

FCC LTE REPORT

FCC Certification

Applicant Name:

SAMSUNG Electronics Co., Ltd.

Date of Issue:

June 22, 2017

Location:

HCT CO., LTD.,

Address:129, Samsung-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16677, Rep. of Korea74, Seoicheon-ro 578beon-gil, Majang-myeon,
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA**Report No.:** HCT-R-1706-F011-1**HCT FRN:** 0005866421**FCC ID:****A3LSMJ730K****APPLICANT:****SAMSUNG Electronics Co., Ltd.****FCC Model(s):**

SM-J730K

EUT Type:

Mobile Phone

FCC Classification:

Licensed Portable Transmitter Held to Ear (PCE)

FCC Rule Part(s):

§2, §27

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	EIRP	
				Max. Power (W)	Max. Power (dBm)
LTE – Band38 / 41 (5)	2498.5 – 2687.5	4M53G7D	QPSK	0.129	21.11
		4M52W7D	16QAM	0.092	19.66
LTE – Band38 / 41 (10)	2501.0 – 2685.0	8M98G7D	QPSK	0.132	21.21
		8M99W7D	16QAM	0.098	19.92
LTE – Band38 / 41 (15)	2503.5 – 2682.5	13M5G7D	QPSK	0.123	20.89
		13M5W7D	16QAM	0.094	19.73
LTE – Band38 / 41 (20)	2506.0 – 2680.0	18M0G7D	QPSK	0.137	21.36
		17M9W7D	16QAM	0.104	20.16

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S. C.853(a)



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Manager of Telecommunication Testing Center

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-R-1706-F011	June 01, 2017	- First Approval Report
HCT-R-1706-F011-1	June 22, 2017	- Add the LTE-B38 Channel edge plot

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name: SAMSUNG Electronics Co., Ltd.

Address: 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

FCC ID: A3LSMJ730K

Application Type: Certification

FCC Classification: Licensed Portable Transmitter Held to Ear (PCE)

FCC Rule Part(s): §2 , §27

EUT Type: Mobile Phone

FCC Model(s): SM-J730K

Tx Frequency: 2498.5 MHz – 2687.5 MHz (LTE – Band 38 / 41 (5 MHz))
2501.0 MHz – 2685.0 MHz (LTE – Band 38 / 41 (10 MHz))
2503.5 MHz – 2682.5 MHz (LTE – Band 38 / 41 (15 MHz))
2506.0 MHz – 2680.0 MHz (LTE – Band 38 / 41 (20 MHz))

Max. RF Output Power:

Band 38 / 41 (5 MHz) :	0.129 W (QPSK) (21.11 dBm)
	0.092 W (16-QAM) (19.66 dBm)
Band 38 / 41 (10 MHz) :	0.132 W (QPSK) (21.21 dBm)
	0.098 W (16-QAM) (19.92 dBm)
Band 38 / 41 (15 MHz) :	0.123 W (QPSK) (20.89 dBm)
	0.094 W (16-QAM) (19.73 dBm)
Band 38 / 41 (20 MHz) :	0.137 W (QPSK) (21.36 dBm)
	0.104 W (16-QAM) (20.16 dBm)

Emission Designator(s):

Band 38 / 41 (5 MHz) :	4M53G7D (QPSK) / 4M52W7D (16-QAM)
Band 38 / 41 (10 MHz) :	8M98G7D (QPSK) / 8M99W7D (16-QAM)
Band 38 / 41 (15 MHz) :	13M5G7D (QPSK) / 13M5W7D (16-QAM)
Band 38 / 41 (20 MHz) :	18M0G7D (QPSK) / 17M9W7D (16-QAM)

Date(s) of Tests: May 05, 2017 ~ June 21, 2017

2. INTRODUCTION

2.1. EUT DESCRIPTION

The SAMSUNG Electronics Co., Ltd. SM-J730K Mobile Phone consists of LTE 41.

2.2. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.3. TEST FACILITY

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the **74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA.**

3. DESCRIPTION OF TESTS

3.1 EIRP RADIATED POWER AND RADIATED SPURIOUS EMISSIONS

Note: EIRP(Equivalent Isotropic Radiated Power)

Test Procedure

Radiated emission measurements are performed in the Fully-anechoic chamber. The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna in accordance with ANSI/TIA-603-D-2010 Clause 2.2.17. The turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission. The level and position of the maximized emission is recorded with the spectrum analyzer using RMS detector.

A half wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

The power is calculated by the following formula;

$$P_{d(dBm)} = P_{g(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

Where: P_d is the dipole equivalent power and P_g is the generator output power into the substitution antenna.

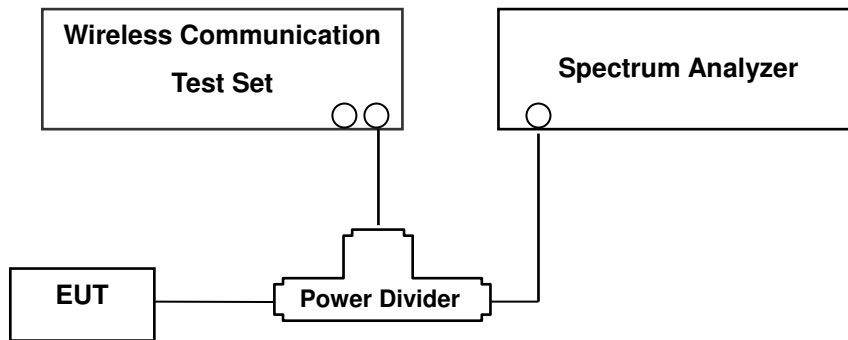
The maximum EIRP is calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration

Radiated spurious emissions

1. Frequency Range : 9 kHz ~ 10th Harmonics of highest channel fundamental frequency.
2. Measured distance : 30 MHz ~ 11 GHz at 3 m
11 GHz ~ 27 GHz at 1m
3. The EUT was setup to maximum output power.
4. The high, low and a middle channel were tested for out of band measurements.

3.2 OCCUPIED BANDWIDTH.

Test set-up



(Configuration of conducted Emission measurement)

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

Test Procedure

OBW is tested in accordance with KDB971168 D01 Power Meas License Digital Systems v02r02, October 17, 2014, Section 4.2.

The EUT makes a call to the communication simulator. The power was measured with R&S Spectrum Analyzer. All measurements were done at 3 channels(low, middle and high operational range.)

The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

3.3 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL.

Test Procedure

Spurious and harmonic emissions at antenna terminal is tested in accordance with KDB971168 D01 Power Meas License Digital Systems v02r02, October 17, 2014, Section 6.0.

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer.

The EUT was setup to maximum output power. The 1 MHz RBW was used to scan from 30 MHz to 26.5 GHz. And limit is -25 dBm. The high, low and a middle channel were tested for out of band measurements.

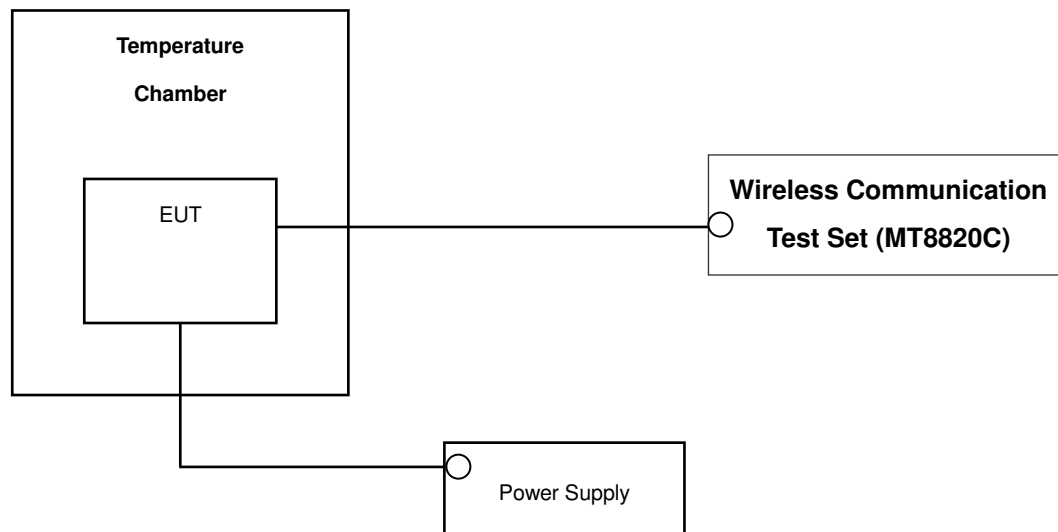
- Channel Edge Requirement : In the 1MHz bands immediately outside and adjacent to the channel, a resolution bandwidth of at least 2 % of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions. Limit is -10 dBm on all frequencies between the channel edge and 5 MHz from the channel edge, -13 dBm on all frequencies between 5 MHz and X MHz from the channel edge, -25 dBm on all frequencies more than X MHz from channel edge, where X is the greater of 6 MHz or the actual emission bandwidth. In addition, the attenuation factor shall not be less than -13 dBm on all frequencies between 2490.5 MHz and 2496 MHz and -25 dBm at below 2490.5 MHz.

NOTES: The analyzer plot offsets were determined by below conditions.

- For LTE Band 38 / 41, total offset 27.9 dBm = 20 dBm attenuator + 6 dBm Divider + 1.9 dBm RF cables.

3.4 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

Test Set-up



* Nominal Operating Voltage

Test Procedure

Frequency stability is tested in accordance with ANSI/TIA-603-D-2010 section 2.2.2.

The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from - 30 °C to + 50 °C using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from battery end point to 100 % of the voltage normally at the input to the device or at the power supply terminals if cables are not normally supplied.

Specification — the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Time Period and Procedure:

The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).

1. The equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
2. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

NOTE: The EUT is tested down to the battery endpoint.

4. LIST OF TEST EQUIPMENT

Manufacture	Model/ Equipment	Serial Number	Calibration Date	Calibration Interval	Calibration Due
REOHDE & SCHWARZ	SCU 18 / AMPLIFIER	10094	04/24/2017	Annual	04/24/2018
Wainwright	WHK1.2/15G-10EF/H.P.F	4	04/10/2017	Annual	04/10/2018
Wainwright	WHK3.3/18G-10EF/H.P.F	2	04/10/2017	Annual	04/10/2018
Hewlett Packard	11667B / Power Splitter	10545	02/15/2017	Annual	02/15/2018
Hewlett Packard	11667B / Power Splitter	11275	05/04/2017	Annual	05/04/2018
Agilent	E3632A/DC Power Supply	KR75303243	07/12/2016	Annual	07/12/2017
Schwarzbeck	UHAP/ Dipole Antenna	557	03/31/2017	Biennial	03/31/2019
Schwarzbeck	UHAP/ Dipole Antenna	558	03/31/2017	Biennial	03/31/2019
ESPAC	SU-642 / Chamber	0093008124	03/31/2017	Annual	03/31/2018
Schwarzbeck	BBHA 9120D/ Horn Antenna	147	09/09/2016	Biennial	09/09/2018
Schwarzbeck	BBHA 9120D/ Horn Antenna	1298	10/14/2016	Biennial	10/14/2018
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	BBHA9170342	04/25/2017	Biennial	04/25/2019
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	BBHA9170124	04/25/2017	Biennial	04/25/2019
Agilent	N9020A/Signal Analyzer	MY51110074	11/28/2016	Annual	11/28/2017
Hewlett Packard	8493C/ATTENUATOR	17280	06/22/2016	Annual	06/22/2017
REOHDE & SCHWARZ	FSV40-N/Spectrum Analyzer	101068-SZ	09/23/2016	Annual	09/23/2017
Agilent	8960 (E5515C)/ Base Station	MY48360800	10/19/2016	Annual	10/19/2017
Schwarzbeck	FMZB1513/ Loop Antenna(9kHz~30MHz)	1513-175	04/06/2017	Biennial	04/06/2019
Schwarzbeck	VULB9160/ Bilog Antenna	3150	09/30/2016	Biennial	09/30/2018
Schwarzbeck	VULB9160/ Bilog Antenna	3368	10/14/2016	Biennial	10/14/2018
Anritsu Corp.	MT8820C/Wideband Radio Communication Tester	6200863156	02/15/2017	Annual	02/15/2018
Anritsu Corp.	MT8820C/Wideband Radio Communication Tester	6201026545	02/13/2017	Annual	02/13/2018
REOHDE & SCHWARZ	SMB100A/ SIGNAL GENERATOR (100kHz~40GHz)	177633	07/18/2016	Annual	07/18/2017

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty ($\pm$ dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	6.07

6. SUMMARY OF TEST RESULTS

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result
2.1049	Occupied Bandwidth	N/A	CONDUCTED	PASS
2.1051, 27.53(m)(4)	Band Edge / Conducted Spurious Emissions.	< 40 + 10log10 (P[Watts]) at Channel edges < 43 + 10log10 (P[Watts]) between 5 and X MHz from Channel edges < 55 + 10log10 (P[Watts]) beyond X MHz beyond from Channel edges		PASS
2.1046	* Conducted Output Power	N/A		PASS
2.1055, 27.54	Frequency stability	Emission must remain in band		PASS
27.50(h)(2)	Equivalent Isotropic Radiated Power	< 2 Watts max. EIRP	RADIATED	PASS
2.1053, 27.53(m)(4)	Undesirable Emissions	< 40 + 10log10 (P[Watts]) at Channel edges < 43 + 10log10 (P[Watts]) between 5 and X MHz from Channel edges < 55 + 10log10 (P[Watts]) beyond X MHz beyond from Channel edges		PASS

*: See SAR Report

7. SAMPLE CALCULATION

A. EIRP Sample Calculation

Mode	Ch./ Freq.		Measured Level(dBm)	Substitute LEVEL(dBm)	Ant. Gain (dBi)	C.L	Pol.	Limit	EIRP	
	channel	Freq.(MHz)						W	W	dBm
LTE Band 41	40620.0	2593.0	-30.45	5.33	10.72	1.62	V	< 2.00	0.028	14.43

$$\text{EIRP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a wooden tripod is 2.5 meter above test site ground level.
- 2) During the test , the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of Equivalent Isotropic Radiated Power (**EIRP**).

B. Emission Designator

QPSK Modulation

5 MHz Bandwidth

Emission Designator = 4M50G7D

LTE BW = 4.50 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

10 MHz Bandwidth

Emission Designator = 8M95G7D

LTE BW = 8.95 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

15 MHz Bandwidth

Emission Designator = 13M5G7D

LTE BW = 13.47 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

20 MHz Bandwidth

Emission Designator = 18M0G7D

LTE BW = 18.03 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

16QAM Modulation

5 MHz Bandwidth

Emission Designator = 4M51W7D

LTE BW = 4.51 MHz

W = main carrier modulated in a combination of
two or more of the following modes;
amplitude, angle, pulse

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

10 MHz Bandwidth

Emission Designator = 8M94W7D

LTE BW = 8.94 MHz

W = main carrier modulated in a combination of
two or more of the following modes;
amplitude, angle, pulse

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

15 MHz Bandwidth

Emission Designator = 13M5W7D

LTE BW = 13.47MHz

W = main carrier modulated in a combination of
two or more of the following modes;
amplitude, angle, pulse

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

20 MHz Bandwidth

Emission Designator = 18M0W7D

LTE BW = 18.03 MHz

W = main carrier modulated in a combination of
two or more of the following modes;
amplitude, angle, pulse

7 = Quantized/Digital Info

D = Data transmission; telemetry; telecommand

8. TEST DATA

8.1 EQUIVALENT ISOTROPIC RADIATED POWER (Band 41)

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2498.5	5 MHz	QPSK	-24.42	12.01	10.95	2.87	H	< 2.00	0.102	20.09
		16-QAM	-25.74	10.69	10.95	2.87	H		0.075	18.77
2593.0		QPSK	-24.18	12.39	11.03	2.97	H		0.111	20.45
		16-QAM	-25.39	11.18	11.03	2.97	H		0.084	19.24
2687.5		QPSK	-23.94	13.05	11.10	3.04	H		0.129	21.11
		16-QAM	-25.39	11.60	11.10	3.04	H		0.092	19.66

Equivalent Isotropic Radiated Power Data (5 MHz Band 38 / 41 LTE)

Note: All of RB size has been tested for emissions and EIRP, with the 1RB configuration observed as the worst case

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2501.0	10 MHz	QPSK	-24.65	11.78	10.95	2.87	H	< 2.00	0.097	19.86
		16-QAM	-25.90	10.53	10.95	2.87	H		0.073	18.61
2593.0		QPSK	-24.17	12.40	11.03	2.97	H		0.111	20.46
		16-QAM	-25.53	11.04	11.03	2.97	H		0.081	19.10
2685.0		QPSK	-23.88	13.17	11.09	3.05	H		0.132	21.21
		16-QAM	-25.17	11.88	11.09	3.05	H		0.098	19.92

Equivalent Isotropic Radiated Power Data (10 MHz Band 38 / 41 LTE)

Note: All of RB size has been tested for emissions and EIRP, with the 1RB configuration observed as the worst case

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2503.5	15 MHz	QPSK	-24.65	11.75	10.95	2.88	H	< 2.00	0.096	19.82
		16-QAM	-26.02	10.38	10.95	2.88	H		0.070	18.45
2593.0		QPSK	-24.32	12.25	11.03	2.97	H		0.107	20.31
		16-QAM	-25.55	11.02	11.03	2.97	H		0.081	19.08
2682.5		QPSK	-24.25	12.85	11.09	3.05	H		0.123	20.89
		16-QAM	-25.41	11.69	11.09	3.05	H		0.094	19.73

Equivalent Isotropic Radiated Power Data (15 MHz Band 38 / 41 LTE)

Note: All of RB size has been tested for emissions and EIRP, with the 1RB configuration observed as the worst case

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBi)	C.L	Pol	Limit	EIRP	
								W	W	dBm
2506.0	20 MHz	QPSK	-24.63	11.77	10.95	2.88	H	< 2.00	0.096	19.84
		16-QAM	-25.99	10.41	10.95	2.88	H		0.071	18.48
2593.0		QPSK	-24.68	11.89	11.03	2.97	H		0.099	19.95
		16-QAM	-26.45	10.12	11.03	2.97	H		0.066	18.18
2680.0		QPSK	-23.78	13.32	11.09	3.05	H		0.137	21.36
		16-QAM	-24.98	12.12	11.09	3.05	H		0.104	20.16

Equivalent Isotropic Radiated Power Data (20 MHz Band 38 / 41 LTE)

Note: All of RB size has been tested for emissions and EIRP, with the 1RB configuration observed as the worst case

NOTES:

Equivalent Isotropic Radiated Power Measurements by Substitution Method

according to ANSI/TIA/EIA-603-D-2010 June 24, 2010:

The EUT was placed on a non-conductive styrofoam resin table 3-meters from the receive antenna. Turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. For LTE signals, RBW = 1-5% of the OBW, not to exceed 1MHz, VBW ≥ 3 x RBW, Detector = RMS. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.

Also, we have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna. The worst case of the EUT is y plane in LTE mode. Also worst case of detecting Antenna is horizontal polarization in LTE mode.

8.2 RADIATED SPURIOUS EMISSIONS

8.2.1 RADIATED SPURIOUS EMISSIONS (5 MHz Band 41 LTE)

- OPERATING FREQUENCY : 2687.50 MHz
- MEASURED OUTPUT POWER: 21.11 dBm = 0.129 W
- MODULATION SIGNAL: 5 MHz QPSK
- DISTANCE: 3 meters
- LIMIT: $55 + 10 \log_{10} (W) =$ 46.11 dBc

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	EIRP (dBm)	dBc
39675 (2498.5)	4,997.00	-48.55	12.57	-61.61	2.45	H	-51.49	72.60
	7,495.50	-55.64	11.71	-64.02	3.93	H	-56.24	77.35
	9,994.00	-62.01	11.03	-66.41	5.00	H	-60.38	81.49
	12,492.50	-56.64	14.03	-62.06	5.66	V	-53.69	74.80
40620 (2593.0)	5,186.00	-44.74	12.84	-57.88	2.54	H	-47.58	68.69
	7,779.00	-59.51	11.50	-68.30	3.94	V	-60.74	81.85
	10,372.00	-51.36	10.81	-54.99	5.08	V	-49.26	70.37
	12,965.00	-55.94	13.82	-60.02	5.78	H	-51.98	73.09
41565 (2687.5)	5,375.00	-54.95	13.11	-68.45	2.68	V	-58.02	79.13
	8,062.50	-59.26	11.44	-65.84	4.18	V	-58.58	79.69
	10,750.00	-55.06	10.70	-58.82	5.29	V	-53.41	74.52
	13,437.50	-53.85	12.62	-54.22	5.98	H	-47.58	68.69

- NOTES:**
1. Radiated Spurious Emission Measurements at 1 meter and 3 meters by Substitution Method according to ANSI/TIA/EIA-603-D-2010 June 24, 2010:
 2. We are performed all frequency to 10th harmonics from 9 kHz. Measurements above show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
 3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
 4. All of RB size has been tested for emissions and EIRP, with the 1RB configuration observed as the worst case
 5. We are performed 16QAM and QPSK modulations. The worst case data are reported in the table above.

8.2.2 RADIATED SPURIOUS EMISSIONS (10 MHz Band 41 LTE)

- OPERATING FREQUENCY : 2685.00 MHz
- MEASURED OUTPUT POWER: 21.21 dBm = 0.132 W
- MODULATION SIGNAL: 10 MHz QPSK
- DISTANCE: 3 meters
- LIMIT: $55 + 10 \log_{10}(W) =$ 46.21 dBc

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	EIRP (dBm)	dBc
39700 (2501.0)	5,002.00	-46.57	12.57	-59.47	2.45	H	-49.35	70.56
	7,503.00	-55.32	11.71	-62.77	3.96	H	-55.02	76.23
	10,004.00	-56.43	11.02	-61.21	4.95	H	-55.14	76.35
	12,505.00	-53.63	14.05	-59.18	5.66	V	-50.79	72.00
40620 (2593.0)	5,186.00	-50.97	12.84	-64.11	2.54	H	-53.81	75.02
	7,779.00	-55.25	11.50	-64.04	3.94	H	-56.48	77.69
	10,372.00	-56.89	10.81	-60.52	5.08	H	-54.79	76.00
	12,965.00	-57.46	13.82	-61.54	5.78	H	-53.50	74.71
41540 (2685.0)	5,370.00	-54.18	13.10	-67.83	2.67	H	-57.40	78.61
	8,055.00	-55.90	11.43	-62.58	4.18	V	-55.33	76.54
	10,740.00	-53.73	10.70	-57.99	5.24	H	-52.53	73.74
	13,425.00	-55.24	12.71	-55.96	5.99	H	-49.23	70.44

- NOTES:**
1. Radiated Spurious Emission Measurements at 1 meter and 3 meters by Substitution Method according to ANSI/TIA/EIA-603-D-2010 June 24, 2010:
 2. We are performed all frequency to 10th harmonics from 9 kHz. Measurements above show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
 3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
 4. All of RB size has been tested for emissions and EIRP, with the 1RB configuration observed as the worst case
 5. We are performed 16QAM and QPSK modulations. The worst case data are reported in the table above.

8.2.3 RADIATED SPURIOUS EMISSIONS (15 MHz Band 41 LTE)

- OPERATING FREQUENCY : 2682.50 MHz
- MEASURED OUTPUT POWER: 20.89 dBm = 0.123 W
- MODULATION SIGNAL: 15 MHz QPSK
- DISTANCE: 3 meters
- LIMIT: $55 + 10 \log_{10}(W) =$ 45.89 dBc

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	EIRP (dBm)	dBc
39725 (2503.5)	5,007.00	-45.92	12.58	-58.54	2.45	H	-48.41	69.30
	7,510.50	-56.26	11.70	-64.04	3.97	H	-56.31	77.20
	10,014.00	-54.63	11.01	-59.60	4.99	H	-53.57	74.46
	12,517.50	-54.23	14.03	-59.69	5.71	V	-51.36	72.25
40620 (2593.0)	5,186.00	-50.12	12.84	-63.26	2.54	H	-52.96	73.85
	7,779.00	-56.96	11.50	-65.75	3.94	V	-58.19	79.08
	10,372.00	-55.40	10.81	-59.03	5.08	H	-53.30	74.19
	12,965.00	-57.32	13.82	-61.40	5.78	H	-53.36	74.25
41515 (2682.5)	5,365.00	-54.57	13.10	-68.07	2.67	V	-57.64	78.53
	8,047.50	-54.88	11.42	-61.66	4.17	V	-54.41	75.30
	10,730.00	-53.37	10.71	-57.75	5.15	H	-52.19	73.08
	13,412.50	-53.40	12.74	-55.04	5.97	H	-48.27	69.16

- NOTES:**
1. Radiated Spurious Emission Measurements at 1 meter and 3 meters by Substitution Method according to ANSI/TIA/EIA-603-D-2010 June 24, 2010:
 2. We are performed all frequency to 10th harmonics from 9 kHz. Measurements above show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
 3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
 4. All of RB size has been tested for emissions and EIRP, with the 1RB configuration observed as the worst case
 5. We are performed 16QAM and QPSK modulations. The worst case data are reported in the table above.

8.2.4 RADIATED SPURIOUS EMISSIONS (20 MHz Band 41 LTE)

- OPERATING FREQUENCY : 2680.00 MHz
- MEASURED OUTPUT POWER: 21.36 dBm = 0.137 W
- MODULATION SIGNAL: 20 MHz QPSK
- DISTANCE: 3 meters
- LIMIT: $55 + 10 \log_{10}(W) =$ 46.36 dBc

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	EIRP (dBm)	dBc
39750 (2506.0)	5,012.00	-46.46	12.58	-59.08	2.45	H	-48.95	70.31
	7,518.00	-58.28	11.70	-65.46	3.98	H	-57.74	79.10
	10,024.00	-55.43	11.01	-59.84	5.08	H	-53.91	75.27
	12,530.00	-50.64	14.01	-56.21	5.84	H	-48.04	69.40
40620 (2593.0)	5,186.00	-50.96	12.84	-64.10	2.54	H	-53.80	75.16
	7,779.00	-57.05	11.50	-65.84	3.94	V	-58.28	79.64
	10,372.00	-56.03	10.81	-59.66	5.08	H	-53.93	75.29
	12,965.00	-57.95	13.82	-62.03	5.78	H	-53.99	75.35
41490 (2680.0)	5,360.00	-53.34	13.09	-66.69	2.66	V	-56.26	77.62
	8,040.00	-55.50	11.40	-62.24	4.18	V	-55.02	76.38
	10,720.00	-53.32	10.71	-57.17	5.16	H	-51.62	72.98
	13,400.00	-55.89	12.75	-57.47	5.97	H	-50.69	72.05

- NOTES:**
1. Radiated Spurious Emission Measurements at 1 meter and 3 meters by Substitution Method according to ANSI/TIA/EIA-603-D-2010 June 24, 2010:
 2. We are performed all frequency to 10th harmonics from 9 kHz. Measurements above show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
 3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
 4. All of RB size has been tested for emissions and EIRP, with the 1RB configuration observed as the worst case
 5. We are performed 16QAM and QPSK modulations. The worst case data are reported in the table above.

8.3 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
41	5 MHz	2593.0	QPSK	25	0	4.5261
			16-QAM	25	0	4.5205
	10 MHz	2593.0	QPSK	50	0	8.9835
			16-QAM	50	0	8.9853
	15 MHz	2593.0	QPSK	75	0	13.527
			16-QAM	75	0	13.484
	20 MHz	2593.0	QPSK	100	0	17.972
			16-QAM	100	0	17.928

- Plots of the EUT's Occupied Bandwidth are shown Page 30 ~33.

8.4 CONDUCTED SPURIOUS EMISSIONS

■ FACTORS FOR FREQUENCY

Frequency Range (GHz)	Factor [dB]
0.03 – 1	25.270
1 – 5	27.986
5 – 10	28.591
10 – 15	29.116
15 – 20	29.489
Above 20	30.131

NOTES:

Factor(dB) = Cable Loss + Attenuator + Power Splitter

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
41	5	2498.5	26.4422	30.131	-66.777	-36.646	-25.00
		2593.0	26.1217	30.131	-66.472	-36.341	
		2687.5	26.2154	30.131	-66.659	-36.528	
	10	2501.0	26.2665	30.131	-67.212	-37.081	
		2593.0	26.0607	30.131	-66.784	-36.653	
		2685.0	26.1419	30.131	-66.642	-36.511	
	15	2503.5	26.2005	30.131	-66.921	-36.790	
		2593.0	3.7398	27.986	-66.775	-38.789	
		2682.5	25.7414	30.131	-66.704	-36.573	
	20	2506.0	26.1110	30.131	-66.304	-36.173	
		2593.0	26.1275	30.131	-66.146	-36.015	
		2680.0	25.7154	30.131	-66.652	-36.521	

NOTES:

1. Conducted Spurious Emissions was Tested QPSK Modulation, Resource Block Size 1 and Resource Block Offset 0
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)

- Plots of the EUT's Conducted Spurious Emissions are shown Page 46 ~ 57

8.4.1 BAND EDGE

Band 38

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resoure Block Offset	C.E ~ (C.E ± 1MHz)		(C.E ± 1 MHz) ~ (C.E ± 5 MHz)	
						Lower	Upper	Lower	Upper
Band 38	5 MHz	2572.5	QPSK	25	0	-20.25	-21.33	-21.58	-21.10
		2595.0	QPSK	25	0	-18.83	-19.07	-19.55	-18.17
		2617.5	QPSK	25	0	-18.65	-18.77	-17.41	-16.66
	10 MHz	2575.0	QPSK	50	0	-24.50	-24.27	-24.52	-22.92
		2595.0	QPSK	50	0	-23.87	-24.12	-21.91	-19.98
		2615.0	QPSK	50	0	-21.78	-21.43	-20.07	-18.30
	15 MHz	2577.5	QPSK	75	0	-26.13	-27.00	-28.16	-27.19
		2595.0	QPSK	75	0	-25.32	-25.54	-25.78	-25.06
		2612.5	QPSK	75	0	-24.55	-23.53	-23.69	-22.59
	20 MHz	2580.0	QPSK	100	0	-29.64	-29.67	-28.60	-28.52
		2595.0	QPSK	100	0	-28.18	-28.34	-27.19	-26.53
		2610.0	QPSK	100	0	-27.05	-25.58	-24.45	-23.46
Limit						-10.0		-10.0	
Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resoure Block Offset	(C.E ± 5 MHz) ~ (C.E ± X MHz)		Above (C.E ± X MHz)	
						Lower	Upper	Lower	Upper
Band 38	5 MHz	2572.5	QPSK	25	0	-38.16	-37.19	-39.32	-38.80
		2595.0	QPSK	25	0	-36.36	-34.85	-38.03	-36.82
		2617.5	QPSK	25	0	-33.42	-33.09	-35.92	-35.85
	10 MHz	2575.0	QPSK	50	0	-32.61	-29.95	-42.57	-42.37
		2595.0	QPSK	50	0	-29.77	-27.11	-41.48	-40.06
		2615.0	QPSK	50	0	-27.88	-25.62	-39.71	-38.24
	15 MHz	2577.5	QPSK	75	0	-33.04	-31.79	-43.33	-42.85
		2595.0	QPSK	75	0	-30.29	-28.80	-42.40	-40.48
		2612.5	QPSK	75	0	-27.59	-25.93	-40.01	-37.60
	20 MHz	2580.0	QPSK	100	0	-34.19	-33.13	-43.05	-41.24
		2595.0	QPSK	100	0	-31.29	-29.66	-42.98	-40.13
		2610.0	QPSK	100	0	-29.02	-27.21	-41.03	-36.61
Limit						-13.0		-25.0	

Note:

1. C.E = Channel Edge
2. X = X is the greater of 6MHz or the actual emission bandwidth.
3. X = 6MHz(5MHz Bandwidth), 10MHz(10MHz Bandwidth), 15MHz(15MHz Bandwidth), 20MHz(20MHz Bandwidth)
4. Plots of the EUT's Band Edge are shown Page 34 ~ 39

Band 41

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	2 495 MHz ~ 2 496 MHz	C.E ~ (C.E + 1MHz)	2 490.5 MHz ~ 2 495 MHz	(C.E + 1 MHz) ~ (C.E + 5 MHz)	Below 2 490.5 MHz	Above (C.E + X MHz)
					Lower	Upper	Lower	Upper	Lower	Upper
5 MHz	2498.5	QPSK	25	0	-20.46	-19.96	-23.90	-23.80	-37.78	-37.89
10 MHz	2501.0	QPSK	50	0	-22.77	-23.88	-28.52	-28.50	-35.37	-33.03
15 MHz	2503.5	QPSK	75	0	-26.25	-23.73	-30.94	-29.02	-36.63	-34.62
20 MHz	2506.0	QPSK	100	0	-29.42	-27.40	-34.02	-30.88	-37.75	-33.71
Limit					-13.0	-10.0	-13.0	-10.0	-25.0	-25.0

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	C.E ~ (C.E ± 1MHz)		(C.E ± 1 MHz) ~ (C.E ± 5 MHz)	
					Lower	Upper	Lower	Upper
5 MHz	2593.0	QPSK	25	0	-18.15	-18.75	-20.88	-19.85
	2687.5	QPSK	25	0	-18.35	-18.28	-17.76	-17.79
10 MHz	2593.0	QPSK	50	0	-23.50	-22.90	-25.04	-24.16
	2685.0	QPSK	50	0	-18.92	-20.55	-17.07	-17.33
15 MHz	2593.0	QPSK	75	0	-25.12	-22.30	-26.70	-25.97
	2682.5	QPSK	75	0	-22.54	-21.92	-19.83	-20.75
20 MHz	2593.0	QPSK	100	0	-28.24	-26.40	-27.49	-27.25
	2680.0	QPSK	100	0	-21.44	-22.24	-19.85	-20.02
Limit					-10.0		-10.0	

Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	(C.E ± 5 MHz) ~ (C.E ± X MHz)		Above (C.E ± X MHz)	
					Lower	Upper	Lower	Upper
5 MHz	2593.0	QPSK	25	0	-36.22	-36.42	-37.87	-38.47
	2687.5	QPSK	25	0	-31.98	-32.07	-35.38	-36.22
10 MHz	2593.0	QPSK	50	0	-28.90	-27.65	-37.73	-36.98
	2685.0	QPSK	50	0	-24.95	-25.59	-35.66	-36.99
15 MHz	2593.0	QPSK	75	0	-31.43	-30.15	-40.54	-40.41
	2682.5	QPSK	75	0	-23.67	-24.13	-33.97	-36.04
20 MHz	2593.0	QPSK	100	0	-31.97	-29.69	-41.09	-38.10
	2680.0	QPSK	100	0	-22.69	-22.70	-33.82	-35.32
Limit					-13.0		-25.0	

Note:

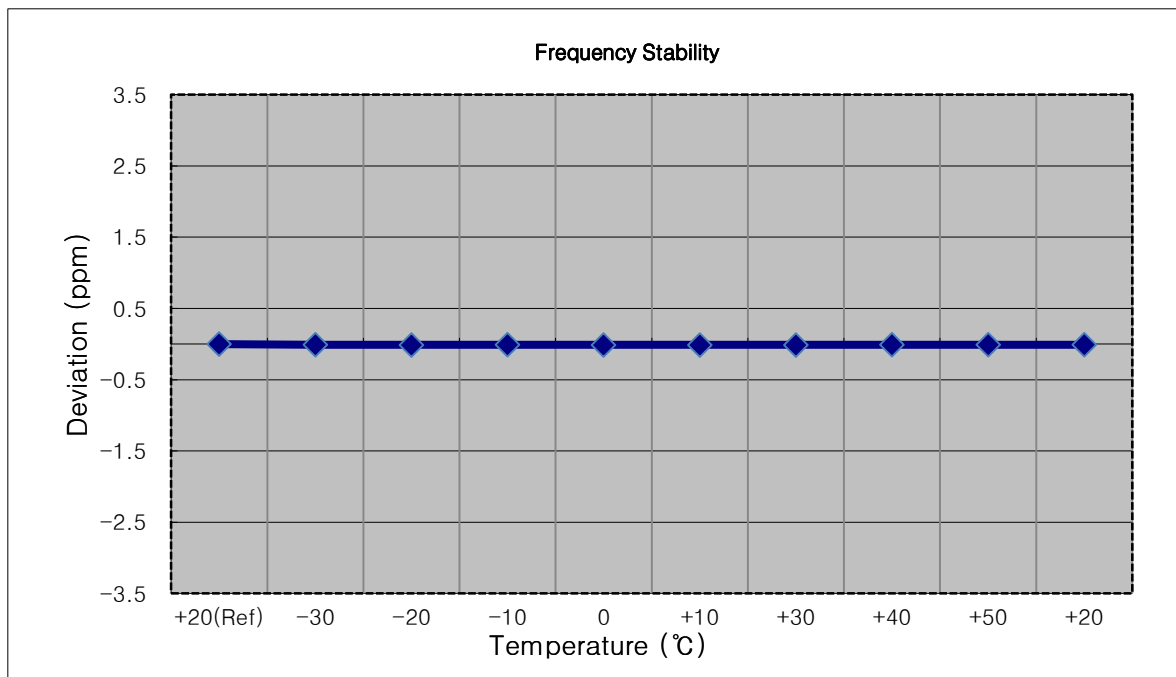
1. C.E = Channel Edge
2. X = X is the greater of 6MHz or the actual emission bandwidth.
3. X = 6MHz(5MHz Bandwidth), 10MHz(10MHz Bandwidth), 15MHz(15MHz Bandwidth), 20MHz(20MHz Bandwidth)
4. Plots of the EUT's Band Edge are shown Page 40 ~ 45

8.5 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

8.5.1 FREQUENCY STABILITY (5 MHz Band 41 LTE)

- OPERATING FREQUENCY: 2593.000,000 Hz
- CHANNEL: 40620 (5 MHz)
- REFERENCE VOLTAGE: 3.85 VDC
- DEVIATION LIMIT: Emission must remain in band

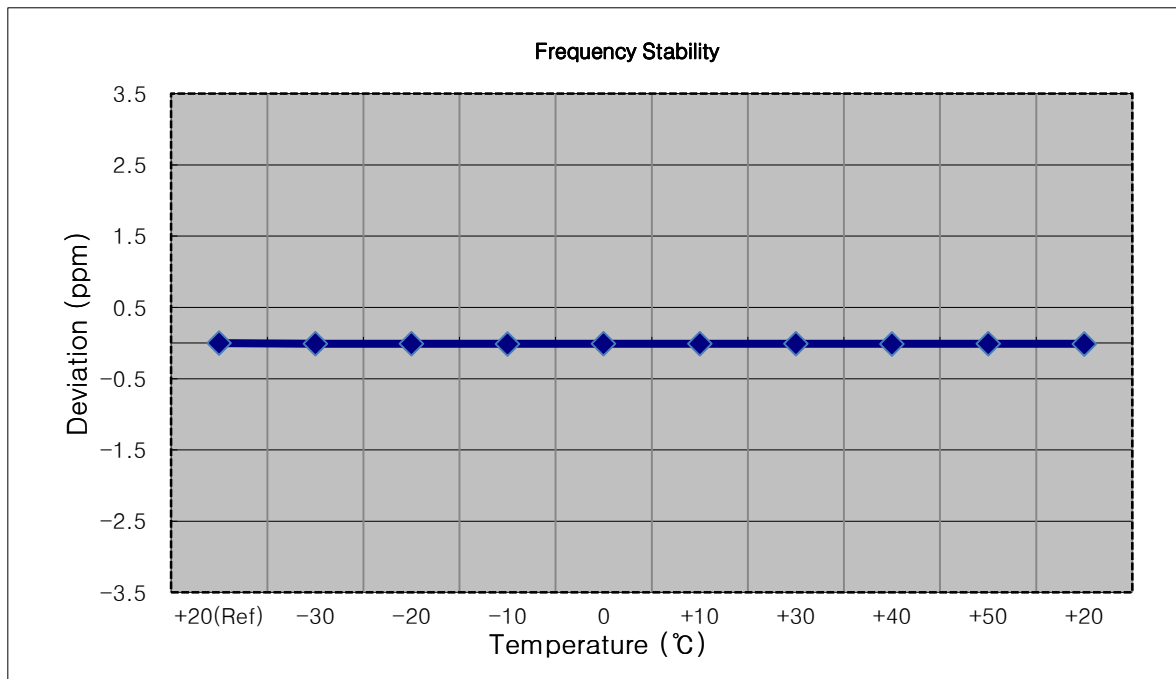
Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.85	+20(Ref)	2592 999 973	0.0	0.000 000	0.000
100%		-30	2592 999 950	-23.3	-0.000 001	-0.009
100%		-20	2592 999 947	-26.4	-0.000 001	-0.010
100%		-10	2592 999 953	-20.2	-0.000 001	-0.008
100%		0	2592 999 947	-25.9	-0.000 001	-0.010
100%		+10	2592 999 946	-27.1	-0.000 001	-0.010
100%		+30	2592 999 948	-25.6	-0.000 001	-0.010
100%		+40	2592 999 951	-22.5	-0.000 001	-0.009
100%		+50	2592 999 950	-23.2	-0.000 001	-0.009
Batt. Endpoint	3.60	+20	2592 999 948	-25.2	-0.000 001	-0.010



8.5.2 FREQUENCY STABILITY (10 MHz Band 41 LTE)

- OPERATING FREQUENCY: 2593.000,000 Hz
- CHANNEL: 40620 (10 MHz)
- REFERENCE VOLTAGE: 3.85 VDC
- DEVIATION LIMIT: Emission must remain in band

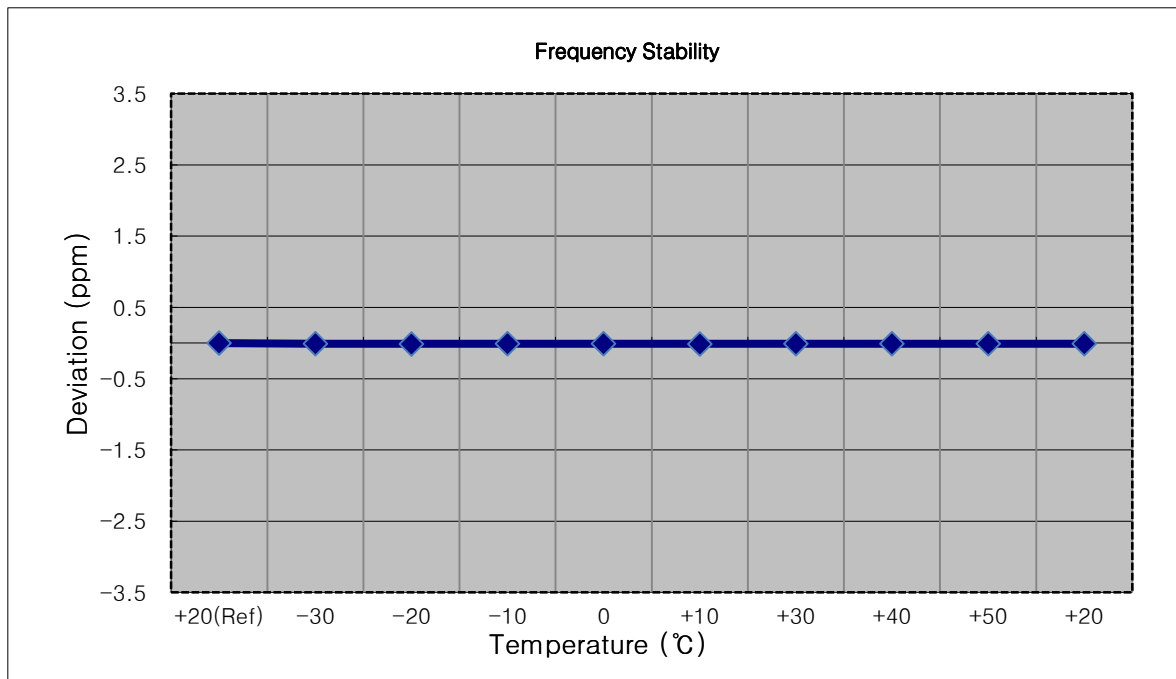
Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.85	+20(Ref)	2592 999 979	0.0	0.000 000	0.000
100%		-30	2592 999 954	-24.4	-0.000 001	-0.009
100%		-20	2592 999 955	-24.1	-0.000 001	-0.009
100%		-10	2592 999 953	-25.6	-0.000 001	-0.010
100%		0	2592 999 956	-22.8	-0.000 001	-0.009
100%		+10	2592 999 955	-23.8	-0.000 001	-0.009
100%		+30	2592 999 955	-23.5	-0.000 001	-0.009
100%		+40	2592 999 952	-26.3	-0.000 001	-0.010
100%		+50	2592 999 955	-24.0	-0.000 001	-0.009
Batt. Endpoint	3.60	+20	2592 999 953	-25.4	-0.000 001	-0.010



8.5.3 FREQUENCY STABILITY (15 MHz Band 41 LTE)

- OPERATING FREQUENCY: 2593.000,000 Hz
- CHANNEL: 40620 (15 MHz)
- REFERENCE VOLTAGE: 3.85 VDC
- DEVIATION LIMIT: Emission must remain in band

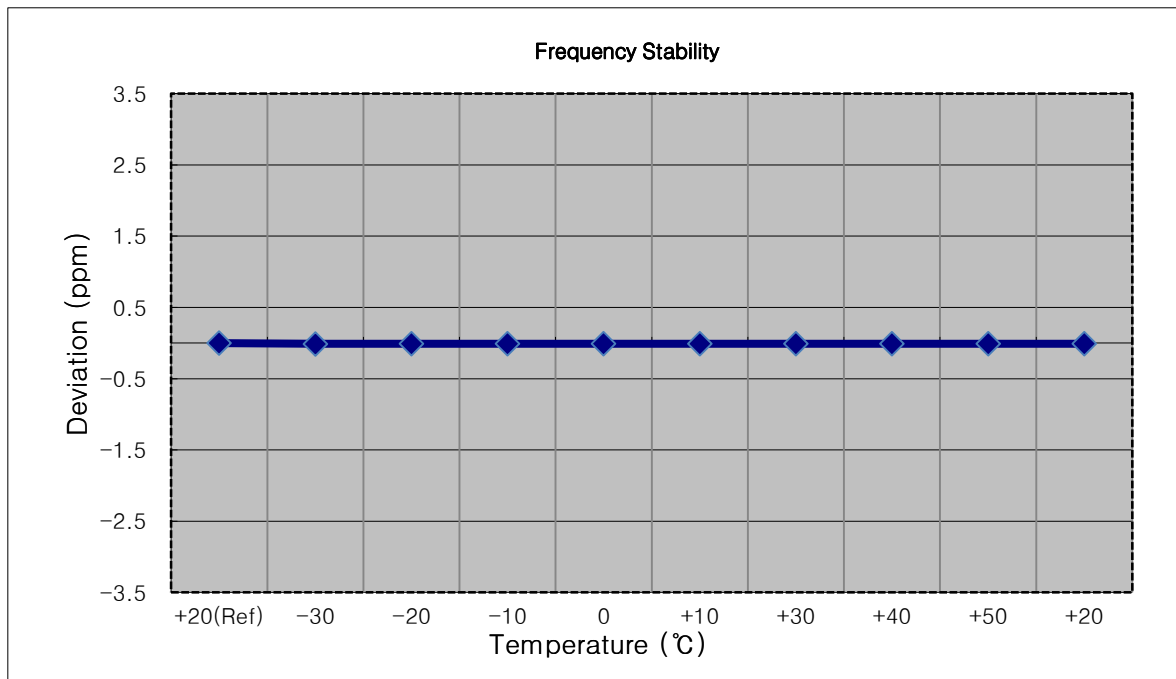
Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.85	+20(Ref)	2592 999 979	0.0	0.000 000	0.000
100%		-30	2592 999 957	-21.7	-0.000 001	-0.008
100%		-20	2592 999 952	-27.2	-0.000 001	-0.010
100%		-10	2592 999 955	-23.7	-0.000 001	-0.009
100%		0	2592 999 954	-24.3	-0.000 001	-0.009
100%		+10	2592 999 951	-28.0	-0.000 001	-0.011
100%		+30	2592 999 957	-21.5	-0.000 001	-0.008
100%		+40	2592 999 956	-22.6	-0.000 001	-0.009
100%		+50	2592 999 955	-24.2	-0.000 001	-0.009
Batt. Endpoint	3.60	+20	2592 999 955	-23.5	-0.000 001	-0.009



8.5.4 FREQUENCY STABILITY (20 MHz Band 41 LTE)

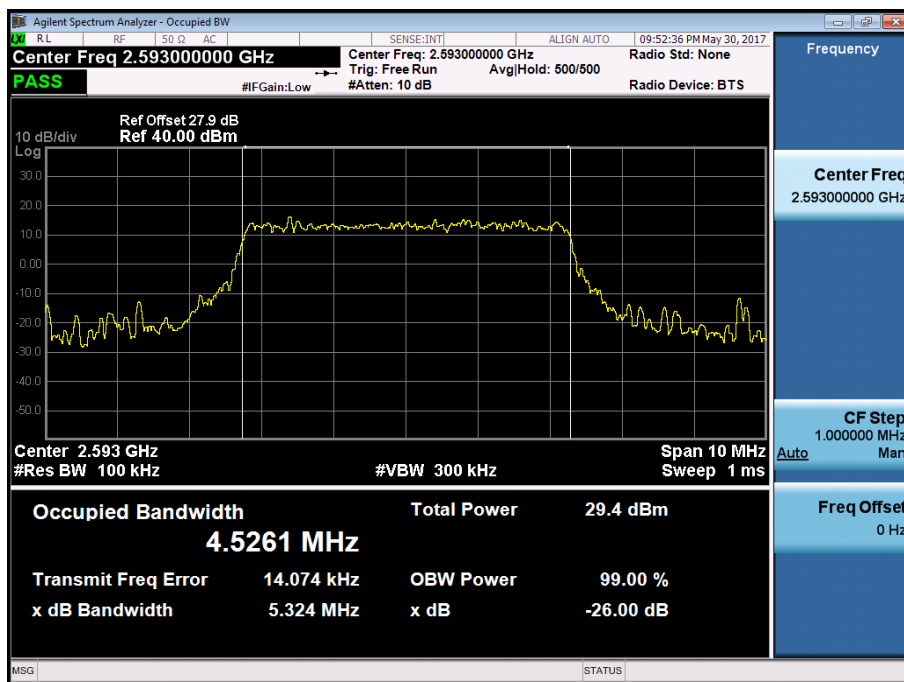
- OPERATING FREQUENCY: 2593.000,000 Hz
- CHANNEL: 40620 (20 MHz)
- REFERENCE VOLTAGE: 3.85 VDC
- DEVIATION LIMIT: Emission must remain in band

Voltage (%)	Power (VDC)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
100%	3.85	+20(Ref)	2592 999 977	0.0	0.000 000	0.000
100%		-30	2592 999 951	-26.7	-0.000 001	-0.010
100%		-20	2592 999 955	-22.2	-0.000 001	-0.009
100%		-10	2592 999 955	-21.9	-0.000 001	-0.008
100%		0	2592 999 953	-24.1	-0.000 001	-0.009
100%		+10	2592 999 954	-23.8	-0.000 001	-0.009
100%		+30	2592 999 956	-21.5	-0.000 001	-0.008
100%		+40	2592 999 958	-19.7	-0.000 001	-0.008
100%		+50	2592 999 953	-23.9	-0.000 001	-0.009
Batt. Endpoint	3.60	+20	2592 999 956	-21.5	-0.000 001	-0.008

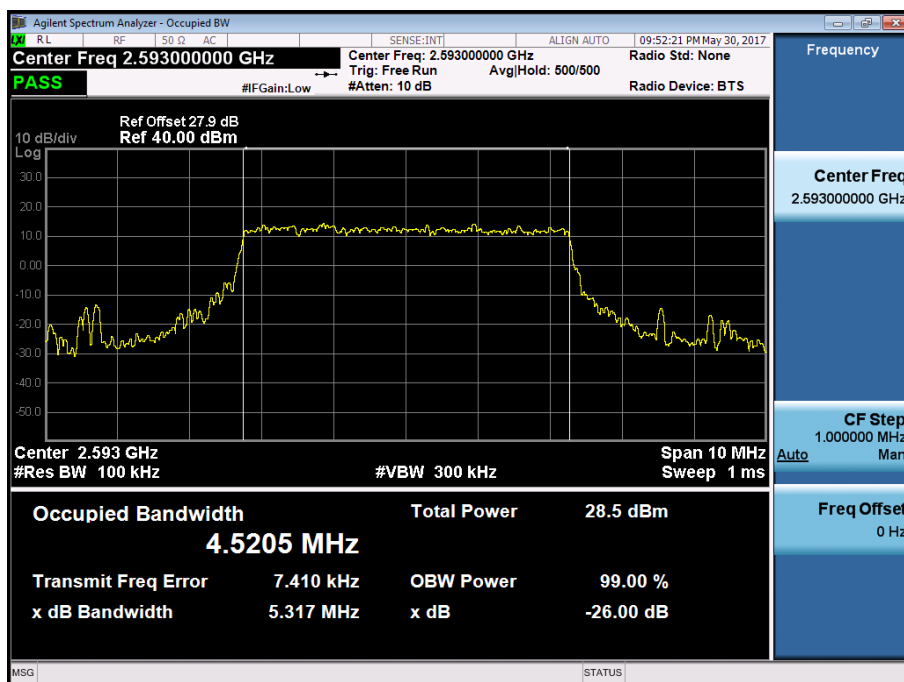


9. TEST PLOTS

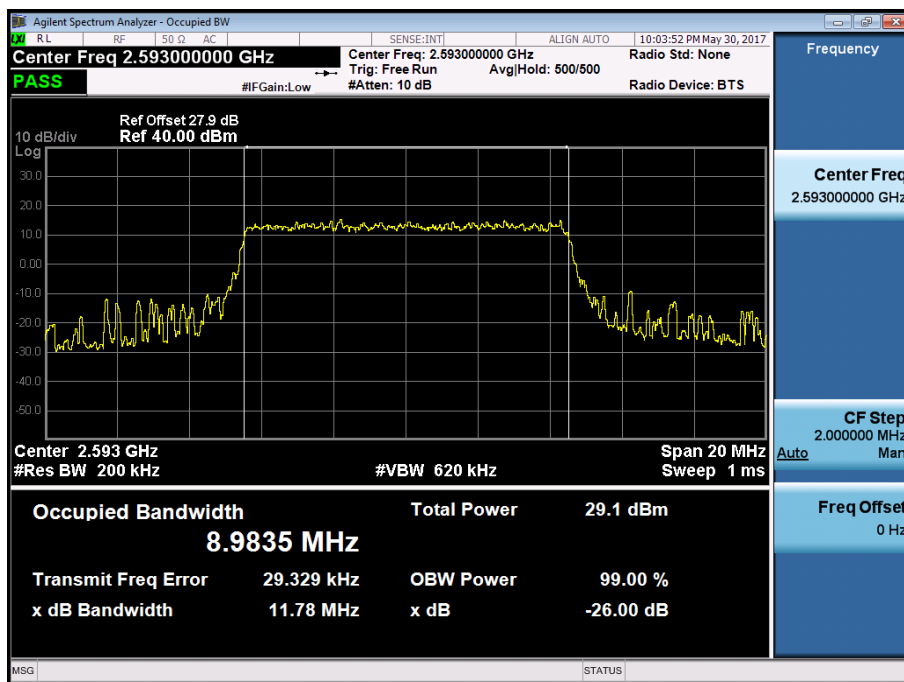
BAND 38/41. Occupied Bandwidth Plot (5 MHz Ch.40620 QPSK RB 25)



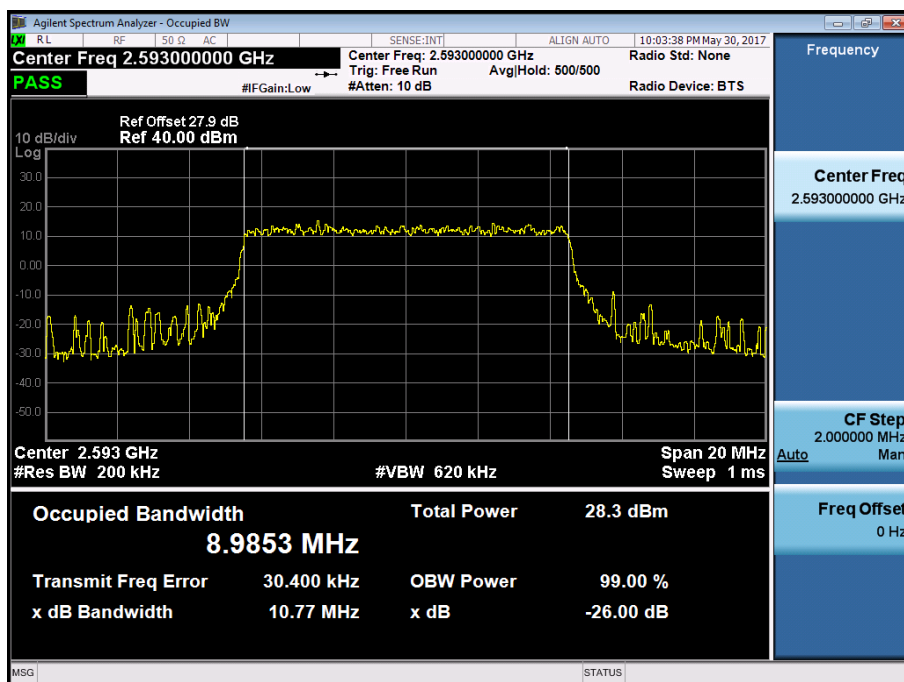
BAND 38/41. Occupied Bandwidth Plot (5 MHz Ch.40620 16-QAM RB 25)



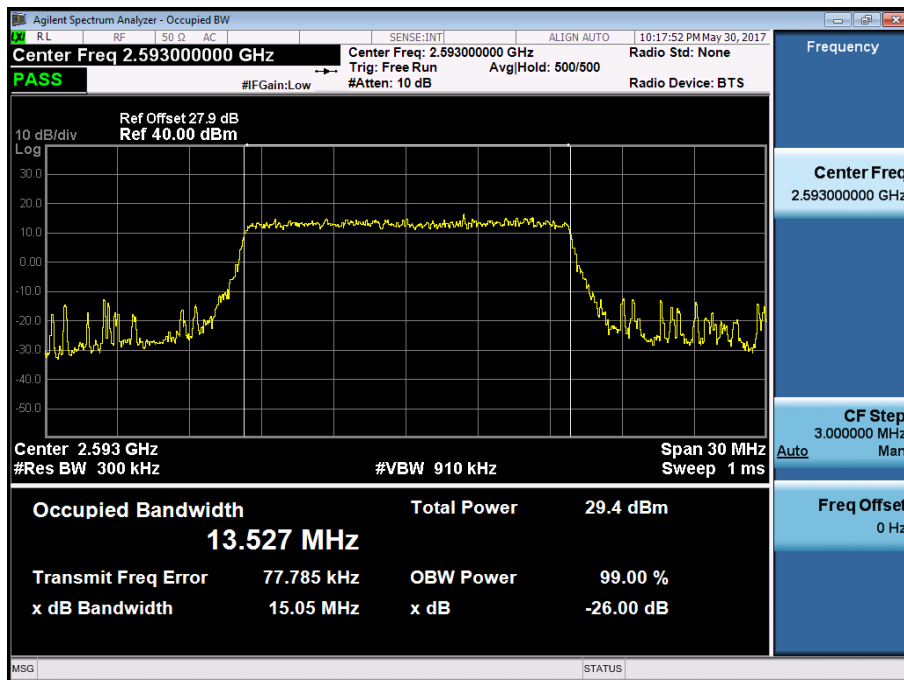
BAND 38/41. Occupied Bandwidth Plot (10 MHz Ch.40620 QPSK RB 50)



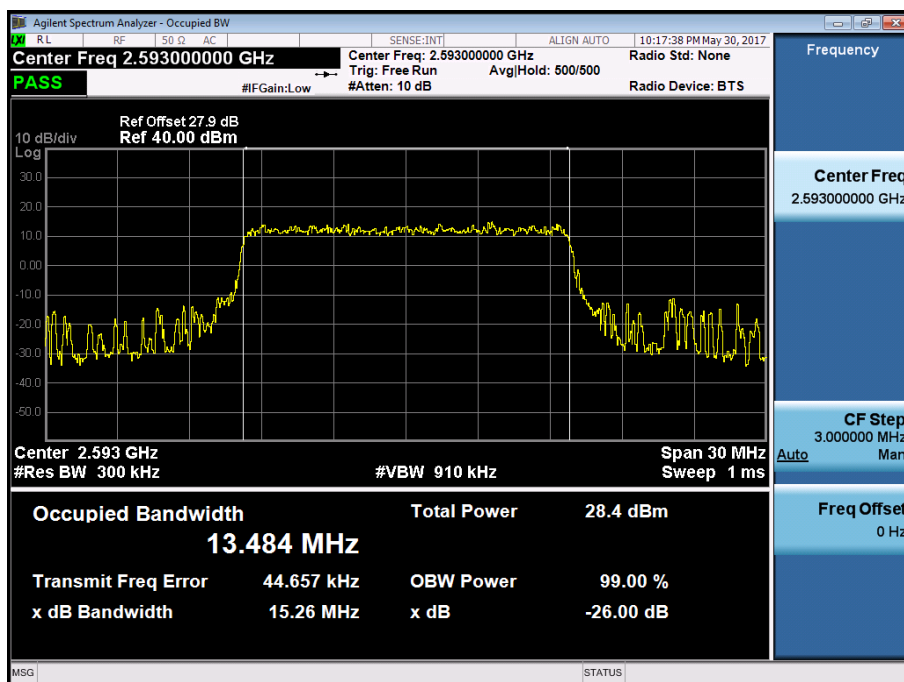
BAND 38/41. Occupied Bandwidth Plot (10 MHz Ch.40620 16-QAM RB 50)



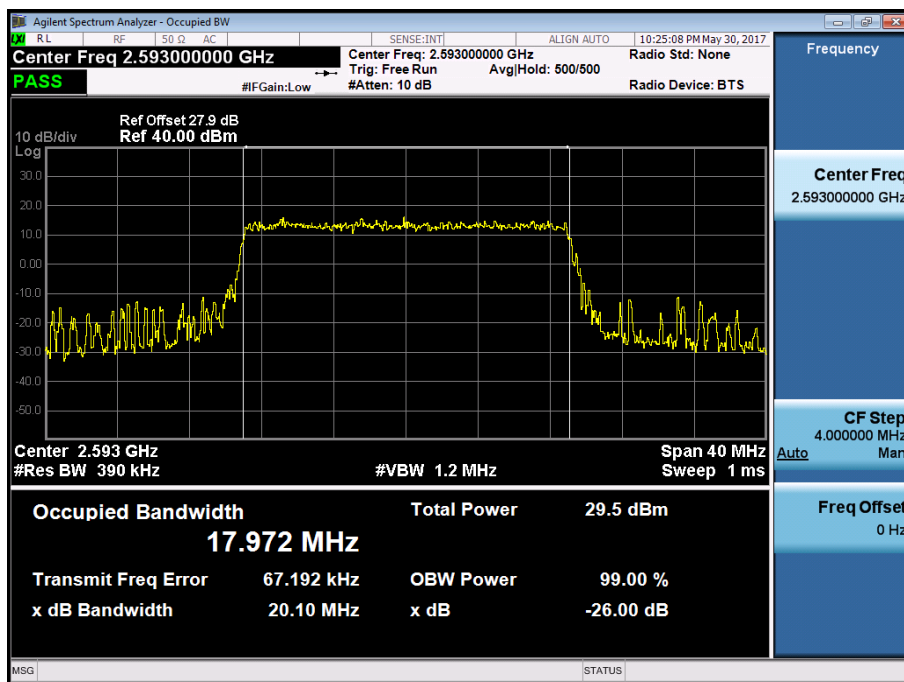
BAND 38/41. Occupied Bandwidth Plot (15 MHz Ch.40620 QPSK RB 75)



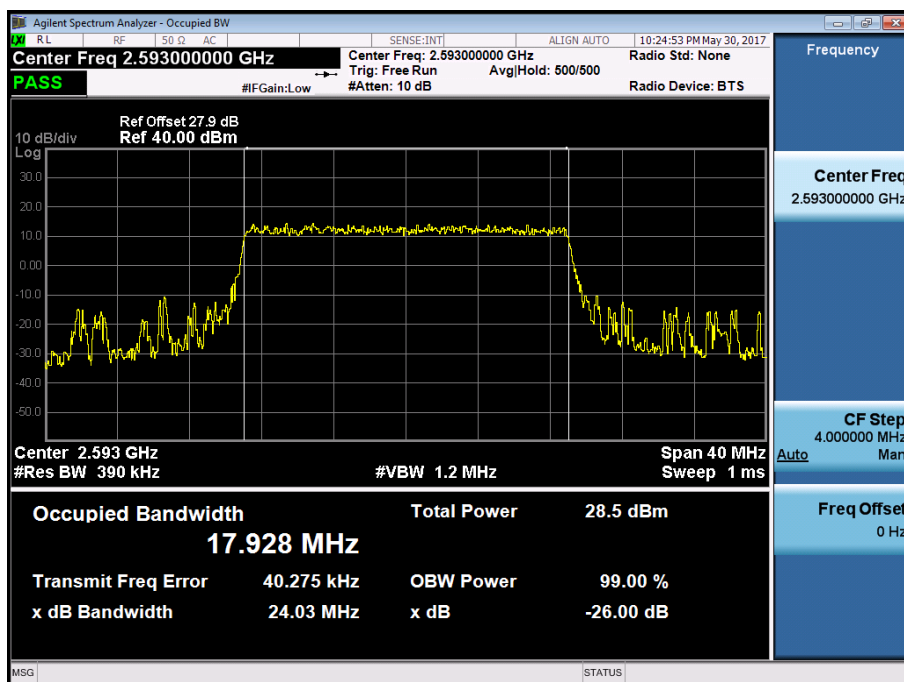
BAND 38/41. Occupied Bandwidth Plot (15 MHz Ch.40620 16-QAM RB 75)



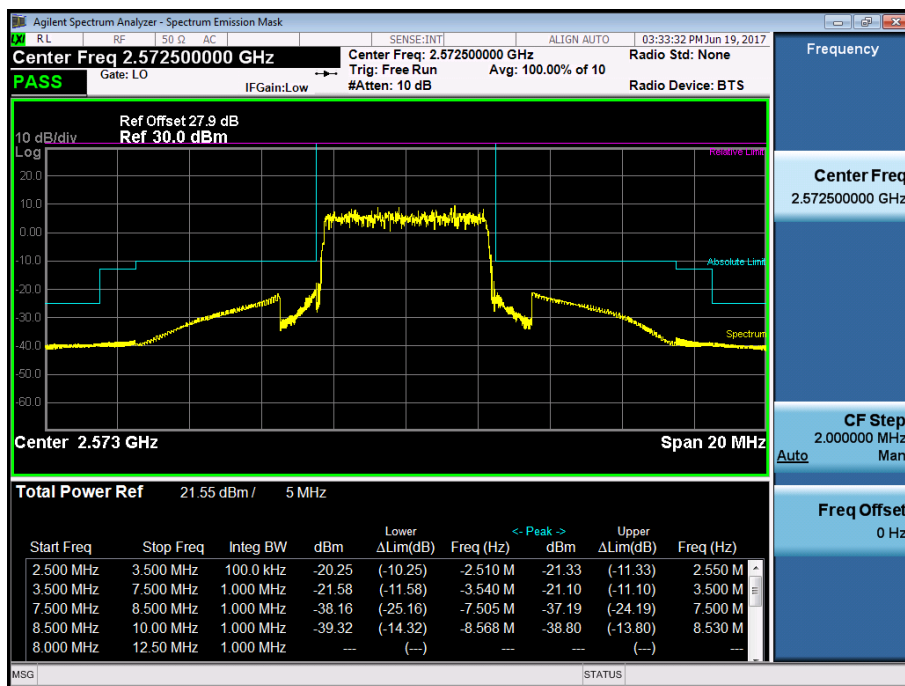
BAND 38/41. Occupied Bandwidth Plot (20 MHz Ch.40620 QPSK RB 100)



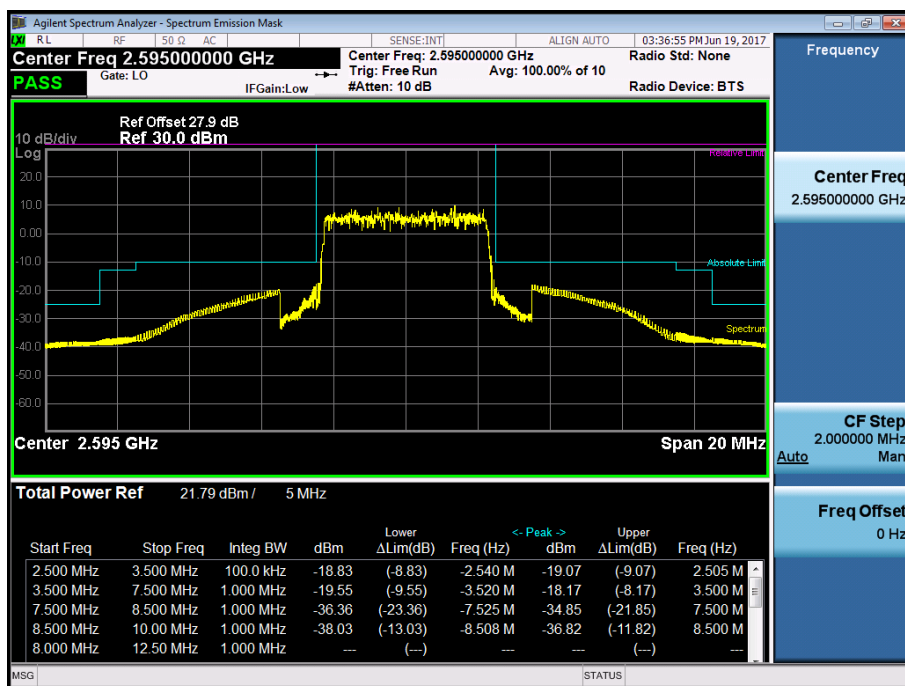
BAND 38/41. Occupied Bandwidth Plot (20 MHz Ch.40620 16-QAM RB 100)



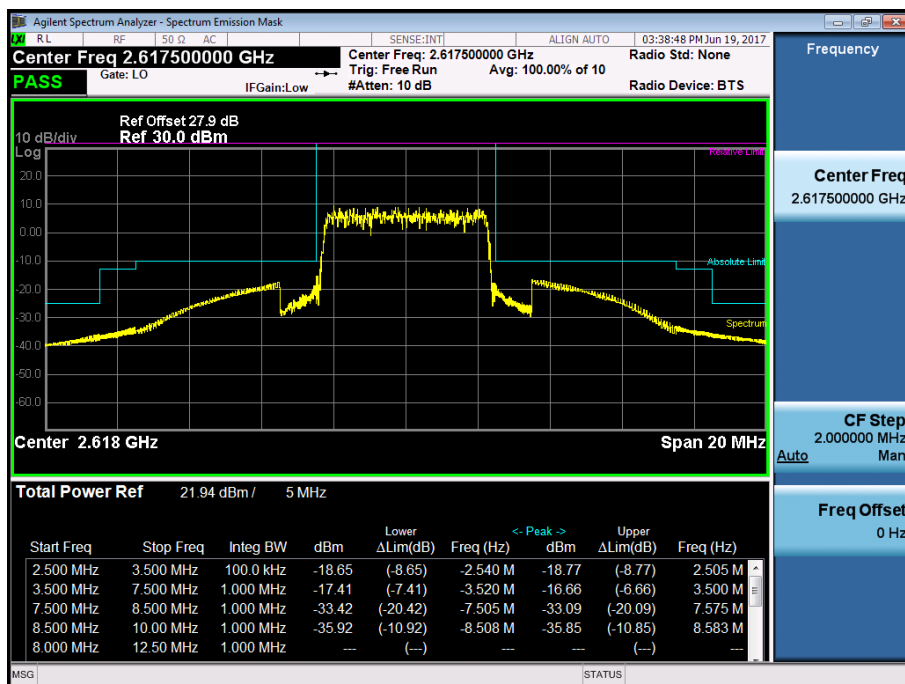
BAND 38. Low Channel Edge Plot (5 MHz Ch.40265 QPSK RB 25)



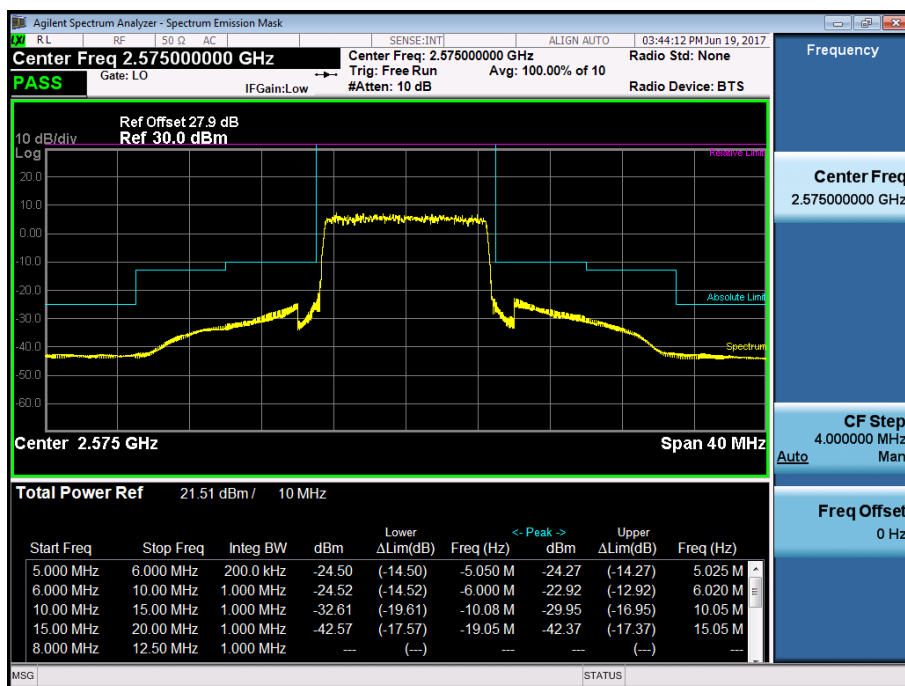
BAND 38. Mid Channel Edge Plot (5 MHz Ch.40740 QPSK RB 25)



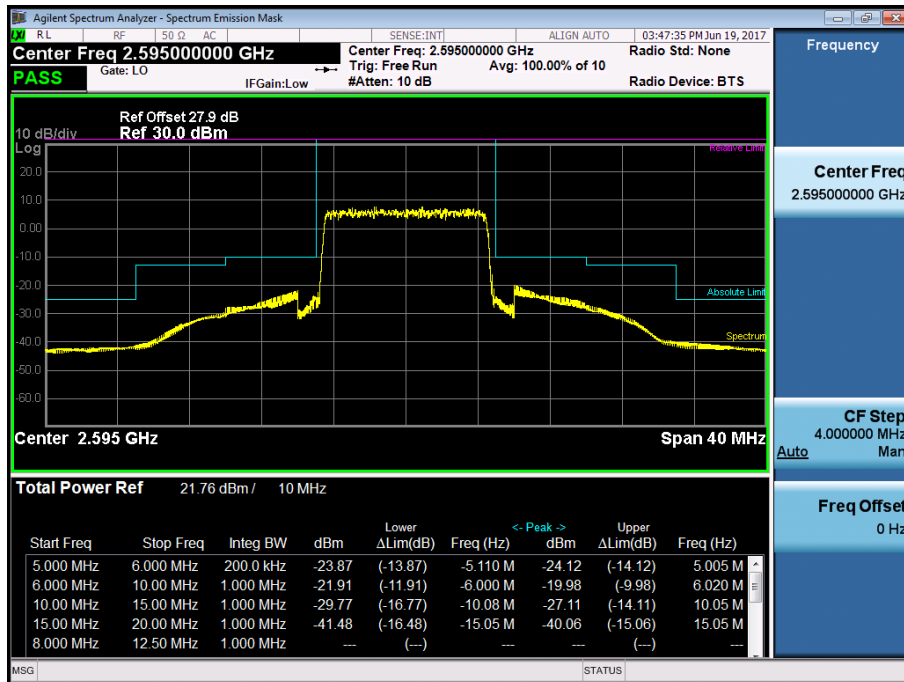
BAND 38. High Channel Edge Plot (5 MHz Ch.41215 QPSK RB 25)



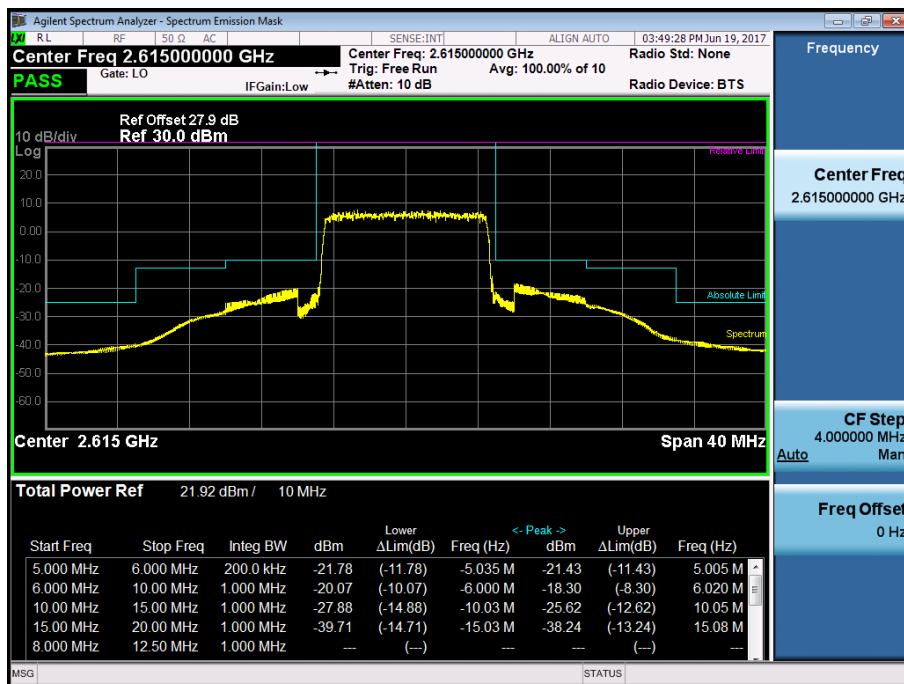
BAND 38. Low Channel Edge Plot (10 MHz Ch.40290 QPSK RB 50)



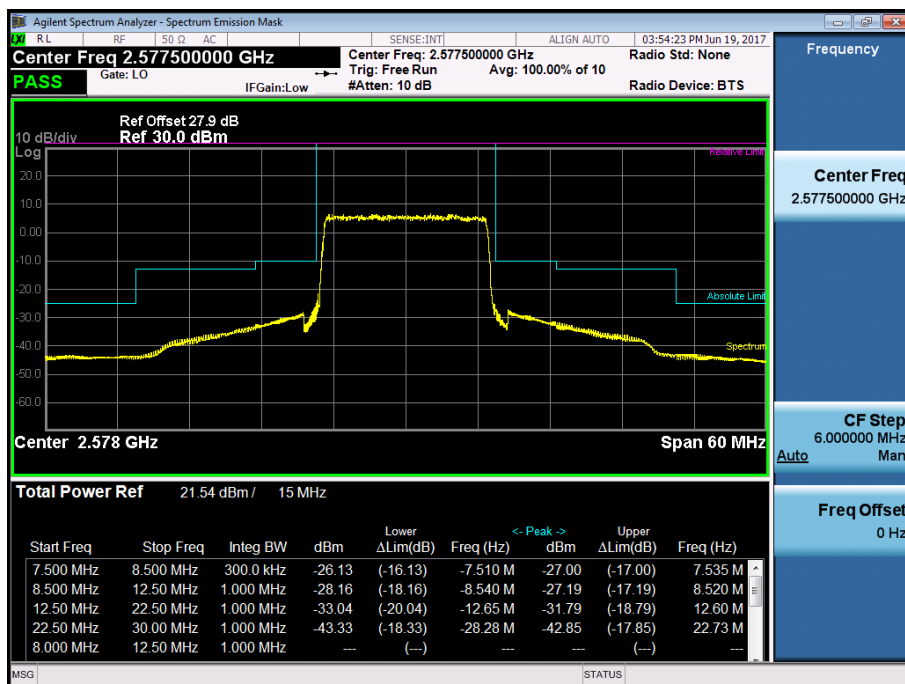
BAND 38. Mid Channel Edge Plot (10 MHz Ch.40740 QPSK RB 50)



BAND 38. High Channel Edge Plot (10 MHz Ch.41190 QPSK RB 50)



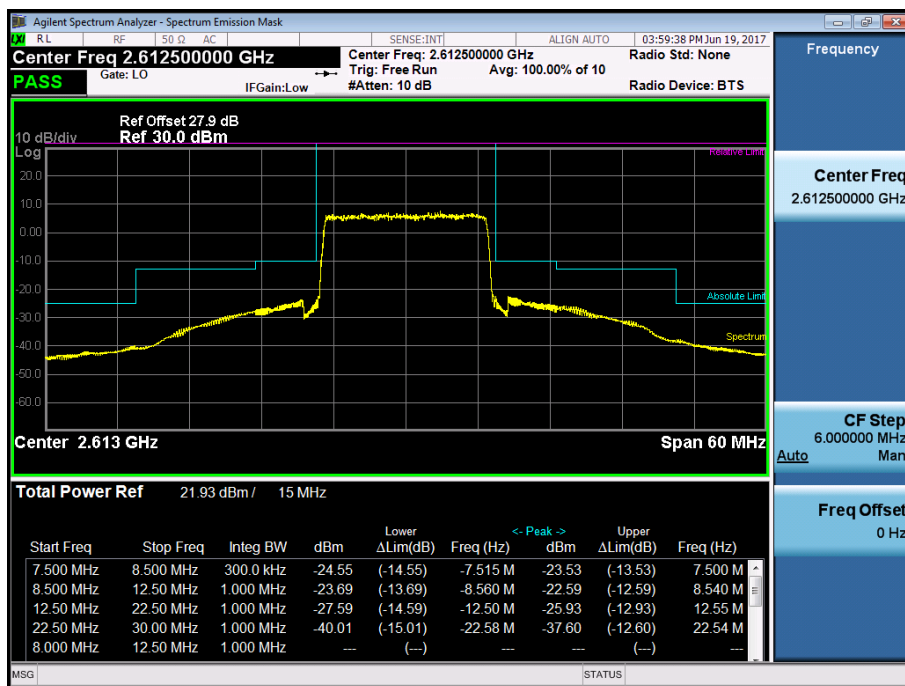
BAND 38. Low Channel Edge Plot (15 MHz Ch.40315 QPSK RB 75)



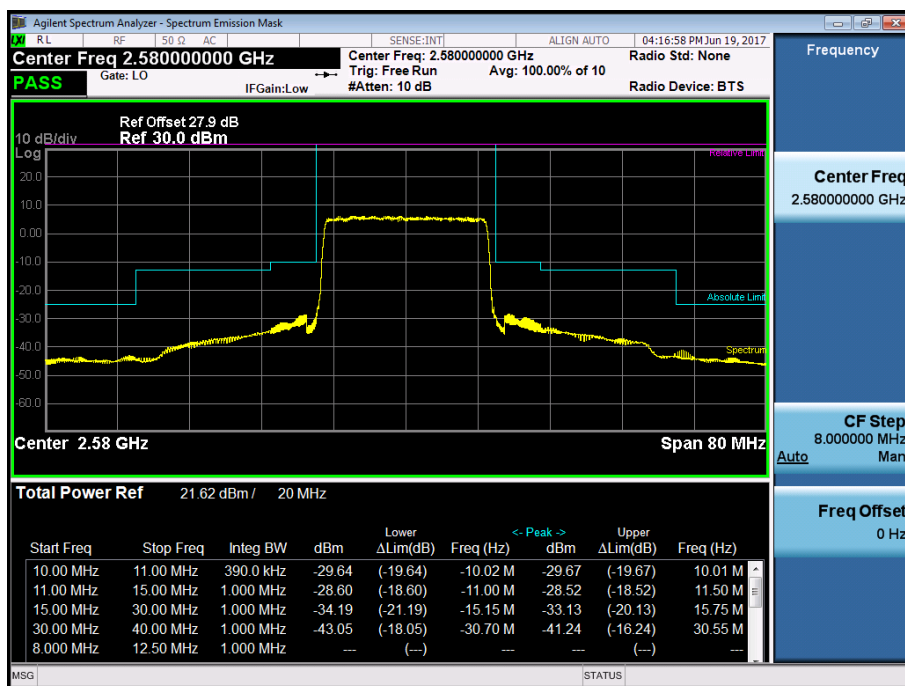
BAND 38. Mid Channel Edge Plot (15 MHz Ch.40620 QPSK RB 75)



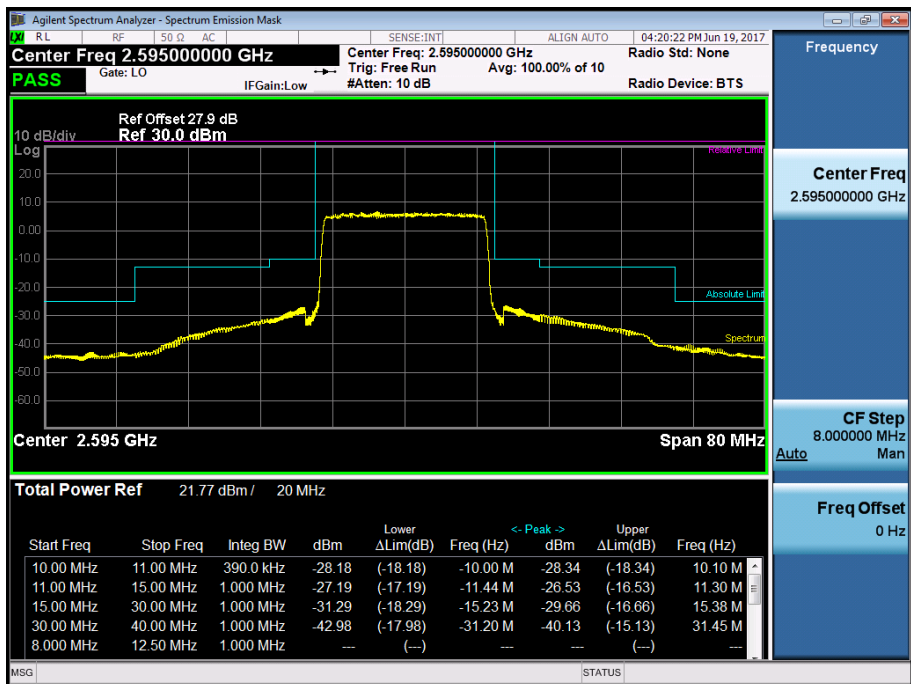
BAND 38. High Channel Edge Plot (15 MHz Ch.41165 QPSK RB 75)



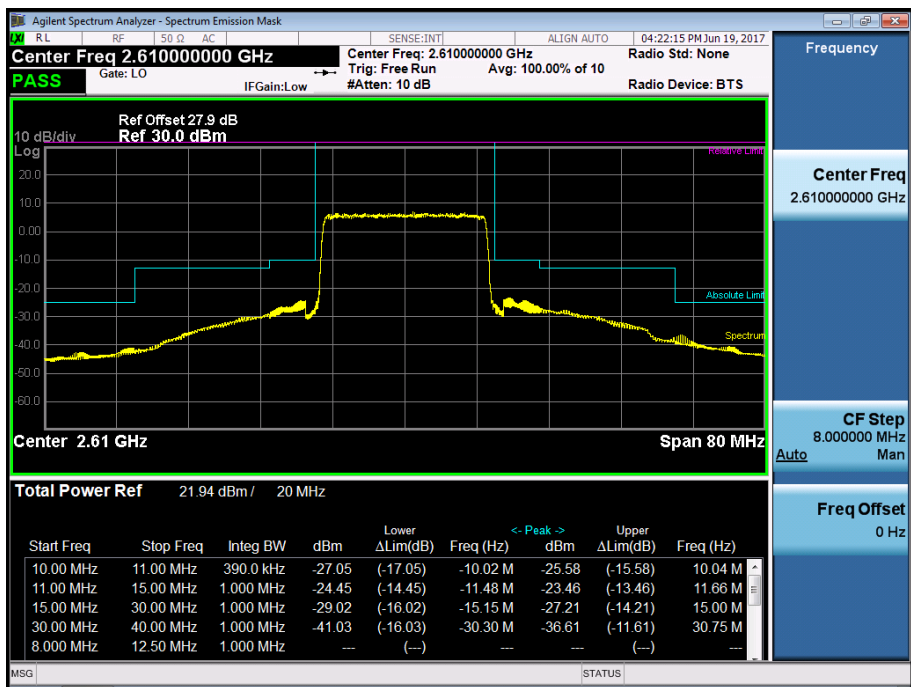
BAND 38. Low Channel Edge Plot (20 MHz Ch.40340 QPSK RB 100)



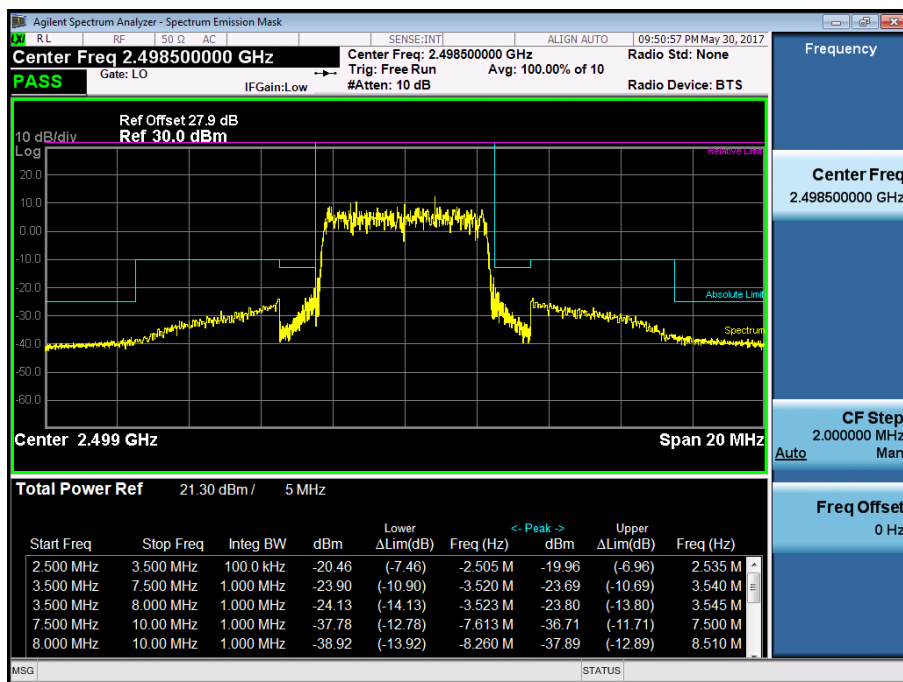
BAND 38. Mid Channel Edge Plot (20 MHz Ch.40740 QPSK RB 100)



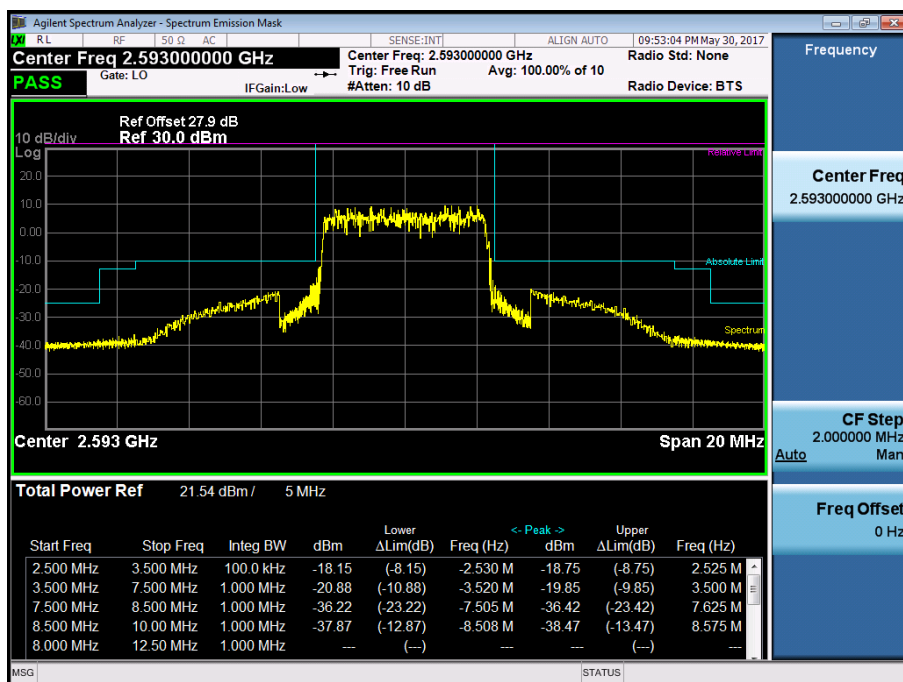
BAND 38. High Channel Edge Plot (20 MHz Ch.41140 QPSK RB 100)



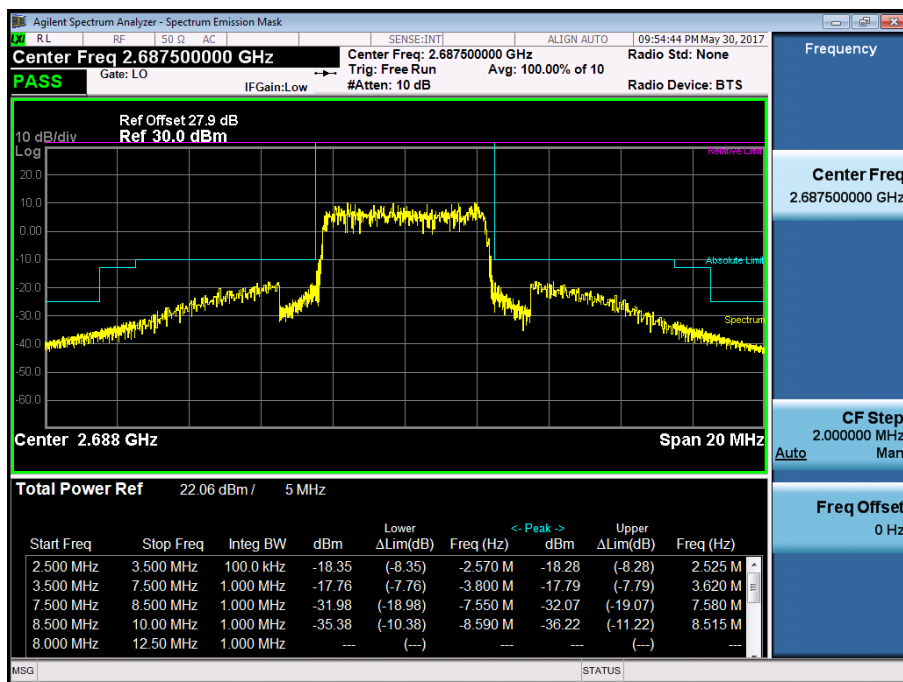
BAND 41. Low Channel Edge Plot (5 MHz Ch.39675 QPSK RB 25)



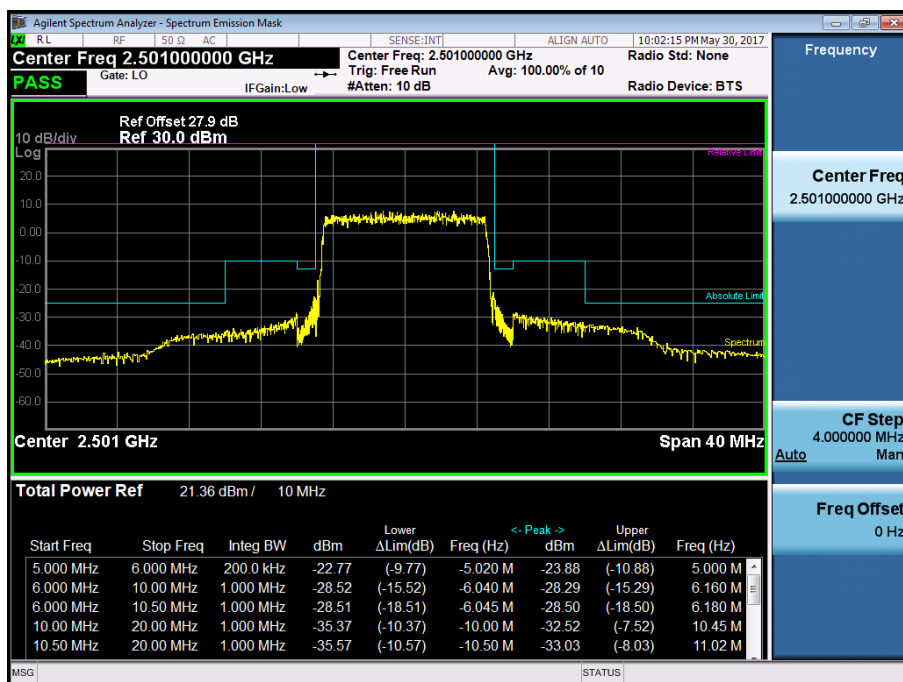
BAND 41. Mid Channel Edge Plot (5 MHz Ch.40620 QPSK RB 25)



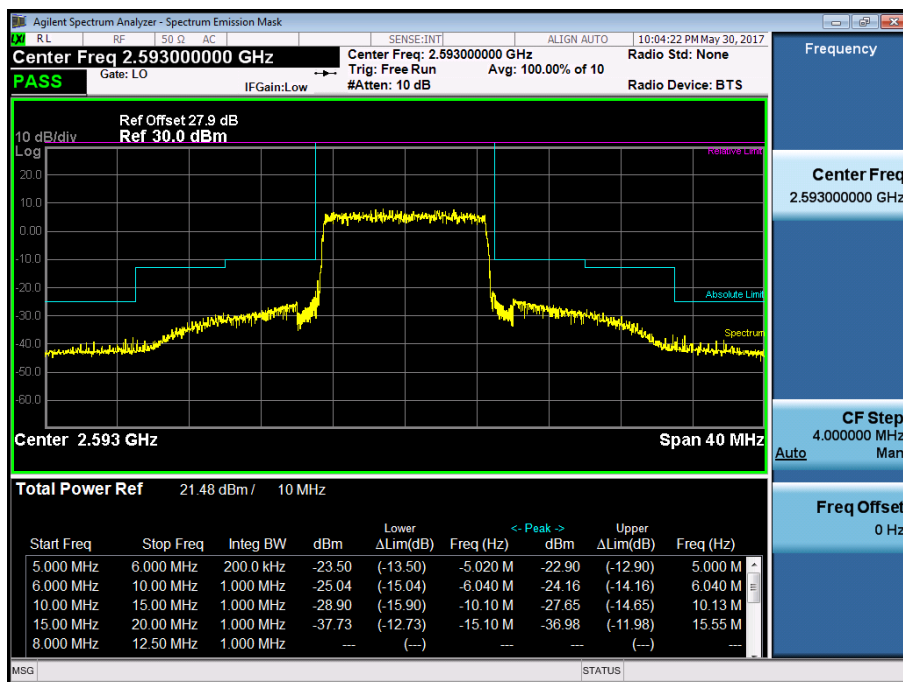
BAND 41. High Channel Edge Plot (5 MHz Ch.41565 QPSK RB 25)



BAND 41. Low Channel Edge Plot (10 MHz Ch.39700 QPSK RB 50)



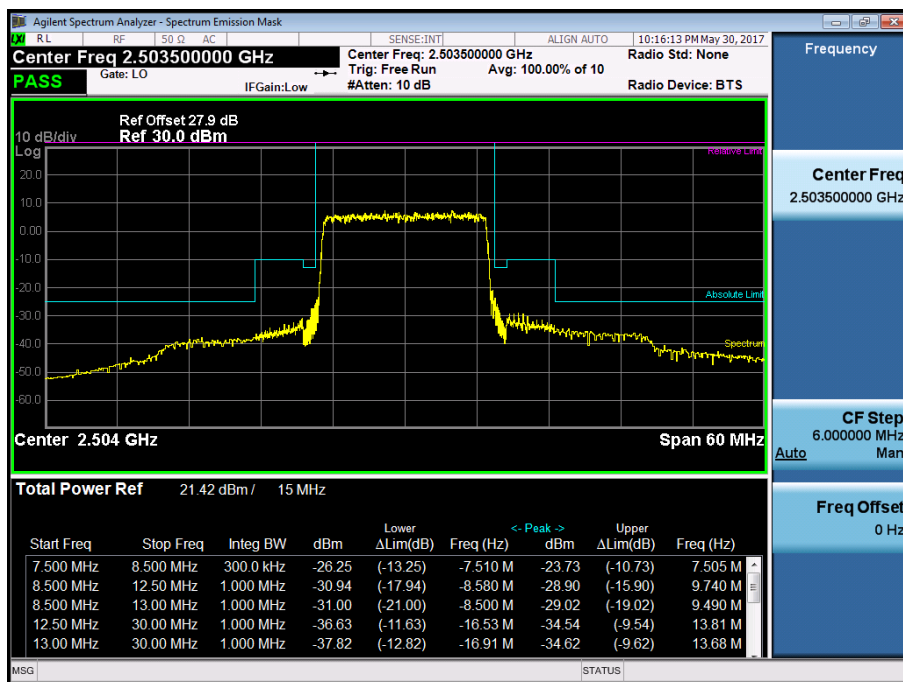
BAND 41. Mid Channel Edge Plot (10 MHz Ch.40620 QPSK RB 50)



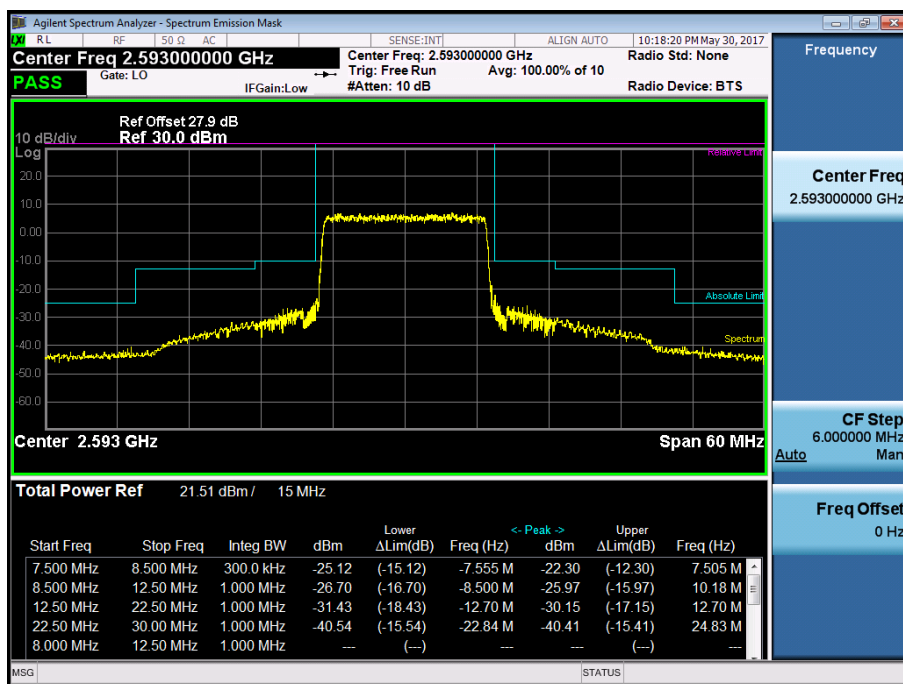
BAND 41. High Channel Edge Plot (10 MHz Ch.41540 QPSK RB 50)



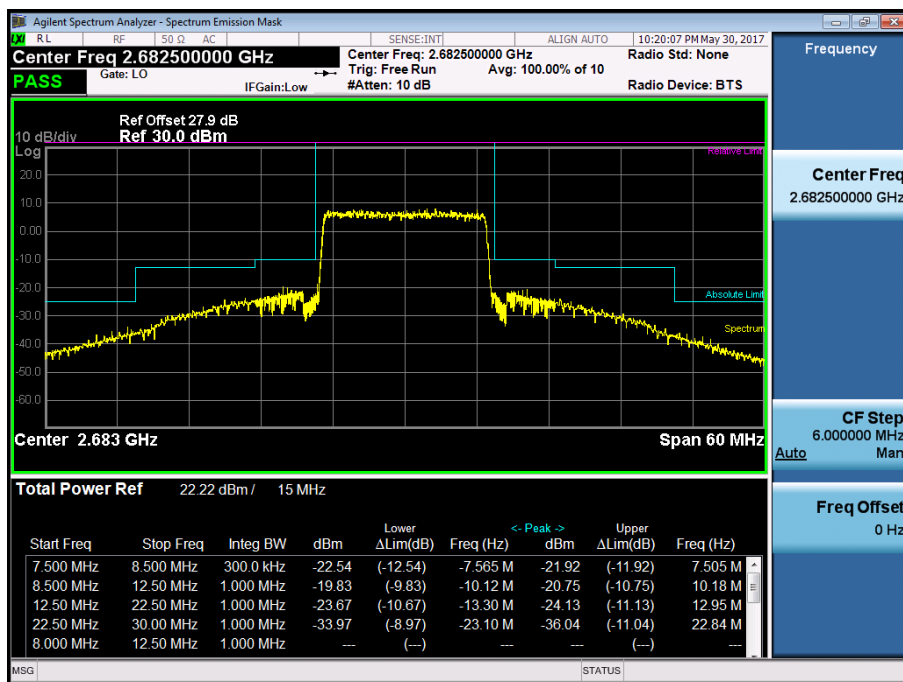
BAND 41. Low Channel Edge Plot (15 MHz Ch.39725 QPSK RB 75)



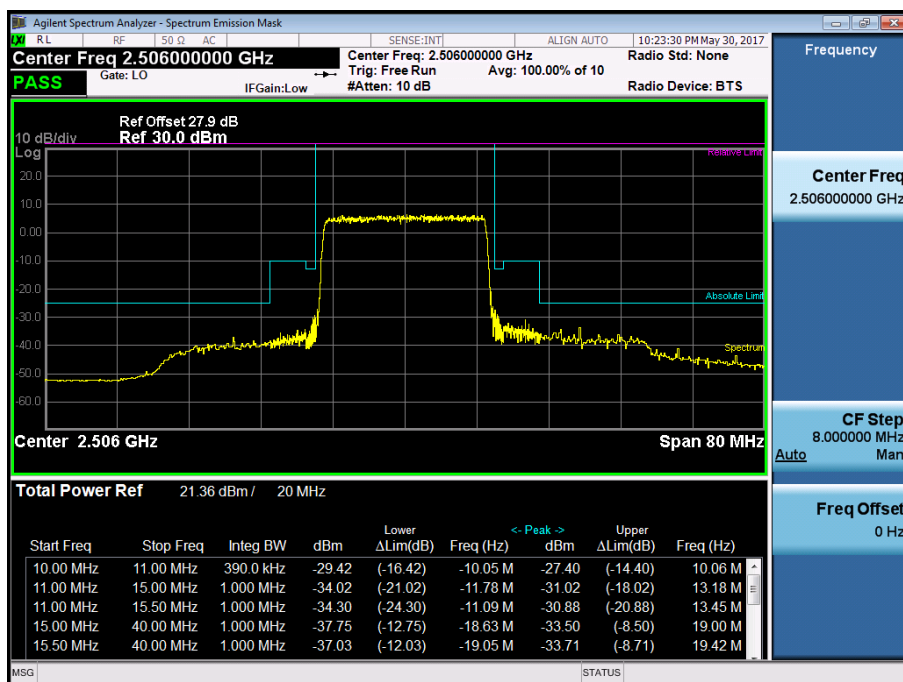
BAND 41. Mid Channel Edge Plot (15 MHz Ch.40620 QPSK RB 75)



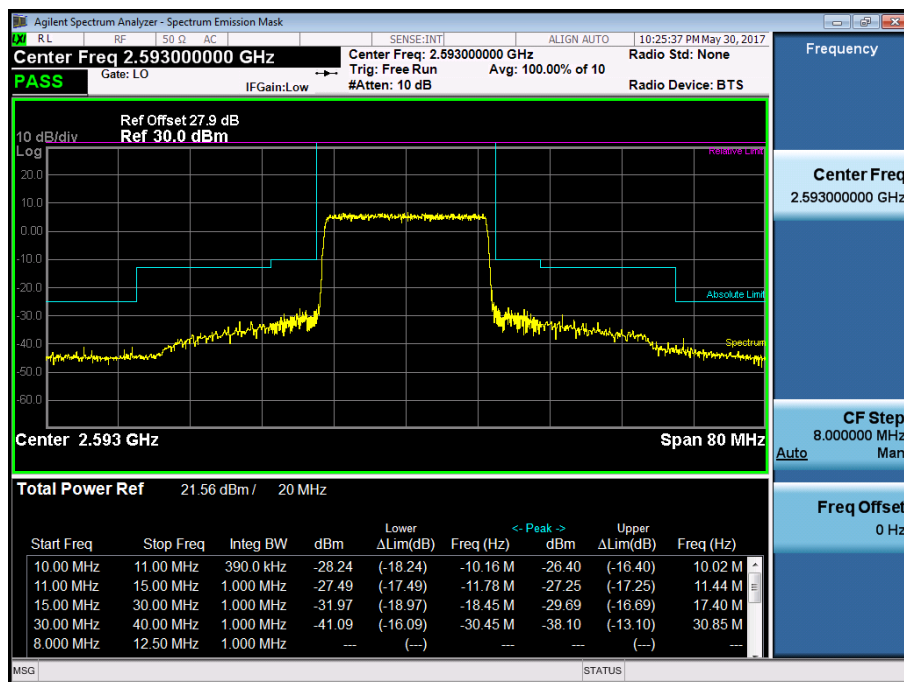
BAND 41. High Channel Edge Plot (15 MHz Ch.41515 QPSK RB 75)



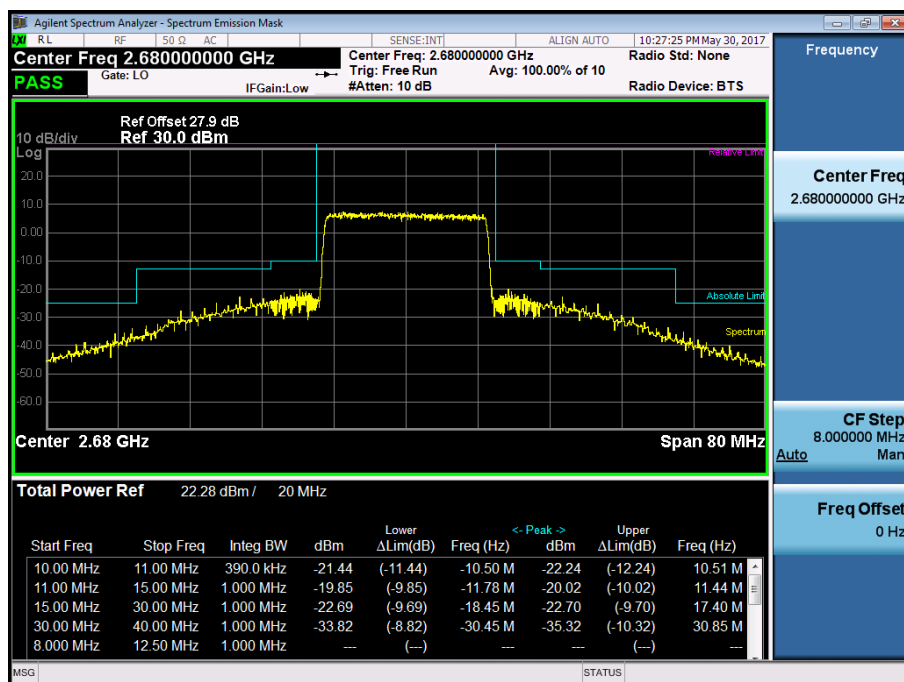
BAND 41. Low Channel Edge Plot (20 MHz Ch.39750 QPSK RB 100)



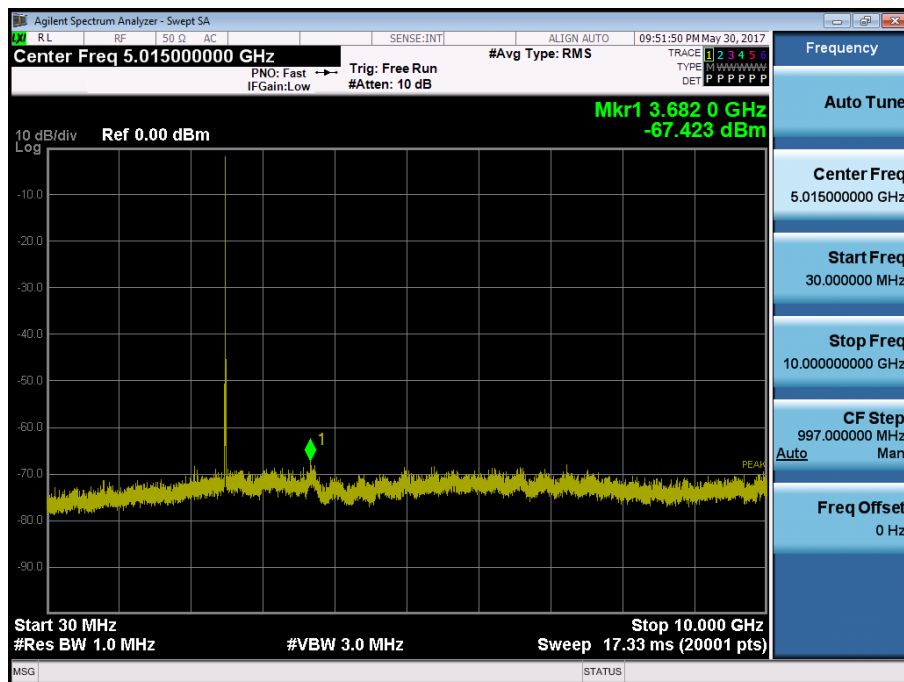
BAND 41. Mid Channel Edge Plot (20 MHz Ch.40620 QPSK RB 100)



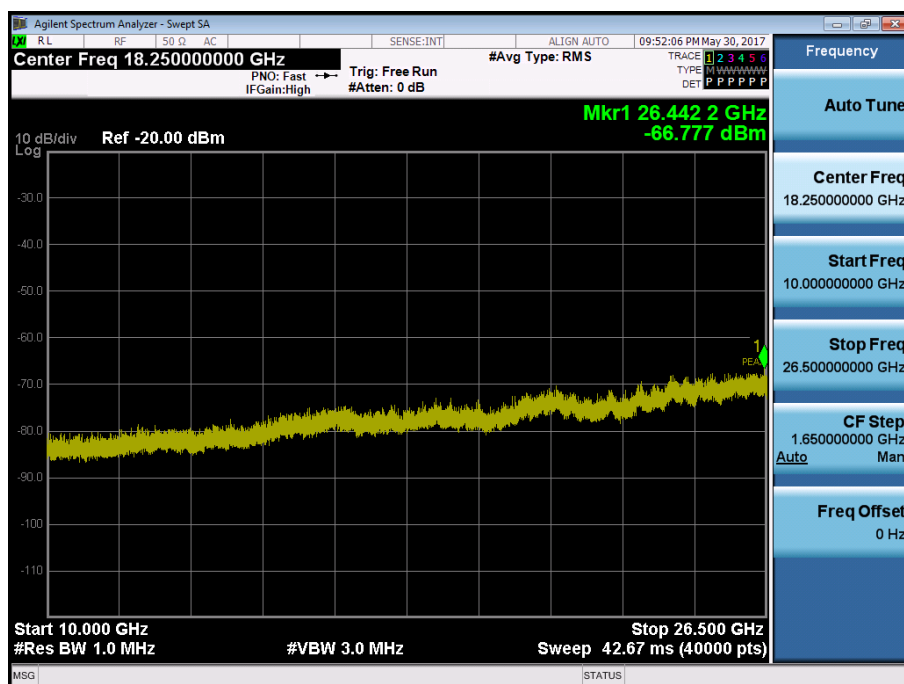
BAND 41. High Channel Edge Plot (20 MHz Ch.41490 QPSK RB 100)



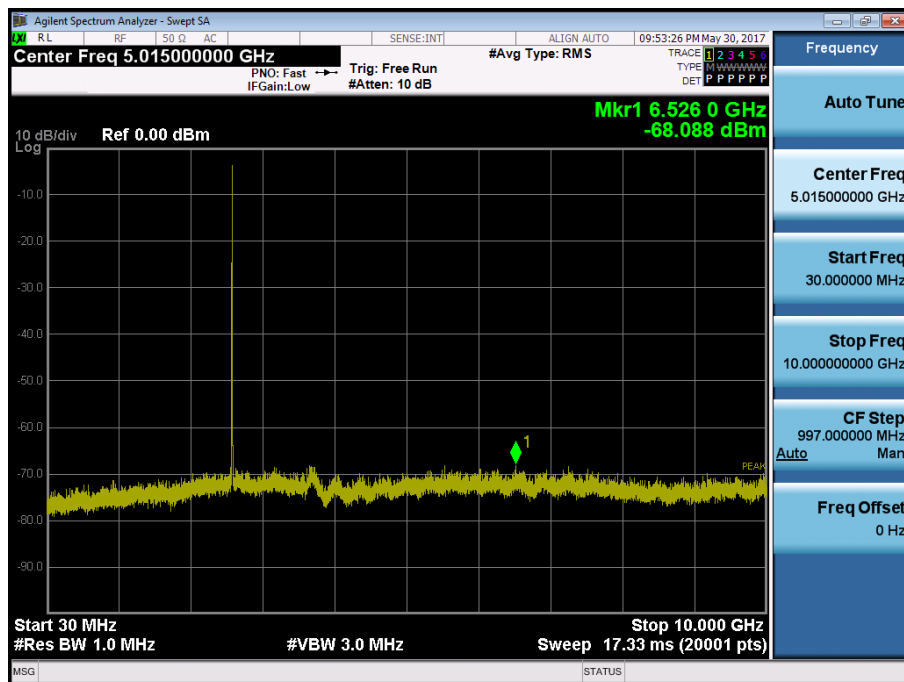
BAND 38/41. Conducted Spurious Plot 1 (5 MHz Ch.39675 QPSK RB 1, Offset 0)



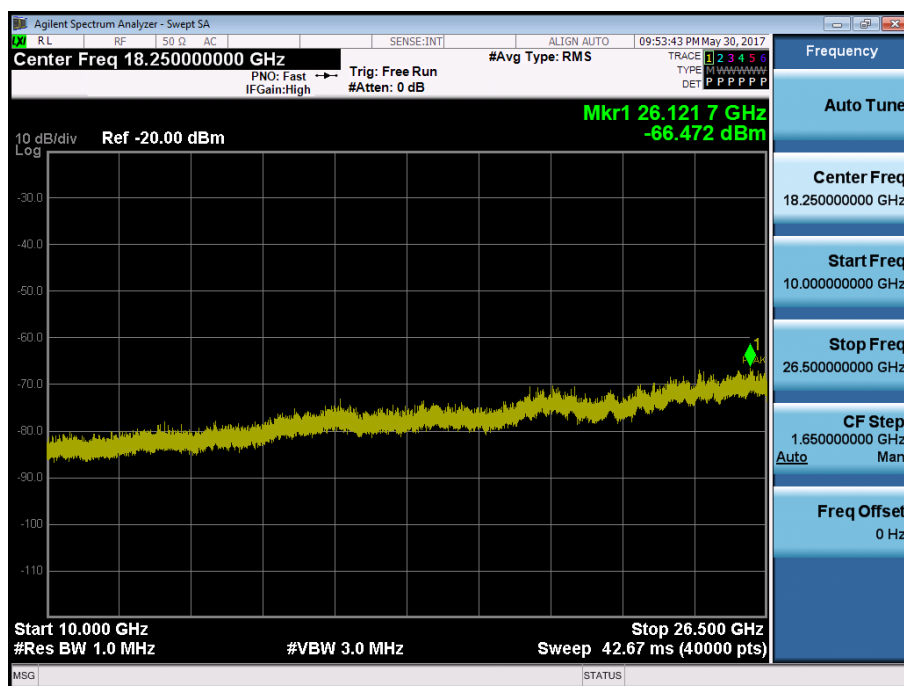
BAND 38/41. Conducted Spurious Plot 2 (5 MHz Ch. 39675 QPSK RB 1, Offset 0)



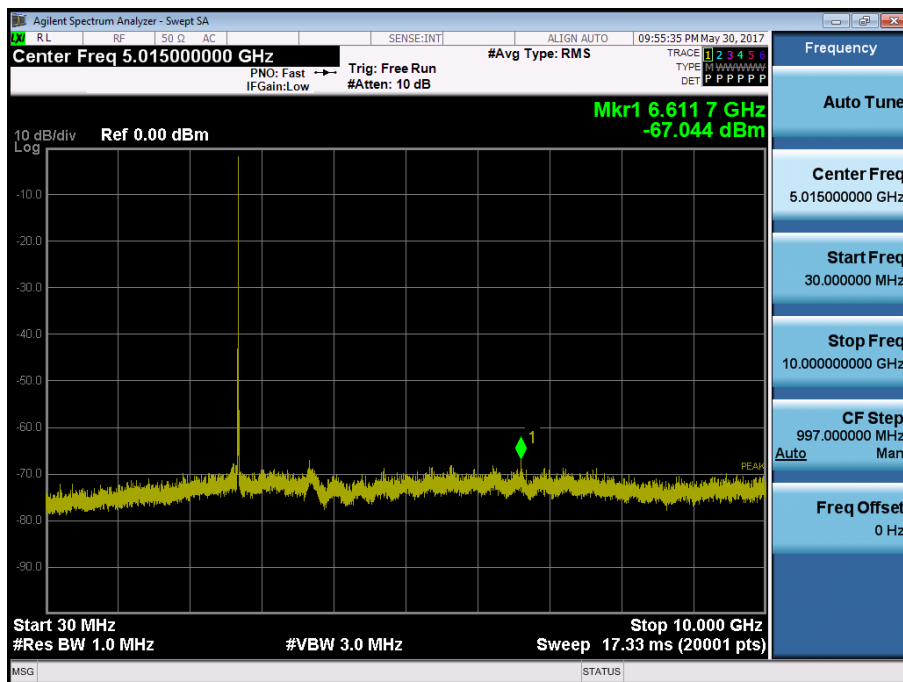
BAND 38/41. Conducted Spurious Plot 1 (5 MHz Ch.40620 QPSK RB 1, Offset 0)



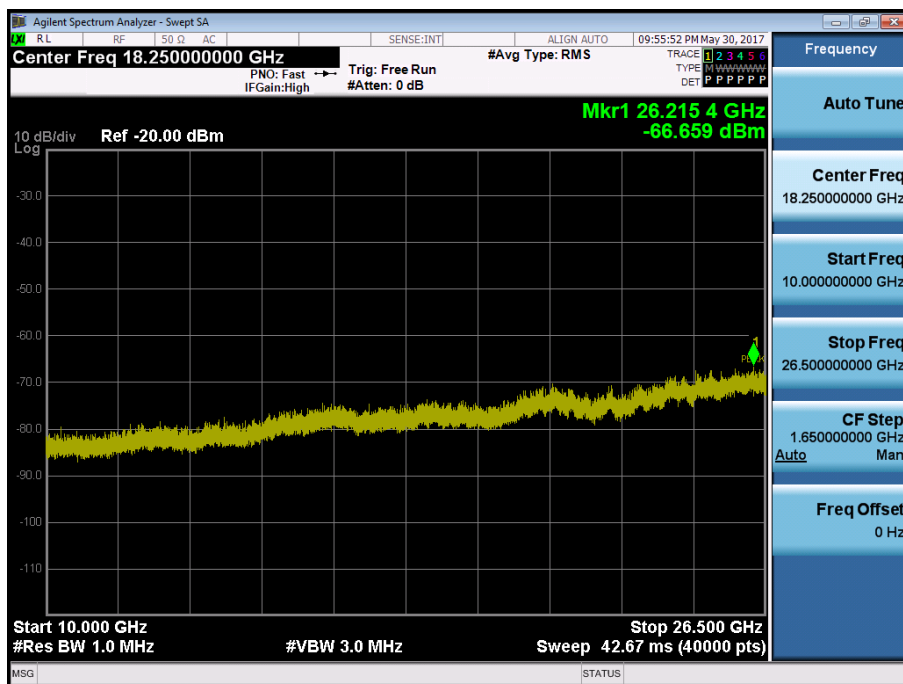
BAND 38/41. Conducted Spurious Plot 2 (5 MHz Ch. 40620 QPSK RB 1, Offset 0)



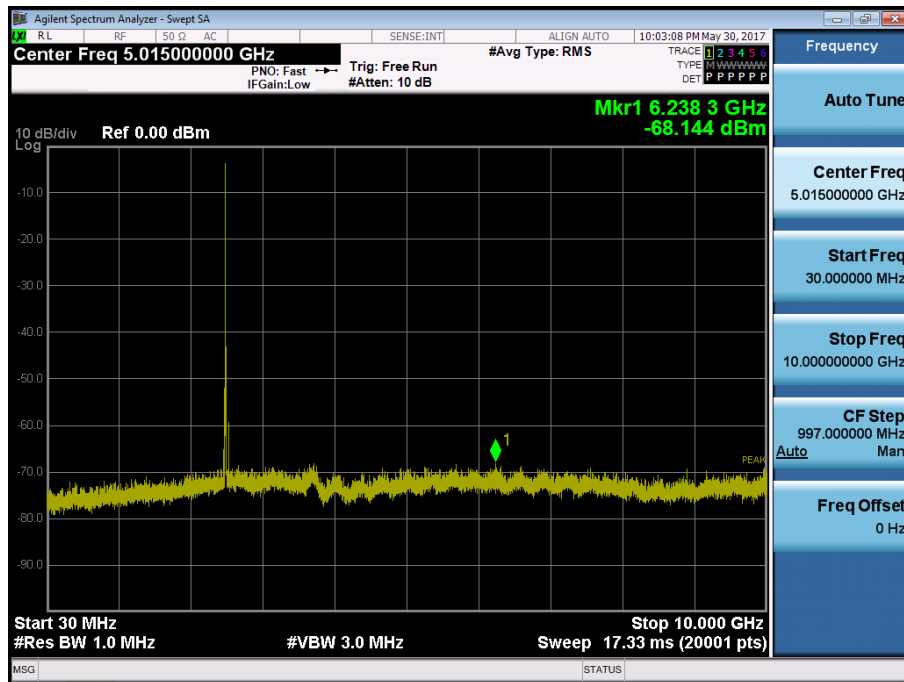
BAND 38/41. Conducted Spurious Plot 1 (5 MHz Ch.41565 QPSK RB 1, Offset 0)



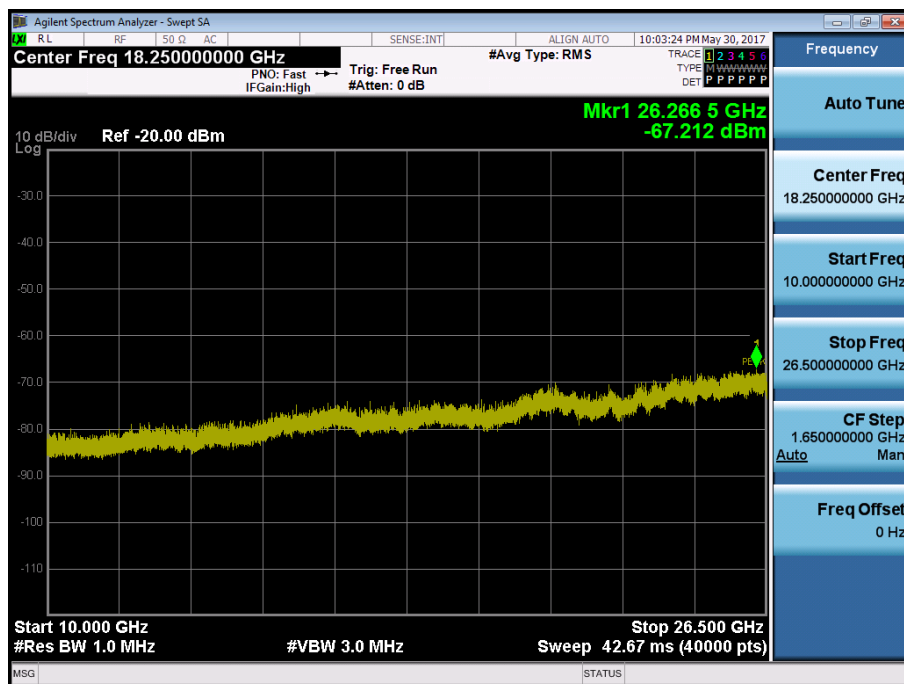
BAND 38/41. Conducted Spurious Plot 2 (5 MHz Ch. 41565 QPSK RB 1, Offset 0)



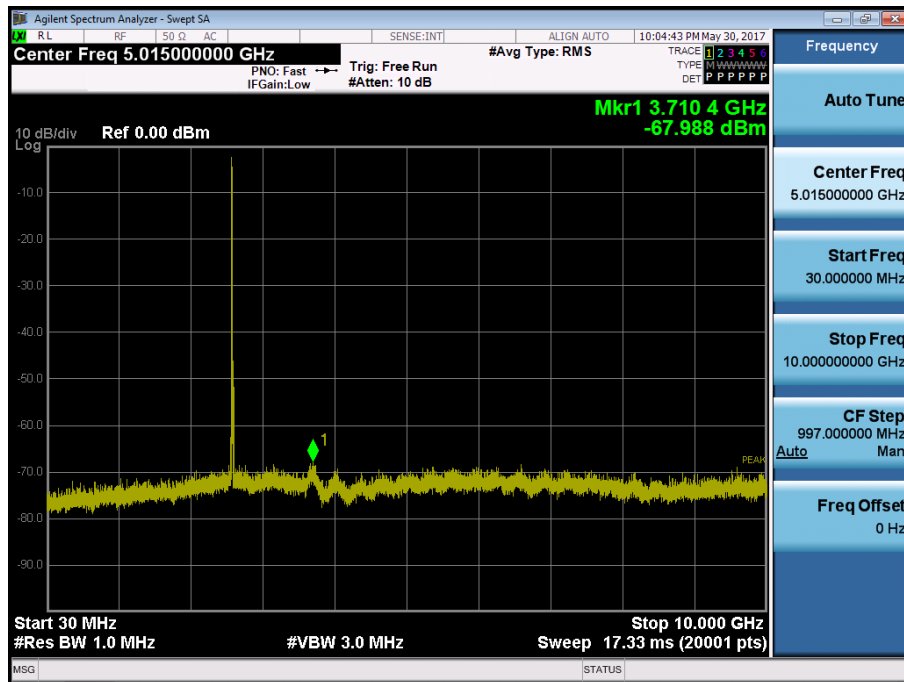
BAND 38/41. Conducted Spurious Plot 1 (10 MHz Ch.39700 QPSK RB 1, Offset 0)



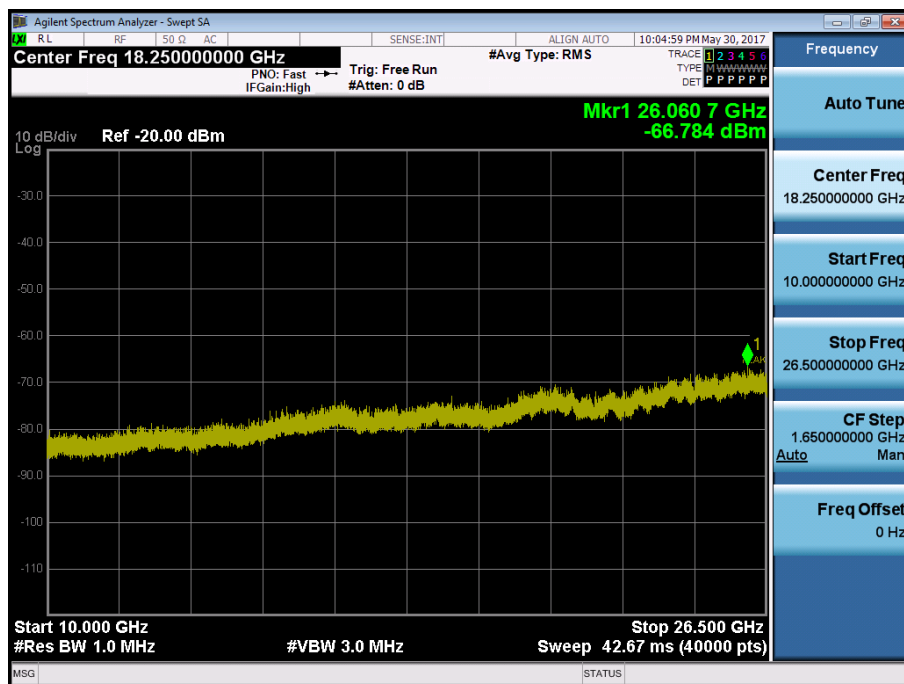
BAND 38/41. Conducted Spurious Plot 2 (10 MHz Ch. 39700 QPSK RB 1, Offset 0)



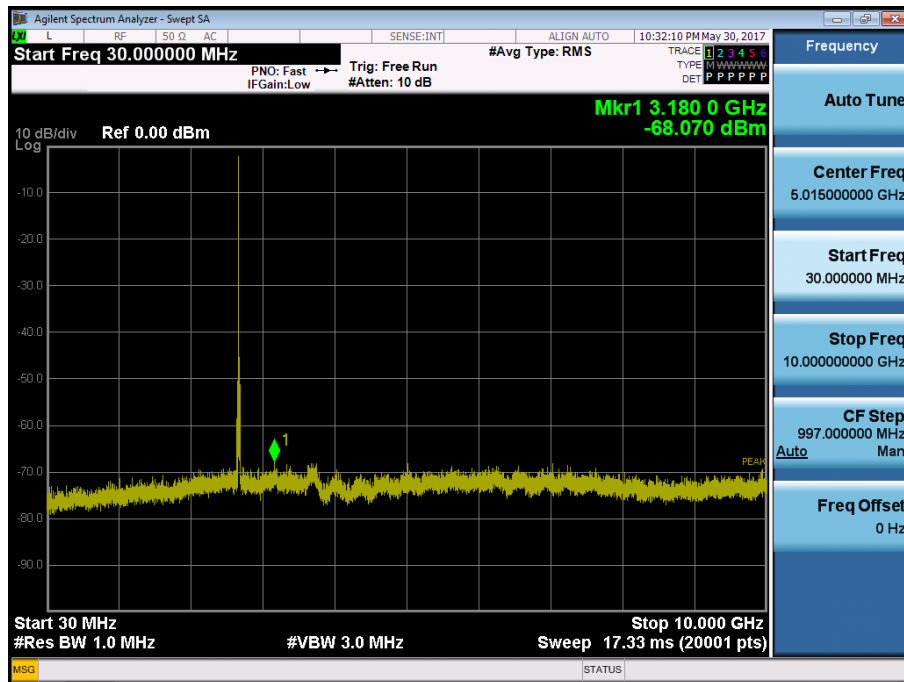
BAND 38/41. Conducted Spurious Plot 1 (10 MHz Ch.40620 QPSK RB 1, Offset 0)



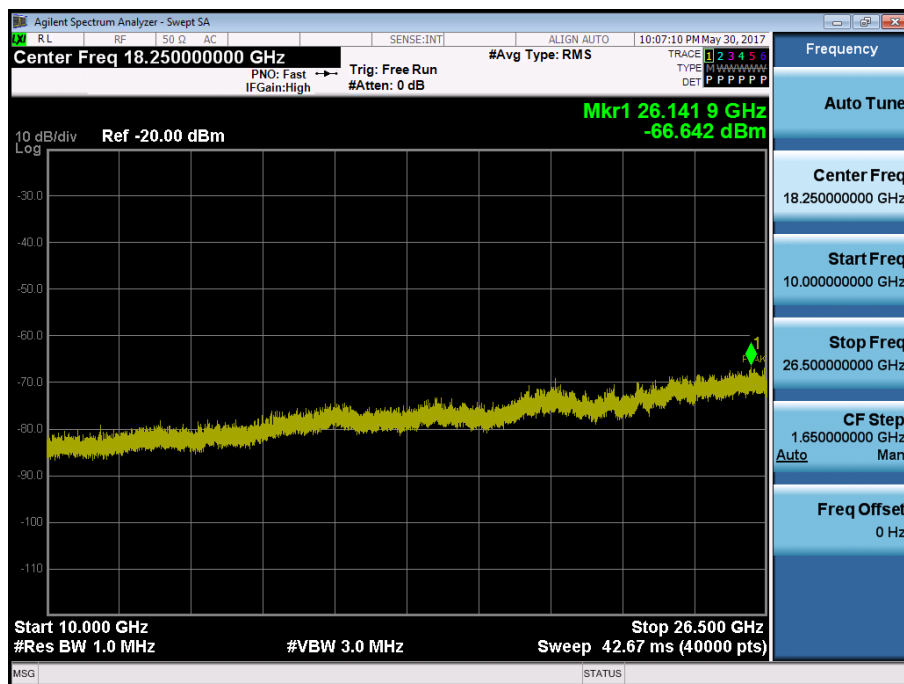
BAND 38/41. Conducted Spurious Plot 2 (10 MHz Ch. 40620 QPSK RB 1, Offset 0)



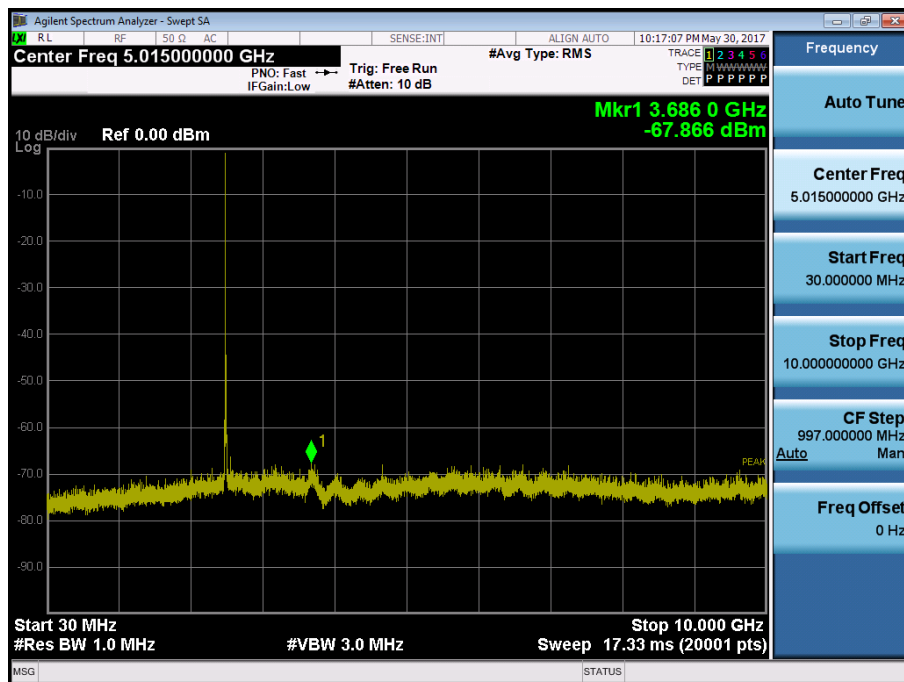
BAND 38/41. Conducted Spurious Plot 1 (10 MHz Ch.41540 QPSK RB 1, Offset 0)



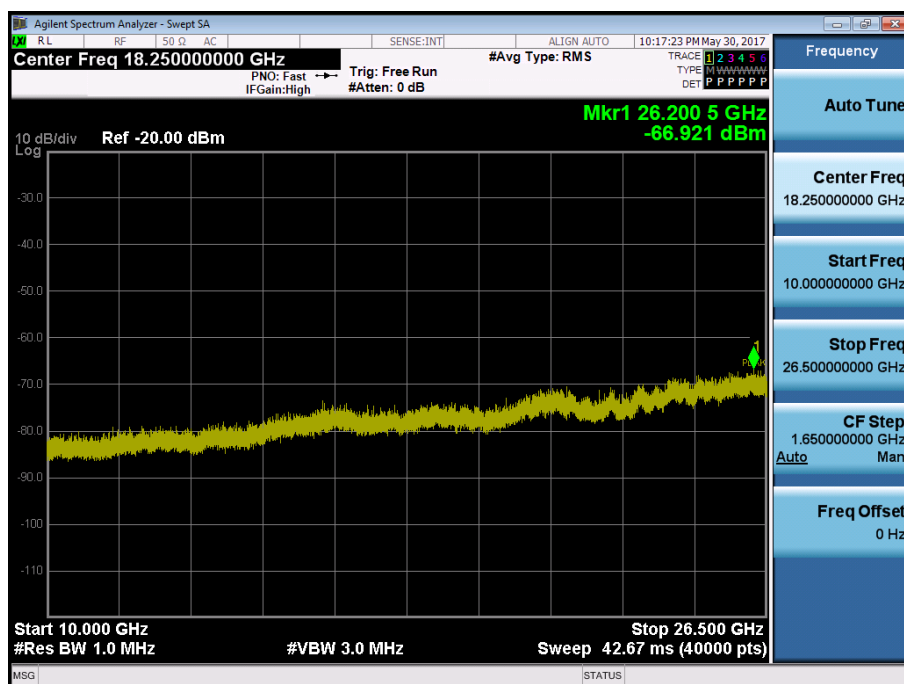
BAND 38/41. Conducted Spurious Plot 2 (10 MHz Ch. 41540 QPSK RB 1, Offset 0)



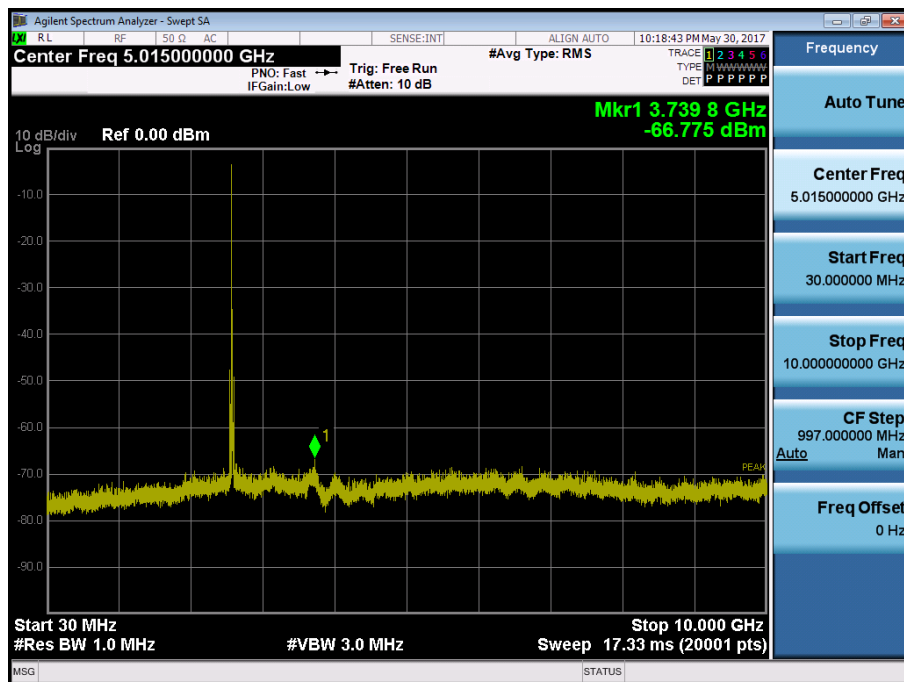
BAND 38/41. Conducted Spurious Plot 1 (15 MHz Ch.39725 QPSK RB 1, Offset 0)



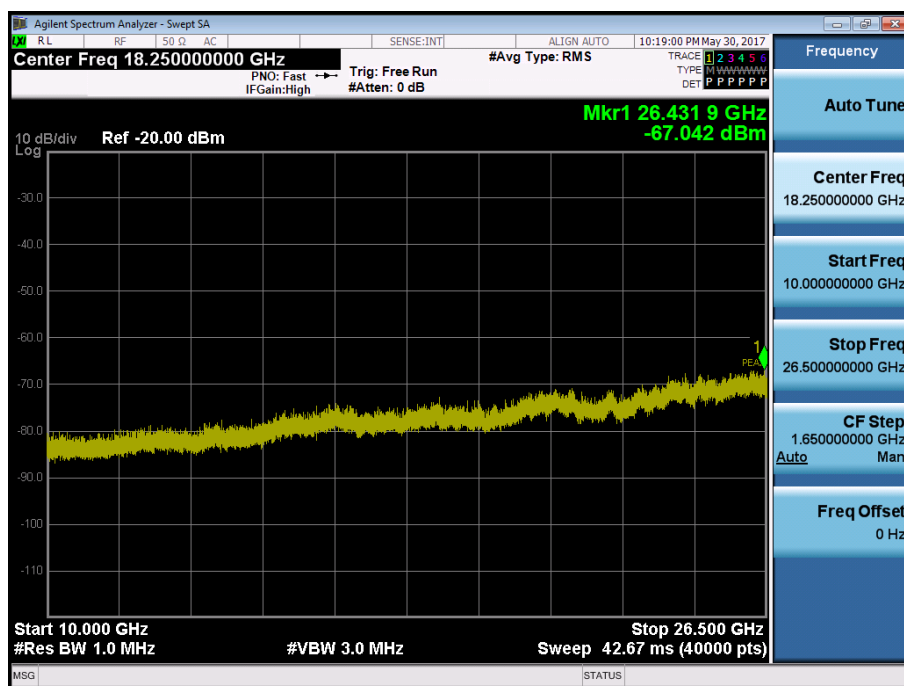
BAND 38/41. Conducted Spurious Plot 2 (15 MHz Ch. 39725 QPSK RB 1, Offset 0)



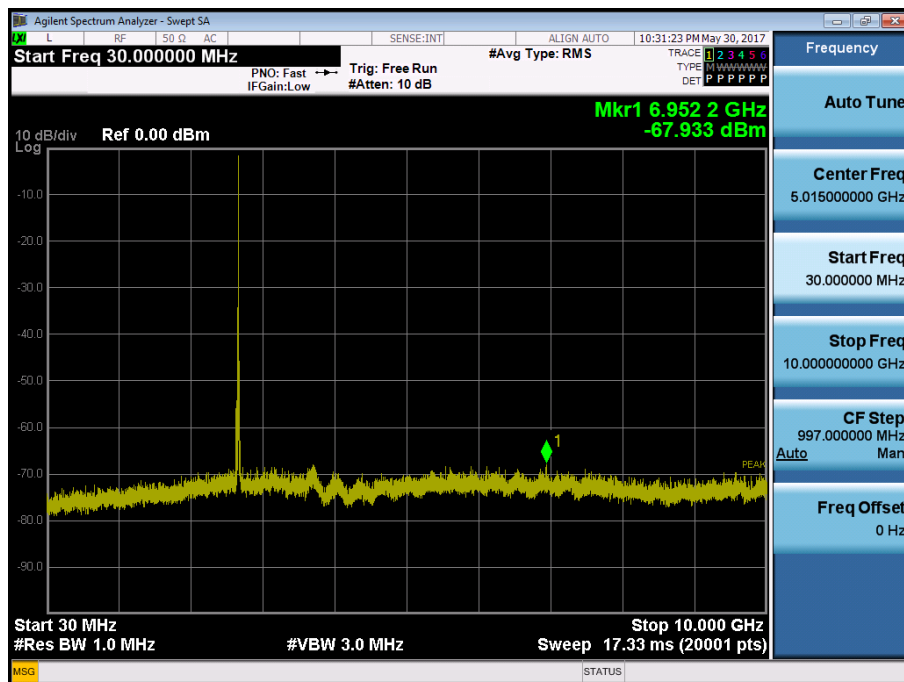
BAND 38/41. Conducted Spurious Plot 1 (15 MHz Ch.40620 QPSK RB 1, Offset 0)



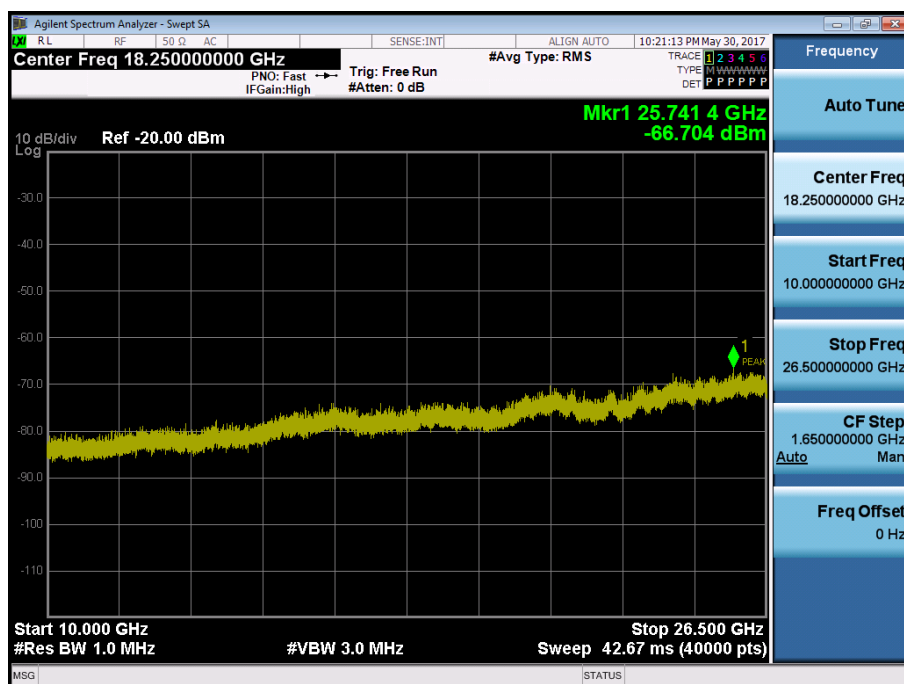
BAND 38/41. Conducted Spurious Plot 2 (15 MHz Ch. 40620 QPSK RB 1, Offset 0)



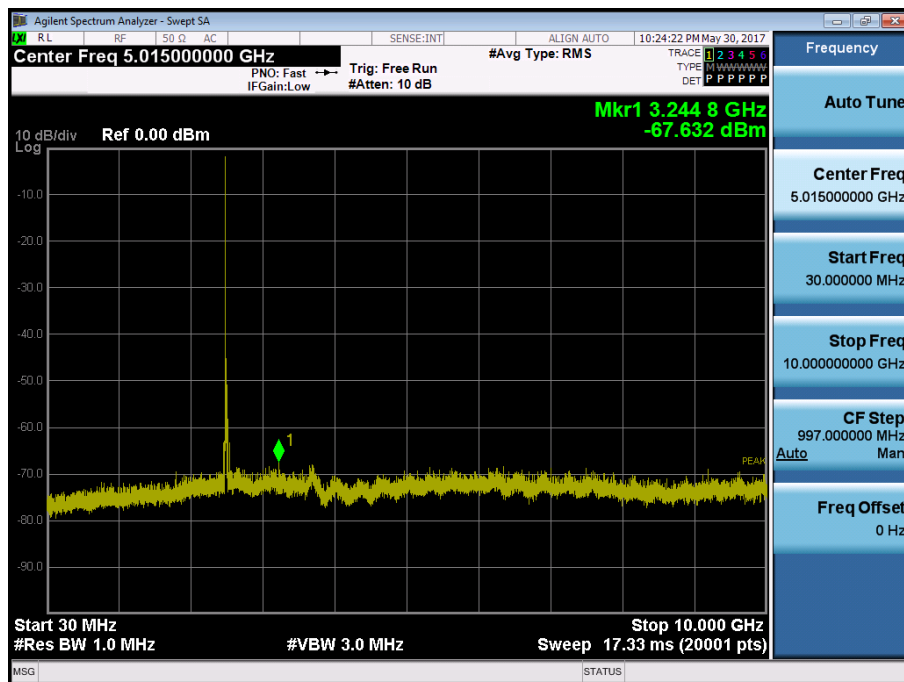
BAND 38/41. Conducted Spurious Plot 1 (15 MHz Ch.41515 QPSK RB 1, Offset 0)



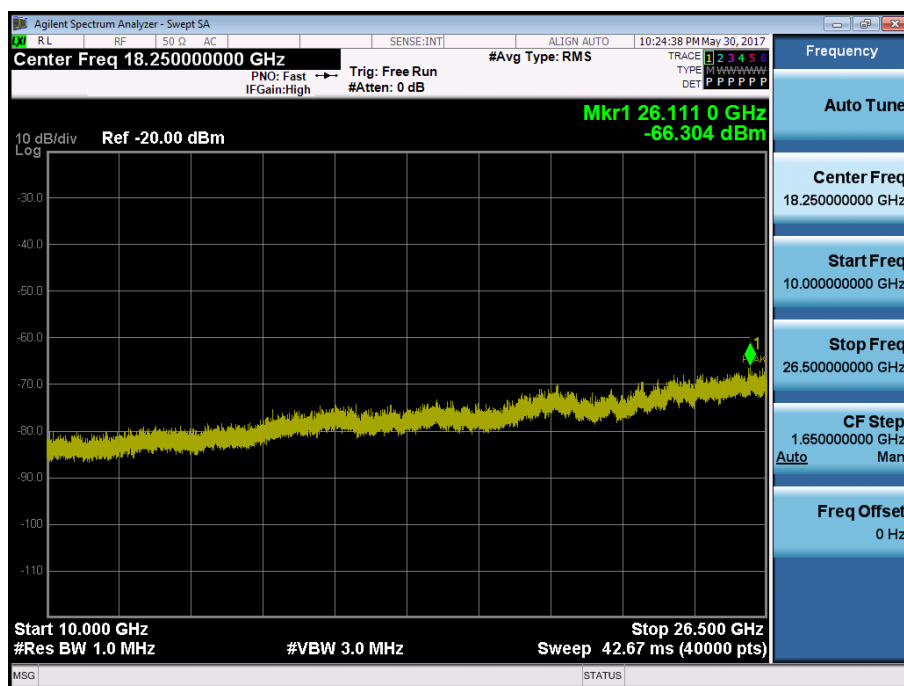
BAND 38/41. Conducted Spurious Plot 2 (15 MHz Ch. 41515 QPSK RB 1, Offset 0)



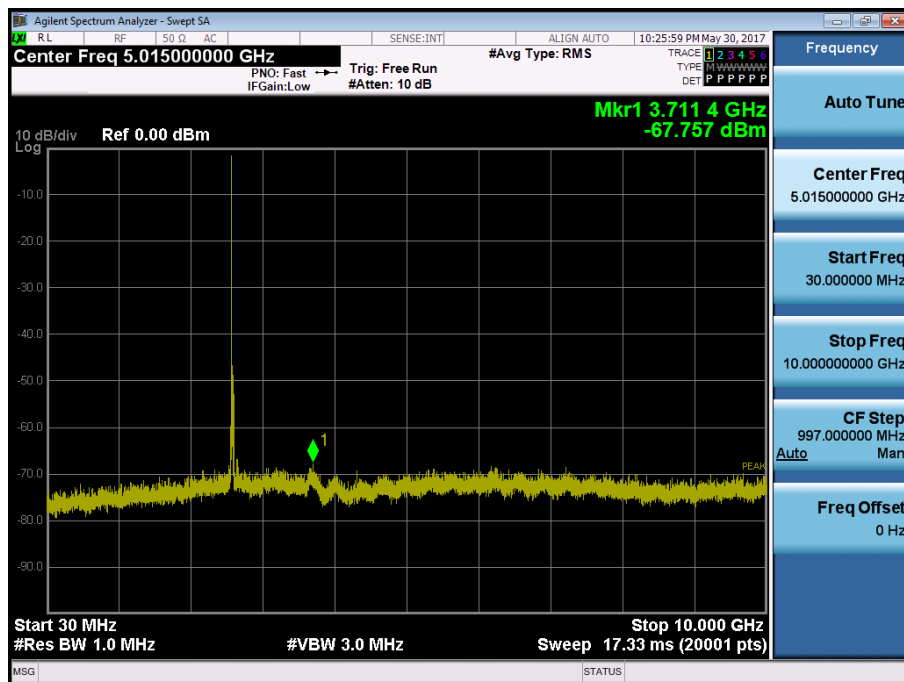
BAND 38/41. Conducted Spurious Plot 1 (20 MHz Ch.39750 QPSK RB 1, Offset 0)



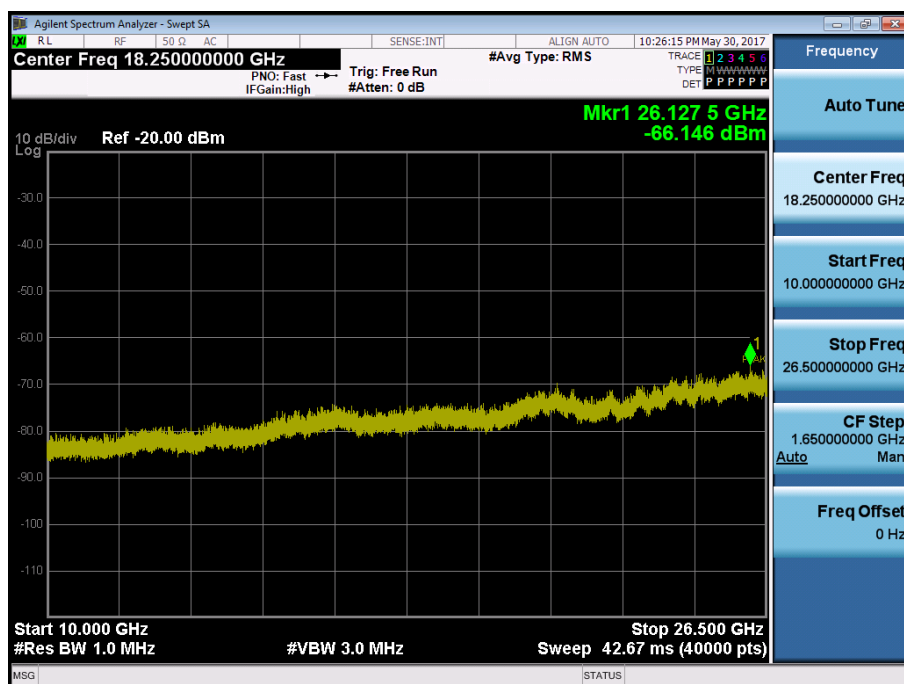
BAND 38/41. Conducted Spurious Plot 2 (20 MHz Ch. 39750 QPSK RB 1, Offset 0)



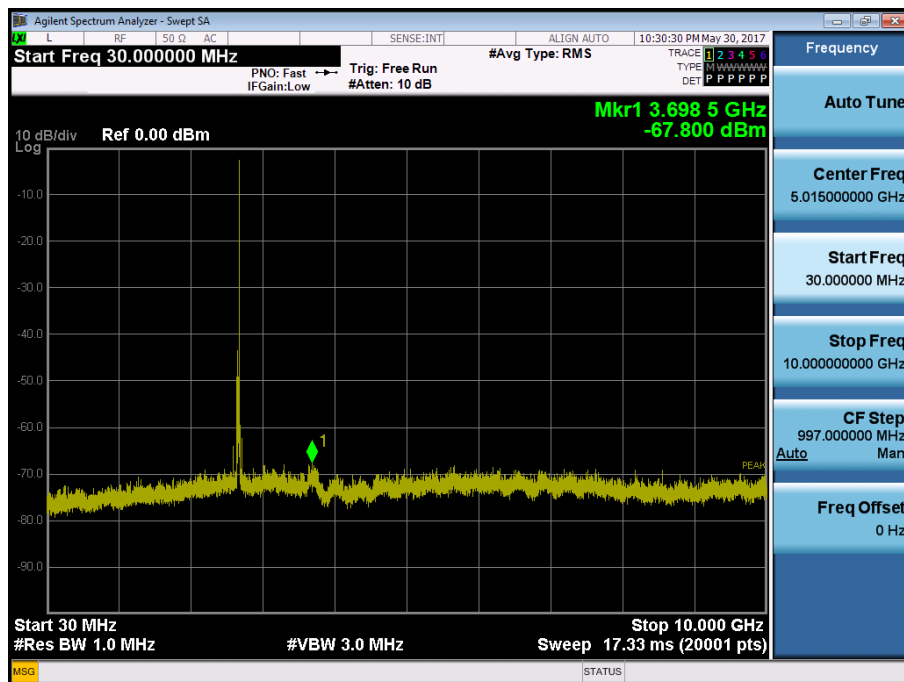
BAND 38/41. Conducted Spurious Plot 1 (20 MHz Ch.40620 QPSK RB 1, Offset 0)



BAND 38/41. Conducted Spurious Plot 2 (20 MHz Ch. 40620 QPSK RB 1, Offset 0)



BAND 38/41. Conducted Spurious Plot 1 (20 MHz Ch.41490 QPSK RB 1, Offset 0)



BAND 38/41. Conducted Spurious Plot 2 (20 MHz Ch. 41490 QPSK RB 1, Offset 0)

