FCC CFR47 PART 15 SUBPART C
CERTIFICATION TEST REPORT

FOR

BAR PHONE WITH 802.11 B/G/N 1X1 HT20, BT4.0 LE, BASIC, EDR AND GSM850/1900MHZ

MODEL NUMBER: GT-S5312

FCC ID: A3LGTS5312

REPORT NUMBER: 13I14897-2

ISSUE DATE: APRIL 3, 2013

Prepared for
SAMSUNG ELECTRONICS CO., LTD.
416, MAETAN 3-DONG, YEONGTONG-GU
SUWON-CITY,GYEONGGI-DO, 443-742, SOUTH KOREA

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NVLAP LAB CODE 200065-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--		Initial Issue	

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD. 416, MAETAN 3-DONG, YEONGTONG-GU SUWON-CITY, GYEONGGI-DO, 443-742, SOUTH
EUT DESCRIPTION:	BAR PHONE WITH 802.11 B/G/N 1X1 HT20, BT4.0 LE, BASIC, EDR AND GSM850/1900MHZ
MODEL:	GT-S5312
SERIAL NUMBER:	FK-051-E (CONDUCTED, AND KF-051-F (RADIATED)
DATE TESTED:	MARCH 26 TO MARCH 31, 2013

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

UL CCS 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 CCS 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 CCS and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL CCS 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 UL CCS By:

PHILIP KIM
EMC SUPERVISOR
UL CCS

Tested By:

MENGISTU MEKURIA
EMC ENGINEER
UL CCS

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 47173 Benicia Street, Fremont, California, USA.

UL CCS is accredited by NVLAP, Laboratory Code 200065-0. The full scope of accreditation can be viewed at http://www.ccsemc.com.

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

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, 30 to 1000 MHz	4.94 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is an 802.11a/b/g/n 1X1 HT20, BT4.0 LE, BASIC, EDR AND GSM850/1900MHZ BAR PHONE that manufactured by Samsung Electronics.

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	13.19	20.84
2402 - 2480	Enhanced 8PSK	13.47	22.23

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an MID antenna, with a maximum gain of -5.0 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was JZO54K.S5312XXAMC5.

The test utility software used during testing was 1.0.

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated emission and power line conducted emission were performed with the EUT set to transmit at the channel with highest 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.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Power Adapter	Samsung	ETAOU10EUB	RT3C621MS/7-E	N/A
Headphones	Samsung	N/A	N/A	N/A

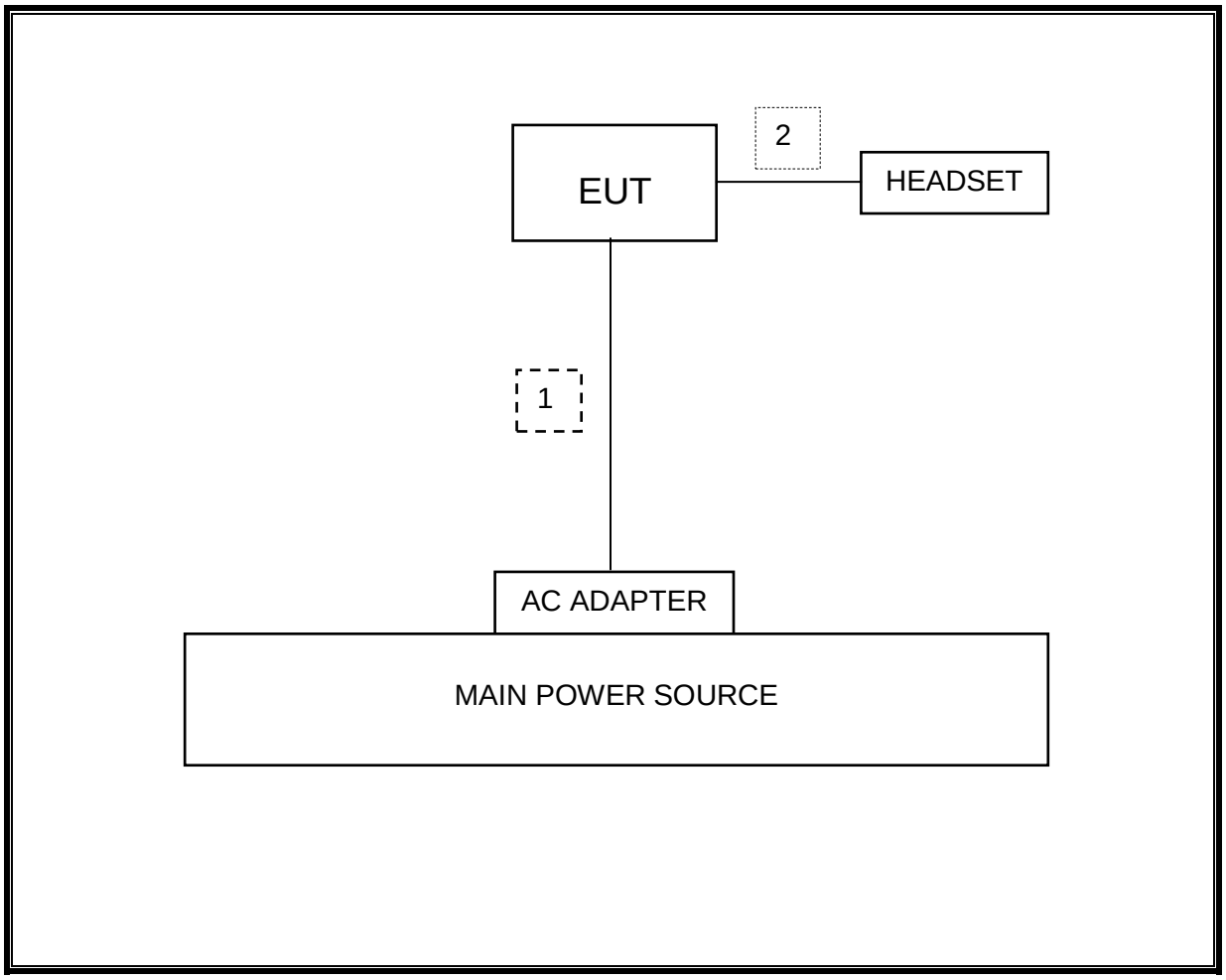
I/O CABLES

I/O Cable List						
Cable No	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	USB	1	USB	Shielded	1.6m	N/A
2	Headset	1	Audio	Shielded	1.5m	N/A

TEST SETUP

The EUT is a stand-alone unit that was tested in the worst case orientation and configuration, where applicable, during the tests. Test software exercised the radio.

SETUP DIAGRAM FOR TESTS



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**	**Asset**	**Cal Due**
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01069	12/20/13
Spectrum Analyzer, 44 GHz	Agilent / HP	E4446A	C01159	04/09/13
Spectrum Analyzer, 26.5 GHz	Agilent / HP	E4440A	C01161	05/02/13
EMI Test Receiver, 30 MHz	R & S	ESHS 20	N02396	08/08/13
Power Sensor, 18 GHz	Agilent / HP	8481A	N02781	09/24/13
Power Meter	Agilent / HP	437B		08/09/13
Antenna, Biconolog, 30MHz-1 GHz	Sunol Sciences	JB1	C01016	08/14/13
Antenna, Horn, 18 GHz	ETS	3117	C01022	02/21/14
Antenna, Horn, 18 GHz	ETS	3117	C01006	12/11/13
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C01052	10/22/13
Preamplifier, 26.5 GHz	Agilent / HP	8449B	C00749	10/19/13
Preamplifier, 1300 MHz	Agilent / HP	8447D	C00558	03/23/14
Reject Filter, 2.4-2.5 GHz	Micro-Tronics	BRM50702	N02685	CNR
LISN, 30 MHz	FCC	50/250-25-2	C00626	01/14/14

7. ANTENNA PORT TEST RESULTS

7.1. BASIC DATA RATE GFSK MODULATION

7.1.1. 20 dB BANDWIDTH

LIMIT

None; for reporting purposes only.

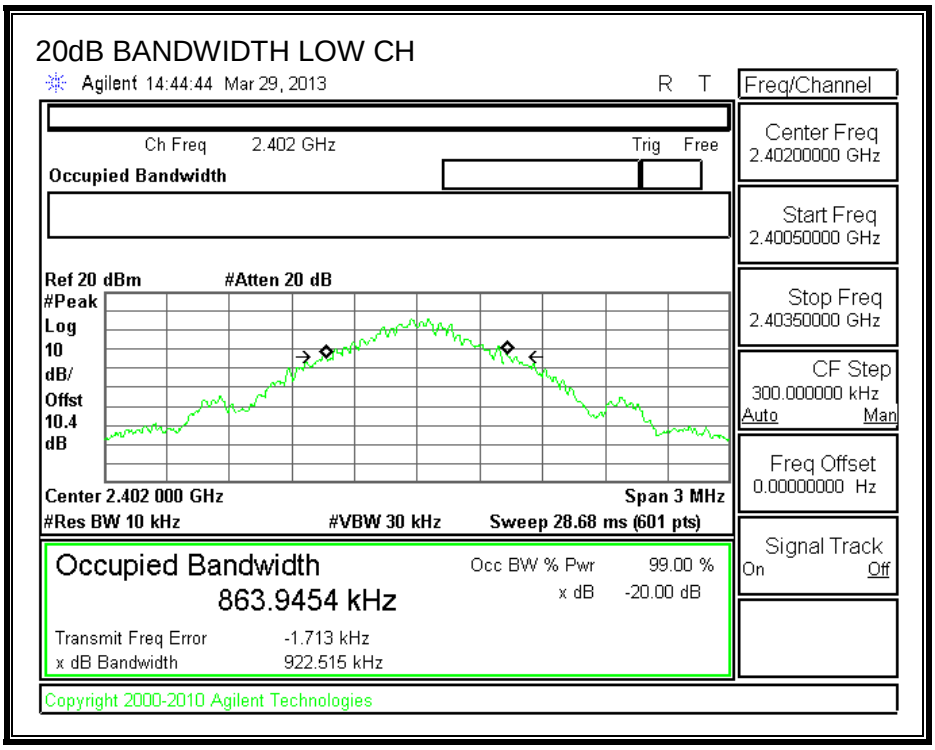
TEST PROCEDURE

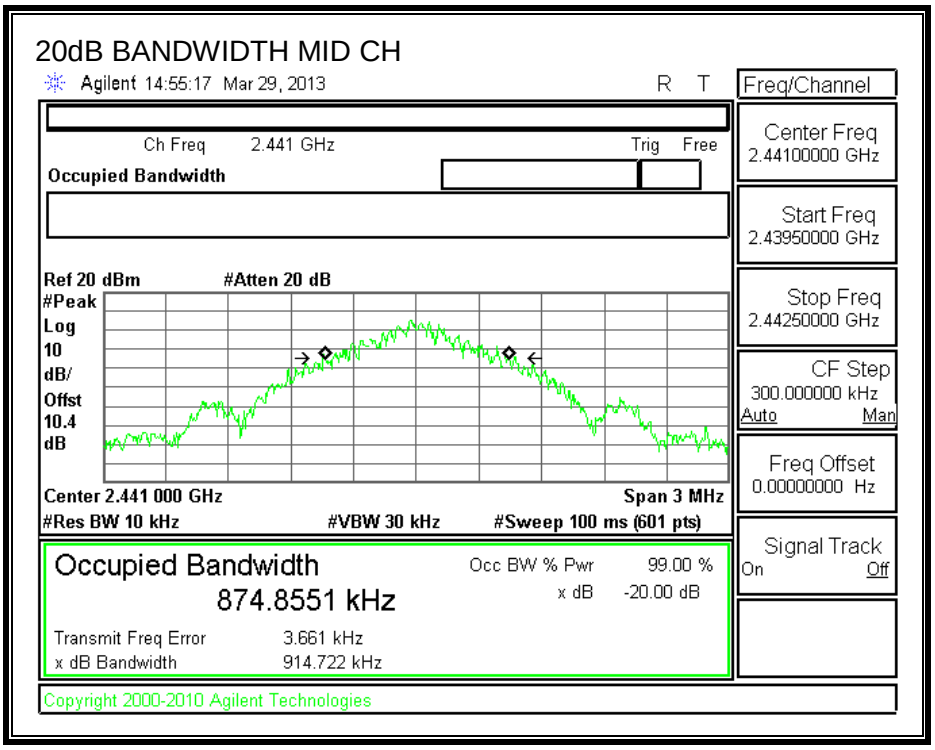
The transmitter output is connected to a spectrum analyzer. The RBW is set to ≥ 1% of the 20 dB bandwidth. The VBW is set to ≥ RBW. The sweep time is coupled.

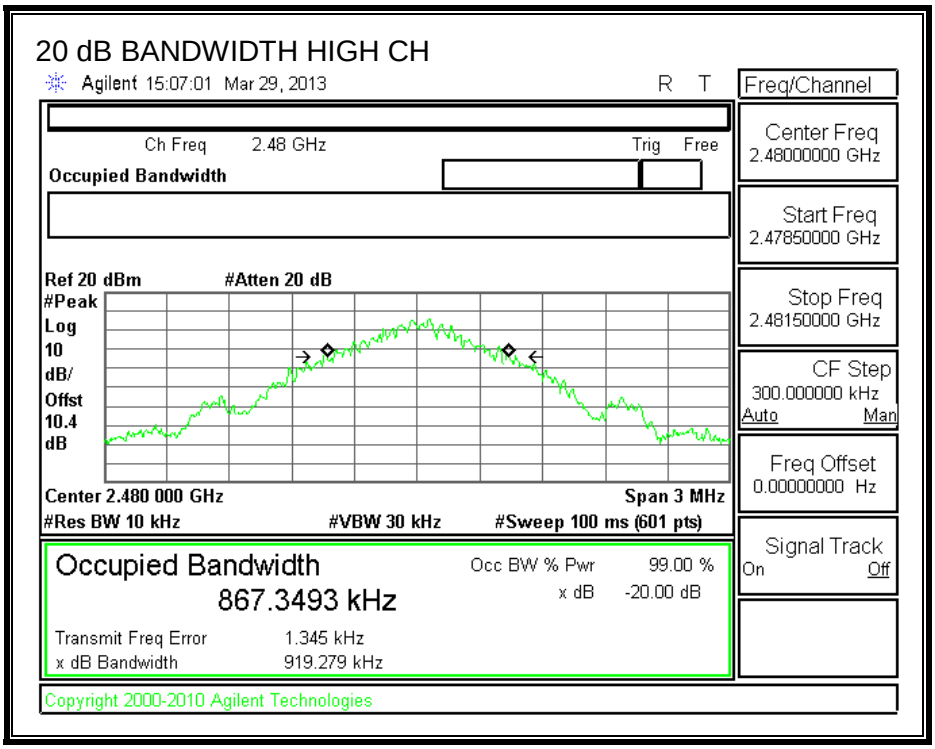
RESULTS

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	12.31
Middle	2441	12.27
High	2480	12.31

20 dB AND 99% BANDWIDTH







7.1.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

IC RSS-210 A8.1 (b)

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

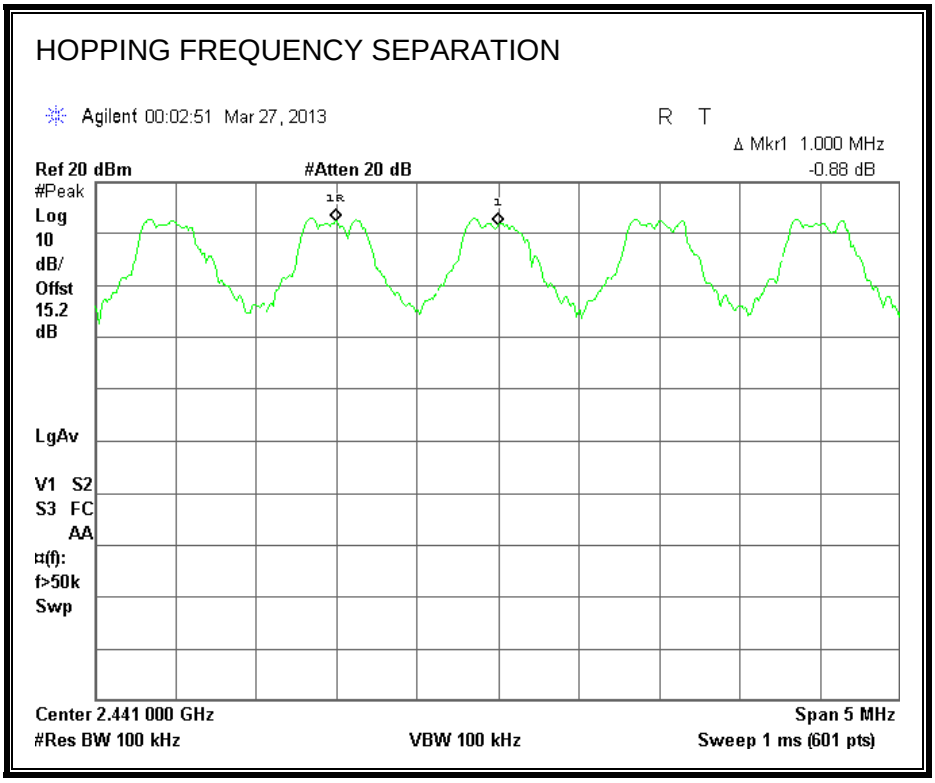
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than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

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 100 kHz. The sweep time is coupled.

RESULTS

HOPPING FREQUENCY SEPARATION



7.1.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

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

TEST PROCEDURE

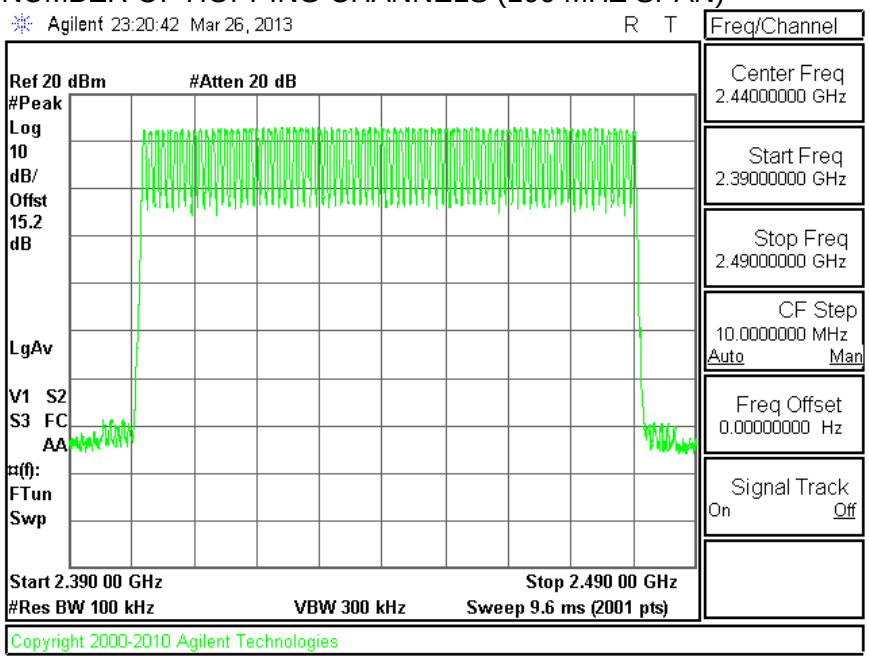
The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

RESULTS

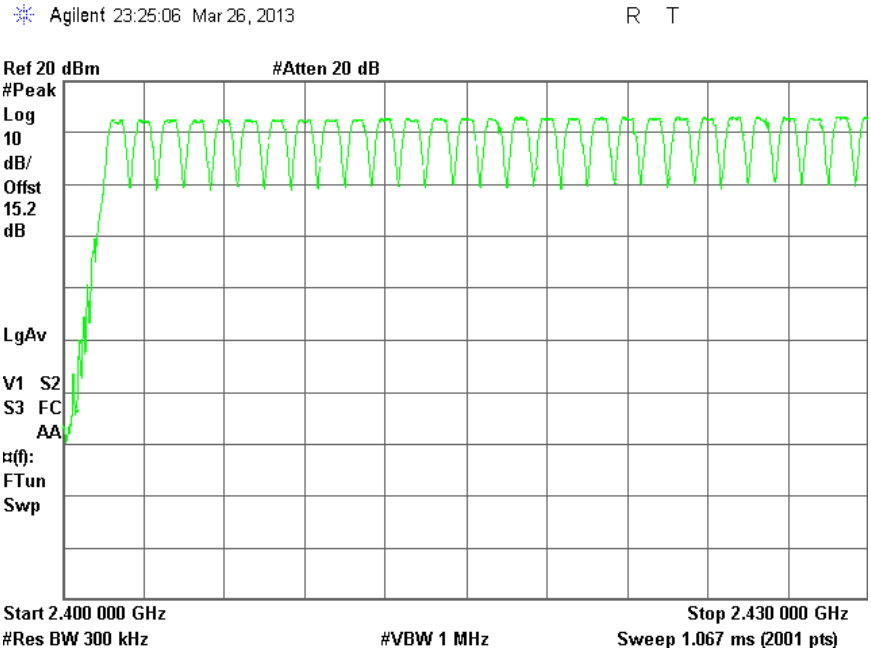
Normal Mode: 79 Channels observed.

NUMBER OF HOPPING CHANNELS

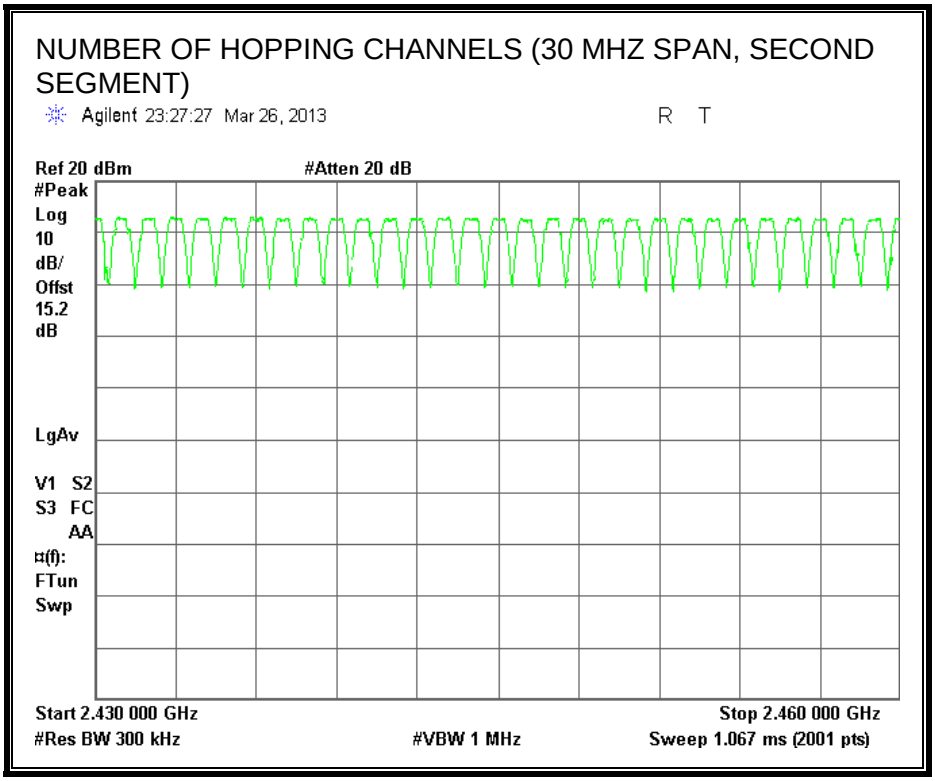
NUMBER OF HOPPING CHANNELS (100 MHZ SPAN)



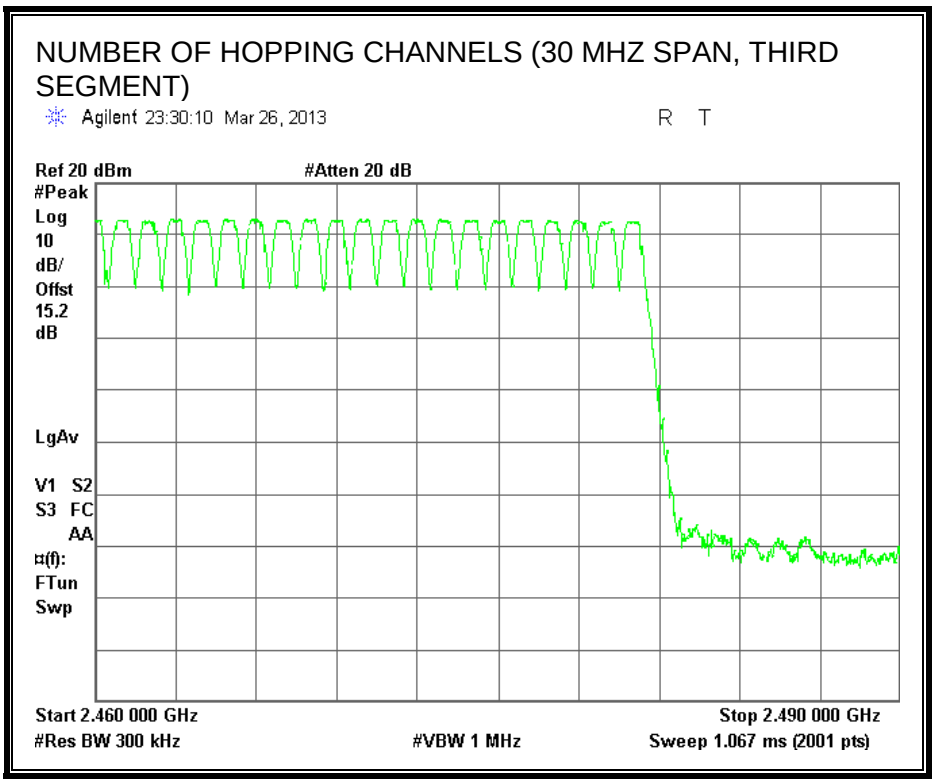
NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, FIRST SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, SECOND SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, THIRD SEGMENT)



7.1.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

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.

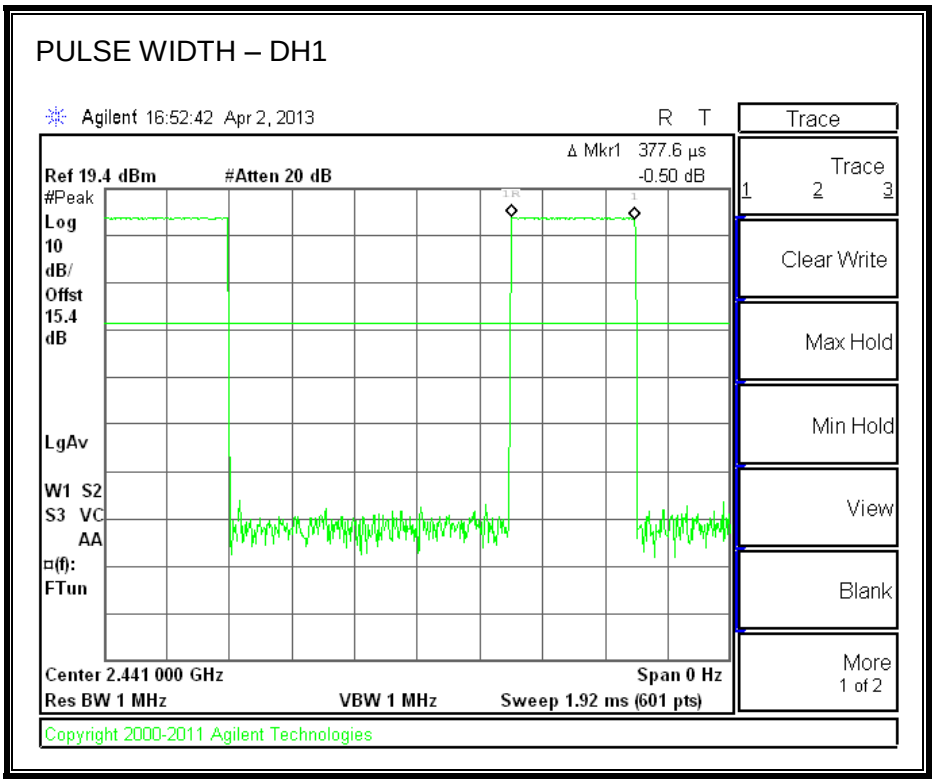
The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to 10 * (# of pulses in 3.16 s) * pulse width.

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.

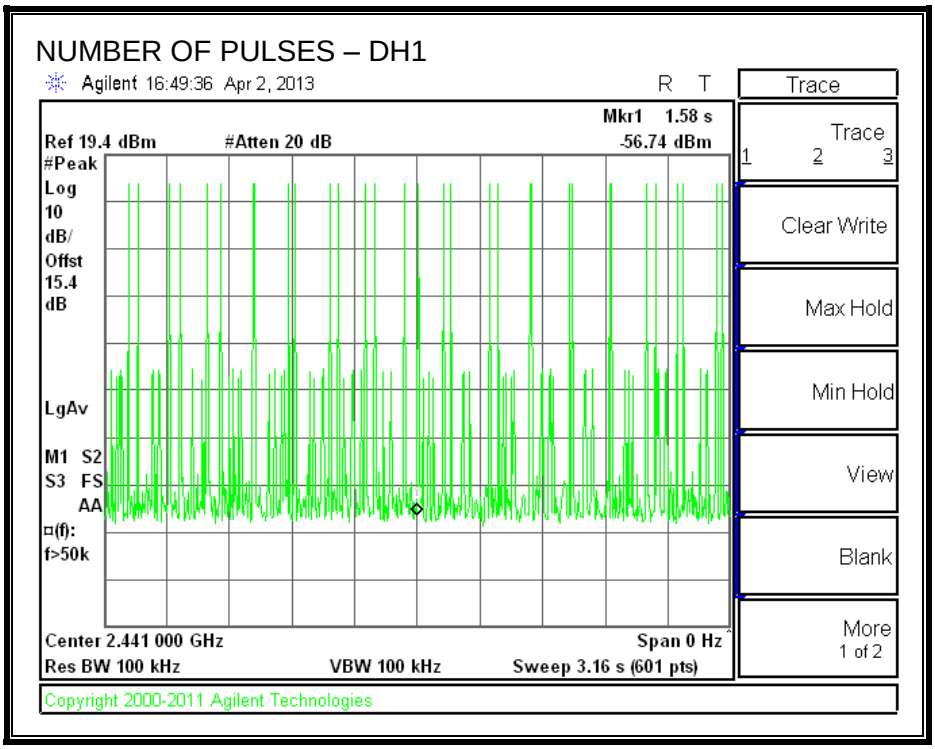
RESULTS

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	0.3776	29	0.110	0.4	-0.290
DH3	1.638	16	0.262	0.4	-0.138
DH5	2.898	12	0.348	0.4	-0.052

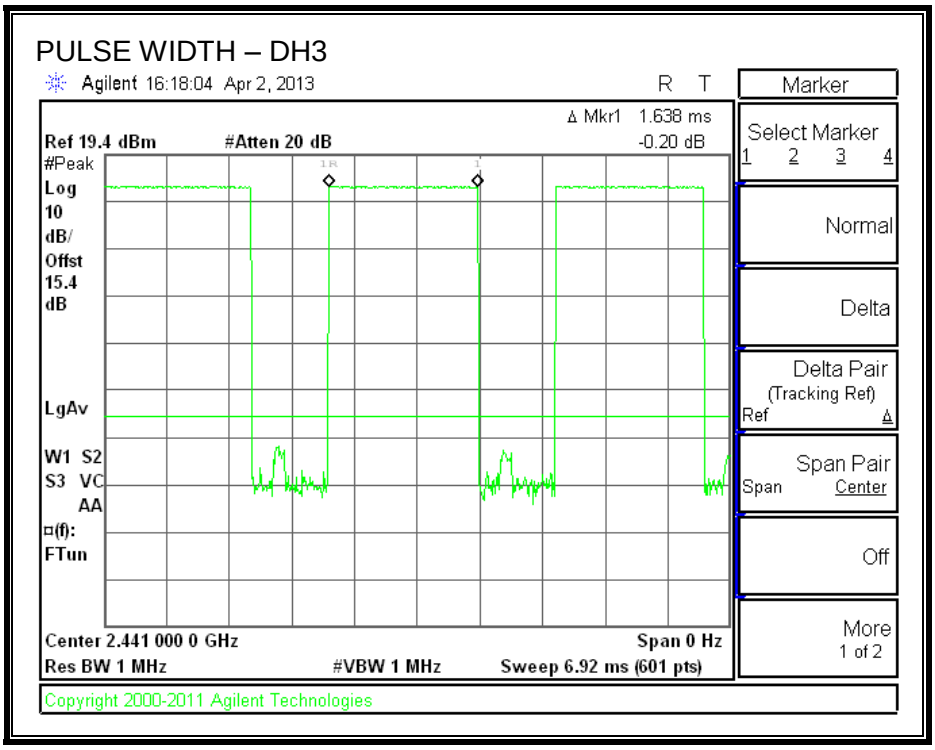
PULSE WIDTH - DH1



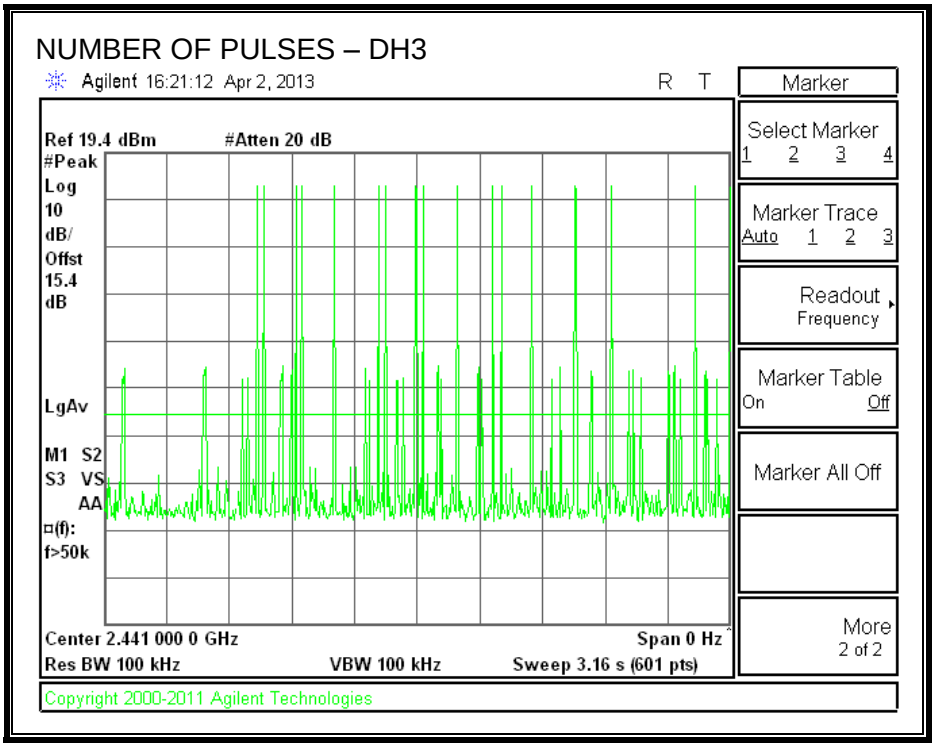
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



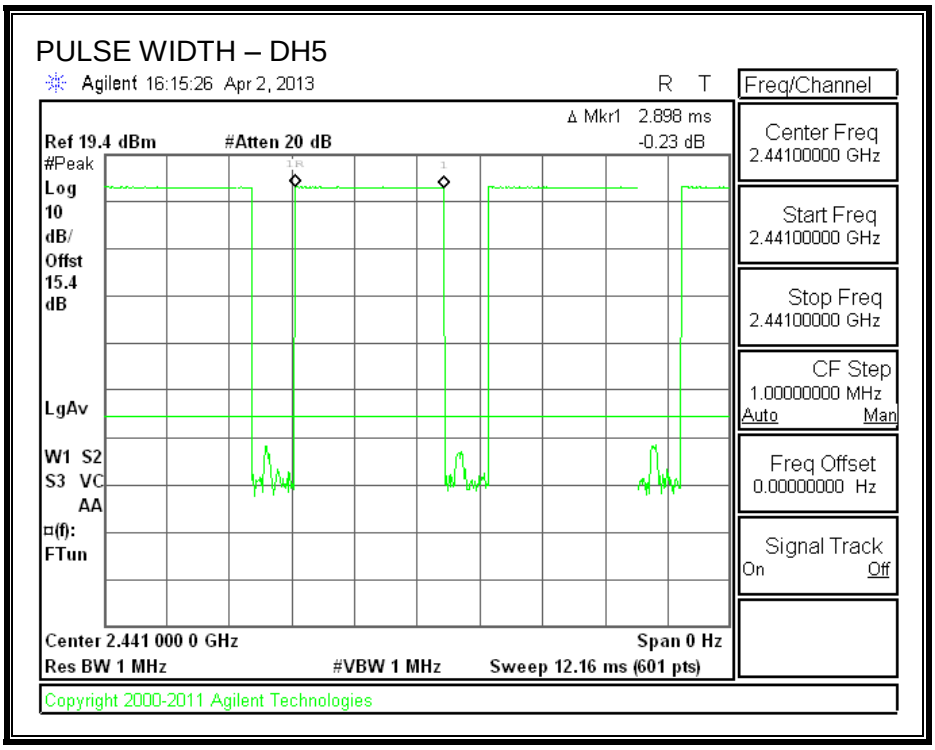
PULSE WIDTH – DH3



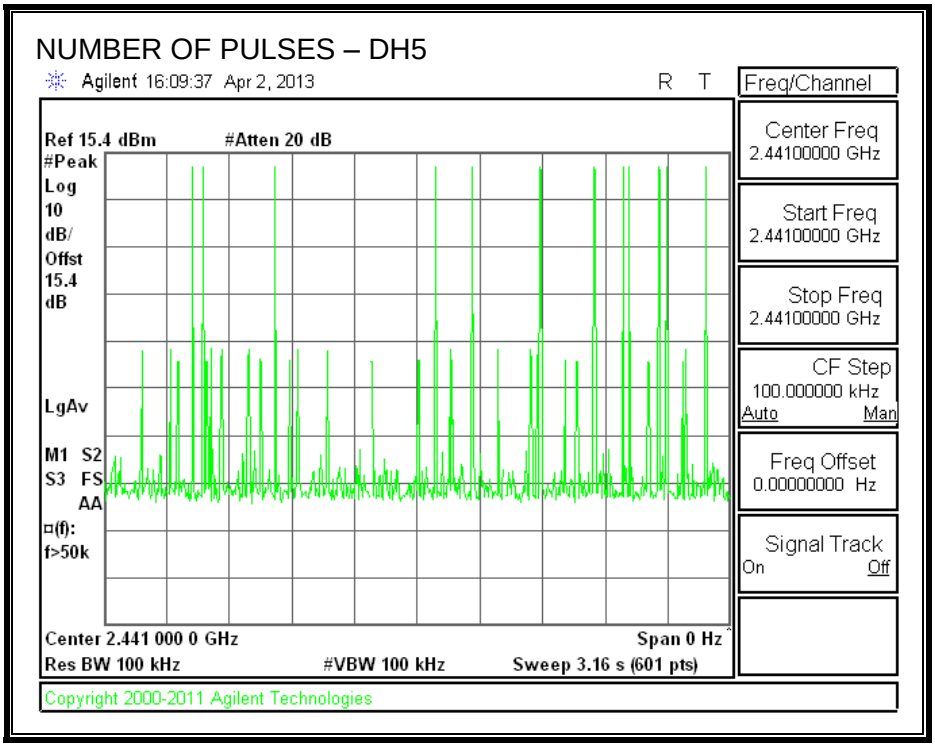
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5



7.1.5. OUTPUT POWER

LIMIT

§15.247 (b) (1)

RSS-210 Issue 7 Clause A8.4

The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

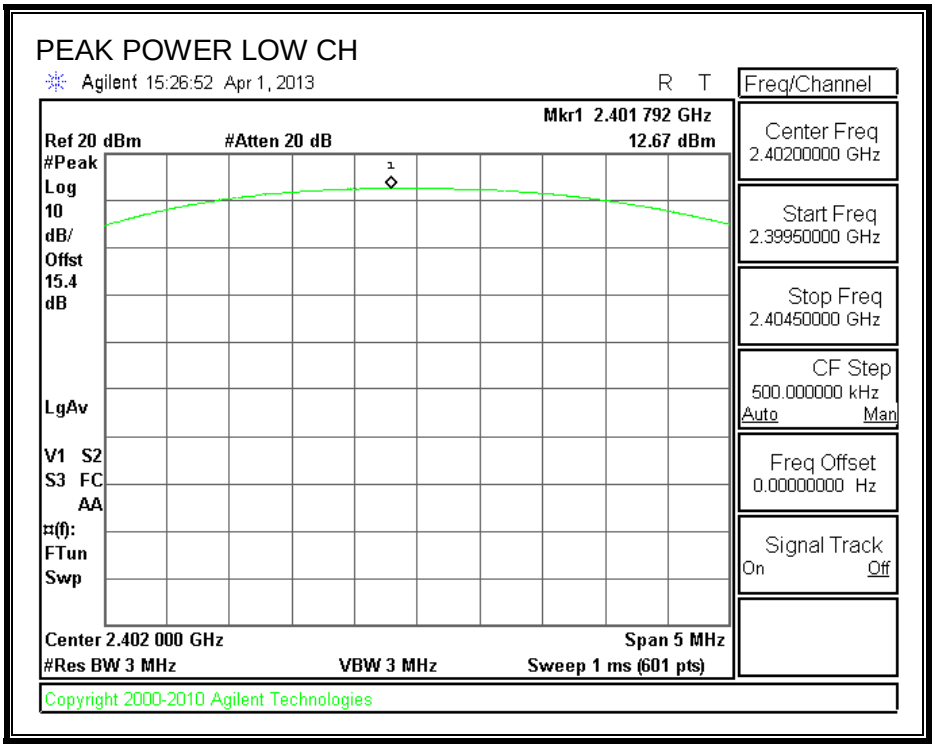
The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

RESULTS

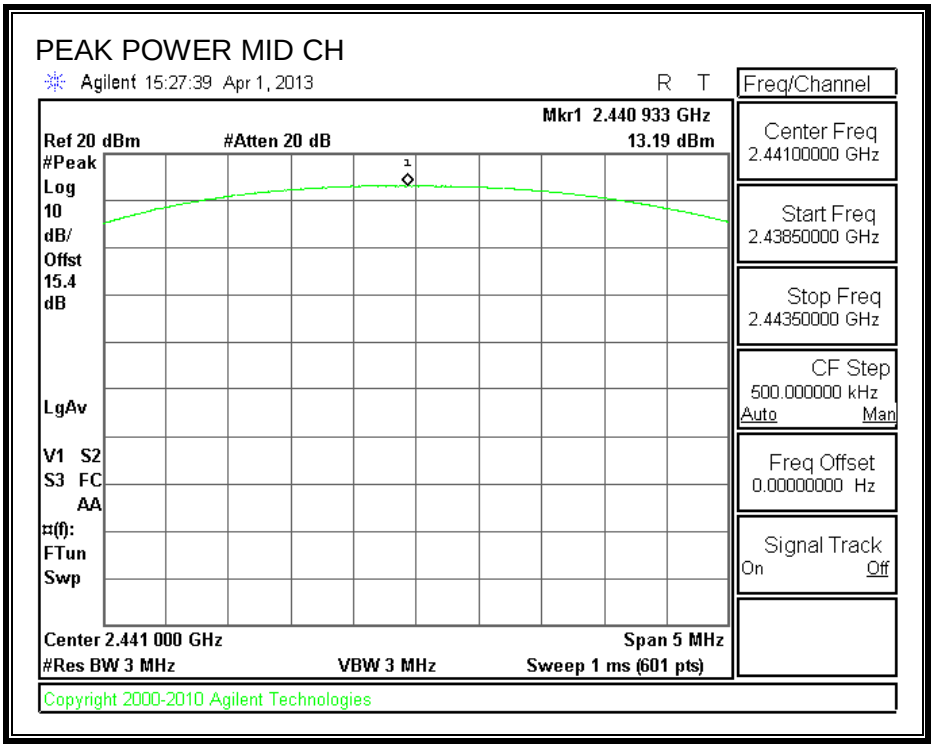
Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	12.67	30	-17.33
Middle	2441	13.19	30	-16.81
High	2480	12.71	30	-17.29

OUTPUT POWER

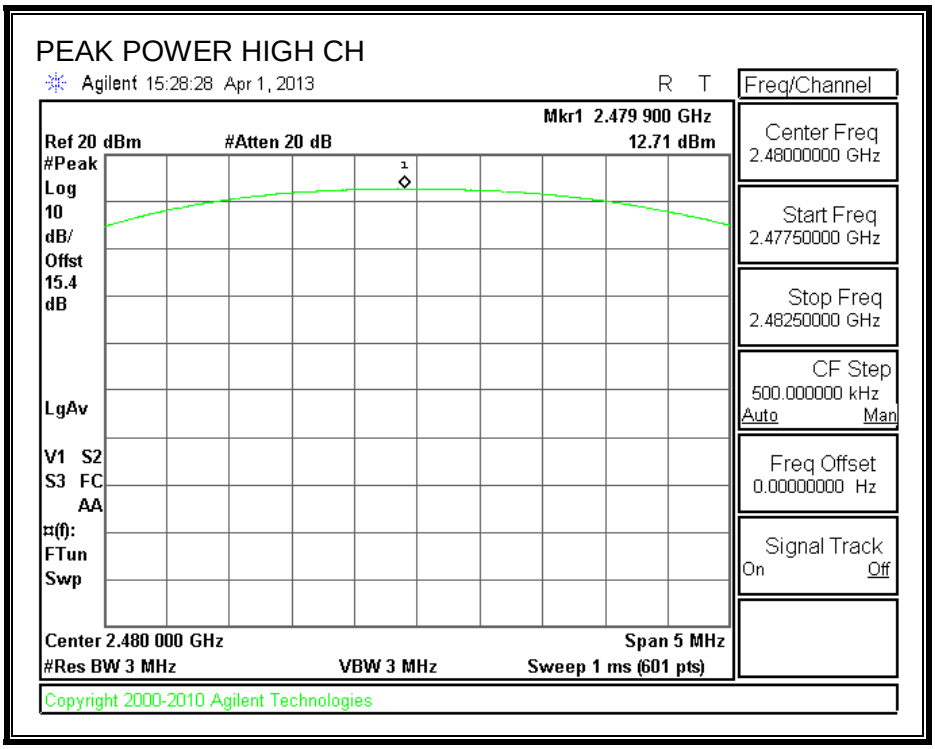
PEAK POWER LOW CH



PEAK POWER MID CH



PEAK POWER HIGH CH



7.1.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10.7 dB (including 10 dB pad and 0.7 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	12.31
Middle	2441	12.27
High	2480	12.31

7.1.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

Limit = -20 dBc

TEST PROCEDURE

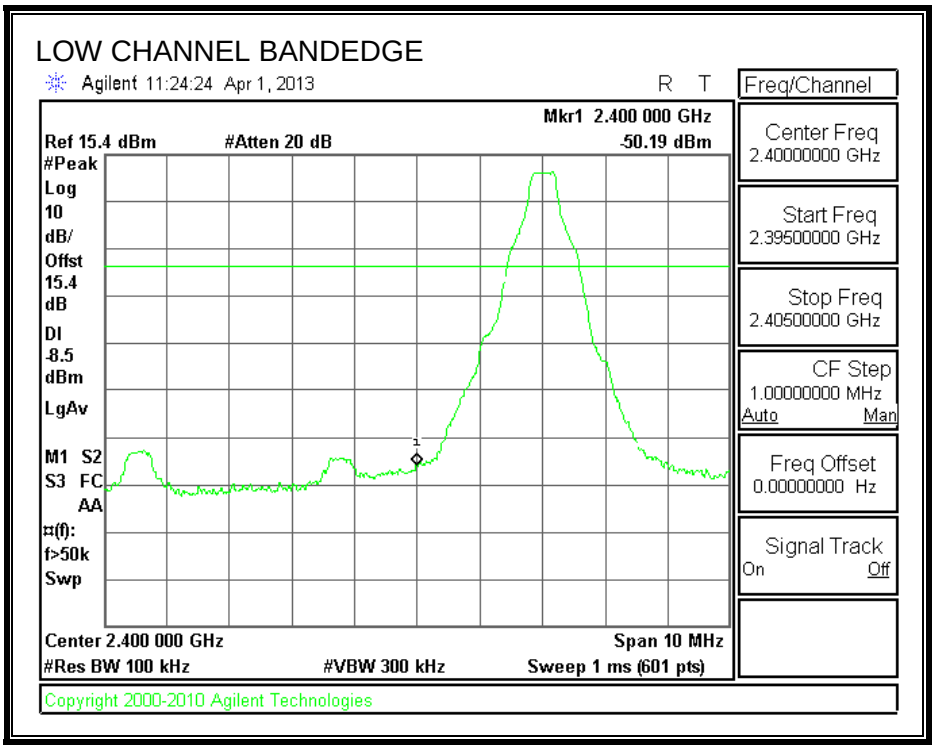
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

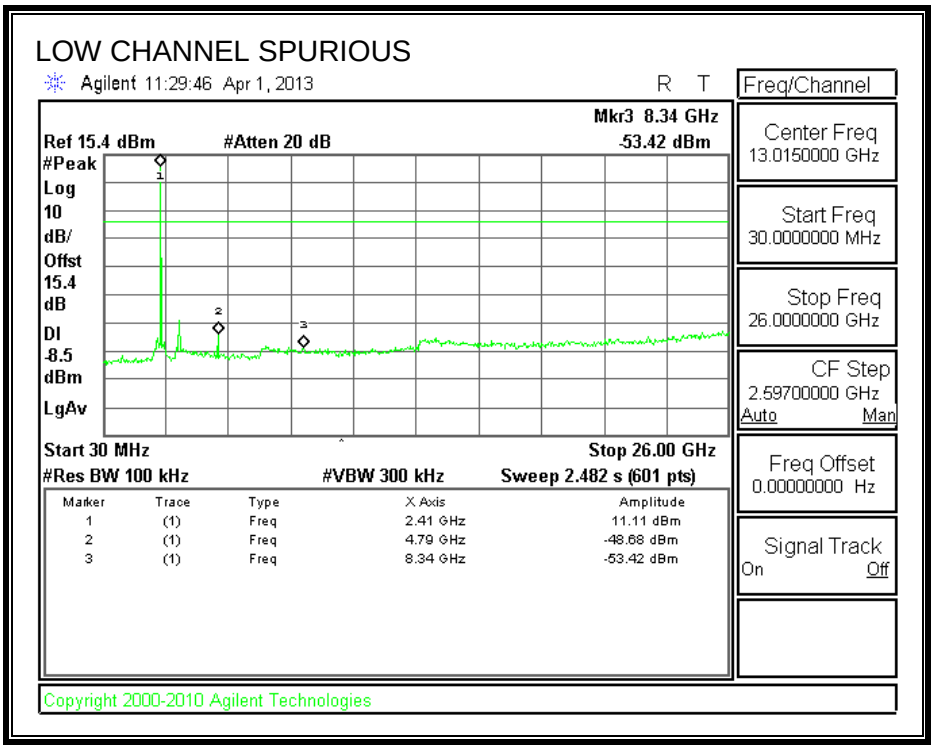
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

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

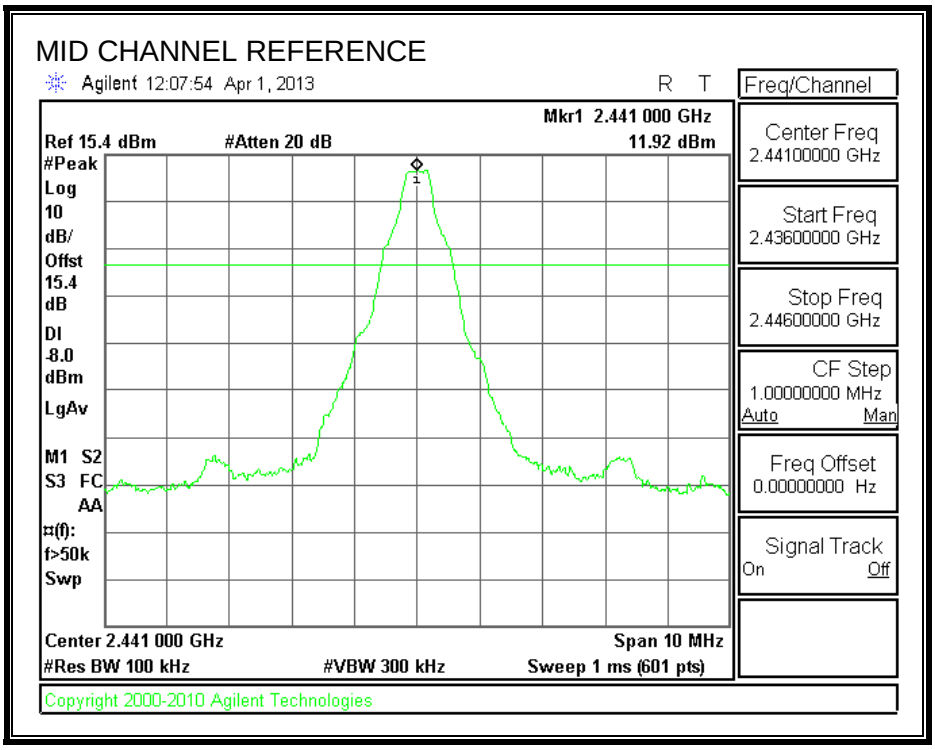
RESULTS

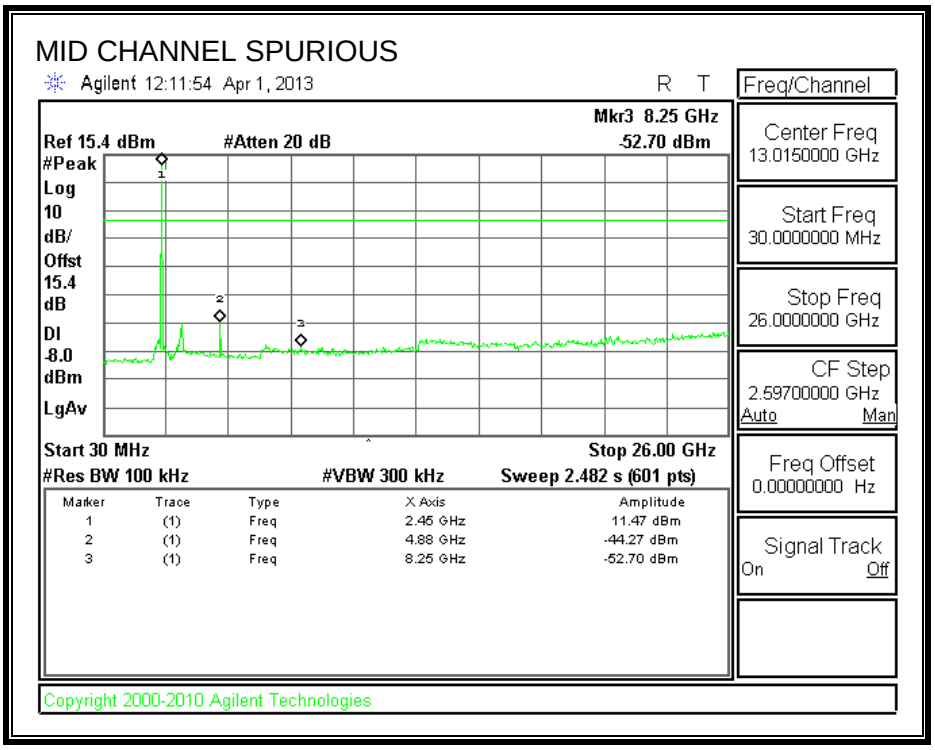
SPURIOUS EMISSIONS, LOW CHANNEL



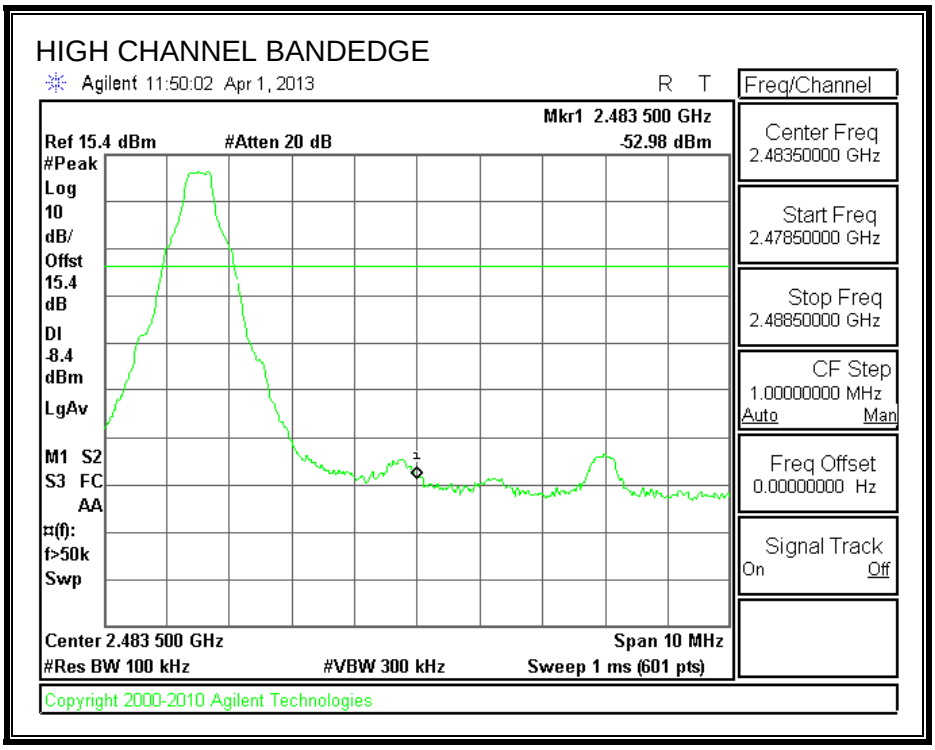


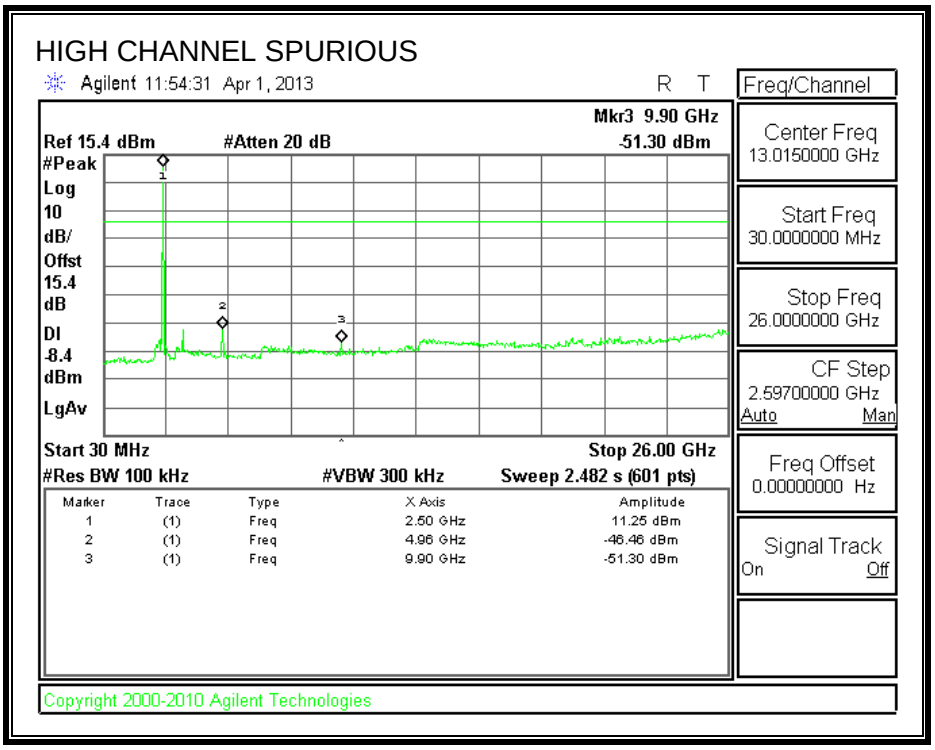
SPURIOUS EMISSIONS, MID CHANNEL





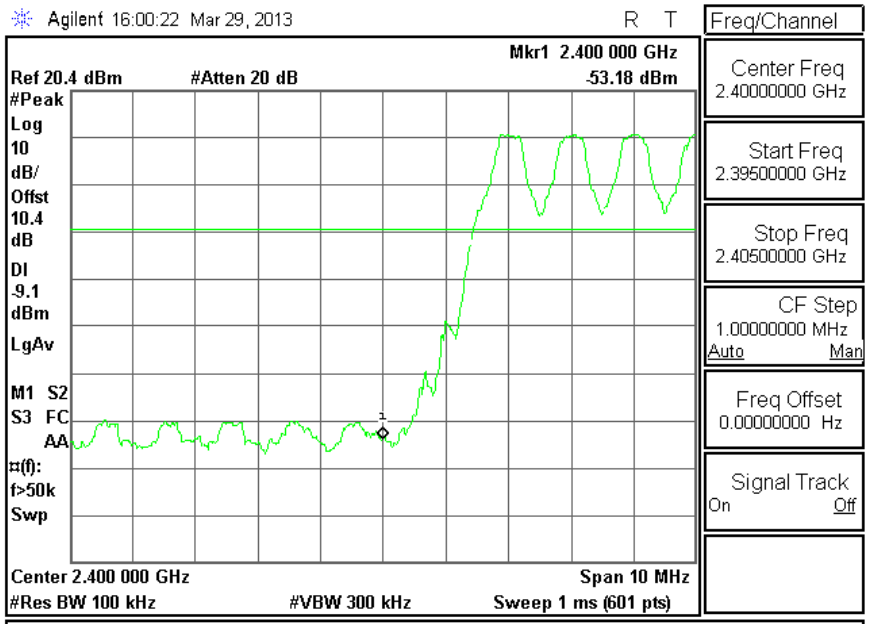
SPURIOUS EMISSIONS, HIGH CHANNEL



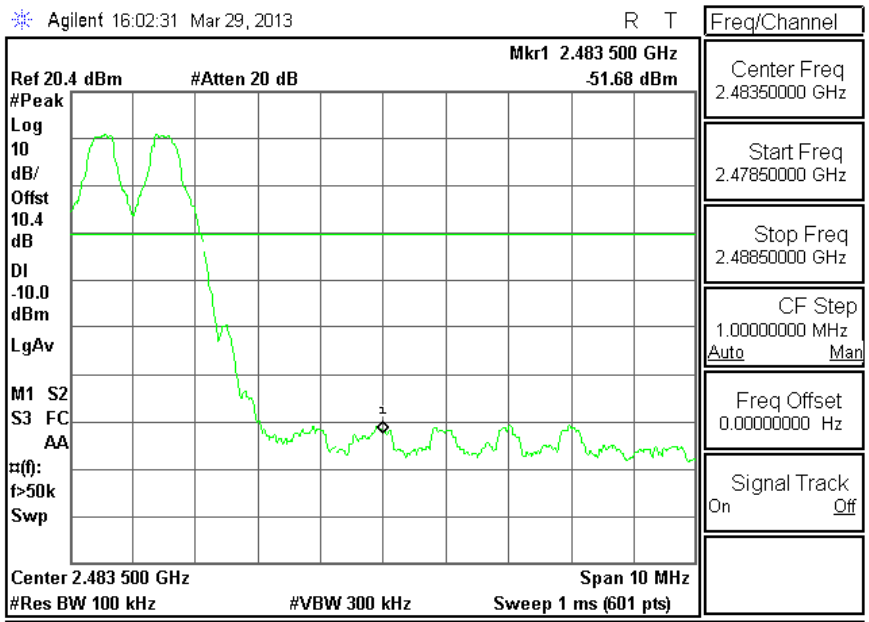


SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

LOW BANDEDGE WITH HOPPING ON



HIGH BANDEDGE WITH HOPPING ON



7.2. ENHANCED DATA RATE 8PSK MODULATION

7.2.1. 20 dB BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

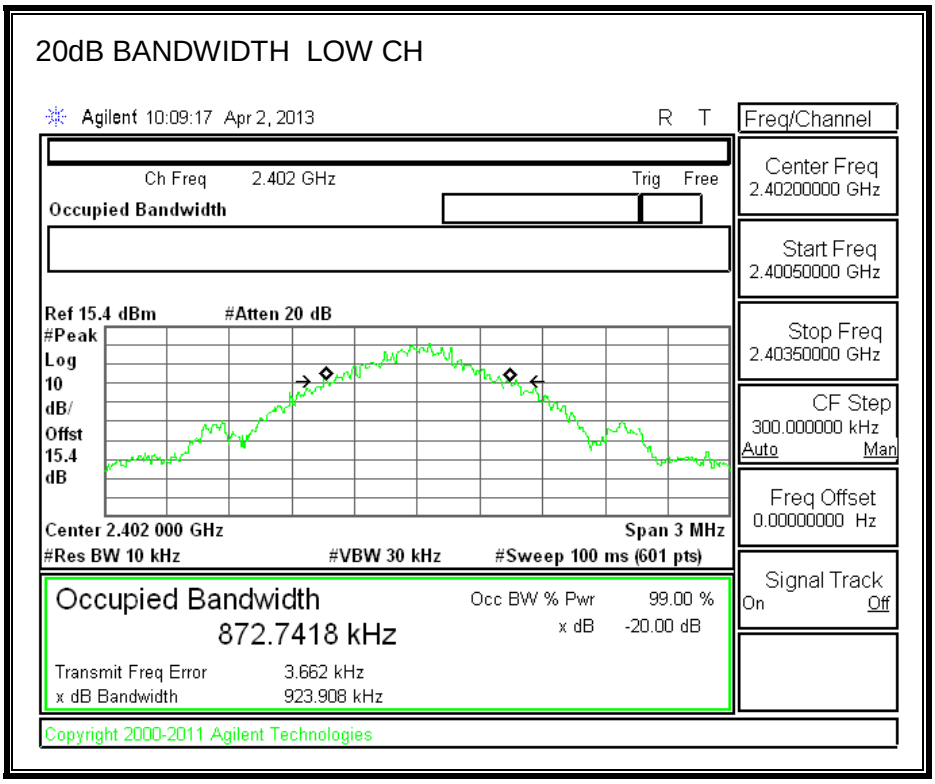
The transmitter output is connected to a spectrum analyzer. The RBW is set to ≥ 1% of the 20 dB bandwidth. The VBW is set to ≥ RBW. The sweep time is coupled.

RESULTS

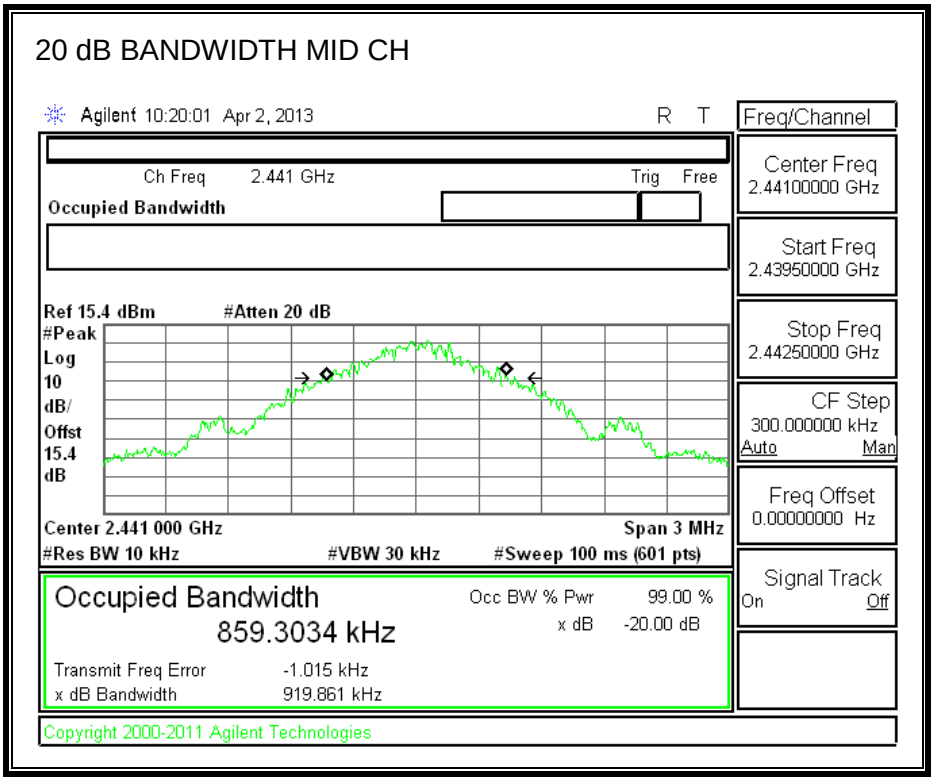
Channel	Frequency (MHz)	20 dB Bandwidth (kHz)
Low	2402	923.908
Middle	2441	919.861
High	2480	922.335

20 dB AND 99% BANDWIDTH

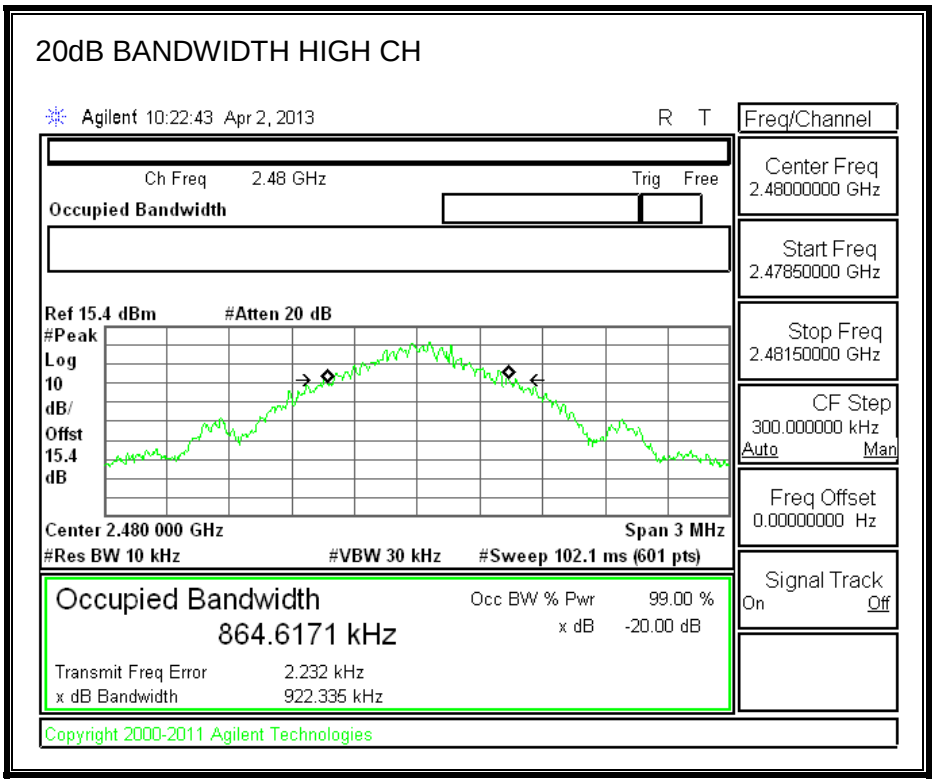
20dB BANDWIDTH LOW CH



20 dB BANDWIDTH MID CH



20dB BANDWIDTH HIGH CH



7.2.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

IC RSS-210 A8.1 (b)

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

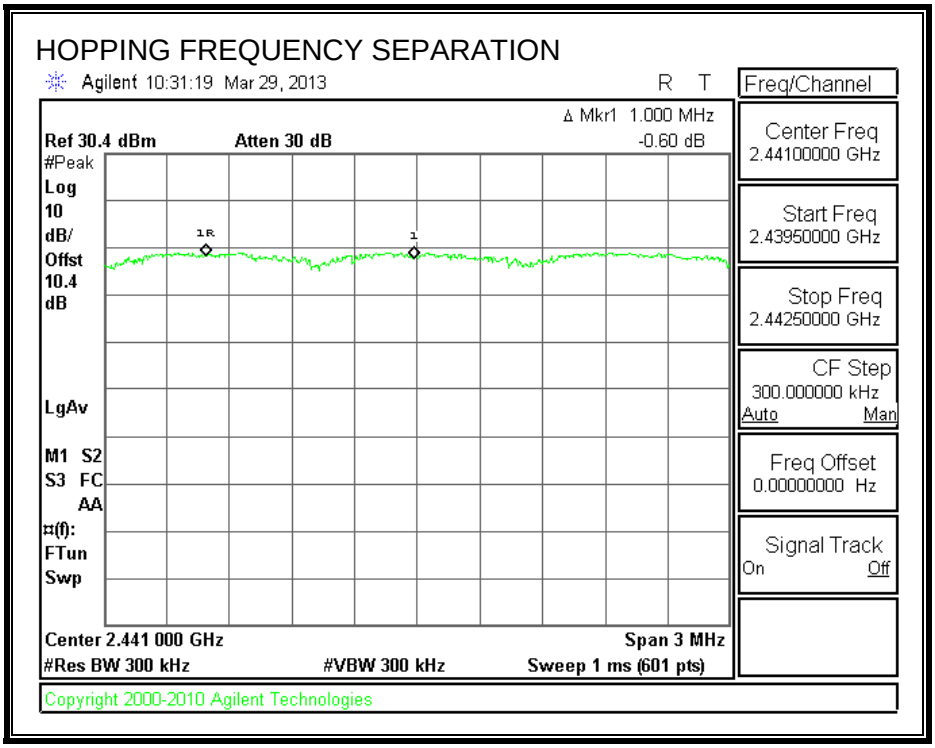
Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than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

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to 100 kHz and the VBW is set to 100 kHz. The sweep time is coupled.

RESULTS

HOPPING FREQUENCY SEPARATION



7.2.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

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

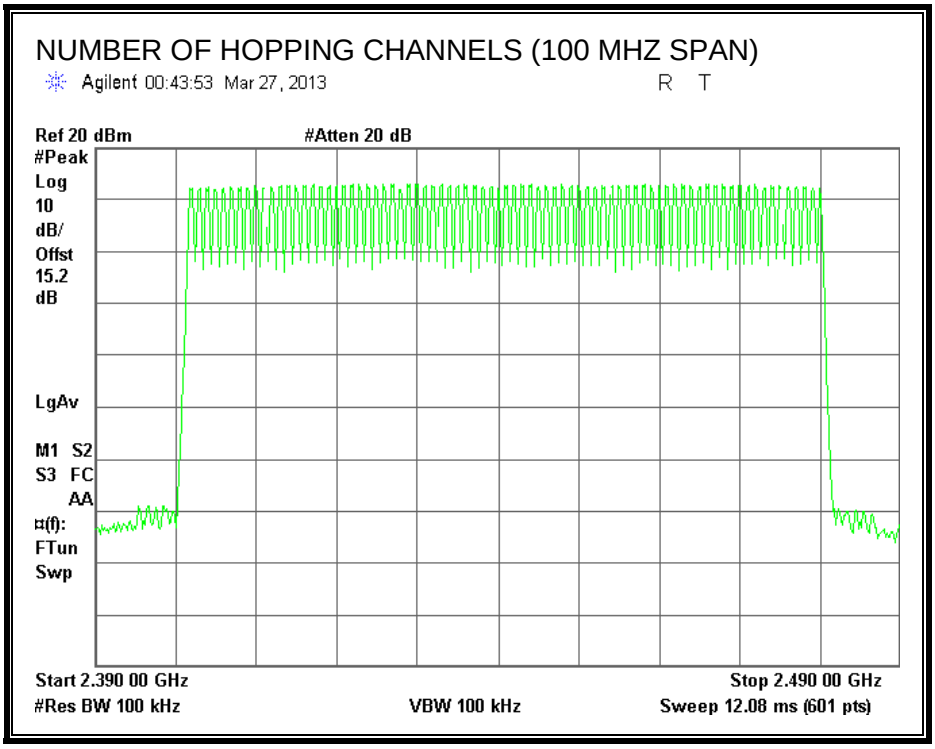
TEST PROCEDURE

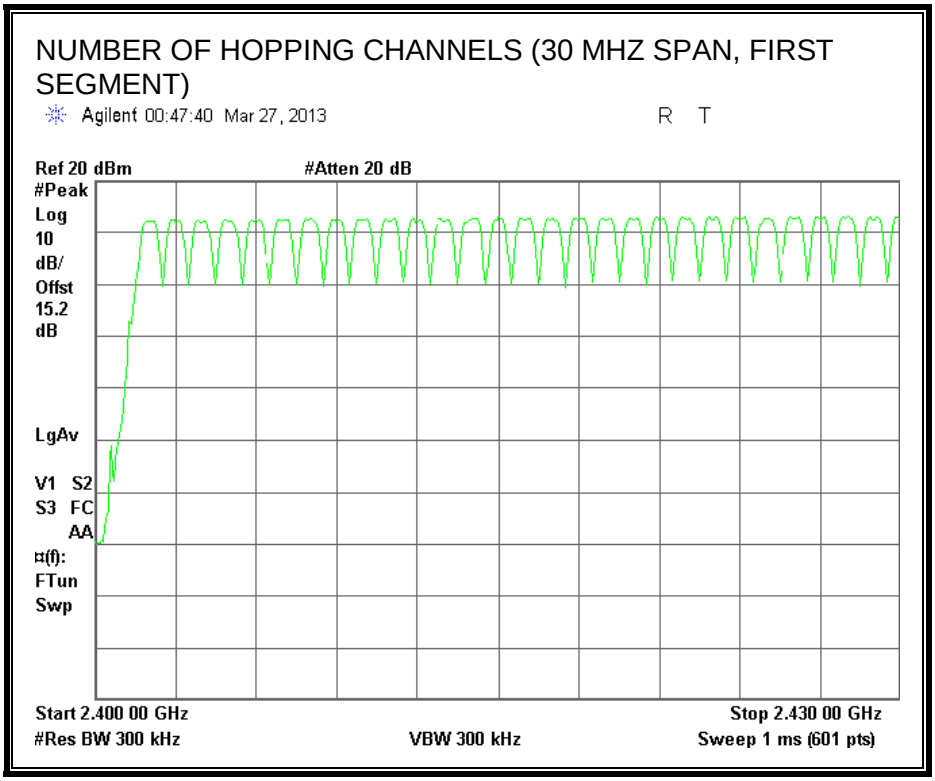
The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

RESULTS

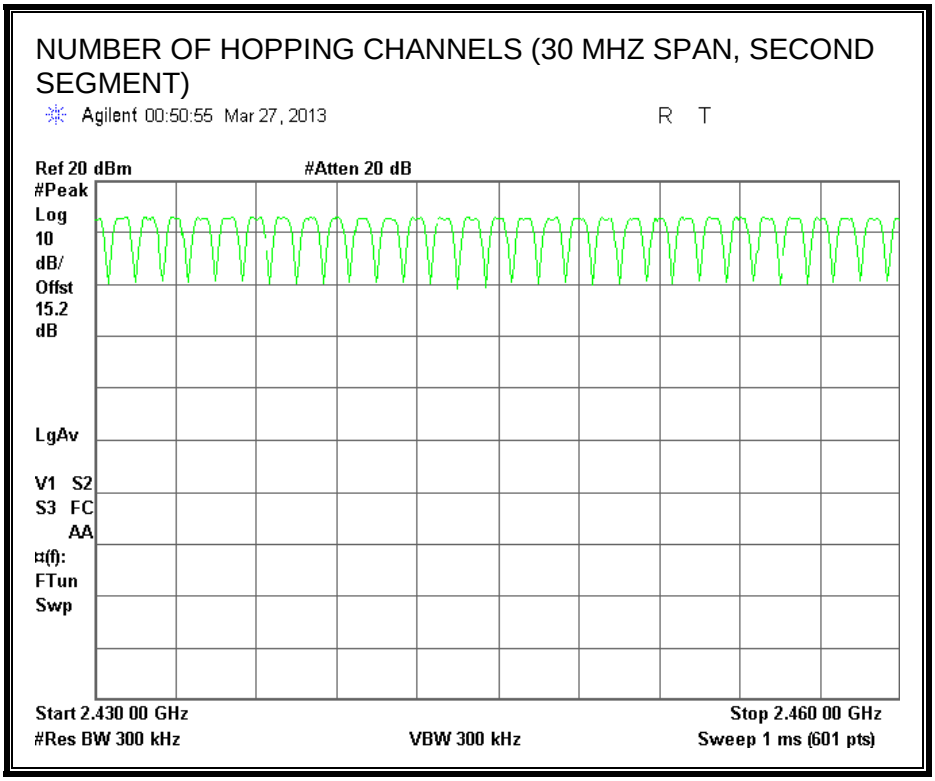
Normal Mode: 79 Channels observed.

NUMBER OF HOPPING CHANNELS

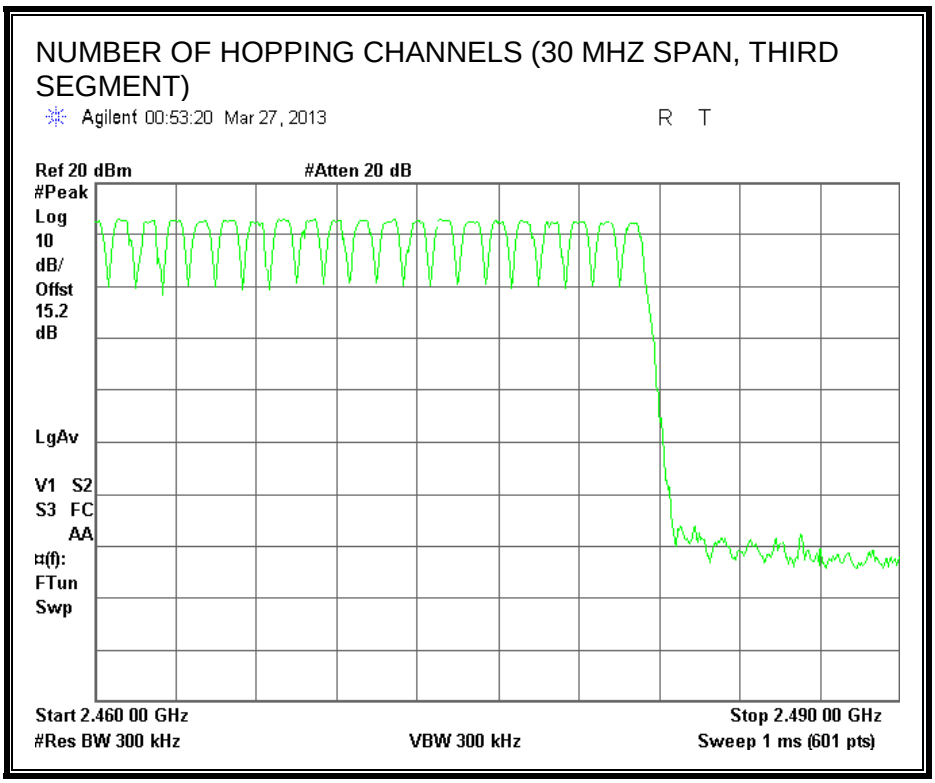




NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, SECOND SEGMENT)



NUMBER OF HOPPING CHANNELS (30 MHZ SPAN, THIRD SEGMENT)



7.2.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

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.

RESULTS

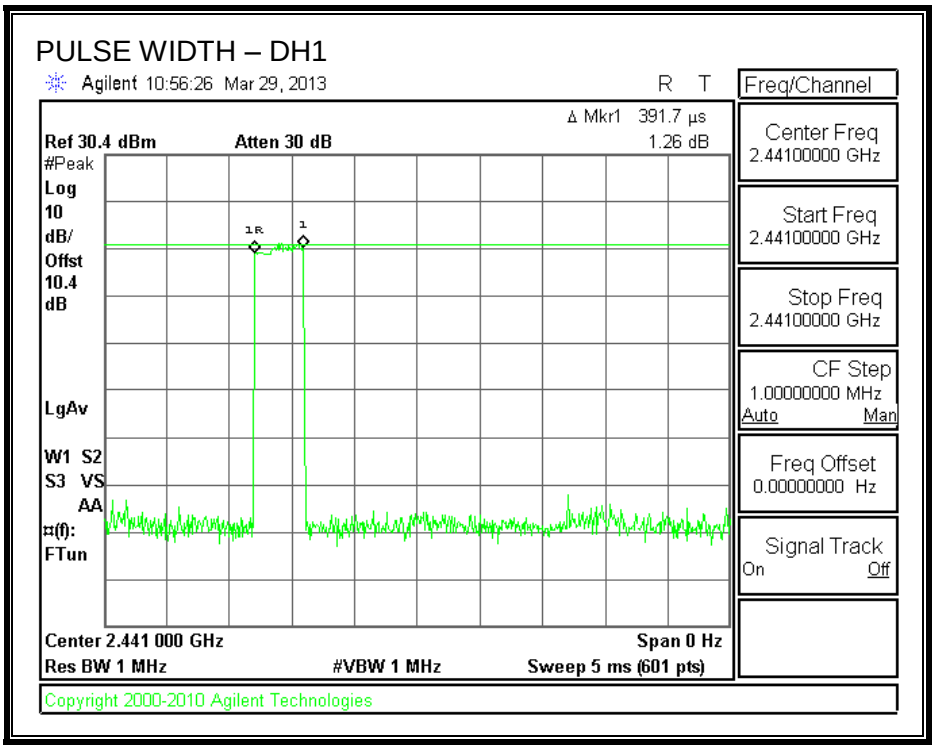
Time Of Occupancy = 10 * xx pulses * yy msec = zz msec

8PSK (EDR) Mode

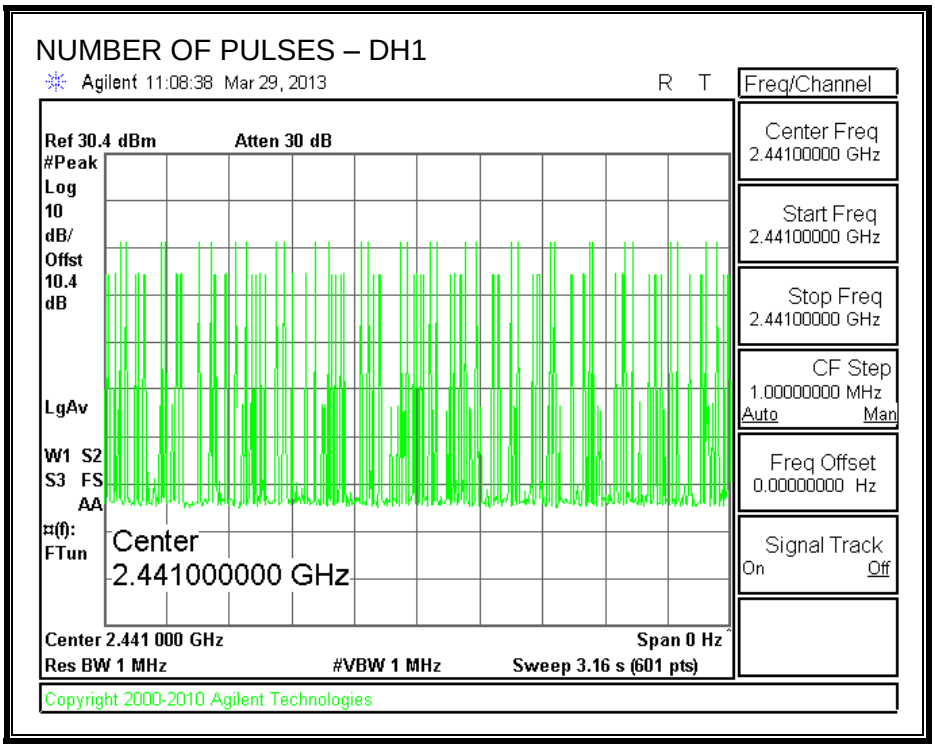
DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of (sec)	Limit (sec)	Margin (sec)
DH1	0.3917	32	0.125	0.4	-0.275
DH3	1.633	15	0.245	0.4	-0.155
DH5	2.892	11	0.318	0.4	-0.082

Note: for AFH (8PSK) mode, please refer to the results of AFH (GFSK) mode; the channel selection and hopping rate are the same for both EDR and Basic Rate operation, data for Basic Rate on page 20 demonstrates compliance with channel occupancy when AFH is employed.

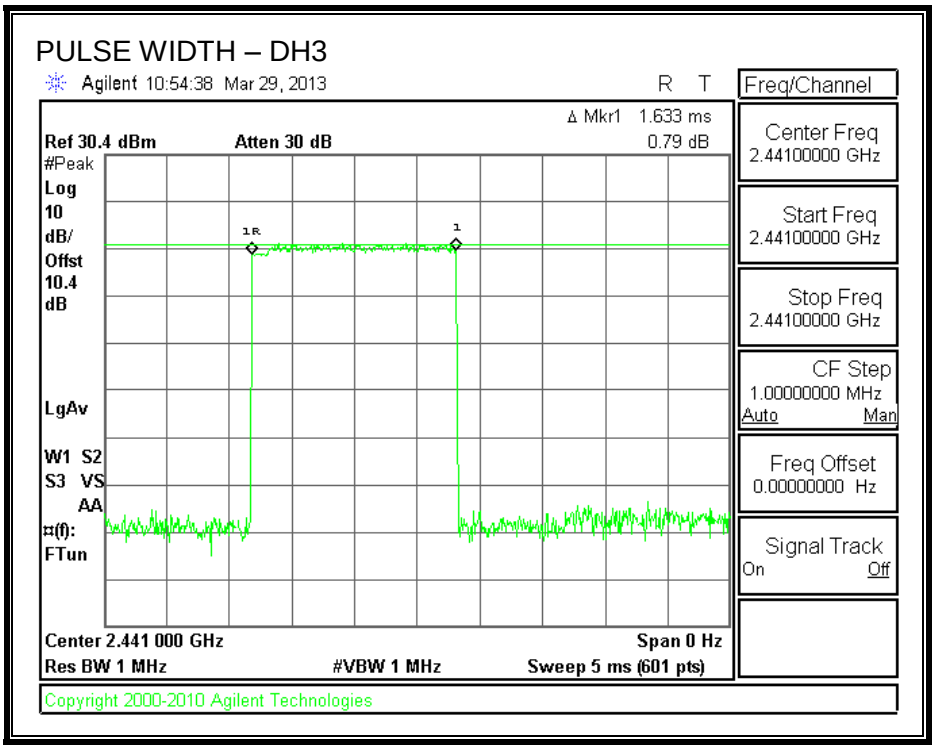
PULSE WIDTH - DH1



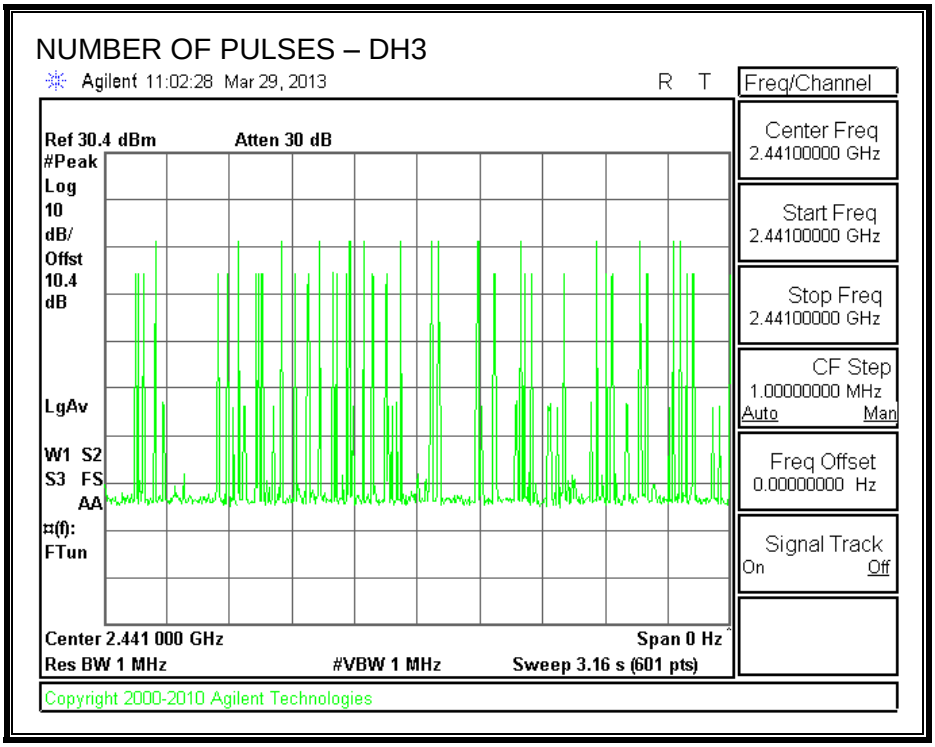
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH1



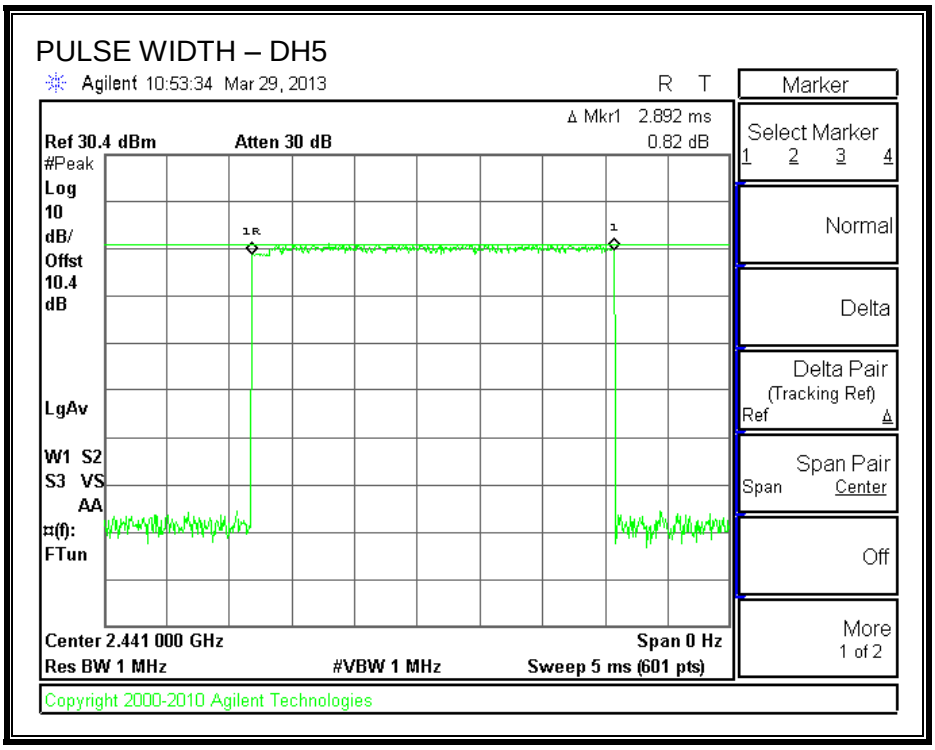
PULSE WIDTH – DH3



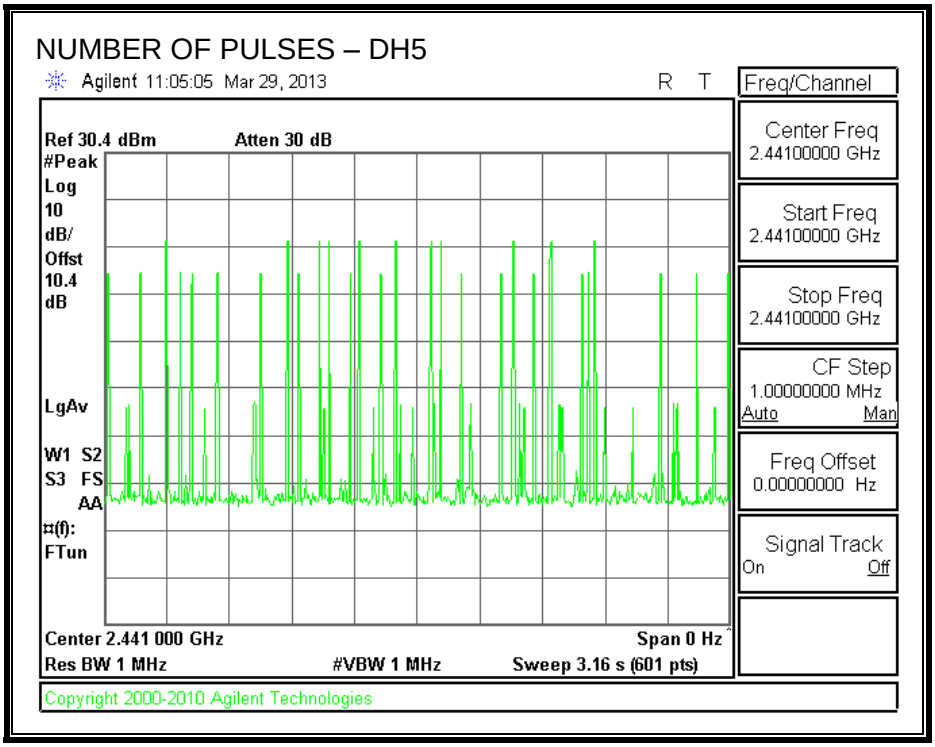
NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH3



PULSE WIDTH – DH5



NUMBER OF PULSES IN 3.16 SECOND OBSERVATION PERIOD – DH5



7.2.5. OUTPUT POWER

LIMIT

§15.247 (b) (1)

RSS-210 Issue 7 Clause A8.4

The maximum antenna gain is less than 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

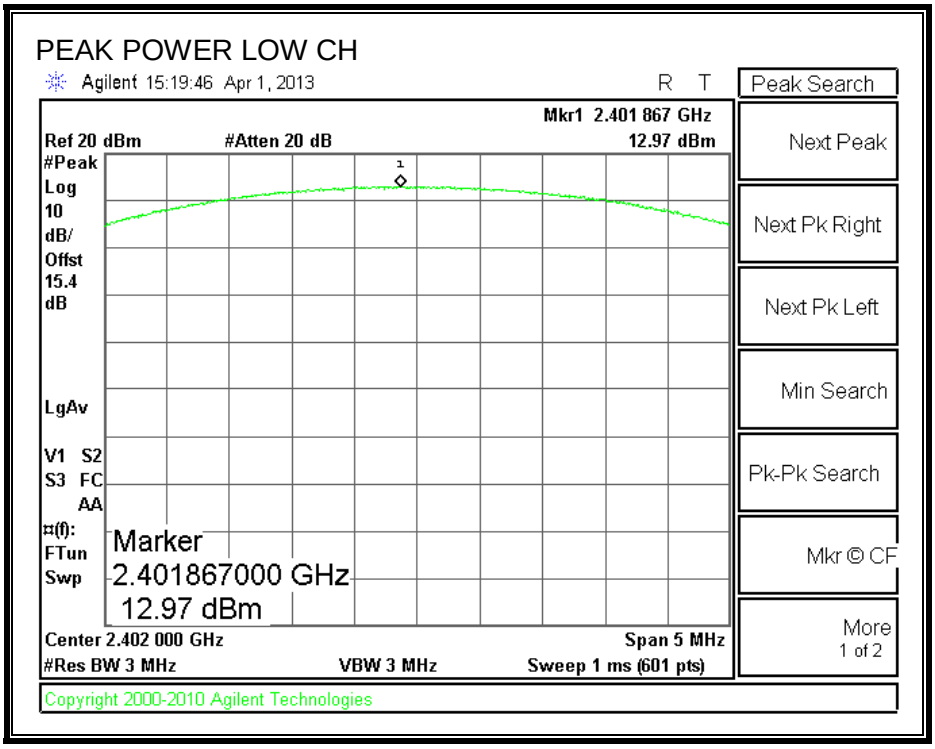
The transmitter output is connected to a spectrum analyzer the analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

RESULTS

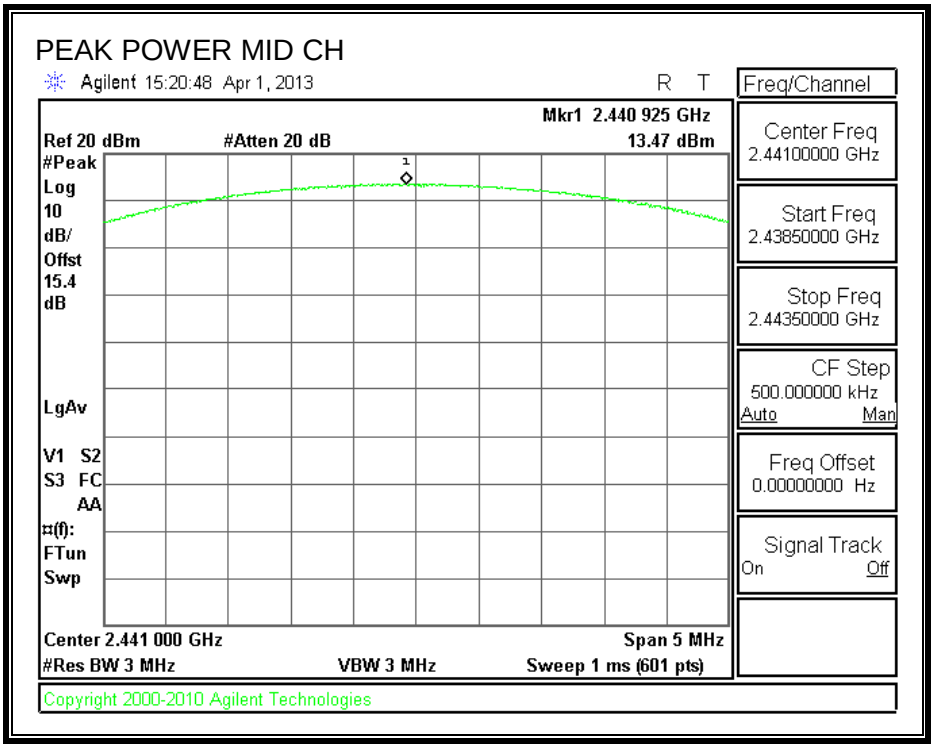
Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	2402	12.97	30	-17.03
Middle	2441	13.47	30	-16.53
High	2480	13.03	30	-16.97

OUTPUT POWER

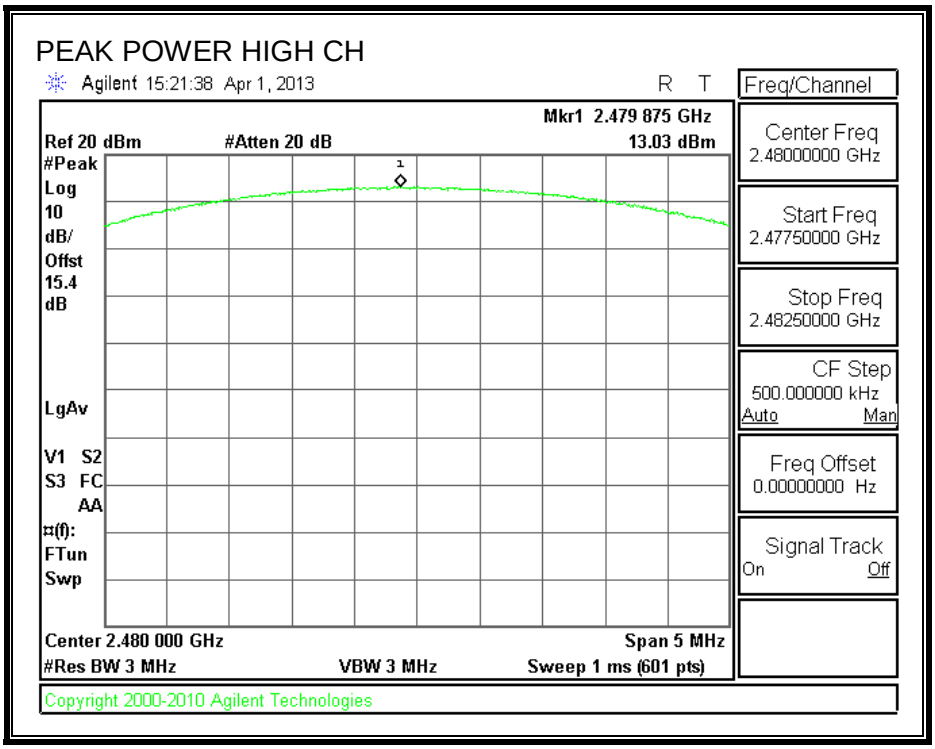
PEAK POWER LOW CH



PEAK POWER MID CH



PEAK POWER HIGH CH



7.2.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 10.7 dB (including 10 dB pad and 0.7 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

Channel	Frequency (MHz)	Average Power (dBm)
Low	2402	12.34
Middle	2441	12.32
High	2480	12.32

7.2.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

Limit = -20 dBc

TEST PROCEDURE

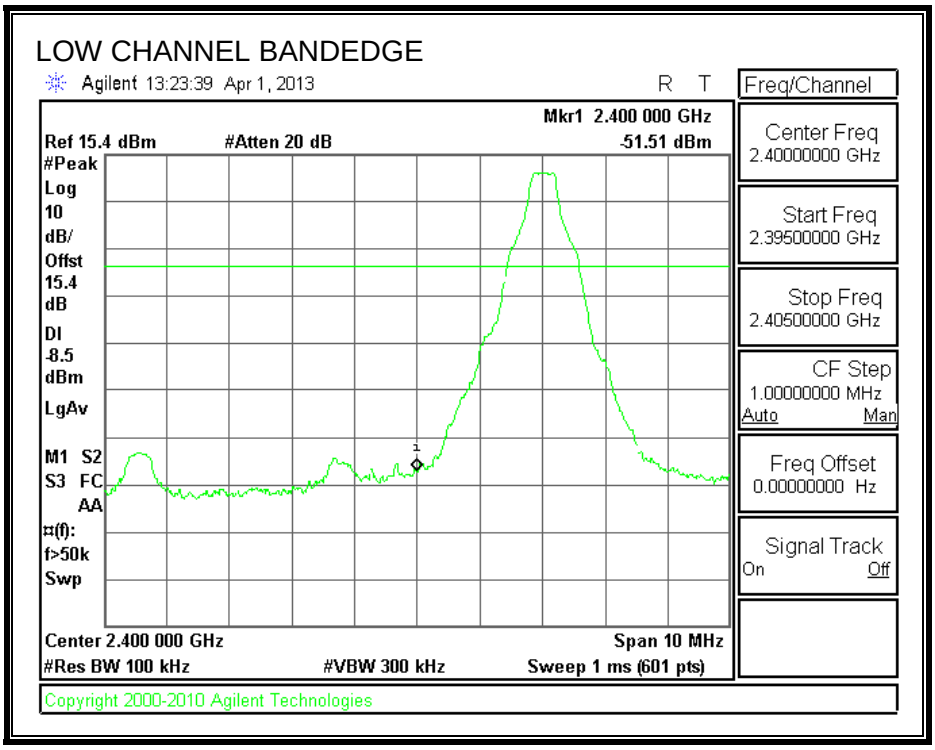
The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

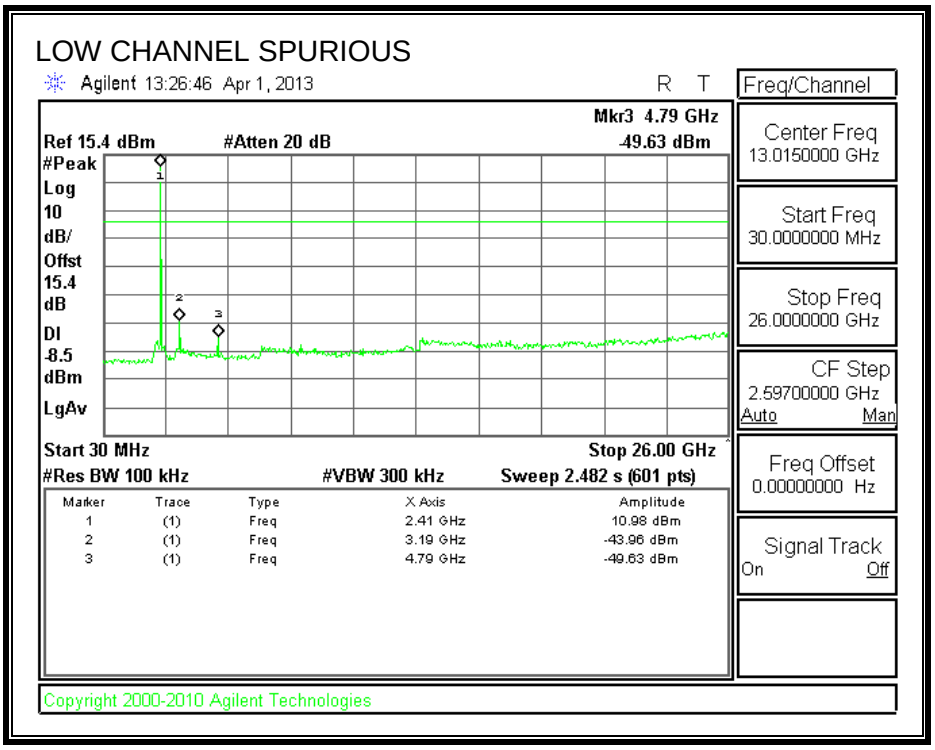
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

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

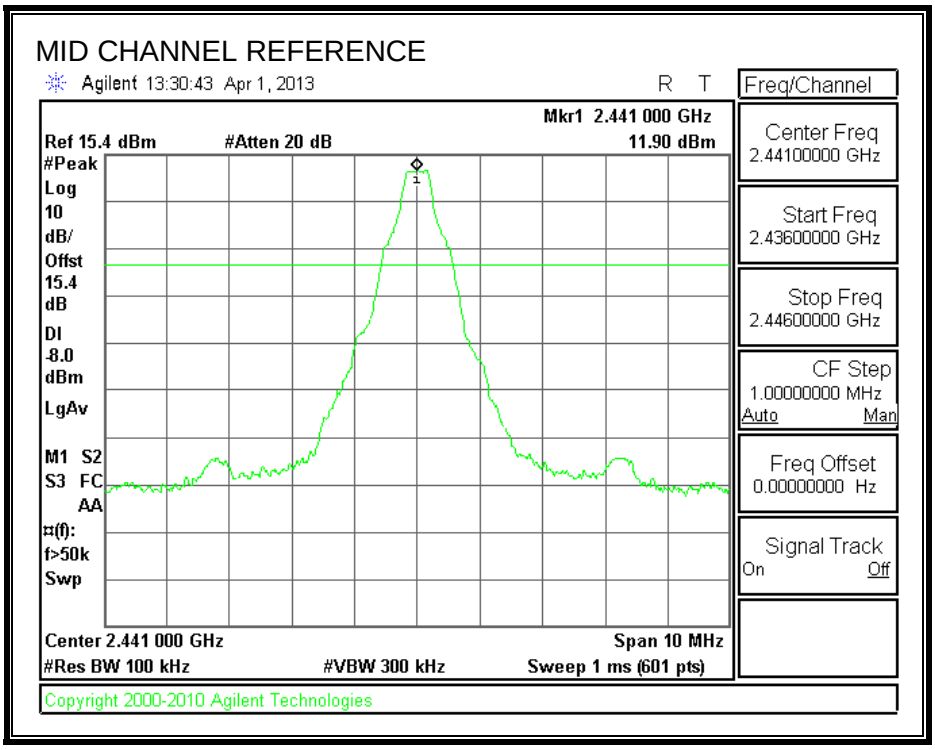
RESULTS

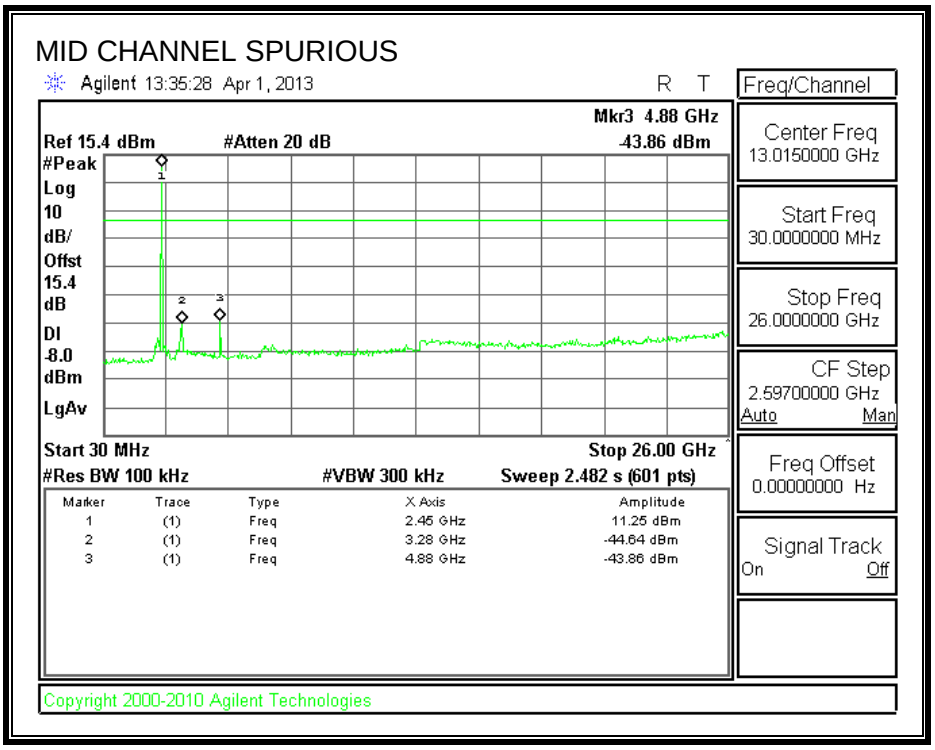
SPURIOUS EMISSIONS, LOW CHANNEL



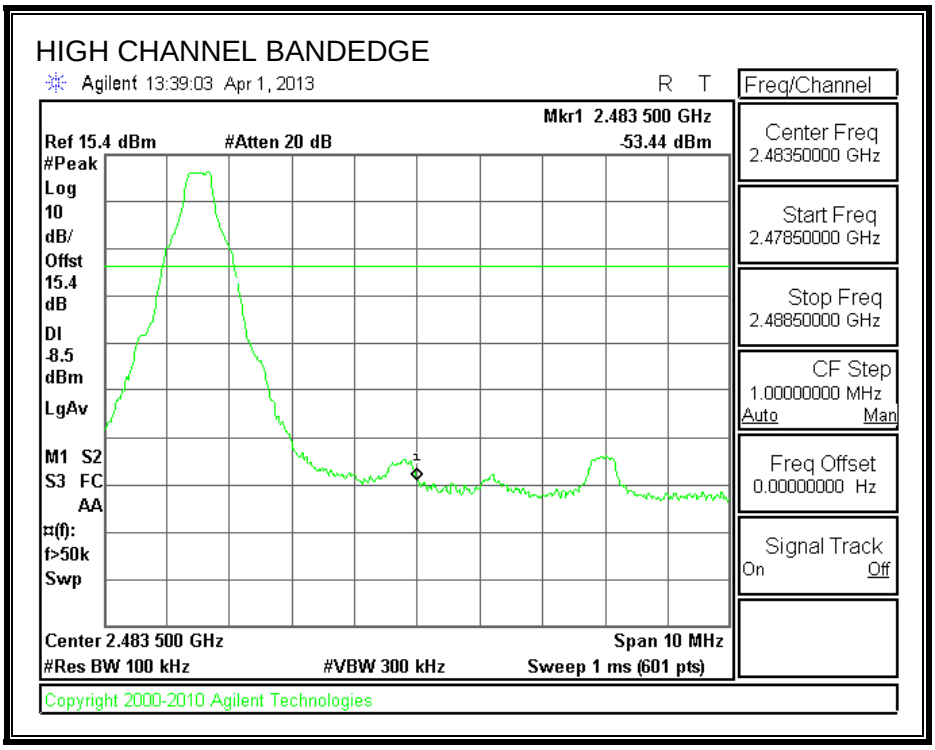


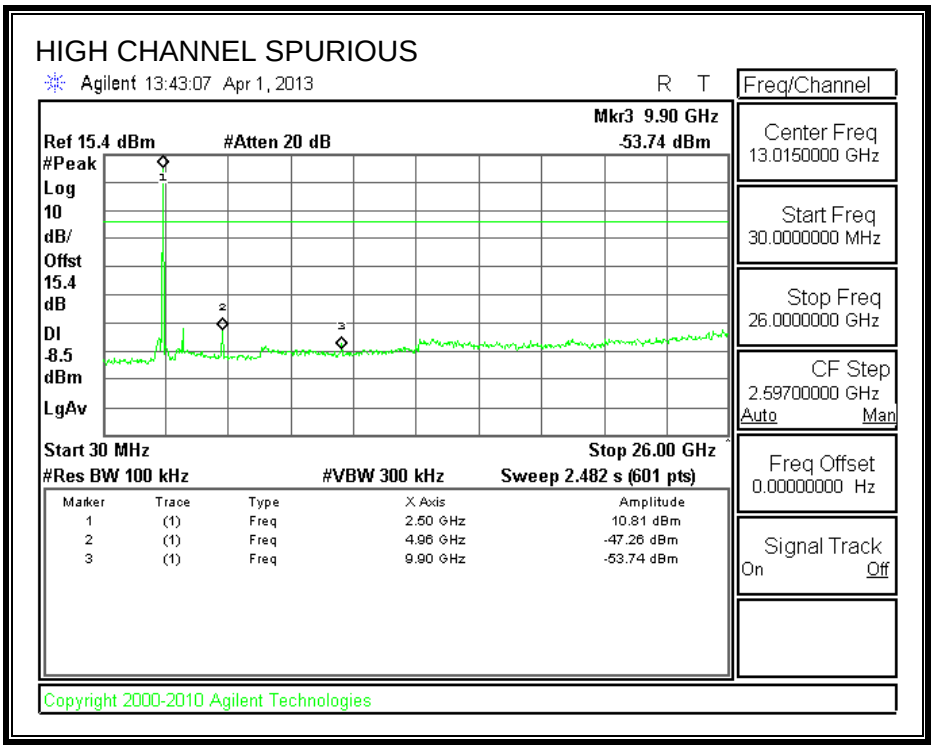
SPURIOUS EMISSIONS, MID CHANNEL





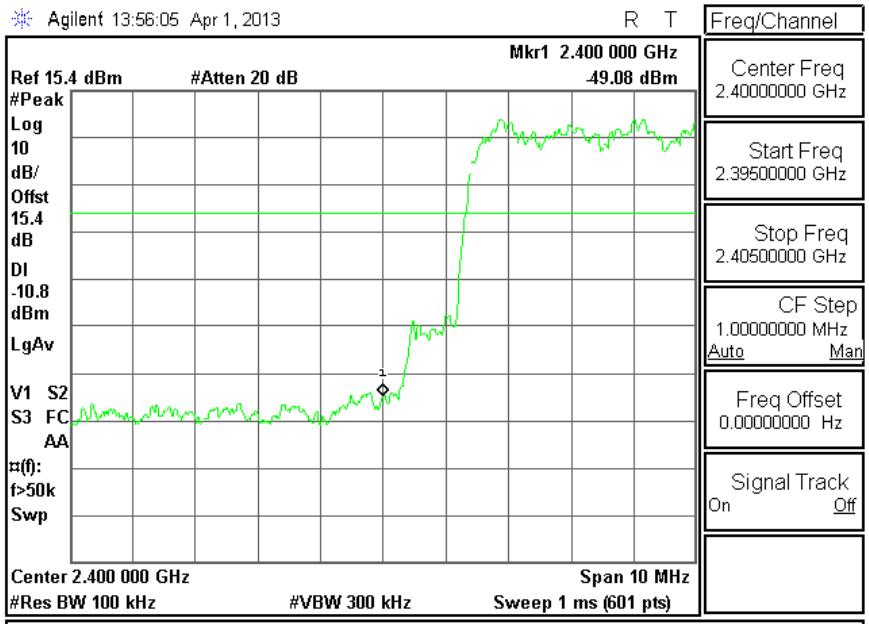
SPURIOUS EMISSIONS, HIGH CHANNEL



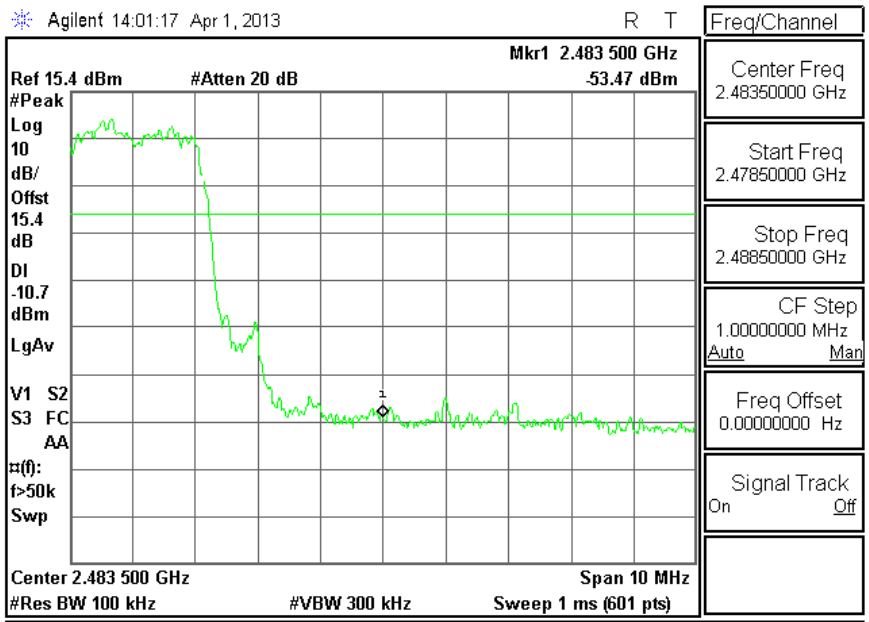


SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

LOW BANDEDGE WITH HOPPING ON



HIGH BANDEDGE WITH HOPPING ON



8. RADIATED TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

IC RSS-210 Clause 2.6 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

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. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. 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 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 10 Hz for average measurements.

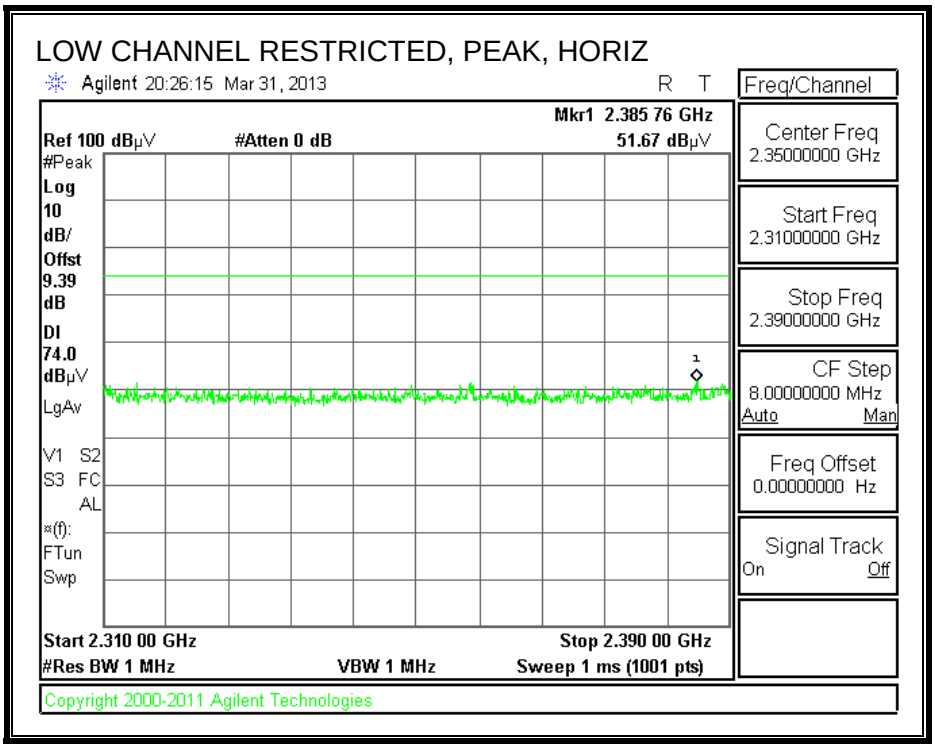
The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

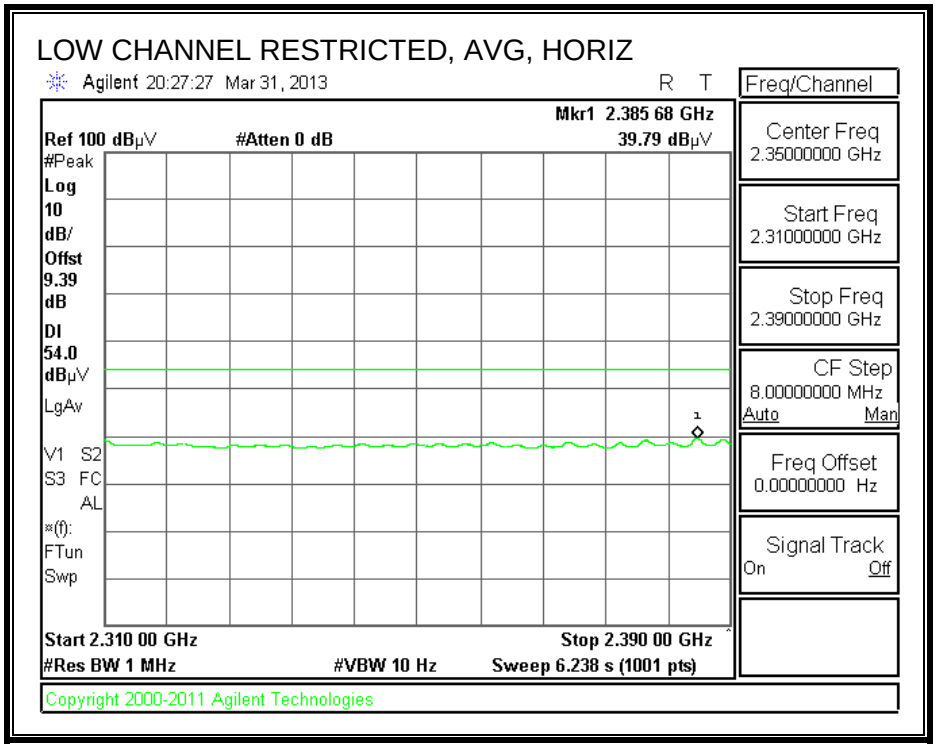
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

8.2. TRANSMITTER ABOVE 1 GHz

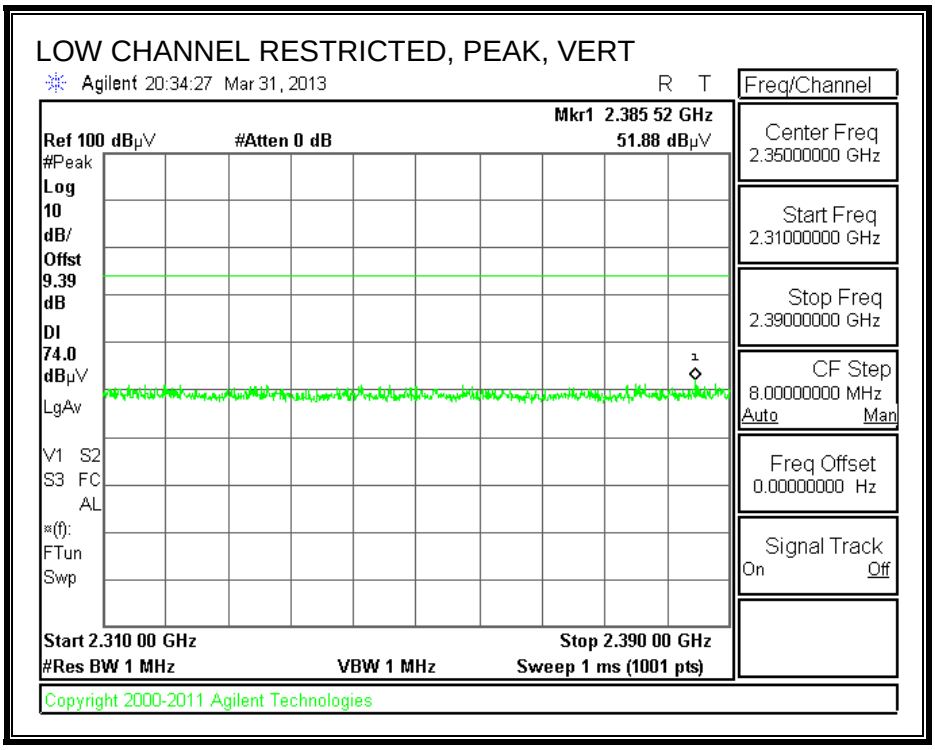
8.2.1. BASIC DATA RATE GFSK MODULATION

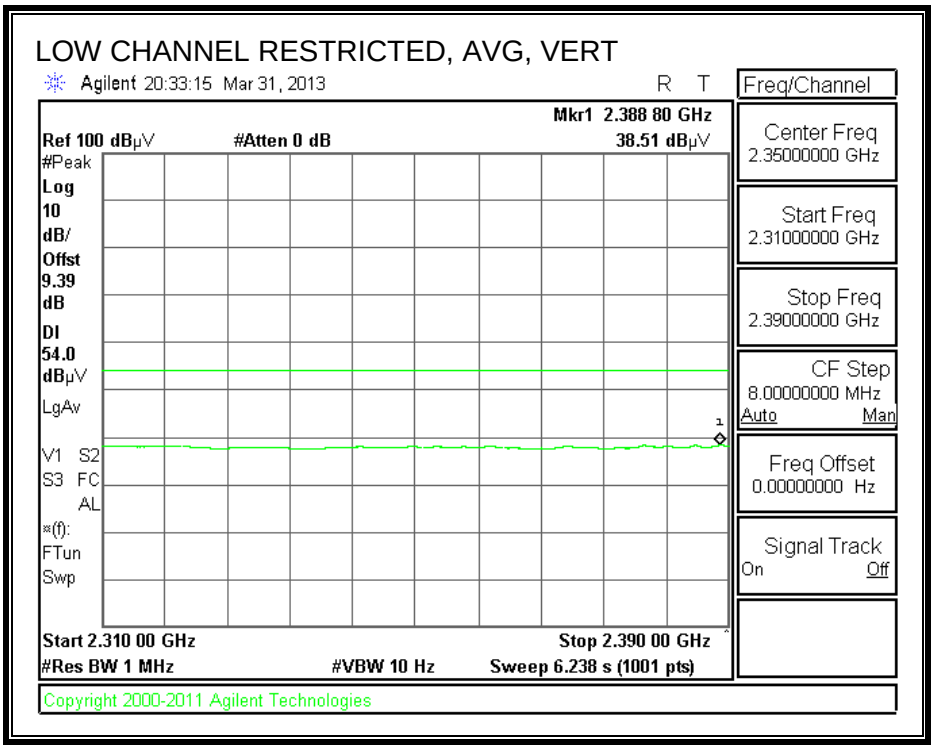
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



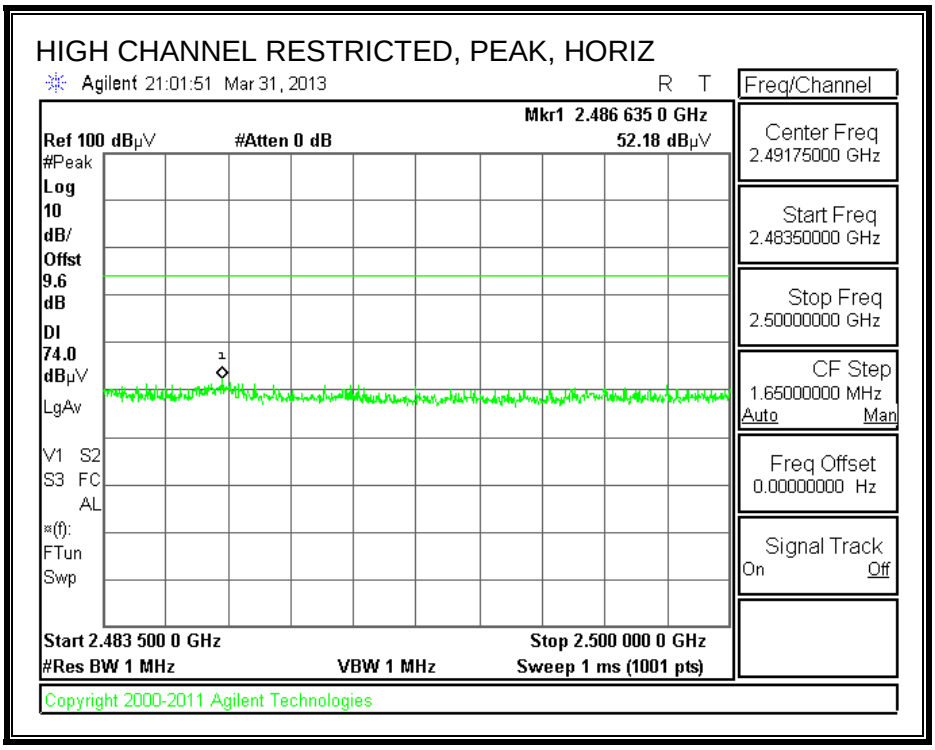


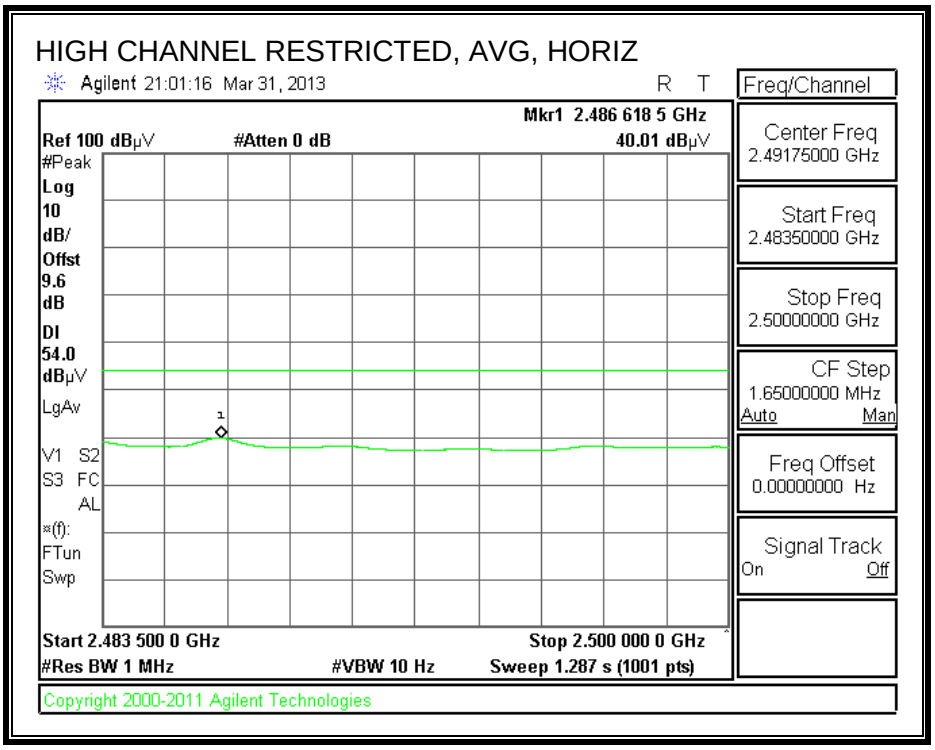
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



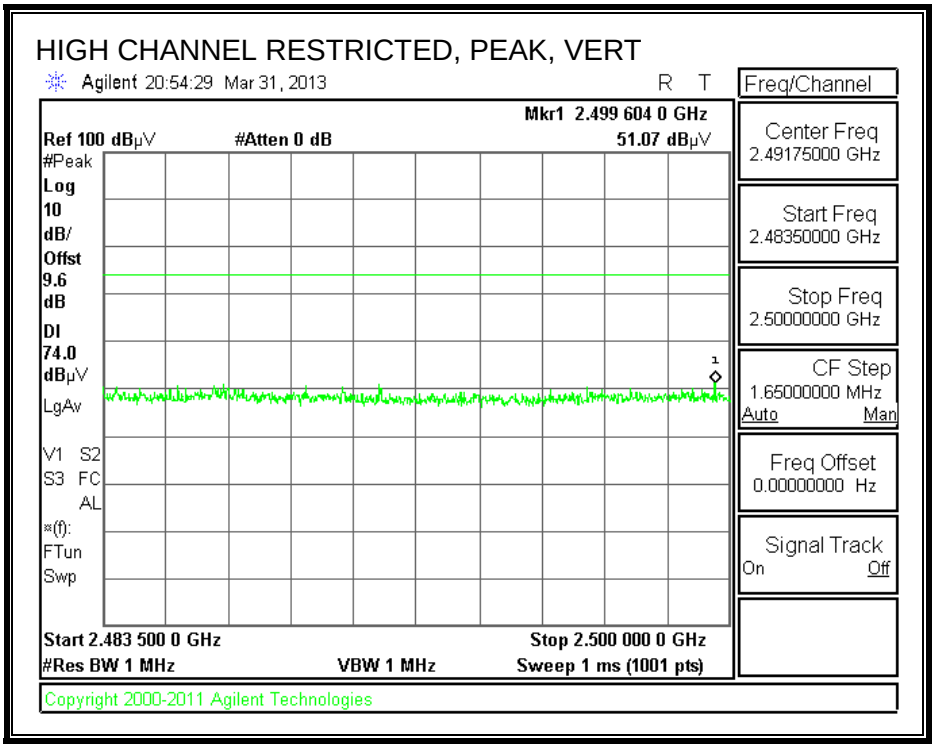


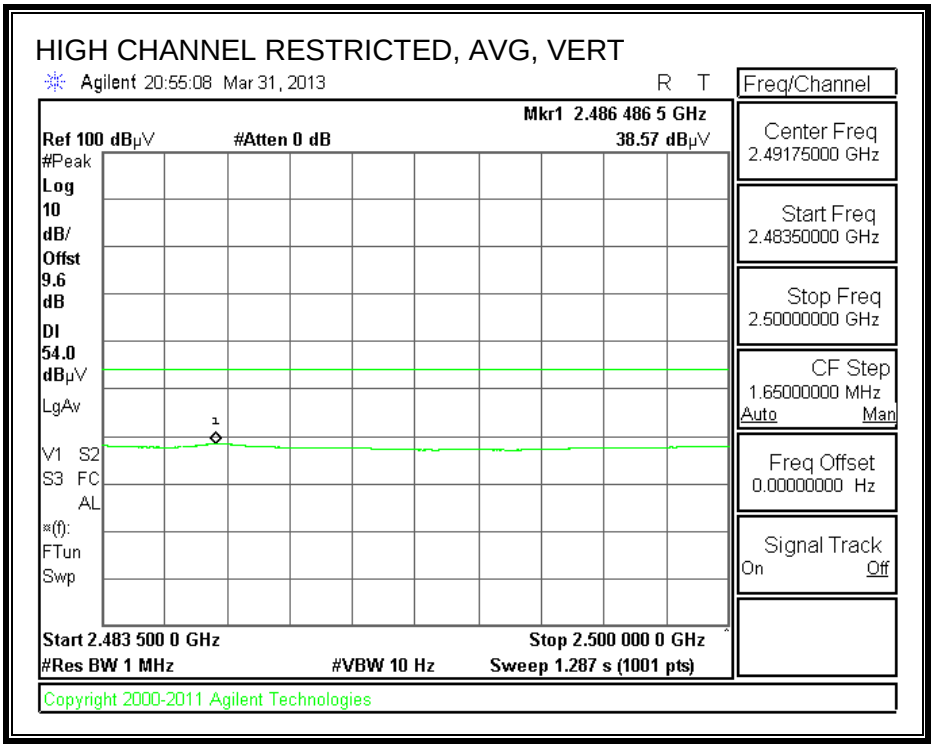
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)





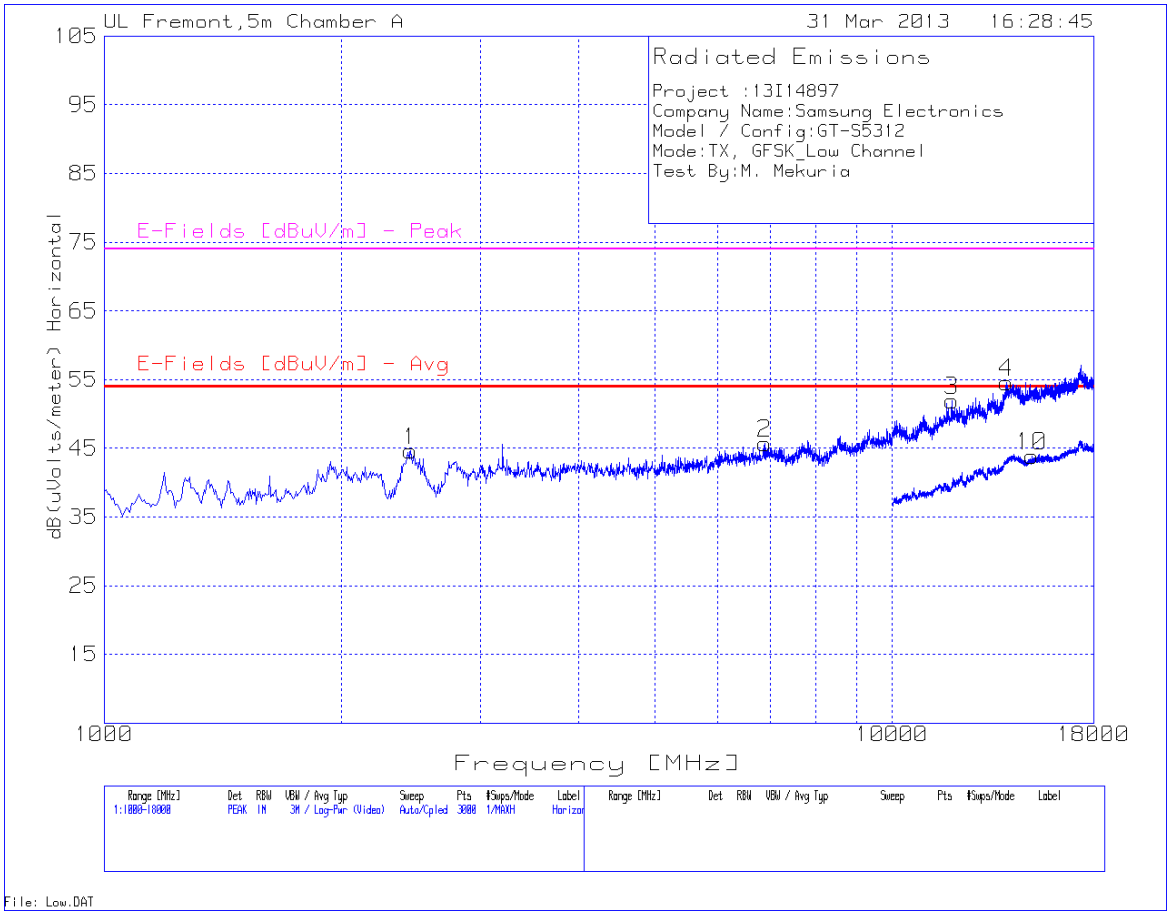
RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



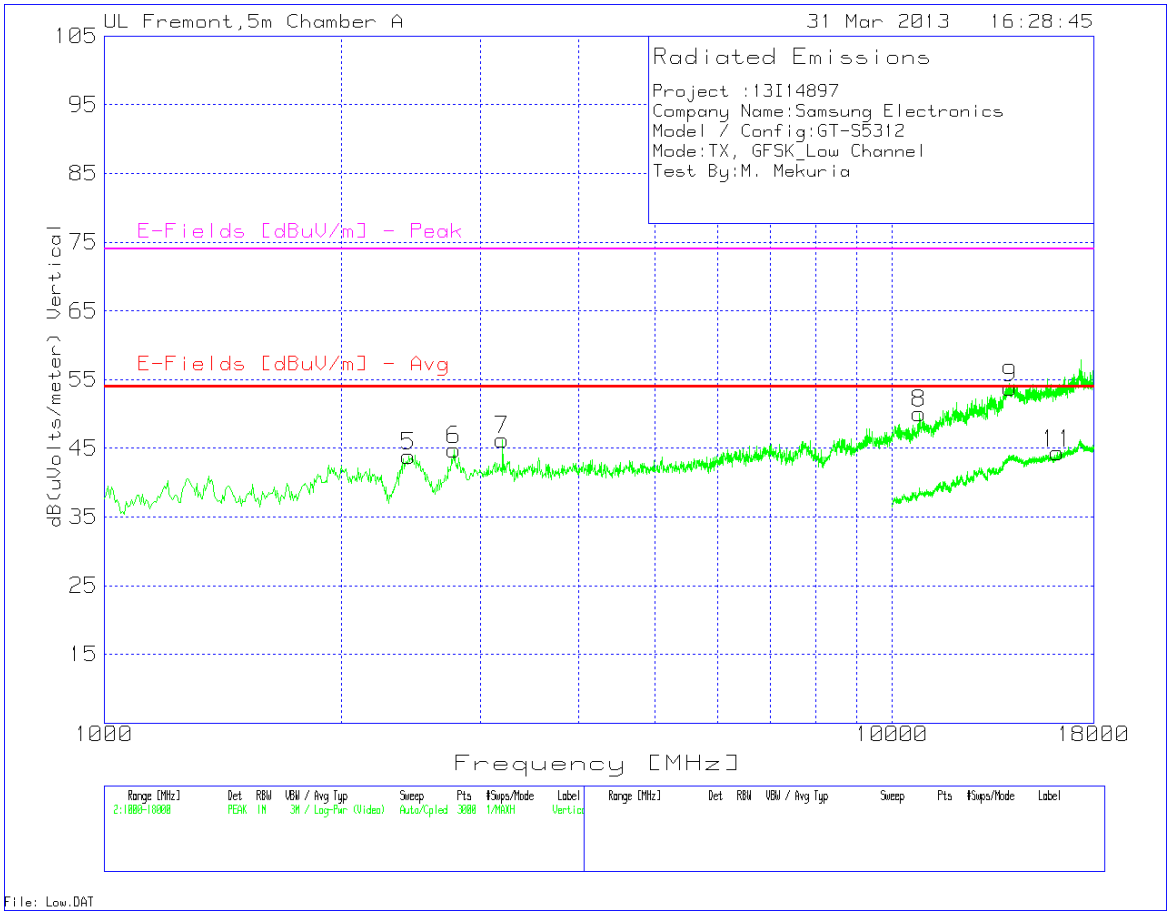


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICALL PLOT



LOW CHANNEL HORIZONTAL AND VERTICAL DATA

Project :13I14897
Company Name:Samsung Electronics
Model / Config:GT-S5312
Mode:TX, GFSK_Low Channel
Test By:M. Mekuria

Horizontal 1000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
1	2449.7	43.79	PK	32.3	-36.9	4.5	0.9	44.59	53.97	-9.38	74	-29.41	200	Horz
2	6883.744	37.16	PK	35.4	-35.6	8.4	0.3	45.66	53.97	-8.31	74	-28.34	100	Horz
3	11912.392	36.9	PK	38.7	-35.7	11.4	0.6	51.9	53.97	-2.07	74	-22.1	200	Horz
4	13968.021	36.57	PK	39.1	-33.8	12.4	0.3	54.57	53.97	0.6	74	-19.43	200	Horz

Vertical 1000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
5	2432.712	43.04	PK	32.3	-36.9	4.5	0.9	43.84	53.97	-10.13	74	-30.16	100	Vert
6	2783.811	43.22	PK	32.6	-36.7	4.8	0.9	44.82	53.97	-9.15	74	-29.18	100	Vert
7	3202.865	43.4	PK	33.6	-36.5	5.3	0.4	46.2	53.97	-7.77	74	-27.8	200	Vert
8	10830.779	36.44	PK	38	-35.7	10.8	0.5	50.04	53.97	-3.93	74	-23.96	100	Vert
9	14120.919	35.73	PK	39.2	-33.9	12.5	0.3	53.83	53.97	-0.14	74	-20.17	200	Vert

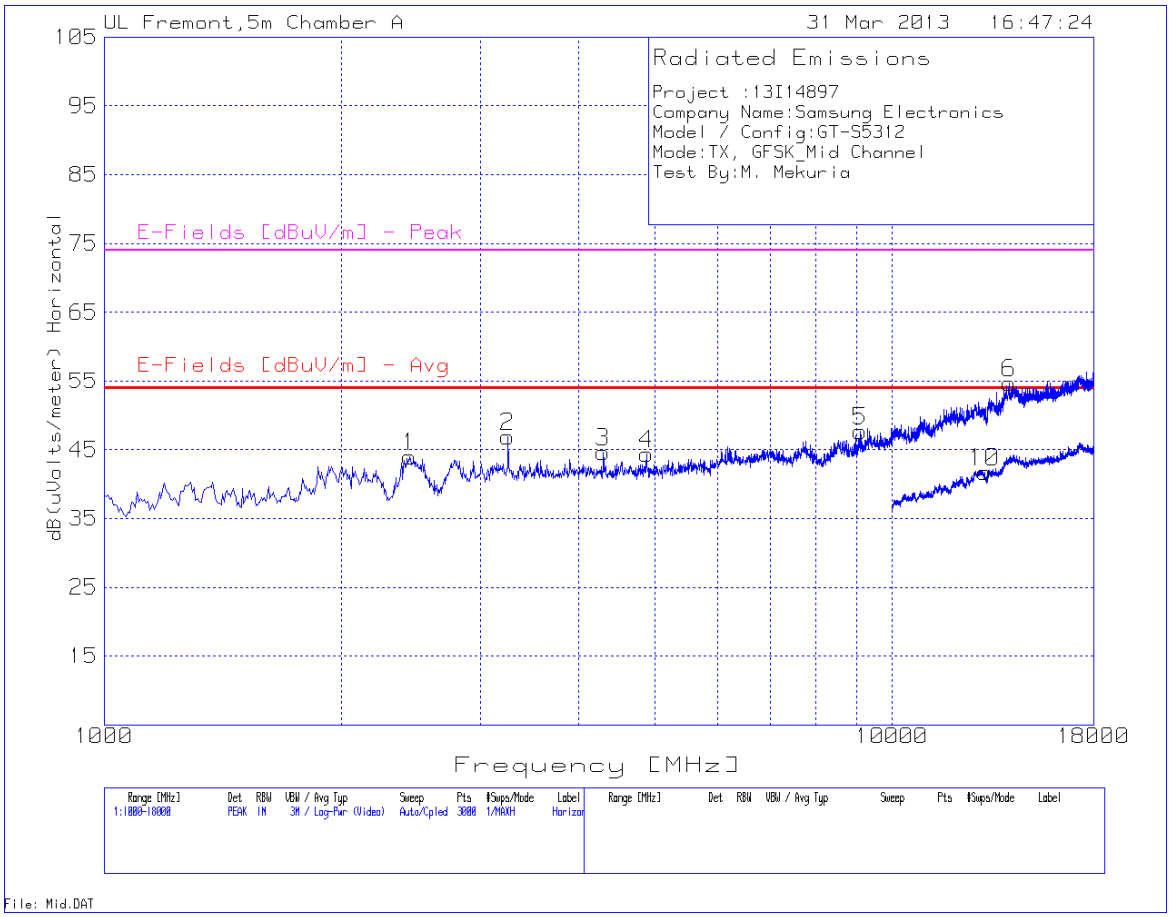
Horizontal 10000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
10	15033.483	25.12	PK	40.2	-34.9	13	0.4	43.82	53.97	-10.15	74	-30.18	200	Horz

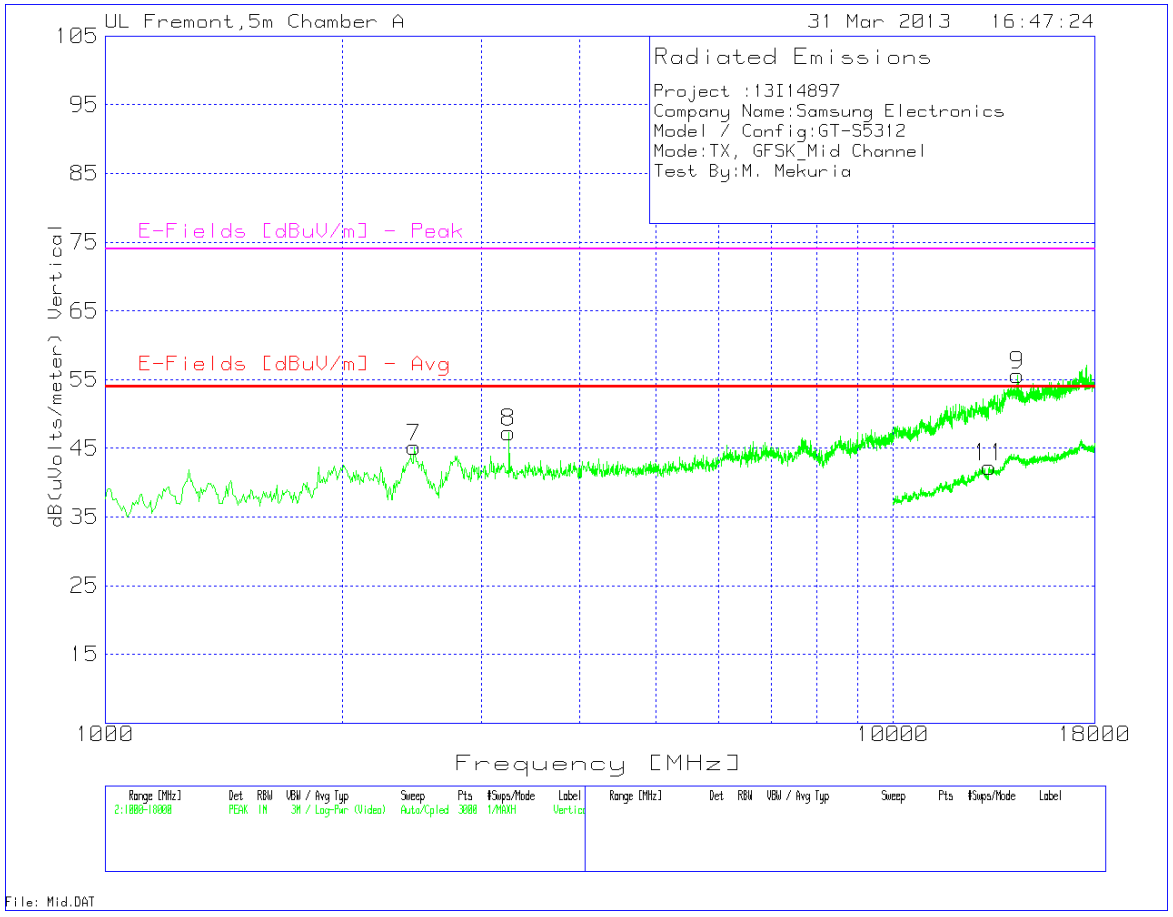
Vertical 10000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
11	16196.902	24.72	PK	40.7	-35.1	13.6	0.4	44.32	53.97	-9.65	74	-29.68	100	Vert

MID CHANNEL HORIZONTAL PLOT



MID CHANNEL VERTICALL PLOT



MID CHANNEL HORIZONTAL AND VERTICAL DATA

Project :13I14897
Company Name:Samsung Electronics
Model / Config:GT-S5312
Mode:TX, GFSK_Mid Channel
Test By:M. Mekuria

Horizontal 1000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
1	2438.374	43.16	PK	32.3	-36.9	4.5	0.9	43.96	53.97	-10.01	74	-30.04	200	Horz
2	3253.831	44.36	PK	33.2	-36.5	5.3	0.5	46.86	53.97	-7.11	74	-27.14	200	Horz
3	4301.466	40.43	PK	33.6	-35.9	6.3	0.2	44.63	53.97	-9.34	74	-29.37	100	Horz
4	4879.081	39.03	PK	34	-35.7	6.8	0.2	44.33	53.97	-9.64	74	-29.67	100	Horz
5	9109.26	37.34	PK	36	-36.1	9.9	0.6	47.74	53.97	-6.23	74	-26.26	100	Horz
6	14058.628	36.39	PK	39.2	-33.8	12.5	0.4	54.69	53.97	0.72	74	-19.31	200	Horz

Vertical 1000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
7	2466.689	44.12	PK	32.4	-36.8	4.5	0.9	45.12	53.97	-8.85	74	-28.88	200	Vert
8	3253.831	44.75	PK	33.2	-36.5	5.3	0.5	47.25	53.97	-6.72	74	-26.75	200	Vert
9	14381.412	37.09	PK	39.7	-34.2	12.6	0.4	55.59	53.97	1.62	74	-18.41	100	Vert

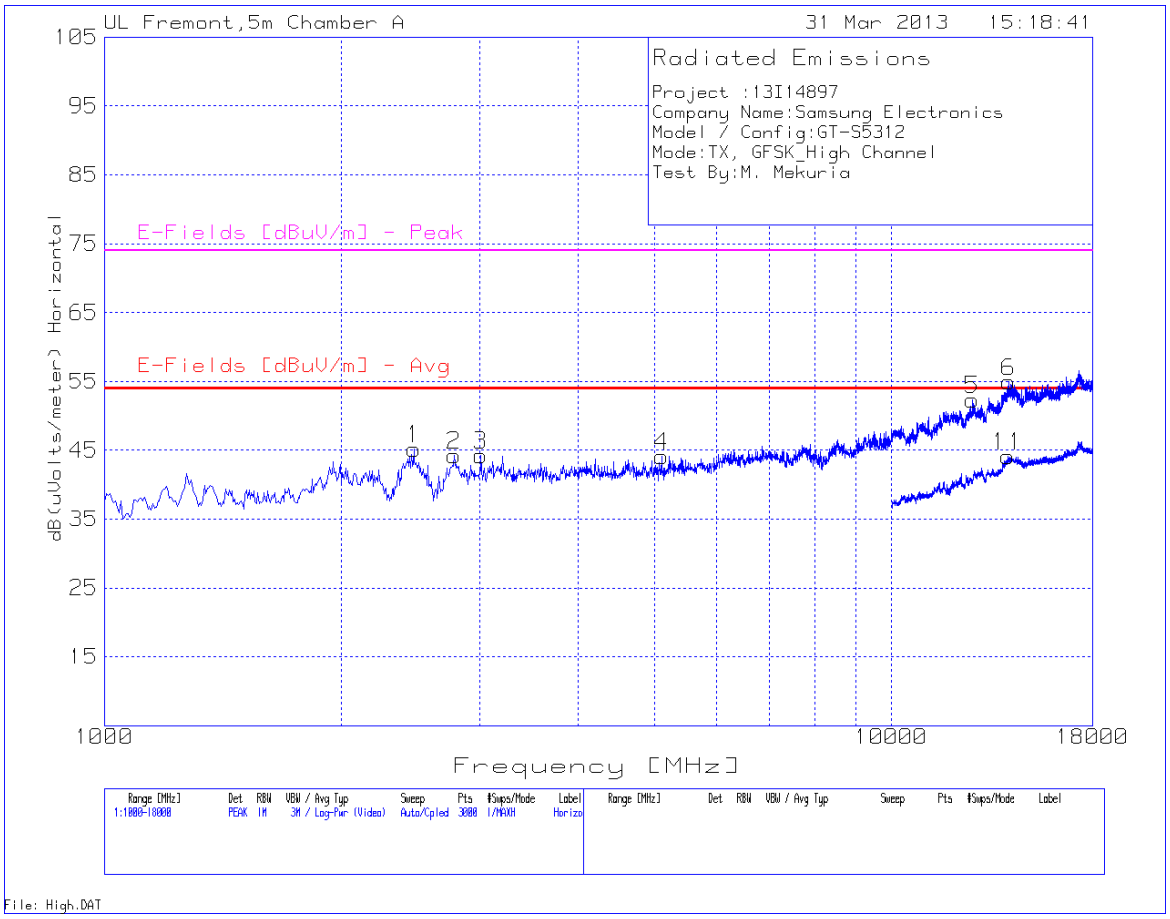
Horizontal 10000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
10	13106.447	24.49	PK	39	-34.1	12	0.4	41.79	53.97	-12.18	74	-32.21	200	Horz

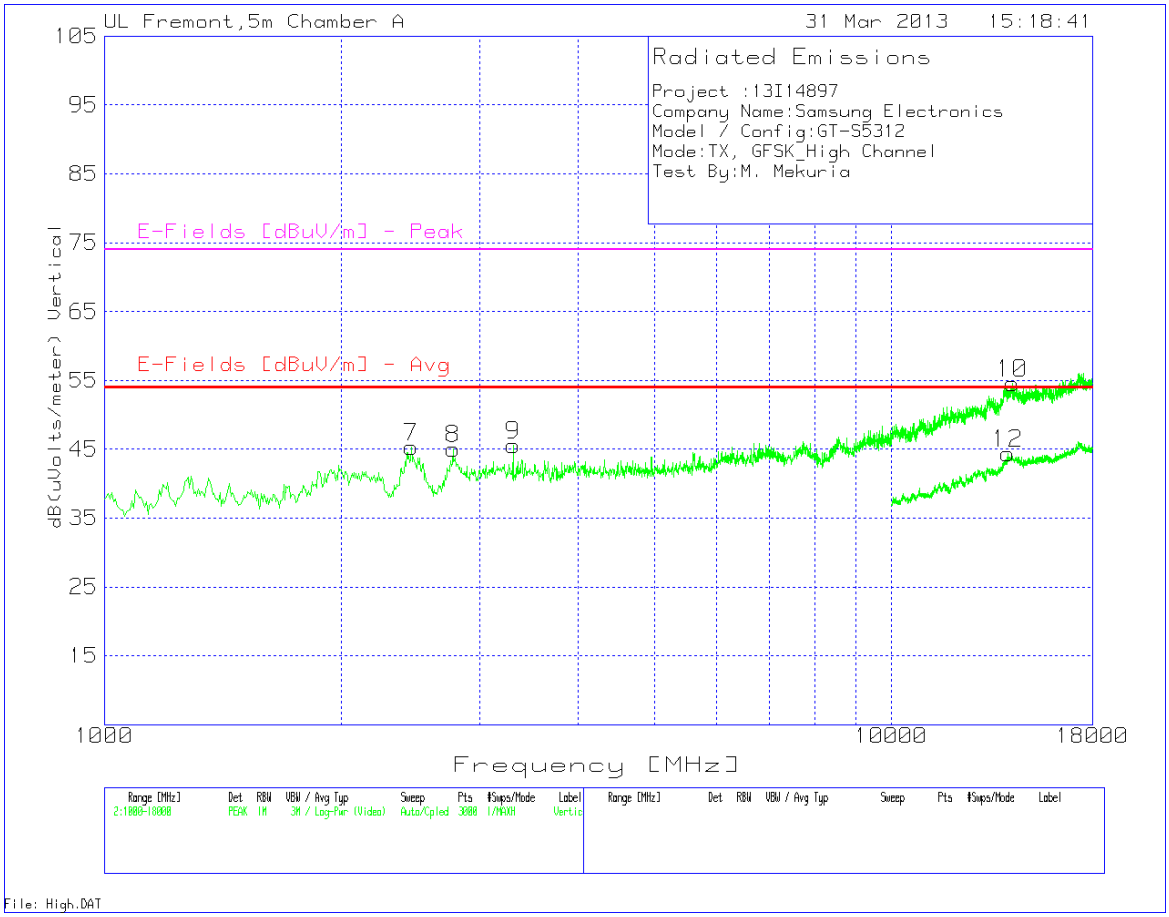
Vertical 10000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
11	13230.385	24.78	PK	39.1	-34.1	12.1	0.4	42.28	53.97	-11.69	74	-31.72	100	Vert

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICALL PLOT



HIGH CHANNEL HORIZONTAL AND VERTICAL DATA

Project :13I14897
Company Name:Samsung Electronics
Model / Config:GT-S5312
Mode:TX, GFSK_High Channel
Test By:M. Mekuria

Horizontal 1000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
1	2472.352	44.11	PK	32.5	-36.8	4.5	0.9	45.21	53.97	-8.76	74	-28.79	200	Horz
2	2783.811	42.6	PK	32.6	-36.7	4.8	0.9	44.2	53.97	-9.77	74	-29.8	100	Horz
3	3010.326	42.41	PK	32.7	-36.7	5.1	0.8	44.31	53.97	-9.66	74	-29.69	100	Horz
4	5105.596	38.39	PK	34	-35.5	7	0.2	44.09	53.97	-9.88	74	-29.91	100	Horz
5	12665.556	35.67	PK	39.2	-34.7	11.8	0.4	52.37	53.97	-1.6	74	-21.63	100	Horz
6	14092.605	36.71	PK	39.2	-33.9	12.5	0.4	54.91	53.97	0.94	74	-19.09	200	Horz

Vertical 1000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
7	2455.363	44.29	PK	32.4	-36.8	4.5	0.9	45.29	53.97	-8.68	74	-28.71	200	Vert
8	2772.485	43.5	PK	32.6	-36.8	4.8	0.9	45	53.97	-8.97	74	-29	200	Vert
9	3304.797	43.23	PK	32.9	-36.5	5.4	0.6	45.63	53.97	-8.34	74	-28.37	200	Vert
10	14239.84	36.19	PK	39.5	-34	12.6	0.3	54.59	53.97	0.62	74	-19.41	100	Vert

Horizontal 10000 - 18000MHz

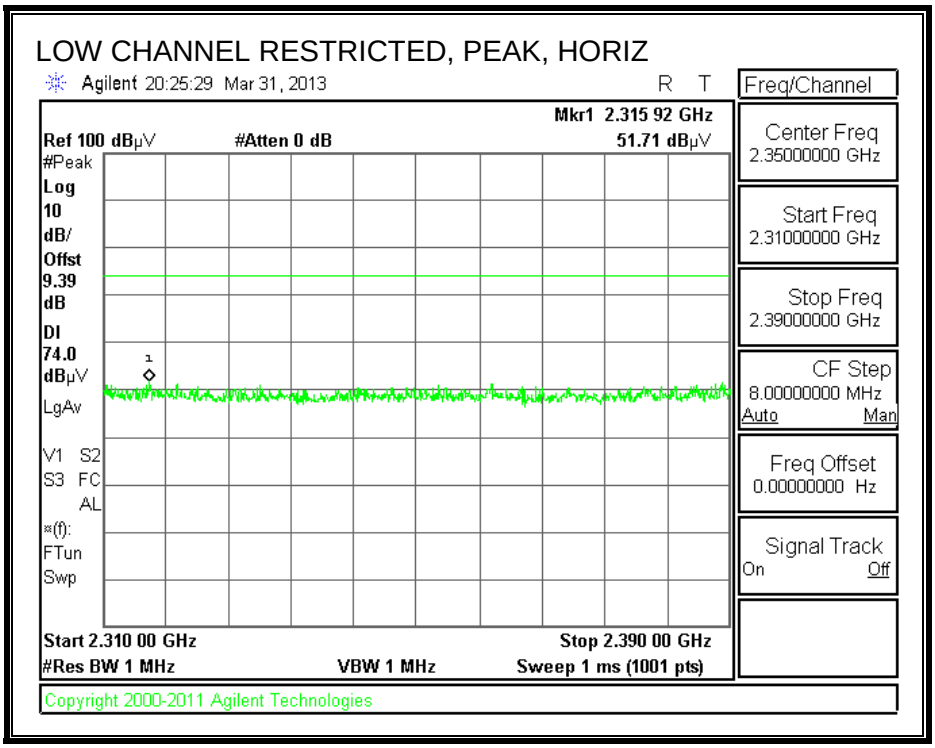
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
11	14057.971	25.85	PK	39.2	-33.8	12.5	0.4	44.15	53.97	-9.82	74	-29.85	200	Horz

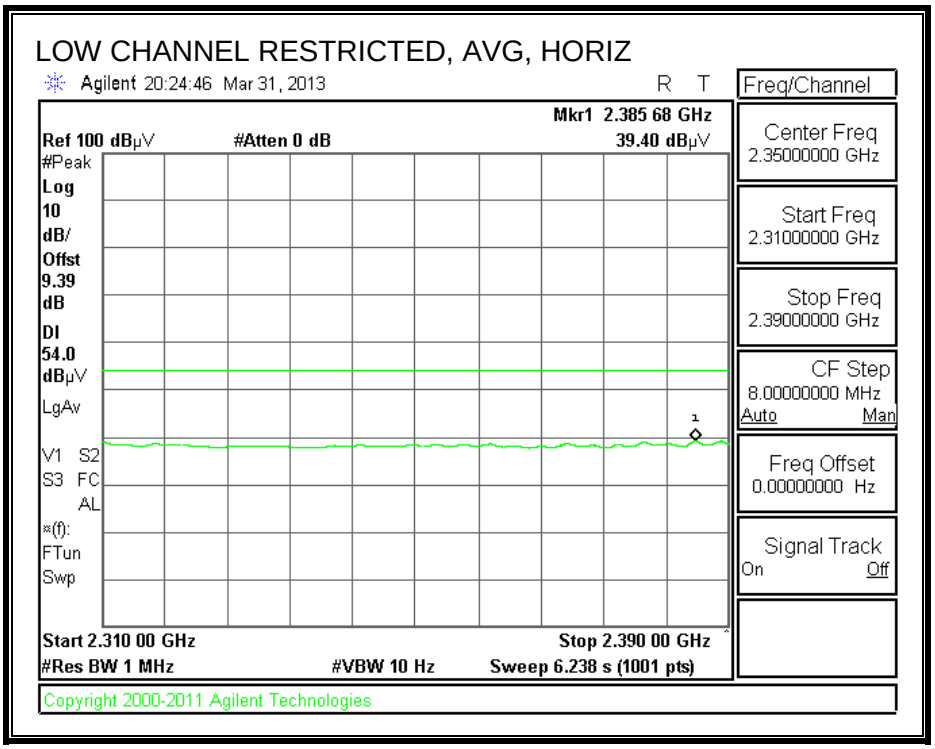
Vertical 10000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
12	14041.979	26.19	PK	39.1	-33.8	12.5	0.4	44.39	53.97	-9.58	74	-29.61	100	Vert

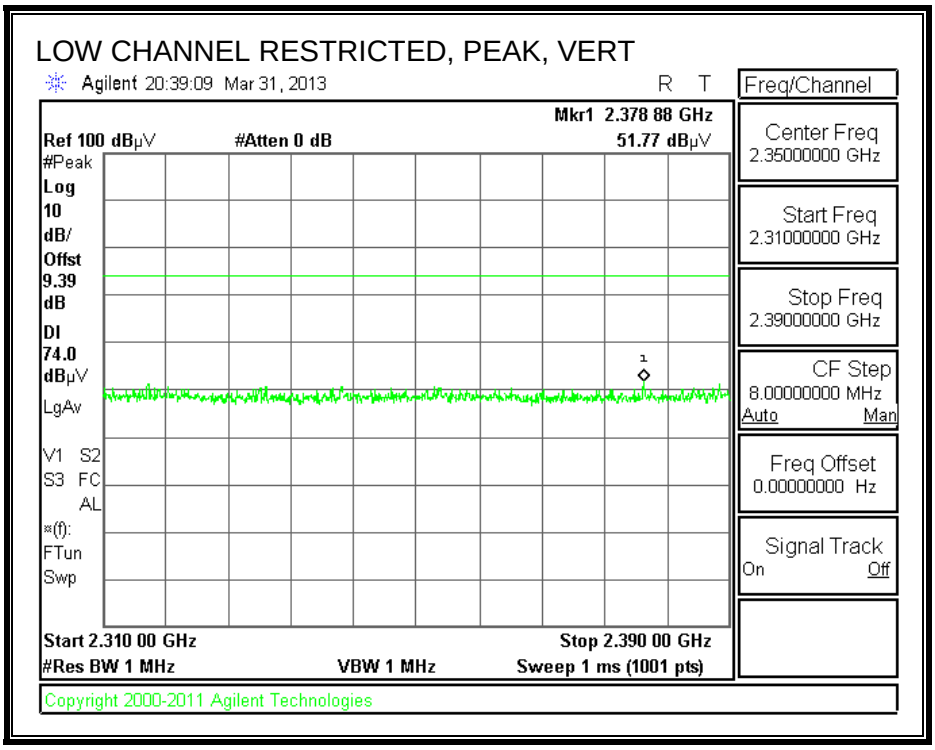
8.2.2. ENHANCED DATA RATE 8PSK MODULATION

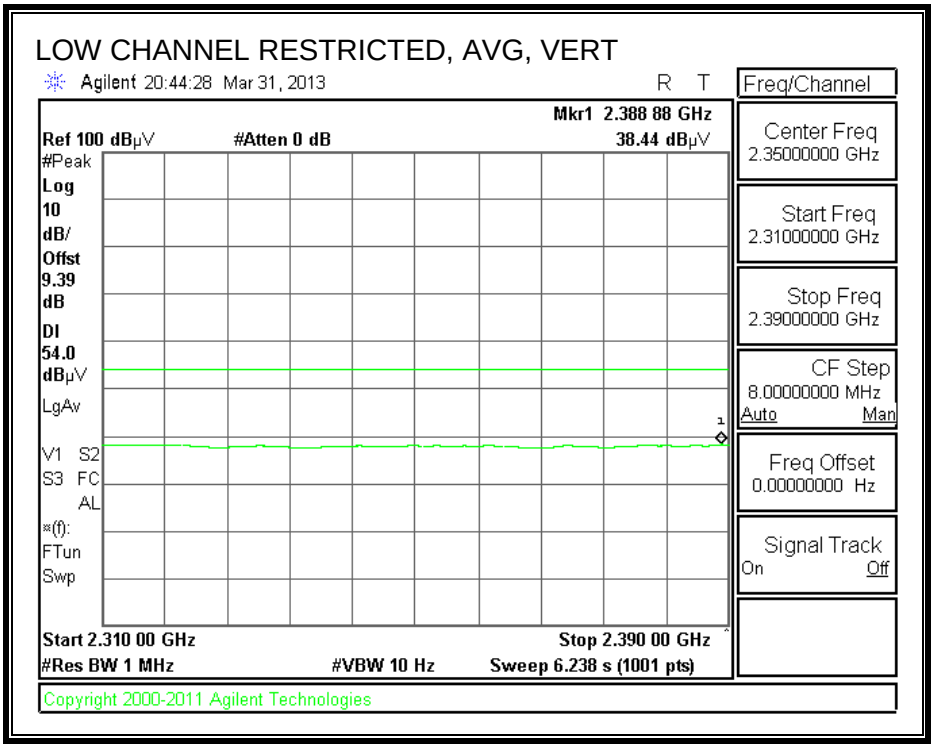
RESTRICTED BANDEDGE (LOW CHANNEL, HORIZONTAL)



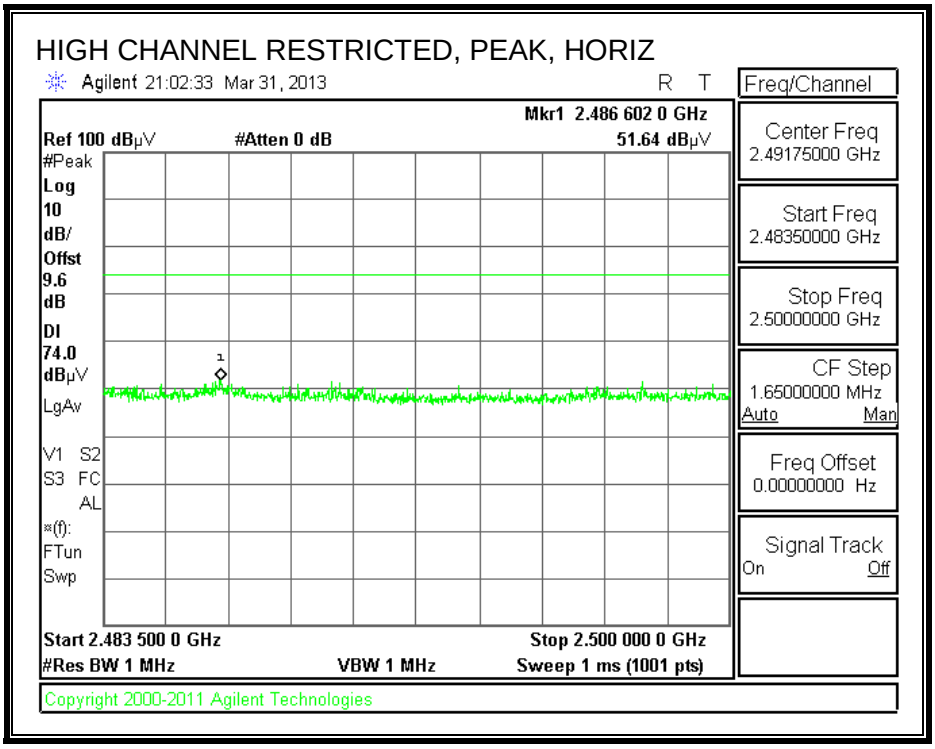


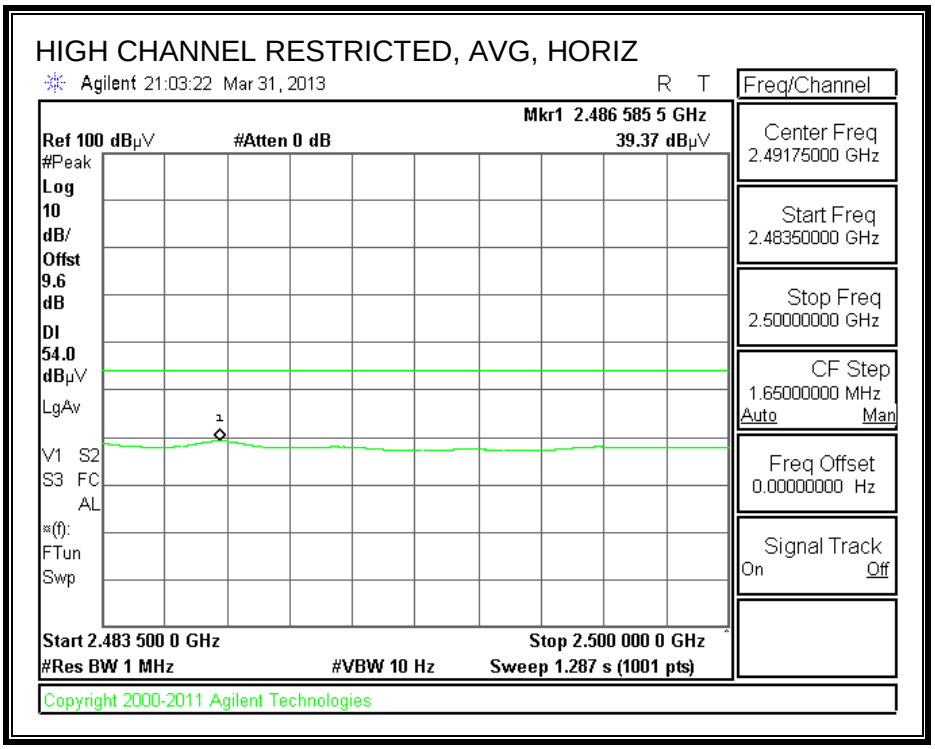
RESTRICTED BANDEDGE (LOW CHANNEL, VERTICAL)



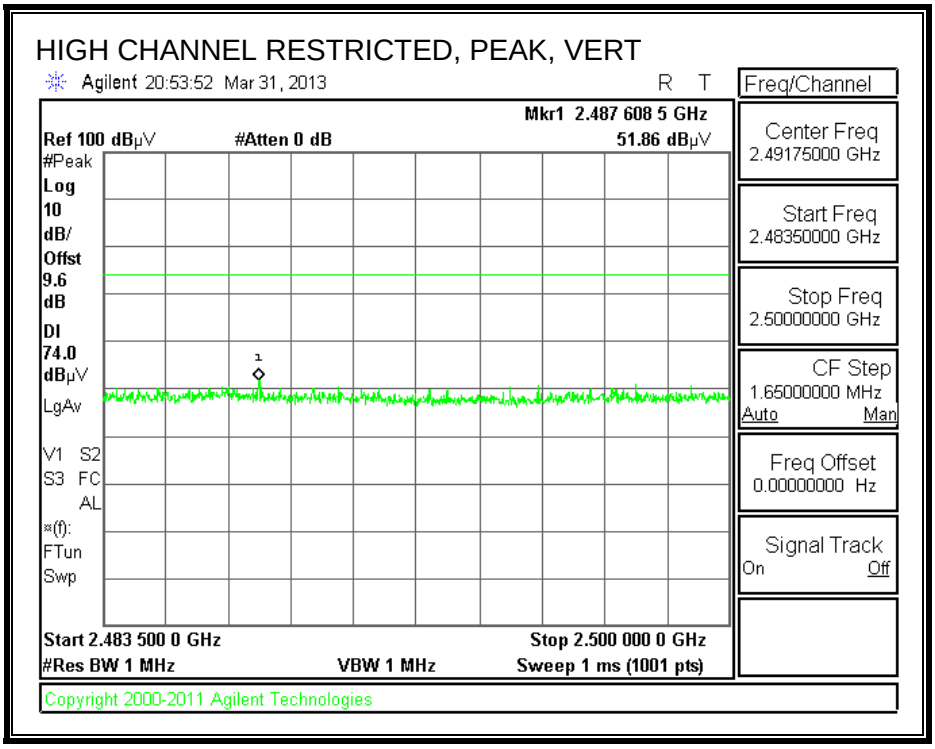


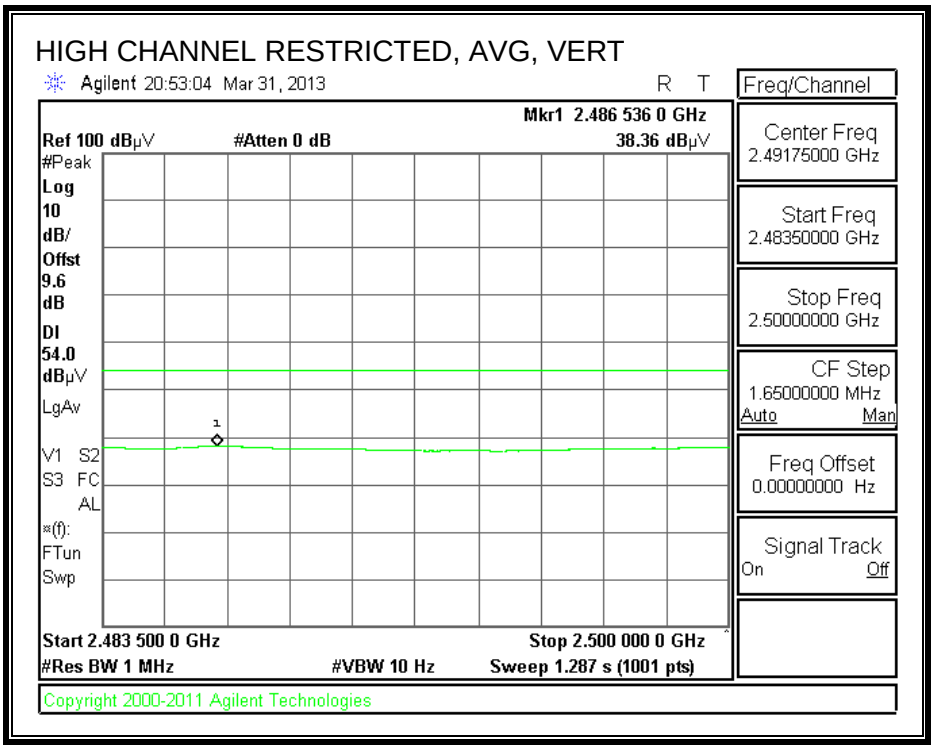
RESTRICTED BANDEDGE (HIGH CHANNEL, HORIZONTAL)





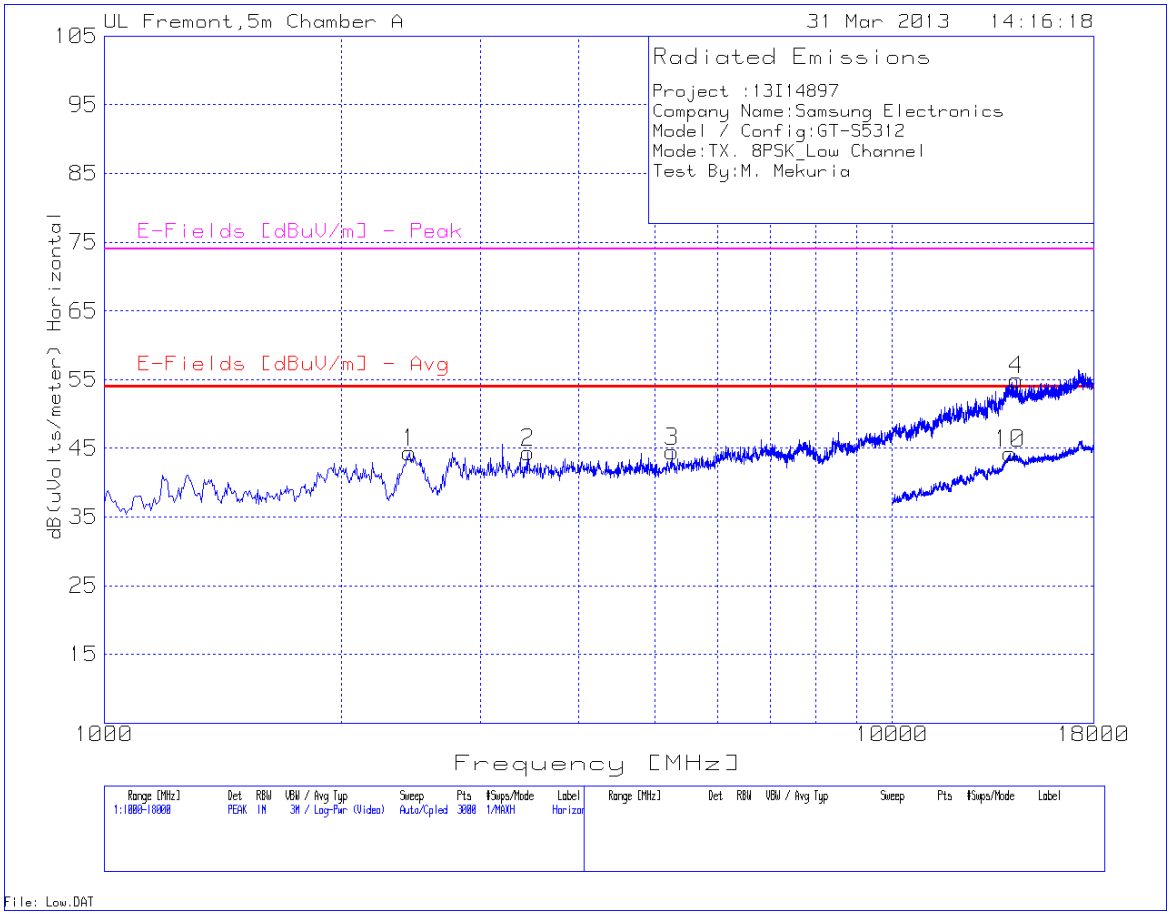
RESTRICTED BANDEDGE (HIGH CHANNEL, VERTICAL)



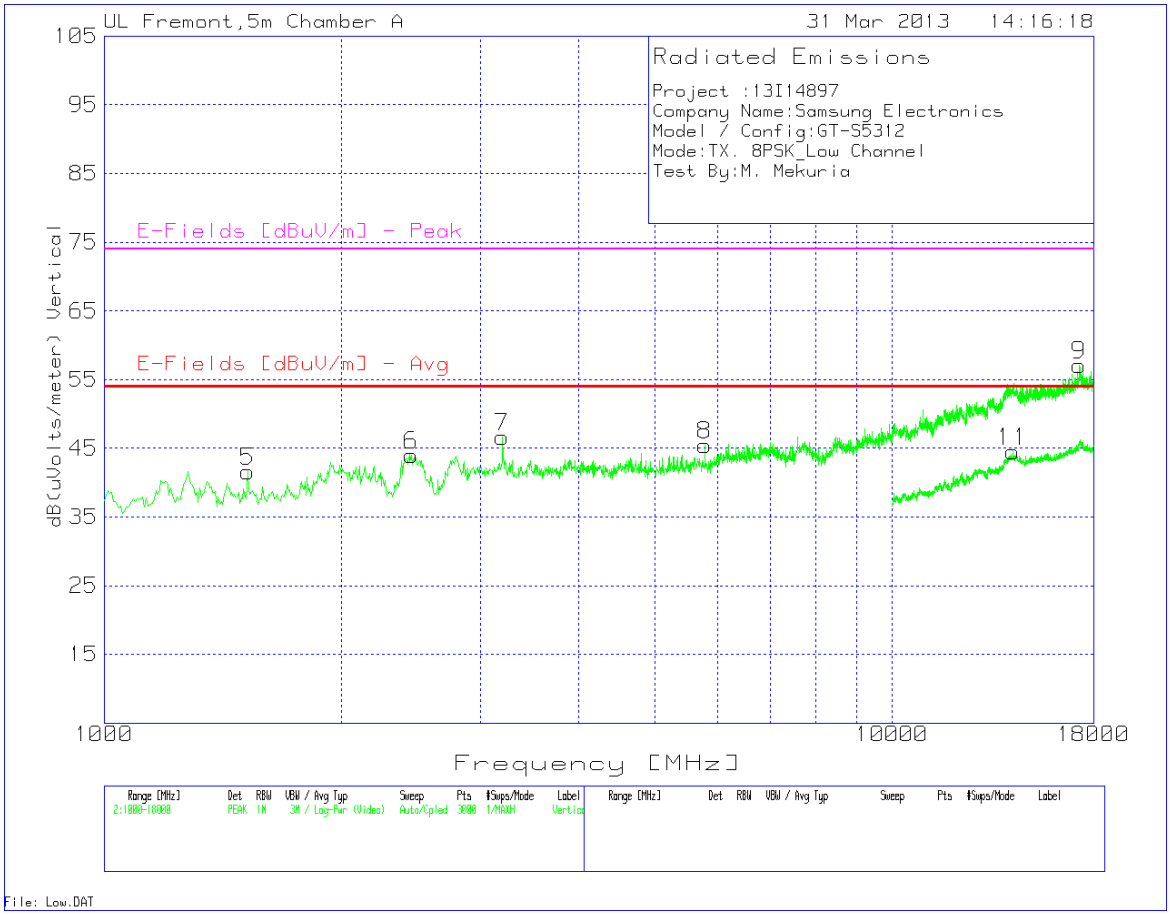


HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL HORIZONTAL PLOT



LOW CHANNEL VERTICALL PLOT



LOW CHANNEL HORIZONTAL AND VERTICAL DATA

Project :13I14897
Company Name:Samsung Electronics
Model / Config:GT-S5312
Mode:TX. 8PSK_Low Channel
Test By:M. Mekuria

Horizontal 1000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
1	2438.374	43.6	PK	32.3	-36.9	4.5	0.9	44.4	53.97	-9.57	74	-29.6	200	Horz
2	3452.032	41.76	PK	33.1	-36.4	5.5	0.4	44.36	53.97	-9.61	74	-29.64	200	Horz
3	5252.831	38.39	PK	34.3	-35.5	7.1	0.2	44.49	53.97	-9.48	74	-29.51	100	Horz
4	14370.087	36.5	PK	39.7	-34.2	12.6	0.4	55	53.97	1.03	74	-19	100	Horz

Vertical 1000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
5	1520.986	46.49	PK	28.8	-37.7	3.5	0.5	41.59	53.97	-12.38	74	-32.41	200	Vert
6	2455.363	42.97	PK	32.4	-36.8	4.5	0.9	43.97	53.97	-10	74	-30.03	200	Vert
7	3202.865	43.8	PK	33.6	-36.5	5.3	0.4	46.6	53.97	-7.37	74	-27.4	200	Vert
8	5785.143	38.46	PK	34.8	-35.5	7.5	0.2	45.46	53.97	-8.51	74	-28.54	200	Vert
9	17269.487	35.66	PK	41	-34.3	14.1	0.6	57.06	53.97	3.09	74	-16.94	200	Vert

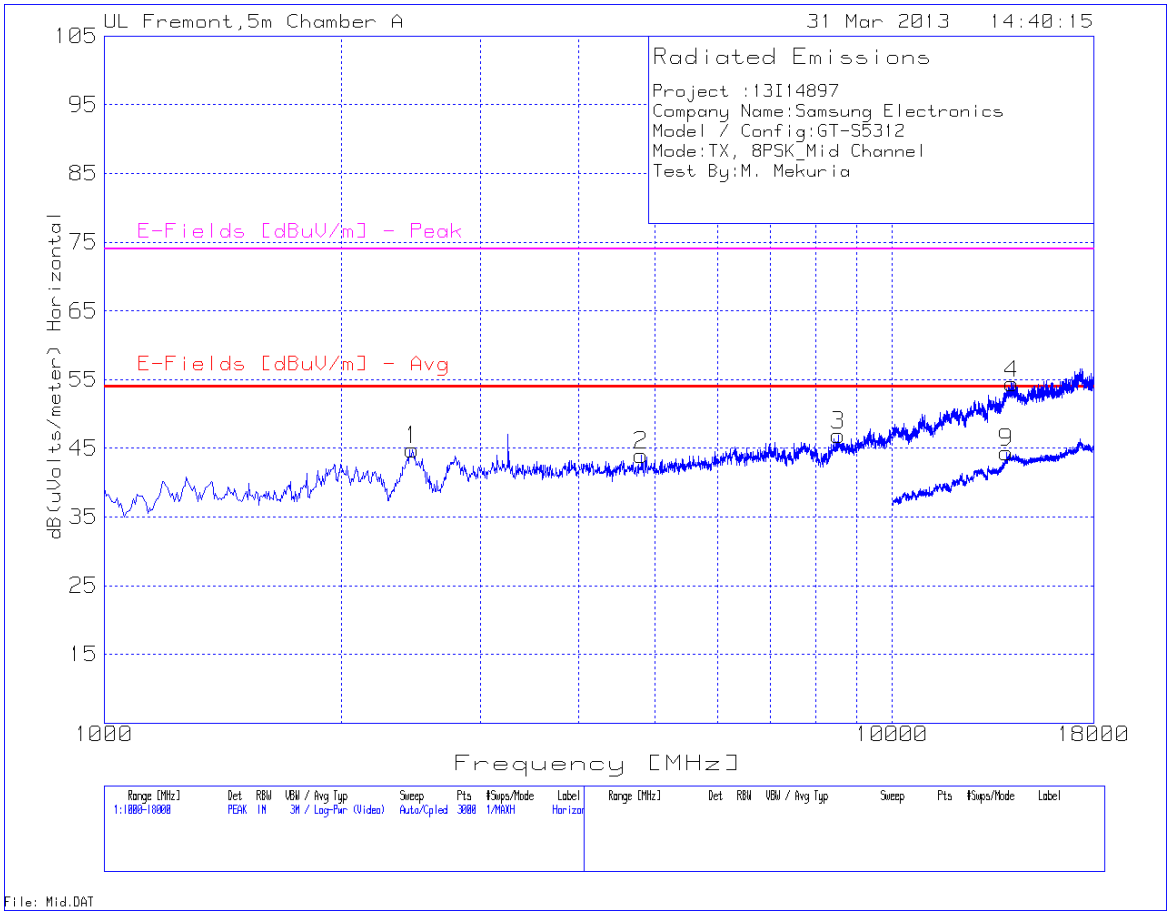
Horizontal 10000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
10	14101.949	26.08	PK	39.2	-33.9	12.5	0.4	44.28	53.97	-9.69	74	-29.72	100	Horz

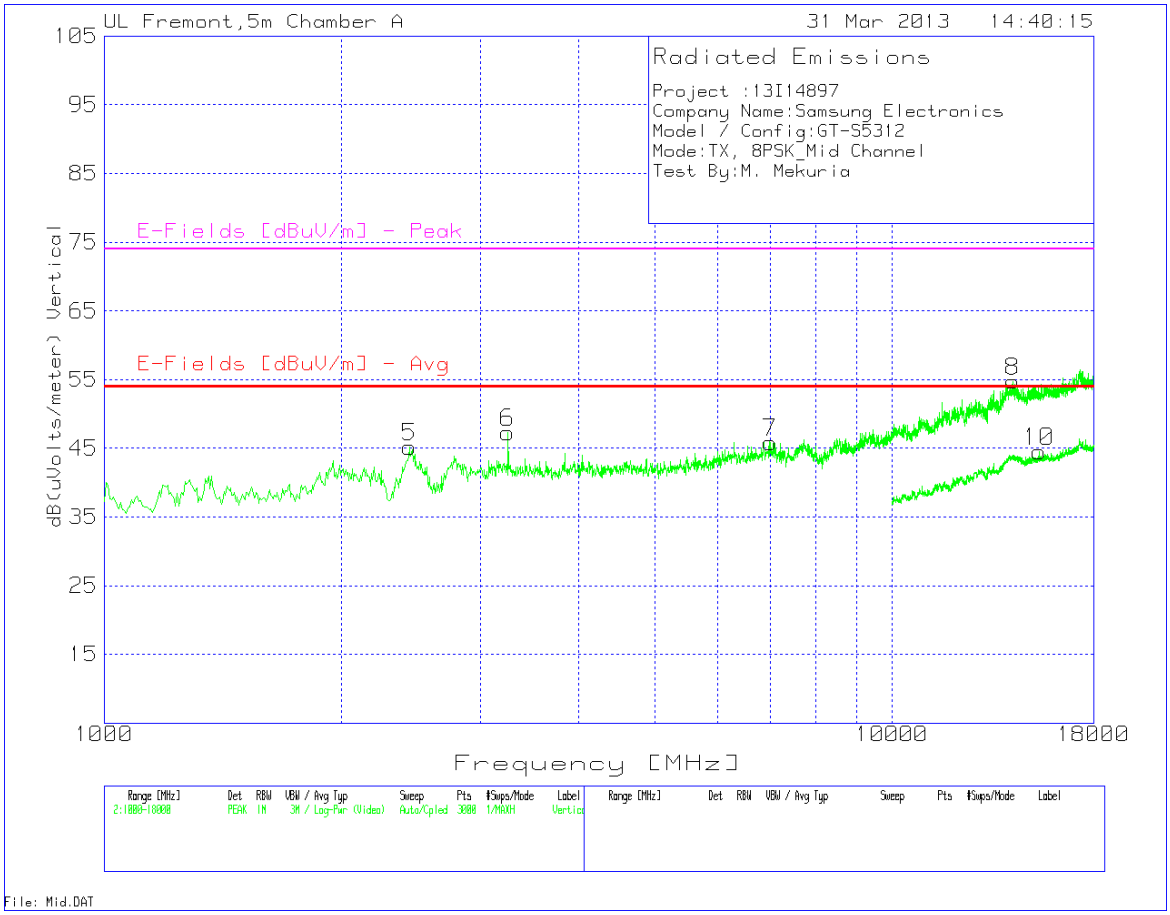
Vertical 10000 - 18000MHz

Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
11	14209.895	26.07	PK	39.4	-34	12.6	0.4	44.47	53.97	-9.5	74	-29.53	200	Vert

MID CHANNEL HORIZONTAL PLOT



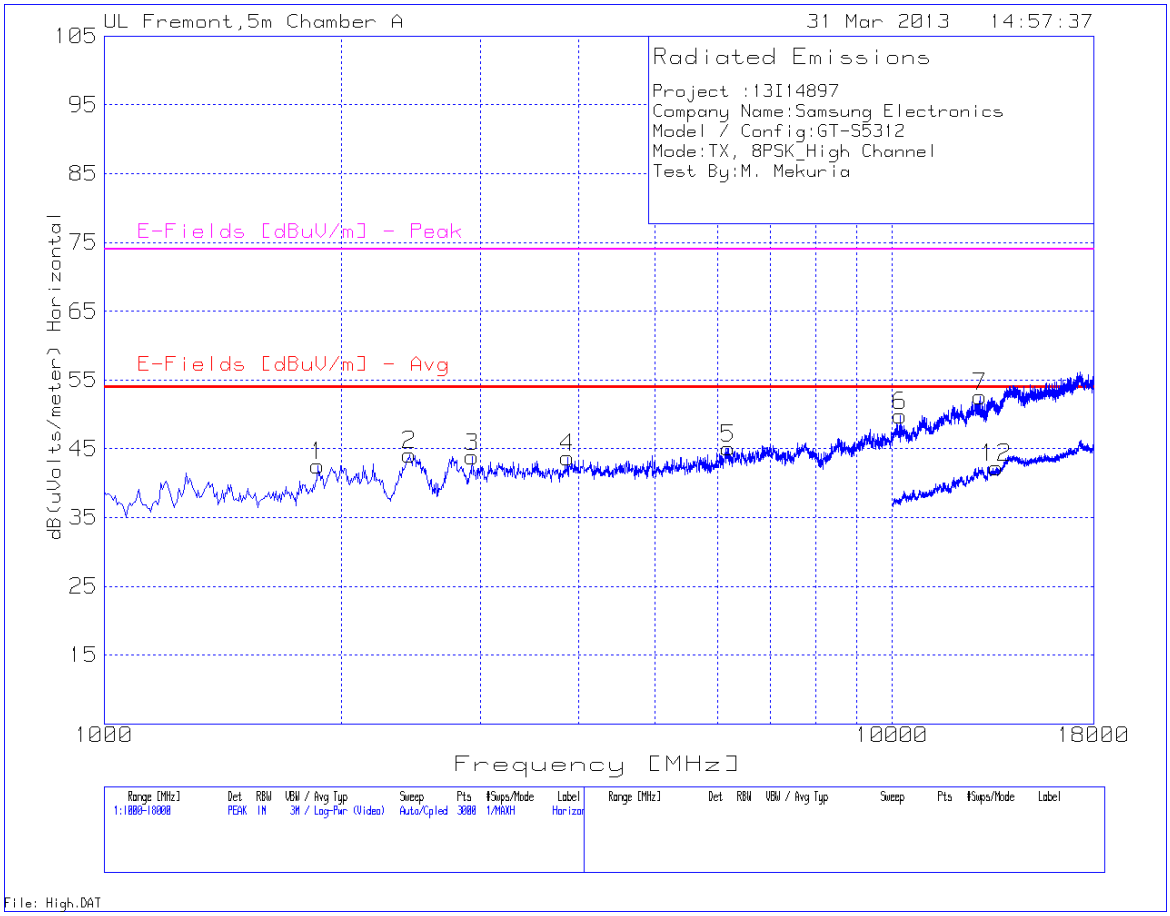
MID CHANNEL VERTICALL PLOT



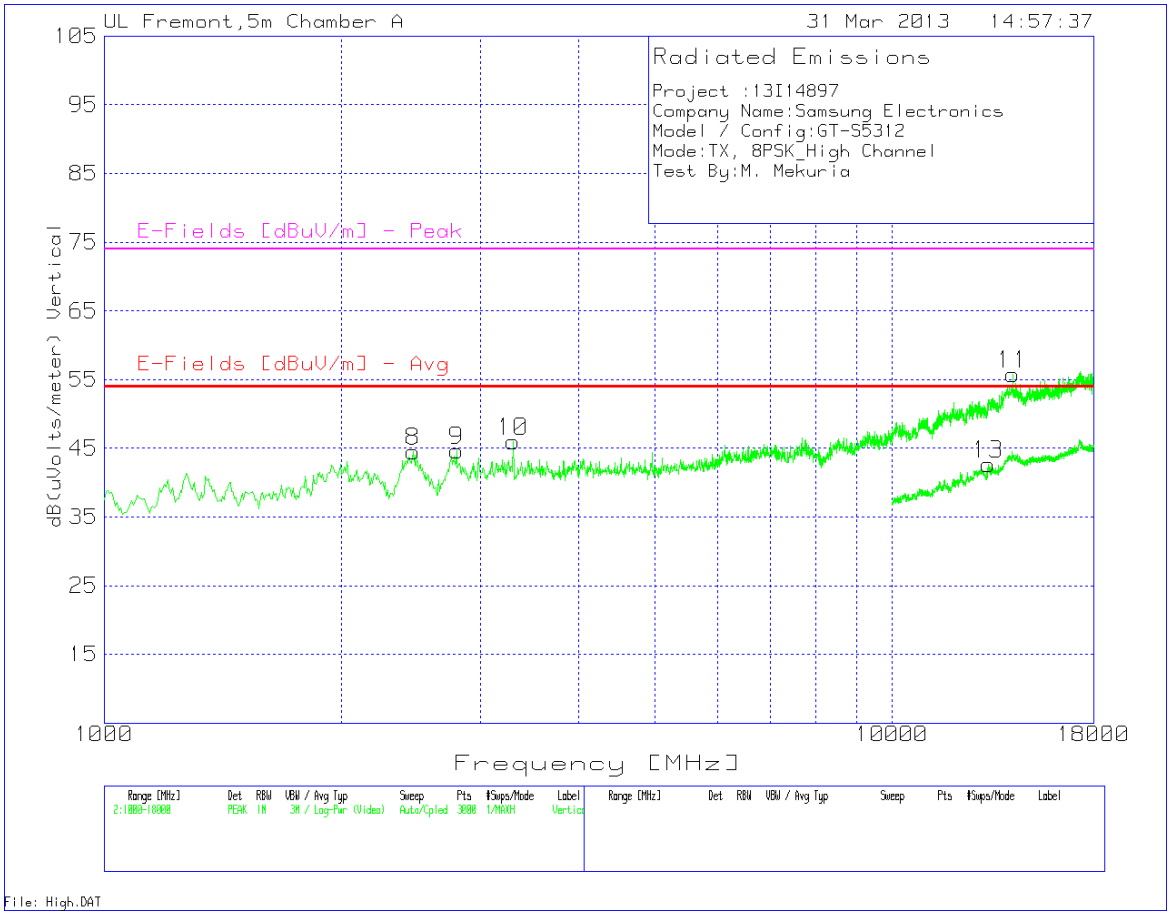
MID CHANNEL HORIZONTAL AND VERTICAL DATA

Project :13I14897														
Company Name:Samsung Electronics														
Model / Config:GT-S5312														
Mode:TX, 8PSK_Mid Channel														
Test By:M. Mekuria														
Horizontal 1000 - 18000MHz														
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
1	2461.026	43.78	PK	32.4	-36.8	4.5	0.9	44.78	53.97	-9.19	74	-29.22	100	Horz
2	4805.463	38.94	PK	33.9	-35.7	6.7	0.2	44.04	53.97	-9.93	74	-29.96	200	Horz
3	8537.308	37.3	PK	35.7	-36	9.5	0.4	46.9	53.97	-7.07	74	-27.1	200	Horz
4	14194.537	35.98	PK	39.4	-34	12.6	0.4	54.38	53.97	0.41	74	-19.62	100	Horz
Vertical 1000 - 18000MHz														
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
5	2438.374	44.38	PK	32.3	-36.9	4.5	0.9	45.18	53.97	-8.79	74	-28.82	200	Vert
6	3253.831	44.84	PK	33.2	-36.5	5.3	0.5	47.34	53.97	-6.63	74	-26.66	200	Vert
7	6997.002	37.26	PK	35.4	-35.6	8.5	0.3	45.86	53.97	-8.11	74	-28.14	200	Vert
8	14205.863	36.37	PK	39.4	-34	12.6	0.4	54.77	53.97	0.8	74	-19.23	100	Vert
Horizontal 10000 - 18000MHz														
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
9	13954.023	26.4	PK	39.1	-33.8	12.4	0.3	44.4	53.97	-9.57	74	-29.6	200	Horz
Vertical 10000 - 18000MHz														
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
10	15345.327	25.4	PK	40.6	-35	13.1	0.4	44.5	53.97	-9.47	74	-29.5	200	Vert

HIGH CHANNEL HORIZONTAL PLOT



HIGH CHANNEL VERTICALL PLOT



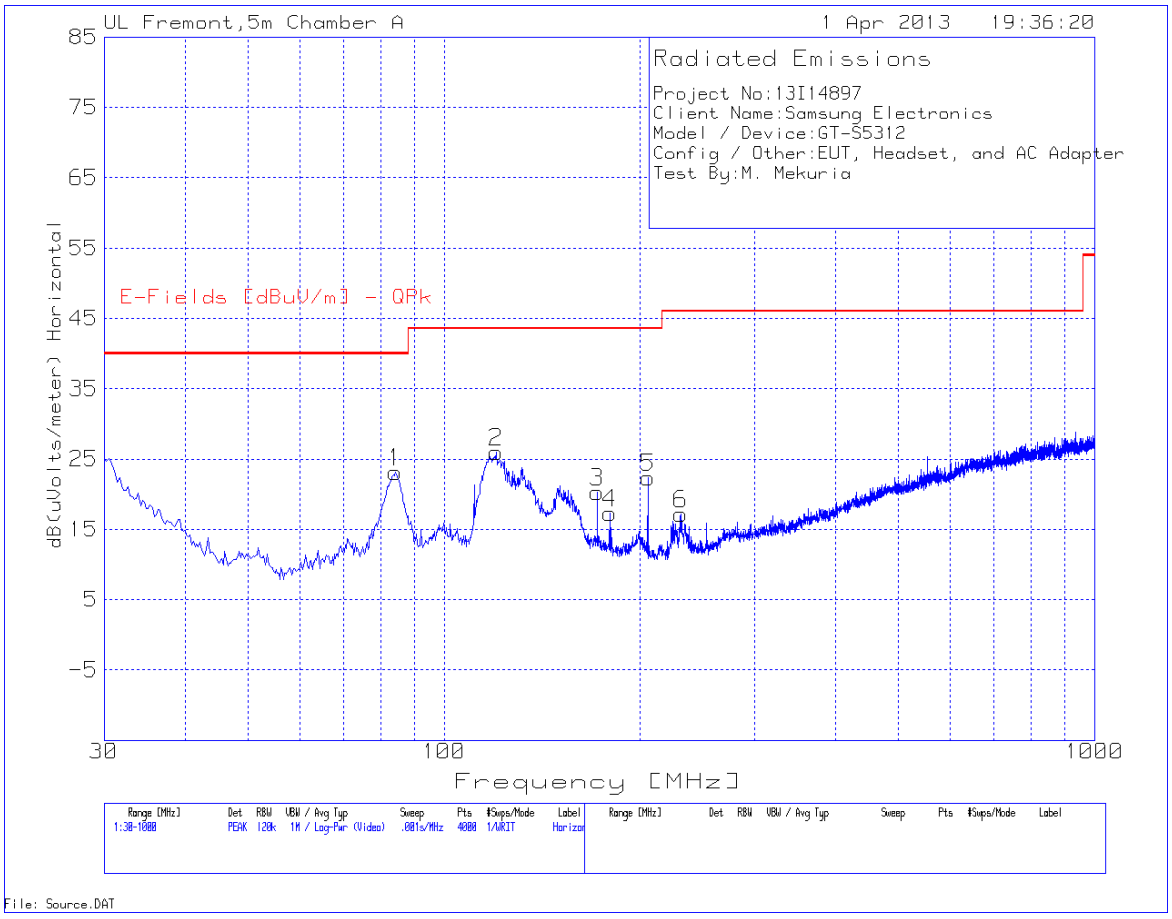
HIGH CHANNEL HORIZONTAL AND VERTICAL DATA

Project :13I14897														
Company Name:Samsung Electronics														
Model / Config:GT-S5312														
Mode:TX, 8PSK_High Channel														
Test By:M. Mekuria														
Horizontal 1000 - 18000MHz														
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
1	1866.422	43.83	PK	31.3	-37.3	3.9	0.8	42.53	53.97	-11.44	74	-31.47	200	Horz
2	2438.374	43.31	PK	32.3	-36.9	4.5	0.9	44.11	53.97	-9.86	74	-29.89	200	Horz
3	2931.046	42.1	PK	32.5	-36.7	5	0.9	43.8	53.97	-10.17	74	-30.2	200	Horz
4	3871.086	40.01	PK	33.6	-36.1	5.9	0.3	43.71	53.97	-10.26	74	-30.29	200	Horz
5	6192.871	37.21	PK	35.4	-35.6	7.9	0.2	45.11	53.97	-8.86	74	-28.89	200	Horz
6	10247.502	37.76	PK	37.2	-36.2	10.5	0.5	49.76	53.97	-4.21	74	-24.24	200	Horz
7	12914.724	35.45	PK	39.1	-34.3	11.9	0.4	52.55	53.97	-1.42	74	-21.45	100	Horz
Vertical 1000 - 18000MHz														
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
8	2466.689	43.51	PK	32.4	-36.8	4.5	0.9	44.51	53.97	-9.46	74	-29.49	200	Vert
9	2800.799	43.01	PK	32.6	-36.7	4.8	0.9	44.61	53.97	-9.36	74	-29.39	100	Vert
10	3304.797	43.55	PK	32.9	-36.5	5.4	0.6	45.95	53.97	-8.02	74	-28.05	200	Vert
11	14228.514	37.37	PK	39.5	-34	12.6	0.3	55.77	53.97	1.8	74	-18.23	200	Vert
Horizontal 10000 - 18000MHz														
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
12	13550.225	24.75	PK	38.8	-33.9	12.2	0.4	42.25	53.97	-11.72	74	-31.75	100	Horz
Vertical 10000 - 18000MHz														
Marker No.	Test Frequency	Meter Reading	Detector	T136 Ant Factor [dB/m]	T144 Preamp Gain [dB]	Cable Factor [dB]	T160 BRF [dB]	dB(uVolts/ meter)	E-Fields [dBuV/m] - Avg	Margin (dB)	E-Fields [dBuV/m] - Peak	Margin (dB)	Height [cm]	Polarity
13	13254.373	24.91	PK	39.2	-34	12.1	0.4	42.61	53.97	-11.36	74	-31.39	200	Vert

8.3. WORST-CASE BELOW 1 GHz

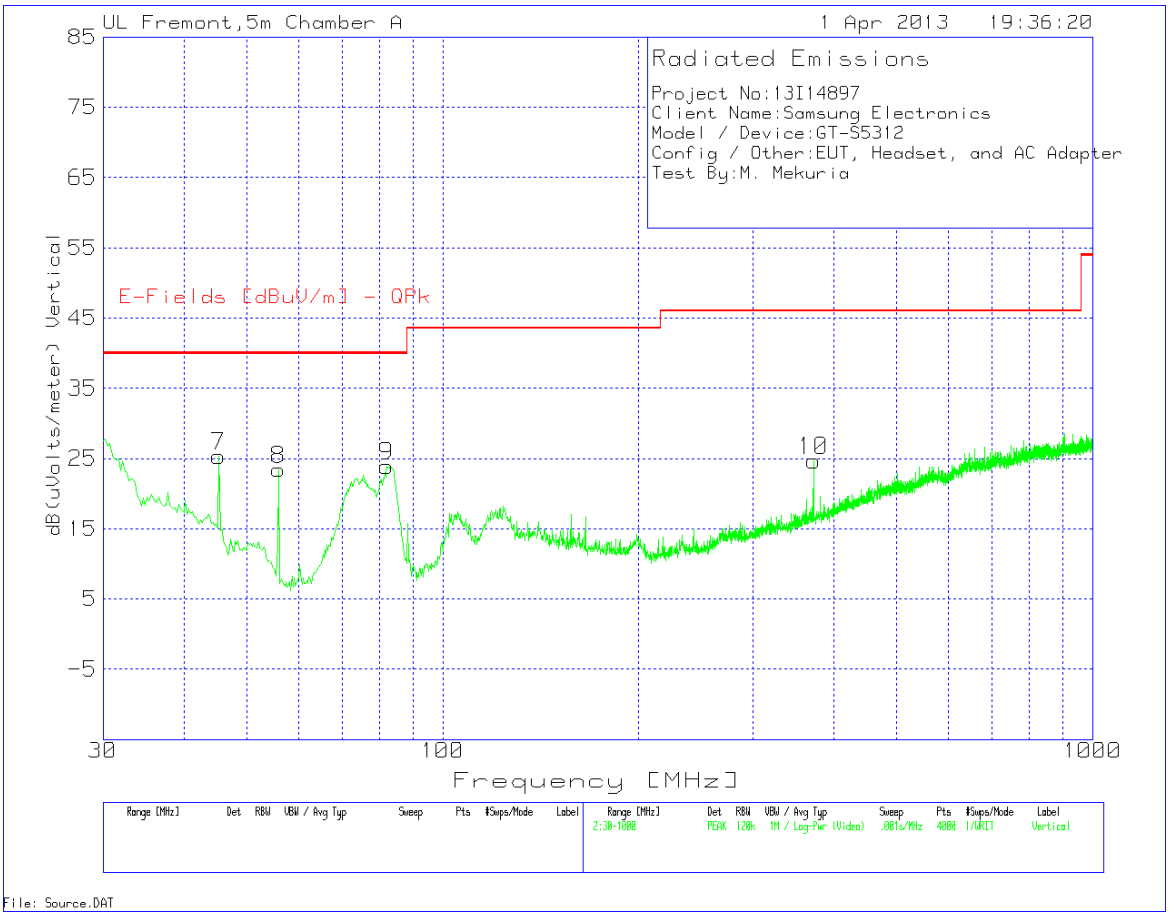
SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION, HORIZONTAL)

HORIZONTAL PLOT



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

VERTICAL PLOT



HORIZINTAL AND VERTICAL DATA

Project No:13I14897										
Client Name:Samsung Electronics										
Model / Device:GT-S5312										
Config / Other:EUT, Headset, and AC Adapter										
Test By:M. Mekuria										
Horizontal 30 - 1000MHz										
Marker No.	Test Frequency	Meter Reading	Detector	T130 Ant Factor [dB/m]	T64 preamp/cable loss [dB]	dB(uVolts/meter)	E-Fields [dBuV/m] - QPk	Margin (dB)	Height [cm]	Polarity
1	84.037	43.02	PK	7.2	-27.1	23.12	40	-16.88	201	Horz
2	120.1424	39.12	PK	13.7	-26.8	26.02	43.52	-17.5	201	Horz
3	171.9985	35.12	PK	11.7	-26.5	20.32	43.52	-23.2	201	Horz
4	179.7527	32.38	PK	11.3	-26.4	17.28	43.52	-26.24	201	Horz
5	205.6807	37.88	PK	10.8	-26.3	22.38	43.52	-21.14	201	Horz
6	231.6088	32.1	PK	11.2	-26.1	17.2	46.02	-28.82	101	Horz
Vertical 30 - 1000MHz										
Marker No.	Test Frequency	Meter Reading	Detector	T130 Ant Factor [dB/m]	T64 preamp/cable loss [dB]	dB(uVolts/meter)	E-Fields [dBuV/m] - QPk	Margin (dB)	Height [cm]	Polarity
7	45.2661	42.94	PK	9.9	-27.5	25.34	40	-14.66	201	Vert
8	55.9281	43.95	PK	6.9	-27.4	23.45	40	-16.55	201	Vert
9	82.0984	43.65	PK	7.3	-27.1	23.85	40	-16.15	100	Vert
10	371.9111	34.94	PK	15	-25.3	24.64	46.02	-21.38	100	Vert

9. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.2

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 C63.4.

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

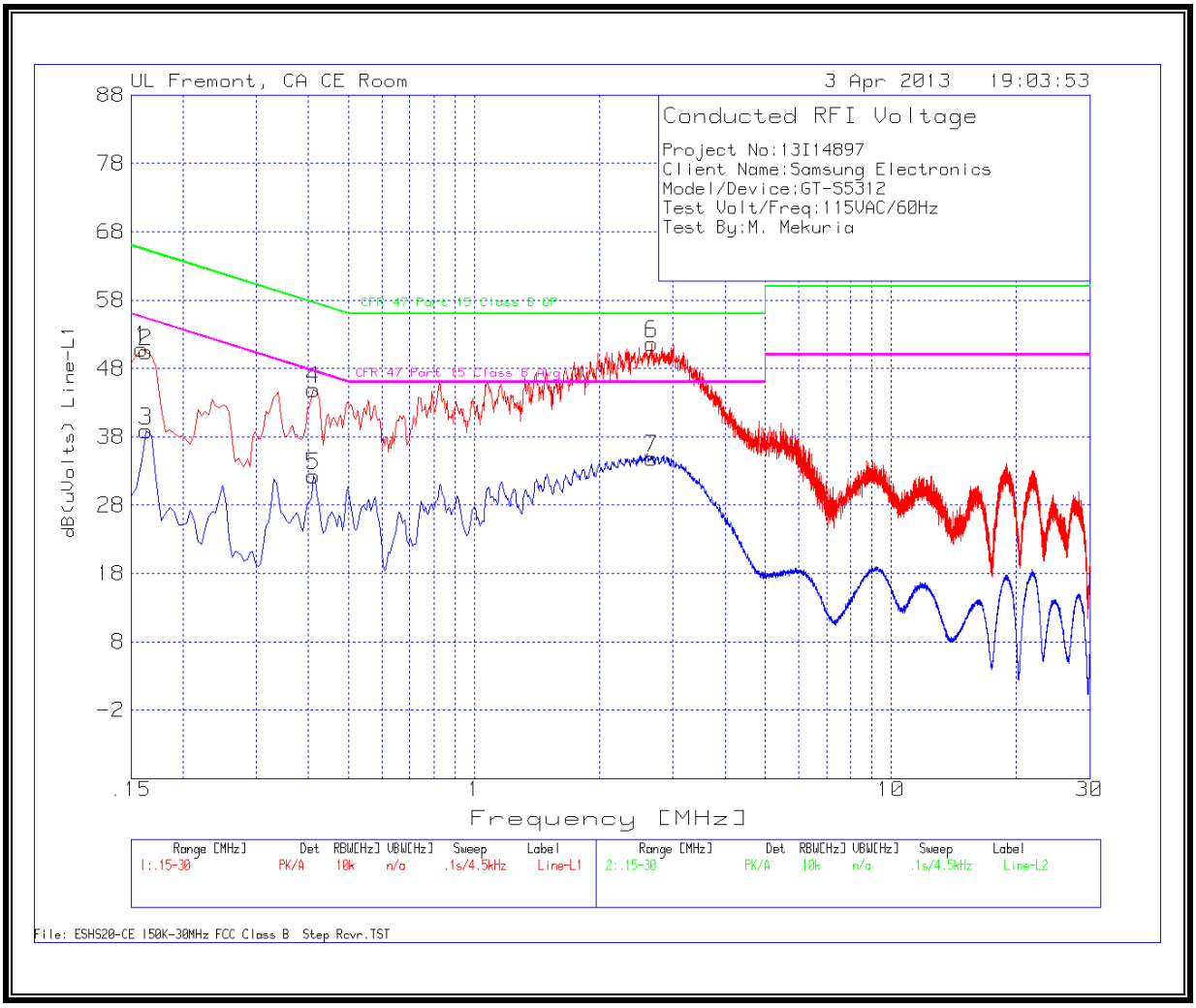
Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

6 WORST EMISSIONS

Project No:13I14897									
Client Name:Samsung Electronics									
Model/Device:GT-S5312									
Test Volt/Freq:115VAC/60Hz									
Test By:M. Mekuria									
Line-L1 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L1.TXT (dB)	LC Cables 1&3.TXT (dB)	dB(uVolts)	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B Avg	Margin
0.1635	50.32	PK	0.1	0	50.42	65.3	-14.88	-	-
0.1635	38.79	Av	0.1	0	38.89	-	-	55.3	-16.41
0.411	44.84	PK	0.1	0	44.94	57.6	-12.66	-	-
0.411	32.15	Av	0.1	0	32.25	-	-	47.6	-15.35
2.67	51.46	PK	0.1	0.1	51.66	56	-4.34	-	-
2.67	34.68	Av	0.1	0.1	34.88	-	-	46	-11.12
Line-L2 .15 - 30MHz									
Test Frequency	Meter Reading	Detector	T24 IL L2.TXT (dB)	LC Cables 2&3.TXT (dB)	dB(uVolts)	CFR 47 Part 15 Class B QP	Margin	CFR 47 Part 15 Class B Avg	Margin
0.3705	42.33	PK	0.1	0	42.43	58.5	-16.07	-	-
0.3705	28.52	Av	0.1	0	28.62	-	-	48.5	-19.88
1.3965	41.84	PK	0.1	0.1	42.04	56	-13.96	-	-
1.3965	24.53	Av	0.1	0.1	24.73	-	-	46	-21.27
2.238	45.98	PK	0.1	0.1	46.18	56	-9.82	-	-
2.238	27.7	Av	0.1	0.1	27.9	-	-	46	-18.1

LINE 1 RESULTS



LINE 2 RESULTS