MOBILE DEVICES BUSINESS

PRODUCT SAFETY AND COMPLIANCE
EMC LABORATORY

EMC TEST REPORT - Addendum

Test Report Number – 18242-1BT

Report Date – April 21, 2006

The test results contained herein relate only to the model(s) identified. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics.

As the responsible EMC Engineer, I hereby declare that the equipment tested as specified in this report conforms to the requirements indicated.

Signature: Name: Thanigaiselvan Palaniswami

Title: EMC Engineer Date: April 21, 2006

A2LA Certificate Number: 1651-01

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Test Report Details

Tests Performed By:	Motorola Mobile Devices Business Product Safety and Compliance Group 600 North US Hwy 45 Libertyville, IL 60048 Phone: 847- 523-6167 Fax: 847- 523-4538 Motorola MDB FRN: 0004321311 FCC Registration Number: 316588 Industry Canada Number: IC3908 Underwriters Laboratories, Inc. International EMC Services 333 Pfingsten Rd. Northbrook, IL 60062 Phone: 847-664-3957 Fax: 847-313-3957 NVLAP Lab Code: 100414-0
Tests Requested By:	Motorola Inc. Mobile Devices Business 600 North US Hwy 45 Libertyville, IL 60048
Product Type:	Cellular Phone
Signaling Capability:	CDMA 800, 1900 and Bluetooth
Model Number:	SJUG2023AA
Serial Numbers:	52744A05, 52744A10, 52744A0F, 52744A11,
Testing Complete Date:	April 21, 2006

Applicable Standards

All tests and measurements indicated in this document were performed in accordance with the Code of Federal Regulations Title 47 Part 2, Sub-part J as well as the following parts:

__X__Part 15 Subpart C – Intentional Radiators
_____Part 22 Subpart H - Public Mobile Services
_____Part 24 - Personal Communications Services
_____ Part 90 - Private Land Mobile Radio Service

Applicable Standards: TIA EIA 137-A, TIA EIA 98-C, ANSI 63.4 2001, RSS-118 (AMPS), RSS-128 (TDMA), RSS-129 (CDMA), RSS-133 (PCS)

DA 00-705, "Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems" published by the Federal Communications Commission was also used in the testing of this product.

Summary of Testing

Test	Test Name	Pass/Fail
1	Carrier Frequency Separation	Pass
2	Number of Hopping Frequencies	Pass
3	Time of Occupancy (Dwell Time)	Pass
4	20 dB Bandwidth	Pass
5	Spurious RF Conducted Emissions	Pass
6	Field Strength of Spurious Emissions	Pass
7	Max Power	N/A
8	Band Edges	Pass
9	Conducted Spurious Emissions	Pass

Test	Test Name	Results
1	Carrier Frequency Separation	1 MHz
2	Number of Hopping	79
3	Time of Occupancy (Dwell Time)	2.84 ms
4	20 dB Bandwidth	965 kHz
5	Spurious RF Conducted Emissions	See plots
6	Field Strength of Spurious Emissions	See plots
7	Max Power	-2.847 dBm
8	Band Edges	See plots
9	Conducted Spurious Emissions	See plots

General and Special Conditions

The Cellular Phone with the Model Number SJUG2023AA hereinafter referred to as the Equipment Under Test or EUT was tested using a fully charged battery when applicable. Where a battery could not be used due to the need for a controlled variation of input voltage, an external power supply was utilized.

All testing was done in an indoor controlled environment with an average temperature of 22º C and relative humidity of 50%.

Equipment and Cable Configurations

The EUT was tested in a stand-alone configuration that is representative of typical use.

Measuring Equipment and Calibration Information

Manufacturer	Equipment Type	Model No.	Serial Number	Cal. Due Date
Hewlett-Packard	EMC Analyzer	E7405A	US40240219	6/8/2006
Attenuator	Weinschel	AS-6	6677	11/10/2006
Attenuator	Weinschel	AS-3	6677	11/10/2006
Attenuator	Agilent	8491A	36904	9/19/2006
Rohde & Schwarz	Mobile Test Set	CMD 80	DE29008	N/A
Hewlett Packard	QP Adapter	85650A	2811A01069	1/03/07
Hewlett Packard	S/A Display	8566B	2542A12974	1/03/07
Hewlett Packard	S/A	8566B	2637A03376	1/03/07
Rhode & Schwartz	S/A	FSEK	DE25315	1/04/07
Chase	Bi-Con Antenna 30-300MHz	VBA6106A	1246	7/22/06
Chase	Log-Periodic Antenna	UPA6108	1120	8/02/06
EMCO	Horn Antenna 1-18GHz	3115	2638	7/29/06
EMCO	Horn Antenna 1-18GHz	3115	6546	10/18/06
Emco	Horn Antenna 2-4GHz	3161-02	9906-1052	N/A
Emco	Horn Antenna 4-8GHz	3161-03	9905-1041	N/A
Emco	Horn Antenna 8-12GHz	3160-07	9902-1114	N/A
Emco	Horn Antenna 12-18GHz	3160-08	9904-1100	N/A
Emco	Horn Antenna 18-26.5GHz	3160-09	990345-003	N/A

All equipment is on a one-year calibration cycle.

Description of Bluetooth Transmitter

The EUT offers Bluetooth as a feature. The Bluetooth spread-spectrum, frequency hopping transceiver is designed to operate between 2400 and 2483.5 MHz. The Bluetooth antenna is mounted on the PCB inside of the EUT. The antenna installation is permanent. For a more thorough description of the functionality please refer to Exhibit 12 of this package.

As a Bluetooth transmitter, it is designed operate with other Bluetooth devices as defined by industrial standard. In this application, the device is battery-operated.

The Bluetooth antenna gain is 0.9 dBi.

Measurement Procedures and Data

CARRIER FREQUENCY SEPARATION

CFR 47 Part 15.247

Measurement Procedure

The RF output port of the Equipment Under Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

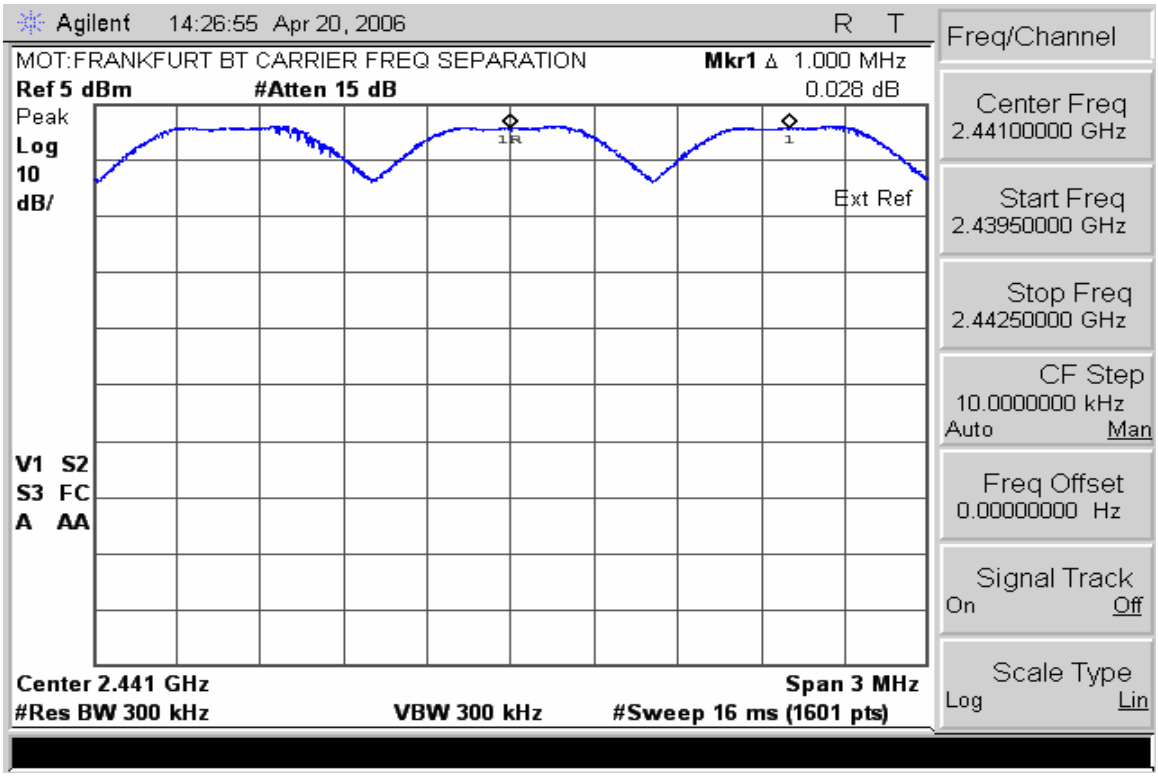
The Bluetooth transmitter of the EUT had its hopping function enabled. The following spectrum analyzer settings were used:

1. Span = wide enough to capture the peaks of two adjacent channels
2. Resolution (or IF) Bandwidth (RBW) ≥ 1% of the span
3. Video (or Average) Bandwidth (VBW) ≥ RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize. The marker-delta function was used to determine the separation between the peaks of the adjacent channels.

Measurement Results

See attached.



Carrier Frequency Separation

NUMBER OF HOPPING FREQUENCIES

CFR 47 Part 15.247

Measurement Procedure

The RF output port of the Equipment Under Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

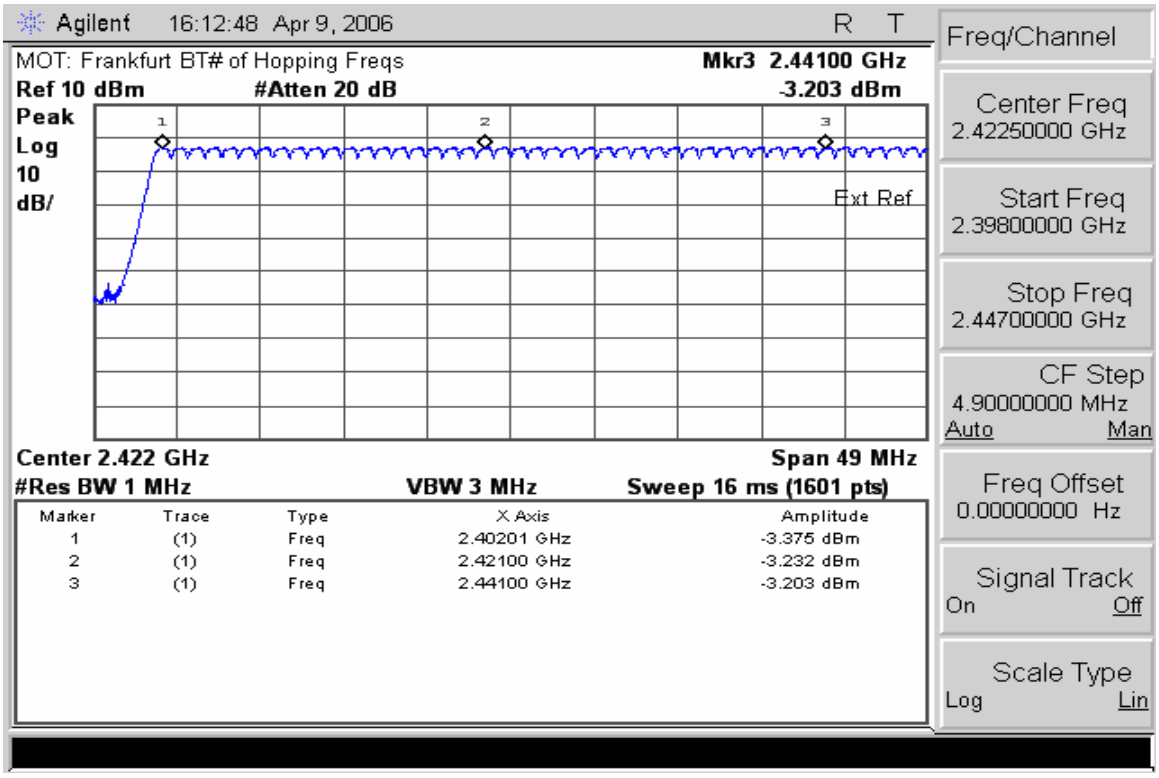
The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

1. Span = the frequency band of operation
2. RBW ≥ 1% of the span
3. VBW ≥ RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

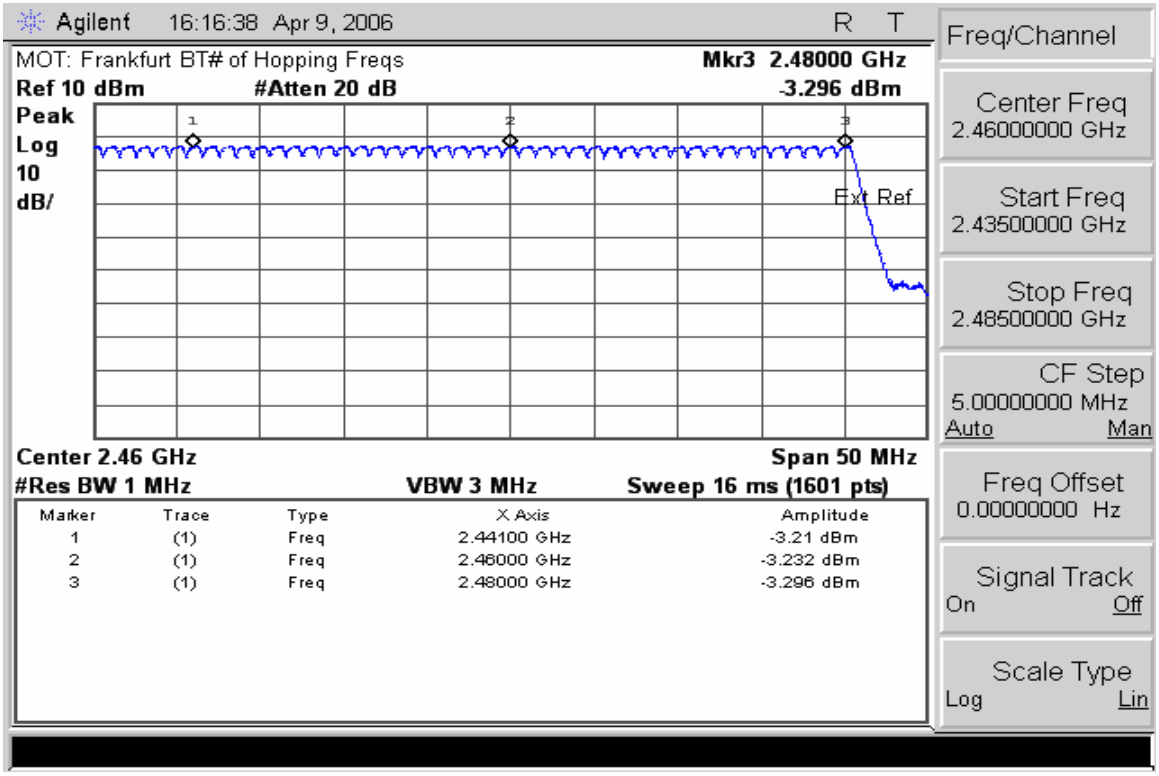
The trace was allowed to stabilize.

Measurement Results

See attached.



Number of Hopping Frequencies (Channels 0 – 39)



Number of Hopping Frequencies (Channels 39 – 78)

TIME OF OCCUPANCY (DWELL TIME)

CFR47 Part 15.247

Measurement Procedure

The RF output port of the Equipment Under Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

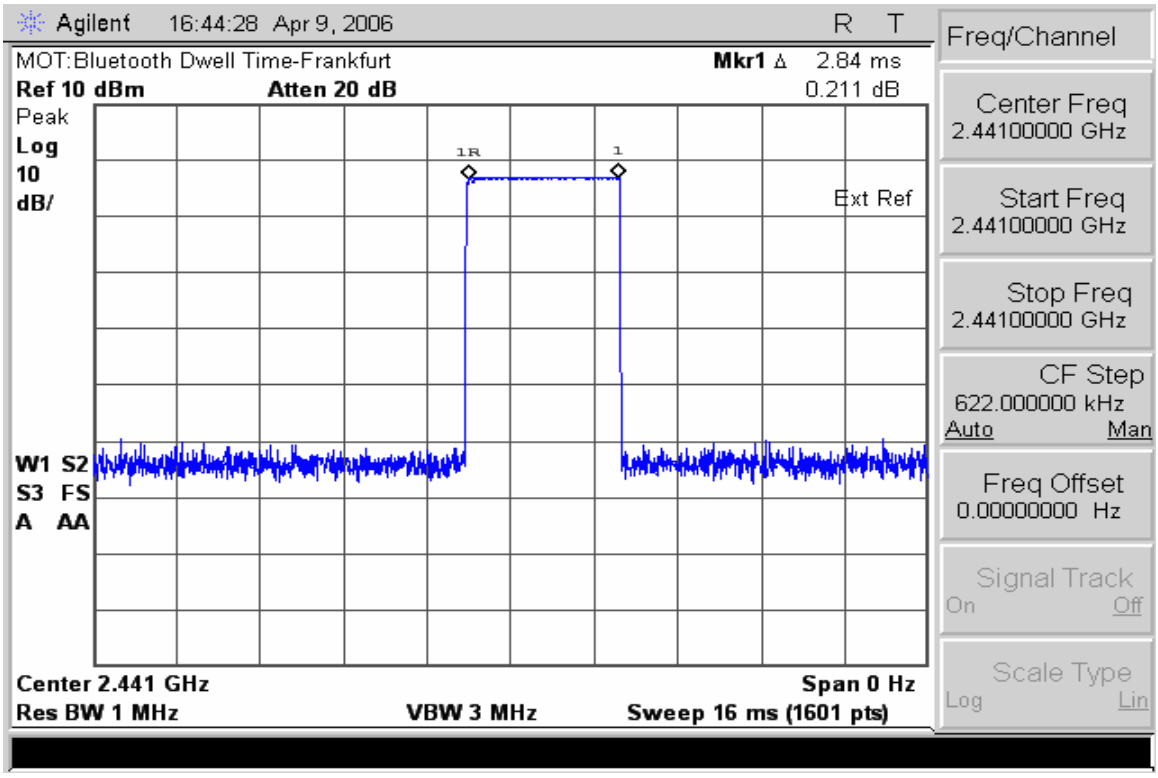
The Bluetooth hopping function of the EUT was enabled. The following spectrum analyzer settings were used:

1. Span = zero span, centered on a hopping channel
2. RBW = 1 MHz
3. VBW ≥ RBW
4. Sweep = as necessary to capture the entire dwell time per hopping channel
5. Detector function = peak
6. Trace = max hold

The marker-delta function was used to determine the dwell time.

Measurement Results

See attached


Agilent 16:44:28 Apr 9, 2006
R T
MOT:Bluetooth Dwell Time-Frankfurt
Mkr1 Δ 2.84 ms
0.211 dB
Ref 10 dBm
Atten 20 dB
Peak
Log
10
dB/
1R
1
Ext Ref
W1 S2
S3 FS
A AA
Center 2.441 GHz
Res BW 1 MHz
VBW 3 MHz
Span 0 Hz
Sweep 16 ms (1601 pts)
Freq/Channel
Center Freq
2.44100000 GHz
Start Freq
2.44100000 GHz
Stop Freq
2.44100000 GHz
CF Step
622.000000 kHz
Auto Man
Freq Offset
0.00000000 Hz
Signal Track
On Off
Scale Type
Log Lin

Dwell Time

20dB Bandwidth

CFR 47 Part 15.247

Measurement Procedure

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

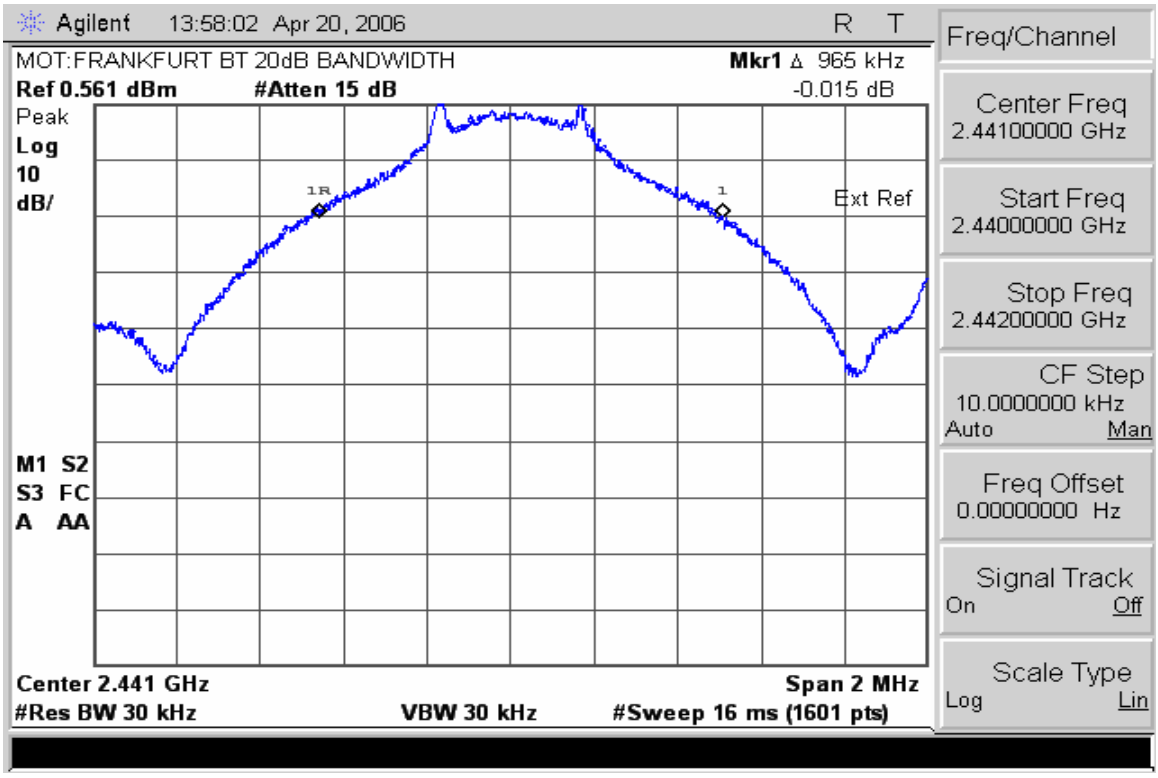
The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

1. Span = approx. 2 to 3 times the 20dB bandwidth, centered on a hopping frequency
2. RBW ≥ 1% of the 20dB span
3. VBW ≥ RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

The trace was allowed to stabilize. The EUT was transmitting at its maximum data rate. The marker-to-peak function was used to set the marker to the peak of the emission. The marker-delta function was used to measure 20dB down one side of the emission. The marker-delta function and marker was moved to the other side of the emission until it was even with the reference marker. The marker-delta reading at this point was the 20dB bandwidth of the emission.

Measurement Results

See attached



20dB Bandwidth

FIELD STRENGTH OF SPURIOUS EMISSIONS

CFR Part 2.1053, 15.247

Measurement Procedure

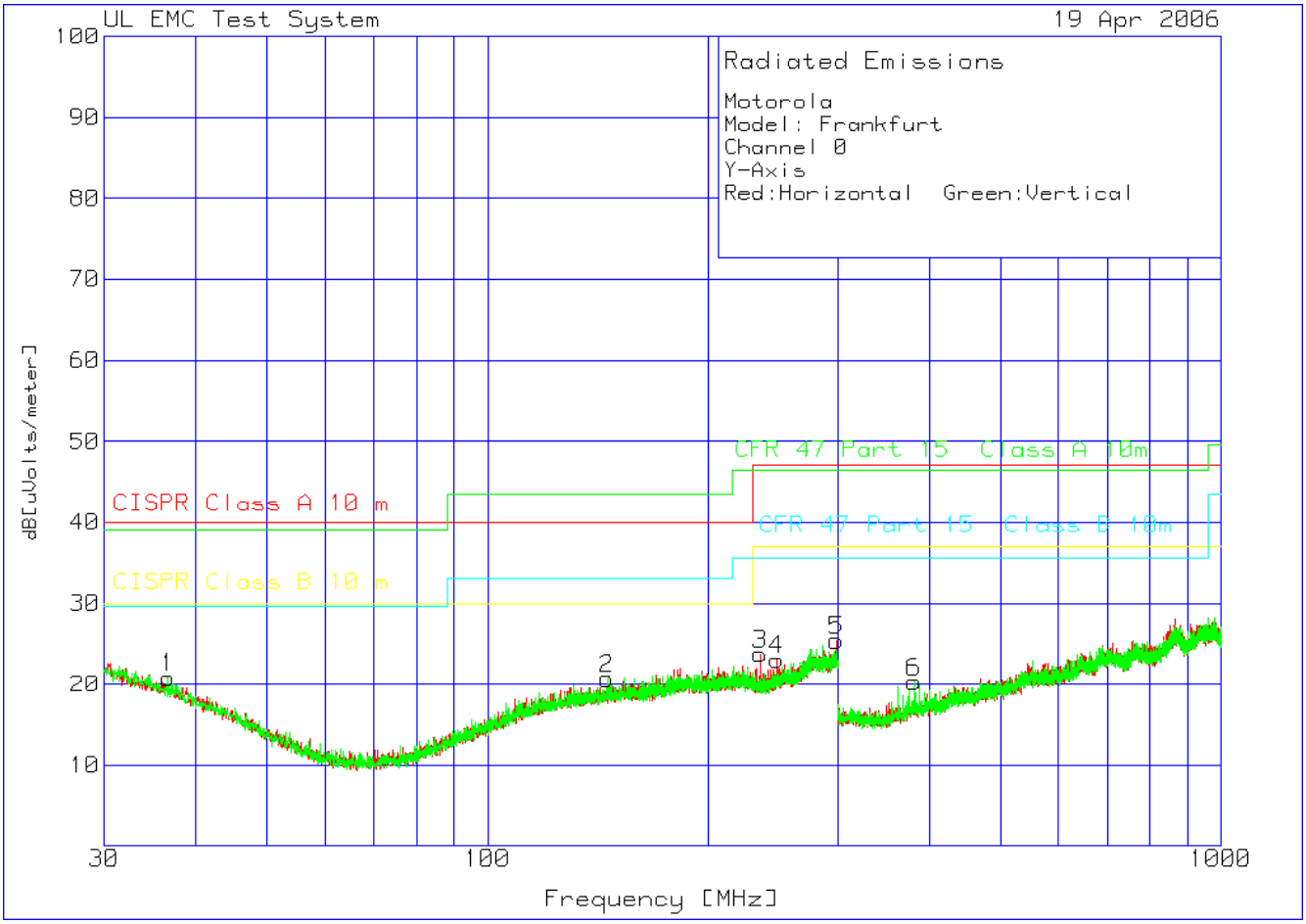
The Equipment-Under-Test is placed inside the semi-anechoic chamber on a wooden table at the turntable center. For each spurious frequency, the antenna mast is raised and lowered from 1 to 4 meters and the turntable is rotated 360 degrees to obtain a maximum reading on the spectrum analyzer. This is repeated for both horizontal and vertical polarizations of the receive antenna.

Field Strength (dBuV/m) = EMI Receiver Level (dBuV) + Cable Loss (dB) - Amplifier Gain (dB) + Antenna Correction Factor (1/m)

A fully charged battery was used for the supply voltage.

Measurement Results

See attached



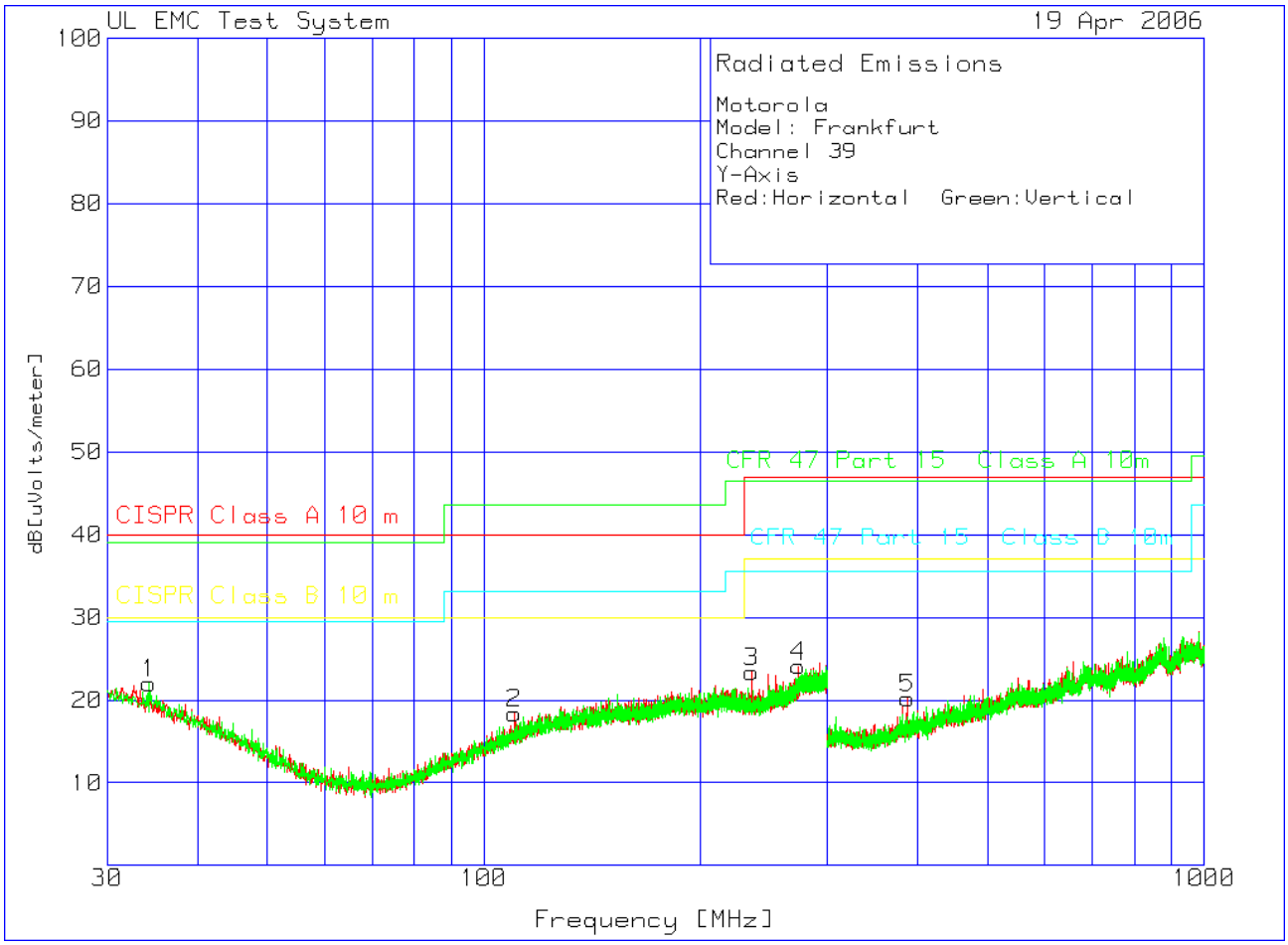
30-1000 MHz Low Channel Dual Polarization Y

Channel 0
Y-Axis
Red:Horizontal Green:Vertical

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:	1	2	3	4		
Range 1 30 - 300MHz												
3	235.1811	38.3 pk	-30.1	15.5	23.7		47	37	46.4	35.6	Azimuth:268	Height: 100 Horz
						Margin [dB]:	-23.3	-13.3	-22.7	-11.9		
4	247.9965	37 pk	-29.9	15.9	23		47	37	46.4	35.6	Azimuth:212	Height: 199 Horz
						Margin [dB]:	-24	-14	-23.4	-12.6		
5	298.9208	36.8 pk	-29.8	18.4	25.4		47	37	46.4	35.6	Azimuth:324	Height: 100 Horz
						Margin [dB]:	-21.6	-11.6	-21	-10.2		
Range 2 30 - 300MHz												
1	36.6775	35.9 pk	-30.7	15.6	20.8		40	30	39.1	29.6	Azimuth:189	Height: 100 Vert
						Margin [dB]:	-19.2	-9.2	-18.3	-8.8		
2	145.5408	36.6 pk	-30.5	14.6	20.7		40	30	43.5	33.1	Azimuth:234	Height: 300 Vert
						Margin [dB]:	-19.3	-9.3	-22.8	-12.4		
Range 4 300 - 1000MHz												
6	381.314	37.5 pk	-32.8	15.6	20.3		47	37	46.4	35.6	Azimuth:290	Height: 299 Vert
						Margin [dB]:	-26.7	-16.7	-26.1	-15.3		

LIMIT 1: CISPR Class A 10 m
LIMIT 2: CISPR Class B 10 m
LIMIT 3: CFR 47 Part 15 Class A 10m
LIMIT 4: CFR 47 Part 15 Class B 10m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - denotes average log detection
ave - denotes average detection
tm - Trace Math Result



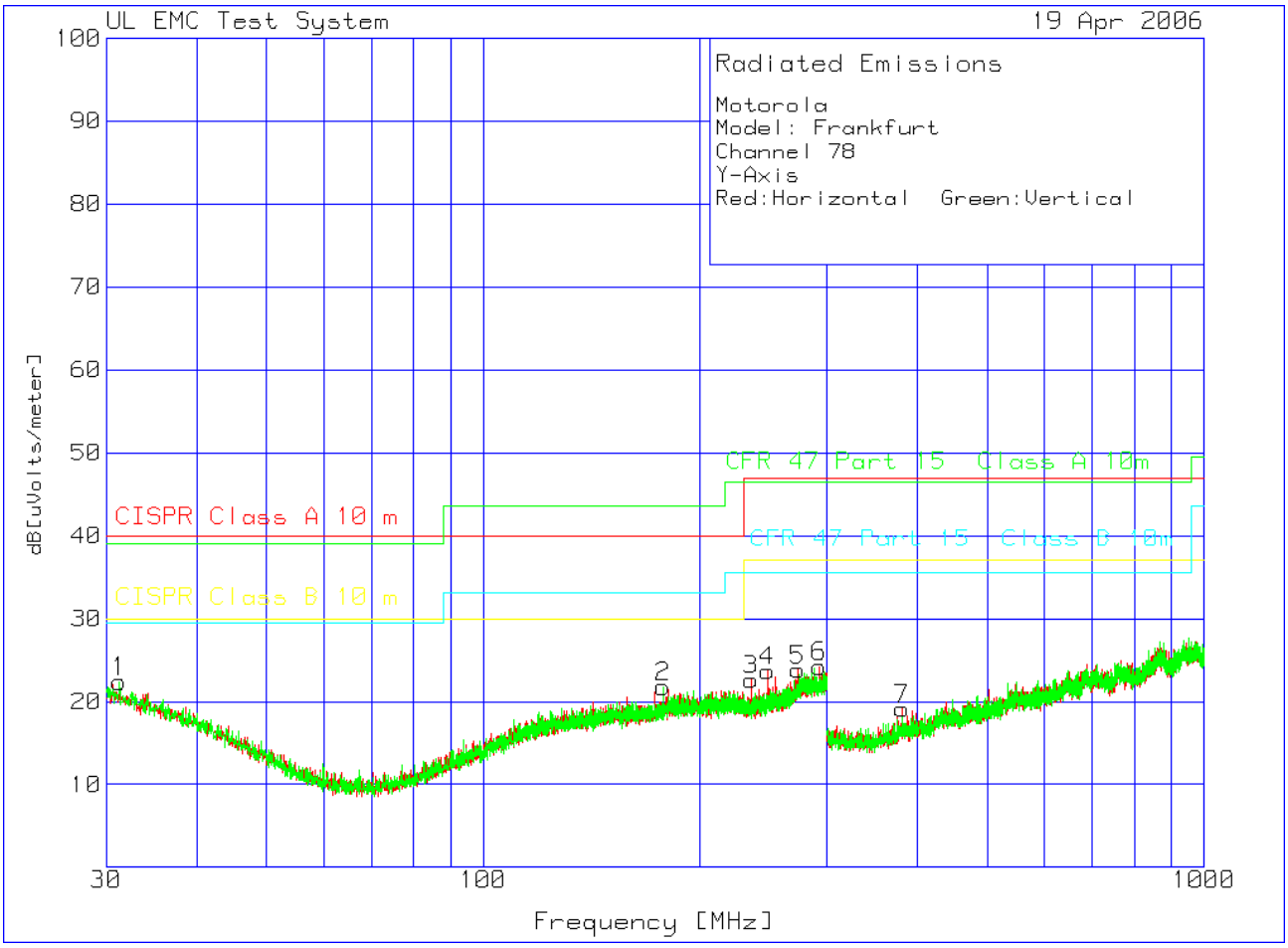
30 -1000 MHz Mid Channel Dual Polarization Y

Channel 39
Y-Axis
Red:Horizontal Green:Vertical

	Test	Meter	Gain/Loss	Transducer	Level	Limit:	1	2	3	4		
No.	Frequency	Reading	Factor	Factor	dB[uVolts/meter]							
	[MHz]	[dB(uV)]	[dB]	[dB]								
Range 1 30 - 300MHz												
2	110.1299	36.6 pk	-30.4	12.2	18.4		40	30	43.5	33.1	Azimuth:302	Height:100 Horz
						Margin [dB]:	-21.6	-11.6	-25.1	-14.7		
3	235.1811	38 pk	-30.1	15.5	23.4		47	37	46.4	35.6	Azimuth:335	Height:100 Horz
						Margin [dB]:	-23.6	-13.6	-23	-12.2		
4	273.4923	36.3 pk	-29.7	17.5	24.1		47	37	46.4	35.6	Azimuth:279	Height:100 Horz
						Margin [dB]:	-22.9	-12.9	-22.3	-11.5		
Range 2 30 - 300MHz												
1	34.3168	36.3 pk	-30.8	16.5	22		40	30	39.1	29.6	Azimuth:144	Height:100 Vert
						Margin [dB]:	-18	-8	-17.1	-7.6		
Range 3 300 - 1000MHz												
5	387.7841	37.4 pk	-32.8	15.6	20.2		47	37	46.4	35.6	Azimuth:98	Height:100 Horz
						Margin [dB]:	-26.8	-16.8	-26.2	-15.4		

LIMIT 1: CISPR Class A 10 m
LIMIT 2: CISPR Class B 10 m
LIMIT 3: CFR 47 Part 15 Class A 10m
LIMIT 4: CFR 47 Part 15 Class B 10m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - denotes average log detection
ave - denotes average detection
tm - Trace Math Result

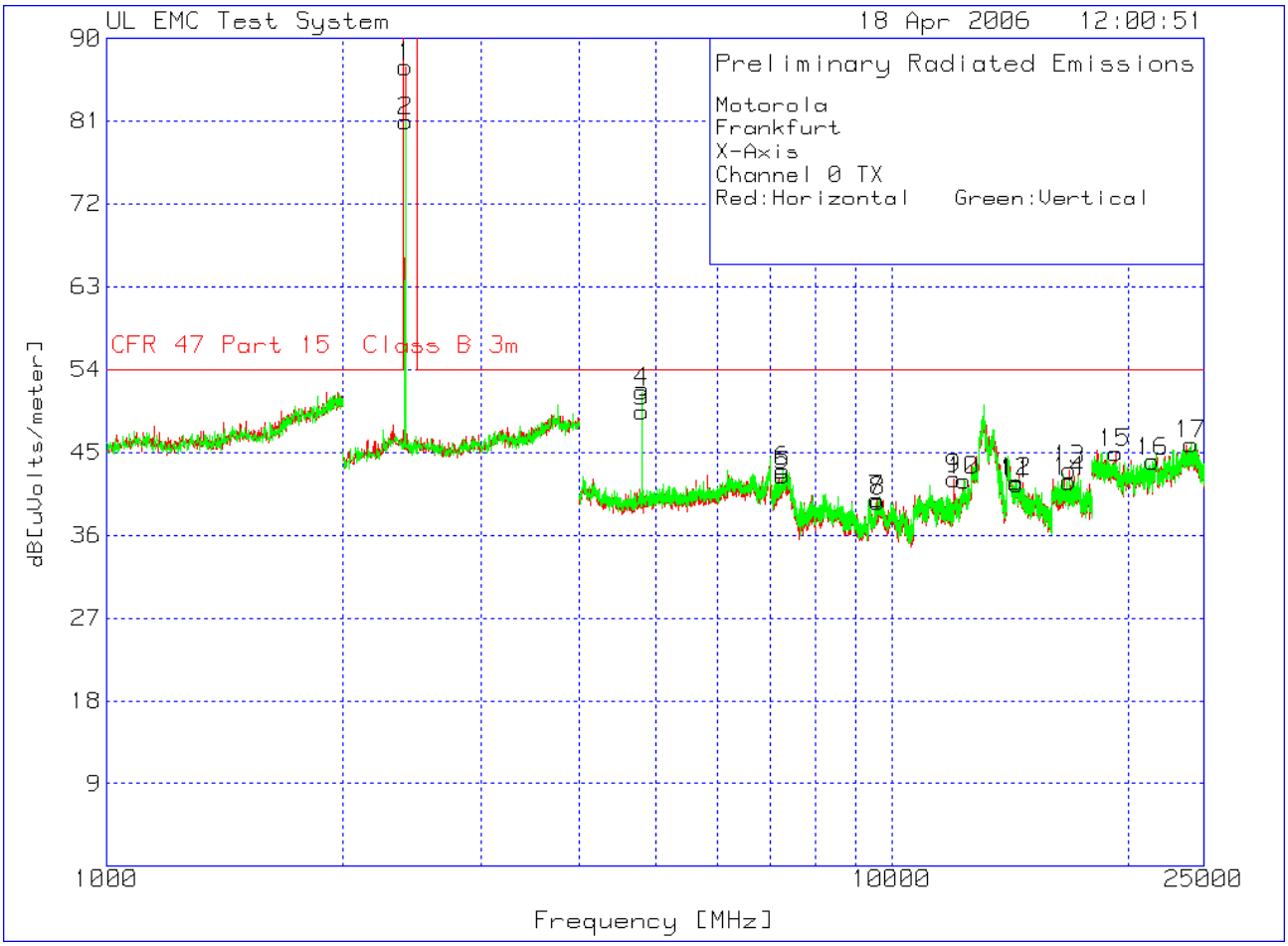


30 -1000 MHz High Channel Dual Polarization Y

Channel 78
Y-Axis
Red:Horizontal Green:Vertical

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:	1	2	3	4		
Range 1 30 - 300MHz												
3	235.1811	37.2 pk	-30.1	15.5	22.6		47	37	46.4	35.6	Azimuth:324	Height:100 Horz
						Margin [dB]	-24.4	-14.4	-23.8	-13		
4	247.9965	37.7 pk	-29.9	15.9	23.7		47	37	46.4	35.6	Azimuth:88	Height:100 Horz
						Margin [dB	-23.3	-13.3	-22.7	-11.9		
5	273.4249	36 pk	-29.7	17.5	23.8		47	37	46.4	35.6	Azimuth:245	Height:100 Horz
						Margin [dB]	-23.2	-13.2	-22.6	-11.8		
6	292.5131	35.9 pk	-29.8	18.1	24.2		47	37	46.4	35.6	Azimuth:144	Height:100 Horz
						Margin [dB]	-22.8	-12.8	-22.2	-11.4		
Range 2 30 - 300MHz												
1	31.2815	35.6 pk	-30.7	17.5	22.4		40	30	39.1	29.6	Azimuth:156	Height:100 Vert
						Margin [dB]	-17.6	-7.6	-16.7	-7.2		
2	177.5118	36.6 pk	-30.3	15.5	21.8		40	30	43.5	33.1	Azimuth:304	Height:100 Vert
						Margin [dB]	-18.2	-8.2	-21.7	-11.3		
Range 3 300 - 1000MHz												
7	381.4889	36.3 pk	-32.8	15.6	19.1		47	37	46.4	35.6	Azimuth:87	Height:100 Horz
						Margin [dB]	-27.9	-17.9	-27.3	-16.5		

LIMIT 1: CISPR Class A 10 m
LIMIT 2: CISPR Class B 10 m
LIMIT 3: CFR 47 Part 15 Class A 10m
LIMIT 4: CFR 47 Part 15 Class B 10m
LIMIT 5: NONE
LIMIT 6: NONE



1-25 GHz Low Channel Dual Polarization X

Motorola
X-Axis
Channel 0 TX
Red:Horizontal Green:Vertical

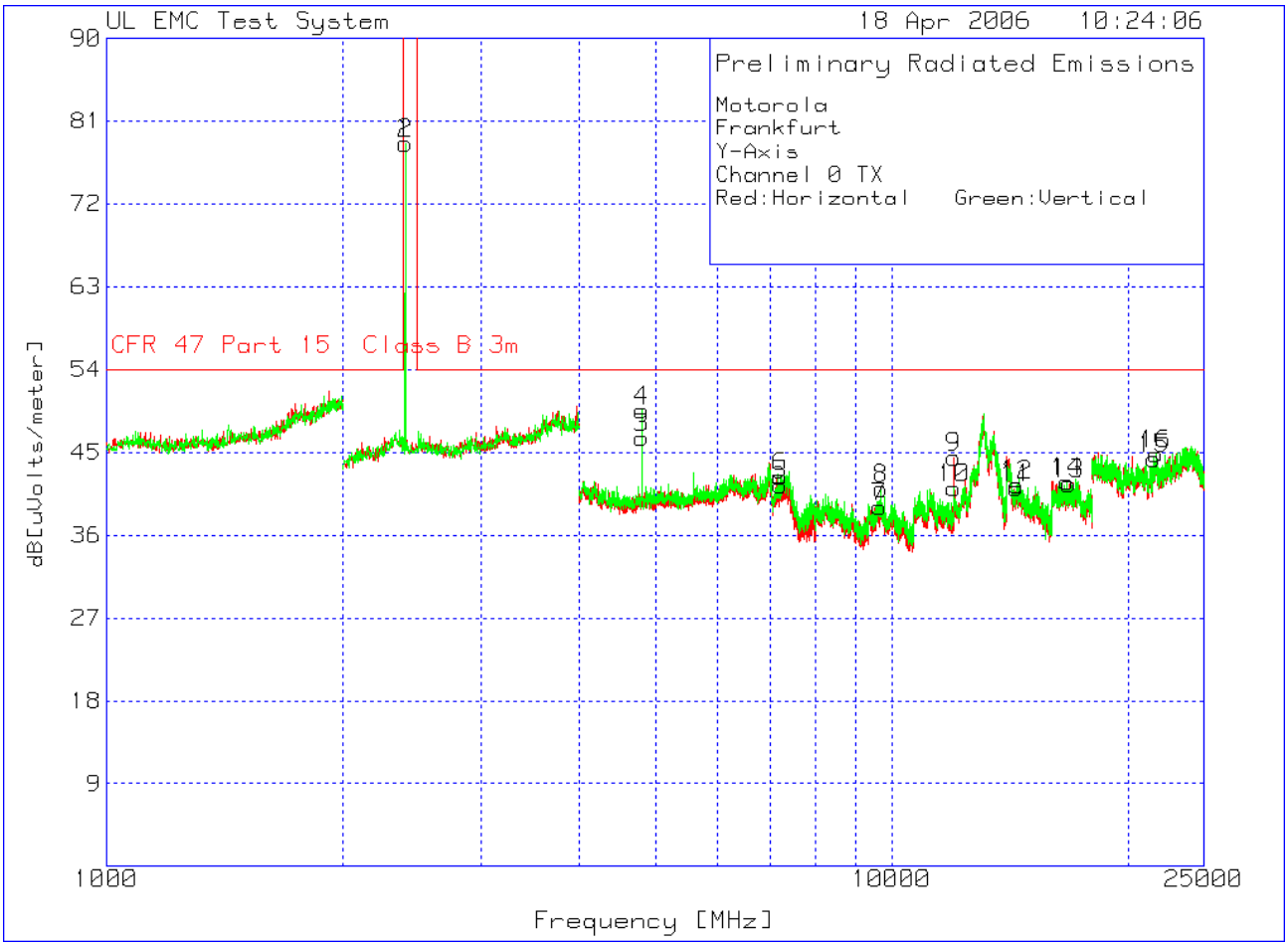
Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dBuV/meter]	Limit 1	Margin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2400.802	60.69	pk	4.4	21.8	86.89	999	-912.11	100	Horz
4 - 8GHz 4000 - 8000MHz										
3	4803.202	72.32	pk	-50.6	27.7	49.42	54	-4.58	99	Horz
5	7258.172	58.66	pk	-46.3	30.1	42.46	54	-11.54	99	Horz
8 - 12GHz 8000 - 12000MHz										
7	9590.394	52.79	pk	-49.3	36.4	39.89	54	-14.11	99	Horz
12 - 18GHz 12000 - 18000MHz										
9	12008.005	48.16	pk	-45.4	39.4	42.16	54	-11.84	150	Horz
11	14429.62	42.77	pk	-41	39.8	41.57	54	-12.43	150	Horz
13	16855.237	43.58	pk	-40.7	40.2	43.08	54	-10.92	150	Horz
18-26.5GHz 18000 - 25000MHz										
15	19274.637	73.32	pk	-68.7	40.3	44.92	54	-9.08	150	Horz
2 - 4GHz 2000 - 4000MHz										
2	2400.802	54.79	pk	4.4	21.8	80.99	999	-918.01	150	Vert
4 - 8GHz 4000 - 8000MHz										
4	4803.202	74.48	pk	-50.6	27.7	51.58	54	-2.42	99	Vert
6	7266.177	59.09	pk	-46.3	30.2	42.99	54	-11.01	99	Vert
8 - 12GHz 8000 - 12000MHz										
8	9601.067	52.4	pk	-49.1	36.4	39.7	54	-14.3	99	Vert
12 - 18GHz 12000 - 18000MHz										
10	12364.243	46.8	pk	-44.3	39.4	41.9	54	-12.1	150	Vert
12	14401.601	43.32	pk	-41.3	39.8	41.82	54	-12.18	99	Vert
14	16839.226	42.45	pk	-40.8	40.2	41.85	54	-12.15	150	Vert
18-26.5GHz 18000 - 25000MHz										
16	21505.253	65.52	pk	-61.8	40.3	44.02	54	-9.98	150	Vert
17	24058.029	64.3	pk	-58.7	40.3	45.9	54	-8.1	150	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector

X-Axis
Channel 00 TX
Red:Horizontal Green:Vertical

Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Azimuth [degs]	Height [cm]	Polarity
4 - 8GHz 4000 - 8000MHz Z-Axis										
4804.216	72.86	av	-50.6	27.7	49.96	54	-4.04	69	102	Horz
4 - 8GHz 4000 - 8000MHz X-Axis										
4804.184	69.98	av	-50.6	27.7	47.08	54	-6.92	91	116	Vert



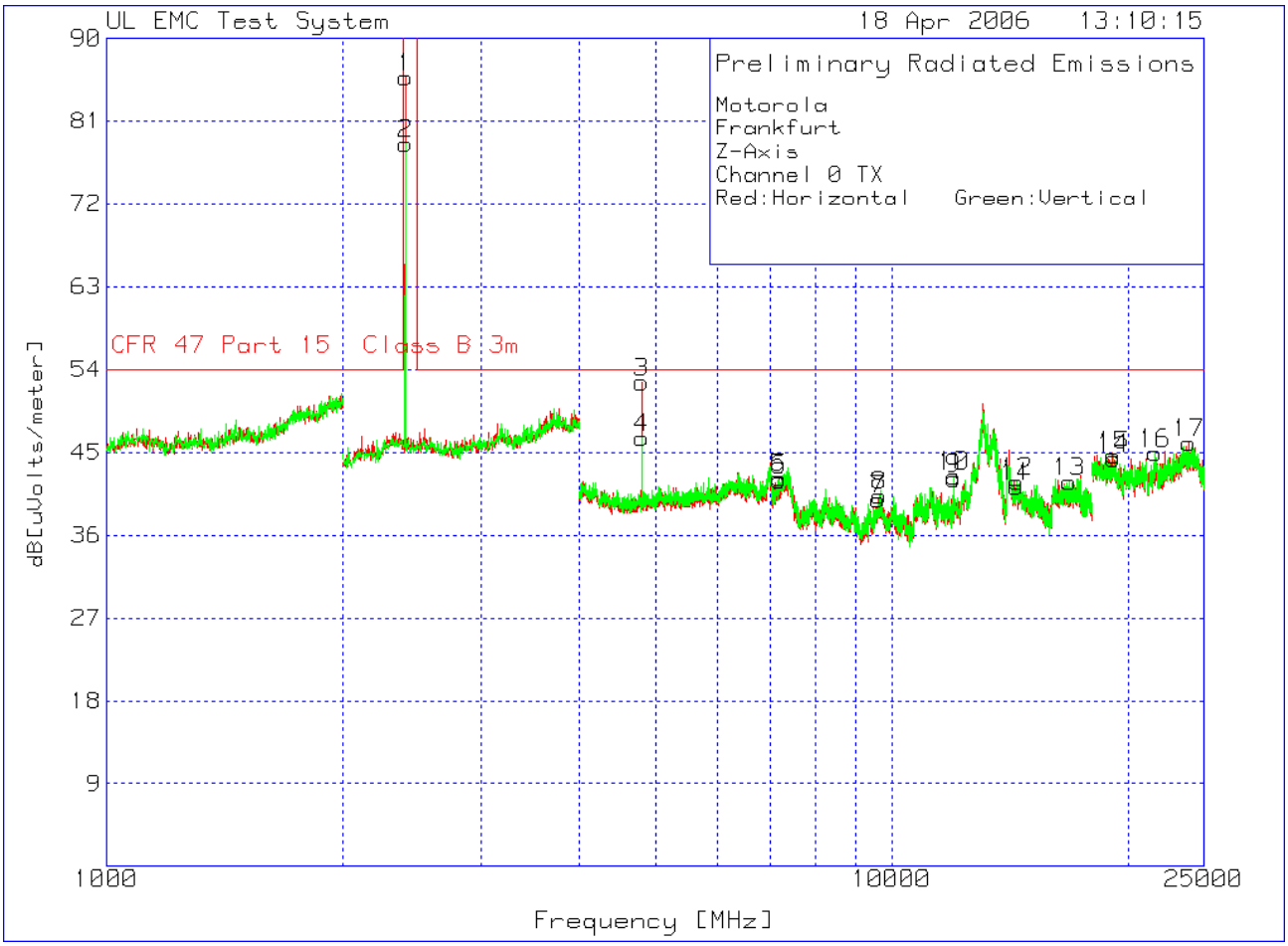
1-25 GHz Low Channel Dual Polarization Y

Y-Axis
Channel 0 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2400.802	52.38	pk	4.4	21.8	78.58	999	-920.42	150	Horz
4 - 8GHz 4000 - 8000MHz										
3	4803.202	69.5	pk	-50.6	27.7	46.6	54	-7.4	99	Horz
5	7215.477	58.47	pk	-46.8	29.8	41.47	54	-12.53	99	Horz
8 - 12GHz 8000 - 12000MHz										
7	9659.773	51.18	pk	-48.5	36.4	39.08	54	-14.92	150	Horz
12 - 18GHz 12000 - 18000MHz										
9	12008.005	50.44	pk	-45.4	39.4	44.44	54	-9.56	150	Horz
11	14413.609	42.44	pk	-41.1	39.8	41.14	54	-12.86	150	Horz
13	16819.213	42.7	pk	-41.2	40.1	41.6	54	-12.4	100	Horz
18-26.5GHz 18000 - 25000MHz										
15	21585.793	65.71	pk	-61.7	40.3	44.31	54	-9.69	150	Horz
2 - 4GHz 2000 - 4000MHz										
2	2400.802	52.4	pk	4.4	21.8	78.6	999	-920.4	150	Vert
4 - 8GHz 4000 - 8000MHz										
4	4803.202	72.44	pk	-50.6	27.7	49.54	54	-4.46	99	Vert
6	7223.482	59.13	pk	-46.7	29.9	42.33	54	-11.67	99	Vert
8 - 12GHz 8000 - 12000MHz										
8	9705.137	53.13	pk	-48.5	36.4	41.03	54	-12.97	150	Vert
12 - 18GHz 12000 - 18000MHz										
10	12008.005	47.12	pk	-45.4	39.4	41.12	54	-12.88	99	Vert
12	14433.622	42.56	pk	-40.9	39.8	41.46	54	-12.54	99	Vert
14	16723.149	42.72	pk	-40.9	40	41.82	54	-12.18	99	Vert
18-26.5GHz 18000 - 25000MHz										
16	21697.849	65.62	pk	-61.2	40.4	44.82	54	-9.18	150	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



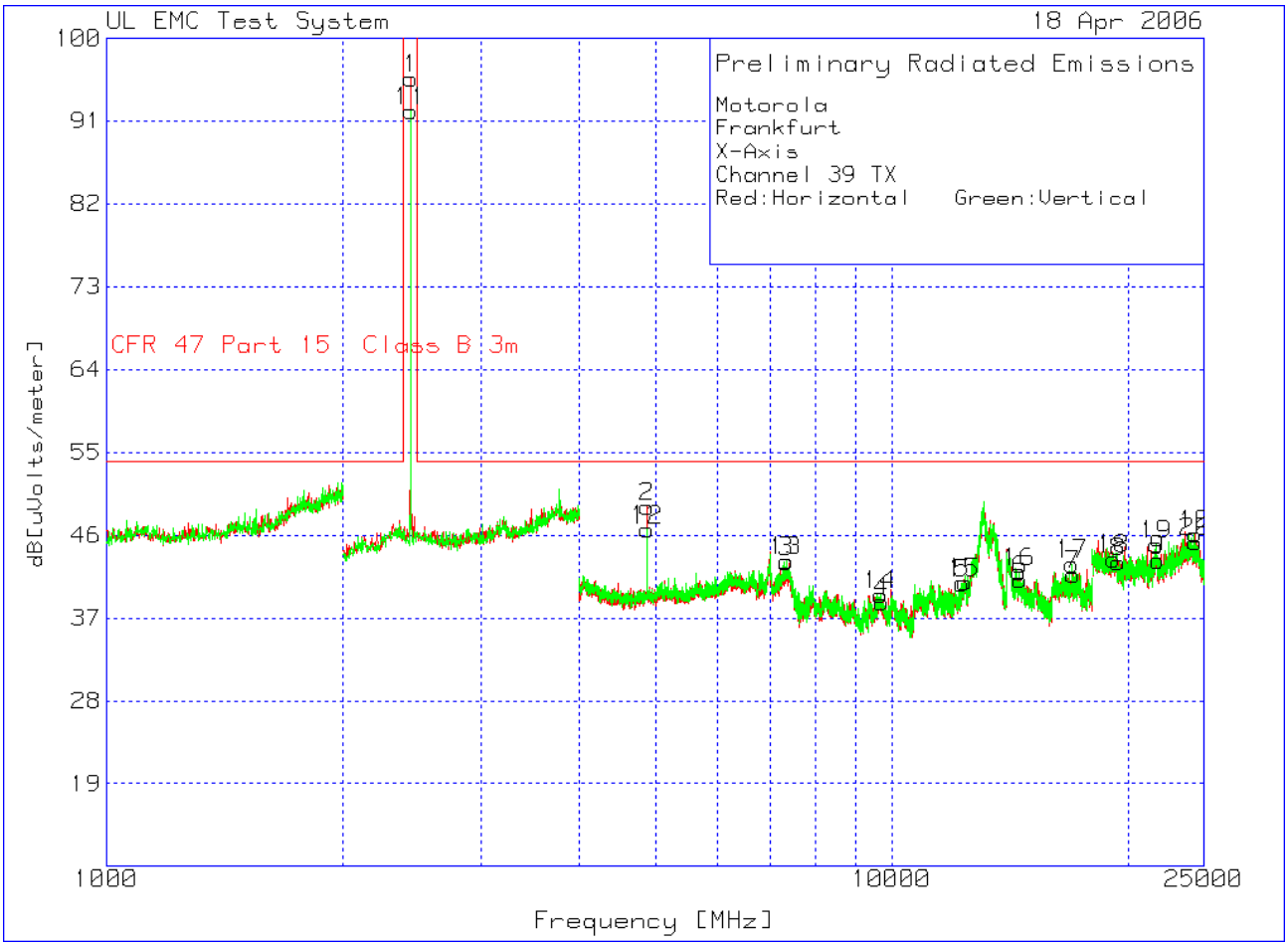
1-25 GHz Low Channel Dual Polarization Z

Z-Axis
Channel 0 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2400.802	59.56	pk	4.4	21.8	85.76	999	-913.24	99	Horz
4 - 8GHz 4000 - 8000MHz										
3	4803.202	75.52	pk	-50.6	27.7	52.62	54	-1.38	99	Horz
5	7196.798	59.48	pk	-47	29.7	42.18	54	-11.82	99	Horz
8 - 12GHz 8000 - 12000MHz										
7	9609.073	52.48	pk	-49	36.4	39.88	54	-14.12	149	Horz
12 - 18GHz 12000 - 18000MHz										
9	12008.005	48.15	pk	-45.4	39.4	42.15	54	-11.85	150	Horz
11	14417.612	42.55	pk	-41.1	39.8	41.25	54	-12.75	150	Horz
18-26.5GHz 18000 - 25000MHz										
14	19173.087	72.51	pk	-68.5	40.3	44.31	54	-9.69	150	Horz
17	23928.464	63.93	pk	-58.2	40.3	46.03	54	-7.97	99	Horz
2 - 4GHz 2000 - 4000MHz										
2	2400.802	52.34	pk	4.4	21.8	78.54	999	-920.46	149	Vert
4 - 8GHz 4000 - 8000MHz										
4	4803.202	69.44	pk	-50.6	27.7	46.54	54	-7.46	150	Vert
6	7196.798	59.28	pk	-47	29.7	41.98	54	-12.02	99	Vert
8 - 12GHz 8000 - 12000MHz										
8	9649.099	52.38	pk	-48.5	36.4	40.28	54	-13.72	99	Vert
12 - 18GHz 12000 - 18000MHz										
10	12008.005	48.4	pk	-45.4	39.4	42.4	54	-11.6	150	Vert
12	14445.63	42.8	pk	-40.8	39.8	41.8	54	-12.2	150	Vert
13	16847.231	42.27	pk	-40.7	40.2	41.77	54	-12.23	150	Vert
18-26.5GHz 18000 - 25000MHz										
15	19180.09	72.84	pk	-68.5	40.3	44.64	54	-9.36	99	Vert
16	21655.828	65.8	pk	-61.3	40.4	44.9	54	-9.1	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



1-25 GHz Mid Channel Dual Polarization X

X-Axis
Channel 39 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2440.882	69.49	pk	4.2	21.9	95.59	999	-903.41	150	Horz
4 - 8GHz 4000 - 8000MHz										
2	4880.587	71.89	pk	-50.5	27.7	49.09	54	-4.91	99	Horz
3	7335.557	58.71	pk	-46.3	30.7	43.11	54	-10.89	149	Horz
8 - 12GHz 8000 - 12000MHz										
4	9721.147	51.16	pk	-48.8	36.4	38.76	54	-15.24	150	Horz
12 - 18GHz 12000 - 18000MHz										
5	12296.197	45.58	pk	-44.2	39.4	40.78	54	-13.22	99	Horz
6	14577.718	41.43	pk	-40.1	39.8	41.13	54	-12.87	99	Horz
7	17035.357	42.67	pk	-41.4	40.4	41.67	54	-12.33	150	Horz
18-26.5GHz 18000 - 25000MHz										
8	19425.213	71.75	pk	-69	40.3	43.05	54	-10.95	150	Horz
9	21841.421	63.68	pk	-60.8	40.4	43.28	54	-10.72	99	Horz
10	24362.681	66.99	pk	-61.2	40.3	46.09	54	-7.91	150	Horz
2 - 4GHz 2000 - 4000MHz										
11	2440.882	65.99	pk	4.2	21.9	92.09	999	-906.91	150	Vert
4 - 8GHz 4000 - 8000MHz										
12	4880.587	69.37	pk	-50.5	27.7	46.57	54	-7.43	149	Vert
13	7338.225	58.87	pk	-46.4	30.7	43.17	54	-10.83	99	Vert
8 - 12GHz 8000 - 12000MHz										
14	9675.784	51.64	pk	-48.5	36.4	39.54	54	-14.46	99	Vert
12 - 18GHz 12000 - 18000MHz										
15	12388.259	45.54	pk	-44.1	39.4	40.84	54	-13.16	149	Vert
16	14541.694	42.5	pk	-40.3	39.8	42	54	-12	149	Vert
17	16991.327	43.36	pk	-40.9	40.4	42.86	54	-11.14	149	Vert
18-26.5GHz 18000 - 25000MHz										
18	19176.588	71.62	pk	-68.5	40.3	43.42	54	-10.58	150	Vert
19	21739.87	65.74	pk	-61.2	40.4	44.94	54	-9.06	150	Vert
20	24387.194	66.36	pk	-61.4	40.3	45.26	54	-8.74	150	Vert

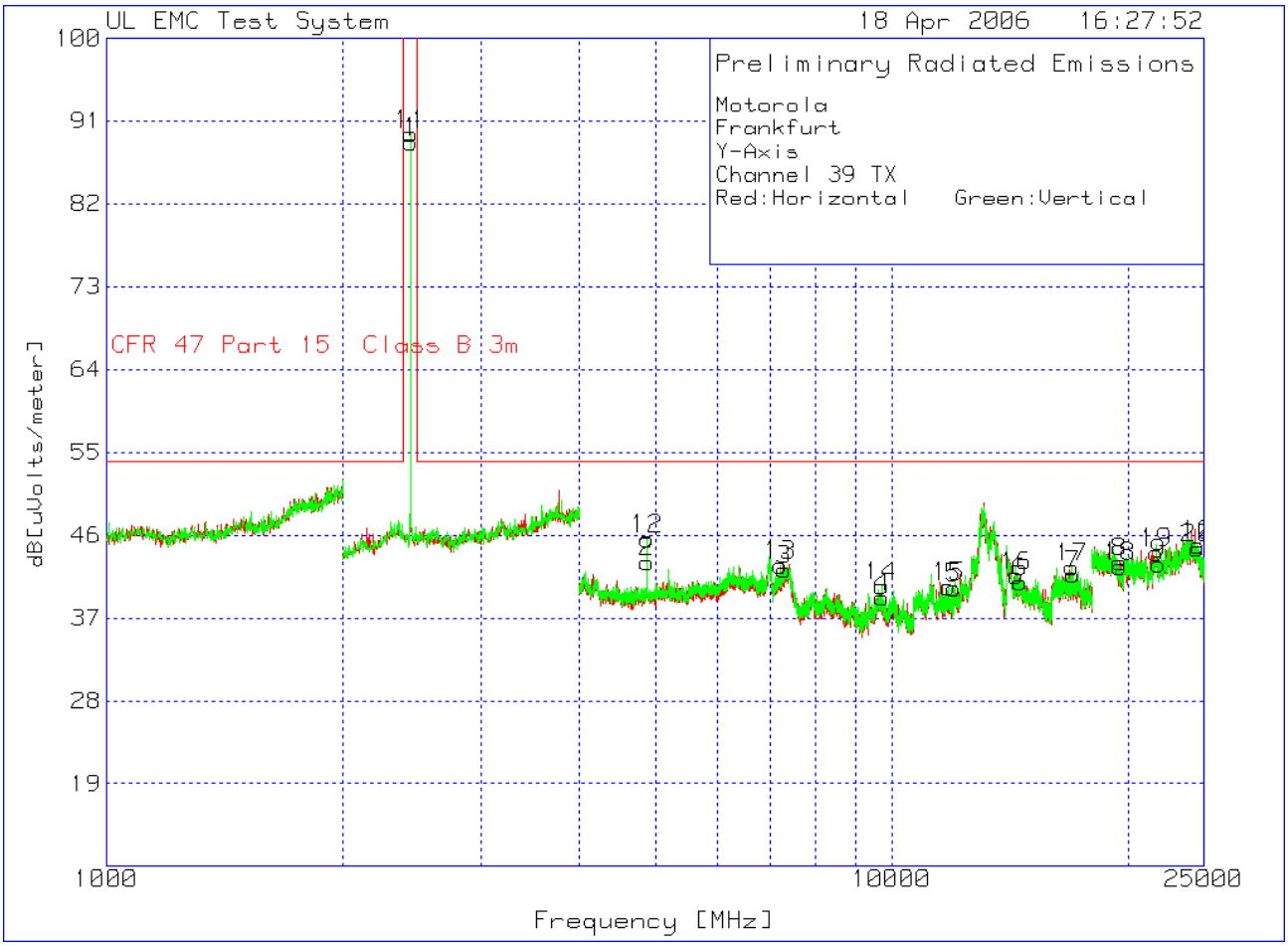
LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: NONE
LIMIT 3: NONE
LIMIT 4: NONE
LIMIT 5: NONE
LIMIT 6: NONE

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector

X-Axis
Channel 39 TX
Red:Horizontal Green:Vertical

Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Azimuth [degs]	Height [cm]	Polarity
4 - 8GHz 4000 - 8000MHz X-Axis										
4881.993	68.08	av	-50.5	27.7	45.28	54	-8.72	79	103	Horz
4 - 8GHz 4000 - 8000MHz Z-Axis										
4882.128	65.52	av	-50.5	27.7	42.72	54	-11.28	108	102	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m



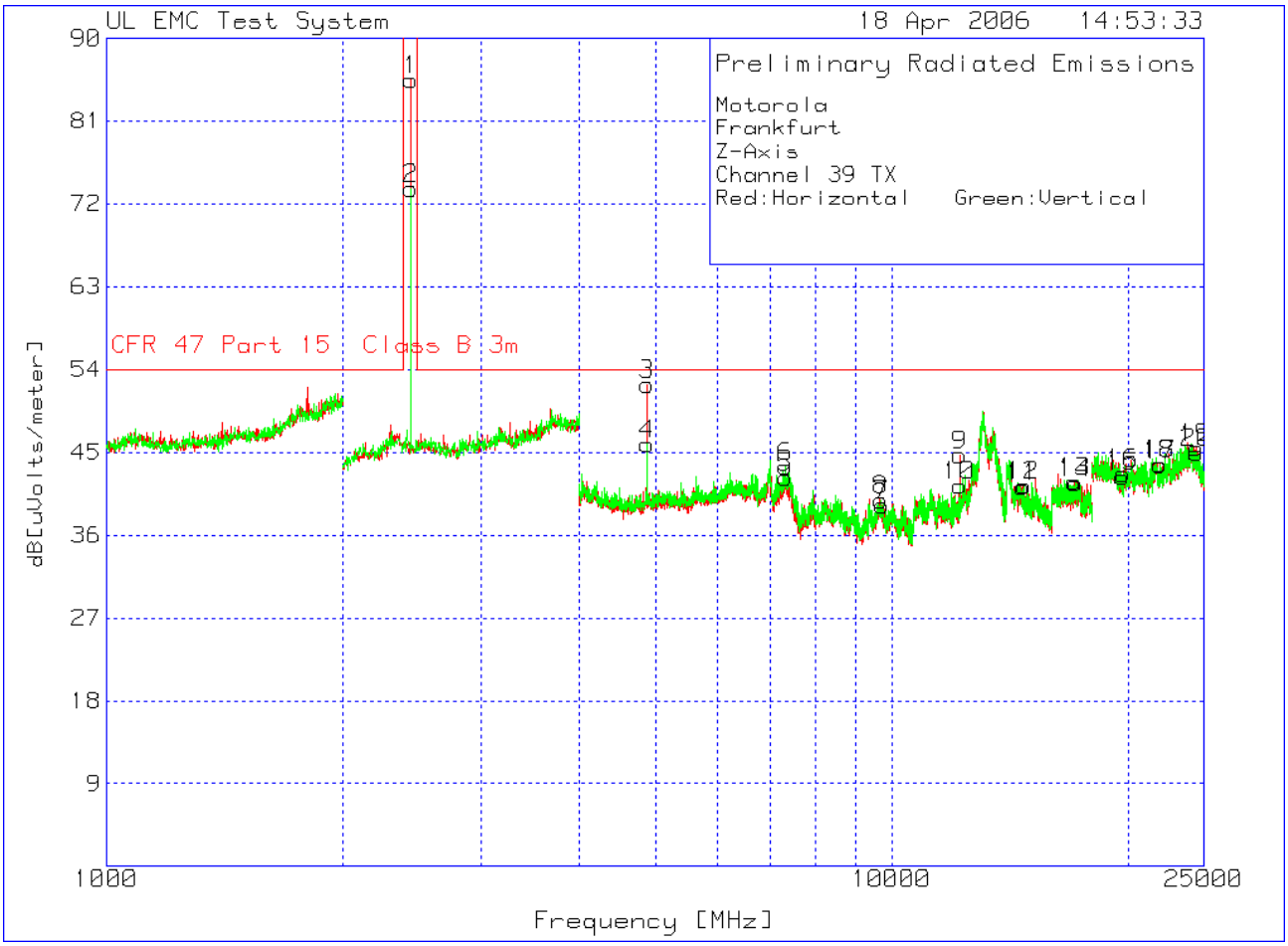
1-25 GHz Mid Channel Dual Polarization Y

Y-Axis
Channel 39 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2440.882	62.63	pk	4.2	21.9	88.73	999	-910.27	99	Horz
4 - 8GHz 4000 - 8000MHz										
2	4880.587	65.85	pk	-50.5	27.7	43.05	54	-10.95	99	Horz
3	7295.53	58.04	pk	-46.2	30.4	42.24	54	-11.76	99	Horz
8 - 12GHz 8000 - 12000MHz										
4	9734.49	51.84	pk	-49	36.4	39.24	54	-14.76	150	Horz
12 - 18GHz 12000 - 18000MHz										
5	12004.003	46.28	pk	-45.4	39.4	40.28	54	-13.72	150	Horz
6	14585.724	41.26	pk	-40.2	39.8	40.86	54	-13.14	99	Horz
7	17027.352	42.57	pk	-41.3	40.4	41.67	54	-12.33	150	Horz
18-26.5GHz 18000 - 25000MHz										
8	19523.262	71.98	pk	-69.2	40.3	43.08	54	-10.92	150	Horz
9	21879.94	62.95	pk	-60.5	40.4	42.85	54	-11.15	150	Horz
10	24572.786	66.51	pk	-61.9	40.3	44.91	54	-9.09	150	Horz
2 - 4GHz 2000 - 4000MHz										
11	2440.882	63.47	pk	4.2	21.9	89.57	999	-909.43	150	Vert
4 - 8GHz 4000 - 8000MHz										
12	4880.587	68.37	pk	-50.5	27.7	45.57	54	-8.43	99	Vert
13	7215.477	59.73	pk	-46.8	29.8	42.73	54	-11.27	99	Vert
8 - 12GHz 8000 - 12000MHz										
14	9710.474	52.64	pk	-48.6	36.4	40.44	54	-13.56	149	Vert
15	11815.877	48.7	pk	-46	37.7	40.4	54	-13.6	149	Vert
12 - 18GHz 12000 - 18000MHz										
16	14413.609	42.89	pk	-41.1	39.8	41.59	54	-12.41	99	Vert
17	16979.319	43.14	pk	-41	40.4	42.54	54	-11.46	99	Vert
18-26.5GHz 18000 - 25000MHz										
18	19540.77	71.59	pk	-69.3	40.3	42.59	54	-11.41	99	Vert
19	21753.877	64.88	pk	-61.2	40.4	44.08	54	-9.92	150	Vert
20	24509.755	65.66	pk	-61.4	40.3	44.56	54	-9.44	150	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



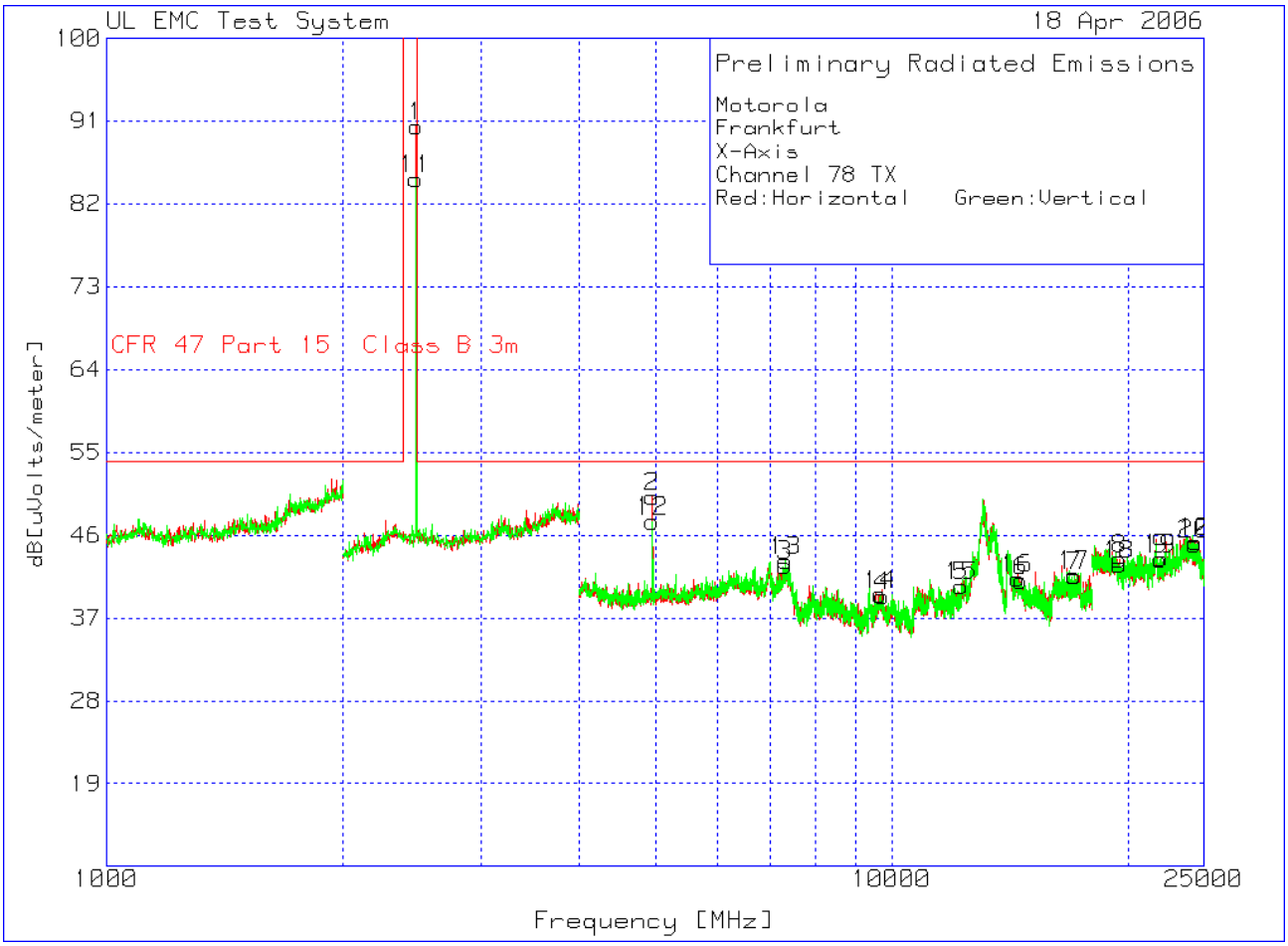
1-25 GHz Mid Channel Dual Polarization Z

Z-Axis
Channel 39 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2440.882	59.35	pk	4.2	21.9	85.45	999	-913.55	99	Horz
4 - 8GHz 4000 - 8000MHz										
3	4880.587	75.18	pk	-50.5	27.7	52.38	54	-1.62	99	Horz
5	7330.22	57.86	pk	-46.3	30.7	42.26	54	-11.74	99	Horz
8 - 12GHz 8000 - 12000MHz										
7	9739.827	51.96	pk	-49.1	36.4	39.26	54	-14.74	149	Horz
12 - 18GHz 12000 - 18000MHz										
9	12204.136	51.6	pk	-46.3	39.4	44.7	54	-9.3	150	Horz
11	14677.785	42.13	pk	-40.7	39.8	41.23	54	-12.77	150	Horz
13	17091.394	42.58	pk	-41.1	40.3	41.78	54	-12.22	150	Horz
18-26.5GHz 18000 - 25000MHz										
15	19680.84	71.45	pk	-69.4	40.3	42.35	54	-11.65	150	Horz
18	21928.965	63.61	pk	-60.3	40.4	43.71	54	-10.29	99	Horz
19	24401.201	66.68	pk	-61.5	40.3	45.48	54	-8.52	99	Horz
2 - 4GHz 2000 - 4000MHz										
2	2440.882	47.55	pk	4.2	21.9	73.65	999	-925.35	150	Vert
4 - 8GHz 4000 - 8000MHz										
4	4880.587	68.66	pk	-50.5	27.7	45.86	54	-8.14	150	Vert
6	7330.22	59.06	pk	-46.3	30.7	43.46	54	-10.54	99	Vert
8 - 12GHz 8000 - 12000MHz										
8	9694.463	51.8	pk	-48.4	36.4	39.8	54	-14.2	99	Vert
12 - 18GHz 12000 - 18000MHz										
10	12204.136	48.3	pk	-46.3	39.4	41.4	54	-12.6	99	Vert
12	14729.82	42.27	pk	-40.7	39.8	41.37	54	-12.63	99	Vert
14	17127.418	42.03	pk	-40.7	40.3	41.63	54	-12.37	99	Vert
18-26.5GHz 18000 - 25000MHz										
16	19712.356	71.9	pk	-69.5	40.3	42.7	54	-11.3	99	Vert
17	21960.48	63.54	pk	-60.3	40.4	43.64	54	-10.36	99	Vert
20	24464.232	66.03	pk	-61.4	40.3	44.93	54	-9.07	150	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



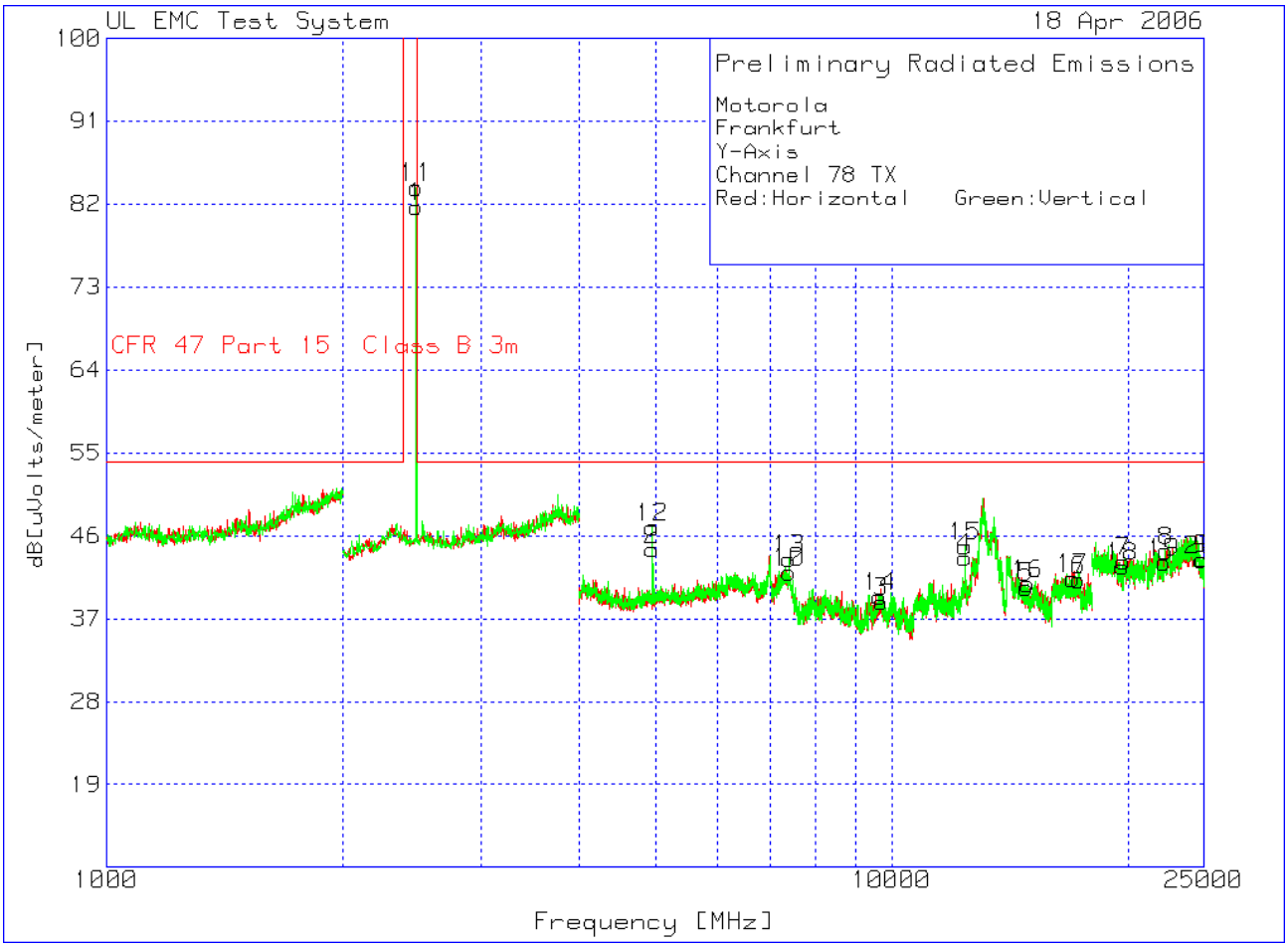
1-25 GHz High Channel Dual Polarization X

X-Axis
Channel 78 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2480.962	64.34	pk	4.1	22	90.44	999	-908.56	150	Horz
4 - 8GHz 4000 - 8000MHz										
2	4957.972	73.15	pk	-50.8	27.8	50.15	54	-3.85	99	Horz
3	7316.878	58.32	pk	-46.2	30.6	42.72	54	-11.28	99	Horz
8 - 12GHz 8000 - 12000MHz										
4	9739.827	52.05	pk	-49.1	36.4	39.35	54	-14.65	149	Horz
12 - 18GHz 12000 - 18000MHz										
5	12264.176	45.84	pk	-44.8	39.4	40.44	54	-13.56	150	Horz
6	14613.742	41.65	pk	-40.4	39.8	41.05	54	-12.95	99	Horz
7	17099.4	42.24	pk	-41	40.3	41.54	54	-12.46	150	Horz
18-26.5GHz 18000 - 25000MHz										
8	19512.756	72.31	pk	-69.2	40.3	43.41	54	-10.59	99	Horz
9	22030.515	63.43	pk	-60.4	40.4	43.43	54	-10.57	150	Horz
10	24355.678	66.03	pk	-61.1	40.3	45.23	54	-8.77	150	Horz
2 - 4GHz 2000 - 4000MHz										
11	2476.954	58.58	pk	4.1	22	84.68	999	-914.32	150	Vert
4 - 8GHz 4000 - 8000MHz										
12	4960.64	70.48	pk	-50.8	27.8	47.48	54	-6.52	99	Vert
13	7327.552	58.82	pk	-46.3	30.7	43.22	54	-10.78	99	Vert
8 - 12GHz 8000 - 12000MHz										
14	9670.447	51.65	pk	-48.5	36.4	39.55	54	-14.45	99	Vert
12 - 18GHz 12000 - 18000MHz										
15	12260.173	45.98	pk	-44.9	39.4	40.48	54	-13.52	150	Vert
16	14457.638	42.3	pk	-40.8	39.8	41.3	54	-12.7	99	Vert
17	17079.386	42.54	pk	-41.2	40.3	41.64	54	-12.36	99	Vert
18-26.5GHz 18000 - 25000MHz										
18	19498.749	71.68	pk	-69.2	40.3	42.78	54	-11.22	150	Vert
19	21999	63.39	pk	-60.4	40.4	43.39	54	-10.61	150	Vert
20	24310.155	65.24	pk	-60.5	40.3	45.04	54	-8.96	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



1-25 GHz High Channel Dual Polarization Y

Y-Axis
Channel 78 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2480.962	55.62	pk	4.1	22	81.72	999	-917.28	99	Horz
4 - 8GHz 4000 - 8000MHz										
2	4960.64	67.52	pk	-50.8	27.8	44.52	54	-9.48	100	Horz
10	7402.268	57.35	pk	-46.5	31.2	42.05	54	-11.95	100	Horz
8 - 12GHz 8000 - 12000MHz										
3	9705.137	50.93	pk	-48.5	36.4	38.83	54	-15.17	99	Horz
12 - 18GHz 12000 - 18000MHz										
4	12400.267	48.09	pk	-43.9	39.4	43.59	54	-10.41	150	Horz
5	14853.903	41.48	pk	-40.9	39.8	40.38	54	-13.62	99	Horz
6	17311.541	41.79	pk	-40.8	40.2	41.19	54	-12.81	150	Horz
18-26.5GHz 18000 - 25000MHz										
7	19764.882	72.41	pk	-69.5	40.3	43.21	54	-10.79	99	Horz
8	22331.666	63.23	pk	-59.4	40.5	44.33	54	-9.67	99	Horz
9	24877.439	64.47	pk	-61.4	40.4	43.47	54	-10.53	150	Horz
2 - 4GHz 2000 - 4000MHz										
11	2480.962	57.72	pk	4.1	22	83.82	999	-915.18	150	Vert
4 - 8GHz 4000 - 8000MHz										
12	4960.64	69.9	pk	-50.8	27.8	46.9	54	-7.1	100	Vert
13	7402.268	58.78	pk	-46.5	31.2	43.48	54	-10.52	100	Vert
8 - 12GHz 8000 - 12000MHz										
14	9665.11	51.49	pk	-48.5	36.4	39.39	54	-14.61	150	Vert
12 - 18GHz 12000 - 18000MHz										
15	12400.267	49.31	pk	-43.9	39.4	44.81	54	-9.19	149	Vert
16	14901.935	42.38	pk	-41.4	39.8	40.78	54	-13.22	149	Vert
17	17011.341	41.97	pk	-41	40.4	41.37	54	-12.63	99	Vert
18-26.5GHz 18000 - 25000MHz										
18	19680.84	71.72	pk	-69.4	40.3	42.62	54	-11.38	99	Vert
19	22247.624	62.29	pk	-59.7	40.5	43.09	54	-10.91	150	Vert
20	24800.4	64.97	pk	-61.9	40.3	43.37	54	-10.63	150	Vert

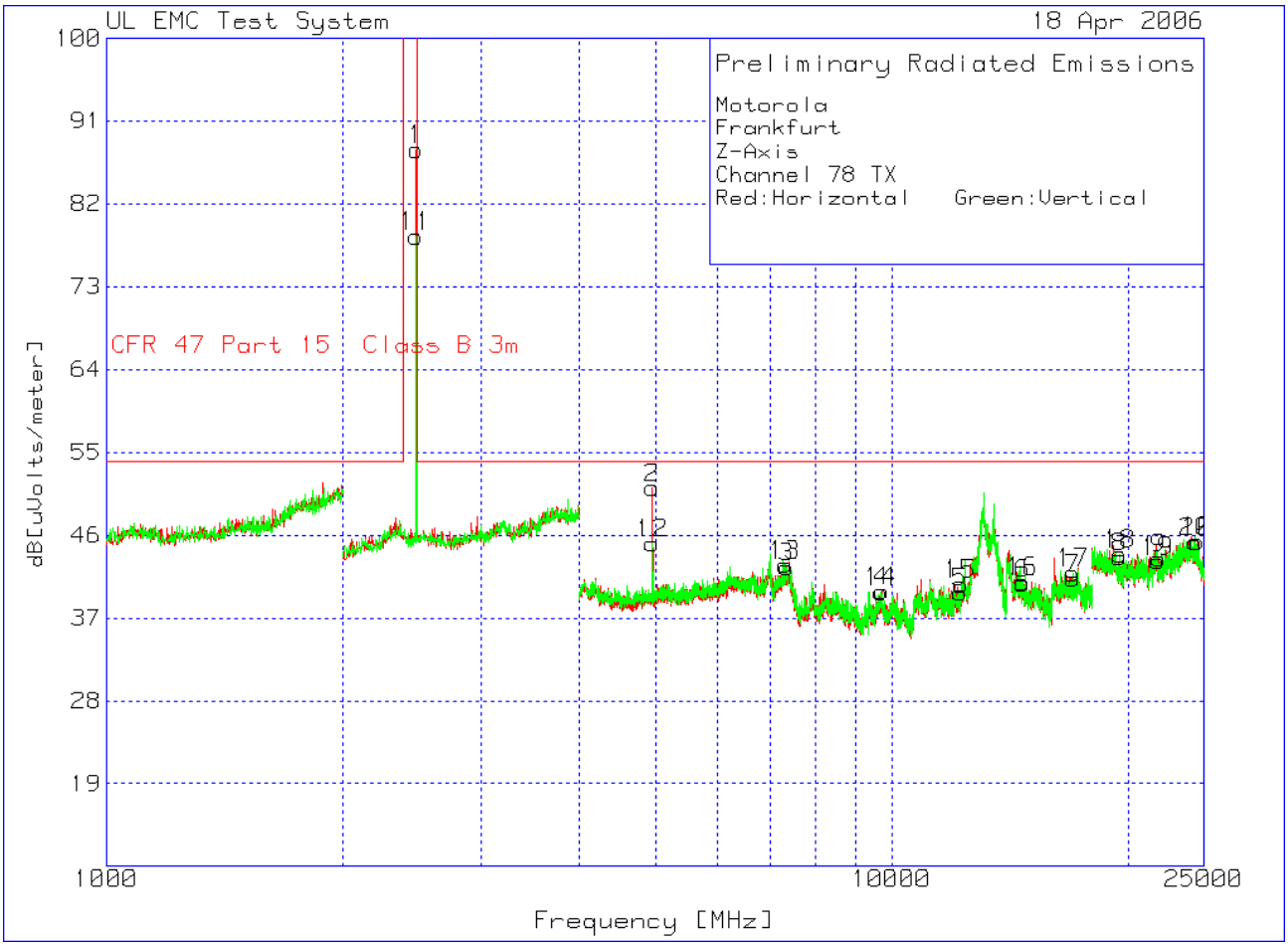
LIMIT 1: CFR 47 Part 15 Class B 3m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector

Y-Axis
Channel 78 TX
Red:Horizontal Green:Vertical

Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit 1	Margin 1[dB]	Azimuth [degs]	Height [cm]	Polarity
4 - 8GHz 4000 - 8000MHz X-Axis										
4959.658	65.72	av	-50.8	27.8	42.72	54	-11.28	327	110	Horz
4 - 8GHz 4000 - 8000MHz X-Axis										
4960.281	65.37	av	-50.8	27.8	42.37	54	-11.63	292	102	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m

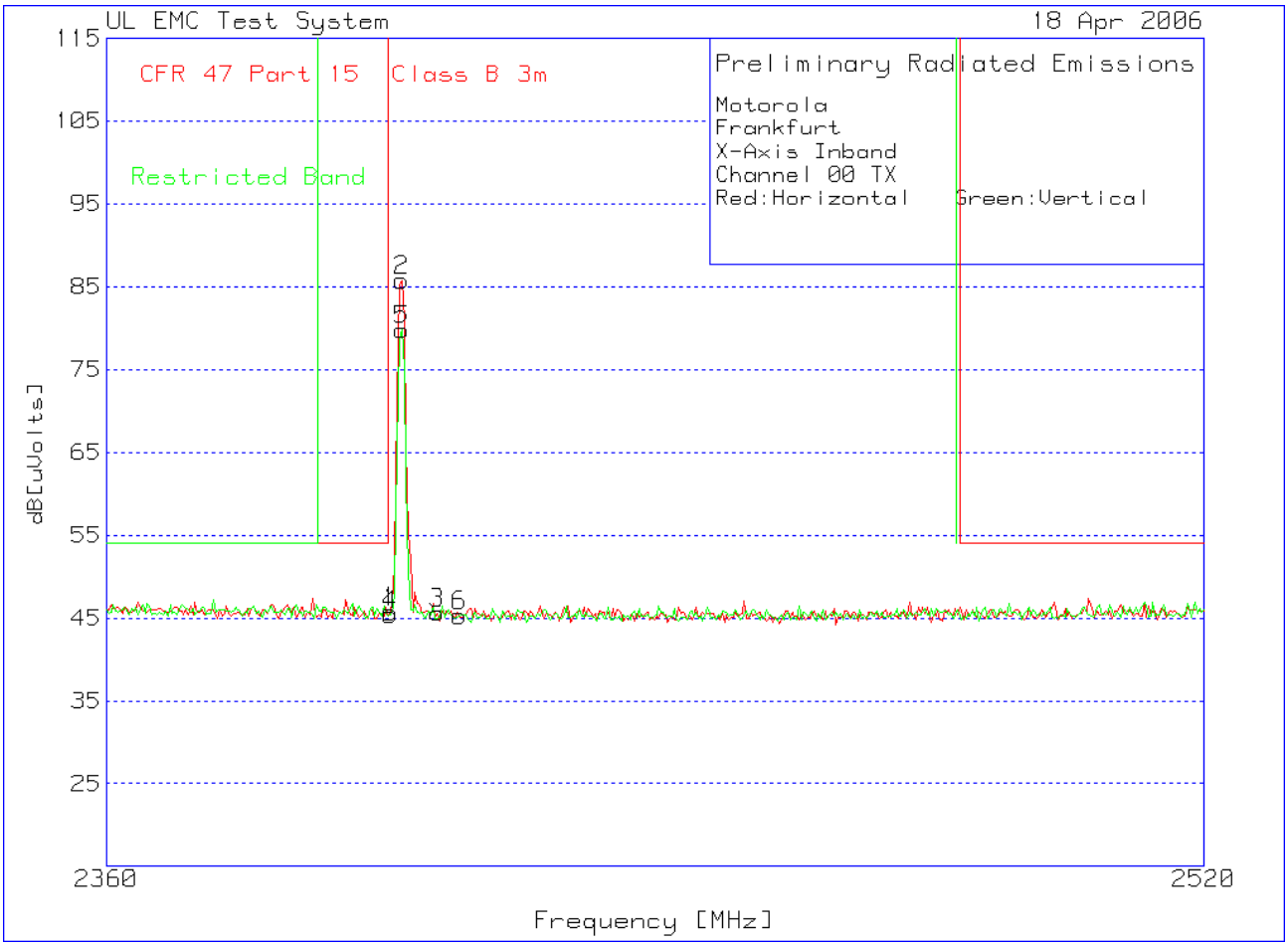

UL EMC Test System
18 Apr 2006
Preliminary Radiated Emissions
Motorola
Frankfurt
Z-Axis
Channel 78 TX
Red:Horizontal Green:Vertical
CFR 47 Part 15 Class B 3m
dB[uVolts/meter]
100
91
82
73
64
55
46
37
28
19
1000
10000
25000
Frequency [MHz]

Z-Axis
Channel 78 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level olts/meter]	Limit 1	argin 1[dB]	Height [cm]	Polarity
2 - 4GHz 2000 - 4000MHz										
1	2480.962	61.81	pk	4.1	22	87.91	999	-911.09	99	Horz
4 - 8GHz 4000 - 8000MHz										
2	4960.64	74.15	pk	-50.8	27.8	51.15	54	-2.85	99	Horz
3	7354.236	57.99	pk	-46.4	30.9	42.49	54	-11.51	150	Horz
8 - 12GHz 8000 - 12000MHz										
4	9721.147	52.33	pk	-48.8	36.4	39.93	54	-14.07	149	Horz
12 - 18GHz 12000 - 18000MHz										
5	12228.15	46.1	pk	-45.7	39.4	39.8	54	-14.2	99	Horz
6	14677.79	41.68	pk	-40.7	39.8	40.78	54	-13.22	150	Horz
7	16999.33	41.7	pk	-40.8	40.4	41.3	54	-12.7	150	Horz
18-26.5GHz 18000 - 25000MHz										
8	19509.26	72.53	pk	-69.2	40.3	43.63	54	-10.37	99	Horz
9	21897.45	63.44	pk	-60.4	40.4	43.44	54	-10.56	99	Horz
10	24509.76	66.41	pk	-61.4	40.3	45.31	54	-8.69	99	Horz
2 - 4GHz 2000 - 4000MHz										
11	2476.954	52.37	pk	4.1	22	78.47	999	-920.53	100	Vert
4 - 8GHz 4000 - 8000MHz										
12	4960.64	68.12	pk	-50.8	27.8	45.12	54	-8.88	150	Vert
13	7314.209	58.35	pk	-46.2	30.6	42.75	54	-11.25	150	Vert
8 - 12GHz 8000 - 12000MHz										
14	9689.126	51.85	pk	-48.4	36.4	39.85	54	-14.15	149	Vert
12 - 18GHz 12000 - 18000MHz										
15	12248.17	46.49	pk	-45.2	39.4	40.69	54	-13.31	99	Vert
16	14681.79	41.76	pk	-40.6	39.8	40.96	54	-13.04	99	Vert
17	17019.35	42.59	pk	-41.1	40.4	41.89	54	-12.11	150	Vert
18-26.5GHz 18000 - 25000MHz										
18	19540.77	72.93	pk	-69.3	40.3	43.93	54	-10.07	99	Vert
19	21830.92	63.66	pk	-60.9	40.4	43.16	54	-10.84	99	Vert
20	24387.19	66.35	pk	-61.4	40.3	45.25	54	-8.75	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



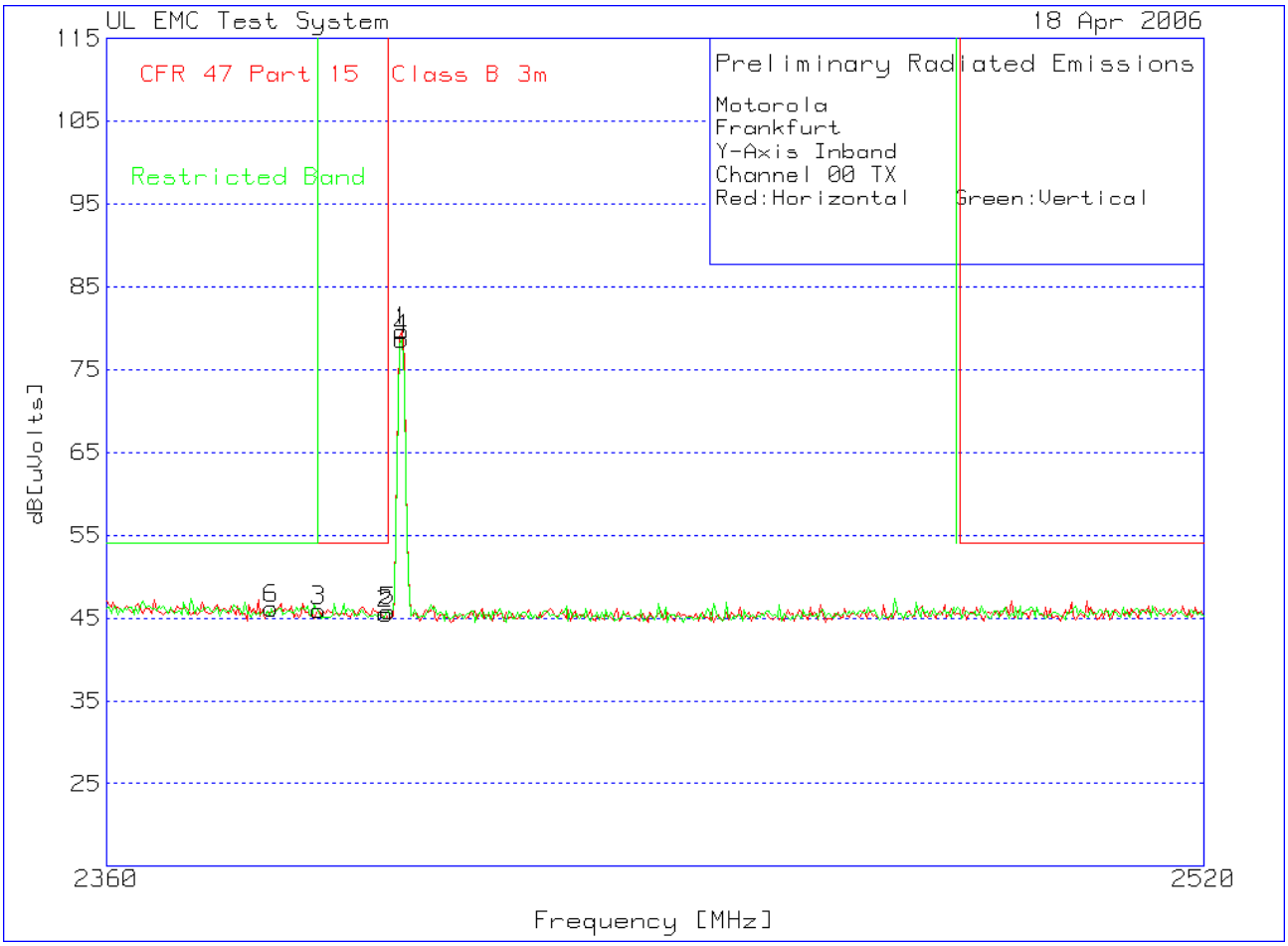
Authorized Band Emissions Low Channel Dual Polarization X

X-Axis Inband
Channel 00 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
2 - 4GHz 2360 - 2520MHz												
1	2400.401	19.54	pk	4.4	21.8	45.74	999	-953.26	999	-953.26	101	Horz
2	2402.004	59.57	pk	4.4	21.8	85.77	999	-913.23	999	-913.23	150	Horz
3	2407.134	19.42	pk	4.4	21.8	45.62	999	-953.38	999	-953.38	150	Horz
2 - 4GHz 2360 - 2520MHz												
4	2400.401	19.2	pk	4.4	21.8	45.4	999	-953.6	999	-953.6	99	Vert
5	2402.004	53.58	pk	4.4	21.8	79.78	999	-919.22	999	-919.22	149	Vert
6	2410.341	19.18	pk	4.3	21.8	45.28	999	-953.72	999	-953.72	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



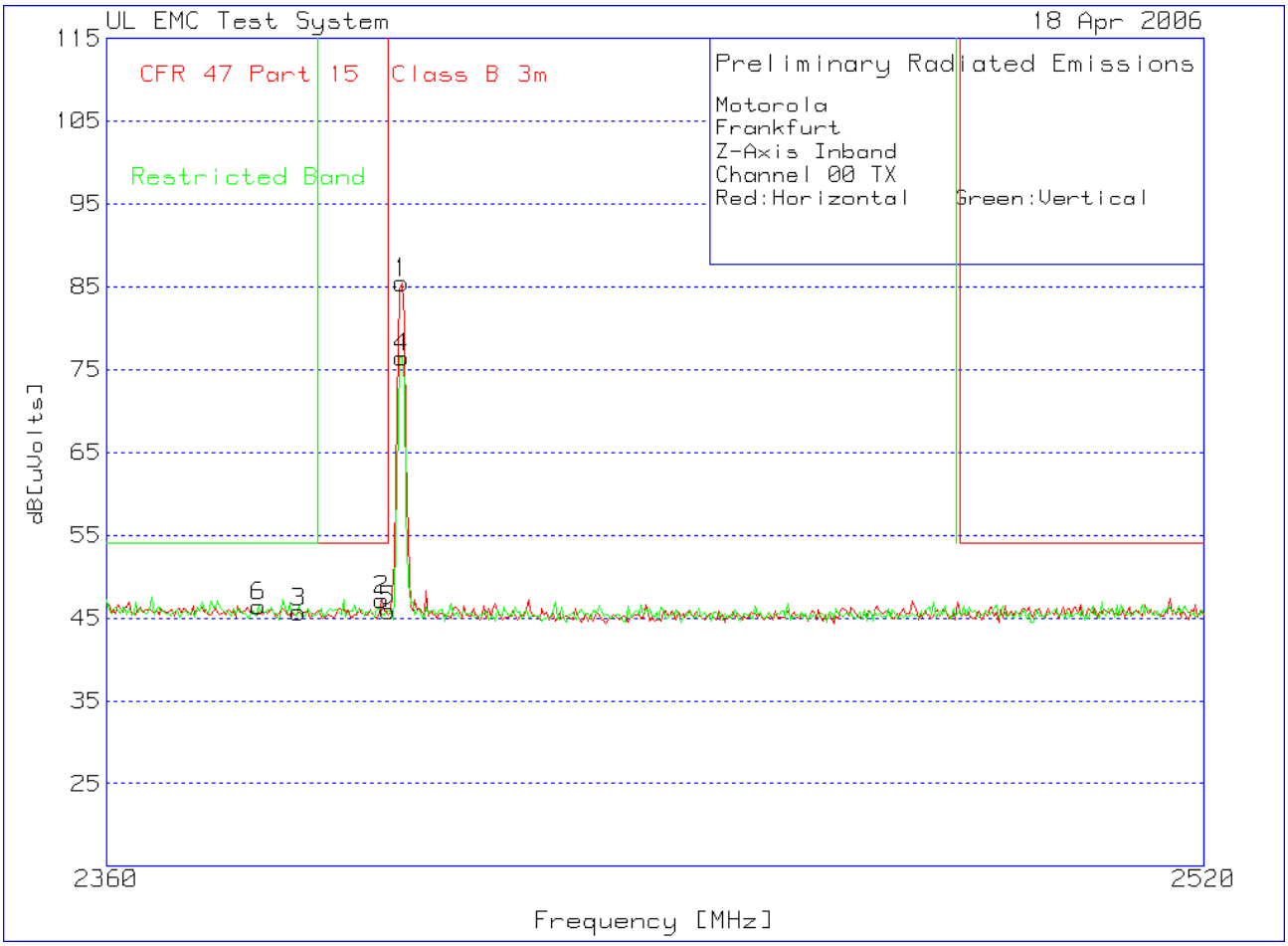
Authorized Band Emissions Low Channel Dual Polarization Y

Y-Axis Inband
Channel 00 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
- 2520MHz												
1	2402.004	53.44	pk	4.4	21.8	79.64	999	-919.36	999	-919.36	100	Horz
2	2399.76	19.34	pk	4.4	21.8	45.54	54	-8.46	999	-953.46	100	Horz
3	2390.14	19.72	pk	4.4	21.8	45.92	54	-8.08	999	-953.08	150	Horz
- 2520MHz												
4	2402.004	52.47	pk	4.4	21.8	78.67	999	-920.33	999	-920.33	149	Vert
5	2400.08	19.64	pk	4.4	21.8	45.84	999	-953.16	999	-953.16	149	Vert
6	2383.407	19.96	pk	4.4	21.8	46.16	54	-7.84	54	-7.84	149	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



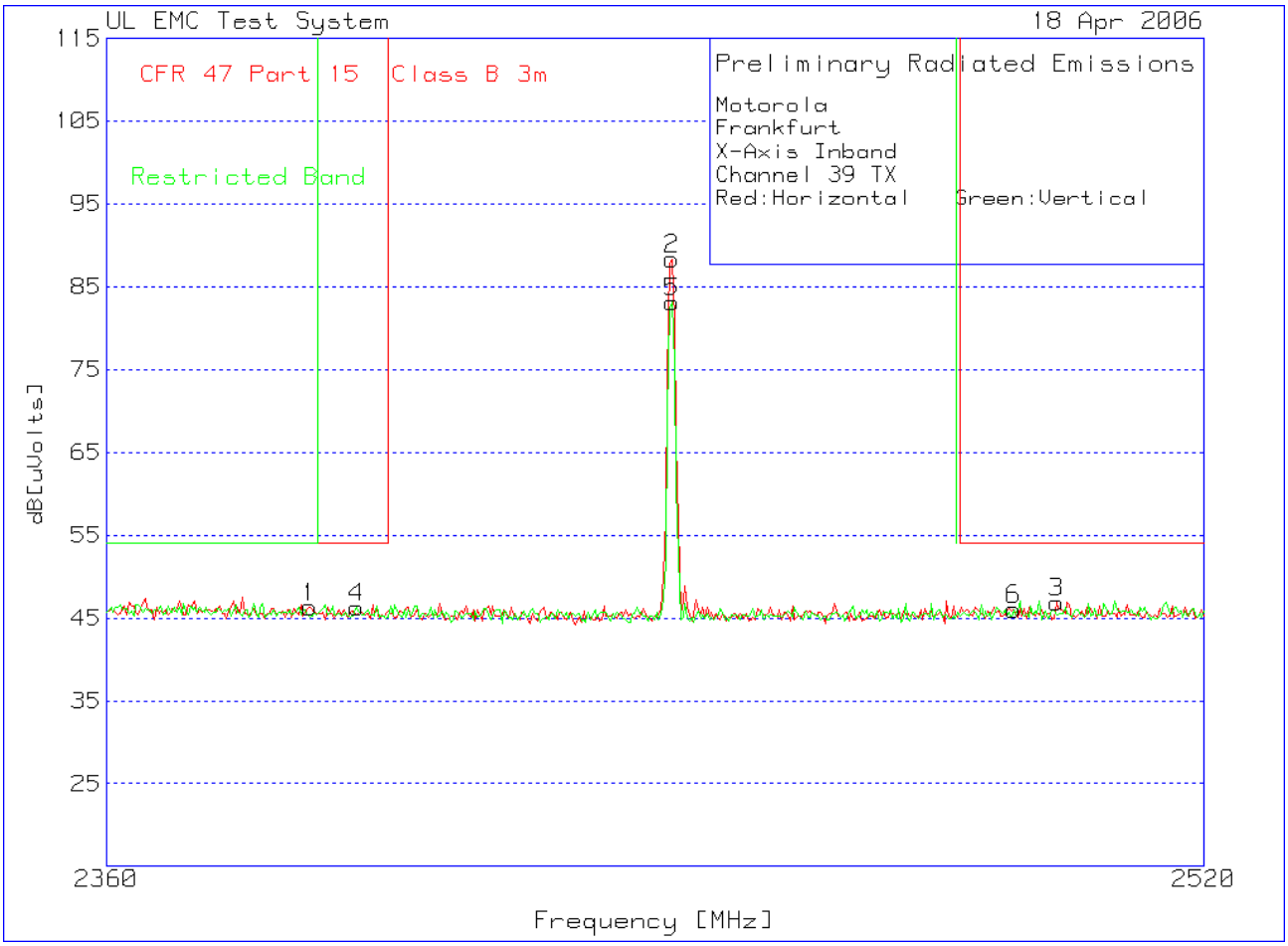
Authorized Band Emissions Low Channel Dual Polarization Z

Z-Axis Inband
Channel 00 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
- 2520MHz												
1	2402.004	59.28	pk	4.4	21.8	85.48	999	-913.52	999	-913.52	99	Horz
2	2399.118	21	pk	4.4	21.8	47.2	54	-6.8	999	-951.8	99	Horz
3	2387.255	19.5	pk	4.4	21.8	45.7	54	-8.3	54	-8.3	99	Horz
- 2520MHz												
4	2402.004	50.26	pk	4.4	21.8	76.46	999	-922.54	999	-922.54	99	Vert
5	2400.08	19.67	pk	4.4	21.8	45.87	999	-953.13	999	-953.13	150	Vert
6	2381.483	20.21	pk	4.4	21.8	46.41	54	-7.59	54	-7.59	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band
LIMIT 3: NONE
LIMIT 4: NONE
LIMIT 5: NONE
LIMIT 6: NONE

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



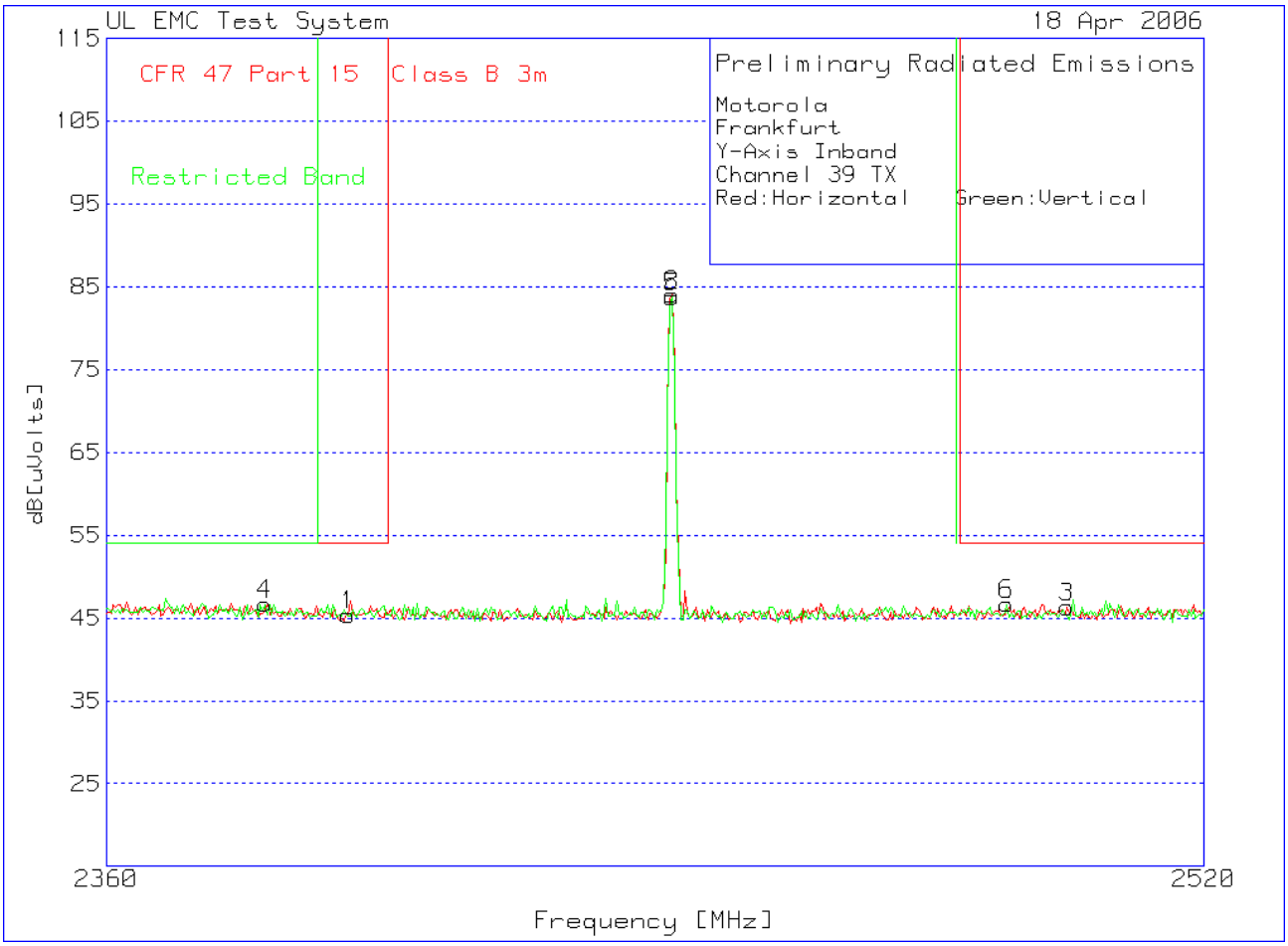
Authorized Band Emissions Mid Channel Dual Polarization X

X-Axis Inband
Channel 39 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
2 - 4GHz 2360 - 2520MHz												
1	2388.858	20.12	pk	4.4	21.8	46.32	54	-7.68	54	-7.68	149	Horz
2	2441.122	62.24	pk	4.2	21.9	88.34	999	-910.66	999	-910.66	149	Horz
3	2497.876	20.68	pk	4.1	22.1	46.88	54	-7.12	0	46.88	149	Horz
2 - 4GHz 2360 - 2520MHz												
4	2395.591	20.09	pk	4.4	21.8	46.29	54	-7.71	999	-952.71	99	Vert
5	2441.122	57.01	pk	4.2	21.9	83.11	999	-915.89	999	-915.89	150	Vert
6	2491.463	19.84	pk	4.1	22.1	46.04	54	-7.96	0	46.04	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band
LIMIT 3: NONE
LIMIT 4: NONE
LIMIT 5: NONE
LIMIT 6: NONE

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



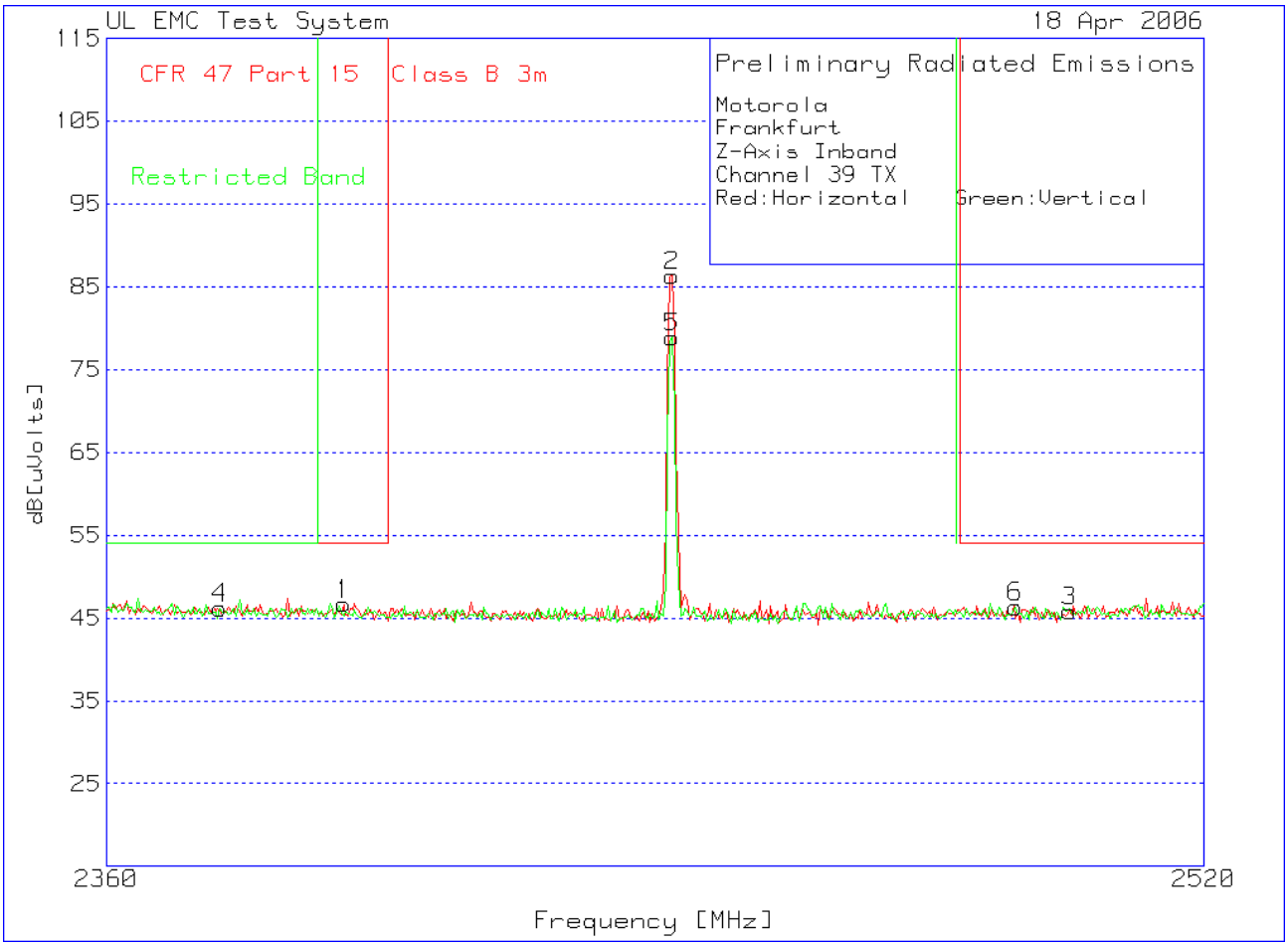
Authorized Band Emissions Mid Channel Dual Polarization Y

Y-Axis Inband
Channel 39 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
2 - 4GHz 2360 - 2520MHz												
1	2394.309	19.16	pk	4.4	21.8	45.36	54	-8.64	999	-953.64	149	Horz
2	2441.122	57.9	pk	4.2	21.9	84	999	-915	999	-915	99	Horz
3	2499.479	20.12	pk	4.1	22.1	46.32	54	-7.68	0	46.32	149	Horz
2 - 4GHz 2360 - 2520MHz												
4	2382.445	20.48	pk	4.4	21.8	46.68	54	-7.32	54	-7.32	150	Vert
5	2441.122	57.66	pk	4.2	21.9	83.76	999	-915.24	999	-915.24	150	Vert
6	2490.501	20.48	pk	4.1	22.1	46.68	54	-7.32	0	46.68	150	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



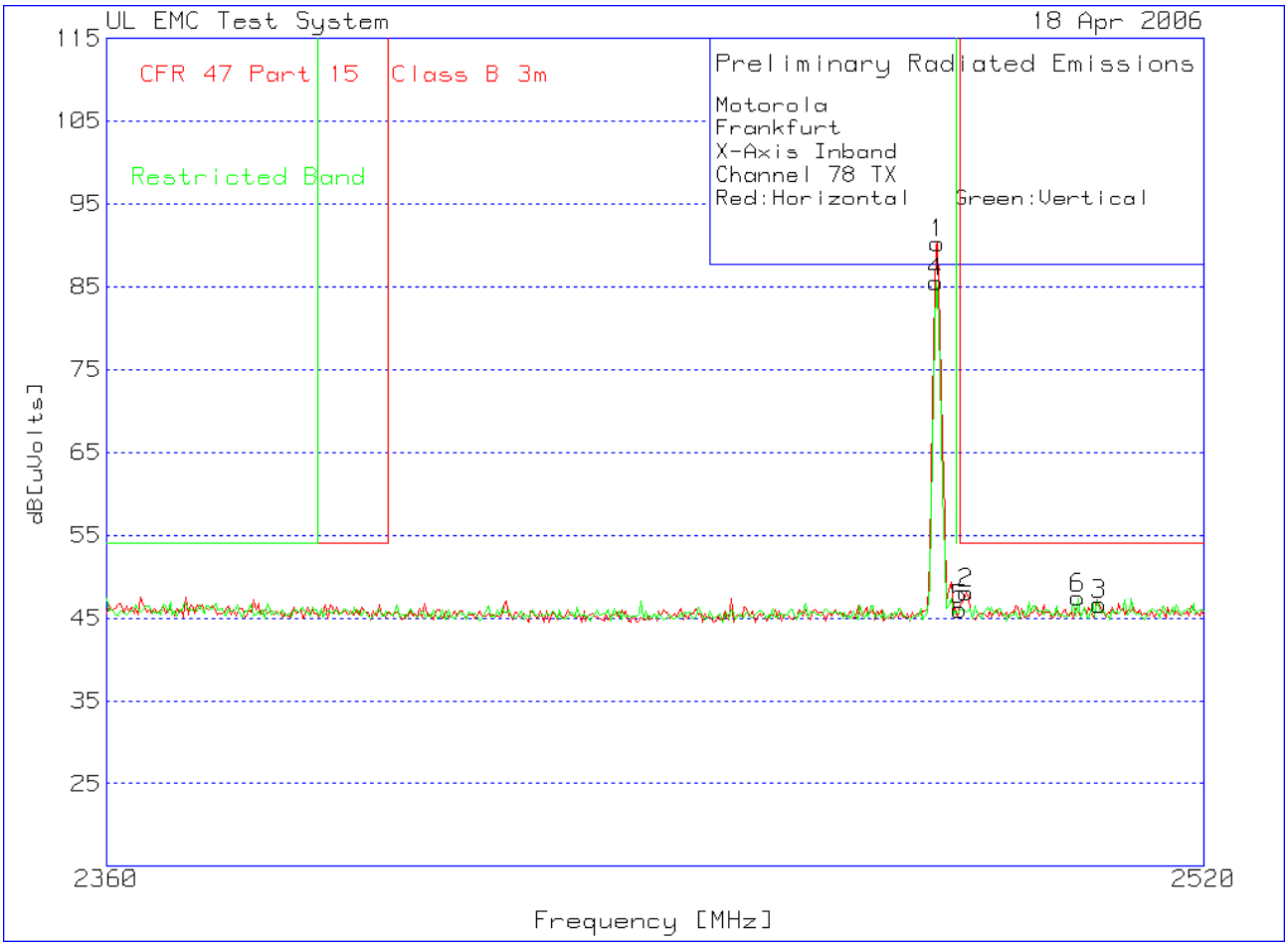
Authorized Band Emissions Mid Channel Dual Polarization Z

Z-Axis Inband
Channel 39 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
2 - 4GHz 2360 - 2520MHz												
1	2393.667	20.48	pk	4.4	21.8	46.68	54	-7.32	999	-952.32	149	Horz
2	2441.122	60.21	pk	4.2	21.9	86.31	999	-912.69	999	-912.69	99	Horz
3	2499.8	19.63	pk	4.1	22.1	45.83	54	-8.17	0	45.83	149	Horz
2 - 4GHz 2360 - 2520MHz												
4	2376.032	20.02	pk	4.4	21.8	46.22	54	-7.78	54	-7.78	150	Vert
5	2441.122	52.77	pk	4.2	21.9	78.87	999	-920.13	999	-920.13	99	Vert
6	2491.784	20.16	pk	4.1	22.1	46.36	54	-7.64	0	46.36	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



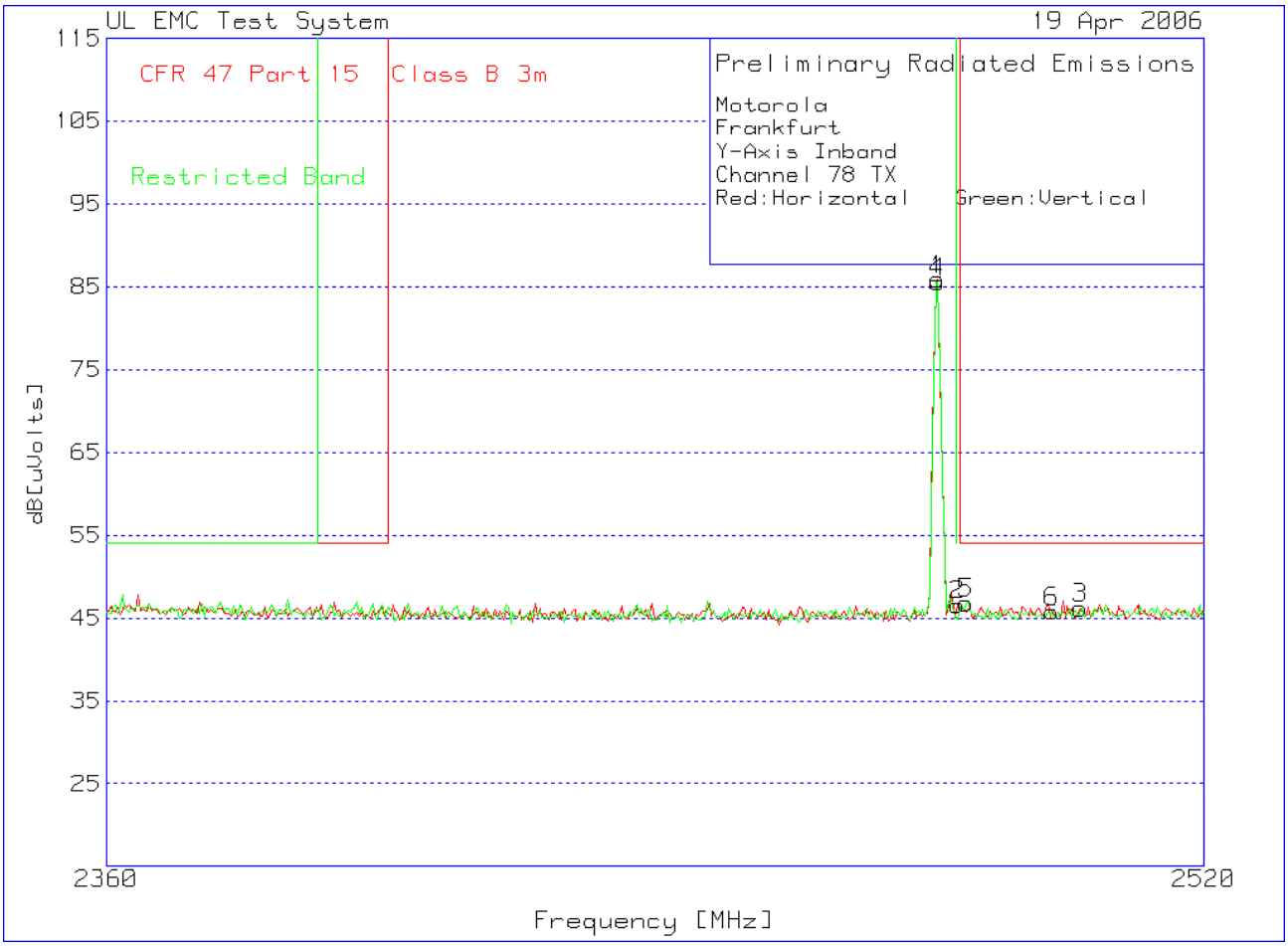
Authorized Band Emissions High Channel Dual Polarization X

X-Axis Inband
Channel 78 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
2 - 4GHz 2360 - 2520MHz												
1	2480.24	64.17	pk	4.1	22	90.27	999	-908.73	999	-908.73	150	Horz
2	2484.409	21.85	pk	4.1	22.1	48.05	54	-5.95	0	48.05	150	Horz
3	2504.289	20.47	pk	4.1	22.1	46.67	54	-7.33	0	46.67	150	Horz
2 - 4GHz 2360 - 2520MHz												
4	2479.92	59.47	pk	4.1	22	85.57	999	-913.43	999	-913.43	150	Vert
5	2483.447	19.86	pk	4.1	22.1	46.06	999	-952.94	0	46.06	150	Vert
6	2501.082	21.24	pk	4.1	22.1	47.44	54	-6.56	0	47.44	150	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



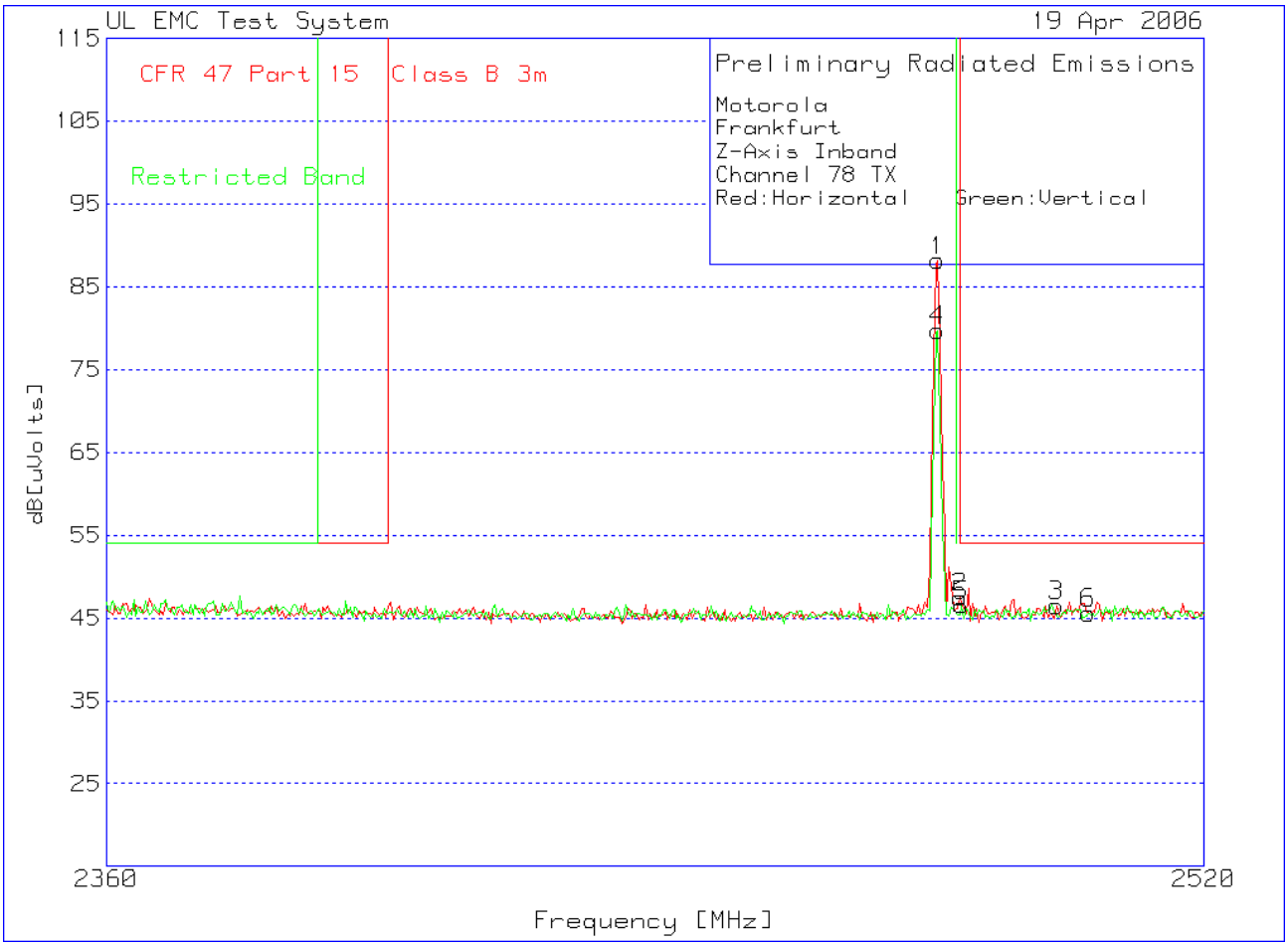
Authorized Band Emissions High Channel Dual Polarization Y

Y-Axis Inband
Channel 78 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
2 - 4GHz 2360 - 2520MHz												
1	2480.24	59.8	pk	4.1	22	85.9	999	-913.1	999	-913.1	99	Horz
2	2483.126	20.49	pk	4.1	22	46.59	999	-952.41	0	46.59	149	Horz
3	2501.403	20	pk	4.1	22.1	46.2	54	-7.8	0	46.2	99	Horz
2 - 4GHz 2360 - 2520MHz												
4	2480.24	59.43	pk	4.1	22	85.53	999	-913.47	999	-913.47	150	Vert
5	2484.409	20.61	pk	4.1	22.1	46.81	54	-7.19	0	46.81	150	Vert
6	2497.234	19.57	pk	4.1	22.1	45.77	54	-8.23	0	45.77	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector



Authorized Band Emissions High Channel Dual Polarization Z

Z-Axis Inband
Channel 78 TX
Red:Horizontal Green:Vertical

Marker Number	Test Frequency [MHz]	Meter Reading [dB(uV)]	Detector Type	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Height [cm]	Polarity
2 - 4GHz 2360 - 2520MHz												
1	2480.24	62.07	pk	4.1	22	88.17	999	-910.83	999	-910.83	100	Horz
2	2483.447	21.27	pk	4.1	22.1	47.47	999	-951.53	0	47.47	100	Horz
3	2497.876	20.31	pk	4.1	22.1	46.51	54	-7.49	0	46.51	150	Horz
2 - 4GHz 2360 - 2520MHz												
4	2480.24	53.64	pk	4.1	22	79.74	999	-919.26	999	-919.26	150	Vert
5	2483.768	20.33	pk	4.1	22.1	46.53	54	-7.47	0	46.53	99	Vert
6	2502.685	19.4	pk	4.1	22.1	45.6	54	-8.4	0	45.6	99	Vert

LIMIT 1: CFR 47 Part 15 Class B 3m
LIMIT 2: Restricted Band

pk - Peak detector
qp - Quasi-Peak detector
av - Average detector
avlg - Average log detector
ave - Average detector

PEAK OUTPUT POWER

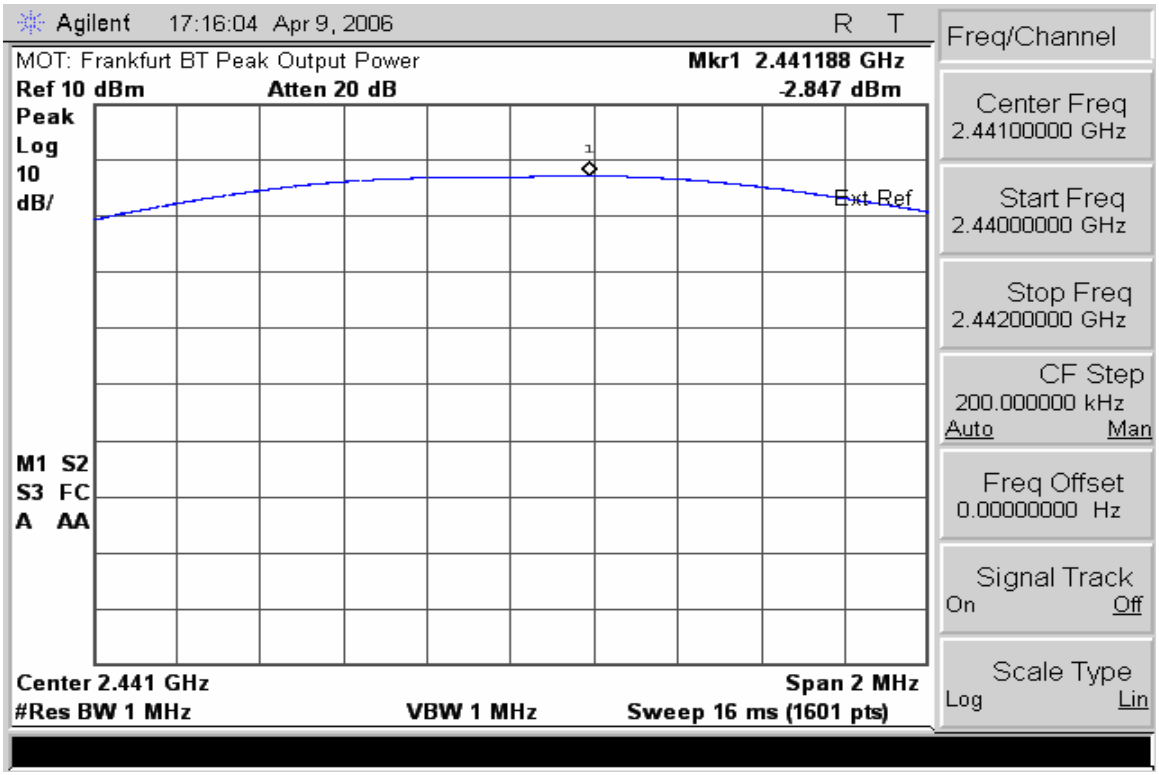
CFR 47 Part 15.247

Measurement Procedure

The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

Measurement Results

See Attached



Peak Output Power (see previous page)

BAND-EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS

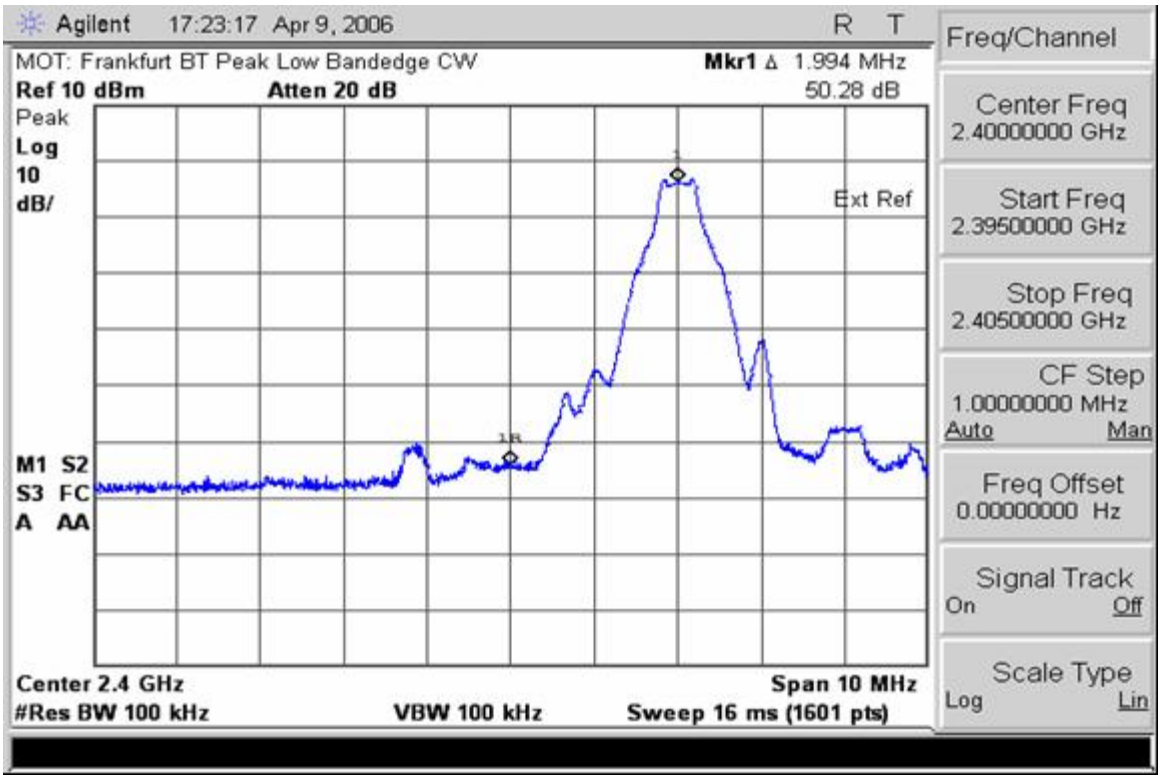
CFR 47 Part 15.247

Measurement Procedure

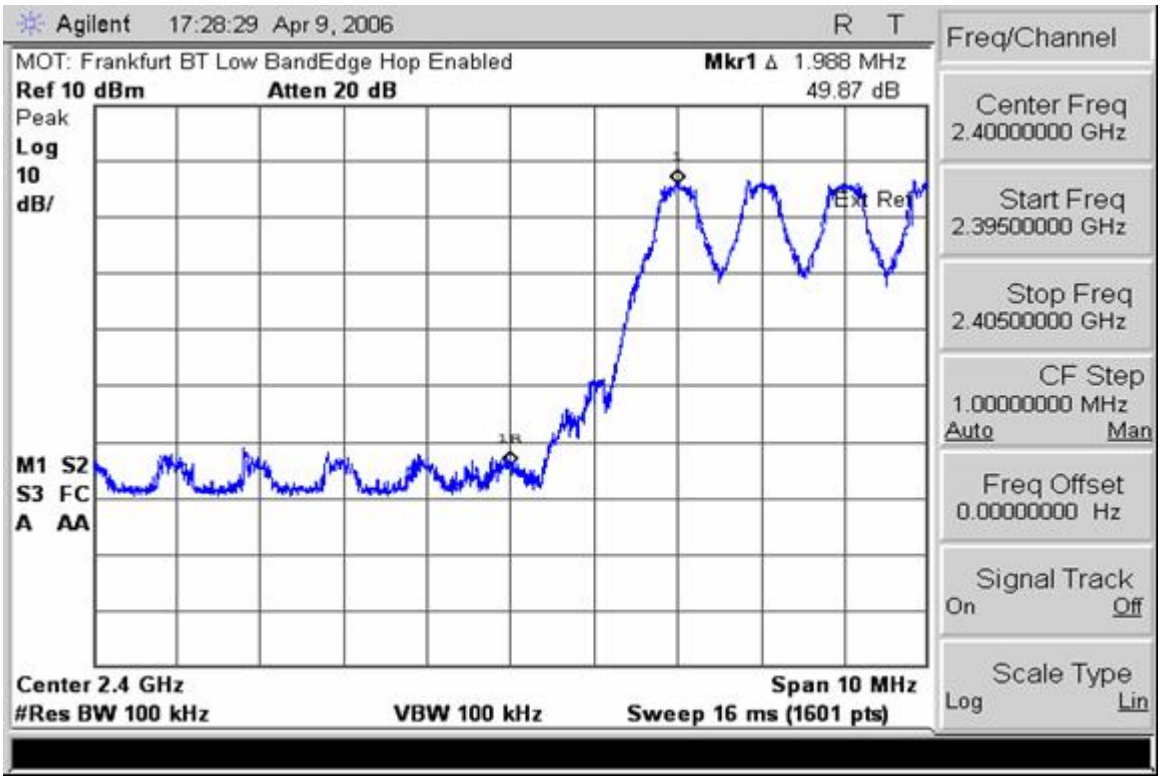
The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

Measurement Results

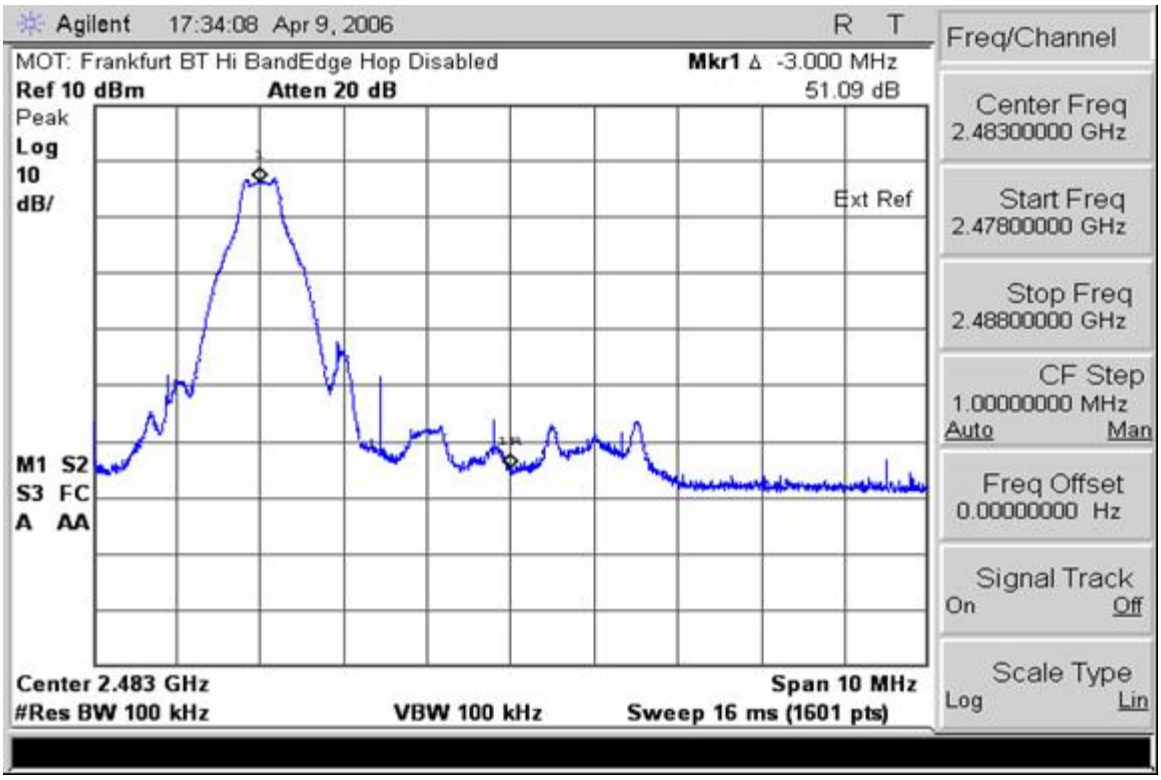
See Attached:



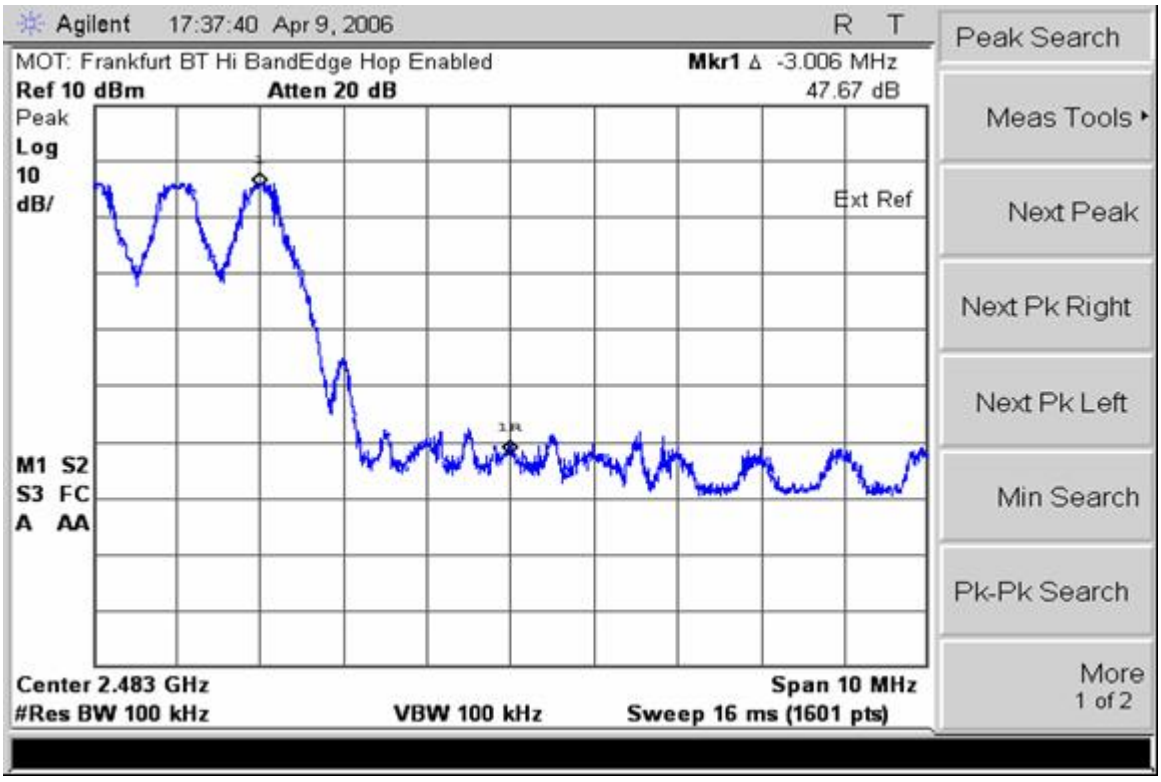
Low Band Edge with Hopping Disabled



Low Band Edge with Hopping Enabled



High Band Edge with Hopping Disabled



High Band Edge with Hopping Enabled

SPURIOUS RF CONDUCTED EMISSIONS

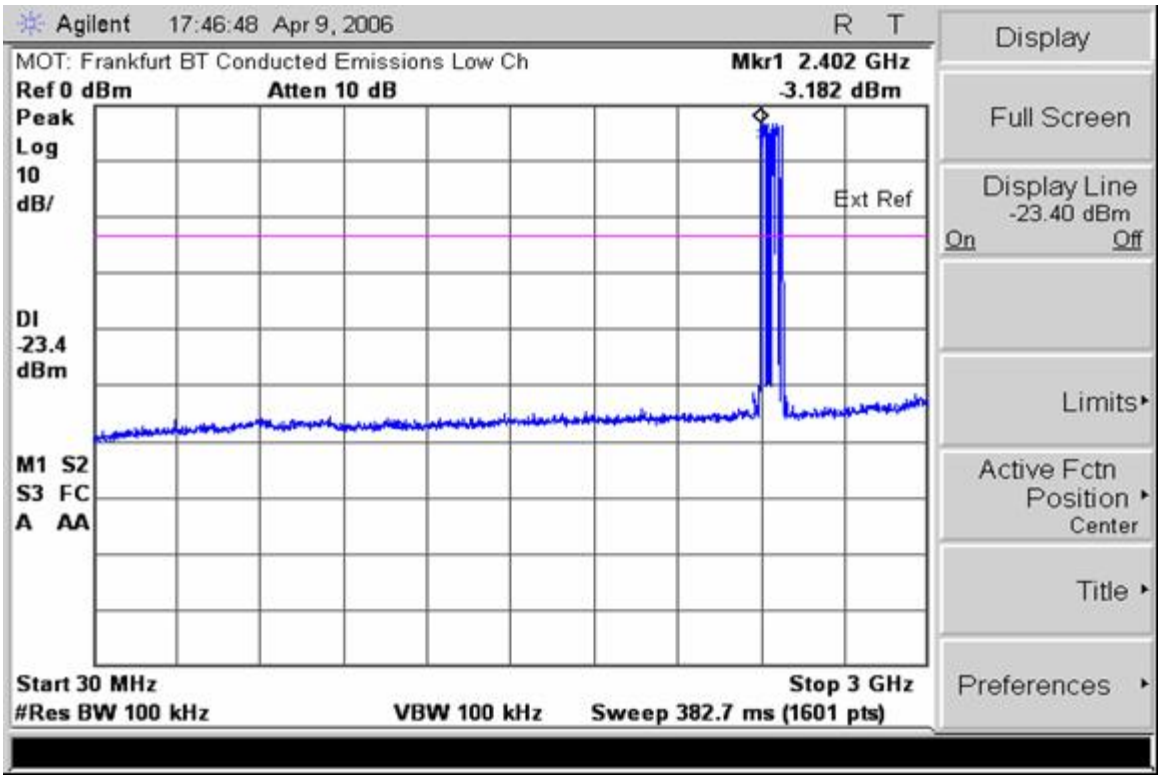
CFR 47 Part 15.247

Measurement Procedure

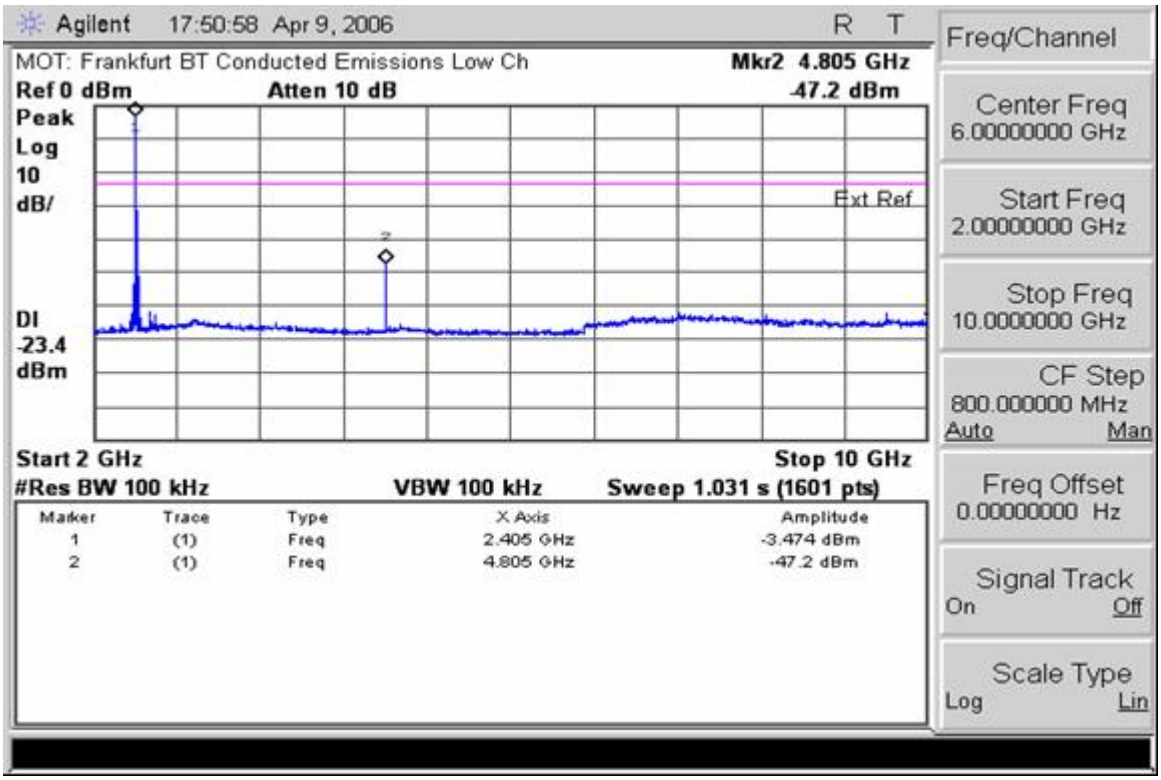
The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

Measurement Results

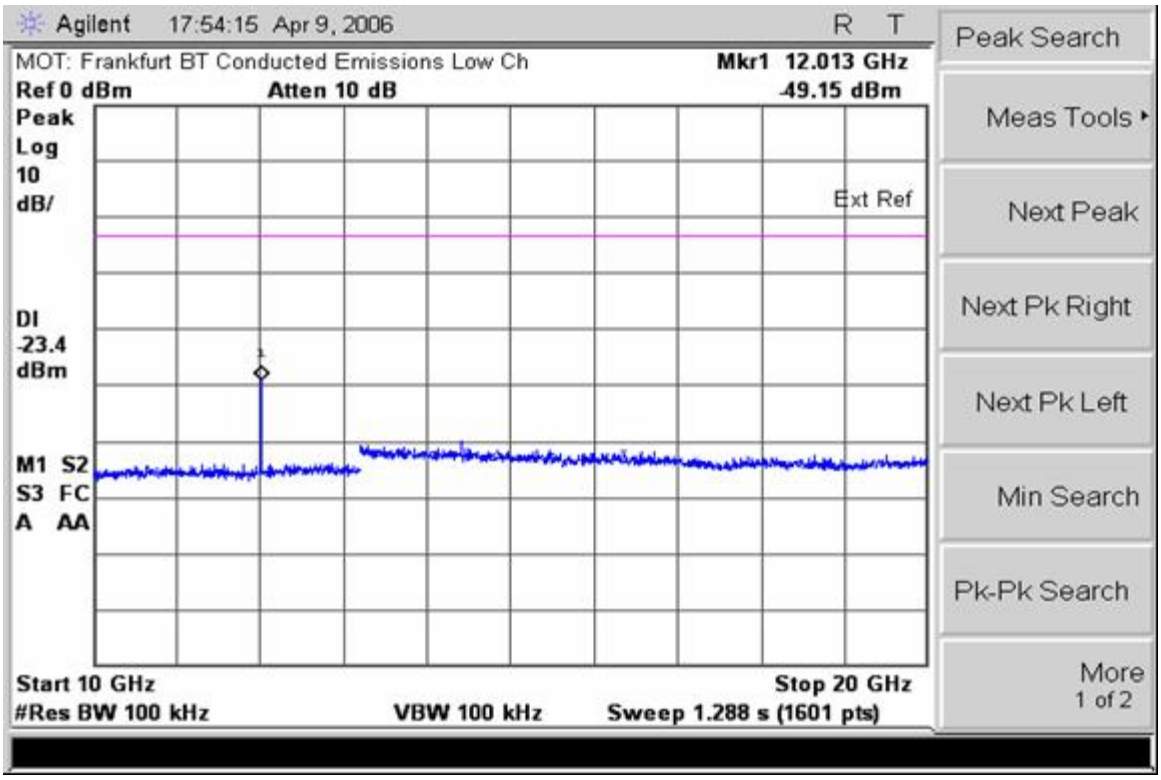
See attached:



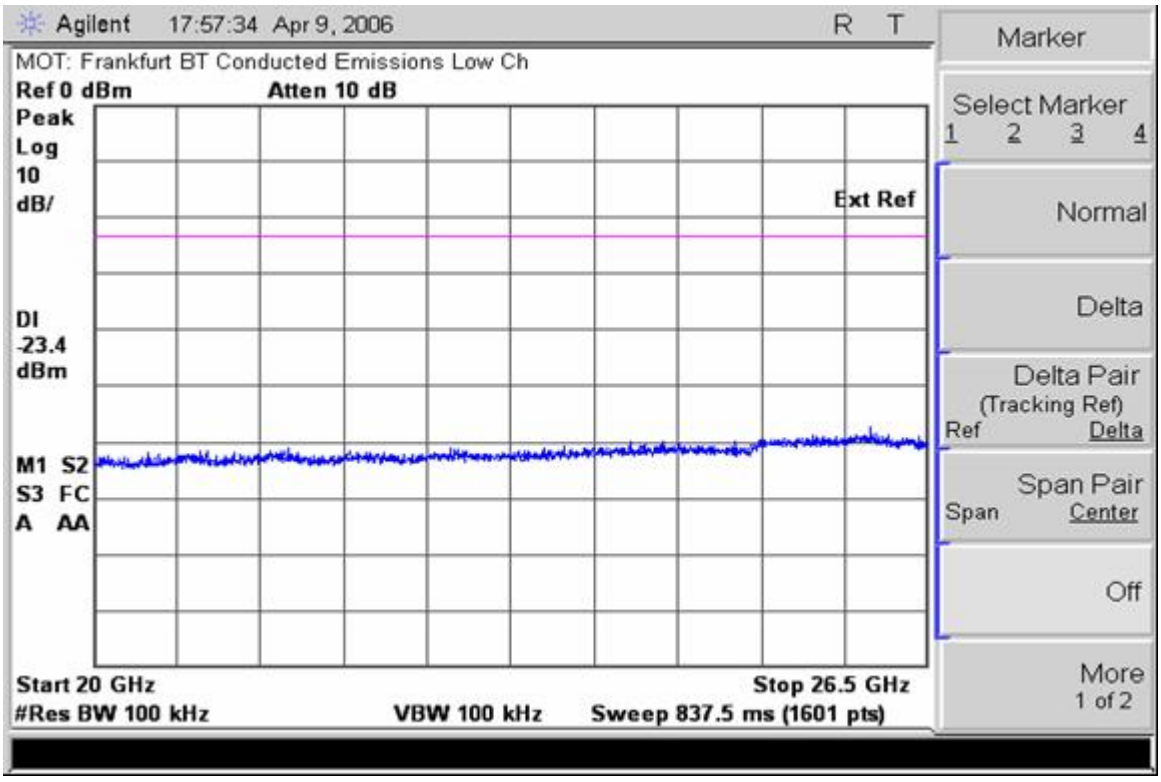
Conducted Spurious Emissions 30-3000MHz (Low Channel)



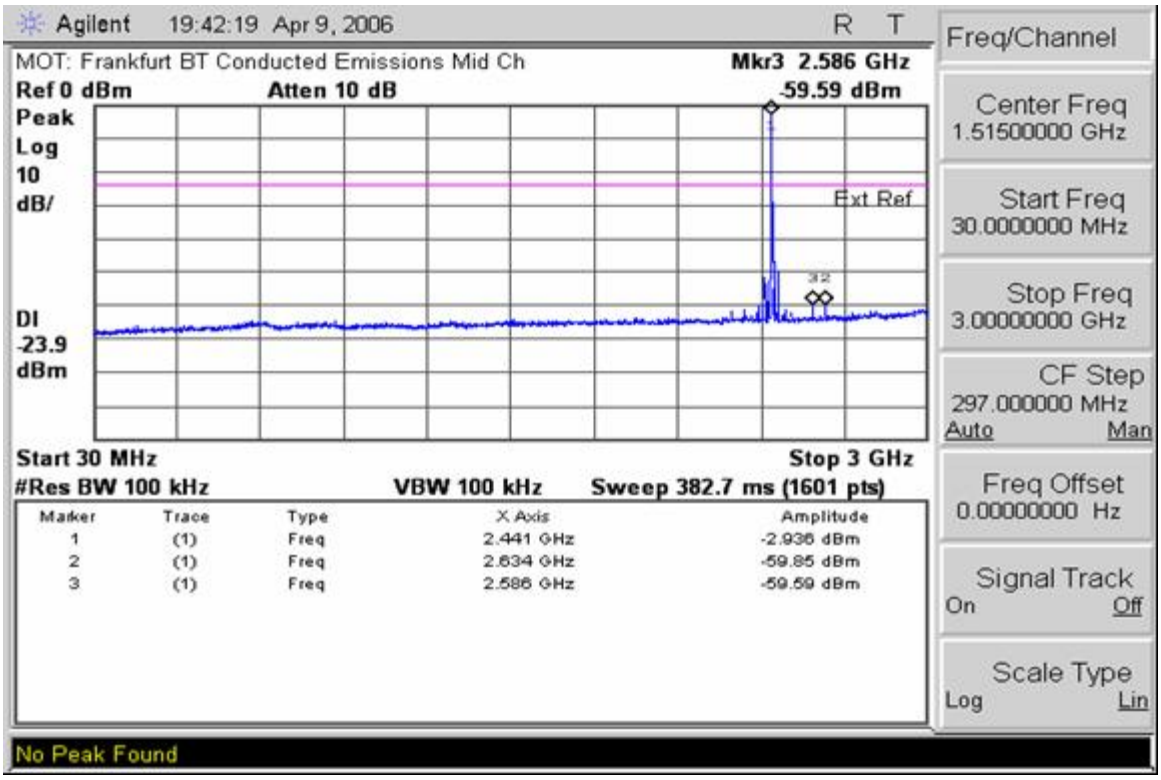
Conducted Spurious Emissions 2-10GHz (Low Channel)



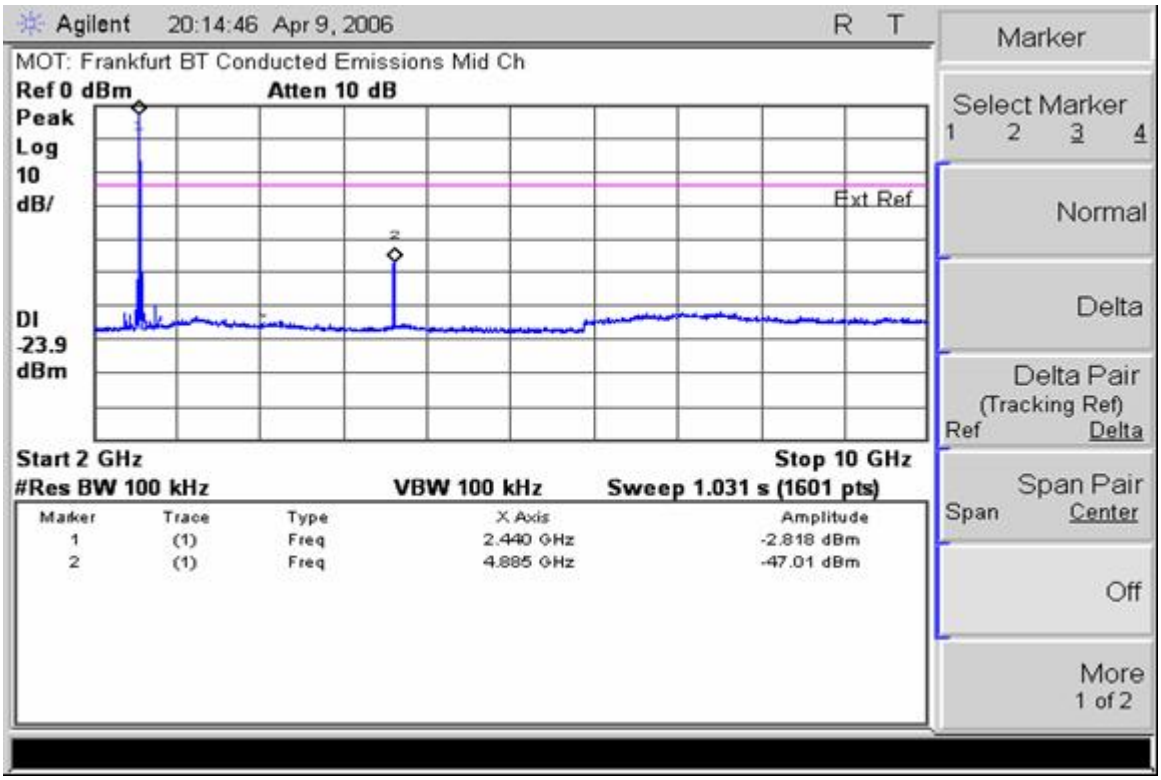
Conducted Spurious Emissions 10-20GHz (Low Channel)



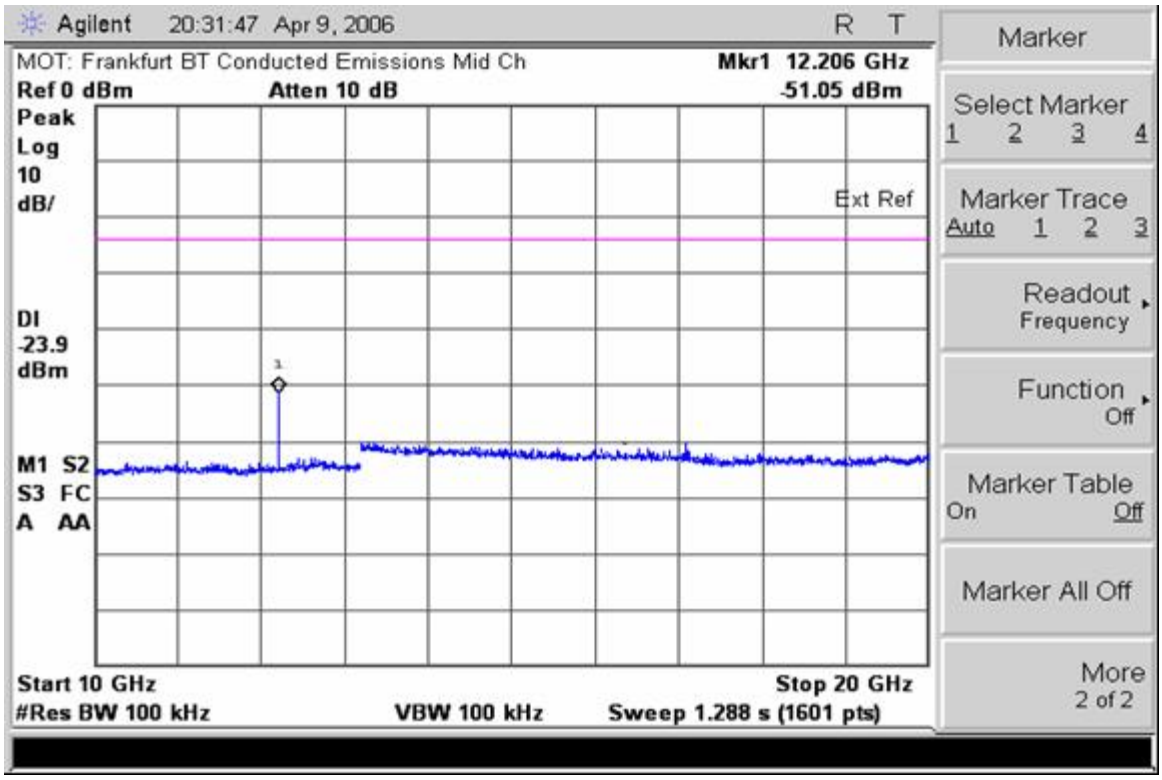
Conducted Spurious Emissions 20-26.5GHz (Low Channel)



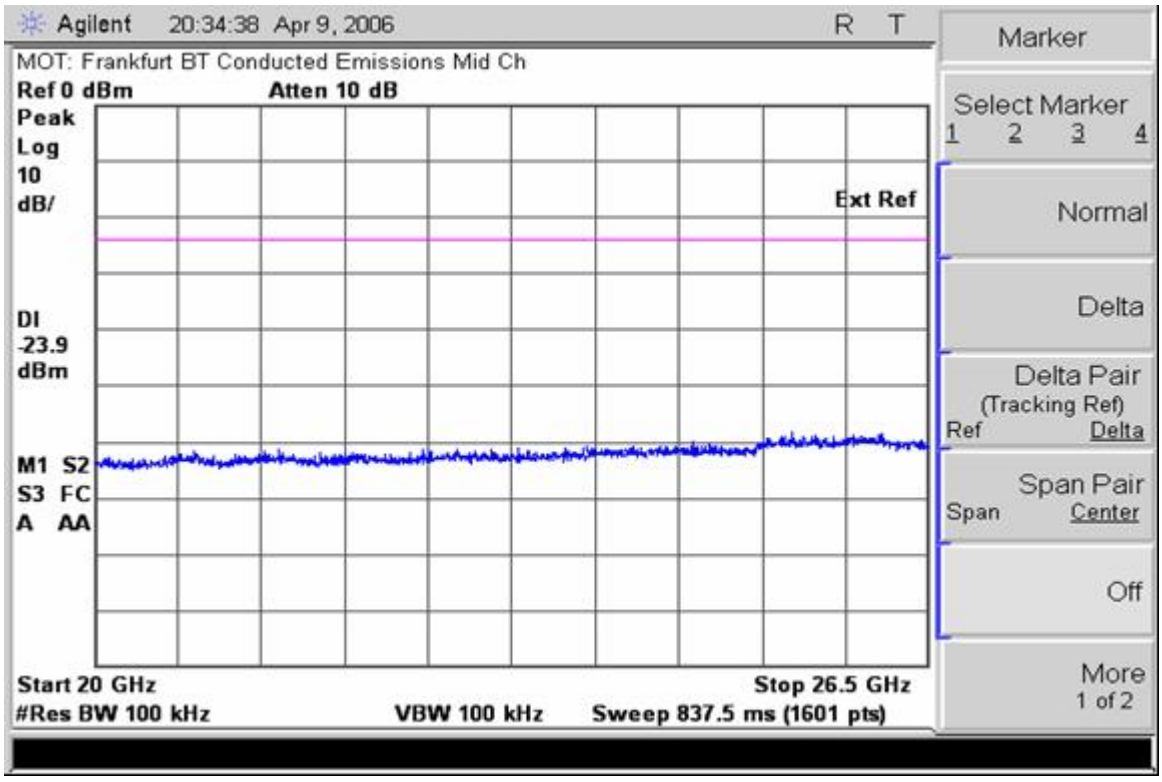
Conducted Spurious Emissions 30-3000MHz (Mid Channel)



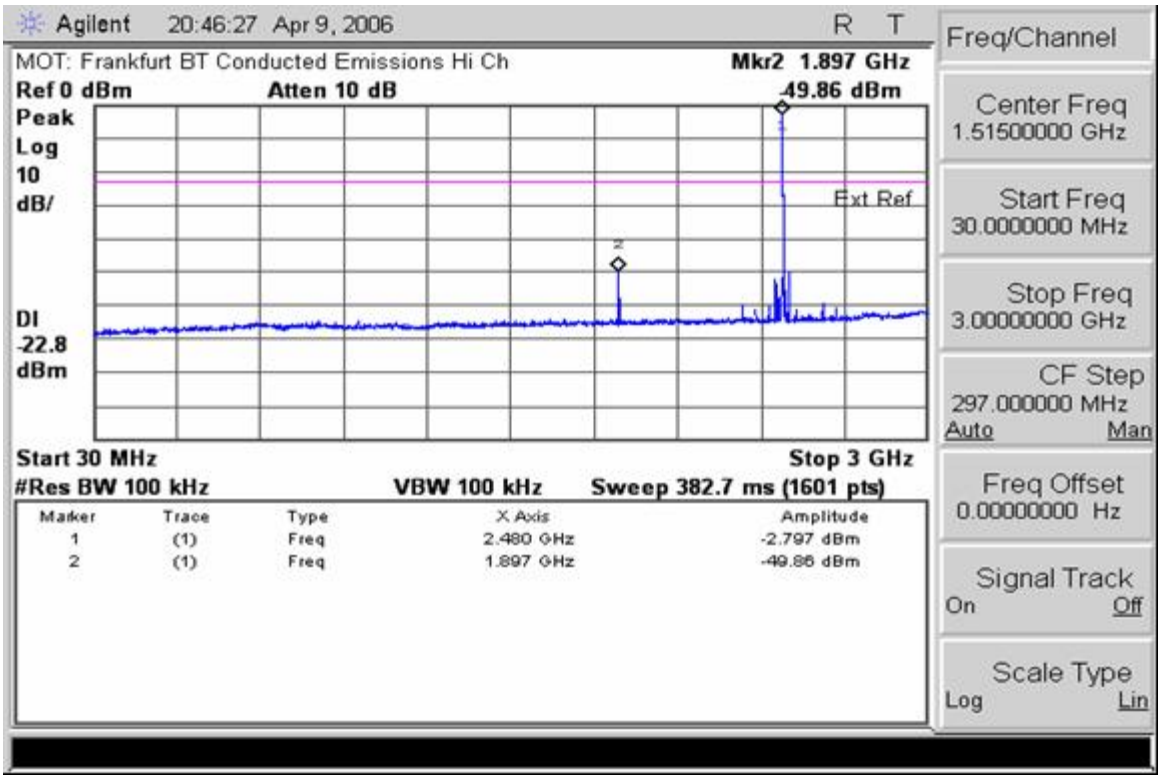
Conducted Spurious Emissions 2-10GHz (Mid Channel)



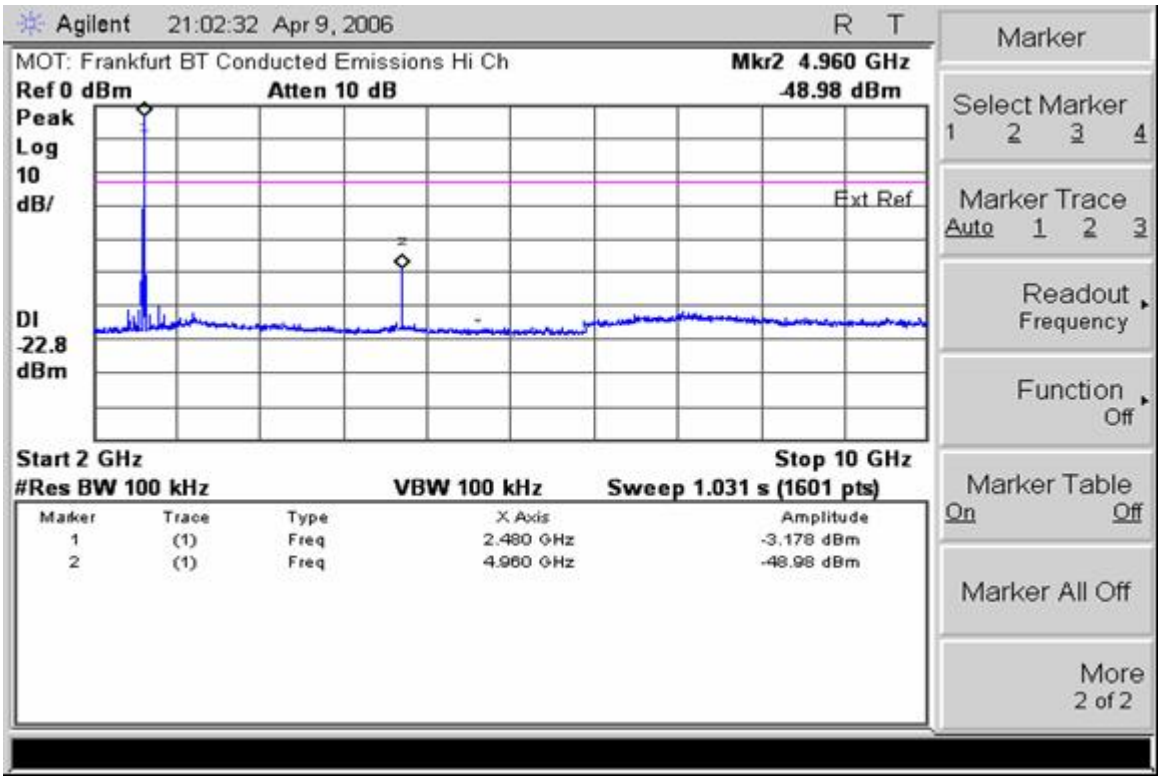
Conducted Spurious Emissions 10-20GHz (Mid Channel)



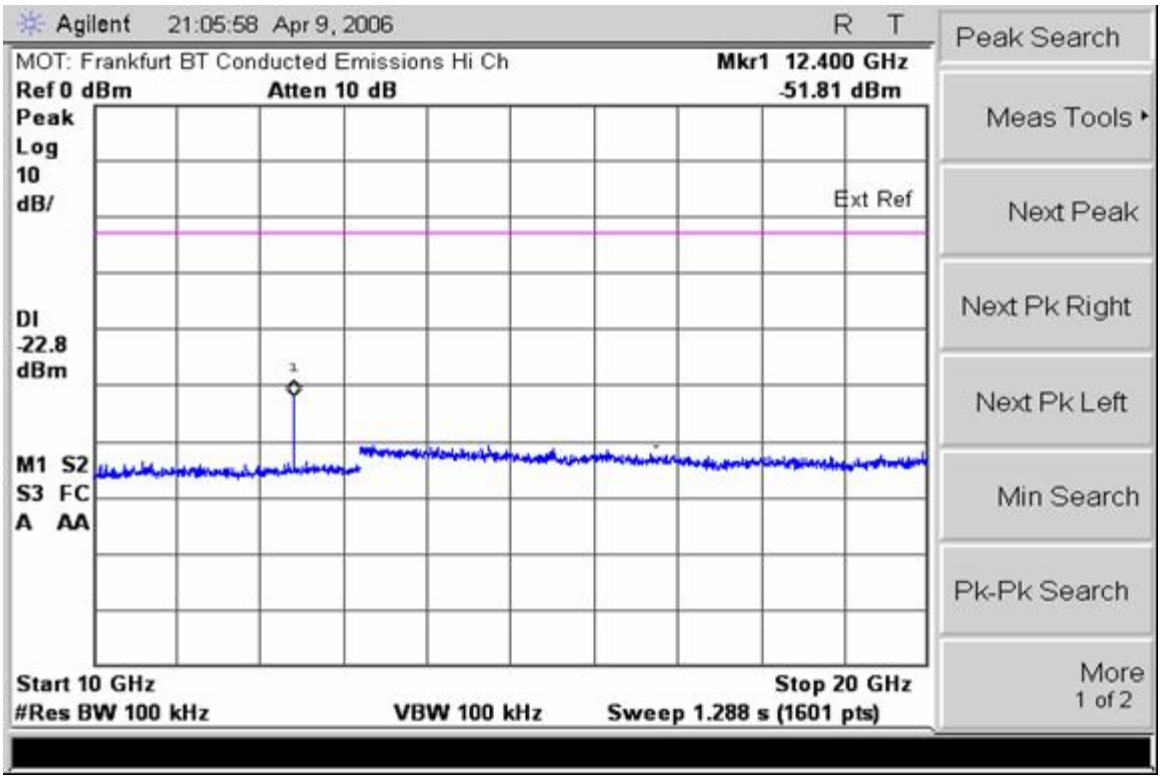
Conducted Spurious Emissions 20-26.5GHz (Mid Channel)



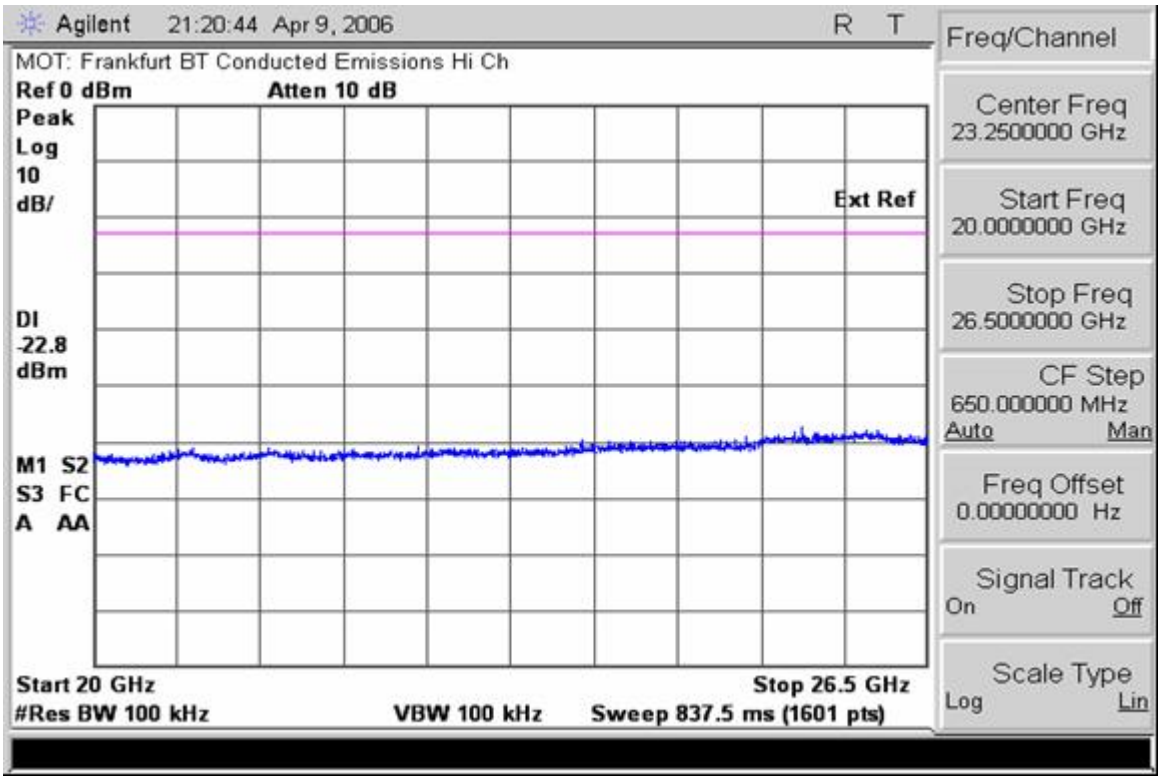
Conducted Spurious Emissions 30-3000MHz (High Channel)



Conducted Spurious Emissions 2-10GHz (High Channel)



Conducted Spurious Emissions 10-20GHz (High Channel)



Conducted Spurious Emissions 20-26.5GHz (High Channel)

AC LINE CONDUCTED

CFR 47 Part 15.207

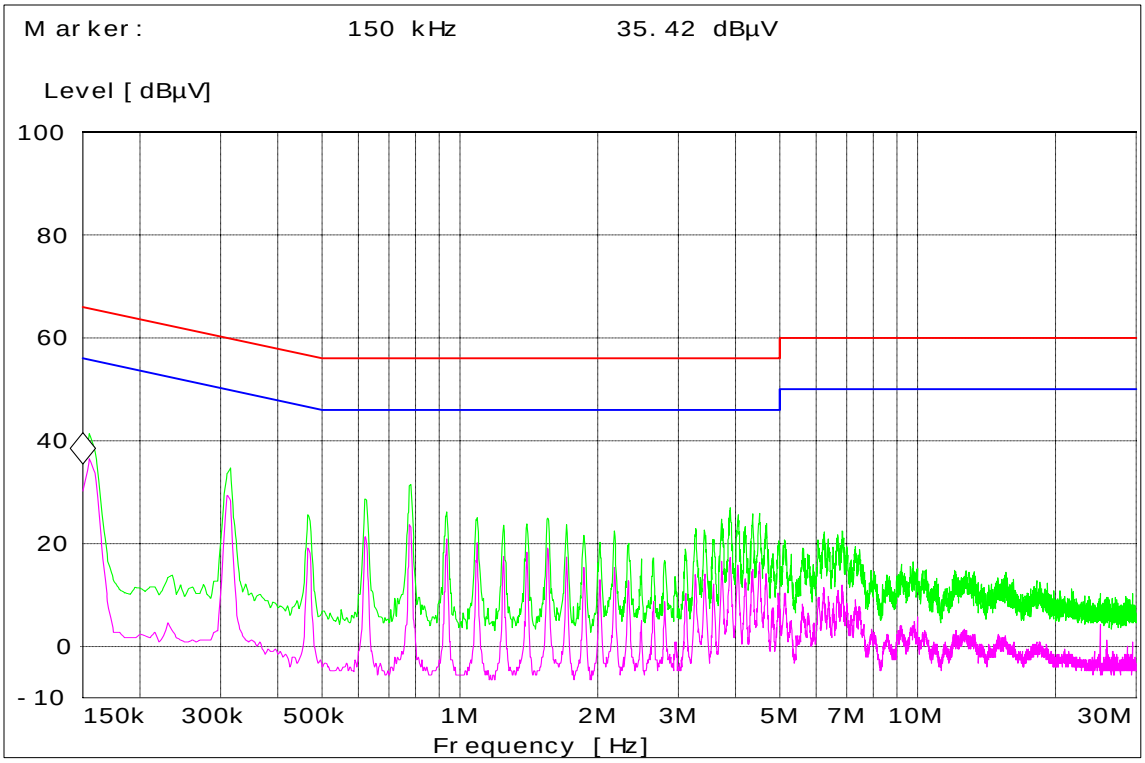
Measurement Procedure

Measured levels of ac power line conducted emission shall be the radio-noise voltage from the line probe or across the 50 Ω LISN port, where permitted, terminated into a 50 Ω noise meter, or where permitted or required, the radio-noise current on the power line sensed by a current probe.

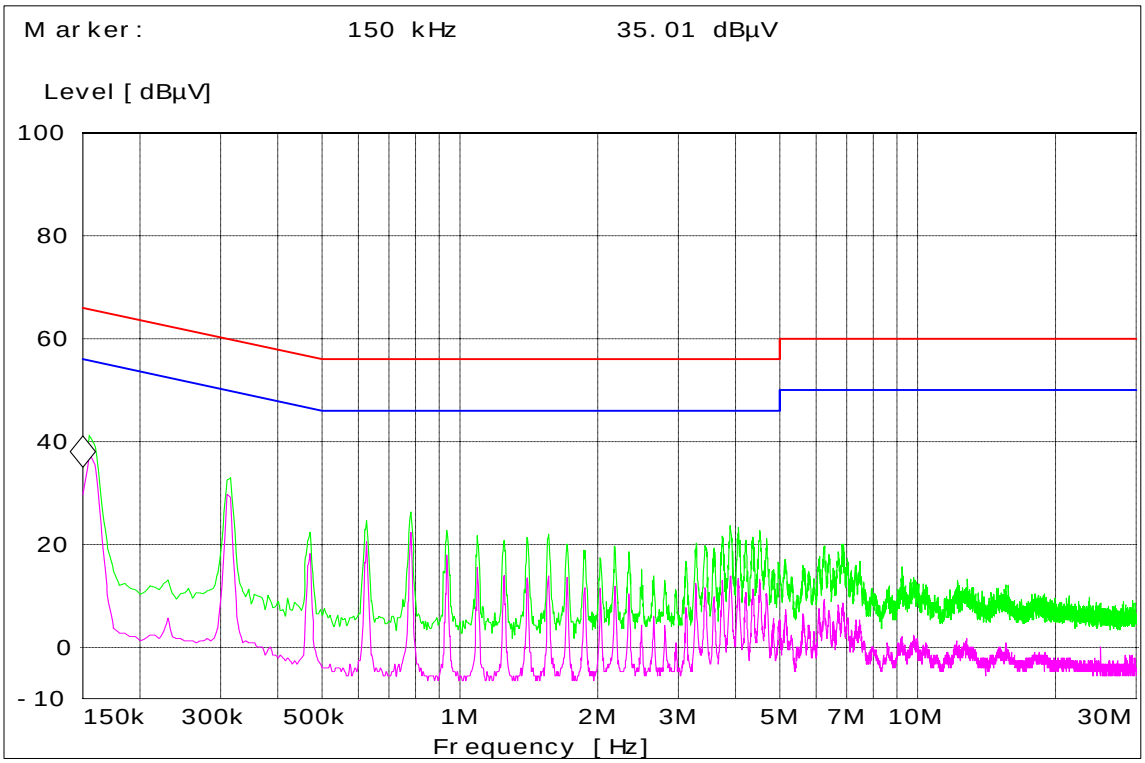
All radio-noise voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord or calibrated extension cord by the use of mating plugs and receptacles on the EUT and LISN. Equipment shall be tested with power cords that are normally supplied using an LISN, the 50 Ω measuring port is terminated by a 50 Ω radio-noise meter or a 50 Ω resistive load. All other ports are terminated in 50 Ω.

Measurement Results

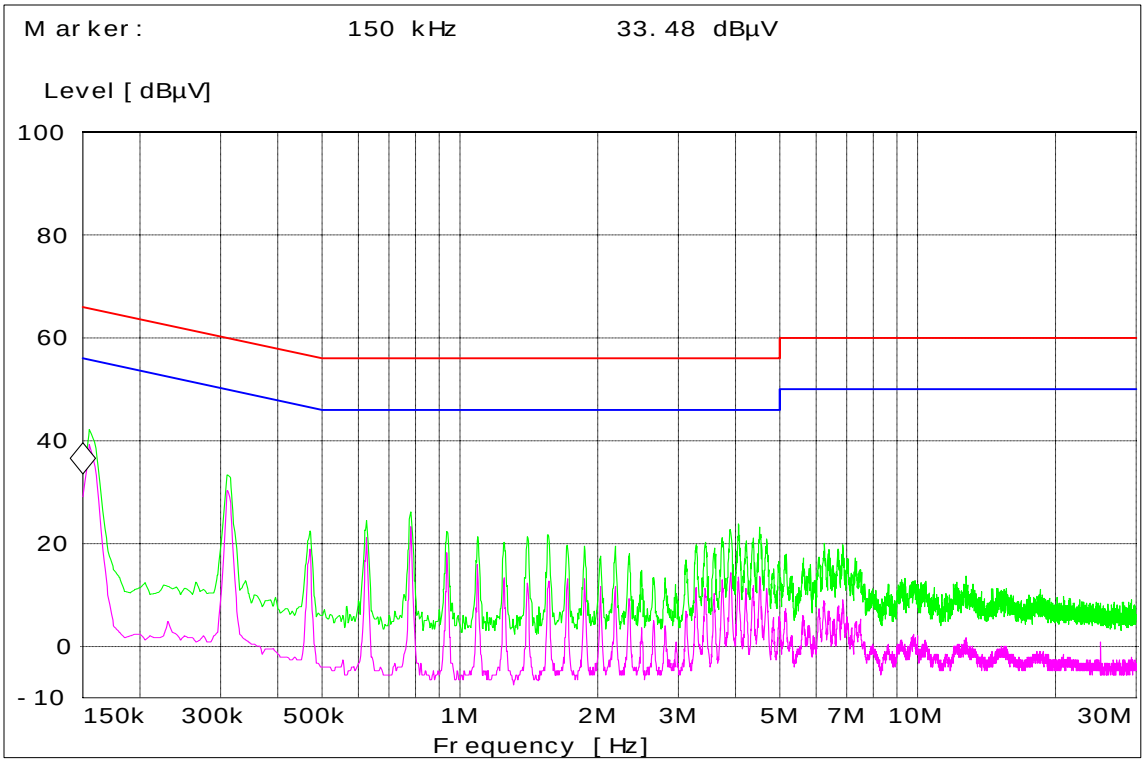
See attached:



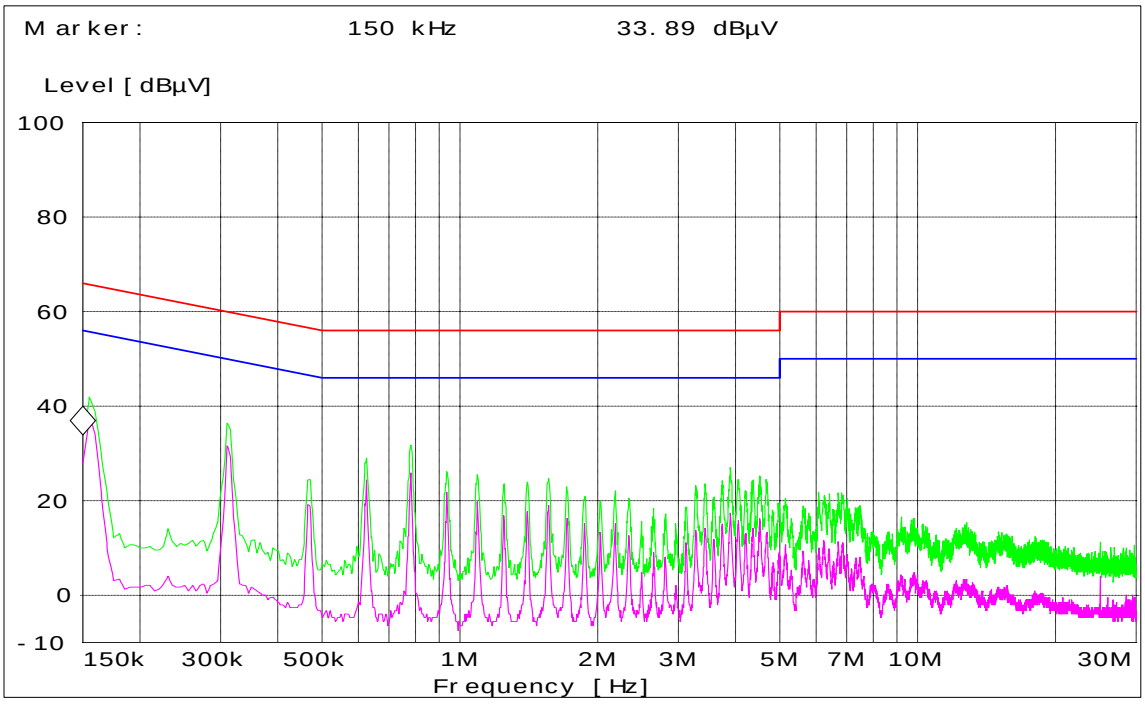
Channel 0 - 2402MHz - Tx Mode - Neutral Coupling Hopping



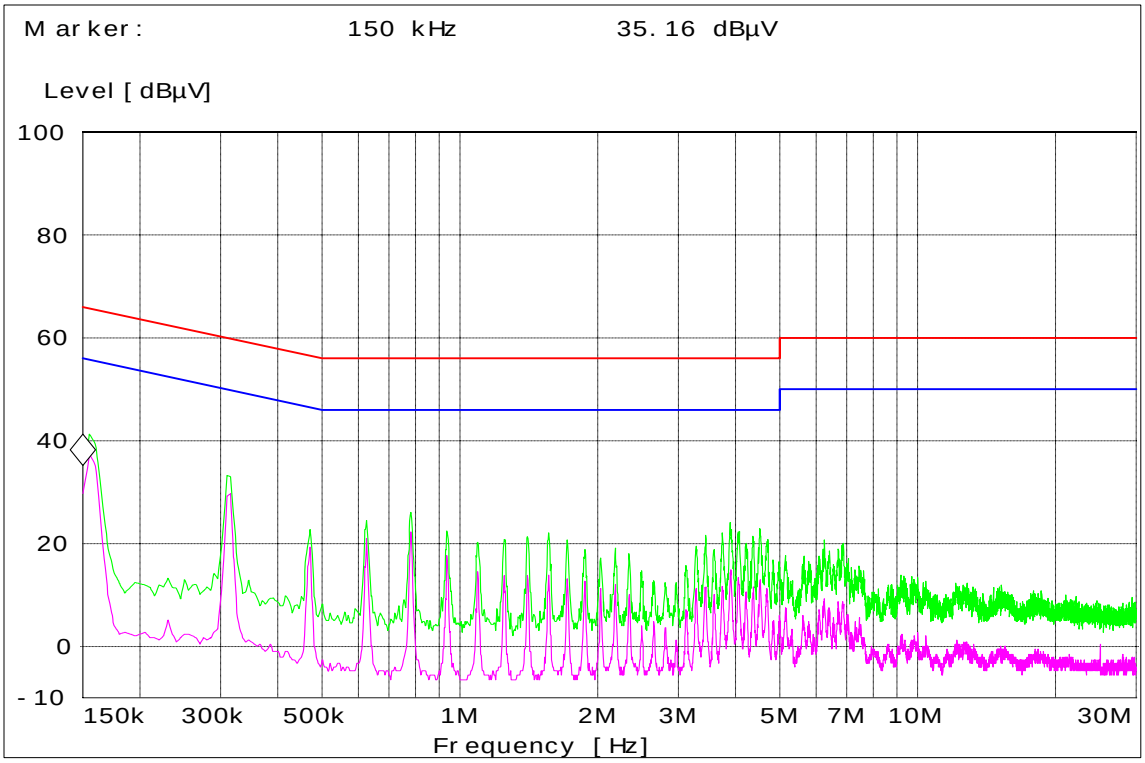
Channel 0 - 2402MHz - Tx Mode - Line Coupling Nonhopping



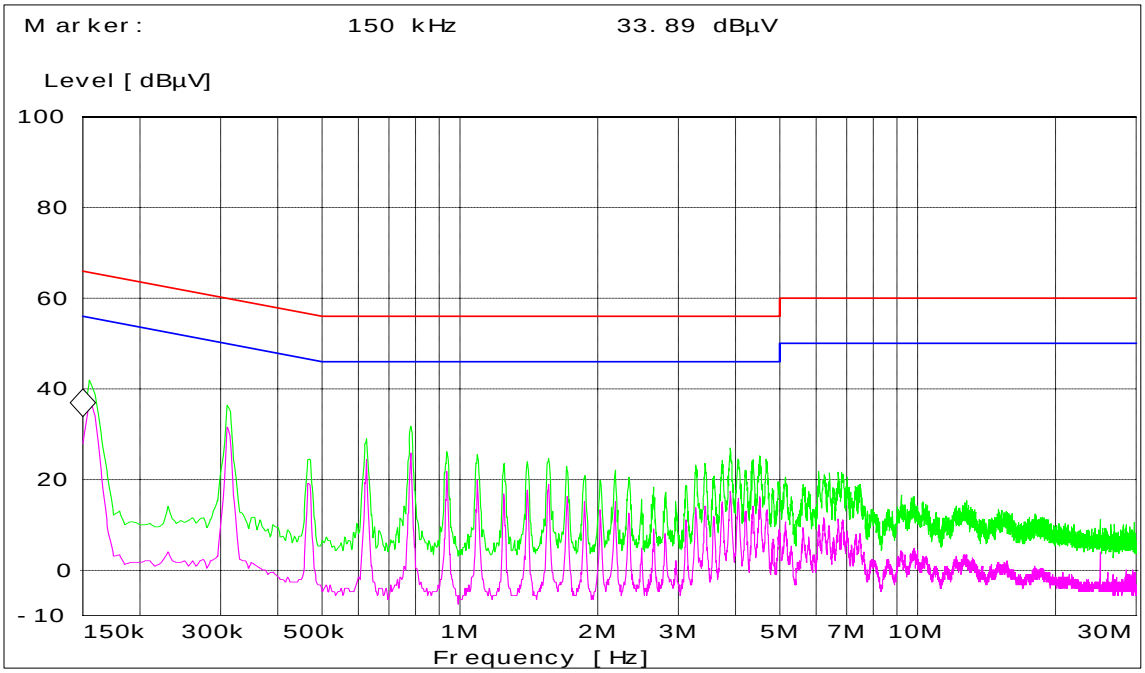
Channel 39 - 2441MHz - Tx Mode - Line Coupling Nonhopping



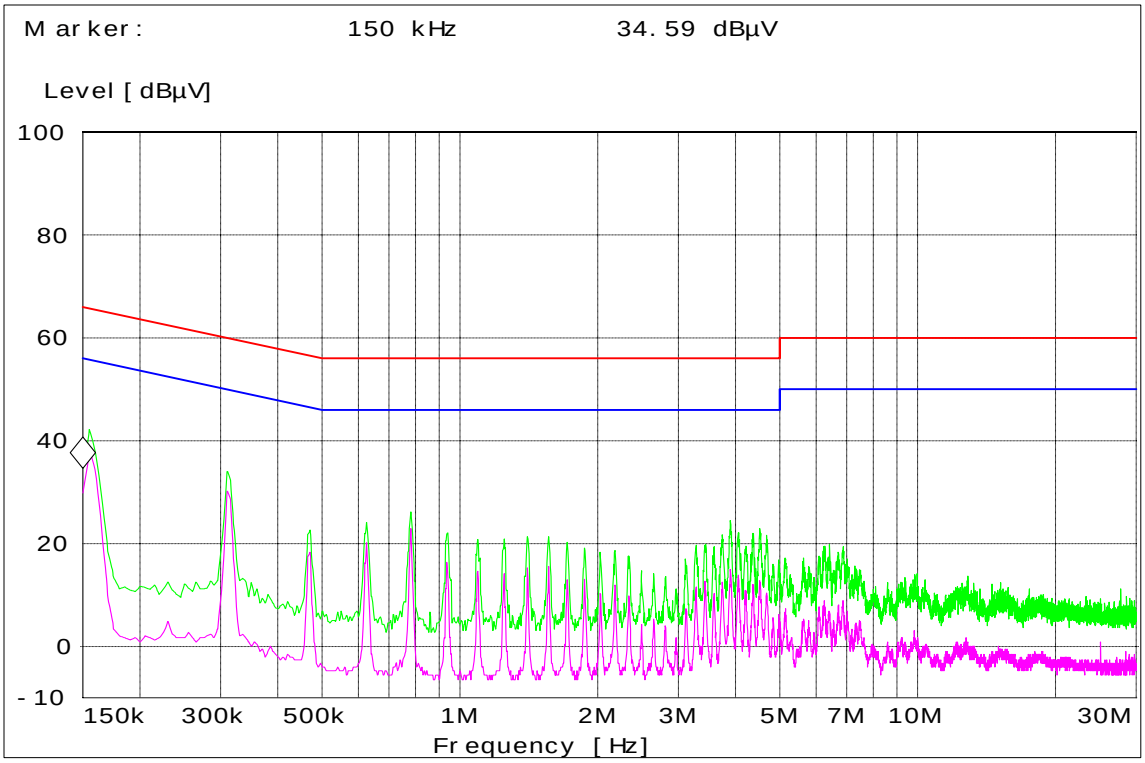
Channel 39 - 2441MHz - Tx Mode - Neutral Coupling Hopping



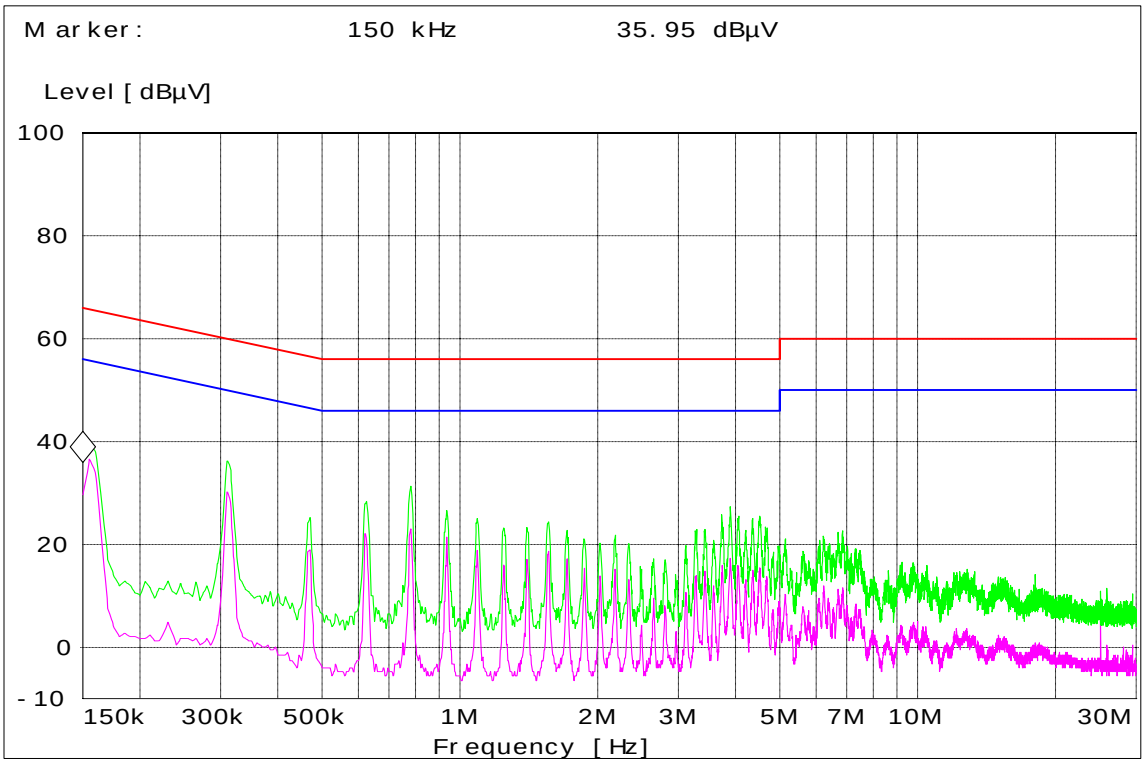
Channel 78 - 2480MHz - Tx Mode - Line Coupling Hopping



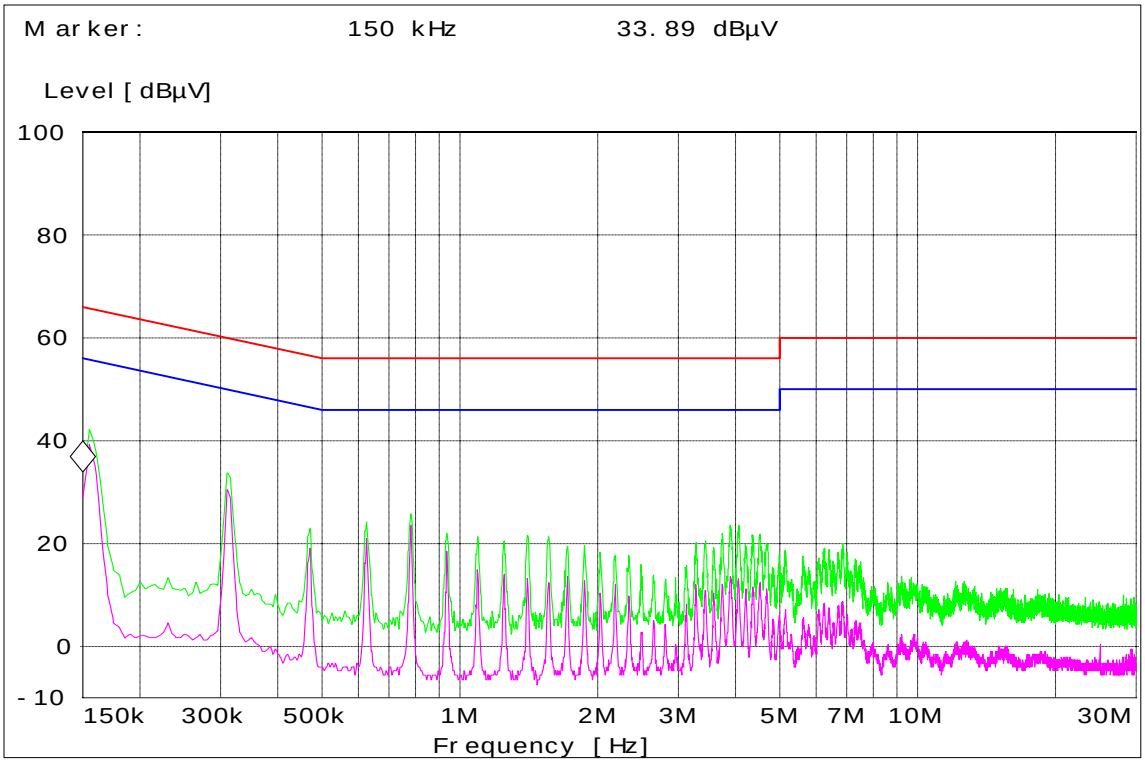
Channel 78 - 2480MHz - Tx Mode - Neutral Coupling Hopping



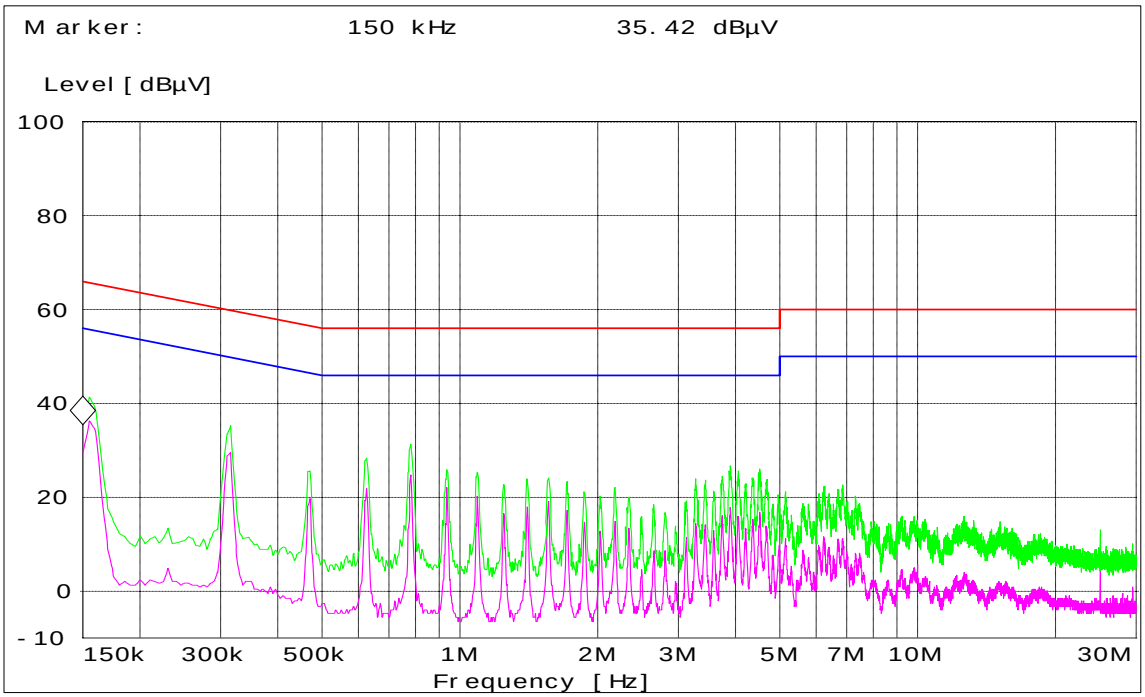
Channel 0 - 2402MHz - Tx Mode - Line Coupling Hopping



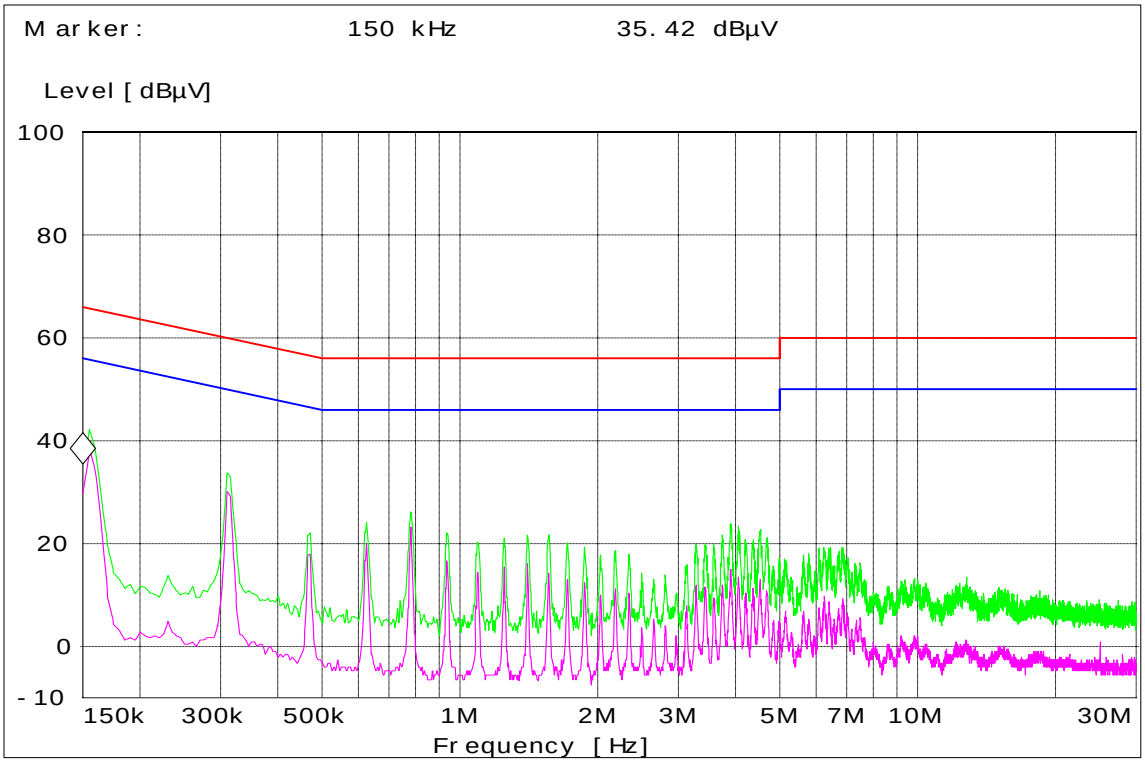
Channel 0 - 2402MHz - Tx Mode - Neutral Coupling Nonhopping



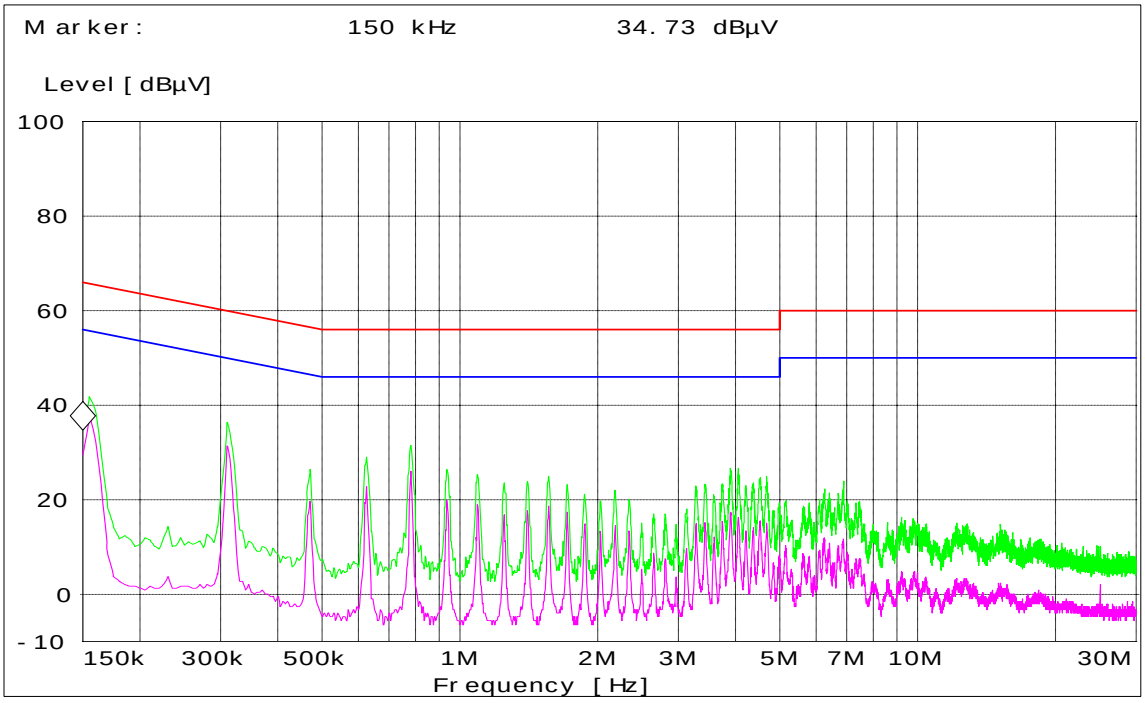
Channel 39 - 2441MHz - Tx Mode - Line Coupling Hopping



Channel 39 - 2441MHz - Tx Mode - Neutral Coupling Nonhopping



Channel 78 - 2480MHz - Tx Mode - Line Coupling Nonhopping



Channel 78 - 2480MHz - Tx Mode - Neutral Coupling Nonhopping

End of Test Report