

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 96
47 CFR FCC Part 2

Report No.: RFBBQZ-WTW-P25060387-8

FCC ID: PY325200649

Product: Nighthawk M7 Mobile Router

Brand: NETGEAR

Model No.: MH7150

Series Model: MH7110

Received Date: 2025/6/23

Test Date: 2025/7/23 ~ 2025/10/18

Issued Date: 2025/10/31

Applicant: NETGEAR, INC.

Address: 3553 North First Street, San Jose, CA 95134, USA

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan

Test Location(1): No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan

Test Location(2): No. 70, Wenming Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

FCC Registration / 788550 / TW0003 for Test Location(1)

Designation Number: 281270 / TW0032 for Test Location(2)

Approved by: Jeremy Lin, **Date:** 2025/10/31
Jeremy Lin / Project Engineer

This test report consists of 82 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.

Prepared by : Celine Chou / Senior Specialist



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Table of Contents

Release Control Record	4
1 Certificate.....	5
2 Summary of Test Results	6
2.1 Measurement Uncertainty	6
2.2 Supplementary Information	6
3 General Information	7
3.1 General Description of EUT	7
3.2 Antenna Description of EUT	9
3.3 Test Mode Applicability and Tested Channel Detail.....	10
3.3.1 LTE Band 48	10
3.4 Test Program Used and Operation Descriptions	12
3.5 Connection Diagram of EUT and Peripheral Devices	12
3.6 Configuration of Peripheral Devices and Cable Connections	12
4 Test Instruments	13
4.1 Maximum EIRP	13
4.2 Modulation Characteristics	14
4.3 Peak to Average Ratio	14
4.4 Bandwidth.....	14
4.5 Conducted Spurious Emissions	14
4.6 Radiated Spurious Emissions below 1GHz.....	15
4.7 Radiated Spurious Emissions above 1GHz	16
4.8 Frequency Stability	17
5 Limits of Test Items.....	18
5.1 Maximum EIRP	18
5.2 Modulation Characteristics	18
5.3 Peak to Average Ratio	18
5.4 Bandwidth.....	18
5.5 Conducted Spurious Emissions	18
5.6 Radiated Spurious Emissions below 1GHz.....	18
5.7 Radiated Spurious Emissions above 1GHz	18
5.8 Frequency Stability	18
6 Test Arrangements.....	19
6.1 Maximum EIRP	19
6.1.1 Test Setup	19
6.1.2 Test Procedure	20
6.2 Modulation Characteristics	21
6.2.1 Test Setup	21
6.2.2 Test Procedure	21
6.3 Peak to Average Ratio	21
6.3.1 Test Setup	21
6.3.2 Test Procedure	21
6.4 Bandwidth.....	22
6.4.1 Test Setup	22
6.4.2 Test Procedure	22
6.5 Conducted Spurious Emissions	24
6.5.1 Test Setup	24
6.5.2 Test Procedure	24
6.6 Radiated Spurious Emissions below 1GHz.....	25
6.6.1 Test Setup	25
6.6.2 Test Procedure	26
6.7 Radiated Spurious Emissions above 1GHz	27
6.7.1 Test Setup	27
6.7.2 Test Procedure	27
6.8 Frequency Stability	28

6.8.1	Test Setup	28
6.8.2	Test Procedure	28
7	Test Results of Test Item	29
7.1	Maximum EIRP	29
7.1.1	LTE Band 48	29
7.2	Modulation Characteristics	35
7.2.1	LTE Band 48	35
7.3	Peak to Average Ratio	36
7.3.1	LTE Band 48	36
7.4	Bandwidth	40
7.4.1	LTE Band 48	40
7.5	Conducted Spurious Emissions	44
7.5.1	LTE Band 48	44
7.6	Radiated Spurious Emissions below 1GHz	72
7.6.1	LTE Band 48	72
7.7	Radiated Spurious Emissions above 1GHz	74
7.7.1	LTE Band 48	74
7.8	Frequency Stability	80
7.8.1	LTE Band 48	80
8	Pictures of Test Arrangements	81
9	Information of the Testing Laboratories	82

Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P25060387-8	Original release.	2025/10/31

1 Certificate

Product: Nighthawk M7 Mobile Router

Brand: NETGEAR

Test Model: MH7150

Series Model: MH7110

Sample Status: Engineering sample

Applicant: NETGEAR, INC.

Test Date: 2025/7/23 ~ 2025/10/18

Standard: 47 CFR FCC Part 96
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 940660 D01 Part 96 CBRS Eqpt v03

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 96.41(b)	Maximum EIRP	Pass	Meet the requirement of limit.
Part 2.1047	Modulation Characteristics	Pass	Meet the requirement of limit.
Part 2.1046 Part 96.41(b)	Maximum Power Spectral Density	N/A	This device is End User Device.
Part 96.41(g)	Peak to Average Ratio	Pass	Meet the requirement of limit.
Part 2.1049	Bandwidth	Pass	Meet the requirement of limit.
Part 2.1051 Part 96.41(e)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions below 1GHz	Pass	Minimum passing margin is -10.61 dB at 949.56 MHz
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -0.44 dB at 7250.00 MHz
Part 2.1055	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	18 GHz ~ 40 GHz	1.77 dB
	1 GHz ~ 18 GHz	1.76 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	3.00 dB
	30 MHz ~ 1 GHz	2.93 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	1.76 dB
	18 GHz ~ 40 GHz	1.77 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	Nighthawk M7 Mobile Router
Brand	NETGEAR
Test Model	MH7150
Series Model	MH7110
Status of EUT	Engineering sample
Power Supply Rating	3.85 Vdc from Battery
EUT Category	End User Device
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM
LTE support SISO bands	B42, B43, B48
LTE support MIMO bands	-
Band Covered Information	B48 cover B42, B43 (all three B42, B43, B48 have the same frequency range (B42: 3550 to 3600 MHz, B43: 3600 to 3700 MHz) and the same bandwidth, only B48 was fully tested)

Note:

1. All models are listed as below.

Model	HW	FW	Difference
MH7150	Identical	Identical	SKU, Packing and labelling information Target retail markets
MH7110			SKU, Packing and labelling information Target service provider markets

2. The EUT uses following accessories.

Item	Brand	Model	Specification
Battery	NETGEAR	NW-1	Power Rating: 3.85 Vdc, 14.82 Wh, 3850 mAh
Type C Cable 1	JI-HAW ELECTRONICS CO., LTD	310-10091-01	0.95 m
Type C Cable 2	HUIZHOU BOHUI CONNECTION TECHNOLOGY CO., LTD	310-10089-01	0.95 m

3. EUT Overview

LTE Band 48

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
5 MHz	3552.5 ~ 3697.5	QPSK	0.191	22.82	4M50G7D
		16QAM	0.157	21.95	4M49D7W
		64QAM	0.125	20.97	4M49D7W
		256QAM	0.100	20.00	4M49D7W
10 MHz	3555 ~ 3695	QPSK	0.187	22.71	8M98G7D
		16QAM	0.145	21.61	8M98D7W
		64QAM	0.121	20.81	8M99D7W
		256QAM	0.099	19.97	8M97D7W
15 MHz	3557.5 ~ 3692.5	QPSK	0.180	22.56	13M5G7D
		16QAM	0.150	21.76	13M5D7W
		64QAM	0.117	20.69	13M5D7W
		256QAM	0.092	19.66	13M5D7W
20 MHz	3560 ~ 3690	QPSK	0.193	22.86	18M0G7D
		16QAM	0.158	21.99	18M0D7W
		64QAM	0.121	20.84	18M0D7W
		256QAM	0.098	19.93	18M0D7W

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

Type		Monopole				
Connector		NA				
Band		Freq. Range (MHz)	Gain (dBi)			
			Ant. 0	Ant. 1	Ant. 2	Ant. 3
LTE B2	1TX (Ant. 0)	1850~1910	1.27	-	-	2.76
LTE B4	1TX (Ant. 0)	1710 ~ 1755	1.50	-	-	3.50
LTE B5	1TX (Ant. 0)	824 ~ 849	-3.63	-	-	-0.98
LTE B7	1TX (Ant. 3)	2500 ~ 2570	1.52	-	-	3.00
LTE B12	1TX (Ant. 0)	698 ~ 716	-0.26	-	-	-1.36
LTE B13	1TX (Ant. 0)	777 ~ 787	-0.26	-	-	-0.98
LTE B14	1TX (Ant. 0)	788 ~ 798	-0.26	-	-	-0.98
LTE B17	1TX (Ant. 0)	704 ~ 716	-0.26	-	-	-2.86
LTE B25	1TX (Ant. 0)	1850 ~ 1915	1.27	-	-	2.76
LTE B26	1TX (Ant. 0)	814 ~ 849	-3.63	-	-	-0.98
LTE B30	1TX (Ant. 3)	2305 ~ 2315	1.12	-	-	1.15
LTE B38	1TX (Ant. 3)	2570 ~ 2620	1.52	-	-	3.00
LTE B41	1TX (Ant. 3)	2496 ~ 2690	1.52	2.22	2.58	3.00
LTE B42	1TX (Ant. 0)	3400 ~ 3600	2.05	-	-	2.90
LTE B43	1TX (Ant. 0)	3600 ~ 3800	1.16	-	-	3.09
LTE B48	1TX (Ant. 0)	3550 ~ 3700	1.18	-	-	2.00
LTE B66	1TX (Ant. 0)	1710 ~ 1780	1.50	-	-	3.50
LTE B71	1TX (Ant. 3)	663 ~ 698	-0.26	-	-	-2.86

* 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. 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. 2. EUT can be used in the following Type C cables: Type C Cable 1/ Type C Cable 2. 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 from all possible combinations of EUT configure mode (1TX or 2TX if available), channel, bandwidth, modulation and RB mode. See below table(s) for details.
Worst Case:	1. X-axis/ Y-axis / Z-axis Worst Condition: X-axis 2. Type C Cable 1/ Type C Cable 2 Worst Condition: Type C Cable 1

3.3.1 LTE Band 48

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Maximum EIRP	55265(3552.50 MHz) 55990(3625.00 MHz) 56715(3697.50 MHz)	5 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
	55290(3555.00 MHz) 55990(3625.00 MHz) 56690(3695.00 MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
	55315(3557.50 MHz) 55990(3625.00 MHz) 56665(3692.50 MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
	55340(3560.00 MHz) 55990(3625.00 MHz) 56640(3690.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
Modulation Characteristics	55990(3625.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
Peak to Average Ratio	55265(3552.50 MHz) 55990(3625.00 MHz) 56715(3697.50 MHz)	5 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	55290(3555.00 MHz) 55990(3625.00 MHz) 56690(3695.00 MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	55315(3557.50 MHz) 55990(3625.00 MHz) 56665(3692.50 MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	55340(3560.00 MHz) 55990(3625.00 MHz) 56640(3690.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB

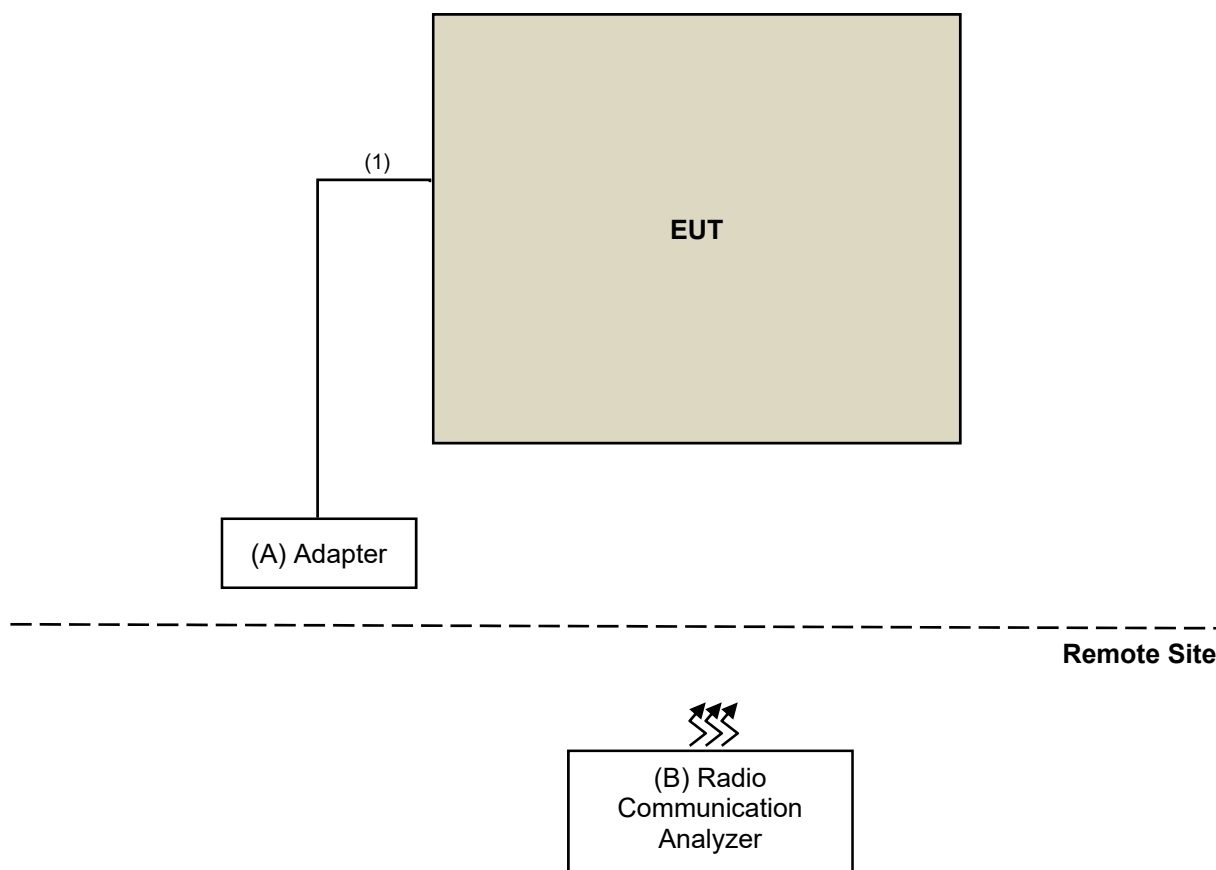
Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Bandwidth	55265(3552.50 MHz) 55990(3625.00 MHz) 56715(3697.50 MHz)	5 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
	55290(3555.00 MHz) 55990(3625.00 MHz) 56690(3695.00 MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
	55315(3557.50 MHz) 55990(3625.00 MHz) 56665(3692.50 MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
	55340(3560.00 MHz) 55990(3625.00 MHz) 56640(3690.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
Conducted Spurious Emissions	55265(3552.50 MHz) 55990(3625.00 MHz) 56715(3697.50 MHz)	5 MHz	QPSK	1 RB Full RB
	55290(3555.00 MHz) 55990(3625.00 MHz) 56690(3695.00 MHz)	10 MHz	QPSK	1 RB Full RB
	55315(3557.50 MHz) 55990(3625.00 MHz) 56665(3692.50 MHz)	15 MHz	QPSK	1 RB Full RB
	55340(3560.00 MHz) 55990(3625.00 MHz) 56640(3690.00 MHz)	20 MHz	QPSK	1 RB Full RB
Radiated Spurious Emissions below 1GHz	55990(3625.00 MHz)	20 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	55265(3552.50 MHz) 55990(3625.00 MHz) 56715(3697.50 MHz)	5 MHz	QPSK	1 RB
	55340(3560.00 MHz) 55990(3625.00 MHz) 56640(3690.00 MHz)	20 MHz	QPSK	1 RB
Frequency Stability	55340(3560.00 MHz) 56640(3690.00 MHz)	20 MHz	QPSK	Full RB

* LTE Band 48 overlaps the frequency range of LTE Band 42 and LTE Band 43, since LTE Band 42, LTE Band 43, and LTE Band 48 have identical frequency band, bandwidth and output power, after evaluation, LTE Band 48 was selected as the worst-case and chosen for final testing.

3.4 Test Program Used and Operation Descriptions

There is no need to controlling software during the test, and the EUT can be paired with the Radio Communication Analyzer to test the connection when it is powered on.

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	belkin	WCB007dq	N/A	N/A	Provided by Lab
B	Radio Communication Analyzer	Anritsu	MT8821C	6201462755	NA	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	Type C Cable	1	0.95	No	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 Maximum EIRP

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFA-515BSN	N/A	N/A	N/A
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Horn Antenna RFSPIN	DRH18-E	210104A18E	2024/11/10	2025/11/9
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2024/11/10	2025/11/9
MXE EMI Receiver Agilent	N9038A	MY52260177	2025/10/3	2026/10/2
Preamplifier Agilent	83017A	MY39501357	2025/6/11	2026/6/10
Preamplifier EMCI	EMC184045SE	980788	2025/1/14	2026/1/13
Radio Communication Analyzer Anritsu	MT8821C	6201462755	2025/4/8	2026/4/7
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2025/1/14	2026/1/13
	EMC101G-KM-KM-3000	201258	2025/1/14	2026/1/13
	EMC101G-KM-KM-5000	201261	2025/1/14	2026/1/13
	EMC104-SM-SM-1000	210103	2025/1/14	2026/1/13
	EMC104-SM-SM-3000	201241	2025/1/14	2026/1/13
	EMC104-SM-SM-9000	201244	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208676	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 9.
2. Tested Date: 2025/10/18

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	2026/5/22
PXA Signal Analyzer Keysight	N9030B	MY57140938	2025/3/24	2026/3/23
Radio Communication Analyzer Anritsu	MT8821C	6201462755	2025/4/8	2026/4/7
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/7/24

4.3 Peak to Average Ratio

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2025/5/23	2026/5/22
PXA Signal Analyzer Keysight	N9030B	MY57140938	2025/3/24	2026/3/23
Radio Communication Analyzer Anritsu	MT8821C	6201462755	2025/4/8	2026/4/7
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/7/23 ~ 2025/7/24

4.4 Bandwidth

Refer to section 4.3 to get the tested date and information of the instruments.

4.5 Conducted Spurious Emissions

Refer to section 4.3 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 Max-Full	MFA-515BSN	N/A	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-1214	2024/10/15	2025/10/14
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Loop Antenna TESEQ	HLA 6121	64095	2024/10/17	2025/10/16
MXE EMI Receiver Agilent	N9038A	MY52260177	2024/9/19	2025/9/18
Preamplifier EMCI	EMC330N	980798	2025/1/14	2026/1/13
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201248	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-3000	201249	2025/1/14	2026/1/13
	EMCCFD400-NM-NM-9000	201251(with PAD)	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208676	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 9.
2. Tested Date: 2025/9/2

4.7 Radiated Spurious Emissions above 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower Max-Full	MFA-515BSN	N/A	N/A	N/A
EXA Signal Analyzer Agilent	N9010A	MY52220207	2024/12/30	2025/12/29
Horn Antenna RFSPIN	DRH18-E	210104A18E	2024/11/10	2025/11/9
Horn Antenna Schwarzbeck	BBHA 9170	9170-1049	2024/11/10	2025/11/9
MXE EMI Receiver Agilent	N9038A	MY52260177	2024/9/19	2025/9/18
Preamplifier Agilent	83017A	MY39501357	2025/6/11	2026/6/10
Preamplifier EMCI	EMC184045SE	980788	2025/1/14	2026/1/13
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2025/1/14	2026/1/13
	EMC101G-KM-KM-3000	201258	2025/1/14	2026/1/13
	EMC101G-KM-KM-5000	201261	2025/1/14	2026/1/13
	EMC104-SM-SM-1000	210103	2025/1/14	2026/1/13
	EMC104-SM-SM-3000	201241	2025/1/14	2026/1/13
	EMC104-SM-SM-9000	201244	2025/1/14	2026/1/13
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table Max-Full	MFT-201SS	N/A	N/A	N/A
Turn Table Controller Max-Full	MF-7802BS	MF780208676	N/A	N/A

Notes:

1. The test was performed in WM - 966 chamber 9.
2. Tested Date: 2025/8/22

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	2025/5/23	2026/5/22
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 Oven room.
2. Tested Date: 2025/10/18

5 Limits of Test Items

5.1 Maximum EIRP

For LTE Band 48:

Device Category	Maximum EIRP (dBm/10 MHz)
End User Device	23
Category A CBSD	30
Category B CBSD	47

5.2 Modulation Characteristics

Systems operating in the Citizens Broadband Radio Service must use digital modulation techniques.

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 48:

The conducted power of any emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed -13 dBm/MHz within 0 to B MHz (where B is the bandwidth in MHz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B MHz below the lower CBSD-assigned channel edge. At all frequencies greater than B MHz above the upper CBSD assigned channel edge and less than B MHz below the lower CBSD-assigned channel edge, the conducted power of any end user device emission shall not exceed -25 dBm/MHz.

Additional protection levels: The conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed -25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

5.6 Radiated Spurious Emissions below 1GHz

For LTE Band 48:

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

5.7 Radiated Spurious Emissions above 1GHz

For LTE Band 48:

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed -40 dBm/MHz.

5.8 Frequency Stability

For LTE Band 48:

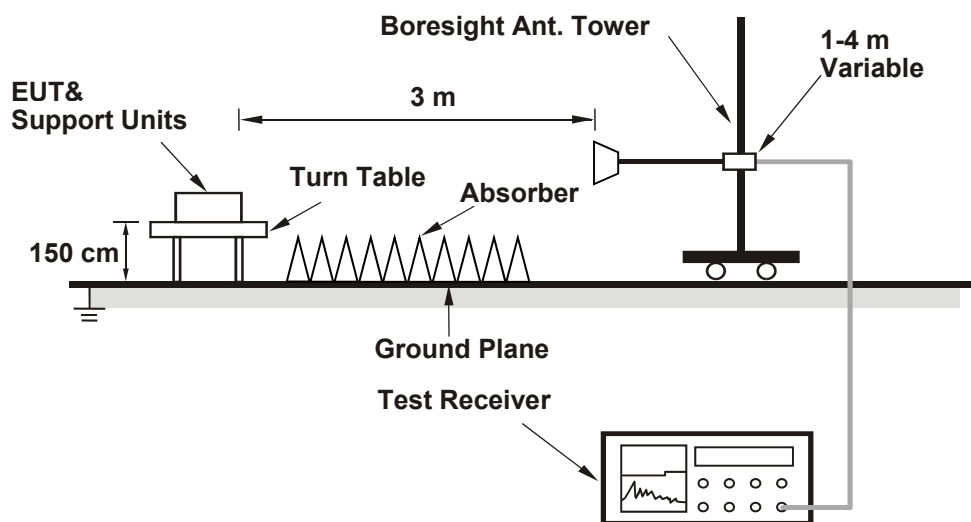
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation (authorized frequency block).

6 Test Arrangements

6.1 Maximum EIRP

6.1.1 Test Setup

Radiated Power EIRP / ERP Measurement:



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

6.1.2 Test Procedure

Radiated Power EIRP / ERP Measurement:

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

Set the EUT to transmit under low, middle and high channel and record the power level shown on spectrum analyzer.

- a. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) and/or 1.5 m (above 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 C63.26 section 5.5 and 5.2.7. Set the detector to power averaging (rms) detector.
- $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; 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.

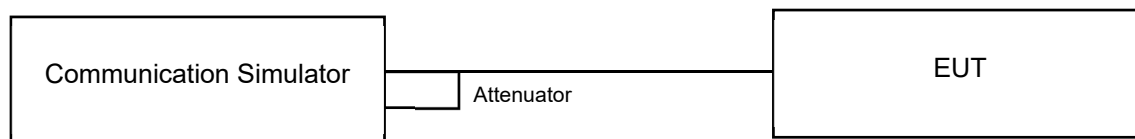
Spectrum analyzer setting as below:

Measurement method refers to ANSI C63.26 section 5.2.4.4.

- a. Set span to $2 \times$ to $3 \times$ the OBW.
- b. Set RBW = 1% to 5% of the OBW.
- c. Set VBW $\geq 3 \times$ RBW.
- d. Set number of measurement points in sweep $\geq 2 \times$ span / RBW.
- e. Set Sweep time = auto-couple.
- f. Detector = power averaging (rms).
- g. Set sweep trigger to "free run."
- h. Trace average at least 100 traces in power averaging (rms) mode.
- i. Use the Band/Channel Power function to determine the integrated power per 10 MHz bandwidth and full bandwidth, according to the 47 CFR FCC Part 96 standard.
- j. Compute power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function with band/channel limits set equal to the OBW band edges.
- k. If Duty cycle < 98%, Add $10 \log (1/\text{duty cycle})$ to the measured power level to compute the average power during continuous transmission.

6.2 Modulation Characteristics

6.2.1 Test Setup

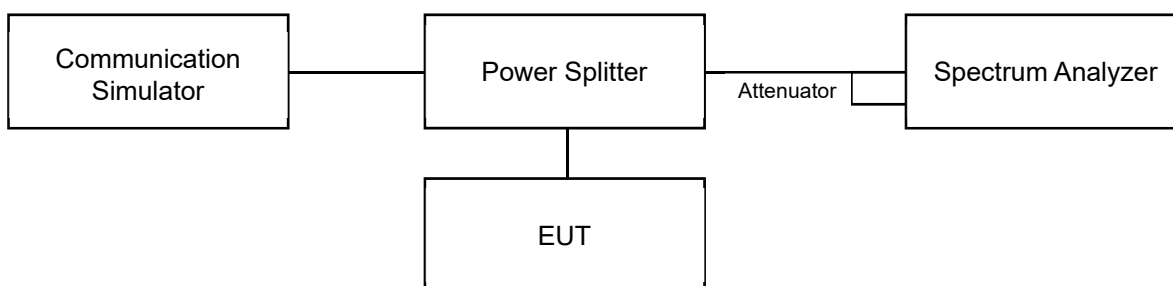


6.2.2 Test Procedure

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

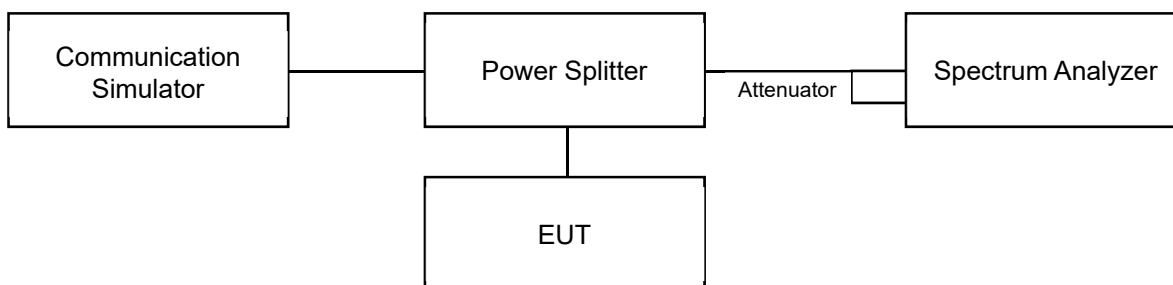


6.3.2 Test Procedure

- 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.

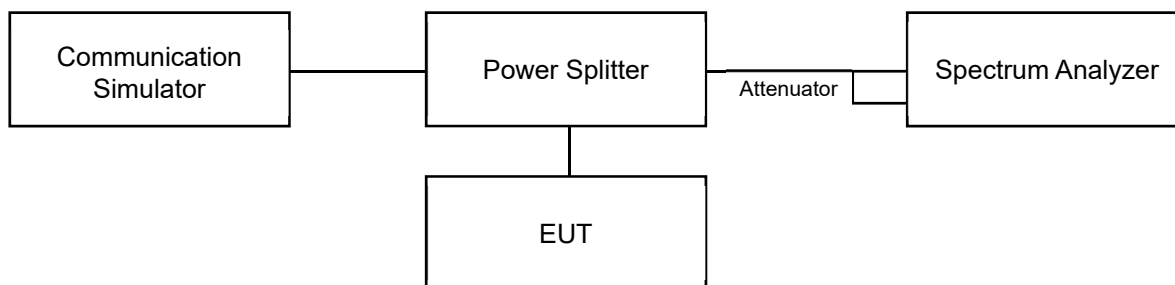
- The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
- The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and 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. 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.
- e. Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
- f. Determine the reference value by either of the following:
 - g. 1) 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).
 - h. 2) Set the EUT to transmit an unmodulated carrier. Set the spectrum analyzer marker to the level of the carrier.
- i. 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.
- j. If the reference value was determined using an unmodulated carrier, turn the EUT modulation on, then either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise the trace from step f) shall be used for step i).
- k. 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 spectral envelope can cross the “-X dB amplitude” at multiple points. The lowest or highest frequency shall be selected as the frequencies that are the farthest away from the center frequency at which the spectral envelope crosses the “-X dB amplitude.”
- l. 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).

6.5 Conducted Spurious Emissions

6.5.1 Test Setup



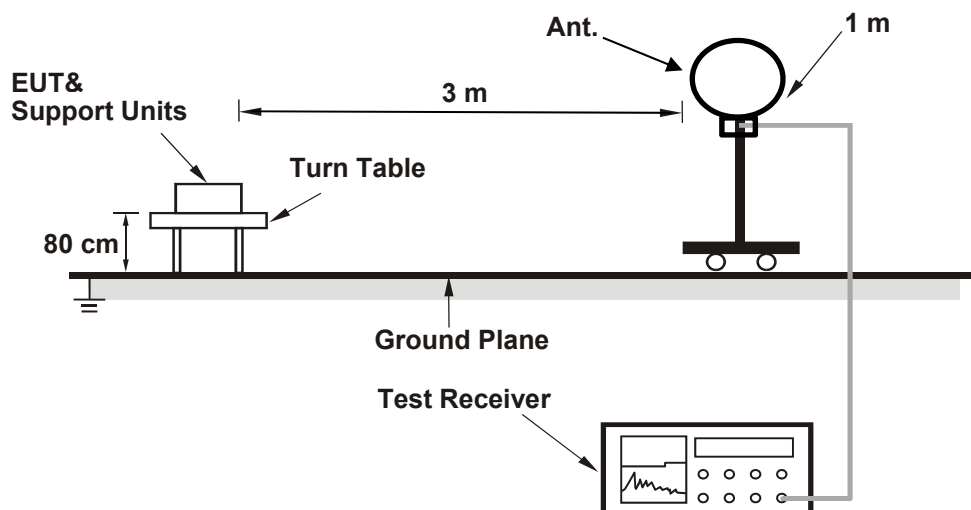
6.5.2 Test Procedure

- 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. 20 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 $\geq$ 100 kHz, VBW $\geq$ 3 x 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] + $10 \cdot \log(1000/100)$. 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.

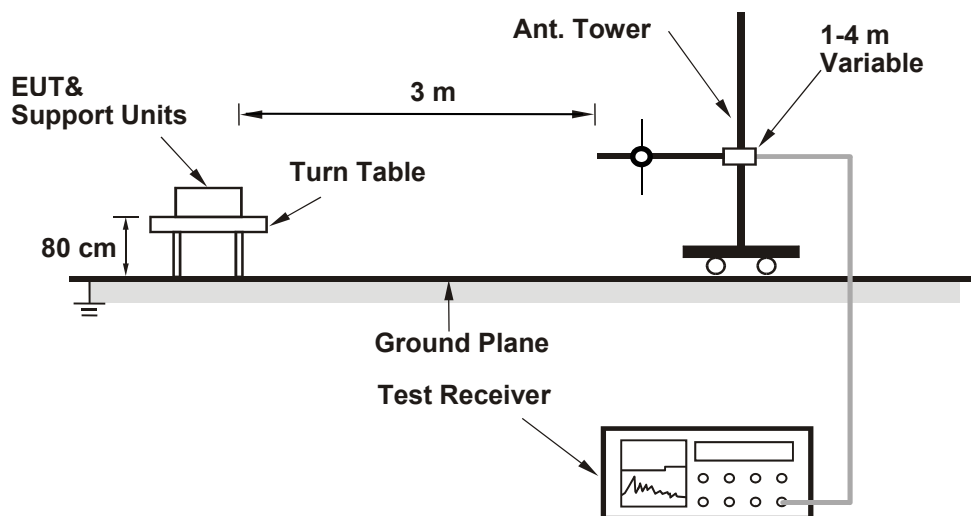
6.6 Radiated Spurious Emissions below 1GHz

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.

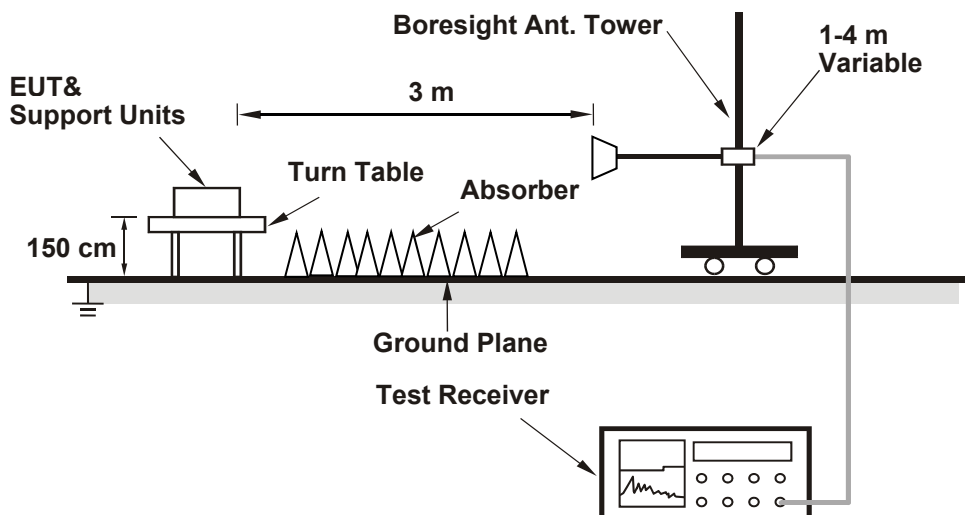
Note:

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

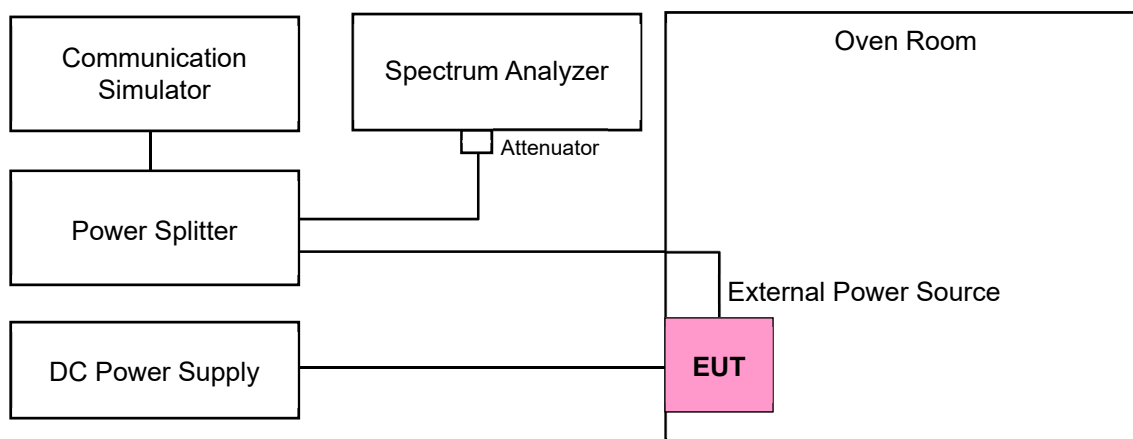
The EUT is configured to set data modulation and maximum power using WWAN technology.

- 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
- $EIRP \text{ (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
- $ERP \text{ (dBm)} = E \text{ (dB}\mu\text{V/m)} + 20\log(D) - 104.8 - 2.15$; 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 Maximum EIRP

Input Power:	120 Vac, 60 Hz	Environmental Conditions:	25°C, 60% RH	Tested By:	Charles Hsiao
--------------	----------------	---------------------------	--------------	------------	---------------

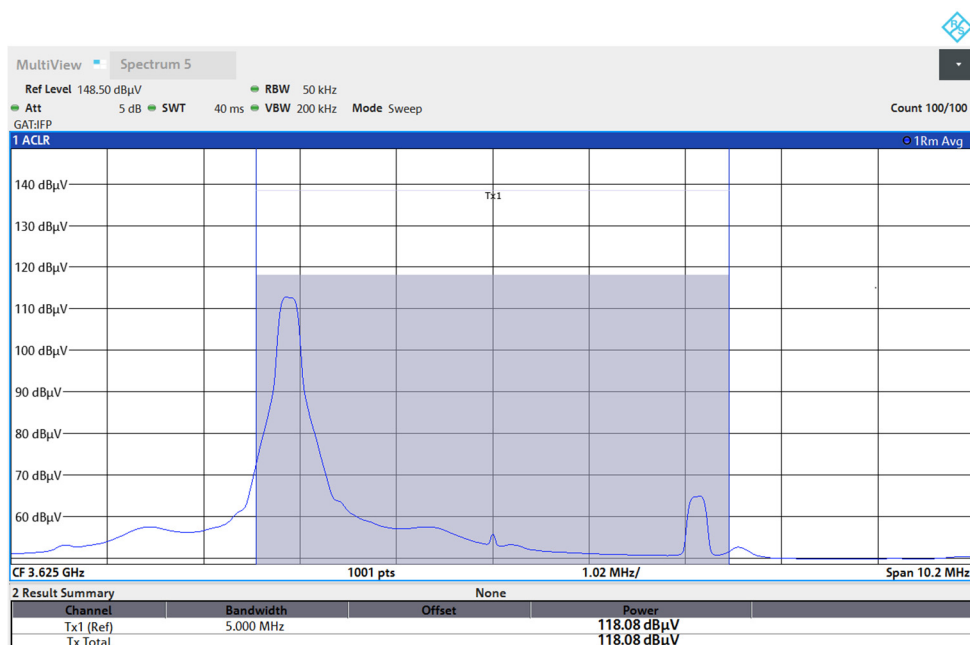
7.1.1 LTE Band 48

LTE Band 48, Channel Bandwidth: 5 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	55265	3552.5	118.05	-95.26	190.108	22.79	23
	55990	3625	118.08	-95.26	191.426	22.82	23
	56715	3697.5	117.98	-95.26	187.068	22.72	23
16QAM	55265	3552.5	117.21	-95.26	156.675	21.95	23
	55990	3625	116.97	-95.26	148.252	21.71	23
	56715	3697.5	117.03	-95.26	150.314	21.77	23
64QAM	55265	3552.5	116.23	-95.26	125.026	20.97	23
	55990	3625	115.91	-95.26	116.145	20.65	23
	56715	3697.5	115.97	-95.26	117.761	20.71	23
256QAM	55265	3552.5	115.26	-95.26	100.000	20.00	23
	55990	3625	114.72	-95.26	88.308	19.46	23
	56715	3697.5	114.94	-95.26	92.897	19.68	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance at 3 meters.

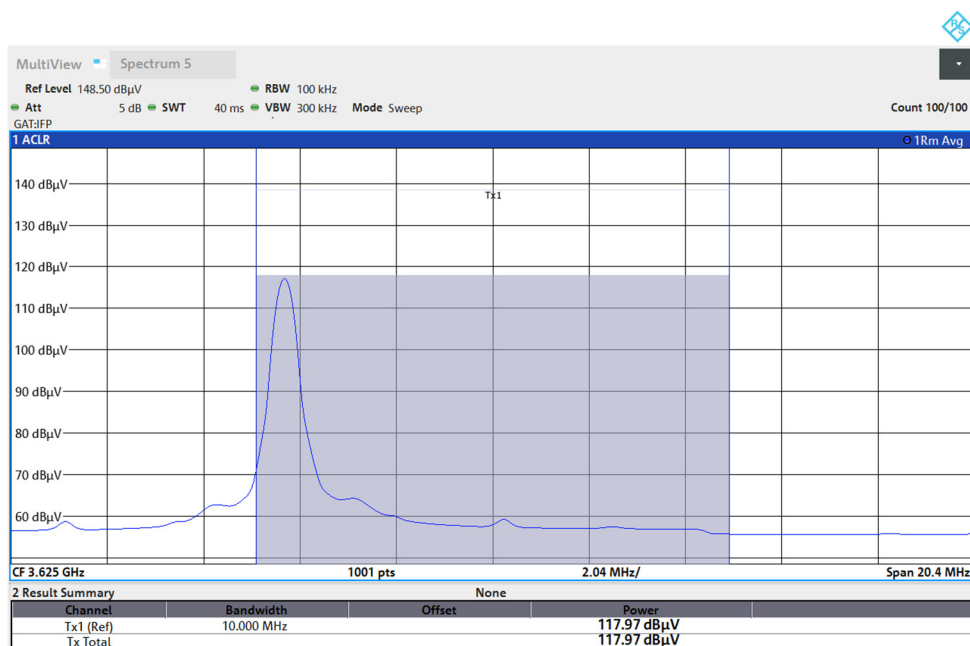


LTE Band 48, Channel Bandwidth: 10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	55290	3555	117.84	-95.26	181.134	22.58	23
	55990	3625	117.97	-95.26	186.638	22.71	23
	56690	3695	117.84	-95.26	181.134	22.58	23
16QAM	55290	3555	116.77	-95.26	141.579	21.51	23
	55990	3625	116.87	-95.26	144.877	21.61	23
	56690	3695	116.80	-95.26	142.561	21.54	23
64QAM	55290	3555	115.74	-95.26	111.686	20.48	23
	55990	3625	116.07	-95.26	120.504	20.81	23
	56690	3695	115.86	-95.26	114.815	20.60	23
256QAM	55290	3555	114.87	-95.26	91.411	19.61	23
	55990	3625	115.23	-95.26	99.312	19.97	23
	56690	3695	114.67	-95.26	87.297	19.41	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

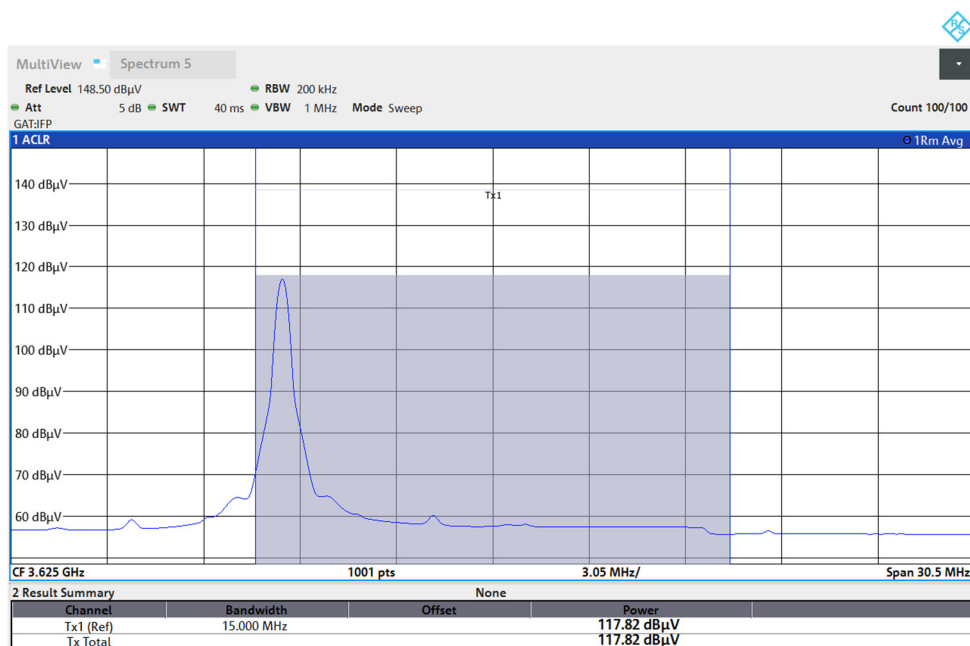


LTE Band 48, Channel Bandwidth: 15 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dB μ V/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	55315	3557.5	117.77	-95.26	178.238	22.51	23
	55990	3625	117.82	-95.26	180.302	22.56	23
	56665	3692.5	117.78	-95.26	178.649	22.52	23
16QAM	55315	3557.5	116.76	-95.26	141.254	21.50	23
	55990	3625	117.02	-95.26	149.968	21.76	23
	56665	3692.5	116.96	-95.26	147.911	21.70	23
64QAM	55315	3557.5	115.67	-95.26	109.901	20.41	23
	55990	3625	115.95	-95.26	117.220	20.69	23
	56665	3692.5	115.89	-95.26	115.611	20.63	23
256QAM	55315	3557.5	114.64	-95.26	86.696	19.38	23
	55990	3625	114.91	-95.26	92.257	19.65	23
	56665	3692.5	114.92	-95.26	92.470	19.66	23

Notes:

1. EIRP (dBm) = Field Strength (dB μ V/m) + Correction Factor (dB)
2. Correction Factor (dB) = 20log(D) – 104.8; where D is the measurement distance at 3 meters.

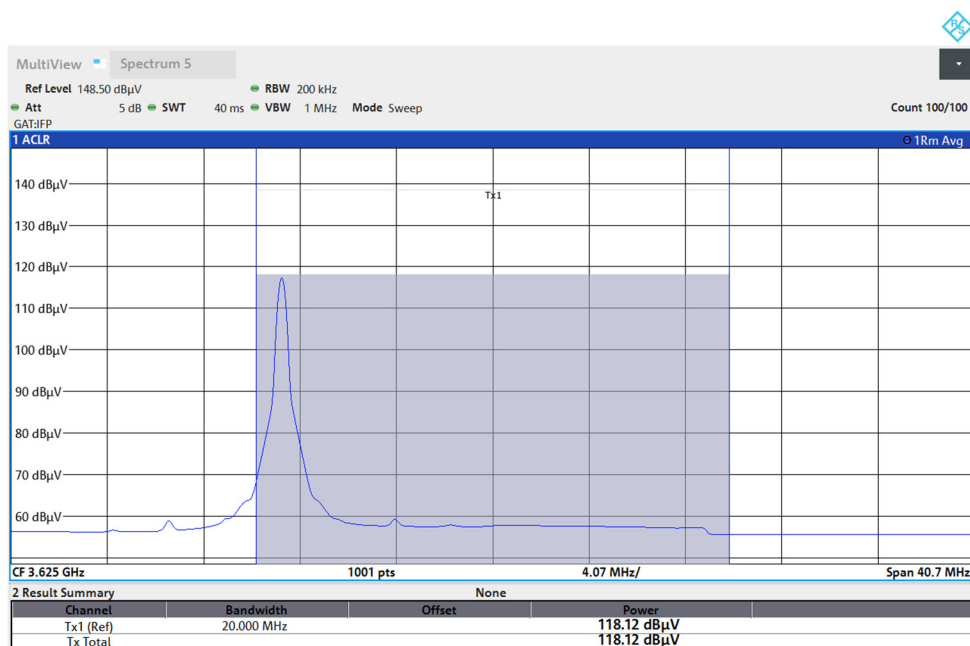


LTE Band 48, Channel Bandwidth: 20 MHz, Output Power: Full Power

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	55340	3560	118.02	-95.26	188.799	22.76	23
	55990	3625	118.12	-95.26	193.197	22.86	23
	56640	3690	118.07	-95.26	190.985	22.81	23
16QAM	55340	3560	116.96	-95.26	147.911	21.70	23
	55990	3625	117.25	-95.26	158.125	21.99	23
	56640	3690	117.00	-95.26	149.279	21.74	23
64QAM	55340	3560	115.88	-95.26	115.345	20.62	23
	55990	3625	116.10	-95.26	121.339	20.84	23
	56640	3690	115.86	-95.26	114.815	20.60	23
256QAM	55340	3560	114.89	-95.26	91.833	19.63	23
	55990	3625	115.19	-95.26	98.401	19.93	23
	56640	3690	114.88	-95.26	91.622	19.62	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

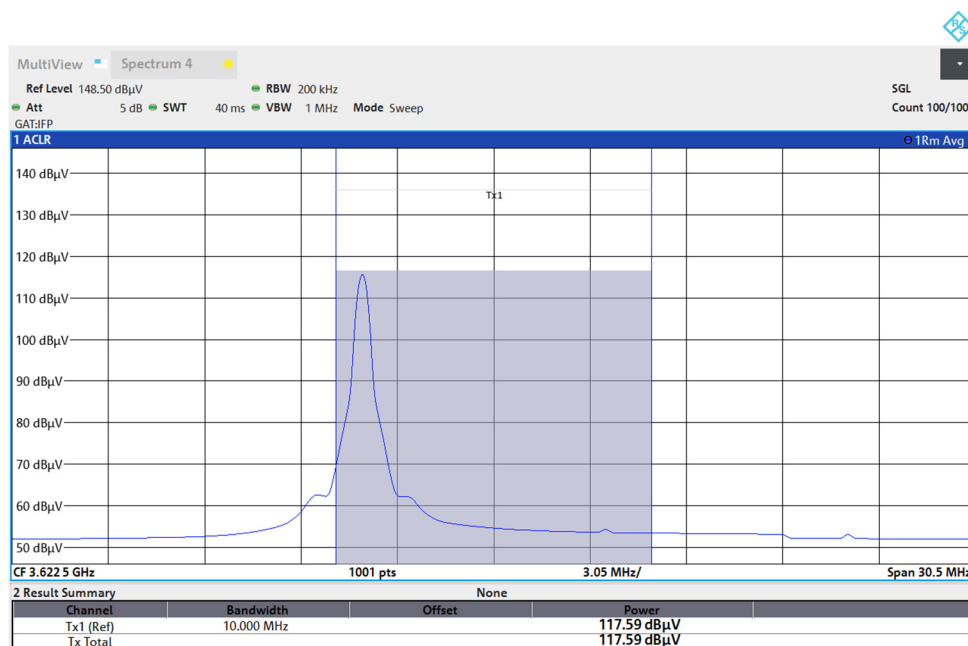


LTE Band 48, Channel Bandwidth: 15 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	55315	3557.5	117.48	-95.26	166.725	22.22	23
	55990	3625	117.59	-95.26	171.002	22.33	23
	56665	3692.5	117.51	-95.26	167.880	22.25	23
16QAM	55315	3557.5	116.46	-95.26	131.826	21.2	23
	55990	3625	116.63	-95.26	137.088	21.37	23
	56665	3692.5	116.51	-95.26	133.352	21.25	23
64QAM	55315	3557.5	115.39	-95.26	103.039	20.13	23
	55990	3625	115.83	-95.26	114.025	20.57	23
	56665	3692.5	115.55	-95.26	106.905	20.29	23
256QAM	55315	3557.5	114.53	-95.26	84.528	19.27	23
	55990	3625	114.87	-95.26	91.411	19.61	23
	56665	3692.5	114.48	-95.26	83.560	19.22	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.



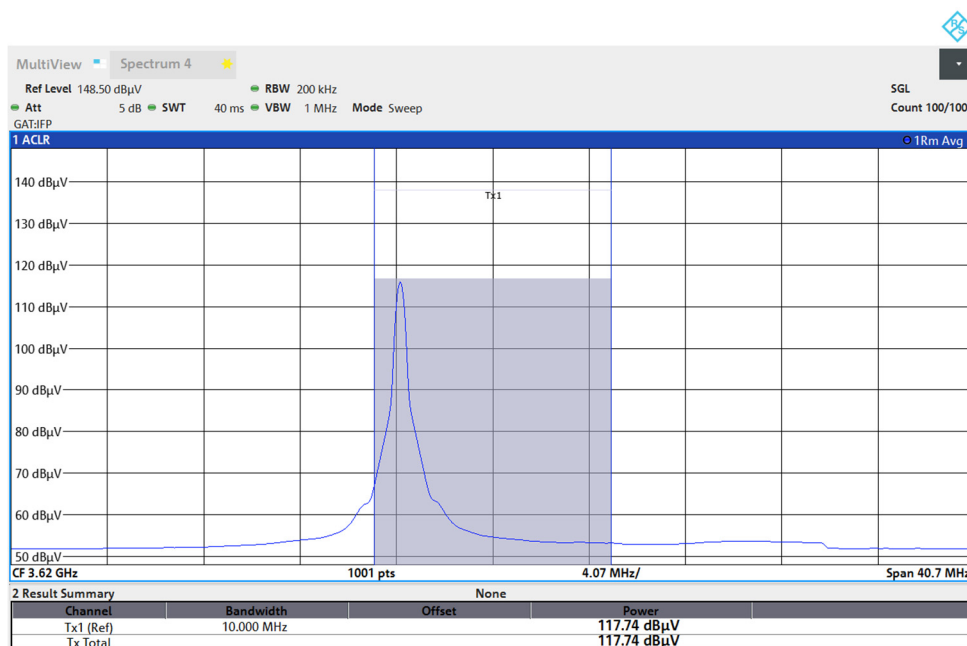
Note: For the channel bandwidth is less than or equal to 10 MHz, the full power test data please refer to the power per 10 MHz corresponding to the channel bandwidth.

LTE Band 48, Channel Bandwidth: 20 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	55340	3560	117.68	-95.26	174.582	22.42	23
	55990	3625	117.74	-95.26	177.011	22.48	23
	56640	3690	117.72	-95.26	176.198	22.46	23
16QAM	55340	3560	116.71	-95.26	139.637	21.45	23
	55990	3625	116.92	-95.26	146.555	21.66	23
	56640	3690	116.81	-95.26	142.889	21.55	23
64QAM	55340	3560	115.62	-95.26	108.643	20.36	23
	55990	3625	115.83	-95.26	114.025	20.57	23
	56640	3690	115.53	-95.26	106.414	20.27	23
256QAM	55340	3560	114.63	-95.26	86.497	19.37	23
	55990	3625	114.98	-95.26	93.756	19.72	23
	56640	3690	114.65	-95.26	86.896	19.39	23

Notes:

1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.



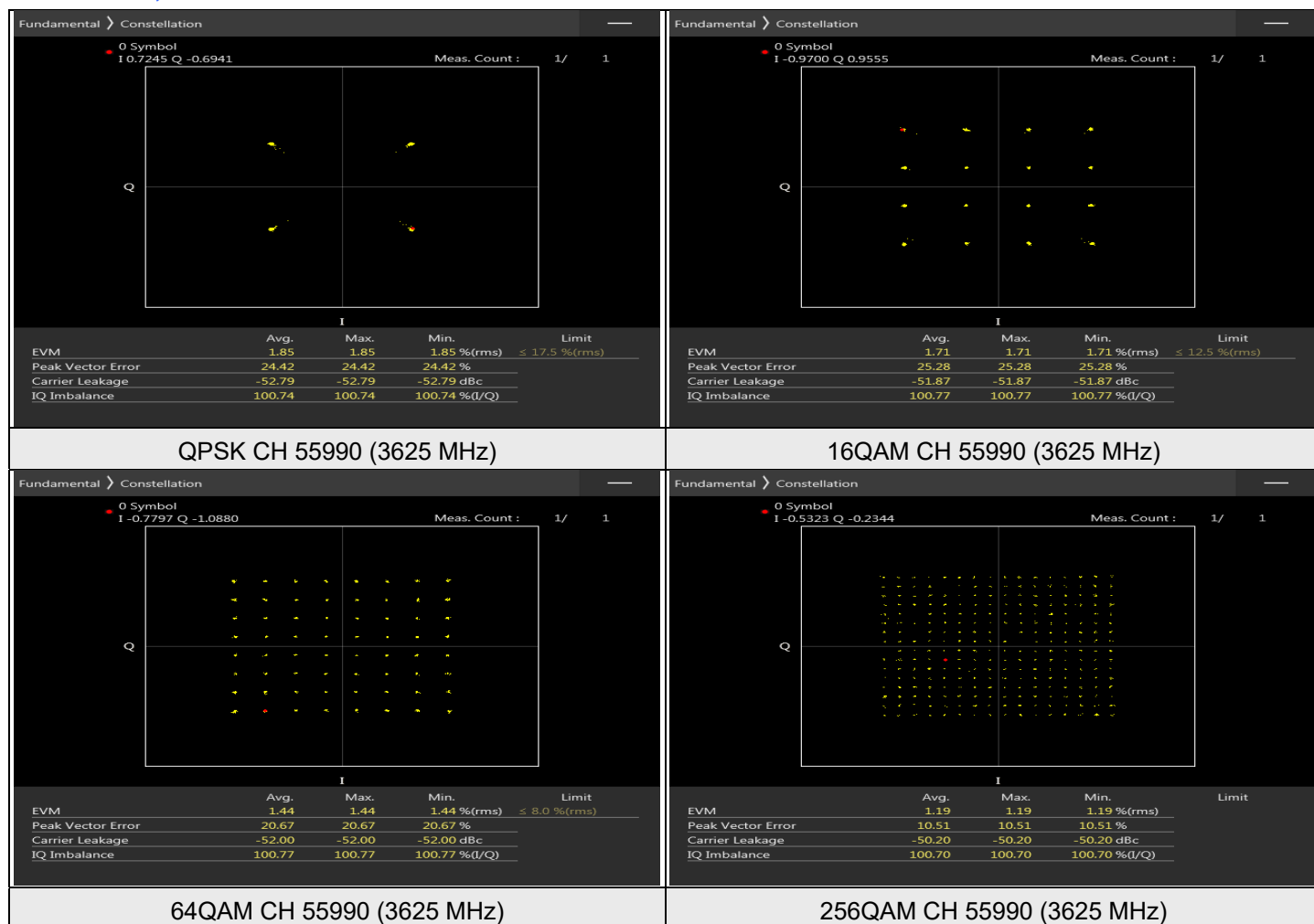
Note: For the channel bandwidth is less than or equal to 10 MHz, the full power test data please refer to the power per 10 MHz corresponding to the channel bandwidth.

7.2 Modulation Characteristics

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 65% RH	Tested By:	Charles Hsiao
--------------	----------	---------------------------	--------------	------------	---------------

7.2.1 LTE Band 48

LTE Band 48, Channel Bandwidth: 20 MHz



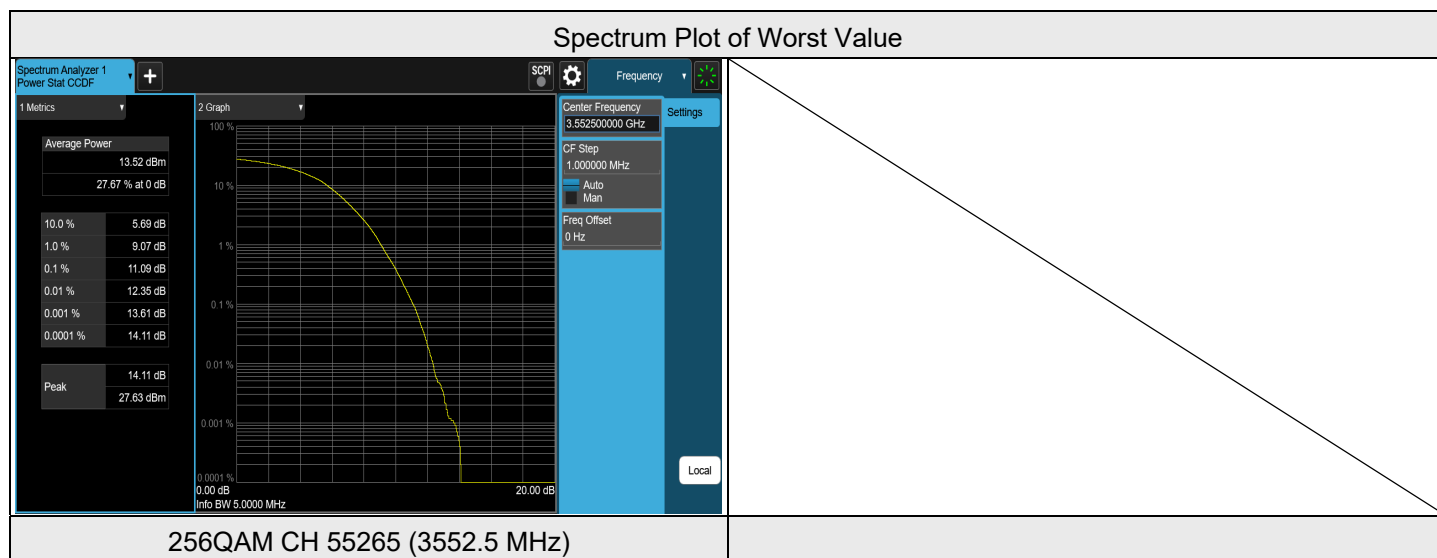
7.3 Peak to Average Ratio

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 65% RH	Tested By:	Charles Hsiao
--------------	----------	---------------------------	--------------	------------	---------------

7.3.1 LTE Band 48

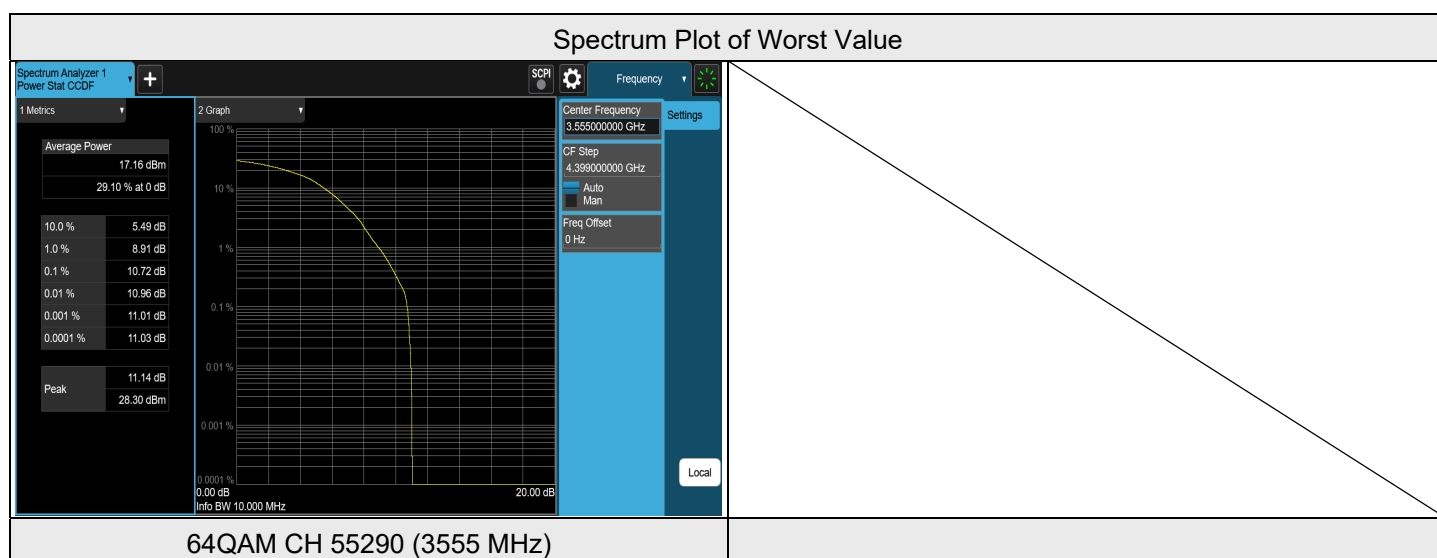
LTE Band 48, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	55265	3552.5	8.75	13	PASS
QPSK	55990	3625	8.86	13	PASS
QPSK	56715	3697.5	8.59	13	PASS
16QAM	55265	3552.5	9.55	13	PASS
16QAM	55990	3625	9.37	13	PASS
16QAM	56715	3697.5	9.55	13	PASS
64QAM	55265	3552.5	9.90	13	PASS
64QAM	55990	3625	9.51	13	PASS
64QAM	56715	3697.5	9.53	13	PASS
256QAM	55265	3552.5	11.09	13	PASS
256QAM	55990	3625	10.56	13	PASS
256QAM	56715	3697.5	10.41	13	PASS



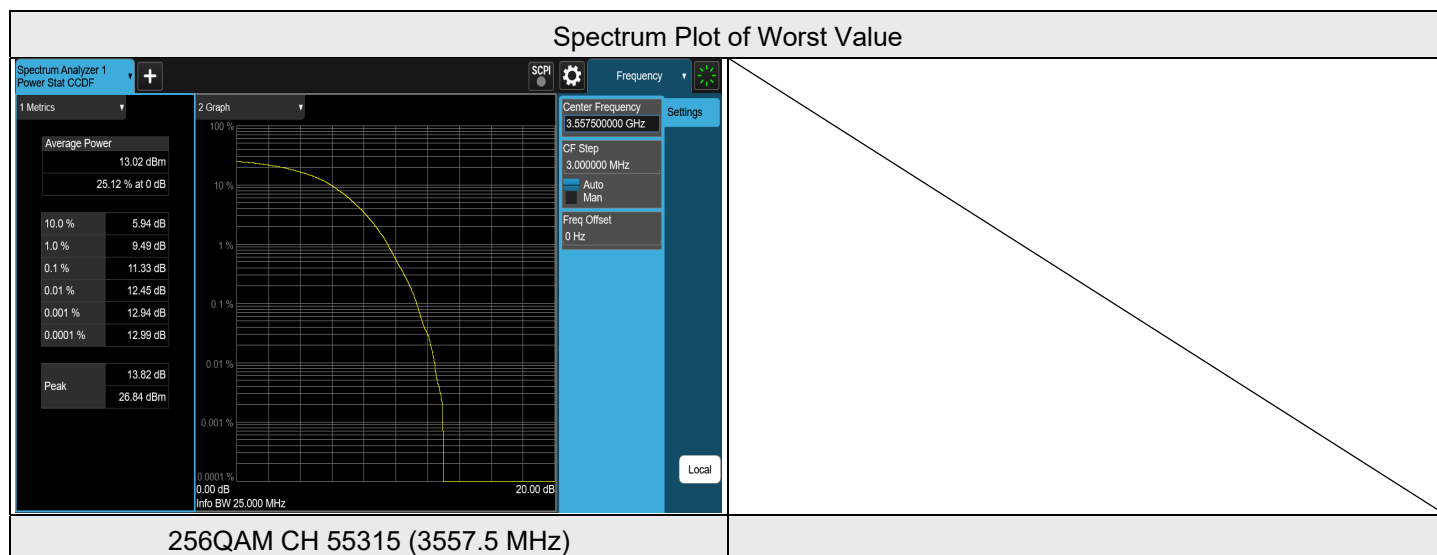
LTE Band 48, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	55290	3555	9.13	13	PASS
QPSK	55990	3625	8.69	13	PASS
QPSK	56690	3695	8.83	13	PASS
16QAM	55290	3555	9.74	13	PASS
16QAM	55990	3625	9.64	13	PASS
16QAM	56690	3695	9.44	13	PASS
64QAM	55290	3555	10.72	13	PASS
64QAM	55990	3625	10.49	13	PASS
64QAM	56690	3695	9.95	13	PASS
256QAM	55290	3555	10.04	13	PASS
256QAM	55990	3625	10.40	13	PASS
256QAM	56690	3695	10.22	13	PASS



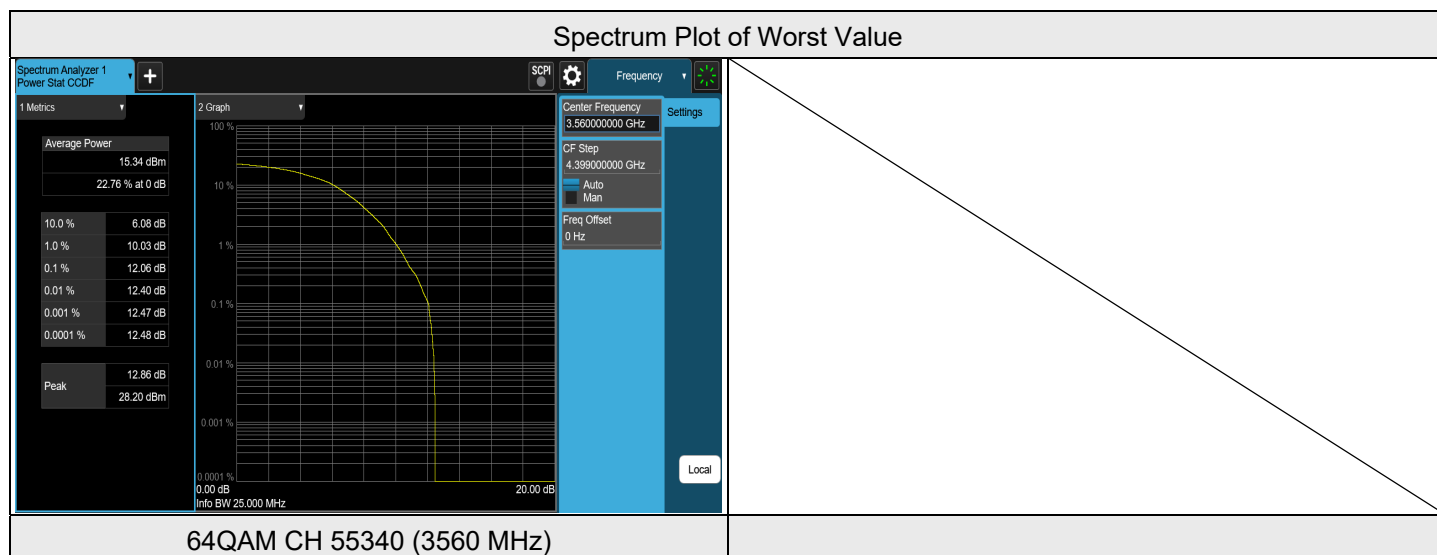
LTE Band 48, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	55315	3557.5	9.49	13	PASS
QPSK	55990	3625	8.48	13	PASS
QPSK	56665	3692.5	9.37	13	PASS
16QAM	55315	3557.5	8.71	13	PASS
16QAM	55990	3625	10.14	13	PASS
16QAM	56665	3692.5	9.75	13	PASS
64QAM	55315	3557.5	10.13	13	PASS
64QAM	55990	3625	9.53	13	PASS
64QAM	56665	3692.5	10.53	13	PASS
256QAM	55315	3557.5	11.33	13	PASS
256QAM	55990	3625	11.27	13	PASS
256QAM	56665	3692.5	10.47	13	PASS



LTE Band 48, Channel Bandwidth: 20 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	55340	3560	8.70	13	PASS
QPSK	55990	3625	7.70	13	PASS
QPSK	56640	3690	9.40	13	PASS
16QAM	55340	3560	9.99	13	PASS
16QAM	55990	3625	8.63	13	PASS
16QAM	56640	3690	8.05	13	PASS
64QAM	55340	3560	12.06	13	PASS
64QAM	55990	3625	10.63	13	PASS
64QAM	56640	3690	10.74	13	PASS
256QAM	55340	3560	10.88	13	PASS
256QAM	55990	3625	11.51	13	PASS
256QAM	56640	3690	9.82	13	PASS



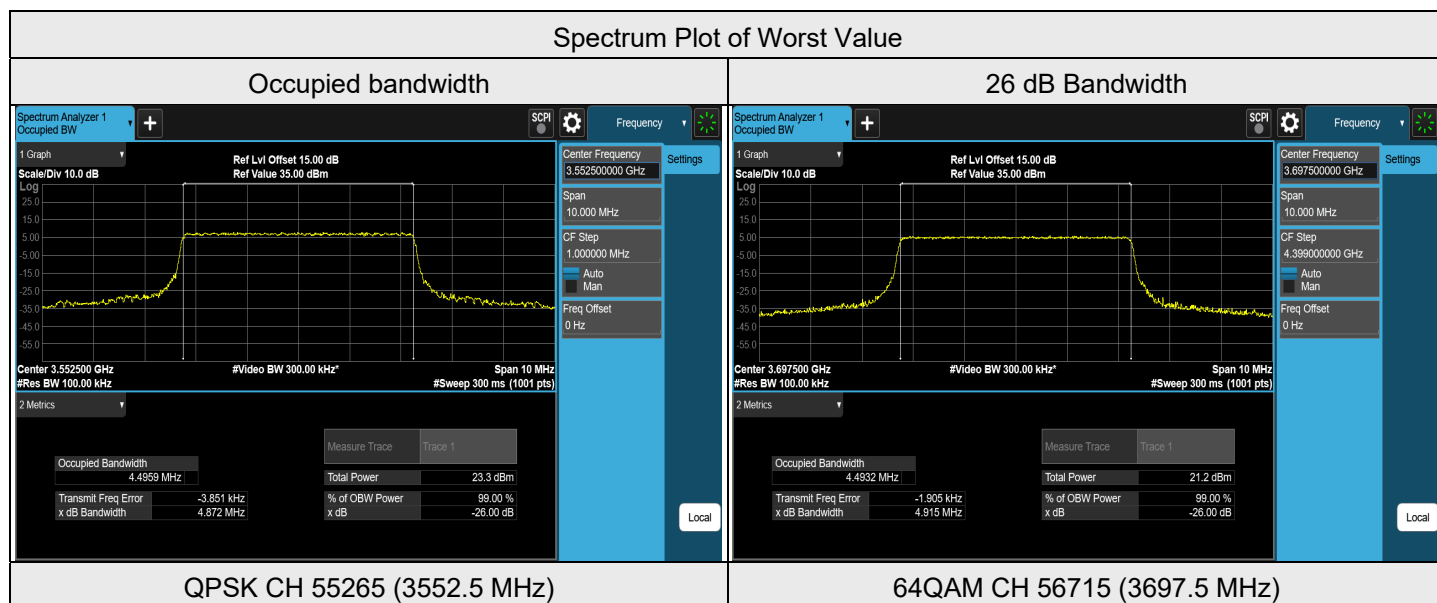
7.4 Bandwidth

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 65% RH	Tested By:	Charles Hsiao
--------------	----------	---------------------------	--------------	------------	---------------

7.4.1 LTE Band 48

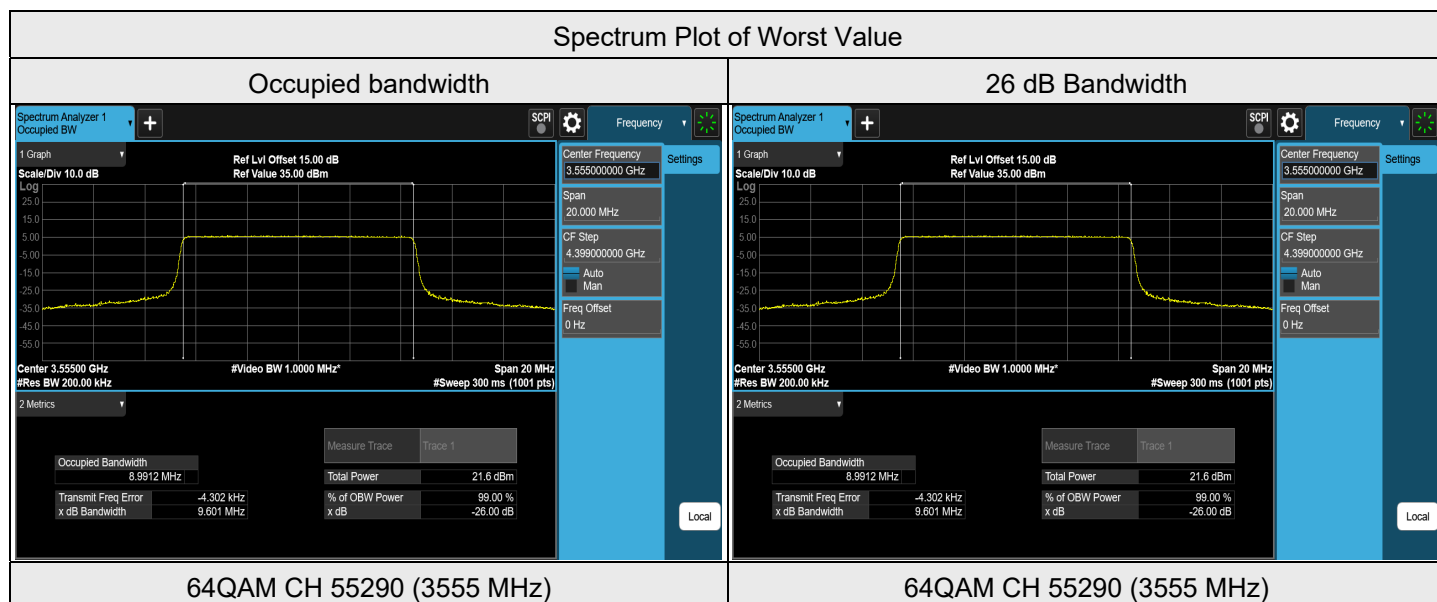
LTE Band 48, Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	55265	3552.5	4.4959	4.872
QPSK	55990	3625	4.4923	4.888
QPSK	56715	3697.5	4.4956	4.873
16QAM	55265	3552.5	4.4924	4.865
16QAM	55990	3625	4.4891	4.849
16QAM	56715	3697.5	4.4931	4.880
64QAM	55265	3552.5	4.4916	4.874
64QAM	55990	3625	4.4912	4.852
64QAM	56715	3697.5	4.4932	4.915
256QAM	55265	3552.5	4.4930	4.811
256QAM	55990	3625	4.4906	4.824
256QAM	56715	3697.5	4.4858	4.859



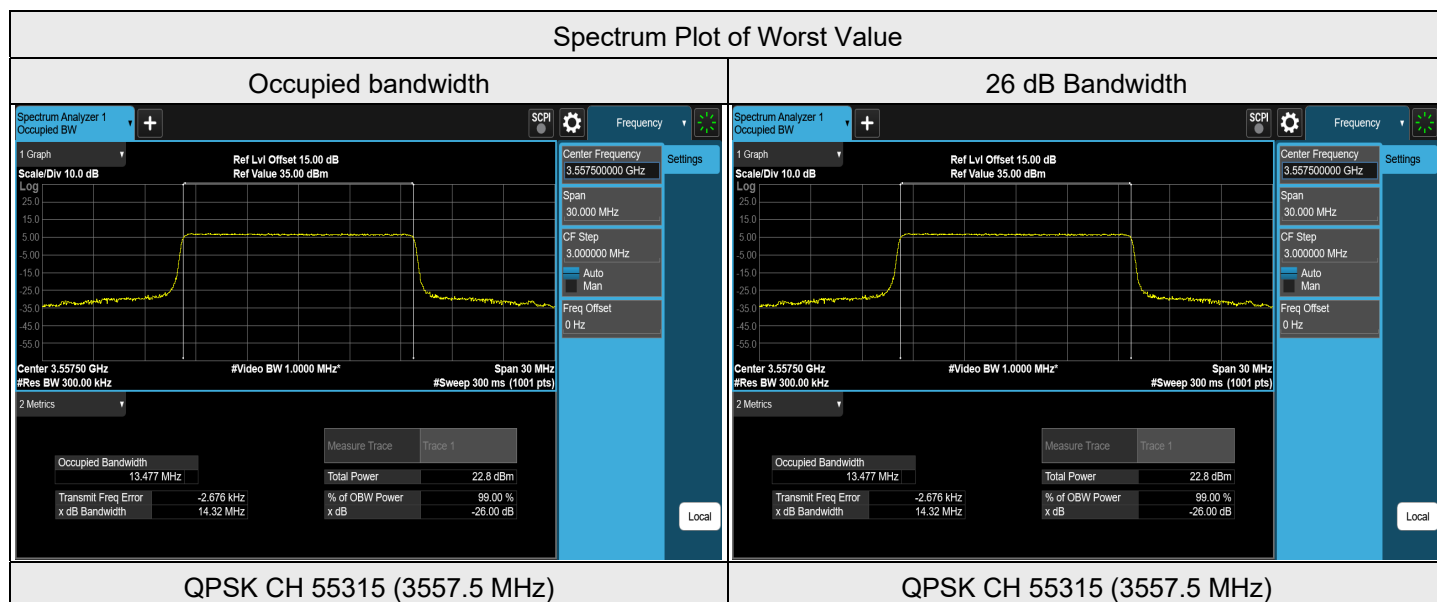
LTE Band 48, Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	55290	3555	8.9822	9.565
QPSK	55990	3625	8.9748	9.561
QPSK	56690	3695	8.9760	9.524
16QAM	55290	3555	8.9778	9.546
16QAM	55990	3625	8.9747	9.541
16QAM	56690	3695	8.9737	9.555
64QAM	55290	3555	8.9912	9.601
64QAM	55990	3625	8.9709	9.526
64QAM	56690	3695	8.9729	9.520
256QAM	55290	3555	8.9746	9.539
256QAM	55990	3625	8.9700	9.518
256QAM	56690	3695	8.9743	9.537



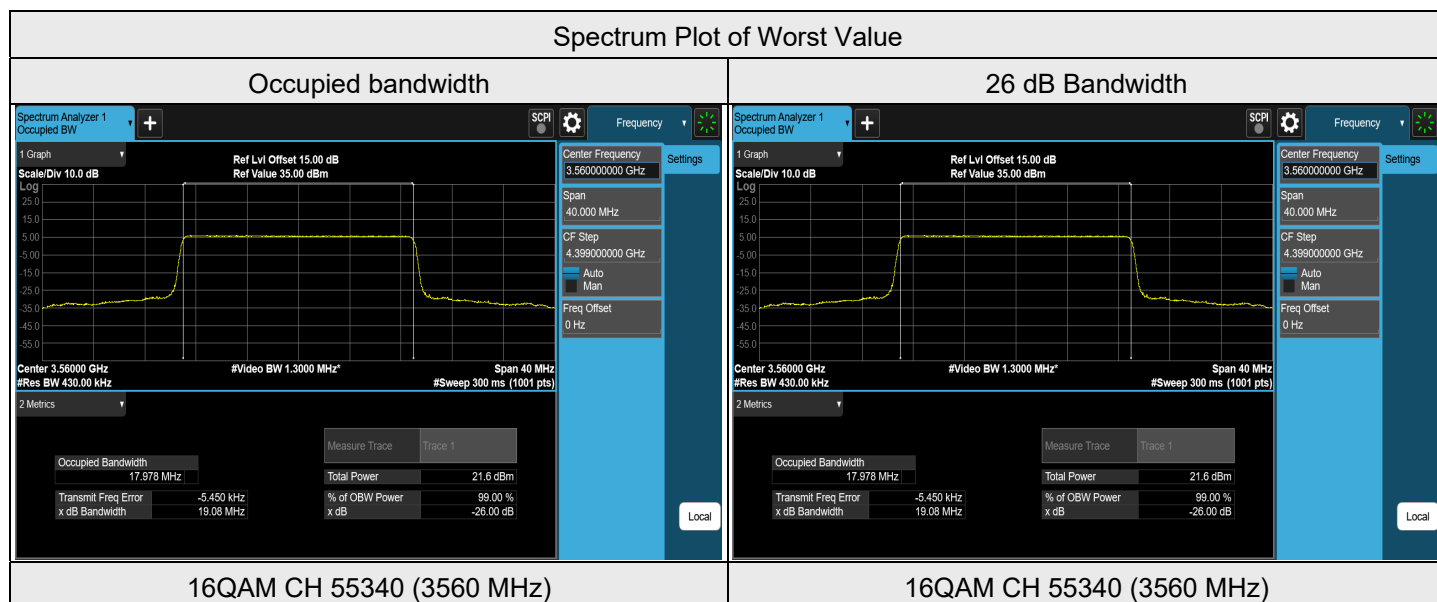
LTE Band 48, Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	55315	3557.5	13.4768	14.317
QPSK	55990	3625	13.4661	14.258
QPSK	56665	3692.5	13.4673	14.311
16QAM	55315	3557.5	13.4738	14.264
16QAM	55990	3625	13.4654	14.269
16QAM	56665	3692.5	13.4643	14.290
64QAM	55315	3557.5	13.4669	14.274
64QAM	55990	3625	13.4638	14.265
64QAM	56665	3692.5	13.4542	14.277
256QAM	55315	3557.5	13.4519	14.284
256QAM	55990	3625	13.4591	14.250
256QAM	56665	3692.5	13.4602	14.260



LTE Band 48, Channel Bandwidth: 20 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	55340	3560	17.9616	19.044
QPSK	55990	3625	17.9606	19.067
QPSK	56640	3690	17.9672	19.051
16QAM	55340	3560	17.9784	19.083
16QAM	55990	3625	17.9591	19.065
16QAM	56640	3690	17.9494	19.056
64QAM	55340	3560	17.9745	19.065
64QAM	55990	3625	17.9568	19.044
64QAM	56640	3690	17.9566	19.050
256QAM	55340	3560	17.6296	18.975
256QAM	55990	3625	17.9526	19.029
256QAM	56640	3690	17.9580	19.060

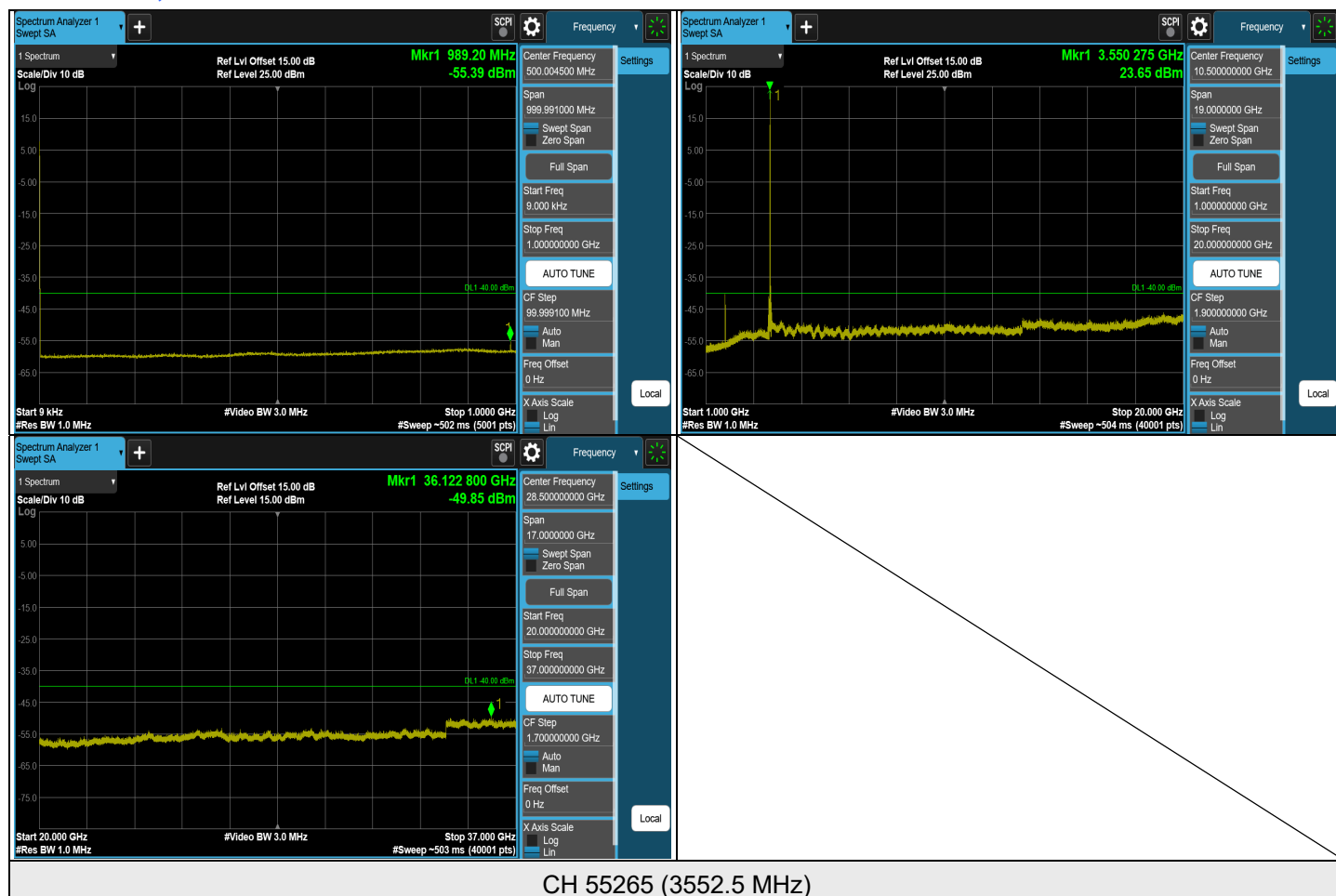


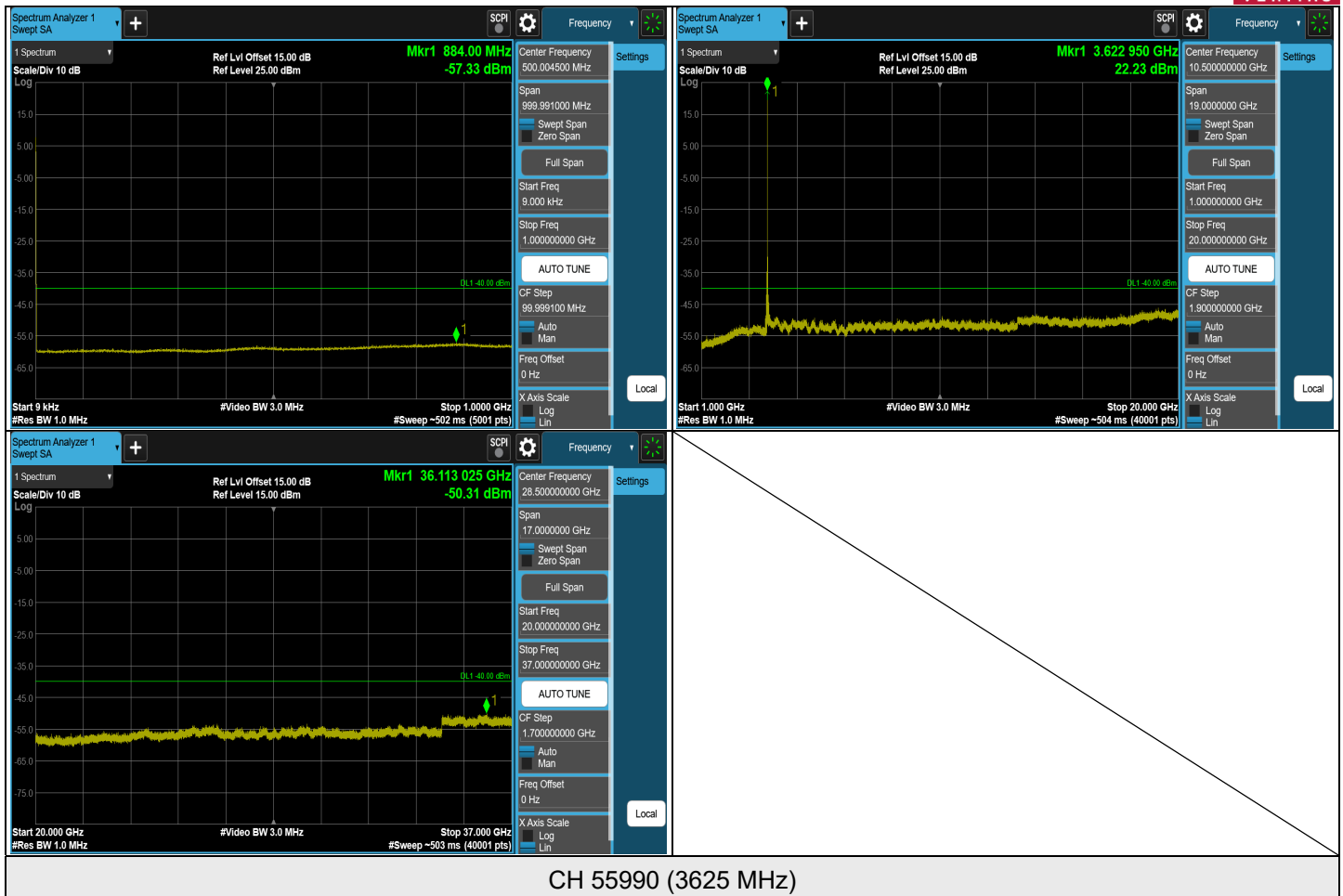
7.5 Conducted Spurious Emissions

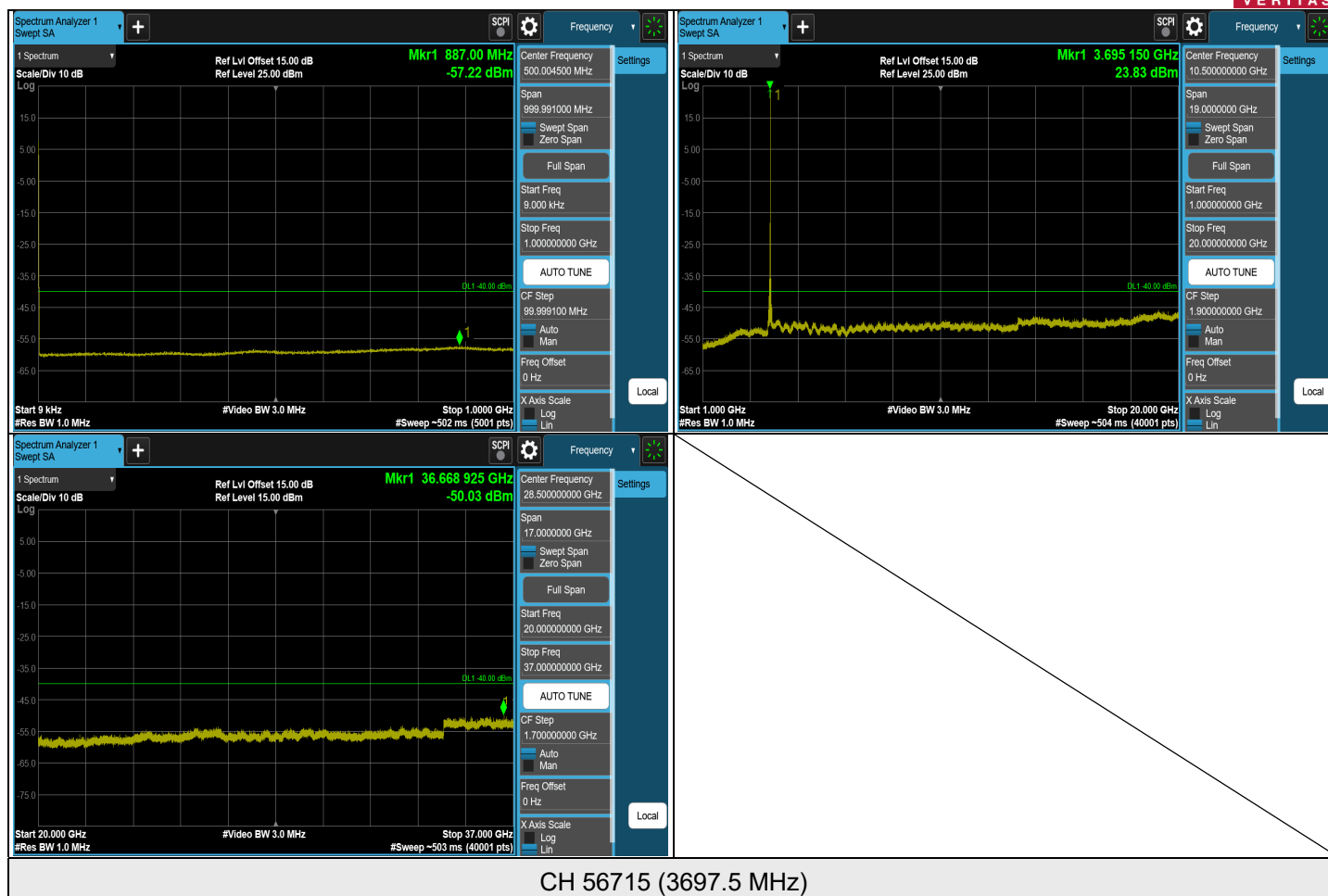
Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 65% RH	Tested By:	Charles Hsiao
--------------	----------	---------------------------	--------------	------------	---------------

7.5.1 LTE Band 48

LTE Band 48, Channel Bandwidth: 5 MHz

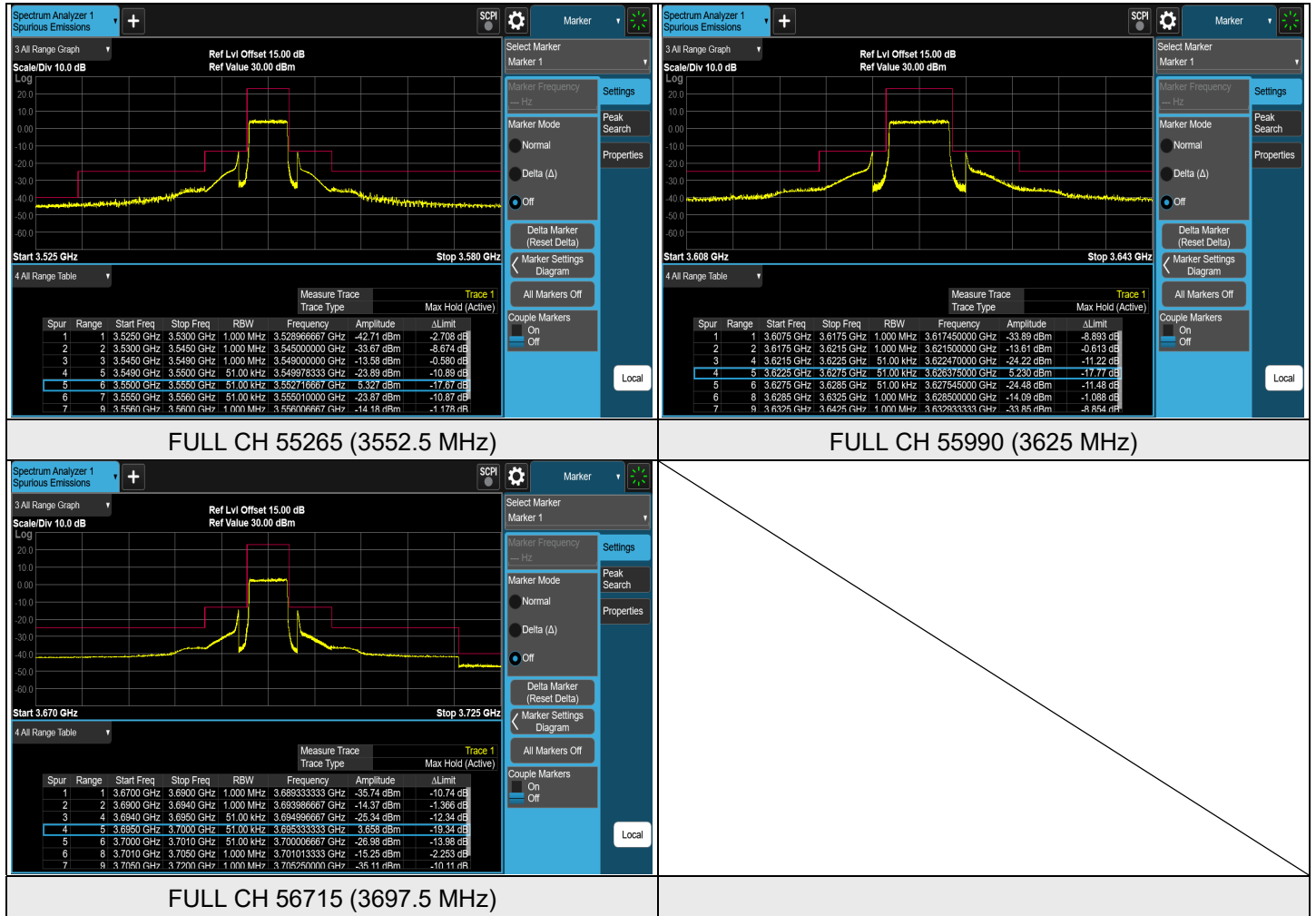


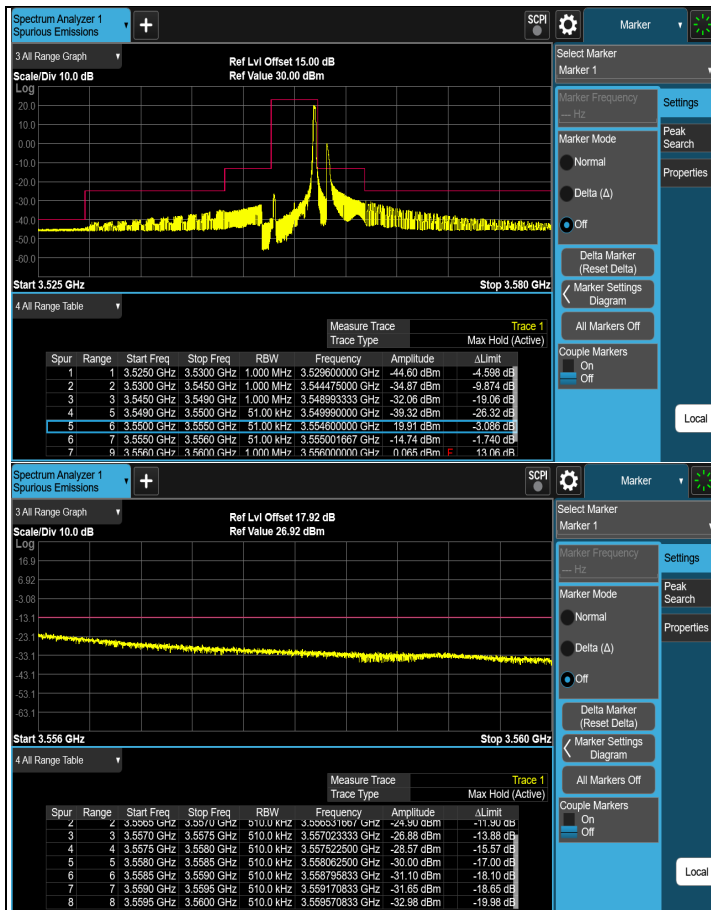




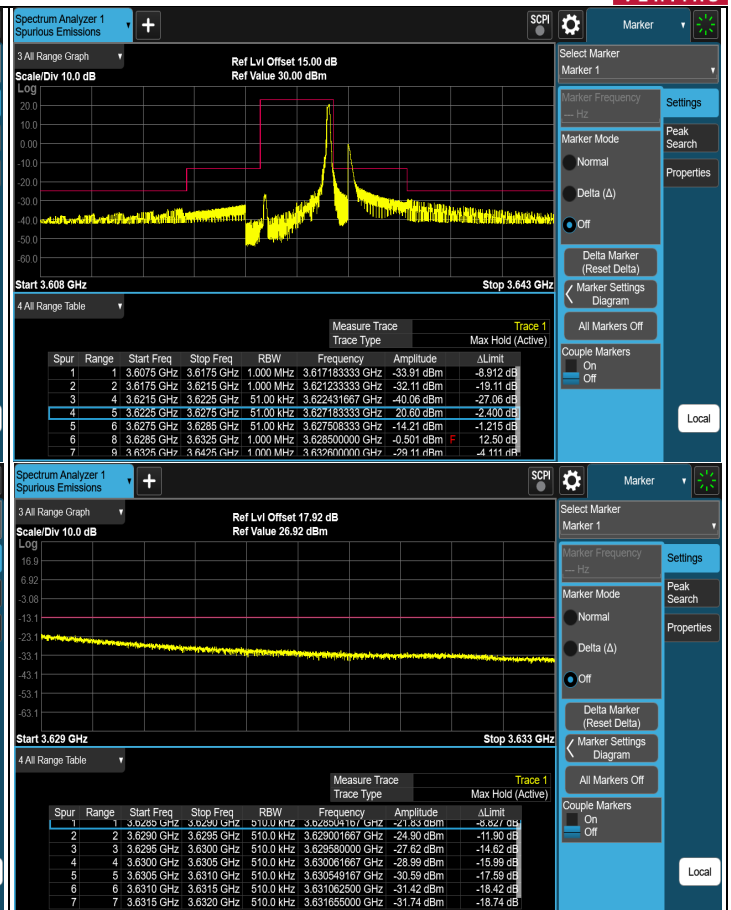
Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 48, Channel Bandwidth: 5 MHz





1RB#MAX CH 55265 (3552.5 MHz)



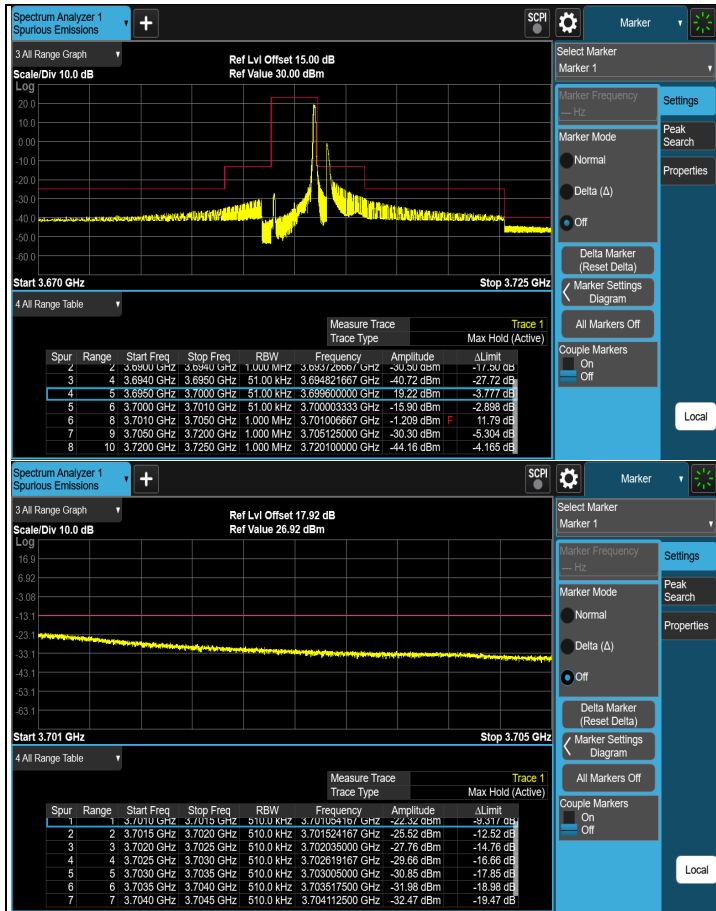
1RB#MAX CH 55990 (3625 MHz)

[RBW = 510 kHz / Reference RBW = 1 MHz]

Worst-case integrated BW power = [Max Measured Value (dBm) with RBW=510kHz] + 10log(1000/510)

To compensate for this integration before comparison to the limit, 2.92 dB was added to Ref Lvl Offset.

i.e. 15.00 dB CF + 2.92 dB integration compensation factor = 17.92 dB Ref Lvl Offset



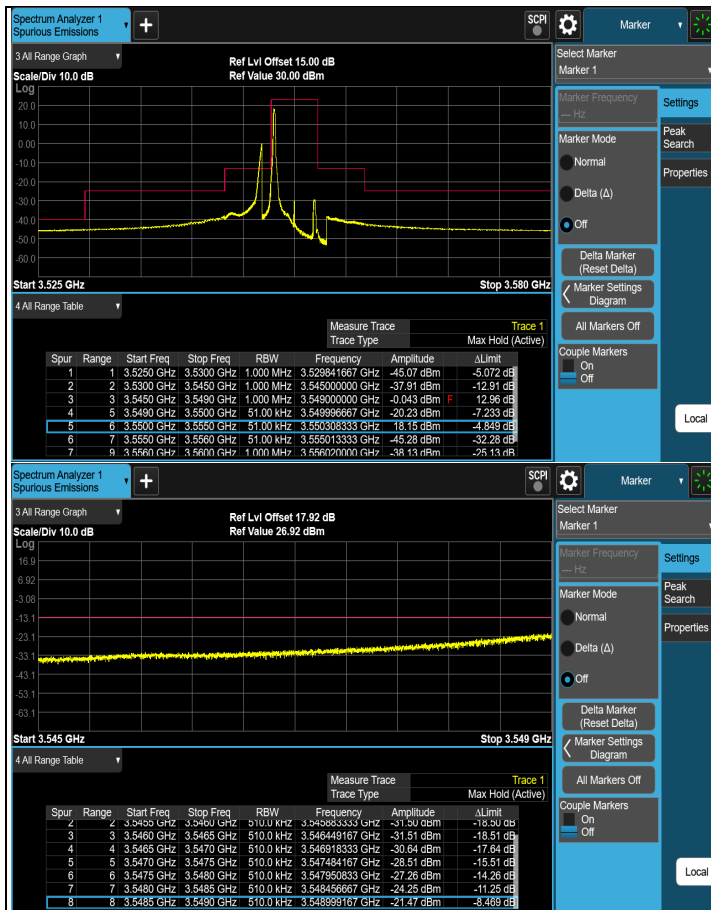
1RB#MAX CH 56715 (3697.5 MHz)

[RBW = 510 kHz / Reference RBW = 1 MHz]

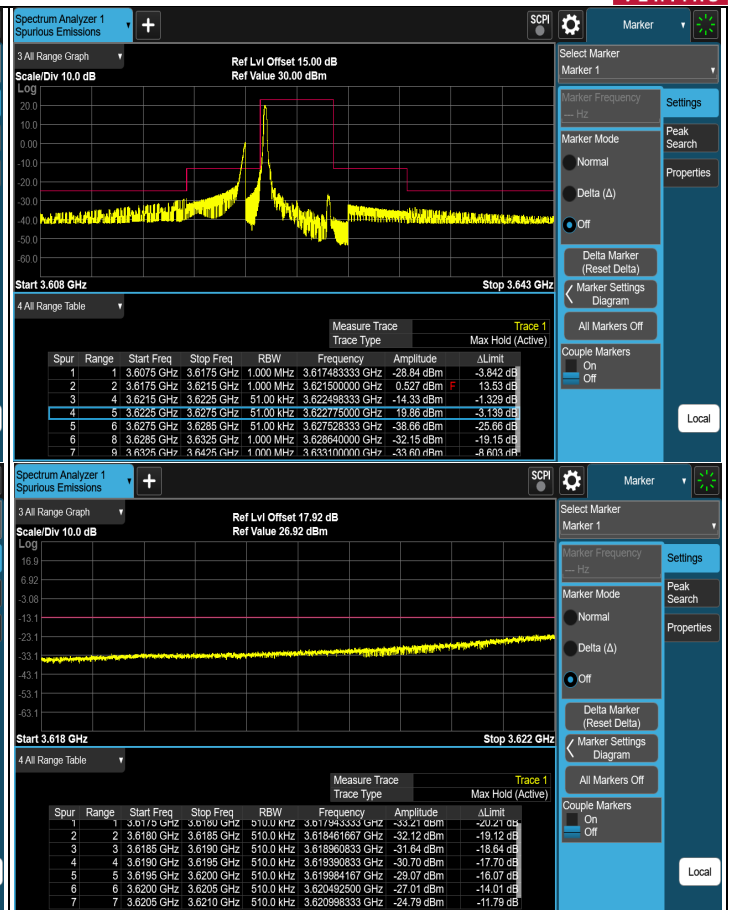
Worst-case integrated BW power = [Max Measured Value (dBm) with RBW=510kHz] + 10log(1000/510)

To compensate for this integration before comparison to the limit, 2.92 dB was added to Ref Lvl Offset.

i.e. 15.00 dB CF + 2.92 dB integration compensation factor = 17.92 dB Ref Lvl Offset



1RB#0 CH 55265 (3552.5 MHz)



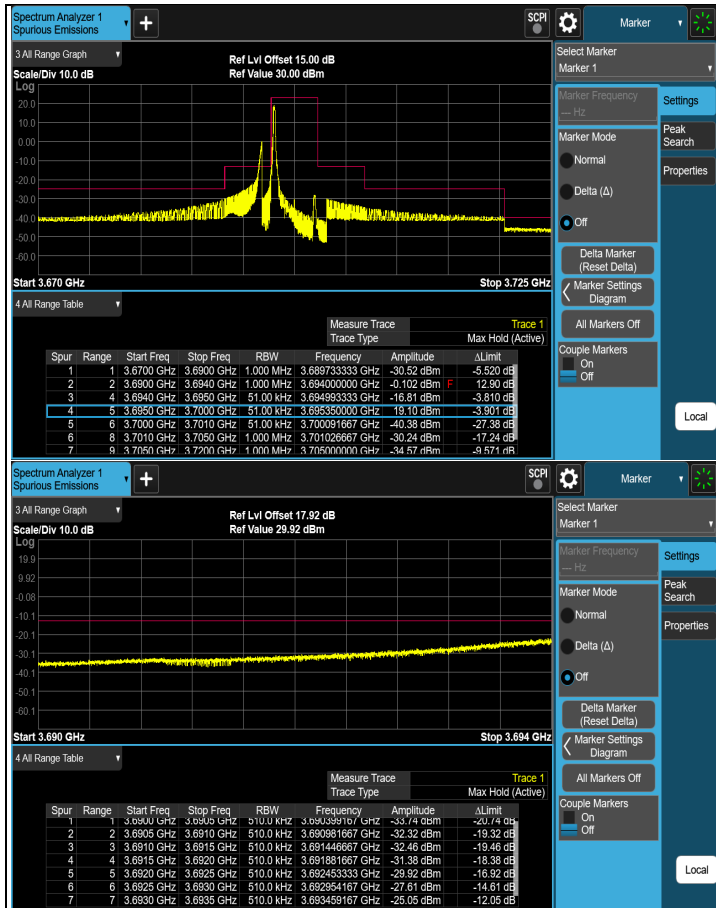
1RB#0 CH 55990 (3625 MHz)

[RBW = 510 kHz / Reference RBW = 1 MHz]

Worst-case integrated BW power = [Max Measured Value (dBm) with RBW=510kHz] + 10log(1000/510)

To compensate for this integration before comparison to the limit, 2.92 dB was added to Ref Lvl Offset.

i.e. 15.00 dB CF + 2.92 dB integration compensation factor = 17.92 dB Ref Lvl Offset



1RB#0 CH 56715 (3697.5 MHz)

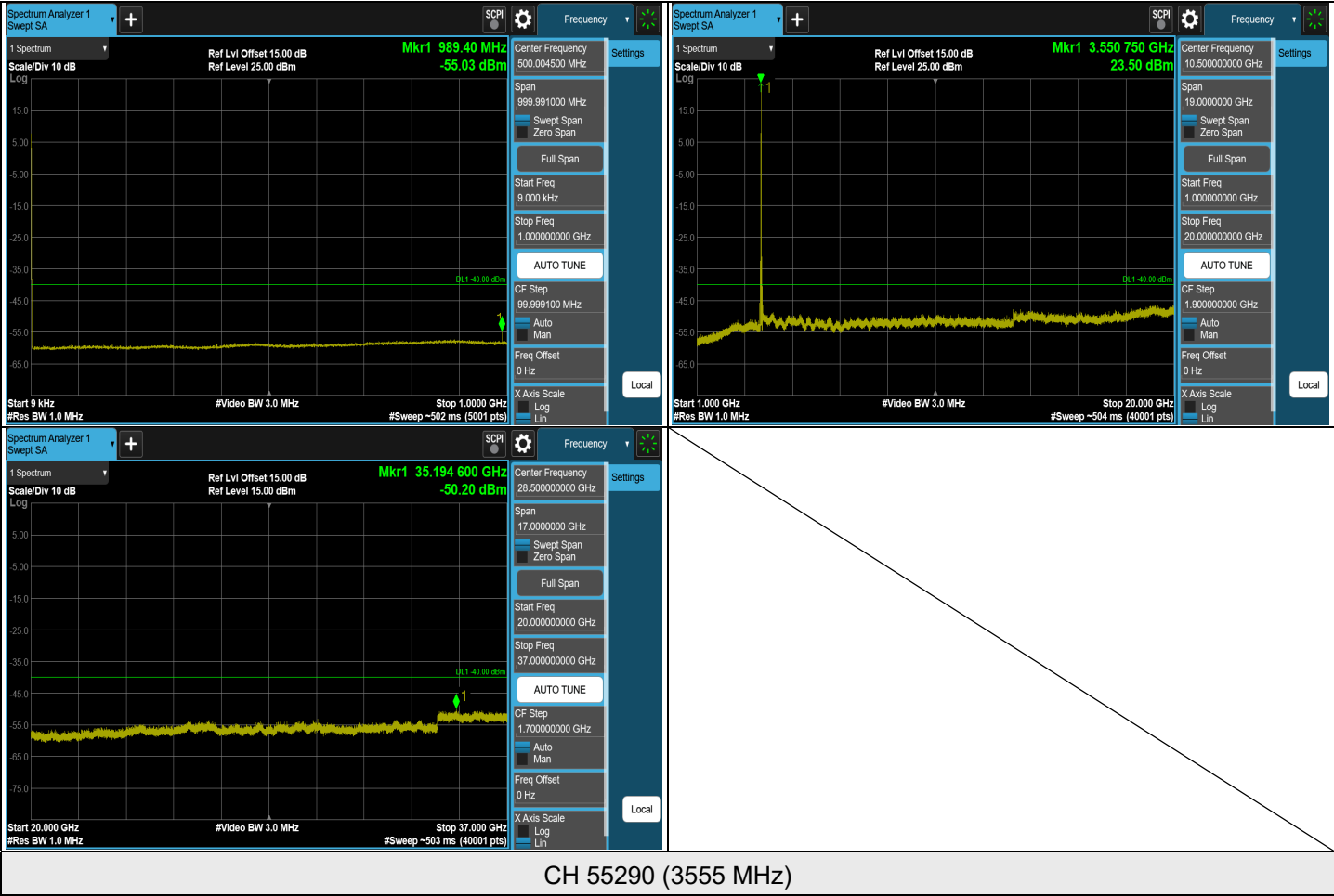
[RBW = 510 kHz / Reference RBW = 1 MHz]

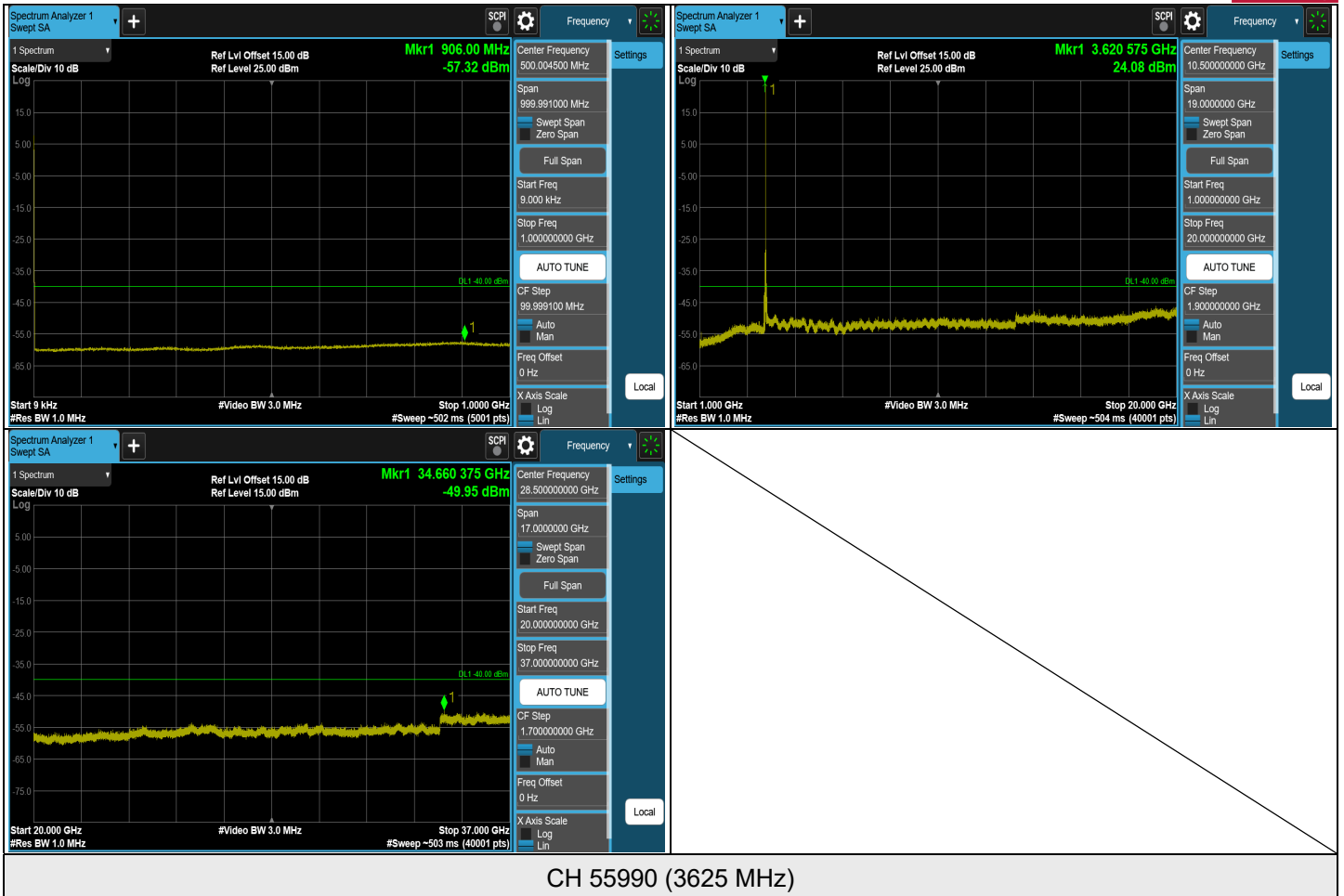
Worst-case integrated BW power = [Max Measured Value (dBm) with RBW=510kHz] + 10log(1000/510)

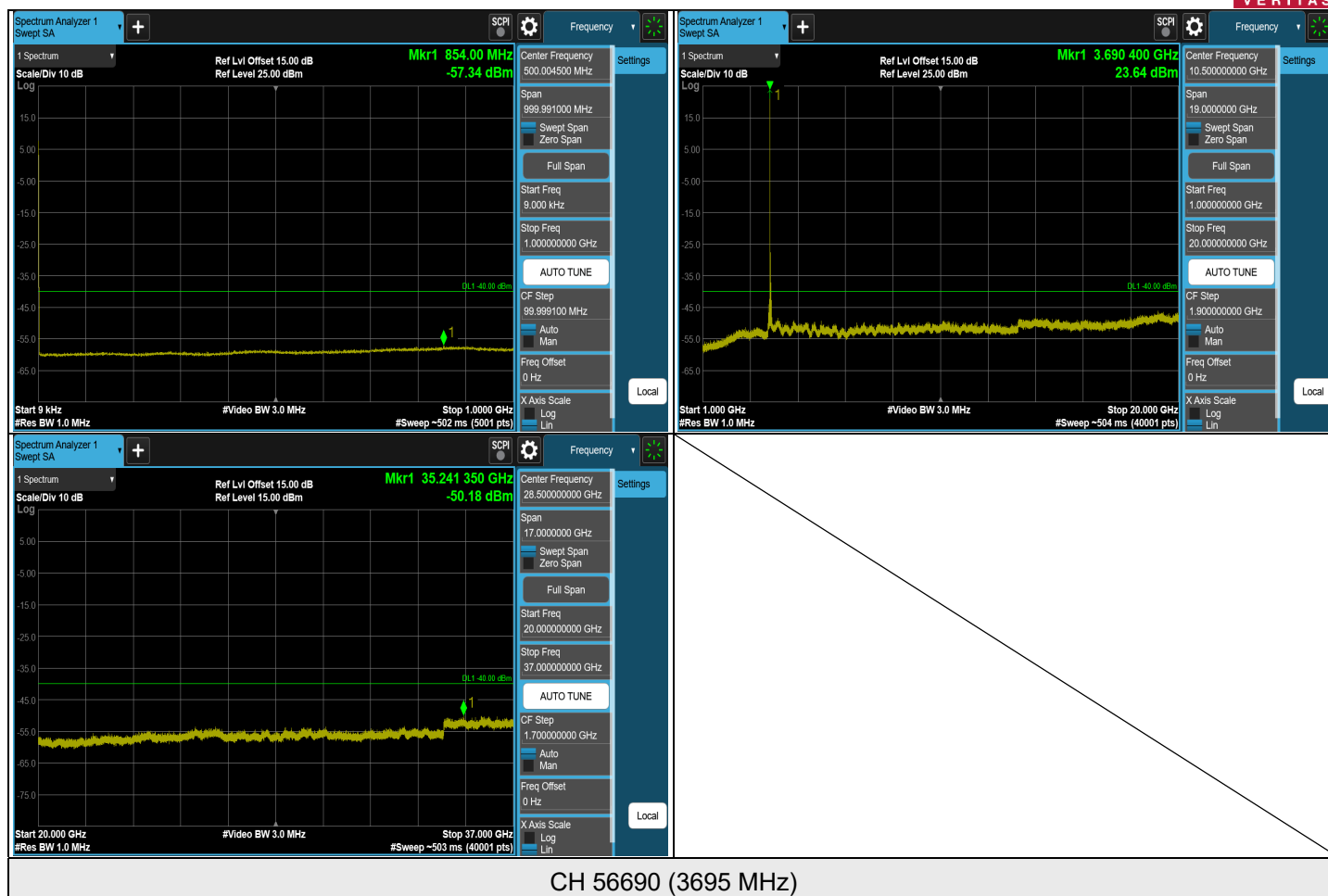
To compensate for this integration before comparison to the limit, 2.92 dB was added to Ref Lvl Offset.

i.e. 15.00 dB CF + 2.92 dB integration compensation factor = 17.92 dB Ref Lvl Offset

LTE Band 48, Channel Bandwidth: 10 MHz







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

LTE Band 48, Channel Bandwidth: 10 MHz

