TEST REPORT

Report Number: 102684890MPK-019
Project Number: G102684890
August 29, 2016

Testing performed on
Tile Mate - Bluetooth Location Finder
Model: T3001
FCC ID: 2ABXLT3001
IC: 11858A-T3001
to

FCC Part 15 Subpart C (15.247)
Industry Canada RSS-247 Issue 1
NCC Low Power 0002 (LP0002 2011)

For

Tile, Inc.

Test Performed by:	Test Authorized by:
Intertek	Tile, Inc.
1365 Adams Court	2121 S. El Camino Real, Suite C-100
Menlo Park, CA 94025 USA	San Mateo, CA 94403, USA

Prepared by: _____ **Date:** August 29, 2016
Anderson Soungpanya

Reviewed by: _____ **Date:** August 29, 2016
Krishna K Vemuri

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Report No. 102684890MPK-019

Equipment Under Test:	Tile Mate - Bluetooth Location Finder
Trade Name:	Tile, Inc.
Model Number:	T3001
Serial Number:	MPK1608111006-001
Applicant:	Tile, Inc.
Contact:	Sandor Kiss
Address:	Tile, Inc. 2121 S. El Camino Real, Suite C-100 San Mateo, CA 94403
Country	USA
Tel. Number:	(415) 902-9629
Email:	Sandor@thetileapp.com
Applicable Regulation:	FCC Part 15 Subpart C (15.247) Industry Canada RSS-247 Issue 1 NCC Low Power 0002 (LP0002 2011)
Date of Test:	August 2 - 5, 2016

We attest to the accuracy of this report:

Anderson Soungpanya Project Engineer	Krishna K Vemuri Engineering Team Lead

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1.0 Summary of Tests

Test	Reference FCC	Reference Industry Canada	Result
RF Output Power	15.247(b)(3)	RSS-247, 5.4.4	Complies
6 dB Bandwidth	15.247(a)(2)	RSS-247, 5.2.1	Complies
Power Density	15.247(e)	RSS-247, 5.2.2	Complies
Out of Band Antenna Conducted Emission	15.247(d)	RSS-247, 5.5	Complies
Transmitter Radiated Emissions	15.247(d), 15.209, 15.205	RSS-247, 5.5	Complies
AC Line Conducted Emission	15.207	RSS-GEN	Not Applicable*
Antenna Requirement	15.203	RSS-GEN	Complies (Internal Antenna & Unique connector)
RF Exposure	15.247(i), 2.1093(d)	RSS-102	Complies

*EUT is battery operated. The battery is single use only.

Test	Reference FCC	Reference LP0002	Result
RF Output Power	15.247(b)(3)	3.10.1(2.3)	Complies
6 dB Bandwidth	15.247(a)(2)	3.10.1(6.2.1)	Complies
Power Density	15.247(e)	3.10.1(6.2.2)	Complies
Out of Band Antenna Conducted Emission	15.247(d)	3.10.1(5)	Complies
Transmitter Radiated Emissions	15.247(d), 15.209, 15.205	3.10.1(5), 2.7, 2.8	Complies
AC Line Conducted Emission	15.207	2.3	Not Applicable*
Antenna Requirement	15.203	2.2	Complies (Internal Antenna & Unique connector)
RF Exposure	15.247(i), 2.1093(d)	ANSI/IEEE C95.1	Complies

*EUT is battery operated. The battery is single use only.

EUT receive date: August 1, 2016
EUT receive condition: The pre-production version of the EUT was received in good condition with no apparent damage. As declared by the Applicant, it is identical to the production units.
Test start date: August 2, 2016
Test completion date: August 5, 2016
The test results in this report pertain only to the item tested.

2.0 General Information

2.1 Product Description

Equipment under Test (EUT) is the Tile Mate - Bluetooth Location Finder, Model T3001. As described by the manufacturer, Tile Mate - Bluetooth Location Finder is intended to be used on a variety of items in order to track them using a smartphone enabled with Bluetooth Low Energy technology. Description of product as it is marketed as “Tile Mate Bluetooth Location Finder -The World's Largest Lost & Found”.

Information about the Bluetooth 4.0 (BLE) radio is presented below:

For more information, refer to the following product specification, declared by the manufacturer.

Information about the 2.4 GHz radio is presented below:

Applicant	Tile, Inc.
Model No.	T3001
FCC Identifier	2ABXLT3001
IC Identifier	11858A-T3001
Type of transmission	Digital Transmission System (DTS)
Rated RF Output	-0.9 dBm (0.813 mW)
Antenna(s) & Gain	PCB antenna, Gain: 0 dBi
Frequency Range	2402 – 2480 MHz
Type of modulation/data rate	GFSK / 1Mbit/s
Number of Channel(s)	40
Applicant Name & Address	Tile, Inc. 2121 S. El Camino Real, Suite C-100 San Mateo, CA 94403, USA

2.2 Related Submittal(s) Grants

None.

2.3 Test Facility

The test site used to collect the radiated data is site 1 (10-m semi-anechoic chamber). This test facility and site measurement data have been fully placed on file with the FCC, IC and A2LA accredited.

2.4 Test Methodology

Antenna conducted measurements were performed according to the FCC documents "Guidance for Performing Compliance Measurement on Digital Transmission Systems (DTS) Operating under §15.247" (KDB 558074 D01 DTS Meas Guidance v03r05), and RSS-247, RSS-GEN.

Radiated emissions and AC mains conducted emissions measurements were performed according to the procedures in ANSI C63.10-2013. Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Data Sheet" of this report.

2.5 Measurement Uncertainty

Compliance with the limits was based on the results of the measurements and doesn't take into account the measurement uncertainty.

Estimated Measurement Uncertainty

Measurement	Expanded Uncertainty (k=2)		
	0.15 MHz – 1 GHz	1 GHz – 2.5 GHz	> 2.5 GHz
RF Power and Power Density – antenna conducted	-	0.7 dB	-
Unwanted emissions - antenna conducted	1.1 dB	1.3 dB	1.9 dB
Bandwidth – antenna conducted	-	30 Hz	-
Radiated emissions	4.2 dB	3.4 dB	4.4 dB
AC mains conducted emissions	2.4 dB	-	-

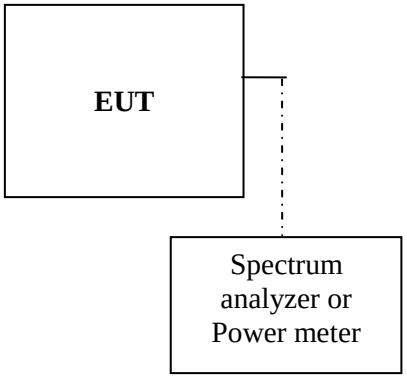
3.0 System Test Configuration

3.1 Support Equipment

EUT was tested as a standalone device. No Support equipment is used in test setup.

3.2 Block Diagram of Test Setup

Antenna was removed and co-axial connector with a cable was installed for Conducted Measurements.



S = Shielded **U** = Unshielded	**F** = With Ferrite **m** = Length in Meters

3.3 Justification

For radiated emission measurements the EUT is placed on a non-conductive table.

3.4 Software Exercise Program

The EUT exercise program used during radiated and conducted testing was provided by Tile, Inc..

3.5 Mode of Operation during Test

During transmitter testing, the transmitter was setup to transmit at maximum RF power on low, middle and high frequencies/channels.

3.5 Modifications Required for Compliance

Intertek installed no modifications during compliance testing in order to bring the product into compliance.

3.6 Additions, Deviations and Exclusions from Standards

No additions, deviations or exclusions from the standard were made.

4.0 Measurement Results

4.1 6-dB Bandwidth and Occupied Bandwidth
FCC Rule: 15.247(a)(2); RSS-247 A8.2 and RSS-GEN;

4.1.1 Requirement

The minimum 6-dB bandwidth shall be at least 500 kHz

4.1.2 Procedure

A spectrum analyzer was connected to the antenna port of the transmitter.

For FCC 6dB Channel Bandwidth the Procedure described in the FCC Publication 558074 D01 DTS Meas Guidance v03r05 was used to determine the DTS occupied bandwidth. Section 8.1 Option 1 was used.

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

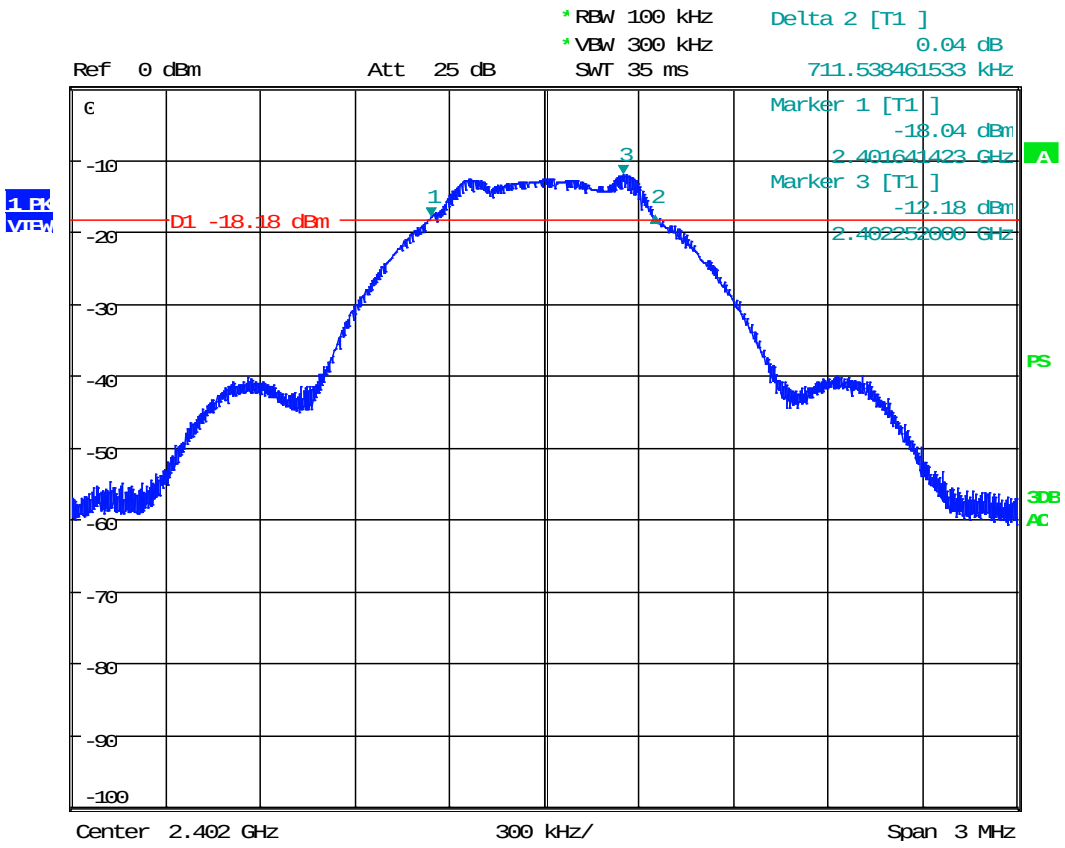
For 99% power bandwidth measurement, the bandwidth was determined by using the built-in 99% occupied bandwidth function of the spectrum analyzer. The resolution bandwidth is set to 1% of the selected span as is without being below 1%. The video bandwidth shall be set to 3 times the resolution bandwidth.

4.1.3 Test Result

Frequency (MHz)	6-dB bandwidth FCC 15.247 & RSS-GEN, MHz	Occupied bandwidth, RSS-GEN, MHz	Plot
2402	711.54	--	1.1
	--	1.07	1.4
2434	735.58	--	1.2
	--	1.07	1.5
2480	731.71	--	1.3
	--	1.07	1.6

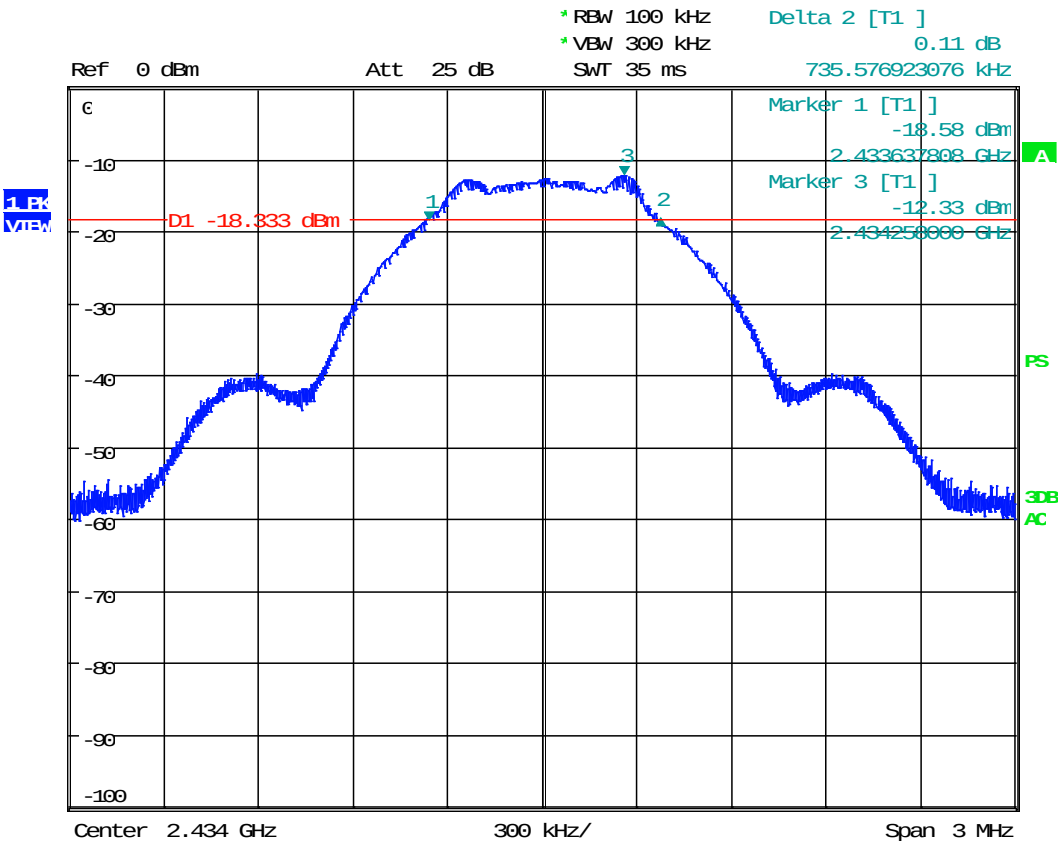
Date of Test:	August 5, 2016
Results	**Complies**

Plot 1. 1



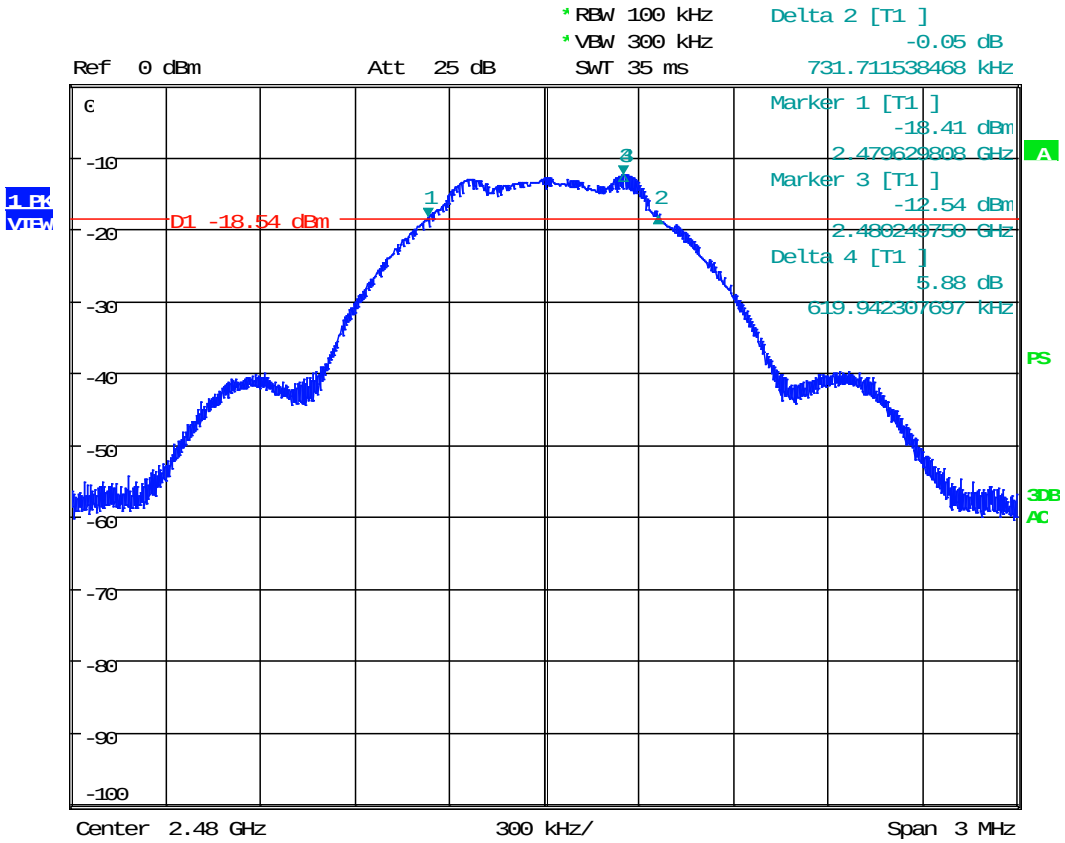
Date: 5.AUG.2016 12:31:34

Plot 1. 2



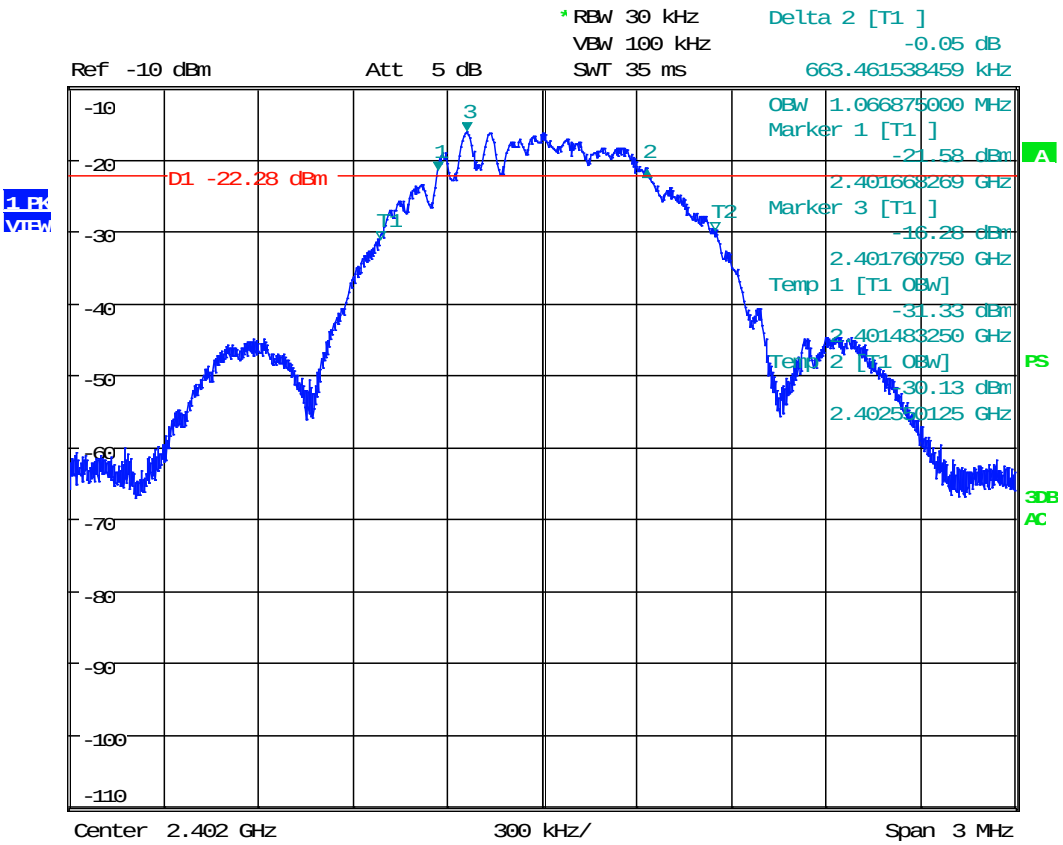
Date: 5.AUG.2016 12:32:56

Plot 1. 3



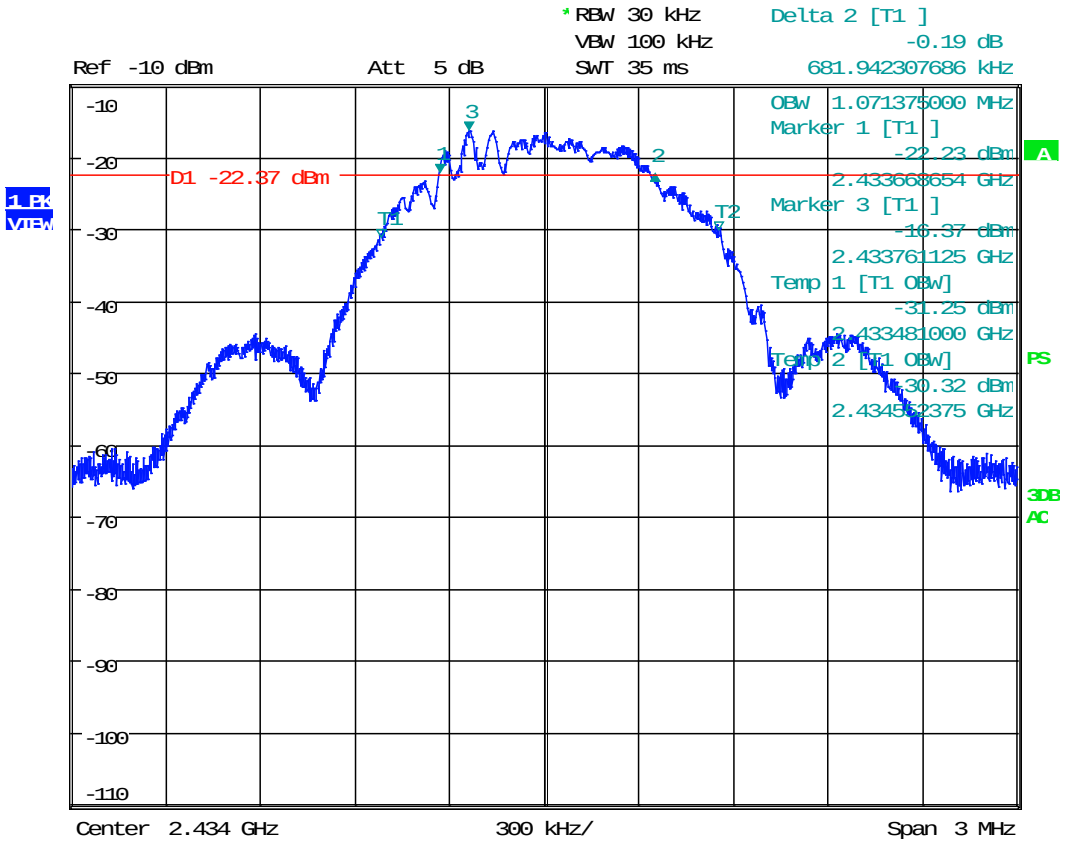
Date: 5.AUG.2016 12:34:06

Plot 1. 4



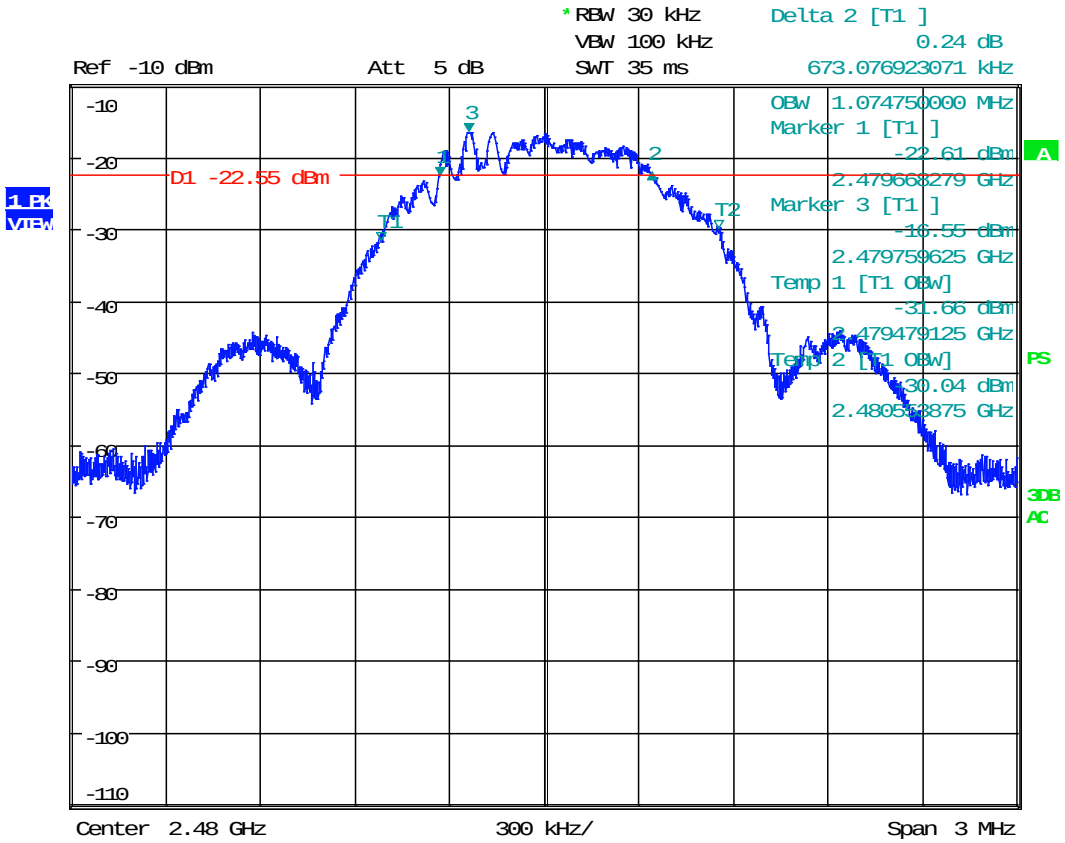
Date: 5.AUG.2016 12:48:13

Plot 1.5



Date: 5.AUG.2016 12:49:34

Plot 1.6



Date: 5.AUG.2016 12:46:23

4.2 Maximum Peak Conducted Output Power at Antenna Terminals
FCC Rule: 15.247(b)(3); RSS-247 A8.4;

4.2.1 Requirement

For antennas with gains of 6 dBi or less, maximum allowed transmitter output is 1 watt or 30 dBm.
For antennas with gains greater than 6 dBi, transmitter output level must be decreased appropriately, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.2.2 Procedure

The procedure described in FCC Publication 558074 D01 DTS Meas Guidance v03r05 was used. Specifically, section 9.1.1 RBW ≥ DTS Bandwidth was utilized as the spectrum analyzer's resolution bandwidth was greater than the DTS bandwidth.

1. Set the RBW ≥ DTS Bandwidth
2. Set the VBW ≥ 3 x RBW
3. Set the span ≥ 3 x RBW
4. Detector = Peak
5. Sweep time = Auto couple
6. Trace mode = Max Hold
7. Allow trace to fully stabilize
8. Use peak marker function to determine the peak amplitude level.

A spectrum analyzer was connected to the antenna port of the transmitter.

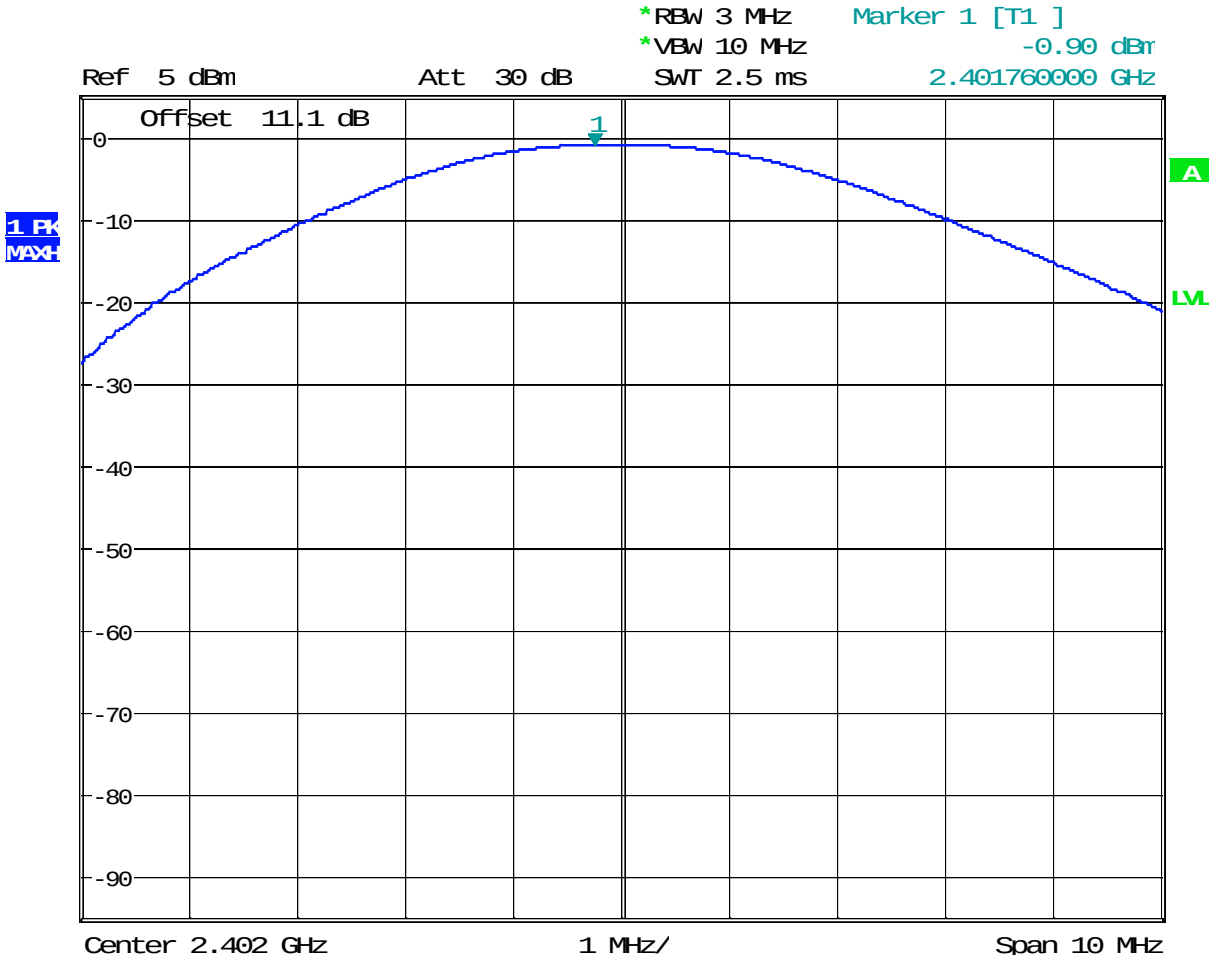
4.3.3 Test Result

Refer to the following plots 2.1 – 2.3 for the test details.

Frequency, MHz	Conducted Power (peak), dBm	Conducted Power (peak), mW	Plot
2402	-0.90	0.813	2.1
2434	-1.06	0.783	2.2
2480	-1.15	0.767	2.3

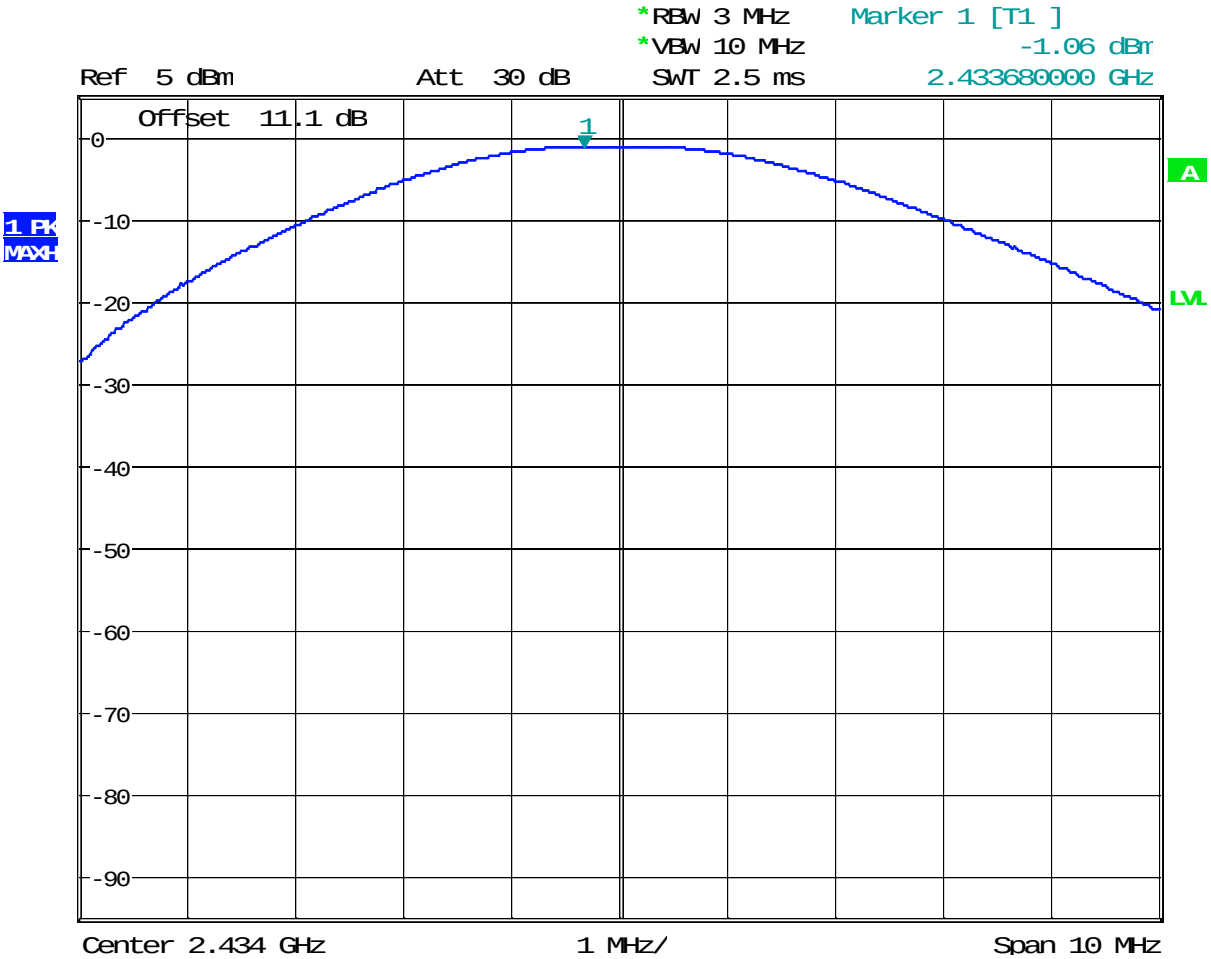
Date of Test:	August 5, 2016
Results	**Complies**

Plot 2. 1



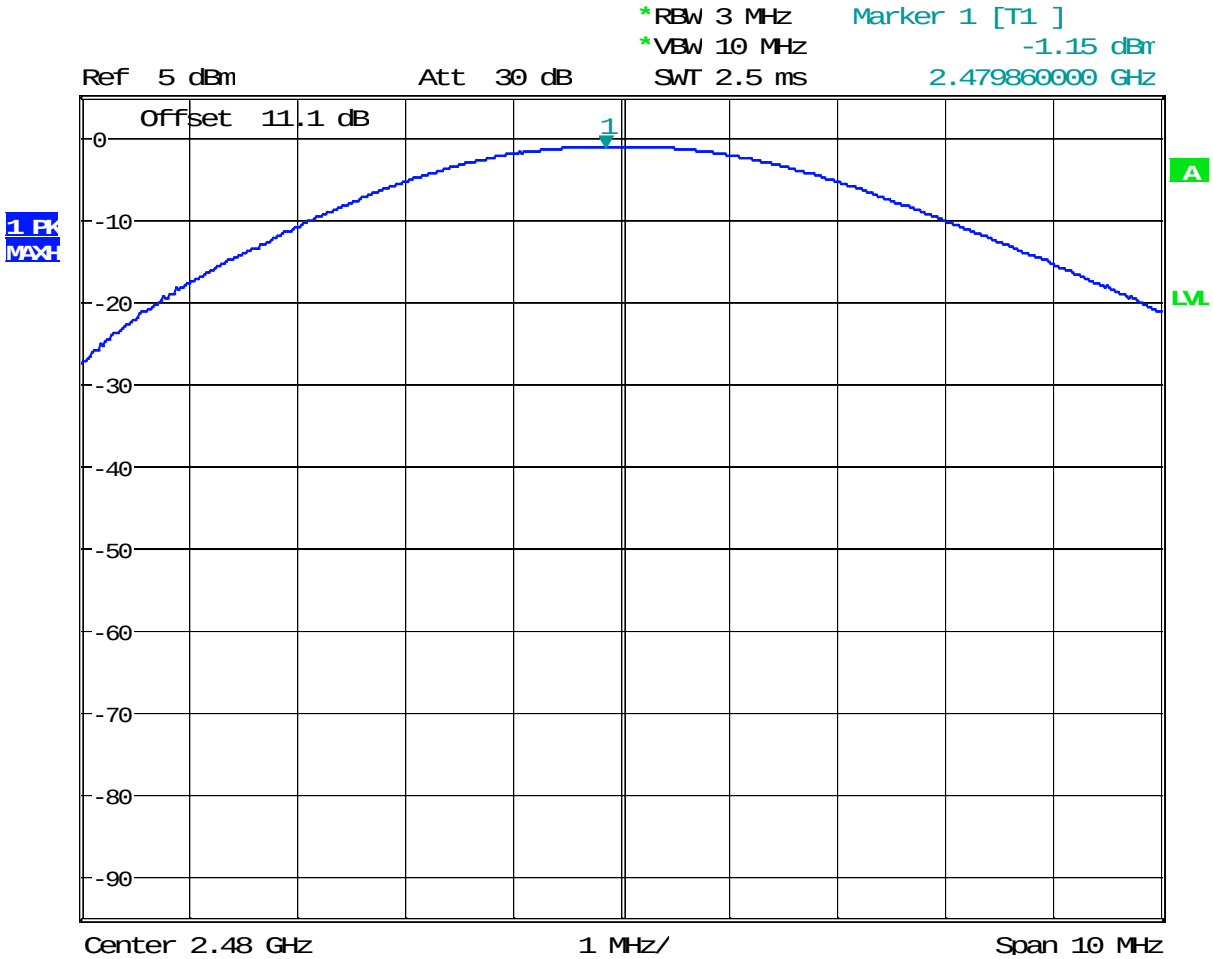
Date: 5.AUG.2016 12:44:46

Plot 2. 2



Date: 5.AUG.2016 12:51:11

Plot 2. 3



Date: 5.AUG.2016 12:51:42

4.3 Maximum Power Spectral Density
FCC: 15.247 (e); RSS-247 A8.2b;

4.3.1 Requirement

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna should not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

4.3.2 Procedure

A spectrum analyzer was connected to the antenna port of the transmitter.

The procedure described in FCC Publication 558074 D01 DTS Meas Guidance v03r05, specifically section 10.2 Method PKPSD (peak PSD).

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the *DTS bandwidth*.
3. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

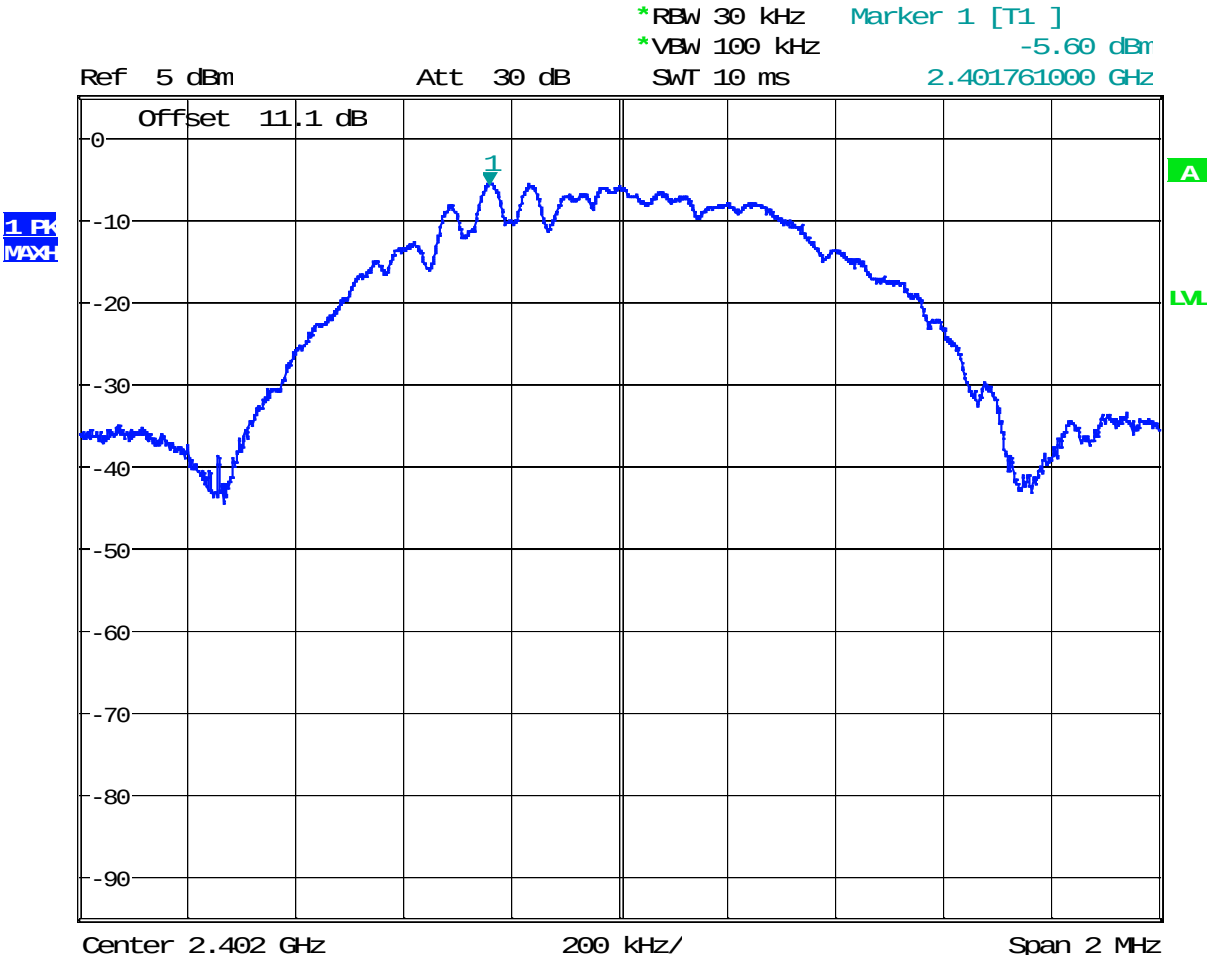
4.3.3 Test Result

Refer to the following plots for the test result

Frequency, MHz	Maximum Power Spectral Density, dBm	Maximum Power Spectral Density Limit, dBm	Margin, dB	Plot
2402	-5.60	8.0	-13.60	3.1
2434	-5.70	8.0	-13.70	3.2
2480	-5.75	8.0	-13.75	3.3

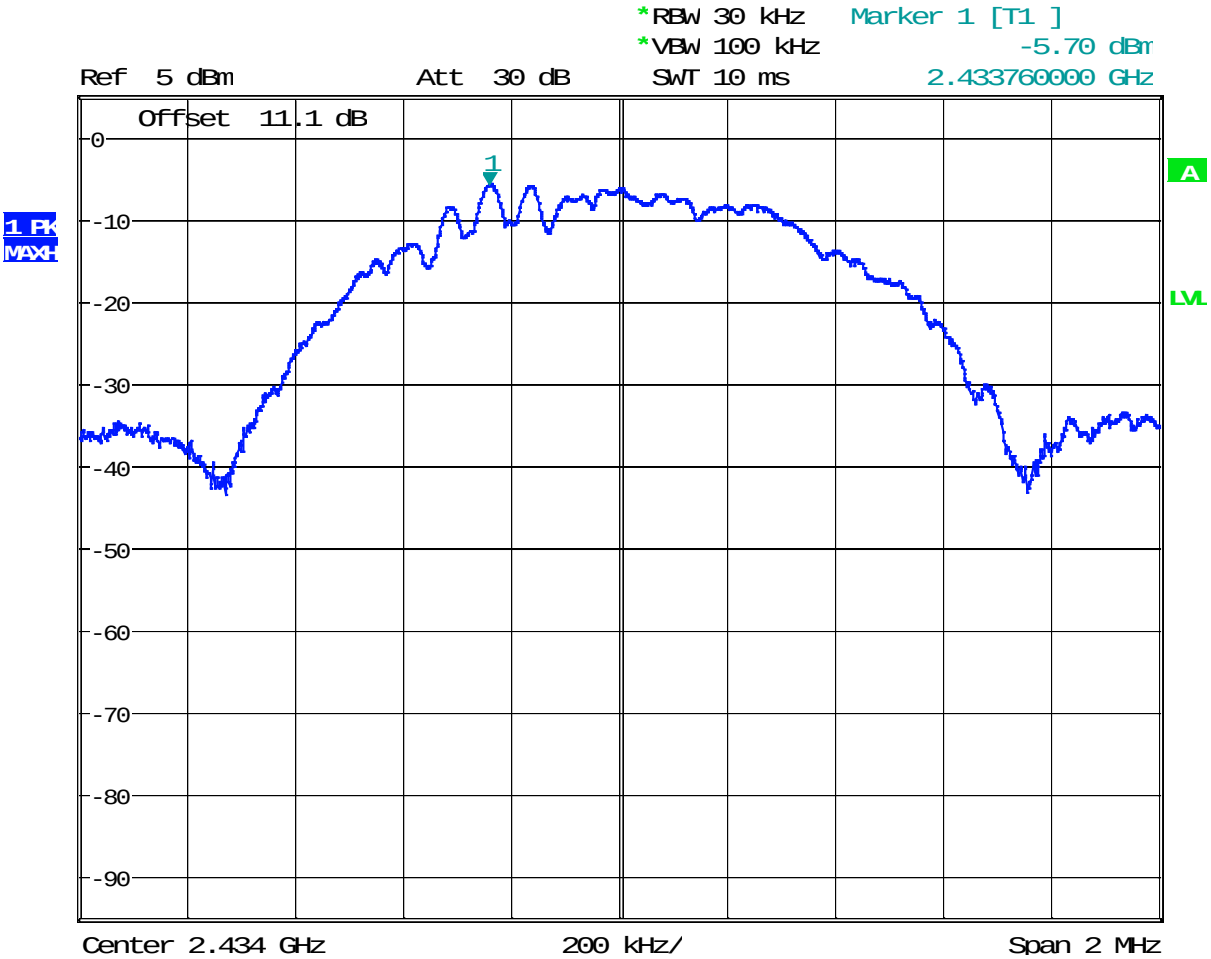
Date of Test:	August 5, 2016
Results	**Complies**

Plot 3. 1



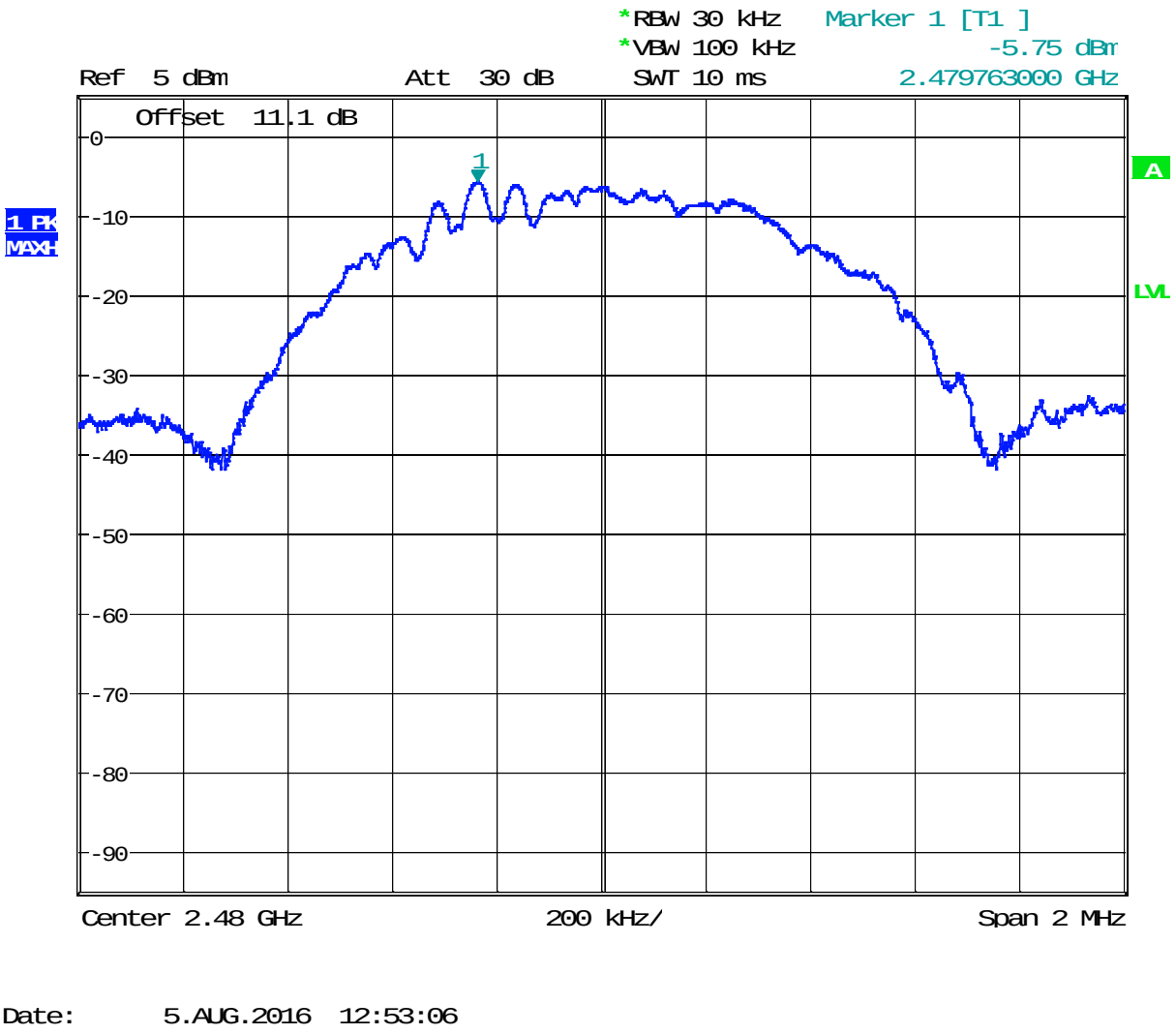
Date: 5.AUG.2016 12:54:40

Plot 3. 2



Date: 5.AUG.2016 12:55:24

Plot 3. 3


*RBW 30 kHz
*VBW 100 kHz
Marker 1 [T1]
-5.75 dBm
2.479763000 GHz
Ref 5 dBm
Att 30 dB
SWT 10 ms
Offset 11.1 dB
1 Pk
MAXH
A
LVL
0
-10
-20
-30
-40
-50
-60
-70
-80
-90
Center 2.48 GHz
200 kHz/
Span 2 MHz
Date: 5.AUG.2016 12:53:06

4.4 Unwanted Conducted Emissions
FCC: 15.247(d); RSS-247 A8.5;

4.4.1 Requirement

In any 100 kHz bandwidth outside the EUT pass-band, the RF power shall be below the maximum in-band 100 kHz emissions by at least 20 dB (if peak power of in-band emission is measured) or 30 dB (if average power of in-band emission is measured).

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a)

4.4.2 Procedure

The procedure described in FCC Publication 558074 D01 DTS Meas Guidance v03r05, specifically section 11.0 Emissions in non-restricted frequency bands.

A spectrum analyzer was connected to the antenna port of the transmitter.

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 3 x RBW.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

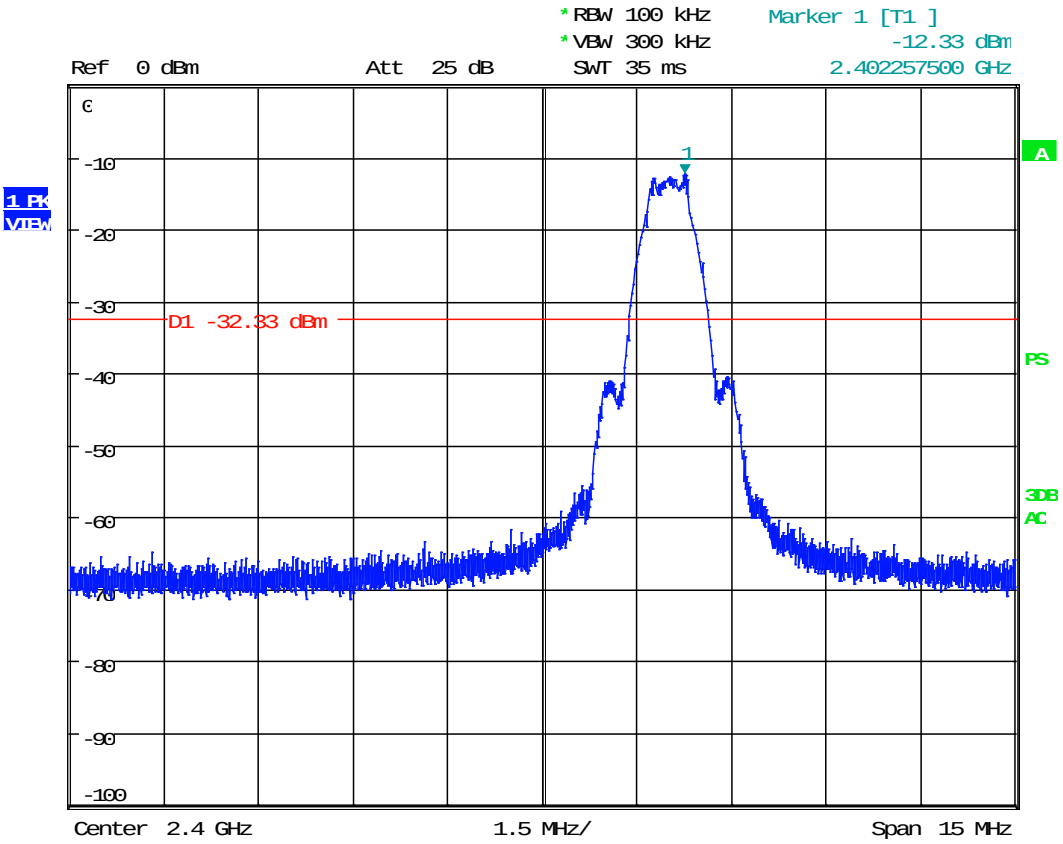
The unwanted emissions were measured from 30 MHz to 25 GHz. Plots below are corrected for cable loss and then compared to the limits.

4.4.3 Test Result

Refer to the following plots 4.1 – 4.5 for unwanted conducted emissions. The plot shows -20dB attenuation limit line.

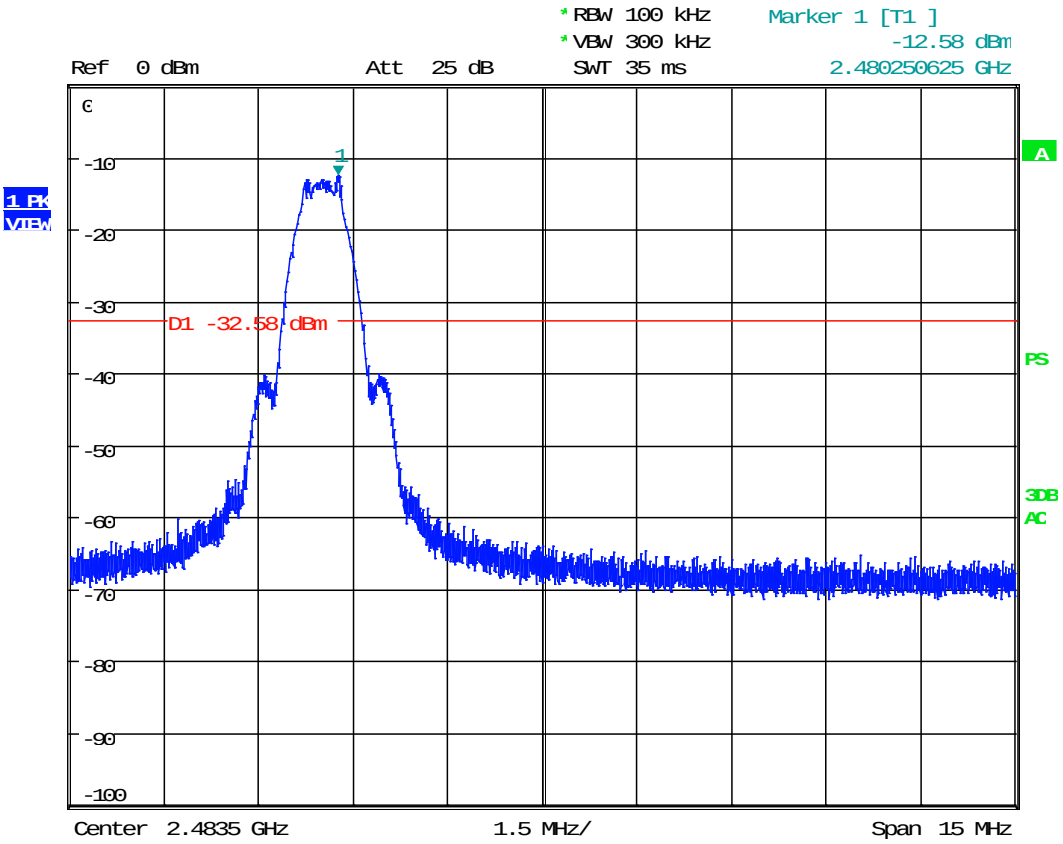
Date of Test:	August 5, 2016
Results	**Complies**

Tx @ Low Channel, 2400 MHz Band Edge
Plot 4.1



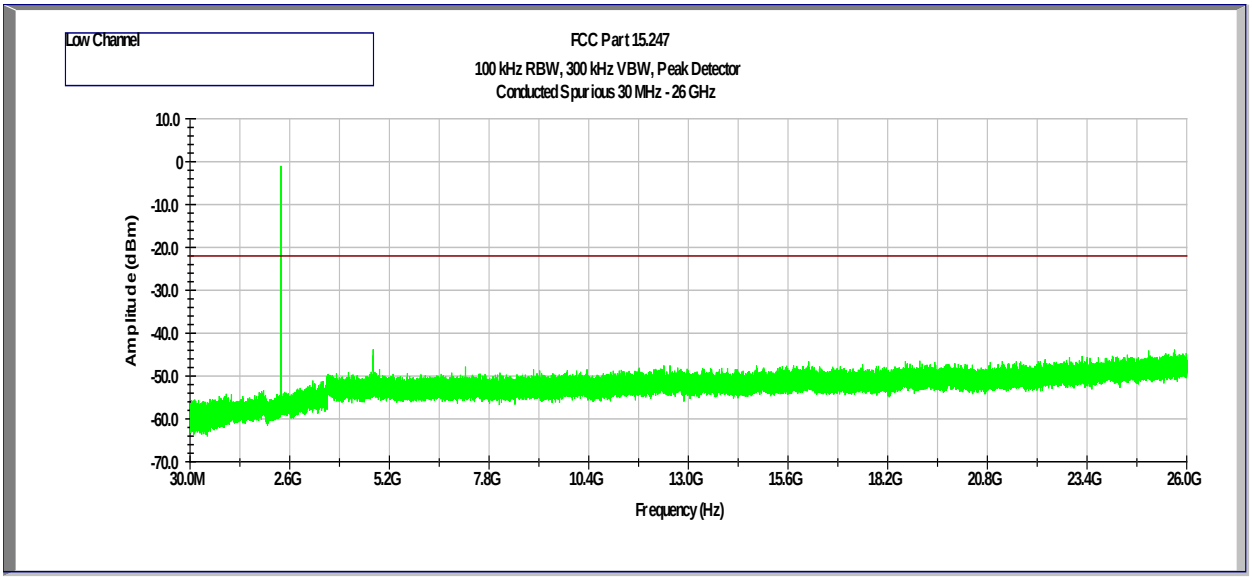
Date: 5.AUG.2016 12:52:11

Tx @ Low Channel, 2483.5 MHz Band Edge
Plot 4.2

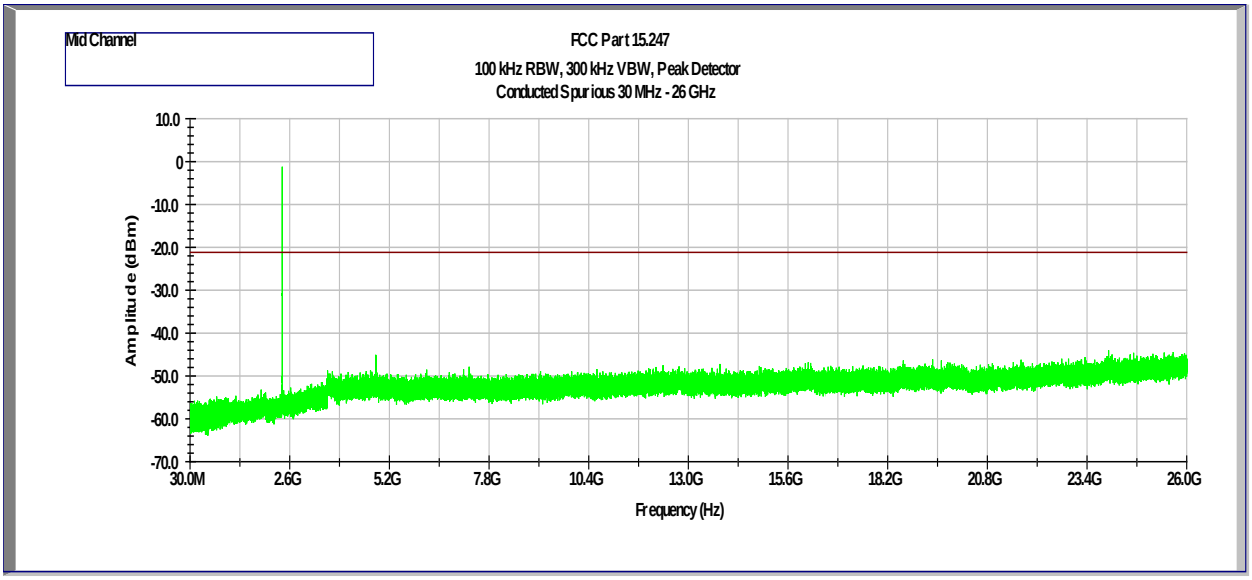


Date: 5.AUG.2016 12:35:21

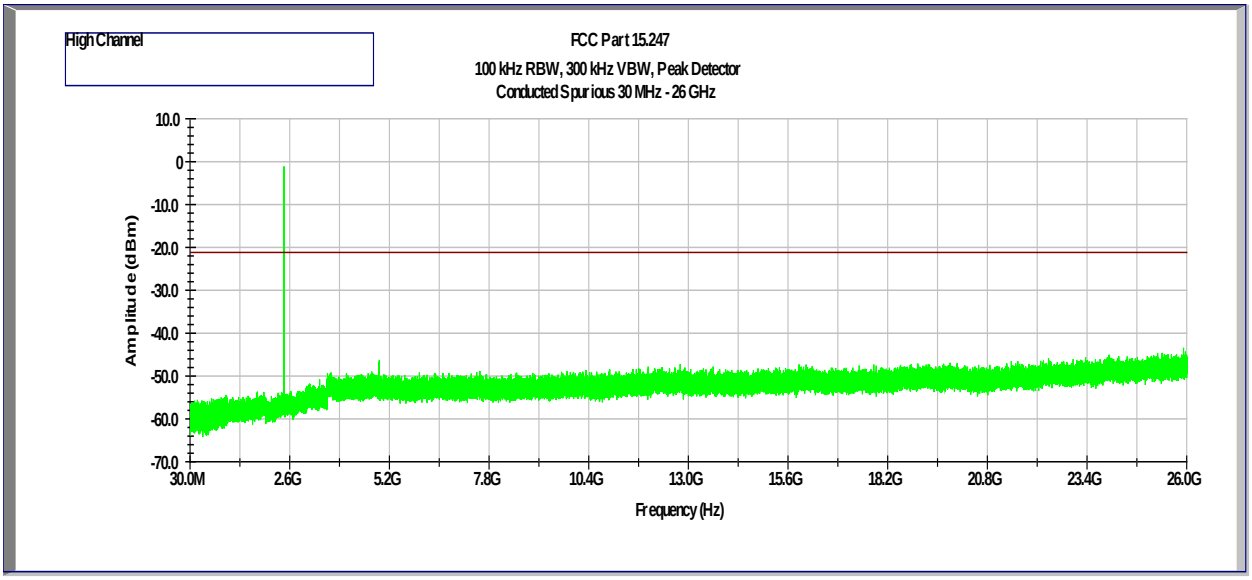
Tx @ Low Channel, 2402 MHz
30MHz -26GHz Conducted Spurious
Plot 4.3



Tx @ Mid Channel, 2434 MHz
30MHz -26GHz Conducted Spurious
Plot 4.4



Tx @ High Channel, 2480 MHz
30MHz -26GHz Conducted Spurious
Plot 4.5



4.5 Transmitter Radiated Emissions
FCC Rules: 15.247(d), 15.209, 15.205; RSS-247;

4.5.1 Requirement

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

For out of band radiated emissions (except for frequencies in restricted bands), in any 100 kHz bandwidths outside the EUT pass-band, the RF power shall be at least 20dB (peak) or 30 dB (average) below that of the maximum in-band 100 kHz emissions.

4.5.2 Procedure

Radiated emission measurements were performed from 30 MHz to 25 GHz according to the procedure described in ANSI C63.10. Spectrum Analyzer Resolution Bandwidth is 100 kHz or greater for frequencies 30 MHz to 1000 MHz, 1 MHz for frequencies above 1000 MHz. Above 1000 MHz Peak and Average measurements were performed.

The EUT is placed on a plastic turntable that is 80 cm in height for below 1000MHz and 1.5m in height for above 1GHz. If the EUT attaches to peripherals, they are connected and operational (as typical as possible). During testing, all cables were manipulated to produce worst-case emissions. The signal is maximized through rotation. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters.

Radiated emissions are taken at 3 meters for frequencies above 1 GHz and at 10 meters for frequencies below 1 GHz.

Measurements made from 1 GHz to 18GHz had a 2.4-2.5GHz notch filter in place. A preamp was used from 30MHz to 26GHz.

All measurements were made with a Peak Detector and compared to QP limits for 30MHz – 1GHz and Average limits for 1GHz – 26GHz.

Data is included of the worst-case configuration (the configuration which resulted in the highest emission levels).

4.5.3 Field Strength Calculation

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF – AG; if measurement is performed at a distance other than specified in the rule, a Distance Correction Factor (DCF) shall be added.

Where FS = Field Strength in dB(μV/m)
RA = Receiver Amplitude (including preamplifier) in dB(μV); AF = Antenna Factor in dB(1/m)
CF = Cable Attenuation Factor in dB; AG = Amplifier Gain in dB

Assume a receiver reading of 52.0 dB(μV) is obtained. The antennas factor of 7.4 dB(1/m) and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving field strength of 32 dB(μV/m). This value in dB(μV/m) was converted to its corresponding level in μV/m.
RA = 52.0 dB(μV)
AF = 7.4 dB(1/m)
CF = 1.6 dB
AG = 29.0 dB
FS = 52.0+7.4+1.6-29.0 = 32 dB(μV/m).
Level in μV/m = Common Antilogarithm [(32 dBμV/m)/20] = 39.8 μV/m.

4.5.4 Antenna-port conducted measurements

Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

4.5.6 General Procedure for conducted measurements in restricted bands

a) Measure the conducted output power (in dBm) using the detector specified for determining quasi-peak, peak, and average conducted output power, respectively.

b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see 12.2.5 for guidance on determining the applicable antenna gain)

c) Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).

d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (*e.g.*, Watts, mW).

e) Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:
$E = EIRP - 20\log D + 104.8$
where:
E = electric field strength in dBμV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.
f) Compare the resultant electric field strength level to the applicable limit.
g) Perform radiated spurious emission test

4.5.7 Test Results

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance where emissions are within 3dB of the limit.

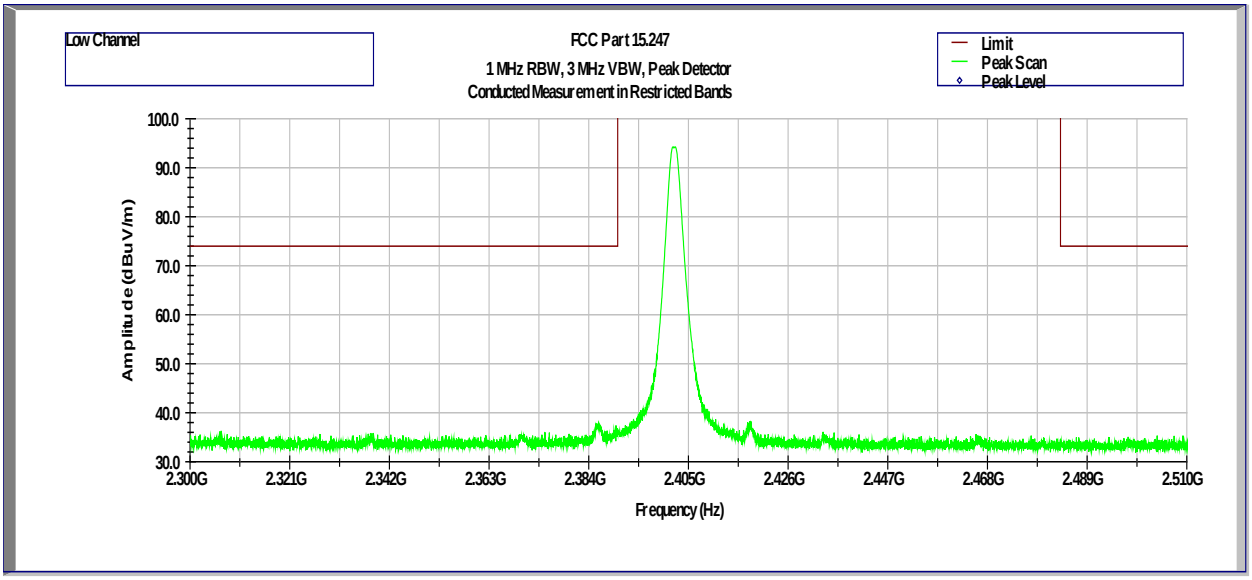
All conducted antenna port plots are corrected with the consideration of a 0 dBi Antenna Gain.

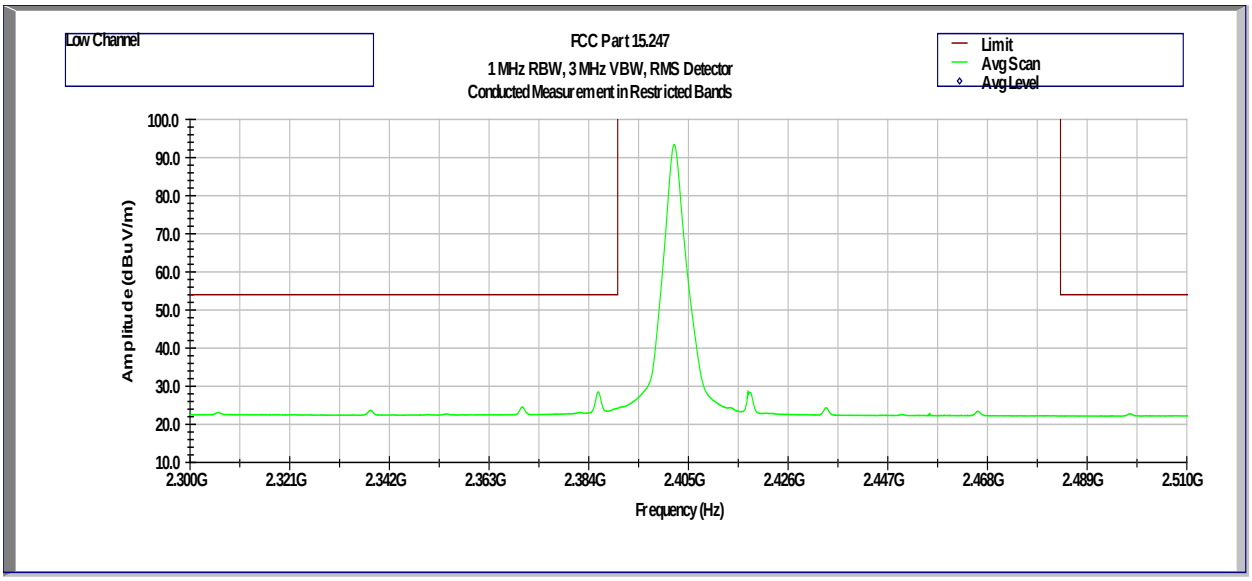
Radiated emission measurements were performed up to 26GHz. No Emissions were identified when scanned from 18-25 GHz.

Date of Test:	August 2 & 5, 2016
Results	**Complies**

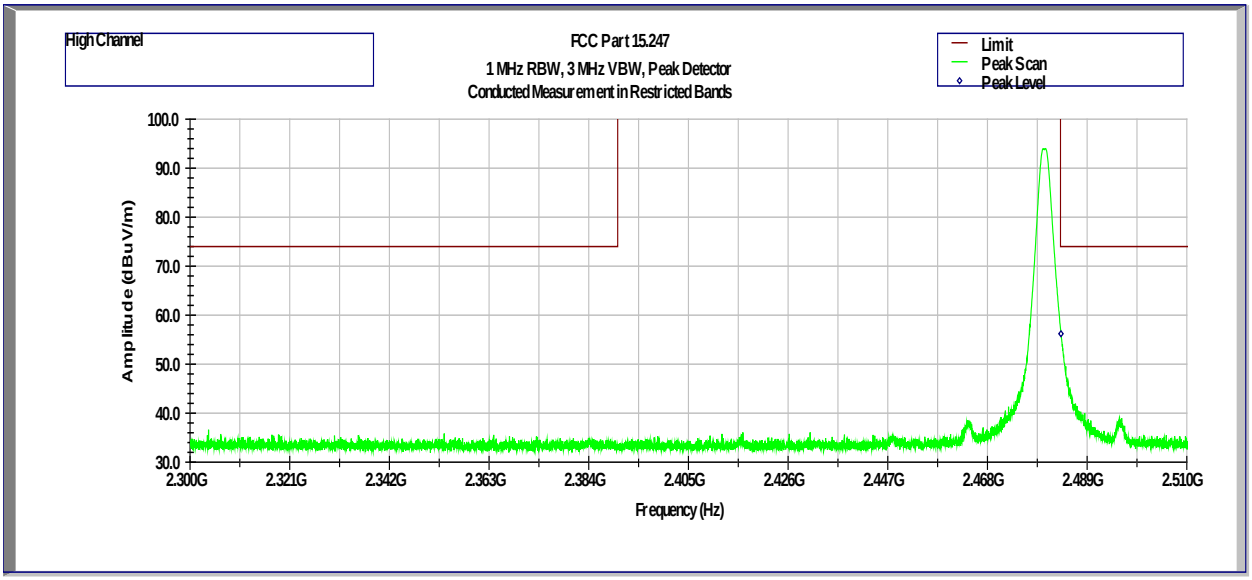
Test Results: 15.209/15.205 Restricted Band Emissions at Antenna Port

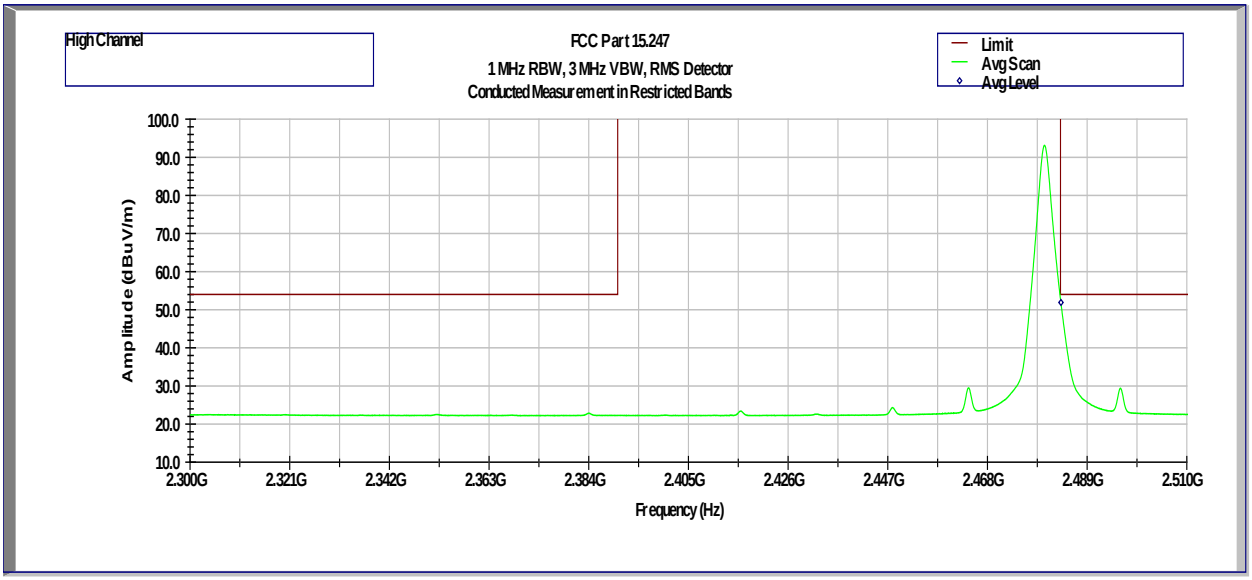
Out-of-Band Spurious Emissions at the Band Edge – Tx @ 2402 MHz





Out-of-Band Spurious Emissions at the Band Edge – Tx @ 2480 MHz



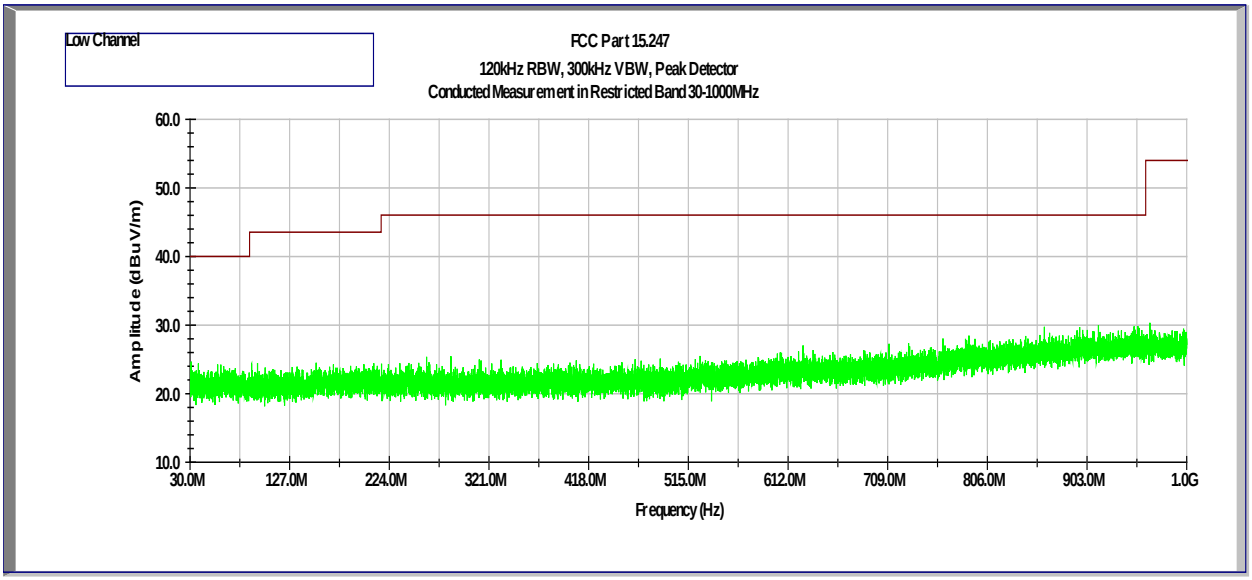


Frequency	Corrected Amplitude	Avg Limit	Margin	Detector	Results
GHz	dBµV/m	dBµV/m	dB		
2.4835	51.9	54	-2.1	RMS	Pass

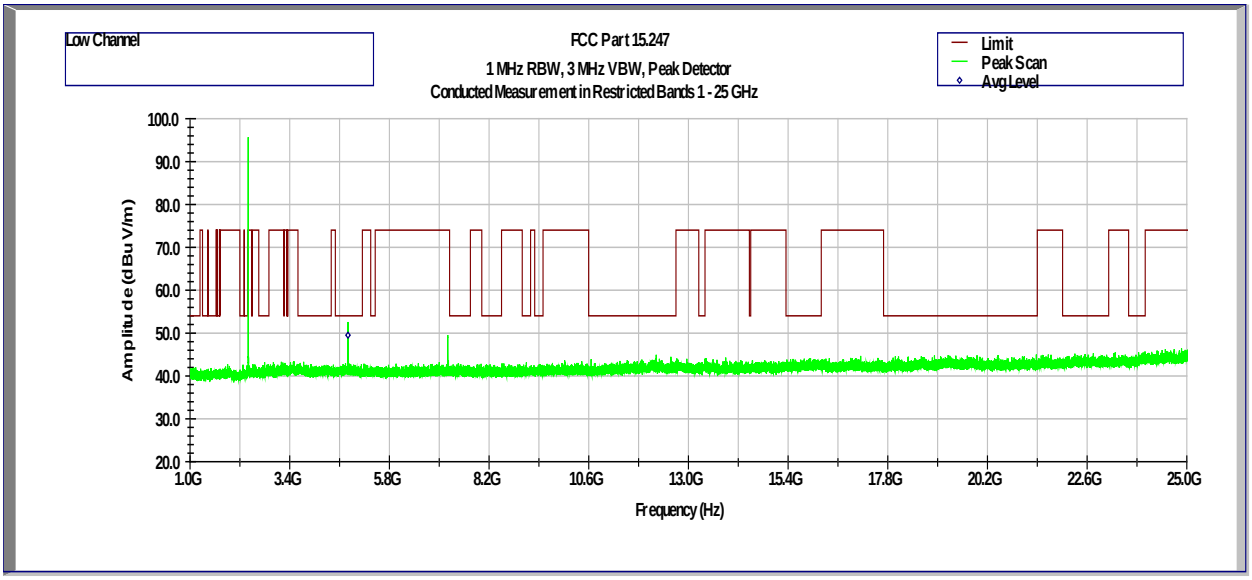
Out-of-Band Conducted Spurious Emissions (at Antenna Port)

Tx @ 2402MHz

Out-of-Band Spurious Emissions at Antenna Port - 30 MHz to 1 GHz



Out-of-Band Spurious Emissions at Antenna Port – 1 - 26 GHz Peak Detector vs Avg Limit

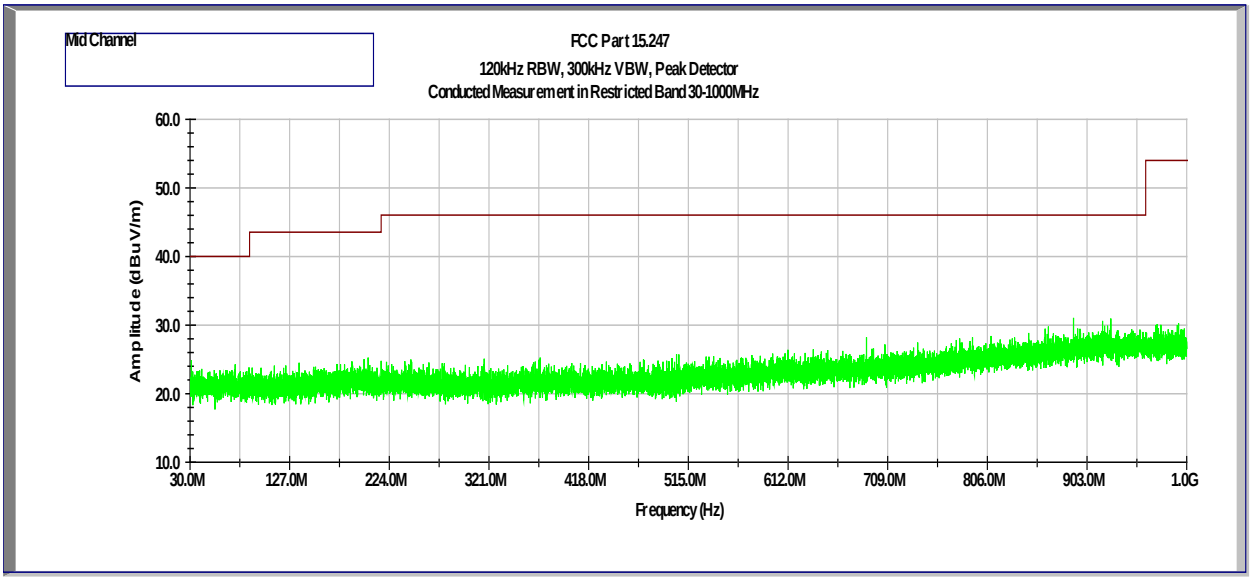


Frequency	Corrected Amplitude	Avg Limit	Margin	Detector	Results
GHz	dBµV/m	dBµV/m	dB		
4.804	49.5	54	-4.5	RMS	Pass

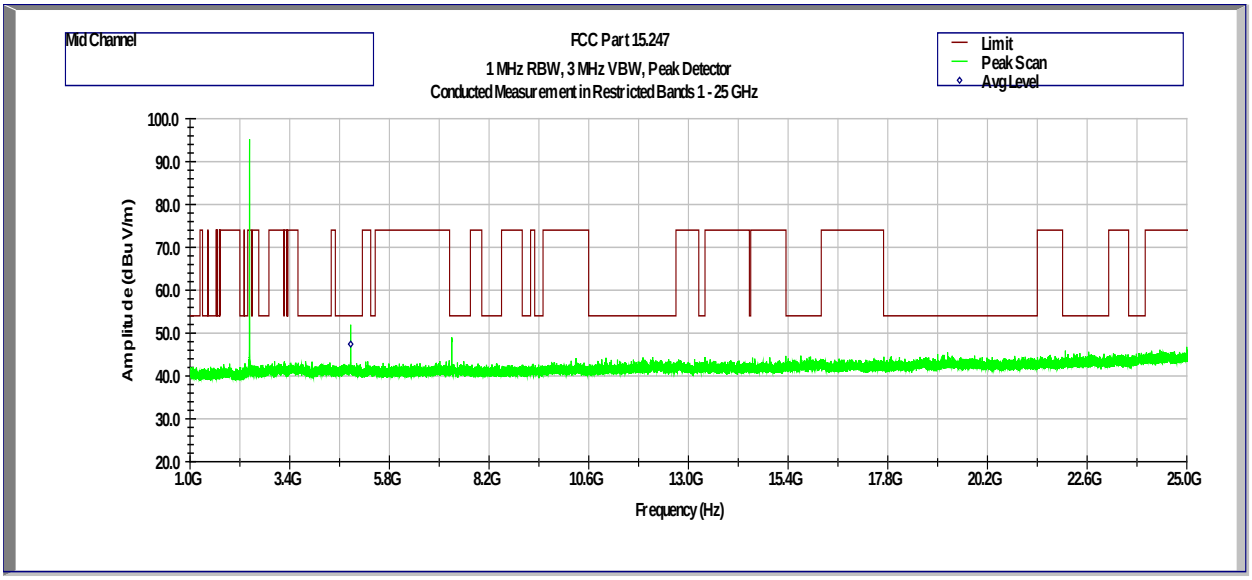
Out-of-Band Conducted Spurious Emissions (at Antenna Port)

Tx @ 2434MHz

Out-of-Band Spurious Emissions at Antenna Port - 30 MHz to 1 GHz



Out-of-Band Spurious Emissions at Antenna Port – 1 - 26 GHz Peak Detector vs Avg Limit

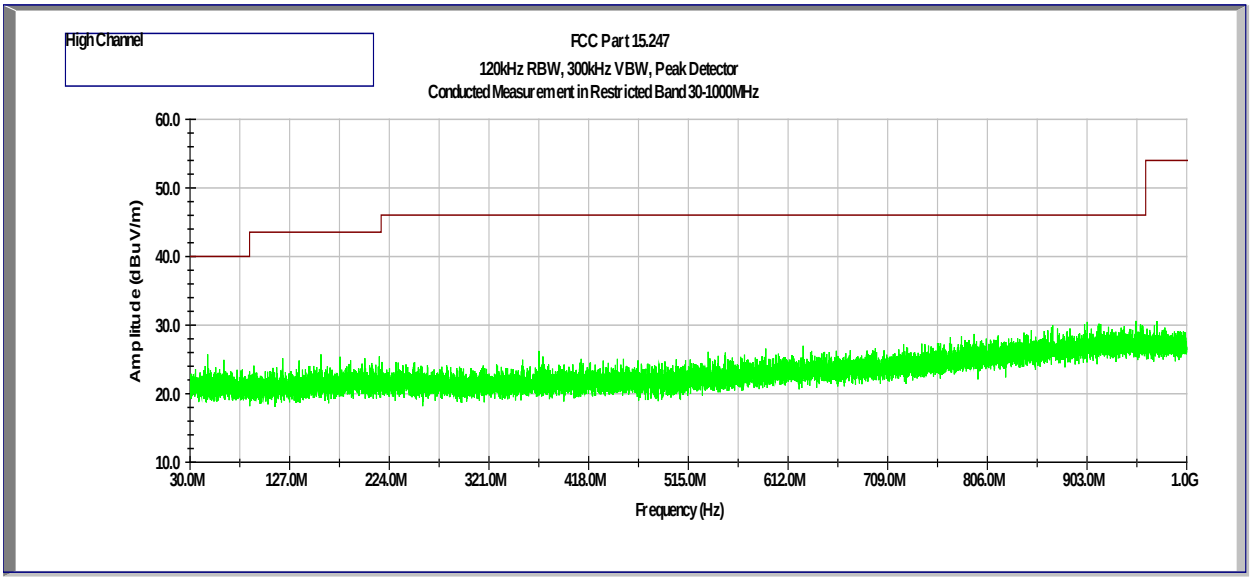


Frequency	Corrected Amplitude	Avg Limit	Margin	Detector	Results
GHz	dBµV/m	dBµV/m	dB		
4.868	47.0	54	-6.6	RMS	Pass

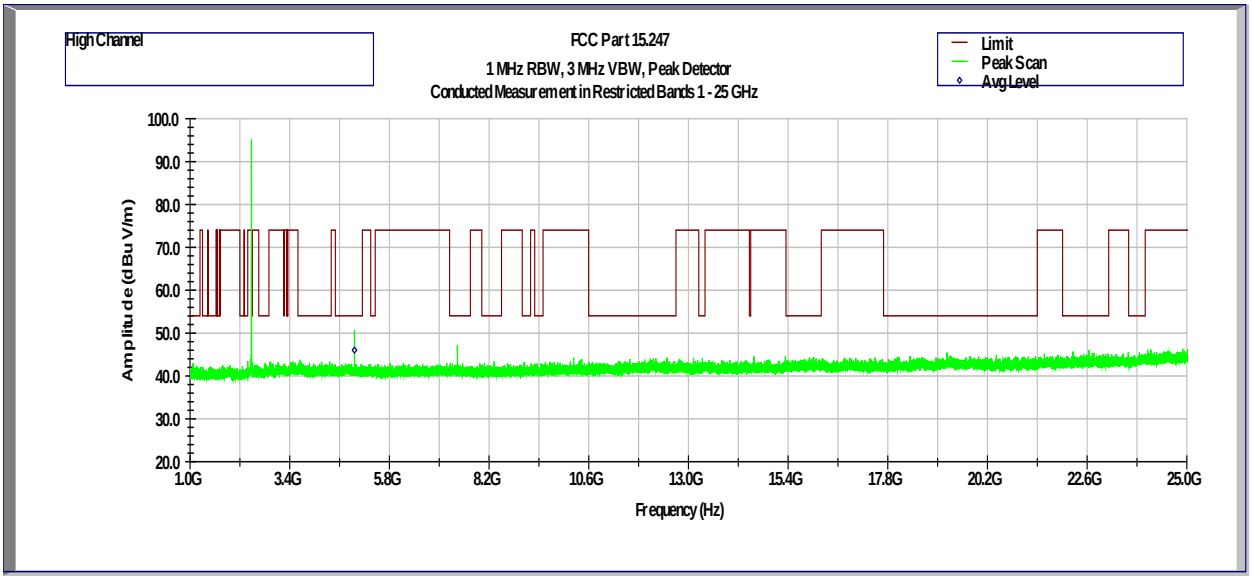
Out-of-Band Conducted Spurious Emissions (at Antenna Port)

Tx @ 2480MHz

Out-of-Band Spurious Emissions at Antenna Port - 30 MHz to 1 GHz



Out-of-Band Spurious Emissions at Antenna Port – 1 - 26 GHz Peak Detector vs Avg Limit

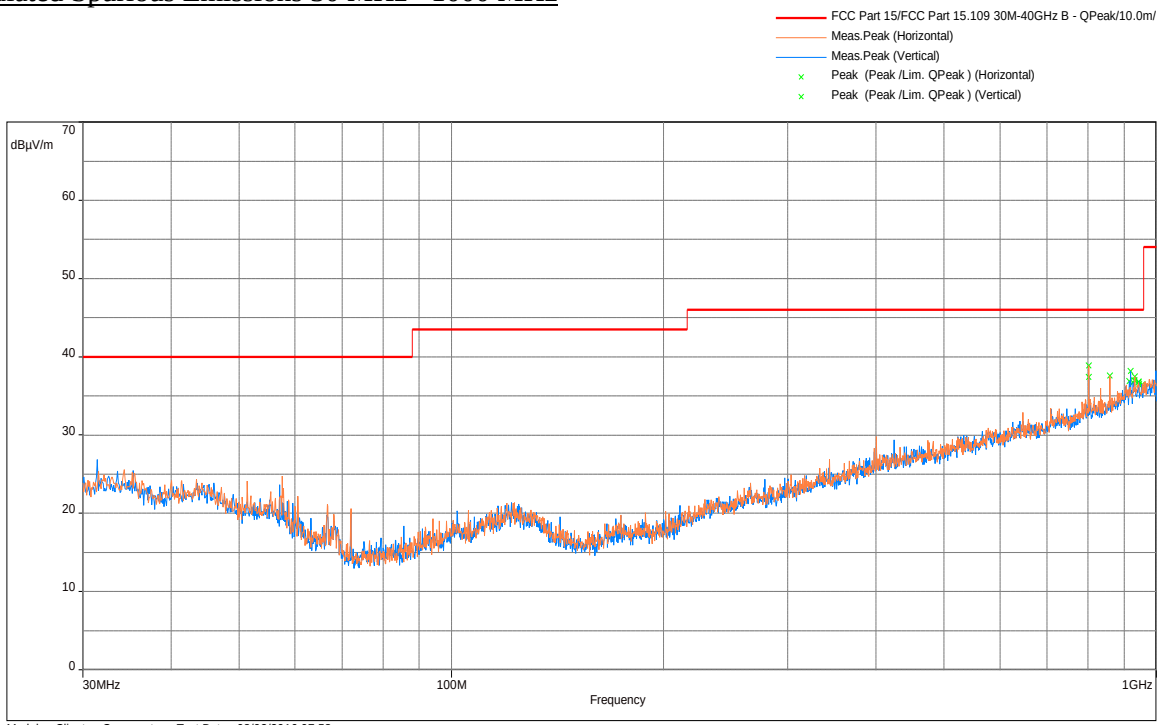


Frequency	Corrected Amplitude	Avg Limit	Margin	Detector	Results
GHz	dBµV/m	dBµV/m	dB		
4.960	46.0	54	-8.0	RMS	Pass

Out-of-Band Radiated Spurious Emissions (Cabinet Radiation)

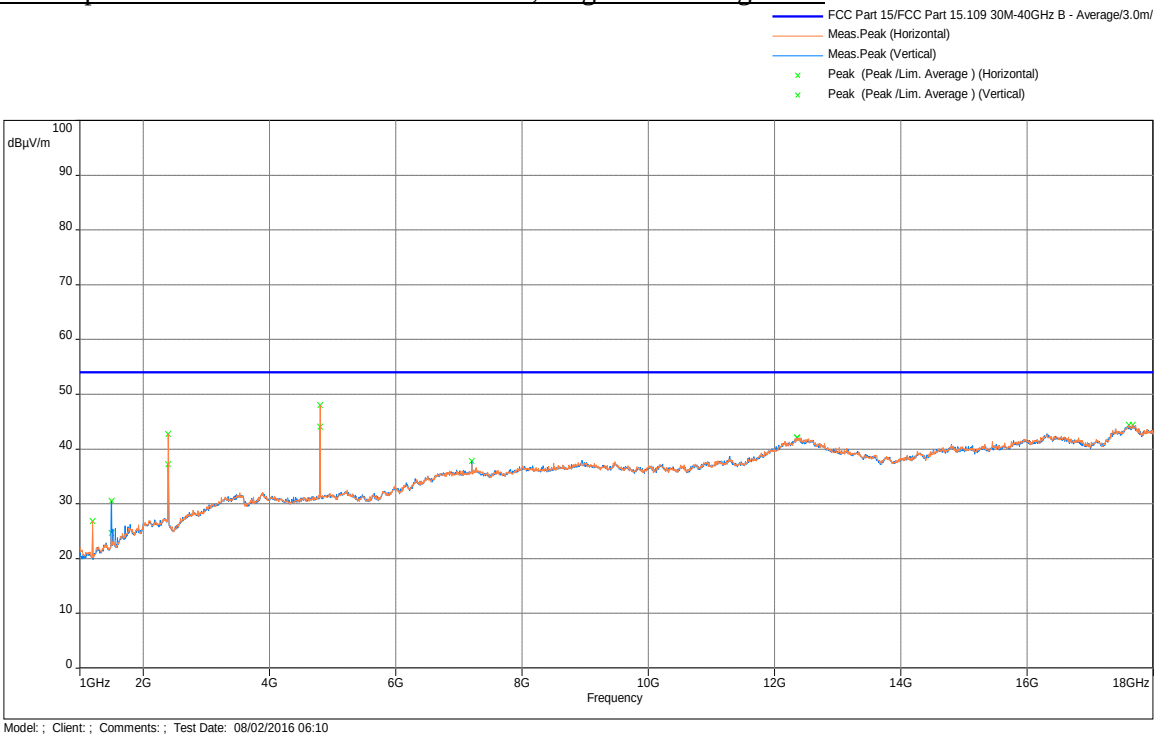
Test Results: 15.209 Radiated Spurious Emissions Low Channel, Tx at 2402MHz

Radiated Spurious Emissions 30 MHz - 1000 MHz



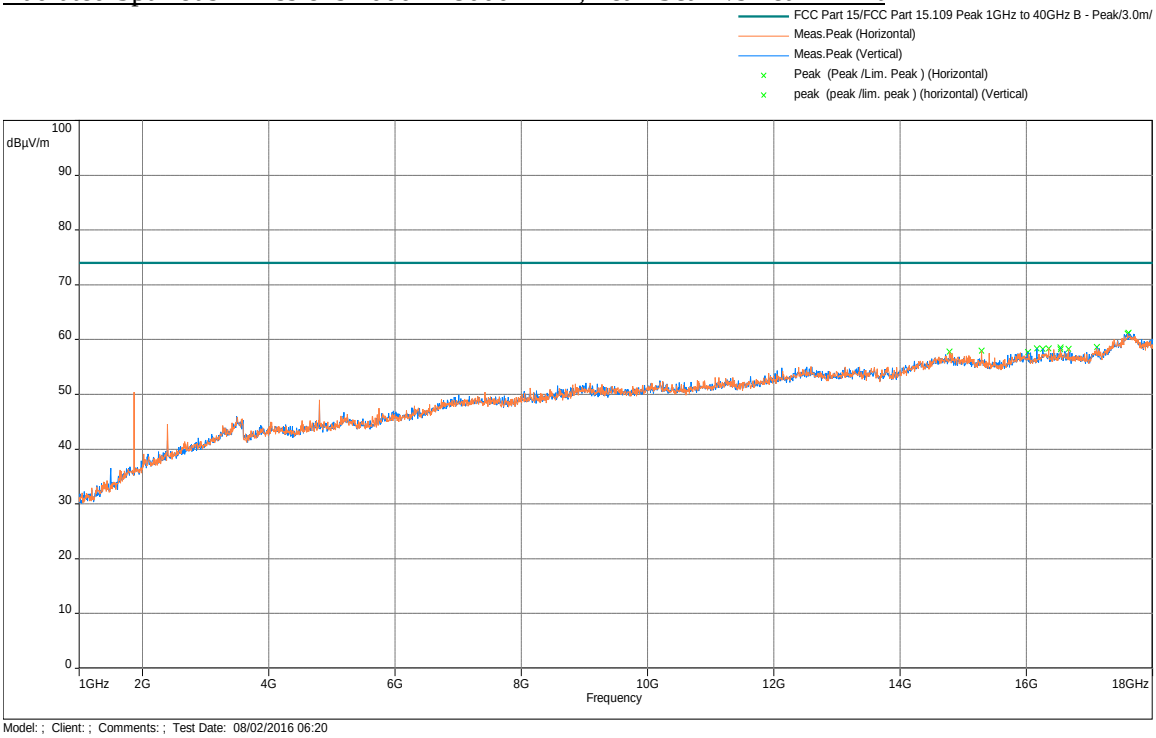
Model: ; Client: ; Comments: ; Test Date: 08/02/2016 07:58

Radiated Spurious Emissions 1000 - 18000 MHz, Avg Scan vs Avg Limit



Model: ; Client: ; Comments: ; Test Date: 08/02/2016 06:10

Radiated Spurious Emissions 1000 - 18000 MHz, Peak Scan vs Peak Limit



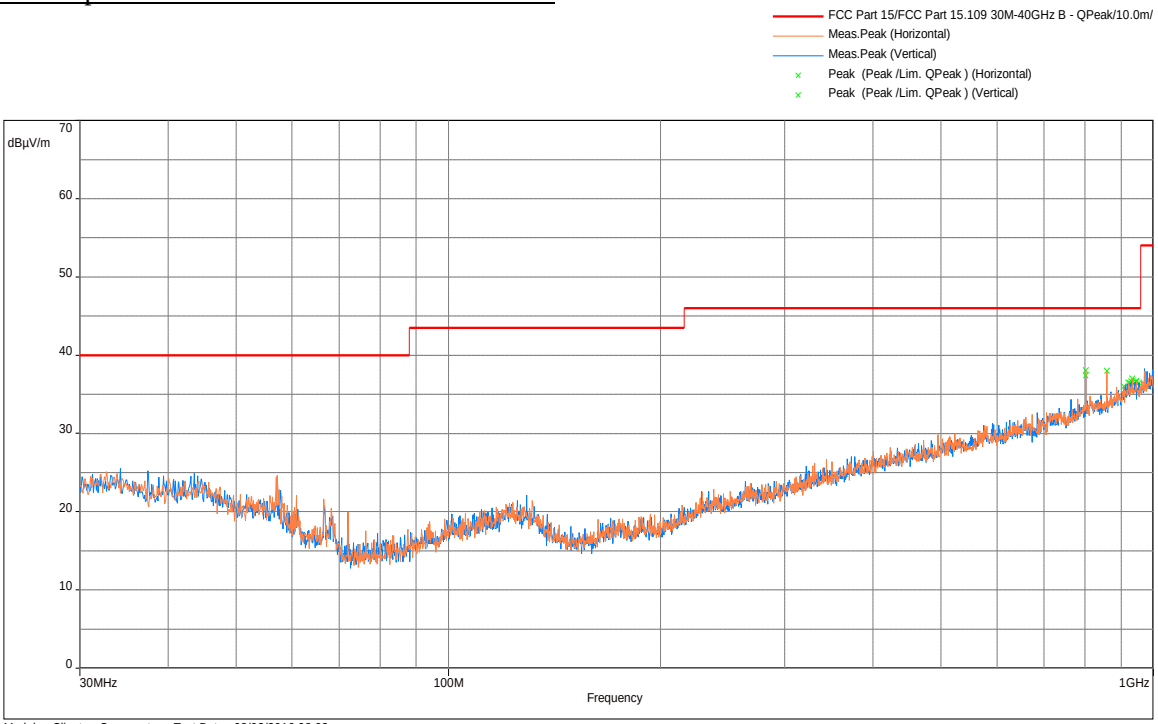
Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

Note: FS@3m = RA + AF + CF - Preamp

Results	**Complies**

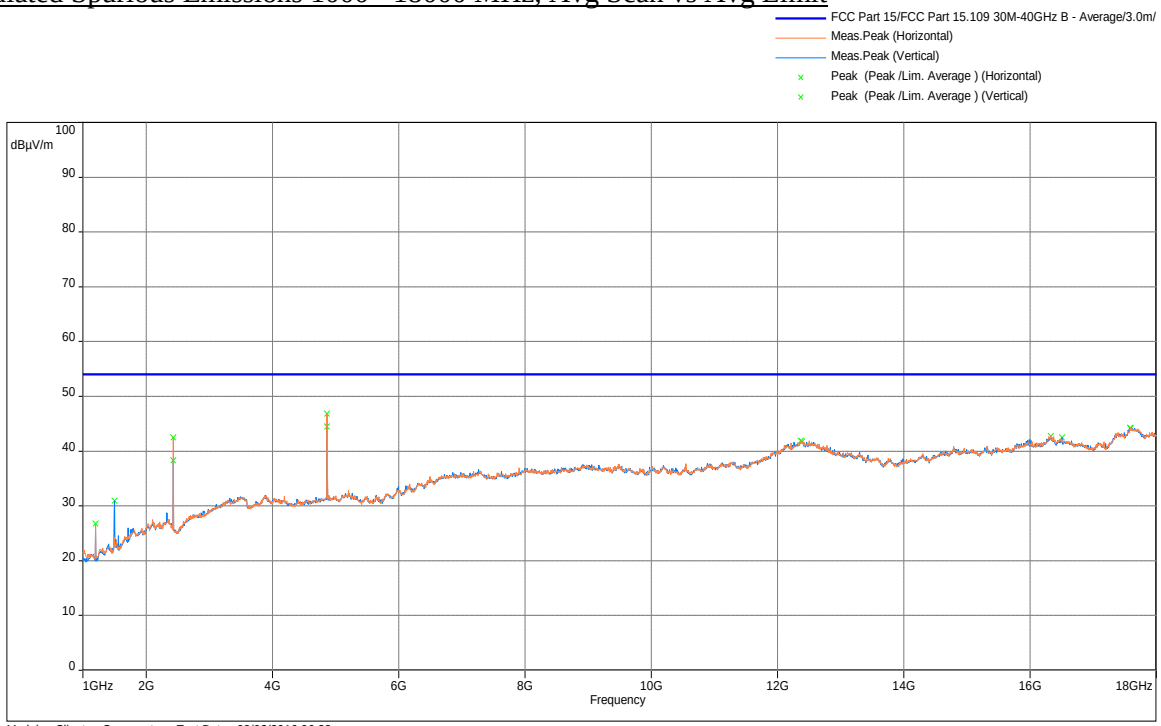
Test Results: 15.209 Radiated Spurious Emissions Mid Channel, Tx at 2434MHz

Radiated Spurious Emissions 30 MHz - 1000 MHz



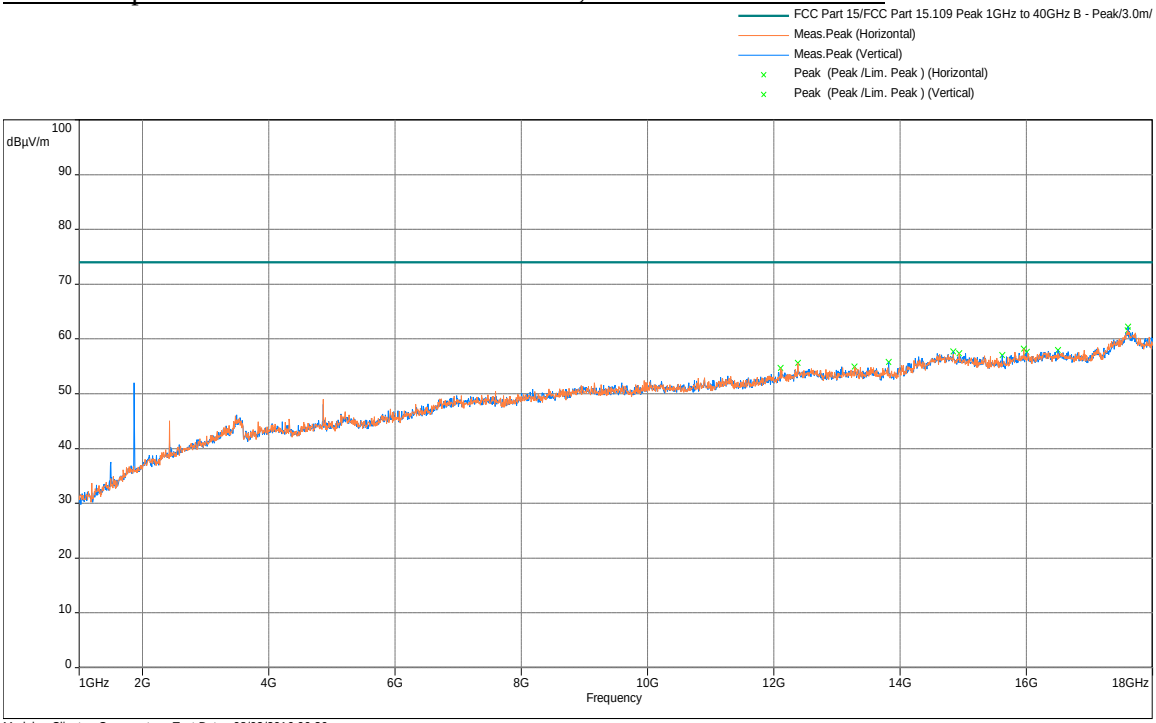
Model: ; Client: ; Comments: ; Test Date: 08/02/2016 08:03

Radiated Spurious Emissions 1000 - 18000 MHz, Avg Scan vs Avg Limit



Model: ; Client: ; Comments: ; Test Date: 08/02/2016 06:28

Radiated Spurious Emissions 1000 - 18000 MHz, Peak Scan vs Peak Limit



Model: ; Client: ; Comments: ; Test Date: 08/02/2016 06:36

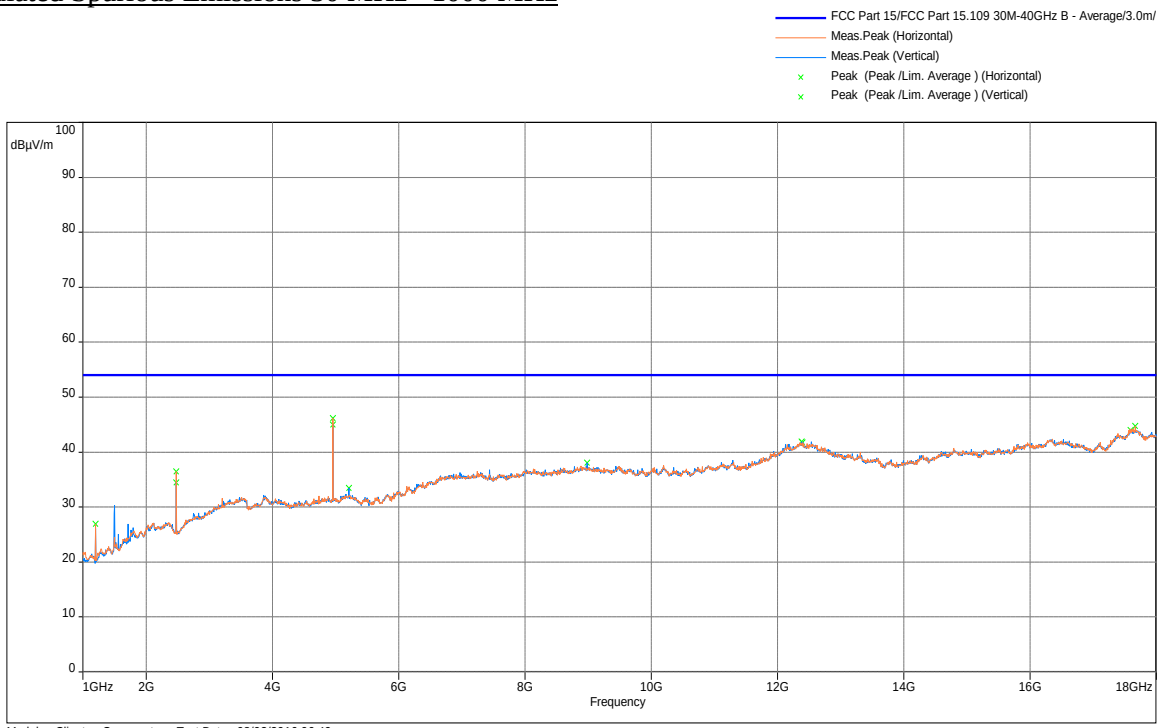
Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

Note: FS@3m = RA + AF + CF - Preamp

Results	**Complies**

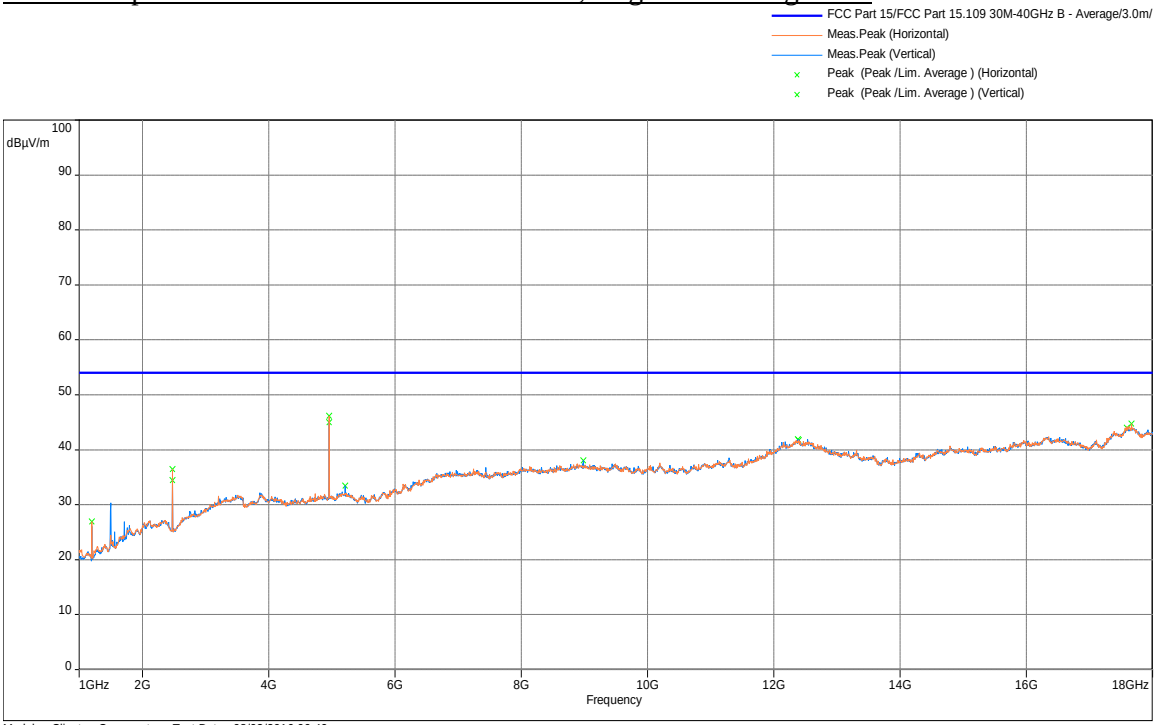
Test Results: 15.209 Radiated Spurious Emissions High Channel, Tx at 2480MHz

Radiated Spurious Emissions 30 MHz - 1000 MHz



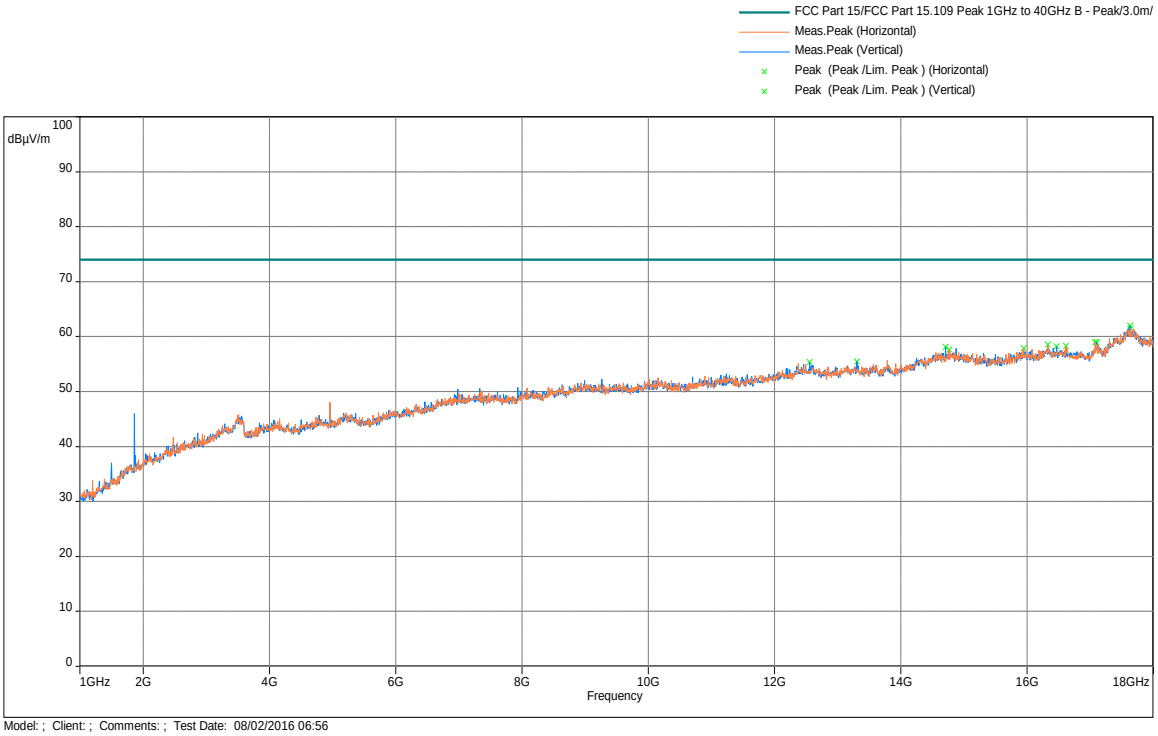
Model: ; Client: ; Comments: ; Test Date: 08/02/2016 06:49

Radiated Spurious Emissions 1000 - 18000 MHz, Avg Scan vs Avg Limit



Model: ; Client: ; Comments: ; Test Date: 08/02/2016 06:49

Radiated Spurious Emissions 1000 - 18000 MHz, Peak Scan vs Peak Limit



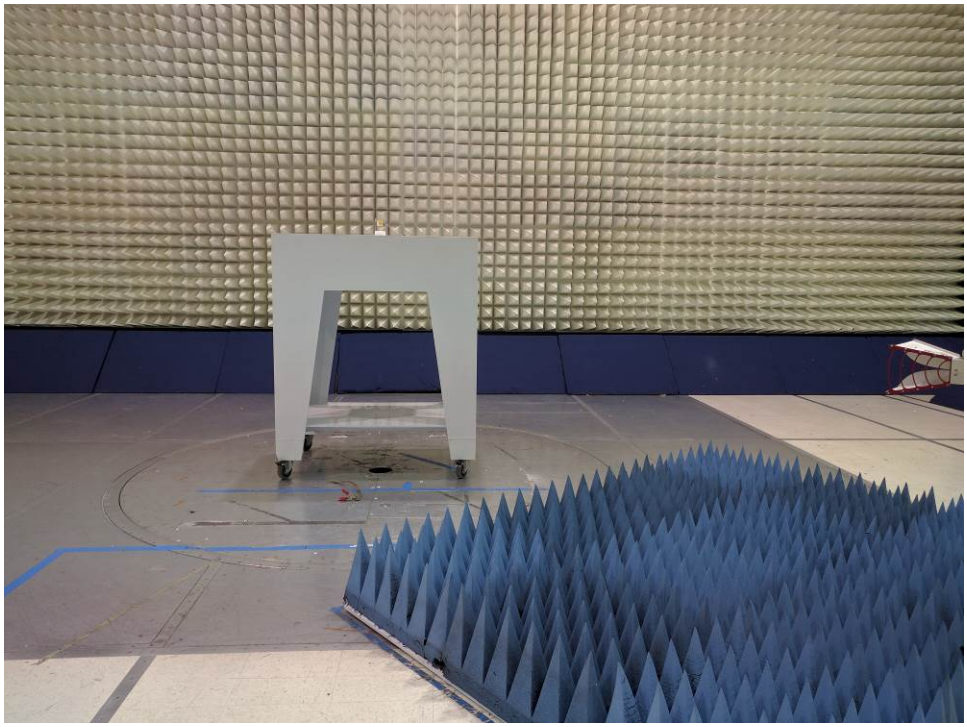
Note: Radiated emission measurements were performed up to 25GHz. No Emissions were identified when scanned from 18-25 GHz

Note: FS@3m = RA + AF + CF - Preamp

Results	**Complies**

4.5.8 Test setup photographs

The following photographs show the testing configurations used.



5.0 RF Exposure Evaluation

The device is used in a portable RF exposure configuration – at a distance less than 20 cm from human's body. For this configuration SAR evaluation is required.

The RF Power is low; therefore the SAR test exclusion threshold is calculated.

SAR test exclusion threshold formula according to FCC KDB 447898 D01 v05r02 is

$$P*\sqrt{f}/d < 3$$

Where:
P *is maximum RF conducted power of a channel or EIRP, including tune-up tolerance, mW;*
f *is operating frequency in GHz;*
d *is the minimum test separation distance, mm; the minimum distance is 5 mm.*

The maximum Peak EIRP calculated is -0.90 dBm (RF Conducted Power) + 0 dBi (Antenna Gain) = -0.90 dBm or 0.813 mW (P); therefore, to comply with RF Exposure Requirement, the MPE is calculated.

The **SAR test exclusion threshold** at 5mm distance is calculated as:

$0.813 \times \sqrt{2.480} \div 5 = 0.25 < 3$.

Therefore, SAR testing is not required as the SAR Test Exclusion Threshold condition is satisfied.

For IC: ***SAR Exemption limit according to IC RSS-102 Issue 5, at 5 mm separation distance = 4 mW***

Routine evaluation is not required since the higher of the maximum conducted or equivalent isotropically radiated power (e.i.r.p.) source-based, time averaged output power is below the exemption limit.

Date of Test:	August 5, 2016
Results	**Complies**

6.0 List of Test Equipment

Measurement equipment used for emission compliance testing utilized the equipment on the following list:

Equipment	Manufacturer	Model/Type	Asset #	Cal Int	Cal Due
EMI Receiver	Rohde and Schwarz	ESU	ITS 01375	12	12/11/16
Spectrum Analyzer	Rohde and Schwarz	FSU	ITS 00913	12	01/05/17
BI-Log Antenna	ARA	LPB-2513/A	ITS 00355	12	09/11/16
Pyramidal Horn Antenna	EMCO	3160-09	ITS00571	#	#
Pre-Amplifier	Sonoma Instrument	310N	ITS 00942	12	01/07/17
Pre-Amplifier (18-40GHz)	Miteq	TTA1840-35-S-M	ITS 01393	12	04/13/17
Horn Antenna	ETS-Lindgren	3115	ITS 00982	12	12/16/16
Pre-Amplifier (1-18GHz)	Miteq	AMF-4D-001180-24-10P	ITS 01365	12	10/06/16

No Calibration required

7.0 Document History

Revision/ Job Number	Writer Initials	Reviewers Initials	Date	Change
1.0 / G102684890	AS	KV	August 29, 2016	Original document