

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 96
47 CFR FCC Part 2
Report No.: RFBBQZ-WTW-P24030292A-1
FCC ID: PY324100618
Product: Nighthawk 5G Mobile Router
Brand: NETGEAR
Model No.: MR7400
Received Date: 2024/11/8
Test Date: 2024/12/2 ~ 2025/5/7
Issued Date: 2025/5/15

Applicant and Manufacturer: NETGEAR, INC.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 281270 / TW0032 for Test Location(1)

Designation Number: 788550 / TW0003 for Test Location(2)

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Date:

2025/5/15

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Prepared by : Pettie Chen / Senior Specialist



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Release Control Record

Issue No.	Description	Date Issued
RFBBQZ-WTW-P24030292A-1	Original release.	2025/5/15

1 Certificate

Product: Nighthawk 5G Mobile Router

Brand: NETGEAR

Test Model: MR7400

Sample Status: Engineering sample

Applicant: NETGEAR, INC.

Applicant and Manufacturer: 2024/12/2 ~ 2025/5/7

Test Date: 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 -6.31 dB at 795.33 MHz
Part 2.1053 Part 96.41(e)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -20.35 dB at 5186.00 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 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 5G Mobile Router
Brand	NETGEAR
Test Model	MR7400
Status of EUT	Engineering sample
Power Supply Rating	3.85Vdc from battery 5Vdc or 9Vdc or 12Vdc from adapter
EUT Category	End User Device

Note:

1. This report is a supplementary report to BV CPS report no.: RFBBQZ-WTW-P24030292-4. The differences compared with the original report are to enable LTE B8, B38, B41, B42 and NR n7, n40, n41 by software. Therefore, all tests for the added band had been an addendum test to this report. Refer to original report for the other test data.

2. EUT Overview

LTE Band 42 (3.55 GHz ~ 3.6 GHz)

Output Power: Full Power

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
5 MHz	3552.5 ~ 3597.5	QPSK	0.123	20.91	4M50G7D
		16QAM	0.101	20.03	4M50D7W
		64QAM	0.083	19.18	4M49D7W
		256QAM	0.048	16.79	4M49D7W
10 MHz	3555 ~ 3595	QPSK	0.124	20.92	8M98G7D
		16QAM	0.103	20.11	8M97D7W
		64QAM	0.083	19.19	8M98D7W
		256QAM	0.048	16.79	8M99D7W
15 MHz	3557.5 ~ 3592.5	QPSK	0.127	21.05	13M5G7D
		16QAM	0.103	20.13	13M5D7W
		64QAM	0.082	19.14	13M5D7W
		256QAM	0.047	16.76	13M5D7W
20 MHz	3560 ~ 3590	QPSK	0.128	21.07	18M0G7D
		16QAM	0.104	20.18	18M0D7W
		64QAM	0.085	19.29	18M0D7W
		256QAM	0.048	16.82	18M0D7W

Output Power: dBm/10 MHz

Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
5 MHz	3552.5 ~ 3597.5	QPSK	0.123	20.91	4M50G7D
		16QAM	0.101	20.03	4M50D7W
		64QAM	0.083	19.18	4M49D7W
		256QAM	0.048	16.79	4M49D7W
10 MHz	3555 ~ 3595	QPSK	0.124	20.92	8M98G7D
		16QAM	0.103	20.11	8M97D7W
		64QAM	0.083	19.19	8M98D7W
		256QAM	0.048	16.79	8M99D7W
15 MHz	3557.5 ~ 3592.5	QPSK	0.118	20.73	13M5G7D
		16QAM	0.096	19.82	13M5D7W
		64QAM	0.080	19.02	13M5D7W
		256QAM	0.045	16.57	13M5D7W
20 MHz	3560 ~ 3590	QPSK	0.117	20.69	18M0G7D
		16QAM	0.098	19.93	18M0D7W
		64QAM	0.079	19	18M0D7W
		256QAM	0.047	16.68	18M0D7W

3. The EUT uses following accessories.

AC Adapter 1			
Brand	Model	Part Number	Specification
NETGEAR	2AFH0183AA	332-11642-01	AC Input : 100-240Vac, 50/60Hz, 0.5A DC Output : 5.0V, 3.0A, 15.0W 9.0V, 2.0A, 18.0W 12.0V, 1.5A, 18.0W DC Output Cable : N/A Plug : US Manufacturer : CWT
AC Adapter 2			
Brand	Model	Part Number	Specification
NETGEAR	AD2122F20	332-11106-03	AC Input : 100-240V, 50/60Hz, 0.5A DC Output : 5V, 2.0A 9V, 1.8A DC Output Cable : N/A Plug : US Manufacturer : PIE
Battery			
Brand	Model	Part Number	Specification
NETGEAR	W-20b	308-10100-01	Power Rating : 3.85Vdc, 19.96Wh
USB Cable 1			
Brand		Model	Specification
HORTON		D0017100R37HR	Signal Line : 1m
USB Cable 2			
Brand		Model	Specification
LUXSHARE PRECISION INDUSTRY		LZZUC052-CS-H	Signal Line : 1m

4. 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.

Antenna Type		Monopole	
LTE Band			
Band	Freq. Range (MHz)	Gain (dBi)	
		Ant. 1	Ant. 2
LTE B2	1850 ~ 1910	3.25	2.99
LTE B4	1710 ~ 1755	2.08	3.09
LTE B5	824 ~ 849	-1.31	-0.58
LTE B7	2500 ~ 2570	3.8	3.18
LTE B8	880 ~ 915	-2.44	-
LTE B12	698 ~ 716	0.47	0.38
LTE B14	788 ~ 798	0.88	0.66
LTE B30	2305 ~ 2315	3.01	2.67
LTE B38	2570 ~ 2620	-	3.18
LTE B40	2305 ~ 2315	3.01	2.67
LTE B40	2350 ~ 2360	3.01	2.88
LTE B41	2496 ~ 2690	-	3.18
LTE B42	3400 ~ 3600	2.31	1.91
LTE B66	1710 ~ 1780	2.19	3.09

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

Antenna Type		External	
External Connector		TS9	
LTE Band			
Band	Freq. Range (MHz)	Gain (dBi)	
		Ant. 1	Ant. 2
LTE B2	1850 ~ 1910	0.67	0.45
LTE B4	1710 ~ 1755	0.67	0.54
LTE B5	824 ~ 849	-1.32	-1.6
LTE B7	2500 ~ 2570	0.39	-0.53
LTE B8	880 ~ 915	-2.45	-2.45
LTE B12	698 ~ 716	-0.83	-1.6
LTE B14	788 ~ 798	-0.83	-1.6
LTE B30	2305 ~ 2315	1.03	1.05
LTE B38	2570 ~ 2620	3.17	3.17
LTE B40	2305 ~ 2315	1.03	1.05
LTE B40	2350 ~ 2360	1.03	1.05
LTE B41	2496 ~ 2690	3.17	3.17
LTE B42	3400 ~ 3600	0.17	1.66
LTE B66	1710 ~ 1780	0.67	0.54

Note:

1. TS9 connector is for the external antennas, while the external antennas are connected, RF outputs are switch from internal 1/2 to the external one.
2. The maximum antenna gain allowed for the external antenna is limited by the internal antenna gain, also illustrated in the user manual.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	- For Unwanted Emission (below 1GHz) items: Battery/AC Adapter/USB Cable. Pre-scan these modes and find the worst case as a representative test condition. - 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. - This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation. Therefore, only maximum EIRP, modulation characteristics, occupied bandwidth and peak to average ratio items had been tested under QPSK, 16QAM, 64QAM and 256QAM mode, the other items were performed under QPSK mode only. - For maximum EIRP, peak to average ratio and radiated spurious emissions, choose the maximum EIRP power and 1RB mode worst case for final test.
Worst Case:	- AC Adapter 1 + USB Cable 1 - Z-Axis

Following channel(s) was (were) selected for the final test as listed below:

3.3.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

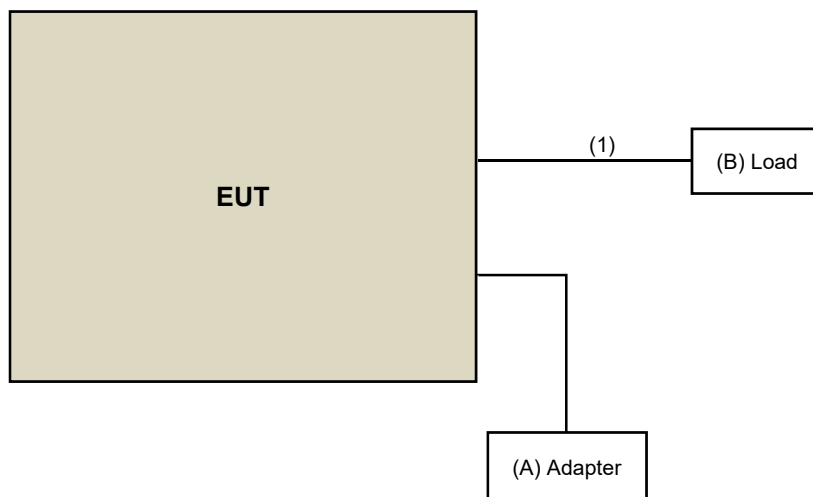
Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Maximum EIRP	43115(3552.50 MHz) 43340(3575.00 MHz) 43565(3597.50 MHz)	5 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	43140(3555.00 MHz) 43340(3575.00 MHz) 43540(3595.00 MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	43165(3557.50 MHz) 43340(3575.00 MHz) 43515(3592.50 MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	43190(3560.00 MHz) 43340(3575.00 MHz) 43490(3590.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
Modulation Characteristics	43340(3575.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
Peak to Average Ratio	43115(3552.50 MHz) 43340(3575.00 MHz) 43565(3597.50 MHz)	5 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	43140(3555.00 MHz) 43340(3575.00 MHz) 43540(3595.00 MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	43165(3557.50 MHz) 43340(3575.00 MHz) 43515(3592.50 MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
	43190(3560.00 MHz) 43340(3575.00 MHz) 43490(3590.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Bandwidth	43115(3552.50 MHz) 43340(3575.00 MHz) 43565(3597.50 MHz)	5 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
	43140(3555.00 MHz) 43340(3575.00 MHz) 43540(3595.00 MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
	43165(3557.50 MHz) 43340(3575.00 MHz) 43515(3592.50 MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
	43190(3560.00 MHz) 43340(3575.00 MHz) 43490(3590.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
Conducted Spurious Emissions	43115(3552.50 MHz) 43340(3575.00 MHz) 43565(3597.50 MHz)	5 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Full RB
	43140(3555.00 MHz) 43340(3575.00 MHz) 43540(3595.00 MHz)	10 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Full RB
	43165(3557.50 MHz) 43340(3575.00 MHz) 43515(3592.50 MHz)	15 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Full RB
	43190(3560.00 MHz) 43340(3575.00 MHz) 43490(3590.00 MHz)	20 MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Full RB
Radiated Spurious Emissions below 1GHz	43115(3552.50 MHz)	5 MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	43115(3552.50 MHz) 43340(3575.00 MHz) 43565(3597.50 MHz)	5 MHz	QPSK	1 RB
	43190(3560.00 MHz) 43340(3575.00 MHz) 43490(3590.00 MHz)	20 MHz	QPSK	1 RB
Frequency Stability	43115(3552.50 MHz) 43565(3597.50 MHz)	5 MHz	QPSK	Full RB
	43140(3555.00 MHz) 43540(3595.00 MHz)	10 MHz	QPSK	Full RB
	43165(3557.50 MHz) 43515(3592.50 MHz)	15 MHz	QPSK	Full RB
	43190(3560.00 MHz) 43490(3590.00 MHz)	20 MHz	QPSK	Full RB

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



Remote Site



WWAN

(C) Radio
Communication
Analyzer

3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Adapter	NETGEAR	2AFH0183AA	N/A	N/A	Supplied by applicant
B	Load	N/A	N/A	N/A	N/A	Provided by Lab
C	Radio Communication Analyzer	Anritsu	MT8821C	6201462755	N/A	Provided by Lab (for RF Setup)

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	RJ45 Cable	1	1.5	No	0	Provided by Lab
2	USB Cable	1	1	Yes	0	Accessory of EUT

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	2024/9/19	2025/9/18
Preamplifier Agilent	83017A	MY39501357	2024/6/12	2025/6/11
Preamplifier EMCI	EMC184045SE	980788	2025/1/14	2026/1/13
Radio Communication Analyzer Anritsu	MT8821C	6201462755	2024/3/13	2025/3/12
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: 2025/2/4, 2025/5/6 ~ 2025/5/7

4.2 Modulation Characteristics

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
PXA Signal Analyzer Keysight	N9030B	MY57140938	2024/3/20	2025/3/19
Radio Communication Analyzer Anritsu	MT8821C	6201462755	2024/3/13	2025/3/12
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: 2024/12/29

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 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	2023/12/28	2024/12/27
Loop Antenna TESEQ	HLA 6121	45745	2024/8/21	2025/8/20
MXE EMI Receiver Agilent	N9038A	MY52260177	2024/9/19	2025/9/18
Preamplifier EMCI	EMC330N	980798	2024/1/15	2025/1/14
	EMC001340	980201	2024/9/24	2025/9/23
RF Coaxial Cable EMCI	EMCCFD400-NM-NM-500	201248	2024/1/15	2025/1/14
	EMCCFD400-NM-NM-3000	201249	2024/1/15	2025/1/14
	EMCCFD400-NM-NM-9000	201251(with PAD)	2024/1/15	2025/1/14
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: 2024/12/2

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	2023/12/28	2024/12/27
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	2024/6/12	2025/6/11
Preamplifier EMCI	EMC184045SE	980788	2024/1/15	2025/1/14
RF Coaxial Cable EMCI	EMC101G-KM-KM-2000	201254	2024/1/15	2025/1/14
	EMC101G-KM-KM-3000	201258	2024/1/15	2025/1/14
	EMC101G-KM-KM-5000	201261	2024/1/15	2025/1/14
	EMC104-SM-SM-1000	210103	2024/1/15	2025/1/14
	EMC104-SM-SM-3000	201241	2024/1/15	2025/1/14
	EMC104-SM-SM-9000	201244	2024/1/15	2025/1/14
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: 2024/12/4

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	2024/6/14	2025/6/13
PXA Signal Analyzer Keysight	N9030B	MY57140938	2024/3/20	2025/3/19
Radio Communication Analyzer Anritsu	MT8821C	6201462755	2024/3/13	2025/3/12
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Terchy	MHU-225AU	920842	2024/6/21	2025/6/20

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/2/14

5 Limits of Test Items

5.1 Maximum EIRP

For LTE Band 42 (3.55 GHz ~ 3.6 GHz):

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

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 42 (3.55 GHz ~ 3.6 GHz):

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 42 (3.55 GHz ~ 3.6 GHz):

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 42 (3.55 GHz ~ 3.6 GHz):

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 42 (3.55 GHz ~ 3.6 GHz):

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

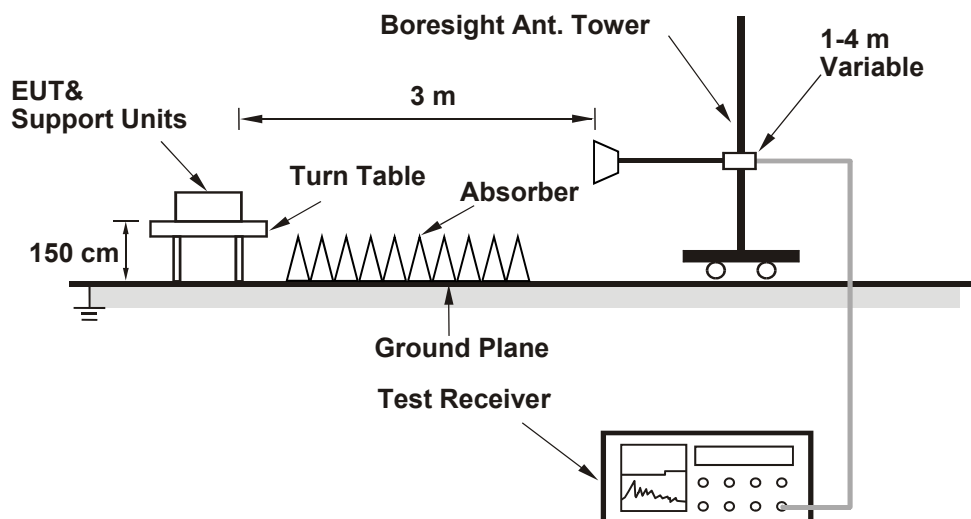
6 Test Arrangements

6.1 Maximum EIRP

6.1.1 Test Setup

Radiated Power EIRP Measurement:

For Radiated Emission above 1 GHz



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

6.1.2 Test Procedure

Radiated Power EIRP 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.

- In the semi-anechoic chamber, EUT placed on the 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.
 - 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 C63.26 section 5.5 and 5.2.7. Set the detector to power averaging (rms) detector.
- EIRP (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 (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.

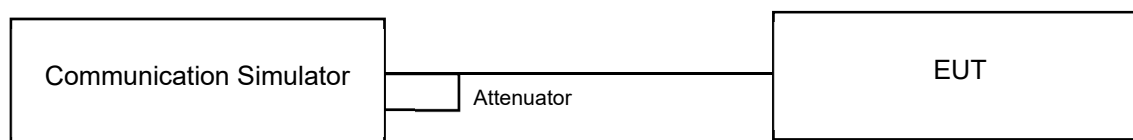
Spectrum analyzer setting as below:

Measurement method refers to ANSI C63.26 section 5.2.4.4.

- Set span to $2 \times$ to $3 \times$ the OBW.
- Set RBW = 1% to 5% of the OBW.
- Set VBW $\geq 3 \times$ RBW.
- Set number of measurement points in sweep $\geq 2 \times$ span / RBW.
- Set Sweep time = auto-couple.
- Detector = power averaging (rms).
- Set sweep trigger to "free run."
- Trace average at least 100 traces in power averaging (rms) mode.
- 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.
- 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

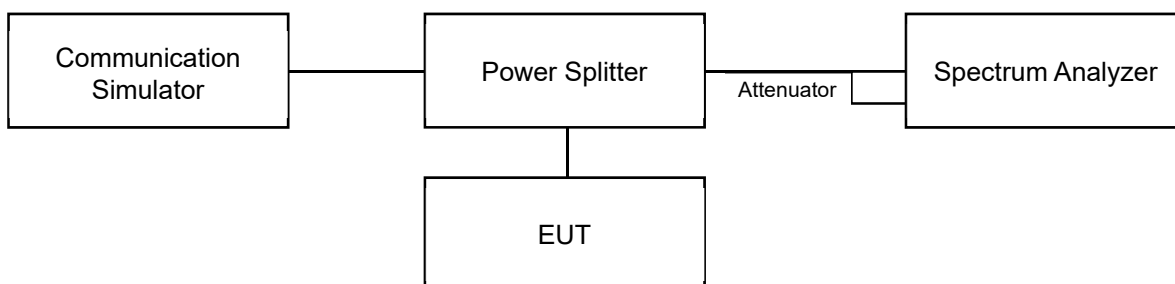


6.2.2 Test Procedure

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

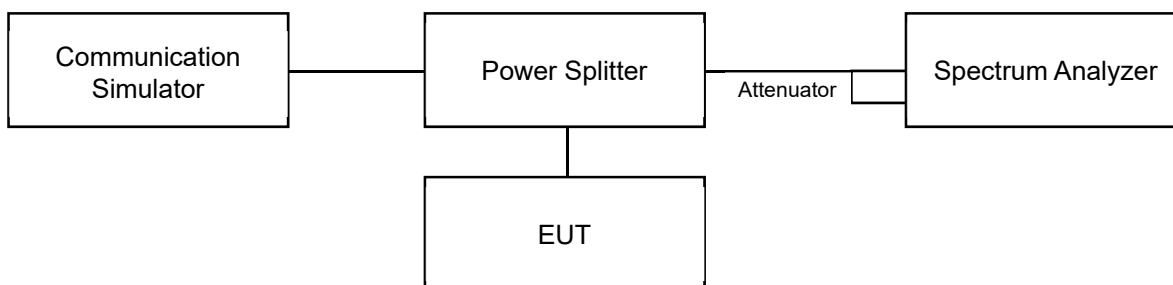


6.3.2 Test Procedure

- 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.

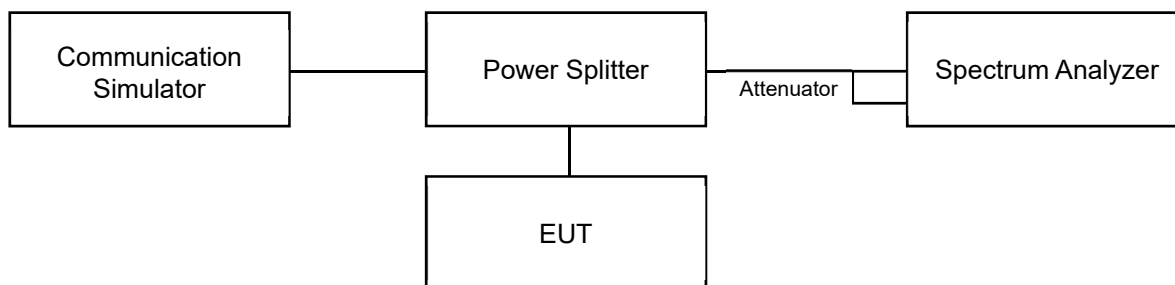
- The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
- The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and 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



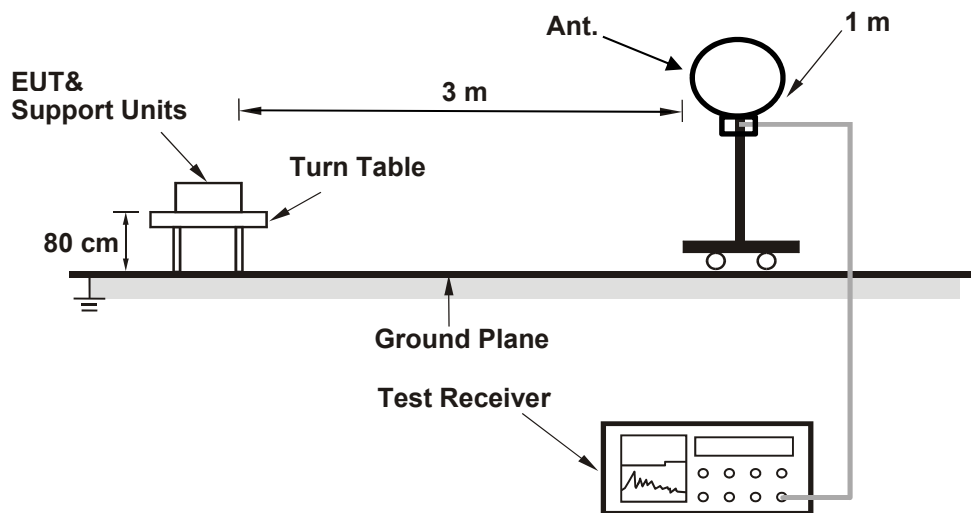
6.5.2 Test Procedure

- Measurement refer to ANSI C63.26 section 5.7.
- All measurements were done at 3 channels: low, middle and high operational frequency range.
- 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.
- The fundamental frequency above 1 GHz, the spectrum set RBW = 1 MHz, VBW = 3 MHz, Detector = Average.
- The fundamental frequency below 1 GHz, the spectrum set RBW $\geq$ 100 kHz, VBW $\geq$ 3 x RBW, Detector = Average.
- Measuring frequency band edge, narrow RBW (no less than 1% of the OBW) is used for conducted emission measurement.
- 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.
- Record the maximum power value test plot.

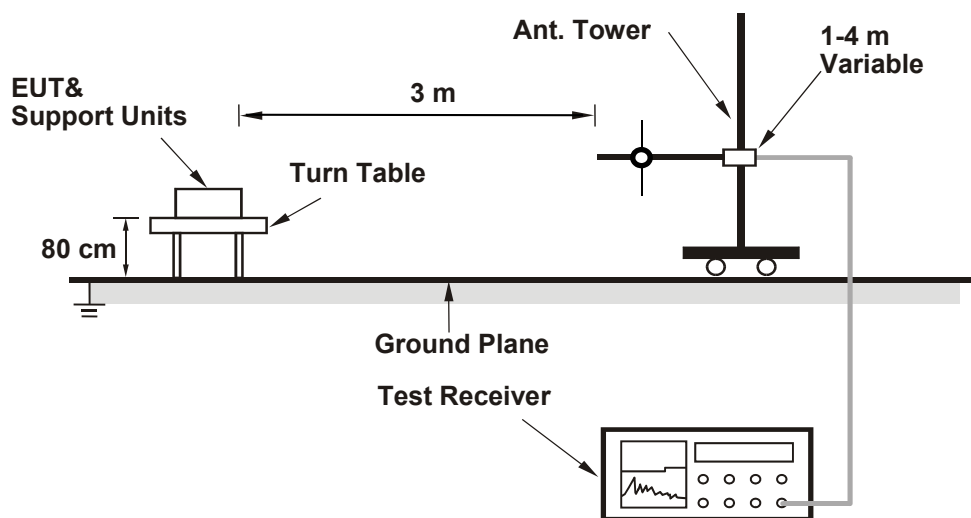
6.6 Radiated Spurious Emissions below 1GHz

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.

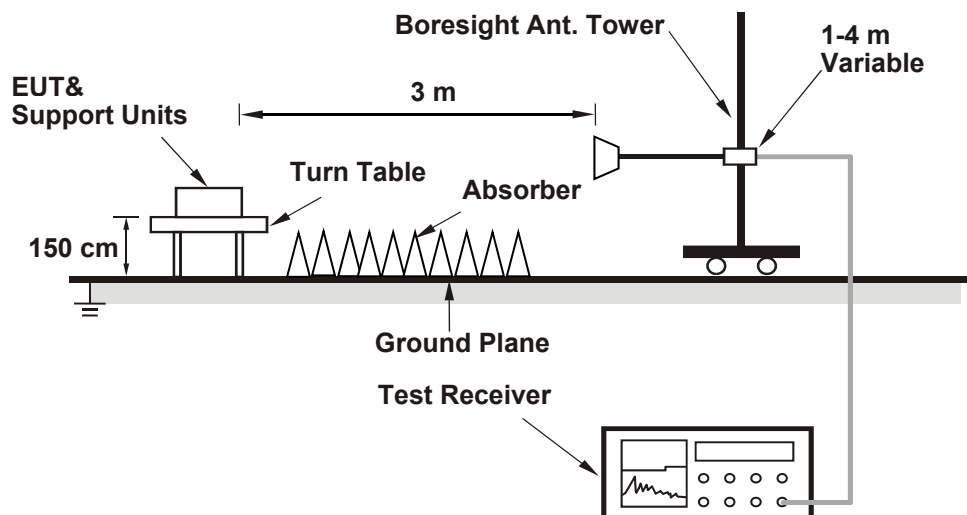
Note:

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

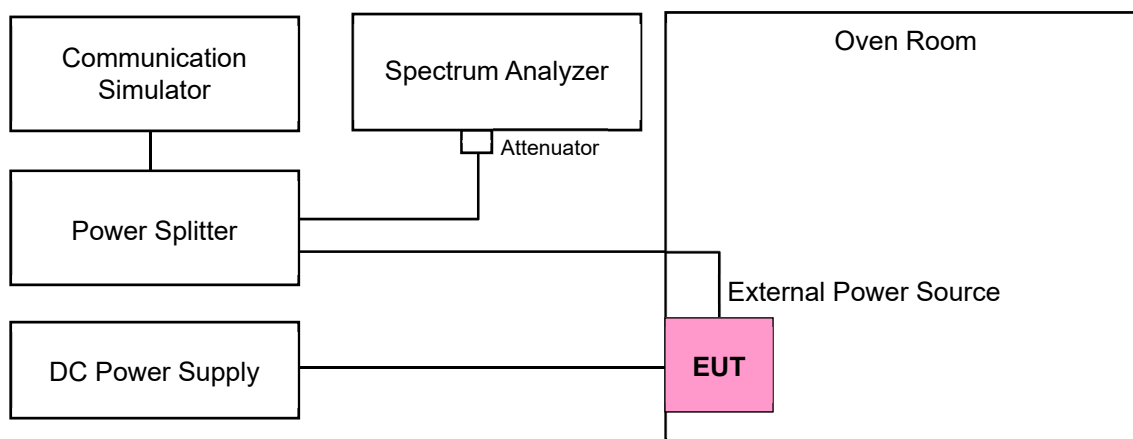
The EUT is configured to set data modulation and maximum power using WWAN technology.

- 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

Environmental Conditions:	25°C, 60% RH	Tested By:	Charles Hsiao
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7.1.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

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 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 5 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	43115	3552.5	116.15	-95.26	122.744	20.89	23
	43340	3575	116.1	-95.26	121.339	20.84	23
	43565	3597.5	116.17	-95.26	123.31	20.91	23
16QAM	43115	3552.5	115.22	-95.26	99.083	19.96	23
	43340	3575	115.29	-95.26	100.693	20.03	23
	43565	3597.5	115.24	-95.26	99.541	19.98	23
64QAM	43115	3552.5	114.38	-95.26	81.658	19.12	23
	43340	3575	114.44	-95.26	82.794	19.18	23
	43565	3597.5	114.37	-95.26	81.47	19.11	23
256QAM	43115	3552.5	112.02	-95.26	47.424	16.76	23
	43340	3575	112.05	-95.26	47.753	16.79	23
	43565	3597.5	111.84	-95.26	45.499	16.58	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 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	43140	3555	116.02	-95.26	119.124	20.76	23
	43340	3575	116.18	-95.26	123.595	20.92	23
	43540	3595	116.15	-95.26	122.744	20.89	23
16QAM	43140	3555	115.33	-95.26	101.625	20.07	23
	43340	3575	115.37	-95.26	102.565	20.11	23
	43540	3595	115.2	-95.26	98.628	19.94	23
64QAM	43140	3555	114.23	-95.26	78.886	18.97	23
	43340	3575	114.45	-95.26	82.985	19.19	23
	43540	3595	114.36	-95.26	81.283	19.1	23
256QAM	43140	3555	112.02	-95.26	47.424	16.76	23
	43340	3575	112.05	-95.26	47.753	16.79	23
	43540	3595	112	-95.26	47.206	16.74	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 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 15 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	43165	3557.5	116.07	-95.26	120.504	20.81	23
	43340	3575	116.31	-95.26	127.35	21.05	23
	43515	3592.5	116.11	-95.26	121.619	20.85	23
16QAM	43165	3557.5	115.36	-95.26	102.329	20.1	23
	43340	3575	115.39	-95.26	103.039	20.13	23
	43515	3592.5	115.18	-95.26	98.175	19.92	23
64QAM	43165	3557.5	114.35	-95.26	81.096	19.09	23
	43340	3575	114.4	-95.26	82.035	19.14	23
	43515	3592.5	114.39	-95.26	81.846	19.13	23
256QAM	43165	3557.5	111.88	-95.26	45.92	16.62	23
	43340	3575	112.02	-95.26	47.424	16.76	23
	43515	3592.5	111.92	-95.26	46.345	16.66	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 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 20 MHz, Output Power: Full Power

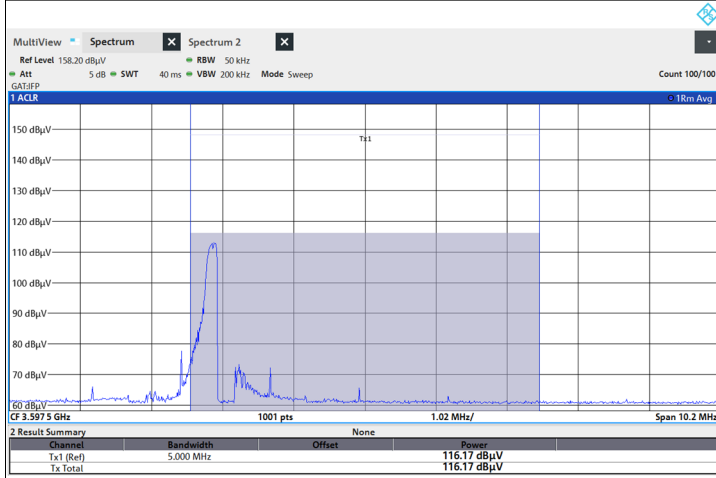
Modulation	Channel	Channel Frequency (MHz)	Field Strength (dBμV/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	43190	3560	116.05	-95.26	119.95	20.79	23
	43340	3575	116.33	-95.26	127.938	21.07	23
	43490	3590	116.03	-95.26	119.399	20.77	23
16QAM	43190	3560	115.23	-95.26	99.312	19.97	23
	43340	3575	115.44	-95.26	104.232	20.18	23
	43490	3590	115.28	-95.26	100.462	20.02	23
64QAM	43190	3560	114.42	-95.26	82.414	19.16	23
	43340	3575	114.55	-95.26	84.918	19.29	23
	43490	3590	114.47	-95.26	83.368	19.21	23
256QAM	43190	3560	111.89	-95.26	46.026	16.63	23
	43340	3575	112.08	-95.26	48.084	16.82	23
	43490	3590	112.04	-95.26	47.643	16.78	23

Notes:

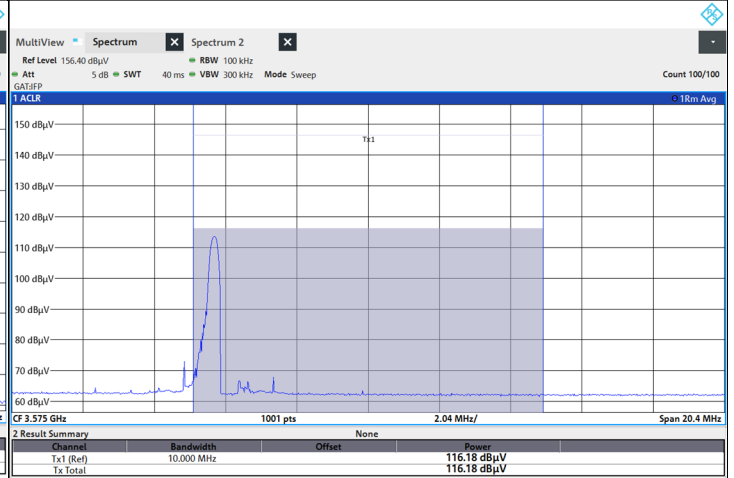
1. EIRP (dBm) = Field Strength (dBμV/m) + Correction Factor (dB)
2. Correction Factor (dB) = $20\log(D) - 104.8$; where D is the measurement distance at 3 meters.

Spectrum Plot of Worst Value

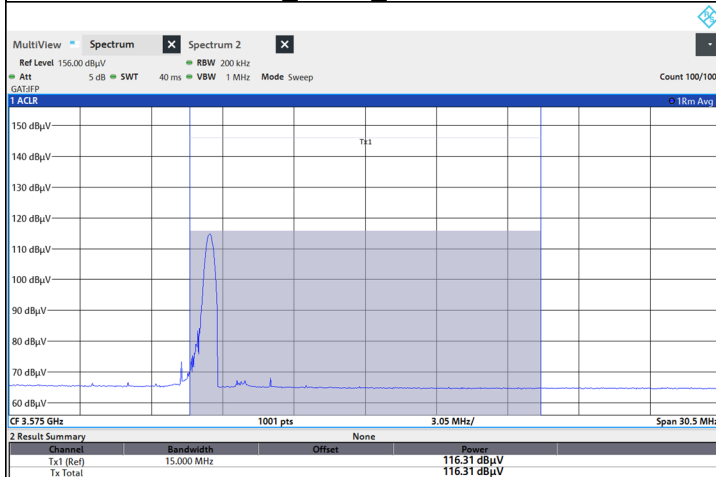
5M_QPSK_CH43565



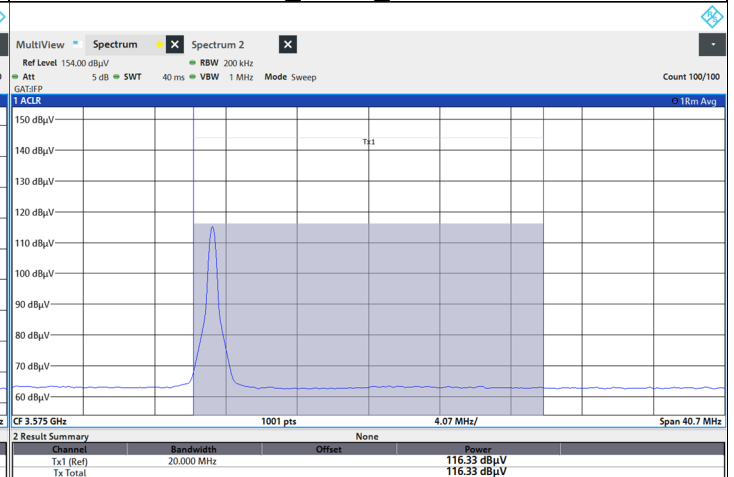
10M_QPSK_CH43340



15M_QPSK_CH43340



20M_QPSK_CH43340



LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 15 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dB μ V/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	43165	3557.5	115.87	-95.26	115.08	20.61	23
	43340	3575	115.99	-95.26	118.304	20.73	23
	43515	3592.5	115.85	-95.26	114.551	20.59	23
16QAM	43165	3557.5	115	-95.26	94.189	19.74	23
	43340	3575	115.08	-95.26	95.94	19.82	23
	43515	3592.5	114.89	-95.26	91.833	19.63	23
64QAM	43165	3557.5	114.13	-95.26	77.09	18.87	23
	43340	3575	114.28	-95.26	79.799	19.02	23
	43515	3592.5	114.22	-95.26	78.705	18.96	23
256QAM	43165	3557.5	111.69	-95.26	43.954	16.43	23
	43340	3575	111.83	-95.26	45.394	16.57	23
	43515	3592.5	111.71	-95.26	44.157	16.45	23

Notes:

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

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 20 MHz, Output Power: dBm/10 MHz

Modulation	Channel	Channel Frequency (MHz)	Field Strength (dB μ V/m)	Correction Factor (dB)	EIRP (mW)	EIRP (dBm)	EIRP Limit (dBm)
QPSK	43190	3560	115.81	-95.26	113.501	20.55	23
	43340	3575	115.95	-95.26	117.22	20.69	23
	43490	3590	115.79	-95.26	112.98	20.53	23
16QAM	43190	3560	115	-95.26	94.189	19.74	23
	43340	3575	115.19	-95.26	98.401	19.93	23
	43490	3590	115.08	-95.26	95.94	19.82	23
64QAM	43190	3560	114.23	-95.26	78.886	18.97	23
	43340	3575	114.26	-95.26	79.433	19	23
	43490	3590	114.16	-95.26	77.625	18.9	23
256QAM	43190	3560	111.81	-95.26	45.186	16.55	23
	43340	3575	111.94	-95.26	46.559	16.68	23
	43490	3590	111.89	-95.26	46.026	16.63	23

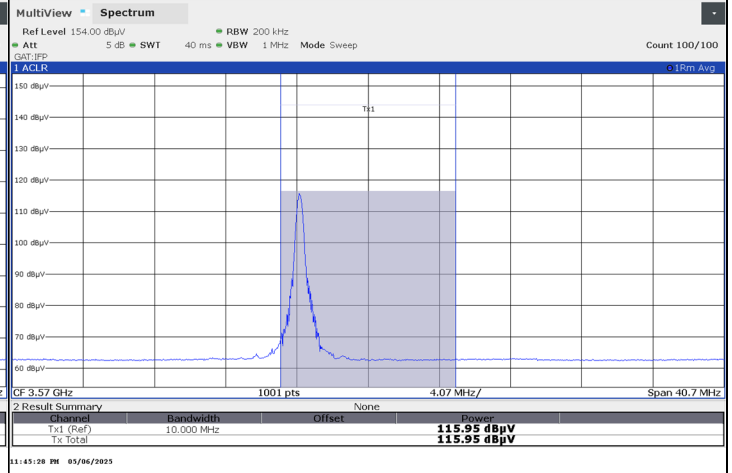
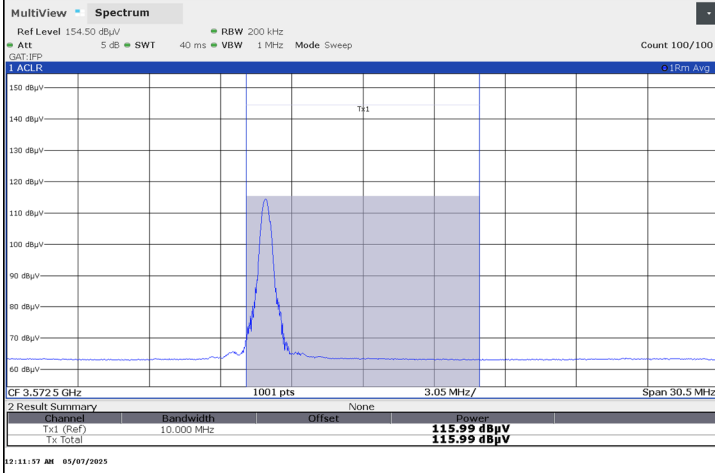
Notes:

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

Spectrum Plot of Worst Value

15M_QPSK_CH43340

20M_QPSK_CH43340

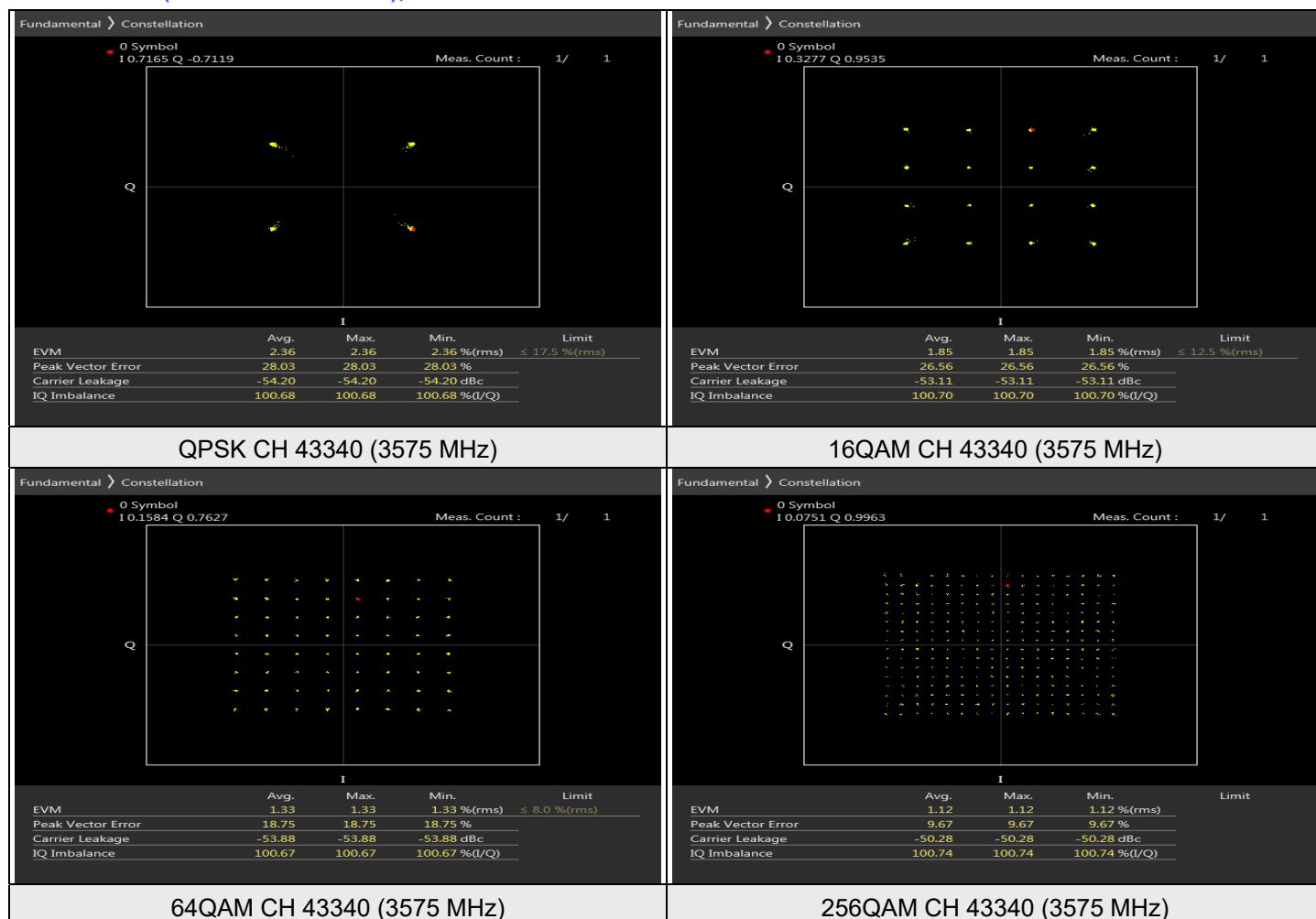


7.2 Modulation Characteristics

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 68% RH	Tested By:	Noah Chang
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7.2.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 20 MHz



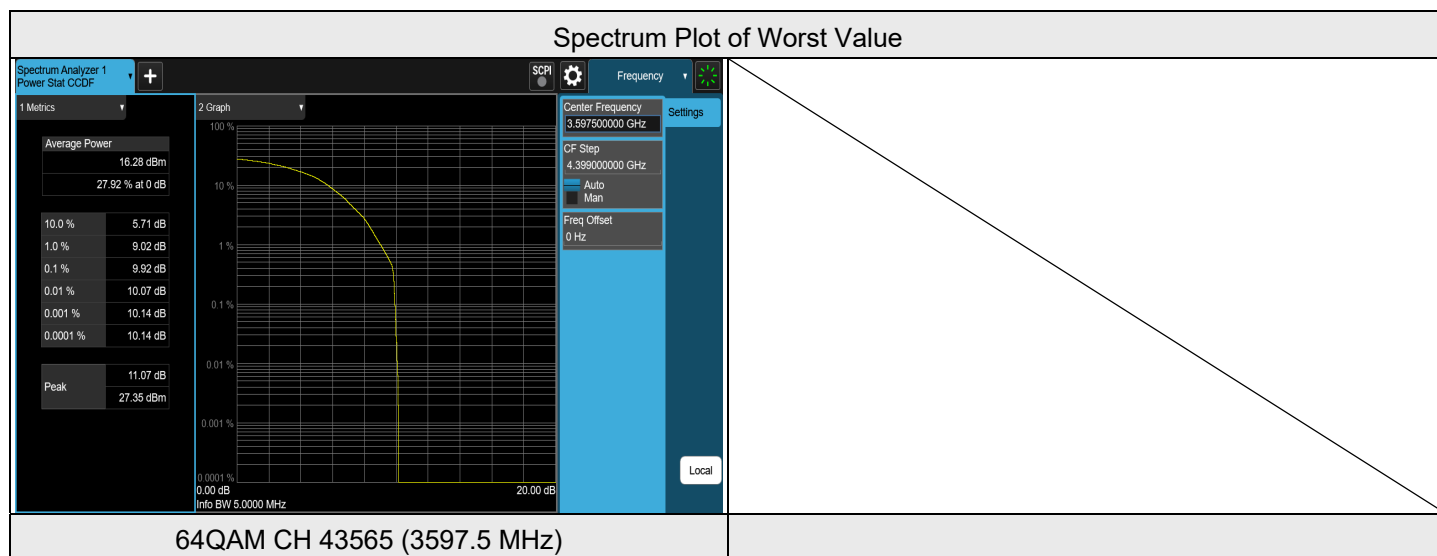
7.3 Peak to Average Ratio

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 68% RH	Tested By:	Noah Chang
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7.3.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

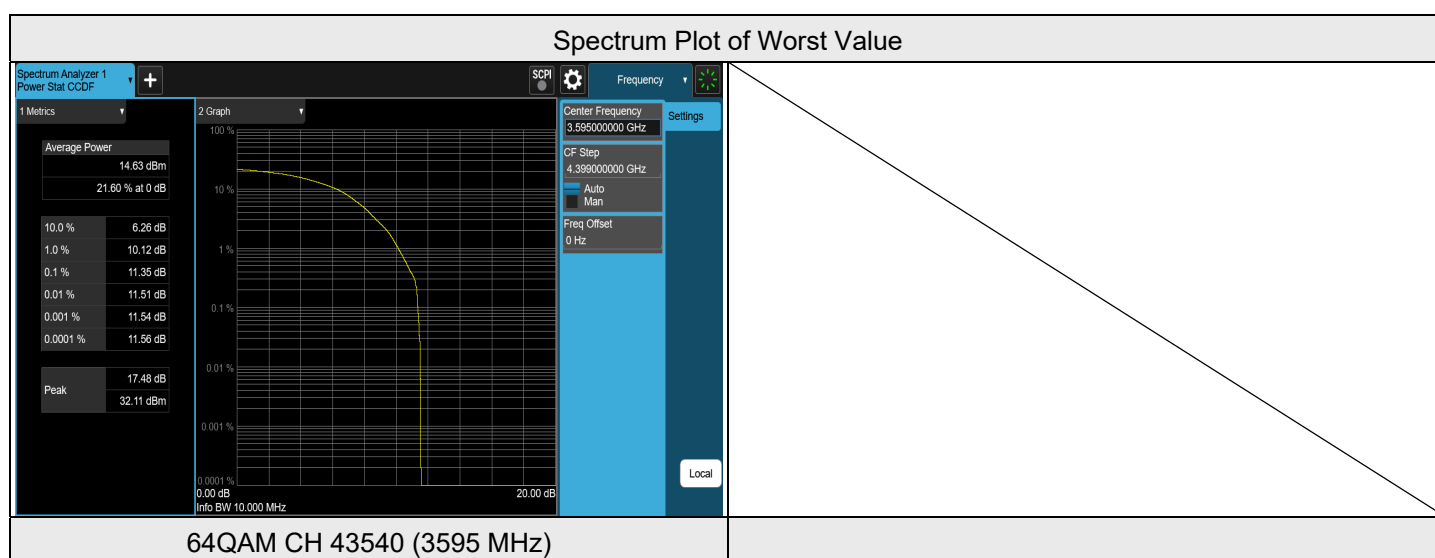
LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	43115	3552.5	7.56	13	PASS
QPSK	43340	3575	7.59	13	PASS
QPSK	43565	3597.5	8.09	13	PASS
16QAM	43115	3552.5	8.00	13	PASS
16QAM	43340	3575	9.00	13	PASS
16QAM	43565	3597.5	7.90	13	PASS
64QAM	43115	3552.5	9.72	13	PASS
64QAM	43340	3575	9.58	13	PASS
64QAM	43565	3597.5	9.92	13	PASS
256QAM	43115	3552.5	9.69	13	PASS
256QAM	43340	3575	9.64	13	PASS
256QAM	43565	3597.5	9.52	13	PASS



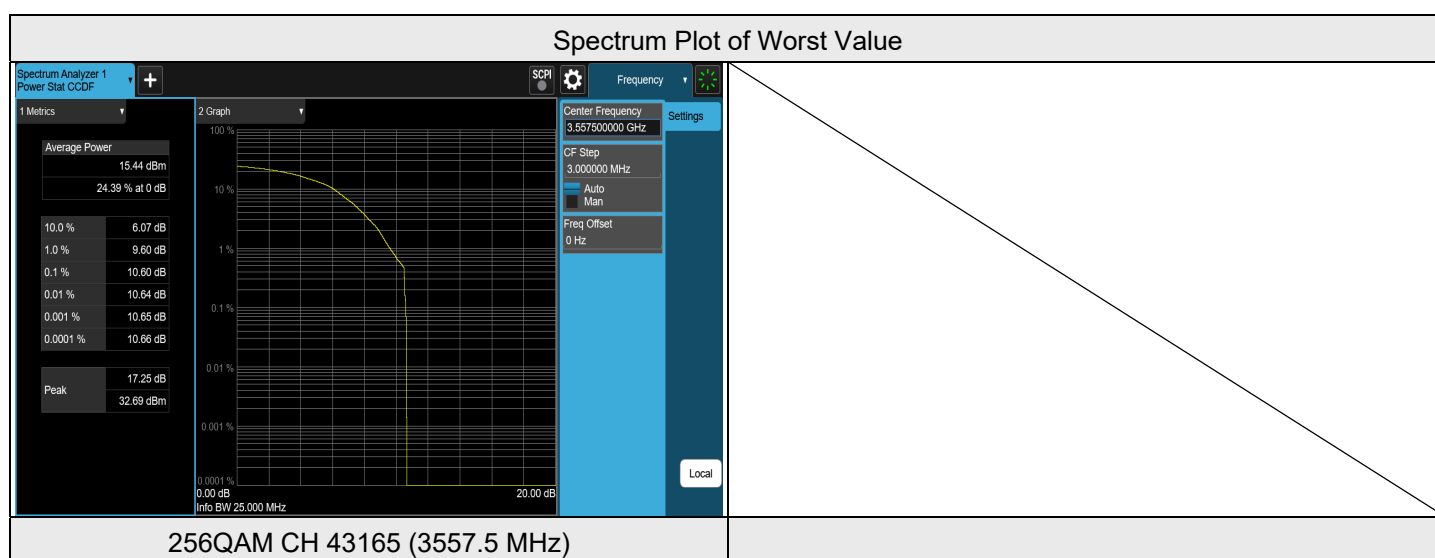
LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	43140	3555	7.54	13	PASS
QPSK	43340	3575	7.51	13	PASS
QPSK	43540	3595	7.92	13	PASS
16QAM	43140	3555	9.34	13	PASS
16QAM	43340	3575	8.72	13	PASS
16QAM	43540	3595	8.56	13	PASS
64QAM	43140	3555	10.38	13	PASS
64QAM	43340	3575	9.65	13	PASS
64QAM	43540	3595	11.35	13	PASS
256QAM	43140	3555	9.35	13	PASS
256QAM	43340	3575	9.82	13	PASS
256QAM	43540	3595	9.52	13	PASS



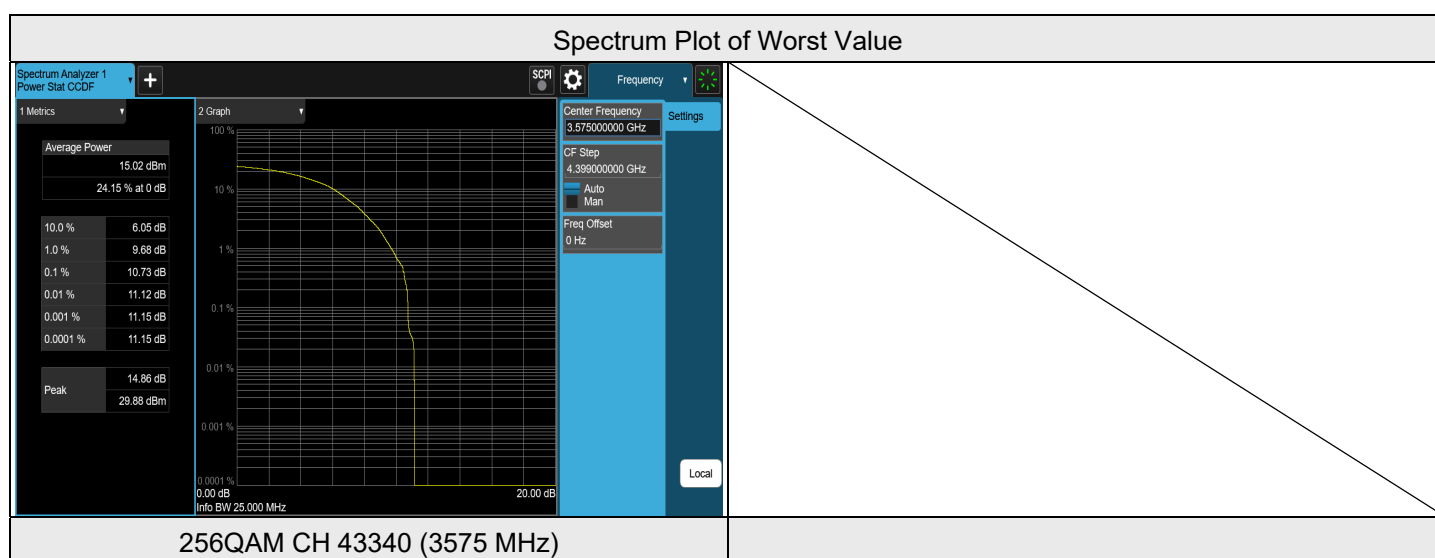
LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 15 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	43165	3557.5	8.14	13	PASS
QPSK	43340	3575	7.75	13	PASS
QPSK	43515	3592.5	6.89	13	PASS
16QAM	43165	3557.5	8.30	13	PASS
16QAM	43340	3575	8.88	13	PASS
16QAM	43515	3592.5	7.33	13	PASS
64QAM	43165	3557.5	9.69	13	PASS
64QAM	43340	3575	10.02	13	PASS
64QAM	43515	3592.5	9.88	13	PASS
256QAM	43165	3557.5	10.60	13	PASS
256QAM	43340	3575	9.15	13	PASS
256QAM	43515	3592.5	9.32	13	PASS



LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 20 MHz

Modulation	Channel	Frequency (MHz)	Measurement Value(dB)	Limit (dB)	Result
QPSK	43190	3560	6.84	13	PASS
QPSK	43340	3575	7.74	13	PASS
QPSK	43490	3590	7.40	13	PASS
16QAM	43190	3560	8.15	13	PASS
16QAM	43340	3575	8.51	13	PASS
16QAM	43490	3590	7.43	13	PASS
64QAM	43190	3560	10.18	13	PASS
64QAM	43340	3575	9.28	13	PASS
64QAM	43490	3590	9.32	13	PASS
256QAM	43190	3560	9.34	13	PASS
256QAM	43340	3575	10.73	13	PASS
256QAM	43490	3590	8.93	13	PASS



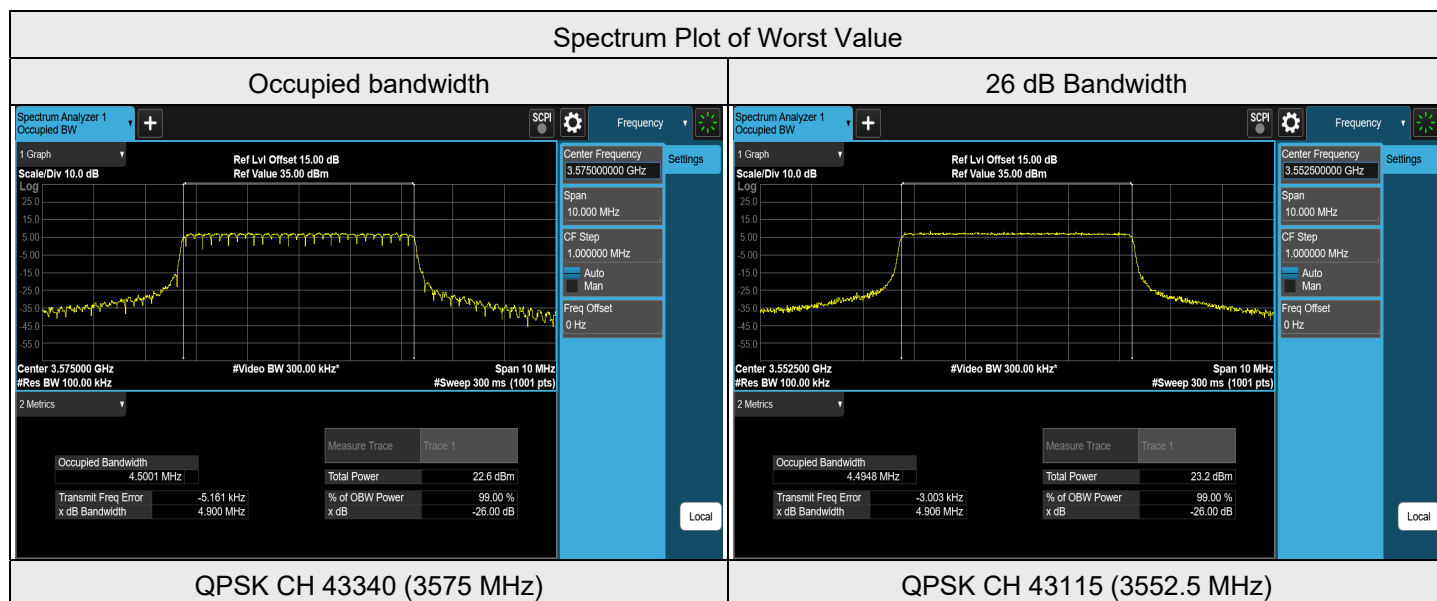
7.4 Bandwidth

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 68% RH	Tested By:	Noah Chang
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7.4.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

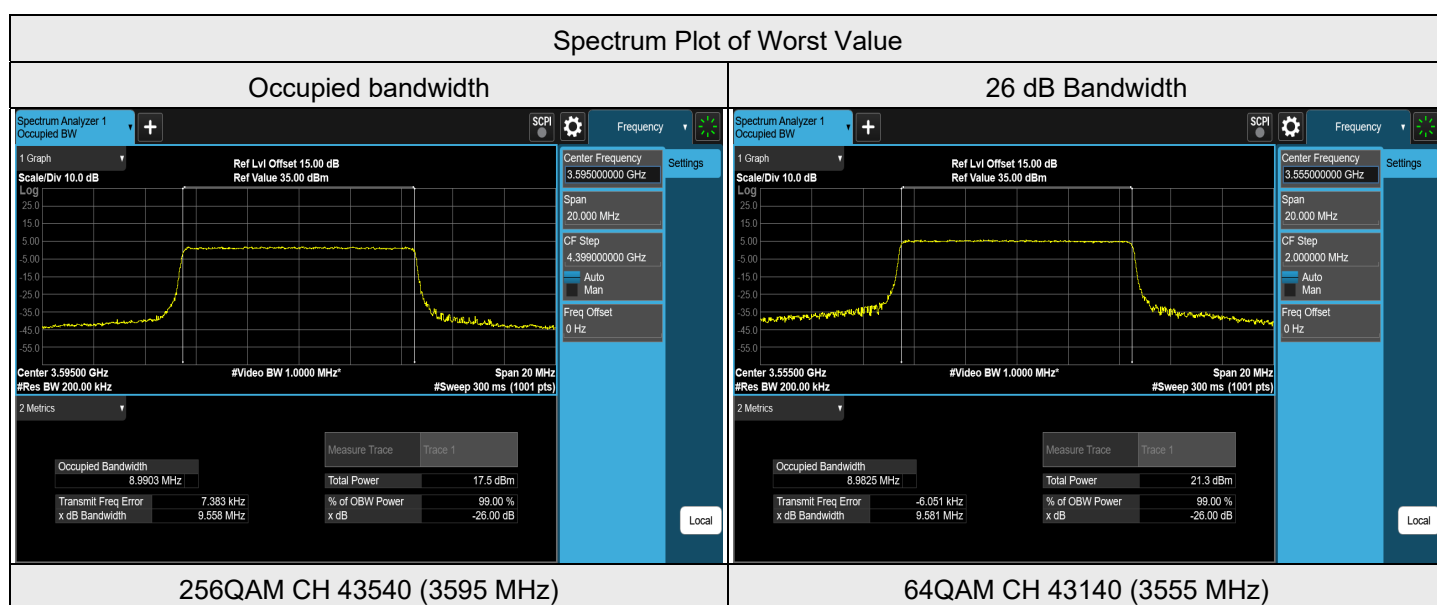
LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 5 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	43115	3552.5	4.4948	4.906
QPSK	43340	3575	4.5001	4.900
QPSK	43565	3597.5	4.4965	4.876
16QAM	43115	3552.5	4.4965	4.883
16QAM	43340	3575	4.4921	4.872
16QAM	43565	3597.5	4.4852	4.856
64QAM	43115	3552.5	4.4936	4.897
64QAM	43340	3575	4.4871	4.849
64QAM	43565	3597.5	4.4922	4.834
256QAM	43115	3552.5	4.4932	4.846
256QAM	43340	3575	4.4789	4.797
256QAM	43565	3597.5	4.4939	4.870



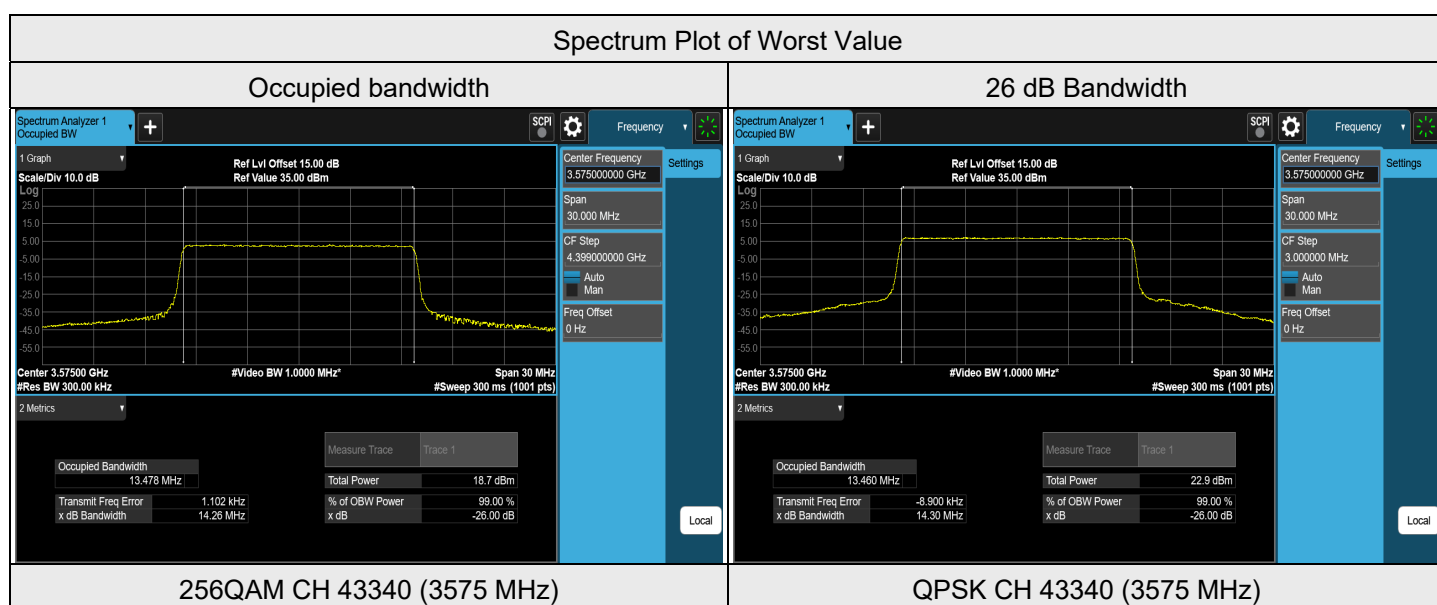
LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 10 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	43140	3555	8.9755	9.579
QPSK	43340	3575	8.9733	9.554
QPSK	43540	3595	8.9812	9.525
16QAM	43140	3555	8.9712	9.559
16QAM	43340	3575	8.9688	9.533
16QAM	43540	3595	8.9668	9.571
64QAM	43140	3555	8.9825	9.581
64QAM	43340	3575	8.9725	9.560
64QAM	43540	3595	8.9687	9.555
256QAM	43140	3555	8.9601	9.500
256QAM	43340	3575	8.9857	9.536
256QAM	43540	3595	8.9903	9.558



LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 15 MHz

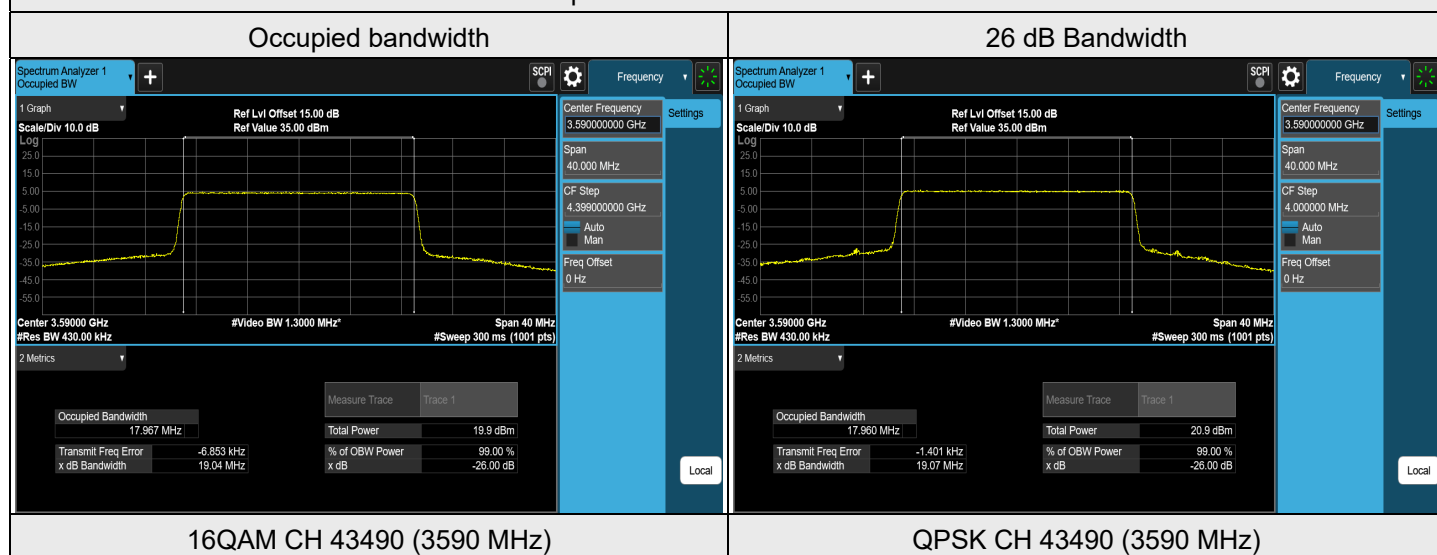
Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	43165	3557.5	13.4747	14.253
QPSK	43340	3575	13.4597	14.296
QPSK	43515	3592.5	13.4664	14.296
16QAM	43165	3557.5	13.4669	14.293
16QAM	43340	3575	13.4683	14.259
16QAM	43515	3592.5	13.4617	14.245
64QAM	43165	3557.5	13.4508	14.256
64QAM	43340	3575	13.4602	14.280
64QAM	43515	3592.5	13.4579	14.246
256QAM	43165	3557.5	13.4715	14.223
256QAM	43340	3575	13.4776	14.262
256QAM	43515	3592.5	13.4577	14.260



LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 20 MHz

Modulation	Channel	Frequency (MHz)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	43190	3560	17.9652	19.046
QPSK	43340	3575	17.9668	19.048
QPSK	43490	3590	17.9601	19.071
16QAM	43190	3560	17.9627	19.048
16QAM	43340	3575	17.9602	19.053
16QAM	43490	3590	17.9673	19.038
64QAM	43190	3560	17.9420	19.056
64QAM	43340	3575	17.9486	19.031
64QAM	43490	3590	17.9500	19.040
256QAM	43190	3560	17.9453	19.003
256QAM	43340	3575	17.9585	19.044
256QAM	43490	3590	17.9561	19.028

Spectrum Plot of Worst Value

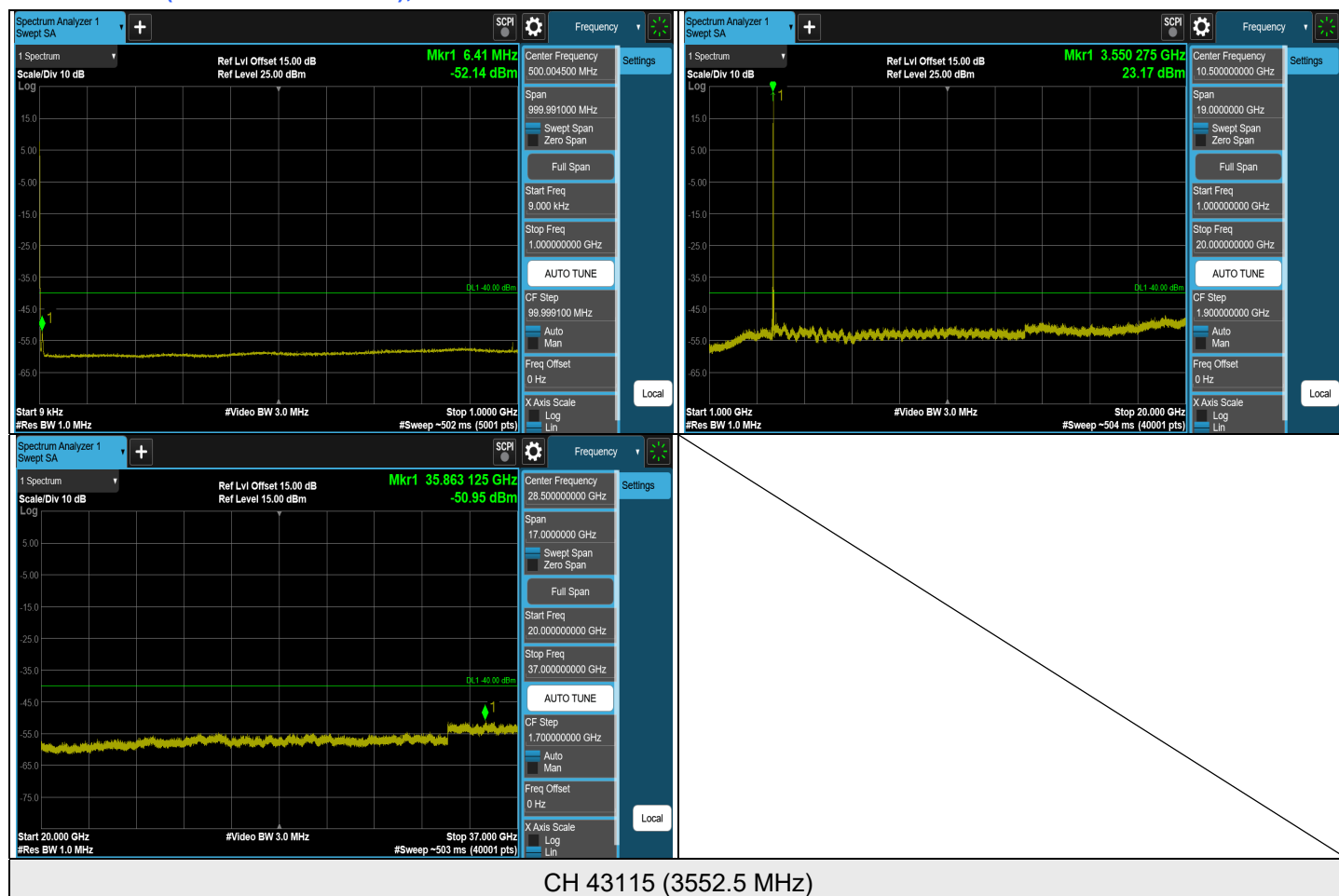


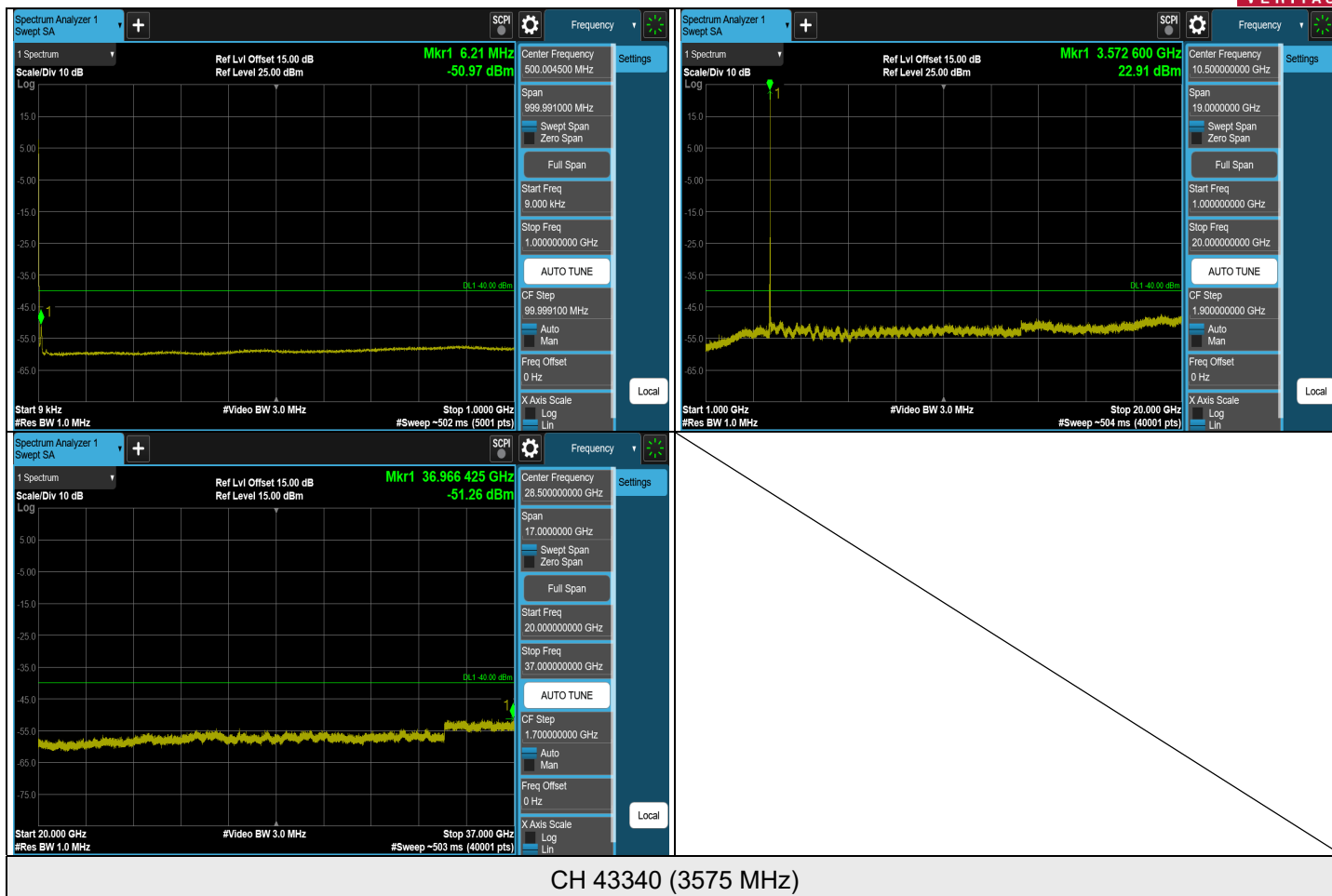
7.5 Conducted Spurious Emissions

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 68% RH	Tested By:	Noah Chang
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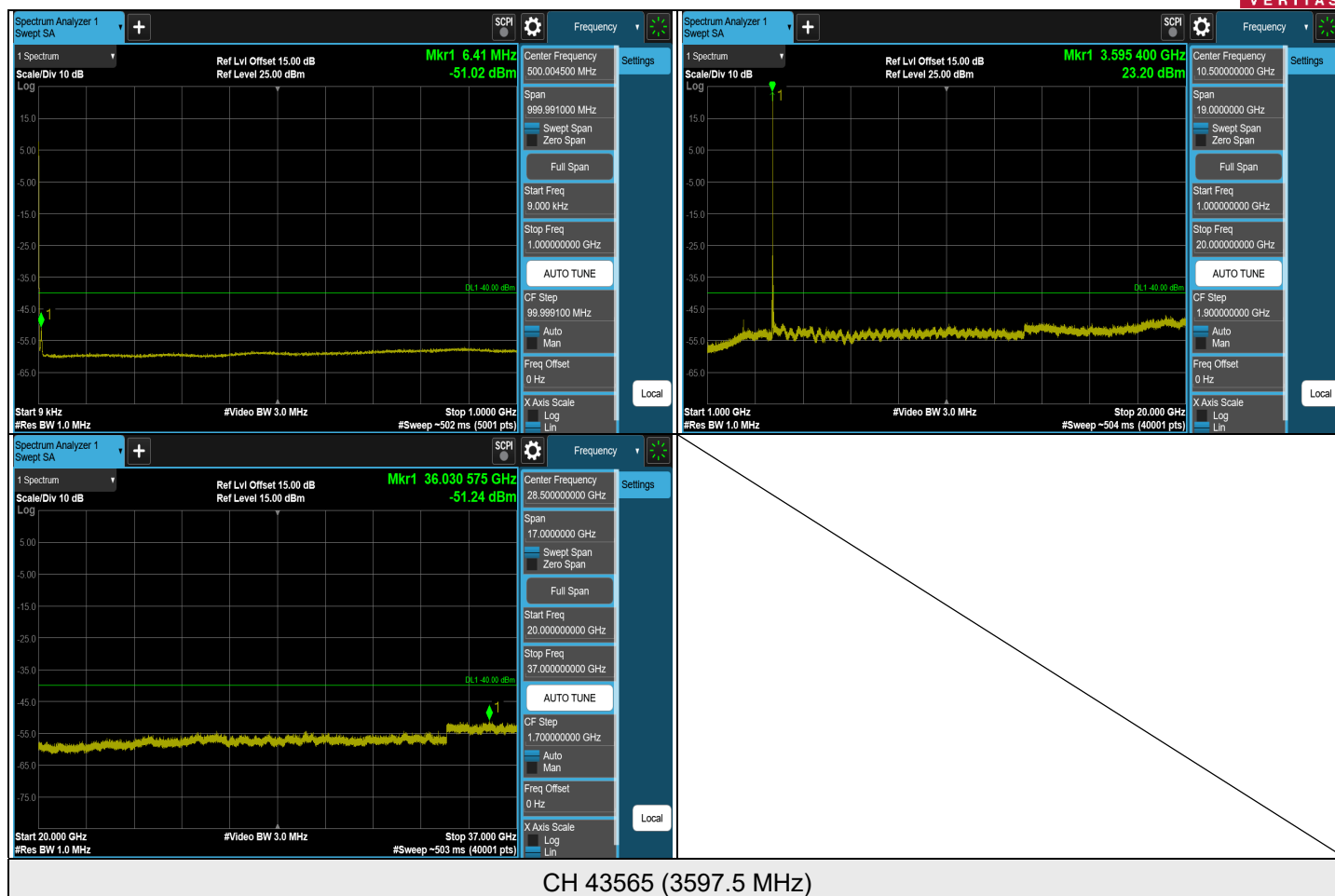
7.5.1 LTE Band 42 (3.55 GHz ~ 3.6 GHz)

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 5 MHz



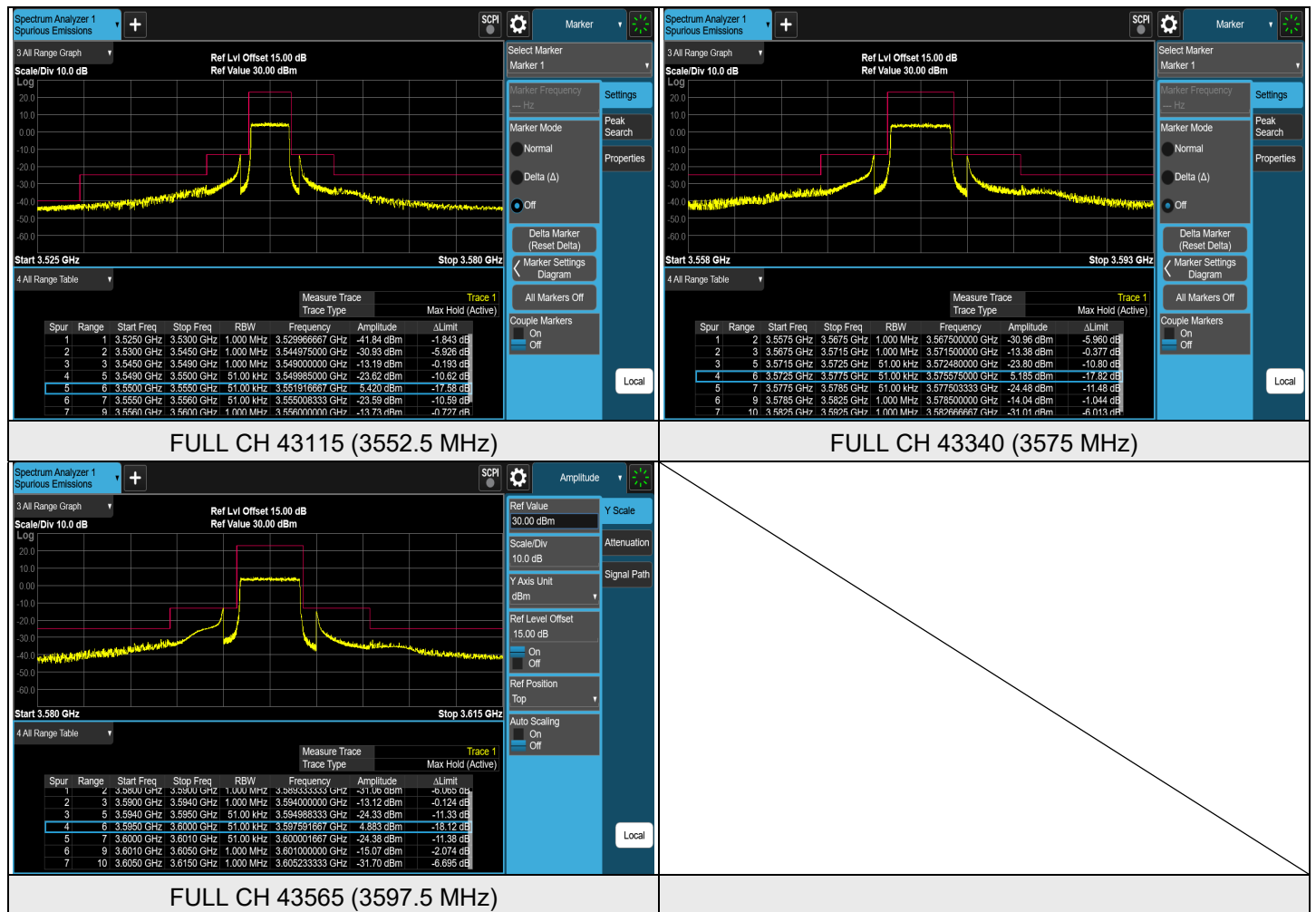


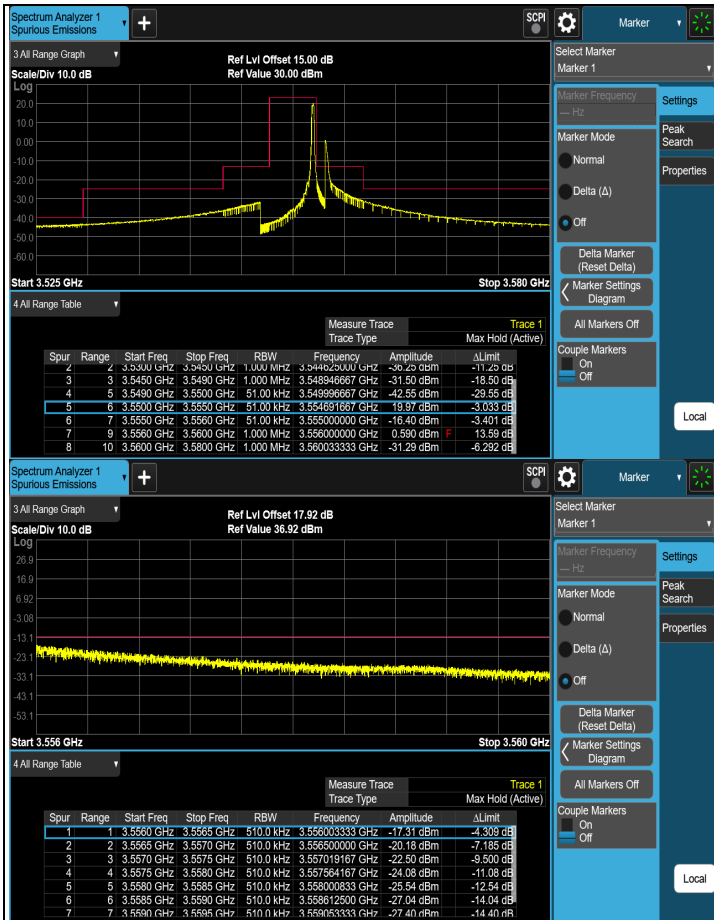
CH 43340 (3575 MHz)



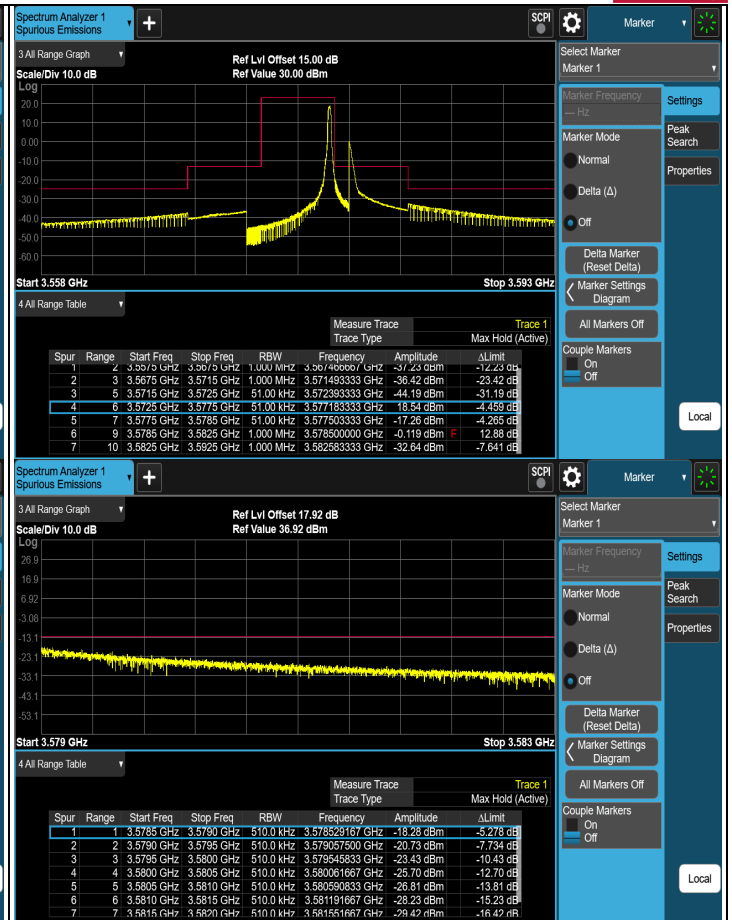
Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 5 MHz

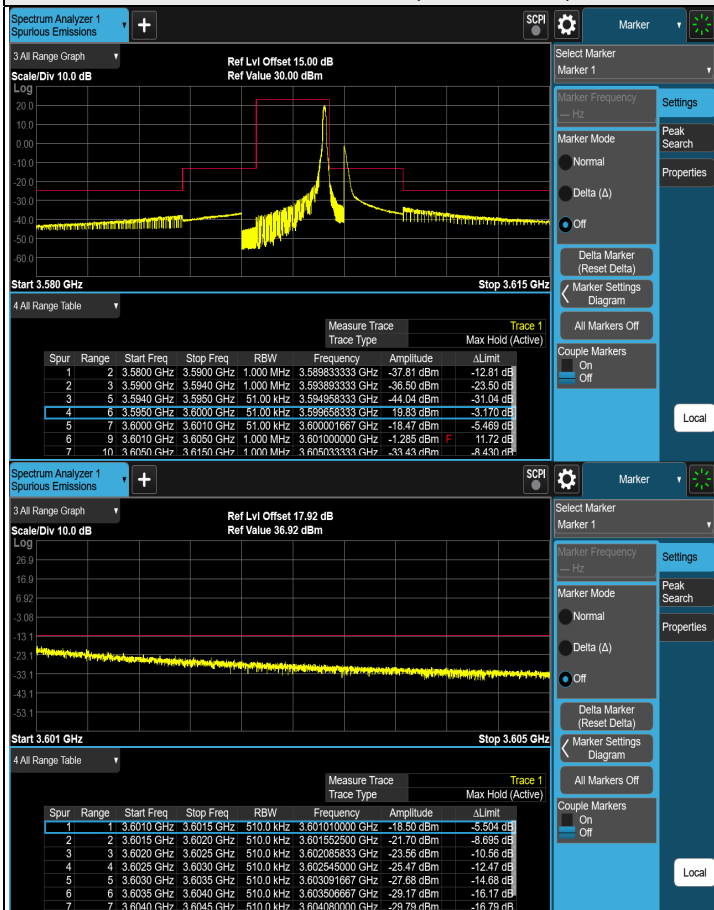




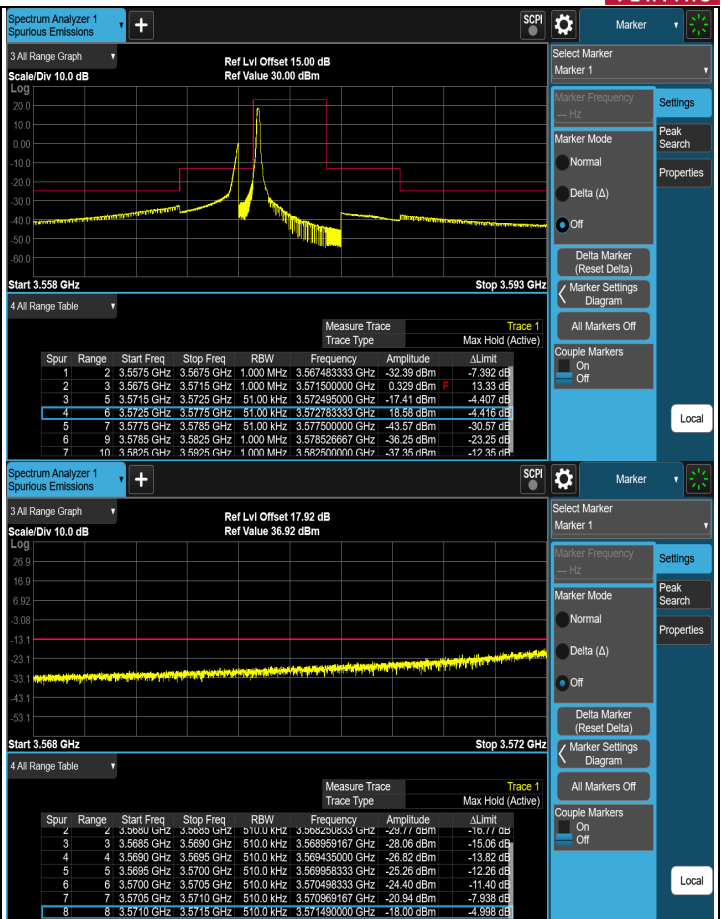
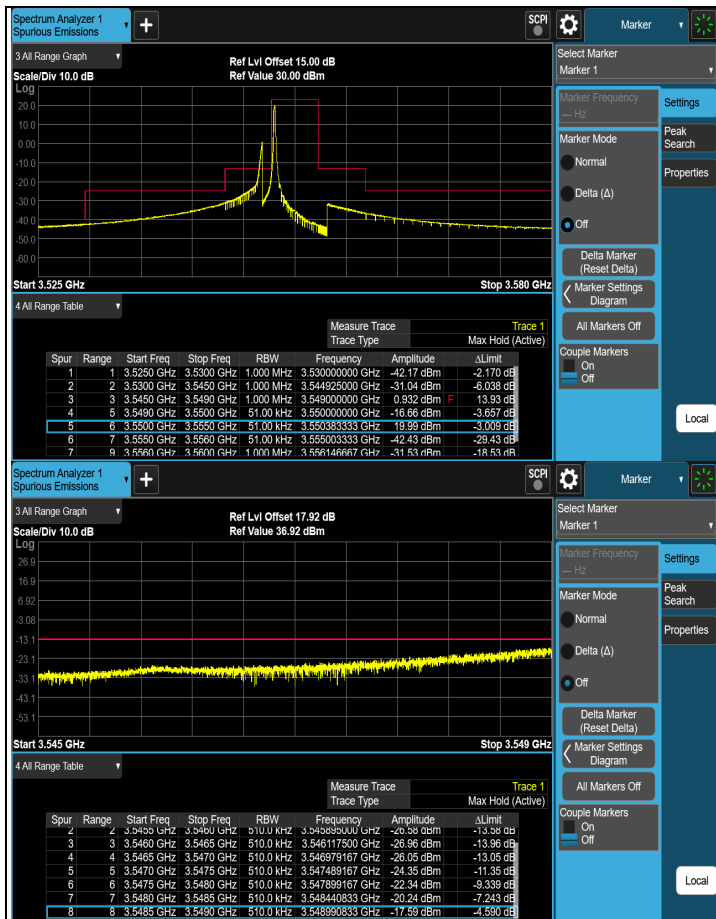
1RB#MAX CH 43115 (3552.5 MHz)



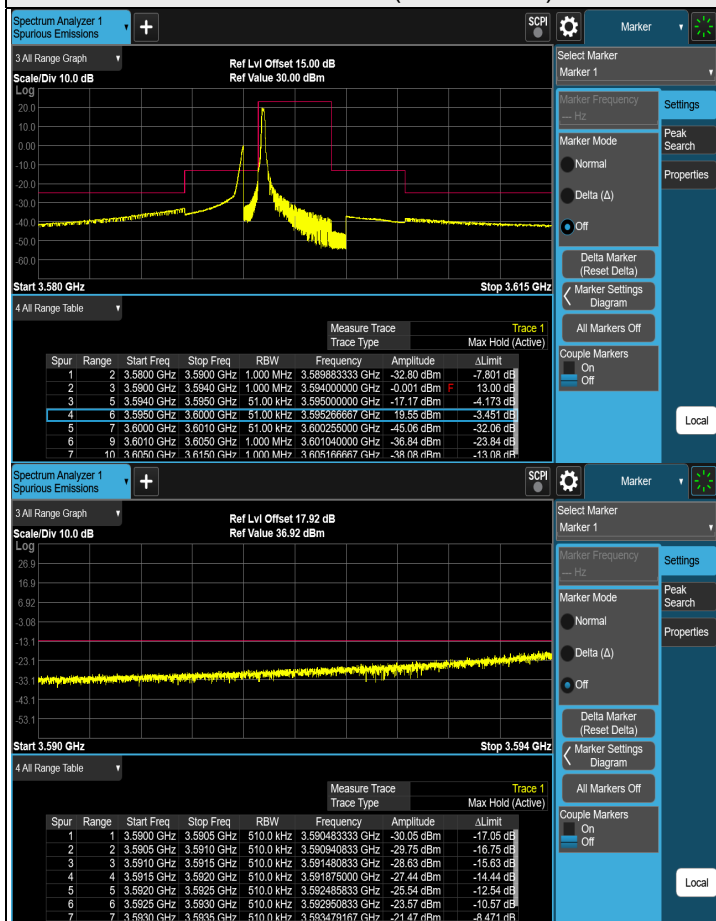
1RB#MAX CH 43340 (3575 MHz)



1RB#MAX CH 43565 (3597.5 MHz)



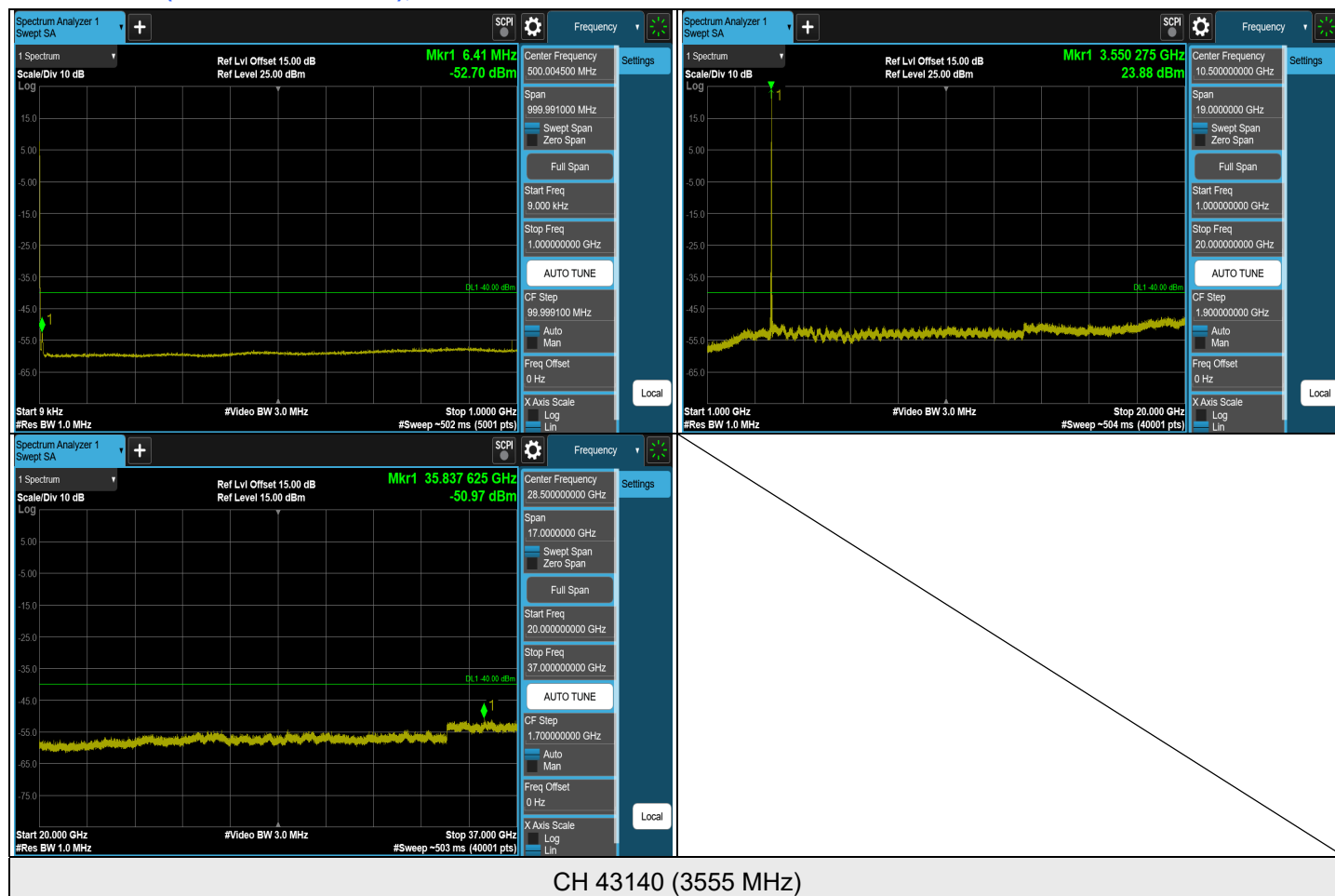
1RB#0 CH 43115 (3552.5 MHz)



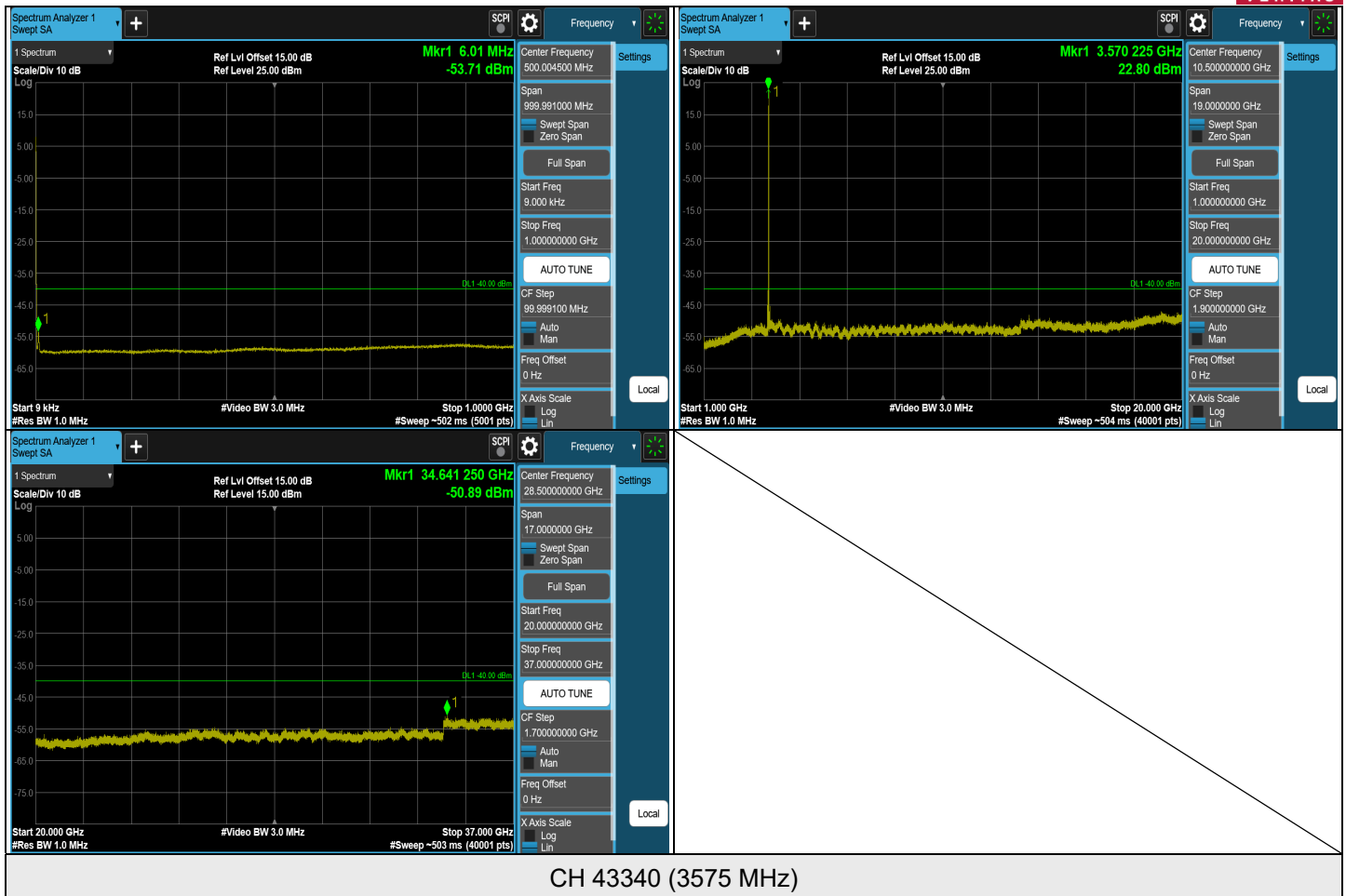
1RB#0 CH 43565 (3597.5 MHz)

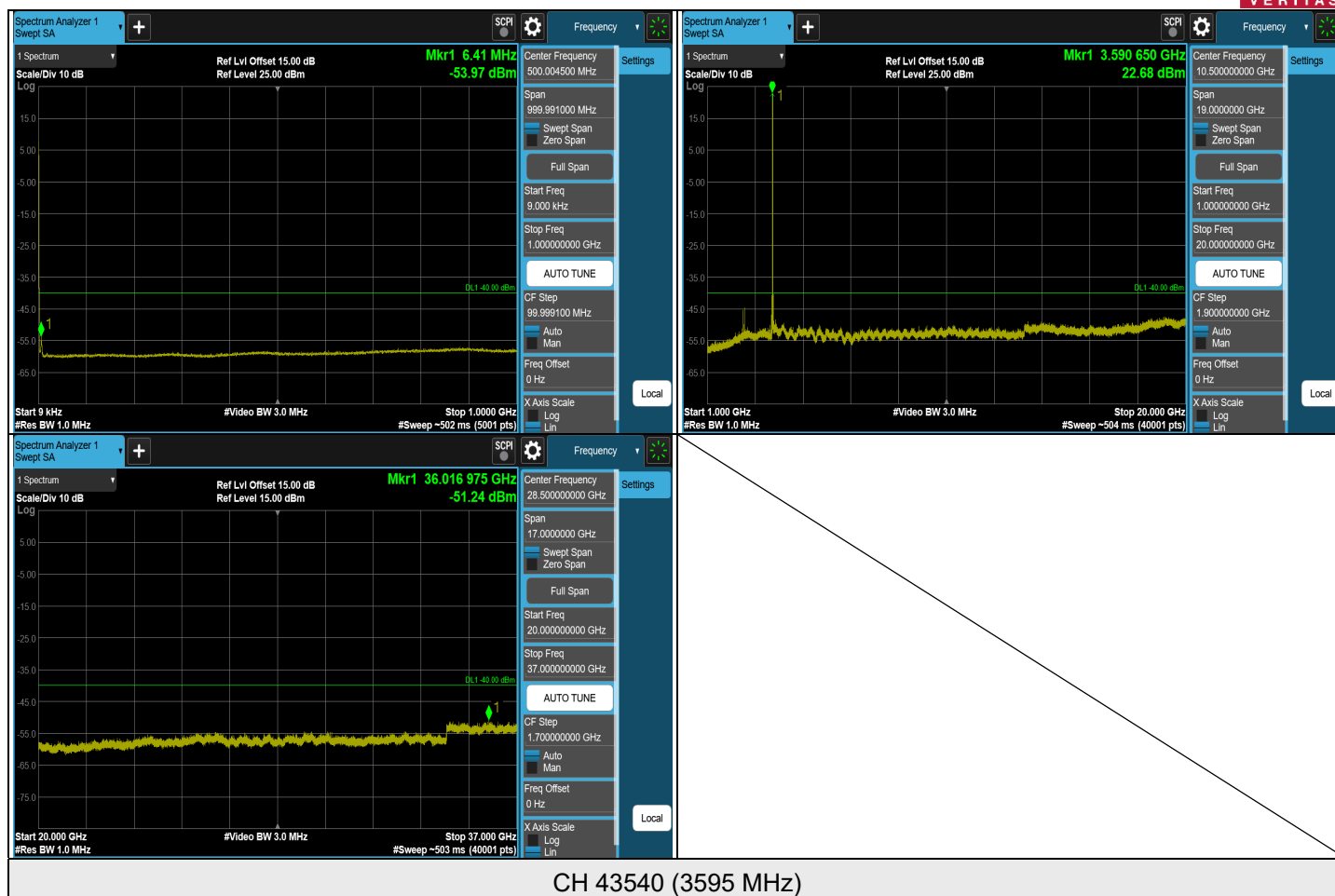
1RB#0 CH 43340 (3575 MHz)

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 10 MHz



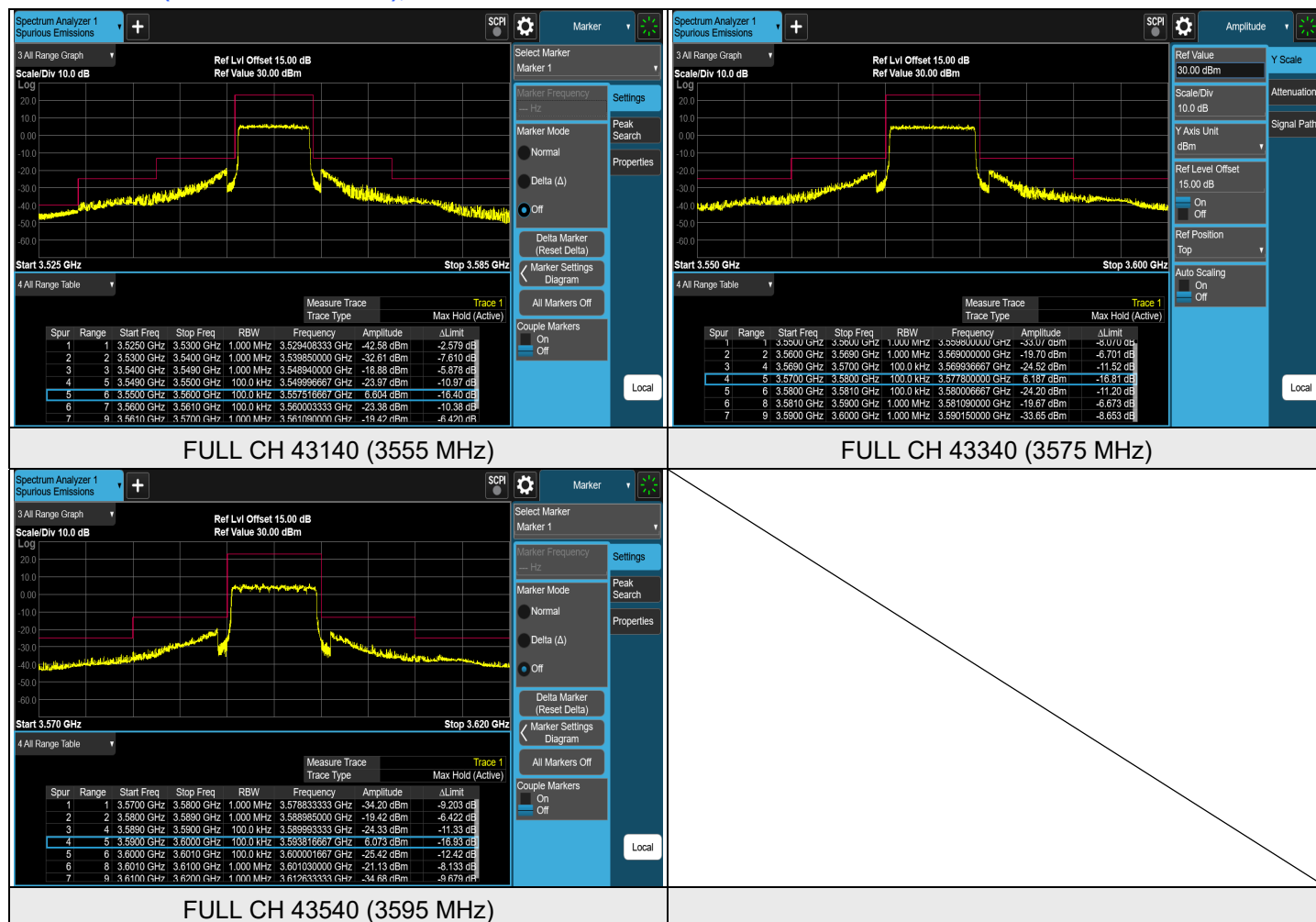
CH 43140 (3555 MHz)

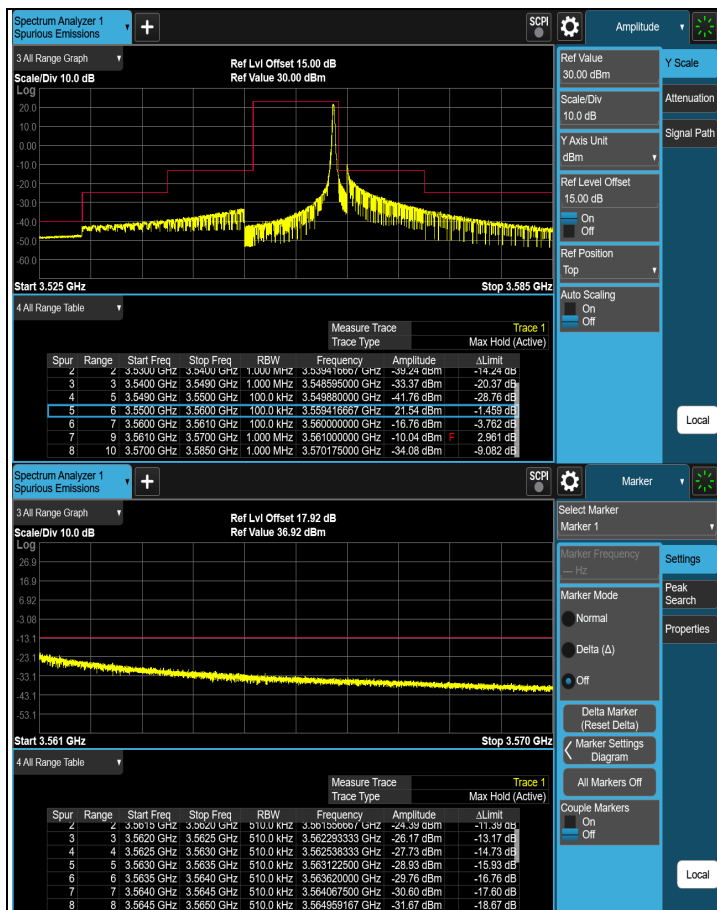




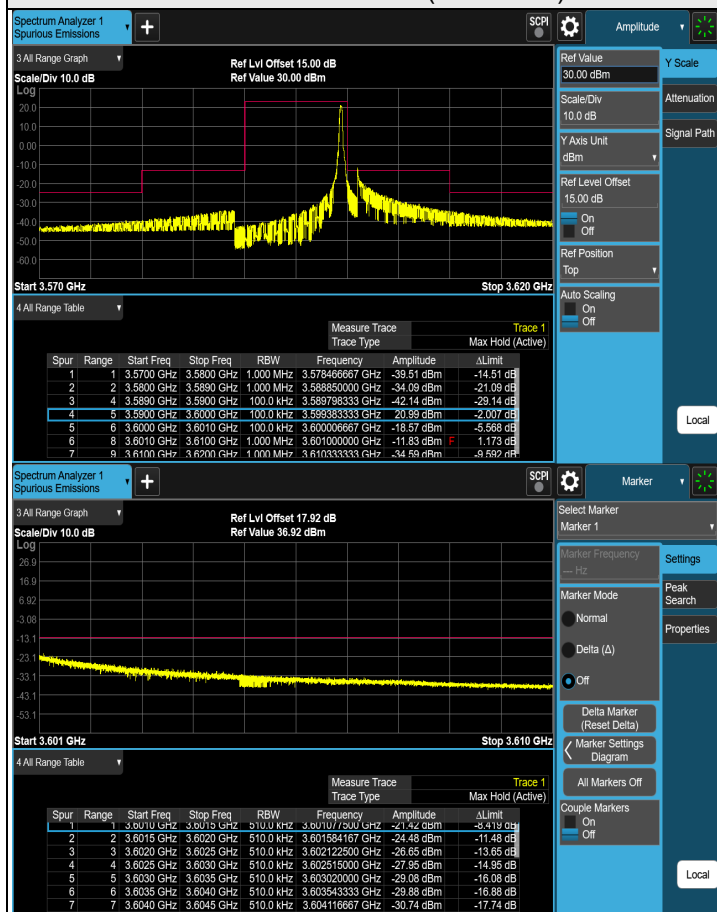
Note: The signal at 9 kHz is IF signal from spectrum analyzer.

LTE Band 42 (3.55 GHz ~ 3.6 GHz), Channel Bandwidth: 10 MHz

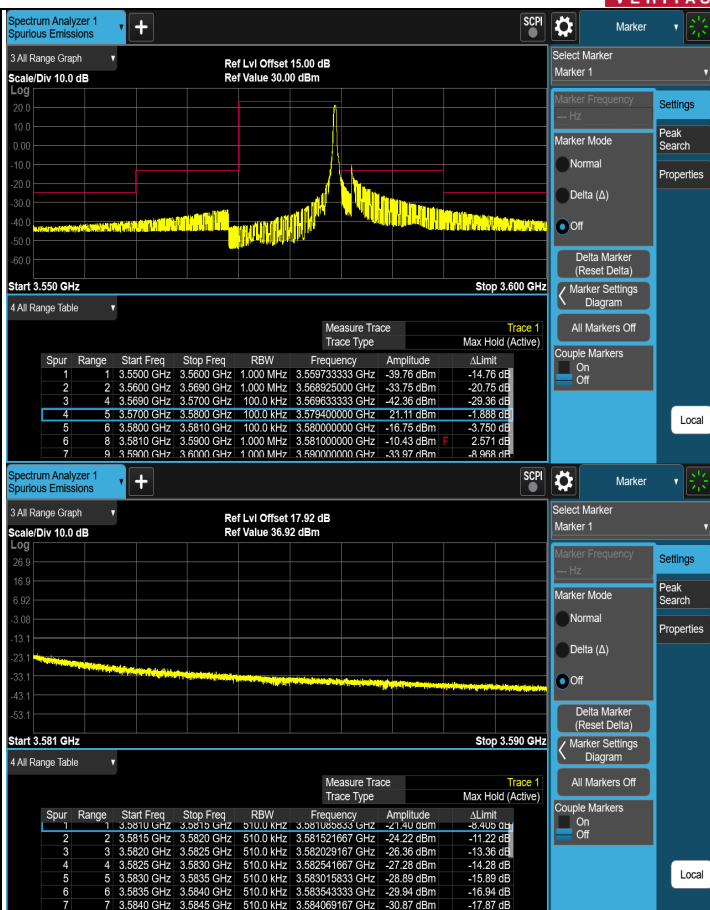




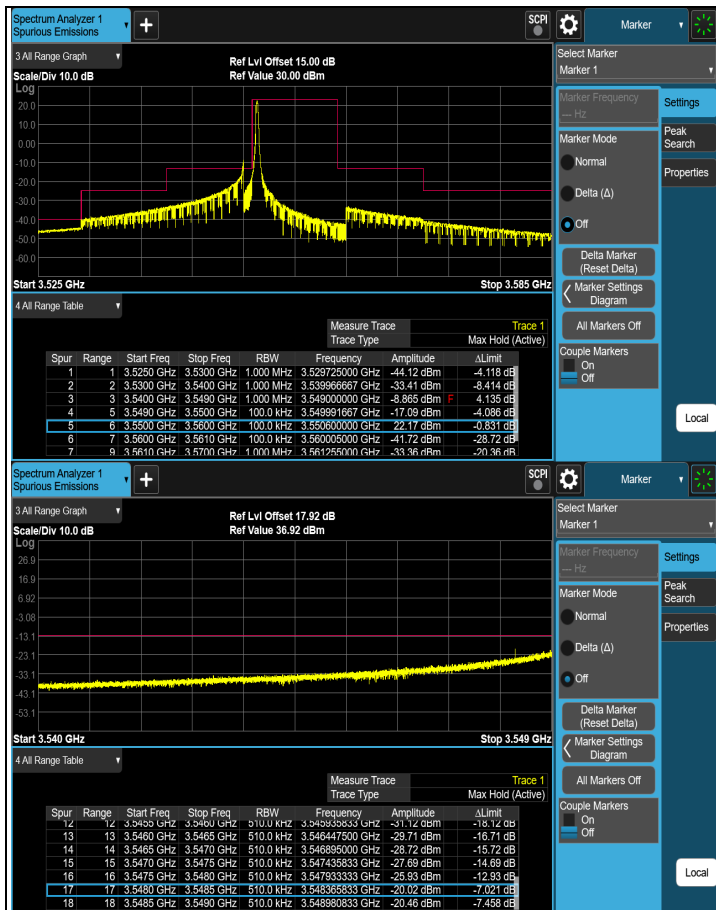
1RB#MAX CH 43140 (3555 MHz)



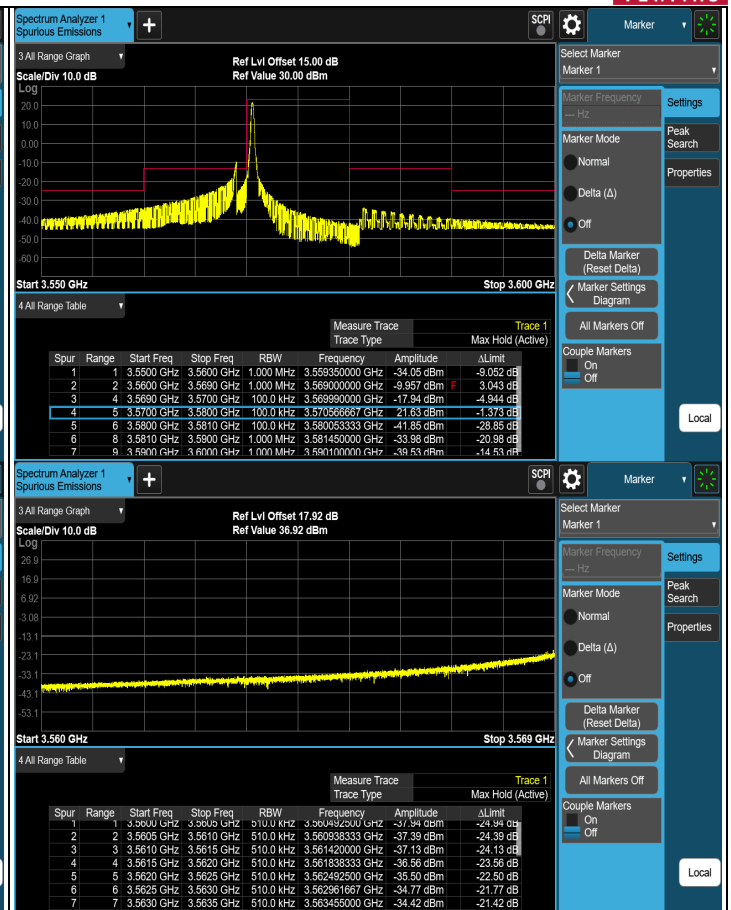
1RB#MAX CH 43540 (3595 MHz)



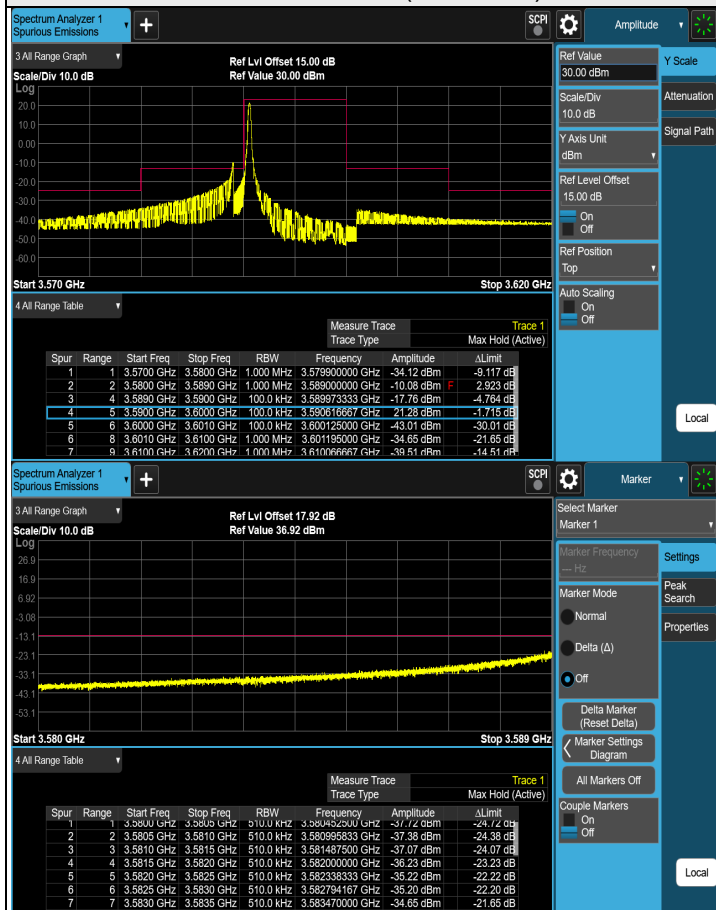
1RB#MAX CH 43340 (3575 MHz)



1RB#0 CH 43140 (3555 MHz)



1RB#0 CH 43340 (3575 MHz)



1RB#0 CH 43540 (3595 MHz)