

# FCC TEST REPORT

**Product Name:** Tablet  
**Trade Mark:** BLU  
**Model No.:** M10L PRO  
**Report Number:** 2305265352RFM-2  
**Test Standards:** FCC 47 CFR Part 22  
FCC 47 CFR Part 24  
FCC 47 CFR Part 27  
FCC 47 CFR Part 90  
**FCC ID:** YHLBLUM10LP15  
**Test Result:** PASS  
**Date of Issue:** June 28, 2023

Prepared for:

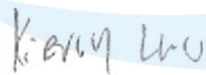
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UTTR-RF-FCC4G-V1.1

**Version**

Version No.	Date	Description
V1.0	June 28, 2023	Original

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# 1. GENERAL INFORMATION

## 1.1 CLIENT INFORMATION

<b>Applicant:</b>	BLU Products, Inc.
<b>Address of Applicant:</b>	8600 NW 36th Street, Suite #200 Doral, FL 33166
<b>Manufacturer:</b>	BLU Products, Inc.
<b>Address of Manufacturer:</b>	8600 NW 36th Street, Suite #200 Doral, FL 33166

## 1.2 EUT INFORMATION

### 1.2.1 General Description of EUT

<b>Product Name:</b>	Tablet			
<b>Model No.:</b>	M10L PRO			
<b>Trade Mark:</b>	BLU			
<b>DUT Stage:</b>	Identical Prototype			
<b>EUT Supports Function:</b> (Provided by the customer)	GSM Bands:	GSM850/PCS 1900		
	UTRA Bands:	WCDMA Band II/ Band IV/ Band V		
	E-UTRA Bands:	FDD Band 2/ Band 4/ Band 5/ Band 12/ Band 17/ Band 25 / Band 26 / Band 66/ Band 71		
		TDD Band 41		
	2.4 GHz ISM Band:	IEEE 802.11b/g/n		
		Bluetooth 5.0		
	5 GHz U-NII Bands:	5 150 MHz to 5 250 MHz	IEEE 802.11a/n/ac	
		5 725 MHz to 5 850 MHz	IEEE 802.11a/n/ac	
RNSS Band:	1559 MHz to 1610 MHz	GPS		
BSR:	VHF Band II	FM		
<b>Software Version:</b>	BLU_M0215_ND_V13.0.02.00_GENERIC_19-05-2023_0231 (Provided by the customer)			
<b>Hardware Version:</b>	Q869_MB_V2.0 (Provided by the customer)			
<b>Sample Received Date:</b>	May 25, 2023			
<b>Sample Tested Date:</b>	May 25, 2023 to June 20, 2023			
<b>Remark:</b>	The above EUT's information was provided by customer. Please refer to the specifications or user's manual for more detailed description.			

### 1.2.2 Description of Accessories

Adapter	
<b>Model No.:</b>	US-CR-2001
<b>Input:</b>	100-240 V~50/60 Hz 0.3 A
<b>Output:</b>	5.0 V $\overline{=}$ 2000 mA

Cable	
<b>Connector:</b>	USB Cable
<b>Cable Type:</b>	Unshielded without ferrite
<b>Length:</b>	0.5 Meter

Battery	
<b>Model No.:</b>	C12510129500P
<b>Battery Type:</b>	Lithium-ion Polymer Battery
<b>Rated Voltage:</b>	3.8 Vdc
<b>Rated Capacity:</b>	5000 mAh

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### 1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

<b>Support Networks:</b>	Single Carrier: LTE Band 2/4/5/12/17/25/26/41/66/71	
<b>Type of Modulation:</b>	QPSK, 16QAM	
<b>Antenna Type:</b> (Provided by the customer)	PIFA Antenna	
<b>Antenna Gain:</b> (Provided by the customer)	LTE Band 2:	1.4 dBi
	LTE Band 4:	1.2 dBi
	LTE Band 5:	0.9 dBi
	LTE Band 12:	1.1 dBi
	LTE Band 17:	1.1 dBi
	LTE Band 25:	1.4 dBi
	LTE Band 26:	0.9 dBi
	LTE Band 41:	2.0 dBi
	LTE Band 66:	1.2 dBi
	LTE Band 71:	1.2 dBi
<b>Sample No.:</b>	Radiated: S202305251543-ZJA02/6	
	Conducted: S202305251543-ZJA03/6	
<b>Normal Test Voltage:</b>	3.8 Vdc	
<b>Extreme Test Voltage:</b>	3.4 to 4.35Vdc	
<b>Extreme Test Temperature:</b>	-10 °C to +55 °C	

Summary of Results:									
Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		ERP/EIRP	99% BW	Emission Designator	
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)	(W)	(MHz)		
2	1.4	QPSK	1850.7-1909.3	24.29	25.69	0.3707	1.0797	1M08G7D	
		16QAM		23.34	24.74	0.2979	1.0786	1M08W7D	
	3	QPSK	1851.5-1908.5	24.21	25.61	0.3639	2.6794	2M68G7D	
		16QAM		23.69	25.09	0.3228	2.6799	2M68W7D	
	5	QPSK	1852.5-1907.5	24.22	25.62	0.3648	4.4699	4M47G7D	
		16QAM		23.26	24.66	0.2924	4.4567	4M46W7D	
	10	QPSK	1855.0-1905.0	24.30	25.70	0.3715	8.9450	8M95G7D	
		16QAM		23.82	25.22	0.3327	8.9385	8M94W7D	
	15	QPSK	1857.5-1902.5	24.14	25.54	0.3581	13.397	13M4G7D	
		16QAM		23.62	25.02	0.3177	13.413	13M4W7D	
	20	QPSK	1860.0-1900.0	24.36	25.76	0.3767	17.882	17M9G7D	
		16QAM		23.83	25.23	0.3334	17.850	17M9W7D	
	4	1.4	QPSK	1710.7-1754.3	24.29	25.49	0.3540	1.0806	1M08G7D
			16QAM		23.40	24.60	0.2884	1.0798	1M08W7D
3		QPSK	1711.5-1753.5	24.21	25.41	0.3475	2.6852	2M69G7D	
		16QAM		23.69	24.89	0.3083	2.6759	2M68W7D	
5		QPSK	1712.5-1752.5	24.24	25.44	0.3499	4.4677	4M47G7D	
		16QAM		23.38	24.58	0.2871	4.4607	4M46W7D	
10		QPSK	1715-1750	24.36	25.56	0.3597	8.9432	8M94G7D	
		16QAM		23.83	25.03	0.3184	8.9672	8M97W7D	
15		QPSK	1717.5-1747.5	24.25	25.45	0.3508	13.426	13M4G7D	
		16QAM		23.71	24.91	0.3097	13.422	13M4W7D	
20		QPSK	1720-1745	24.37	25.57	0.3606	17.884	17M9G7D	
		16QAM		23.84	25.04	0.3192	17.898	17M9W7D	
5		1.4	QPSK	824.7-848.3	24.72	23.47	0.2223	1.0781	1M08G7D
			16QAM		23.80	22.55	0.1799	1.0780	1M08W7D
	3	QPSK	825.5-847.5	24.65	23.40	0.2188	2.6823	2M68G7D	
		16QAM		24.13	22.88	0.1941	2.6749	2M67W7D	
	5	QPSK	826.5-846.5	24.72	23.47	0.2223	4.4618	4M46G7D	
		16QAM		23.84	22.59	0.1816	4.4514	4M45W7D	
	10	QPSK	829-844	24.74	23.49	0.2234	8.9501	8M95G7D	
		16QAM		24.31	23.06	0.2023	8.9459	8M95W7D	

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Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		ERP/EIRP (W)	99% BW (MHz)	Emission Designator
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)			
12	1.4	QPSK	699.7-715.3	23.79	22.74	0.1879	1.0800	1M08G7D
		16QAM		22.96	21.91	0.1552	1.0785	1M08W7D
	3	QPSK	700.5-714.5	23.75	22.70	0.1862	2.6830	2M68G7D
		16QAM		23.24	22.19	0.1656	2.6787	2M68W7D
	5	QPSK	701.5-713.5	23.77	22.72	0.1871	4.4747	4M47G7D
		16QAM		22.91	21.86	0.1535	4.4723	4M47W7D
10	QPSK	704-711	23.95	22.90	0.1950	8.9571	8M96G7D	
	16QAM		23.39	22.34	0.1714	8.9621	8M96W7D	
17	5	QPSK	706.5-713.5	23.80	22.75	0.1884	4.4707	4M47G7D
		16QAM		22.89	21.84	0.1528	4.4738	4M47W7D
	10	QPSK	709-711	23.93	22.88	0.1941	8.9468	8M95G7D
		16QAM		23.43	22.38	0.1730	8.9537	8M95W7D
25	1.4	QPSK	1850.7-1914.3	24.37	25.77	0.3776	1.0795	1M08G7D
		16QAM		23.40	24.80	0.3020	1.0798	1M08W7D
	3	QPSK	1851.5-1913.5	24.28	25.68	0.3698	2.6799	2M68G7D
		16QAM		23.69	25.09	0.3228	2.6775	2M68W7D
	5	QPSK	1852.5-1912.5	24.28	25.68	0.3698	4.4707	4M47G7D
		16QAM		23.28	24.68	0.2938	4.4718	4M47W7D
	10	QPSK	1855.0-1910.0	24.39	25.79	0.3793	8.9482	8M95G7D
		16QAM		23.85	25.25	0.3350	8.9489	8M95W7D
	15	QPSK	1857.5-1907.5	24.22	25.62	0.3648	13.418	13M4G7D
		16QAM		23.73	25.13	0.3258	13.420	13M4W7D
	20	QPSK	1860.0-1905.0	24.41	25.81	0.3811	17.855	17M9G7D
		16QAM		23.86	25.26	0.3357	17.881	17M9W7D
26	1.4	QPSK	824.7-848.3	23.93	24.83	0.3041	1.0787	1M08G7D
		16QAM		23.11	24.01	0.2518	1.0800	1M08W7D
	3	QPSK	825.5-847.5	23.83	24.73	0.2972	2.6758	2M68G7D
		16QAM		23.46	24.36	0.2729	2.6762	2M68W7D
	5	QPSK	826.5-846.5	23.86	24.76	0.2992	4.4618	4M46G7D
		16QAM		23.07	23.97	0.2495	4.4627	4M46W7D
	10	QPSK	829-844	23.89	24.79	0.3013	8.9149	8M9G7D
		16QAM		23.55	24.45	0.2786	8.9167	8M9W7D
	15	QPSK	831.5-841.5	24.05	24.95	0.3126	13.361	13M4G7D
		16QAM		23.59	24.49	0.2812	13.387	13M4W7D

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Bands	BW	Modulation	Frequency Range	Max RF Output Power (dBm)		EIRP (W)	99% BW (MHz)	Emission Designator	
	(MHz)		(MHz)	Conducted (Average)	ERP/EIRP (Average)				
26 (Part 90S)	1.4	QPSK	814.7-823.3	23.86	24.76	0.2992	1.0778	1M08G7D	
		16QAM		23.06	23.96	0.2489	1.0788	1M08W7D	
	3	QPSK	815.5-822.5	23.80	24.70	0.2951	2.6833	2M68G7D	
		16QAM		22.85	23.75	0.2371	2.6738	2M67W7D	
	5	QPSK	816.5-821.5	23.79	24.69	0.2944	4.4650	4M47G7D	
		16QAM		22.94	23.84	0.2421	4.4594	4M46W7D	
	10	QPSK	819	23.83	24.73	0.2972	8.959	8M96G7D	
		16QAM		22.83	23.73	0.2360	8.9565	8M96W7D	
	15	QPSK	821.5	23.89	24.79	0.3013	13.413	13M4G7D	
		16QAM		23.28	24.18	0.2618	13.426	13M4W7D	
	41	5	QPSK	2498.5-2687.5	26.31	28.31	0.6776	4.4528	4M45G7D
			16QAM		26.14	28.14	0.6516	4.4642	4M46W7D
10		QPSK	2501-2685	26.40	28.40	0.6918	8.9469	8M95G7D	
		16QAM		26.20	28.20	0.6607	8.9361	9M94W7D	
15		QPSK	2503.5-2682.5	26.39	28.39	0.6902	13.411	13M4G7D	
		16QAM		26.22	28.22	0.6637	13.425	13M4W7D	
20		QPSK	2506-2680	26.45	28.45	0.6998	17.888	17M9G7D	
		16QAM		26.26	28.26	0.6699	17.911	17M9W7D	
66	1.4	QPSK	1710.7-1779.3	24.39	25.59	0.3622	1.0774	1M08G7D	
		16QAM		23.42	24.62	0.2897	1.0768	1M08W7D	
	3	QPSK	1711.5-1778.5	24.24	25.44	0.3499	2.6804	2M68G7D	
		16QAM		23.65	24.85	0.3055	2.6788	2M68W7D	
	5	QPSK	1712.5-1777.5	24.29	25.49	0.3540	4.4624	4M46G7D	
		16QAM		23.37	24.57	0.2864	4.4722	4M47W7D	
	10	QPSK	1715-1775	24.39	25.59	0.3622	8.9508	8M95G7D	
		16QAM		23.80	25.00	0.3162	8.9442	8M94W7D	
	15	QPSK	1717.5-1772.5	24.25	25.45	0.3508	13.437	13M4G7D	
		16QAM		23.70	24.90	0.3090	13.439	13M4W7D	
	20	QPSK	1720-1770	24.40	25.60	0.3631	17.856	17M9G7D	
		16QAM		23.84	25.04	0.3192	17.876	17M9W7D	
	71	5	QPSK	665.5-695.5	23.70	24.90	0.3090	4.4611	4M46G7D
			16QAM		22.81	24.01	0.2518	4.4753	4M48W7D
10		QPSK	668-693	23.76	24.96	0.3133	8.9504	9M95G7D	
		16QAM		23.24	24.44	0.2780	8.9524	9M95W7D	
15		QPSK	670.5-690.5	23.62	24.82	0.3034	13.417	13M4G7D	
		16QAM		23.18	24.38	0.2742	13.446	13M4W7D	
20		QPSK	673-688	23.86	25.06	0.3206	17.847	17M8G7D	
		16QAM		23.26	24.46	0.2793	17.88	17M9W7D	

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## 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
--	--	--	--	--

### 2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1	Antenna Cable	SMA	0.1 Meter	UnionTrust

## 1.5 TEST LOCATION

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### Shenzhen UnionTrust Quality and Technology Co., Ltd.

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## 1.6 TEST FACILITY

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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 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 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

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## 1.7 DEVIATION FROM STANDARDS

None.

## 1.8 ABNORMALITIES FROM STANDARD CONDITIONS

None.

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### 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 Output Power	±0.7 dB
2	99%&26dB Bandwidth	±1.86 %
3	Emission Mask	±2.7 dBm
4	Spurious emissions at antenna terminals	±2.7 dBm
5	Field strength of spurious radiation	30 MHz-1 GHz: ±4.9 dB 1 GHz-18 GHz: ±4.8 dB 18 GHz-40 GHz: ±5.1 dB
6	Frequency stability	±6.5 x 10 <sup>-8</sup>
7	Humidity	±3.9 %
8	Temperature	±0.62 °C
9	DC Voltages	±0.68 %

## 2. TEST SUMMARY

FCC 47 CFR Part 24 Test Cases (Band 2 & Band 25)			
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)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 24.232(c)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 24.232(d)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 24.238(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 24.238(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 24.238(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 24.235	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

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)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(d)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(h)(1)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

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)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 22.913(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 22.913(a)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 22.917(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 22.917(a)(b)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 22.355	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

FCC 47 CFR Part 27 Test Cases (LTE 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)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(h)(2)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(m)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(m)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(m)(4)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

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FCC 47 CFR Part 27 Test Cases (LTE Band 12& 17& 71)			
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)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) & FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	PASS

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	PASS
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 90.635	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Peak-to-average ratio	N/A	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h)	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
Emission Mask	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 90.691	ANSI/TIA-603-E-2016 & KDB 971168 D01v03r01	PASS
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	PASS
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	PASS

**Disclaimer and Explanations:**

The declared of product specification and data (e.g. antenna gain, RF specification, etc) for EUT presented in the report are provided by the customer, and the customer takes all the responsibilities for the accuracy of product specification.

### 3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
<input checked="" type="checkbox"/>	3m SAC	ETS-LINDGREN	3M	Euroshiedpn-CT001270-1317	22-Jan-2021	21-Jan-2024
<input checked="" type="checkbox"/>	Receiver	R&S	ESIB26	100114	3-Nov-2022	2-Nov-2023
<input checked="" type="checkbox"/>	Broadband Antenna	ETS-LINDGREN	3142E	00201566	13-Dec-2022	12-Dec-2023
<input checked="" type="checkbox"/>	6dB Attenuator	Talent	RA6A5-N-18	18103001	13-Dec-2022	12-Dec-2023
<input checked="" type="checkbox"/>	Preamplifier	HP	8447F	2805A02960	1-Nov-2022	31-Oct-2023
<input checked="" type="checkbox"/>	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201541	16-Apr-2023	15-Apr-2025
<input checked="" type="checkbox"/>	Pre-amplifier	ETS-LINDGREN	00118385	00201874	1-Nov-2022	31-Oct-2023
<input checked="" type="checkbox"/>	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	21-Nov-2022	20-Nov-2023
<input checked="" type="checkbox"/>	Pre-amplifier	ETS-LINDGREN	00118384	00202652	21-Nov-2022	20-Nov-2023
<input checked="" type="checkbox"/>	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
<input checked="" type="checkbox"/>	Test Software	Audix	e3	Software Version: 9.160323		

RF Conducted Test Equipment List						
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
<input checked="" type="checkbox"/>	EXA Signal Analyzer	KEYSIGHT	N9010B	MY62060155	19-Apr-2023	18-Apr-2024
<input checked="" type="checkbox"/>	DC Source	KIKUSUI	PWR400L	LK003024	N/A	N/A
<input checked="" type="checkbox"/>	Digital multimeter	FLUKE	15B+	30701460WS15	02-Nov-2022	01-Nov-2023
<input checked="" type="checkbox"/>	Temp & Humidity chamber	Votisch	VT4002	58566133290020	14-Apr-2023	13-Apr-2024
<input checked="" type="checkbox"/>	Wideband Radio Communication Tester	R&S	CMW500	119583	14-Apr-2023	13-Apr-2024
<input checked="" type="checkbox"/>	Wideband Radio Communication Tester	R&S	CMW500	120932	14-Apr-2023	13-Apr-2024



## 4. TEST CONFIGURATION

### 4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

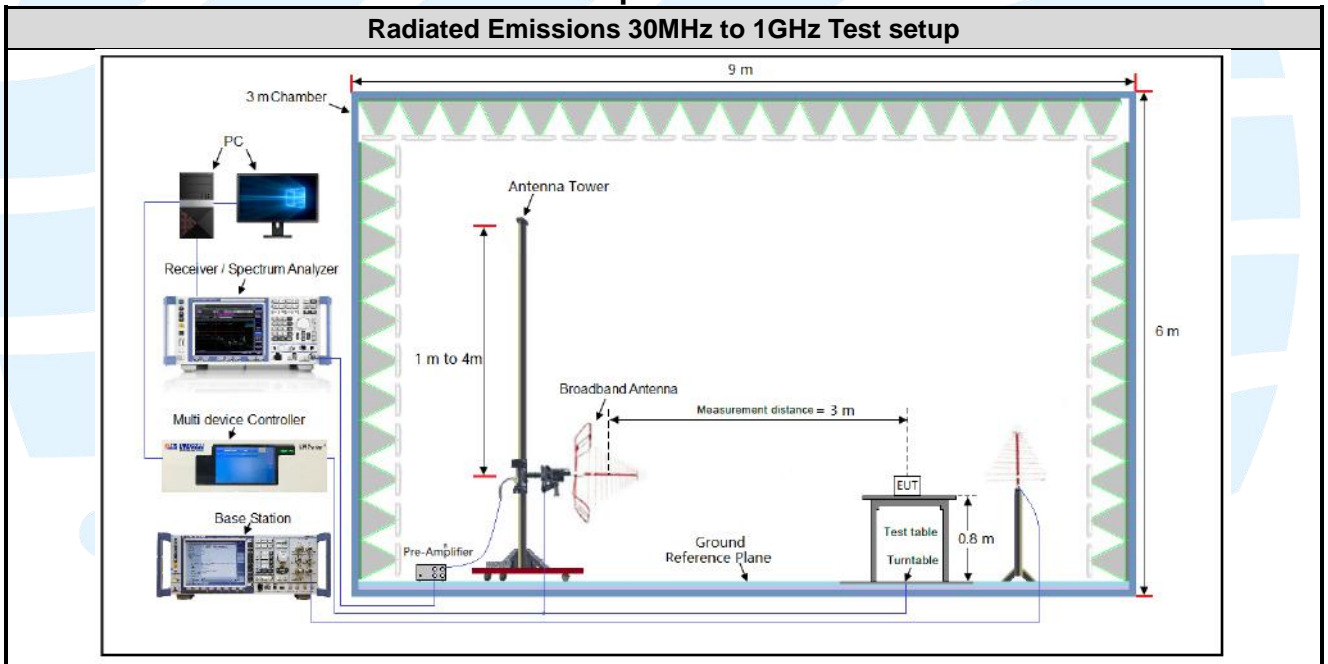
Test Environment	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage (V)	Relative Humidity (%)
TN/VN	+15 to +35	3.8	20 to 75
TL/VL	-10	3.4	20 to 75
TH/VL	+55	3.4	20 to 75
TL/VH	-10	4.35	20 to 75
TH/VH	+55	4.35	20 to 75

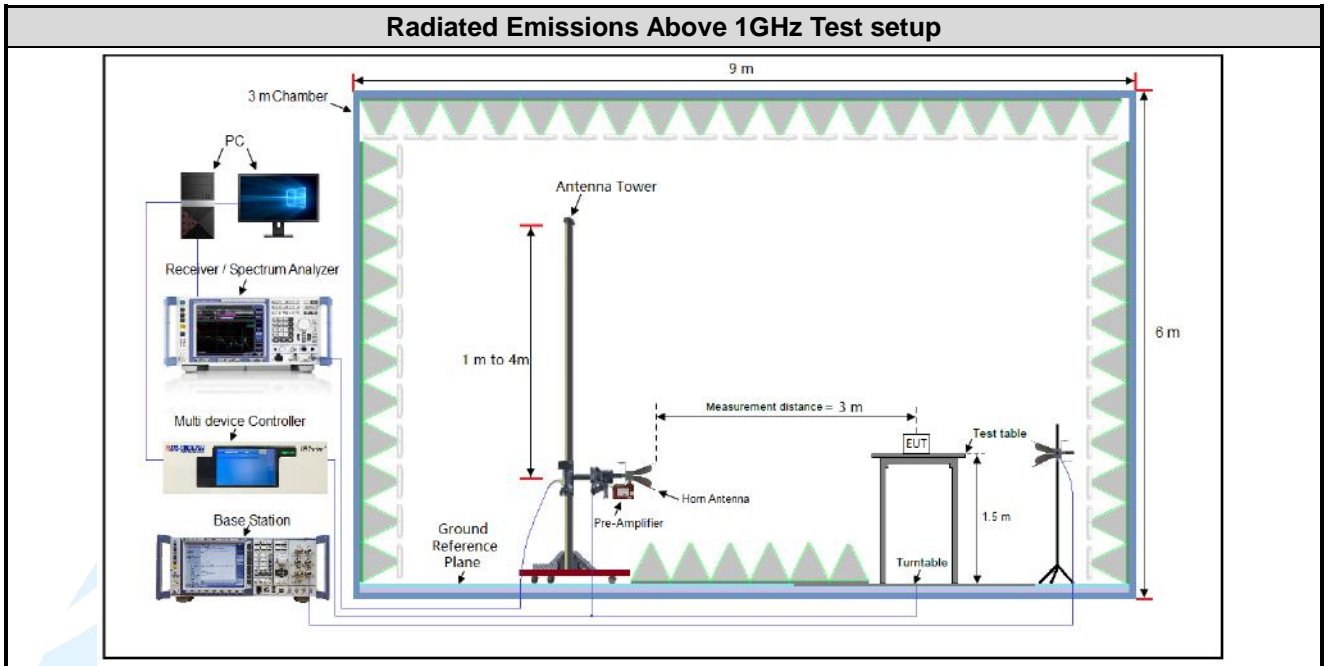
**Remark:**

- 1) The EUT just work in such extreme temperature of -10 °C to +55 °C and the extreme voltage of 3.4 V to 4.35 V, so here the EUT is tested in the temperature of -10 °C to +55 °C and the voltage of 3.4 V to 4.35 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.

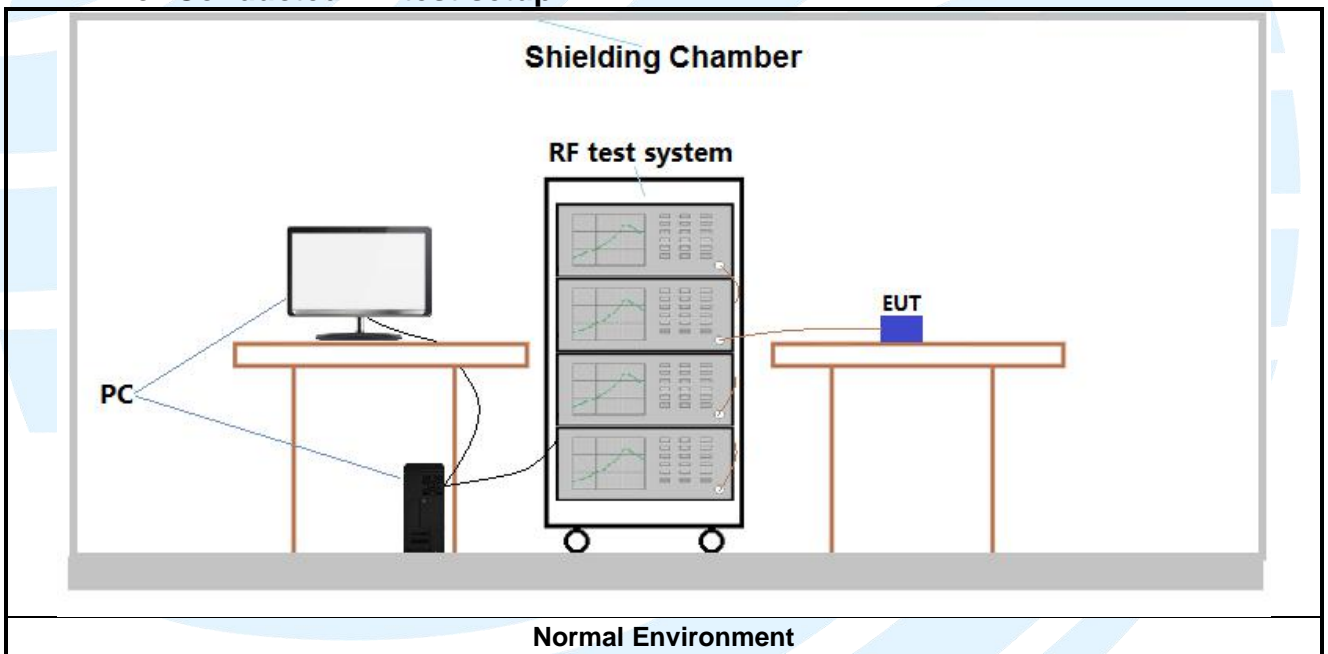
### 4.2 TEST SETUP

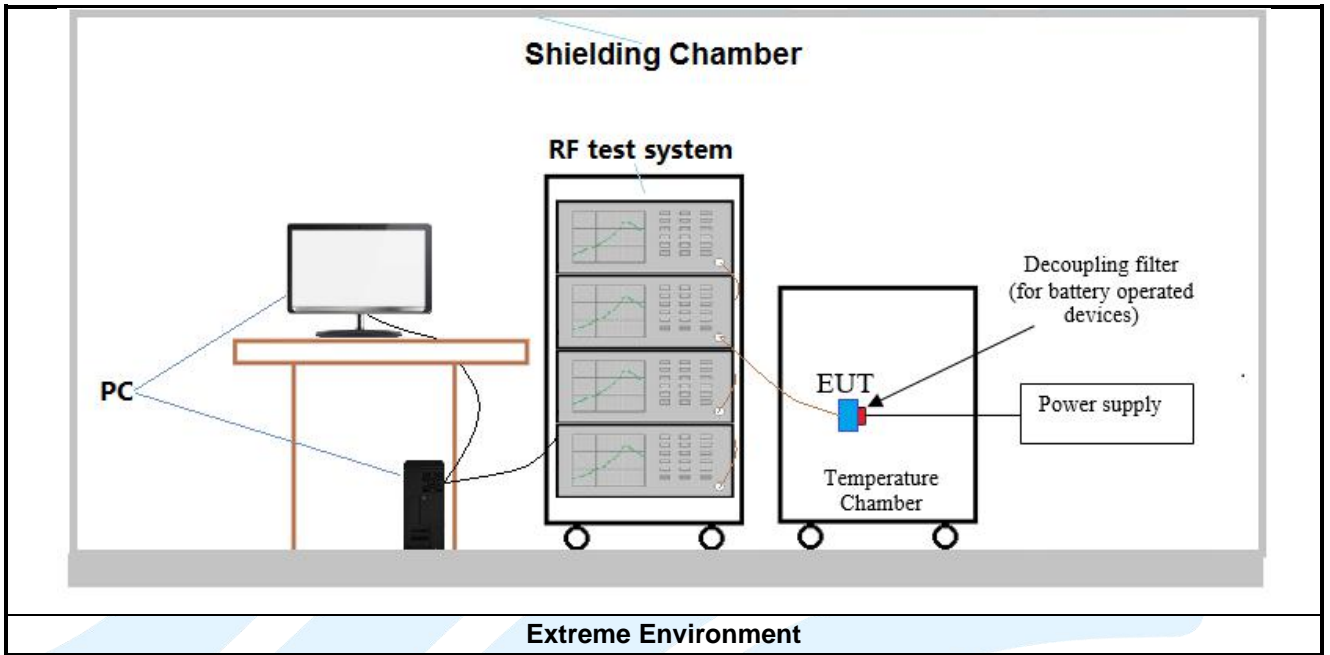
#### 4.2.1 For Radiated Emissions test setup





4.2.2 For Conducted RF test setup





### 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 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	

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		10	23130	711
LTE Band 17 TX:704-716MHz	Low Range	5	23755	706.5
		10	23780	709
	Middle Range	5/10	23790	710
	High Range	5	23825	713.5
		10	23800	711
LTE Band 25 TX: 1850-1915MHz	Low Range	1.4	26047	1850.7
		3	26055	1851.5
		5	26065	1852.5
		10	26090	1855
		15	26115	1857.5
		20	26140	1860
	Middle Range	1.4/3/5/10/15/20	26340	1880
	High Range	1.4	26683	1914.3
		3	26675	1913.5
		5	26665	1912.5
		10	26640	1910
		15	26615	1907.5
		20	26590	1905
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 41 TX: 2496-2690MHz	Low Range	5	39675	2498.5
		10	39700	2501
		15	39725	2503.5
		20	39750	2506

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	Middle Range	5/10/ 15/20	40620	2593
	High Range	5	41565	2687.5
		10	41540	2685
		15	41515	2682.5
		20	41490	2680
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
LTE Band 71 TX: 663-698MHz	Low Range	5	133147	665.5
		10	133172	668
		15	133197	670.5
		20	133222	673
	Middle Range	5/10/15	133297	680.5
		20	133322	683
	High Range	5	133447	695.5
		10	133422	693
		15	133397	690.5
		20	133372	688

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#### 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. It was powered by a 3.8Vdc battery. 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.

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.

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 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
Conducted output power	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☒	☒	☒	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒
	25	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☒	☒	☒	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
	71	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒
99%&26dB Bandwidth	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☐	☐	☒	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☐	☐	☒	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☒	☐	☐	☒	☒	☒	☒
	25	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☐	☐	☒	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒
	71	-	-	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒	☒



Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
peak-to-average ratio	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	--	--	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	17	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	--	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	41	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	66	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	71	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Band Edge at antenna terminals	2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--	--	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	12	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	17	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	25	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	26	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	--	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	41	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	66	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	71	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Spurious emissions at antenna terminals	2	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	4	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	5	☒	☒	☒	☒	--	--	☒	☒	☒	☒	☐	☐	☒	☒	☒
	12	☒	☒	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	17	-	-	☒	☒	-	-	☒	☒	☒	☒	☐	☐	☒	☒	☒
	25	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	26	☒	☒	☒	☒	☒	--	☒	☒	☒	☒	☐	☐	☒	☒	☒
	41	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	66	☒	☒	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
	71	-	-	☒	☒	☒	☒	☒	☒	☒	☒	☐	☐	☒	☒	☒
Field strength of spurious radiation	2	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	4	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	5	☐	☐	☐	☒	--	--	☒	☐	☐	☒	☐	☐	☒	☒	☒
	12	☐	☐	☐	☒	-	-	☒	☐	☐	☒	☐	☐	☒	☒	☒
	17	-	-	☐	☒	-	-	☒	☐	☐	☒	☐	☐	☒	☒	☒
	25	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	26	☐	☐	☐	☐	☒	--	☒	☐	☐	☒	☐	☐	☒	☒	☒
	41	-	-	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	66	☐	☐	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒
	71	-	-	☐	☐	☐	☒	☒	☐	☐	☒	☐	☐	☒	☒	☒

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel			
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H	
Frequency stability	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	--	--	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	17	-	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	25	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	26	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	--	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	41	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	66	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	71	-	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
6	KDB 971168 D01	KDB 971168 D01 Power Meas License Digital Systems v03r01

### 5.2 CONDUCTED OUTPUT POWER

FCC 47 CFR Part 2.1046(a)

**LTE Band 2 & LTE Band 25:** FCC 47 CFR Part 24.232(c)

**LTE Band 4 & LTE Band 66:** FCC 47 CFR Part 27.50(d)(4)

**Test Requirement:** **LTE Band 5 & LTE Band 26:** FCC 47 CFR Part 22.913(a)

**LTE Band 41:** FCC 47 CFR Part 27.50(h)(2)

**LTE Band 12 & 17 & Band 71:** FCC 47 CFR Part 27.50(c)(10)

**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 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

Antenna height (ATT) meters (feet)	Effective radiated power (watts) <sup>1 2 4</sup>
Above 1,372 (4,500)	65
Above 1,220 (4,000) to 1,372 (4,500)	70
Above 1,067 (3,500) to 1,220 (4,000)	75

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UTTR-RF-FCC4G-V1.1

Above 915 (3,000) to 1,067 (3,500)	100
Above 763 (2,500) to 915 (3,000)	140
Above 610 (2,000) to 763 (2,500)	200
Above 458 (1,500) to 610 (2,000)	350
Above 305 (1,000) to 458 (1,500)	600
Up to 305 (1,000)	<sup>3</sup> 1,000

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).

Licenseses in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

**Test Procedure:**

The EUT was set up for the maximum power with CMW500, and 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

**5.2.1 LTE Band 2**

		Conducted Power(dBm)						
Modulation		QPSK			16QAM			
Band	Bandwidth (MHz)	RB	18607	18900	19193	18607	18900	19193
			1850.7	1880	1909.3	1850.7	1880	1909.3
2	1.4	1@0	24.16	24.09	24.10	22.97	22.88	23.06
		1@3	24.29	24.18	24.17	23.10	23.03	23.16
		1@5	24.19	24.08	24.06	23.01	22.83	23.04
		3@0	24.18	24.23	24.16	23.32	23.26	23.05
		3@1	24.25	24.23	24.22	23.34	23.24	23.31
		3@3	24.24	24.17	24.14	23.22	23.27	23.08
		6@0	23.25	23.16	23.19	22.14	22.13	22.14
Band	Bandwidth (MHz)	RB	18615	18900	19185	18615	18900	19185
			1851.5	1880	1908.5	1851.5	1880	1908.5
2	3	1@0	24.21	24.14	24.08	22.98	23.69	23.10
		1@8	24.17	24.05	24.04	23.01	23.56	23.07
		1@14	24.17	24.11	24.11	22.94	23.58	23.06
		8@0	23.18	23.10	23.09	22.24	22.27	22.08
		8@4	23.22	23.08	23.15	22.26	22.25	22.27
		8@7	23.16	23.08	23.03	22.24	22.26	22.06
		15@0	23.19	23.08	23.08	22.26	22.16	22.06
Band	Bandwidth (MHz)	RB	18625	18900	19175	18625	18900	19175
			1852.5	1880	1907.5	1852.5	1880	1907.5
2	5	1@0	24.14	24.04	23.97	23.01	22.81	23.16
		1@12	24.22	24.16	24.16	23.06	22.92	23.26
		1@24	24.12	23.99	24.03	22.98	22.77	23.13
		12@0	23.18	23.05	23.10	22.09	22.03	22.16
		12@7	23.23	23.14	23.15	22.32	22.25	22.30
		12@13	23.21	23.11	23.03	22.11	22.11	22.09
		25@0	23.14	23.08	23.07	22.18	22.17	22.11
Band	Bandwidth (MHz)	RB	18650	18900	19150	18650	18900	19150
			1855	1880	1905	1855	1880	1905
2	10	1@0	24.16	24.09	24.09	22.99	23.66	23.07
		1@25	24.30	24.25	24.22	23.10	23.82	23.24
		1@49	24.14	24.05	24.06	22.94	23.55	23.06
		25@0	23.11	23.12	23.18	22.25	22.19	22.22
		25@12	23.24	23.13	23.14	22.31	22.23	22.24
		25@25	23.17	23.14	23.06	22.29	22.24	22.15
		50@0	23.17	23.13	23.08	22.24	22.17	22.16
Band	Bandwidth (MHz)	RB	18675	18900	19125	18675	18900	19125
			1857.5	1880	1902.5	1857.5	1880	1902.5
2	15	1@0	24.03	23.96	24.01	23.19	23.55	22.99
		1@37	24.14	24.12	24.12	23.28	23.62	23.09
		1@74	23.91	23.86	23.94	23.14	23.42	22.95
		36@0	23.16	23.14	23.11	22.08	22.07	22.18
		36@20	23.17	23.16	23.17	22.15	22.13	22.20
		36@39	23.19	23.14	23.08	22.15	22.10	22.11
		75@0	23.15	23.10	23.13	22.14	22.15	22.18
Band	Bandwidth (MHz)	RB	18700	18900	19100	18700	18900	19100
			1860	1880	1900	1860	1880	1900
2	20	1@0	23.83	23.87	23.79	23.27	22.97	22.91
		1@50	24.23	24.36	24.25	23.83	23.44	23.36
		1@99	23.75	23.73	23.80	23.21	22.88	22.86
		50@0	23.01	23.08	23.17	22.06	22.08	22.18
		50@25	23.07	23.13	23.11	22.12	22.21	22.21
		50@50	23.10	23.04	22.96	22.08	22.02	21.97
		100@0	23.04	23.07	23.06	22.04	22.13	22.10

### 5.2.2 LTE Band 4

		Conducted Power(dBm)						
Modulation		QPSK			16QAM			
Band	Bandwidth (MHz)	RB	19957	20175	20393	19957	20175	20393
			1710.7	1732.5	1754.3	1710.7	1732.5	1754.3
4	1.4	1@0	24.12	24.12	24.11	22.87	23.11	22.94
		1@3	24.28	24.25	24.29	23.06	23.33	23.24
		1@5	24.05	24.10	24.13	22.79	23.09	23.01
		3@0	24.18	24.18	24.19	23.32	23.07	23.21
		3@1	24.22	24.26	24.24	23.19	23.39	23.40
		3@3	24.16	24.17	24.19	23.21	23.12	23.18
		6@0	23.19	23.16	23.23	22.14	22.20	22.08
Band	Bandwidth (MHz)	RB	19965	20175	20385	19965	20175	20385
			1711.5	1732.5	1753.5	1711.5	1732.5	1753.5
4	3	1@0	24.15	24.16	24.21	22.97	23.69	23.19
		1@8	24.14	24.13	24.16	23.00	23.64	23.23
		1@14	24.14	24.13	24.16	22.97	23.67	23.16
		8@0	23.17	23.21	23.27	22.18	22.31	22.15
		8@4	23.18	23.21	23.25	22.22	22.31	22.34
		8@7	23.20	23.17	23.22	22.20	22.31	22.15
		15@0	23.14	23.17	23.20	22.16	22.23	22.14
Band	Bandwidth (MHz)	RB	19975	20175	20375	19975	20175	20375
			1712.5	1732.5	1752.5	1712.5	1732.5	1752.5
4	5	1@0	24.04	24.12	24.13	22.92	22.86	23.25
		1@12	24.17	24.22	24.24	23.06	22.96	23.38
		1@24	24.06	24.09	24.14	22.95	22.84	23.31
		12@0	23.16	23.17	23.19	22.02	22.09	22.22
		12@7	23.20	23.22	23.25	22.22	22.31	22.38
		12@13	23.10	23.16	23.19	22.14	22.17	22.16
		25@0	23.12	23.14	23.17	22.14	22.18	22.16
Band	Bandwidth (MHz)	RB	20000	20175	20350	20000	20175	20350
			1715	1732.5	1750	1715	1732.5	1750
4	10	1@0	24.13	24.18	24.17	22.96	23.65	23.13
		1@25	24.31	24.35	24.36	23.14	23.83	23.39
		1@49	24.14	24.12	24.17	22.99	23.68	23.16
		25@0	23.18	23.20	23.23	22.23	22.25	22.29
		25@12	23.25	23.21	23.25	22.33	22.29	22.31
		25@25	23.22	23.19	23.20	22.28	22.27	22.23
		50@0	23.19	23.19	23.28	22.23	22.22	22.26
Band	Bandwidth (MHz)	RB	20025	20175	20325	20025	20175	20325
			1717.5	1732.5	1747.5	1717.5	1732.5	1747.5
4	15	1@0	24.05	24.09	24.13	23.18	23.59	23.12
		1@37	24.11	24.18	24.25	23.36	23.71	23.24
		1@74	24.00	24.03	24.08	23.27	23.57	23.10
		36@0	23.27	23.23	23.31	22.20	22.23	22.29
		36@20	23.28	23.26	23.34	22.22	22.19	22.31
		36@39	23.28	23.25	23.27	22.17	22.23	22.24
		75@0	23.25	23.25	23.31	22.17	22.23	22.25
Band	Bandwidth (MHz)	RB	20050	20175	20300	20050	20175	20300
			1720	1732.5	1745	1720	1732.5	1745
4	20	1@0	23.89	23.87	23.98	22.99	23.26	23.10
		1@50	24.31	24.32	24.37	23.41	23.84	23.48
		1@99	23.87	23.87	23.93	22.98	23.30	23.08
		50@0	23.16	23.15	23.16	22.17	22.14	22.10
		50@25	23.24	23.24	23.23	22.26	22.23	22.28
		50@50	23.17	23.18	23.09	22.19	22.18	22.11
		100@0	23.16	23.17	23.12	22.17	22.17	22.19

**5.2.3 LTE Band 5**

		Conducted Power(dBm)						
Modulation		QPSK			16QAM			
Band	Bandwidth	RB	20407	20525	20643	20407	20525	20643
	(MHz)		824.7	836.5	848.3	824.7	836.5	848.3
5	1.4	1@0	24.49	24.47	24.54	23.32	23.27	23.47
		1@3	24.67	24.67	24.72	23.48	23.40	23.67
		1@5	24.51	24.47	24.51	23.31	23.24	23.52
		3@0	24.55	24.58	24.58	23.60	23.70	23.49
		3@1	24.60	24.62	24.68	23.74	23.62	23.80
		3@3	24.61	24.57	24.61	23.56	23.67	23.49
		6@0	23.59	23.52	23.60	22.49	22.49	22.61
Band	Bandwidth	RB	20415	20525	20635	20415	20525	20635
	(MHz)		825.5	836.5	847.5	825.5	836.5	847.5
5	3	1@0	24.64	24.64	24.65	23.45	24.13	23.67
		1@8	24.65	24.58	24.60	23.46	24.08	23.65
		1@14	24.58	24.59	24.58	23.46	24.08	23.62
		8@0	23.63	23.62	23.64	22.71	22.71	22.63
		8@4	23.62	23.64	23.66	22.72	22.80	22.74
		8@7	23.56	23.62	23.60	22.68	22.77	22.58
		15@0	23.62	23.66	23.59	22.67	22.72	22.64
Band	Bandwidth	RB	20425	20525	20625	20425	20525	20625
	(MHz)		826.5	836.5	846.5	826.5	836.5	846.5
5	5	1@0	24.53	24.55	24.58	23.40	23.31	23.69
		1@12	24.65	24.64	24.72	23.54	23.37	23.84
		1@24	24.51	24.51	24.58	23.45	23.27	23.66
		12@0	23.59	23.55	23.61	22.60	22.54	22.64
		12@7	23.65	23.67	23.71	22.72	22.76	22.84
		12@13	23.60	23.65	23.58	22.65	22.58	22.63
		25@0	23.64	23.59	23.63	22.62	22.66	22.64
Band	Bandwidth	RB	20450	20525	20600	20450	20525	20600
	(MHz)		829	836.5	844	829	836.5	844
5	10	1@0	24.57	24.59	24.60	24.07	23.59	23.44
		1@25	24.73	24.73	24.74	24.31	23.74	23.59
		1@49	24.55	24.60	24.60	24.09	23.59	23.35
		25@0	23.61	23.58	23.69	22.67	22.66	22.79
		25@12	23.69	23.64	23.68	22.73	22.74	22.84
		25@25	23.65	23.61	23.63	22.75	22.66	22.72
		50@0	23.64	23.62	23.64	22.71	22.64	22.75



**5.2.4 LTE Band 12**

			Conducted Power(dBm)					
Modulation			QPSK			16QAM		
Band	Bandwidth	RB	23017	23095	23173	23017	23095	23173
	(MHz)		699.7	707.5	715.3	699.7	707.5	715.3
12	1.4	1@0	23.64	23.56	23.61	22.45	22.37	22.58
		1@3	23.74	23.76	23.73	22.70	22.54	22.78
		1@5	23.64	23.57	23.59	22.48	22.40	22.60
		3@0	23.73	23.70	23.68	22.83	22.81	22.53
		3@1	23.79	23.77	23.74	22.96	22.74	22.84
		3@3	23.78	23.69	23.64	22.78	22.83	22.58
		6@0	22.66	22.66	22.68	21.65	21.62	21.66
Band	Bandwidth	RB	23025	23095	23165	23025	23095	23165
	(MHz)		700.5	707.5	714.5	700.5	707.5	714.5
12	3	1@0	23.68	23.70	23.63	22.56	23.24	22.72
		1@8	23.74	23.71	23.70	22.57	23.22	22.73
		1@14	23.75	23.58	23.66	22.52	23.19	22.68
		8@0	22.70	22.66	22.70	21.79	21.83	21.71
		8@4	22.77	22.69	22.74	21.81	21.85	21.84
		8@7	22.73	22.68	22.65	21.73	21.84	21.59
		15@0	22.76	22.68	22.67	21.79	21.78	21.65
Band	Bandwidth	RB	23035	23095	23155	23035	23095	23155
	(MHz)		701.5	707.5	713.5	701.5	707.5	713.5
12	5	1@0	23.59	23.68	23.63	22.52	22.34	22.77
		1@12	23.73	23.77	23.68	22.60	22.46	22.91
		1@24	23.63	23.64	23.60	22.47	22.37	22.67
		12@0	22.73	22.63	22.70	21.64	21.57	21.74
		12@7	22.75	22.77	22.77	21.84	21.76	21.95
		12@13	22.75	22.73	22.58	21.69	21.67	21.71
		25@0	22.72	22.65	22.67	21.73	21.71	21.71
Band	Bandwidth	RB	23060	23095	23130	23060	23095	23130
	(MHz)		704	707.5	711	704	707.5	711
12	10	1@0	23.68	23.64	23.67	22.52	23.22	22.67
		1@25	23.81	23.85	23.95	22.68	23.39	22.84
		1@49	23.67	23.66	23.62	22.47	23.27	22.66
		25@0	22.67	22.73	22.78	21.80	21.76	21.79
		25@12	22.80	22.80	22.74	21.89	21.76	21.84
		25@25	22.82	22.79	22.71	21.92	21.81	21.74
		50@0	22.76	22.77	22.69	21.81	21.78	21.77

**5.2.5 LTE Band 17**

			Conducted Power(dBm)					
Modulation			QPSK			16QAM		
Band	Bandwidth	RB	23755	23790	23825	23755	23790	23825
	(MHz)		706.5	710	713.5	706.5	710	713.5
17	5	1@0	23.68	23.63	23.63	22.49	22.40	22.77
		1@12	23.77	23.80	23.70	22.66	22.49	22.89
		1@24	23.62	23.64	23.66	22.52	22.46	22.80
		12@0	22.72	22.68	22.76	21.69	21.64	21.75
		12@7	22.77	22.76	22.78	21.82	21.80	21.93
		12@13	22.67	22.70	22.67	21.68	21.65	21.75
		25@0	22.71	22.69	22.68	21.71	21.78	21.66
Band	Bandwidth	RB	23780	23790	23800	23780	23790	23800
	(MHz)		709	710	711	709	710	711
17	10	1@0	23.70	23.68	23.68	22.52	23.23	22.72
		1@25	23.84	23.88	23.93	22.59	23.43	22.95
		1@49	23.69	23.63	23.77	22.51	23.18	22.74
		25@0	22.74	22.78	22.77	21.88	21.84	21.78
		25@12	22.79	22.77	22.81	21.87	21.84	21.82
		25@25	22.73	22.69	22.74	21.84	21.76	21.77
		50@0	22.78	22.78	22.78	21.78	21.78	21.75

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**5.2.6 LTE Band 25**

		Conducted Power(dBm)						
Modulation		QPSK			16QAM			
Band	Bandwidth	RB	26047	26365	26683	26047	26365	26683
	(MHz)		1850.7	1882.5	1914.3	1850.7	1882.5	1914.3
25	1.4	1@0	24.20	24.10	24.13	22.99	22.88	23.10
		1@3	24.37	24.29	24.30	23.21	23.02	23.25
		1@5	24.19	24.15	24.11	23.01	22.89	23.10
		3@0	24.26	24.26	24.18	23.27	23.33	23.04
		3@1	24.28	24.28	24.27	23.40	23.32	23.37
		3@3	24.28	24.25	24.14	23.23	23.29	23.05
		6@0	23.30	23.22	23.20	22.20	22.21	22.19
Band	Bandwidth	RB	26055	26365	26675	26055	26365	26675
	(MHz)		1851.5	1882.5	1913.5	1851.5	1882.5	1913.5
25	3	1@0	24.28	24.19	24.11	23.04	23.67	23.15
		1@8	24.23	24.16	24.17	23.07	23.62	23.20
		1@14	24.22	24.14	24.16	23.04	23.69	23.16
		8@0	23.23	23.19	23.16	22.29	22.37	22.16
		8@4	23.28	23.19	23.23	22.28	22.33	22.32
		8@7	23.26	23.20	23.15	22.29	22.32	22.11
		15@0	23.22	23.18	23.17	22.28	22.24	22.10
Band	Bandwidth	RB	26065	26365	26665	26065	26365	26665
	(MHz)		1852.5	1882.5	1912.5	1852.5	1882.5	1912.5
25	5	1@0	24.17	24.15	24.08	23.06	22.86	23.19
		1@12	24.28	24.27	24.19	23.14	22.96	23.28
		1@24	24.08	24.13	24.13	23.00	22.89	23.23
		12@0	23.18	23.17	23.18	22.13	22.20	22.17
		12@7	23.30	23.25	23.21	22.36	22.32	22.31
		12@13	23.23	23.13	23.07	22.18	22.16	22.13
		25@0	23.18	23.21	23.13	22.27	22.26	22.16
Band	Bandwidth	RB	26090	26365	26640	26090	26365	26640
	(MHz)		1855	1882.5	1910	1855	1882.5	1910
25	10	1@0	24.28	24.24	24.15	23.09	23.69	23.11
		1@25	24.35	24.39	24.24	23.13	23.85	23.35
		1@49	24.19	24.13	24.14	23.02	23.62	23.10
		25@0	23.23	23.22	23.25	22.30	22.35	22.29
		25@12	23.26	23.22	23.20	22.40	22.31	22.30
		25@25	23.29	23.19	23.07	22.41	22.27	22.17
		50@0	23.25	23.23	23.17	22.34	22.30	22.25
Band	Bandwidth	RB	26115	26365	26615	26115	26365	26615
	(MHz)		1857.5	1882.5	1907.5	1857.5	1882.5	1907.5
25	15	1@0	24.14	24.12	24.08	23.29	23.61	23.09
		1@37	24.15	24.22	24.21	23.38	23.73	23.18
		1@74	24.02	24.02	24.00	23.21	23.53	22.98
		36@0	23.20	23.20	23.31	22.17	22.24	22.30
		36@20	23.28	23.25	23.27	22.24	22.28	22.26
		36@39	23.26	23.22	23.18	22.26	22.25	22.13
		75@0	23.20	23.21	23.25	22.22	22.23	22.23
Band	Bandwidth	RB	26140	26365	26590	26140	26365	26590
	(MHz)		1860	1882.5	1905	1860	1882.5	1905
25	20	1@0	23.91	23.97	23.89	23.33	23.11	22.97
		1@50	24.34	24.41	24.32	23.86	23.42	23.41
		1@99	23.86	23.82	23.87	23.35	23.00	22.90
		50@0	23.11	23.14	23.19	22.11	22.18	22.25
		50@25	23.25	23.27	23.18	22.21	22.28	22.21
		50@50	23.13	23.11	22.93	22.20	22.13	22.00
		100@0	23.15	23.12	23.15	22.14	22.22	22.20

**5.2.7 LTE Band 26**

		Conducted Power(dBm)						
Modulation		QPSK			16QAM			
Band	Bandwidth (MHz)	RB	26797	26915	27033	26797	26915	27033
			824.7	836.5	848.3	824.7	836.5	848.3
26	1.4	1@0	23.74	23.77	23.74	22.74	22.63	22.57
		1@3	23.92	23.90	23.83	22.95	22.84	22.79
		1@5	23.76	23.76	23.81	22.74	22.61	22.53
		3@0	23.83	23.85	23.87	22.77	22.94	23.08
		3@1	23.90	23.89	23.93	23.09	23.11	22.98
		3@3	23.78	23.90	23.84	22.80	22.93	23.01
		6@0	22.83	22.84	22.86	21.84	21.80	21.86
Band	Bandwidth (MHz)	RB	26805	26915	27025	26805	26915	27025
			825.5	836.5	847.5	825.5	836.5	847.5
26	3	1@0	23.72	23.82	23.83	22.83	22.65	23.46
		1@8	23.82	23.80	23.74	22.83	22.70	23.32
		1@14	23.77	23.81	23.75	22.89	22.68	23.32
		8@0	22.81	22.84	22.88	21.80	21.90	22.00
		8@4	22.85	22.85	22.89	21.95	21.92	22.03
		8@7	22.85	22.85	22.84	21.80	21.89	21.99
		15@0	22.79	22.82	22.85	21.75	21.90	21.94
Band	Bandwidth (MHz)	RB	26815	26915	27015	26815	26915	27015
			826.5	836.5	846.5	826.5	836.5	846.5
26	5	1@0	23.74	23.76	23.74	22.66	22.54	22.94
		1@12	23.86	23.80	23.85	22.74	22.67	23.07
		1@24	23.75	23.76	23.74	22.74	22.58	22.92
		12@0	22.87	22.79	22.90	21.76	21.76	21.91
		12@7	22.90	22.91	22.92	21.99	21.97	22.07
		12@13	22.87	22.85	22.89	21.73	21.83	21.89
		25@0	22.86	22.86	22.92	21.86	21.93	21.90
Band	Bandwidth (MHz)	RB	26840	26915	26990	26840	26915	26990
			829	836.5	844	829	836.5	844
26	10	1@0	23.77	23.82	23.73	23.34	22.83	23.04
		1@25	23.89	23.88	23.89	23.55	22.94	23.16
		1@49	23.76	23.80	23.71	23.36	22.85	22.97
		25@0	22.94	22.93	22.98	21.89	21.92	21.94
		25@12	23.01	23.03	23.00	21.99	22.04	22.00
		25@25	22.95	22.94	22.96	22.03	21.91	21.91
		50@0	22.94	22.93	22.98	22.01	21.94	21.93
Band	Bandwidth (MHz)	RB	26865	26915	26965	26865	26915	26965
			831.5	836.5	841.5	831.5	836.5	841.5
26	15	1@0	23.83	23.87	23.89	22.85	22.70	23.49
		1@37	24.05	24.00	24.05	23.00	22.87	23.59
		1@74	23.83	23.89	23.83	22.87	22.77	23.39
		36@0	22.88	22.92	23.09	21.96	22.01	22.13
		36@20	22.96	22.98	22.96	21.99	22.11	22.04
		36@39	22.96	22.89	22.88	21.99	21.98	22.00
		75@0	22.92	22.95	22.95	21.96	21.99	22.01

**5.2.8 LTE Band 26 (Part 90S)**

		Conducted Power(dBm)						
Modulation		QPSK			16QAM			
Band	Bandwidth	RB	26697	26740	26783	26697	26740	26783
	(MHz)		814.7	819	823.3	814.7	819	823.3
26	1.4	1@0	23.66	23.71	23.74	22.51	22.49	22.73
		1@3	23.86	23.81	23.83	22.72	22.64	23.03
		1@5	23.60	23.66	23.68	22.53	22.43	22.79
		3@0	23.72	23.83	23.78	22.80	22.92	22.71
		3@1	23.79	23.85	23.86	22.96	22.84	23.06
		3@3	23.75	23.79	23.82	22.75	22.94	22.73
		6@0	22.78	22.78	22.81	21.66	21.75	21.80
Band	Bandwidth	RB	26705	26740	26775	26705	26740	26775
	(MHz)		815.5	819	822.5	815.5	819	822.5
26	3	1@0	23.70	23.80	23.80	22.51	22.74	22.85
		1@8	23.74	23.69	23.76	22.62	22.83	22.82
		1@14	23.70	23.70	23.79	22.56	22.75	22.79
		8@0	22.70	22.76	22.82	21.77	21.86	21.78
		8@4	22.73	22.80	22.81	21.76	21.88	21.92
		8@7	22.74	22.76	22.77	21.79	21.88	21.72
		15@0	22.71	22.71	22.80	21.79	21.80	21.75
Band	Bandwidth	RB	26715	26740	26765	26715	26740	26765
	(MHz)		816.5	819	821.5	816.5	819	821.5
26	5	1@0	23.59	23.68	23.60	22.50	22.41	22.83
		1@12	23.72	23.74	23.79	22.65	22.51	22.94
		1@24	23.68	23.76	23.68	22.57	22.49	22.85
		12@0	22.67	22.66	22.81	21.52	21.63	21.78
		12@7	22.79	22.76	22.78	21.84	21.86	21.95
		12@13	22.73	22.80	22.71	21.72	21.71	21.72
		25@0	22.76	22.67	22.78	21.73	21.76	21.78
Band	Bandwidth	RB	--	26740	--	--	26740	--
	(MHz)		--	819	--	--	819	--
26	10	1@0	--	23.72	--	--	22.56	--
		1@25	--	23.83	--	--	22.83	--
		1@49	--	23.78	--	--	22.65	--
		25@0	--	22.71	--	--	21.80	--
		25@12	--	22.85	--	--	21.90	--
		25@25	--	22.73	--	--	21.79	--
		50@0	--	22.71	--	--	21.77	--
Band	Bandwidth	RB	--	26765	--	--	26765	--
	(MHz)		--	821.5	--	--	821.5	--
26	15	1@0	--	23.62	--	--	23.28	--
		1@37	--	23.89	--	--	23.20	--
		1@74	--	23.74	--	--	23.25	--
		36@0	--	22.77	--	--	21.72	--
		36@20	--	22.85	--	--	21.87	--
		36@39	--	22.80	--	--	21.81	--
		75@0	--	22.81	--	--	21.79	--

### 5.2.9 LTE Band 41

Conducted Power(dBm)											
Modulation			QPSK			16QAM			64QAM		
Band	Bandwidth (MHz)	RB	39675	40620	41565	39675	40620	41565	39675	40620	41565
			2498.5	2593	2687.5	2498.5	2593	2687.5	2498.5	2593	2687.5
41	5	1@0	26.19	26.17	25.94	25.92	25.99	25.84	26.19	26.17	25.94
		1@12	26.22	26.31	26.09	26.04	26.04	25.94	26.22	26.31	26.09
		1@24	26.09	26.16	25.96	25.92	25.97	25.84	26.09	26.16	25.96
		12@0	26.01	26.19	25.98	25.93	26.04	25.83	26.01	26.19	25.98
		12@7	26.11	26.22	26.04	25.97	26.14	25.90	26.11	26.22	26.04
		12@13	26.16	26.14	25.93	25.90	26.00	25.74	26.16	26.14	25.93
		25@0	26.01	26.15	25.94	25.88	26.08	25.73	26.01	26.15	25.94
Band	Bandwidth (MHz)	RB	39700	40620	41540	39700	40620	41540	39700	40620	41540
			2501	2593	2685	2501	2593	2685	2501	2593	2685
41	10	1@0	26.14	26.17	25.94	25.81	26.12	25.65	26.14	26.17	25.94
		1@25	26.40	26.39	26.26	26.08	26.20	25.92	26.40	26.39	26.26
		1@49	26.16	26.18	25.95	25.82	26.10	25.68	26.16	26.18	25.95
		25@0	26.08	26.19	26.04	25.93	26.02	25.85	26.08	26.19	26.04
		25@12	26.11	26.19	26.00	25.96	26.09	25.83	26.11	26.19	26.00
		25@25	26.16	26.21	25.94	26.03	26.09	25.77	26.16	26.21	25.94
		50@0	26.06	26.15	25.93	25.98	26.04	25.78	26.06	26.15	25.93
Band	Bandwidth (MHz)	RB	39725	40620	41515	39725	40620	41515	39725	40620	41515
			2503.5	2593	2682.5	2503.5	2593	2682.5	2503.5	2593	2682.5
41	15	1@0	26.08	26.10	25.83	25.90	25.85	25.87	26.08	26.10	25.83
		1@37	26.08	26.15	25.97	26.02	25.90	25.93	26.08	26.15	25.97
		1@74	25.98	26.05	25.89	25.91	25.74	25.81	25.98	26.05	25.89
		36@0	26.24	26.37	26.30	26.05	26.21	26.09	26.24	26.37	26.30
		36@20	26.28	26.39	26.28	26.07	26.22	26.05	26.28	26.39	26.28
		36@39	26.33	26.34	26.21	26.12	26.20	25.99	26.33	26.34	26.21
		75@0	26.25	26.34	26.23	26.03	26.22	26.00	26.25	26.34	26.23
Band	Bandwidth (MHz)	RB	39750	40620	41490	39750	40620	41490	39750	40620	41490
			2506	2593	2680	2506	2593	2680	2506	2593	2680
41	20	1@0	25.91	26.03	25.69	25.89	25.83	25.49	25.91	26.03	25.69
		1@50	26.39	26.45	26.17	26.22	26.26	25.93	26.39	26.45	26.17
		1@99	25.88	25.96	25.70	25.86	25.77	25.47	25.88	25.96	25.70
		50@0	25.99	26.18	25.97	25.83	26.04	25.84	25.99	26.18	25.97
		50@25	26.10	26.15	25.94	26.00	26.04	25.77	26.10	26.15	25.94
		50@50	26.15	26.12	25.81	25.99	26.03	25.71	26.15	26.12	25.81
		100@0	26.05	26.15	25.91	25.93	26.01	25.76	26.05	26.15	25.91

**5.2.10 LTE Band 66**

		Conducted Power(dBm)						
Modulation		QPSK			16QAM			
Band	Bandwidth	RB	131979	132322	132665	131979	132322	132665
	(MHz)		1710.7	1745	1779.3	1710.7	1745	1779.3
66	1.4	1@0	24.07	24.12	24.19	22.94	22.90	23.17
		1@3	24.28	24.36	24.39	23.00	23.13	23.35
		1@5	24.06	24.15	24.17	22.91	22.92	23.14
		3@0	24.13	24.24	24.22	23.21	23.33	23.14
		3@1	24.17	24.25	24.25	23.34	23.28	23.41
		3@3	24.13	24.20	24.17	23.11	23.42	23.11
		6@0	23.18	23.19	23.26	22.03	22.19	22.29
Band	Bandwidth	RB	131987	132322	132657	131987	132322	132657
	(MHz)		1711.5	1745	1778.5	1711.5	1745	1778.5
66	3	1@0	24.12	24.23	24.21	22.96	23.65	23.21
		1@8	24.11	24.18	24.23	22.98	23.65	23.18
		1@14	24.09	24.15	24.24	22.94	23.65	23.21
		8@0	23.20	23.20	23.25	22.18	22.35	22.20
		8@4	23.15	23.22	23.27	22.19	22.35	22.34
		8@7	23.14	23.21	23.25	22.16	22.31	22.16
		15@0	23.13	23.18	23.22	22.18	22.20	22.16
Band	Bandwidth	RB	131997	132322	132647	131997	132322	132647
	(MHz)		1712.5	1745	1777.5	1712.5	1745	1777.5
66	5	1@0	24.01	24.12	24.12	22.95	22.89	23.24
		1@12	24.08	24.24	24.29	23.01	23.00	23.37
		1@24	23.99	24.05	24.10	22.95	22.87	23.23
		12@0	23.10	23.17	23.21	22.07	22.13	22.21
		12@7	23.16	23.25	23.26	22.20	22.30	22.37
		12@13	23.13	23.15	23.14	22.03	22.08	22.15
		25@0	23.12	23.15	23.17	22.16	22.19	22.17
Band	Bandwidth	RB	132022	132322	132622	132022	132322	132622
	(MHz)		1715	1745	1775	1715	1745	1775
66	10	1@0	24.08	24.13	24.13	22.90	23.62	23.15
		1@25	24.25	24.39	24.32	23.06	23.80	23.38
		1@49	24.15	24.11	24.15	22.96	23.63	23.17
		25@0	23.12	23.21	23.27	22.23	22.25	22.24
		25@12	23.16	23.19	23.28	22.27	22.26	22.29
		25@25	23.12	23.22	23.22	22.25	22.25	22.27
		50@0	23.15	23.26	23.24	22.23	22.24	22.26
Band	Bandwidth	RB	132047	132322	132597	132047	132322	132597
	(MHz)		1717.5	1745	1772.5	1717.5	1745	1772.5
66	15	1@0	23.97	24.09	24.11	23.18	23.60	23.17
		1@37	24.12	24.20	24.25	23.34	23.70	23.23
		1@74	24.00	24.07	24.03	23.18	23.49	23.09
		36@0	23.22	23.27	23.37	22.20	22.26	22.27
		36@20	23.24	23.31	23.30	22.19	22.30	22.27
		36@39	23.24	23.27	23.31	22.15	22.25	22.23
		75@0	23.23	23.27	23.29	22.15	22.26	22.29
Band	Bandwidth	RB	132072	132322	132572	132072	132322	132572
	(MHz)		1720	1745	1770	1720	1745	1770
66	20	1@0	23.83	23.83	23.94	22.92	23.33	23.06
		1@50	24.34	24.36	24.40	23.38	23.84	23.51
		1@99	23.87	23.84	23.89	22.97	23.32	23.03
		50@0	23.18	23.19	23.29	22.16	22.13	22.24
		50@25	23.16	23.21	23.24	22.21	22.18	22.29
		50@50	23.16	23.09	23.08	22.18	22.10	22.10
		100@0	23.13	23.17	23.17	22.13	22.17	22.26

**5.2.11 LTE Band 71**

		Conducted Power(dBm)						
Modulation		QPSK			16QAM			
Band	Bandwidth	RB	133147	133297	133447	133147	133297	133447
	(MHz)		665.5	680.5	695.5	665.5	680.5	695.5
71	5	1@0	23.54	23.53	23.55	22.45	22.26	22.73
		1@12	23.63	23.70	23.69	22.53	22.40	22.81
		1@24	23.56	23.52	23.53	22.43	22.22	22.67
		12@0	22.50	22.59	22.61	21.44	21.54	21.65
		12@7	22.69	22.64	22.66	21.74	21.75	21.88
		12@13	22.60	22.52	22.67	21.56	21.53	21.72
		25@0	22.61	22.57	22.66	21.62	21.62	21.68
Band	Bandwidth	RB	133172	133297	133422	133172	133297	133422
(MHz)	668		680.5	693	668	680.5	693	
71	10	1@0	23.32	23.57	23.55	22.41	23.09	22.61
		1@25	23.69	23.74	23.76	22.63	23.24	22.84
		1@49	23.25	23.62	23.61	22.45	23.09	22.58
		25@0	22.54	22.58	22.68	21.66	21.64	21.74
		25@12	22.68	22.61	22.71	21.73	21.68	21.80
		25@25	22.68	22.56	22.76	21.74	21.63	21.77
		50@0	22.63	22.66	22.69	21.65	21.63	21.76
Band	Bandwidth	RB	133197	133297	133397	133197	133297	133397
(MHz)	670.5		680.5	690.5	670.5	680.5	690.5	
71	15	1@0	23.54	23.52	23.45	22.68	23.05	22.48
		1@37	23.60	23.60	23.62	22.82	23.18	22.66
		1@74	23.46	23.44	23.48	22.68	23.01	22.59
		36@0	22.65	22.59	22.74	21.61	21.57	21.79
		36@20	22.70	22.66	22.71	21.68	21.68	21.80
		36@39	22.66	22.56	22.79	21.74	21.55	21.83
		75@0	22.68	22.45	22.76	21.71	21.56	21.78
Band	Bandwidth	RB	133222	133322	133372	133222	133322	133372
(MHz)	673		683	688	673	683	688	
71	20	1@0	23.66	23.34	23.31	22.78	22.52	22.43
		1@50	23.86	23.72	23.73	23.26	22.90	22.85
		1@99	23.62	23.34	23.34	22.77	22.56	22.44
		50@0	22.62	22.48	22.69	21.68	21.55	21.80
		50@25	22.67	22.56	22.64	21.68	21.65	21.73
		50@50	22.69	22.45	22.74	21.76	21.52	21.75
		100@0	22.63	22.45	22.72	21.69	21.52	21.77



### 5.3 ERP OR EIRP

**Test Requirement:** FCC 47 CFR Part 2.1046(a)  
**LTE Band 2 & LTE Band 25:** FCC 47 CFR Part 24.232(c)  
**LTE Band 4 & LTE Band 66:** FCC 47 CFR Part 27.50(d)(4)  
**LTE Band 5 & LTE Band 26:** FCC 47 CFR Part 22.913(a)  
**LTE Band 41:** FCC 47 CFR Part 27.50(h)(2)  
**LTE Band 12 & 17 & Band 71:** FCC 47 CFR Part 27.50(c)(10)  
**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 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

Antenna height (ATT) meters (feet)	Effective radiated power (watts) <sup>1 2 4</sup>
Above 1,372 (4,500)	65
Above 1,220 (4,000) to 1,372 (4,500)	70
Above 1,067 (3,500) to 1,220 (4,000)	75
Above 915 (3,000) to 1,067 (3,500)	100
Above 763 (2,500) to 915 (3,000)	140
Above 610 (2,000) to 763 (2,500)	200
Above 458 (1,500) to 610 (2,000)	350
Above 305 (1,000) to 458 (1,500)	600
Up to 305 (1,000)	<sup>3</sup> 1,000

- Power is given in terms of effective radiated power (ERP).
- 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.
- Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw

**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

(ERP).

Licenses in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

**Test Procedure:**

According to KDB 412172 D01 Power Approach,

- **ERP or EIRP =  $P_T + G_T - L_c$**
- **ERP = EIRP - 2.15**

where

- **$P_T$**  = transmitter output power, expressed in dBW, dBm, or PSD;
- **$G_T$**  = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
- **$L_c$**  = **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

**Note:** The maximum ERP/EIRP is calculated from max output power and antenna gain, the antenna gain provided by the customer, and the customer takes all the responsibilities for the accuracy of antenna gain.

5.3.1 LTE Band 2

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 1.4MHz</b>							
Lowest	25.69	24.74	33.01	0.3707	0.2979	2	Pass
Middle	25.63	24.67	33.01	0.3656	0.2931	2	Pass
Highest	25.62	24.71	33.01	0.3648	0.2958	2	Pass
<b>Channel Bandwidth: 3MHz</b>							
Lowest	25.61	24.41	33.01	0.3639	0.2761	2	Pass
Middle	25.54	25.09	33.01	0.3581	0.3228	2	Pass
Highest	25.51	24.50	33.01	0.3556	0.2818	2	Pass
<b>Channel Bandwidth: 5MHz</b>							
Lowest	25.62	24.46	33.01	0.3648	0.2793	2	Pass
Middle	25.56	24.32	33.01	0.3597	0.2704	2	Pass
Highest	25.56	24.66	33.01	0.3597	0.2924	2	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	25.70	24.50	33.01	0.3715	0.2818	2	Pass
Middle	25.65	25.22	33.01	0.3673	0.3327	2	Pass
Highest	25.62	24.64	33.01	0.3648	0.2911	2	Pass
<b>Channel Bandwidth: 15MHz</b>							
Lowest	25.54	24.68	33.01	0.3581	0.2938	2	Pass
Middle	25.52	25.02	33.01	0.3565	0.3177	2	Pass
Highest	25.52	24.49	33.01	0.3565	0.2812	2	Pass
<b>Channel Bandwidth: 20MHz</b>							
Lowest	25.63	25.23	33.01	0.3656	0.3334	2	Pass
Middle	25.76	24.84	33.01	0.3767	0.3048	2	Pass
Highest	25.65	24.76	33.01	0.3673	0.2992	2	Pass

**5.3.2 LTE Band 4**

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 1.4MHz</b>							
Lowest	25.48	24.52	30.00	0.3532	0.2831	1	Pass
Middle	25.46	24.59	30.00	0.3516	0.2877	1	Pass
Highest	25.49	24.60	30.00	0.3540	0.2884	1	Pass
<b>Channel Bandwidth: 3MHz</b>							
Lowest	25.35	24.20	30.00	0.3428	0.2630	1	Pass
Middle	25.36	24.89	30.00	0.3436	0.3083	1	Pass
Highest	25.41	24.43	30.00	0.3475	0.2773	1	Pass
<b>Channel Bandwidth: 5MHz</b>							
Lowest	25.37	24.26	30.00	0.3443	0.2667	1	Pass
Middle	25.42	24.16	30.00	0.3483	0.2606	1	Pass
Highest	25.44	24.58	30.00	0.3499	0.2871	1	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	25.51	24.34	30.00	0.3556	0.2716	1	Pass
Middle	25.55	25.03	30.00	0.3589	0.3184	1	Pass
Highest	25.56	24.59	30.00	0.3597	0.2877	1	Pass
<b>Channel Bandwidth: 15MHz</b>							
Lowest	25.31	24.56	30.00	0.3396	0.2858	1	Pass
Middle	25.38	24.91	30.00	0.3451	0.3097	1	Pass
Highest	25.45	24.44	30.00	0.3508	0.2780	1	Pass
<b>Channel Bandwidth: 20MHz</b>							
Lowest	25.51	24.61	30.00	0.3556	0.2891	1	Pass
Middle	25.52	25.04	30.00	0.3565	0.3192	1	Pass
Highest	25.57	24.68	30.00	0.3606	0.2938	1	Pass

### 5.3.3 LTE Band 5

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 1.4MHz</b>							
Lowest	23.42	22.49	38.45	0.2198	0.1774	7	Pass
Middle	23.42	22.45	38.45	0.2198	0.1758	7	Pass
Highest	23.47	22.55	38.45	0.2223	0.1799	7	Pass
<b>Channel Bandwidth: 3MHz</b>							
Lowest	23.40	22.21	38.45	0.2188	0.1663	7	Pass
Middle	23.39	22.88	38.45	0.2183	0.1941	7	Pass
Highest	23.40	22.42	38.45	0.2188	0.1746	7	Pass
<b>Channel Bandwidth: 5MHz</b>							
Lowest	23.40	22.29	38.45	0.2188	0.1694	7	Pass
Middle	23.39	22.12	38.45	0.2183	0.1629	7	Pass
Highest	23.47	22.59	38.45	0.2223	0.1816	7	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	23.48	23.06	38.45	0.2228	0.2023	7	Pass
Middle	23.48	22.49	38.45	0.2228	0.1774	7	Pass
Highest	23.49	22.34	38.45	0.2234	0.1714	7	Pass

### 5.3.4 LTE Band 12

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 1.4MHz</b>							
Lowest	22.74	21.91	34.77	0.1879	0.1552	3	Pass
Middle	22.72	21.78	34.77	0.1871	0.1507	3	Pass
Highest	22.69	21.79	34.77	0.1858	0.1510	3	Pass
<b>Channel Bandwidth: 3MHz</b>							
Lowest	22.70	21.52	34.77	0.1862	0.1419	3	Pass
Middle	22.66	22.19	34.77	0.1845	0.1656	3	Pass
Highest	22.65	21.68	34.77	0.1841	0.1472	3	Pass
<b>Channel Bandwidth: 5MHz</b>							
Lowest	22.68	21.55	34.77	0.1854	0.1429	3	Pass
Middle	22.72	21.41	34.77	0.1871	0.1384	3	Pass
Highest	22.63	21.86	34.77	0.1832	0.1535	3	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	22.76	21.63	34.77	0.1888	0.1455	3	Pass
Middle	22.80	22.34	34.77	0.1905	0.1714	3	Pass
Highest	22.90	21.79	34.77	0.1950	0.1510	3	Pass

### 5.3.5 LTE Band 17

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 5MHz</b>							
Lowest	22.72	21.61	34.77	0.1871	0.1449	3	Pass
Middle	22.75	21.44	34.77	0.1884	0.1393	3	Pass
Highest	22.65	21.84	34.77	0.1841	0.1528	3	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	22.79	21.54	34.77	0.1901	0.1426	3	Pass
Middle	22.83	22.38	34.77	0.1919	0.1730	3	Pass
Highest	22.88	21.90	34.77	0.1941	0.1549	3	Pass

### 5.3.6 LTE Band 25

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 1.4MHz</b>							
Lowest	25.77	24.80	33.01	0.3776	0.3020	2	Pass
Middle	25.69	24.73	33.01	0.3707	0.2972	2	Pass
Highest	25.70	24.77	33.01	0.3715	0.2999	2	Pass
<b>Channel Bandwidth: 3MHz</b>							
Lowest	25.68	24.47	33.01	0.3698	0.2799	2	Pass
Middle	25.59	25.09	33.01	0.3622	0.3228	2	Pass
Highest	25.57	24.60	33.01	0.3606	0.2884	2	Pass
<b>Channel Bandwidth: 5MHz</b>							
Lowest	25.68	24.54	33.01	0.3698	0.2844	2	Pass
Middle	25.67	24.36	33.01	0.3690	0.2729	2	Pass
Highest	25.59	24.68	33.01	0.3622	0.2938	2	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	25.75	24.53	33.01	0.3758	0.2838	2	Pass
Middle	25.79	25.25	33.01	0.3793	0.3350	2	Pass
Highest	25.64	24.75	33.01	0.3664	0.2985	2	Pass
<b>Channel Bandwidth: 15MHz</b>							
Lowest	25.55	24.78	33.01	0.3589	0.3006	2	Pass
Middle	25.62	25.13	33.01	0.3648	0.3258	2	Pass
Highest	25.61	24.58	33.01	0.3639	0.2871	2	Pass
<b>Channel Bandwidth: 20MHz</b>							
Lowest	25.74	25.26	33.01	0.3750	0.3357	2	Pass
Middle	25.81	24.82	33.01	0.3811	0.3034	2	Pass
Highest	25.72	24.81	33.01	0.3733	0.3027	2	Pass

**5.3.7 LTE Band 26**

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 1.4MHz</b>							
Lowest	24.82	23.99	38.45	0.3034	0.2506	7	Pass
Middle	24.80	24.01	38.45	0.3020	0.2518	7	Pass
Highest	24.83	23.98	38.45	0.3041	0.2500	7	Pass
<b>Channel Bandwidth: 3MHz</b>							
Lowest	24.72	23.79	38.45	0.2965	0.2393	7	Pass
Middle	24.72	23.60	38.45	0.2965	0.2291	7	Pass
Highest	24.73	24.36	38.45	0.2972	0.2729	7	Pass
<b>Channel Bandwidth: 5MHz</b>							
Lowest	24.76	23.64	38.45	0.2992	0.2312	7	Pass
Middle	24.70	23.57	38.45	0.2951	0.2275	7	Pass
Highest	24.75	23.97	38.45	0.2985	0.2495	7	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	24.79	24.45	38.45	0.3013	0.2786	7	Pass
Middle	24.78	23.84	38.45	0.3006	0.2421	7	Pass
Highest	24.79	24.06	38.45	0.3013	0.2547	7	Pass
<b>Channel Bandwidth: 15MHz</b>							
Lowest	24.95	23.90	38.45	0.3126	0.2455	7	Pass
Middle	24.90	23.77	38.45	0.3090	0.2382	7	Pass
Highest	24.95	24.49	38.45	0.3126	0.2812	7	Pass

**5.3.8 LTE Band 26 (Part 90S)**

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 1.4MHz</b>							
Lowest	24.76	23.86	50.00	0.2992	0.2432	100	Pass
Middle	24.75	23.84	50.00	0.2985	0.2421	100	Pass
Highest	24.76	23.96	50.00	0.2992	0.2489	100	Pass
<b>Channel Bandwidth: 3MHz</b>							
Lowest	24.64	23.52	50.00	0.2911	0.2249	100	Pass
Middle	24.70	23.73	50.00	0.2951	0.2360	100	Pass
Highest	24.70	23.75	50.00	0.2951	0.2371	100	Pass
<b>Channel Bandwidth: 5MHz</b>							
Lowest	24.62	23.55	50.00	0.2897	0.2265	100	Pass
Middle	24.66	23.41	50.00	0.2924	0.2193	100	Pass
Highest	24.69	23.84	50.00	0.2944	0.2421	100	Pass
<b>Channel Bandwidth: 10MHz</b>							
Middle	24.73	23.73	50.00	0.2972	0.2360	100	Pass
<b>Channel Bandwidth: 15MHz</b>							
Lowest	24.79	24.18	50.00	0.3013	0.2618	100	Pass

**5.3.9 LTE Band 41**

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 5MHz</b>							
Lowest	28.22	28.04	33.01	0.6637	0.6368	2	Pass
Middle	28.31	28.14	33.01	0.6776	0.6516	2	Pass
Highest	28.09	27.94	33.01	0.6442	0.6223	2	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	28.40	28.08	33.01	0.6918	0.6427	2	Pass
Middle	28.39	28.20	33.01	0.6902	0.6607	2	Pass
Highest	28.26	27.92	33.01	0.6699	0.6194	2	Pass
<b>Channel Bandwidth: 15MHz</b>							
Lowest	28.33	28.12	33.01	0.6808	0.6486	2	Pass
Middle	28.39	28.22	33.01	0.6902	0.6637	2	Pass
Highest	28.30	28.09	33.01	0.6761	0.6442	2	Pass
<b>Channel Bandwidth: 20MHz</b>							
Lowest	28.39	28.22	33.01	0.6902	0.6637	2	Pass
Middle	28.45	28.26	33.01	0.6998	0.6699	2	Pass
Highest	28.17	27.93	33.01	0.6561	0.6209	2	Pass



**5.3.10 LTE Band 66**

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 1.4MHz</b>							
Lowest	25.48	24.54	30.00	0.3532	0.2844	1	Pass
Middle	25.56	24.62	30.00	0.3597	0.2897	1	Pass
Highest	25.59	24.61	30.00	0.3622	0.2891	1	Pass
<b>Channel Bandwidth: 3MHz</b>							
Lowest	25.32	24.18	30.00	0.3404	0.2618	1	Pass
Middle	25.43	24.85	30.00	0.3491	0.3055	1	Pass
Highest	25.44	24.41	30.00	0.3499	0.2761	1	Pass
<b>Channel Bandwidth: 5MHz</b>							
Lowest	25.28	24.21	30.00	0.3373	0.2636	1	Pass
Middle	25.44	24.20	30.00	0.3499	0.2630	1	Pass
Highest	25.49	24.57	30.00	0.3540	0.2864	1	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	25.45	24.26	30.00	0.3508	0.2667	1	Pass
Middle	25.59	25.00	30.00	0.3622	0.3162	1	Pass
Highest	25.52	24.58	30.00	0.3565	0.2871	1	Pass
<b>Channel Bandwidth: 15MHz</b>							
Lowest	25.32	24.54	30.00	0.3404	0.2844	1	Pass
Middle	25.40	24.90	30.00	0.3467	0.3090	1	Pass
Highest	25.45	24.43	30.00	0.3508	0.2773	1	Pass
<b>Channel Bandwidth: 20MHz</b>							
Lowest	25.54	24.58	30.00	0.3581	0.2871	1	Pass
Middle	25.56	25.04	30.00	0.3597	0.3192	1	Pass
Highest	25.60	24.71	30.00	0.3631	0.2958	1	Pass

5.3.11 LTE Band 71

Channel	Maximum EIRP (dBm)			Maximum EIRP (W)			Result
	QPSK	16QAM	Limit (dBm)	QPSK	16QAM	Limit (W)	
<b>Channel Bandwidth: 5MHz</b>							
Lowest	24.83	23.73	34.77	0.3041	0.2360	3	Pass
Middle	24.90	23.60	34.77	0.3090	0.2291	3	Pass
Highest	24.89	24.01	34.77	0.3083	0.2518	3	Pass
<b>Channel Bandwidth: 10MHz</b>							
Lowest	24.89	23.83	34.77	0.3083	0.2415	3	Pass
Middle	24.94	24.44	34.77	0.3119	0.2780	3	Pass
Highest	24.96	24.04	34.77	0.3133	0.2535	3	Pass
<b>Channel Bandwidth: 15MHz</b>							
Lowest	24.80	24.02	34.77	0.3020	0.2523	3	Pass
Middle	24.80	24.38	34.77	0.3020	0.2742	3	Pass
Highest	24.82	23.86	34.77	0.3034	0.2432	3	Pass
<b>Channel Bandwidth: 20MHz</b>							
Lowest	25.06	24.46	34.77	0.3206	0.2793	3	Pass
Middle	24.92	24.10	34.77	0.3105	0.2570	3	Pass
Highest	24.93	24.05	34.77	0.3112	0.2541	3	Pass

## 5.4 PEAK-TO-AVERAGE RATIO

<b>Test Requirement:</b>	LTE Band 2 & LTE Band 25: FCC 47 CFR Part 24.232(d) LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.50(d)(5) LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.913(a) LTE Band 41: FCC 47 CFR Part 27.50(d)(5) LTE Band 12 & 17 & Band 71: FCC 47 CFR Part 27.50(d)(5)
<b>Test Method:</b>	KDB 971168 D01v03r01 Section 5.7
<b>Limit:</b>	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
<b>Test Procedure:</b>	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 $\geq$ 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 %
<b>Note:</b>	The cable loss and attenuator loss were offset into measure device as an amplitude offset.
<b>Test Setup:</b>	Refer to section 4.2.2 for details.
<b>Instruments Used:</b>	Refer to section 3 for details
<b>Test Mode:</b>	Link mode
<b>Test Results:</b>	Pass
<b>Test Data:</b>	Please refer to Appendix A

## 5.5 99%&26DB BANDWIDTH

**Test Requirement:** FCC 47 CFR Part 2.1049(h)

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01 Section 4

**Limit:** No Limit, for reporting purposes only.

**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. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

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:** Please refer to Appendix A

## 5.6 BAND EDGE AT ANTENNA TERMINALS

**Test Requirement:** LTE Band 2 & LTE Band 25: FCC 47 CFR Part 24.238(a)  
LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.53(h)(1)  
LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.917(a)  
LTE Band 41: FCC 47 CFR Part 27.53(m)(4)  
LTE Band 12 & 17 & Band 71: FCC 47 CFR Part 27.53(g)  
LTE Band 26: FCC 47 CFR Part 90.691

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

**Limit:**

**FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a):**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**FCC 47 CFR Part 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.

**FCC 47 CFR Part 27.53(g):**

For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log(P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. 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.

**FCC 47 CFR Part 90.691:**

(a)(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $116 \log_{10}(f/6.1)$  decibels or  $50 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(a)(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

**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.

For each band edge measurement:

- 1) Set the spectrum analyzer span to include the block edge frequency.
- 2) Set a marker to point the corresponding band edge frequency in each test case.
- 3) Set display line at -13 dBm
- 4) Set resolution bandwidth to at least 1% of emission bandwidth.
- 5) Set spectrum analyzer with RMS detector.
- 6) Record the max trace plot into the test report

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:** Please refer to Appendix A

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UTTR-RF-FCC4G-V1.1

## 5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

**Test Requirement:** LTE Band 2 & LTE Band 25: FCC 47 CFR Part 24.238(a)  
LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.53(h)  
LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.917(a)  
LTE Band 41: FCC 47 CFR Part 27.53(m)(4)  
LTE Band 12 & Band 17 & Band 71: FCC 47 CFR Part 27.53(g)  
LTE Band 26: FCC 47 CFR Part 90.691

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

**Limit:**

**FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a), 27.53(g), 27.53(c)(2), 90.691:**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**FCC 47 CFR Part 27.53(m)(4):**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $55 + 10 \log(P)$  dB. The emission limit equal to -25 dBm.

**Test Procedure:**

The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range. b. Measuring frequency range is from 30 MHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

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:** Please refer to Appendix A

### 5.8 FIELD STRENGTH OF SPURIOUS RADIATION

**Test Requirement:** LTE Band 2 & LTE Band 25: FCC 47 CFR Part 24.238(a)  
 LTE Band 4 & LTE Band 66: FCC 47 CFR Part 27.53(h)  
 LTE Band 5 & LTE Band 26: FCC 47 CFR Part 22.917(a)  
 LTE Band 41: FCC 47 CFR Part 27.53(m)(4)  
 LTE Band 12 & Band 17 & Band 71: FCC 47 CFR Part 27.53(g)  
 LTE Band 26: FCC 47 CFR Part 90.691

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

**Receiver Setup:**

Frequency	Detector	RBW	VBW	Remark
0.009 MHz-30 MHz	Peak	10 kHz	30 KHz	Peak
30 MHz-1 GHz	Quasi-peak	100 kHz	300 KHz	Peak
Above 1 GHz	Peak	1 MHz	3 MHz	Peak

**Limits:**

**FCC 47 CFR Part 24.238(a), 27.53(h)(1), 22.917(a), 27.53(g), 27.53(c)(2), 90.691:**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**FCC 47 CFR Part 27.53(m)(4):**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $55 + 10 \log(P)$  dB. The emission limit equal to -25 dBm.

**Test Setup:** Refer to section 4.2.1 for details.

**Test Procedures:** KDB 971168 D01v03r01 Section 7

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Pass

**The worst measurement data as follows:**

**5.8.1 LTE Band 2**

LTE Band 2_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	793.028	-81.0	12.6	-68.4	-13.0	-55.4	Horizontal
2	932.141	-83.0	14.5	-68.5	-13.0	-55.5	Horizontal
3	965.474	-82.4	14.1	-68.2	-13.0	-55.2	Horizontal
4	3720.000	-64.1	7.7	-56.4	-13.0	-43.4	Horizontal
5	5580.000	-60.9	11.7	-49.2	-13.0	-36.2	Horizontal
6	573.988	-79.9	7.9	-72.0	-13.0	-59.0	Vertical
7	698.804	-81.6	11.5	-70.1	-13.0	-57.1	Vertical
8	887.398	-81.7	13.5	-68.2	-13.0	-55.2	Vertical
9	3720.000	-63.4	7.7	-55.7	-13.0	-42.7	Vertical
10	5580.000	-65.5	11.7	-53.8	-13.0	-40.8	Vertical
<b>Middle Channel</b>							
1	607.181	-81.2	9.5	-71.7	-13.0	-58.7	Horizontal
2	868.886	-81.6	13.3	-68.3	-13.0	-55.3	Horizontal
3	945.334	-81.3	14.1	-67.2	-13.0	-54.2	Horizontal
4	3760.000	-62.4	7.8	-54.6	-13.0	-41.6	Horizontal
5	5640.000	-65.7	11.6	-54.1	-13.0	-41.1	Horizontal
6	520.208	-80.0	7.5	-72.6	-13.0	-59.6	Vertical
7	651.383	-80.8	10.5	-70.3	-13.0	-57.3	Vertical
8	881.184	-81.1	13.3	-67.8	-13.0	-54.8	Vertical
9	3760.000	-64.2	7.8	-56.4	-13.0	-43.4	Vertical
10	5640.000	-65.5	11.6	-53.9	-13.0	-40.9	Vertical
<b>Highest Channel</b>							
1	679.435	-81.7	10.7	-70.9	-13.0	-57.9	Horizontal
2	804.252	-81.4	12.5	-68.9	-13.0	-55.9	Horizontal
3	925.613	-82.4	14.4	-68.0	-13.0	-55.0	Horizontal
4	3800.000	-64.2	7.9	-56.3	-13.0	-43.3	Horizontal
5	5700.000	-65.5	11.4	-54.0	-13.0	-41.0	Horizontal
6	698.804	-82.1	11.5	-70.6	-13.0	-57.6	Vertical
7	844.803	-82.0	12.8	-69.2	-13.0	-56.2	Vertical
8	925.613	-82.8	14.4	-68.4	-13.0	-55.4	Vertical
9	3800.000	-64.1	7.9	-56.1	-13.0	-43.1	Vertical
10	5700.000	-66.9	11.4	-55.5	-13.0	-42.5	Vertical



**5.8.2 LTE Band 4**

LTE Band 4_20 MHz_QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	679.435	-82.1	10.7	-71.4	-13.0	-58.4	Horizontal
2	809.924	-81.5	12.3	-69.1	-13.0	-56.1	Horizontal
3	899.958	-81.8	14.0	-67.9	-13.0	-54.9	Horizontal
4	3440.000	-60.8	6.5	-54.2	-13.0	-41.2	Horizontal
5	5160.000	-64.5	10.1	-54.4	-13.0	-41.4	Horizontal
6	689.051	-81.4	11.0	-70.4	-13.0	-57.4	Vertical
7	771.047	-81.9	12.1	-69.8	-13.0	-56.8	Vertical
8	887.398	-81.9	13.5	-68.3	-13.0	-55.3	Vertical
9	3440.000	-63.3	6.5	-56.8	-13.0	-43.8	Vertical
10	5160.000	-64.2	10.1	-54.1	-13.0	-41.1	Vertical
<b>Middle Channel</b>							
1	569.969	-80.2	8.3	-71.9	-13.0	-58.9	Horizontal
2	787.475	-81.7	12.5	-69.2	-13.0	-56.2	Horizontal
3	925.613	-82.3	14.4	-68.0	-13.0	-55.0	Horizontal
4	3465.000	-66.2	6.6	-59.6	-13.0	-46.6	Horizontal
5	5197.500	-64.3	10.3	-54.0	-13.0	-41.0	Horizontal
6	646.822	-81.6	10.3	-71.2	-13.0	-58.2	Vertical
7	809.924	-81.8	12.3	-69.4	-13.0	-56.4	Vertical
8	899.958	-81.8	14.0	-67.8	-13.0	-54.8	Vertical
9	3465.000	-64.3	6.6	-57.7	-13.0	-44.7	Vertical
10	5197.500	-64.2	10.3	-54.0	-13.0	-41.0	Vertical
<b>Highest Channel</b>							
1	235.135	-76.4	-0.2	-76.6	-13.0	-63.6	Horizontal
2	665.261	-80.9	10.1	-70.9	-13.0	-57.9	Horizontal
3	765.648	-80.3	12.0	-68.3	-13.0	-55.3	Horizontal
4	3490.000	-63.3	6.7	-56.6	-13.0	-43.6	Horizontal
5	5235.000	-64.4	10.4	-54.0	-13.0	-41.0	Horizontal
6	569.969	-80.9	8.3	-72.6	-13.0	-59.6	Vertical
7	760.287	-82.0	11.8	-70.1	-13.0	-57.1	Vertical
8	938.714	-83.0	14.4	-68.6	-13.0	-55.6	Vertical
9	3490.000	-64.4	6.7	-57.7	-13.0	-44.7	Vertical
10	5235.000	-64.4	10.4	-54.0	-13.0	-41.0	Vertical

### 5.8.3 LTE Band 5

LTE Band 5_ 10 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	787.475	-88.6	41.7	-46.8	-13.0	-33.8	Horizontal
2	844.803	-87.2	41.9	-45.3	-13.0	-32.3	Horizontal
3	925.613	-88.1	43.2	-44.9	-13.0	-31.9	Horizontal
4	1658.000	-57.9	0.3	-57.6	-13.0	-44.6	Horizontal
5	2487.000	-61.0	3.6	-57.3	-13.0	-44.3	Horizontal
6	642.292	-88.2	39.6	-48.6	-13.0	-35.6	Vertical
7	703.731	-88.6	40.7	-47.9	-13.0	-34.9	Vertical
8	952.000	-85.6	42.9	-42.6	-13.0	-29.6	Vertical
9	1658.000	-58.2	0.3	-58.0	-13.0	-45.0	Vertical
10	2487.000	-62.2	3.6	-58.5	-13.0	-45.5	Vertical
<b>Middle Channel</b>							
1	703.731	-87.1	40.7	-46.4	-13.0	-33.4	Horizontal
2	952.000	-87.6	42.9	-44.6	-13.0	-31.6	Horizontal
3	992.997	-87.2	43.2	-44.0	-13.0	-31.0	Horizontal
4	1673.000	-59.2	0.4	-58.8	-13.0	-45.8	Horizontal
5	2509.500	-62.5	3.7	-58.8	-13.0	-45.8	Horizontal
6	684.226	-88.7	40.2	-48.5	-13.0	-35.5	Vertical
7	787.475	-89.1	41.7	-47.3	-13.0	-34.3	Vertical
8	979.139	-86.4	43.2	-43.2	-13.0	-30.2	Vertical
9	1673.000	-59.3	0.4	-59.0	-13.0	-46.0	Vertical
10	2509.500	-62.3	3.7	-58.6	-13.0	-45.6	Vertical
<b>Highest Channel</b>							
1	689.051	-88.8	40.4	-48.4	-13.0	-35.4	Horizontal
2	781.961	-87.3	41.6	-45.8	-13.0	-32.8	Horizontal
3	938.714	-87.2	43.2	-44.0	-13.0	-31.0	Horizontal
4	1688.000	-59.8	0.5	-59.3	-13.0	-46.3	Horizontal
5	2532.000	-63.1	3.8	-59.3	-13.0	-46.3	Horizontal
6	739.214	-88.7	40.6	-48.1	-13.0	-35.1	Vertical
7	815.635	-88.0	41.5	-46.5	-13.0	-33.5	Vertical
8	958.714	-87.8	42.9	-45.0	-13.0	-32.0	Vertical
9	1688.000	-60.9	0.5	-60.4	-13.0	-47.4	Vertical
10	2532.000	-62.3	3.8	-58.6	-13.0	-45.6	Vertical

**5.8.4 LTE Band 12**

LTE Band 12_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	611.462	-88.9	38.9	-50.0	-13.0	-37.0	Horizontal
2	804.252	-87.3	41.7	-45.6	-13.0	-32.6	Horizontal
3	899.958	-88.1	42.9	-45.2	-13.0	-32.2	Horizontal
4	1408.000	-59.7	-0.9	-60.6	-13.0	-47.6	Horizontal
5	2112.000	-62.9	2.4	-60.5	-13.0	-47.5	Horizontal
6	624.490	-89.1	39.2	-49.9	-13.0	-36.9	Vertical
7	776.485	-88.0	41.5	-46.5	-13.0	-33.5	Vertical
8	906.304	-87.0	42.9	-44.1	-13.0	-31.1	Vertical
9	1408.000	-60.6	-0.9	-61.4	-13.0	-48.4	Vertical
10	2112.000	-62.5	2.4	-60.1	-13.0	-47.1	Vertical
<b>Middle Channel</b>							
1	642.292	-89.1	39.6	-49.5	-13.0	-36.5	Horizontal
2	793.028	-88.7	41.8	-47.0	-13.0	-34.0	Horizontal
3	938.714	-87.4	43.2	-44.2	-13.0	-31.2	Horizontal
4	1415.000	-57.0	-0.9	-57.8	-13.0	-44.8	Horizontal
5	2122.500	-60.4	2.5	-57.9	-13.0	-44.9	Horizontal
6	554.171	-89.4	37.4	-52.0	-13.0	-39.0	Vertical
7	655.977	-89.0	39.9	-49.0	-13.0	-36.0	Vertical
8	932.141	-86.5	43.3	-43.2	-13.0	-30.2	Vertical
9	1415.000	-59.4	-0.9	-60.3	-13.0	-47.3	Vertical
10	2122.500	-60.1	2.5	-57.7	-13.0	-44.7	Vertical
<b>Highest Channel</b>							
1	620.117	-87.6	39.2	-48.4	-13.0	-35.4	Horizontal
2	793.028	-88.5	41.8	-46.7	-13.0	-33.7	Horizontal
3	932.141	-87.6	43.3	-44.3	-13.0	-31.3	Horizontal
4	1422.000	-54.3	-0.8	-55.1	-13.0	-42.1	Horizontal
5	2133.000	-61.8	2.5	-59.4	-13.0	-46.4	Horizontal
6	527.571	-88.5	36.7	-51.8	-13.0	-38.8	Vertical
7	793.028	-87.8	41.8	-46.0	-13.0	-33.0	Vertical
8	938.714	-86.7	43.2	-43.5	-13.0	-30.5	Vertical
9	1422.000	-58.1	-0.8	-58.9	-13.0	-45.9	Vertical
10	2133.000	-59.9	2.5	-57.4	-13.0	-44.4	Vertical

**5.8.5 LTE Band 17**

LTE Band 17_ 10 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	655.977	-89.2	39.9	-49.3	-13.0	-36.3	Horizontal
2	906.304	-88.1	42.9	-45.2	-13.0	-32.2	Horizontal
3	979.139	-88.1	43.2	-44.9	-13.0	-31.9	Horizontal
4	1418.000	-53.8	-0.8	-54.7	-13.0	-41.7	Horizontal
5	2127.000	-61.9	2.5	-59.5	-13.0	-46.5	Horizontal
6	646.822	-88.9	39.8	-49.2	-13.0	-36.2	Vertical
7	838.887	-88.1	41.8	-46.3	-13.0	-33.3	Vertical
8	938.714	-87.9	43.2	-44.7	-13.0	-31.7	Vertical
9	1418.000	-57.7	-0.8	-58.5	-13.0	-45.5	Vertical
10	2127.000	-62.5	2.5	-60.1	-13.0	-47.1	Vertical
<b>Middle Channel</b>							
1	651.383	-88.8	39.9	-48.9	-13.0	-35.9	Horizontal
2	815.635	-87.2	41.5	-45.8	-13.0	-32.8	Horizontal
3	945.334	-87.7	42.9	-44.8	-13.0	-31.8	Horizontal
4	1420.000	-54.0	-0.8	-54.9	-13.0	-41.9	Horizontal
5	2130.000	-60.8	2.5	-58.4	-13.0	-45.4	Horizontal
6	674.677	-88.9	39.9	-49.0	-13.0	-36.0	Vertical
7	809.924	-88.2	41.5	-46.7	-13.0	-33.7	Vertical
8	906.304	-88.2	42.9	-45.3	-13.0	-32.3	Vertical
9	1420.000	-58.8	-0.8	-59.7	-13.0	-46.7	Vertical
10	2130.000	-61.8	2.5	-59.4	-13.0	-46.4	Vertical
<b>Highest Channel</b>							
1	660.602	-88.0	39.6	-48.4	-13.0	-35.4	Horizontal
2	765.648	-88.4	41.2	-47.2	-13.0	-34.2	Horizontal
3	972.283	-87.6	43.0	-44.6	-13.0	-31.6	Horizontal
4	1422.000	-56.1	-0.8	-57.0	-13.0	-44.0	Horizontal
5	2133.000	-60.3	2.5	-57.9	-13.0	-44.9	Horizontal
6	550.290	-88.7	37.5	-51.2	-13.0	-38.2	Vertical
7	781.961	-88.6	41.6	-47.0	-13.0	-34.0	Vertical
8	919.132	-87.9	43.0	-44.9	-13.0	-31.9	Vertical
9	1422.000	-58.4	-0.8	-59.2	-13.0	-46.2	Vertical
10	2133.000	-60.5	2.5	-58.1	-13.0	-45.1	Vertical

**5.8.6 LTE Band 25**

LTE Band 25_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	602.929	-80.6	9.4	-71.1	-13.0	-58.1	Horizontal
2	781.961	-82.0	12.3	-69.6	-13.0	-56.6	Horizontal
3	893.656	-82.7	13.8	-68.9	-13.0	-55.9	Horizontal
4	3720.000	-64.3	7.7	-56.6	-13.0	-43.6	Horizontal
5	5580.000	-64.2	11.7	-52.5	-13.0	-39.5	Horizontal
6	550.290	-81.1	8.1	-73.0	-13.0	-60.0	Vertical
7	703.731	-81.9	11.4	-70.5	-13.0	-57.5	Vertical
8	838.887	-81.3	12.7	-68.6	-13.0	-55.6	Vertical
9	3720.000	-64.4	7.7	-56.8	-13.0	-43.8	Vertical
10	5580.000	-65.0	11.7	-53.3	-13.0	-40.3	Vertical
<b>Middle Channel</b>							
1	698.804	-81.9	11.5	-70.4	-13.0	-57.4	Horizontal
2	793.028	-81.8	12.6	-69.2	-13.0	-56.2	Horizontal
3	906.304	-82.2	14.1	-68.1	-13.0	-55.1	Horizontal
4	3760.000	-64.0	7.8	-56.2	-13.0	-43.2	Horizontal
5	5640.000	-65.1	11.6	-53.5	-13.0	-40.5	Horizontal
6	698.804	-81.4	11.5	-69.9	-13.0	-56.9	Vertical
7	793.028	-82.2	12.6	-69.6	-13.0	-56.6	Vertical
8	906.304	-81.8	14.1	-67.8	-13.0	-54.8	Vertical
9	3760.000	-64.8	7.8	-57.0	-13.0	-44.0	Vertical
10	5640.000	-66.2	11.6	-54.6	-13.0	-41.6	Vertical
<b>Highest Channel</b>							
1	651.383	-81.2	10.5	-70.7	-13.0	-57.7	Horizontal
2	793.028	-82.2	12.6	-69.6	-13.0	-56.6	Horizontal
3	932.141	-83.0	14.5	-68.5	-13.0	-55.5	Horizontal
4	3810.000	-62.6	8.0	-54.6	-13.0	-41.6	Horizontal
5	5715.000	-65.6	11.4	-54.2	-13.0	-41.2	Horizontal
6	679.435	-81.9	10.7	-71.2	-13.0	-58.2	Vertical
7	815.635	-81.5	12.4	-69.2	-13.0	-56.2	Vertical
8	919.132	-82.9	14.2	-68.7	-13.0	-55.7	Vertical
9	3810.000	-64.8	8.0	-56.9	-13.0	-43.9	Vertical
10	5715.000	-67.9	11.4	-56.5	-13.0	-43.5	Vertical

**5.8.7 LTE Band 26**

LTE Band 26_ 15 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	693.910	-89.3	40.7	-48.7	-13.0	-35.7	Horizontal
2	749.676	-88.7	40.8	-47.9	-13.0	-34.9	Horizontal
3	925.613	-87.6	43.2	-44.4	-13.0	-31.4	Horizontal
4	1663.000	-65.9	0.3	-65.6	-13.0	-52.6	Horizontal
5	2494.5	-64.9	3.7	-61.3	-13.0	-48.3	Horizontal
6	679.435	-89.1	40.1	-48.9	-13.0	-35.9	Vertical
7	781.961	-89.0	41.6	-47.5	-13.0	-34.5	Vertical
8	906.304	-87.7	42.9	-44.8	-13.0	-31.8	Vertical
9	1663.000	-63.7	0.3	-63.4	-13.0	-50.4	Vertical
10	2494.500	-63.3	3.7	-59.6	-13.0	-46.6	Vertical
<b>Middle Channel</b>							
1	633.328	-88.9	39.3	-49.6	-13.0	-36.6	Horizontal
2	809.924	-88.1	41.5	-46.6	-13.0	-33.6	Horizontal
3	906.304	-88.2	42.9	-45.3	-13.0	-32.3	Horizontal
4	1673.000	-64.6	0.4	-64.3	-13.0	-51.3	Horizontal
5	2509.500	-63.3	3.7	-59.6	-13.0	-46.6	Horizontal
6	651.383	-89.1	39.9	-49.2	-13.0	-36.2	Vertical
7	693.910	-89.4	40.7	-48.7	-13.0	-35.7	Vertical
8	979.139	-87.4	43.2	-44.2	-13.0	-31.2	Vertical
9	1673.000	-62.4	0.4	-62.0	-13.0	-49.0	Vertical
10	2509.500	-64.2	3.7	-60.5	-13.0	-47.5	Vertical
<b>Highest Channel</b>							
1	693.910	-88.8	40.7	-48.1	-13.0	-35.1	Horizontal
2	776.485	-88.9	41.5	-47.4	-13.0	-34.4	Horizontal
3	945.334	-87.2	42.9	-44.3	-13.0	-31.3	Horizontal
4	1683.000	-62.1	0.4	-61.7	-13.0	-48.7	Horizontal
5	2524.500	-63.1	3.7	-59.3	-13.0	-46.3	Horizontal
6	655.977	-89.1	39.9	-49.2	-13.0	-36.2	Vertical
7	698.804	-89.9	40.8	-49.0	-13.0	-36.0	Vertical
8	925.613	-87.8	43.2	-44.6	-13.0	-31.6	Vertical
9	1683.000	-63.0	0.4	-62.6	-13.0	-49.6	Vertical
10	2524.500	-63.9	3.7	-60.2	-13.0	-47.2	Vertical

**5.8.1 LTE Band 26 (Part 90S)**

LTE Band 26_ 5 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Lowest Channel</b>							
1	674.677	-88.0	39.9	-48.1	-13.0	-35.1	Horizontal
2	693.910	-88.8	40.7	-48.1	-13.0	-35.1	Horizontal
3	965.474	-87.1	42.8	-44.2	-13.0	-31.2	Horizontal
4	1633.000	-65.2	0.1	-65.1	-13.0	-52.1	Horizontal
5	2449.500	-64.2	3.5	-60.7	-13.0	-47.7	Horizontal
6	655.977	-88.1	39.9	-48.2	-13.0	-35.2	Vertical
7	698.804	-88.9	40.8	-48.1	-13.0	-35.1	Vertical
8	932.141	-88.3	43.3	-45.0	-13.0	-32.0	Vertical
9	1633.000	-63.3	0.1	-63.2	-13.0	-50.2	Vertical
10	2449.500	-63.7	3.5	-60.2	-13.0	-47.2	Vertical
<b>Middle Channel</b>							
1	698.804	-89.2	40.8	-48.3	-13.0	-35.3	Horizontal
2	776.485	-88.8	41.5	-47.3	-13.0	-34.3	Horizontal
3	925.613	-88.6	43.2	-45.4	-13.0	-32.4	Horizontal
4	1638.000	-67.0	0.1	-66.9	-13.0	-53.9	Horizontal
5	2457.000	-64.9	3.5	-61.3	-13.0	-48.3	Horizontal
6	868.886	-87.8	42.3	-45.5	-13.0	-32.5	Vertical
7	912.695	-87.9	42.9	-45.0	-13.0	-32.0	Vertical
8	972.283	-86.4	43.0	-43.5	-13.0	-30.5	Vertical
9	1638.000	-62.5	0.1	-62.4	-13.0	-49.4	Vertical
10	2457.000	-65.7	3.5	-62.2	-13.0	-49.2	Vertical
<b>Highest Channel</b>							
1	744.427	-87.5	40.7	-46.8	-13.0	-33.8	Horizontal
2	798.620	-87.0	41.8	-45.3	-13.0	-32.3	Horizontal
3	958.714	-87.3	42.9	-44.4	-13.0	-31.4	Horizontal
4	1643.000	-64.3	0.2	-64.2	-13.0	-51.2	Horizontal
5	2464.500	-65.7	3.6	-62.1	-13.0	-49.1	Horizontal
6	693.910	-89.3	40.7	-48.6	-13.0	-35.6	Vertical
7	793.028	-88.8	41.8	-47.0	-13.0	-34.0	Vertical
8	945.334	-87.5	42.9	-44.7	-13.0	-31.7	Vertical
9	1643.000	-62.7	0.2	-62.6	-13.0	-49.6	Vertical
10	2464.500	-65.3	3.6	-61.7	-13.0	-48.7	Vertical

LTE Band 26_ 10 MHz_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
<b>Middle Channel</b>							
1	538.811	-88.6	37.1	-51.5	-13.0	-38.5	Horizontal
2	633.328	-88.2	39.3	-48.9	-13.0	-35.9	Horizontal
3	919.132	-87.9	43.0	-44.9	-13.0	-31.9	Horizontal
4	1638.000	-65.0	0.1	-64.9	-13.0	-51.9	Horizontal
5	2457.000	-64.8	3.5	-61.3	-13.0	-48.3	Horizontal
6	646.822	-89.2	39.8	-49.5	-13.0	-36.5	Vertical
7	723.793	-88.7	40.4	-48.4	-13.0	-35.4	Vertical
8	932.141	-88.3	43.3	-45.0	-13.0	-32.0	Vertical
9	1638.000	-62.3	0.1	-62.1	-13.0	-49.1	Vertical
10	2457.000	-66.1	3.5	-62.6	-13.0	-49.6	Vertical

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**5.8.2 LTE Band 41**

LTE Band 41_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	698.804	-82.2	11.5	-70.7	-25.0	-45.7	Horizontal
2	781.961	-81.9	12.3	-69.6	-25.0	-44.6	Horizontal
3	925.613	-82.7	14.4	-68.3	-25.0	-43.3	Horizontal
4	5012.000	-66.3	9.6	-56.8	-25.0	-31.8	Horizontal
5	7518.000	-68.4	13.7	-54.8	-25.0	-29.8	Horizontal
6	646.822	-81.3	10.3	-71.0	-25.0	-46.0	Vertical
7	765.648	-82.6	12.0	-70.6	-25.0	-45.6	Vertical
8	906.304	-82.7	14.1	-68.6	-25.0	-43.6	Vertical
9	5012.000	-65.8	9.6	-56.3	-25.0	-31.3	Vertical
10	7518.000	-67.5	13.7	-53.8	-25.0	-28.8	Vertical
<b>Middle Channel</b>							
1	651.383	-81.1	10.5	-70.7	-25.0	-45.7	Horizontal
2	776.485	-81.8	12.3	-69.5	-25.0	-44.5	Horizontal
3	893.656	-81.2	13.8	-67.4	-25.0	-42.4	Horizontal
4	5186.000	-65.8	10.2	-55.7	-25.0	-30.7	Horizontal
5	7779.000	-68.6	14.0	-54.7	-25.0	-29.7	Horizontal
6	615.774	-80.1	9.7	-70.4	-25.0	-45.4	Vertical
7	771.047	-81.8	12.1	-69.7	-25.0	-44.7	Vertical
8	899.958	-82.1	14.0	-68.1	-25.0	-43.1	Vertical
9	5186.000	-66.9	10.2	-56.8	-25.0	-31.8	Vertical
10	7779.000	-67.9	14.0	-54.0	-25.0	-29.0	Vertical
<b>Highest Channel</b>							
1	590.351	-81.3	8.5	-72.8	-25.0	-47.8	Horizontal
2	698.804	-82.2	11.5	-70.8	-25.0	-45.8	Horizontal
3	992.997	-83.2	14.5	-68.7	-25.0	-43.7	Horizontal
4	5360.000	-66.5	11.1	-55.4	-25.0	-30.4	Horizontal
5	8040.000	-65.8	14.3	-51.5	-25.0	-26.5	Horizontal
6	793.028	-82.2	12.6	-69.6	-25.0	-44.6	Vertical
7	844.803	-82.1	12.8	-69.3	-25.0	-44.3	Vertical
8	925.613	-82.7	14.4	-68.3	-25.0	-43.3	Vertical
9	5360.000	-64.6	11.1	-53.5	-25.0	-28.5	Vertical
10	8040.000	-67.0	14.3	-52.7	-25.0	-27.7	Vertical

**5.8.3 LTE Band 66**

LTE Band 66_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	646.822	-81.2	10.3	-70.8	-13.0	-57.8	Horizontal
2	771.047	-81.7	12.1	-69.6	-13.0	-56.6	Horizontal
3	938.714	-82.6	14.4	-68.2	-13.0	-55.2	Horizontal
4	3440.000	-64.9	6.5	-58.3	-13.0	-45.3	Horizontal
5	5160.000	-64.8	10.1	-54.7	-13.0	-41.7	Horizontal
6	542.610	-80.0	7.8	-72.2	-13.0	-59.2	Vertical
7	804.252	-81.6	12.5	-69.1	-13.0	-56.1	Vertical
8	932.141	-83.2	14.5	-68.7	-13.0	-55.7	Vertical
9	3440.000	-65.1	6.5	-58.5	-13.0	-45.5	Vertical
10	5160.000	-64.8	10.1	-54.7	-13.0	-41.7	Vertical
<b>Middle Channel</b>							
1	235.135	-75.2	-0.2	-75.4	-13.0	-62.4	Horizontal
2	607.181	-80.8	9.5	-71.3	-13.0	-58.3	Horizontal
3	798.620	-81.8	12.6	-69.2	-13.0	-56.2	Horizontal
4	3490.000	-64.4	6.7	-57.7	-13.0	-44.7	Horizontal
5	5235.000	-65.0	10.4	-54.6	-13.0	-41.6	Horizontal
6	620.117	-81.5	9.7	-71.8	-13.0	-58.8	Vertical
7	781.961	-82.1	12.3	-69.8	-13.0	-56.8	Vertical
8	906.304	-81.5	14.1	-67.5	-13.0	-54.5	Vertical
9	3490.000	-65.1	6.7	-58.4	-13.0	-45.4	Vertical
10	5235.000	-65.6	10.4	-55.1	-13.0	-42.1	Vertical
<b>Highest Channel</b>							
1	693.910	-81.5	11.3	-70.2	-13.0	-57.2	Horizontal
2	815.635	-81.3	12.4	-68.9	-13.0	-55.9	Horizontal
3	986.044	-82.3	14.4	-67.9	-13.0	-54.9	Horizontal
4	3540.000	-63.6	6.9	-56.7	-13.0	-43.7	Horizontal
5	5310.000	-63.4	10.9	-52.6	-13.0	-39.6	Horizontal
6	693.910	-81.7	11.3	-70.4	-13.0	-57.4	Vertical
7	793.028	-82.3	12.6	-69.7	-13.0	-56.7	Vertical
8	932.141	-83.4	14.5	-68.9	-13.0	-55.9	Vertical
9	3540.000	-65.7	6.9	-58.8	-13.0	-45.8	Vertical
10	5310.000	-64.7	10.9	-53.8	-13.0	-40.8	Vertical

**5.8.4 LTE Band 71**

LTE Band 71_ 20 MHz_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
<b>Lowest Channel</b>							
1	535.038	-88.8	36.9	-51.8	-13.0	-38.8	Horizontal
2	932.141	-87.7	43.3	-44.4	-13.0	-31.4	Horizontal
3	992.997	-87.8	43.2	-44.7	-13.0	-31.7	Horizontal
4	1346.000	-65.6	-1.1	-66.7	-13.0	-53.7	Horizontal
5	2019.000	-66.5	2.2	-64.3	-13.0	-51.3	Horizontal
6	401.105	-89.1	34.2	-54.9	-13.0	-41.9	Vertical
7	754.963	-88.7	40.9	-47.8	-13.0	-34.8	Vertical
8	912.695	-87.8	42.9	-44.9	-13.0	-31.9	Vertical
9	1346.000	-63.3	-1.1	-64.4	-13.0	-51.4	Vertical
10	2019.000	-68.4	2.2	-66.2	-13.0	-53.2	Vertical
<b>Middle Channel</b>							
1	821.387	-87.8	41.4	-46.4	-13.0	-33.4	Horizontal
2	844.803	-88.0	41.9	-46.2	-13.0	-33.2	Horizontal
3	945.334	-86.6	42.9	-43.7	-13.0	-30.7	Horizontal
4	1366.000	-64.8	-1.0	-65.8	-13.0	-52.8	Horizontal
5	2049.000	-68.0	2.3	-65.7	-13.0	-52.7	Horizontal
6	804.252	-88.2	41.7	-46.5	-13.0	-33.5	Vertical
7	844.803	-86.9	41.9	-45.1	-13.0	-32.1	Vertical
8	965.474	-88.0	42.8	-45.1	-13.0	-32.1	Vertical
9	1366.000	-65.9	-1.0	-66.9	-13.0	-53.9	Vertical
10	2049.000	-66.2	2.3	-63.9	-13.0	-50.9	Vertical
<b>Highest Channel</b>							
1	655.977	-89.5	39.9	-49.5	-13.0	-36.5	Horizontal
2	739.214	-88.5	40.6	-47.9	-13.0	-34.9	Horizontal
3	932.141	-87.7	43.3	-44.4	-13.0	-31.4	Horizontal
4	1376.000	-63.3	-1.0	-64.3	-13.0	-51.3	Horizontal
5	2064.000	-66.8	2.3	-64.5	-13.0	-51.5	Horizontal
6	516.565	-89.1	36.9	-52.2	-13.0	-39.2	Vertical
7	887.398	-88.1	42.4	-45.7	-13.0	-32.7	Vertical
8	938.714	-88.2	43.2	-45.0	-13.0	-32.0	Vertical
9	1376.000	-63.6	-1.0	-64.5	-13.0	-51.5	Vertical
10	2064.000	-66.9	2.3	-64.5	-13.0	-51.5	Vertical

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit

### 5.9 FREQUENCY STABILITY

**Test Requirement:** FCC 47 CFR Part 2.1055 &  
 FCC 47 CFR Part 22.355 &  
 FCC 47 CFR Part 24.235 &  
 FCC 47 CFR Part 27.54

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

**Limits:**  
**FCC 47 CFR Part 22.355, FCC 47 CFR Par 90.213**  
 The carrier frequency shall not depart from the reference frequency in excess of  $\pm 2.5$  ppm for mobile stations.

**FCC 47 CFR Part 24.235, FCC 47 CFR Part 27.54**  
 The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

**Test Setup:** Refer to section 4.2.2 for details.

**Test Procedures:**

- 1) Use CMW 500 with Frequency Error measurement capability.
  - a) Temp. =  $-30^{\circ}$  to  $+50^{\circ}$ Ca
  - b) Voltage =low voltage, 3.4 Vdc, Normal, 3.8 Vdc and High voltage, 4.35 Vdc.
- 2) Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to  $20^{\circ}$ C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until  $+50^{\circ}$ C is reached.

- 3) Frequency Stability vs Voltage:  
 The peak frequency error is recorded (worst-case).

**Equipment Used:** Refer to section 3 for details.

**Test Result:** Pass

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature ( $^{\circ}$ C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
<b>LTE Band 2 / 20MHz / Full RB</b>							
QPSK	18900 / 1880.0	VL	TN	-14.4	-0.0077	Note 1	Pass
		VN		-12.06	-0.0064		Pass
		VH		-15.3	-0.0081		Pass
		VN	50	-16.5	-0.0088		Pass
			40	-24.69	-0.0131		Pass
			30	-13.68	-0.0073		Pass
			20	-12.06	-0.0064		Pass
			10	-13.75	-0.0073		Pass
			0	-10.81	-0.0058		Pass
			-10	-12.1	-0.0064		Pass
			-20	-13.42	-0.0071		Pass
			-30	-10.8	-0.0057		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 4 / 20MHz / Full RB</b>							
QPSK	20175 / 1732.5	VL	TN	-3.5	-0.0020	Note 1	Pass
		VN		-2.16	-0.0012		Pass
		VH		-3.26	-0.0019		Pass
		VN	50	-3.95	-0.0023		Pass
			40	-4.91	-0.0028		Pass
			30	-2.86	-0.0017		Pass
			20	-2.16	-0.0012		Pass
			10	-3.24	-0.0019		Pass
			0	-4.36	-0.0025		Pass
			-10	-2.62	-0.0015		Pass
			-20	-2.02	-0.0012		Pass
			-30	-4.23	-0.0024		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 5 / 10MHz / Full RB</b>							
QPSK	20525 / 836.5	VL	TN	2.21	0.0026	± 2.5	Pass
		VN		-7.51	-0.0090	± 2.5	Pass
		VH		-3.6	-0.0043	± 2.5	Pass
		VN	50	2.12	0.0025	± 2.5	Pass
			40	-4.58	-0.0055	± 2.5	Pass
			30	-8.6	-0.0103	± 2.5	Pass
			20	-7.51	-0.0090	± 2.5	Pass
			10	-4.36	-0.0052	± 2.5	Pass
			0	-2.02	-0.0024	± 2.5	Pass
			-10	-2.72	-0.0033	± 2.5	Pass
			-20	3.32	0.0040	± 2.5	Pass
			-30	2.33	0.0028	± 2.5	Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 12 / 10MHz / Full RB</b>							
QPSK	23095 / 707.5	VL	TN	-5.87	-0.0083	Note 1	Pass
		VN		-7.73	-0.0109		Pass
		VH		-4.26	-0.0060		Pass
		VN	50	-9.46	-0.0134		Pass
			40	-9.24	-0.0131		Pass
			30	-10.51	-0.0149		Pass
			20	-7.73	-0.0109		Pass
			10	-13.75	-0.0194		Pass
			0	-10.26	-0.0145		Pass
			-10	-12.31	-0.0174		Pass
			-20	-9.44	-0.0133		Pass
			-30	-12.15	-0.0172		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 17 / 10MHz / Full RB</b>							
QPSK	23790 / 710	VL	TN	-13.75	-0.0194	Note 1	Pass
		VN		-8.35	-0.0118		Pass
		VH		-5.06	-0.0071		Pass
		VN	50	-8.82	-0.0124		Pass
			40	-10.1	-0.0142		Pass
			30	-10.38	-0.0146		Pass
			20	-8.35	-0.0118		Pass
			10	-7.24	-0.0102		Pass
			0	-3.36	-0.0047		Pass
			-10	-5.12	-0.0072		Pass
			-20	-2.27	-0.0032		Pass
			-30	-4.23	-0.0060		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 25/ 20MHz / Full RB</b>							
QPSK	26590 / 1905	VL	TN	-6.36	-0.0033	Note 1	Pass
		VN		-8.97	-0.0047		Pass
		VH		-10.07	-0.0053		Pass
		VN	50	-10.19	-0.0053		Pass
			40	-6.51	-0.0034		Pass
			30	-7.37	-0.0039		Pass
			20	-8.91	-0.0047		Pass
			10	-8.13	-0.0043		Pass
			0	-7.88	-0.0041		Pass
			-10	-8.25	-0.0043		Pass
			-20	-6.41	-0.0034		Pass
			-30	-7.82	-0.0041		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 26 / 10MHz / Full RB</b>							
QPSK	26740 / 819	VL	TN	3.21	0.0039	± 2.5	Pass
		VN		2.72	0.0033	± 2.5	Pass
		VH		-4.3	-0.0053	± 2.5	Pass
		VN	50	3.14	0.0038	± 2.5	Pass
			40	-3.58	-0.0044	± 2.5	Pass
			30	-6.25	-0.0076	± 2.5	Pass
			20	2.72	0.0033	± 2.5	Pass
			10	-4.36	-0.0053	± 2.5	Pass
			0	-2.02	-0.0025	± 2.5	Pass
			-10	-2.72	-0.0033	± 2.5	Pass
			-20	3.32	0.0041	± 2.5	Pass
			-30	2.33	0.0028	± 2.5	Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 26 / 10MHz / Full RB (Part 90S)</b>							
QPSK	26915 / 836.5	VL	TN	3.14	0.0038	Note 1	Pass
		VN		2.72	0.0033		Pass
		VH		-4.36	-0.0053		Pass
		VN	50	-2.45	-0.0030		Pass
			40	-3.58	-0.0044		Pass
			30	-6.33	-0.0077		Pass
			20	4.72	0.0058		Pass
			10	-4.36	-0.0053		Pass
			0	3.78	0.0046		Pass
			-10	5.72	0.0070		Pass
			-20	-4.36	-0.0053		Pass
			-30	2.39	0.0029		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 41/ 20MHz / Full RB</b>							
QPSK	40620 / 2593	VL	TN	-6.86	-0.0026	Note 1	Pass
		VN		-7.03	-0.0027		Pass
		VH		-8.15	-0.0031		Pass
		VN	50	-5.84	-0.0023		Pass
			40	-7.51	-0.0029		Pass
			30	-4.36	-0.0017		Pass
			20	-7.03	-0.0027		Pass
			10	-6.24	-0.0024		Pass
			0	-8.19	-0.0032		Pass
			-10	-3.85	-0.0015		Pass
			-20	-4.63	-0.0018		Pass
			-30	-4.89	-0.0019		Pass



Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 66/ 20MHz / Full RB</b>							
QPSK	132322 / 1745	VL	TN	-15.21	-0.0087	Note 1	Pass
		VN		-12.49	-0.0072		Pass
		VH		-10.91	-0.0063		Pass
		VN	50	-9.13	-0.0052		Pass
			40	-8.49	-0.0049		Pass
			30	-6.22	-0.0036		Pass
			20	-12.49	-0.0072		Pass
			10	-9.09	-0.0052		Pass
			0	-7.45	-0.0043		Pass
			-10	-8.31	-0.0048		Pass
			-20	-7.05	-0.0040		Pass
			-30	-4.79	-0.0027		Pass

Modulation	Channel/ Frequency	Voltage	Temperature	Deviation	Deviation	Limit	Pass/ Fail
	(MHz)	(Vdc)	(°C)	(Hz)	(ppm)	(ppm)	
<b>LTE Band 71/ 20MHz / Full RB</b>							
QPSK	133322 / 683.0	VL	TN	-6.85	-0.0040	Note 1	Pass
		VN		-3.65	-0.0021		Pass
		VH		-4.62	-0.0027		Pass
		VN	50	-6.87	-0.0040		Pass
			40	-7.35	-0.0042		Pass
			30	-6.59	-0.0038		Pass
			20	-3.65	-0.0021		Pass
			10	-6.38	-0.0037		Pass
			0	-5.26	-0.0030		Pass
			-10	-4.15	-0.0024		Pass
			-20	-1.82	-0.0011		Pass
			-30	-3.68	-0.0021		Pass

**Note1:** The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

## APPENDIX A RF TEST DATA

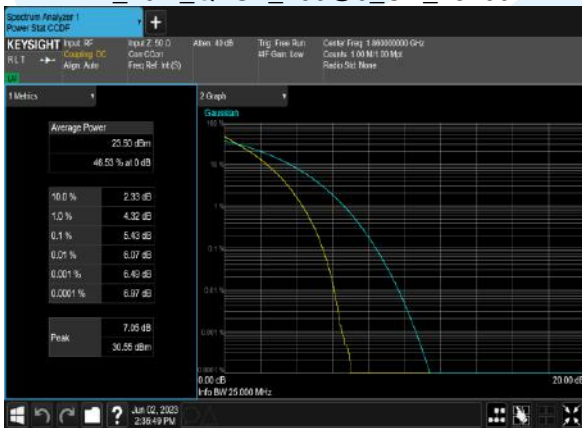
### A.1 LTE BAND 2

#### Peak to Average Ratio

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
2	20.0	18700	1860.0	QPSK	100@0	5.43	13	PASS
2	20.0	18700	1860.0	16QAM	100@0	6.19	13	PASS
2	20.0	18900	1880.0	QPSK	100@0	5.54	13	PASS
2	20.0	18900	1880.0	16QAM	100@0	6.32	13	PASS
2	20.0	19100	1900.0	QPSK	100@0	5.48	13	PASS
2	20.0	19100	1900.0	16QAM	100@0	6.25	13	PASS
2	15.0	18675	1857.5	QPSK	75@0	5.23	13	PASS
2	15.0	18675	1857.5	16QAM	75@0	6.05	13	PASS
2	15.0	18900	1880.0	QPSK	75@0	5.38	13	PASS
2	15.0	18900	1880.0	16QAM	75@0	6.14	13	PASS
2	15.0	19125	1902.5	QPSK	75@0	5.33	13	PASS
2	15.0	19125	1902.5	16QAM	75@0	6.12	13	PASS
2	10.0	18650	1855.0	QPSK	50@0	5.43	13	PASS
2	10.0	18650	1855.0	16QAM	50@0	6.13	13	PASS
2	10.0	18900	1880.0	QPSK	50@0	5.54	13	PASS
2	10.0	18900	1880.0	16QAM	50@0	6.29	13	PASS
2	10.0	19150	1905.0	QPSK	50@0	5.46	13	PASS
2	10.0	19150	1905.0	16QAM	50@0	6.24	13	PASS
2	5.0	18625	1852.5	QPSK	25@0	5.44	13	PASS
2	5.0	18625	1852.5	16QAM	25@0	6.09	13	PASS
2	5.0	18900	1880.0	QPSK	25@0	5.59	13	PASS
2	5.0	18900	1880.0	16QAM	25@0	6.27	13	PASS
2	5.0	19175	1907.5	QPSK	25@0	5.39	13	PASS
2	5.0	19175	1907.5	16QAM	25@0	6.12	13	PASS
2	3.0	18615	1851.5	QPSK	15@0	5.29	13	PASS
2	3.0	18615	1851.5	16QAM	15@0	6.05	13	PASS
2	3.0	18900	1880.0	QPSK	15@0	5.40	13	PASS
2	3.0	18900	1880.0	16QAM	15@0	6.16	13	PASS
2	3.0	19185	1908.5	QPSK	15@0	5.25	13	PASS
2	3.0	19185	1908.5	16QAM	15@0	6.07	13	PASS
2	1.4	18607	1850.7	QPSK	6@0	5.11	13	PASS
2	1.4	18607	1850.7	16QAM	6@0	5.91	13	PASS
2	1.4	18900	1880.0	QPSK	6@0	5.36	13	PASS
2	1.4	18900	1880.0	16QAM	6@0	6.16	13	PASS
2	1.4	19193	1909.3	QPSK	6@0	5.12	13	PASS
2	1.4	19193	1909.3	16QAM	6@0	5.94	13	PASS

#### Test Graphs

B2\_20M\_QPSK\_100@0\_CH\_18700



B2\_20M\_16QAM\_100@0\_CH\_18700



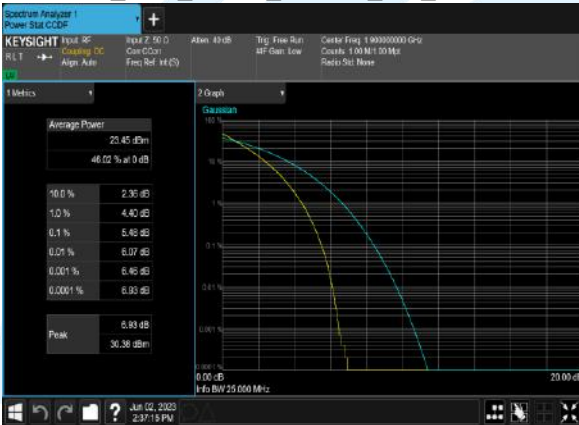
B2\_20M\_QPSK\_100@0\_CH\_18900



B2\_20M\_16QAM\_100@0\_CH\_18900



B2\_20M\_QPSK\_100@0\_CH\_19100



B2\_20M\_16QAM\_100@0\_CH\_19100



B2\_15M\_QPSK\_75@0\_CH\_18675



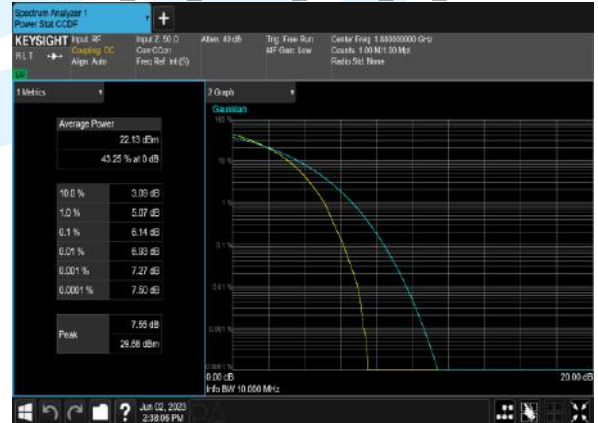
B2\_15M\_16QAM\_75@0\_CH\_18675



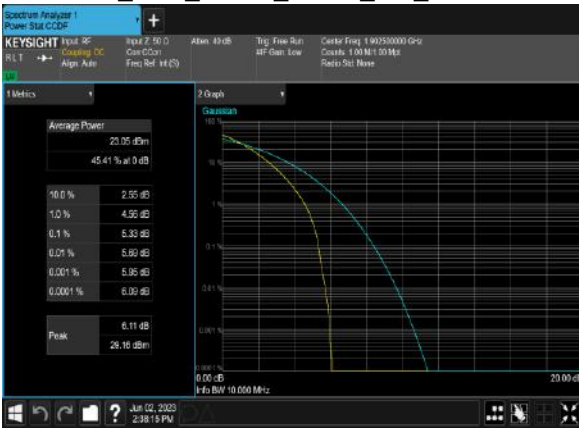
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B2\_15M\_16QAM\_75@0\_CH\_18900



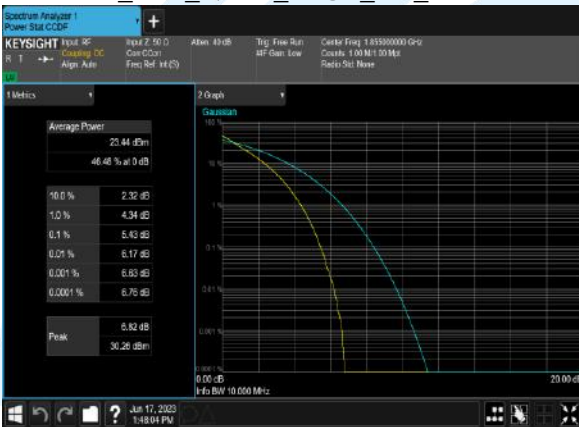
B2\_15M\_QPSK\_75@0\_CH\_19125



B2\_15M\_16QAM\_75@0\_CH\_19125



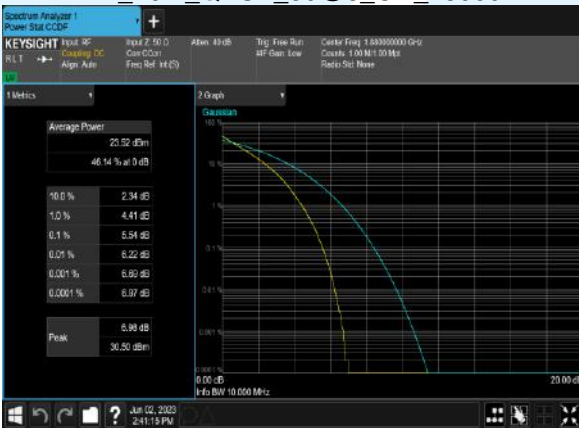
B2\_10M\_QPSK\_50@0\_CH\_18650



B2\_10M\_16QAM\_50@0\_CH\_18650



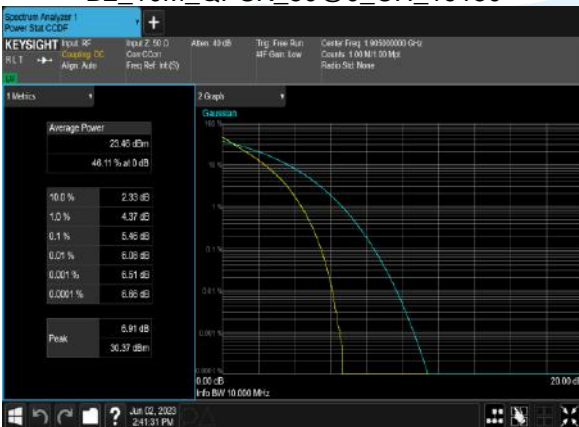
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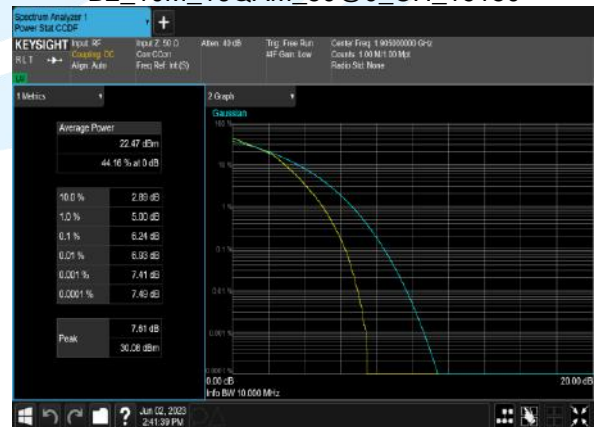
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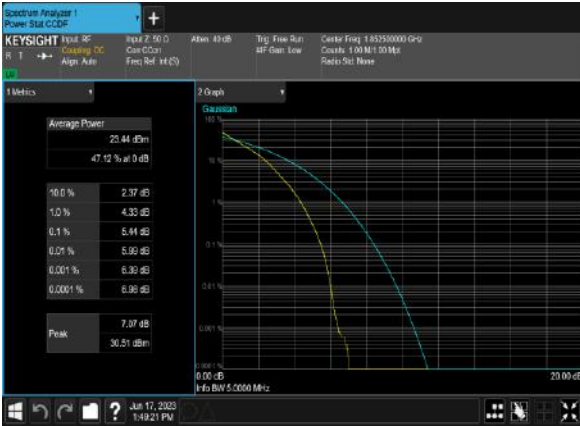
B2\_10M\_QPSK\_50@0\_CH\_19150



B2\_10M\_16QAM\_50@0\_CH\_19150



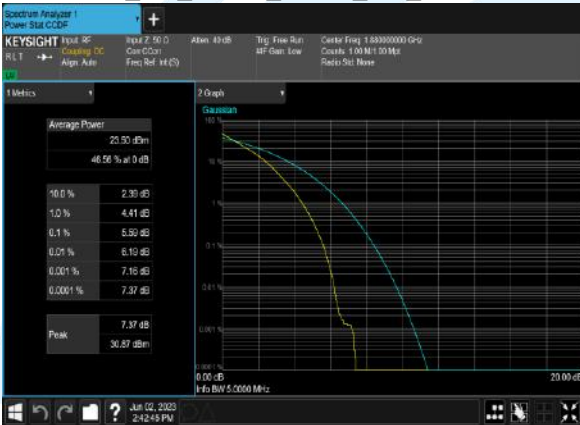
B2\_5M\_QPSK\_25@0\_CH\_18625



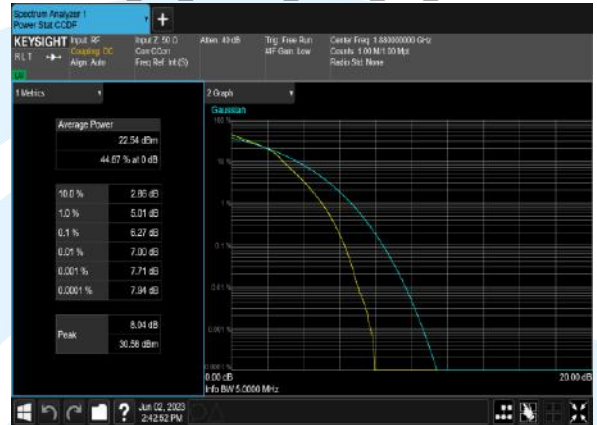
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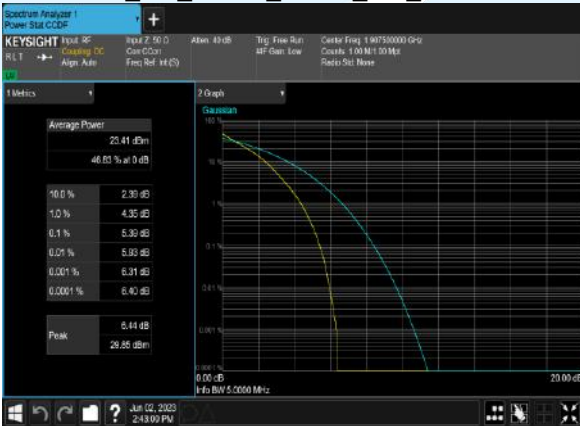
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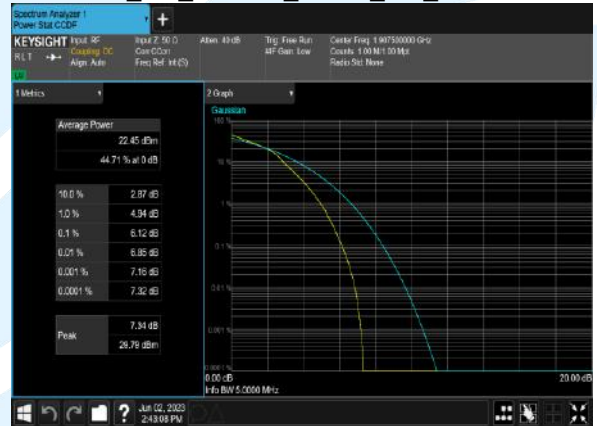
B2\_5M\_16QAM\_25@0\_CH\_18900



B2\_5M\_QPSK\_25@0\_CH\_19175



B2\_5M\_16QAM\_25@0\_CH\_19175



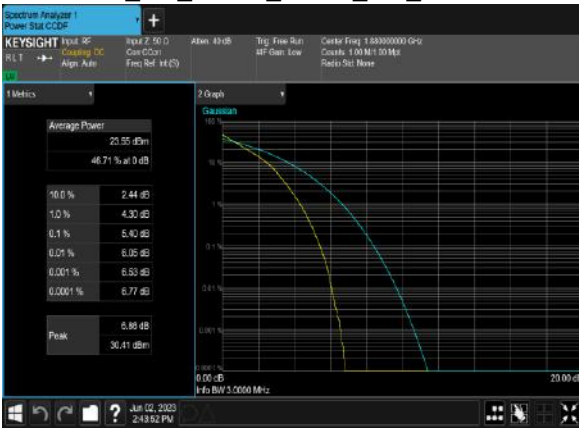
B2\_3M\_QPSK\_15@0\_CH\_18615



B2\_3M\_16QAM\_15@0\_CH\_18615



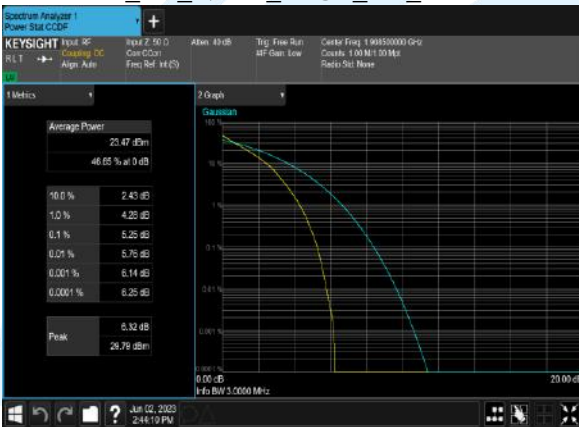
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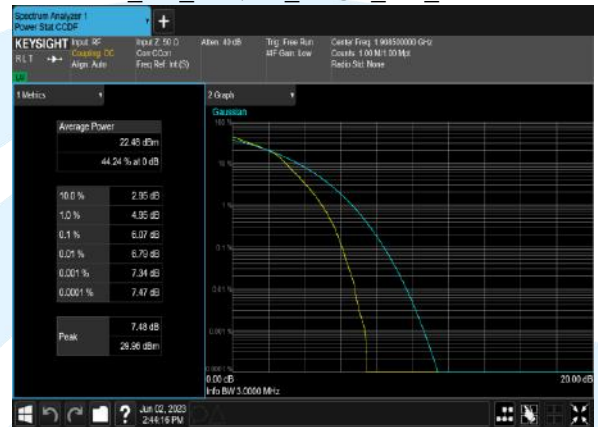
B2\_3M\_16QAM\_15@0\_CH\_18900



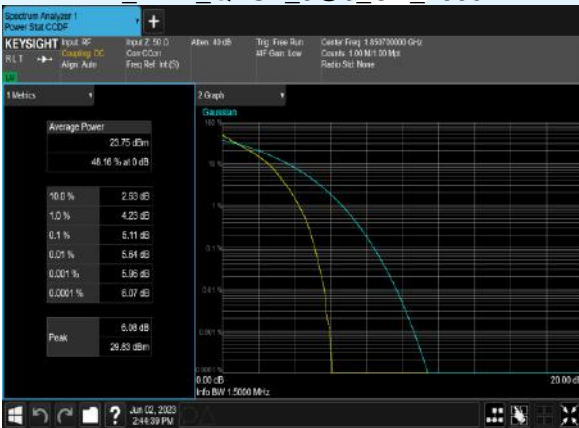
B2\_3M\_QPSK\_15@0\_CH\_19185



B2\_3M\_16QAM\_15@0\_CH\_19185



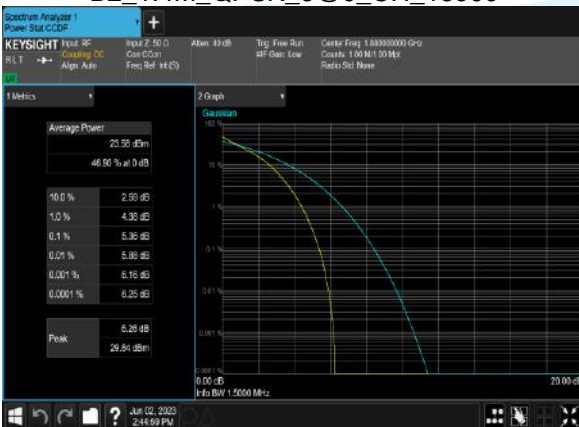
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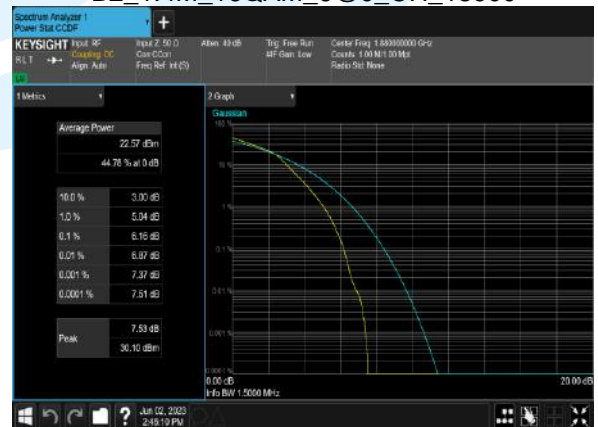
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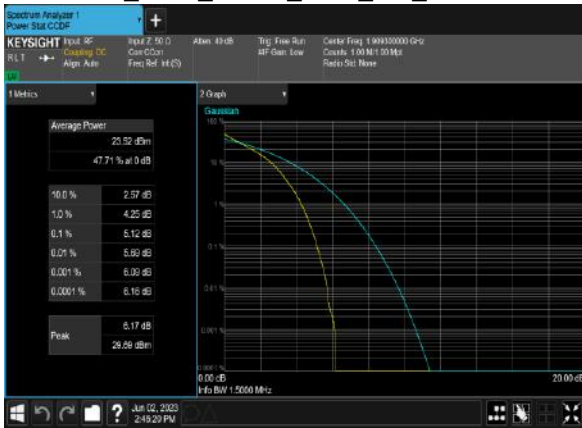
B2\_1.4M\_QPSK\_6@0\_CH\_18900



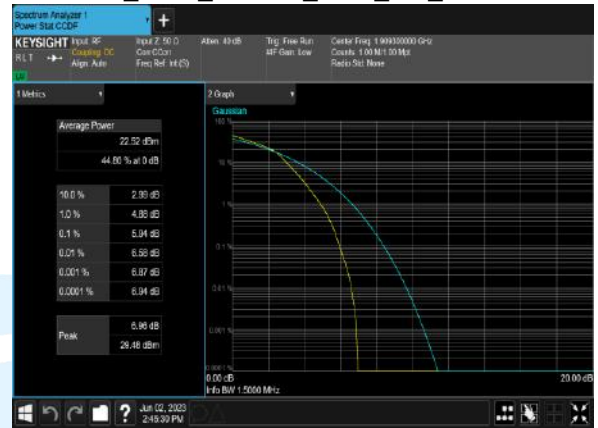
B2\_1.4M\_16QAM\_6@0\_CH\_18900



B2\_1.4M\_QPSK\_6@0\_CH\_19193



B2\_1.4M\_16QAM\_6@0\_CH\_19193



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UTTR-RF-FCC4G-V1.1

**Occupied Bandwidth**

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
2	20.0	18700	1860.0	QPSK	100@0	17.868	18.83
2	20.0	18700	1860.0	16QAM	100@0	17.850	18.98
2	20.0	18900	1880.0	QPSK	100@0	17.851	18.83
2	20.0	18900	1880.0	16QAM	100@0	17.835	18.83
2	20.0	19100	1900.0	QPSK	100@0	17.882	18.94
2	20.0	19100	1900.0	16QAM	100@0	17.846	18.74
2	15.0	18675	1857.5	QPSK	75@0	13.387	14.10
2	15.0	18675	1857.5	16QAM	75@0	13.406	14.14
2	15.0	18900	1880.0	QPSK	75@0	13.397	14.20
2	15.0	18900	1880.0	16QAM	75@0	13.413	14.16
2	15.0	19125	1902.5	QPSK	75@0	13.388	14.16
2	15.0	19125	1902.5	16QAM	75@0	13.411	14.31
2	10.0	18650	1855.0	QPSK	50@0	8.9450	9.450
2	10.0	18650	1855.0	16QAM	50@0	8.9250	9.405
2	10.0	18900	1880.0	QPSK	50@0	8.9439	9.484
2	10.0	18900	1880.0	16QAM	50@0	8.9195	9.369
2	10.0	19150	1905.0	QPSK	50@0	8.9394	9.472
2	10.0	19150	1905.0	16QAM	50@0	8.9385	9.401
2	5.0	18625	1852.5	QPSK	25@0	4.4497	4.739
2	5.0	18625	1852.5	16QAM	25@0	4.4545	4.816
2	5.0	18900	1880.0	QPSK	25@0	4.4593	4.810
2	5.0	18900	1880.0	16QAM	25@0	4.4483	4.770
2	5.0	19175	1907.5	QPSK	25@0	4.4699	4.744
2	5.0	19175	1907.5	16QAM	25@0	4.4567	4.778
2	3.0	18615	1851.5	QPSK	15@0	2.6794	2.850
2	3.0	18615	1851.5	16QAM	15@0	2.6773	2.849
2	3.0	18900	1880.0	QPSK	15@0	2.6742	2.840
2	3.0	18900	1880.0	16QAM	15@0	2.6683	2.841
2	3.0	19185	1908.5	QPSK	15@0	2.6709	2.870
2	3.0	19185	1908.5	16QAM	15@0	2.6799	2.856
2	1.4	18607	1850.7	QPSK	6@0	1.0767	1.238
2	1.4	18607	1850.7	16QAM	6@0	1.0757	1.240
2	1.4	18900	1880.0	QPSK	6@0	1.0769	1.231
2	1.4	18900	1880.0	16QAM	6@0	1.0786	1.252
2	1.4	19193	1909.3	QPSK	6@0	1.0797	1.234
2	1.4	19193	1909.3	16QAM	6@0	1.0754	1.228

**Test Graphs**

B2\_20M\_QPSK\_100@0\_CH\_18700

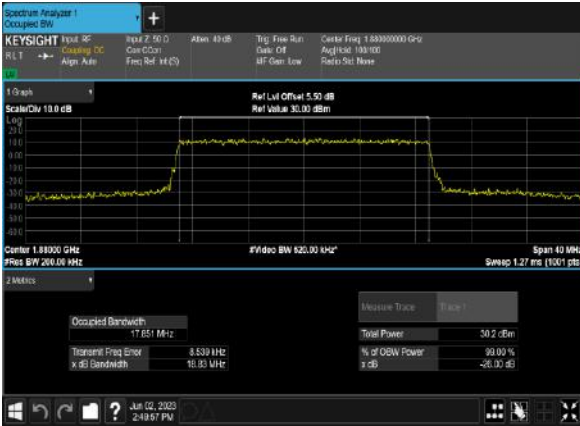


B2\_20M\_16QAM\_100@0\_CH\_18700





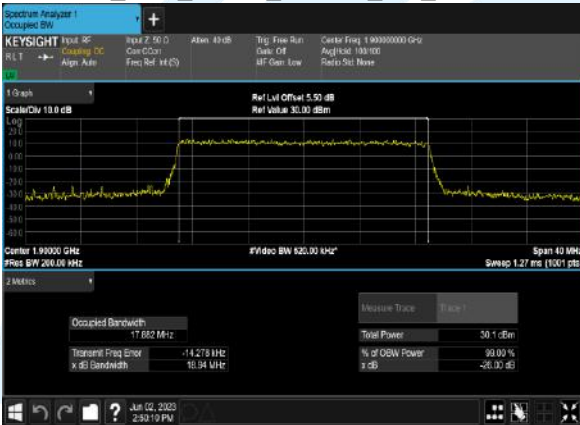
B2\_20M\_QPSK\_100@0\_CH\_18900



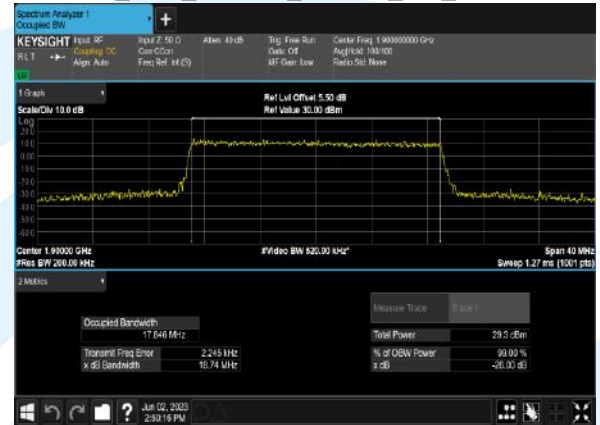
B2\_20M\_16QAM\_100@0\_CH\_18900



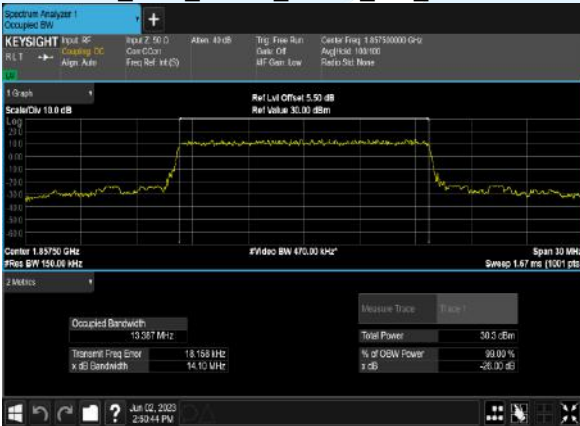
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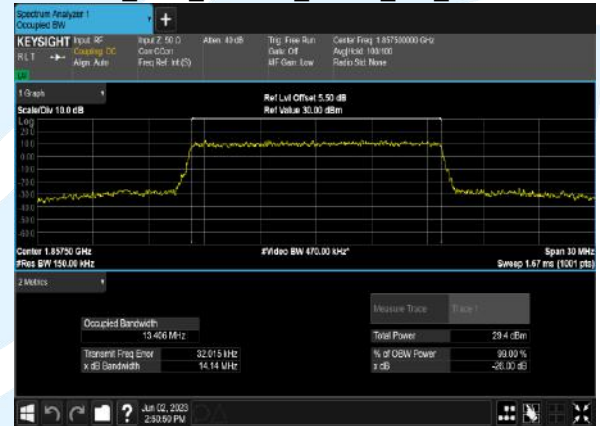
B2\_20M\_16QAM\_100@0\_CH\_19100



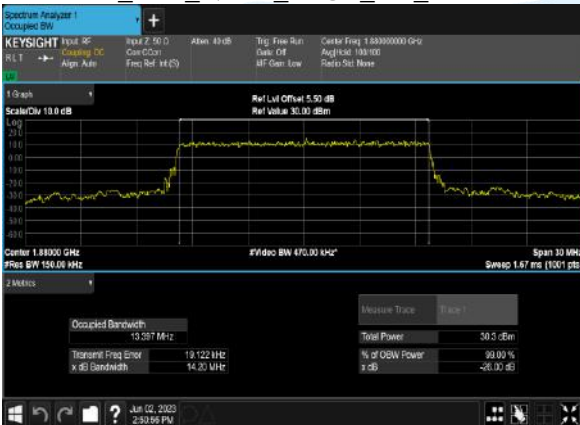
B2\_15M\_QPSK\_75@0\_CH\_18675



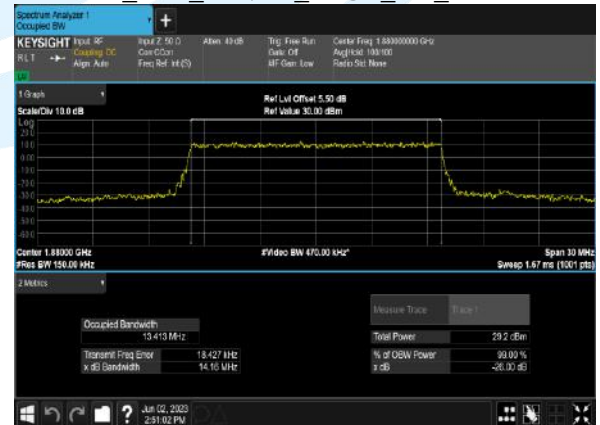
B2\_15M\_16QAM\_75@0\_CH\_18675



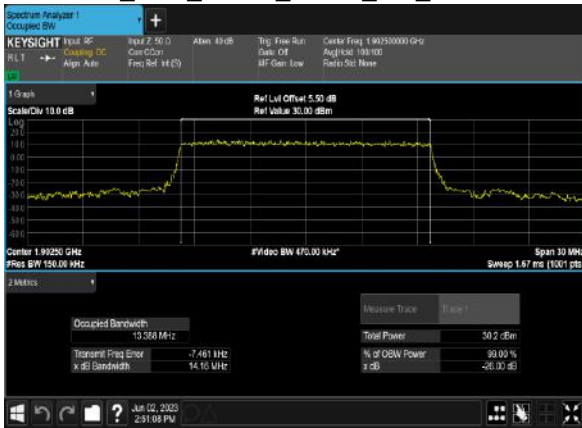
B2\_15M\_QPSK\_75@0\_CH\_18900



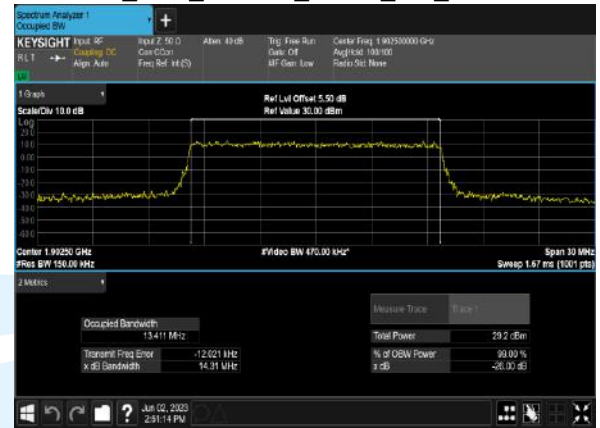
B2\_15M\_16QAM\_75@0\_CH\_18900



B2\_15M\_QPSK\_75@0\_CH\_19125



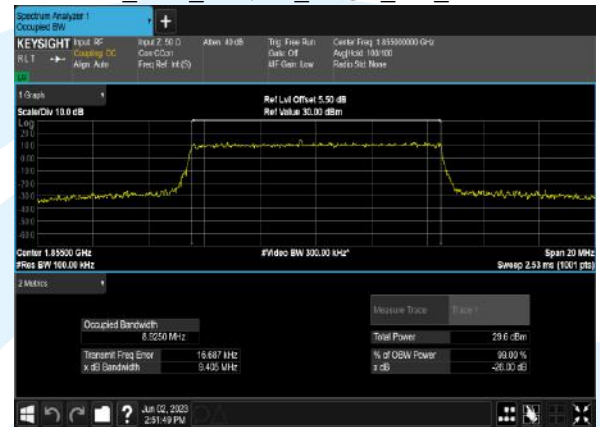
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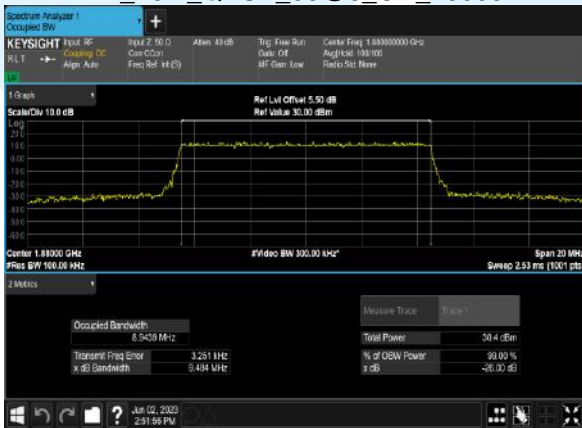
B2\_10M\_QPSK\_50@0\_CH\_18650



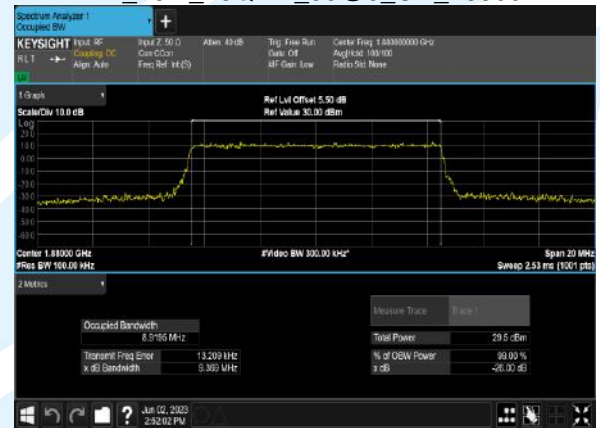
B2\_10M\_16QAM\_50@0\_CH\_18650



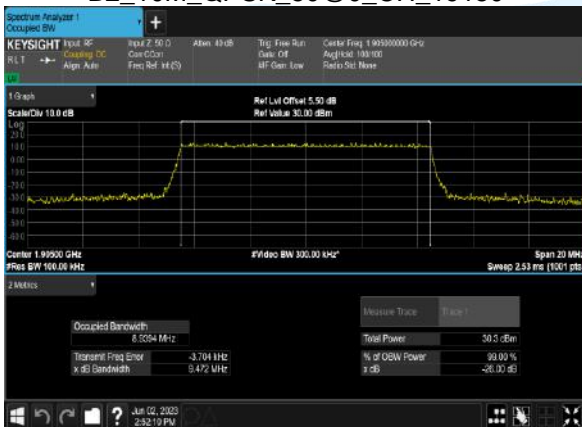
B2\_10M QPSK 50@0 CH 18900



B2\_10M 16QAM 50@0 CH 18900



B2\_10M\_QPSK\_50@0\_CH\_19150



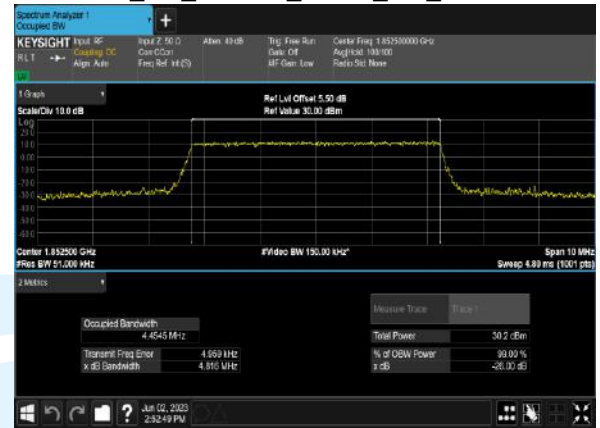
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B2\_5M\_QPSK\_25@0\_CH\_18625



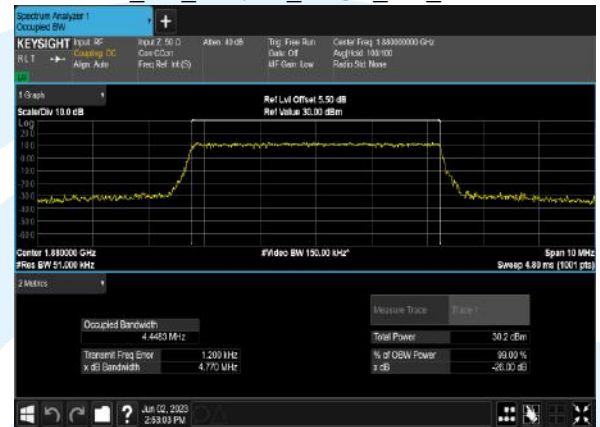
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B2\_5M\_QPSK\_25@0\_CH\_18900



B2\_5M\_16QAM\_25@0\_CH\_18900



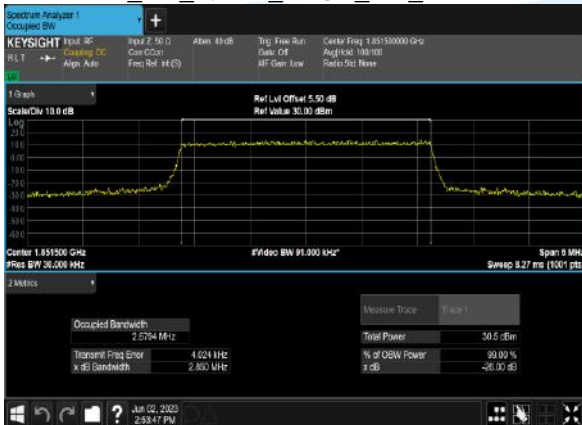
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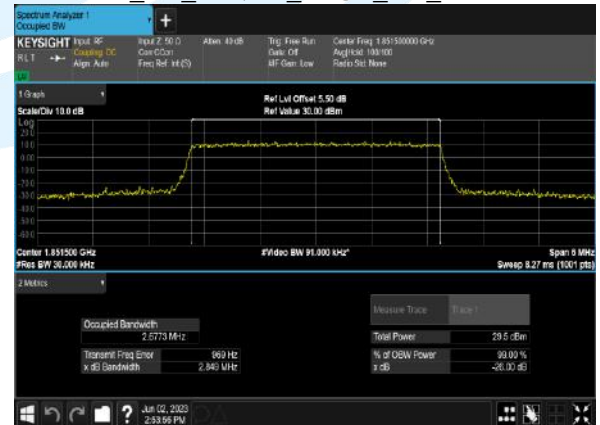
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B2\_3M\_QPSK\_15@0\_CH\_18615



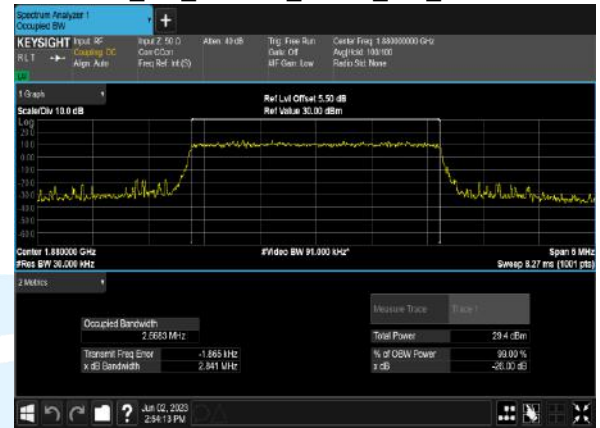
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B2\_3M\_QPSK\_15@0\_CH\_18900



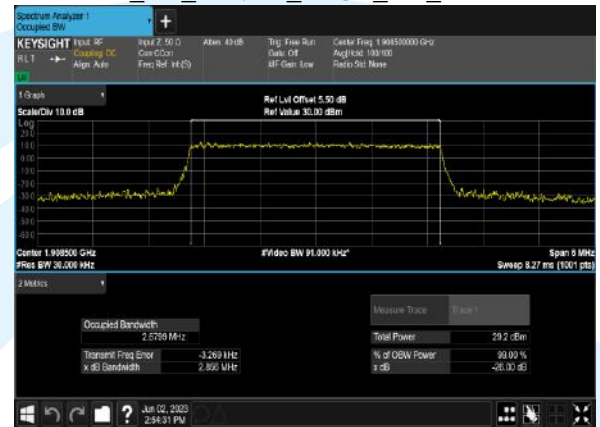
B2\_3M\_16QAM\_15@0\_CH\_18900



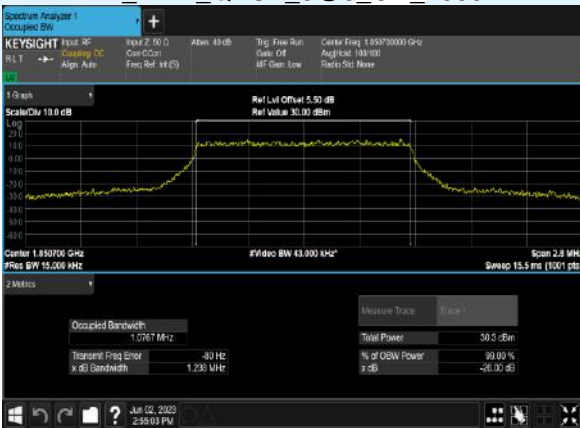
B2\_3M\_QPSK\_15@0\_CH\_19185



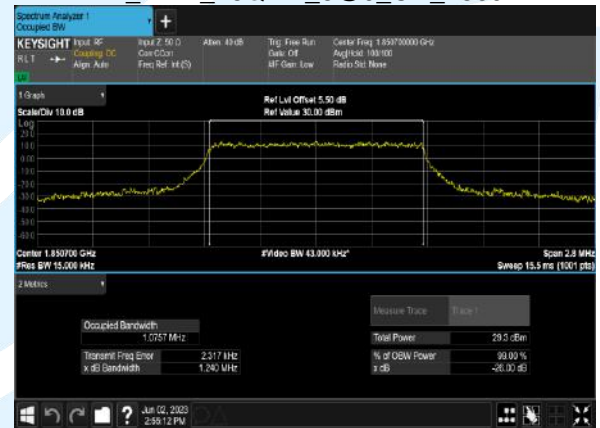
B2\_3M\_16QAM\_15@0\_CH\_19185



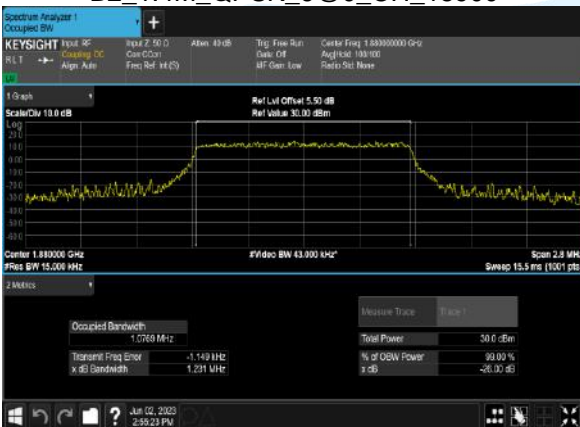
B2\_1.4M\_QPSK\_6@0\_CH\_18607



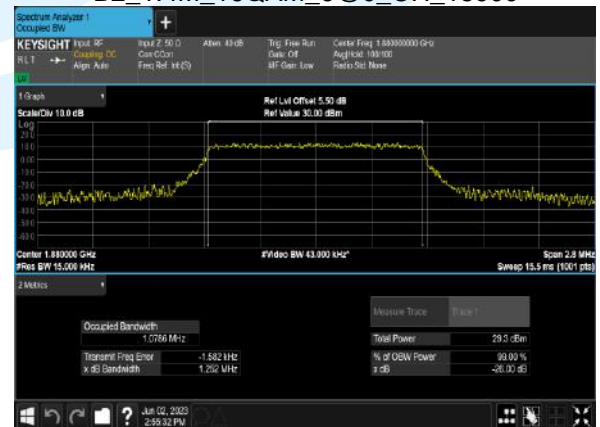
B2\_1.4M\_16QAM\_6@0\_CH\_18607



B2\_1.4M\_QPSK\_6@0\_CH\_18900



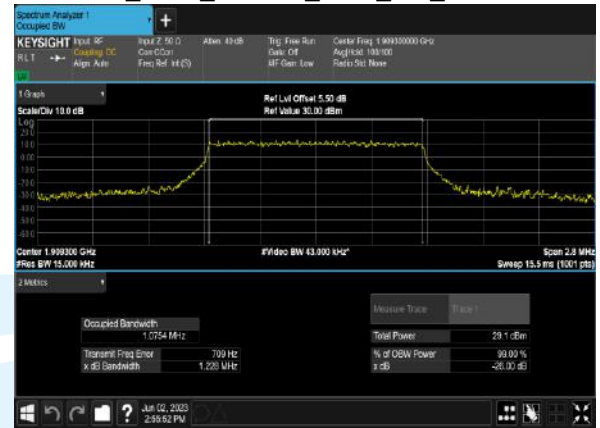
B2\_1.4M\_16QAM\_6@0\_CH\_18900



B2\_1.4M\_QPSK\_6@0\_CH\_19193



B2\_1.4M\_16QAM\_6@0\_CH\_19193



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UTTR-RF-FCC4G-V1.1

**Conducted Spurious Emissions**

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result (dBm)	Limit (dBm)	Verdict
2	20.0	18700	1860.0	QPSK	1@0	-29.0	-13	PASS
2	20.0	18700	1860.0	16QAM	1@0	-28.79	-13	PASS
2	20.0	18900	1880.0	QPSK	1@0	-28.8	-13	PASS
2	20.0	18900	1880.0	16QAM	1@0	-29.07	-13	PASS
2	20.0	19100	1900.0	QPSK	1@0	-28.85	-13	PASS
2	20.0	19100	1900.0	16QAM	1@0	-28.64	-13	PASS
2	15.0	18675	1857.5	QPSK	1@0	-28.78	-13	PASS
2	15.0	18675	1857.5	16QAM	1@0	-28.31	-13	PASS
2	15.0	18900	1880.0	QPSK	1@0	-29.14	-13	PASS
2	15.0	18900	1880.0	16QAM	1@0	-28.88	-13	PASS
2	15.0	19125	1902.5	QPSK	1@0	-29.14	-13	PASS
2	15.0	19125	1902.5	16QAM	1@0	-28.85	-13	PASS
2	10.0	18650	1865.0	QPSK	1@0	-29.13	-13	PASS
2	10.0	18650	1855.0	16QAM	1@0	-28.86	-13	PASS
2	10.0	18900	1880.0	QPSK	1@0	-28.35	-13	PASS
2	10.0	18900	1880.0	16QAM	1@0	-28.86	-13	PASS
2	10.0	19150	1905.0	QPSK	1@0	-29.46	-13	PASS
2	10.0	19150	1905.0	16QAM	1@0	-28.78	-13	PASS
2	5.0	18625	1852.5	QPSK	1@0	-29.27	-13	PASS
2	5.0	18625	1852.5	16QAM	1@0	-29.29	-13	PASS
2	5.0	18900	1880.0	QPSK	1@0	-28.46	-13	PASS
2	5.0	18900	1880.0	16QAM	1@0	-28.85	-13	PASS
2	5.0	19175	1907.5	QPSK	1@0	-29.67	-13	PASS
2	5.0	19175	1907.5	16QAM	1@0	-29.1	-13	PASS
2	3.0	18615	1851.5	QPSK	1@0	-28.87	-13	PASS
2	3.0	18615	1851.5	16QAM	1@0	-29.17	-13	PASS
2	3.0	18900	1880.0	QPSK	1@0	-28.87	-13	PASS
2	3.0	18900	1880.0	16QAM	1@0	-29.07	-13	PASS
2	3.0	19185	1908.5	QPSK	1@0	-29.26	-13	PASS
2	3.0	19185	1908.5	16QAM	1@0	-28.94	-13	PASS
2	1.4	18607	1850.7	QPSK	1@0	-29.03	-13	PASS
2	1.4	18607	1850.7	16QAM	1@0	-29.0	-13	PASS
2	1.4	18900	1880.0	QPSK	1@0	-29.06	-13	PASS
2	1.4	18900	1880.0	16QAM	1@0	-28.99	-13	PASS
2	1.4	19193	1909.3	QPSK	1@0	-28.84	-13	PASS
2	1.4	19193	1909.3	16QAM	1@0	-28.59	-13	PASS

**Test Graphs**

B2\_20M\_QPSK\_1@0\_CH\_18700



B2\_20M\_16QAM\_1@0\_CH\_18700



B2\_20M\_QPSK\_1@0\_CH\_18900



B2\_20M\_16QAM\_1@0\_CH\_18900



B2\_20M\_QPSK\_1@0\_CH\_19100



B2\_20M\_16QAM\_1@0\_CH\_19100



B2\_15M\_QPSK\_1@0\_CH\_18675



B2\_15M\_16QAM\_1@0\_CH\_18675



B2\_15M\_QPSK\_1@0\_CH\_18900



B2\_15M\_16QAM\_1@0\_CH\_18900



B2\_15M\_QPSK\_1@0\_CH\_19125



B2\_15M\_16QAM\_1@0\_CH\_19125



B2\_10M\_QPSK\_1@0\_CH\_18650



B2\_10M\_16QAM\_1@0\_CH\_18650



B2\_10M\_QPSK\_1@0\_CH\_18900



B2\_10M\_16QAM\_1@0\_CH\_18900



B2\_10M\_QPSK\_1@0\_CH\_19150



B2\_10M\_16QAM\_1@0\_CH\_19150





B2\_5M\_QPSK\_1@0\_CH\_18625



B2\_5M\_16QAM\_1@0\_CH\_18625



B2\_5M\_QPSK\_1@0\_CH\_18900



B2\_5M\_16QAM\_1@0\_CH\_18900



B2\_5M\_QPSK\_1@0\_CH\_19175



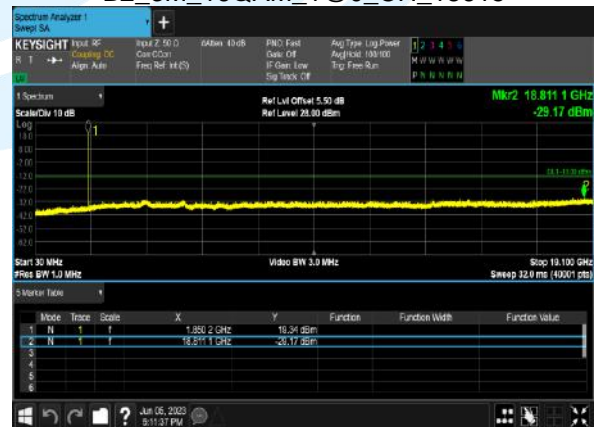
B2\_5M\_16QAM\_1@0\_CH\_19175



B2\_3M\_QPSK\_1@0\_CH\_18615



B2\_3M\_16QAM\_1@0\_CH\_18615



B2\_3M\_QPSK\_1@0\_CH\_18900



B2\_3M\_16QAM\_1@0\_CH\_18900



B2\_3M\_QPSK\_1@0\_CH\_19185



B2\_3M\_16QAM\_1@0\_CH\_19185



B2\_1.4M\_QPSK\_1@0\_CH\_18607



B2\_1.4M\_16QAM\_1@0\_CH\_18607



B2\_1.4M\_QPSK\_1@0\_CH\_18900



B2\_1.4M\_16QAM\_1@0\_CH\_18900



B2\_1.4M\_QPSK\_1@0\_CH\_19193



B2\_1.4M\_16QAM\_1@0\_CH\_19193

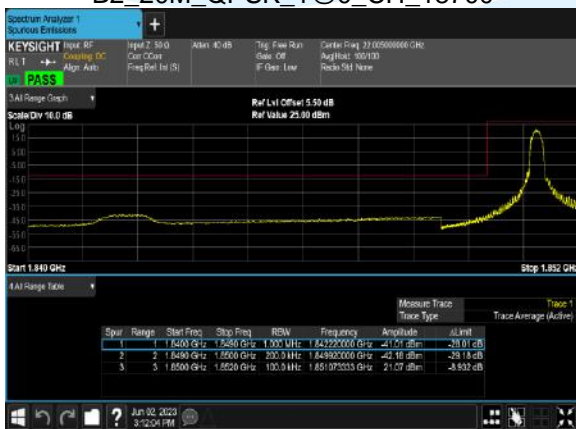


**Conducted Band Edge**

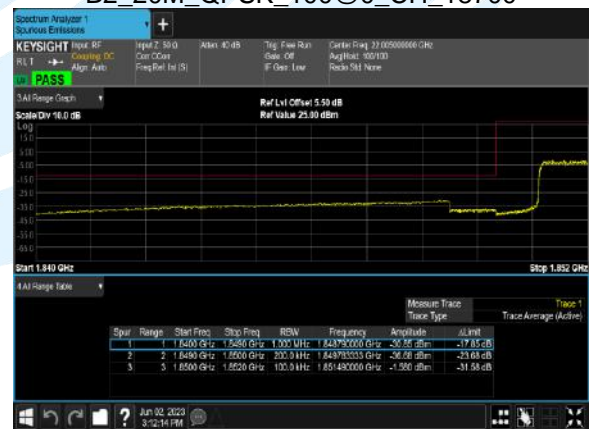
Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result	Verdict
2	20.0	18700	1860.0	QPSK	1@0	see graph	PASS
2	20.0	18700	1860.0	QPSK	100@0	see graph	PASS
2	20.0	18700	1860.0	16QAM	1@0	see graph	PASS
2	20.0	18700	1860.0	16QAM	100@0	see graph	PASS
2	20.0	19100	1900.0	QPSK	1@99	see graph	PASS
2	20.0	19100	1900.0	QPSK	100@0	see graph	PASS
2	20.0	19100	1900.0	16QAM	1@99	see graph	PASS
2	20.0	19100	1900.0	16QAM	100@0	see graph	PASS
2	15.0	18675	1857.5	QPSK	1@0	see graph	PASS
2	15.0	18675	1857.5	QPSK	75@0	see graph	PASS
2	15.0	18675	1857.5	16QAM	1@0	see graph	PASS
2	15.0	18675	1857.5	16QAM	75@0	see graph	PASS
2	15.0	19125	1902.5	QPSK	1@74	see graph	PASS
2	15.0	19125	1902.5	QPSK	75@0	see graph	PASS
2	15.0	19125	1902.5	16QAM	1@74	see graph	PASS
2	15.0	19125	1902.5	16QAM	75@0	see graph	PASS
2	10.0	18650	1855.0	QPSK	1@0	see graph	PASS
2	10.0	18650	1855.0	QPSK	50@0	see graph	PASS
2	10.0	18650	1855.0	16QAM	1@0	see graph	PASS
2	10.0	18650	1855.0	16QAM	50@0	see graph	PASS
2	10.0	19150	1905.0	QPSK	1@49	see graph	PASS
2	10.0	19150	1905.0	QPSK	50@0	see graph	PASS
2	10.0	19150	1905.0	16QAM	1@49	see graph	PASS
2	10.0	19150	1905.0	16QAM	50@0	see graph	PASS
2	5.0	18625	1852.5	QPSK	1@0	see graph	PASS
2	5.0	18625	1852.5	QPSK	25@0	see graph	PASS
2	5.0	18625	1852.5	16QAM	1@0	see graph	PASS
2	5.0	18625	1852.5	16QAM	25@0	see graph	PASS
2	5.0	19175	1907.5	QPSK	1@24	see graph	PASS
2	5.0	19175	1907.5	QPSK	25@0	see graph	PASS
2	5.0	19175	1907.5	16QAM	1@24	see graph	PASS
2	5.0	19175	1907.5	16QAM	25@0	see graph	PASS
2	3.0	18615	1851.5	QPSK	1@0	see graph	PASS
2	3.0	18615	1851.5	QPSK	15@0	see graph	PASS
2	3.0	18615	1851.5	16QAM	1@0	see graph	PASS
2	3.0	18615	1851.5	16QAM	15@0	see graph	PASS
2	3.0	19185	1908.5	QPSK	1@14	see graph	PASS
2	3.0	19185	1908.5	QPSK	15@0	see graph	PASS
2	3.0	19185	1908.5	16QAM	1@14	see graph	PASS
2	3.0	19185	1908.5	16QAM	15@0	see graph	PASS
2	1.4	18607	1850.7	QPSK	1@0	see graph	PASS
2	1.4	18607	1850.7	QPSK	6@0	see graph	PASS
2	1.4	18607	1850.7	16QAM	1@0	see graph	PASS
2	1.4	18607	1850.7	16QAM	6@0	see graph	PASS
2	1.4	19193	1909.3	QPSK	1@5	see graph	PASS
2	1.4	19193	1909.3	QPSK	6@0	see graph	PASS
2	1.4	19193	1909.3	16QAM	1@5	see graph	PASS
2	1.4	19193	1909.3	16QAM	6@0	see graph	PASS

**Test Graphs**

B2\_20M\_QPSK\_1@0\_CH\_18700



B2\_20M\_QPSK\_100@0\_CH\_18700



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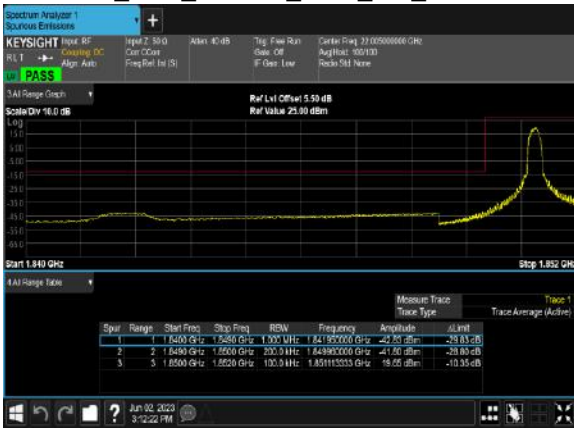
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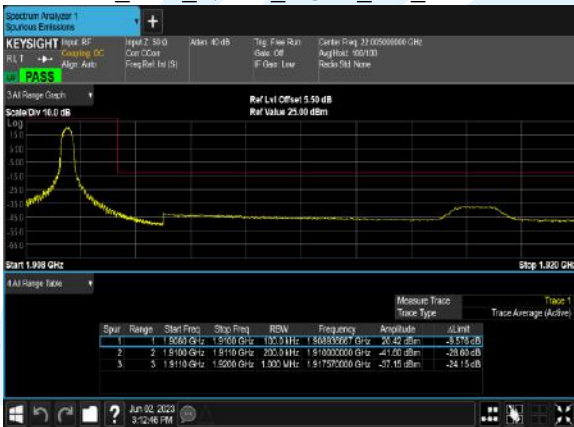
B2\_20M\_16QAM\_1@0\_CH\_18700



B2\_20M\_16QAM\_100@0\_CH\_18700



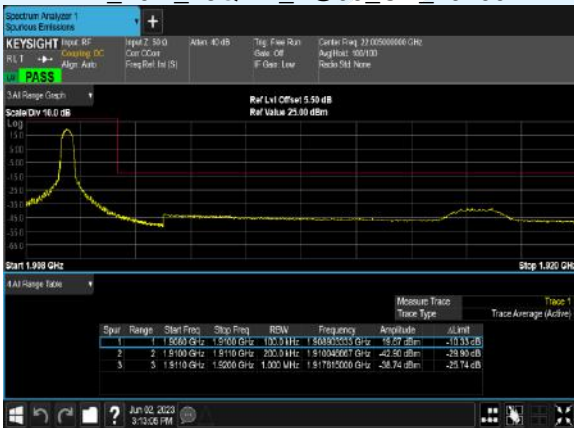
B2\_20M\_QPSK\_1@99\_CH\_19100



B2\_20M\_QPSK\_100@0\_CH\_19100



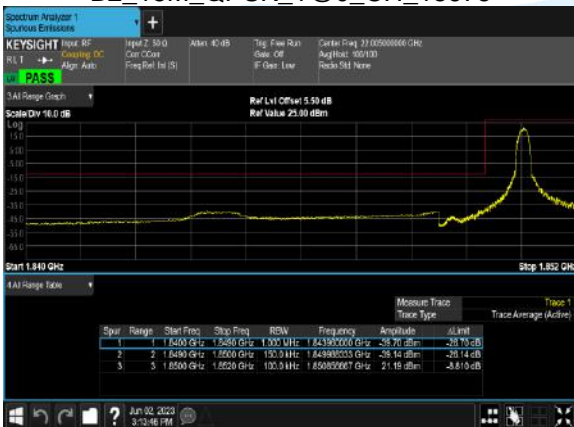
B2\_20M\_16QAM\_1@99\_CH\_19100



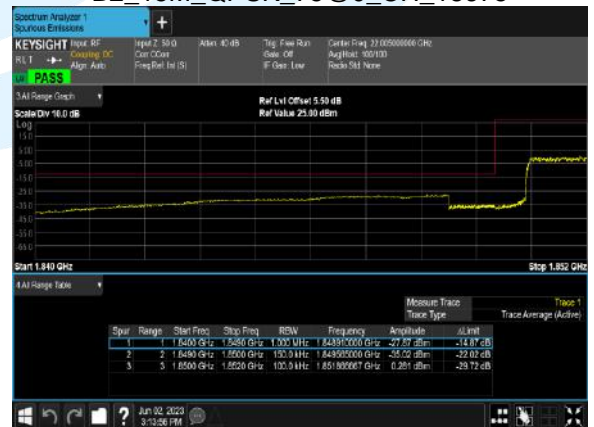
B2\_20M\_16QAM\_100@0\_CH\_19100



B2\_15M\_QPSK\_1@0\_CH\_18675



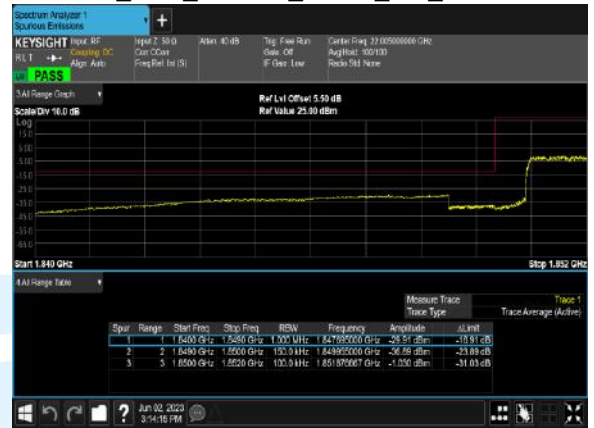
B2\_15M\_QPSK\_75@0\_CH\_18675



B2\_15M\_16QAM\_1@0\_CH\_18675



B2\_15M\_16QAM\_75@0\_CH\_18675



B2\_15M\_QPSK\_1@74\_CH\_19125



B2\_15M\_QPSK\_75@0\_CH\_19125



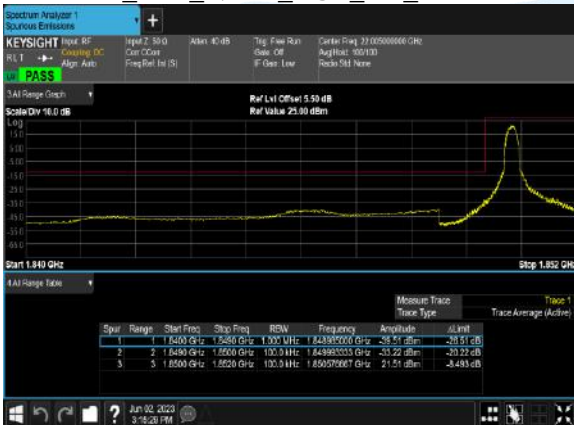
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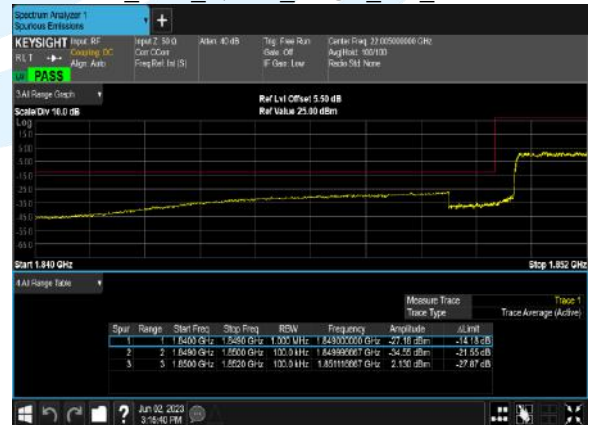
B2\_15M\_16QAM\_75@0\_CH\_19125



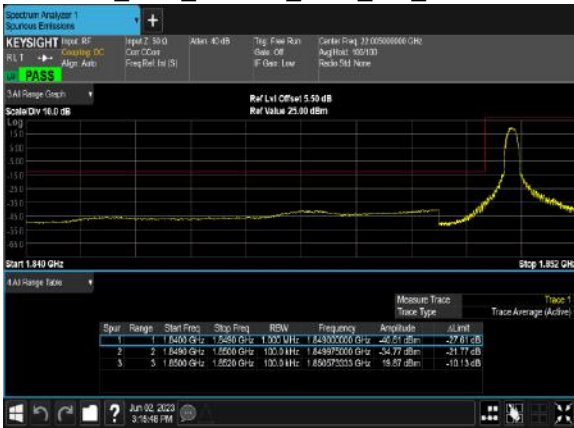
B2\_10M\_QPSK\_1@0\_CH\_18650



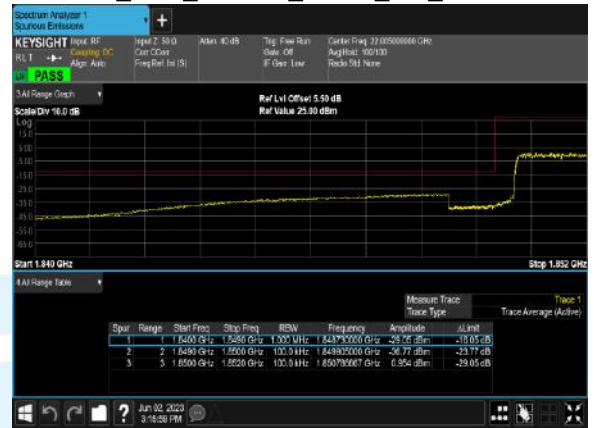
B2\_10M\_QPSK\_50@0\_CH\_18650



B2\_10M\_16QAM\_1@0\_CH\_18650



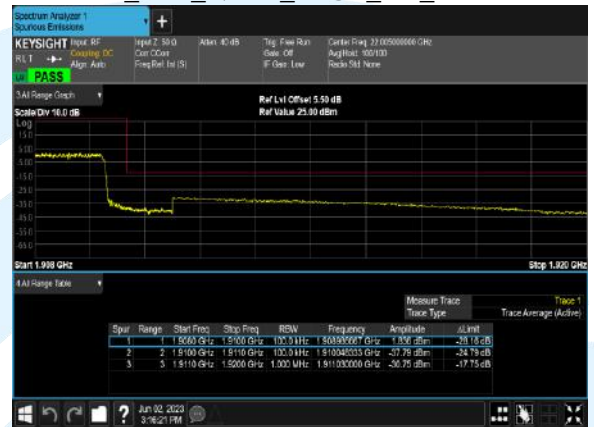
B2\_10M\_16QAM\_50@0\_CH\_18650



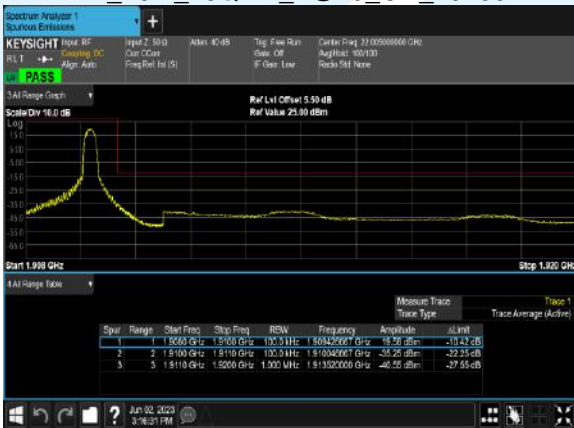
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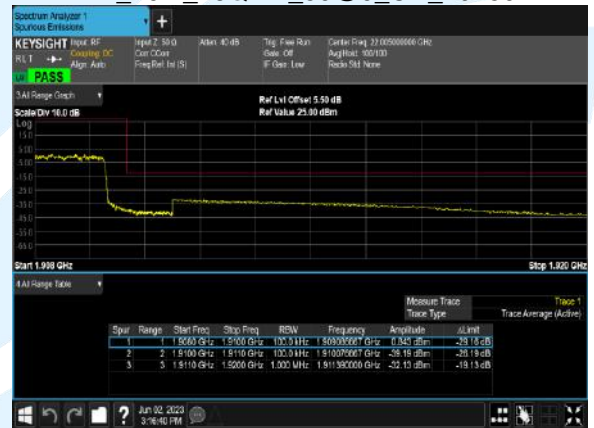
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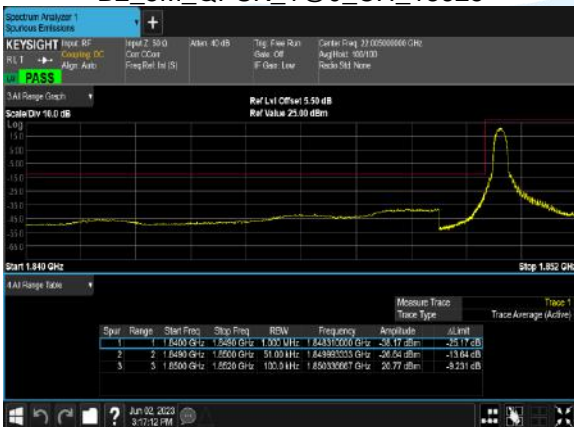
B2\_10M\_16QAM\_1@49\_CH\_19150



B2\_10M\_16QAM\_50@0\_CH\_19150



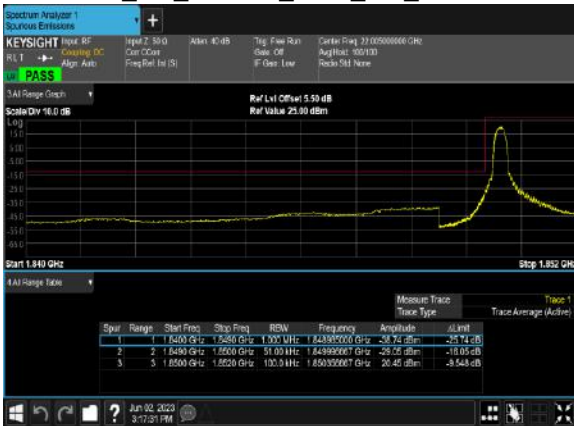
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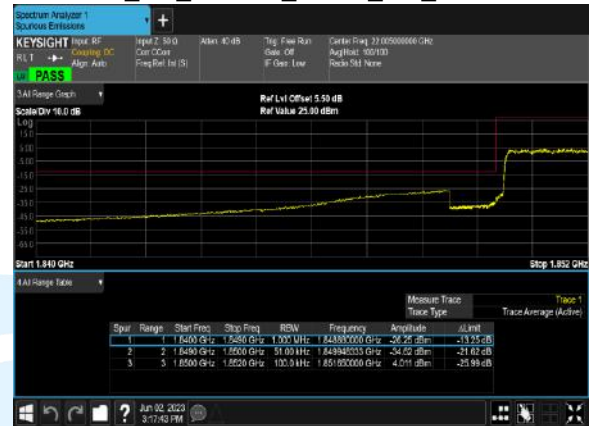
B2\_5M\_QPSK\_25@0\_CH\_18625



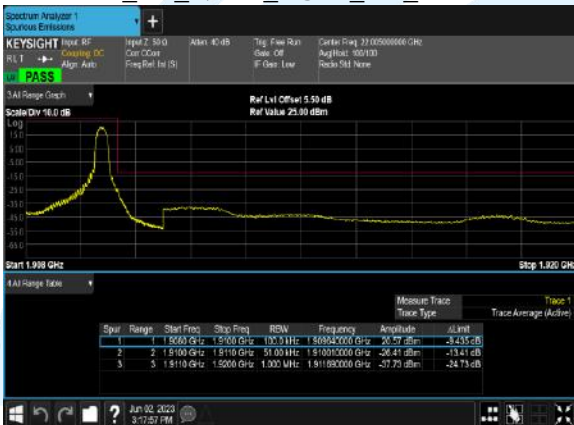
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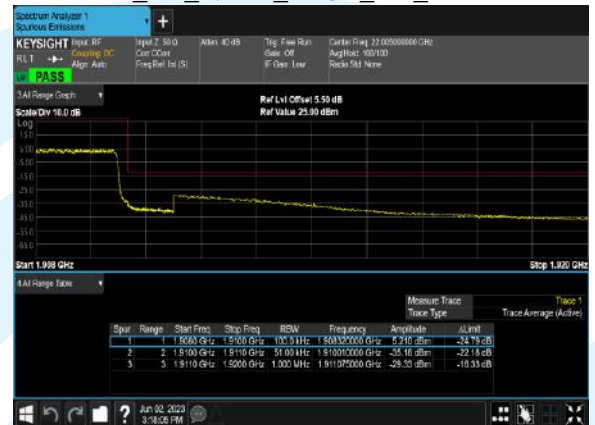
B2\_5M\_16QAM\_25@0\_CH\_18625



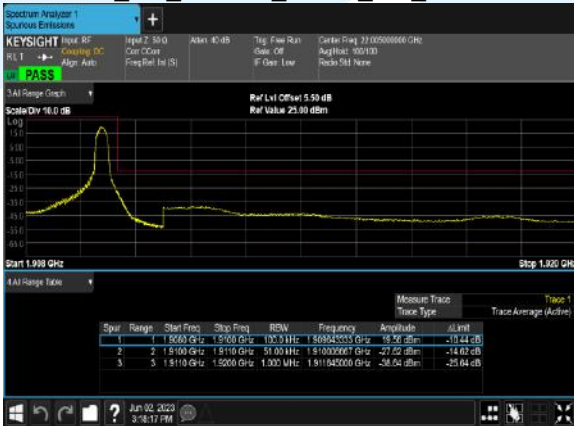
B2\_5M\_QPSK\_1@24\_CH\_19175



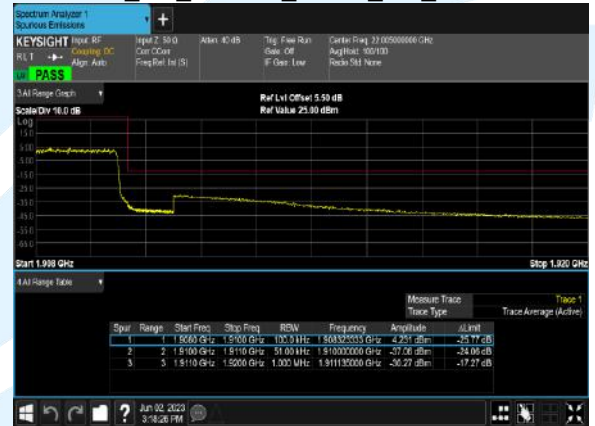
B2\_5M\_QPSK\_25@0\_CH\_19175



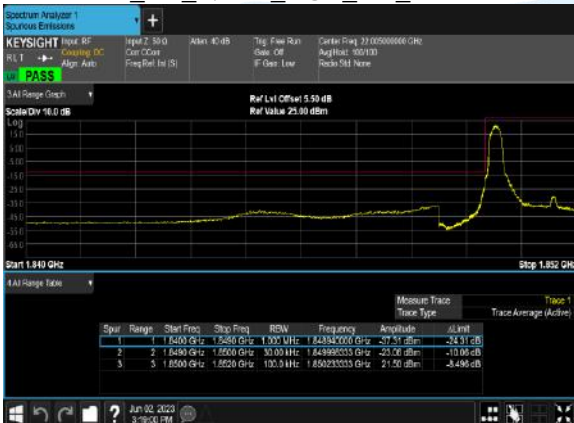
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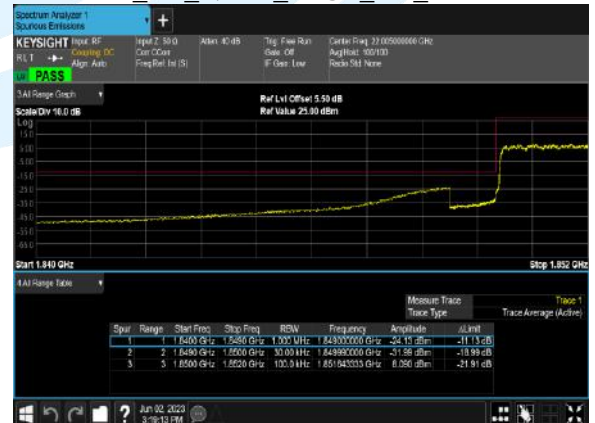
B2\_5M\_16QAM\_25@0\_CH\_19175



B2\_3M\_QPSK\_1@0\_CH\_18615

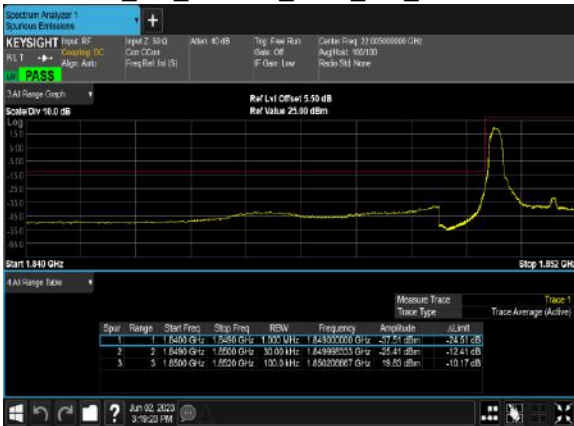


B2\_3M\_QPSK\_15@0\_CH\_18615

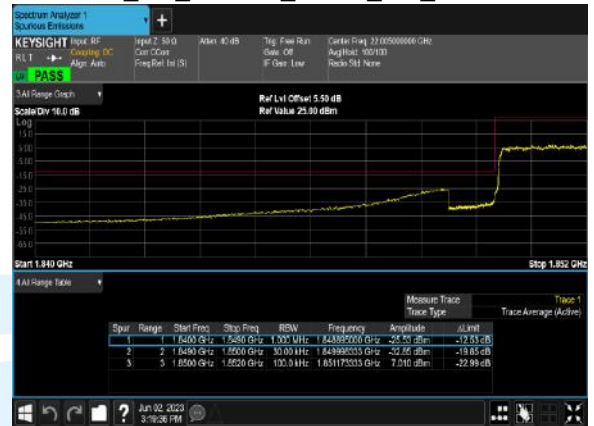




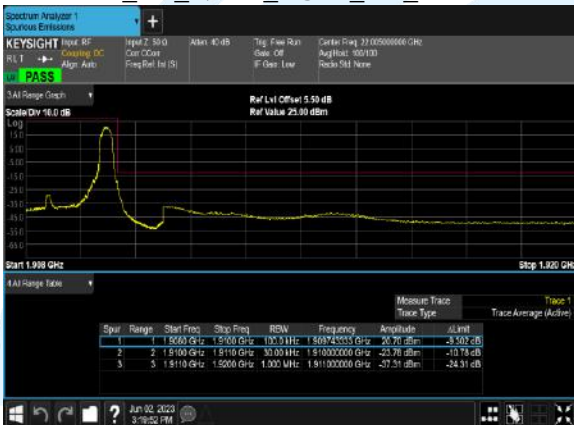
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B2\_3M\_16QAM\_15@0\_CH\_18615



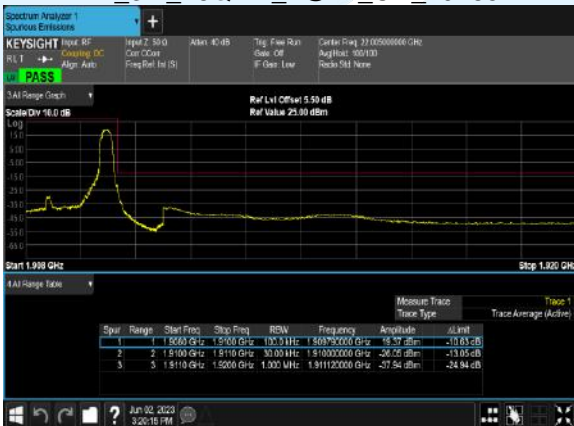
B2\_3M\_QPSK\_1@14\_CH\_19185



B2\_3M\_QPSK\_15@0\_CH\_19185



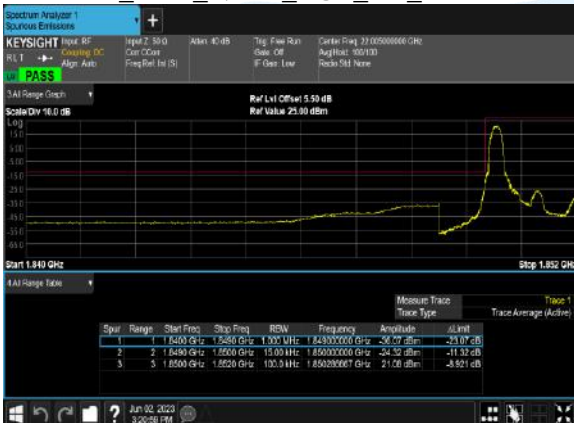
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B2\_3M\_16QAM\_15@0\_CH\_19185



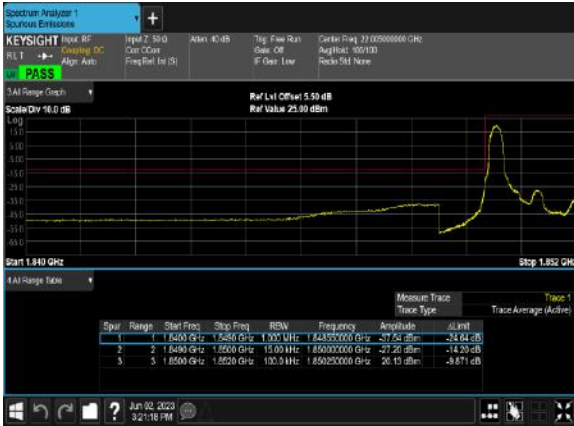
B2\_1.4M\_QPSK\_1@0\_CH\_18607



B2\_1.4M\_QPSK\_6@0\_CH\_18607



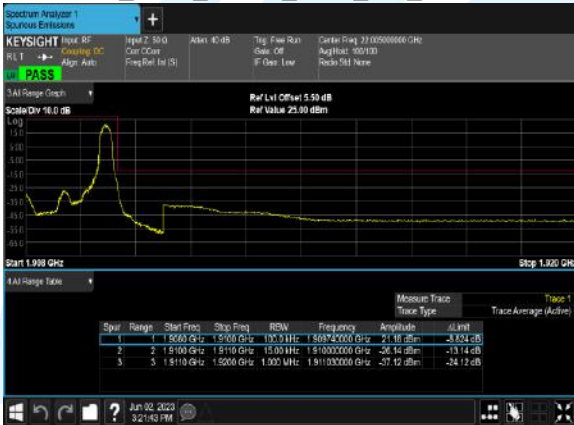
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B2\_1.4M\_16QAM\_6@0\_CH\_18607



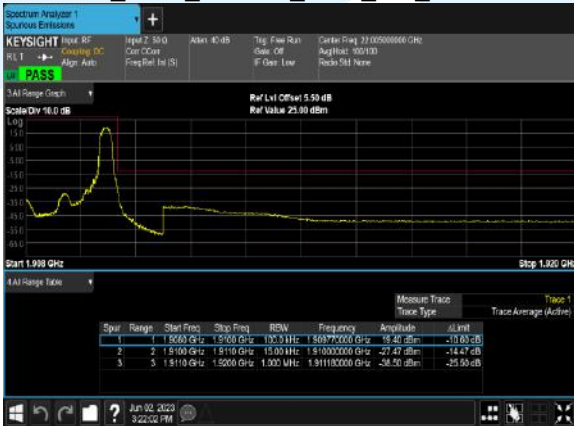
B2\_1.4M\_QPSK\_1@5\_CH\_19193



B2\_1.4M\_QPSK\_6@0\_CH\_19193



B2\_1.4M\_16QAM\_1@5\_CH\_19193



B2\_1.4M\_16QAM\_6@0\_CH\_19193



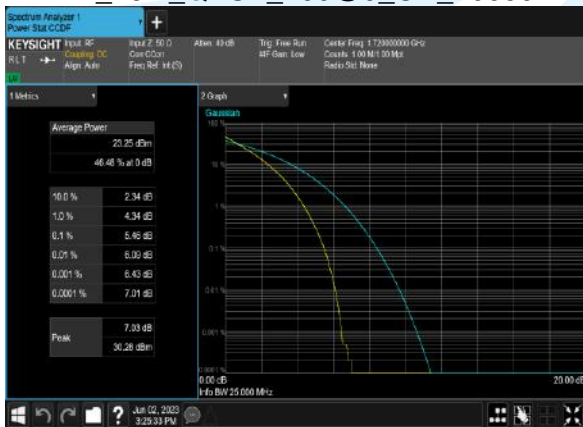
## A.2 LTE BAND 4

### Peak to Average Ratio

Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
4	20.0	20050	1720.0	QPSK	100@0	5.46	13	PASS
4	20.0	20050	1720.0	16QAM	100@0	6.16	13	PASS
4	20.0	20175	1732.5	QPSK	100@0	5.40	13	PASS
4	20.0	20175	1732.5	16QAM	100@0	6.22	13	PASS
4	20.0	20300	1745.0	QPSK	100@0	5.42	13	PASS
4	20.0	20300	1745.0	16QAM	100@0	6.16	13	PASS
4	15.0	20025	1717.5	QPSK	75@0	5.31	13	PASS
4	15.0	20025	1717.5	16QAM	75@0	6.06	13	PASS
4	15.0	20175	1732.5	QPSK	75@0	5.32	13	PASS
4	15.0	20175	1732.5	16QAM	75@0	6.12	13	PASS
4	15.0	20325	1747.5	QPSK	75@0	5.30	13	PASS
4	15.0	20325	1747.5	16QAM	75@0	6.10	13	PASS
4	10.0	20000	1715.0	QPSK	50@0	5.44	13	PASS
4	10.0	20000	1715.0	16QAM	50@0	6.20	13	PASS
4	10.0	20175	1732.5	QPSK	50@0	5.47	13	PASS
4	10.0	20175	1732.5	16QAM	50@0	6.19	13	PASS
4	10.0	20350	1750.0	QPSK	50@0	5.41	13	PASS
4	10.0	20350	1750.0	16QAM	50@0	6.22	13	PASS
4	5.0	19975	1712.5	QPSK	25@0	5.40	13	PASS
4	5.0	19975	1712.5	16QAM	25@0	6.09	13	PASS
4	5.0	20175	1732.5	QPSK	25@0	5.49	13	PASS
4	5.0	20175	1732.5	16QAM	25@0	6.16	13	PASS
4	5.0	20375	1752.5	QPSK	25@0	5.46	13	PASS
4	5.0	20375	1752.5	16QAM	25@0	6.18	13	PASS
4	3.0	19965	1711.5	QPSK	15@0	5.31	13	PASS
4	3.0	19965	1711.5	16QAM	15@0	6.09	13	PASS
4	3.0	20175	1732.5	QPSK	15@0	5.39	13	PASS
4	3.0	20175	1732.5	16QAM	15@0	6.14	13	PASS
4	3.0	20385	1753.5	QPSK	15@0	5.33	13	PASS
4	3.0	20385	1753.5	16QAM	15@0	6.14	13	PASS
4	1.4	19957	1710.7	QPSK	6@0	5.19	13	PASS
4	1.4	19957	1710.7	16QAM	6@0	6.01	13	PASS
4	1.4	20175	1732.5	QPSK	6@0	5.25	13	PASS
4	1.4	20175	1732.5	16QAM	6@0	5.99	13	PASS
4	1.4	20393	1754.3	QPSK	6@0	5.28	13	PASS
4	1.4	20393	1754.3	16QAM	6@0	6.13	13	PASS

### Test Graphs

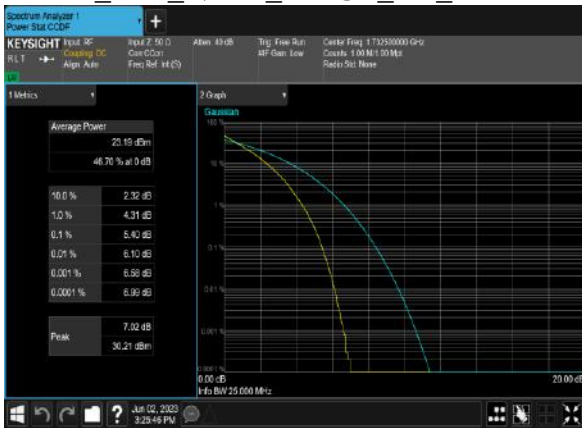
B4\_20M\_QPSK\_100@0\_CH\_20050



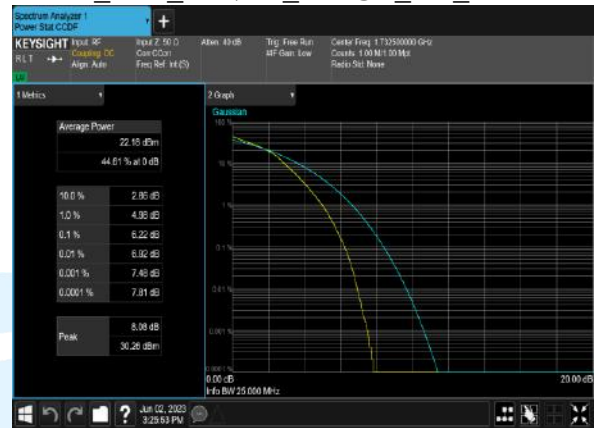
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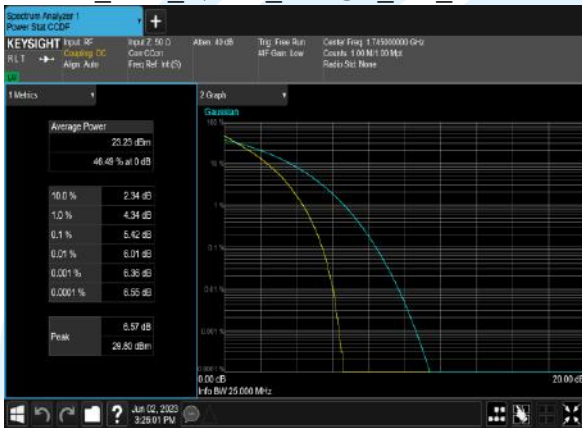
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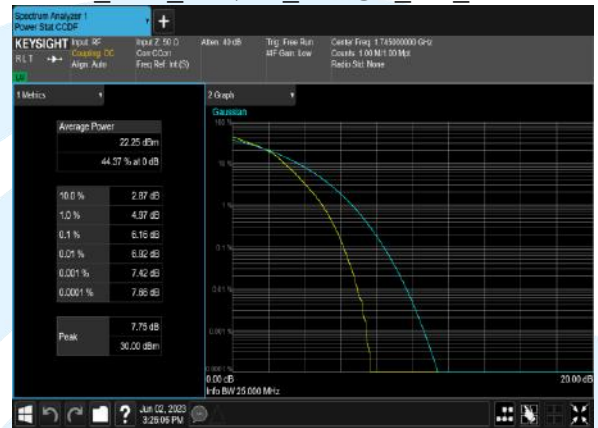
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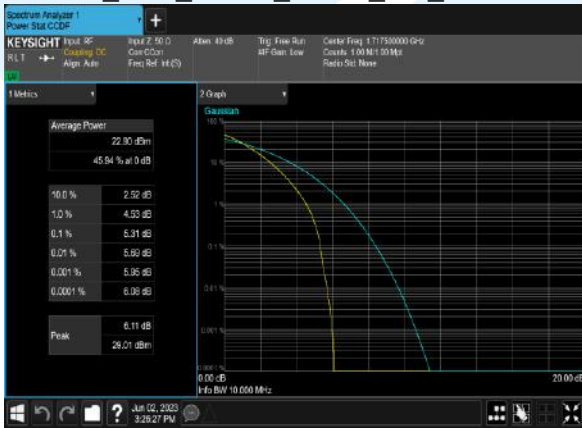
B4\_20M\_QPSK\_100@0\_CH\_20300



B4\_20M\_16QAM\_100@0\_CH\_20300



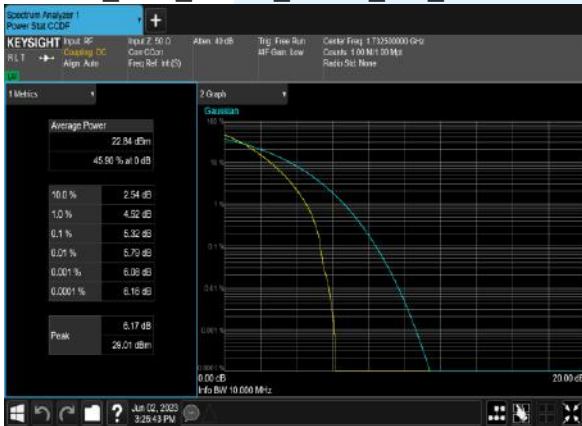
B4\_15M\_QPSK\_75@0\_CH\_20025



B4\_15M\_16QAM\_75@0\_CH\_20025



B4\_15M\_QPSK\_75@0\_CH\_20175



B4\_15M\_16QAM\_75@0\_CH\_20175

