TEST REPORT

Report Number: 101406995MPK-001
Project Number: G101406995
Report Date: November 20, 2013

Testing performed on the
Prep Pad
Model Number: P1
FCC ID: 2AA7T-PREPPAD
IC: 11547A-PREPPAD
to

FCC Part 15 Subpart C (15.247)
Industry Canada RSS-210 Issue 8
FCC Part 15, Subpart B
Industry Canada ICES-003
for

The Orange Chef Company

Test Performed by:	Test Authorized by:
Intertek	The Orange Chef Company
1365 Adams Court	1355 Market Street, Suite 488
Menlo Park, CA 94025 USA	San Francisco, CA 94103 USA

Prepared by: _____ **Date:** November 20, 2013
Anderson Soungpanya

Reviewed by: _____ **Date:** November 20, 2013
Krishna K Vemuri

Report No. 101406995MPK-001

Equipment Under Test:	Prep Pad
Trade Name:	The Orange Chef Company
Model Nos.:	P1
Serial Number:	P100000001
FCC ID:	2AA7T-PREPPAD
IC: `	11547A-PREPPAD
Applicant:	The Orange Chef Company
Contact:	Mr. Ankit Brahmbhatt
Address:	1355 Market Street, Suite 488 San Francisco, CA 94103
Country	USA
Tel. Number:	(510) 909-5537
Email	Ankit@theorangechef.com
Applicable Regulation:	FCC Part 15 Subpart C (15.247) Industry Canada RSS-210 Issue 8 FCC Part 15, Subpart B Industry Canada ICES-003
Test Site Location:	ITS – Site 1 1365 Adams Drive Menlo Park, CA 94025
Date of Test:	November 04 to 08, 2013

We attest to the accuracy of this report:

Anderson Soungpanya
Project Engineer

Krishna K Vemuri
EMC Senior Staff Engineer

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1.0 Introduction

The Equipment Under Test (EUT) is Prep Pad, model: P1, The Prep Pad is a Bluetooth Prep Pad smart food scale which pairs with a mobile application to give users more insight into their food. It's intended to be used in the kitchen or other places of food preparation.

The Equipment Under Test (EUT) is a device with a DTS (Digital Transmission System) transceiver operating in the 2.4GHz frequency band.

This report is designed to show compliance of the 2.4 GHz transceiver with FCC Part 15.247 and RSS-210 requirements.

1.1 Summary of Tests

TEST	REFERENCE FCC 17.247	REFERENCE RSS-210	RESULTS
Output Power	15.247(b)(3)	A8.4(4)	Complies
6-dB Bandwidth	15.247(a)(2)	A8.2(a)	Complies
Power Spectral Density	15.247(e)	A8.2(b)	Complies
Out-of-Band Antenna Conducted Emission	15.247(d)	A8.5	The EUT has a permanently attached internal antenna. It does not contain an antenna port connector. Instead of Antenna Conducted measurements, Radiated measurements were performed.
Out-of-Band Radiated Emission (except emissions in Restricted Bands)	15.247(d)	A8.5	Complies
Radiated Emission in Restricted Bands	15.247(d), 15.205	2.2	Complies
RF exposure	15.247(i)	RSS-102	Complies
AC Conducted Emission	15.207	RSS-GEN	Not Applicable [1]
Radiated Emission from Digital Parts and Receiver	15.109	ICES-003 & RSS-GEN	Complies

[1] EUT is battery powered.

2.0 General Description

2.1 Product Description

Overview of the EUT

Applicant	The Orange Chef Company 1355 Market Street, Suite 488 San Francisco, CA 94103 USA
Manufacturer Name & Address	E Systems 3001 Coronado Drive Santa Clara, CA 95054_, USA
Model Number	P1
FCC Identifier	2AA7T-PREPPAD
IC	11547A-PREPPAD
Rated RF Output (EIRP)	-5.56 dBm (0.28 mW)
Frequency Range	2402 - 2480 MHz
Number of Channel(s)	40, Channels 0-39
Modulation Type	GFSK, 802.15.1 Bluetooth Low Energy (LE)
Antenna Type and Gain	Internal PCB Antenna, Gain = 5.3dBi

Production versions of the samples were received on November 1, 2013 in good condition. As declared by the Applicant, it is identical to production units.

Test start date November 4, 2013
Test end date: November 8, 2013

2.2 Related Submittal(s) Grants

None.

2.3 Test Methodology

Radiated and AC Line conducted emissions measurements were performed according to the procedures in ANSI C63.4. Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the **"Data Sheet"** of this Application. All other measurements were made in accordance with the procedures described in the FCC guidance document, *Measurement of Digital Transmission Systems Operating under Section 15.24, D01 DTS Meas Guidance v03r0.*

2.4 Test Facility

The radiated emission test site and conducted measurement facility used to collect the data is 10m semi-anechoic chamber located in Menlo Park, California. This test facility and site measurement data have been fully placed on file with the FCC and Industry Canada (Site # 2042L-1).

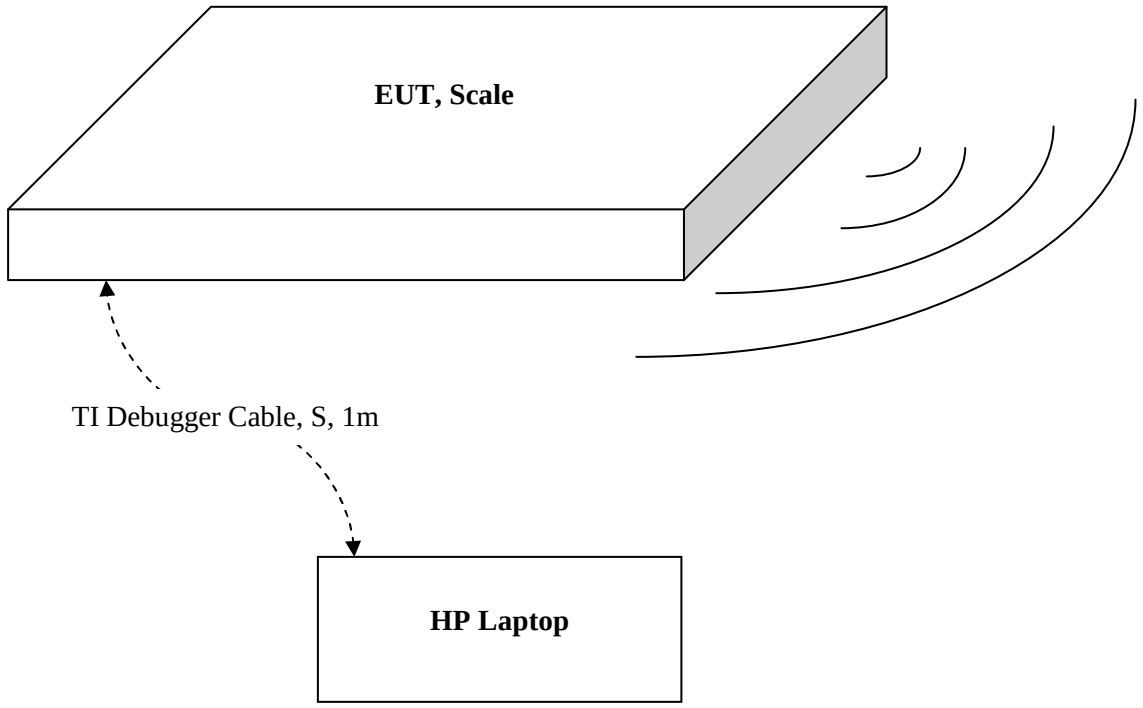
3.0 System Test Configuration

3.1 Support Equipment

Item #	Description	Model No.	Serial No.
1	HP Laptop	EliteBook 8460p	CNU14429SL
2	Texas Instrument CC Debugger	296-30207-ND	LX-00043800

3.2 Block Diagram of Test Setup

The diagram shown below details the interconnection of the EUT and support equipment. For specific layout, refer to the test configuration photograph in the relevant section of this report.



Note: In normal use EUT is battery operated and does not contain any cables. The TI Debugger Cable is used for setup purposes only which allowed control of the radio by test software. Radio tests were performed without this cable.

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

3.3 Justification

For radiated emission measurements the EUT was placed on a non-conductive table. The EUT was configured to transmit full power with batteries at full charge.

3.4 Software Exercise Program

TI Smart RF Flash Program.

3.5 Mode of Operation During Test

The EUT was setup in the software controlled test mode to continuous transmit a modulated signal at the lowest (2402 MHz), middle (2440 MHz) and highest (2480 MHz) channels.

3.6 Modifications Required for Compliance

No modifications were installed by Intertek Testing Services during compliance testing to bring the product into compliance.

4.0 Measurement Results

4.1 Conducted Output Power at Antenna Terminals
FCC 15.247(b)(3)

4.1.1 Requirements

For systems operating in the 2400-2483.5 MHz band using digital modulation, the maximum peak output power is 1 watt (30 dBm), the conducted power limit is based on the use of antenna with directional gain that do not exceed 6dBi. If the transmitting antenna of directional gain greater than 6dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated value as in FCC 15.247(b)(4)(i).

4.1.2 Procedure

The procedure described in FCC Publication 558074 D01 DTS Meas Guidance v03r01 April 9 2013 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.

The EUT has a permanently attached internal antenna. It does not contain an antenna port connector. Instead of Antenna Conducted measurements, Radiated measurements were performed.

The maximum field strength of the fundamental was measured 3 meters away from the EUT.

The transmitter's peak power was calculated using the following equation:

EIRP = E + 20log D - 104.8

where:

E = Electric field strength in dBµV/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters (3 meters)

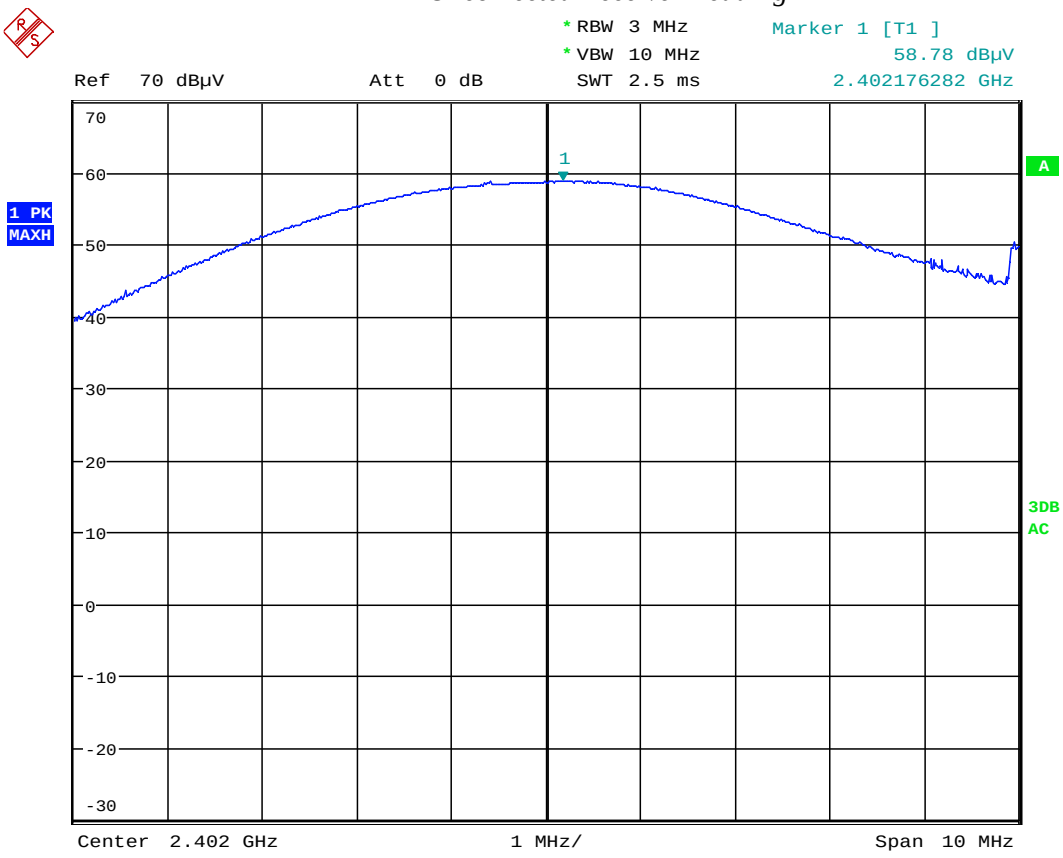
4.1.3 Test Results

Frequency (MHz)	EIRP Output in dBm	EIRP Output in mW	Plot number
2402	-6.25	0.24	1.1
2440	-6.73	0.21	1.2
2480	-5.56	0.28	1.3

Note: The EUT's antenna Gain is 5.3 dBi. The Conducted Output Power is difference between EIRP and Antenna Gain in dBi and, which is less than the specified limit 30dBm.

Plot 1.1

Uncorrected Receiver Reading



Output Power

Date: 5.NOV.2013 18:20:43

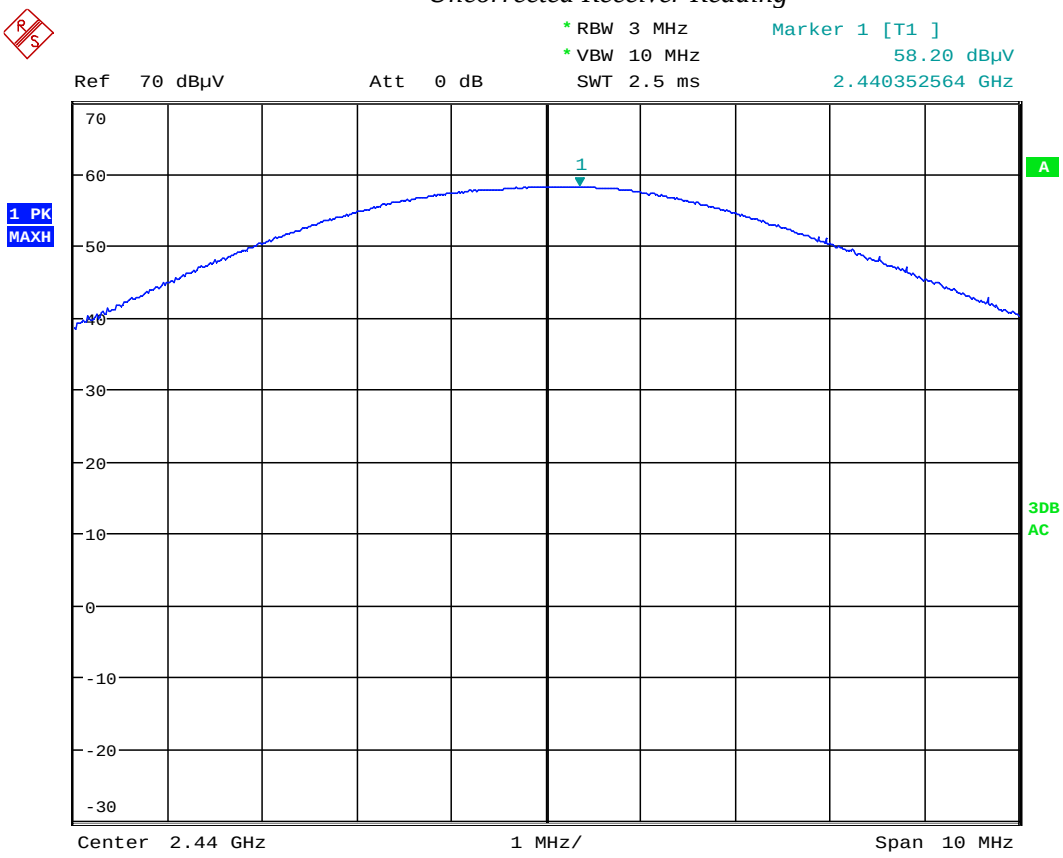
Final Corrected Reading

Frequency	RA	AG	CF	AF	Final Field Strength	EIRP	EIRP
MHz	dB(uV)	dB	dB	dB(1/m)	dB(uV/m)	dBm	mW
2402.0	58.78	0	2.1	28.1	88.98	-6.25	0.24

RA = Receiver Amplitude
AG = Amplifier Gain
CF = Cable Factor
AF = Antenna Factor

Plot 1.2

Uncorrected Receiver Reading



Output Power
Date: 5.NOV.2013 18:29:19

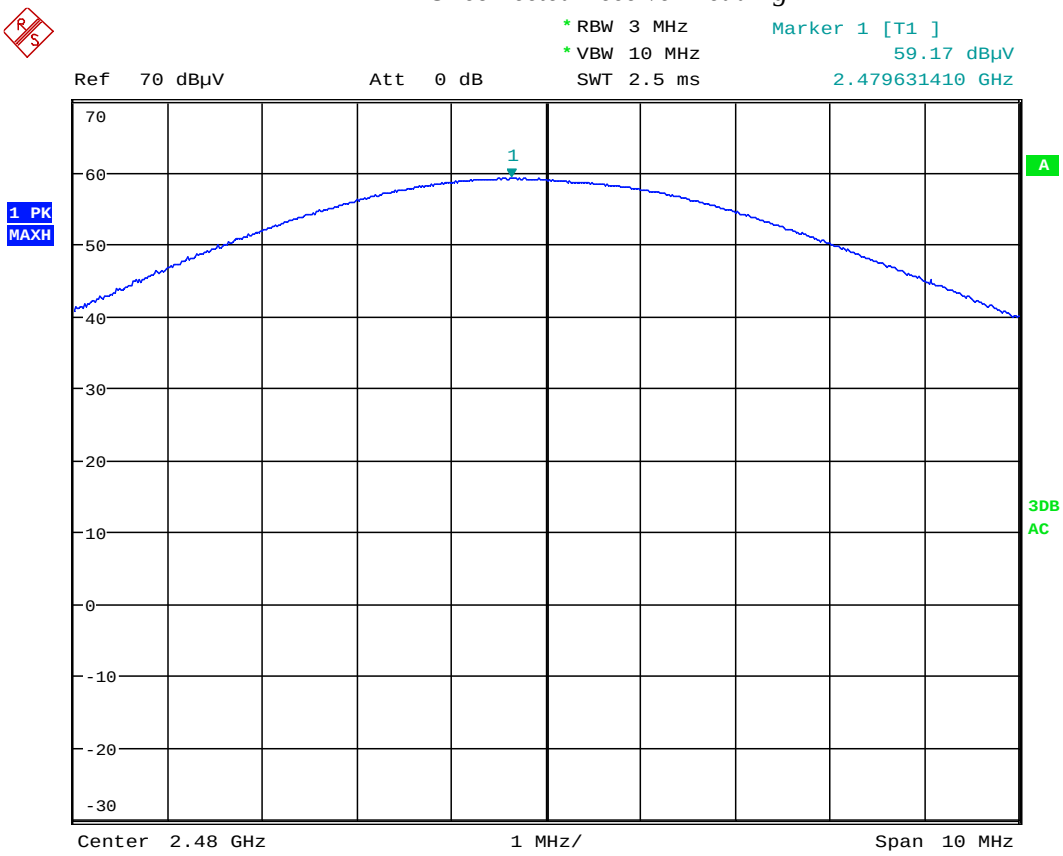
Final Corrected Reading

Frequency	RA	AG	CF	AF	Final Field Strength	EIRP	EIRP
MHz	dB(uV)	dB	dB	dB(1/m)	dB(uV/m)	dBm	mW
2440	58.20	0	2.2	28.1	88.5	-6.73	0.21

RA = Receiver Amplitude
AG = Amplifier Gain
CF = Cable Factor
AF = Antenna Factor

Plot 1.3

Uncorrected Receiver Reading



Output Power

Date: 5.NOV.2013 18:03:47

Final Corrected Reading

Frequency	RA	AG	CF	AF	Final Field Strength	EIRP	EIRP
MHz	dB(uV)	dB	dB	dB(1/m)	dB(uV/m)	dBm	mW
2480	59.17	0	2.3	28.2	89.67	-5.56	0.28

RA = Receiver Amplitude
AG = Amplifier Gain
CF = Cable Factor
AF = Antenna Factor

4.2 6-dB Bandwidth
FCC 15.247(a)(2)

4.2.1 Requirements
For systems operating in the 2400-2483.5 MHz band using digital modulation, the minimum 6-dB Bandwidth shall be at least 500kHz.

4.2.2 Procedure
A measuring antenna was placed in close proximity to the EUT.
For FCC 6dB Channel Bandwidth the Procedure described in the FCC Publication 558074 D01 DTS Meas Guidance v03r01 April 9 2013 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 the 6 dB bandwidth for RSS, the RBW was set to approximately 1% of the EBW without going below 1%.

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.

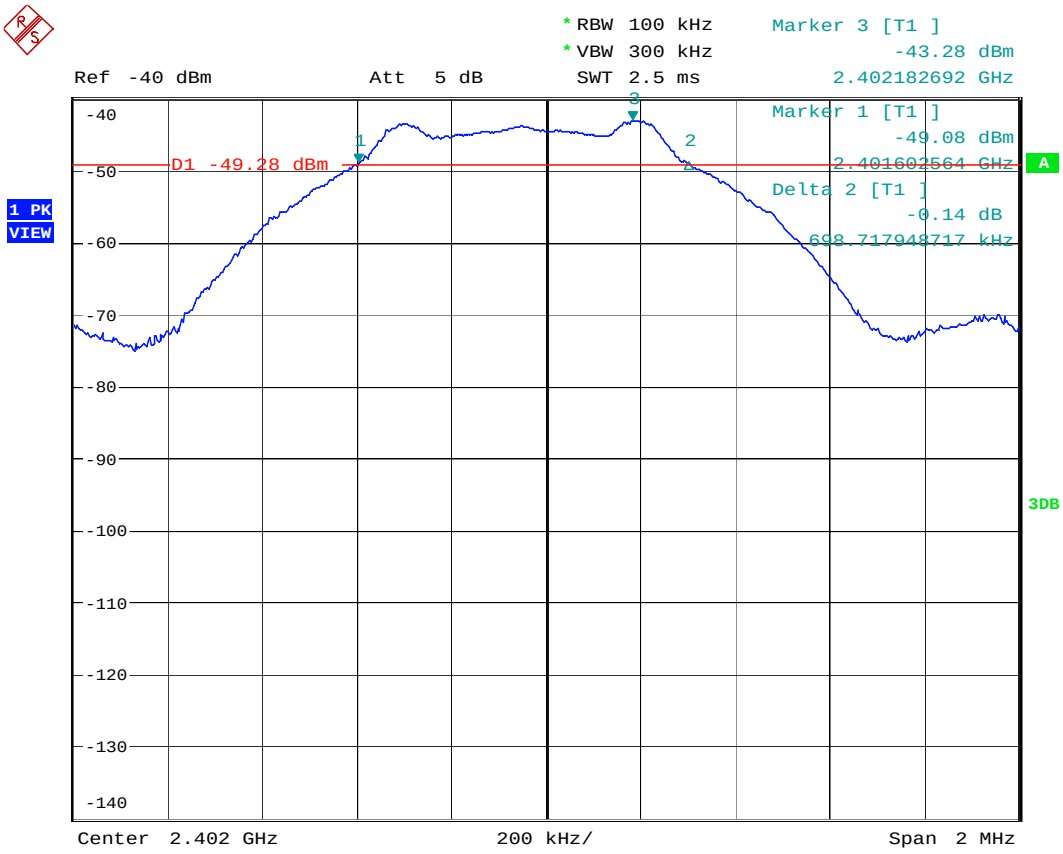
4.2.3 Test Results

Frequency (MHz)	FCC, 6-dB Channel Bandwidth (kHz)	Plot
2402	698.78	2.1
2440	711.54	2.2
2480	701.92	2.3

Frequency (MHz)	RSS, 6-dB Channel Bandwidth (kHz)	Plot
2402	637.82	2.4
2440	641.03	2.5
2480	605.77	2.6

Frequency (MHz)	99% Occupied Bandwidth (MHz)	Plot
2402	1.05	2.7
2440	1.06	2.8
2480	1.06	2.9

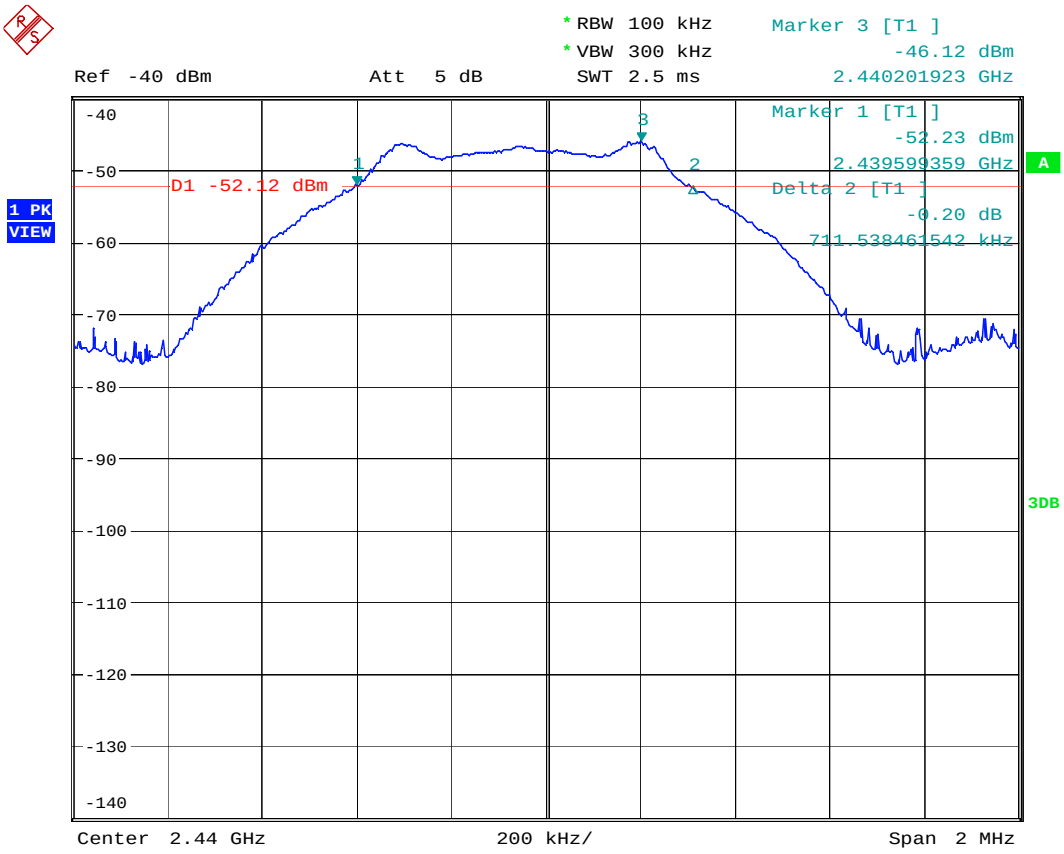
Plot 2. 1



Occupied Bandwidth

Date: 4.SEP.2013 01:53:11

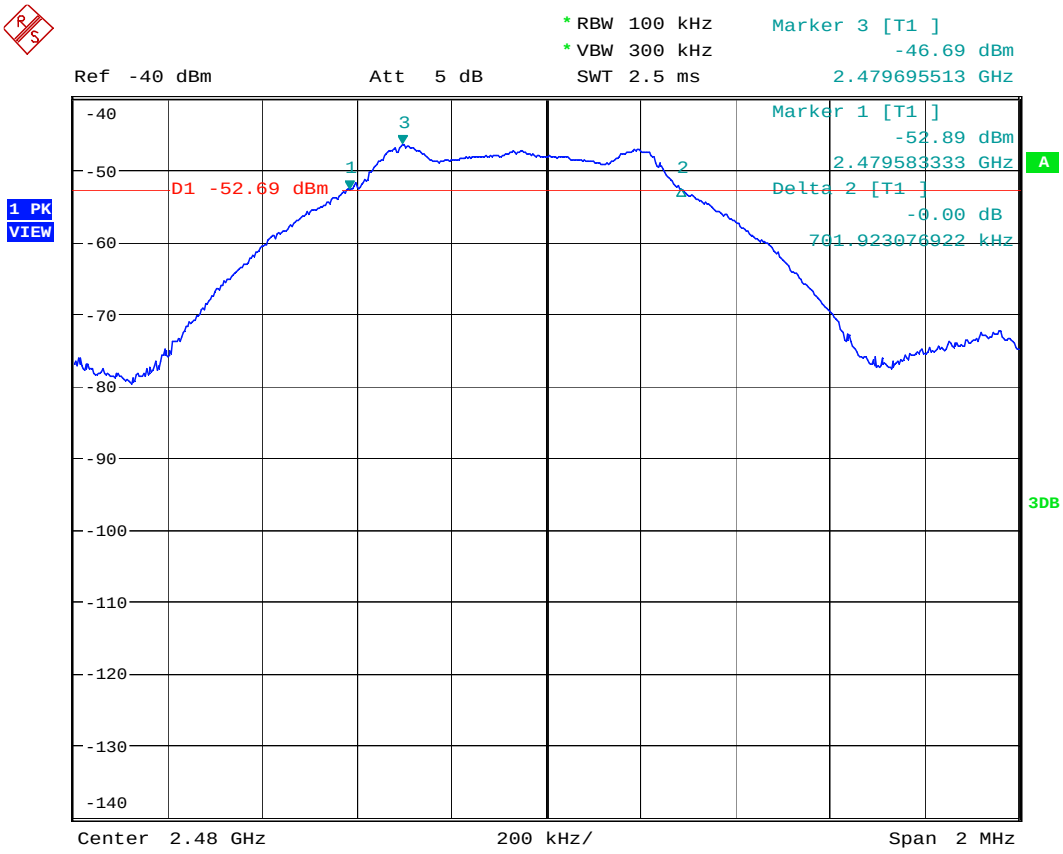
Plot 2. 2



Occupied Bandwidth

Date: 4.SEP.2013 02:08:53

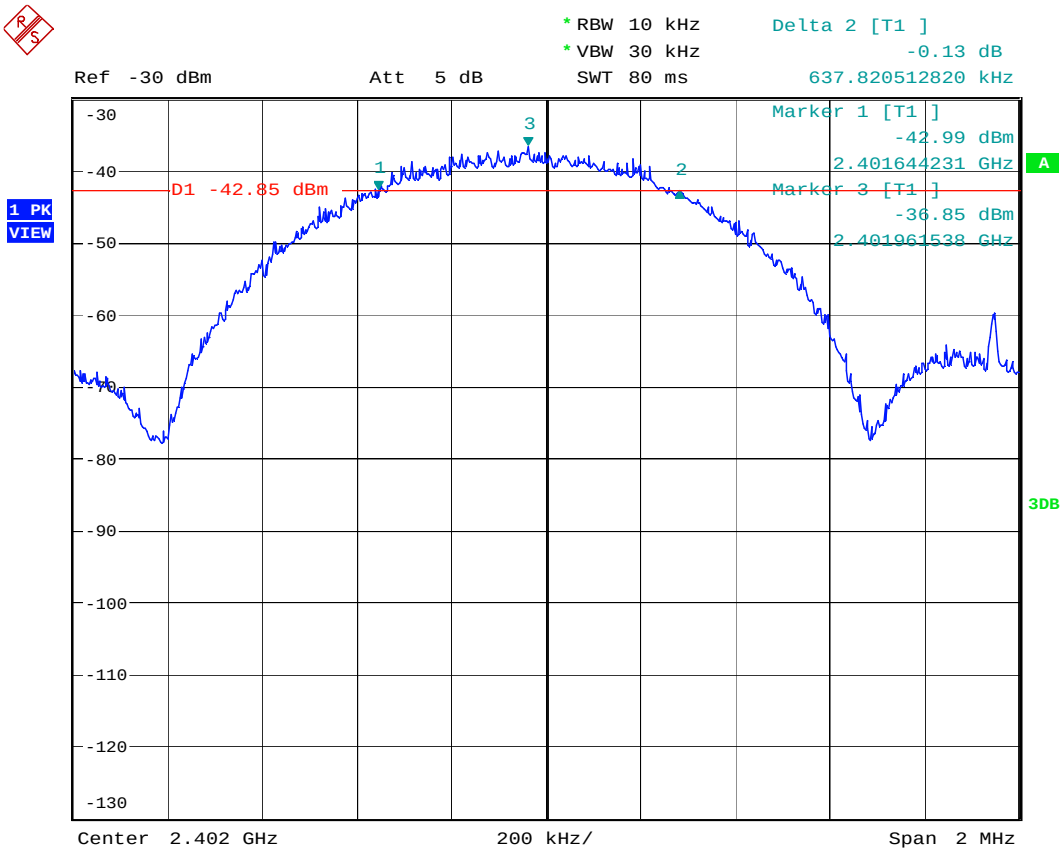
Plot 2. 3



Occupied Bandwidth

Date: 4.SEP.2013 02:16:01

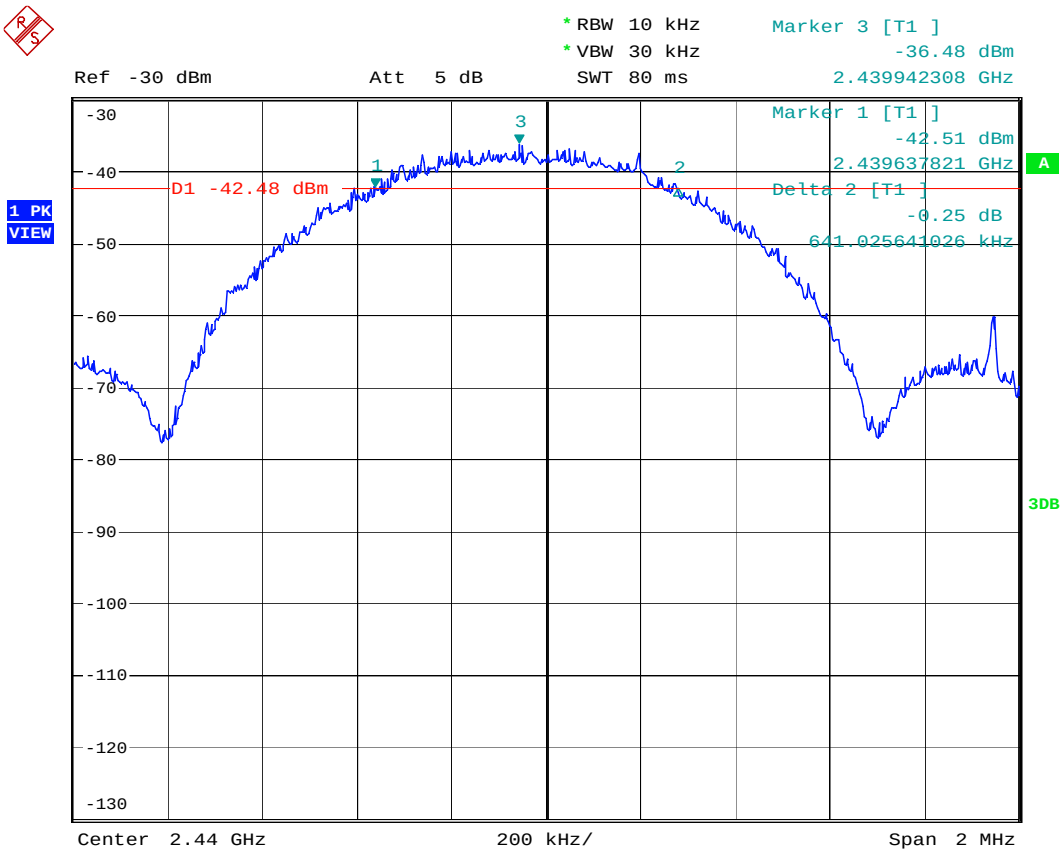
Plot 2. 4



Occupied Bandwidth

Date: 8.NOV.2013 15:30:32

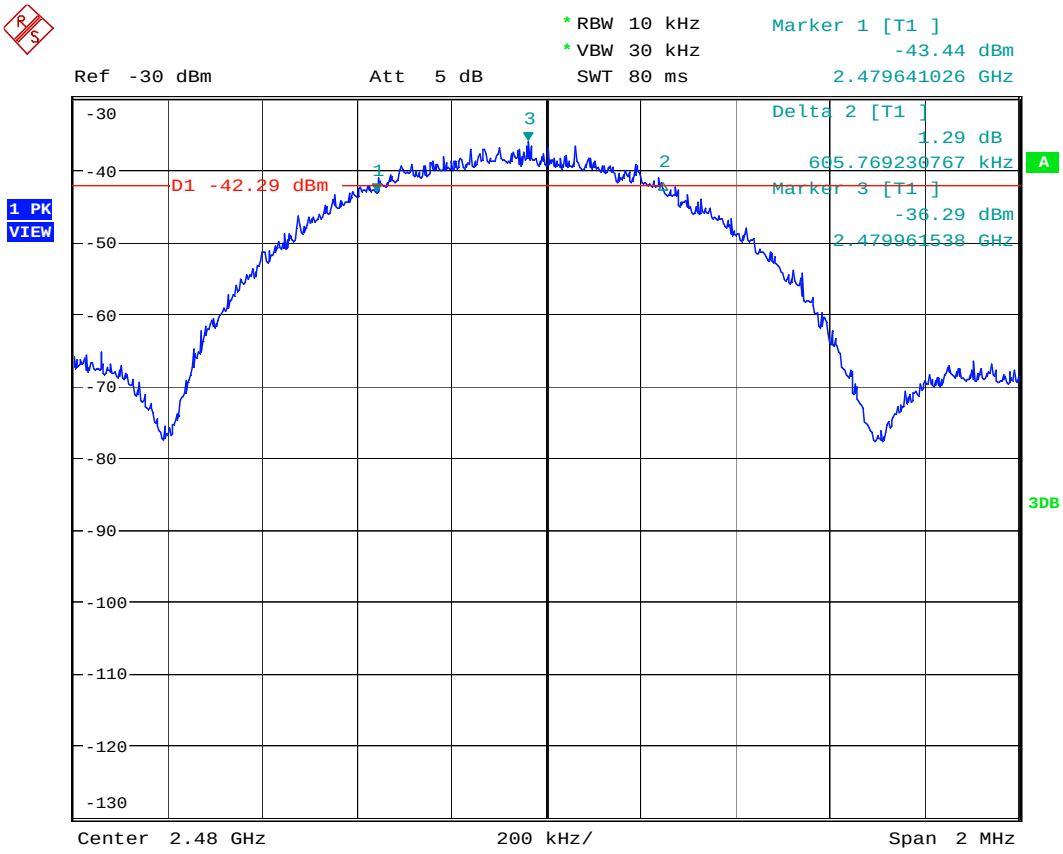
Plot 2. 5



Occupied Bandwidth

Date: 8.NOV.2013 15:35:58

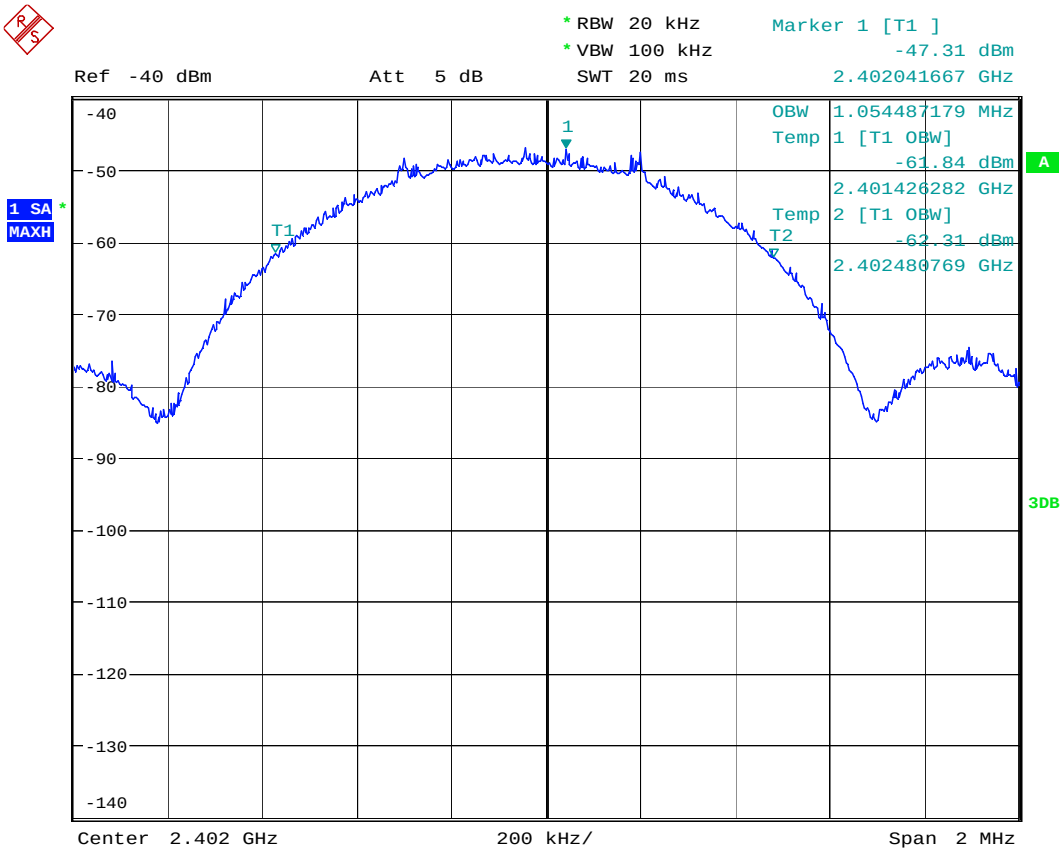
Plot 2. 6



Occupied Bandwidth

Date: 8.NOV.2013 15:40:09

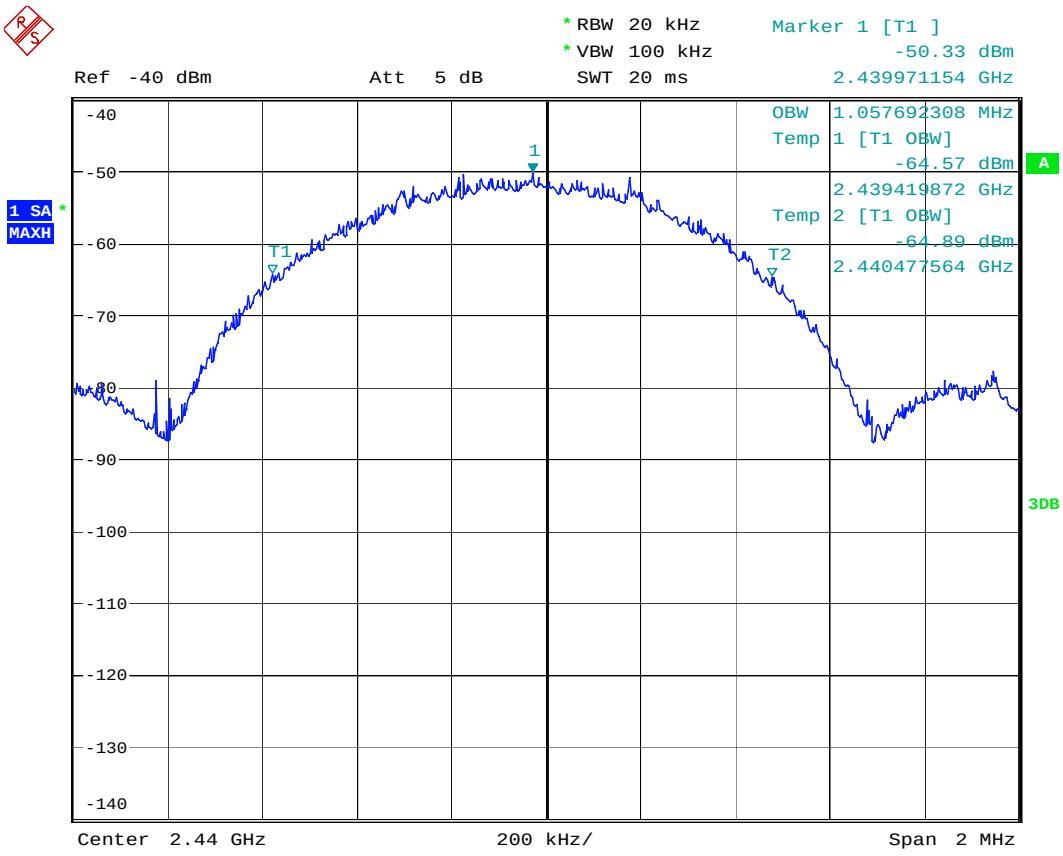
Plot 2. 7



Occupied Bandwidth

Date: 4.SEP.2013 02:01:19

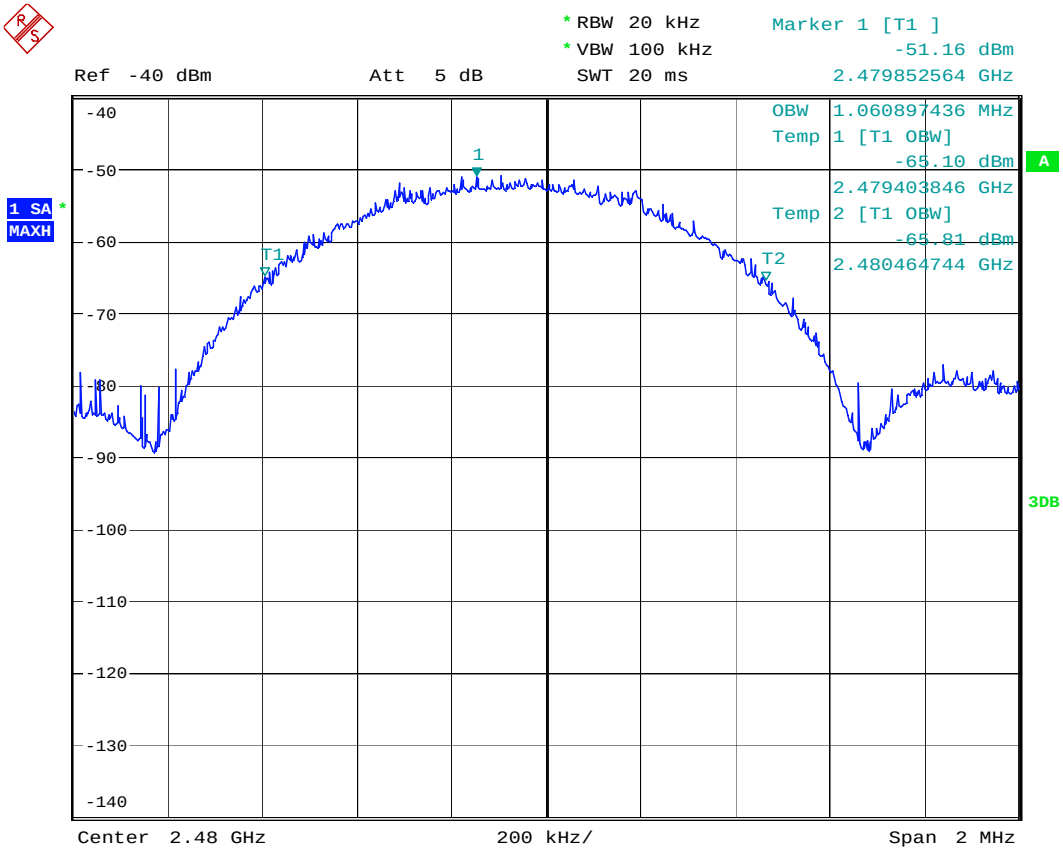
Plot 2. 8



Occupied Bandwidth

Date: 4.SEP.2013 02:03:47

Plot 2. 9



Occupied Bandwidth

Date: 4.SEP.2013 02:18:15

4.3 Out-of-Band Conducted Emissions
FCC 15.247(d)

4.3.1 Requirement

In any 100 kHz bandwidth outside the EUT pass-band, the RF power shall be at least 20 dB below that of the maximum in-band 100 kHz emission.

4.3.2 Procedure

The EUT has a permanently attached internal antenna. It does not contain an antenna port connector. Instead of Antenna Conducted measurements, Radiated measurements were performed. The out-of-band emissions were measured from 30 MHz to 25 GHz.

4.3.3 Test Result

Refer to the radiated emissions test data located in report section 4.5.

The attenuation of emissions outside the EUT pass-band is more than 20dB.

4.4 Power Spectral Density
FCC 15.247 (e)

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

4.4.2 Procedure
The EUT has a permanently attached internal antenna. It does not contain an antenna port connector. Instead of Antenna Conducted measurements, Radiated measurements were performed 3 meters away.

The procedure described in FCC Publication 558074 D01 DTS Meas Guidance v03r01 April 9 2013, 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.

The transmitter's peak power was calculated using the following equation:

EIRP = E + 20log D - 104.8

where:

E = electric field strength in dBμV/m,

EIRP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters (3 meters)

4.4.3 Test Result

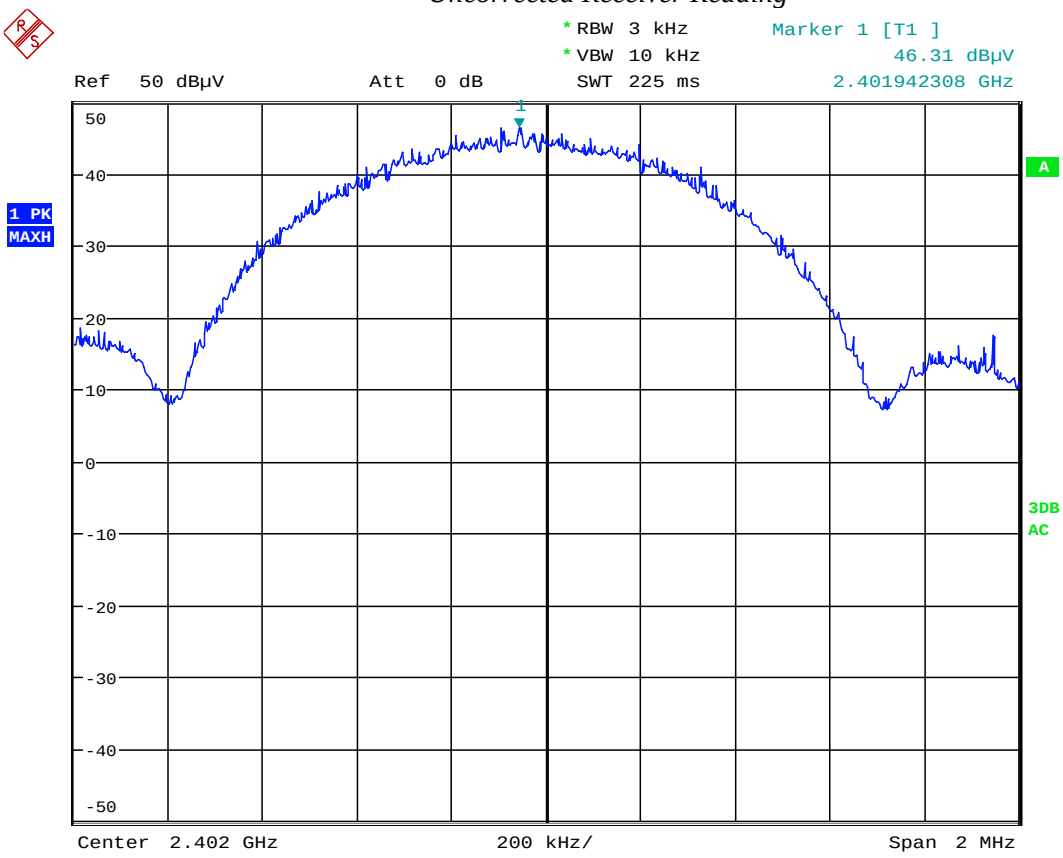
Refer to the following plots for the test result:

Frequency (MHz)	EIRP Power Spectral Density (dBm)	Plot
2402	-18.72	4.1
2440	-18.94	4.2
2480	-18.26	4.3

Note: The EUT's antenna Gain is 5.3 dBi. The Power spectral density conducted is difference between EIRP Power Spectral Density and Antenna Gain in dBi and, which is less than the specified limit 8dBm.

Plot 4. 1

Uncorrected Receiver Reading



Power Density

Date: 5.NOV.2013 18:22:13

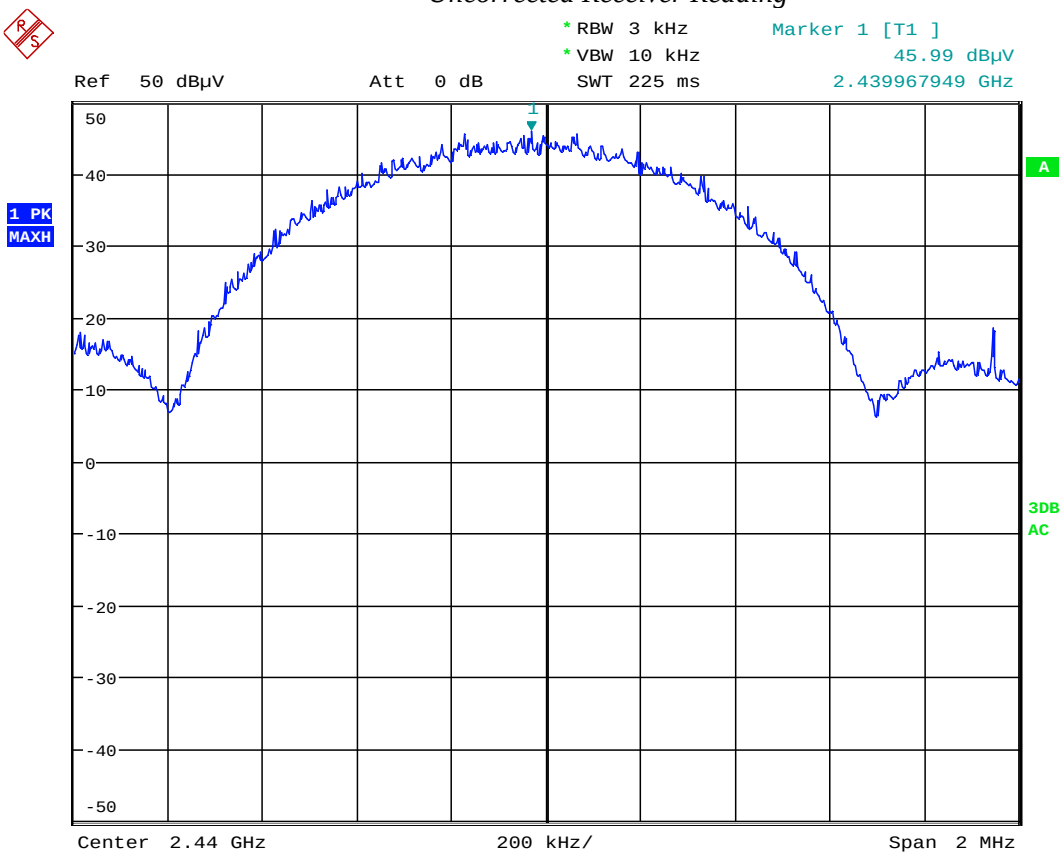
Final Corrected Reading

Frequency	RA	AG	CF	AF	Final Field Strength	EIRP	EIRP
MHz	dB(uV)	dB	dB	dB(1/m)	dB(uV/m)	dBm	mW
2402.0	46.31	0	2.1	28.1	76.51	-18.72	0.013

RA = Receiver Amplitude
AG = Amplifier Gain
CF = Cable Factor
AF = Antenna Factor

Plot 4. 2

Uncorrected Receiver Reading



Power Density

Date: 5.NOV.2013 18:30:57

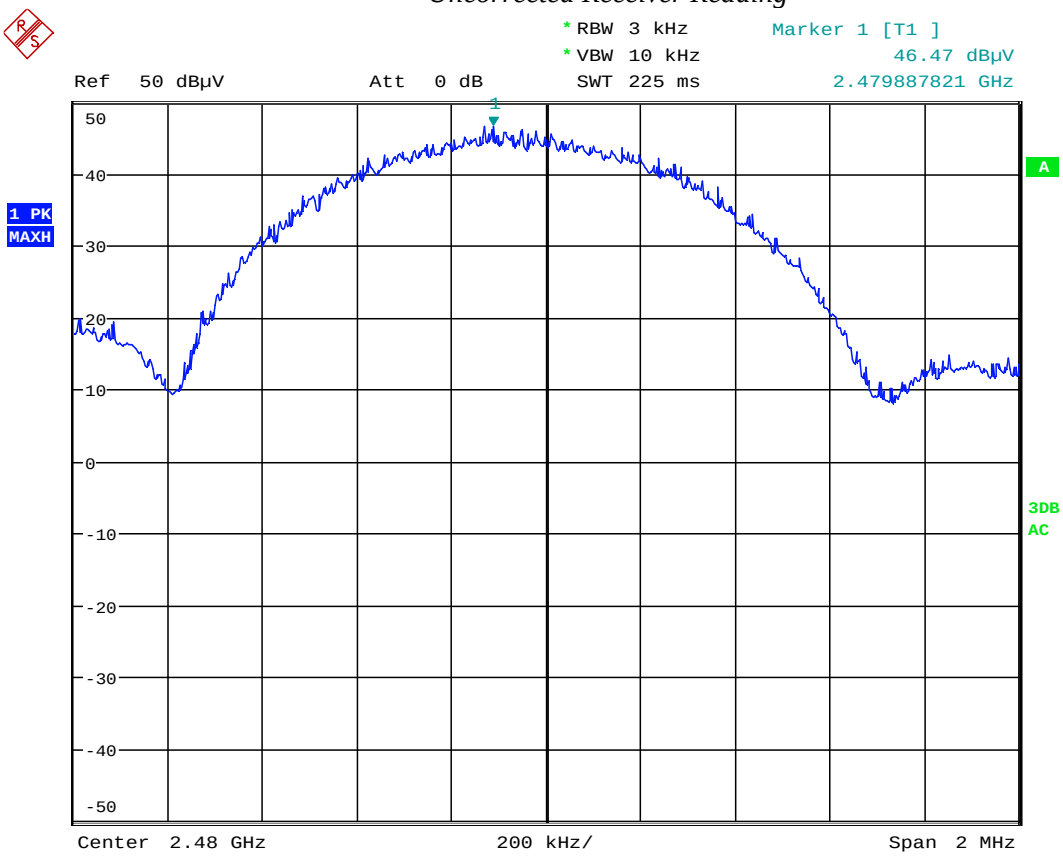
Final Corrected Reading

Frequency	RA	AG	CF	AF	Final Field Strength	EIRP	EIRP
MHz	dB(uV)	dB	dB	dB(1/m)	dB(uV/m)	dBm	mW
2440	45.99	0	2.2	28.1	76.29	-18.94	0.013

RA = Receiver Amplitude
AG = Amplifier Gain
CF = Cable Factor
AF = Antenna Factor

Plot 4. 3

Uncorrected Receiver Reading



Power Density

Date: 5.NOV.2013 18:07:27

Final Corrected Reading

Frequency	RA	AG	CF	AF	Final Field Strength	EIRP	EIRP
MHz	dB(uV)	dB	dB	dB(1/m)	dB(uV/m)	dBm	mW
2480	46.47	0	2.3	28.2	76.97	-18.26	0.015

RA = Receiver Amplitude
AG = Amplifier Gain
CF = Cable Factor
AF = Antenna Factor

4.5 Transmitter Radiated Emissions
FCC 15.247 (d), 15.205, 15.209

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 25,000 MHz. Spectrum Analyzer Resolution Bandwidth is 100 kHz or greater for frequencies 30 MHz to 1000 MHz, 1 MHz - for frequencies above 1000 MHz.

The EUT is placed on a non-conductive table. 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 three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance. All readings are extrapolated back to the equivalent three-meter reading using inverse scaling with distance.

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

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).

Field Strength Calculation

For measurements made at 10 meters distance
The field strength is calculated by adding the Antenna Factor and Cable Factor to from the measured reading, followed by subtracting the Amplifier Gain (if any) and Distance Correction Factor (if any). The basic equation with a sample calculation is as follows:

The field strength is calculated by adding the Antenna Factor and Cable Factor and the Distance Correction Factor; and subtracting the Amplifier Gain from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF – AG + DCF

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
DCF = Distance Correction Factor in dB for measurements made at 10 meters distance

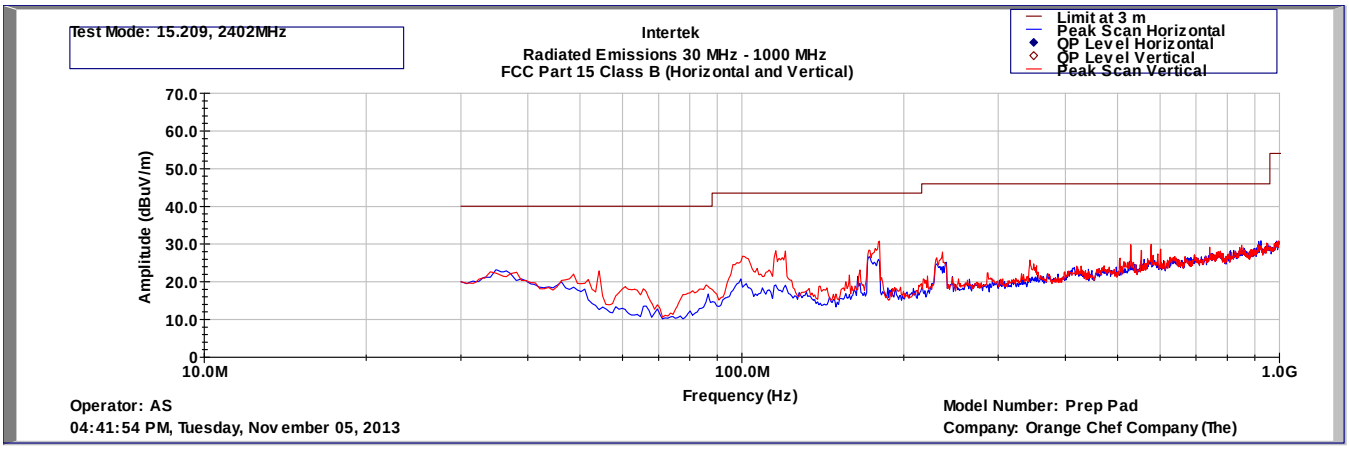
Assume a receiver reading of 52.5 dB(µV) is obtained. The antennas factor of 7.4 dB(1/m) and cable factor of 1.6 dB is added. The amplifier gain of 29 dB and Distance Correction Factor (for measurements made at 10 meters distance) of 10.5 dB is added, giving field strength of 43 dB(µV/m). This value in dB(µV/m) was converted to its corresponding level in µV/m.
RA = 52.5 dB(µV)
AF = 7.4 dB(1/m)
CF = 1.6 dB
AG = 29.0 dB
DCF = 10.5 dB
FS = 52.5+7.4+1.6-29.0+10.5 = 43 dB(µV/m).
Level in µV/m = Common Antilogarithm [(43 dBµV/m)/20] = 141.3 µV/m.

For measurements made at 3 meters distance
The field strength is calculated by following the example above *for measurements made at 10 meters distance* except the Distance Correction Factor in dB is not applied.

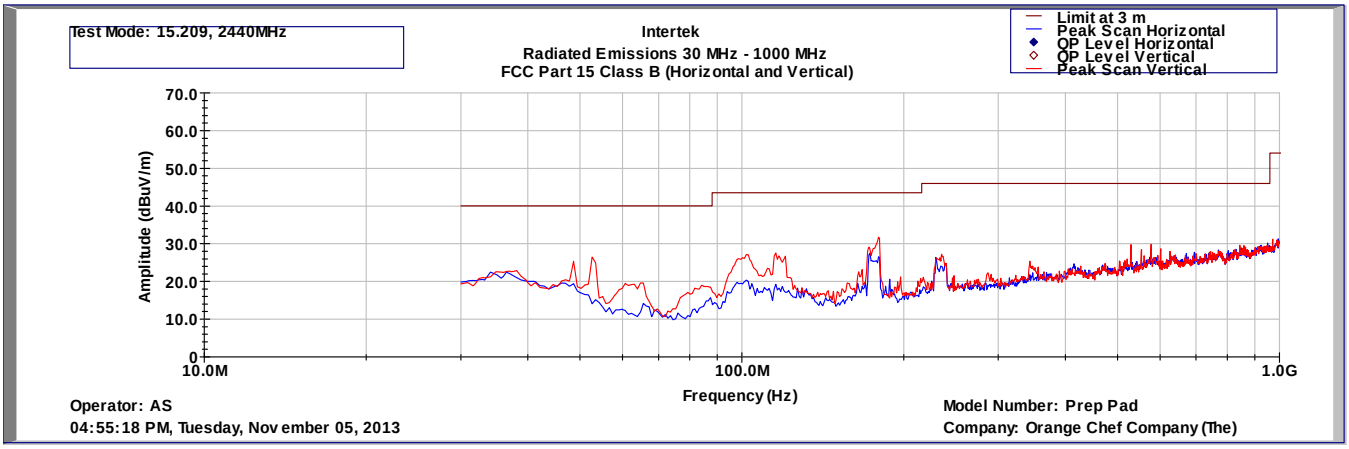
4.5.3 Result
The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Test Results: 15.209 Radiated Spurious Emissions 30 MHz - 1000 MHz

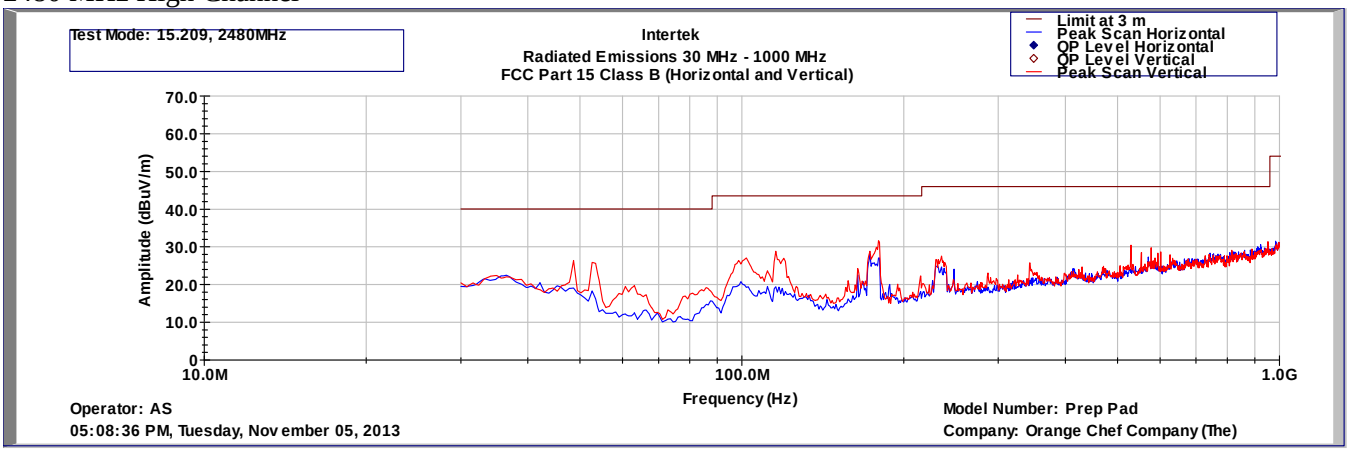
2402 MHz Low Channel



2440 MHz Mid Channel



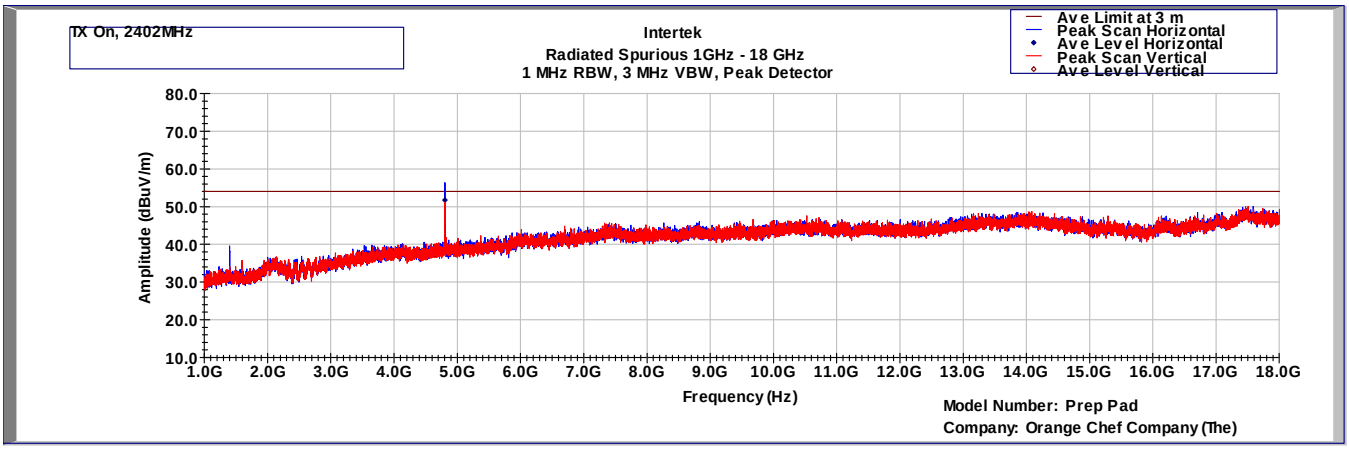
2480 MHz High Channel



Notes: Measurements made at 10 meters distance.

Test Results: 15.209 Radiated Spurious Emissions 1 GHz - 18 GHz

2402 MHz Low Channel

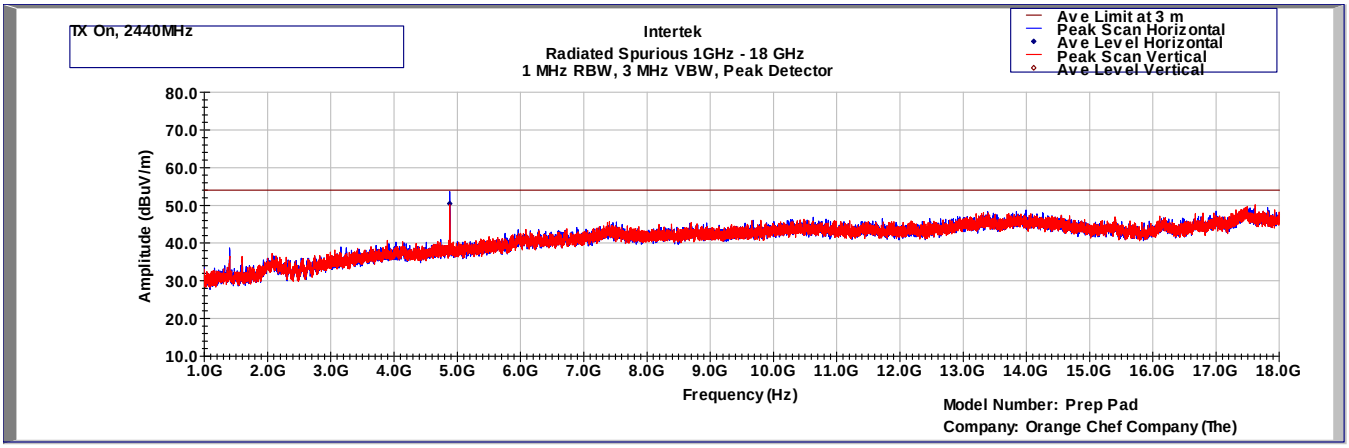


Radiated Emissions 1 GHz - 18 GHz TX On, 2402 MHz

FCC 15.209 (Ave-Horizontal)

Frequency	Ave Level	Limit@3m	Av Margin	Raw	Cable	Preamp	AF
MHz	(dB)	(dBuV/m)	(dB)	(dBuV)	(dB)	(dB)	dB(1/m)
4804	51.7	54	-2.3	50.7	2.7	34.5	32.8

2440 MHz Mid Channel



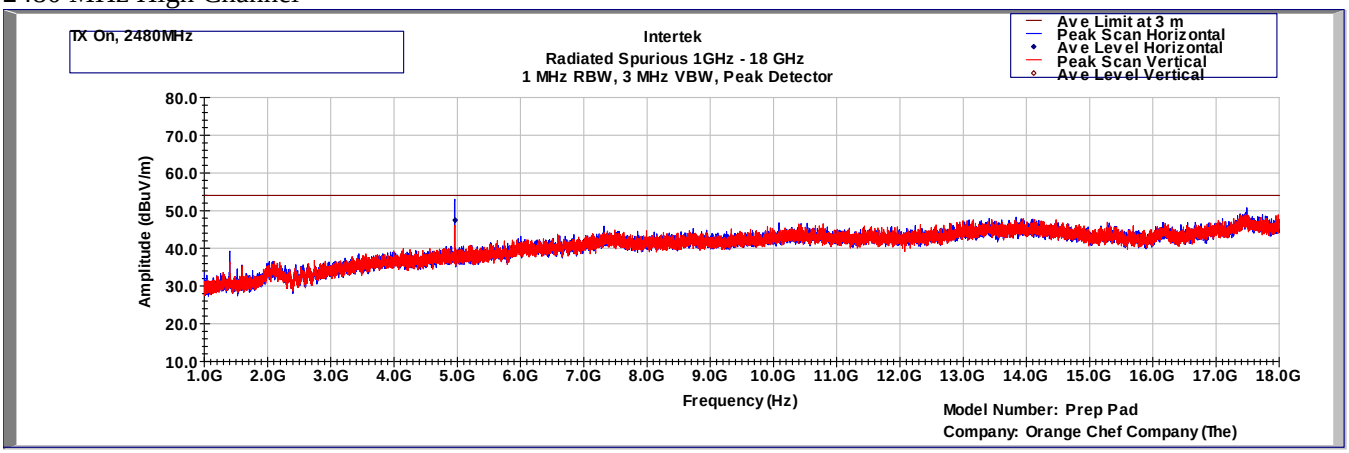
Radiated Emissions 1 GHz - 18 GHz TX On, 2440 MHz

FCC 15.209 (Ave-Horizontal)

Frequency	Ave Level	Limit@3m	Av Margin	Raw	Cable	Preamp	AF
MHz	(dB)	(dBuV/m)	(dB)	(dBuV)	(dB)	(dB)	dB(1/m)
4880	50.4	54	-3.6	49.3	2.7	34.4	32.8

Test Results: 15.209 Radiated Spurious Emissions 1 GHz - 18 GHz (Continued)

2480 MHz High Channel



Radiated Emissions 1 GHz - 18 GHz

TX On, 2480 MHz

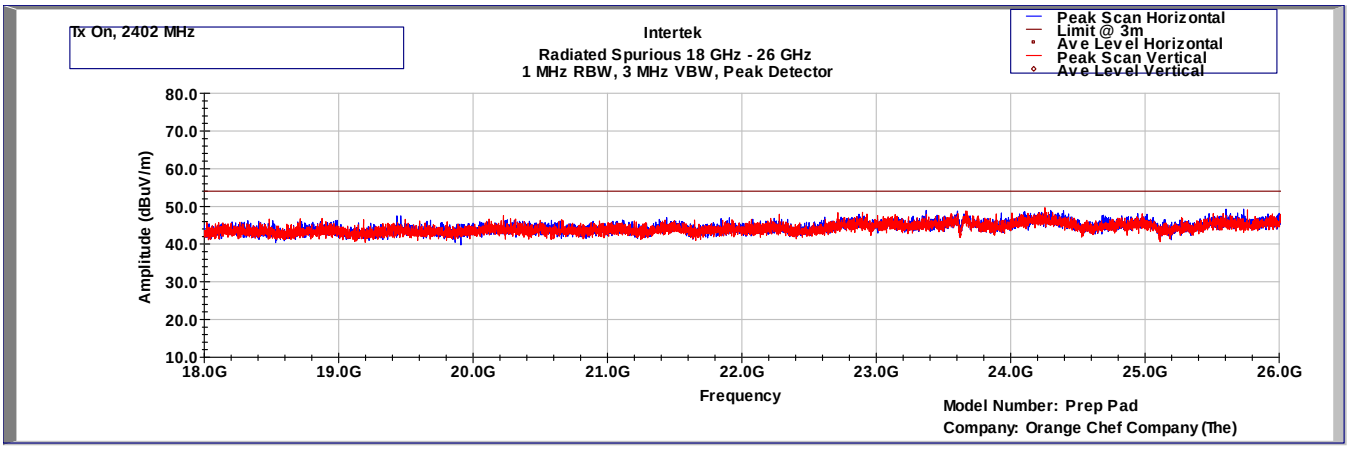
FCC 15.209 (Ave-Horizontal)

Frequency	Ave Level	Limit@3m	Av Margin	Raw	Cable	Preamp	AF
MHz	(dB)	(dBuV/m)	(dB)	(dBuV)	(dB)	(dB)	dB(1/m)
4960	47.4	54	-6.6	46.1	2.8	34.4	32.9

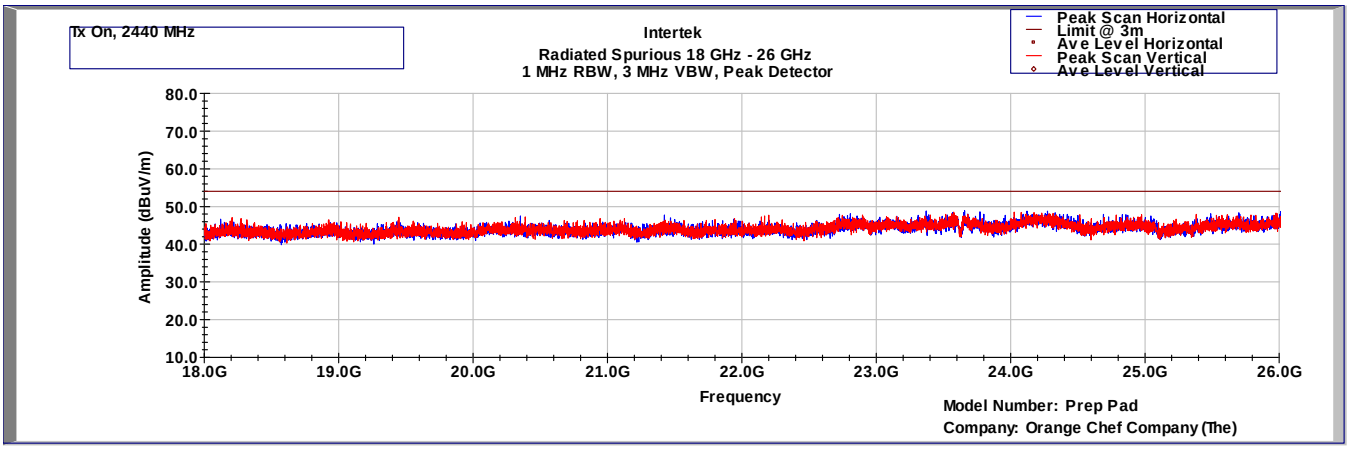
Notes: Measurements made at 3 meters distance.

Test Results: 15.209 Radiated Spurious Emissions 18 GHz – 26 GHz

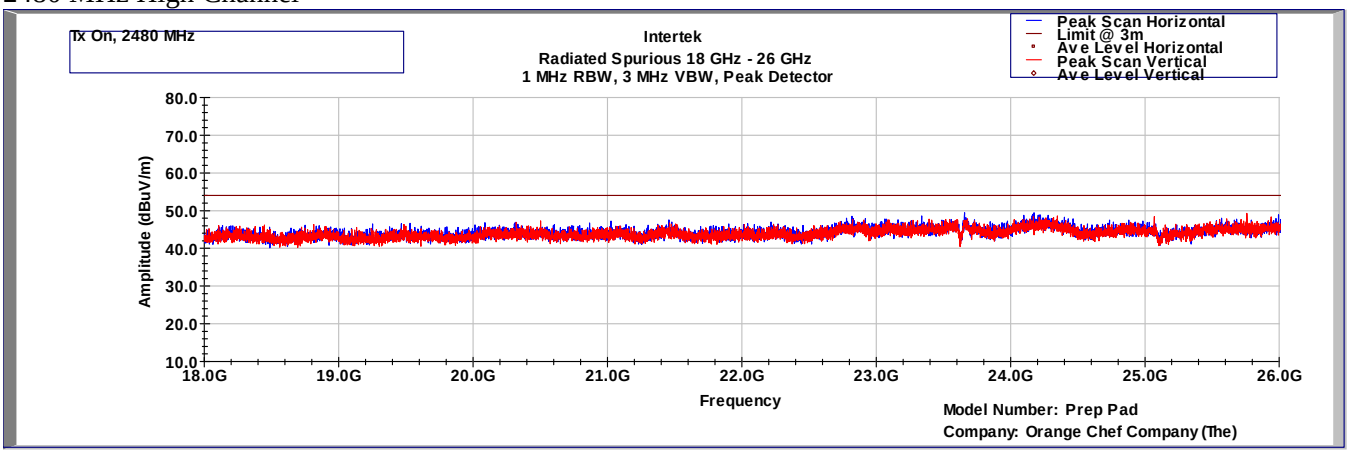
2402 MHz Low Channel



2440 MHz Mid Channel



2480 MHz High Channel



Notes: Measurements made at 3 meters distance.

Test Results: 15.209/15.205 Restricted Band Emissions

Out-of-Band Radiated spurious emissions at the Band-edge
2310–2390 MHz

EUT Channel/ Frequency MHz	Band Edge Freq.	Raw Amplitude @ 3 m	Antenna Corection Factor	Cable Loss	EUT Field Strength @ 3m	Limit Detector	Limit @ 3 m	Margin
	(GHz)	(dBuV/m)	(dB/m)	(dB)	(dBuV/m)	(Peak) / (Average)	(dBuV/m)	(dB)
0 (2402MHz)	2.390	17.95	27.64	1.84	60.30	Peak	74	-13.70
	2.390	30.82	27.64	1.84	47.43	Average	54	-6.57

a) EUT Field Strength at 3m = Raw Amplitude+ Cable Loss+ Antenna Correction Factor

Out-of-Band Radiated spurious emissions at the Band-edge
2483.5–2500 MHz

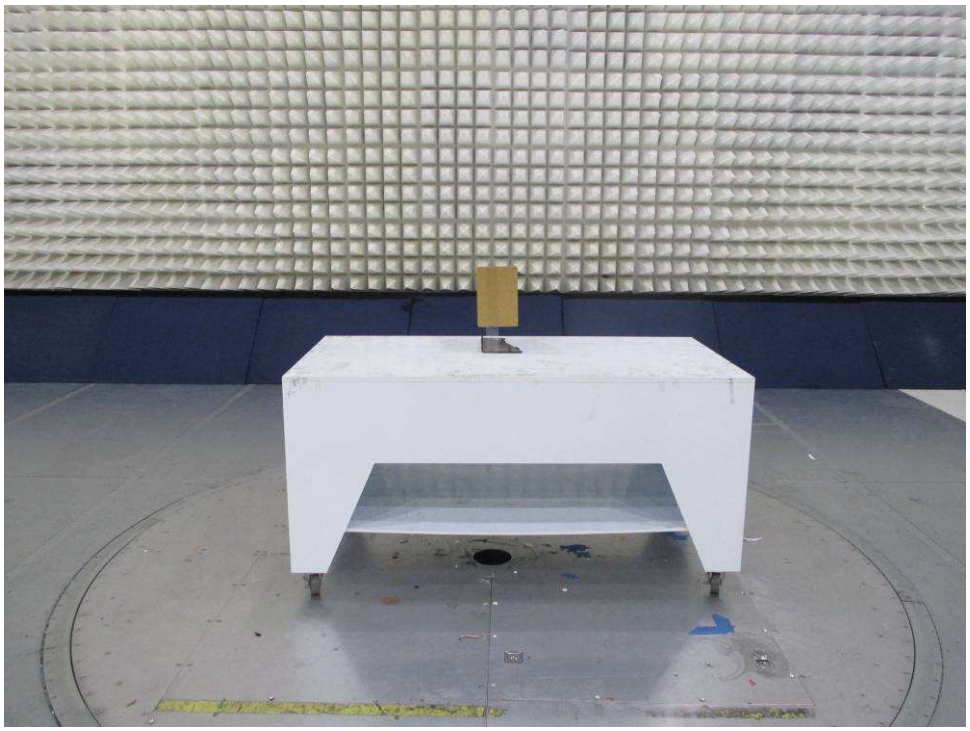
EUT Channel/ Frequency MHz	Band Edge Freq.	Raw Amplitude @ 3 m	Antenna Corection Factor	Cable Loss	EUT Field Strength @ 3m	Limit Detector	Limit @ 3 m	Margin
	(GHz)	(dBuV/m)	(dB/m)	(dB)	(dBuV/m)	(Peak) / (Average)	(dBuV/m)	(dB)
39 (2480MHz)	2.4835	19.27	28.11	1.88	62.77	Peak	74	-11.23
	2.4835	32.78	28.11	1.88	49.26	Average	54	-4.74

a) EUT Field Strength at 3m = Raw Amplitude+ Cable Loss+ Antenna Correction Factor

Results	**Complies** by 2.3dB

4.5.4 Test Configuration Photographs

The following photographs show the testing configurations used.



Test Configuration Photographs Continued

4.6 Radiated Emissions from Digital Parts and Receiver
FCC Ref: 15.109, ICES 003, RSS-GEN

4.6.1 Test Limit

Limits for Electromagnetic Radiated Emissions FCC Section 15.109(b), ICES 003*

Frequency (MHz)	Class A at 10m dB(µV/m)	Class B at 3m dB(µV/m)
30-88	39	40.0
88-216	43.5	43.5
216-960	46.4	46.0
Above 960	49.5	54.0

* According to FCC Part 15.109(g) an alternative to the radiated emission limits shown above, digital devices may be shown to comply with the limit of CISPR Pub. 22

4.6.2 Procedures

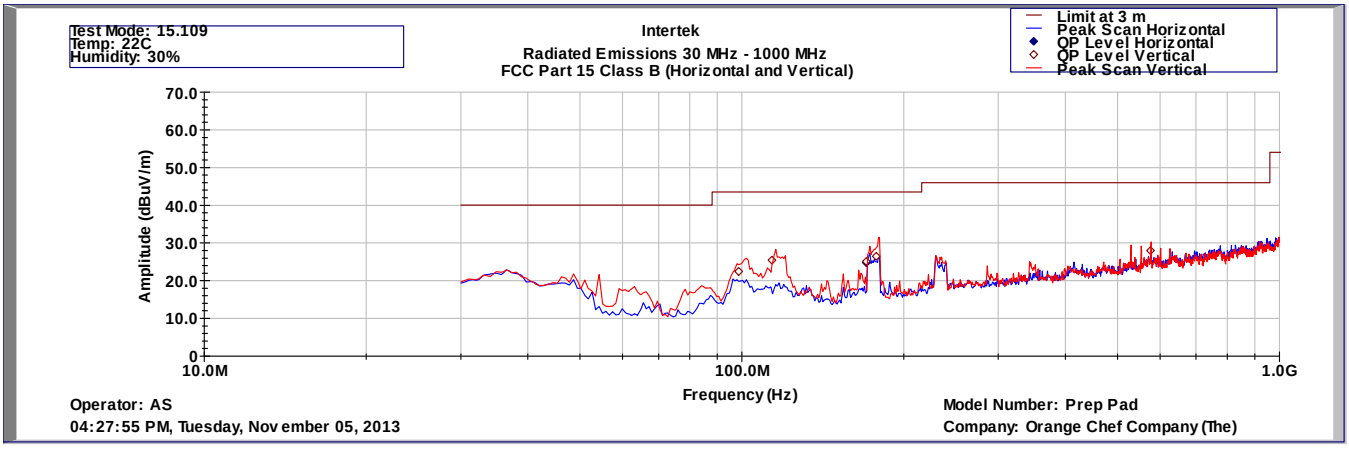
The EUT was set for receive mode only. Radiated measurements were taken. 120 kHz resolution bandwidth was used from 30 MHz - 1 GHz. 1 MHz resolution bandwidth was used for measurements done above 1 GHz. All plots are corrected for cable loss, antenna factor, and preamp.

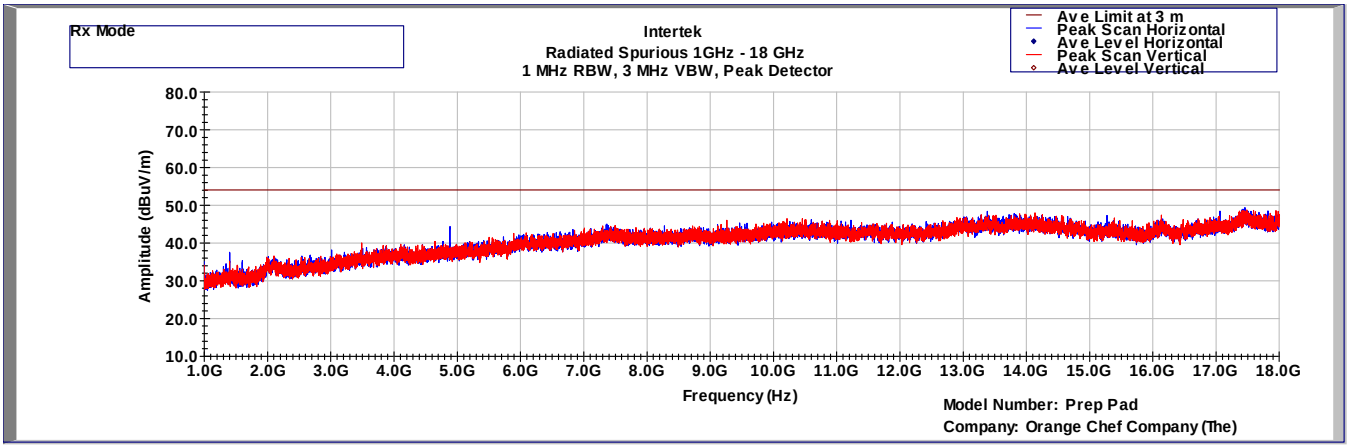
4.6.3 Test Results

Radiated emission measurements were performed from 30 MHz to 18000 MHz. The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Mode	Description	Description
Receive Mode	Scan 30MHz – 1GHz	Scan 1GHz – 18GHz
	Complies	Complies

Test Results: Receiver Spurious Emissions 30 MHz - 18000 MHz



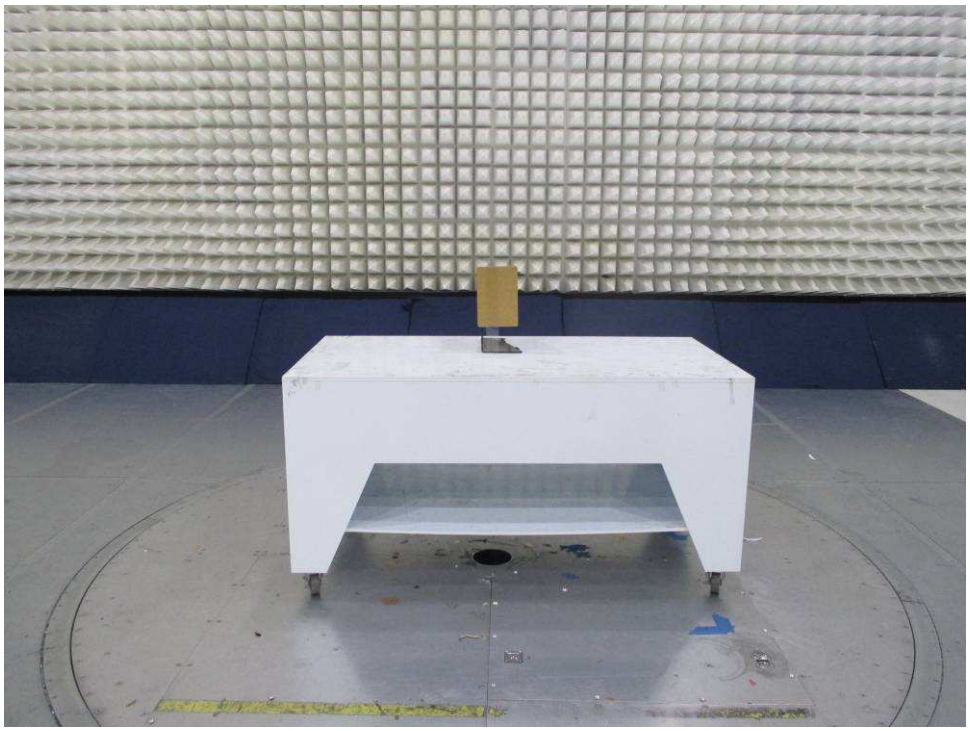


Intertek Testing Services
Radiated Emissions 30 MHz - 18000 MHz
FCC Part 15 Class B (15.109)
Company: The Orange Chef Company Model Number: Prep Pad

Frequency	Polarity	Quasi Pk FS	Limit@3m	Margin	RA	CF	AG	DCF
Hz	H/V	dB(uV/m)	dB(uV/m)	dB	dB(uV)	dB	dB	dB
98.60	V	22.4	43.5	-21.1	33.3	1.2	32.1	10.5
113.75	V	25.4	43.5	-18.1	35.3	1.2	32.0	10.5
170.45	V	25.1	43.5	-18.4	36	1.5	32.0	10.5
170.45	H	24.8	43.5	-18.7	35.7	1.5	32.0	10.5
177.75	V	26.4	43.5	-17.1	37.5	1.5	32.0	10.5
576.18	V	28.0	46.0	-18.0	29.8	2.8	32.2	10.5

4.6.4 Test Configuration Photographs

The following photographs show the testing configurations used.



4.6.4 Test Configuration Photographs Continued

4.7 AC Line Conducted Emission
FCC 15.207

4.7.1 Requirement

Frequency Band MHz	Class B Limit dB (µV)	
	Quasi-Peak	Average
0.15-0.50	66 to 56 Decreases linearly with the logarithm of the frequency	56 to 46 Decreases linearly with the logarithm of the frequency
0.50-5.00	56	46
5.00-30.00	60	50

Note: At the transition frequency the lower limit applies.

4.7.2 Test Procedure

Measurements are carried out using quasi-peak and average detector receivers in accordance with CISPR 16. An AMN is required to provide a defined impedance at high frequencies across the power feed at the point of measurement of terminal voltage and also to provide isolation of the circuit under test from the ambient noise on the power lines. An AMN as defined in CISPR 16 shall be used.

The EUT is located so that the distance between the boundary of the EUT and the closest surface of the AMN is 0.8m.

Where a flexible mains cord is provided by the manufacturer, this shall be 1m long or if in excess of 1m, the excess cable is folded back and forth as far as possible so as to form a bundle not exceeding 0.4m in length.

The EUT is arranged and connected with cables terminated in accordance with the product specification.

Conducted disturbance is measured between the phase lead and the reference ground, and between the neutral lead and the reference ground. Both measured values are reported.

The EUT, where intended for tabletop use, is placed on a table whose top is 0.8m above the ground plane. A vertical, metal reference plane is placed 0.4m from the EUT. The vertical metal reference-plane is at least 2m by 2m. The EUT shall be kept at least 0.8m from any other metal surface or other ground plane not being part of the EUT. The table is constructed of non-conductive materials. Its dimensions are 1m by 1.5m, but may be extended for larger EUT.

Floor standing EUT are placed on a horizontal metal ground plane and isolated from the ground plane by resting on an insulating material. The metal ground plane extends at least 0.5m beyond the boundaries of the EUT and has minimum dimensions of 2m by 2m.

Equipment setup for conducted disturbance tests followed the guidelines of ANSI C63.4.

4.7.3 Test Results

Not Applicable. The EUT is Battery Powered.

5.0 RF Exposure Evaluation

MPE Evaluation

The EUT is a wireless device used in a mobile application, at least 20 cm from any body part of the user or nearby persons.

The maximum Peak EIRP calculated is -5.56 dBm or 0.28 mW; therefore, to comply with RF Exposure Requirement, the MPE is calculated.

The Power Density can be calculated using the formula

$$S = EIRP/ 4\pi D^2$$

Where: S is Power Density in W/m^2
D is the distance from the antenna.

It is considered that 20 cm is the minimum distance that user can go closest to the EUT.

At 20 cm, S =0.000553 W/m^2, which is below the MPE Limit of 10 W/m^2

6.0 List of Test Equipment

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

Equipment	Manufacturer	Model/Type	Serial No.	Calibration Interval	Cal Due
RF Filter Section	Hewlett Packard	85460A	3448A00267	12	03/12/14
EMI Receiver	Hewlett Packard	8546A	3710A00373	12	03/12/14
Bi-Log Antenna	ARA	LPB-2513/A	1154	12	08/01/14
Pre-Amplifier	Sonoma Instrument	310	185634	12	12/12/13
Horn Antenna	ETS Lindgren	3115	00126795	12	11/15/13
Pre-Amplifier (1-18GHz)	Miteq	AMF-4D-001180-24-10P	799159	12	09/27/14
Pre-Amplifier (18-40GHz)	Miteq	JSD44-18004000-30-5P	1071636	12	05/13/14
Pyramidal Horn Antenna	EMCO	3160-09	9307-1017	#	#
Spectrum Analyzer	Rohde and Schwarz	ESU	100172	12	11/04/14
Spectrum Analyzer	Rohde and Schwarz	FSP	100030	12	11/19/13
Signal Generator	Rohde and Schwarz	SMR40	100445	12	08/30/14

* Calibration performed by ITS prior to the test. # Calibration not required

7.0 Document History

Revision/ Job Number	Writer Initials	Date	Change
1.0 / G101406995	AS	November 11, 2013	Original document