

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 24
47 CFR FCC Part 27
47 CFR FCC Part 2

Report No.: RFBEOE-WTW-P26040365-1

FCC ID: MQT-AT160EL18U

Product: Terminal

Brand: XAC

Model No.: xCL_AT-160-EL-18U

Received Date: 2026/4/14

Test Date: 2026/5/13 ~ 2026/6/3

Issued Date: 2026/6/30

Applicant: XAC AUTOMATION CORP.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003

Designation Number:

Approved by: Jeremy Lin, **Date:** 2026/6/30
Jeremy Lin / Project Engineer

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Prepared by : Polly Chien / Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBEOE-WTW-P26040365-1	Original release.	2026/6/30

1 Certificate

Product: Terminal

Brand: XAC

Test Model: xCL_AT-160-EL-18U

Sample Status: Engineering sample

Applicant: XAC AUTOMATION CORP.

Test Date: 2026/5/13 ~ 2026/6/3

Standard: 47 CFR FCC Part 24
47 CFR FCC Part 27
47 CFR FCC Part 2

Measurement procedure: ANSI/TIA/EIA-603-E 2016
ANSI C63.26-2015
KDB 971168 D01 Power Meas License Digital Systems v03r01
KDB 971168 D02 Misc Rev Approv License Devices v02r02

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

Standard / Clause	Test Item	Result	Remark
Part 2.1046 Part 24.232 (c) Part 27.50(d) Part 27.50(c)	Effective Radiated Power and Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
Part 2.1047	Modulation Characteristics	Pass	Meet the requirement of limit.
Part 24.232 (d) Part 27.50(d)	Peak to Average Ratio	Pass	Meet the requirement of limit.
Part 2.1049	Bandwidth	Pass	Meet the requirement of limit.
Part 2.1051 Part 24.238 Part 27.53(h) Part 27.53(g)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
Part 2.1053 Part 24.238 Part 27.53(h) Part 27.53(g)	Radiated Spurious Emissions below 1GHz	Pass	Minimum passing margin is -15.64 dB at 62.01 MHz
Part 2.1053 Part 24.238 Part 27.53(h) Part 27.53(g)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -28.22 dB at 3760.00 MHz
Part 2.1055 Part 24.235 Part 27.54	Frequency Stability	Pass	Meet the requirement of limit.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Parameter	Specification	Uncertainty (±)
Effective Radiated Power and Equivalent Isotropically Radiated Power	-	1.371 dB
Peak to Average Ratio	-	0.920 dB
Bandwidth	-	960 Hz
Conducted Spurious Emissions	-	2.12 dB
Radiated Spurious Emissions below 1GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.6 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB
Frequency Stability	-	0.176 ppm

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Terminal
Brand	XAC
Test Model	xCL_AT-160-EL-18U
Status of EUT	Engineering sample
Power Supply Rating	5Vdc from adapter 7.6Vdc from battery
EUT Category	Mobile station
Modulation Type	QPSK, 16QAM
LTE support SISO bands	B2, B4, B12

Note:

1. EUT Overview

LTE Band 2

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
1.4 MHz	1850.7 ~ 1909.3	QPSK	0.252	24.01	1M09G7D
		16QAM	0.198	22.96	1M09D7W
3 MHz	1851.5 ~ 1908.5	QPSK	0.253	24.03	2M70G7D
		16QAM	0.2	23	2M70D7W
5 MHz	1852.5 ~ 1907.5	QPSK	0.252	24.01	4M49G7D
		16QAM	0.202	23.05	4M48D7W
10 MHz	1855 ~ 1905	QPSK	0.255	24.06	8M96G7D
		16QAM	0.205	23.12	8M96D7W
15 MHz	1857.5 ~ 1902.5	QPSK	0.255	24.07	13M4G7D
		16QAM	0.204	23.1	13M4D7W
20 MHz	1860 ~ 1900	QPSK	0.259	24.13	17M9G7D
		16QAM	0.205	23.11	17M9D7W

LTE Band 4

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
1.4 MHz	1710.7 ~ 1754.3	QPSK	0.236	23.72	1M09G7D
		16QAM	0.185	22.66	1M09D7W
3 MHz	1711.5 ~ 1753.5	QPSK	0.234	23.7	2M70G7D
		16QAM	0.185	22.67	2M70D7W
5 MHz	1712.5 ~ 1752.5	QPSK	0.235	23.71	4M49G7D
		16QAM	0.188	22.74	4M49D7W
10 MHz	1715 ~ 1750	QPSK	0.237	23.75	8M96G7D
		16QAM	0.186	22.7	8M96D7W
15 MHz	1717.5 ~ 1747.5	QPSK	0.239	23.78	13M4G7D
		16QAM	0.191	22.8	13M4D7W
20 MHz	1720 ~ 1745	QPSK	0.243	23.85	17M9G7D
		16QAM	0.191	22.81	17M9D7W

LTE Band 12

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. ERP (W)	Max. ERP (dBm)	Emission Designator
1.4 MHz	699.7 ~ 715.3	QPSK	0.132	21.19	1M09G7D
		16QAM	0.104	20.16	1M09D7W
3 MHz	700.5 ~ 714.5	QPSK	0.131	21.18	2M70G7D
		16QAM	0.104	20.17	2M70D7W
5 MHz	701.5 ~ 713.5	QPSK	0.131	21.18	4M49G7D
		16QAM	0.104	20.19	4M49D7W
10 MHz	704 ~ 711	QPSK	0.132	21.21	8M96G7D
		16QAM	0.104	20.15	8M96D7W

2. The EUT uses following accessory.

Item	Brand	Model	Specification
Battery	SHENZHEN UTILITY ENERGY CO., LTD.	U752886PV	Power Rating: 7.6Vdc2400mAh, 18.24Wh

3. The EUT uses following support units.

Item	Brand	Model	Specification
AC Adapter	MASS POWER	NBS10B050200VUU	AC Input: I/P:100-240 Vac, 0.3 A, 50~60 Hz DC Output: O/P: 5 Vdc, 2.0 A
USB Cable	-	-	Signal Line: 1.2 meter, shielded cable, w/o ferrite core (type A to 90 °)
Pogo AC Adapter 2	DEEVAN	DSA-33PDA FUS	AC Input: I/P:100-240 Vac, 0.8A, 50/60 Hz DC Output: O/P: 9Vdc, 3.0 A
Pogo Charger	XAC	Pogo Charger	Signal Line: 1.0 meter, shielded cable, w/o ferrite core (type A to Pogo)

4. For detailed information about each WWAN bands frequency range, bandwidth mode of the product, please refer to section 3.3 of the report.

5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Band		Ant. 1	Ant. 2
	Type	PIFA	PIFA
	Brand	Quectel	Quectel
	Model	Y0XAC00A2AA	Y0XAC00A2BA
	Connector Type	Pogo Pin	Pogo Pin
	Freq. Range (MHz)	Peak Gain without cable loss (dBi)	
LTE Band 2	1850 - 1910	3.1	-5.5
LTE Band 4	1710 - 1755	2.9	-6.9
LTE Band 12	699 - 716	-0.5	-17.5

*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. For Spurious Emission (below 1GHz) item: Battery/ AC Adapter/Pogo Charger. Pre-scan these modes and find the worst case as a representative test condition. 2. EUT can be used in the following ways: X-axis/ Y-axis/ Z-axis. Pre-scan these ways and find the worst case as a representative test condition. 3. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
Worst Case:	1. Spurious Emission (below 1GHz) item Worst Condition: AC Adapter 2. X-axis/ Y-axis/ Z-axis Worst Condition: Y-axis

3.3.1 LTE Band 2

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Equivalent Isotropically Radiated Power	18607(1850.70 MHz) 18900(1880.00 MHz) 19193(1909.30 MHz)	1.4 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	18615(1851.50 MHz) 18900(1880.00 MHz) 19185(1908.50 MHz)	3 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	18625(1852.50 MHz) 18900(1880.00 MHz) 19175(1907.50 MHz)	5 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	18650(1855.00 MHz) 18900(1880.00 MHz) 19150(1905.00 MHz)	10 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	18675(1857.50 MHz) 18900(1880.00 MHz) 19125(1902.50 MHz)	15 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	18700(1860.00 MHz) 18900(1880.00 MHz) 19100(1900.00 MHz)	20 MHz	QPSK / 16QAM	1 RB Half RB Full RB
Modulation Characteristics	18900(1880.00 MHz)	20 MHz	QPSK / 16QAM	Full RB
Peak to Average Ratio	18607(1850.70 MHz) 18900(1880.00 MHz) 19193(1909.30 MHz)	1.4 MHz	QPSK / 16QAM	1 RB
	18615(1851.50 MHz) 18900(1880.00 MHz) 19185(1908.50 MHz)	3 MHz	QPSK / 16QAM	1 RB
	18625(1852.50 MHz) 18900(1880.00 MHz) 19175(1907.50 MHz)	5 MHz	QPSK / 16QAM	1 RB
	18650(1855.00 MHz) 18900(1880.00 MHz) 19150(1905.00 MHz)	10 MHz	QPSK / 16QAM	1 RB
	18675(1857.50 MHz) 18900(1880.00 MHz) 19125(1902.50 MHz)	15 MHz	QPSK / 16QAM	1 RB
	18700(1860.00 MHz) 18900(1880.00 MHz) 19100(1900.00 MHz)	20 MHz	QPSK / 16QAM	1 RB

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Bandwidth	18607(1850.70 MHz) 18900(1880.00 MHz) 19193(1909.30 MHz)	1.4 MHz	QPSK / 16QAM	Full RB
	18615(1851.50 MHz) 18900(1880.00 MHz) 19185(1908.50 MHz)	3 MHz	QPSK / 16QAM	Full RB
	18625(1852.50 MHz) 18900(1880.00 MHz) 19175(1907.50 MHz)	5 MHz	QPSK / 16QAM	Full RB
	18650(1855.00 MHz) 18900(1880.00 MHz) 19150(1905.00 MHz)	10 MHz	QPSK / 16QAM	Full RB
	18675(1857.50 MHz) 18900(1880.00 MHz) 19125(1902.50 MHz)	15 MHz	QPSK / 16QAM	Full RB
	18700(1860.00 MHz) 18900(1880.00 MHz) 19100(1900.00 MHz)	20 MHz	QPSK / 16QAM	Full RB
Conducted Spurious Emissions	18607(1850.70 MHz) 18900(1880.00 MHz) 19193(1909.30 MHz)	1.4 MHz	QPSK	1 RB Full RB
	18615(1851.50 MHz) 18900(1880.00 MHz) 19185(1908.50 MHz)	3 MHz	QPSK	1 RB Full RB
	18625(1852.50 MHz) 18900(1880.00 MHz) 19175(1907.50 MHz)	5 MHz	QPSK	1 RB Full RB
	18650(1855.00 MHz) 18900(1880.00 MHz) 19150(1905.00 MHz)	10 MHz	QPSK	1 RB Full RB
	18675(1857.50 MHz) 18900(1880.00 MHz) 19125(1902.50 MHz)	15 MHz	QPSK	1 RB Full RB
	18700(1860.00 MHz) 18900(1880.00 MHz) 19100(1900.00 MHz)	20 MHz	QPSK	1 RB Full RB
Radiated Spurious Emissions below 1GHz	18900(1880.00 MHz)	20 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	18607(1850.70 MHz) 18900(1880.00 MHz) 19193(1909.30 MHz)	1.4 MHz	QPSK	1 RB
	18625(1852.50 MHz) 18900(1880.00 MHz) 19175(1907.50 MHz)	5 MHz	QPSK	1 RB
	18700(1860.00 MHz) 18900(1880.00 MHz) 19100(1900.00 MHz)	20 MHz	QPSK	1 RB
Frequency Stability	18700(1860.00 MHz) 19100(1900.00 MHz)	20 MHz	QPSK	Full RB

3.3.2 LTE Band 4

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Equivalent Isotropically Radiated Power	19957(1710.70 MHz) 20175(1732.50 MHz) 20393(1754.30 MHz)	1.4 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	19965(1711.50 MHz) 20175(1732.50 MHz) 20385(1753.50 MHz)	3 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	19975(1712.50 MHz) 20175(1732.50 MHz) 20375(1752.50 MHz)	5 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	20000(1715.00 MHz) 20175(1732.50 MHz) 20350(1750.00 MHz)	10 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	20025(1717.50 MHz) 20175(1732.50 MHz) 20325(1747.50 MHz)	15 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	20050(1720.00 MHz) 20175(1732.50 MHz) 20300(1745.00 MHz)	20 MHz	QPSK / 16QAM	1 RB Half RB Full RB
Modulation Characteristics	20175(1732.50 MHz)	20 MHz	QPSK / 16QAM	Full RB
Peak to Average Ratio	19957(1710.70 MHz) 20175(1732.50 MHz) 20393(1754.30 MHz)	1.4 MHz	QPSK / 16QAM	1 RB
	19965(1711.50 MHz) 20175(1732.50 MHz) 20385(1753.50 MHz)	3 MHz	QPSK / 16QAM	1 RB
	19975(1712.50 MHz) 20175(1732.50 MHz) 20375(1752.50 MHz)	5 MHz	QPSK / 16QAM	1 RB
	20000(1715.00 MHz) 20175(1732.50 MHz) 20350(1750.00 MHz)	10 MHz	QPSK / 16QAM	1 RB
	20025(1717.50 MHz) 20175(1732.50 MHz) 20325(1747.50 MHz)	15 MHz	QPSK / 16QAM	1 RB
	20050(1720.00 MHz) 20175(1732.50 MHz) 20300(1745.00 MHz)	20 MHz	QPSK / 16QAM	1 RB

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Bandwidth	19957(1710.70 MHz) 20175(1732.50 MHz) 20393(1754.30 MHz)	1.4 MHz	QPSK / 16QAM	Full RB
	19965(1711.50 MHz) 20175(1732.50 MHz) 20385(1753.50 MHz)	3 MHz	QPSK / 16QAM	Full RB
	19975(1712.50 MHz) 20175(1732.50 MHz) 20375(1752.50 MHz)	5 MHz	QPSK / 16QAM	Full RB
	20000(1715.00 MHz) 20175(1732.50 MHz) 20350(1750.00 MHz)	10 MHz	QPSK / 16QAM	Full RB
	20025(1717.50 MHz) 20175(1732.50 MHz) 20325(1747.50 MHz)	15 MHz	QPSK / 16QAM	Full RB
	20050(1720.00 MHz) 20175(1732.50 MHz) 20300(1745.00 MHz)	20 MHz	QPSK / 16QAM	Full RB
Conducted Spurious Emissions	19957(1710.70 MHz) 20175(1732.50 MHz) 20393(1754.30 MHz)	1.4 MHz	QPSK	1 RB Full RB
	19965(1711.50 MHz) 20175(1732.50 MHz) 20385(1753.50 MHz)	3 MHz	QPSK	1 RB Full RB
	19975(1712.50 MHz) 20175(1732.50 MHz) 20375(1752.50 MHz)	5 MHz	QPSK	1 RB Full RB
	20000(1715.00 MHz) 20175(1732.50 MHz) 20350(1750.00 MHz)	10 MHz	QPSK	1 RB Full RB
	20025(1717.50 MHz) 20175(1732.50 MHz) 20325(1747.50 MHz)	15 MHz	QPSK	1 RB Full RB
	20050(1720.00 MHz) 20175(1732.50 MHz) 20300(1745.00 MHz)	20 MHz	QPSK	1 RB Full RB
Radiated Spurious Emissions below 1GHz	20175(1732.50 MHz)	20 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	19957(1710.70 MHz) 20175(1732.50 MHz) 20393(1754.30 MHz)	1.4 MHz	QPSK	1 RB
	19975(1712.50 MHz) 20175(1732.50 MHz) 20375(1752.50 MHz)	5 MHz	QPSK	1 RB
	20050(1720.00 MHz) 20175(1732.50 MHz) 20300(1745.00 MHz)	20 MHz	QPSK	1 RB
Frequency Stability	20050(1720.00 MHz) 20300(1745.00 MHz)	20 MHz	QPSK	Full RB

3.3.3 LTE Band 12

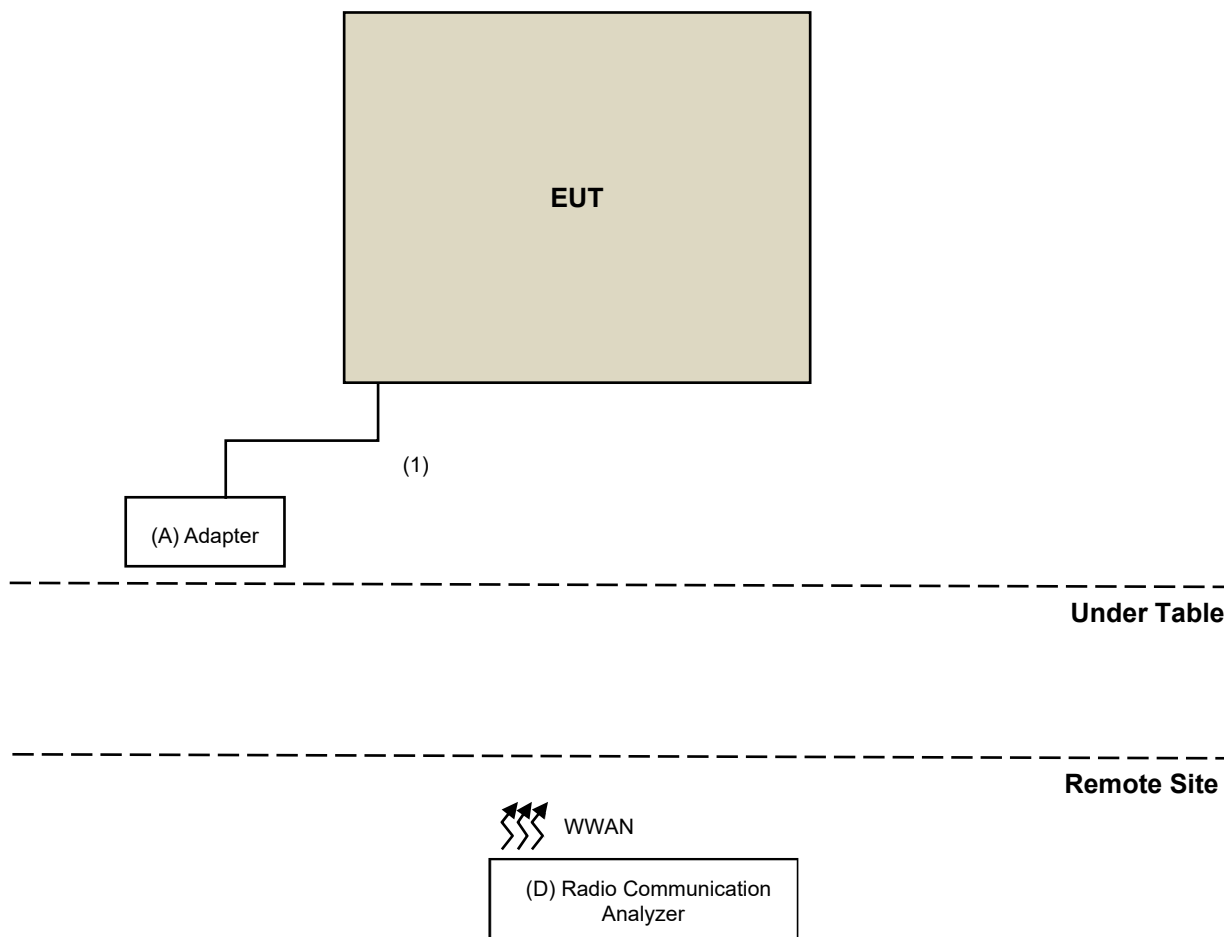
Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Effective Radiated Power	23017(699.70 MHz) 23095(707.50 MHz) 23173(715.30 MHz)	1.4 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	23025(700.50 MHz) 23095(707.50 MHz) 23165(714.50 MHz)	3 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	23035(701.50 MHz) 23095(707.50 MHz) 23155(713.50 MHz)	5 MHz	QPSK / 16QAM	1 RB Half RB Full RB
	23060(704.00 MHz) 23095(707.50 MHz) 23130(711.00 MHz)	10 MHz	QPSK / 16QAM	1 RB Half RB Full RB
Modulation Characteristics	23095(707.50 MHz)	10 MHz	QPSK / 16QAM	Full RB
Peak to Average Ratio	23017(699.70 MHz) 23095(707.50 MHz) 23173(715.30 MHz)	1.4 MHz	QPSK / 16QAM	1 RB
	23025(700.50 MHz) 23095(707.50 MHz) 23165(714.50 MHz)	3 MHz	QPSK / 16QAM	1 RB
	23035(701.50 MHz) 23095(707.50 MHz) 23155(713.50 MHz)	5 MHz	QPSK / 16QAM	1 RB
	23060(704.00 MHz) 23095(707.50 MHz) 23130(711.00 MHz)	10 MHz	QPSK / 16QAM	1 RB
Bandwidth	23017(699.70 MHz) 23095(707.50 MHz) 23173(715.30 MHz)	1.4 MHz	QPSK / 16QAM	Full RB
	23025(700.50 MHz) 23095(707.50 MHz) 23165(714.50 MHz)	3 MHz	QPSK / 16QAM	Full RB
	23035(701.50 MHz) 23095(707.50 MHz) 23155(713.50 MHz)	5 MHz	QPSK / 16QAM	Full RB
	23060(704.00 MHz) 23095(707.50 MHz) 23130(711.00 MHz)	10 MHz	QPSK / 16QAM	Full RB

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Spurious Emissions	23017(699.70 MHz) 23095(707.50 MHz) 23173(715.30 MHz)	1.4 MHz	QPSK	1 RB Full RB
	23025(700.50 MHz) 23095(707.50 MHz) 23165(714.50 MHz)	3 MHz	QPSK	1 RB Full RB
	23035(701.50 MHz) 23095(707.50 MHz) 23155(713.50 MHz)	5 MHz	QPSK	1 RB Full RB
	23060(704.00 MHz) 23095(707.50 MHz) 23130(711.00 MHz)	10 MHz	QPSK	1 RB Full RB
Radiated Spurious Emissions below 1GHz	23095(707.50 MHz)	10 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	23017(699.70 MHz) 23095(707.50 MHz) 23173(715.30 MHz)	1.4 MHz	QPSK	1 RB
	23035(701.50 MHz) 23095(707.50 MHz) 23155(713.50 MHz)	5 MHz	QPSK	1 RB
	23060(704.00 MHz) 23095(707.50 MHz) 23130(711.00 MHz)	10 MHz	QPSK	1 RB
Frequency Stability	23060(704.00 MHz) 23130(711.00 MHz)	10 MHz	QPSK	Full RB

3.4 Test Program Used and Operation Descriptions

Set the EUT under transmission condition continuously at specific channel frequency.

3.5 Connection Diagram of EUT and Peripheral Devices



3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Adapter	MASS POWER	NBS10B050200VUU	N/A	N/A	Supplied by applicant
B	Radio Communication Analyzer	Anritsu	MT8821C	6261806803	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB Cable	1	1.2	Yes	0	Supplied by applicant

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 Effective Radiated Power and Equivalent Isotropically Radiated Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2026/5/21	2027/5/20
PXA Signal Analyzer Keysight	N9030B	MY57140953	2025/7/31	2026/7/30
Radio Communication Analyzer Anritsu	MT8821C	6261806803	2026/2/12	2027/2/11
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in HY - Oven room(Hwaya).
2. Tested Date: 2026/6/3

4.2 Modulation Characteristics

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2025/5/23 2026/5/21	2026/5/22 2027/5/20
PXA Signal Analyzer Keysight	N9030B	MY57140953	2025/7/31	2026/7/30
Radio Communication Analyzer Anritsu	MT8821C	6261806803	2026/2/12	2027/2/11
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in HY - Oven room(Hwaya).
2. Tested Date: 2026/5/13 ~ 2026/6/3

4.3 Peak to Average Ratio

Refer to section 4.2 to get the tested date and information of the instruments.

4.4 Bandwidth

Refer to section 4.2 to get the tested date and information of the instruments.

4.5 Conducted Spurious Emissions

Refer to section 4.2 to get the tested date and information of the instruments.

4.6 Radiated Spurious Emissions below 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-160	2025/9/16	2026/9/15
Loop Antenna TESEQ	HLA 6121	45745	2025/9/1	2026/8/31
MXE EMI Receiver Agilent	N9038A	MY51210203	2025/8/27	2026/8/26
Preamplifier Agilent	8447D	2944A10638	2026/4/18	2027/4/17
Preamplifier EMCI	EMC001340	980201	2025/9/21	2026/9/20
RF Coaxial Cable Woken	8D-FB	Cable-CH9-01	2026/4/18	2027/4/17
Signal & Spectrum Analyzer R&S	FSW43	101582	2026/5/2	2027/5/1
Software BV ADT	ADT_Radiated_ V7.7.1.1.1	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4(Hwaya).
2. Tested Date: 2026/5/22

4.7 Radiated Spurious Emissions above 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower & Turn BV ADT	AT100	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1169	2025/11/9	2026/11/8
	BBHA 9170	9170-480	2025/11/9	2026/11/8
		BBHA9170243	2025/11/9	2026/11/8
MXE EMI Receiver Agilent	N9038A	MY51210203	2025/8/27	2026/8/26
Preamplifier Agilent	8449B	3008A02367	2026/1/3	2027/1/2
Preamplifier EMCI	EMC 184045	980116	2025/9/21	2026/9/20
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2025/6/30	2026/6/29
	EMC102-KM-KM-3000	150929	2025/6/30	2026/6/29
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	2026/1/3	2027/1/2
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	2026/1/3	2027/1/2
Signal & Spectrum Analyzer R&S	FSW43	101582	2026/5/2	2027/5/1
Software BV ADT	ADT_Radiated_ V7.7.1.1.1	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4(Hwaya).
2. Tested Date: 2026/5/22

4.8 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
3-channel DC power supply OWON	ODP3033	ODP30332128138	N/A	N/A
Digital Multimeter Fluke	8050A	4660081	2025/6/6	2026/6/5
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2026/5/21	2027/5/20
Signal & Spectrum Analyzer R&S	FSV3044	101504	2025/6/18	2026/6/17
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Terchy	MHU-225AU	920842	2025/6/25	2026/6/24

Notes:

1. The test was performed in HY - Oven room(Hwaya).
2. Tested Date: 2026/6/3

5 Limits of Test Items

5.1 Effective Radiated Power and Equivalent Isotropically Radiated Power

For LTE Band 2:

Mobile and portable stations are limited to 2 watts EIRP.

For LTE Band 12:

Control and mobile stations in the 698-746 MHz band are limited to 30 watts ERP.

For LTE Band 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.

5.2 Modulation Characteristics

A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.

5.3 Peak to Average Ratio

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.

5.4 Bandwidth

According to FCC 47 CFR part 2.1049, the occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5% of the total mean power radiated by a given emission.

5.5 Conducted Spurious Emissions

For LTE Band 2:

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.

For LTE Band 12:

According to 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.

For LTE Band 4:

According to FCC 47 CFR part 27.53(h), for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log(P)$ dB. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

5.6 Radiated Spurious Emissions below 1GHz

For LTE Band 2:

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.

For LTE Band 12:

According to 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. The limit of emissions is equal to -13 dBm.

For LTE Band 4:

According to FCC 47 CFR part 27.53(h), for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log(P)$ dB. The limit of emission is equal to -13 dBm.

5.7 Radiated Spurious Emissions above 1GHz

For LTE Band 2:

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.

For LTE Band 12:

According to 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. The limit of emissions is equal to -13 dBm.

For LTE Band 4:

According to FCC 47 CFR part 27.53(h), for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log(P)$ dB. The limit of emission is equal to -13 dBm.

5.8 Frequency Stability

For LTE Band 2, LTE Band 4, LTE Band 12:

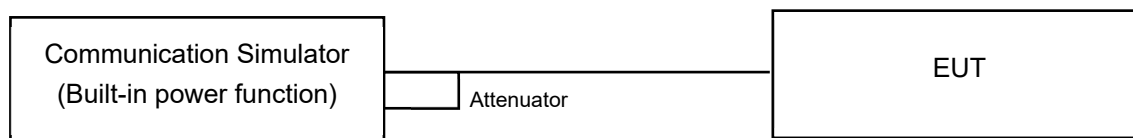
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation (authorized frequency block).

6 Test Arrangements

6.1 Effective Radiated Power and Equivalent Isotropically Radiated Power

6.1.1 Test Setup

Conducted Power Measurement:



6.1.2 Test Procedure

Conducted Power Measurement:

The EUT is configured by emulator to set data modulation and maximum power using WWAN technology. The average (rms) power measurement was performed on emulator and power value was measured from power function on emulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Maximum EIRP / ERP

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$$\text{EIRP} = P_{\text{Meas}} + G_T$$

$$\text{ERP} = P_{\text{Meas}} + G_T - 2.15$$

where

ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively

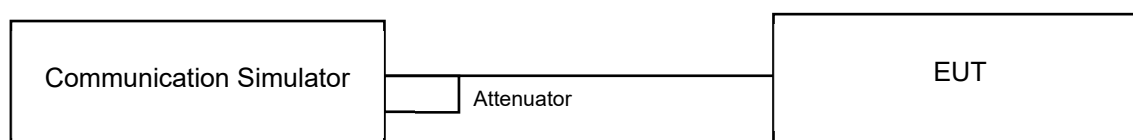
(expressed in the same units as P_{Meas} , e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

6.2 Modulation Characteristics

6.2.1 Test Setup

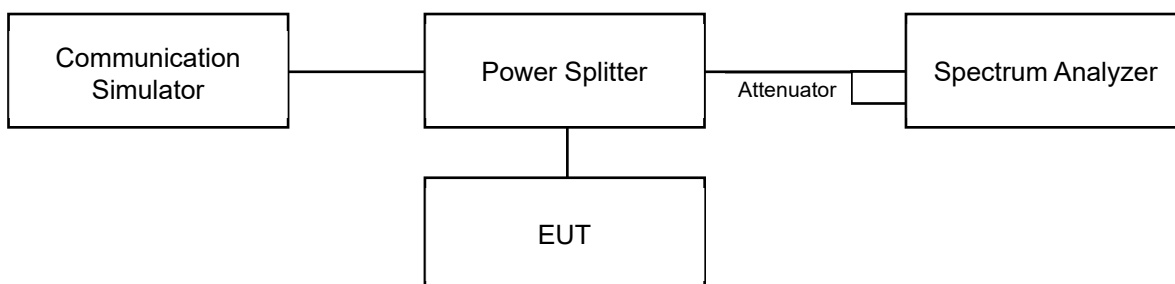


6.2.2 Test Procedure

Connect the EUT to Communication Simulator via the antenna connector, the frequency band is set as EUT supported Modulation and Channels, the EUT output is matched with 50 ohm load, the waveform quality and constellation of the EUT was tested.

6.3 Peak to Average Ratio

6.3.1 Test Setup

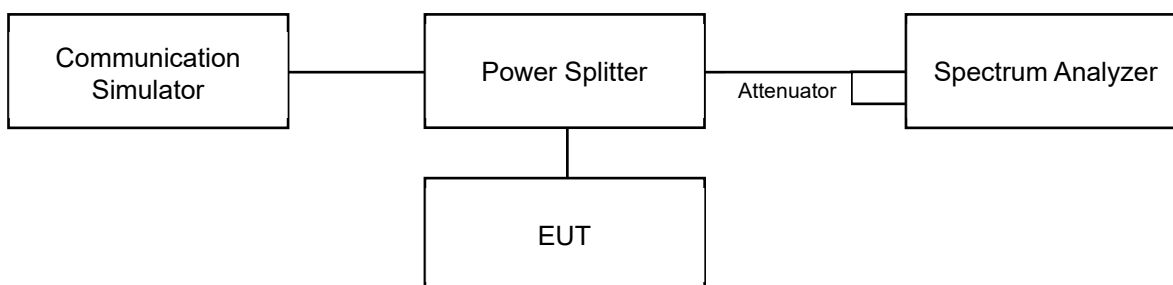


6.3.2 Test Procedure

- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1%.

6.4 Bandwidth

6.4.1 Test Setup



6.4.2 Test Procedure

For the 26 dBc bandwidth measurement method, please refer to section 5.4.3 of ANSI C63.26.

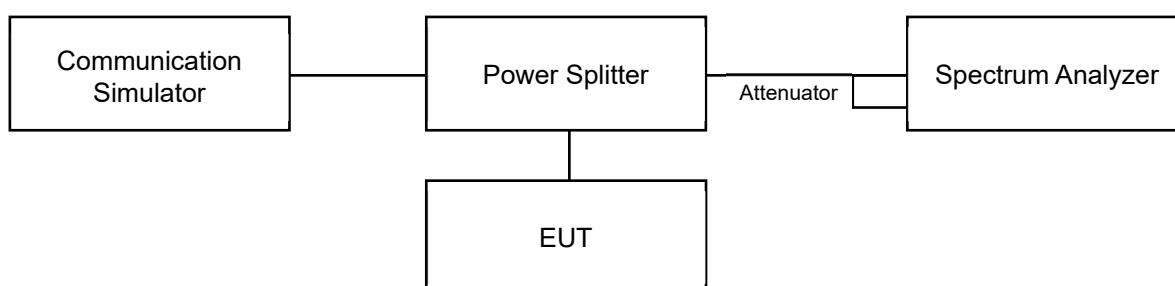
- The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
- The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set $\geq 3 \times$ RBW.
- Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
- The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target “-X dB” requirement, i.e., if the requirement calls for measuring the -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
- Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
- Determine the following reference values: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
- Determine the “-X dB amplitude” as equal to (Reference Value - X). Alternatively, this calculation can be performed on the spectrum analyzer using the delta-marker measurement function.
- Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB amplitude” determined in step f). If a marker is below this “-X dB amplitude” value it should be as close as possible to this value. The OBW is the positive frequency difference between the two markers.
- The OBW shall be reported by providing plot(s) of the measuring instrument display, to include markers depicting the relevant frequency and amplitude information (e.g., marker table). The frequency and amplitude axis and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

For the occupied bandwidth measurement method, please refer to section 5.4.4 of ANSI C63.26.

- a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
- b. The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set $\geq 3 \times$ RBW.
- c. Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
- d. Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
- e. If the instrument does not have a 99% OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5% of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5% of the total is reached and record that frequency as the upper OBW frequency. The 99% power OBW can be determined by computing the difference these two frequencies.
- f. The OBW shall be reported by providing plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

6.5 Conducted Spurious Emissions

6.5.1 Test Setup



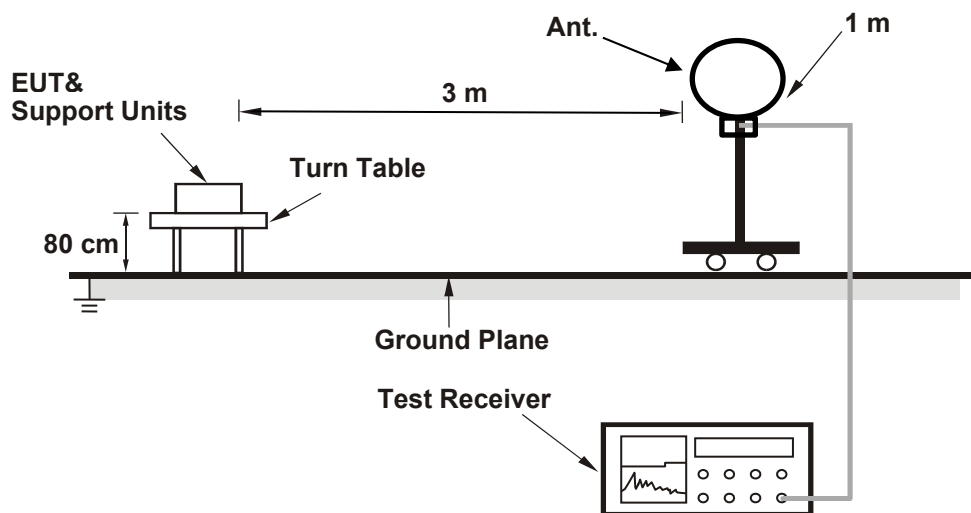
6.5.2 Test Procedure

- a. Measurement refer to ANSI C63.26 section 5.7.
- b. All measurements were done at 3 channels: low, middle and high operational frequency range.
- c. Measuring frequency range is from 9 kHz up to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. 10 dB attenuation pad is connected with spectrum.
- d. The fundamental frequency above 1 GHz, the spectrum set RBW = 1 MHz, VBW = 3 MHz, Detector = Average.
- e. The fundamental frequency below 1 GHz, the spectrum set RBW ≥ 100 kHz, VBW $\geq 3 \times$ RBW, Detector = Average.
- f. Measuring frequency band edge, narrow RBW (no less than 1% of the OBW) is used for conducted emission measurement.
- g. For the emissions measurement method, certain channel BW modes demonstrate compliance by integrating with the smaller RBW allowed by the rule.
For example: Where Reference RBW = 1 MHz and a smaller RBW = 100 kHz is used, worst-case integrated BW power = [Max Measured Value (dBm) with RBW = 100 kHz] + $10 \times \log(1000/100)$. To compensate for this integration before comparison to the value, the adjusted reference level offset was increase by 10 dB accordingly.
- a. Record the maximum power value test plot.

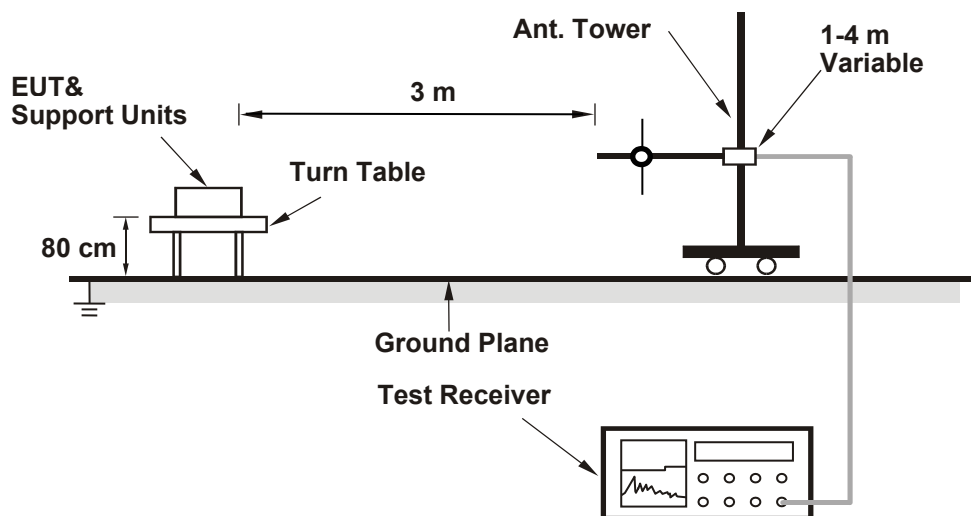
6.6 Radiated Spurious Emissions below 1GHz

6.6.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.6.2 Test Procedure

The EUT is configured to set data modulation and maximum power using WWAN technology.

- a. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) height of turn table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- d. Following ANSI C63.26 section 5.5 and 5.2.7
- e. $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
- f. $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

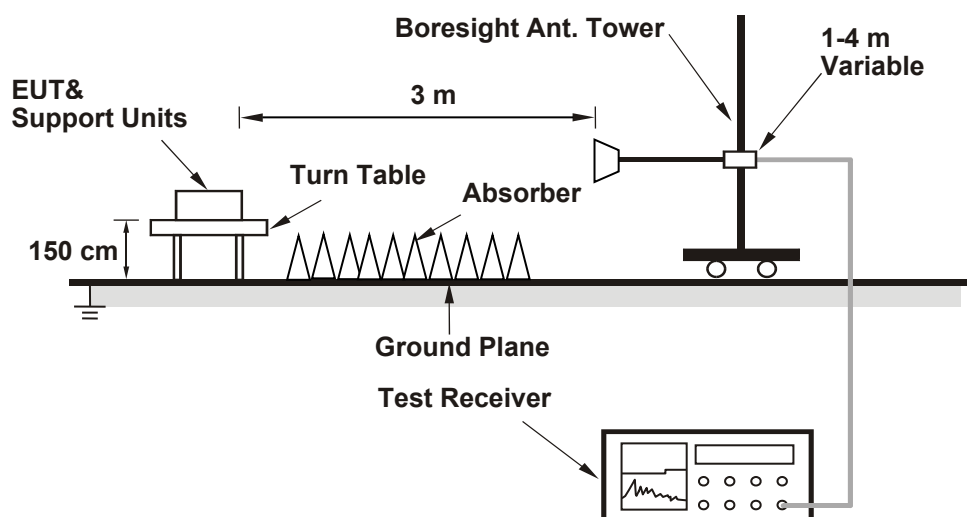
Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. Set detector = average.
2. The amplitude of spurious emissions in the range 9 kHz to 30 MHz which are attenuated more than 20 dB below the permissible value need not be reported.

6.7 Radiated Spurious Emissions above 1GHz

6.7.1 Test Setup

For radiated emission above 1 GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.7.2 Test Procedure

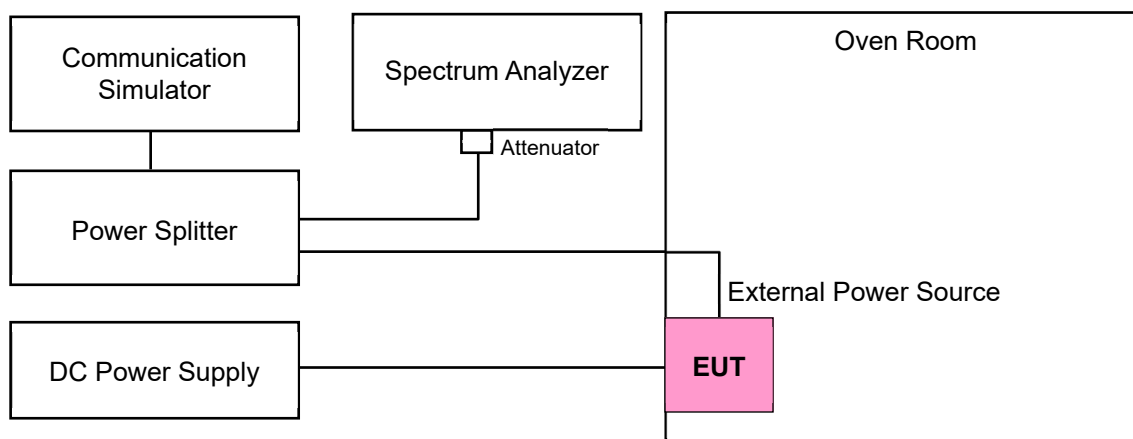
The EUT is configured to set data modulation and maximum power using WWAN technology.

- In the semi-anechoic chamber, EUT placed on the 1.5 m height of turn table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- Following ANSI C63.26 section 5.5 and 5.2.7
- $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
- $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. Set detector = average.

6.8 Frequency Stability

6.8.1 Test Setup



6.8.2 Test Procedure

The EUT is configured by emulator to set data modulation and maximum power using WWAN technology.

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

Note: The frequency error was recorded frequency error from the communication simulator.

7 Test Results of Test Item

7.1 Effective Radiated Power and Equivalent Isotropically Radiated Power

Environmental Conditions:	23°C, 62% RH	Tested By:	Charles Hsiao
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7.1.1 LTE Band 2

LTE Band 2, Channel Bandwidth: 1.4 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 18607	CH 18900	CH 19193
			1850.7 MHz	1880 MHz	1909.3 MHz
QPSK	1	0	20.83	20.91	20.82
	1	2	20.74	20.79	20.78
	1	5	20.81	20.85	20.73
	3	0	20.83	20.84	20.78
	3	1	20.75	20.81	20.74
	3	3	20.73	20.8	20.7
	6	0	19.79	19.83	19.76
16QAM	1	0	19.75	19.82	19.75
	1	2	19.78	19.85	19.72
	1	5	19.75	19.82	19.71
	3	0	19.77	19.8	19.71
	3	1	19.79	19.84	19.73
	3	3	19.81	19.86	19.77
	6	0	18.79	18.78	18.76

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.76	20.91	22.86	24.01	33.01
16QAM	18.76	19.86	21.86	22.96	33.01

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 2, Channel Bandwidth: 3 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 18615	CH 18900	CH 19185
			1851.5 MHz	1880 MHz	1908.5 MHz
QPSK	1	0	20.87	20.93	20.83
	1	7	20.83	20.78	20.69
	1	14	20.82	20.78	20.74
	8	0	19.89	19.94	19.86
	8	3	19.85	19.91	19.81
	8	7	19.76	19.84	19.76
	15	0	19.81	19.86	19.77
16QAM	1	0	19.79	19.87	19.88
	1	7	19.79	19.78	19.75
	1	14	19.82	19.9	19.73
	8	0	18.83	18.86	18.74
	8	3	18.88	18.81	18.74
	8	7	18.73	18.81	18.86
	15	0	18.82	18.83	18.87

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.76	20.93	22.86	24.03	33.01
16QAM	18.73	19.9	21.83	23	33.01

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 2, Channel Bandwidth: 5 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 18625	CH 18900	CH 19175
			1852.5 MHz	1880 MHz	1907.5 MHz
QPSK	1	0	20.9	20.91	20.88
	1	12	20.75	20.81	20.8
	1	24	20.79	20.85	20.71
	12	0	19.87	19.95	19.87
	12	6	19.86	19.88	19.8
	12	13	19.79	19.79	19.73
	25	0	19.83	19.89	19.77
16QAM	1	0	19.8	19.82	19.83
	1	12	19.84	19.95	19.71
	1	24	19.73	19.95	19.77
	12	0	18.9	18.81	18.87
	12	6	18.84	18.9	18.87
	12	13	18.76	18.87	18.88
	25	0	18.83	18.85	18.76

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.73	20.91	22.83	24.01	33.01
16QAM	18.76	19.95	21.86	23.05	33.01

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 2, Channel Bandwidth: 10 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 18650	CH 18900	CH 19150
			1855 MHz	1880 MHz	1905 MHz
QPSK	1	0	20.9	20.96	20.91
	1	24	20.81	20.85	20.83
	1	49	20.78	20.88	20.84
	25	0	19.93	20.01	19.92
	25	12	19.89	19.94	19.85
	25	25	19.81	19.88	19.77
	50	0	19.87	19.95	19.88
16QAM	1	0	19.93	20	19.85
	1	24	19.82	20	19.84
	1	49	19.87	20.02	19.91
	25	0	18.79	18.88	18.81
	25	12	18.93	18.93	18.81
	25	25	18.91	18.94	18.8
	50	0	18.86	18.95	18.85

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.77	20.96	22.87	24.06	33.01
16QAM	18.79	20.02	21.89	23.12	33.01

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 2, Channel Bandwidth: 15 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 18675	CH 18900	CH 19125
			1857.5 MHz	1880 MHz	1902.5 MHz
QPSK	1	0	20.92	20.97	20.91
	1	37	20.88	20.92	20.83
	1	74	20.84	20.87	20.81
	36	0	19.95	19.98	19.9
	36	19	19.91	19.94	19.87
	36	39	19.8	19.86	19.81
	75	0	19.88	19.94	19.88
16QAM	1	0	19.95	19.95	19.75
	1	37	19.9	20	19.93
	1	74	19.82	19.87	19.93
	36	0	18.82	18.9	18.84
	36	19	18.9	18.91	18.8
	36	39	18.94	18.88	18.77
	75	0	18.94	18.94	18.83

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.8	20.97	22.9	24.07	33.01
16QAM	18.77	20	21.87	23.1	33.01

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 2, Channel Bandwidth: 20 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 18700	CH 18900	CH 19100
			1860 MHz	1880 MHz	1900 MHz
QPSK	1	0	20.97	21.03	20.94
	1	50	20.79	20.93	20.78
	1	99	20.77	20.83	20.84
	50	0	19.93	20.03	19.91
	50	25	19.86	19.92	19.86
	50	50	19.8	19.9	19.78
	100	0	19.85	19.96	19.87
16QAM	1	0	19.81	19.9	19.82
	1	50	19.94	20.01	19.83
	1	99	19.8	19.88	19.77
	50	0	18.95	19	18.92
	50	25	18.83	18.89	18.88
	50	50	18.87	18.92	18.92
	100	0	18.79	18.96	18.86

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.78	21.03	22.88	24.13	33.01
16QAM	18.79	20.01	21.89	23.11	33.01

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

7.1.2 LTE Band 4

LTE Band 4, Channel Bandwidth: 1.4 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 19957	CH 20175	CH 20393
			1710.7 MHz	1732.5 MHz	1754.3 MHz
QPSK	1	0	20.31	20.42	20.82
	1	2	20.23	20.32	20.71
	1	5	20.19	20.3	20.73
	3	0	20.22	20.32	20.73
	3	1	20.2	20.32	20.69
	3	3	20.16	20.29	20.69
	6	0	19.19	19.31	19.69
16QAM	1	0	19.25	19.3	19.76
	1	2	19.17	19.3	19.73
	1	5	19.24	19.29	19.73
	3	0	19.17	19.34	19.75
	3	1	19.23	19.3	19.7
	3	3	19.17	19.32	19.68
	6	0	18.21	18.3	18.76

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.19	20.82	22.09	23.72	30
16QAM	18.21	19.76	21.11	22.66	30

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 4, Channel Bandwidth: 3 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 19965	CH 20175	CH 20385
			1711.5 MHz	1732.5 MHz	1753.5 MHz
QPSK	1	0	20.31	20.47	20.8
	1	7	20.25	20.35	20.67
	1	14	20.21	20.27	20.68
	8	0	19.33	19.43	19.86
	8	3	19.28	19.4	19.77
	8	7	19.23	19.34	19.73
	15	0	19.26	19.41	19.77
16QAM	1	0	19.29	19.41	19.76
	1	7	19.19	19.39	19.76
	1	14	19.3	19.41	19.77
	8	0	18.17	18.45	18.84
	8	3	18.3	18.39	18.8
	8	7	18.29	18.36	18.72
	15	0	18.32	18.45	18.83

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.23	20.8	22.13	23.7	30
16QAM	18.17	19.77	21.07	22.67	30

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 4, Channel Bandwidth: 5 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 19975	CH 20175	CH 20375
			1712.5 MHz	1732.5 MHz	1752.5 MHz
QPSK	1	0	20.36	20.41	20.81
	1	12	20.25	20.38	20.73
	1	24	20.19	20.27	20.72
	12	0	19.34	19.44	19.85
	12	6	19.26	19.35	19.79
	12	13	19.19	19.31	19.73
	25	0	19.3	19.37	19.81
16QAM	1	0	19.24	19.38	19.84
	1	12	19.23	19.41	19.84
	1	24	19.17	19.44	19.78
	12	0	18.23	18.39	18.71
	12	6	18.21	18.37	18.77
	12	13	18.17	18.34	18.77
	25	0	18.2	18.3	18.84

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.19	20.81	22.09	23.71	30
16QAM	18.17	19.84	21.07	22.74	30

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 4, Channel Bandwidth: 10 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 20000	CH 20175	CH 20350
			1715 MHz	1732.5 MHz	1750 MHz
QPSK	1	0	20.36	20.47	20.85
	1	24	20.28	20.39	20.71
	1	49	20.18	20.37	20.76
	25	0	19.36	19.47	19.88
	25	12	19.31	19.39	19.8
	25	25	19.21	19.32	19.72
	50	0	19.27	19.41	19.82
16QAM	1	0	19.24	19.47	19.8
	1	24	19.27	19.44	19.77
	1	49	19.32	19.47	19.71
	25	0	18.29	18.32	18.82
	25	12	18.3	18.39	18.72
	25	25	18.34	18.46	18.86
	50	0	18.29	18.31	18.75

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.21	20.85	22.11	23.75	30
16QAM	18.29	19.8	21.19	22.7	30

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 4, Channel Bandwidth: 15 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 20025	CH 20175	CH 20325
			1717.5 MHz	1732.5 MHz	1747.5 MHz
QPSK	1	0	20.4	20.52	20.88
	1	37	20.32	20.43	20.82
	1	74	20.3	20.35	20.84
	36	0	19.39	19.5	19.9
	36	19	19.36	19.44	19.84
	36	39	19.29	19.4	19.81
	75	0	19.31	19.41	19.81
16QAM	1	0	19.26	19.52	19.85
	1	37	19.37	19.49	19.9
	1	74	19.28	19.52	19.82
	36	0	18.26	18.52	18.79
	36	19	18.35	18.38	18.93
	36	39	18.3	18.45	18.76
	75	0	18.25	18.46	18.89

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.29	20.88	22.19	23.78	30
16QAM	18.25	19.9	21.15	22.8	30

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

LTE Band 4, Channel Bandwidth: 20 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 20050	CH 20175	CH 20300
			1720 MHz	1732.5 MHz	1745 MHz
QPSK	1	0	20.42	20.53	20.95
	1	50	20.25	20.36	20.76
	1	99	20.32	20.41	20.78
	50	0	19.38	19.51	19.92
	50	25	19.35	19.46	19.84
	50	50	19.28	19.4	19.78
	100	0	19.31	19.43	19.83
16QAM	1	0	19.3	19.52	19.87
	1	50	19.33	19.48	19.78
	1	99	19.24	19.38	19.91
	50	0	18.39	18.48	18.92
	50	25	18.4	18.42	18.8
	50	50	18.31	18.46	18.85
	100	0	18.27	18.41	18.86

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	19.28	20.95	22.18	23.85	30
16QAM	18.27	19.91	21.17	22.81	30

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

7.1.3 LTE Band 12

LTE Band 12, Channel Bandwidth: 1.4 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 23017	CH 23095	CH 23173
			699.7 MHz	707.5 MHz	715.3 MHz
QPSK	1	0	23.83	23.42	23.5
	1	2	23.78	23.32	23.38
	1	5	23.84	23.46	23.46
	3	0	22.91	22.94	22.61
	3	1	22.84	22.74	22.6
	3	3	22.72	22.81	22.5
	6	0	22.79	22.42	22.46
16QAM	1	0	22.81	22.43	22.39
	1	2	22.8	22.43	22.52
	1	5	22.76	22.29	22.35
	3	0	22.81	22.37	22.46
	3	1	22.79	22.36	22.38
	3	3	22.78	22.38	22.43
	6	0	21.81	21.45	21.46

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum ERP (dBm)	Maximum ERP (dBm)	ERP Limit (dBm)
QPSK	22.42	23.84	19.77	21.19	34.77
16QAM	21.45	22.81	18.8	20.16	34.77

Note: ERP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)-2.15

LTE Band 12, Channel Bandwidth: 3 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 23025	CH 23095	CH 23165
			700.5 MHz	707.5 MHz	714.5 MHz
QPSK	1	0	23.83	23.45	23.52
	1	7	23.76	23.35	23.52
	1	14	23.77	23.27	23.44
	8	0	22.78	22.42	22.38
	8	3	22.78	22.32	22.54
	8	7	22.79	22.4	22.39
	15	0	22.8	22.42	22.44
16QAM	1	0	22.77	22.27	22.39
	1	7	22.79	22.43	22.41
	1	14	22.82	22.46	22.43
	8	0	21.8	21.42	21.46
	8	3	21.78	21.35	21.53
	8	7	21.78	21.28	21.47
	15	0	21.8	21.32	21.36

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum ERP (dBm)	Maximum ERP (dBm)	ERP Limit (dBm)
QPSK	22.32	23.83	19.67	21.18	34.77
16QAM	21.28	22.82	18.63	20.17	34.77

Note: ERP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)-2.15

LTE Band 12, Channel Bandwidth: 5 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 23035	CH 23095	CH 23155
			701.5 MHz	707.5 MHz	713.5 MHz
QPSK	1	0	23.83	23.37	23.52
	1	12	23.79	23.3	23.53
	1	24	23.76	23.29	23.38
	12	0	22.82	22.35	22.52
	12	6	22.84	22.41	22.48
	12	13	22.83	22.28	22.4
	25	0	22.78	22.31	22.43
16QAM	1	0	22.84	22.35	22.36
	1	12	22.77	22.28	22.41
	1	24	22.79	22.37	22.39
	12	0	21.81	21.43	21.35
	12	6	21.82	21.29	21.36
	12	13	21.81	21.43	21.39
	25	0	21.77	21.44	21.38

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum ERP (dBm)	Maximum ERP (dBm)	ERP Limit (dBm)
QPSK	22.28	23.83	19.63	21.18	34.77
16QAM	21.29	22.84	18.64	20.19	34.77

Note: ERP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)-2.15

LTE Band 12, Channel Bandwidth: 10 MHz

Modulation	RB Size	RB Offset	Measurement Conducted Power (dBm)		
			CH 23060	CH 23095	CH 23130
			704 MHz	707.5 MHz	711 MHz
QPSK	1	0	23.86	23.56	23.64
	1	24	23.84	23.46	23.42
	1	49	23.81	23.27	23.54
	25	0	22.95	22.54	22.36
	25	12	22.79	22.35	22.4
	25	25	22.77	22.3	22.44
	50	0	22.82	22.48	22.54
16QAM	1	0	22.8	22.46	22.53
	1	24	22.79	22.33	22.5
	1	49	22.76	22.38	22.39
	25	0	21.84	21.39	21.39
	25	12	21.77	21.27	21.37
	25	25	21.78	21.44	21.41
	50	0	21.82	21.35	21.47

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum ERP (dBm)	Maximum ERP (dBm)	ERP Limit (dBm)
QPSK	22.3	23.86	19.65	21.21	34.77
16QAM	21.27	22.8	18.62	20.15	34.77

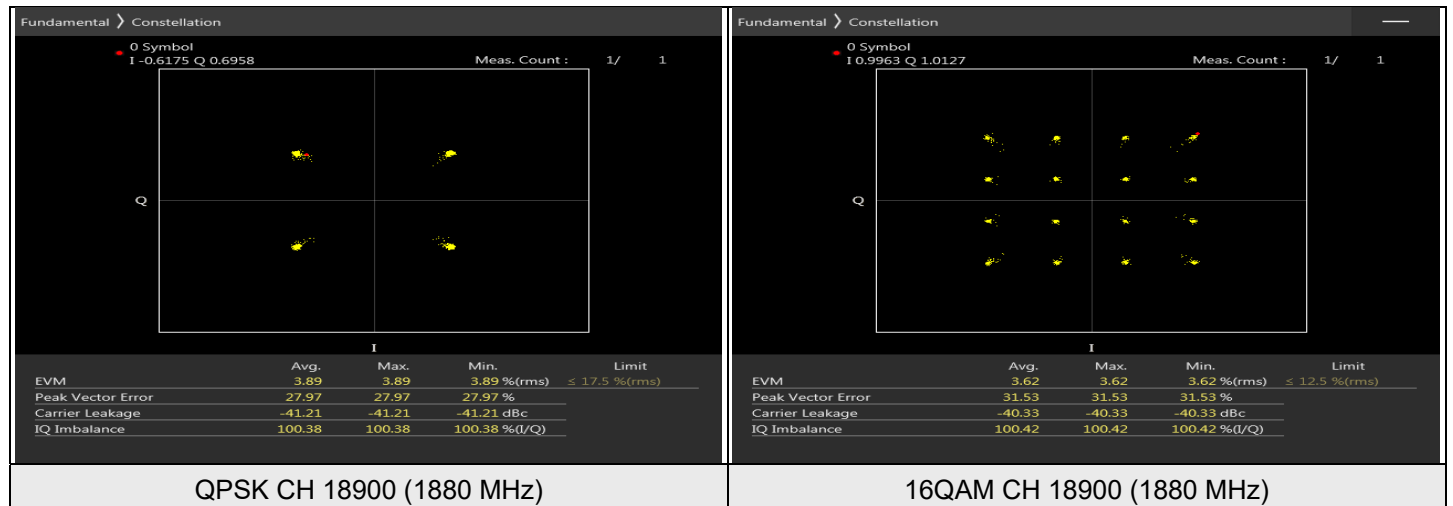
Note: ERP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)-2.15

7.2 Modulation Characteristics

Environmental Conditions:	25°C, 68% RH	Tested By:	Noah Chang
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7.2.1 LTE Band 2

LTE Band 2, Channel Bandwidth: 20 MHz



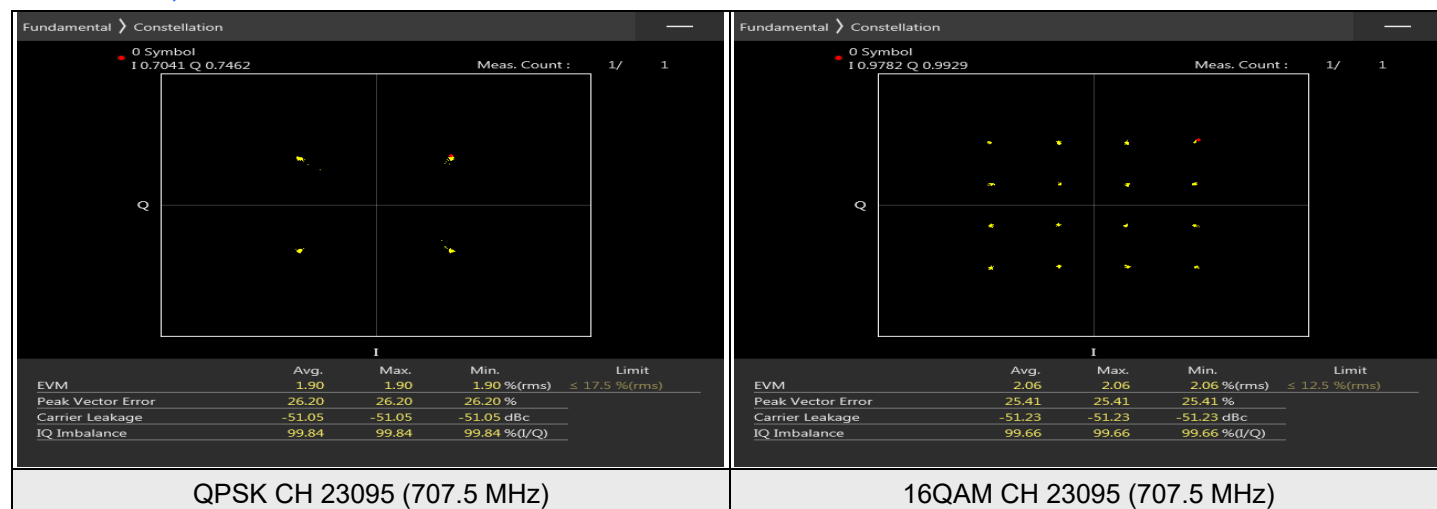
7.2.2 LTE Band 4

LTE Band 4, Channel Bandwidth: 20 MHz



7.2.3 LTE Band 12

LTE Band 12, Channel Bandwidth: 10 MHz



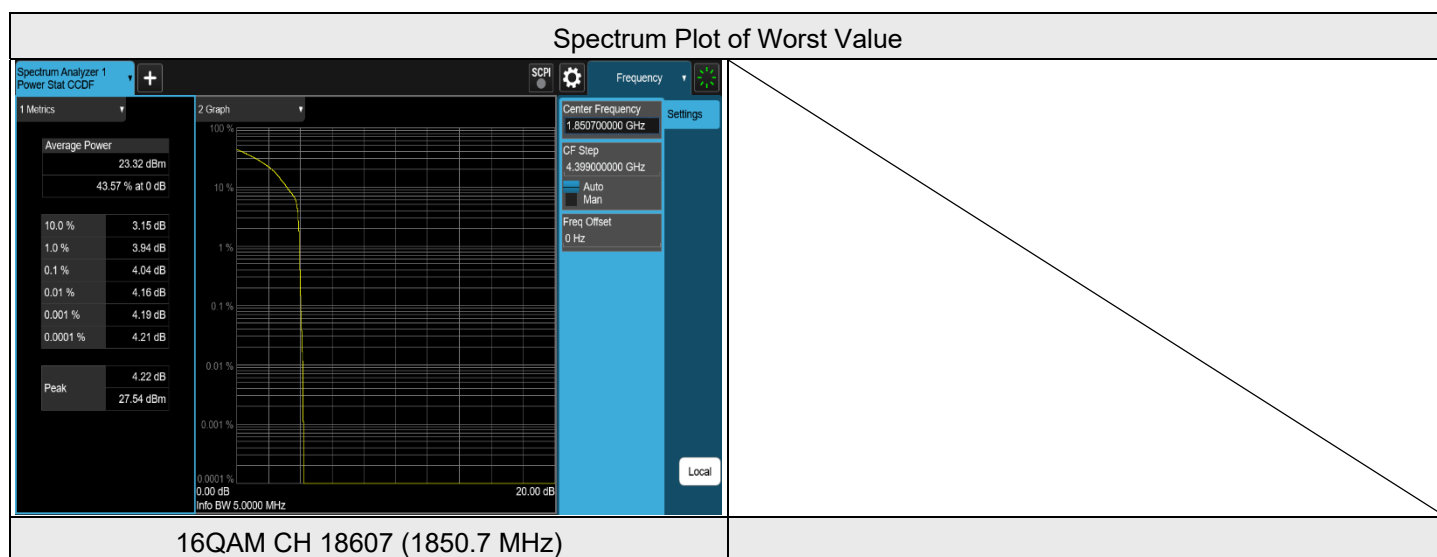
7.3 Peak to Average Ratio

Environmental Conditions:	25°C, 68% RH	Tested By:	Noah Chang
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7.3.1 LTE Band 2

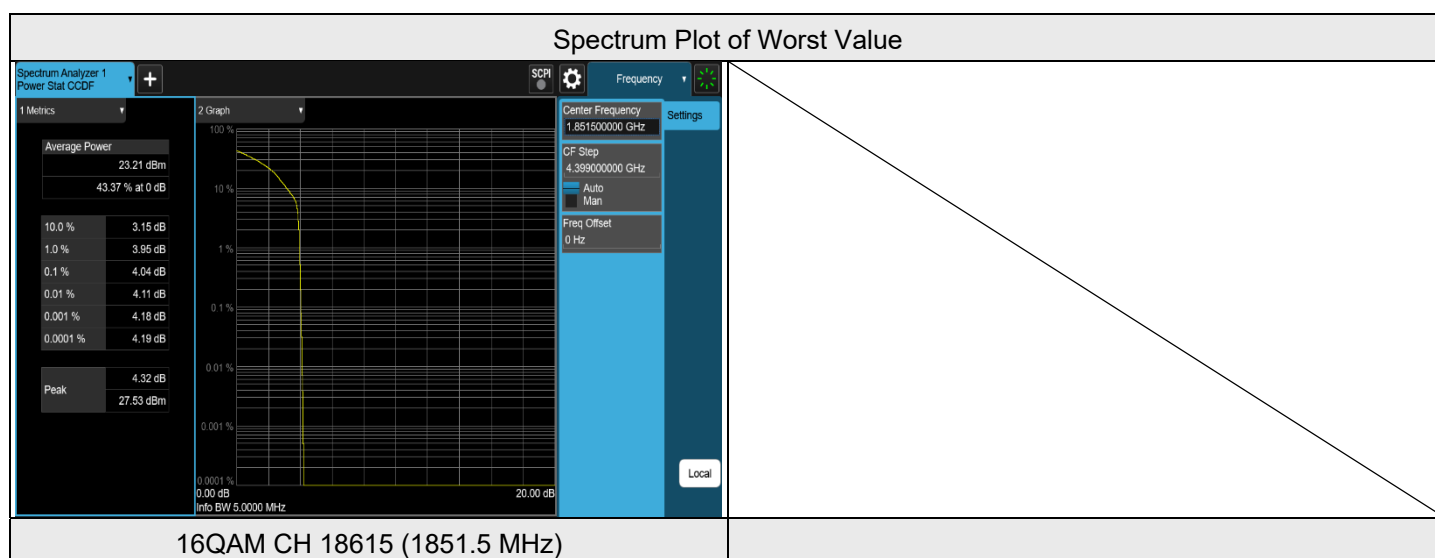
LTE Band 2, Channel Bandwidth: 1.4 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	18607	1850.7	3.23	13	PASS
QPSK	18900	1880	3.23	13	PASS
QPSK	19193	1909.3	3.37	13	PASS
16QAM	18607	1850.7	4.04	13	PASS
16QAM	18900	1880	4.00	13	PASS
16QAM	19193	1909.3	4.03	13	PASS



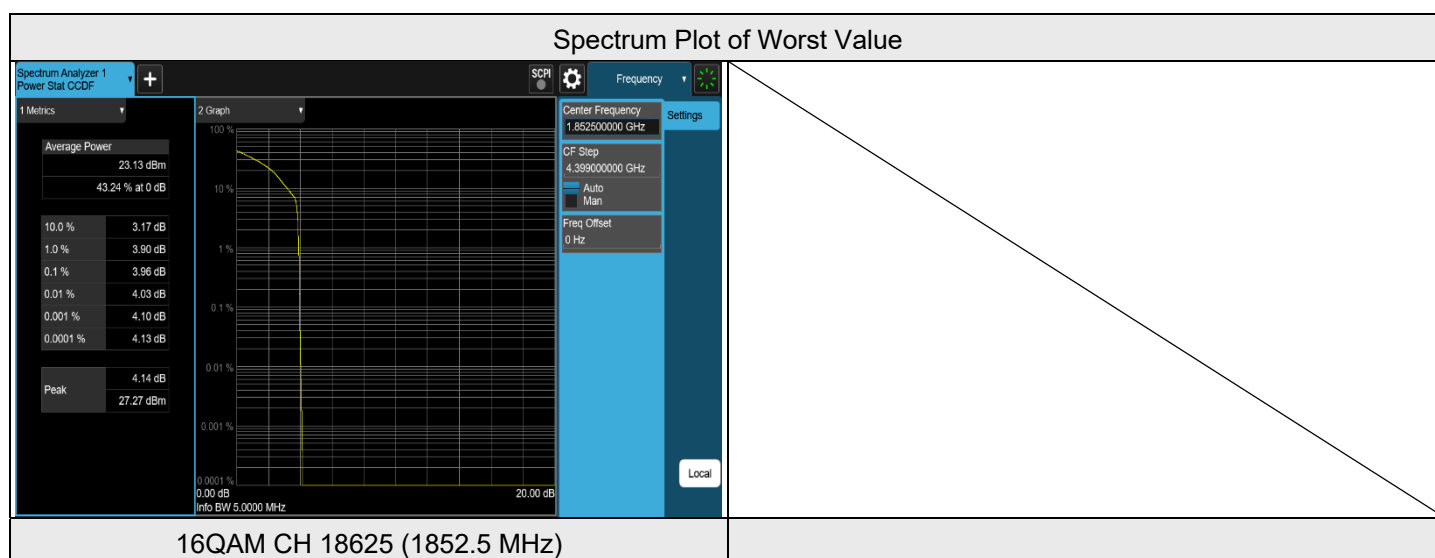
LTE Band 2, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	18615	1851.5	3.28	13	PASS
QPSK	18900	1880	3.25	13	PASS
QPSK	19185	1908.5	3.47	13	PASS
16QAM	18615	1851.5	4.04	13	PASS
16QAM	18900	1880	4.01	13	PASS
16QAM	19185	1908.5	4.04	13	PASS



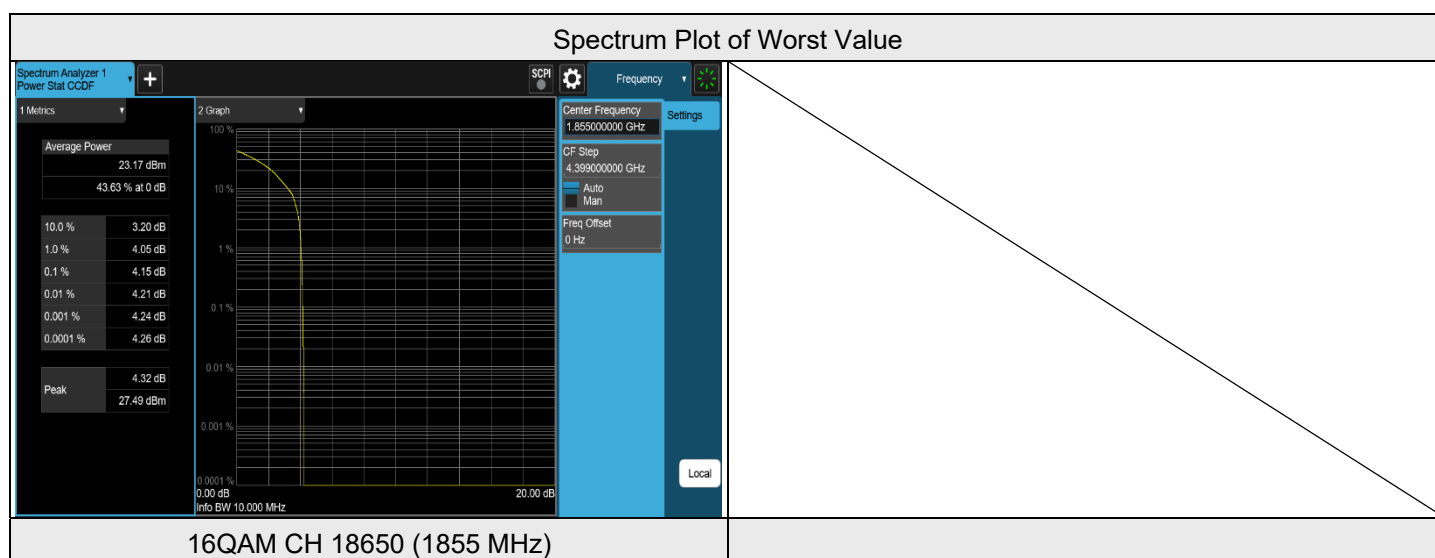
LTE Band 2, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	18625	1852.5	3.48	13	PASS
QPSK	18900	1880	3.21	13	PASS
QPSK	19175	1907.5	3.18	13	PASS
16QAM	18625	1852.5	3.96	13	PASS
16QAM	18900	1880	3.91	13	PASS
16QAM	19175	1907.5	3.92	13	PASS



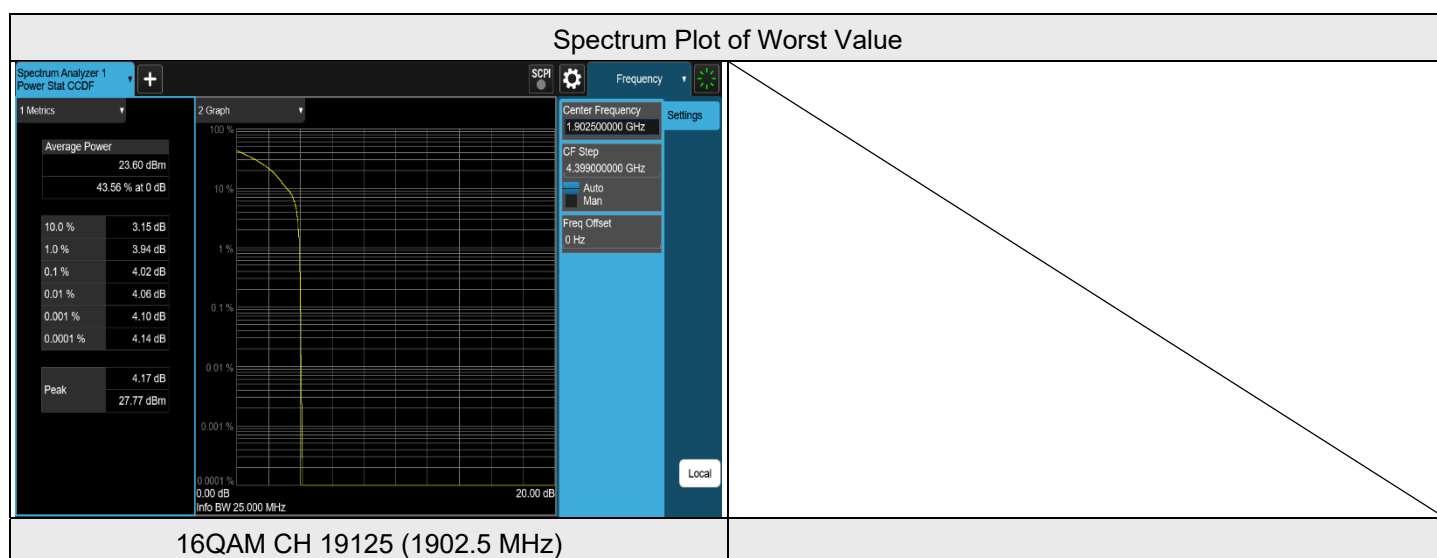
LTE Band 2, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	18650	1855	3.30	13	PASS
QPSK	18900	1880	3.27	13	PASS
QPSK	19150	1905	3.14	13	PASS
16QAM	18650	1855	4.15	13	PASS
16QAM	18900	1880	3.89	13	PASS
16QAM	19150	1905	3.87	13	PASS



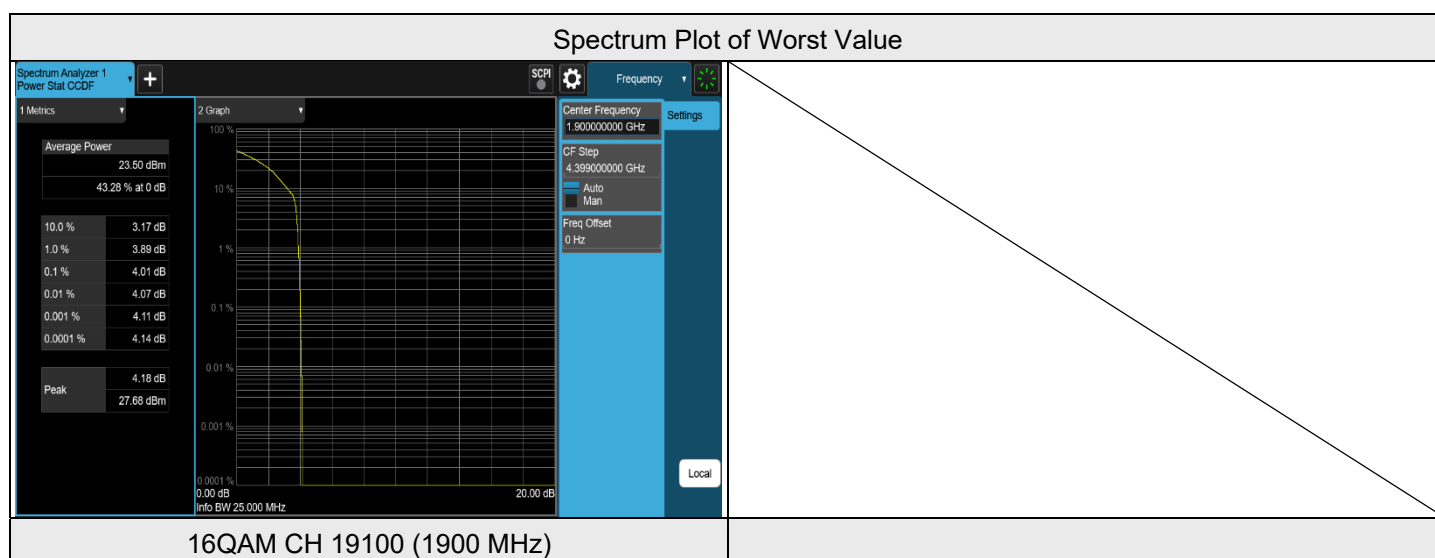
LTE Band 2, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	18675	1857.5	3.23	13	PASS
QPSK	18900	1880	3.22	13	PASS
QPSK	19125	1902.5	3.19	13	PASS
16QAM	18675	1857.5	3.99	13	PASS
16QAM	18900	1880	3.89	13	PASS
16QAM	19125	1902.5	4.02	13	PASS



LTE Band 2, Channel Bandwidth: 20 MHz

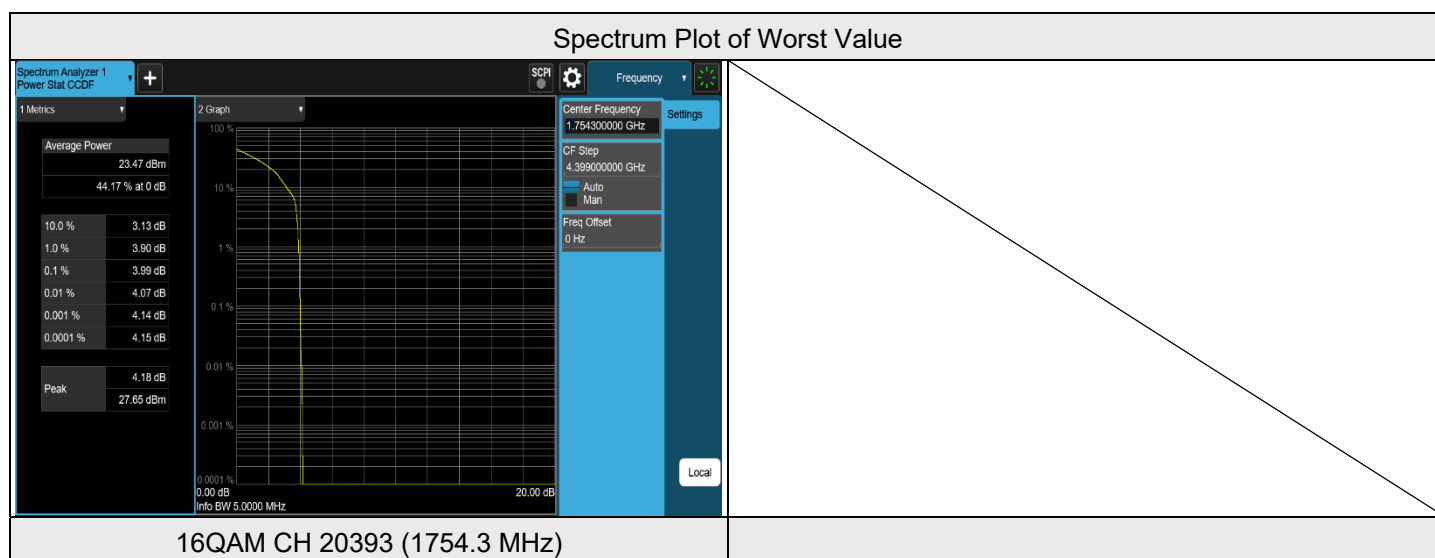
Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	18700	1860	3.47	13	PASS
QPSK	18900	1880	3.13	13	PASS
QPSK	19100	1900	3.30	13	PASS
16QAM	18700	1860	3.95	13	PASS
16QAM	18900	1880	3.87	13	PASS
16QAM	19100	1900	4.01	13	PASS



7.3.2 LTE Band 4

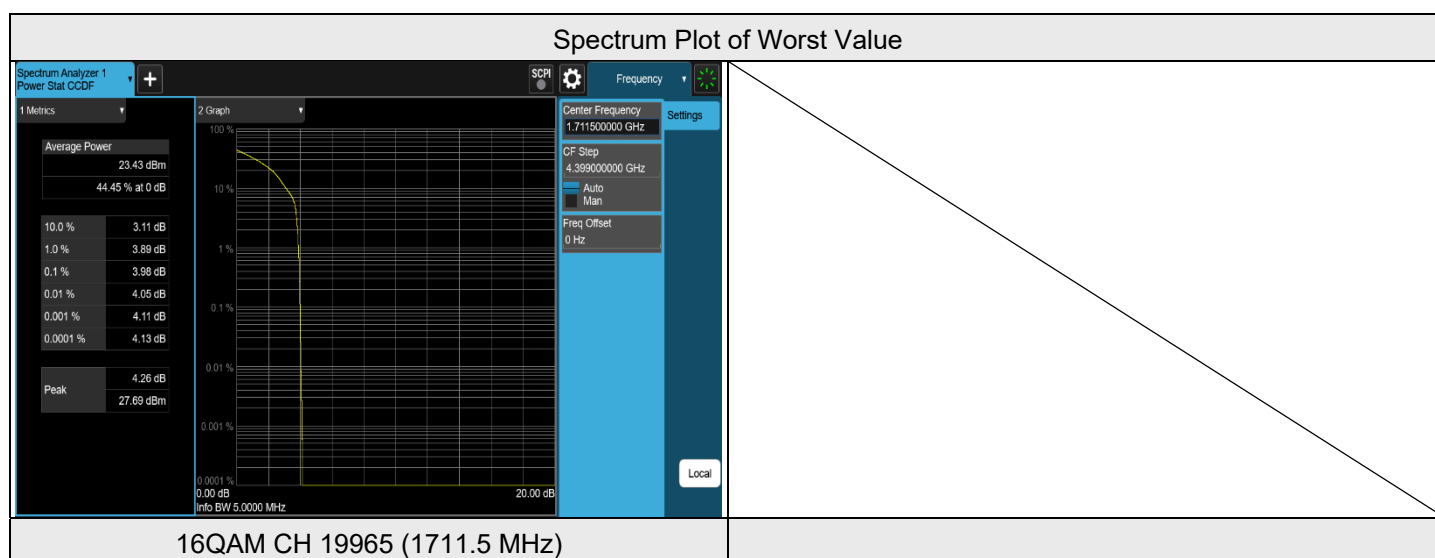
LTE Band 4, Channel Bandwidth: 1.4 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	19957	1710.7	3.19	13	PASS
QPSK	20175	1732.5	3.12	13	PASS
QPSK	20393	1754.3	3.27	13	PASS
16QAM	19957	1710.7	3.96	13	PASS
16QAM	20175	1732.5	3.93	13	PASS
16QAM	20393	1754.3	3.99	13	PASS



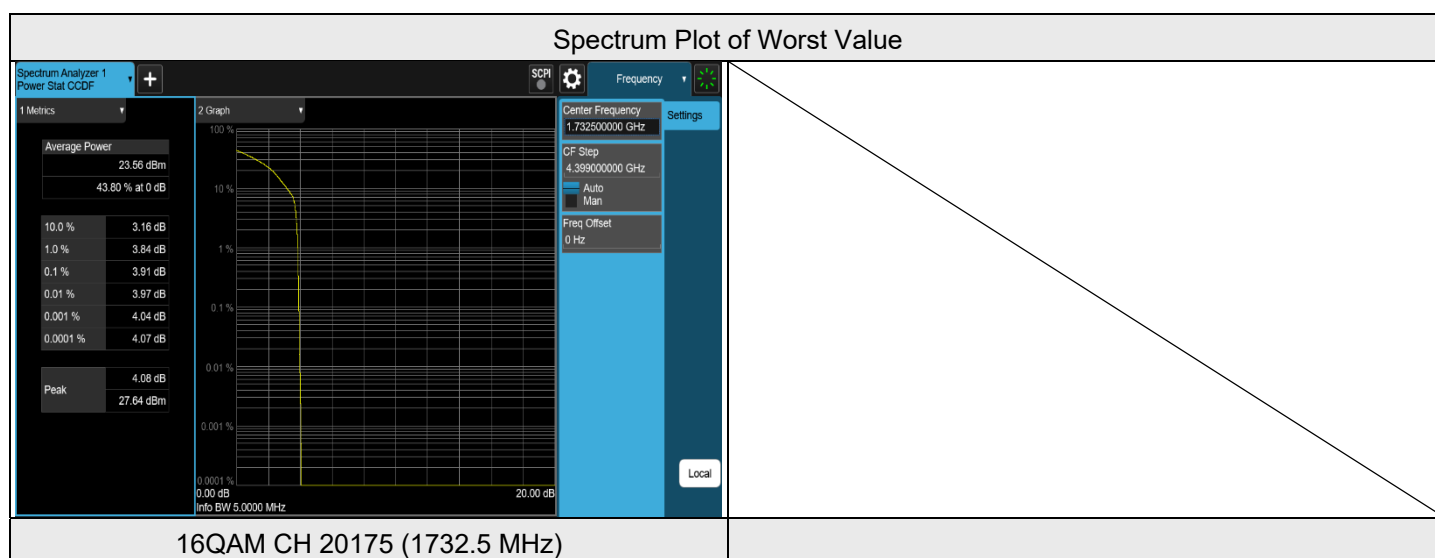
LTE Band 4, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	19965	1711.5	3.17	13	PASS
QPSK	20175	1732.5	3.18	13	PASS
QPSK	20385	1753.5	3.39	13	PASS
16QAM	19965	1711.5	3.98	13	PASS
16QAM	20175	1732.5	3.98	13	PASS
16QAM	20385	1753.5	3.95	13	PASS



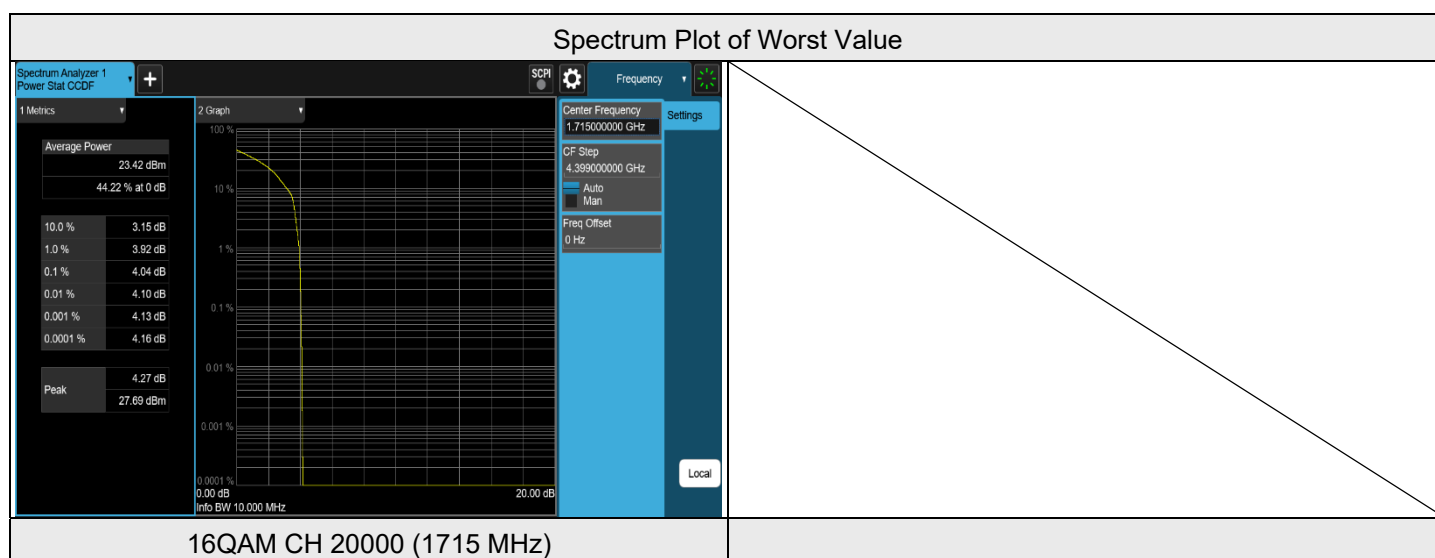
LTE Band 4, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	19975	1712.5	3.12	13	PASS
QPSK	20175	1732.5	3.11	13	PASS
QPSK	20375	1752.5	3.11	13	PASS
16QAM	19975	1712.5	3.90	13	PASS
16QAM	20175	1732.5	3.91	13	PASS
16QAM	20375	1752.5	3.85	13	PASS



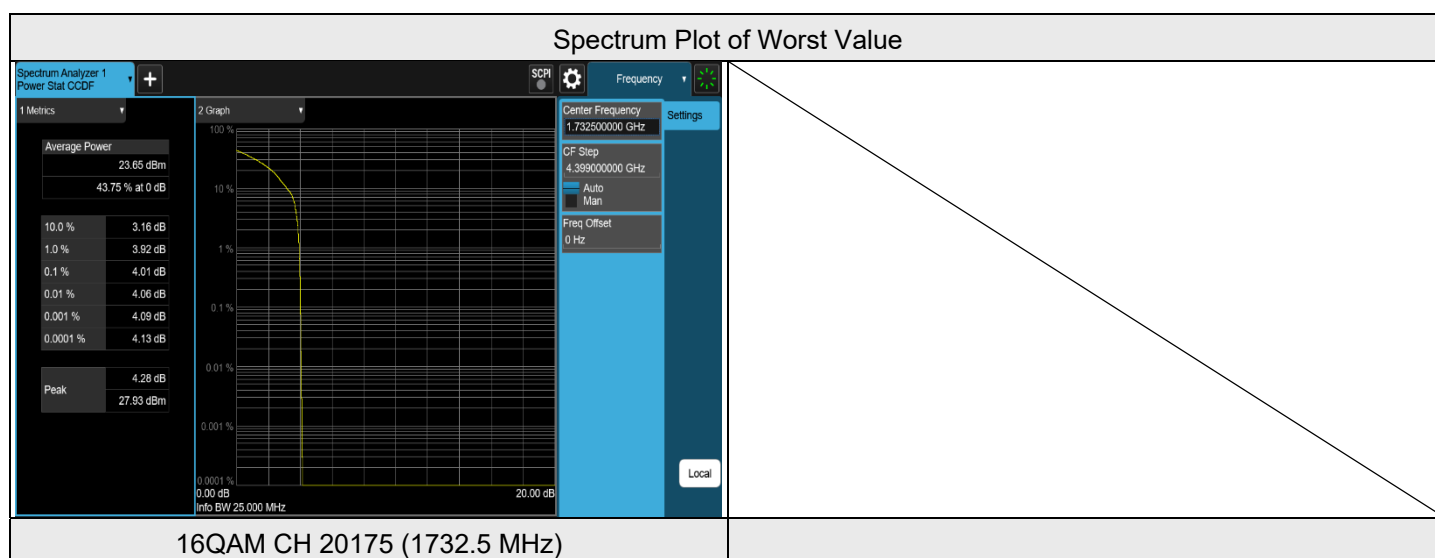
LTE Band 4, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	20000	1715	3.17	13	PASS
QPSK	20175	1732.5	3.21	13	PASS
QPSK	20350	1750	3.00	13	PASS
16QAM	20000	1715	4.04	13	PASS
16QAM	20175	1732.5	3.94	13	PASS
16QAM	20350	1750	3.77	13	PASS



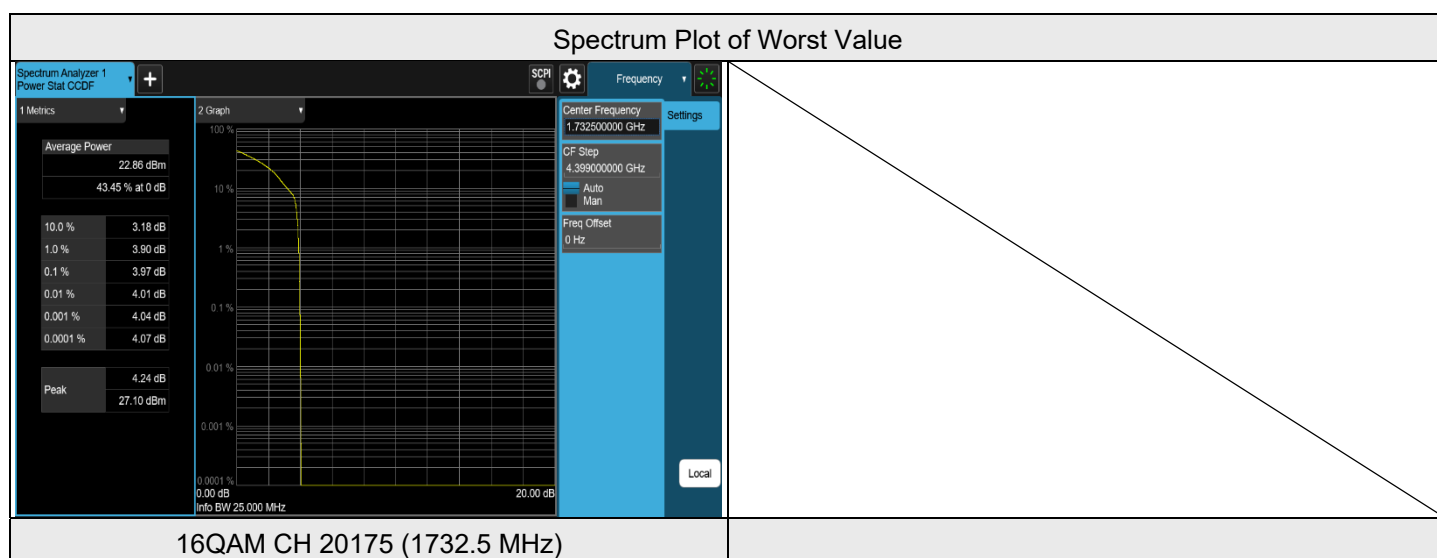
LTE Band 4, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	20025	1717.5	3.15	13	PASS
QPSK	20175	1732.5	3.21	13	PASS
QPSK	20325	1747.5	2.86	13	PASS
16QAM	20025	1717.5	3.89	13	PASS
16QAM	20175	1732.5	4.01	13	PASS
16QAM	20325	1747.5	3.69	13	PASS



LTE Band 4, Channel Bandwidth: 20 MHz

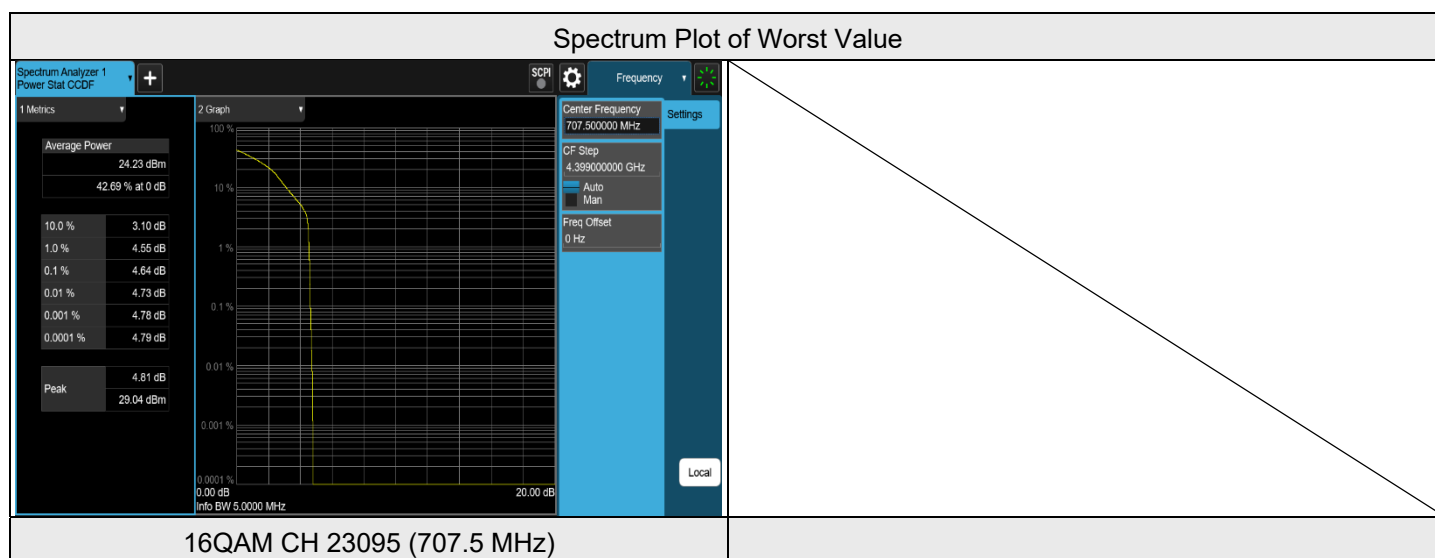
Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	20050	1720	3.20	13	PASS
QPSK	20175	1732.5	3.29	13	PASS
QPSK	20300	1745	2.97	13	PASS
16QAM	20050	1720	3.96	13	PASS
16QAM	20175	1732.5	3.97	13	PASS
16QAM	20300	1745	3.86	13	PASS



7.3.3 LTE Band 12

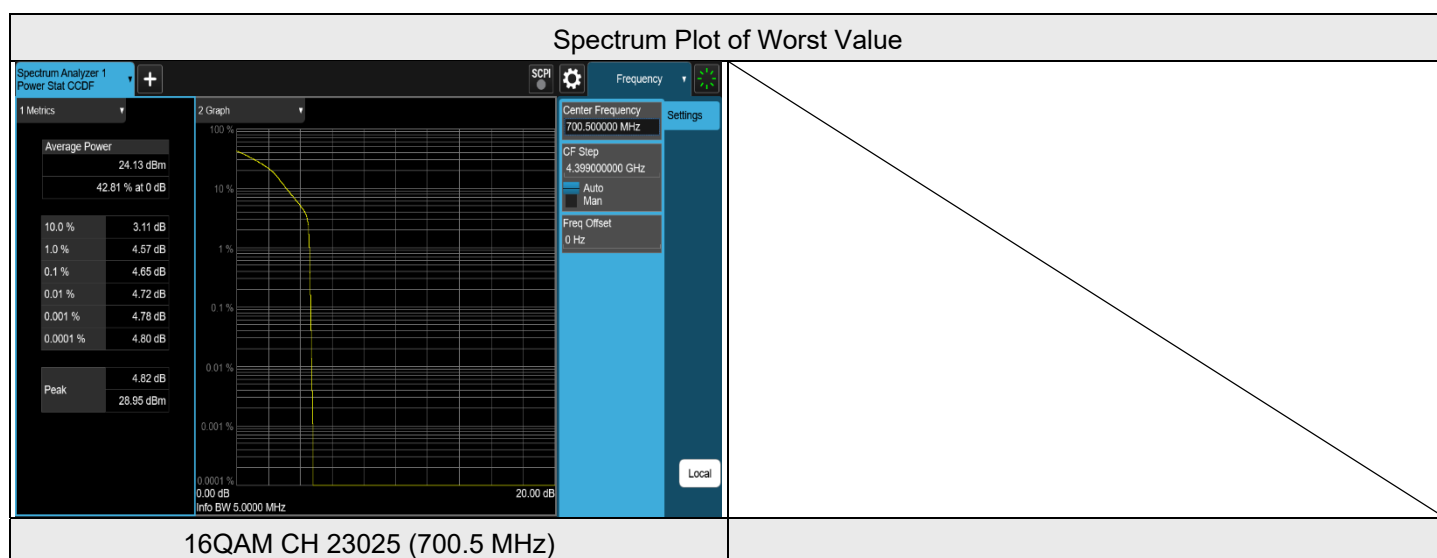
LTE Band 12, Channel Bandwidth: 1.4 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23017	699.7	3.87	13	PASS
QPSK	23095	707.5	3.82	13	PASS
QPSK	23173	715.3	3.77	13	PASS
16QAM	23017	699.7	4.63	13	PASS
16QAM	23095	707.5	4.64	13	PASS
16QAM	23173	715.3	4.59	13	PASS



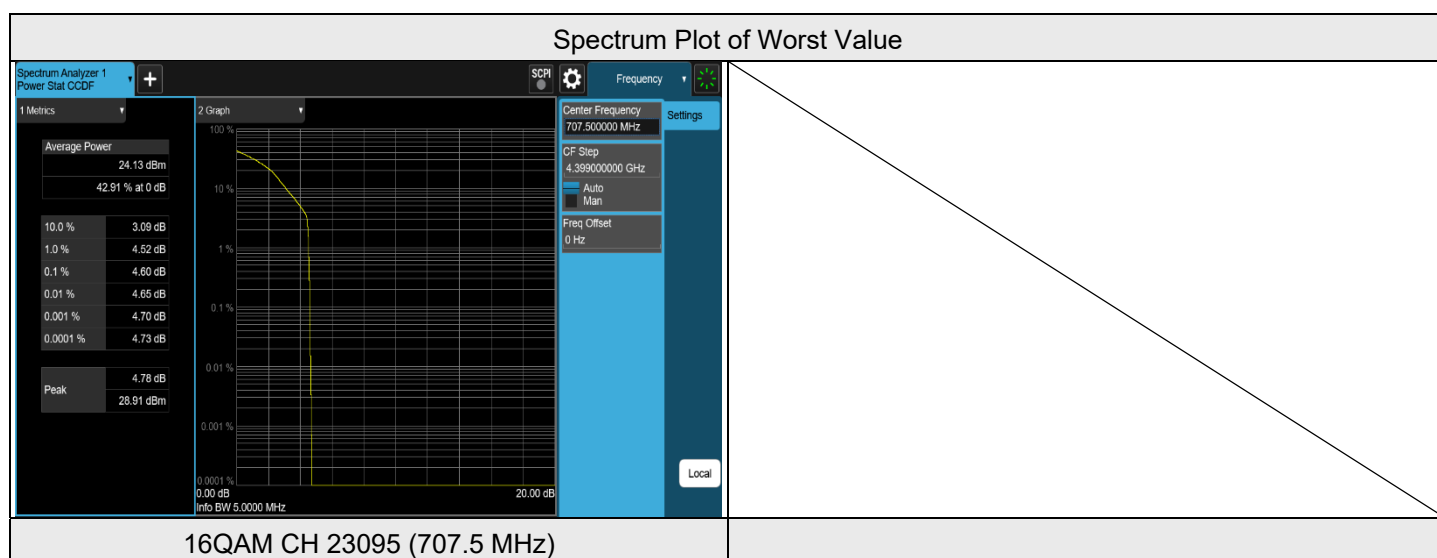
LTE Band 12, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23025	700.5	3.88	13	PASS
QPSK	23095	707.5	3.85	13	PASS
QPSK	23165	714.5	3.82	13	PASS
16QAM	23025	700.5	4.65	13	PASS
16QAM	23095	707.5	4.63	13	PASS
16QAM	23165	714.5	4.61	13	PASS



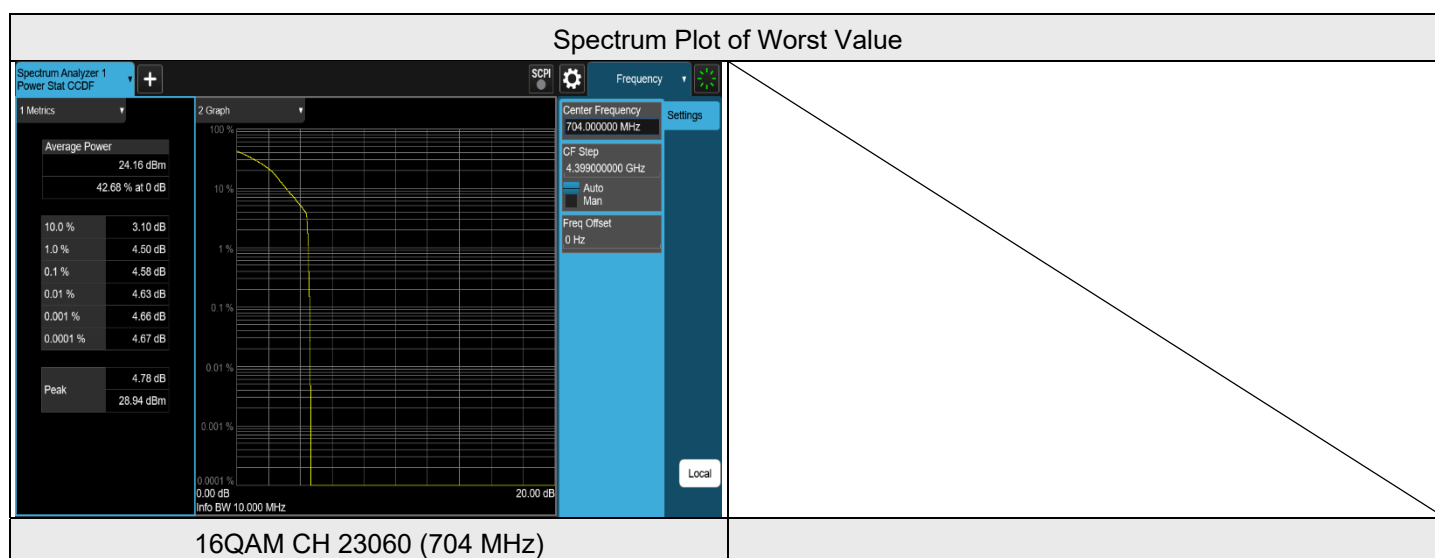
LTE Band 12, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23035	701.5	3.78	13	PASS
QPSK	23095	707.5	3.79	13	PASS
QPSK	23155	713.5	3.76	13	PASS
16QAM	23035	701.5	4.56	13	PASS
16QAM	23095	707.5	4.60	13	PASS
16QAM	23155	713.5	4.54	13	PASS



LTE Band 12, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	23060	704	3.83	13	PASS
QPSK	23095	707.5	3.80	13	PASS
QPSK	23130	711	3.79	13	PASS
16QAM	23060	704	4.58	13	PASS
16QAM	23095	707.5	4.55	13	PASS
16QAM	23130	711	4.54	13	PASS



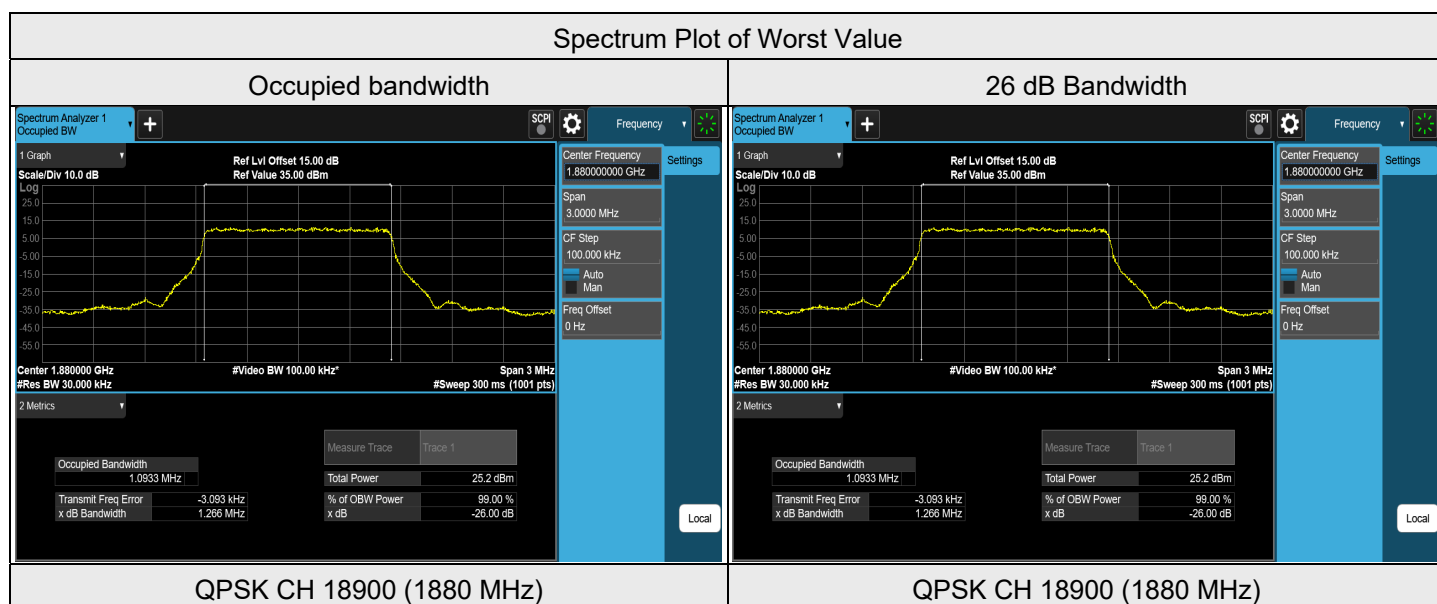
7.4 Bandwidth

Environmental Conditions:	25°C, 68% RH	Tested By:	Noah Chang
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7.4.1 LTE Band 2

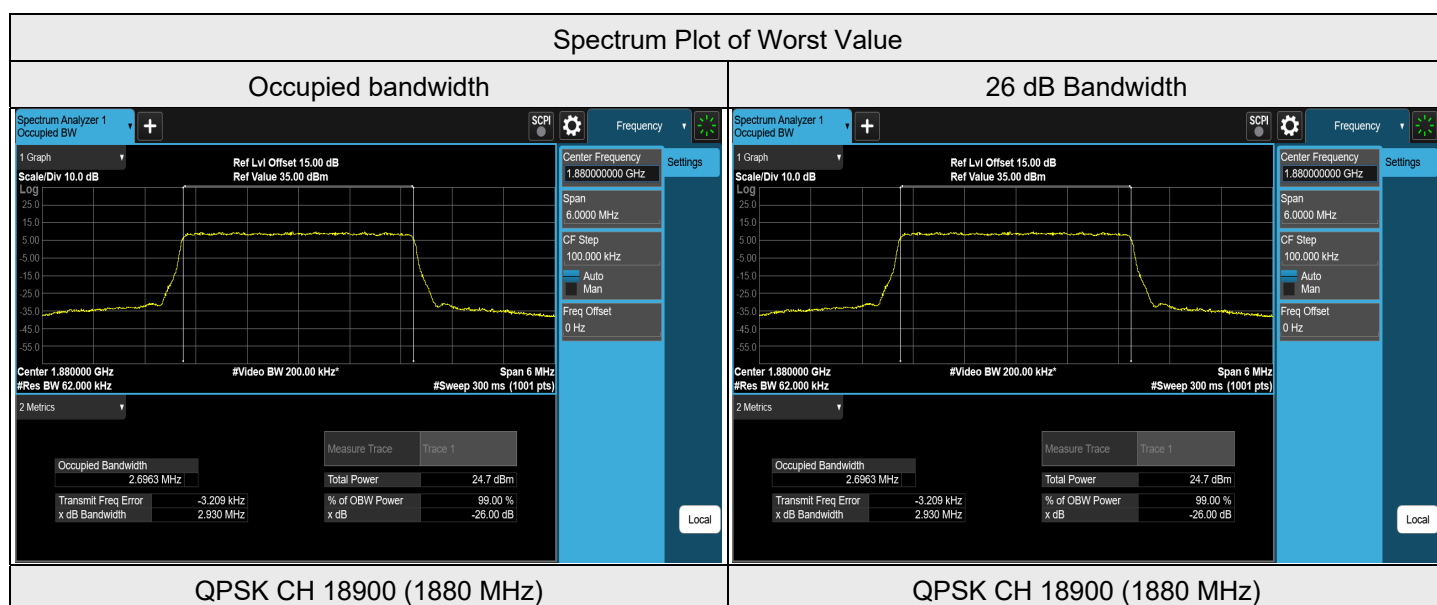
LTE Band 2, Channel Bandwidth: 1.4 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18607	1850.7	1.0884	1.264
QPSK	18900	1880	1.0933	1.266
QPSK	19193	1909.3	1.0922	1.263
16QAM	18607	1850.7	1.0908	1.258
16QAM	18900	1880	1.0889	1.262
16QAM	19193	1909.3	1.0897	1.260



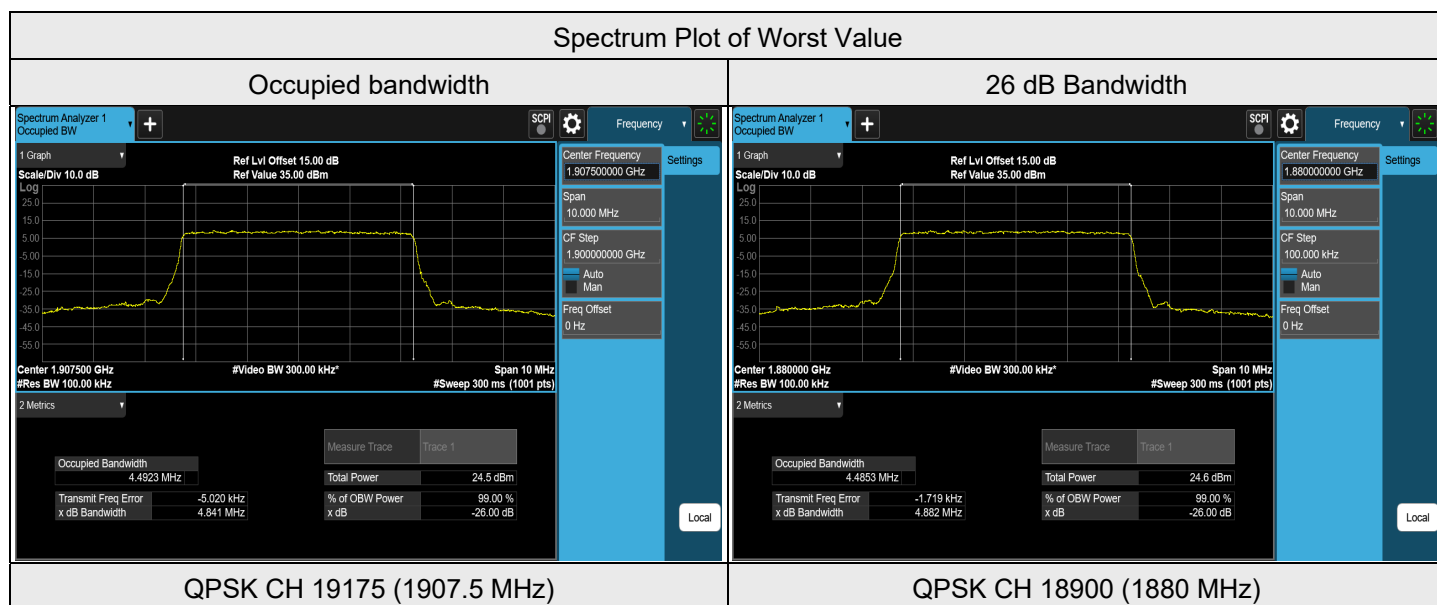
LTE Band 2, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18615	1851.5	2.6959	2.921
QPSK	18900	1880	2.6963	2.930
QPSK	19185	1908.5	2.6958	2.921
16QAM	18615	1851.5	2.6939	2.924
16QAM	18900	1880	2.6948	2.926
16QAM	19185	1908.5	2.6957	2.930



LTE Band 2, Channel Bandwidth: 5 MHz

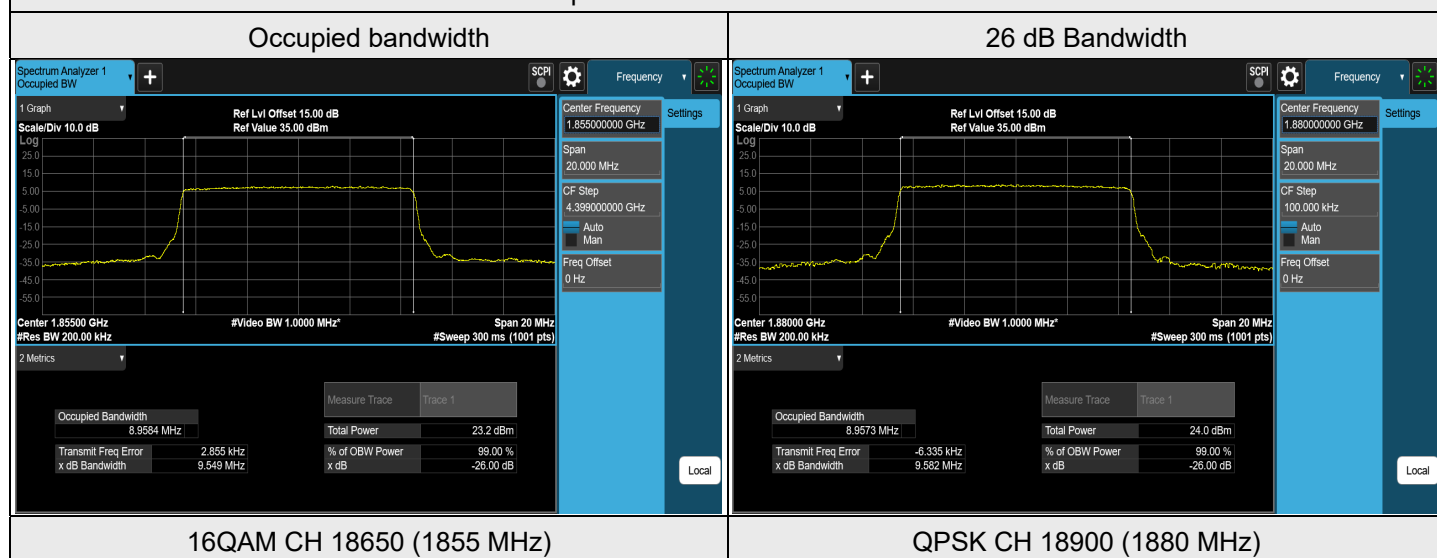
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18625	1852.5	4.4855	4.850
QPSK	18900	1880	4.4853	4.882
QPSK	19175	1907.5	4.4923	4.841
16QAM	18625	1852.5	4.4838	4.818
16QAM	18900	1880	4.4818	4.809
16QAM	19175	1907.5	4.4841	4.823



LTE Band 2, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18650	1855	8.9545	9.568
QPSK	18900	1880	8.9573	9.582
QPSK	19150	1905	8.9531	9.556
16QAM	18650	1855	8.9584	9.549
16QAM	18900	1880	8.9571	9.562
16QAM	19150	1905	8.9499	9.527

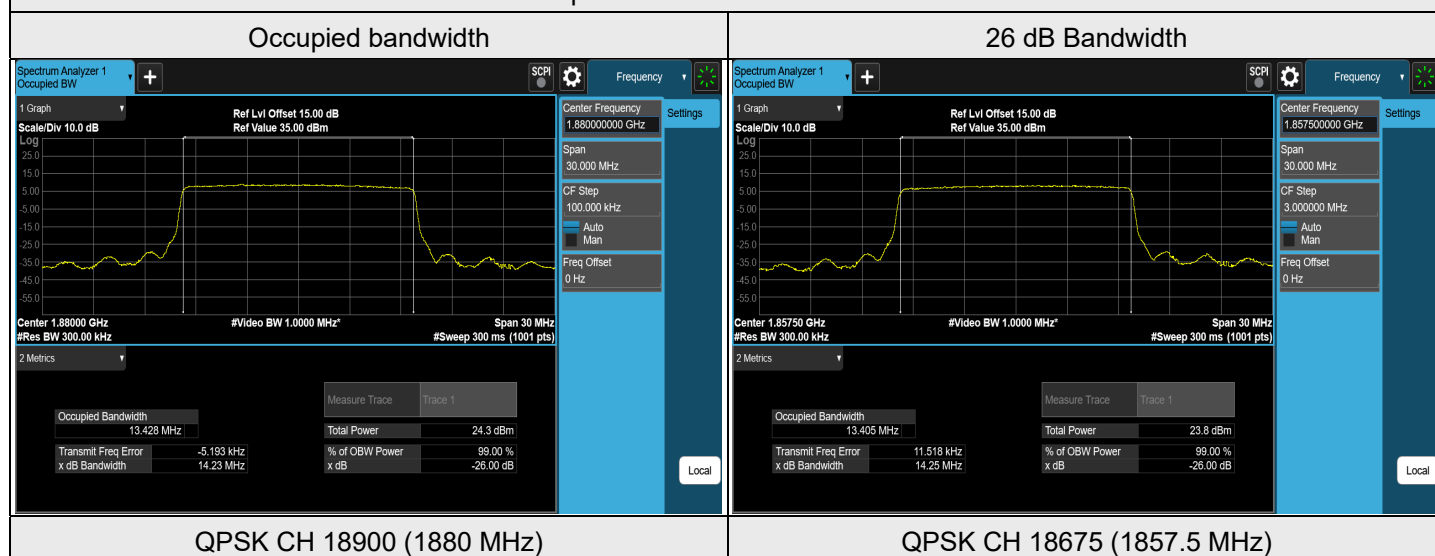
Spectrum Plot of Worst Value



LTE Band 2, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18675	1857.5	13.4046	14.252
QPSK	18900	1880	13.4284	14.231
QPSK	19125	1902.5	13.3848	14.242
16QAM	18675	1857.5	13.4106	14.250
16QAM	18900	1880	13.4052	14.227
16QAM	19125	1902.5	13.3830	14.210

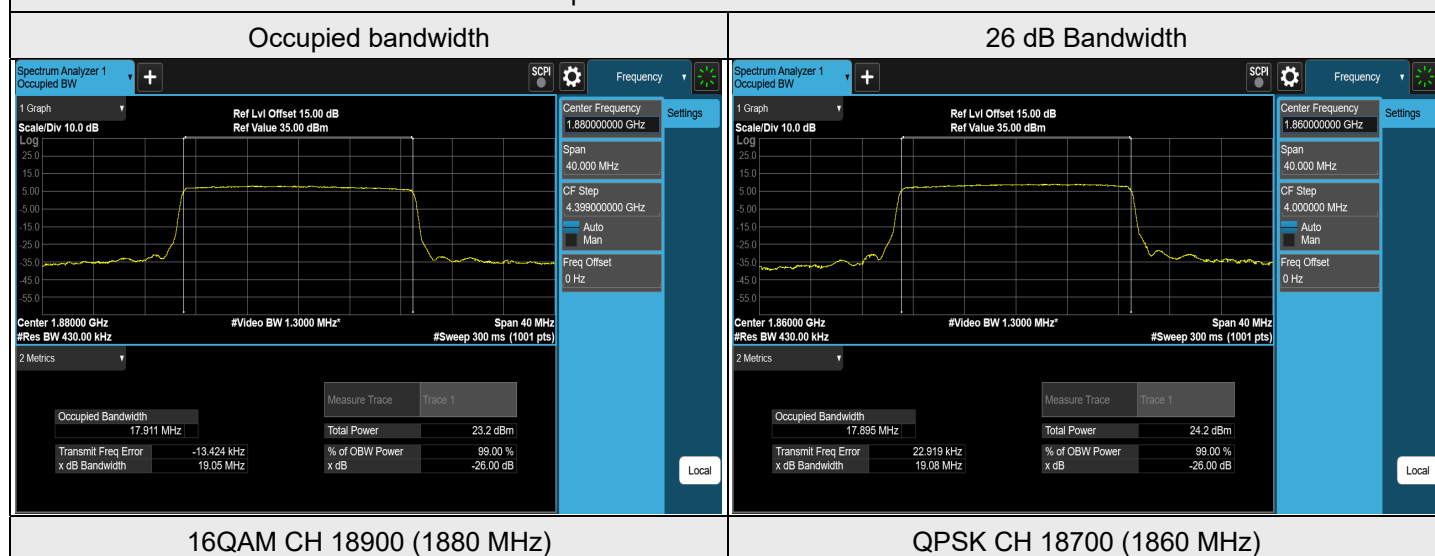
Spectrum Plot of Worst Value



LTE Band 2, Channel Bandwidth: 20 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18700	1860	17.8948	19.076
QPSK	18900	1880	17.8989	19.059
QPSK	19100	1900	17.8678	19.041
16QAM	18700	1860	17.8986	19.038
16QAM	18900	1880	17.9106	19.053
16QAM	19100	1900	17.8709	19.014

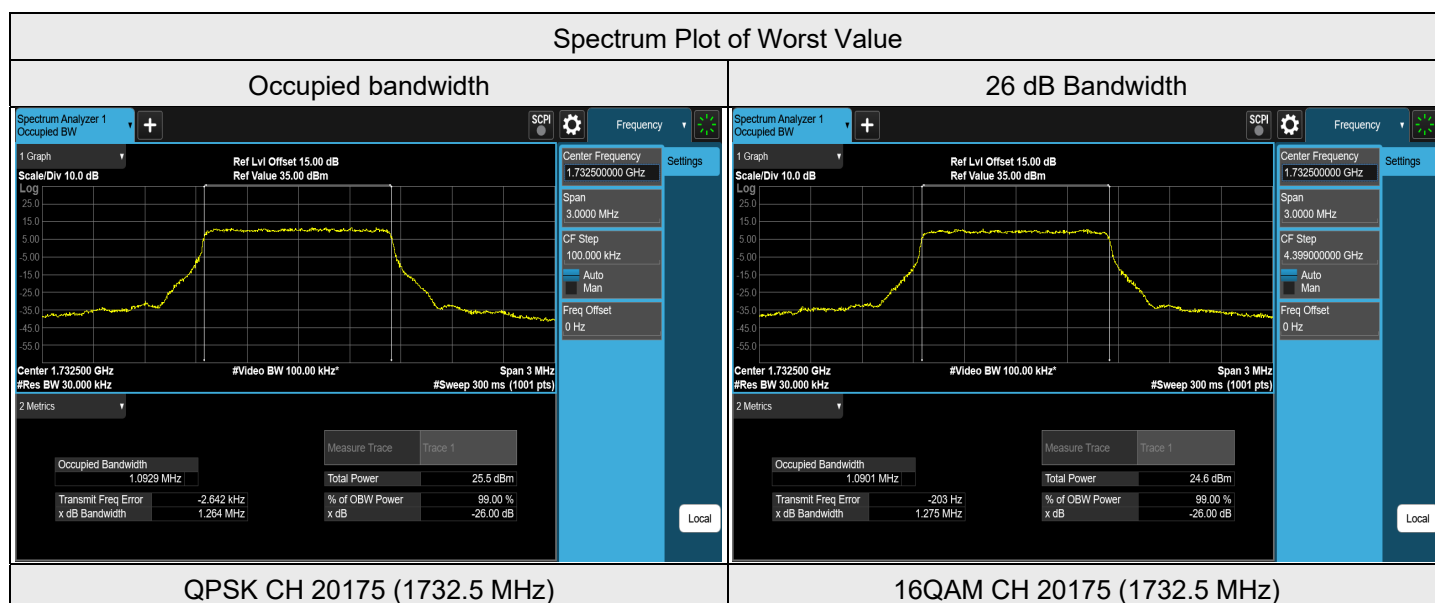
Spectrum Plot of Worst Value



7.4.2 LTE Band 4

LTE Band 4, Channel Bandwidth: 1.4 MHz

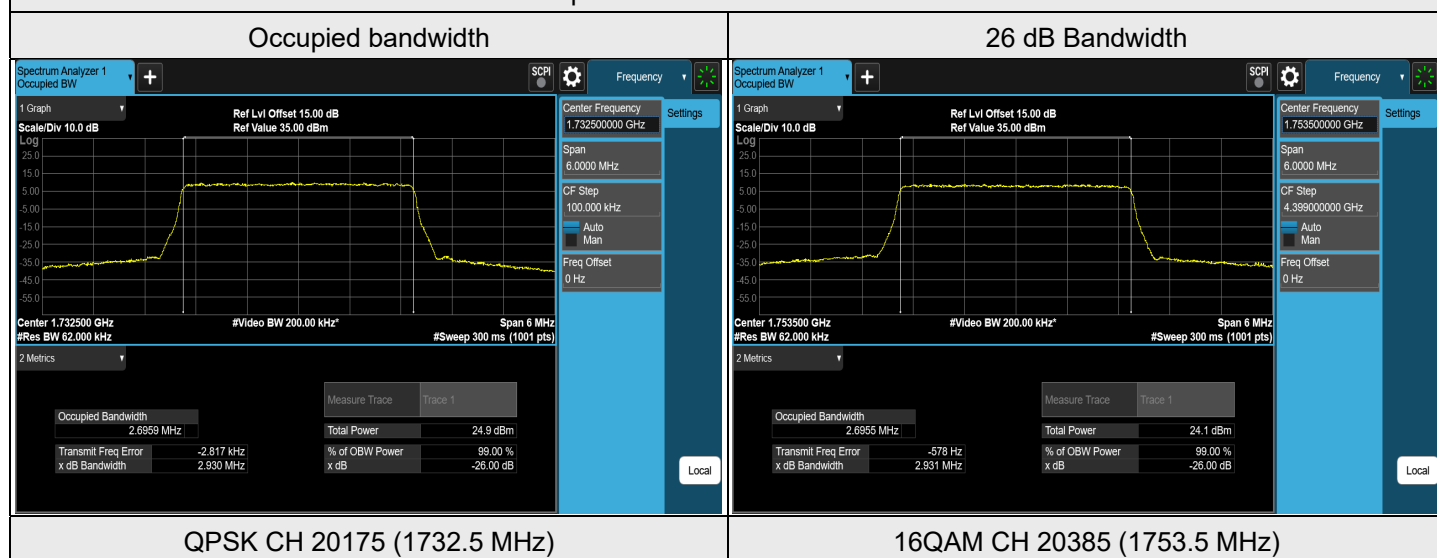
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	19957	1710.7	1.0847	1.260
QPSK	20175	1732.5	1.0929	1.264
QPSK	20393	1754.3	1.0910	1.268
16QAM	19957	1710.7	1.0898	1.257
16QAM	20175	1732.5	1.0901	1.275
16QAM	20393	1754.3	1.0910	1.265



LTE Band 4, Channel Bandwidth: 3 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	19965	1711.5	2.6946	2.929
QPSK	20175	1732.5	2.6959	2.930
QPSK	20385	1753.5	2.6954	2.927
16QAM	19965	1711.5	2.6940	2.920
16QAM	20175	1732.5	2.6943	2.926
16QAM	20385	1753.5	2.6955	2.931

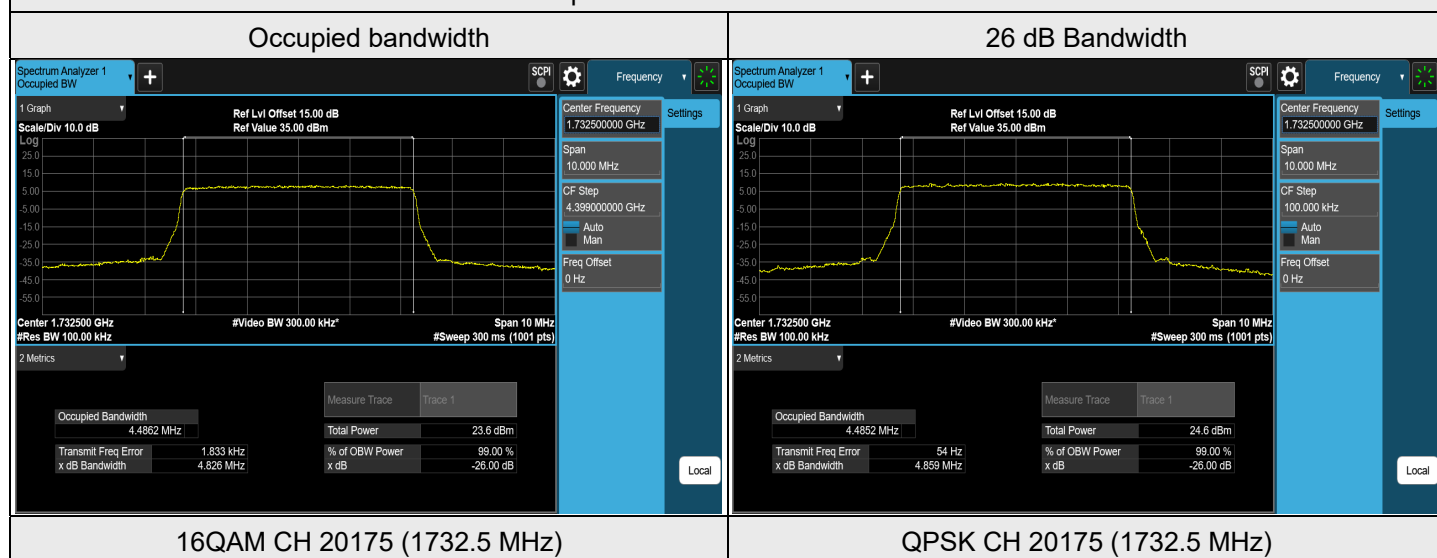
Spectrum Plot of Worst Value



LTE Band 4, Channel Bandwidth: 5 MHz

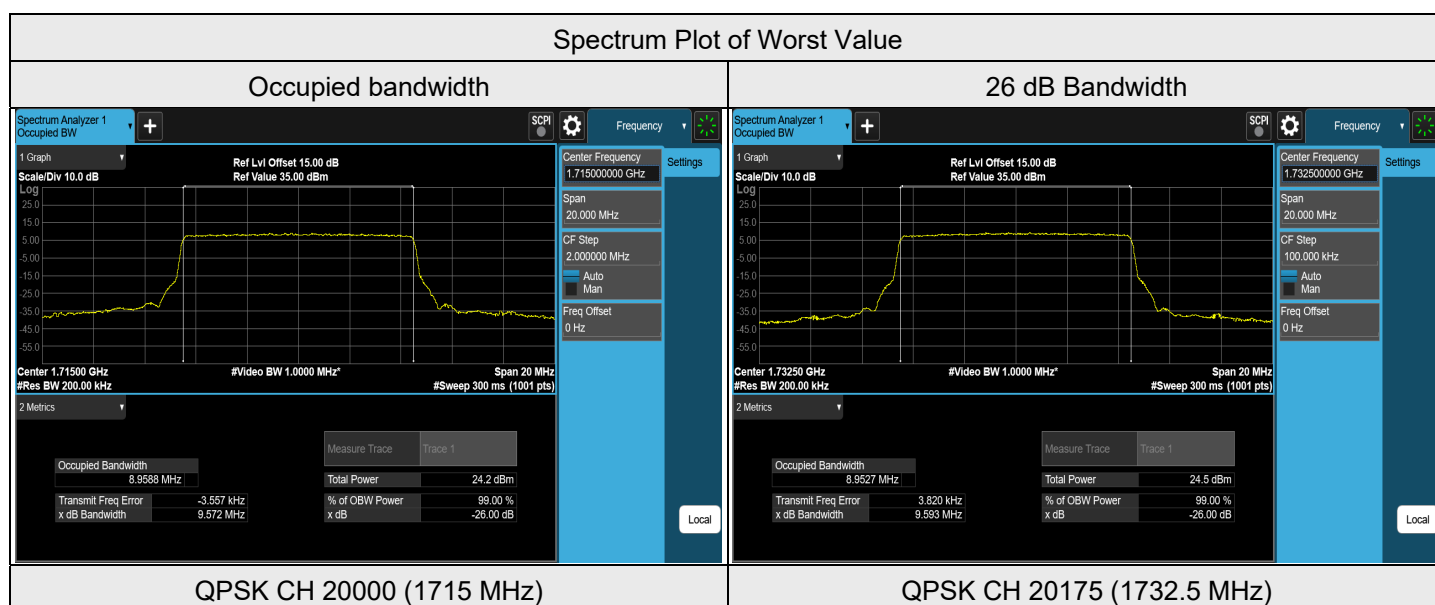
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	19975	1712.5	4.4803	4.813
QPSK	20175	1732.5	4.4852	4.859
QPSK	20375	1752.5	4.4847	4.846
16QAM	19975	1712.5	4.4838	4.807
16QAM	20175	1732.5	4.4862	4.826
16QAM	20375	1752.5	4.4844	4.824

Spectrum Plot of Worst Value



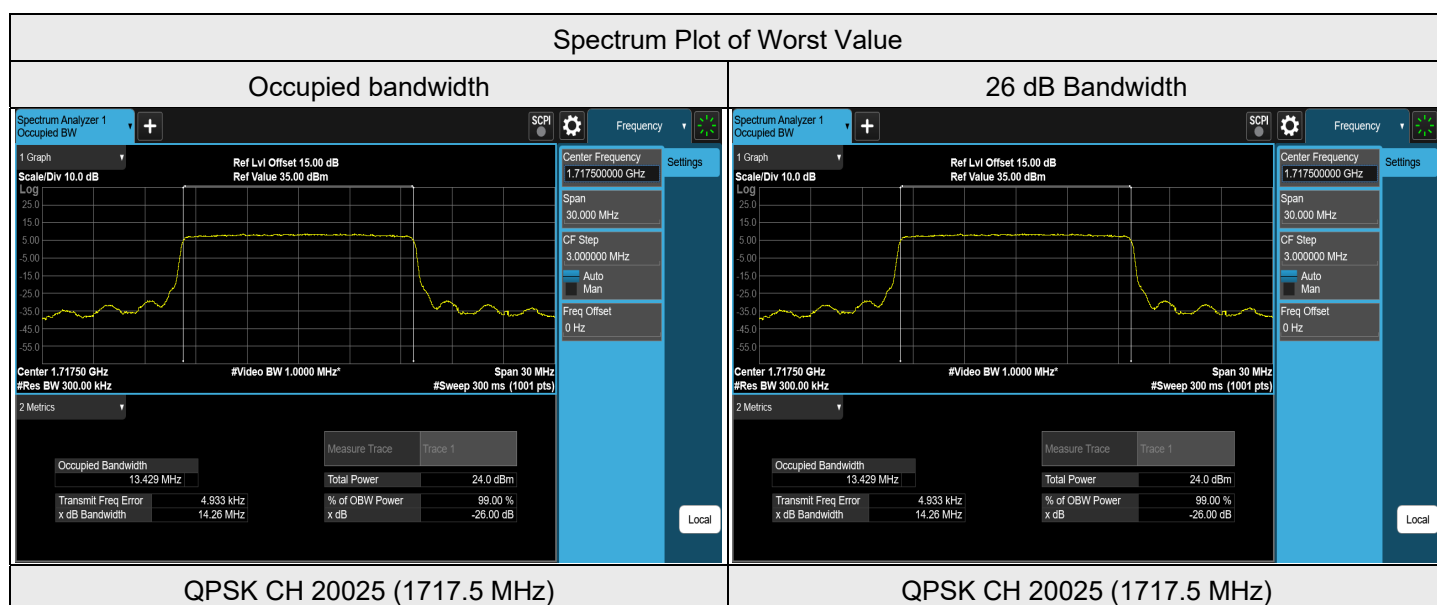
LTE Band 4, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20000	1715	8.9588	9.572
QPSK	20175	1732.5	8.9527	9.593
QPSK	20350	1750	8.9515	9.562
16QAM	20000	1715	8.9550	9.563
16QAM	20175	1732.5	8.9553	9.547
16QAM	20350	1750	8.9527	9.555



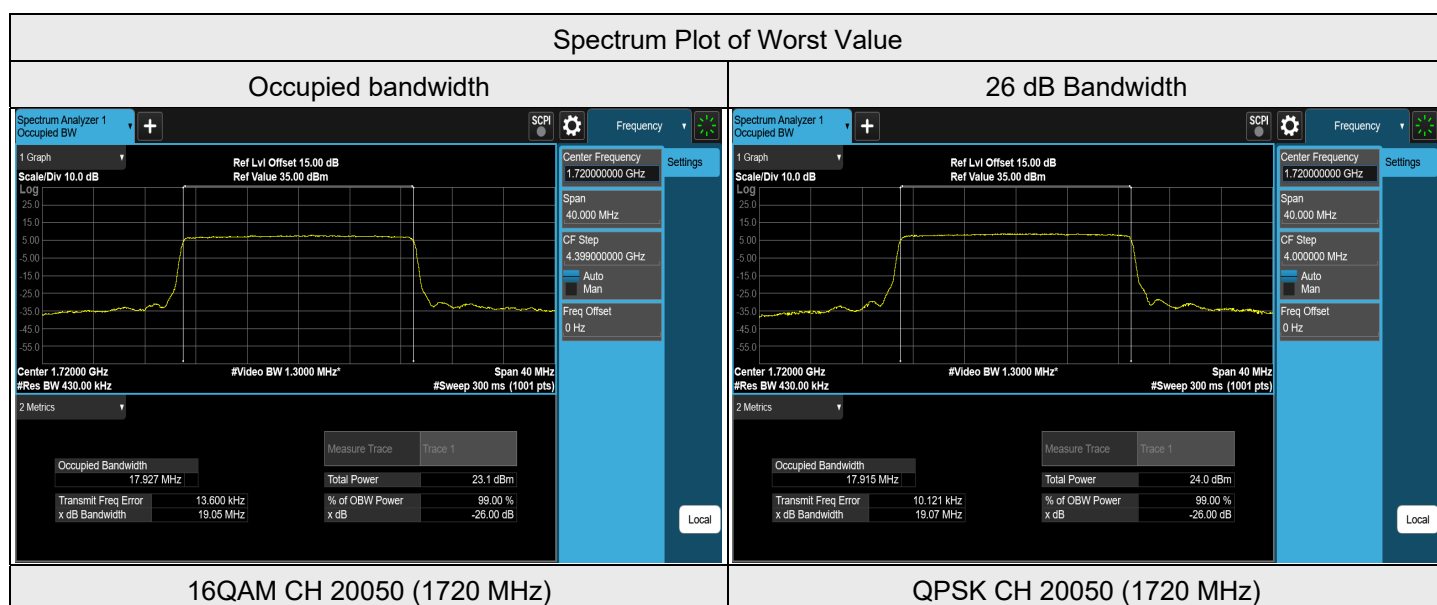
LTE Band 4, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20025	1717.5	13.4287	14.261
QPSK	20175	1732.5	13.3997	14.256
QPSK	20325	1747.5	13.4012	14.258
16QAM	20025	1717.5	13.4160	14.247
16QAM	20175	1732.5	13.3975	14.223
16QAM	20325	1747.5	13.4068	14.239



LTE Band 4, Channel Bandwidth: 20 MHz

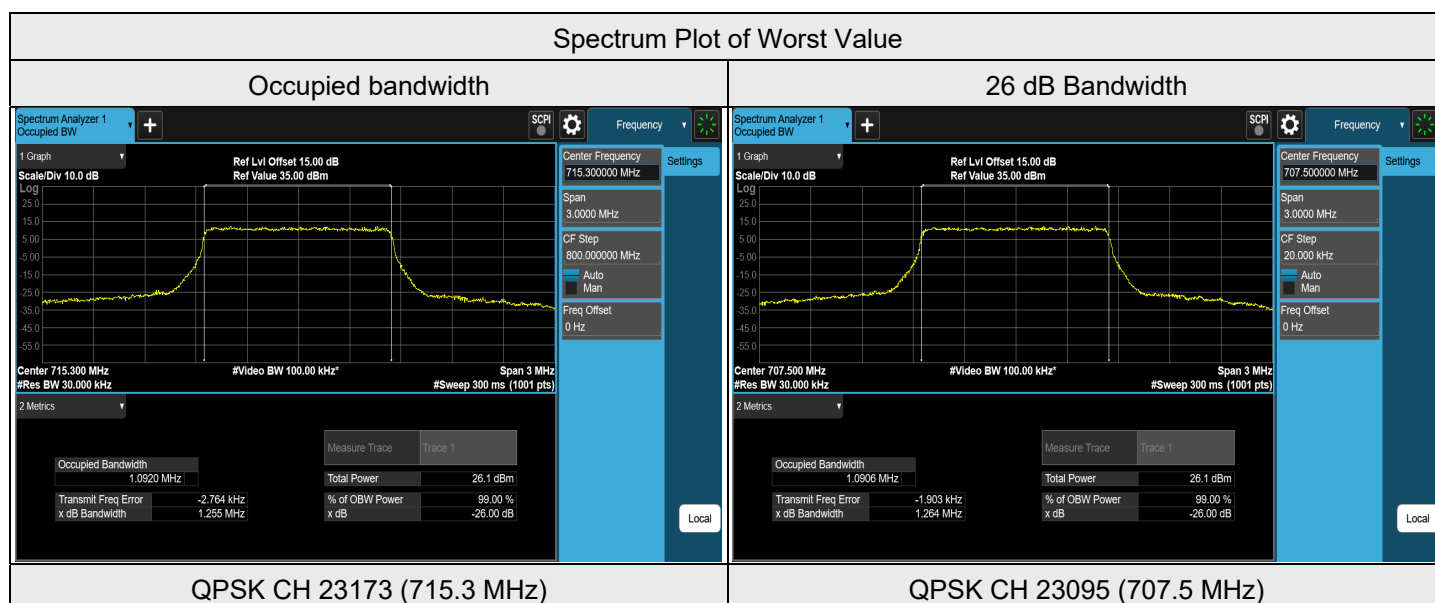
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	20050	1720	17.9146	19.074
QPSK	20175	1732.5	17.8638	19.036
QPSK	20300	1745	17.8846	19.062
16QAM	20050	1720	17.9271	19.053
16QAM	20175	1732.5	17.8912	19.016
16QAM	20300	1745	17.8932	19.020



7.4.3 LTE Band 12

LTE Band 12, Channel Bandwidth: 1.4 MHz

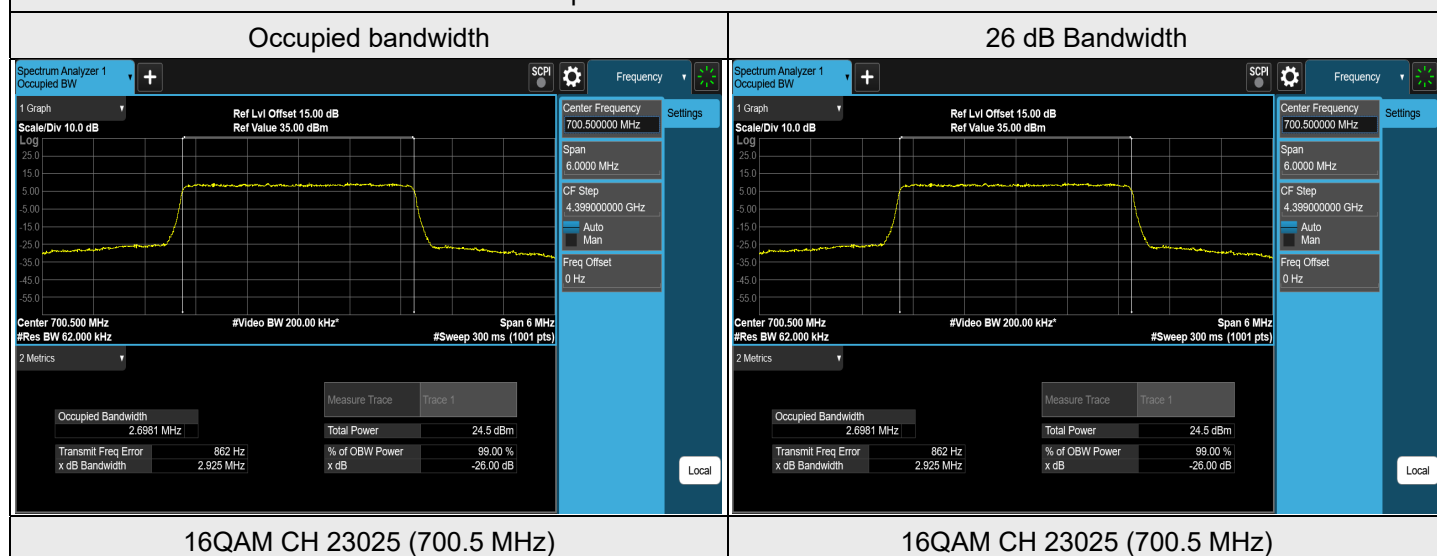
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23017	699.7	1.0851	1.241
QPSK	23095	707.5	1.0906	1.264
QPSK	23173	715.3	1.0920	1.255
16QAM	23017	699.7	1.0901	1.252
16QAM	23095	707.5	1.0907	1.243
16QAM	23173	715.3	1.0903	1.246



LTE Band 12, Channel Bandwidth: 3 MHz

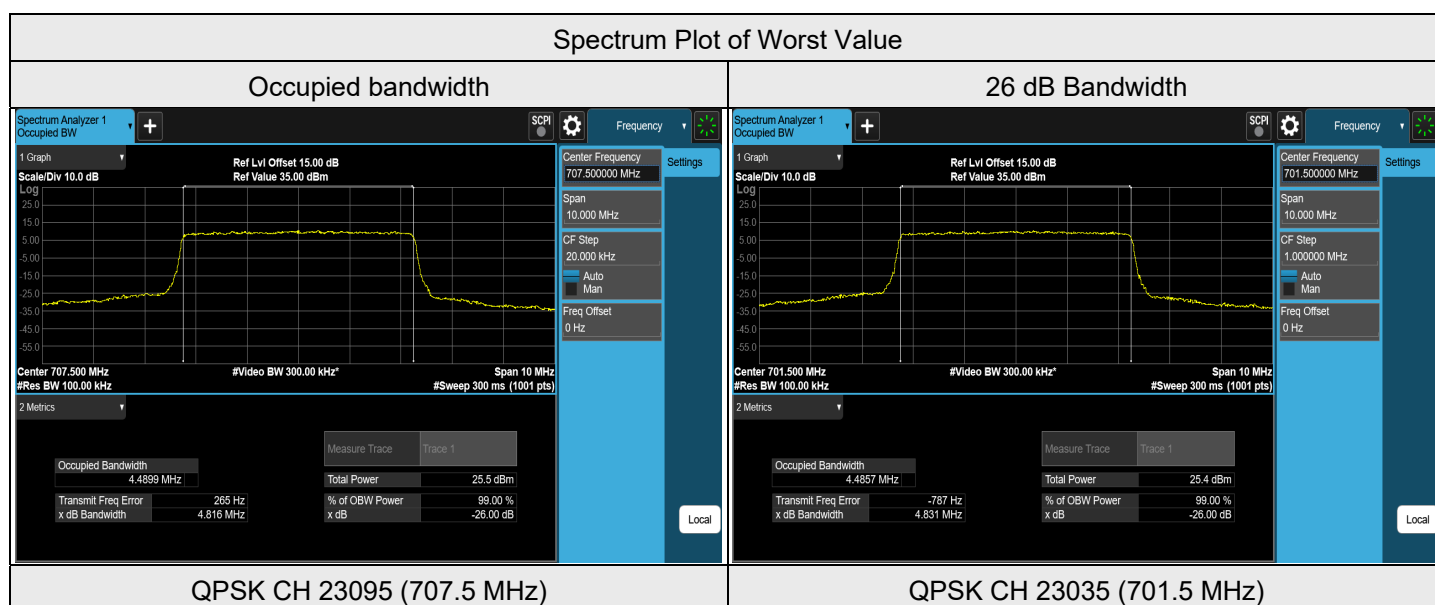
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23025	700.5	2.6968	2.902
QPSK	23095	707.5	2.6944	2.909
QPSK	23165	714.5	2.6975	2.902
16QAM	23025	700.5	2.6981	2.925
16QAM	23095	707.5	2.6949	2.924
16QAM	23165	714.5	2.6956	2.915

Spectrum Plot of Worst Value



LTE Band 12, Channel Bandwidth: 5 MHz

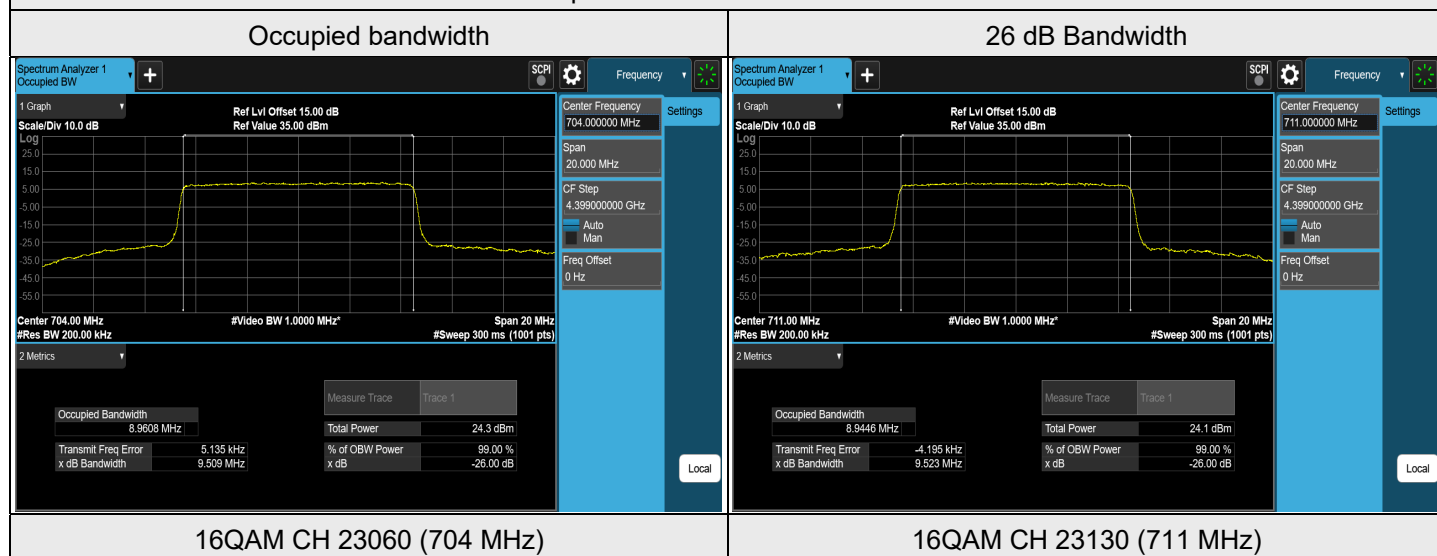
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23035	701.5	4.4857	4.831
QPSK	23095	707.5	4.4899	4.816
QPSK	23155	713.5	4.4842	4.827
16QAM	23035	701.5	4.4826	4.802
16QAM	23095	707.5	4.4854	4.803
16QAM	23155	713.5	4.4813	4.803



LTE Band 12, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	23060	704	8.9600	9.512
QPSK	23095	707.5	8.9519	9.497
QPSK	23130	711	8.9505	9.493
16QAM	23060	704	8.9608	9.509
16QAM	23095	707.5	8.9535	9.520
16QAM	23130	711	8.9446	9.523

Spectrum Plot of Worst Value

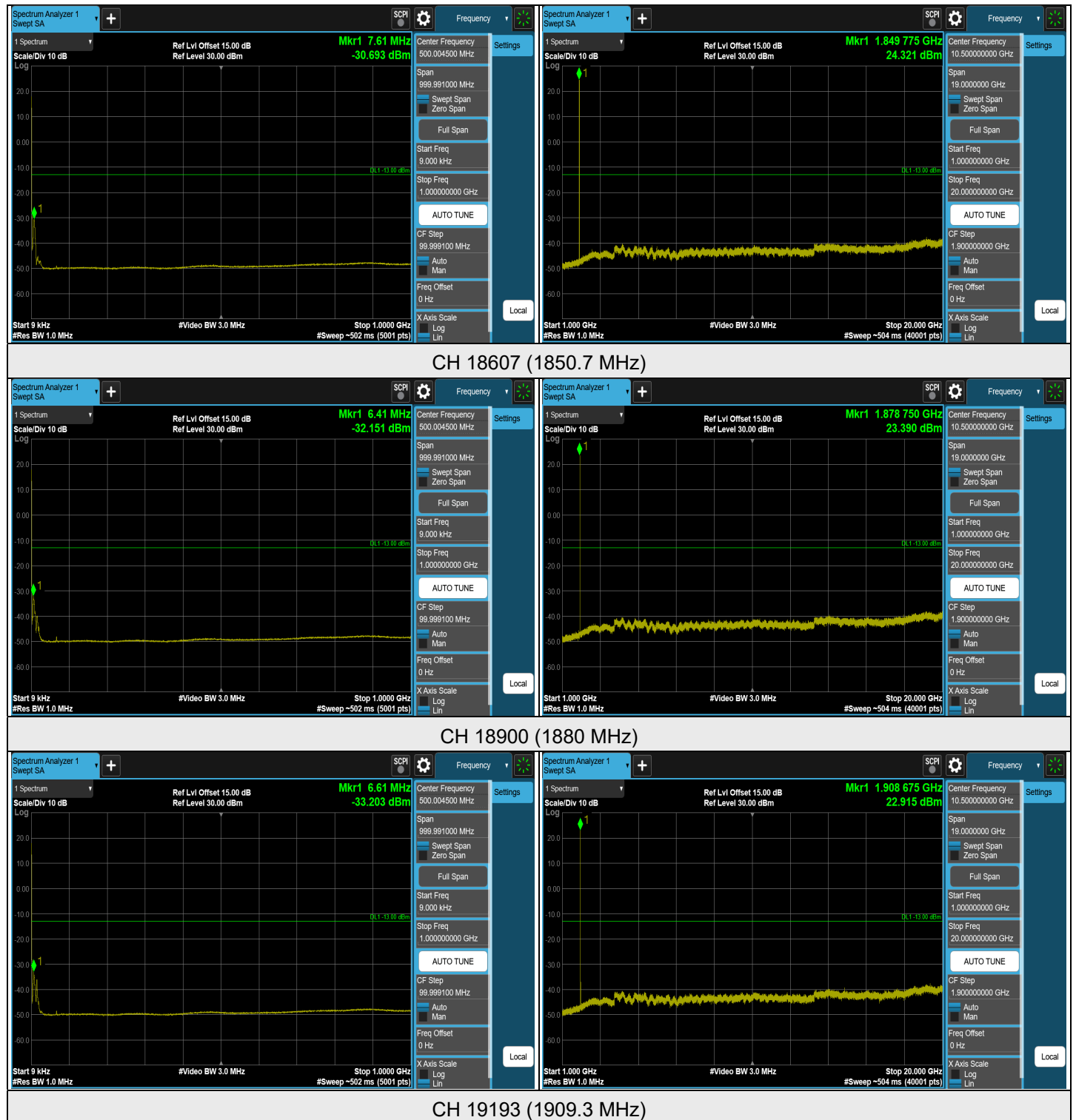


7.5 Conducted Spurious Emissions

Environmental Conditions:	25°C, 68% RH	Tested By:	Noah Chang
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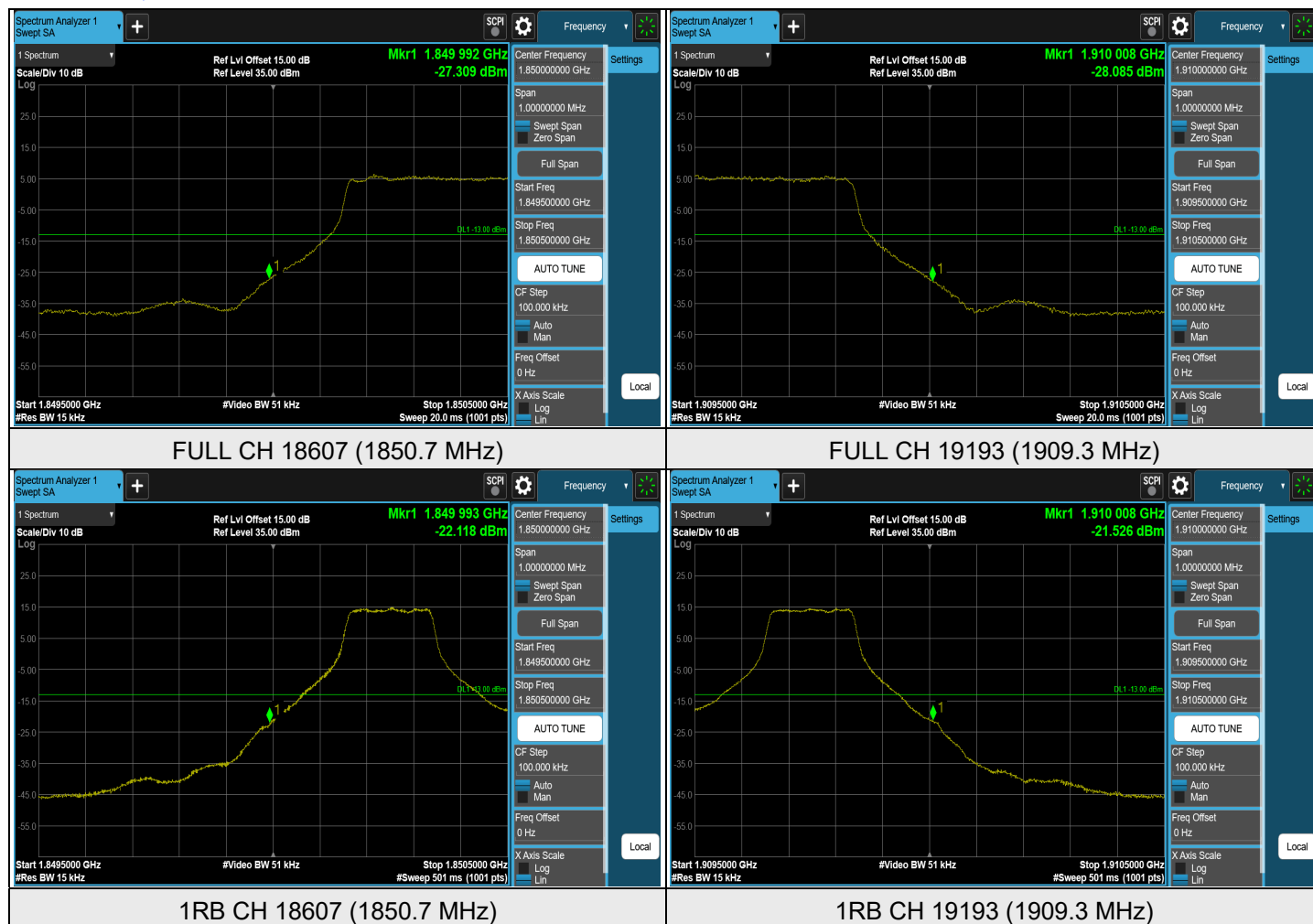
7.5.1 LTE Band 2

LTE Band 2, Channel Bandwidth: 1.4 MHz

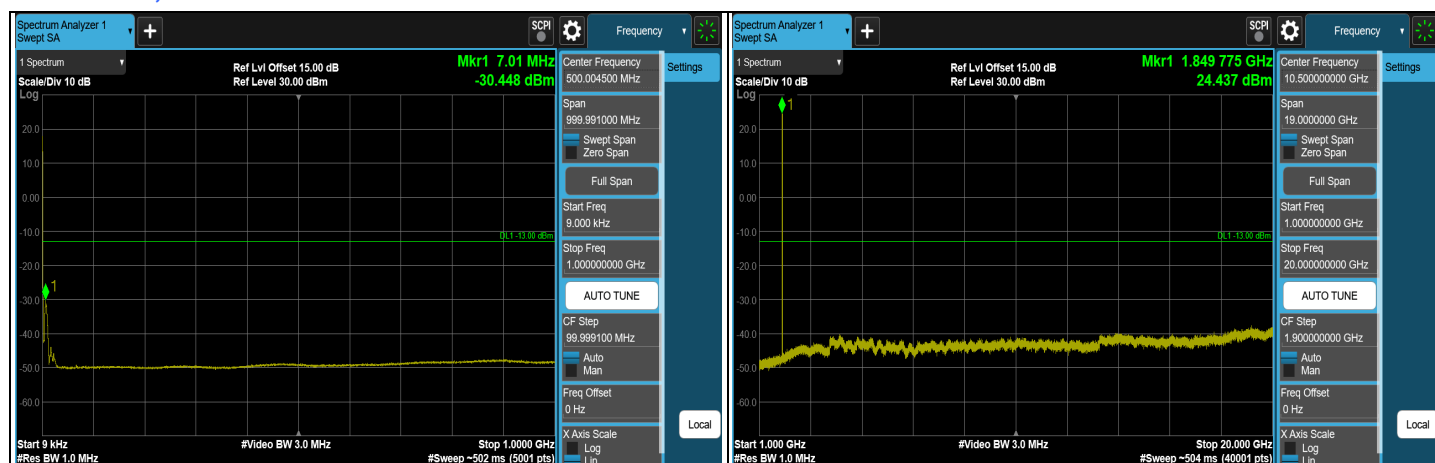


Note: The signal at 9 kHz is IF signal from spectrum analyzer.

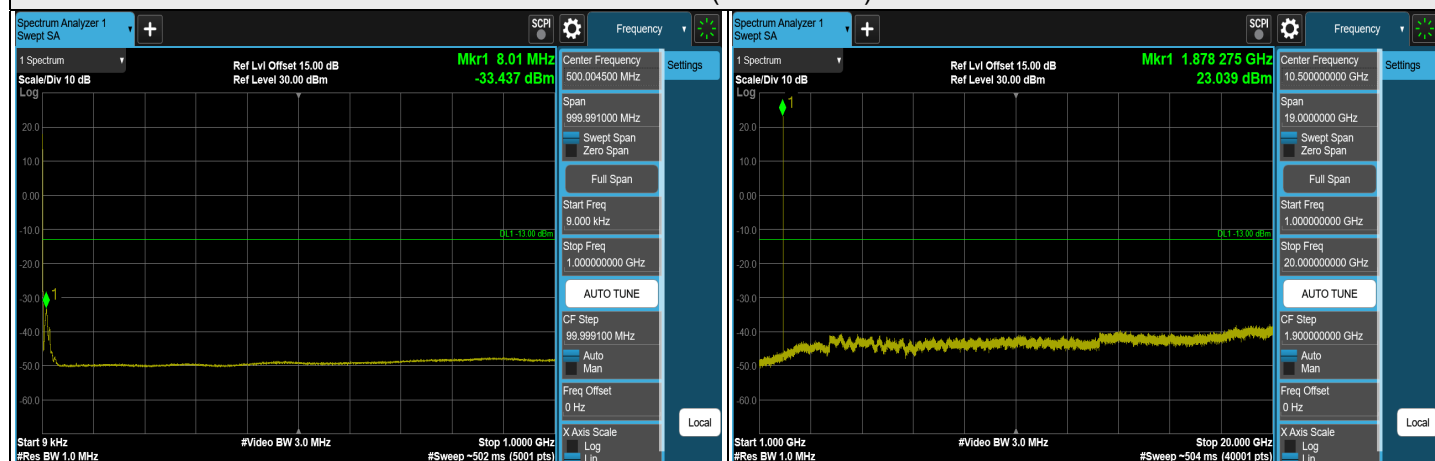
LTE Band 2, Channel Bandwidth: 1.4 MHz



LTE Band 2, Channel Bandwidth: 3 MHz



CH 18615 (1851.5 MHz)



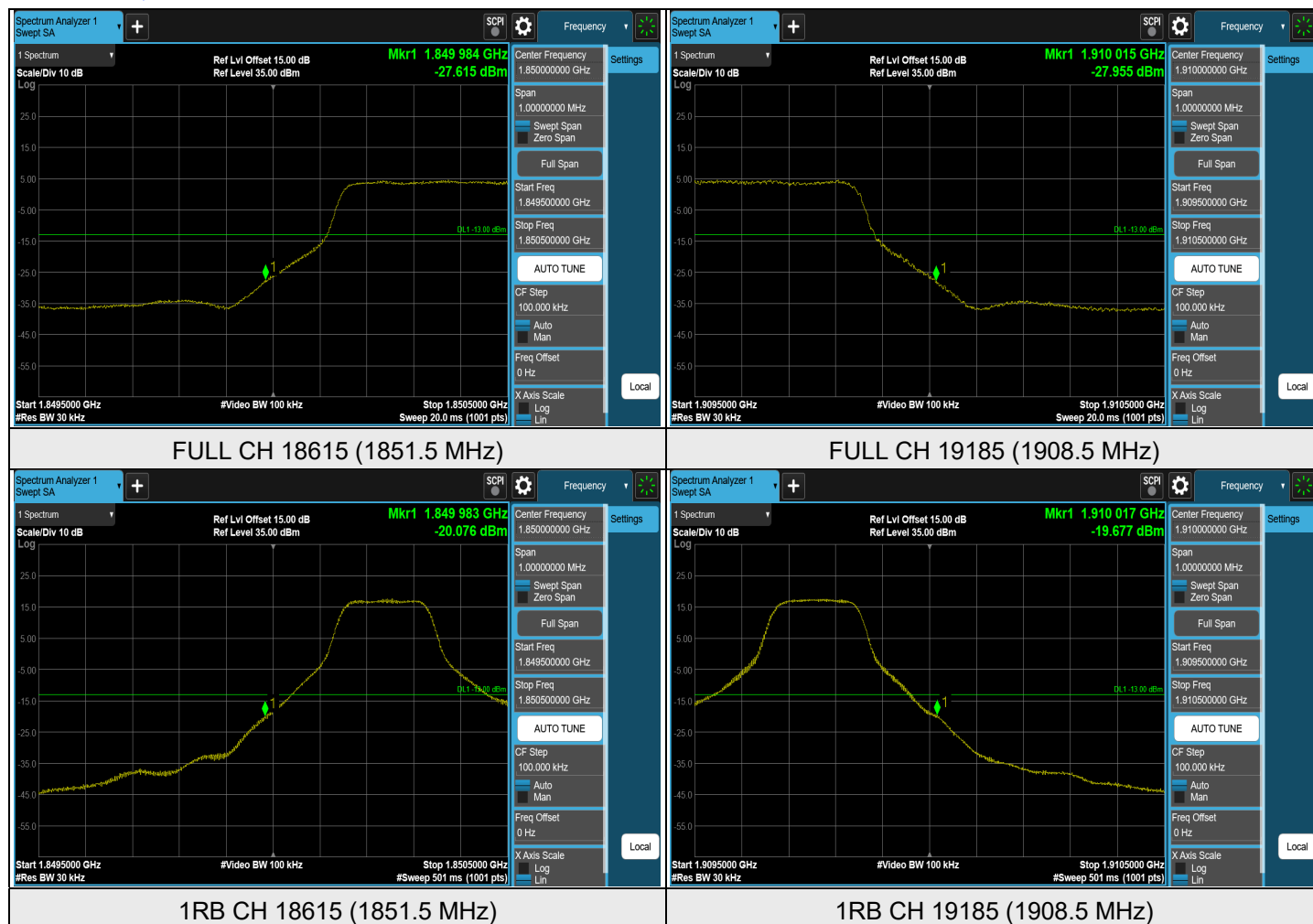
CH 18900 (1880 MHz)



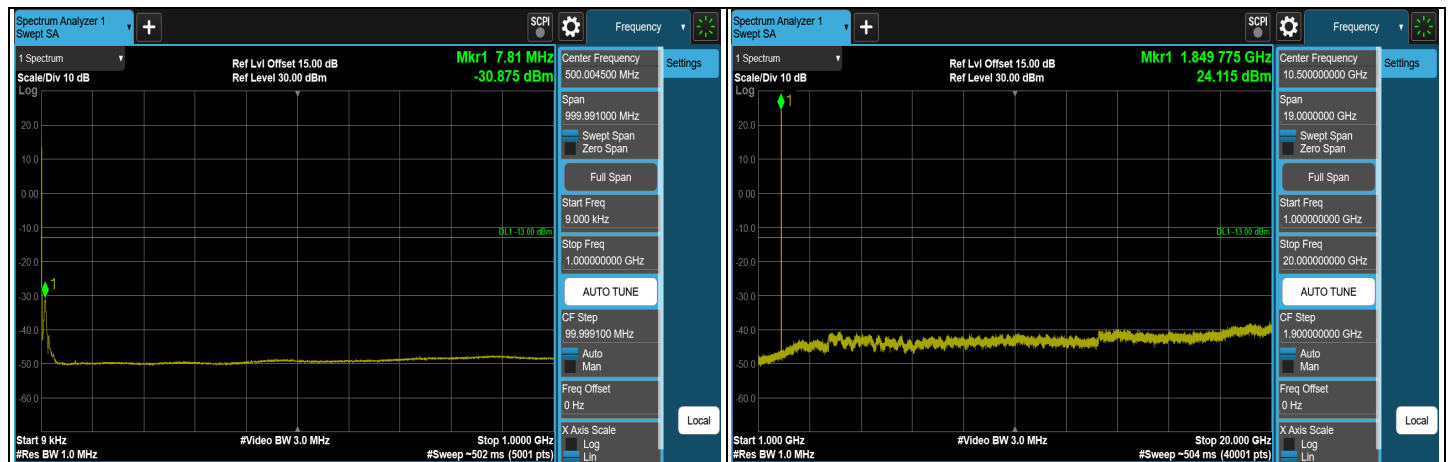
CH 19185 (1908.5 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

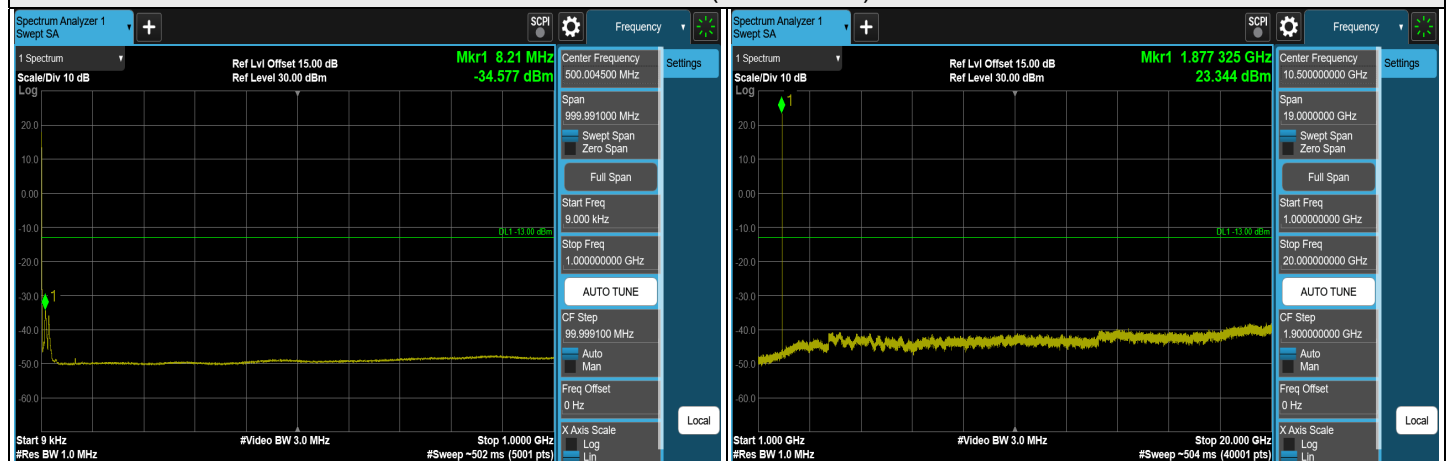
LTE Band 2, Channel Bandwidth: 3 MHz



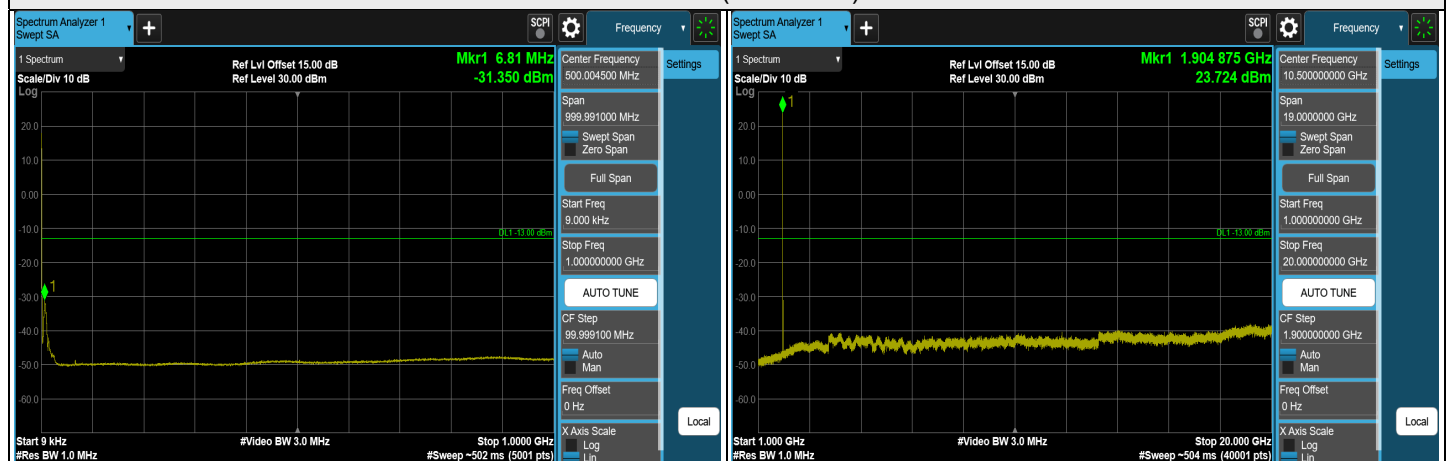
LTE Band 2, Channel Bandwidth: 5 MHz



CH 18625 (1852.5 MHz)



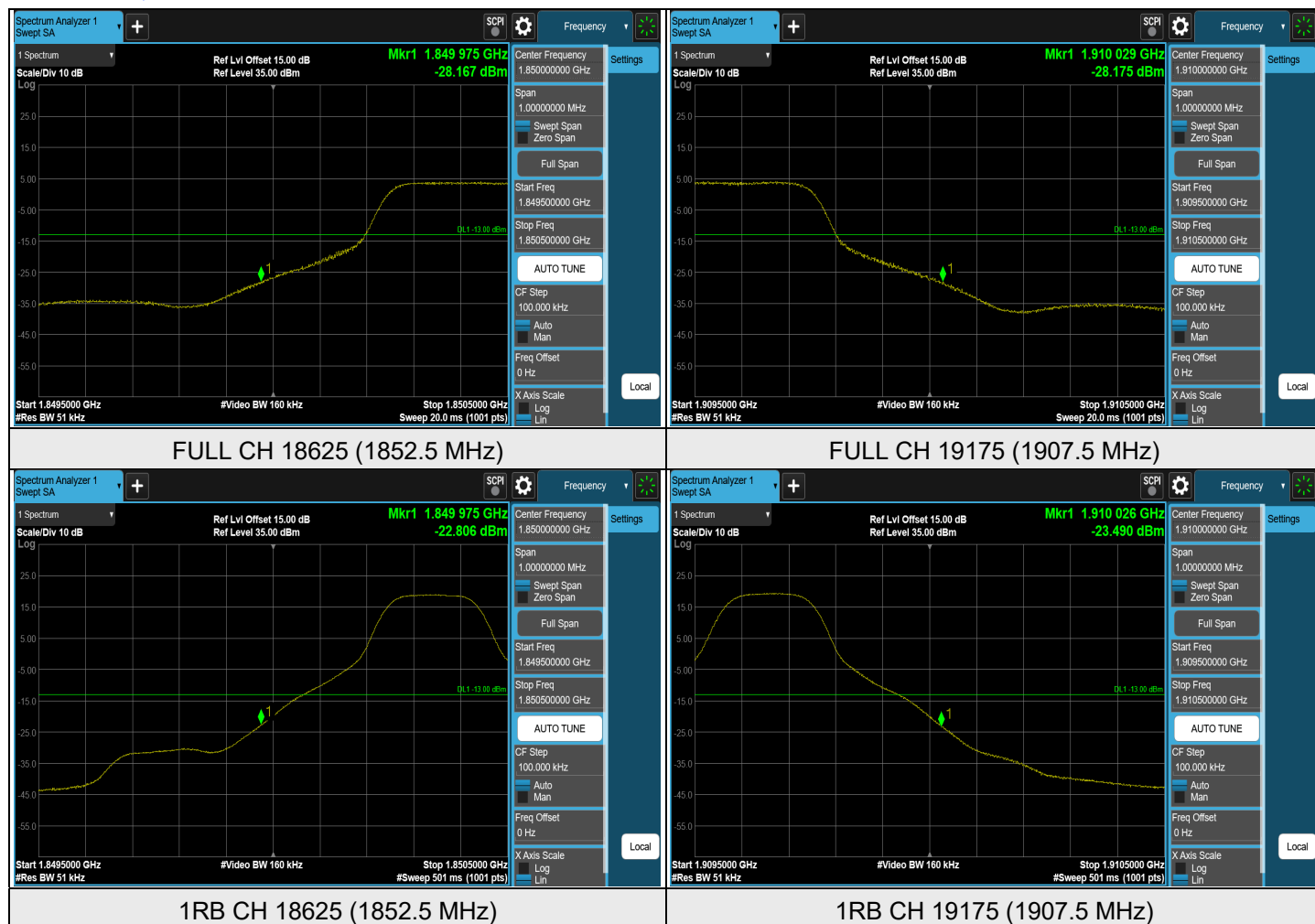
CH 18900 (1880 MHz)



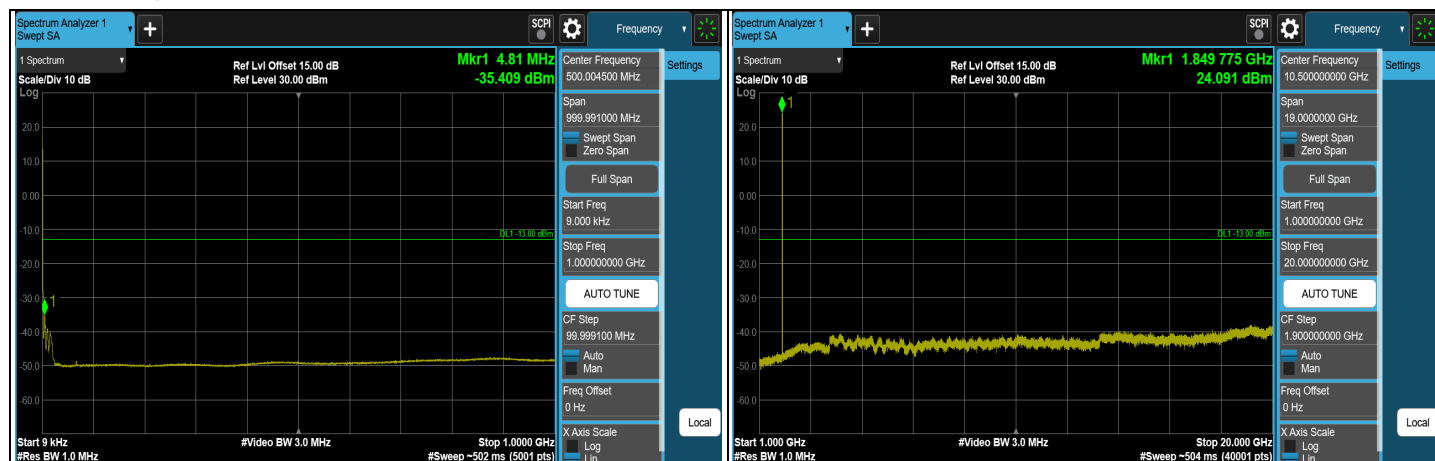
CH 19175 (1907.5 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 2, Channel Bandwidth: 5 MHz



LTE Band 2, Channel Bandwidth: 10 MHz



CH 18650 (1855 MHz)



CH 18900 (1880 MHz)



CH 19150 (1905 MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 2, Channel Bandwidth: 10 MHz

