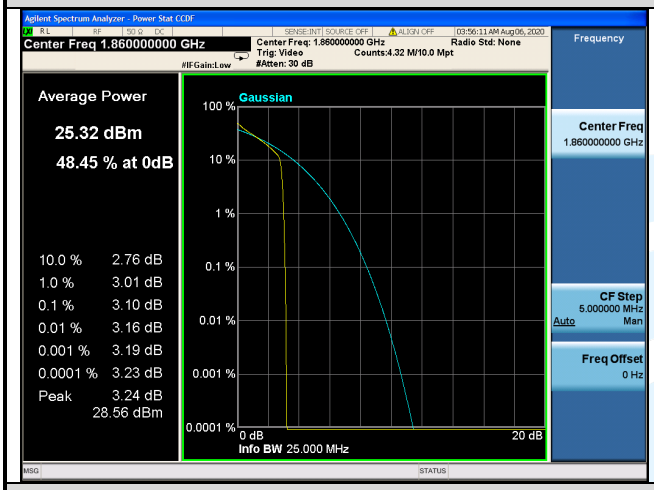
5.4.1 LTE Band 2

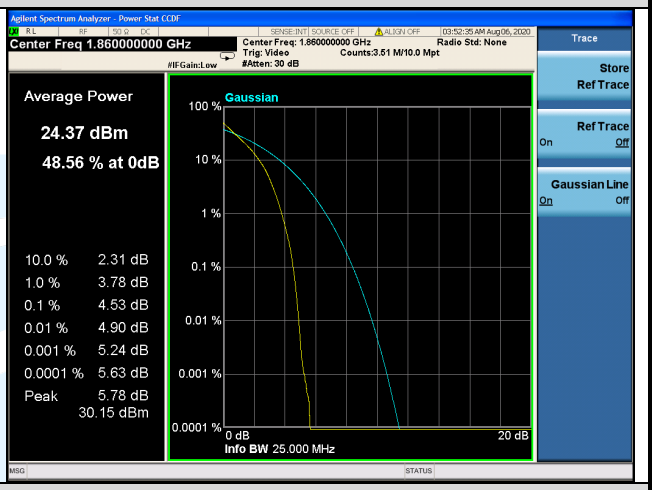
LTE Band 2 Peak-to-average ratio (dB)						
Channel	RB Configuration	Channel Bandwidth: 20 MHz			Limit (dB)	Result
		QPSK	16QAM	64QAM		
Lowest	1 RB	3.10	3.82	/	13	Pass
	Full RB	4.53	5.27	/	13	Pass
Middle	1 RB	3.22	4.10	/	13	Pass
	Full RB	4.42	5.20	/	13	Pass
Highest	1 RB	3.10	4.02	/	13	Pass
	Full RB	4.67	5.41	/	13	Pass

LTE Band 2 / 20 MHz / QPSK

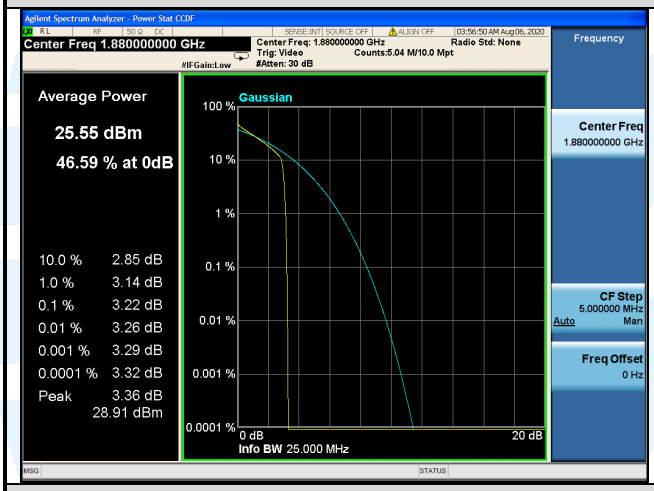
1 RB	Full RB

Lowest Channel

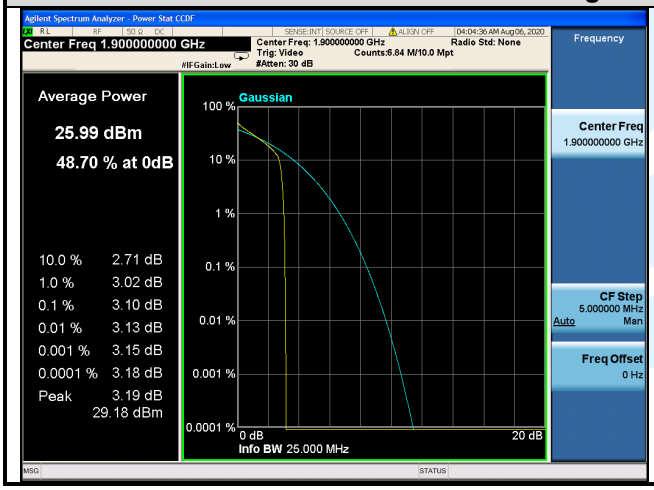


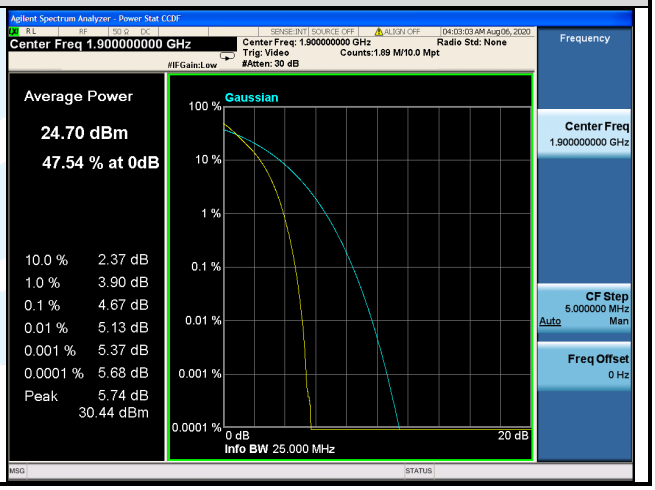


Middle Channel



Highest Channel

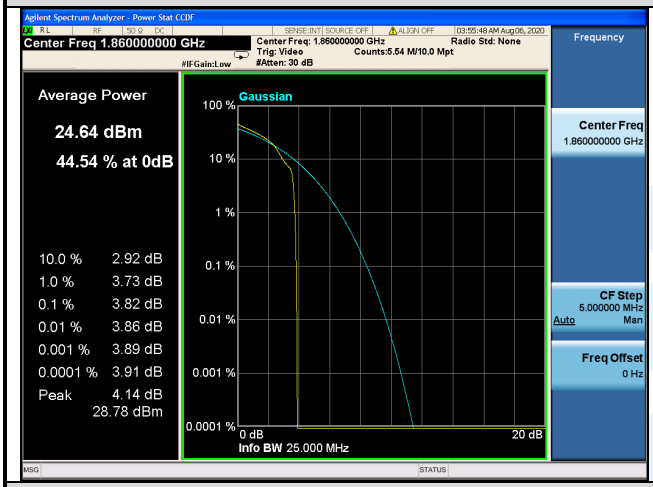


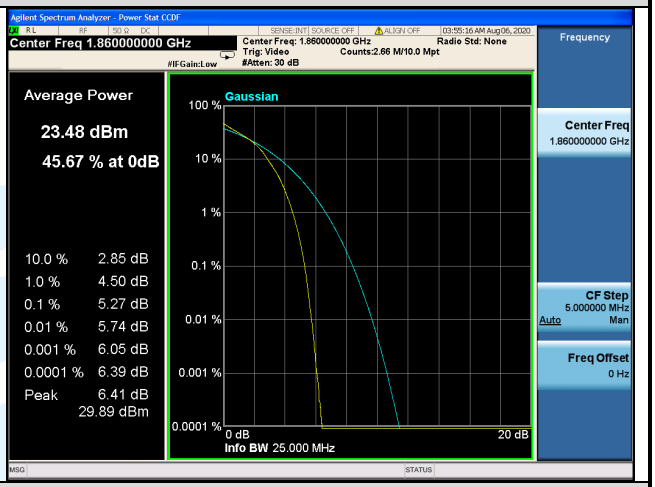


LTE Band 2 / 20 MHz / 16QAM

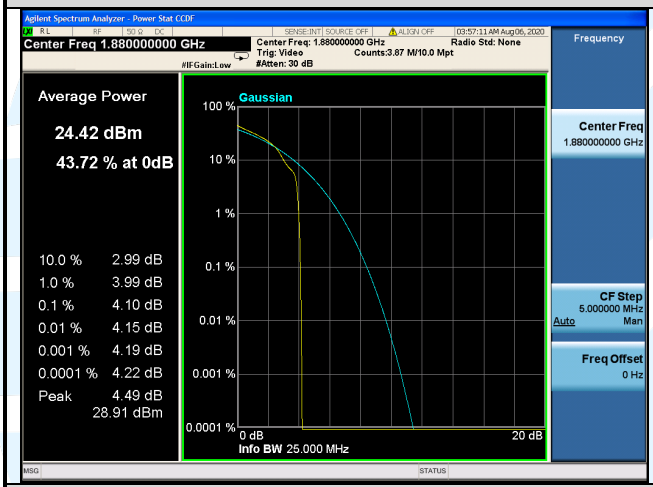
1 RB	Full RB

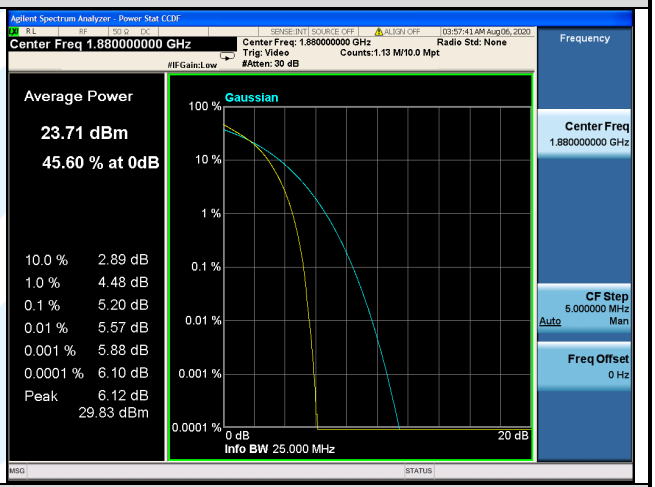
Lowest Channel



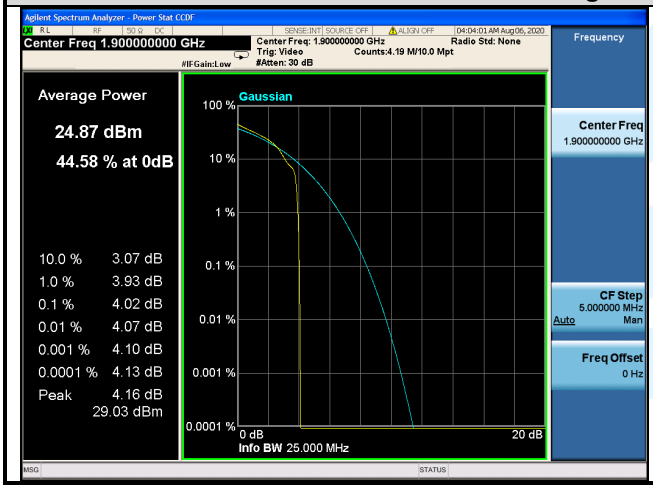


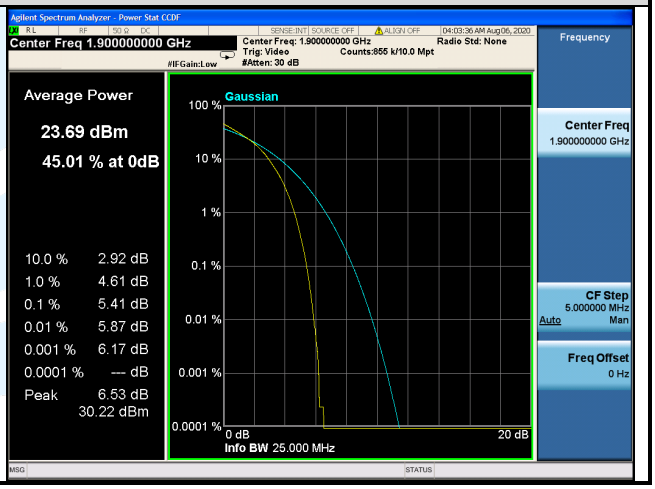
Middle Channel





Highest Channel





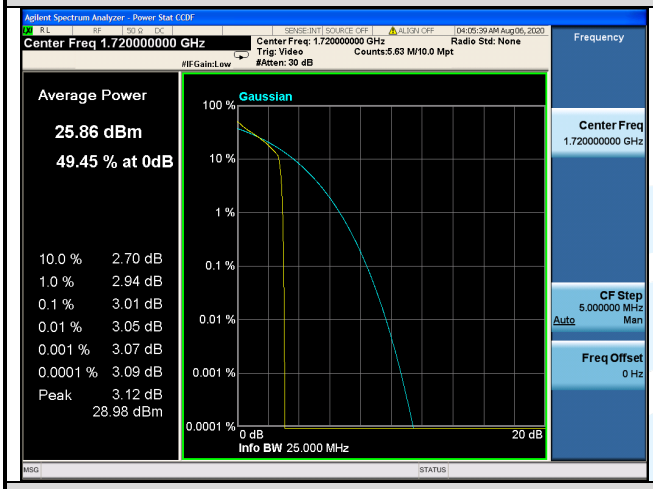
5.4.2 LTE Band 4

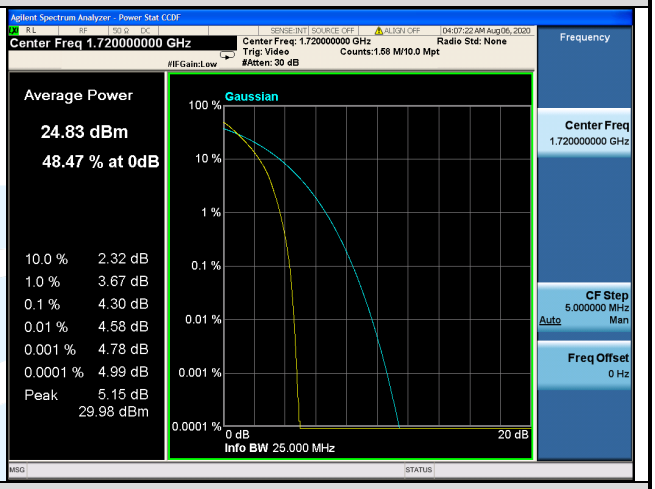
LTE Band 4 Peak-to-average ratio (dB)						
Channel	RB Configuration	Channel Bandwidth: 20 MHz			Limit (dB)	Result
		QPSK	16QAM	64QAM		
Lowest	1 RB	3.01	3.76	/	13	Pass
	Full RB	4.30	5.12	/	13	Pass
Middle	1 RB	3.01	3.91	/	13	Pass
	Full RB	4.35	5.13	/	13	Pass
Highest	1 RB	3.00	3.97	/	13	Pass
	Full RB	4.53	5.29	/	13	Pass

LTE Band 4 / 20MHz / QPSK

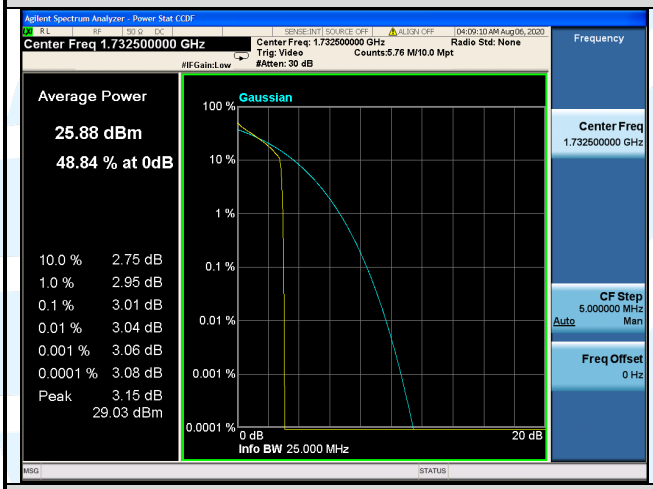
1 RB	Full RB

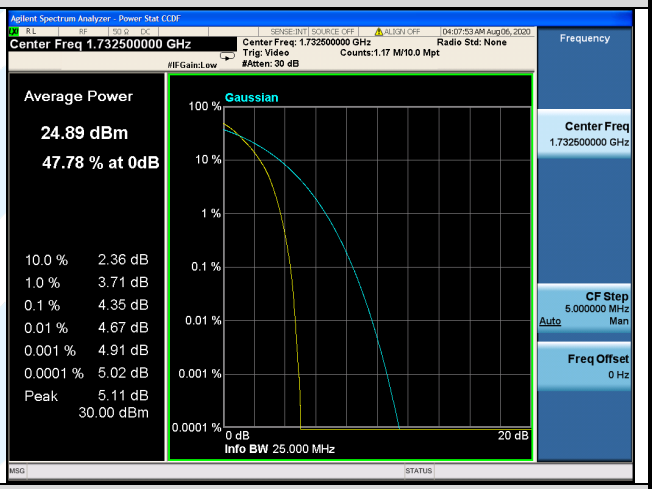
Lowest Channel



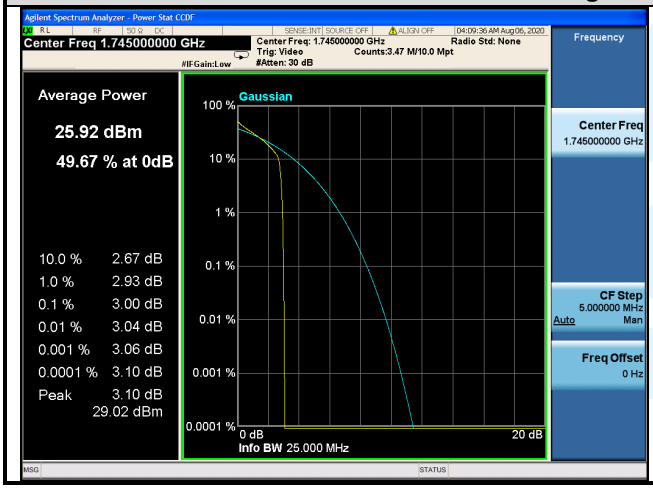


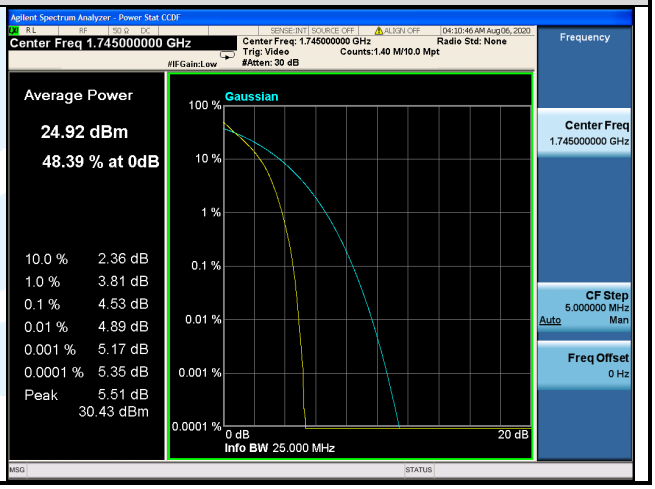
Middle Channel





Highest Channel

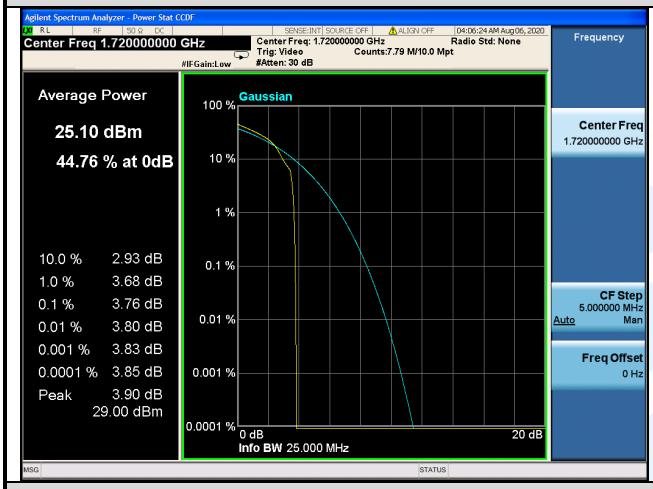


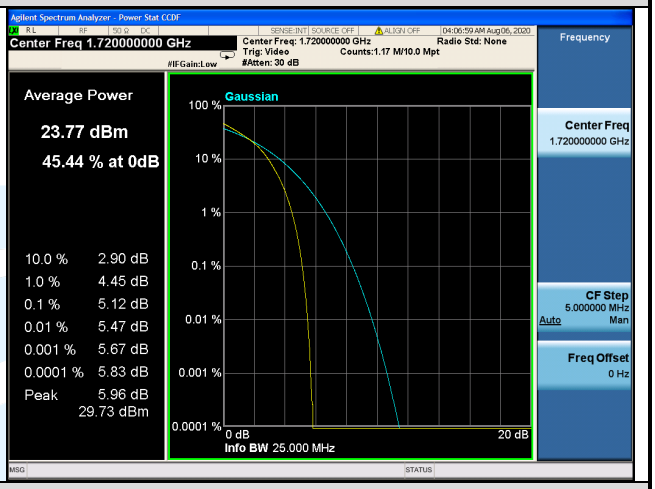


LTE Band 4 / 20MHz / 16QAM

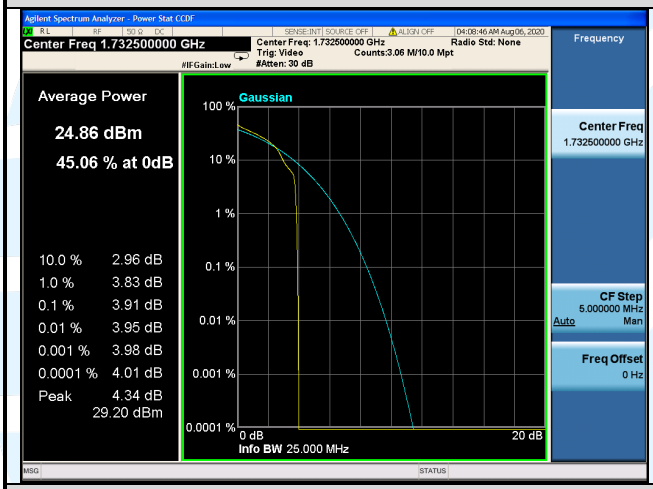
1 RB	Full RB

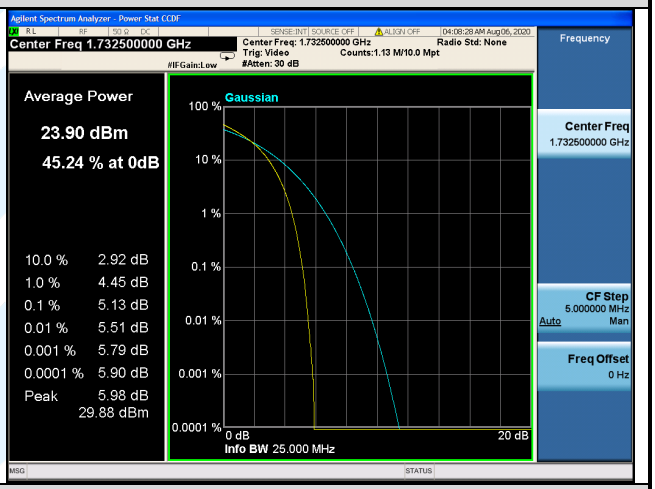
Lowest Channel



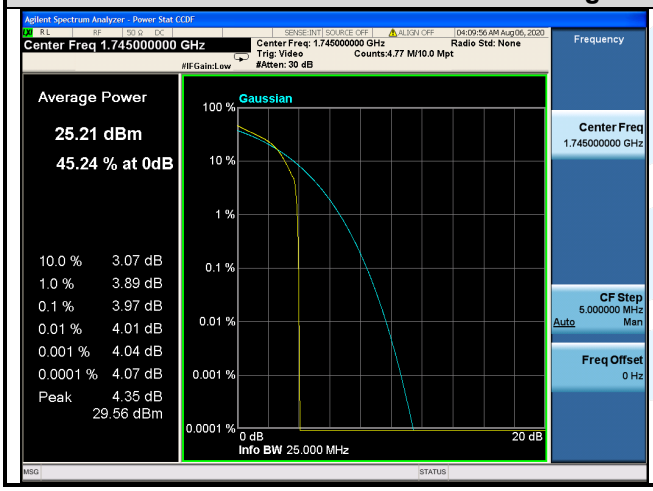


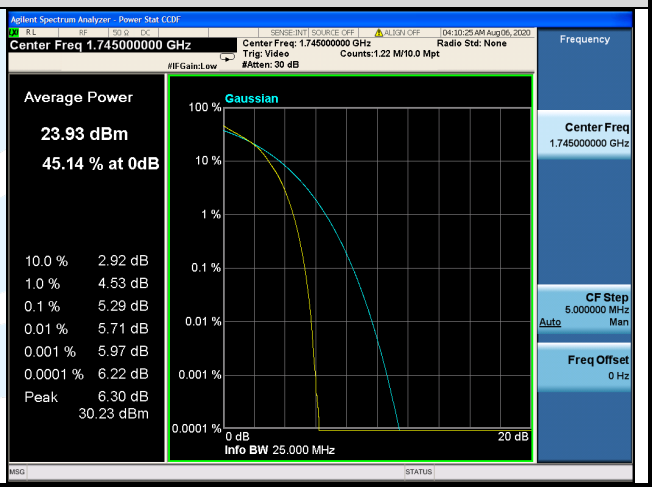
Middle Channel





Highest Channel





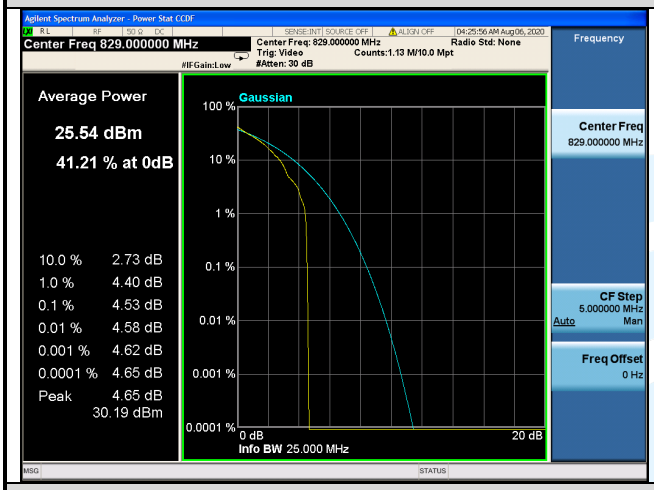
5.4.3 LTE Band 5

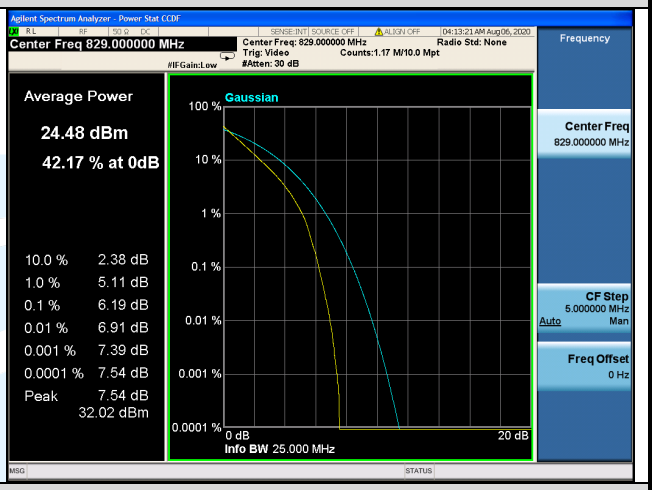
LTE Band 5 Peak-to-average ratio (dB)						
Channel	RB Configuration	Channel Bandwidth: 10 MHz			Limit (dB)	Result
		QPSK	16QAM	64QAM		
Lowest	1 RB	4.53	5.56	/	13	Pass
	Full RB	6.19	7.04	/	13	Pass
Middle	1 RB	5.71	6.40	/	13	Pass
	Full RB	5.69	6.51	/	13	Pass
Highest	1 RB	4.65	5.43	/	13	Pass
	Full RB	5.83	6.80	/	13	Pass

LTE Band 5 / 10 MHz / QPSK

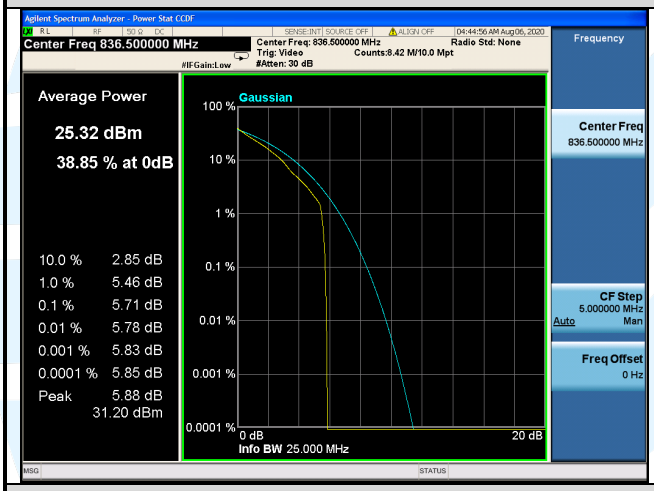
1 RB	Full RB

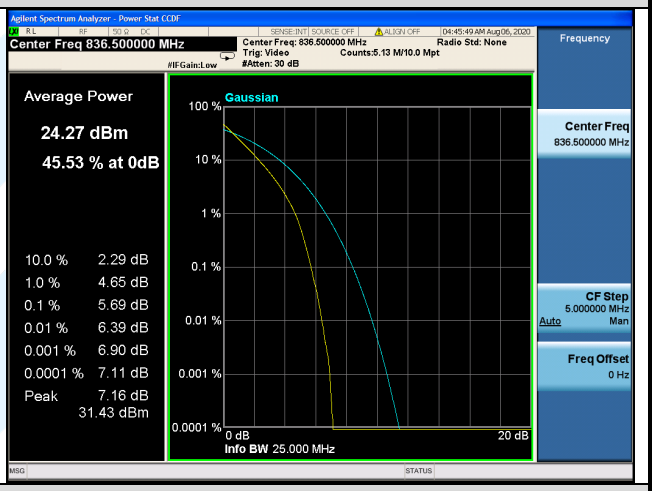
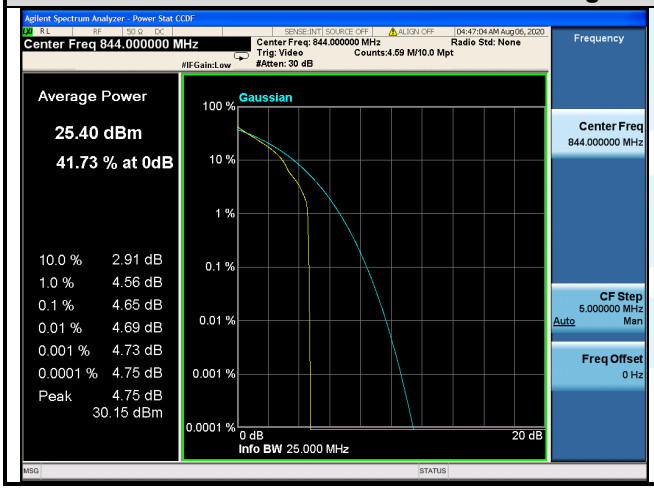
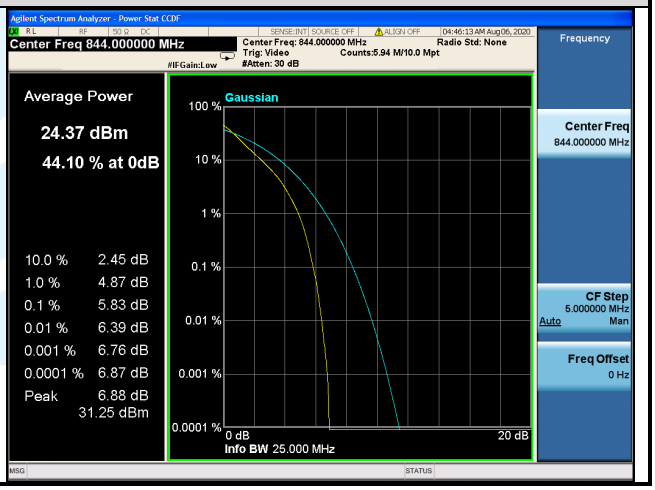
Lowest Channel





Middle Channel





Highest Channel