FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

CDMA/LTE PHONE WITH BT & DTS WLAN b/g/n

MODEL NUMBER: LG-US375, LGUS375, US375, LG-AS375, LGAS375, AS375

FCC ID: ZNFUS375

REPORT NUMBER: 16I22599-E2V3

ISSUE DATE: 2/1/2016

Prepared for
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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	1/22/2016	Initial issue	D. CORONIA
V2	1/27/2016	Updated Section 8.3	D. CORONIA
V3	2/1/2016	Updated Section 8.8.1 & 8.8.3	D. CORONIA

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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS 5

2. TEST METHODOLOGY 6

3. FACILITIES AND ACCREDITATION 6

4. CALIBRATION AND UNCERTAINTY 6

4.1. MEASURING INSTRUMENT CALIBRATION 6

4.2. SAMPLE CALCULATION 6

4.3. MEASUREMENT UNCERTAINTY 7

5. EQUIPMENT UNDER TEST 8

5.1. DESCRIPTION OF EUT 8

5.2. MAXIMUM OUTPUT POWER 8

5.3. DESCRIPTION OF AVAILABLE ANTENNAS 8

5.4. WORST-CASE CONFIGURATION AND MODE 8

5.5. DESCRIPTION OF TEST SETUP 9

6. TEST AND MEASUREMENT EQUIPMENT 11

7. SUMMARY TABLE 12

8. ANTENNA PORT TEST RESULTS 13

8.1. ON TIME, DUTY CYCLE 13

8.2. 20 dB AND 99% BANDWIDTH 14

8.2.1. GFSK 20 dB BANDWIDTH PLOTS AND TABLE 15
8.2.2. GFSK 99% BANDWIDTH PLOTS AND TABLE 16
8.2.3. 8PSK 20 dB BANDWIDTH PLOTS AND TABLE 17
8.2.4. 8PSK 99% BANDWIDTH PLOTS AND TABLE 18

8.3. HOPPING FREQUENCY SEPARATION 19

8.4. NUMBER OF HOPPING CHANNELS 20

8.4.1. NUMBER OF HOPPING CHANNELS PLOTS 21

8.5. AVERAGE TIME OF OCCUPANCY 22

8.6. OUTPUT POWER 24

8.6.1. GFSK OUTPUT POWER PLOTS AND TABLE 25
8.6.2. 8PSK OUTPUT POWER PLOTS AND TABLE 26

8.7. AVERAGE POWER 27

8.8. CONDUCTED SPURIOUS EMISSIONS 28

8.8.1. BASIC DATA RATE GFSK MODULATION NON-HOPPING MODE 29
8.8.2. BASIC DATA RATE GFSK MODULATION HOPPING MODE 30
8.8.3. ENHANCED DATA RATE 8PSK MODULATION NON-HOPPING MODE 31
8.8.4. ENHANCED DATA RATE 8PSK MODULATION HOPPING MODE 32

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9. RADIATED EMISSION TEST 33

9.1. TRANSMITTER ABOVE 1 GHz 34

9.1.1. BASIC DATA RATE GFSK MODULATION 34

9.1.2. ENHANCED DATA RATE 8PSK MODULATION 47

9.2. WORST-CASE BELOW 1 GHz 60

10. AC POWER LINE CONDUCTED EMISSIONS 62

11. SETUP PHOTOS 65

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	LG ELECTRONICS MOBILECOMM U.S.A., INC.
EUT DESCRIPTION:	CDMA/LTE PHONE WITH BT & DTS WLAN b/g/n
MODEL:	LG-US375, LGUS375, US375, LG-AS375, LGAS375, AS375
SERIAL NUMBER:	511CYZP000605, 511CYSF000606
DATE TESTED:	JANUARY 6 – 12, 2016

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revision section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For
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Tested By:

JEFFREY WU
CONSUMER TECHNOLOGY DIVISION
WiSE ENGINEER
UL VERIFICATION SERVICES INC

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC and ANSI C63.10-2013, FCC CFR 47 Part 2, and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 and 47266 Benicia Street, Fremont, California, USA. Line conducted emissions are measured only at the 47173 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

47173 Benicia Street	47266 Benicia Street
☐ Chamber A	☐ Chamber D
☐ Chamber B	☐ Chamber E
☒ Chamber C	☐ Chamber F
	☐ Chamber G
	☐ Chamber H

The above test sites and facilities are covered under FCC Test Firm Registration # 208313.

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

Chambers A through H are covered under Industry Canada company address code 2324B with site numbers 2324B -1 through 2324B-8, respectively.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

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4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.52 dB
Radiated Disturbance, 9KHz to 30 MHz	2.14 dB
Radiated Disturbance, 30 to 1000 MHz	4.98 dB
Radiated Disturbance,1000 to 6000 MHz	3.86 dB
Radiated Disturbance,6000 to 18000 MHz	4.23 dB
Radiated Disturbance,18000 to 26000 MHz	5.30 dB
Radiated Disturbance,26000 to 40000 MHz	5.23 dB

Uncertainty figures are valid to a confidence level of 95%.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a CDMA/LTE PHONE WITH BT & DTS WLAN b/g/n

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	Basic GFSK	9.94	9.86
2402 - 2480	Enhanced 8PSK	11.21	13.21

Note: GFSK, Pi/4-DQPSK, 8PSK average Power are all investigated, The GFSK & 8PSK Power are the worst case. Testing is based on this mode of showing compliance. For average power data, please refer to section 8.7.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of 1.25 dBi.

5.4. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit on the channel with higher output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X, Y, Z it was determined that X orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X orientation.

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5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
AC Adapter	LG	MMCS-02WRE	N/A	N/A
Earphone	LG	N/A	N/A	N/A

I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	Mini-USB	Shielded	1.2m	N/A
2	Audio	1	Mini-Jack	Unshielded	1m	N/A

TEST SETUP

The EUT is continuously communicating to the Bluetooth tester during the tests.
EUT was set in the Hidden menu mode to enable BT communications.

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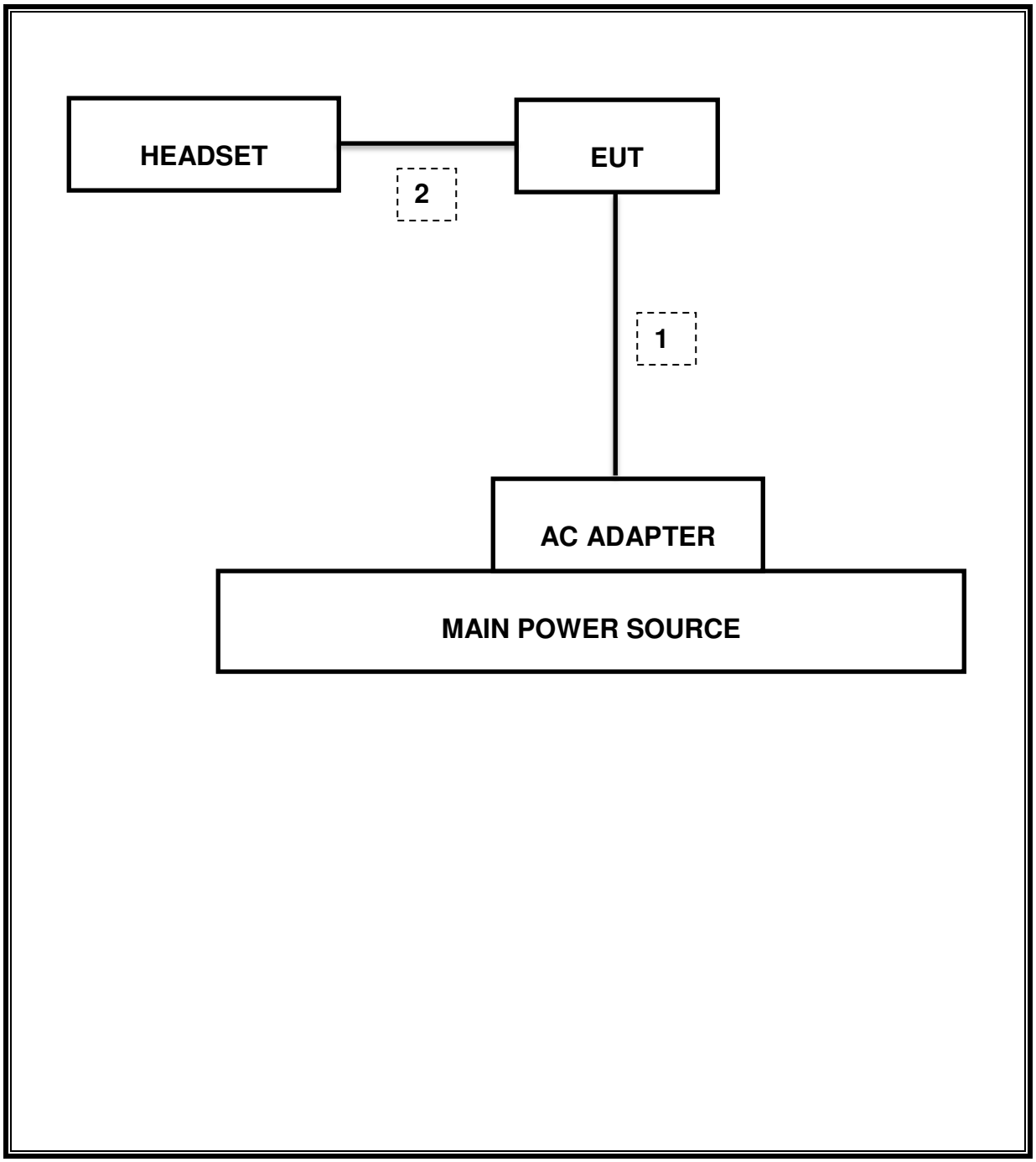
SETUP DIAGRAM FOR TESTS



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6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	**Manufacturer**	**Model**	**T Number**	**Cal Due**
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	185	02/18/16
Antenna, Horn, 18GHz	ETS Lindgren	3117	119	01/15/16
Antenna, Horn, 26.5 GHz	ARA	MWH-1826/B	447	05/12/16
RF Preamplifier, 1GHz - 18GHz	Miteq	NSP4000-SP2	88	04/07/16
RF Preamplifier, 1GHz - 26.5GHz	HP	8449B	404	06/29/16
Amplifier, 10KHz to 1 GHz	Keysight	8447D	15	08/14/16
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	123	10/22/16
Spectrum Analyzer, PXA, 3 Hz to 44 GHz	Keysight	N9030A	908	03/03/16
Bluetooth Tester	Rohde & Schwarz	CBT	438	04/24/16
EMI Test Receiver, 9 KHz to 7 GHz	Rohde & Schwarz	ECSI7	284	09/10/16
Peak Power Meter	Agilent / HP	E4416A	84	01/26/16
Peak / Average Power Sensor	Keysight	E9327A	117	03/09/16
LISN for Conducted Emission	FCC	50/250-25-2-01	1310	09/16/16
Directional Coupler	Mini-Circuits	ZUDC10-183+	1140	CNR
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	417	05/04/16
High Pass Filter 6GHz	Micro-Tronics	HPS17542	893	04/25/16
High Pass Filter 3GHz	Micro-Tronics	HPS17543	898	04/25/16

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Ver 9.5, June 24, 2015
Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015
Antenna Port Software	UL	UL RF	Ver 3.9.1, Dec 28, 2015

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7. SUMMARY TABLE

FCC Part Section	RSS Section(s)	Test Description	Test Limit	Test Condition	Test Result
2.1049	RSS-GEN 6.6	Occupied Bandwidth (99%)	N/A	Conducted	Pass
2.1051, 15.247 (d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20dBc		Pass
15.247 (b)(1)	RSS-247 5.4.2	TX conducted output power	<21dBm		Pass
15.247 (a)(1)	RSS-247 5.1.2	Hopping frequency separation	> 25KHz		Pass
15.247 (a)(1)(iii)	RSS-247 5.1.4	Number of Hopping Channels	More than 15 non-overlapping channels		Pass
15.247 (a)(1)(iii)	RSS-247 5.1.4	Avg Time of Occupancy	< 0.4sec		Pass
15.207 (a)	RSS-GEN 8.8	AC Power Line conducted emissions	Section 10	Radiated	Pass
15.205, 15.209	RSS-GEN 8.9/7	Radiated Spurious Emission	< 54dBuV/m		Pass

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8. ANTENNA PORT TEST RESULTS

8.1. ON TIME, DUTY CYCLE

LIMITS

None; for reporting purposes only

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

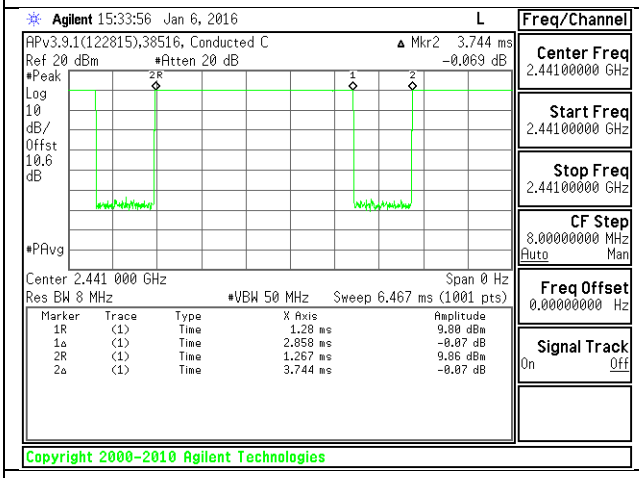
RESULTS

ON TIME AND DUTY CYCLE RESULTS

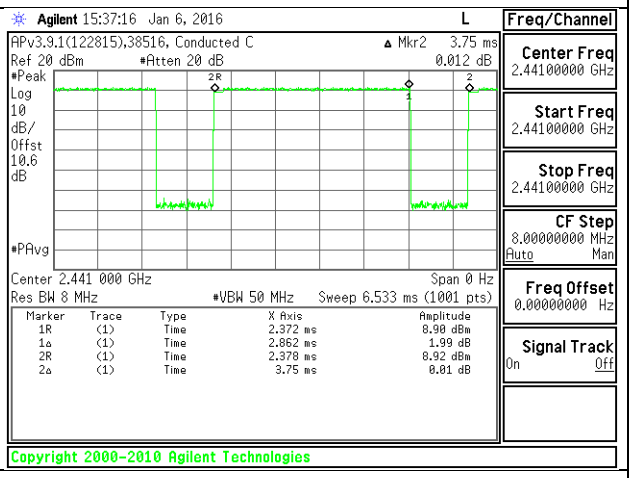
Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T Minimum VBW (kHz)
GFSK	2.858	3.744	0.763	76.34%	1.17	0.350
8PSK	2.862	3.750	0.763	76.32%	1.17	0.349

DUTY CYCLE PLOTS

GFSK



8PSK



NOTE: --

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8.2. 20 dB AND 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer. The RBW is set to ≥ 1% of the 20 dB bandwidth. The VBW is set to ≥ RBW. The sweep time is coupled.

RESULTS

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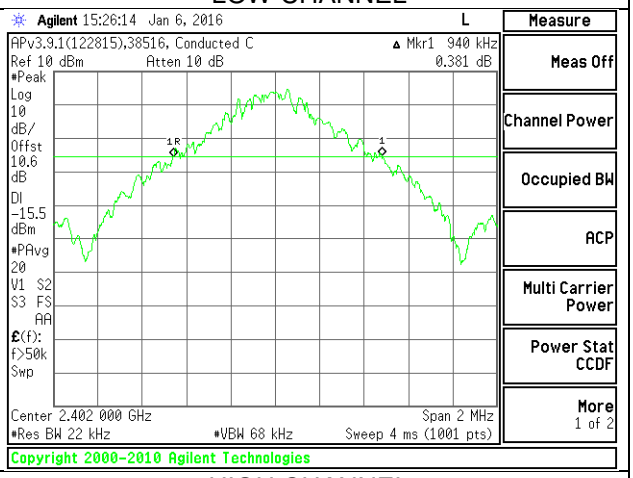
8.2.1. GFSK 20 dB BANDWIDTH PLOTS AND TABLE

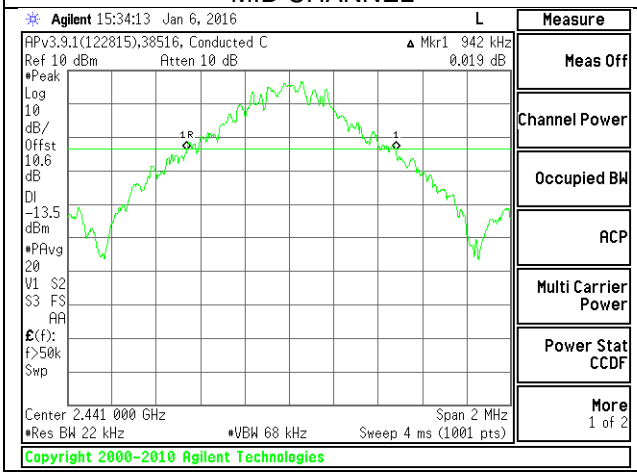
TEST RESULT TABLE

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
Low	2402	0.940
Middle	2441	0.942
High	2480	0.942

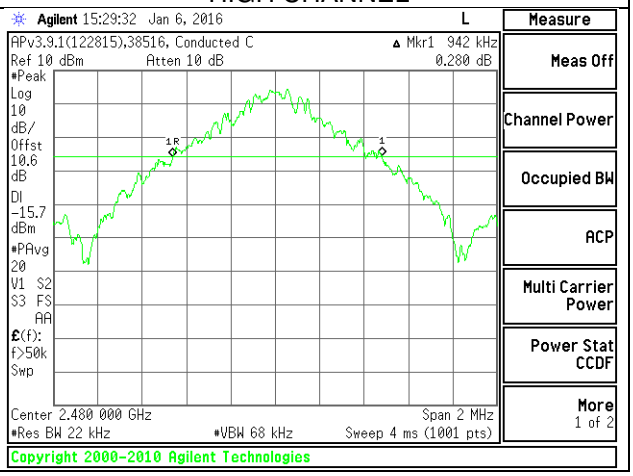
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



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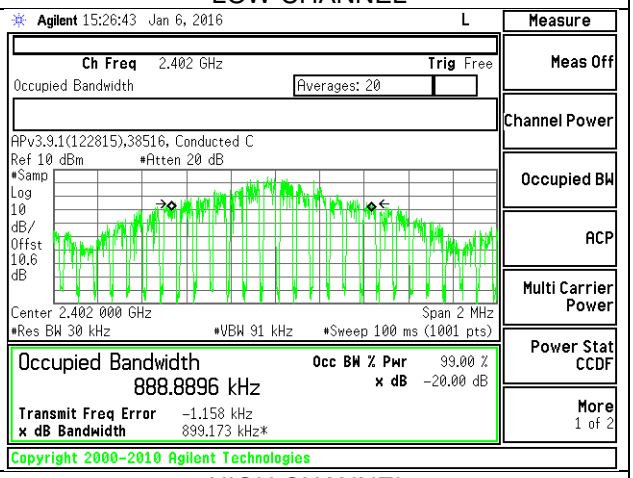
8.2.2. GFSK 99% BANDWIDTH PLOTS AND TABLE

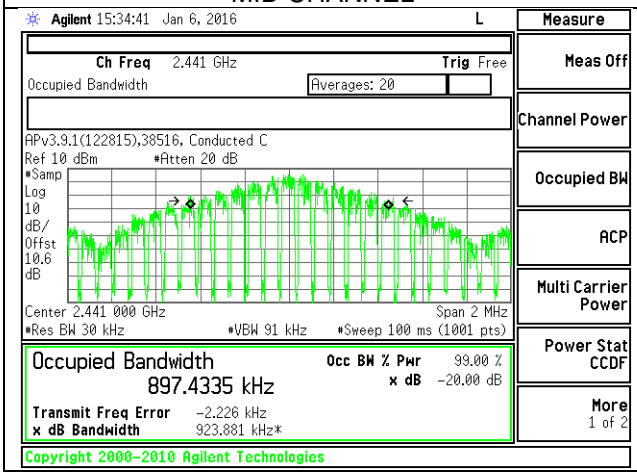
TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	0.889
Middle	2441	0.897
High	2480	0.900

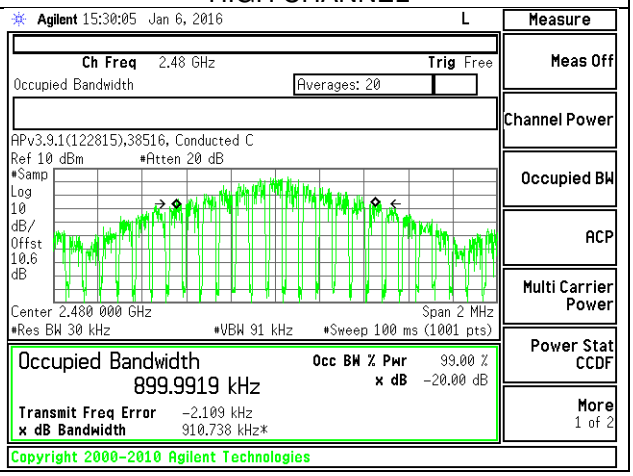
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



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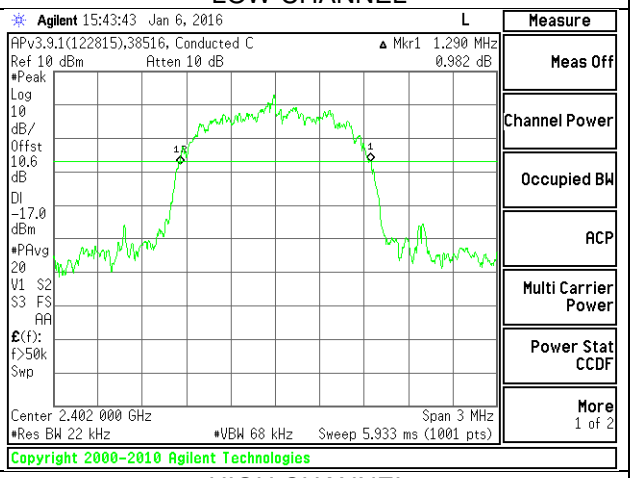
8.2.3. 8PSK 20 dB BANDWIDTH PLOTS AND TABLE

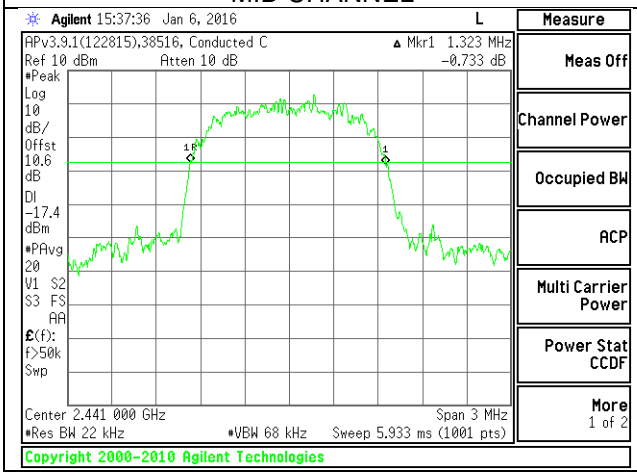
TEST RESULT TABLE

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
Low	2402	1.290
Middle	2441	1.323
High	2480	1.263

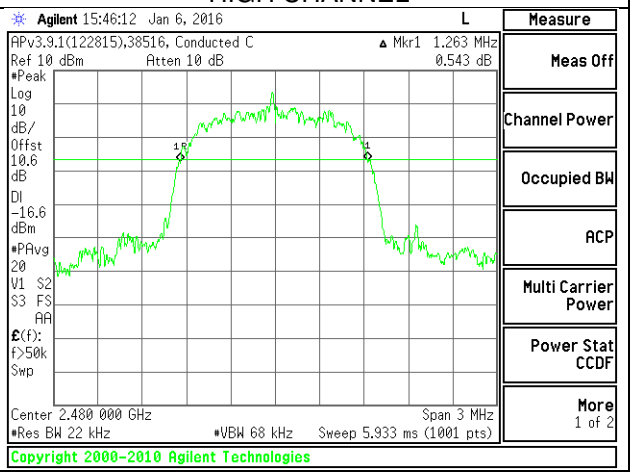
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



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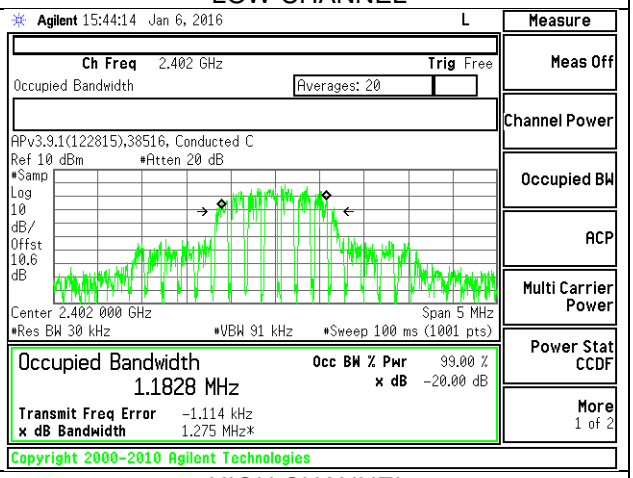
8.2.4. 8PSK 99% BANDWIDTH PLOTS AND TABLE

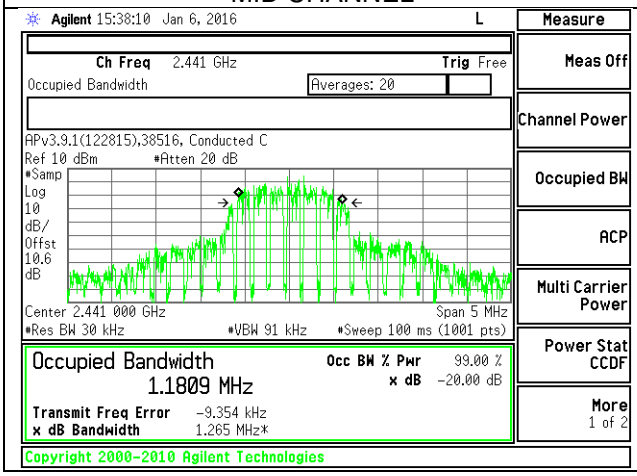
TEST RESULT TABLE

Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.183
Middle	2441	1.181
High	2480	1.186

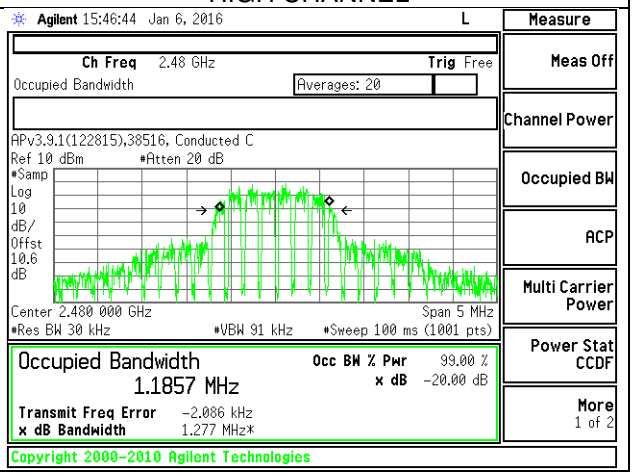
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



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8.3. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

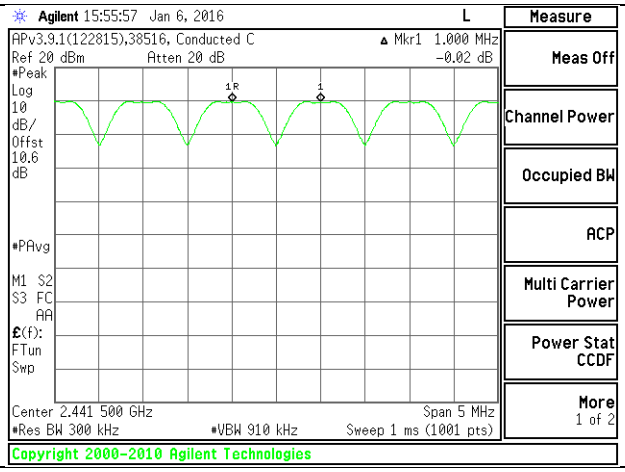
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer. The RBW is set to 300 kHz and the VBW is set to 910 kHz. The sweep time is coupled.

RESULTS

HOPPING FREQUENCY SEPARATION PLOT



NOTE: Hopping Frequency Separation is 1 MHz

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8.4. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

RESULTS

Normal Mode: 79 Channels observed.

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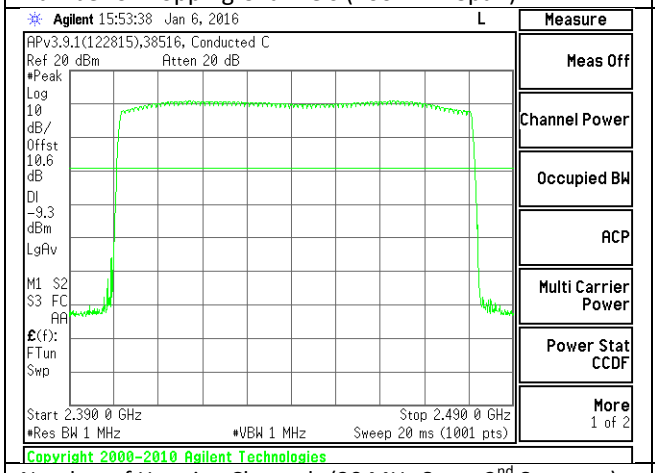
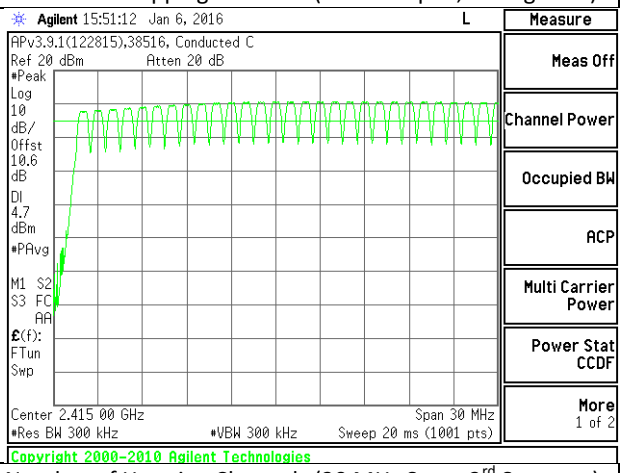
8.4.1. NUMBER OF HOPPING CHANNELS PLOTS

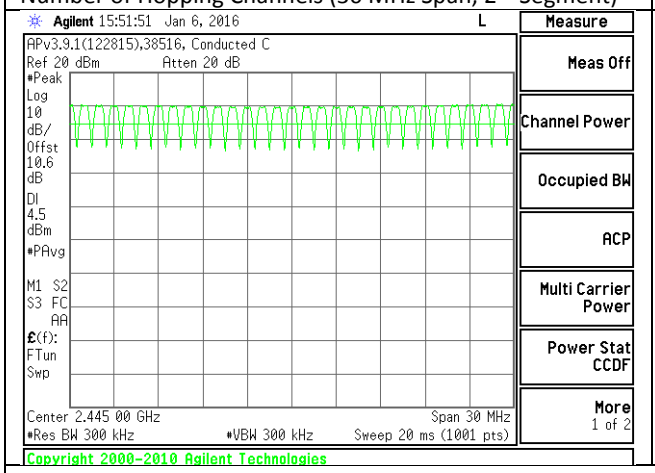
Number of Hopping Channels (100 MHz Span)



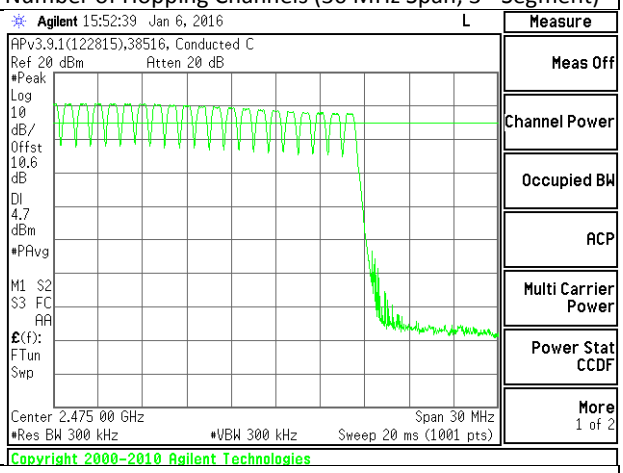
Number of Hopping Channels (30 MHz Span, 1st Segment)



Number of Hopping Channels (30 MHz Span, 2nd Segment)



Number of Hopping Channels (30 MHz Span, 3rd Segment)



NOTE: --

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8.5. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 3.16 second scan, to enable resolution of each occurrence.

The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to 10 * (# of pulses in 3.16 s) * pulse width.

For AFH mode, the average time of occupancy in the specified 8 second period (20 channels * 0.4 seconds) is equal to 10 * (# of pulses in 0.8 s) * pulse width.

RESULTS

AVERAGE TIME OF OCCUPANCY

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK Normal Mode					
DH1	0.32	32	0.1024	0.4	-0.2976
DH3	1.64	18	0.2952	0.4	-0.1048
DH5	2.82	12	0.3384	0.4	-0.0616
DH Packet	Pulse Width (sec)	Number of Pulses in 0.8 seconds	Average Time of Occupancy (sec)	Limit (sec)	Margin (sec)
GFSK AFH Mode					
DH1	0.32	8	0.02560	0.4	-0.3744
DH3	1.64	4.5	0.07380	0.4	-0.3262
DH5	2.82	3	0.08460	0.4	-0.3154

NOTE: --

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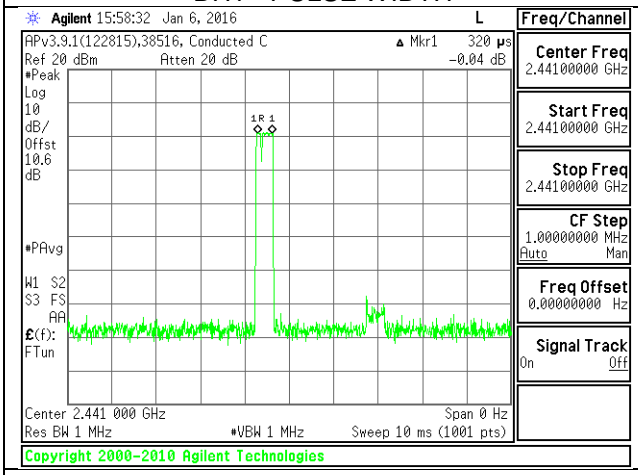
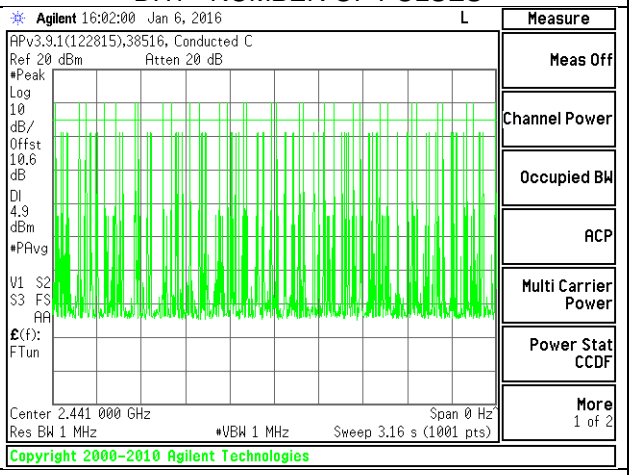
Pulse Width and Number of Pulses in 3.16 Seconds Period Plots

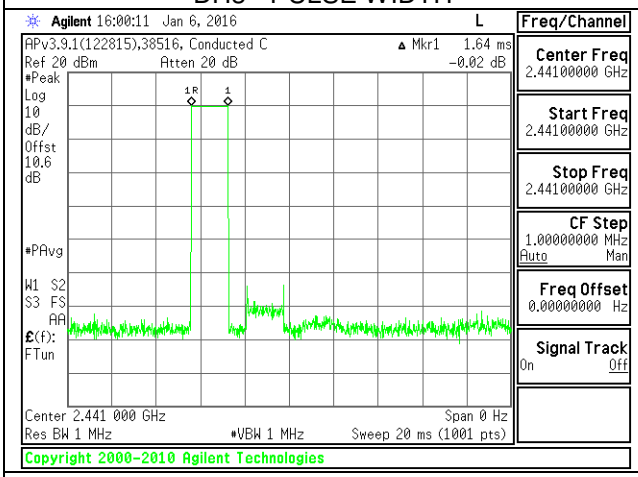
DH1 - PULSE WIDTH



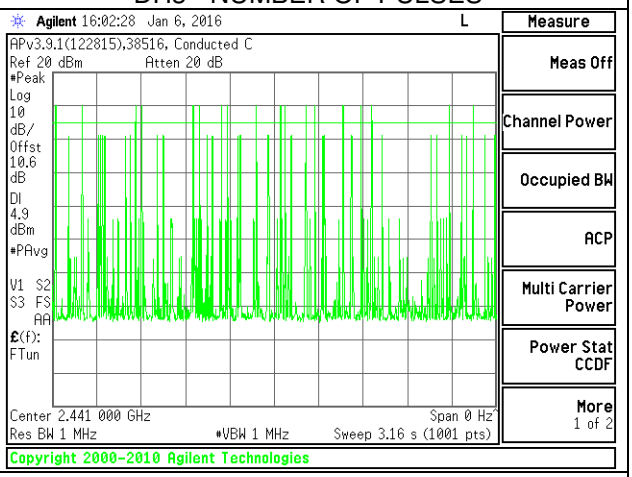
DH1 - NUMBER OF PULSES



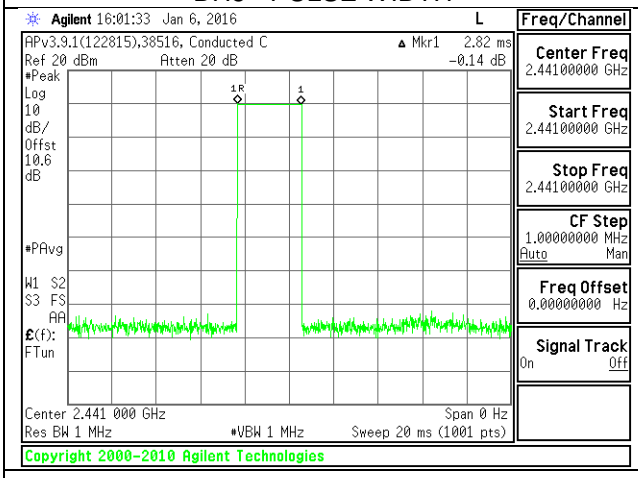
DH3 - PULSE WIDTH



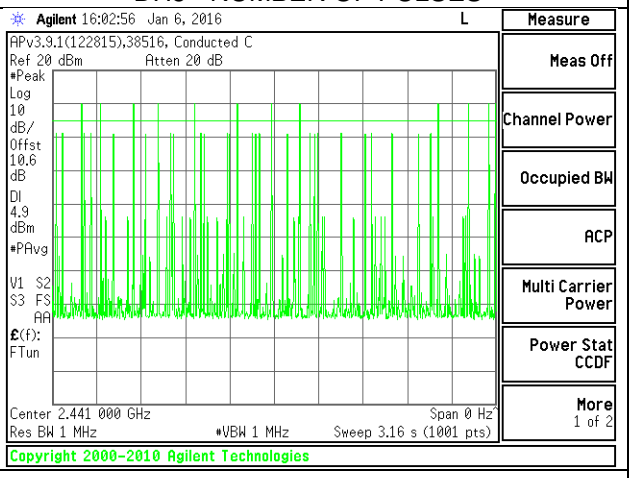
DH3 - NUMBER OF PULSES



DH5 - PULSE WIDTH



DH5 - NUMBER OF PULSES



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8.6. OUTPUT POWER

LIMIT

§15.247 (b) (1)

The maximum antenna gain is less than 6 dBi, therefore the limit is 21 dBm.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

RESULTS

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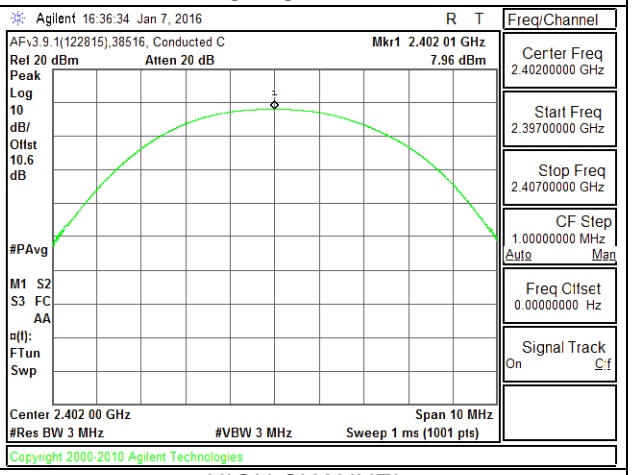
8.6.1. GFSK OUTPUT POWER PLOTS AND TABLE

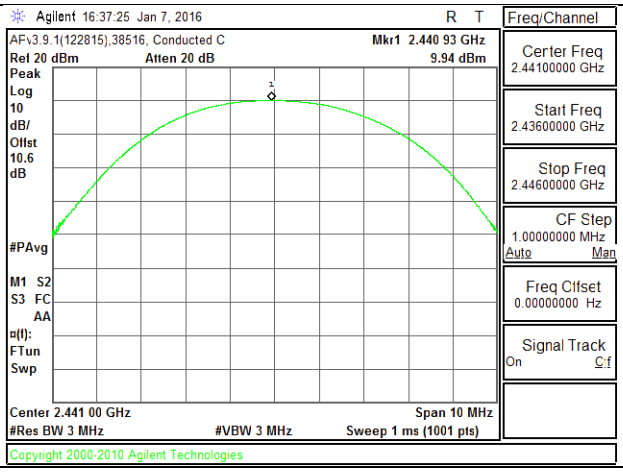
TEST RESULT TABLE

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	7.96	21	-13.04
Middle	2441	9.94	21	-11.06
High	2480	7.82	21	-13.18

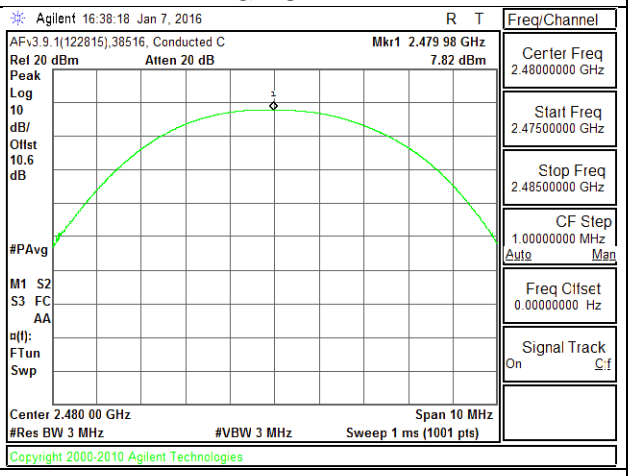
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



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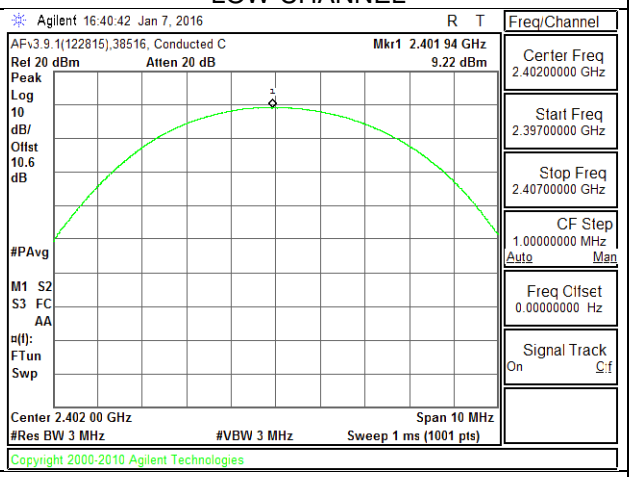
8.6.2. 8PSK OUTPUT POWER PLOTS AND TABLE

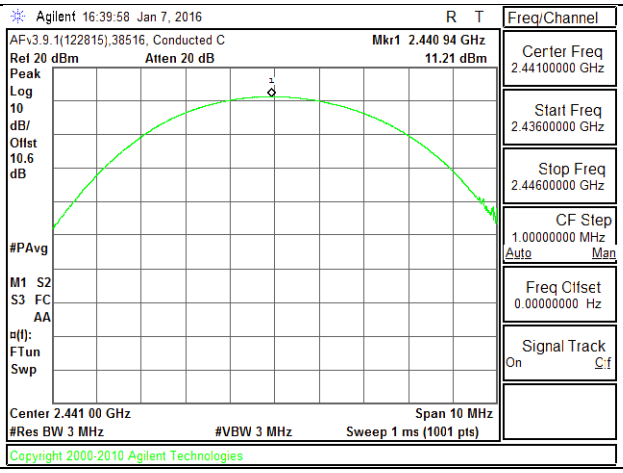
TEST RESULT TABLE

Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	9.22	21	-11.78
Middle	2441	11.21	21	-9.79
High	2480	9.11	21	-11.89

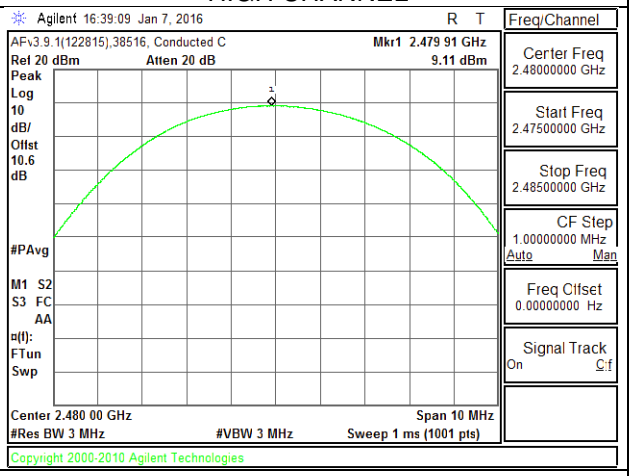
LOW CHANNEL



MID CHANNEL



HIGH CHANNEL



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8.7. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

DA 00-705: The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10.6 dB (including 10 dB pad and 0.6 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

BASIC DATA RATE GFSK

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	7.2
Middle	2441	9.1
High	2480	7.5

ENHANCED DATA RATE 8DPSK

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	5.7
Middle	2441	7.7
High	2480	6.0

NOTE: --

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8.8. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

Limit = -20 dBc

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

RESULTS

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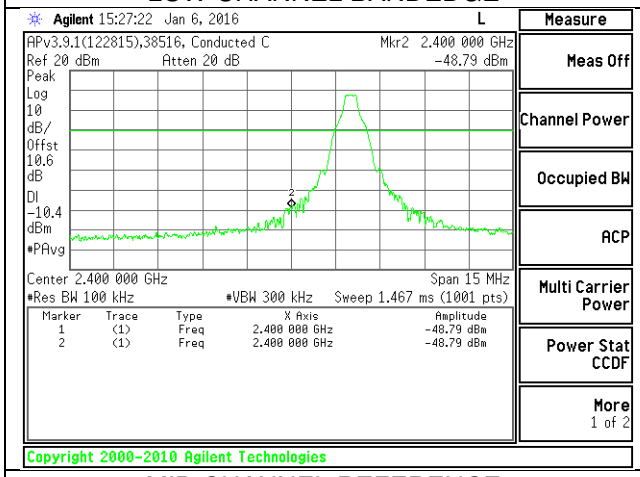
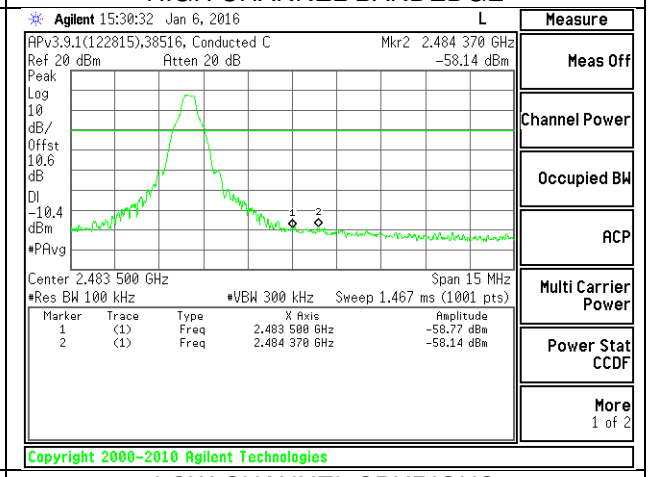
8.8.1. BASIC DATA RATE GFSK MODULATION NON-HOPPING MODE

BANDEDGE AND SPURIOUS EMISSIONS PLOTS

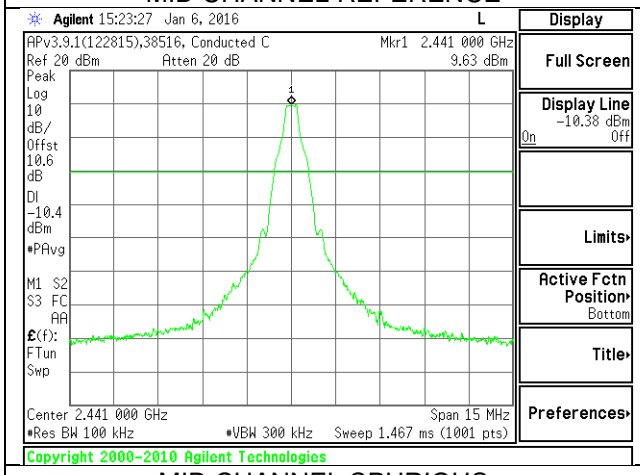
LOW CHANNEL BANDEDGE



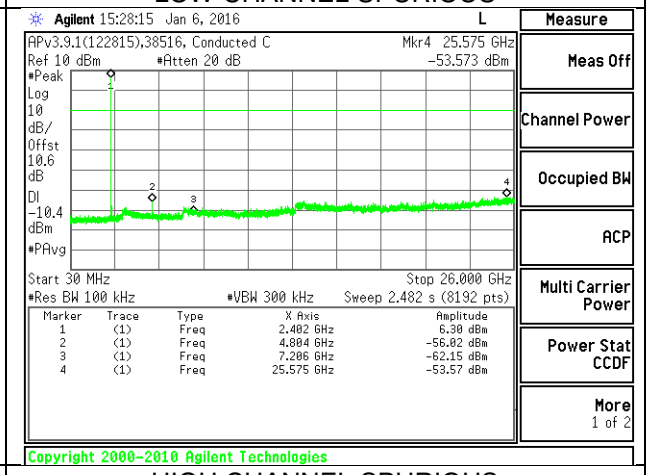
HIGH CHANNEL BANDEDGE



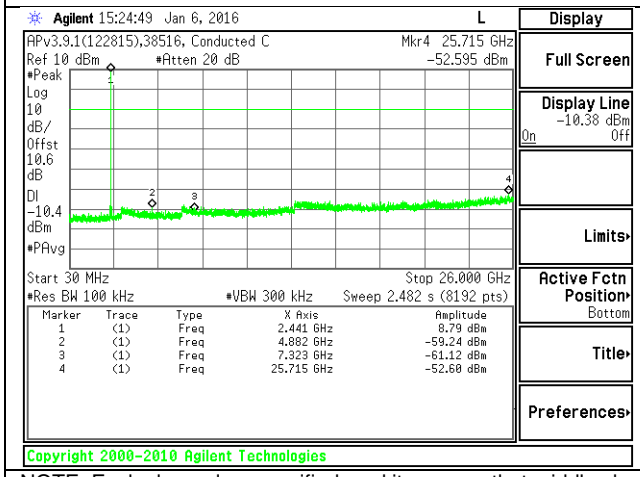
MID CHANNEL REFERENCE



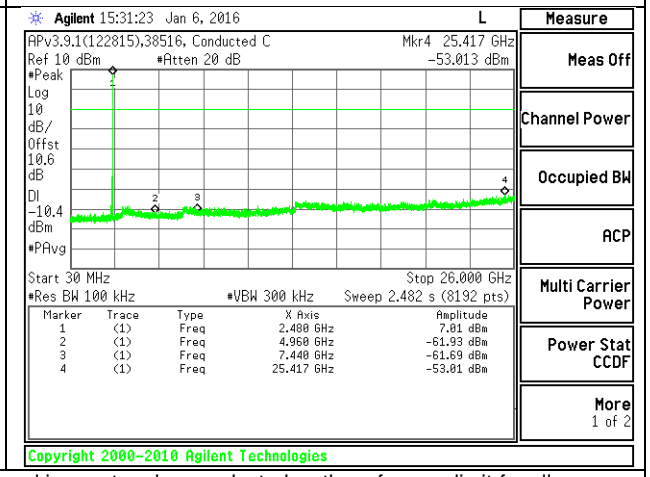
LOW CHANNEL SPURIOUS



MID CHANNEL SPURIOUS



HIGH CHANNEL SPURIOUS



NOTE: Each channel was verified, and it appears that middle channel is worst and was selected as the reference limit for all channels.

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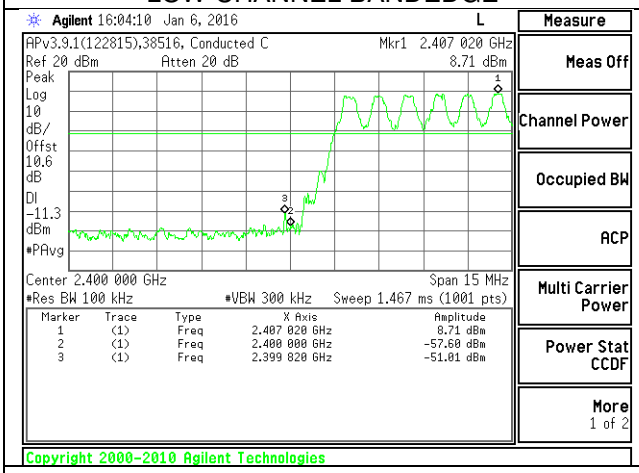
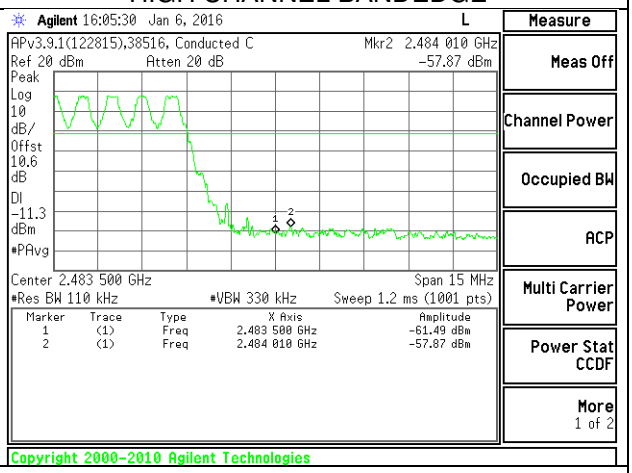
8.8.2. BASIC DATA RATE GFSK MODULATION HOPPING MODE

SPURIOUS BANDEDGE EMISSIONS PLOTS

LOW CHANNEL BANDEDGE	HIGH CHANNEL BANDEDGE
	

NOTE:--

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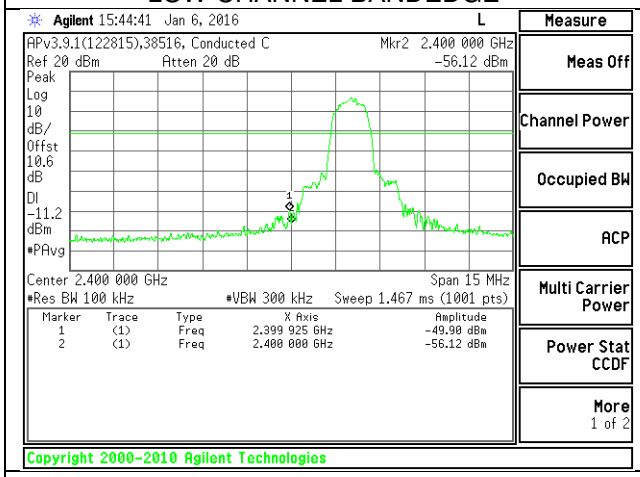
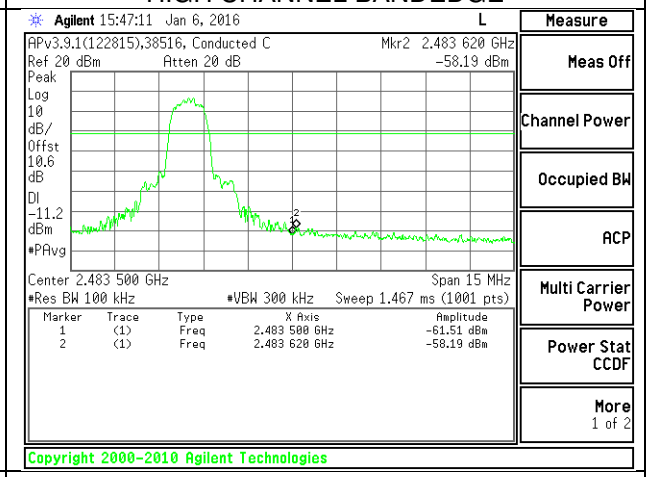
8.8.3. ENHANCED DATA RATE 8PSK MODULATION NON-HOPPING MODE

BANDEDGE AND SPURIOUS EMISSIONS PLOTS

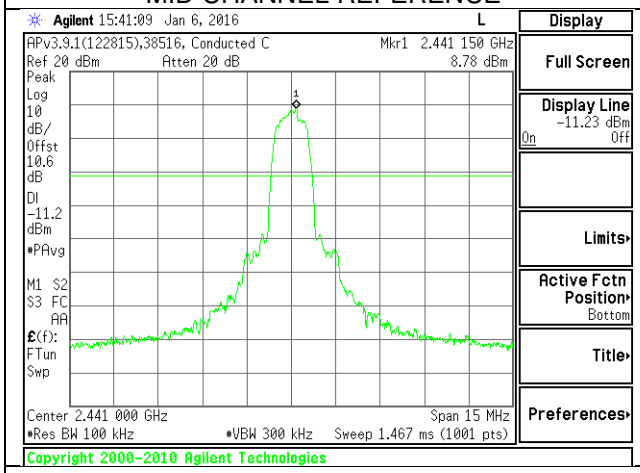
LOW CHANNEL BANDEDGE



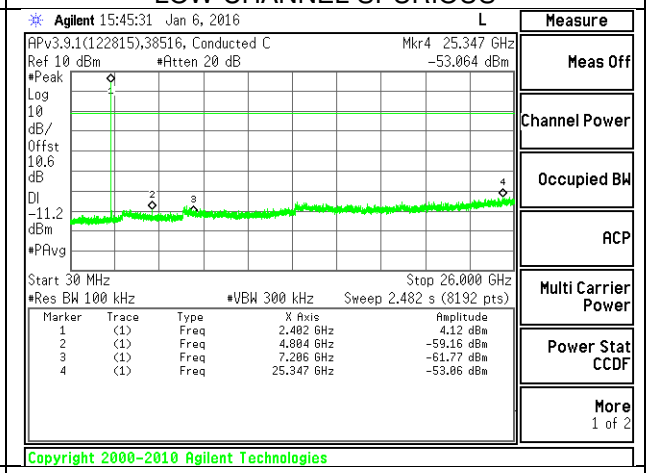
HIGH CHANNEL BANDEDGE



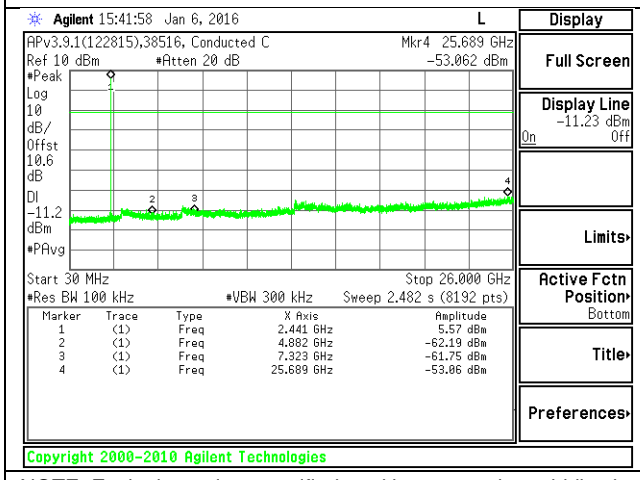
MID CHANNEL REFERENCE



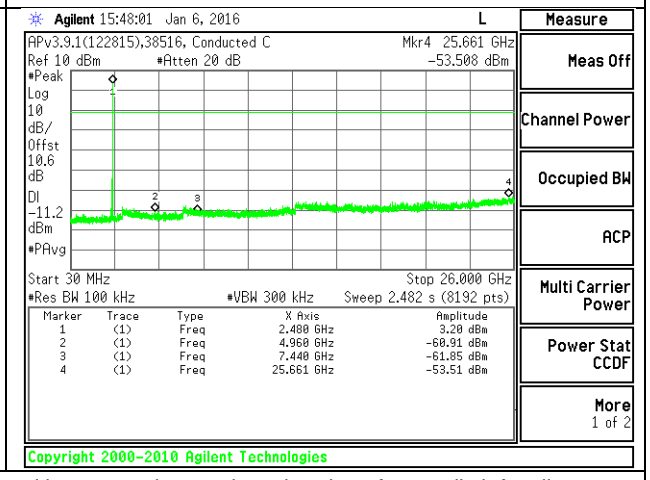
LOW CHANNEL SPURIOUS



MID CHANNEL SPURIOUS



HIGH CHANNEL SPURIOUS



NOTE: Each channel was verified, and it appears that middle channel is worst and was selected as the reference limit for all channels.

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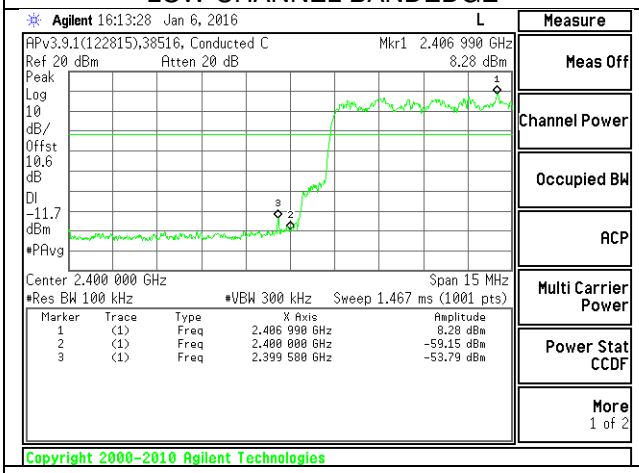
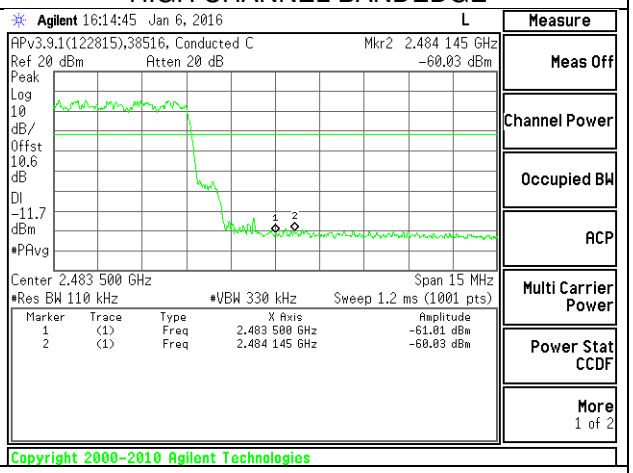
8.8.4. ENHANCED DATA RATE 8PSK MODULATION HOPPING MODE

SPURIOUS BANDEDGE EMISSIONS PLOTS

LOW CHANNEL BANDEDGE	HIGH CHANNEL BANDEDGE
	

NOTE:--

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9. RADIATED EMISSION TEST

LIMITS

FCC §15.205 and §15.209

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150cm for above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For band edge measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 1/T (on time) for average measurement.

The spectrum from 1GHzHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

RESULTS

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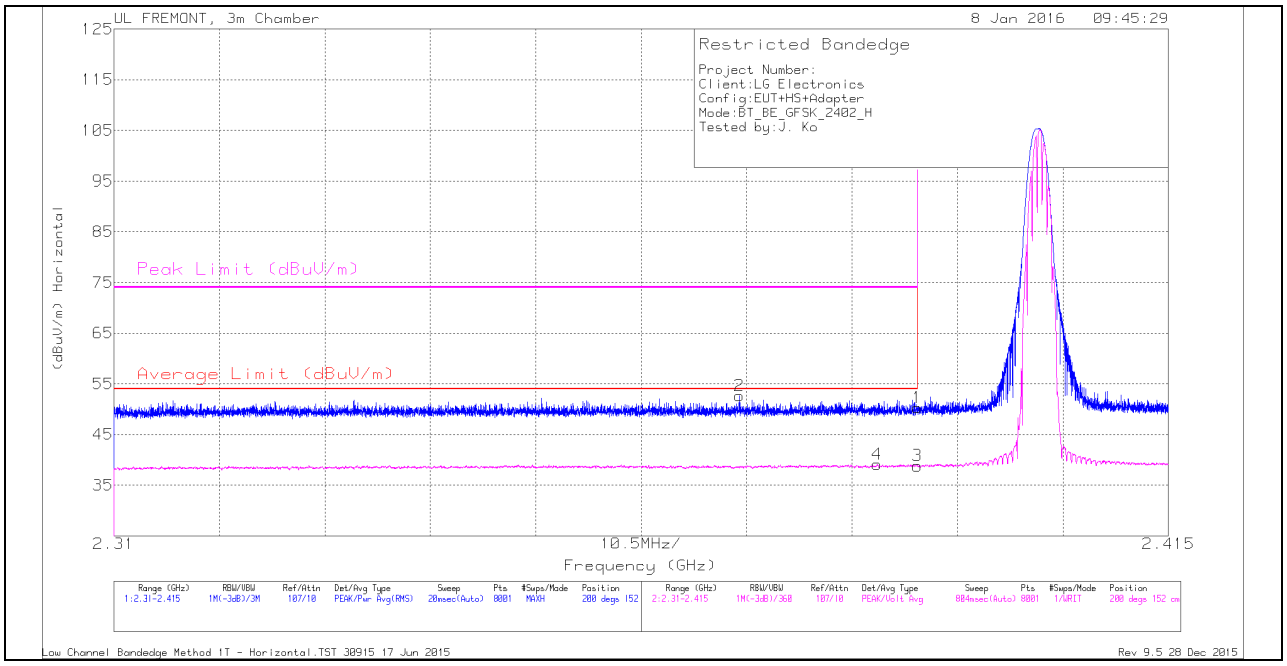
9.1. TRANSMITTER ABOVE 1 GHz

9.1.1. BASIC DATA RATE GFSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.372	43.04	Pk	31.9	-22.3	52.64	-	-	74	-21.36	200	152	H
4	2.386	29.35	VA1T	32	-22.2	39.15	54	-14.85	-	-	200	152	H
1	2.39	40.44	Pk	32	-22.2	50.24	-	-	74	-23.76	200	152	H
3	2.39	29.01	VA1T	32	-22.2	38.81	54	-15.19	-	-	200	152	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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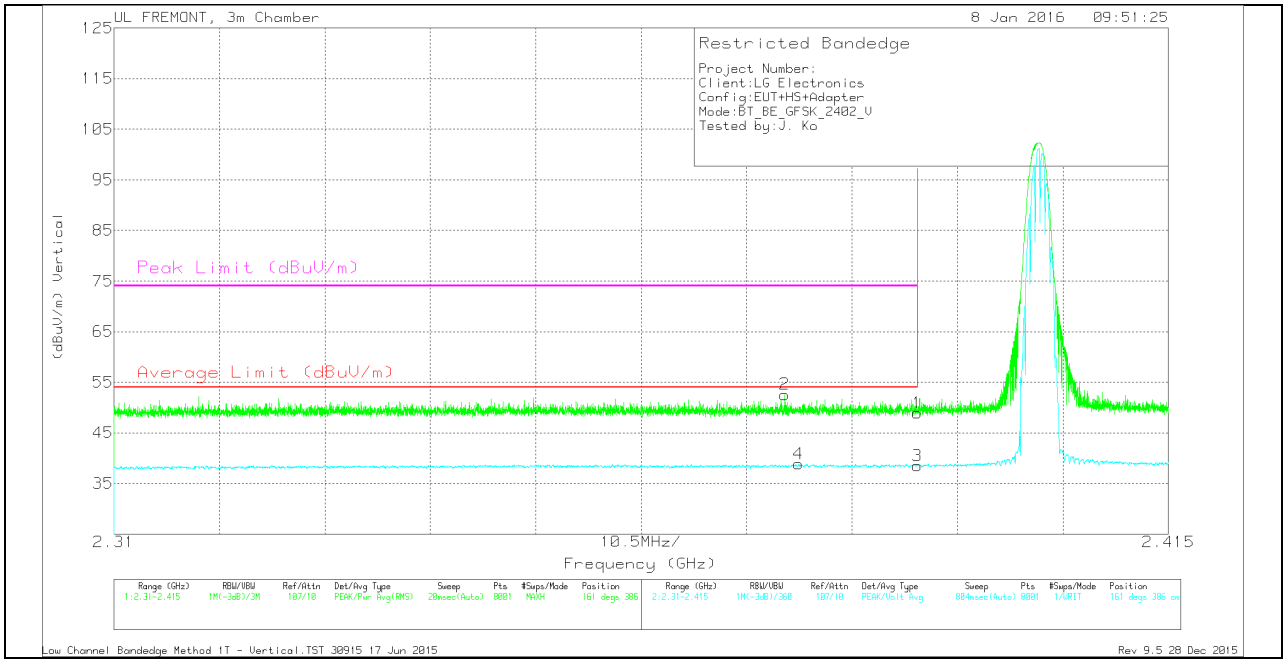
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.377	42.89	Pk	31.9	-22.2	52.59	-	-	74	-21.41	161	386	V
4	2.378	29.13	VA1T	31.9	-22.2	38.83	54	-15.17	-	-	161	386	V
1	2.39	39.17	Pk	32	-22.2	48.97	-	-	74	-25.03	161	386	V
3	2.39	28.75	VA1T	32	-22.2	38.55	54	-15.45	-	-	161	386	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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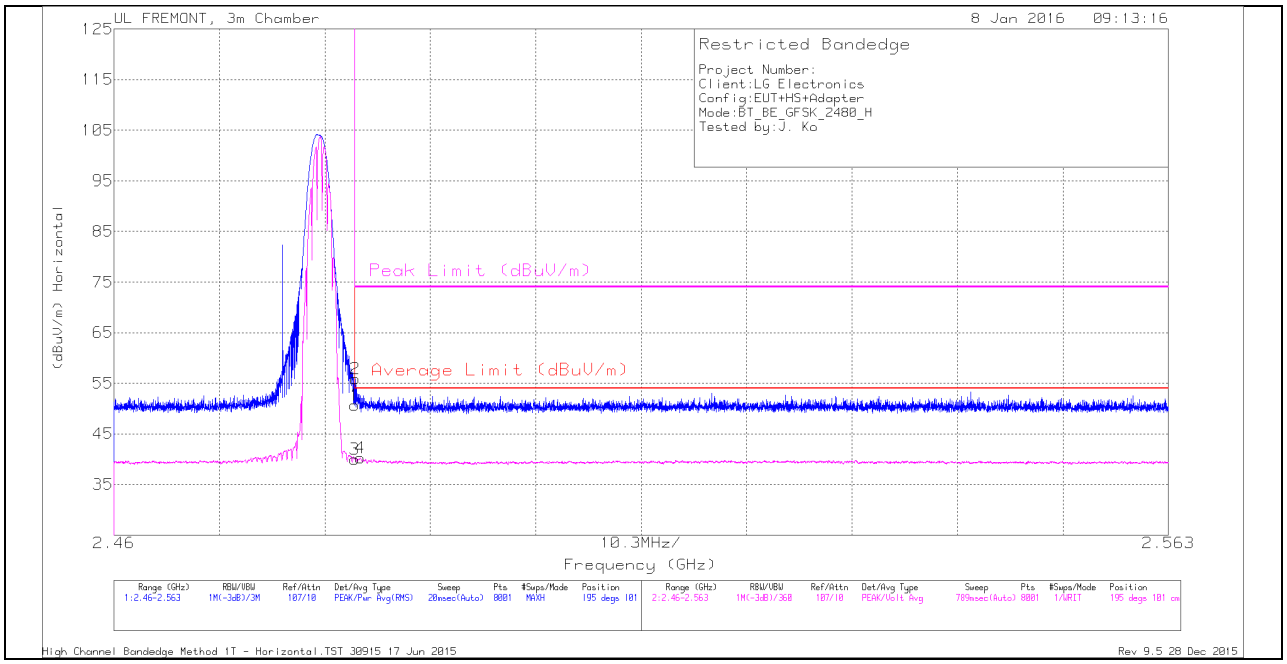
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	40.41	Pk	32.3	-22	50.71	-	-	74	-23.29	195	101	H
2	2.484	45.61	Pk	32.3	-22	55.91	-	-	74	-18.09	195	101	H
3	2.484	29.71	VA1T	32.3	-22	40.01	54	-13.99	-	-	195	101	H
4	2.484	29.92	VA1T	32.3	-22	40.22	54	-13.78	-	-	195	101	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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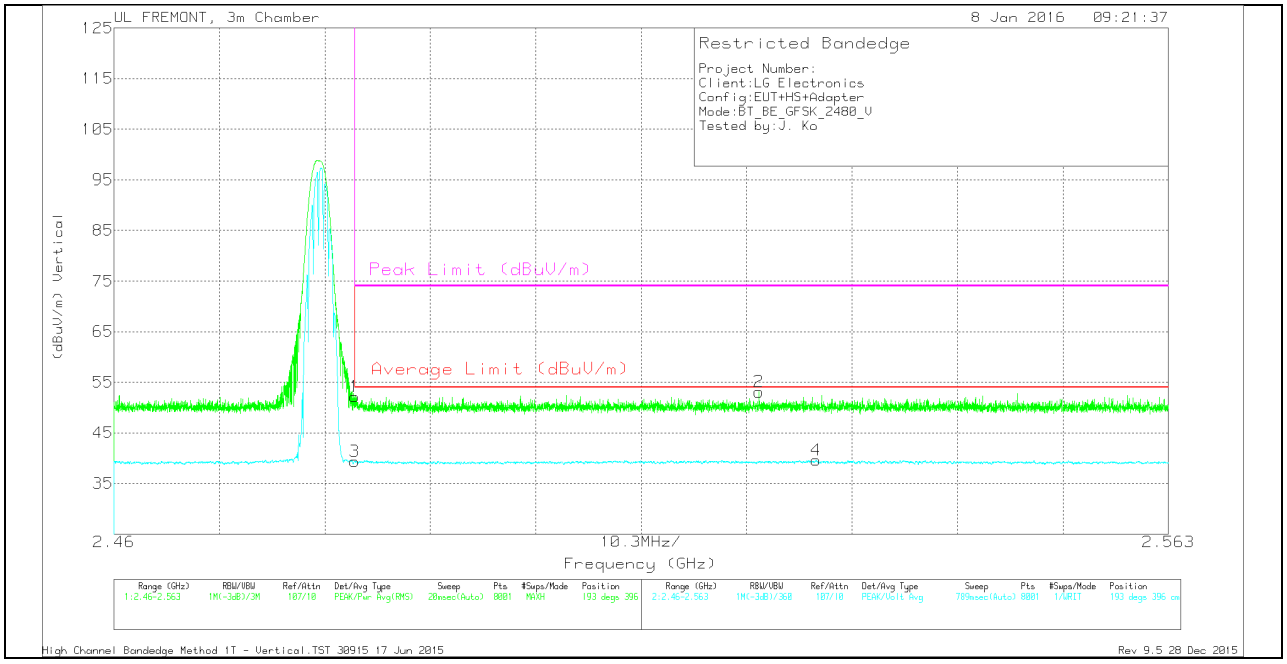
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	41.83	Pk	32.3	-22	52.13	-	-	74	-21.87	193	396	V
3	2.484	29.01	VA1T	32.3	-22	39.31	54	-14.69	-	-	193	396	V
2	2.523	42.59	Pk	32.4	-21.9	53.09	-	-	74	-20.91	193	396	V
4	2.529	29.17	VA1T	32.4	-22	39.57	54	-14.43	-	-	193	396	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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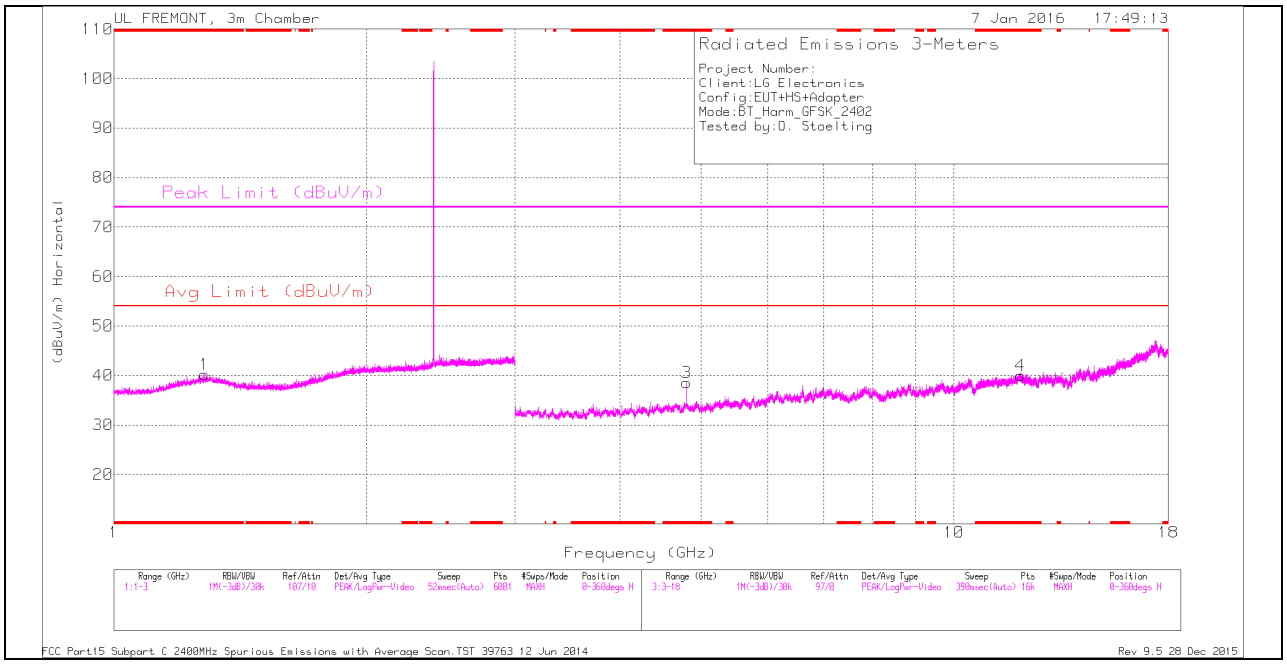
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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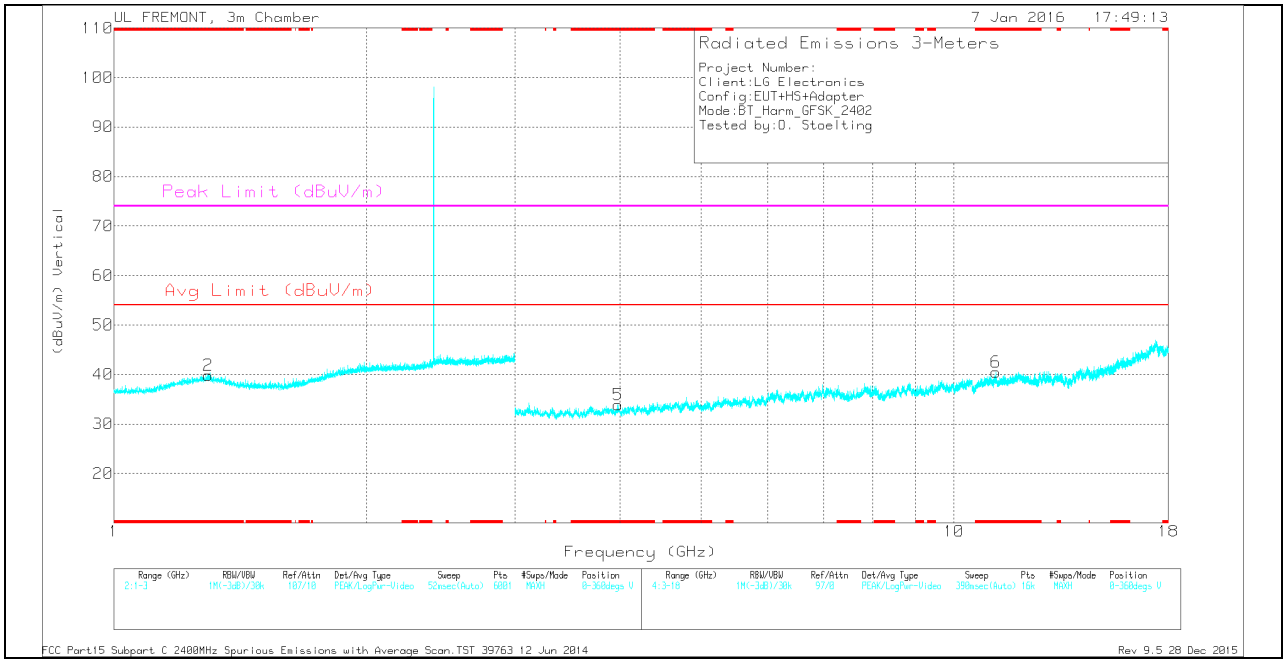
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.281	33.75	Avg	29.7	-23.2	40.25	54	-13.75	-	-	0-360	100	H
2	* 1.295	33.14	Avg	29.8	-23.1	39.84	54	-14.16	-	-	0-360	100	V
3	* 4.804	33.63	Avg	34	-29.1	38.53	54	-15.47	-	-	0-360	200	H
4	* 12.002	24.1	Avg	39.1	-23.2	40	54	-14	-	-	0-360	200	H
5	* 3.982	30.95	Avg	33.2	-30.3	33.85	54	-20.15	-	-	0-360	200	V
6	* 11.213	24.95	Avg	37.9	-22.4	40.45	54	-13.55	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.28	41.64	PKFH	29.7	-23.2	48.14	-	-	74	-25.86	337	344	H
* 1.281	29.61	VA1T	29.7	-23.2	36.11	54	-17.89	-	-	337	344	H
* 1.297	40.81	PKFH	29.9	-23.2	47.51	-	-	74	-26.49	207	152	V
* 1.297	29.61	VA1T	29.9	-23.2	36.31	54	-17.69	-	-	207	152	V
* 4.803	41.3	PKFH	34	-29.1	46.2	-	-	74	-27.8	83	198	H
* 4.804	32.41	VA1T	34	-29.1	37.31	54	-16.69	-	-	83	198	H
* 12.004	32.05	PKFH	39.1	-23.1	48.05	-	-	74	-25.95	285	101	H
* 12.002	21.12	VA1T	39.1	-23.2	37.02	54	-16.98	-	-	285	101	H
* 3.982	38.94	PKFH	33.2	-30.3	41.84	-	-	74	-32.16	19	228	V
* 3.983	27.16	VA1T	33.2	-30.3	30.06	54	-23.94	-	-	19	228	V
* 11.215	32.66	PKFH	37.9	-22.4	48.16	-	-	74	-25.84	321	104	V
* 11.214	21.01	VA1T	37.9	-22.4	36.51	54	-17.49	-	-	321	104	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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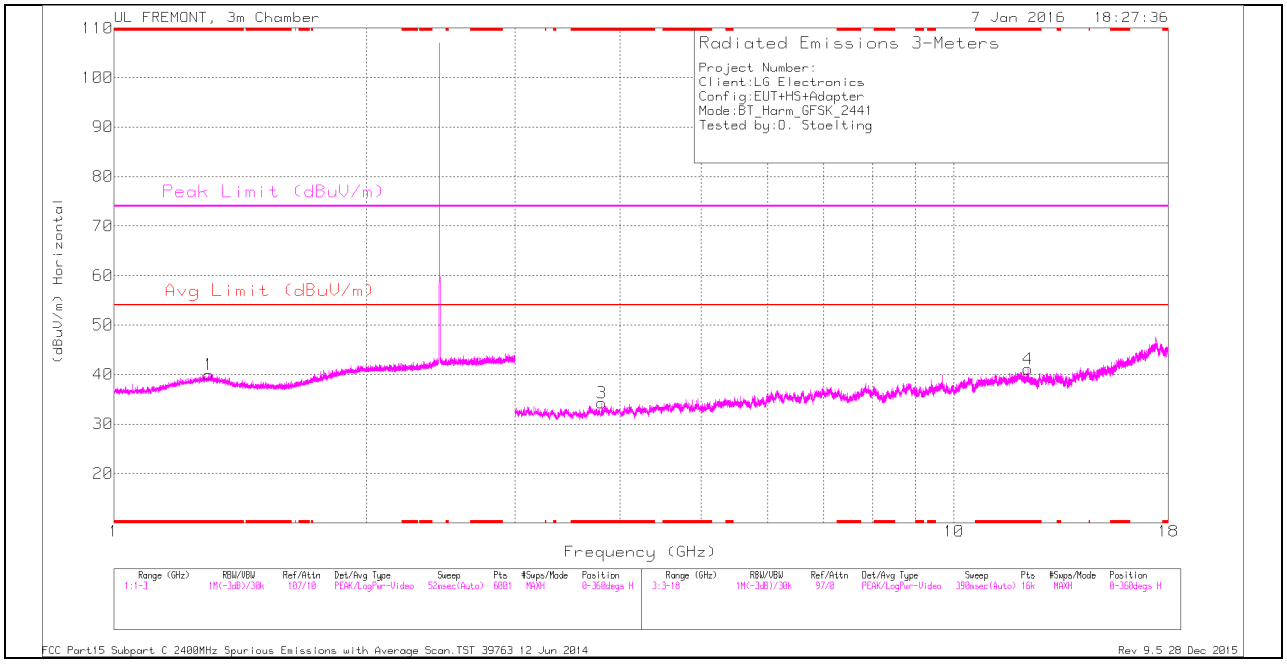
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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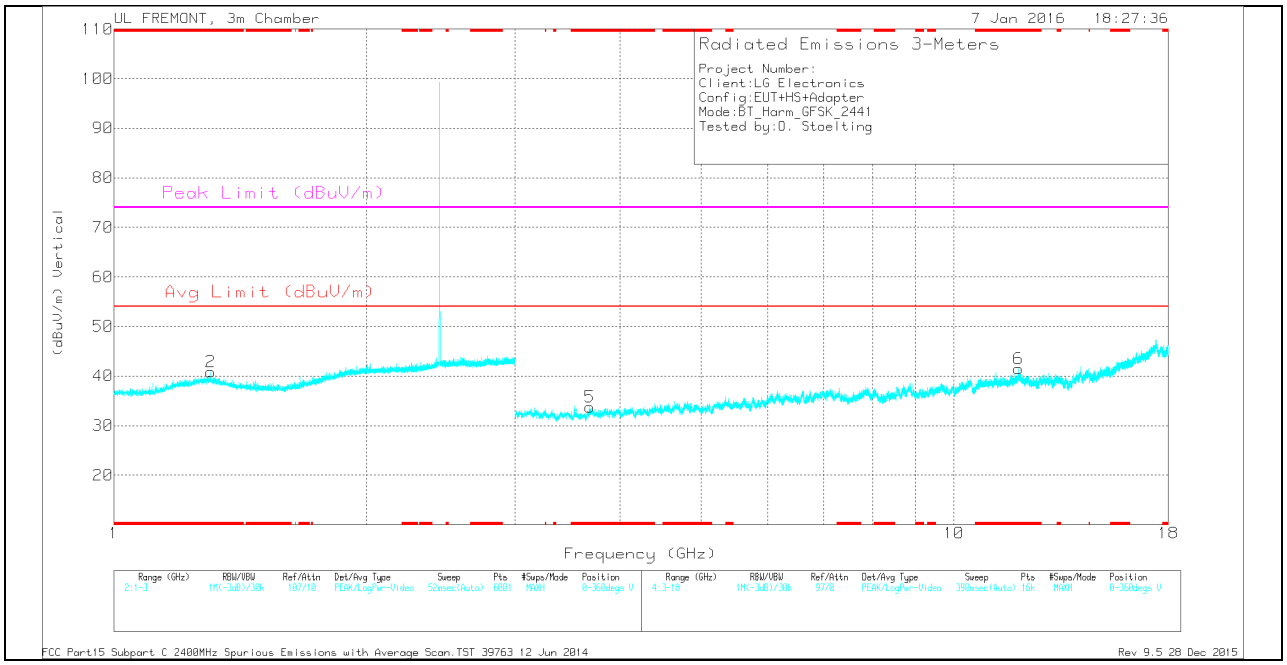
MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.296	33.21	Avg	29.9	-23.1	40.01	54	-13.99	-	-	0-360	100	H
2	* 1.304	34.22	Avg	29.8	-23.2	40.82	54	-13.18	-	-	0-360	100	V
3	* 3.808	31.35	Avg	33.1	-30.2	34.25	54	-19.75	-	-	0-360	200	H
4	* 12.258	25.36	Avg	38.9	-23.2	41.06	54	-12.94	-	-	0-360	100	H
5	* 3.682	30.46	Avg	33	-29.7	33.76	54	-20.24	-	-	0-360	200	V
6	* 11.943	25.98	Avg	39.1	-23.6	41.48	54	-12.52	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.295	41.19	PKFH	29.8	-23.1	47.89	-	-	74	-26.11	331	133	H
* 1.295	29.62	VA1T	29.8	-23.1	36.32	54	-17.68	-	-	331	133	H
* 1.305	41.12	PKFH	29.8	-23.2	47.72	-	-	74	-26.28	161	126	V
* 1.304	29.55	VA1T	29.8	-23.2	36.15	54	-17.85	-	-	161	126	V
* 3.808	38.68	PKFH	33.1	-30.2	41.58	-	-	74	-32.42	29	226	H
* 3.808	26.78	VA1T	33.1	-30.2	29.68	54	-24.32	-	-	29	226	H
* 12.259	33.25	PKFH	38.9	-23.2	48.95	-	-	74	-25.05	105	115	H
* 12.259	21.33	VA1T	38.9	-23.2	37.03	54	-16.97	-	-	105	115	H
* 3.683	38.42	PKFH	33	-29.7	41.72	-	-	74	-32.28	83	357	V
* 3.682	26.51	VA1T	33	-29.7	29.81	54	-24.19	-	-	83	357	V
* 11.943	33.36	PKFH	39.1	-23.7	48.76	-	-	74	-25.24	340	159	V
* 11.941	21.81	VA1T	39.1	-23.7	37.21	54	-16.79	-	-	340	159	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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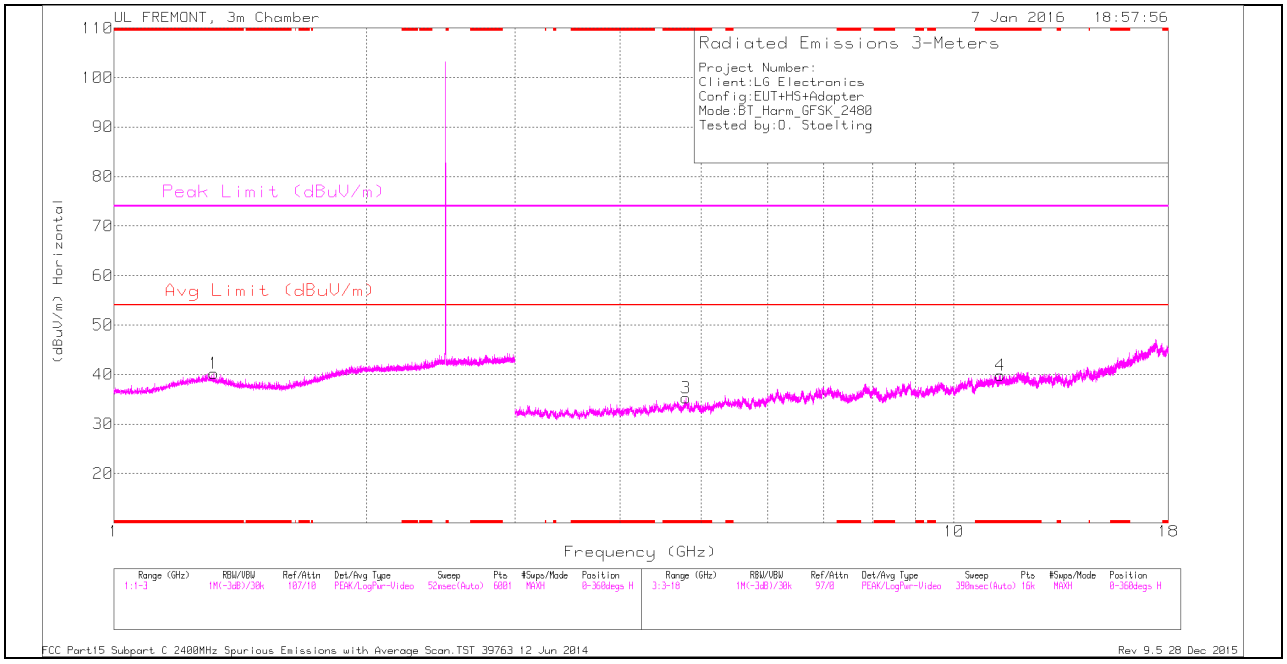
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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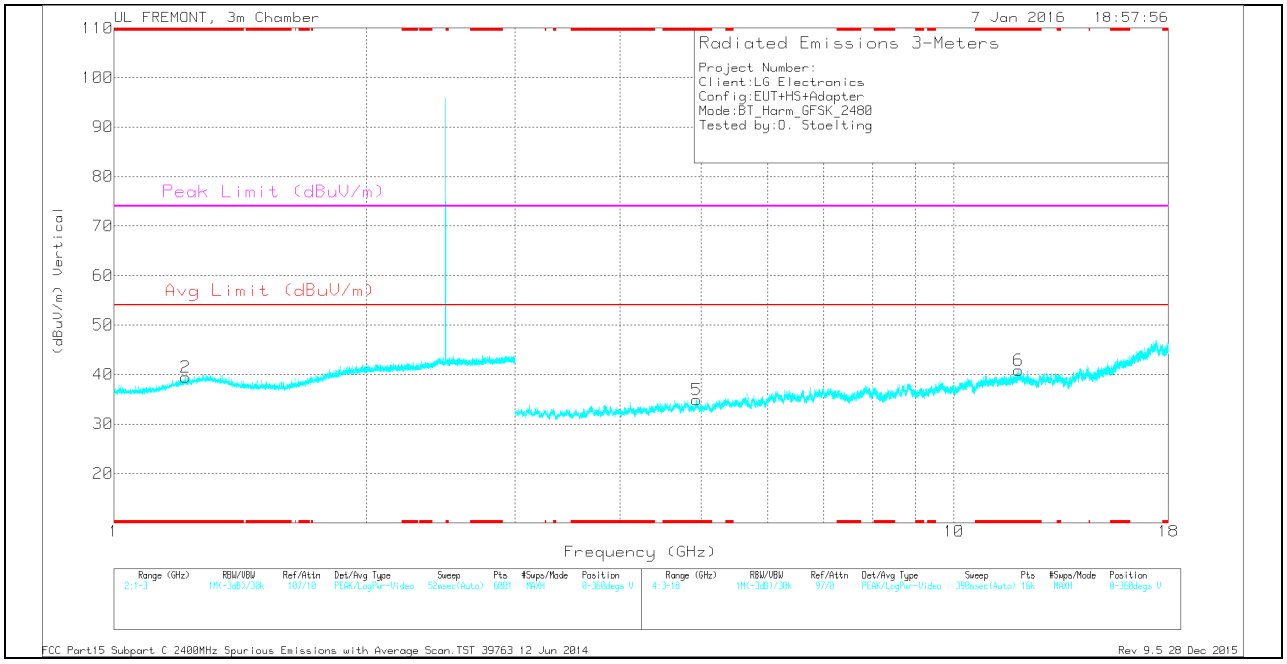
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.315	33.74	Avg	29.7	-23.2	40.24	54	-13.76	-	-	0-360	100	H
2	* 1.216	33.43	Avg	29.1	-23.1	39.43	54	-14.57	-	-	0-360	200	V
3	* 4.798	30.4	Avg	34	-29.1	35.3	54	-18.7	-	-	0-360	200	H
4	* 11.355	25.35	Avg	38.1	-23.6	39.85	54	-14.15	-	-	0-360	100	H
5	* 4.937	30.32	Avg	34	-29.4	34.92	54	-19.08	-	-	0-360	200	V
6	* 11.941	25.5	Avg	39.1	-23.7	40.9	54	-13.1	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.315	40.84	PKFH	29.7	-23.2	47.34	-	-	74	-26.66	129	399	H
* 1.317	29.5	VA1T	29.7	-23.2	36	54	-18	-	-	129	399	H
* 1.215	41.82	PKFH	29.1	-23.1	47.82	-	-	74	-26.18	135	108	V
* 1.217	29.38	VA1T	29.1	-23.1	35.38	54	-18.62	-	-	135	108	V
* 4.798	38.84	PKFH	34	-29.1	43.74	-	-	74	-30.26	257	124	H
* 4.796	26.47	VA1T	34	-29.2	31.27	54	-22.73	-	-	257	124	H
* 11.354	32.73	PKFH	38.1	-23.6	47.23	-	-	74	-26.77	145	100	H
* 11.357	21.84	VA1T	38.1	-23.6	36.34	54	-17.66	-	-	145	100	H
* 4.936	38.44	PKFH	34	-29.4	43.04	-	-	74	-30.96	56	105	V
* 4.936	26.94	VA1T	34	-29.4	31.54	54	-22.46	-	-	56	105	V
* 11.939	34.27	PKFH	39.1	-23.7	49.67	-	-	74	-24.33	306	156	V
* 11.943	21.97	VA1T	39.1	-23.7	37.37	54	-16.63	-	-	306	156	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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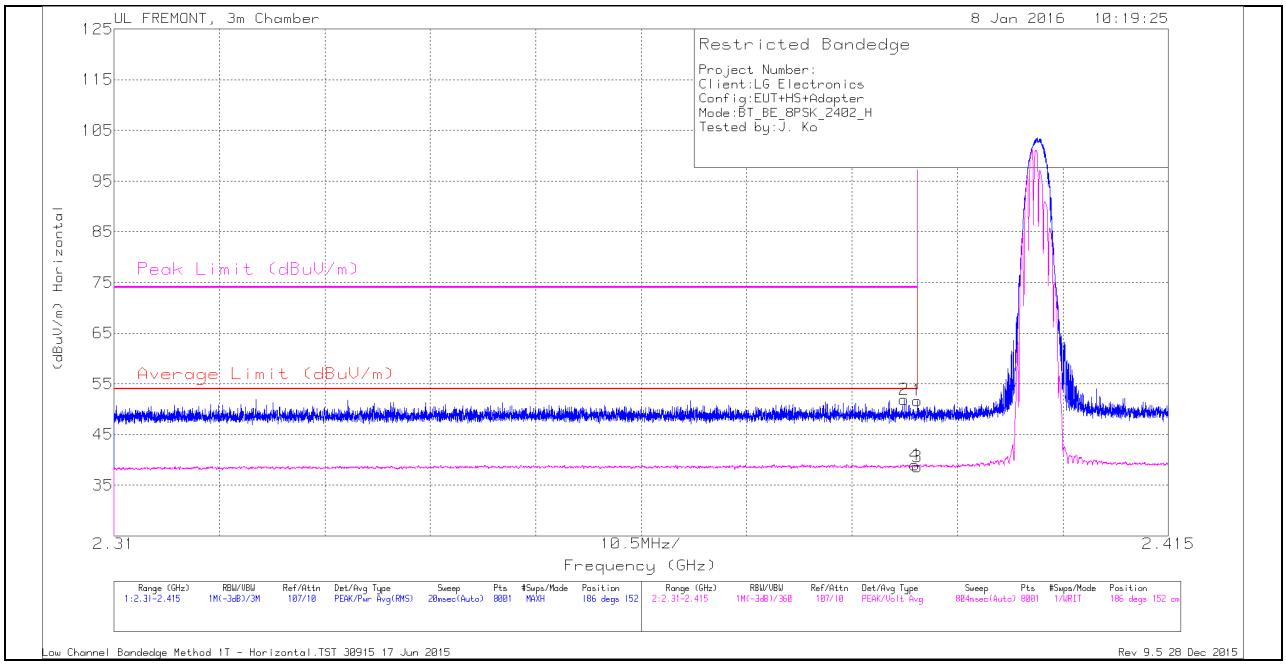
9.1.2. ENHANCED DATA RATE 8PSK MODULATION

RESTRICTED BANDEDGE (LOW CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.389	42.15	Pk	32	-22.2	51.95	-	-	74	-22.05	186	152	H
1	2.39	41.92	Pk	32	-22.2	51.72	-	-	74	-22.28	186	152	H
3	2.39	28.87	VA1T	32	-22.2	38.67	54	-15.33	-	-	186	152	H
4	2.39	29.25	VA1T	32	-22.2	39.05	54	-14.95	-	-	186	152	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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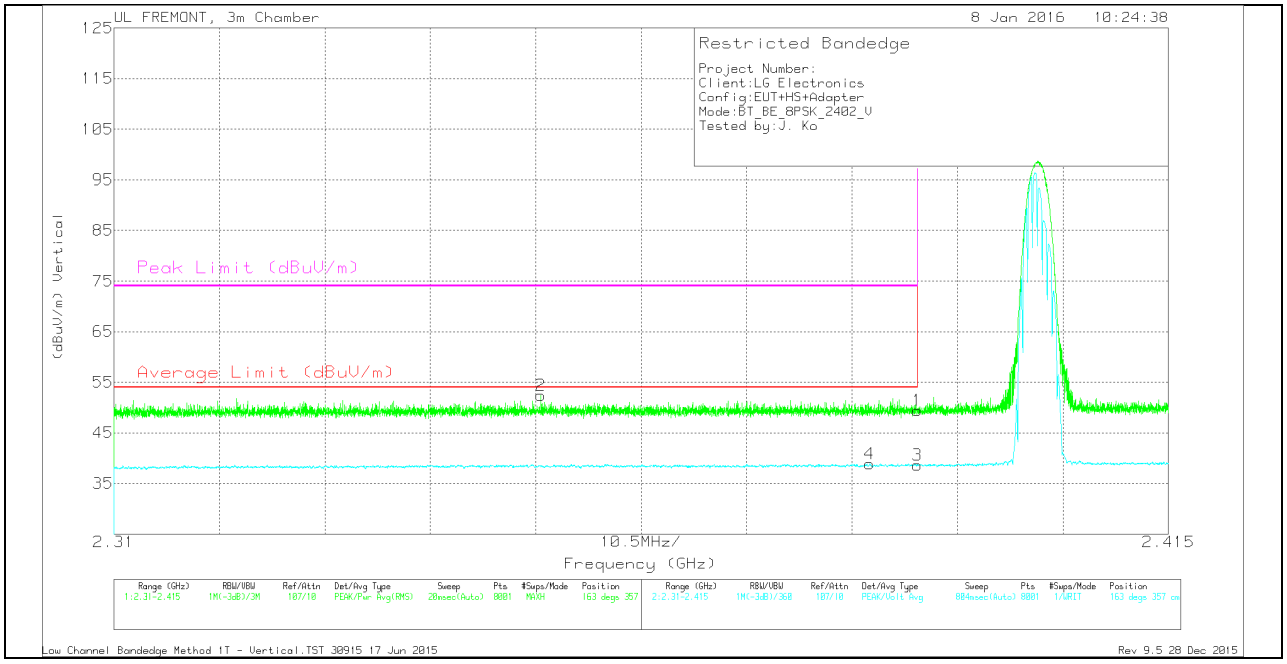
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	2.353	42.92	Pk	31.8	-22.3	52.42	-	-	74	-21.58	163	357	V
4	2.385	29.12	VA1T	32	-22.2	38.92	54	-15.08	-	-	163	357	V
1	2.39	39.63	Pk	32	-22.2	49.43	-	-	74	-24.57	163	357	V
3	2.39	28.83	VA1T	32	-22.2	38.63	54	-15.37	-	-	163	357	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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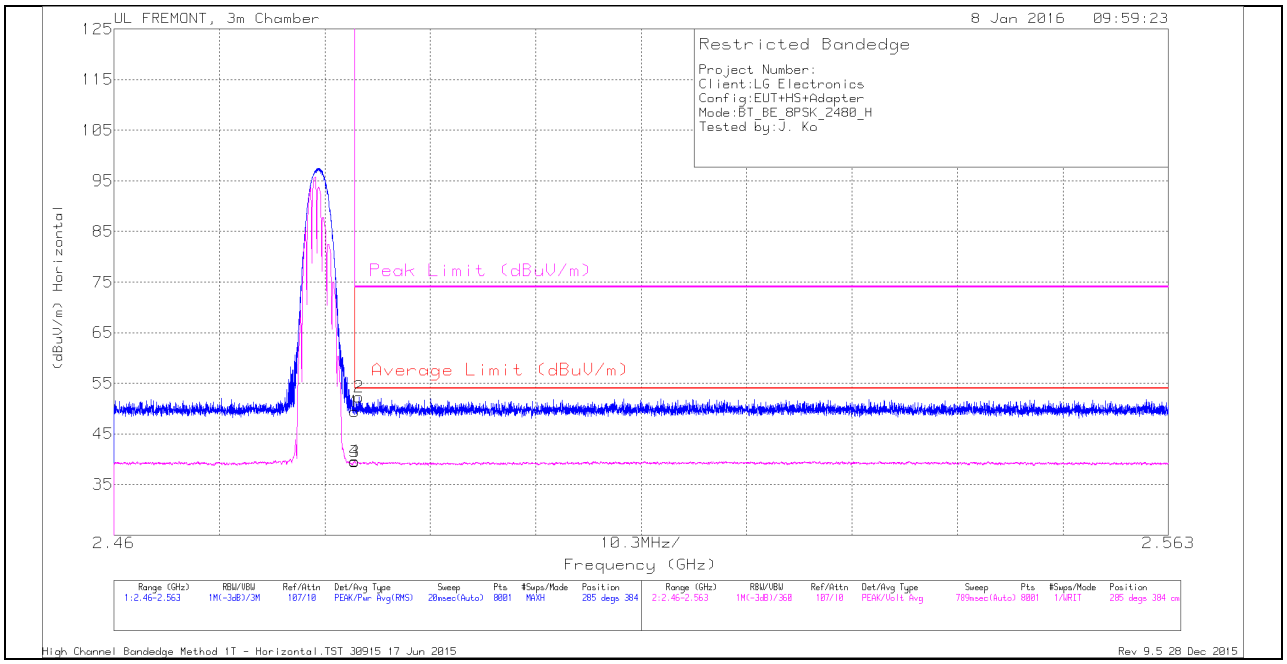
AUTHORIZED BANDEDGE (HIGH CHANNEL)

HORIZONTAL PEAK AND AVERAGE PLOT



HORIZONTAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	39.09	Pk	32.3	-22	49.39	-	-	74	-24.61	285	384	H
2	2.484	41.97	Pk	32.3	-22	52.27	-	-	74	-21.73	285	384	H
3	2.484	29.21	VA1T	32.3	-22	39.51	54	-14.49	-	-	285	384	H
4	2.484	29.27	VA1T	32.3	-22	39.57	54	-14.46	-	-	285	384	H

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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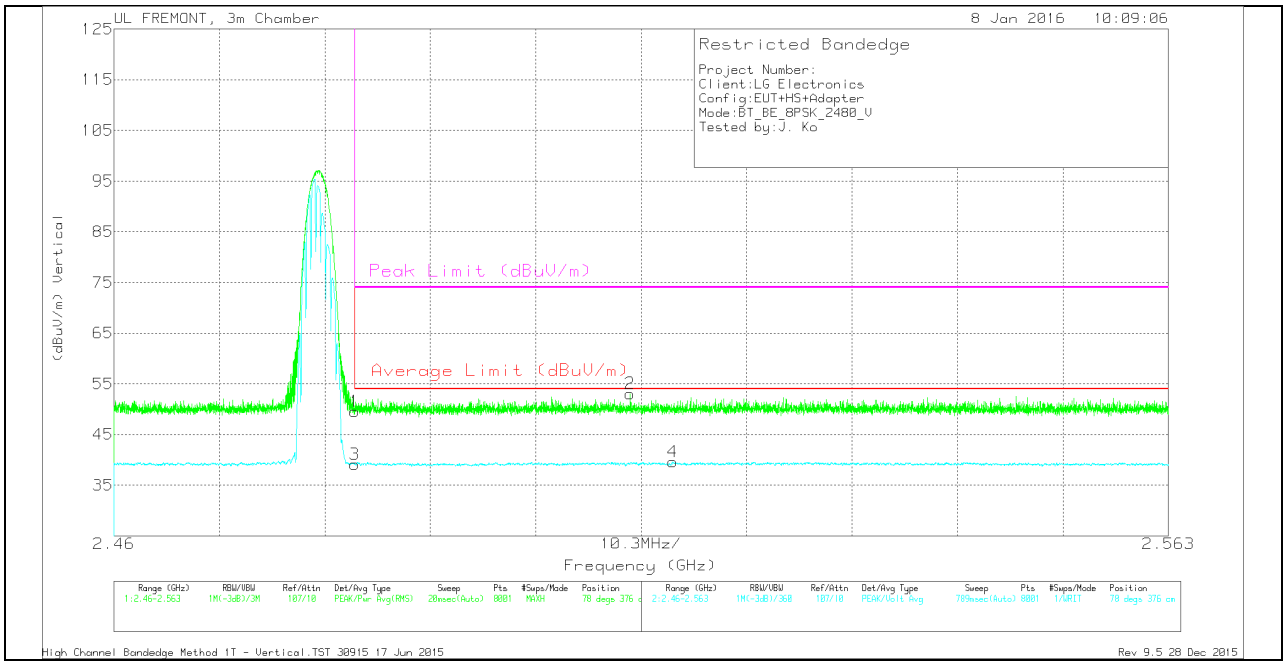
VERTICAL PEAK AND AVERAGE PLOT



VERTICAL DATA

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.484	39.29	Pk	32.3	-22	49.59	-	-	74	-24.41	78	376	V
3	2.484	28.81	VA1T	32.3	-22	39.11	54	-14.89	-	-	78	376	V
2	2.51	42.68	Pk	32.3	-21.9	53.08	-	-	74	-20.92	78	376	V
4	2.515	29.17	VA1T	32.3	-21.9	39.57	54	-14.43	-	-	78	376	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band
Pk - Peak detector
VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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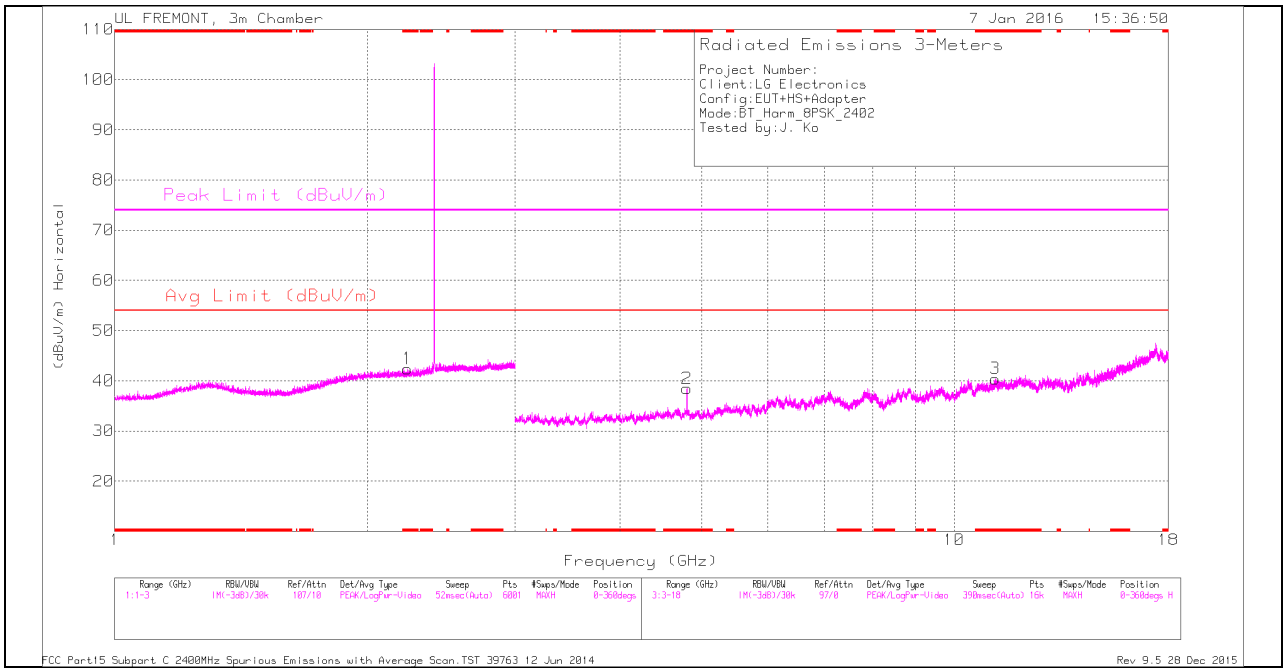
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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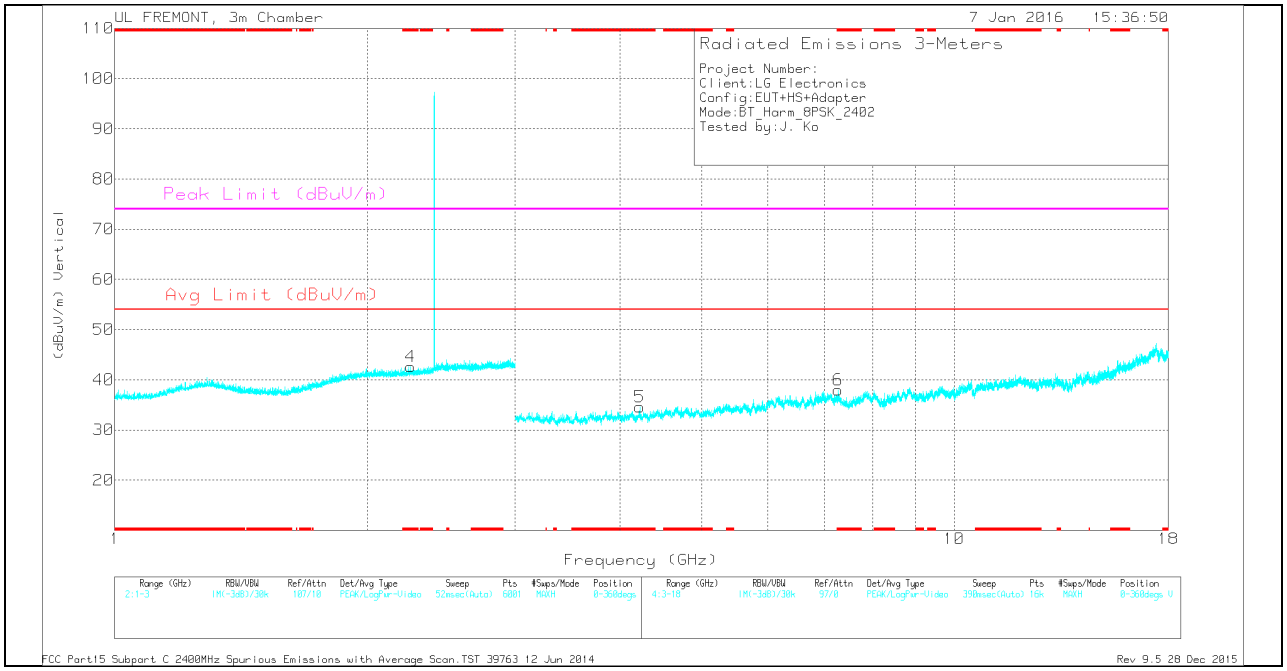
LOW CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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LOW CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.232	33.1	Avg	31.5	-22.2	42.4	54	-11.6	-	-	0-360	100	H
4	* 2.253	33.39	Avg	31.5	-22.3	42.59	54	-11.41	-	-	0-360	100	V
2	* 4.805	33.54	Avg	34	-29.1	38.44	54	-15.56	-	-	0-360	100	H
3	* 11.203	25.02	Avg	37.9	-22.5	40.42	54	-13.58	-	-	0-360	100	H
5	* 4.221	30.9	Avg	33.4	-29.7	34.6	54	-19.4	-	-	0-360	100	V
6	* 7.271	29.94	Avg	35.6	-27.6	37.94	54	-16.06	-	-	0-360	200	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 2.23	41.05	PKFH	31.5	-22.2	50.35	-	-	74	-23.65	189	108	H
* 2.232	29	VA1T	31.5	-22.2	38.3	54	-15.7	-	-	189	108	H
* 2.252	40.82	PKFH	31.5	-22.2	50.12	-	-	74	-23.88	94	108	V
* 2.255	28.92	VA1T	31.5	-22.3	38.12	54	-15.88	-	-	94	108	V
* 4.805	40.95	PKFH	34	-29.1	45.85	-	-	74	-28.15	263	222	H
* 4.804	32.51	VA1T	34	-29.1	37.41	54	-16.59	-	-	263	222	H
* 11.204	31.15	PKFH	37.9	-22.5	46.55	-	-	74	-27.45	74	301	H
* 11.204	19.03	VA1T	37.9	-22.5	34.43	54	-19.57	-	-	74	301	H
* 4.221	38.03	PKFH	33.4	-29.7	41.73	-	-	74	-32.27	228	214	V
* 4.221	26.27	VA1T	33.4	-29.7	29.97	54	-24.03	-	-	228	214	V
* 7.271	35.98	PKFH	35.6	-27.6	43.98	-	-	74	-30.02	187	321	V
* 7.273	24.42	VA1T	35.6	-27.6	32.42	54	-21.58	-	-	187	321	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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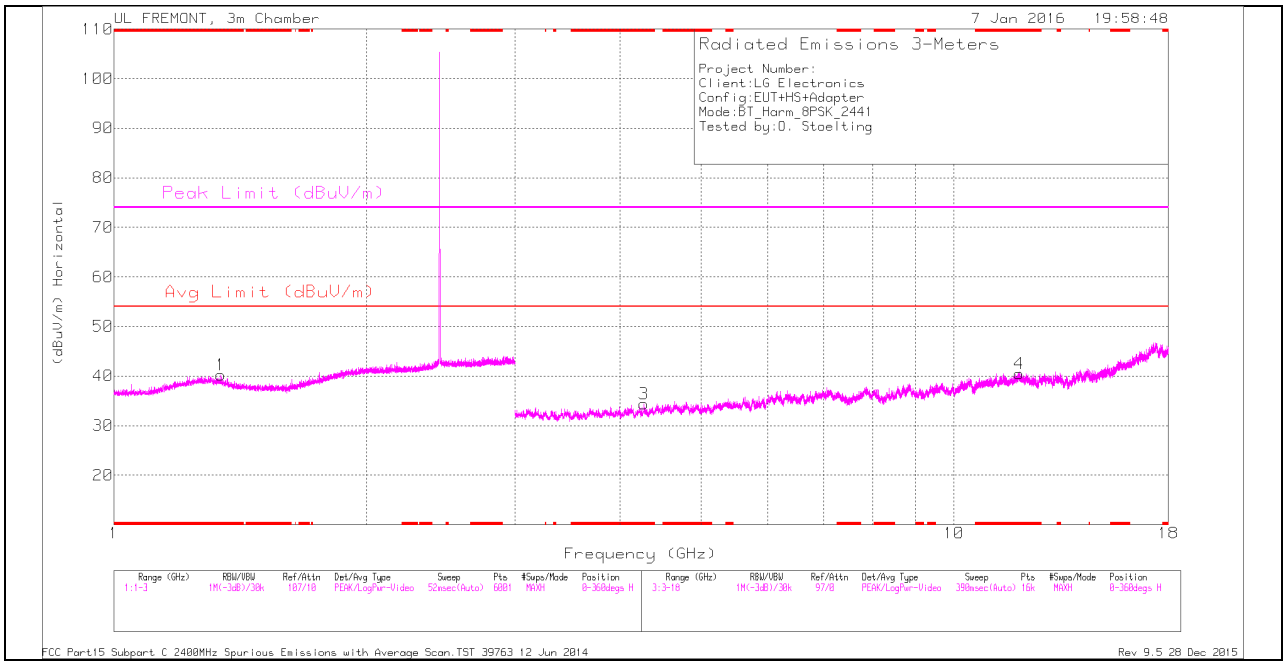
MID CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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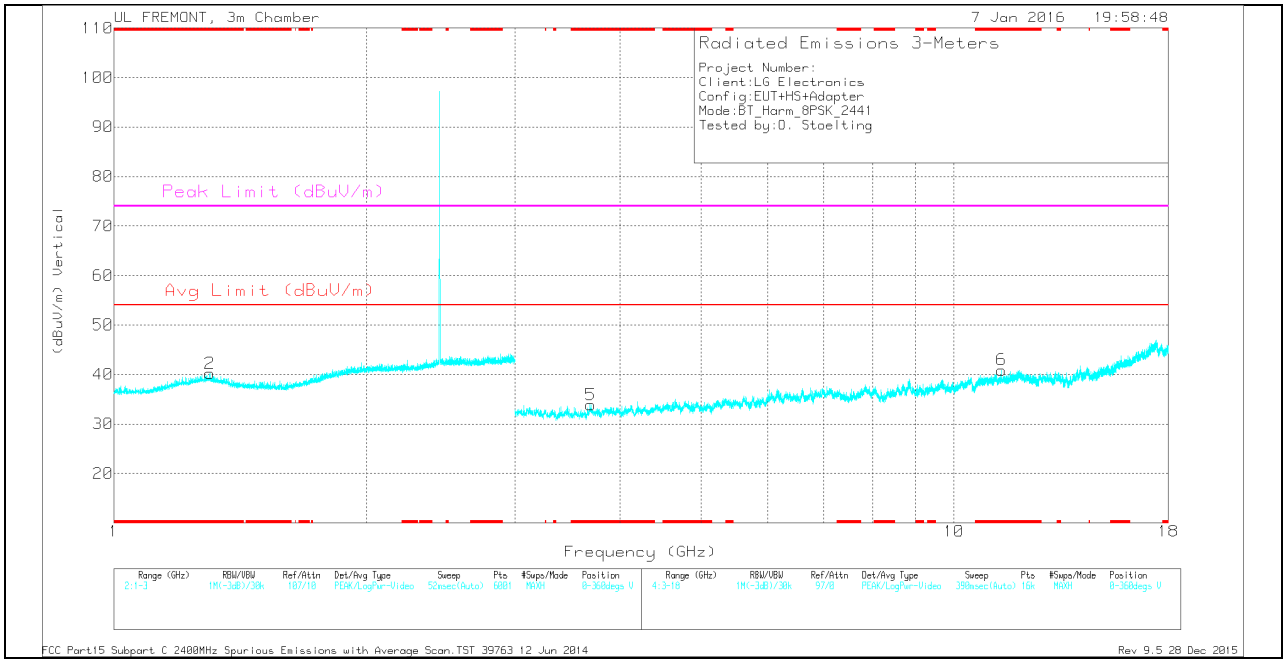
MID CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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MID CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.341	33.97	Avg	29.4	-23.1	40.27	54	-13.73	-	-	0-360	100	H
2	* 1.3	33.55	Avg	29.9	-23.2	40.25	54	-13.75	-	-	0-360	100	V
3	* 4.271	31.22	Avg	33.4	-30.2	34.42	54	-19.58	-	-	0-360	100	H
4	* 11.955	24.96	Avg	39.1	-23.6	40.46	54	-13.54	-	-	0-360	100	H
5	* 3.695	30.37	Avg	33	-29.5	33.87	54	-20.13	-	-	0-360	100	V
6	* 11.387	26.32	Avg	38.2	-23.6	40.92	54	-13.08	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.343	40.92	PKFH	29.3	-23.1	47.12	-	-	74	-26.88	53	104	H
* 1.341	29.59	VA1T	29.4	-23.1	35.89	54	-18.11	-	-	53	104	H
* 1.3	40.97	PKFH	29.9	-23.2	47.67	-	-	74	-26.33	48	154	V
* 1.3	29.56	VA1T	29.9	-23.2	36.26	54	-17.74	-	-	48	154	V
* 4.27	38.45	PKFH	33.4	-30.1	41.75	-	-	74	-32.25	317	151	H
* 4.27	27.05	VA1T	33.4	-30.1	30.35	54	-23.65	-	-	317	151	H
* 11.954	33.53	PKFH	39.1	-23.6	49.03	-	-	74	-24.97	70	122	H
* 11.956	21.65	VA1T	39.1	-23.6	37.15	54	-16.85	-	-	70	122	H
* 3.696	38.32	PKFH	33	-29.5	41.82	-	-	74	-32.18	120	120	V
* 3.694	26.48	VA1T	33	-29.5	29.98	54	-24.02	-	-	120	120	V
* 11.386	33.45	PKFH	38.2	-23.6	48.05	-	-	74	-25.95	14	150	V
* 11.389	21.75	VA1T	38.2	-23.5	36.45	54	-17.55	-	-	14	150	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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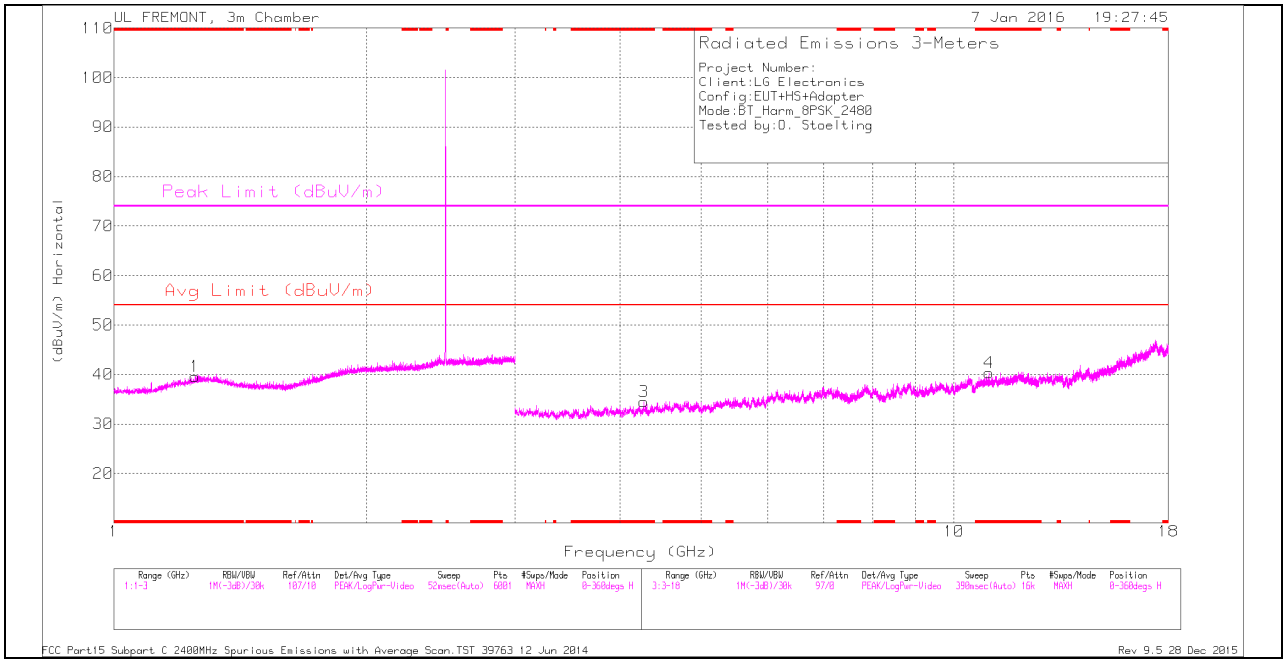
HIGH CHANNEL HORIZONTAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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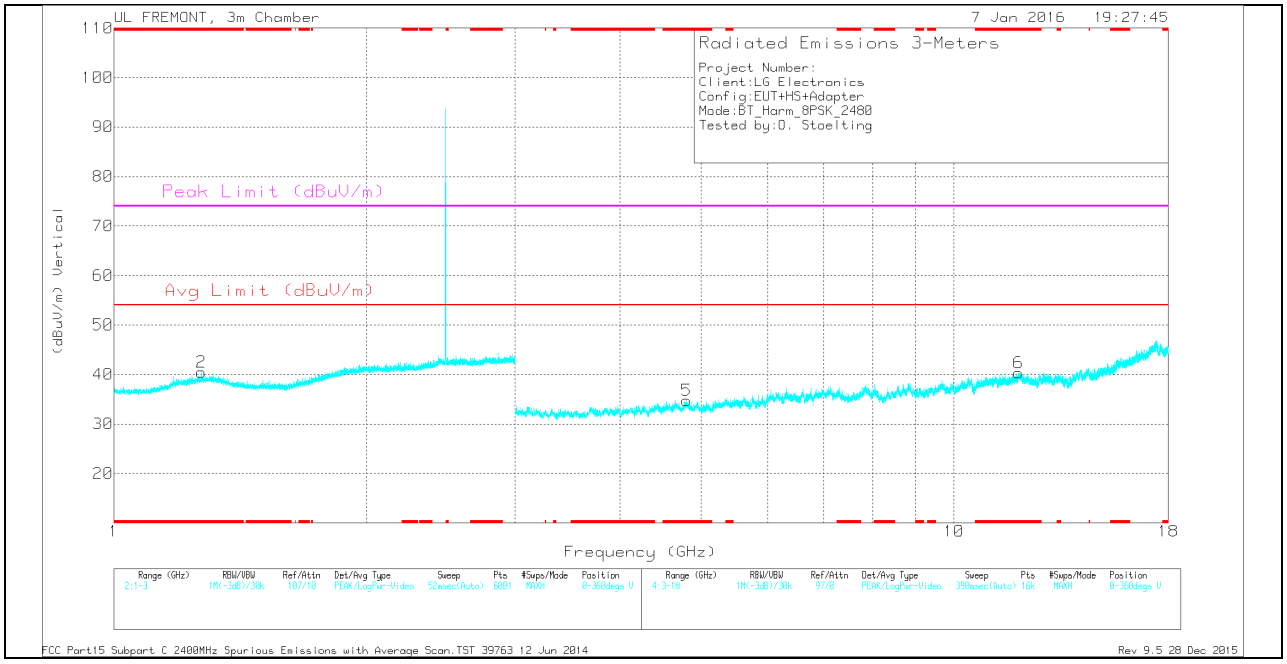
HIGH CHANNEL VERTICAL



Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

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HIGH CHANNEL DATA

TRACE MARKERS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1.248	33.44	Avg	29.4	-23.2	39.64	54	-14.36	-	-	0-360	100	H
2	* 1.271	34.12	Avg	29.6	-23.2	40.52	54	-13.48	-	-	0-360	200	V
3	* 4.276	31.05	Avg	33.5	-30.1	34.45	54	-19.55	-	-	0-360	200	H
4	* 11	25.56	Avg	37.9	-23.1	40.36	54	-13.64	-	-	0-360	200	H
5	* 4.808	30	Avg	34	-29.2	34.8	54	-19.2	-	-	0-360	100	V
6	* 11.94	24.93	Avg	39.1	-23.7	40.33	54	-13.67	-	-	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Avg - Video bandwidth < Resolution bandwidth

RADIATED EMISSIONS

Frequency (GHz)	Meter Reading (dBuV)	Det	AF T119 (dB/m)	Amp/Cbl/Fltr/Pad (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 1.246	41.74	PKFH	29.4	-23.2	47.94	-	-	74	-26.06	218	123	H
* 1.248	29.63	VA1T	29.4	-23.2	35.83	54	-18.17	-	-	218	123	H
* 1.272	41.18	PKFH	29.6	-23.2	47.58	-	-	74	-26.42	145	357	V
* 1.273	29.57	VA1T	29.6	-23.2	35.97	54	-18.03	-	-	145	357	V
* 4.277	38.34	PKFH	33.5	-30.1	41.74	-	-	74	-32.26	76	219	H
* 4.276	27.08	VA1T	33.5	-30.1	30.48	54	-23.52	-	-	76	219	H
* 10.999	32.38	PKFH	37.9	-23	47.28	-	-	74	-26.72	111	161	H
* 10.998	21.59	VA1T	37.9	-23	36.49	54	-17.51	-	-	111	161	H
* 4.806	38.65	PKFH	34	-29.2	43.45	-	-	74	-30.55	102	190	V
* 4.808	26.52	VA1T	34	-29.2	31.32	54	-22.68	-	-	102	190	V
* 11.939	33.7	PKFH	39.1	-23.7	49.1	-	-	74	-24.9	110	147	V
* 11.941	21.97	VA1T	39.1	-23.7	37.37	54	-16.63	-	-	110	147	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

PKFH - FHSS: RB=100k/1MHz VB=3 x RB, Peak

VA1T - FHSS: Linear Voltage Average VB=1/Ton where: Ton is transmit duration

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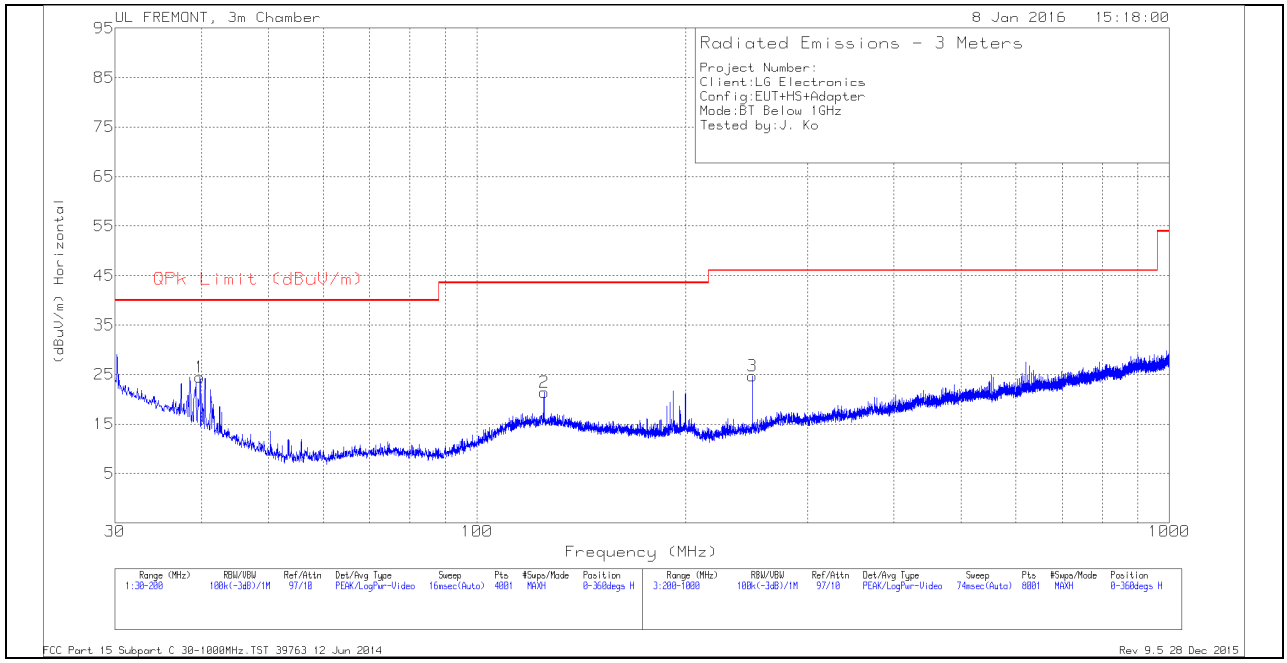
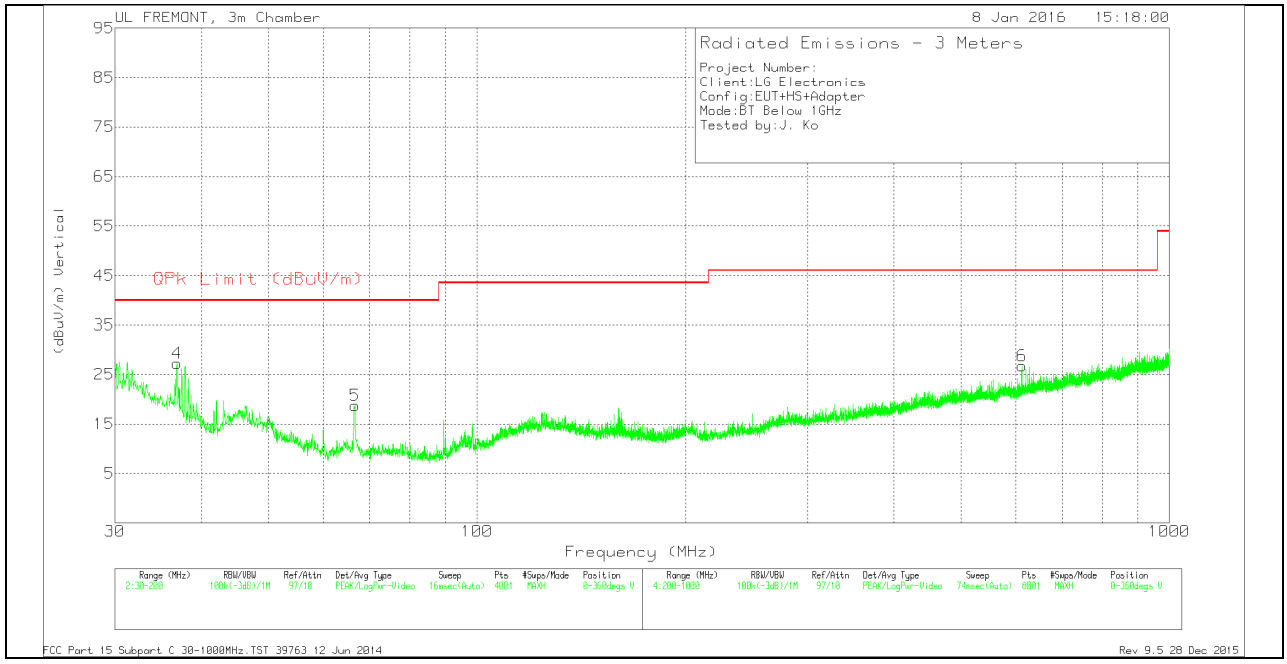
9.2. WORST-CASE BELOW 1 GHz

GFSK SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



VERTICAL PLOT



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BELOW 1 GHz TABLE

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AF T185 (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	36.885	37.7	Pk	16.6	-27.1	27.2	40	-12.8	0-360	100	V
1	39.775	37.05	Pk	14.5	-27.1	24.45	40	-15.55	0-360	400	H
5	66.5925	37.31	Pk	8.1	-26.7	18.71	40	-21.29	0-360	100	V
2	124.9875	33.43	Pk	14	-26	21.43	43.52	-22.09	0-360	200	H
3	249.95	37.91	Pk	11.5	-24.7	24.71	46.02	-21.31	0-360	100	H
6	612	32.6	Pk	18.7	-24.6	26.7	46.02	-19.32	0-360	100	V

* - indicates frequency in CFR15.205/IC 8.10 Restricted Band

Pk - Peak detector

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10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56	56 to 46
0.5 - 5	56	46
5 - 30	60	50

*Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

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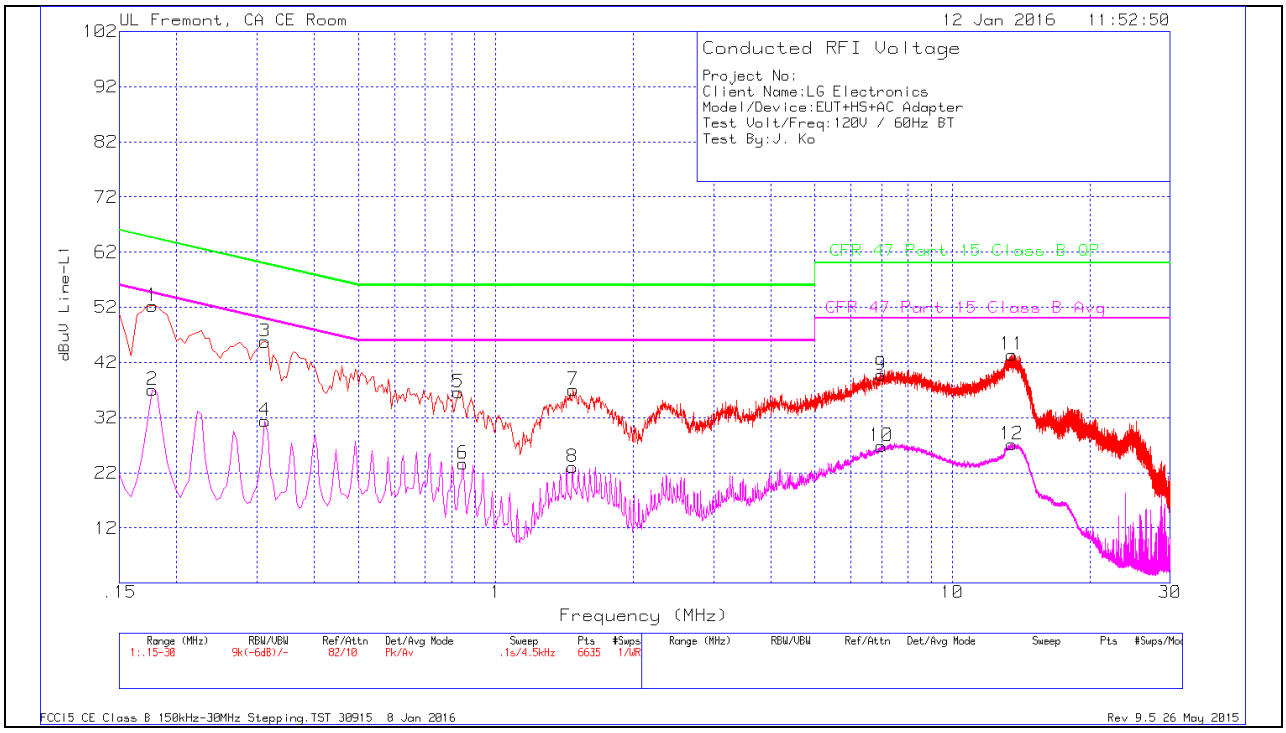
6 WORST EMISSIONS

LINE 1 PLOT



LINE 1 RESULT

Range 1: Line-L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T1310 IL L1	LC Cables 1&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
1	.177	52.25	Pk	0	0	52.25	64.63	-12.38		
2	.177	37.02	Av	0	0	37.02	-	-	54.63	-17.61
3	.312	45.77	Pk	0	0	45.77	59.92	-14.15		
4	.312	31.42	Av	0	0	31.42	-	-	49.92	-18.5
5	.8295	36.61	Pk	0	0	36.61	56	-19.39		
6	.8475	23.66	Av	0	0	23.66	-	-	46	-22.34
7	1.4775	36.95	Pk	0	.1	37.05	56	-18.95		
8	1.473	22.93	Av	0	.1	23.03	-	-	46	-22.97
9	6.9855	39.64	Pk	0	.1	39.74	60	-20.26		
10	6.9945	26.76	Av	0	.1	26.86	-	-	50	-23.14
11	13.5105	43.1	Pk	.1	.2	43.4	60	-16.6		
12	13.497	26.82	Av	.1	.2	27.12	-	-	50	-22.88

Pk - Peak detector

Av - Average detection

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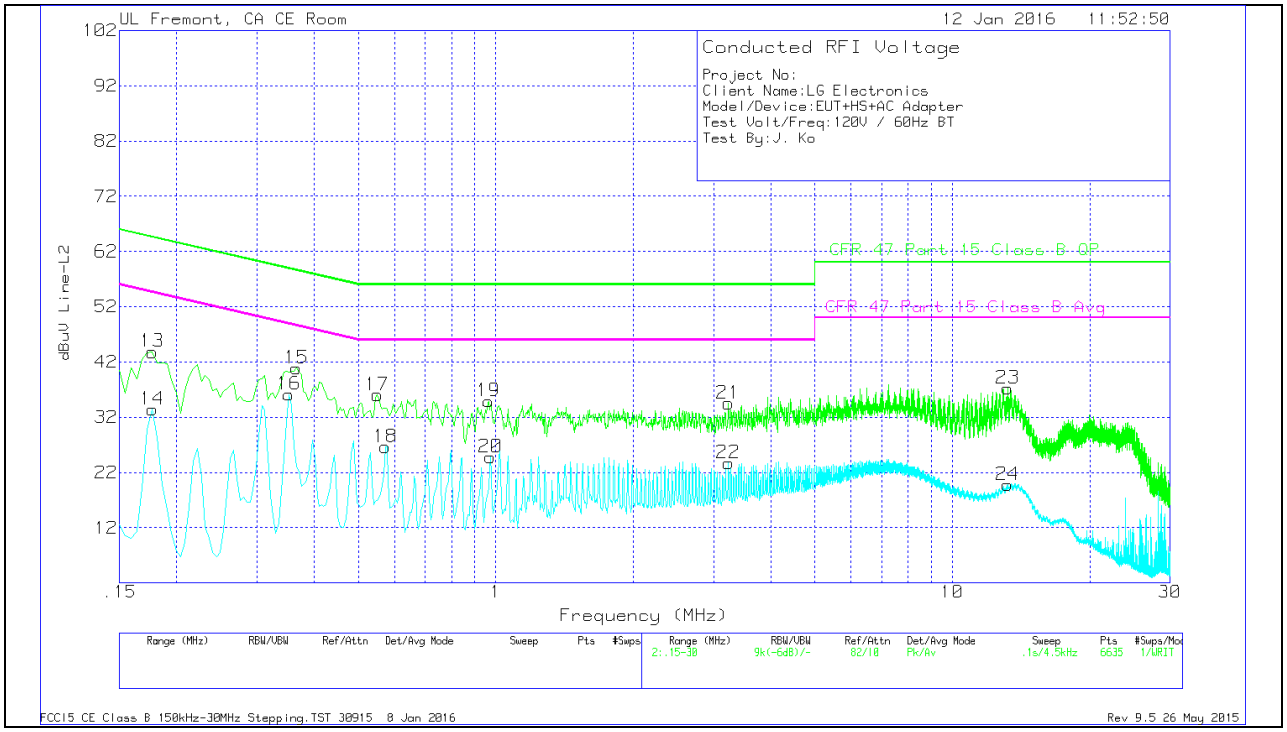
LINE 2 PLOT



LINE 2 RESULT

Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	T1310 IL L2	LC Cables 2&3	Corrected Reading dBuV	CFR 47 Part 15 Class B QP	Margin (dB)	CFR 47 Part 15 Class B Avg	Margin (dB)
13	.177	43.82	Pk	0	0	43.82	64.63	-20.81		
14	.177	33.43	Av	0	0	33.43	-	-	54.63	-21.2
15	.366	40.85	Pk	0	0	40.85	58.59	-17.74		
16	.3525	36.12	Av	0	0	36.12	-	-	48.9	-12.78
17	.5505	36.04	Pk	0	0	36.04	56	-19.96		
18	.573	26.62	Av	0	0	26.62	-	-	46	-19.38
19	.9645	34.88	Pk	0	0	34.88	56	-21.12		
20	.9735	24.68	Av	0	.1	24.78	-	-	46	-21.22
21	3.2325	34.42	Pk	0	.1	34.52	56	-21.48		
22	3.2325	23.63	Av	0	.1	23.73	-	-	46	-22.27
23	13.218	36.93	Pk	.1	.2	37.23	60	-22.77		
24	13.2135	19.45	Av	.1	.2	19.75	-	-	50	-30.25

Pk - Peak detector

Av - Average detection

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