



**MOTOROLA**

**PERSONAL COMMUNICATIONS SECTOR**

**PRODUCT SAFETY AND COMPLIANCE  
EMC LABORATORY**

**EMC TEST REPORT - Addendum**

**Test Report Number** – 16757-1BT

**Report Date** – August 18, 2005

Revision 2

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.

*Mark Sidlow*

Signature:

Name: Mark Sidlow

Title: Senior Electrical Engineer

Date : 2005-26-08

This report must not be reproduced, except in full, without written approval from this laboratory.

THIS REPORT MUST NOT BE USED TO CLAIM PRODUCT ENDORSEMENT BY A2LA OR ANY AGENCY OF THE U.S. GOVERNMENT.

A2LA Certificate Number: 1651.01



**Table of Contents**

Test Report Details ..... 5

Applicable Standards ..... 6

Summary of Testing..... 7

General and Special Conditions..... 7

Equipment and Cable Configurations ..... 8

Measuring Equipment and Calibration Information ..... 8

Description of Bluetooth Transmitter ..... 9

Measurement Procedures and Data..... 10

**CARRIER FREQUENCY SEPARATION** ..... 10

        Measurement Procedure..... 10

        Measurement Results ..... 10

            Carrier Frequency Separation ..... 11

**NUMBER OF HOPPING FREQUENCIES** ..... 12

        Measurement Procedure..... 12

        Measurement Results ..... 12

            Number of Hopping Frequencies (Channels 0 – 39) ..... 13

            Number of Hopping Frequencies (Channels 39 – 78) ..... 13

**TIME OF OCCUPANCY (DWELL TIME)**..... 14

        Measurement Procedure..... 14

        Measurement Results ..... 14

            Dwell Time ..... 15

**20dB Bandwidth** ..... 16

        Measurement Procedure..... 16

        Measurement Results ..... 16

**FIELD STRENGTH OF SPURIOUS EMISSIONS**..... 18

        Measurement Procedure..... 18

        Measurement Results ..... 18

            30-1000MHz Low Channel Dual Polarization X ..... 19

            30-1000MHz Low Channel Dual Polarization Y ..... 20

            30-1000MHz Low Channel Dual Polarization Z..... 21

            30-1000MHz Mid Channel Dual Polarization X ..... 22

            30 -1000MHz Mid Channel Dual Polarization Y ..... 23

            30 -1000MHz Mid Channel Dual Polarization Z ..... 24

            30 -1000MHz High Channel Dual Polarization X..... 25

            30 -1000MHz High Channel Dual Polarization Y ..... 26

            30 -1000MHz High Channel Dual Polarization Z ..... 27

            1-25 GHz Low Channel Dual Polarization X ..... 28

            1-25 GHz Low Channel Dual Polarization Y ..... 29

            1-25 GHz Low Channel Dual Polarization Z ..... 30

            1-25 GHz Mid Channel Dual Polarization X..... 31

            1-25 GHz Mid Channel Dual Polarization Y ..... 32

            1-25 GHz Mid Channel Dual Polarization Z ..... 33

            1-25 GHz High Channel Dual Polarization X ..... 34

            1-25 GHz High Channel Dual Polarization Y ..... 35

            1-25 GHz High Channel Dual Polarization Z..... 36

- Authorized Band Emissions Low Channel Dual Polarization X ..... 37
- Authorized Band Emissions Low Channel Dual Polarization Y ..... 38
- Authorized Band Emissions Low Channel Dual Polarization Z ..... 39
- Authorized Band Emissions Mid Channel Dual Polarization X..... 40
- Authorized Band Emissions Mid Channel Dual Polarization Y..... 41
- Authorized Band Emissions Mid Channel Dual Polarization Z..... 42
- Authorized Band Emissions High Channel Dual Polarization X ..... 43
- Authorized Band Emissions High Channel Dual Polarization Y ..... 44
- Authorized Band Emissions High Channel Dual Polarization Z..... 45
- PEAK OUTPUT POWER ..... 46
  - Measurement Procedure..... 46
  - Measurement Results ..... 46
    - Peak Output Power ..... 46
- BAND-EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS ..... 47
  - Measurement Procedure..... 47
  - Measurement Results ..... 47
    - Low Band Edge with Hopping Disabled ..... 48
    - Low Band Edge with Hopping Enabled ..... 48
    - High Band Edge with Hopping Disabled..... 48
    - High Band Edge with Hopping Enabled..... 49
- SPURIOUS RF CONDUCTED EMISSIONS ..... 50
  - Measurement Procedure..... 50
  - Measurement Results ..... 50
    - Conducted Spurious Emissions 30-3000MHz (Low Channel Enabled)..... 51
    - Conducted Spurious Emissions 2-10GHz (Low Channel Enabled) ..... 51
    - Conducted Spurious Emissions 10-20GHz (Low Channel Enabled) ..... 52
    - Conducted Spurious Emissions 20-26.5GHz (Low Channel Enabled) ..... 52
    - Conducted Spurious Emissions 30-3000MHz (Mid Channel Enabled) ..... 53
    - Conducted Spurious Emissions 2-10GHz (Mid Channel Enabled)..... 523
    - Conducted Spurious Emissions 10-20GHz (Mid Channel Enabled)..... 524
    - Conducted Spurious Emissions 20-26.5GHz (Mid Channel Enabled)..... 524
    - Conducted Spurious Emissions 30-3000MHz (High Channel Enabled)..... 55
    - Conducted Spurious Emissions 2-10GHz (High Channel Enabled)..... 55
    - Conducted Spurious Emissions 10-20GHz (High Channel Enabled)..... 56
    - Conducted Spurious Emissions 20-26.5GHz (High Chan Enabled) ..... 56
- AC LINE CONDUCTED ..... 507
  - Measurement Procedure..... 507
  - Measurement Results ..... 507
    - Bluetooth Channel 0 2402MHz TX Mode Neutral Coupling Hopping..... 58
    - Bluetooth Channel 39 2441MHz TX Mode Line Coupling Nonhopping ..... 58
    - Bluetooth Channel 39 2441MHz TX Mode Neutral Coupling Hopping..... 529
    - Bluetooth Channel 78 2480MHz TX Mode Line Coupling Hopping ..... 59
    - Bluetooth Channel 78 2480MHz TX Mode Neutral Coupling Hopping..... 60
    - Bluetooth Channel 0 2441MHz TX Line Line Coupling Hopping ..... 60
    - Bluetooth Channel 0 2402MHz TX Mode Neutral Coupling Nonhopping..... 61
    - Bluetooth Channel 39 2441MHz TX Mode Line Coupling Hopping ..... 61

Bluetooth Channel 39 2441MHz TX Line Neutral Coupling Nonhopping..... 62  
Bluetooth Channel 78 2480MHz TX Mode Line Coupling Nonhopping ..... 62  
Bluetooth Channel 78 2480MHz TX Mode Neutral Coupling Nonhopping..... 63

**Test Report Details**

Tests Performed By: Motorola Personal Communications Sector  
Product Safety and Compliance Group  
600 North US Hwy 45  
Libertyville, IL 60048  
PH (847) 523-6167 Fax (847) 523-4538  
Motorola PCS FRN: 0004321311  
FCC Registration Number: 316588  
Industry Canada Number: IC3908

Radiated Emissions  
Performed By: Motorola Personal Communications Sector  
Product Safety and Compliance Group  
600 North US Hwy 45  
Libertyville, IL 60048  
PH (847) 523-6167 Fax (847) 523-4538  
Motorola PCS FRN: 0004321311  
FCC Registration Number: 316588  
Industry Canada Number: IC3908

Tests Requested By: Motorola Inc.  
Personal Communications Sector  
600 North US Hwy 45  
Libertyville, IL 60048

Product Type: Cellular Phone

Signaling Capability: GSM 850 & 1900, Bluetooth

Model Number: U6

Serial Numbers: 004400013926090, 004400013926264,  
004400013926140

Testing Complete Date: August 17, 2005

## **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:

- 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	Result
2	Number of Hopping Frequencies	Result
3	Time of Occupancy (Dwell Time)	Result
4	20 dB Bandwidth	Result
5	Spurious RF Conducted Emissions	Result
6	Field Strength of Spurious Emissions	Result
7	Max Power	N/A
8	Band Edges	See plots
9	Conducted Spurious Emissions	Result

Test	Test Name	Results
1	Carrier Frequency Separation	1.0 MHz
2	Number of Hopping	79
3	Time of Occupancy (Dwell Time)	2.92 ms
4	20 dB Bandwidth	1.0 MHz
5	Spurious RF Conducted Emissions	See plots
6	Field Strength of Spurious Emissions	See plots
7	Max Power	2.751 dBm
8	Band Edges	See plots
9	Conducted Spurious Emissions	See plots

The margin with respect to the limit is the minimum margin for all modes and bands. ( ) indicates the margin at which the product exceeds the limit.

**General and Special Conditions**

The 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 22° 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**

Paste Equipment List Here

<b>Manufacturer</b>	<b>Equipment Type</b>	<b>Model No.</b>	<b>Serial Number</b>	<b>Cal. Due Date</b>
Rohde & Schwarz	Receiver	ESI26	838786/010	2/7/2006
Hewlett-Packard	EMC Analyzer	8593EM	3536A00118	10/2/2005
Hewlett-Packard	EMC Analyzer	7405	US39440191	11/13/2005
ETS	DRG Horn Antenna	265	2455	5/25/2006
ETS	DRG Horn Antenna	3115	6222	2/9/2006
ETS	Log-Periodic Antenna	3148	1188	6/14/2006
ETS	Biconical Antenna	3110B	3370	2/16/2006
Attenuator	Weinschel	AS-6	6675	10/14/2005
Attenuator	Weinschel	AS-6	6677	11/4/2005
Rohde & Schwarz	Mobile Test Set	CMD 80	DE29008	N/A
Hewlett-Packard	Signal Generator	83623B	3844A01195	5/23/2006
Thermotron	Environmental Chamber	S-4	31580	1/18/2006
Giga-Tronics	Power Meter	8651A	8650508	12/27/2005

All equipment is on a one-year calibration cycle.

## **Description of Bluetooth Transmitter**

The U6 cell phone offers Bluetooth as a feature. The Bluetooth spread-spectrum, frequency hopping transceiver is designed to operate between 2400 and 2483 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 maximum Bluetooth antenna gain is -2 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 V6 had its hopping function enabled. The following spectrum analyzer settings were used:

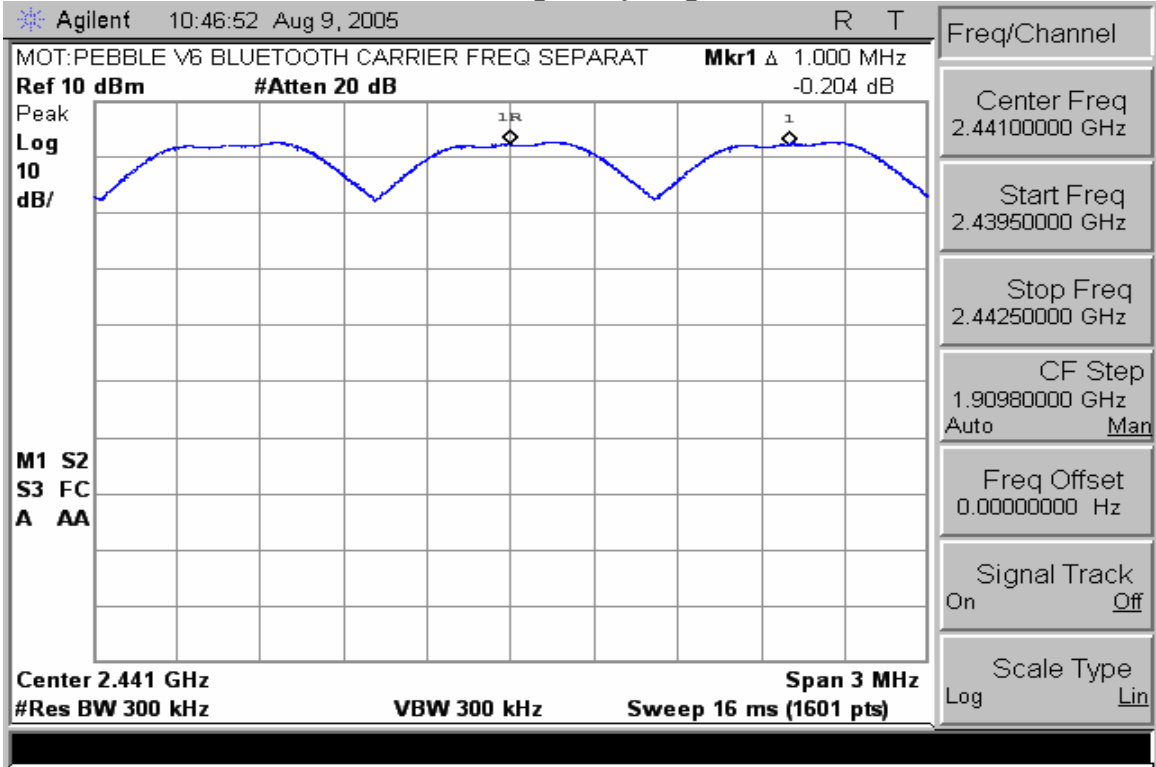
1. Span = wide enough to capture the peaks of two adjacent channels
2. Resolution (or IF) Bandwidth (RBW)  $\geq$  1% of the span
3. Video (or Average) Bandwidth (VBW)  $\geq$  RBW
4. Sweep = auto
5. Detector function = peak
6. Trace = max hold

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.

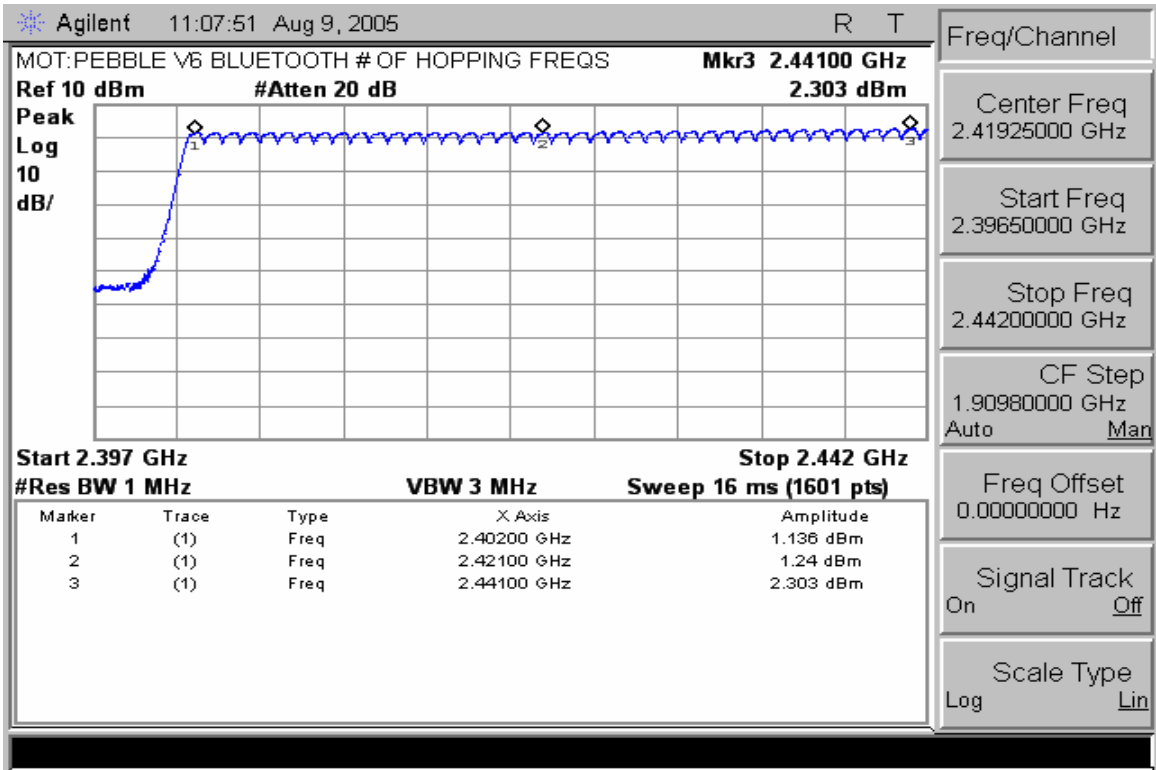
The Bluetooth frequency hopping function of the EUT was enabled. The spectrum analyzer used the following settings:

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

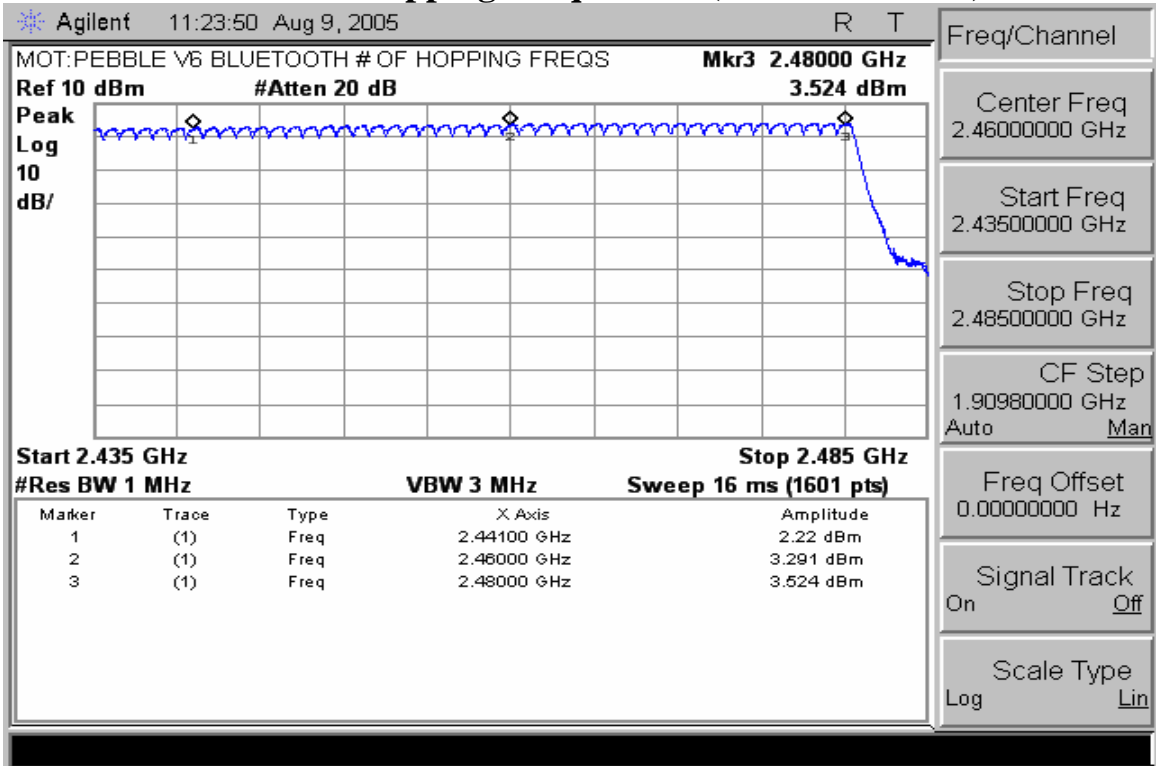
The trace was allowed to stabilize.

### **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.

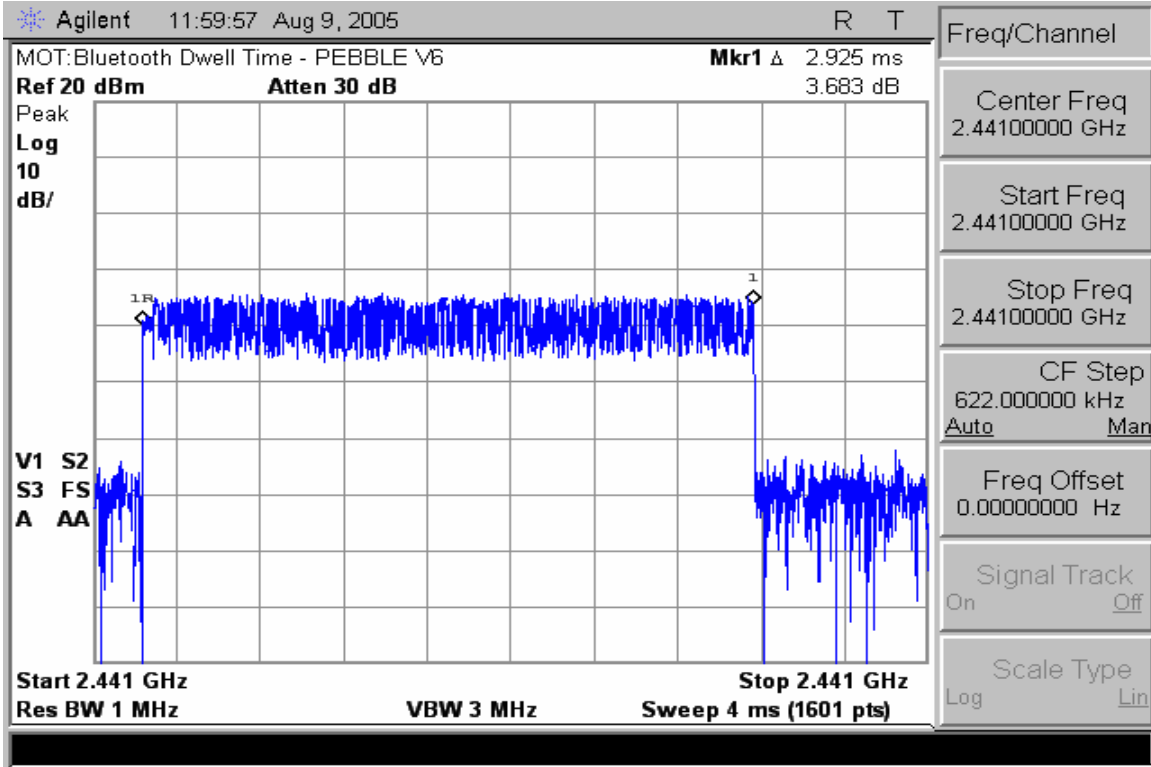
The Bluetooth hopping function of the EUT was enabled. The following spectrum analyzer settings were used:

1. Span = zero span, centered on a hopping channel
2. RBW = 1 MHz
3. VBW  $\geq$  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**

Attached



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  $\geq$  1% of the 20dB span
3. VBW  $\geq$  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**

Attached



## **FIELD STRENGTH OF SPURIOUS EMISSIONS**

CFR Part 2.1053, 15.249

### **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**

Attached

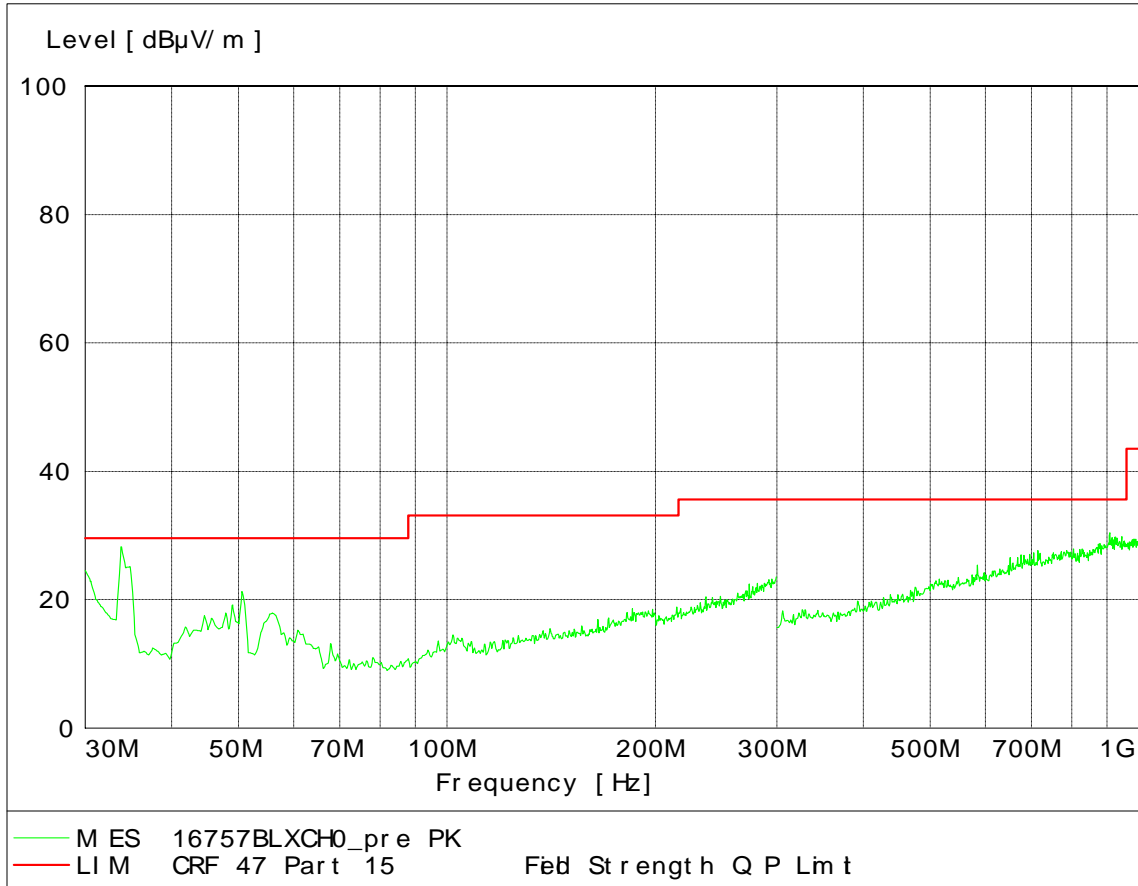
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH0 2402MHz X-Axis

GREEN HORIZONTAL AND VERTICAL



**30-1000MHz Low Channel Dual Polarization X**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	28.28	Qusi Peak	29.6
50.56	21.30	Qusi Peak	29.6
55.97	17.91	Qusi Peak	29.6

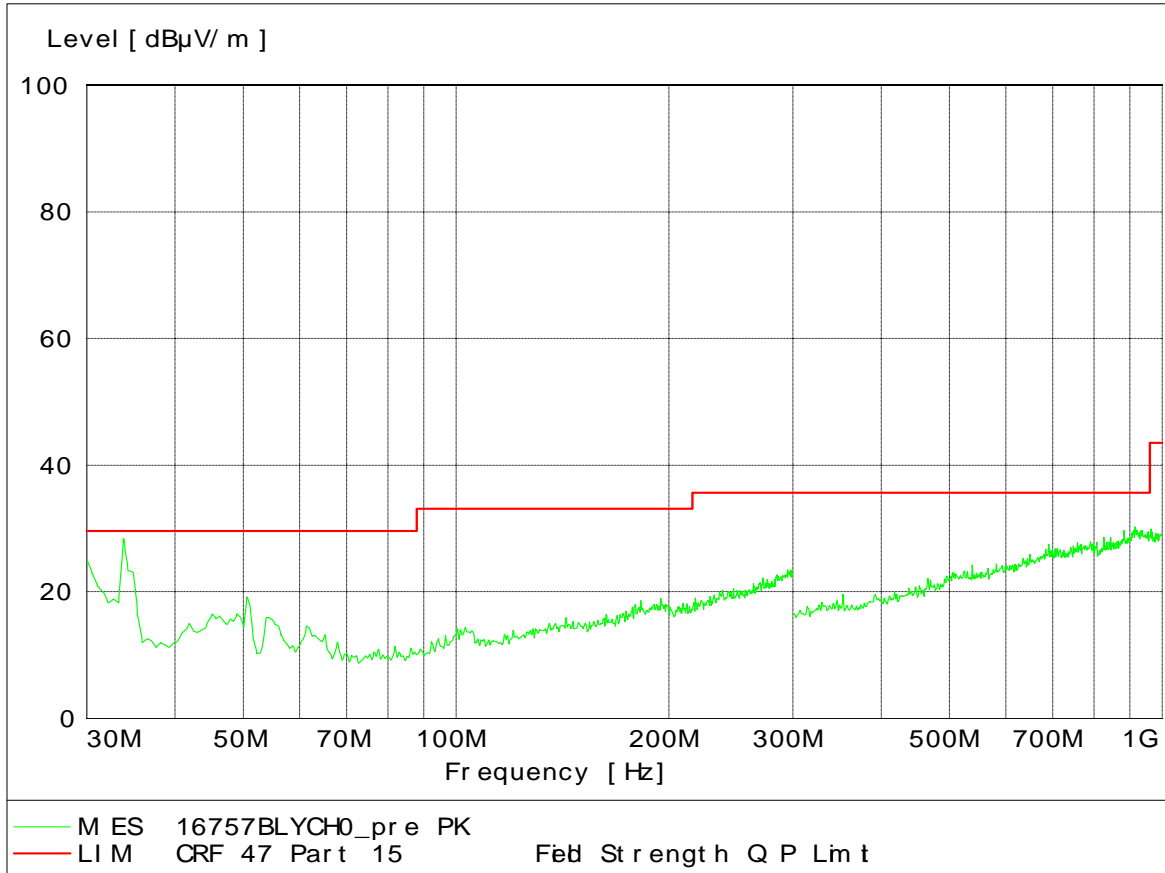
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH0 2402MHz Y-Axis

GREEN HORIZONTAL AND VERTICAL



**30-1000MHz Low Channel Dual Polarization Y**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	28.44	Qusi Peak	29.6
50.56	19.20	Qusi Peak	29.6

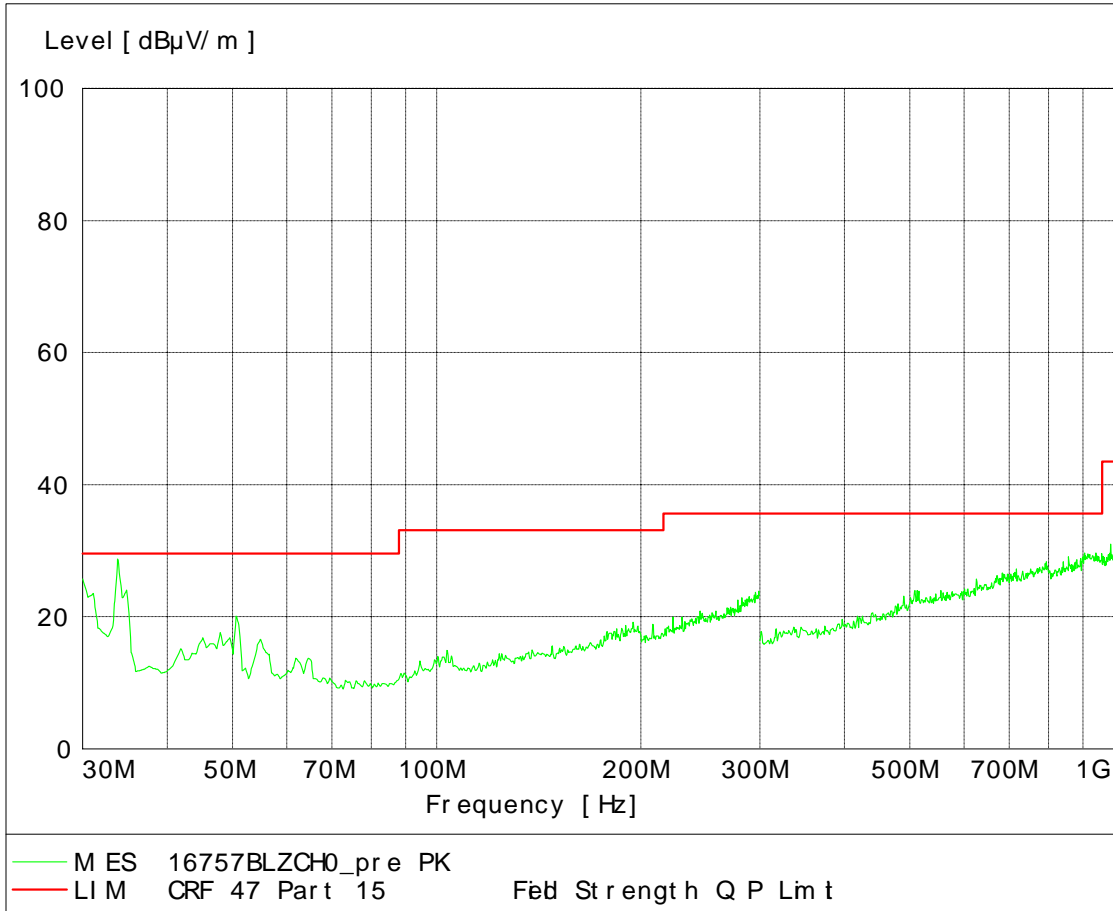
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH0 2402MHz Z-Axis

GREEN HORIZONTAL AND VERTICAL



**30-1000MHz Low Channel Dual Polarization Z**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	28.74	Qusi Peak	29.6
50.56	20.12	Qusi Peak	29.6
54.89	16.59	Qusi Peak	29.6

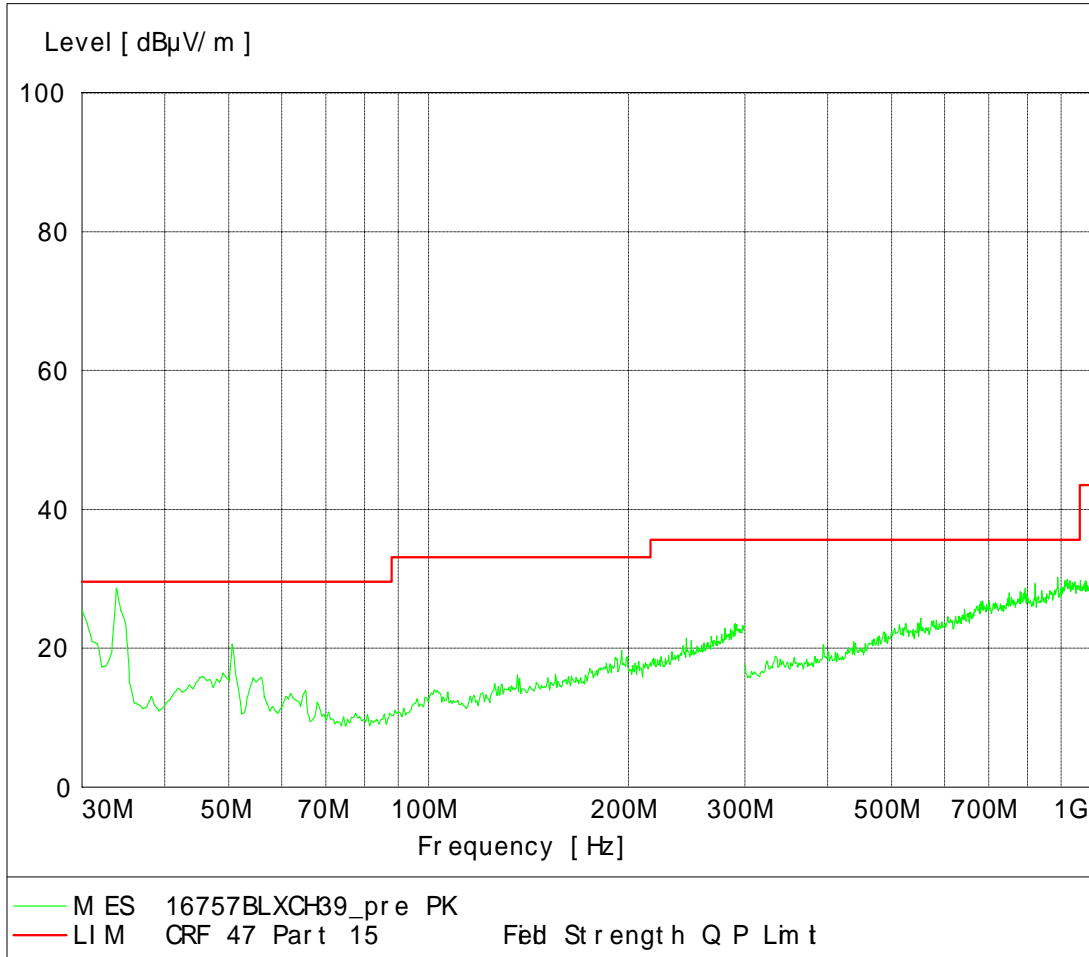
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH39 2442MHz X-Axis

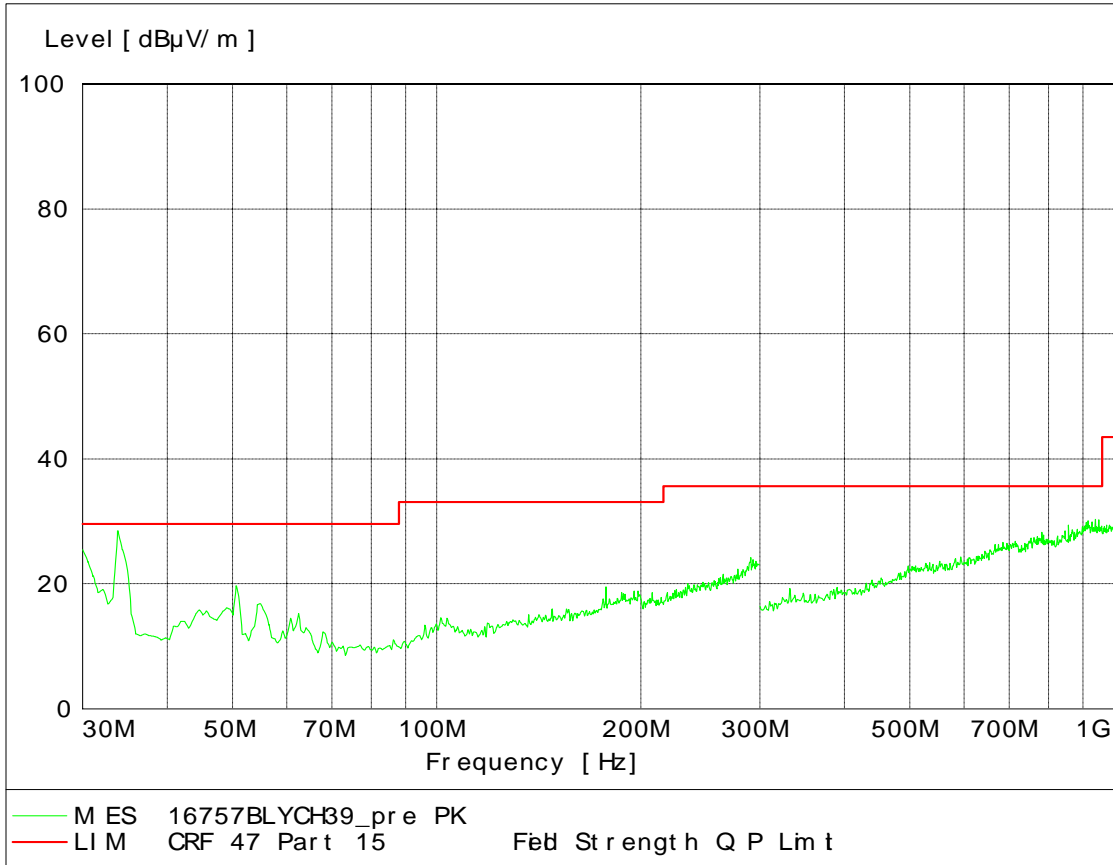
GREEN HORIZONTAL AND VERTICAL



**30-1000MHz Mid Channel Dual Polarization X**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	28.63	Qusi Peak	29.6
50.56	20.65	Qusi Peak	29.6

Primary Radiated Emissions  
 Motorola  
 Model: V6 ID Code: 16757-1  
 BT CH39 2442MHz Y-Axis  
 GREEN HORIZONTAL AND VERTICAL



**30 -1000MHz Mid Channel Dual Polarization Y**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	28.53	Qusi Peak	29.6
50.56	19.70	Qusi Peak	29.6
54.88	16.87	Qusi Peak	29.6

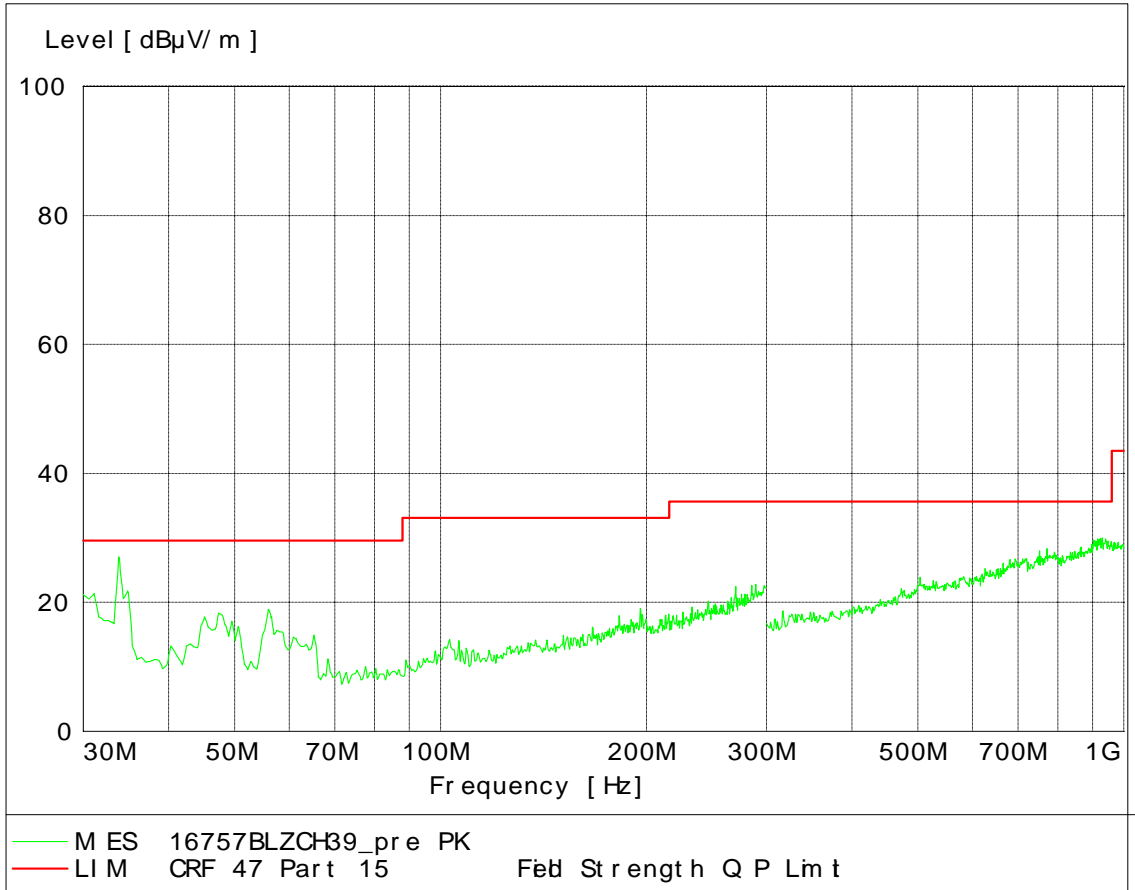
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH39 2442MHz Z-Axis

GREEN HORIZONTAL AND VERTICAL



**30 -1000MHz Mid Channel Dual Polarization Z**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	27.03	Qusi Peak	29.6
45.15	17.80	Qusi Peak	29.6
47.31	18.32	Qusi Peak	29.6
55.97	18.96	Qusi Peak	29.6

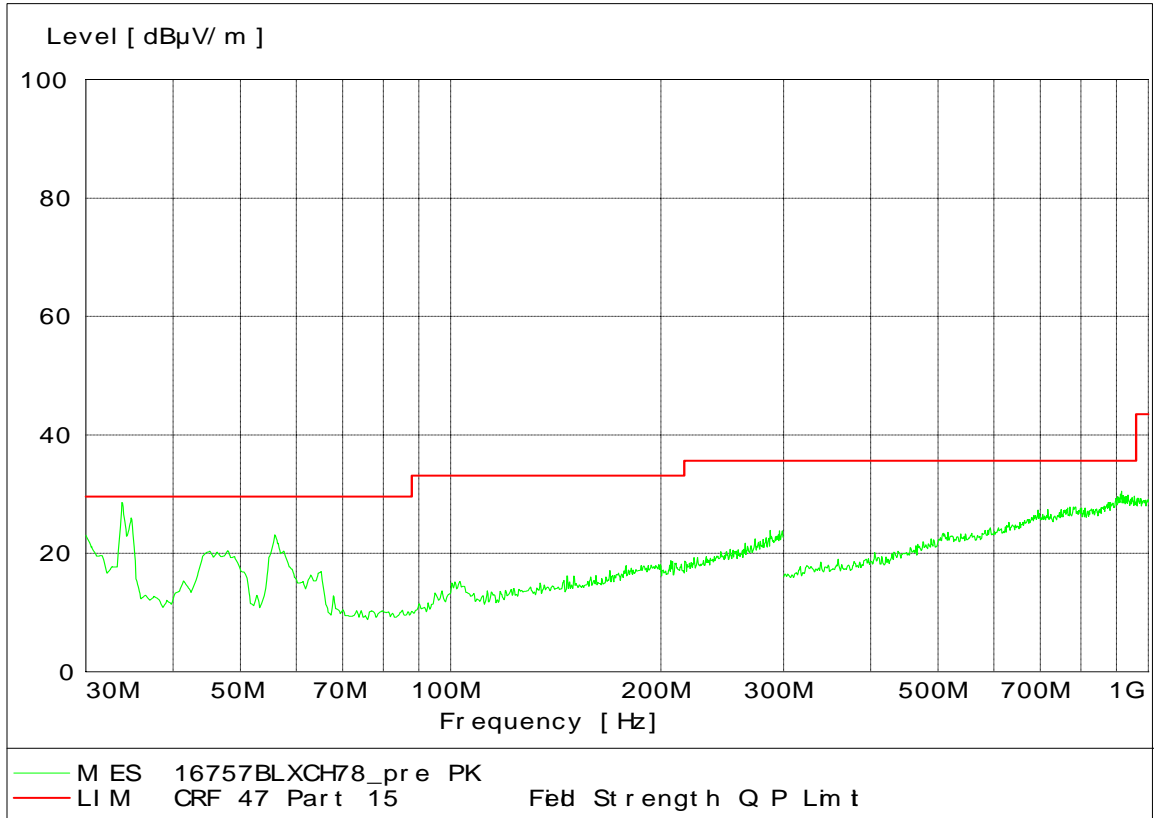
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH78 2480MHz X-Axis

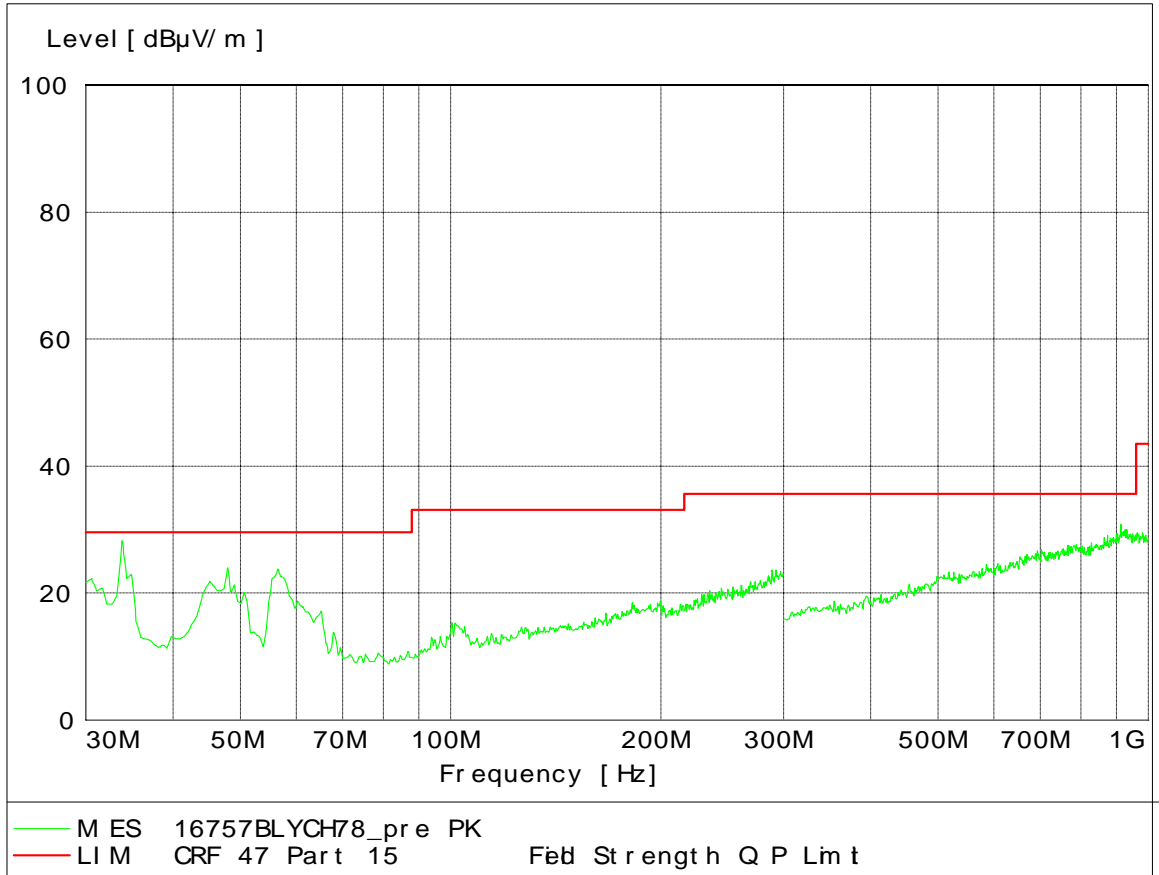
GREEN HORIZONTAL AND VERTICAL



**30 -1000MHz High Channel Dual Polarization X**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	28.59	Qusi Peak	29.6
34.87	25.98	Qusi Peak	29.6
44.61	20.09	Qusi Peak	29.6
47.86	20.49	Qusi Peak	29.6
55.97	23.11	Qusi Peak	29.6

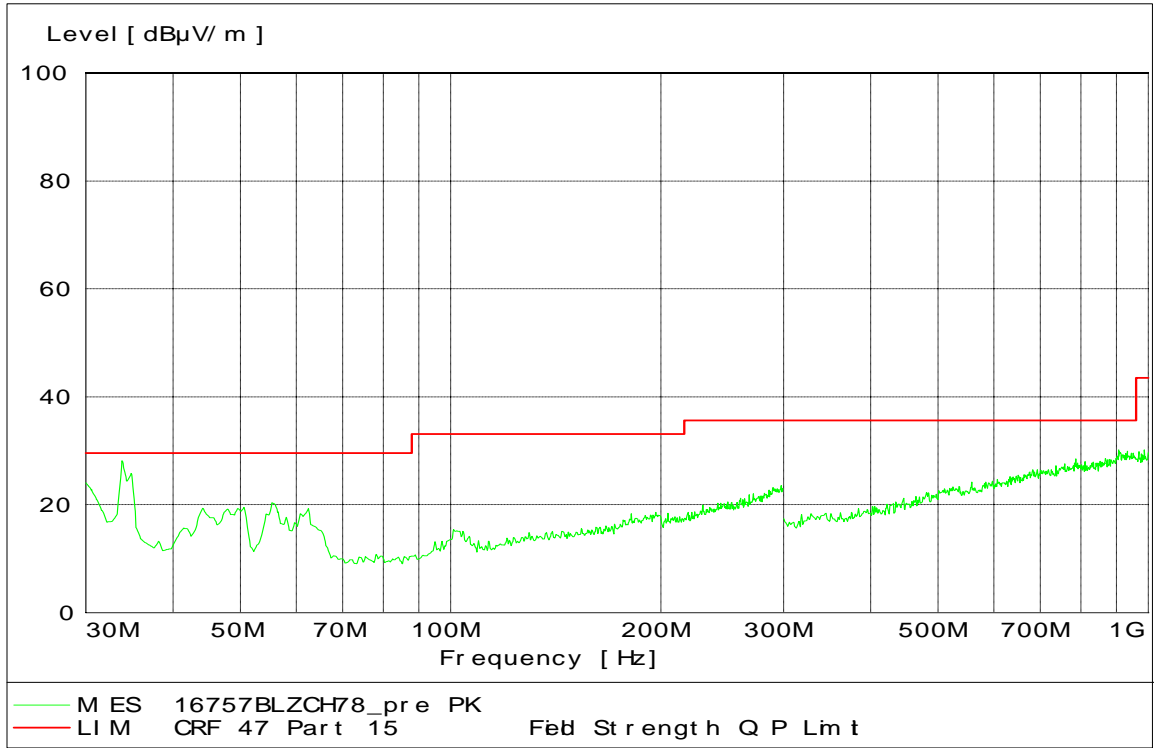
Primary Radiated Emissions  
 Motorola  
 Model: V6 ID Code: 16757-1  
 BT CH78 2480MHz Y-Axis  
 GREEN HORIZONTAL AND VERTICAL



**30 -1000MHz High Channel Dual Polarization Y**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	28.27	Qusi Peak	29.6
45.15	21.86	Qusi Peak	29.6
47.86	23.99	Qusi Peak	33.1
56.51	23.74	Qusi Peak	35.6

Primary Radiated Emissions  
 Motorola  
 Model: V6 ID Code: 16757-1  
 BT CH78 2480MHz Z-Axis  
 GREEN HORIZONTAL AND VERTICAL



**30 -1000MHz High Channel Dual Polarization Z**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
33.78	28.17	Qusi Peak	29.6
34.87	25.79	Qusi Peak	29.6
44.07	19.39	Qusi Peak	29.6
50.56	19.52	Qusi Peak	29.6
55.43	20.37	Qusi Peak	29.6
62.46	19.27	Qusi Peak	29.6

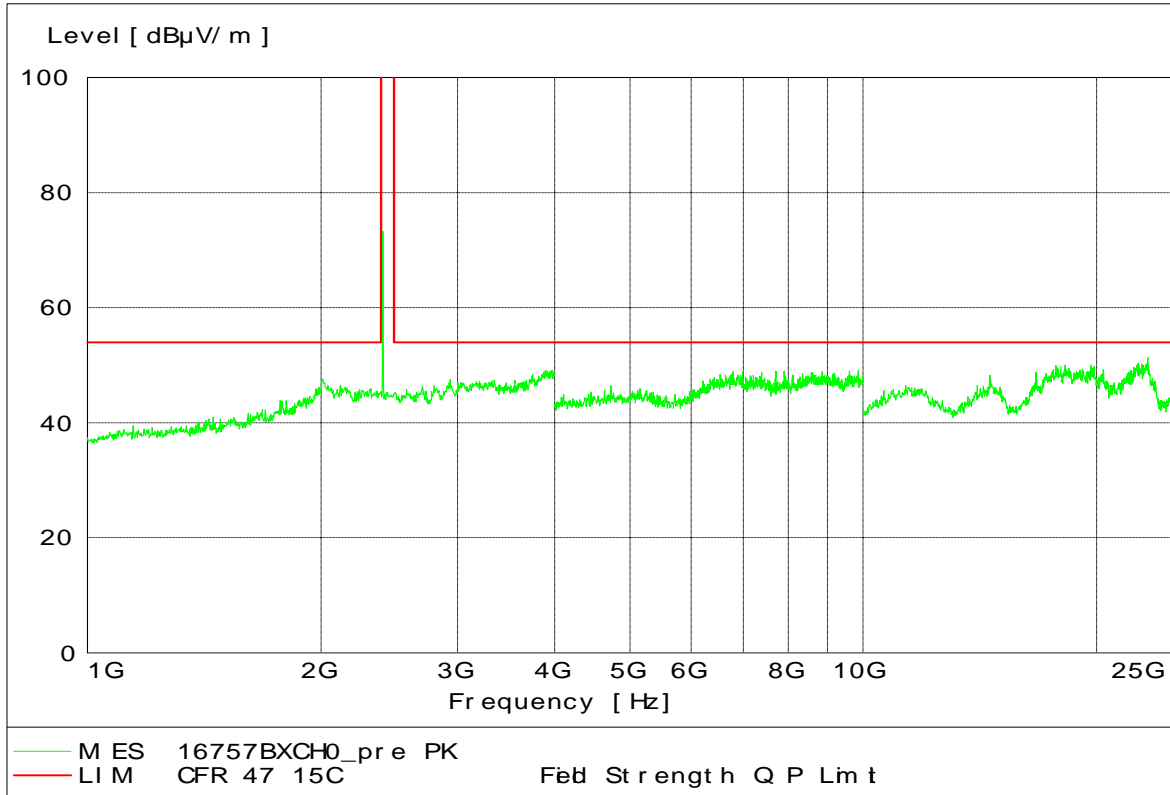
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH0 2402MHz X-Axis

GREEN HORIZONTAL AND VERTICAL



**1-25 GHz Low Channel Dual Polarization X**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2400	73.29	Peak	999
4727	46.41	Peak	54
9597	48.35	Peak	54
14.6	47.46	Peak	54
16.7	48.81	Peak	54
19.22	48.59	Peak	54
16.7	48.81	Peak	54

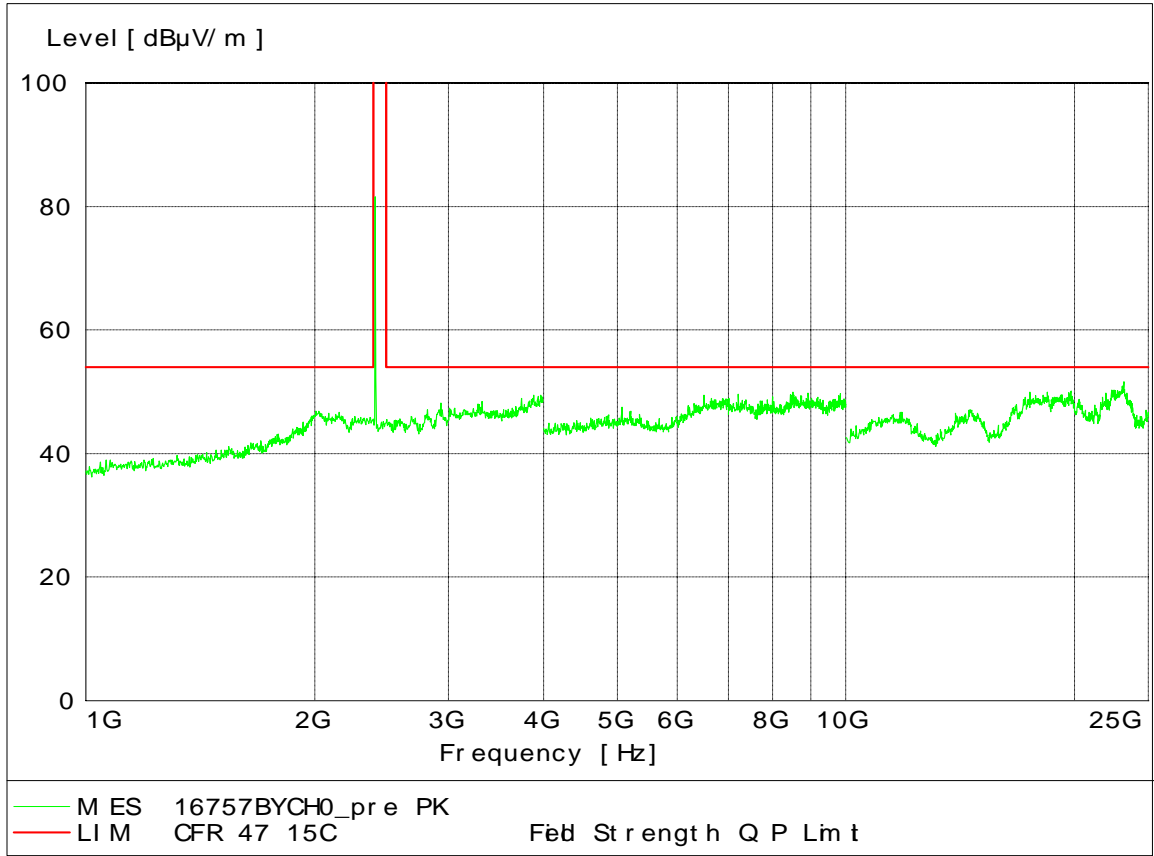
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH0 2402MHz Y-Axis

GREEN HORIZONTAL AND VERTICAL



**1-25 GHz Low Channel Dual Polarization Y**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2400	81.58	Peak	999
4856	46.06	Peak	54
7216	49.60	Peak	54
9789	49.38	Peak	54

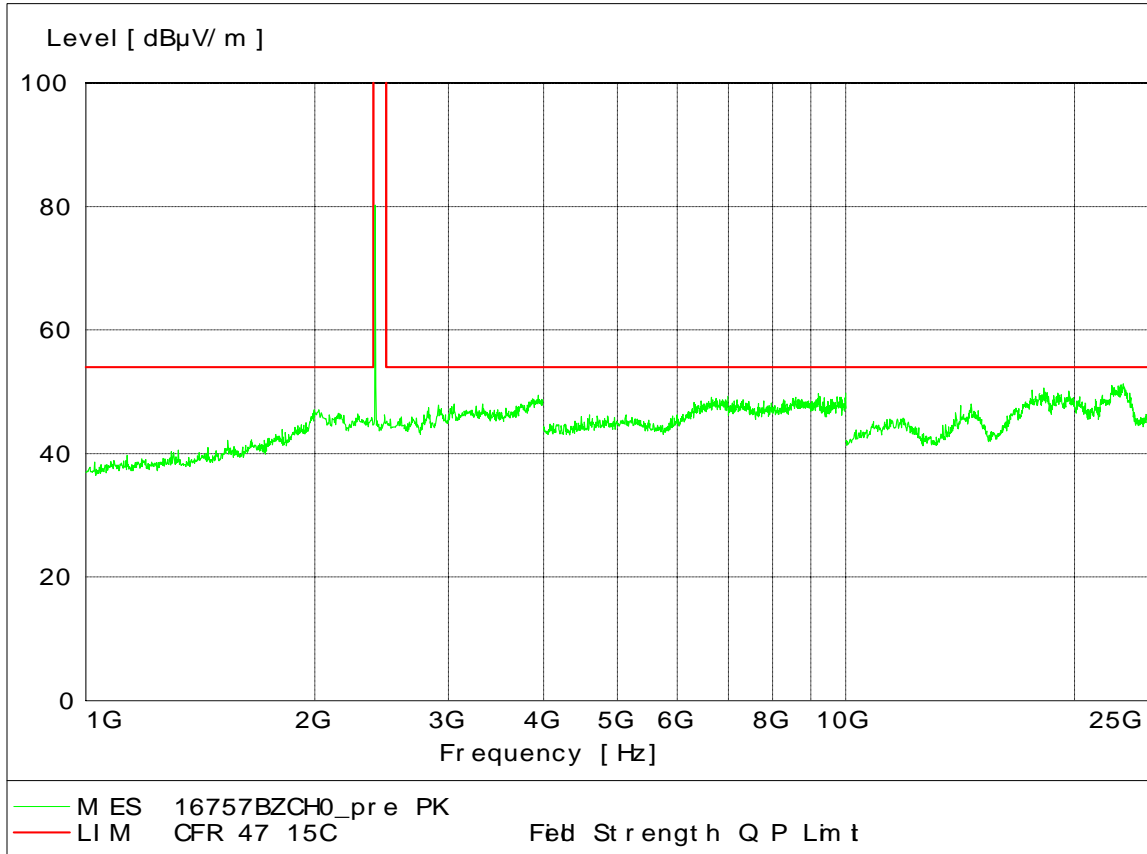
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH0 2402MHz Z-Axis

GREEN HORIZONTAL AND VERTICAL



**1-25 GHz Low Channel Dual Polarization Z**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2400	80.25	Peak	999
4859	46.06	Peak	54
9789	48.09	Peak	54

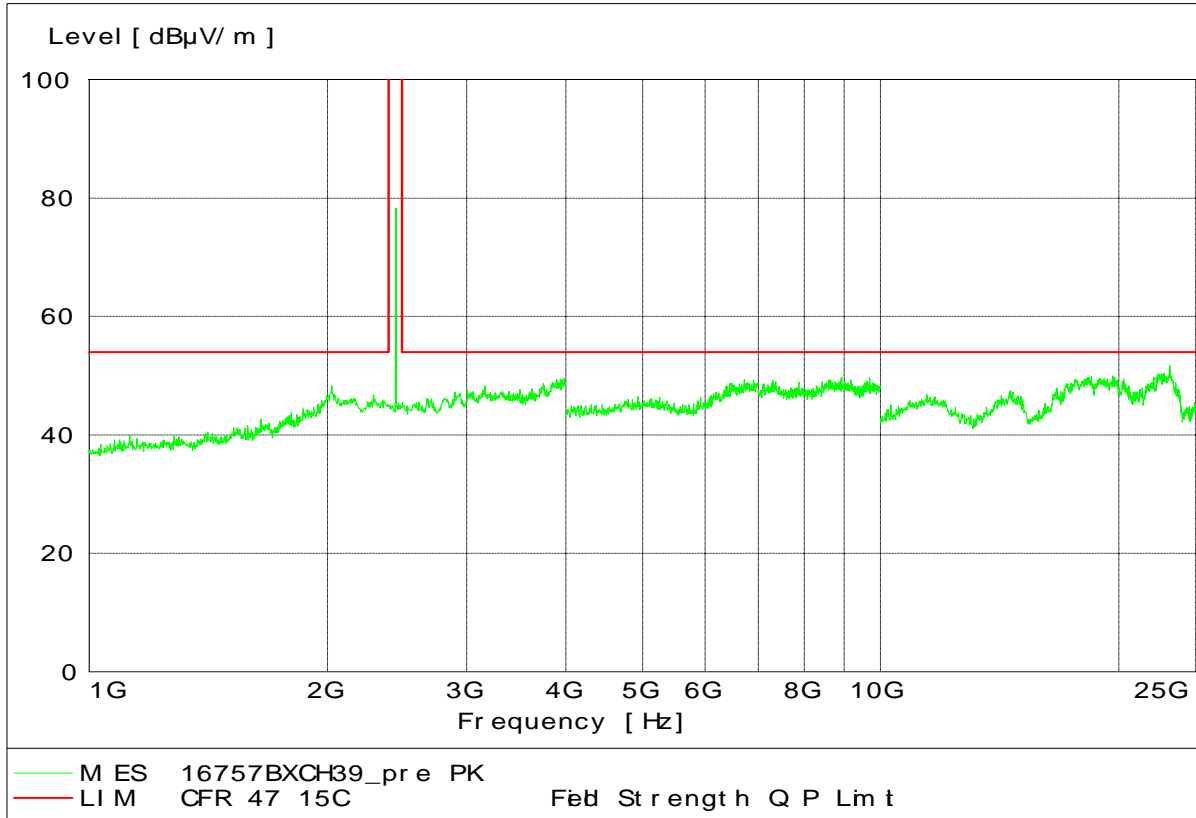
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH39 2441MHz X-Axis

GREEN HORIZONTAL AND VERTICAL



**1-25 GHz Mid Channel Dual Polarization X**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2440	78.29	Peak	999
7865	46.98	Peak	54
14.520	46.52	Peak	54
17.615	48.36	Peak	54
19.655	49.98	Peak	54
17.615	48.36	Peak	54

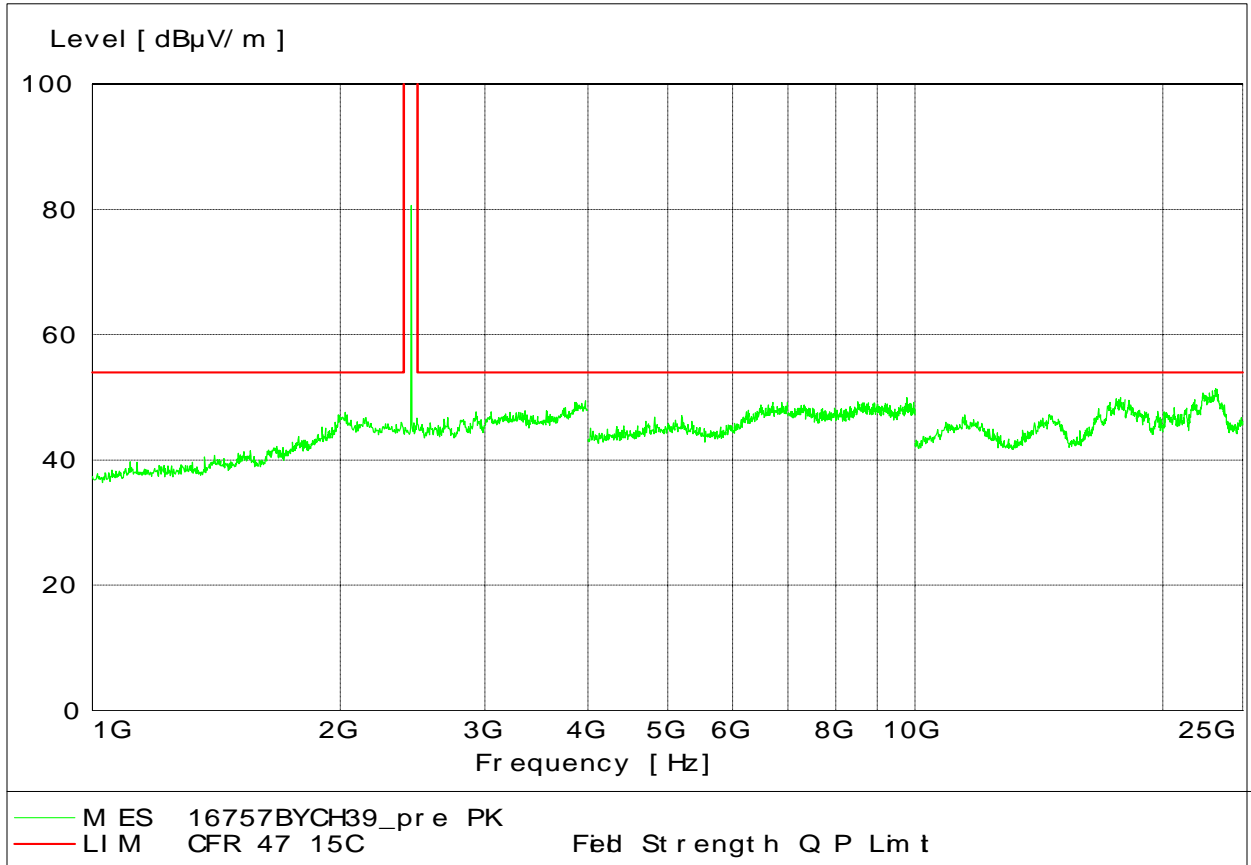
Primary Radiated Emissions

Motorola

Model: V6 ID Code: 16757-1

BT CH39 2441MHz Y-Axis

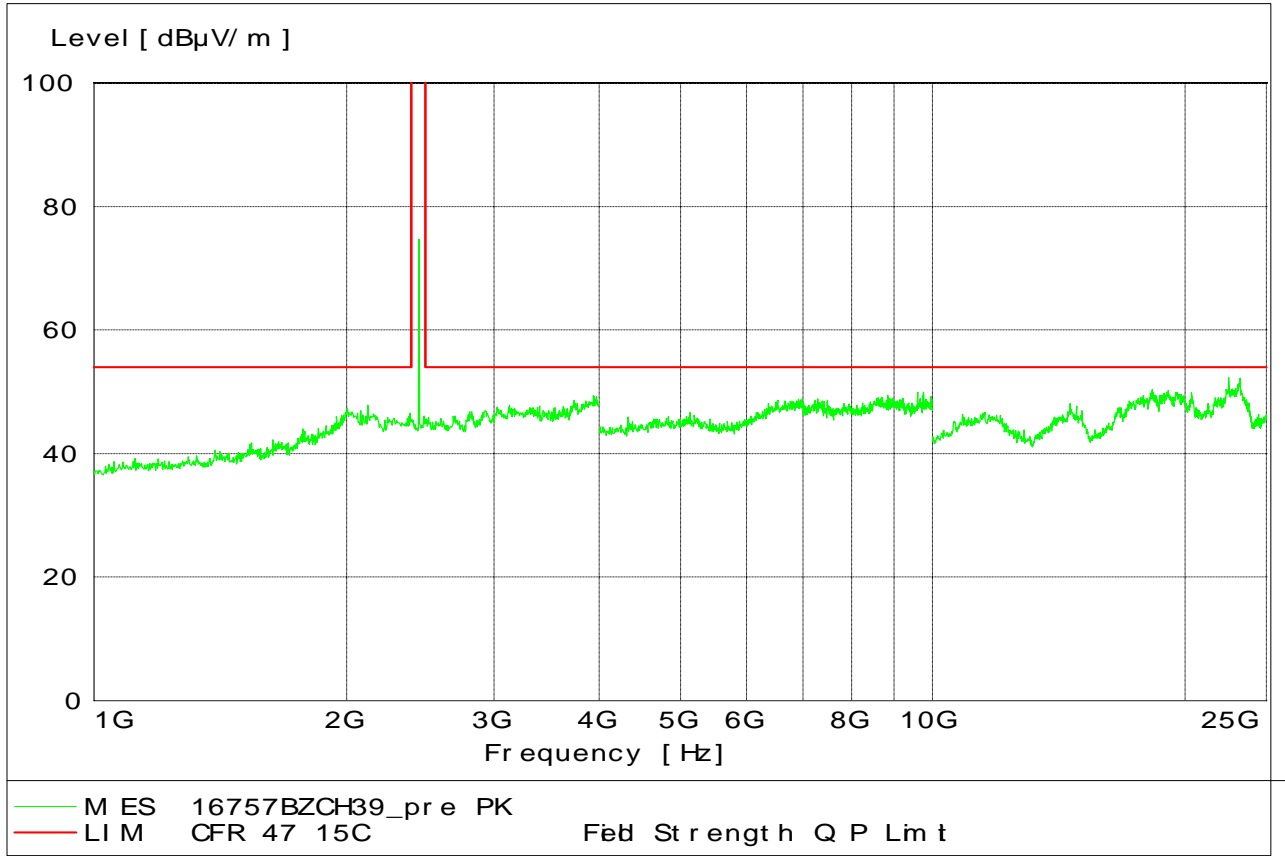
GREEN HORIZONTAL AND VERTICAL



**1-25 GHz Mid Channel Dual Polarization Y**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2440	80.61	Peak	999
9705	47.18	Peak	54
14.601	46.83	Peak	54
17.182	48.68	Peak	54
19.655	46.98	Peak	54

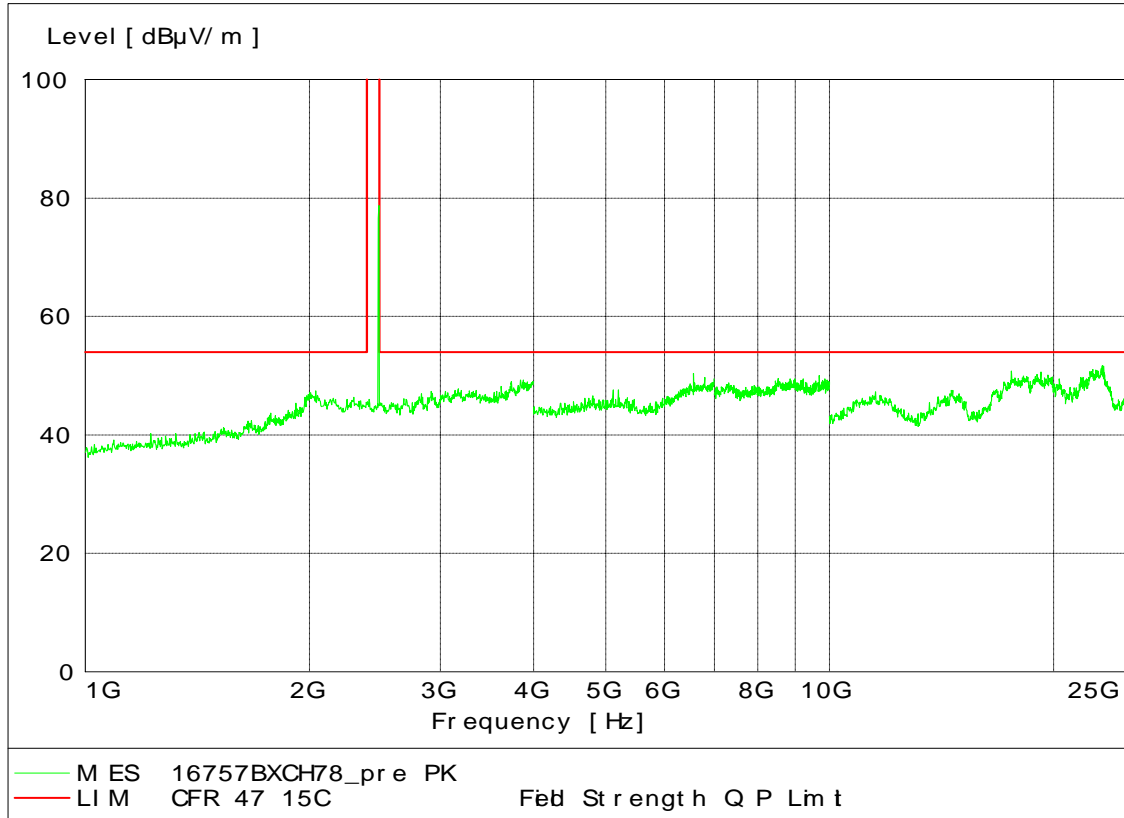
Primary Radiated Emissions  
 Motorola  
 Model: V6 ID Code 16757-1  
 BT CH39 2441MHz Z-Axis  
 GREEN HORIZONTAL AND VERTICAL



**1-25 GHz Mid Channel Dual Polarization Z**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2440	74.66	Peak	999
7323	48.90	Peak	54
9.735	49.38	Peak	54
12.06	45.19	Peak	54
14.601	46.39	Peak	54

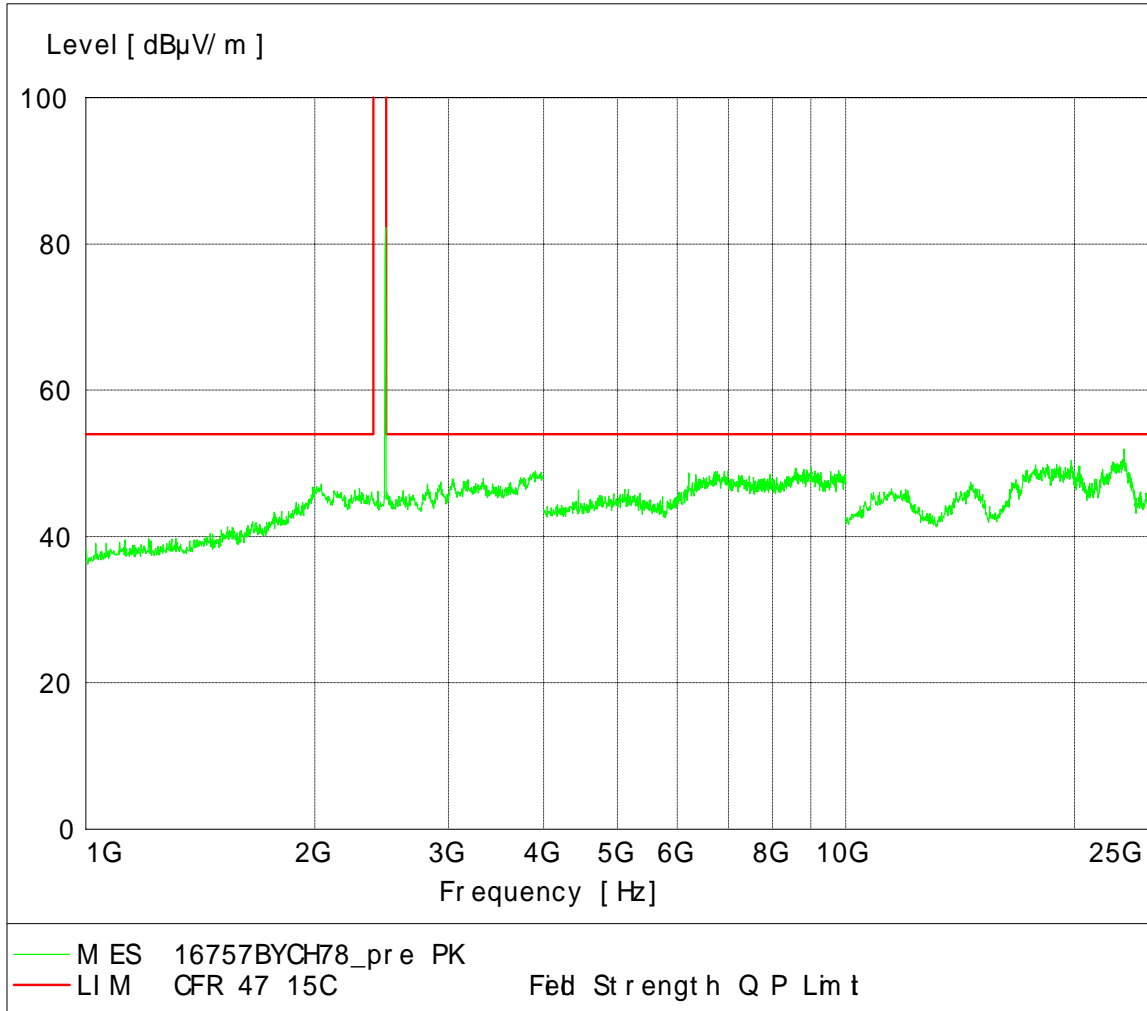
Primary Radiated Emissions  
 Motorola  
 Model: V6 ID Code: 16757-1  
 BT CH78 2480MHz X-Axis  
 GREEN HORIZONTAL AND VERTICAL



**1-25 GHz High Channel Dual Polarization X**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2477	76.57	Peak	999

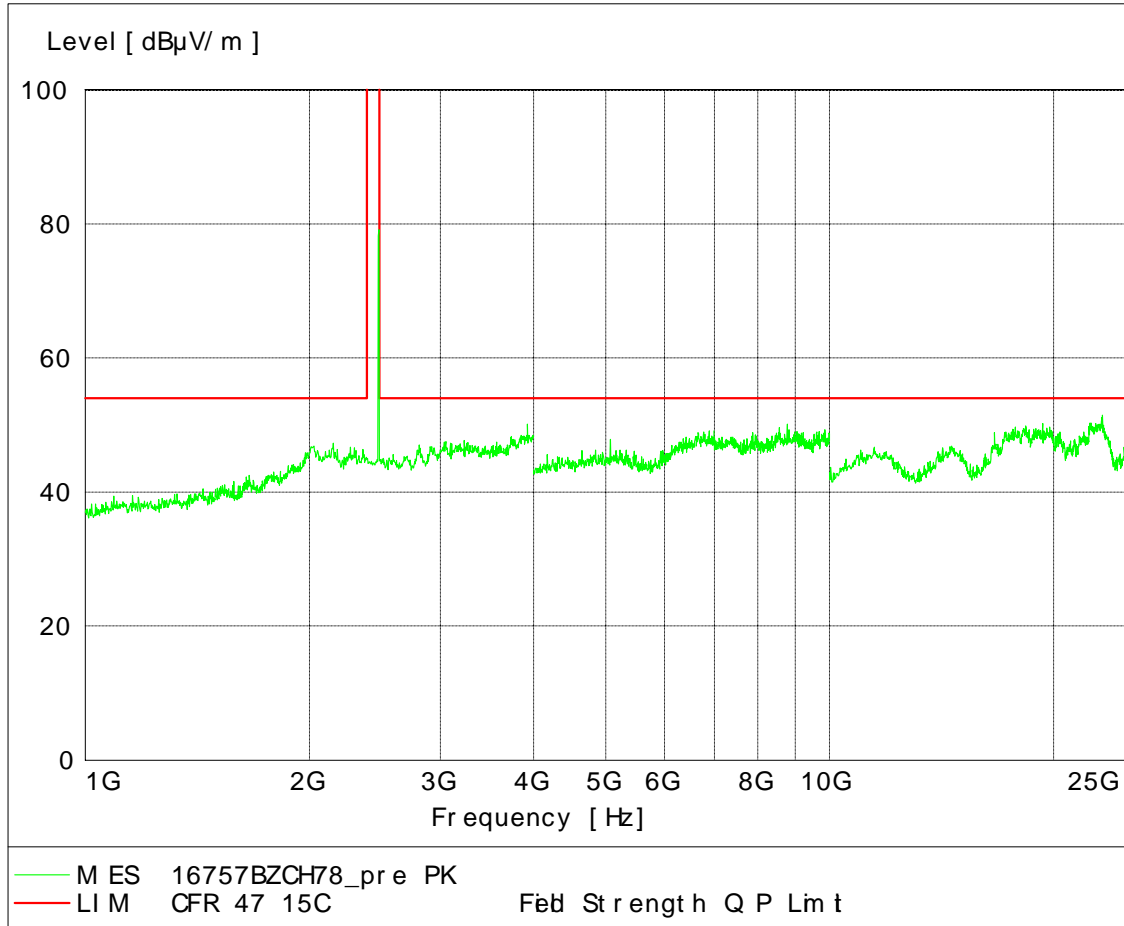
Primary Radiated Emissions  
 Motorola  
 Model: V6 ID Code: 16757-1  
 BT CH78 2480MHz Y-Axis  
 GREEN HORIZONTAL AND VERTICAL



**1-25 GHz High Channel Dual Polarization Y**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2477	79.02	Peak	999

Primary Radiated Emissions  
 Motorola  
 Model: V6 ID Code: 16757-1  
 BT CH78 2480MHz Z-Axis  
 GREEN HORIZONTAL AND VERTICAL

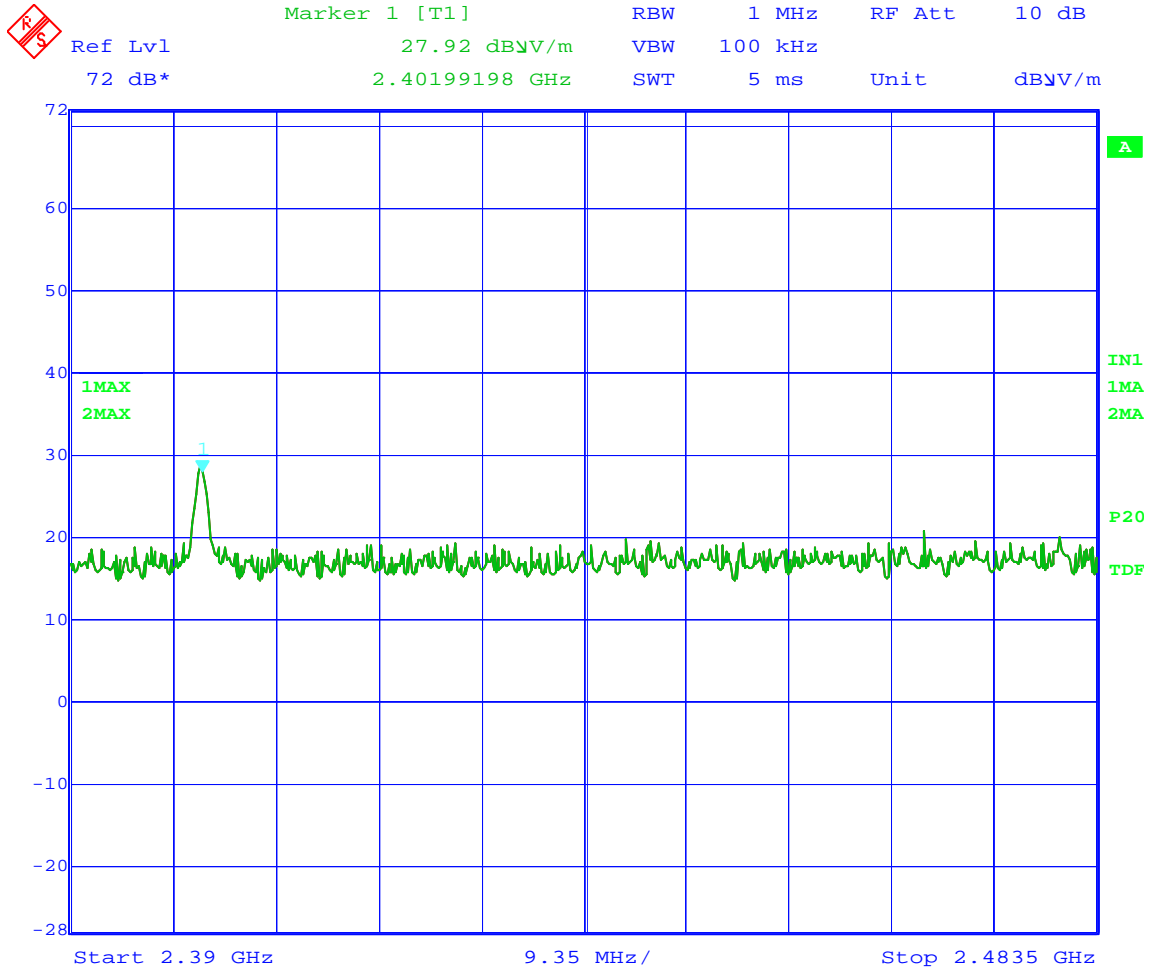


**1-25 GHz High Channel Dual Polarization Z**

Frequency MHz	Measured dBµV/m	Detector Type	Limit dBµV/m
2477	78.18	Peak	999



Radiated Emissions Band Edge  
Motorola  
Model: V6 ID Code: 16757-1  
BT CH0 2402MHz Y-Axis



Date: 9.AUG.2005 13:47:51

**Authorized Band Emissions Low Channel Dual Polarization Y**

Radiated Emissions Band Edge

Motorola

Model: V6

ID Code: 16757-1

BT CH0 2402MHz Z-Axis

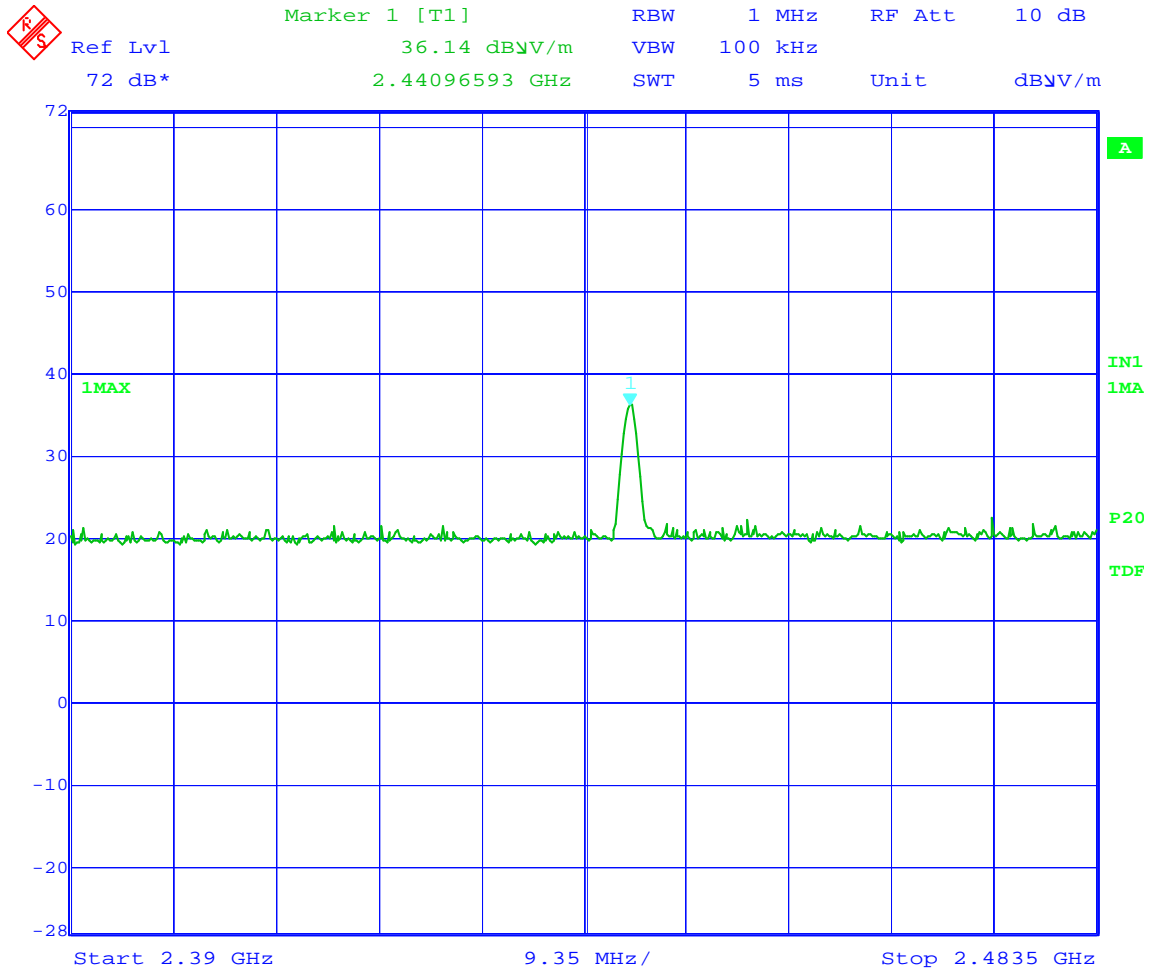
 Marker 1 [T1] RBW 1 MHz RF Att 10 dB  
Ref Lvl 43.61 dBV/m VBW 100 kHz  
72 dB\* 2.40199198 GHz SWT 5 ms Unit dBV/m



Date: 9.AUG.2005 13:48:58

**Authorized Band Emissions Low Channel Dual Polarization Z**

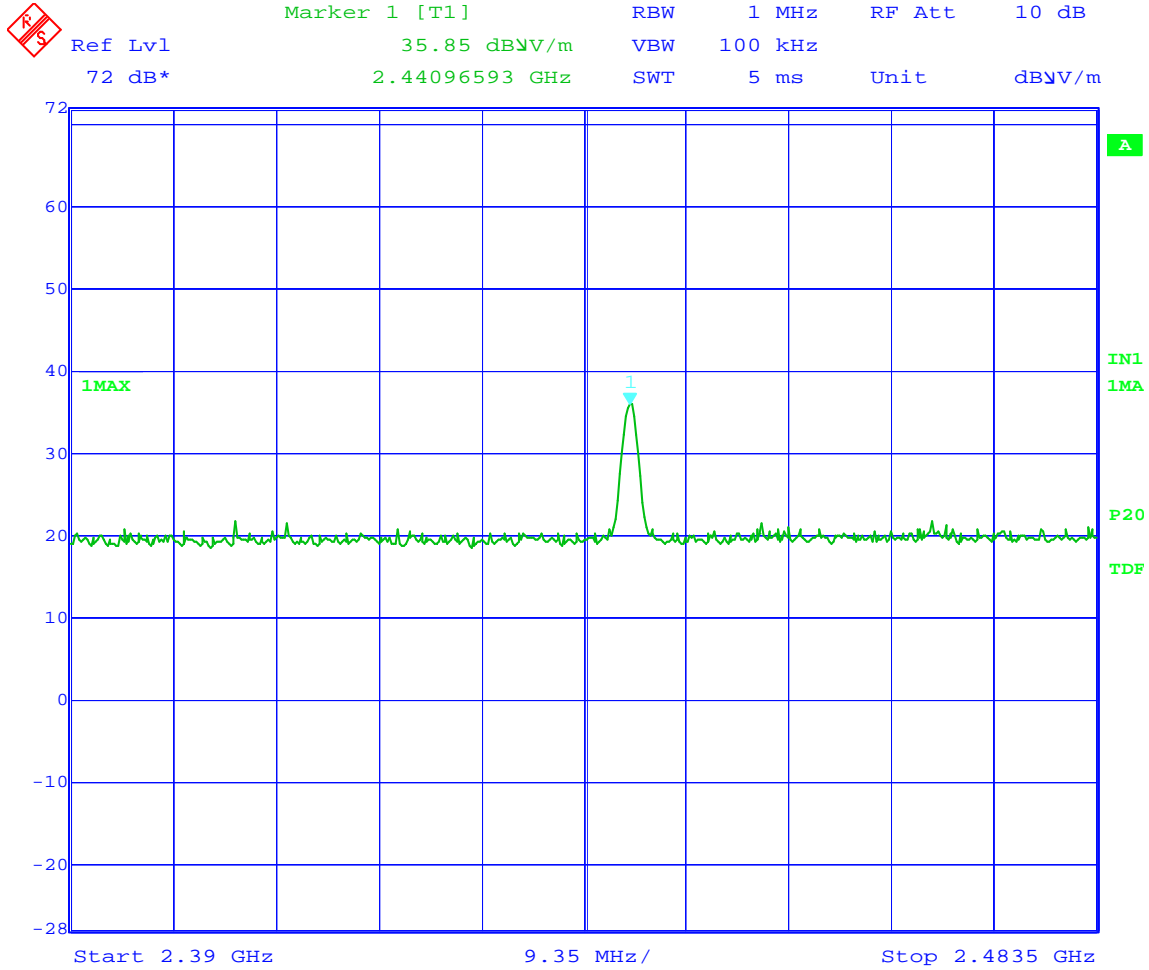
Radiated Emissions Band Edge  
Motorola  
Model: V6 ID Code: 16757-1  
BT CH39 2442MHz X-Axis



Date: 9.AUG.2005 13:54:10

**Authorized Band Emissions Mid Channel Dual Polarization X**

Radiated Emissions Band Edge  
Motorola  
Model: V6 ID Code: 16757-1  
BT CH39 2442MHz Y-Axis



Date: 9.AUG.2005 13:55:19

**Authorized Band Emissions Mid Channel Dual Polarization Y**





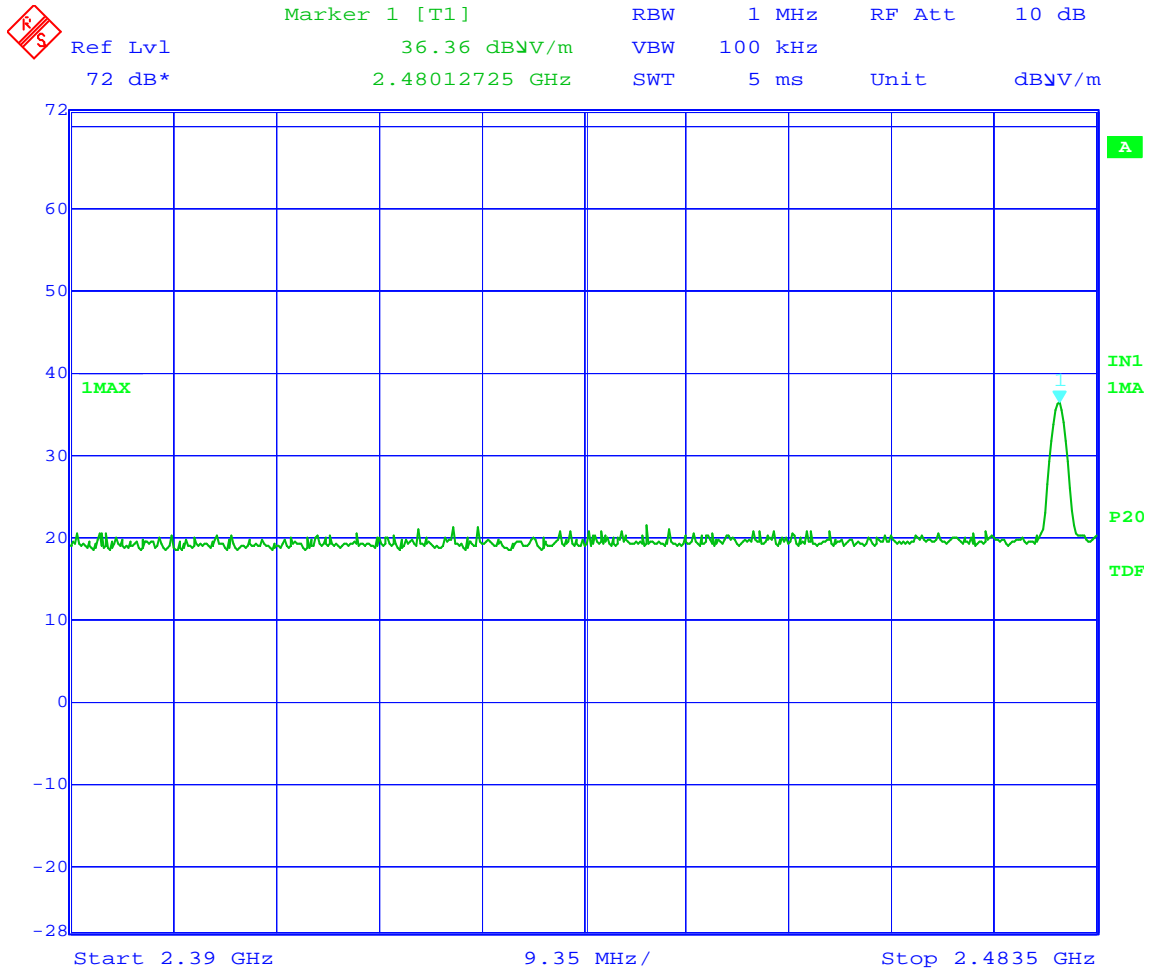
Radiated Emissions Band Edge

Motorola

Model: V6

ID Code: 16757-1

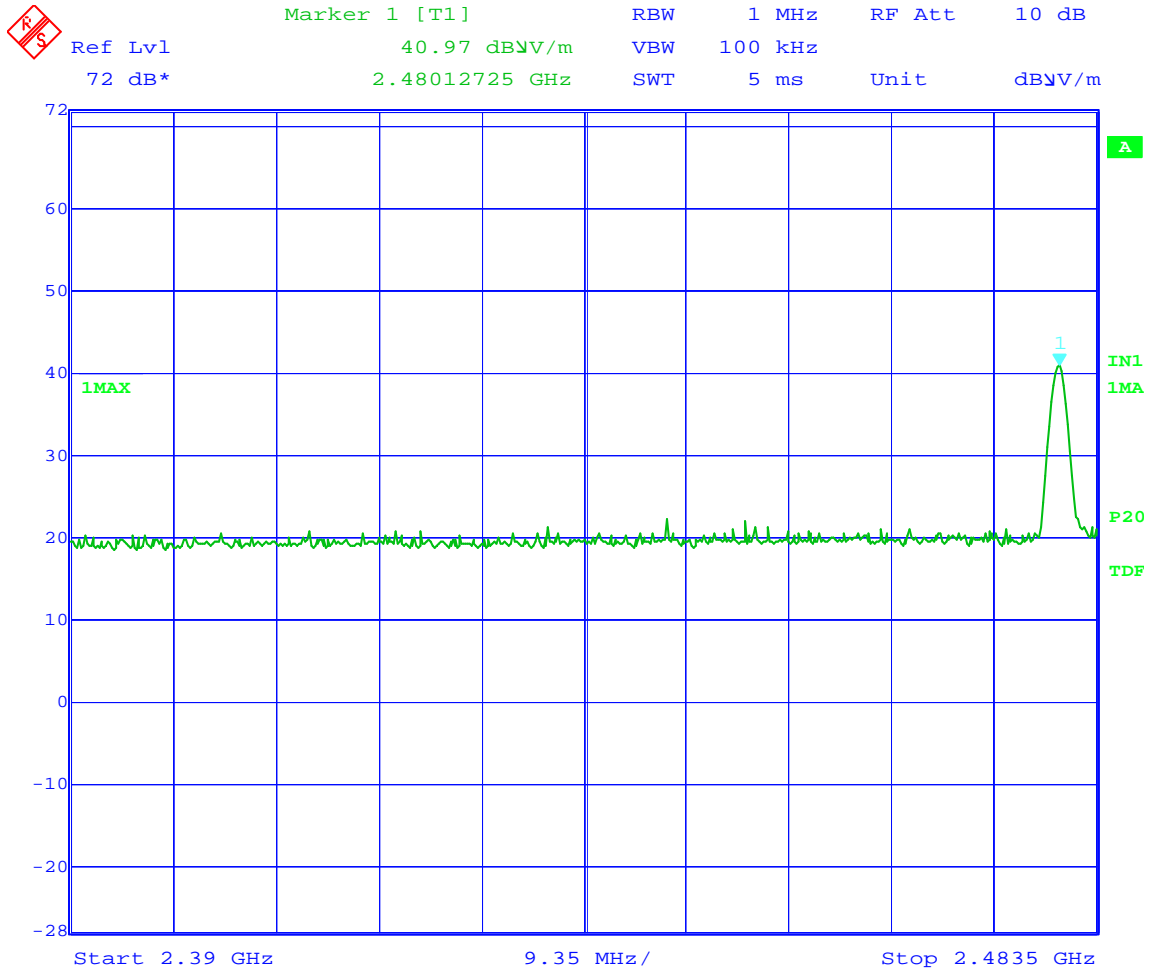
BT CH78 2480MHz Y-Axis



Date: 9.AUG.2005 14:01:01

**Authorized Band Emissions High Channel Dual Polarization Y**

Radiated Emissions Band Edge  
Motorola  
Model: V6 ID Code: 16757-1  
BT CH78 2480MHz Z-Axis



**Authorized Band Emissions High Channel Dual Polarization Z**

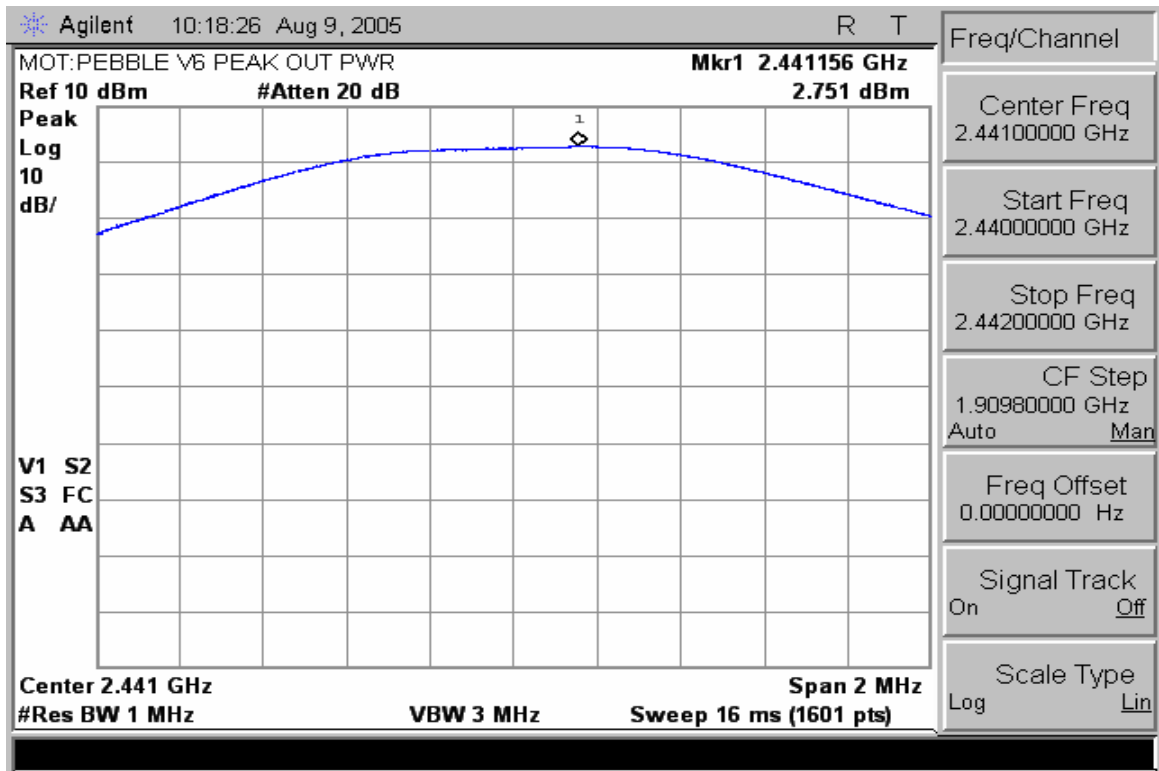
## PEAK OUTPUT POWER

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



**Peak Output Power**

## **BAND-EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS**

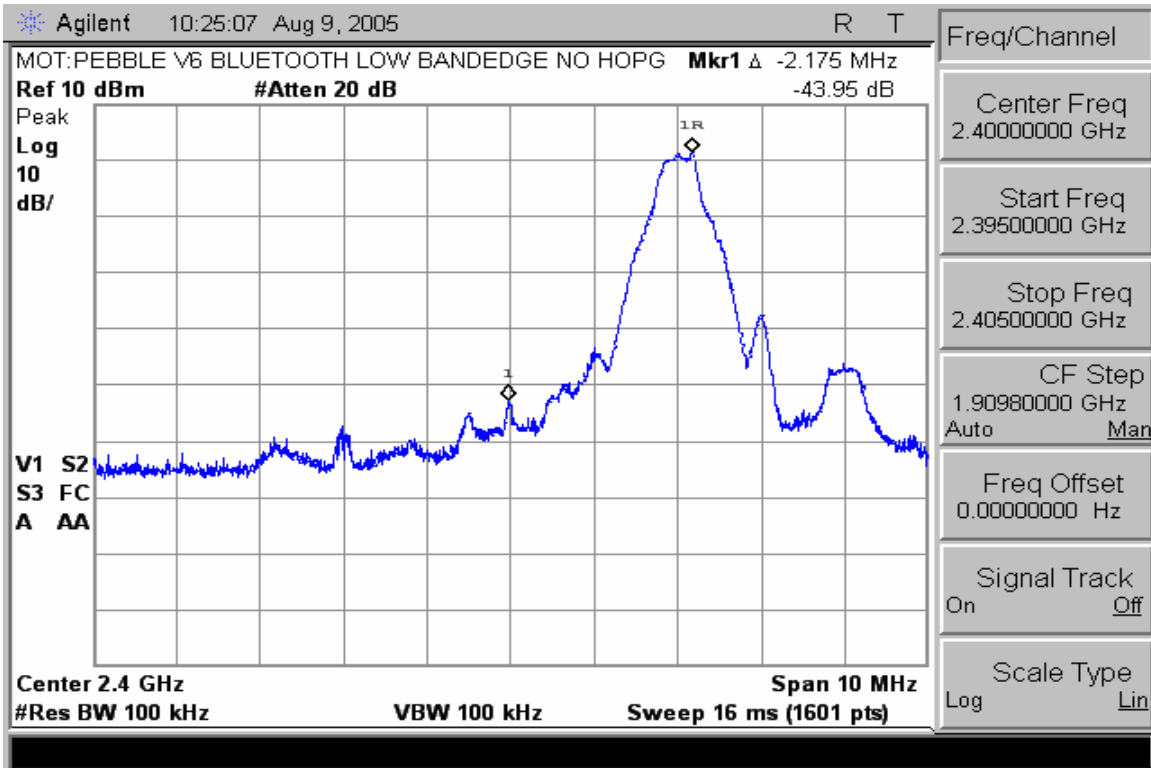
CFR 47 Part 15.247

### **Measurement Procedure**

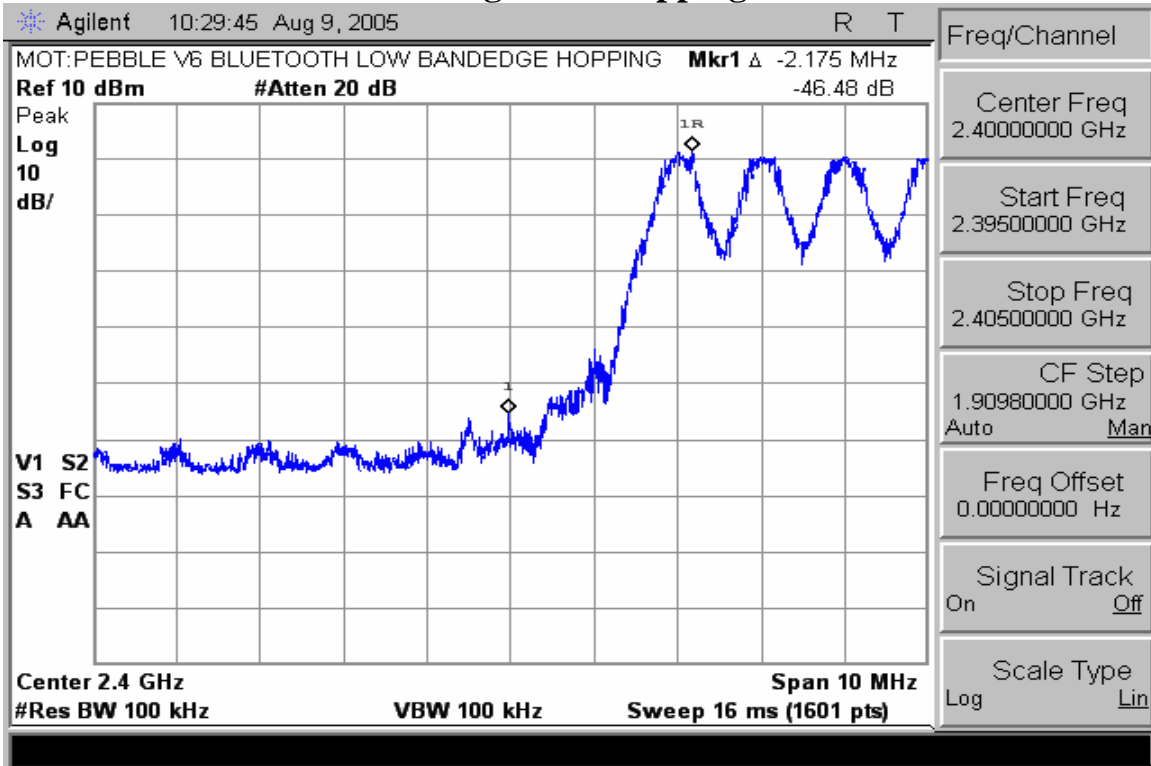
The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

### **Measurement Results**

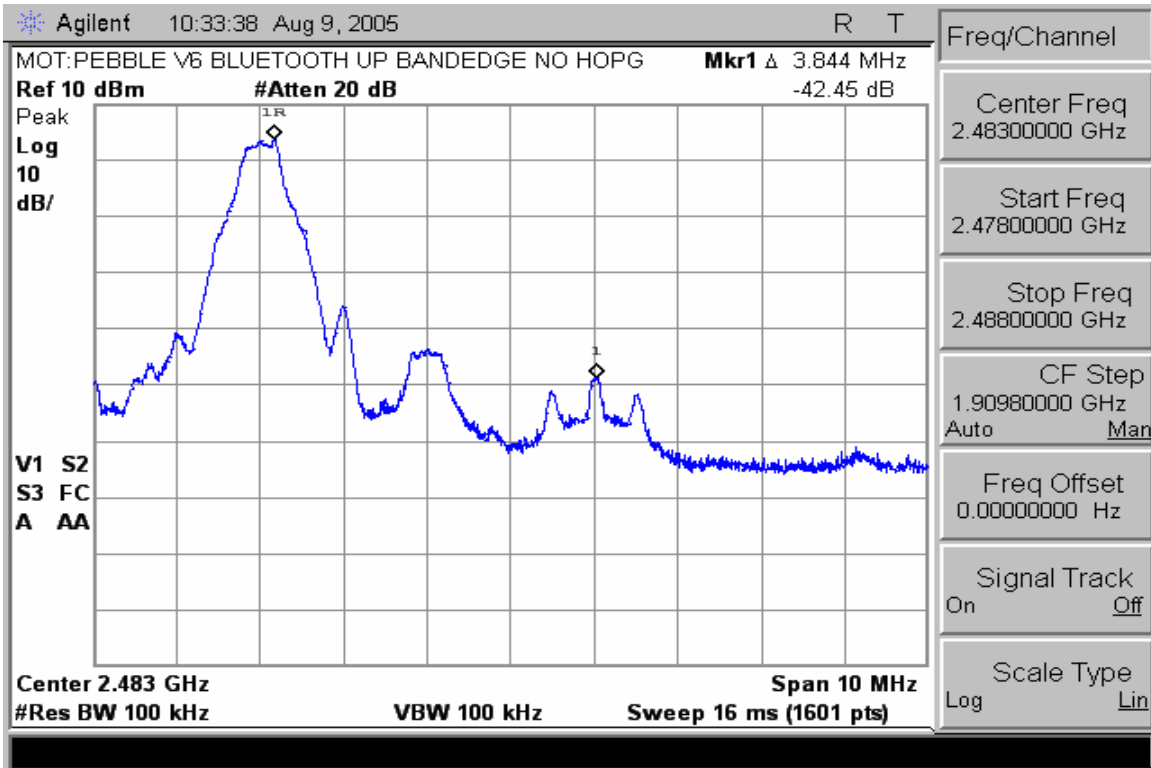
See Attached:



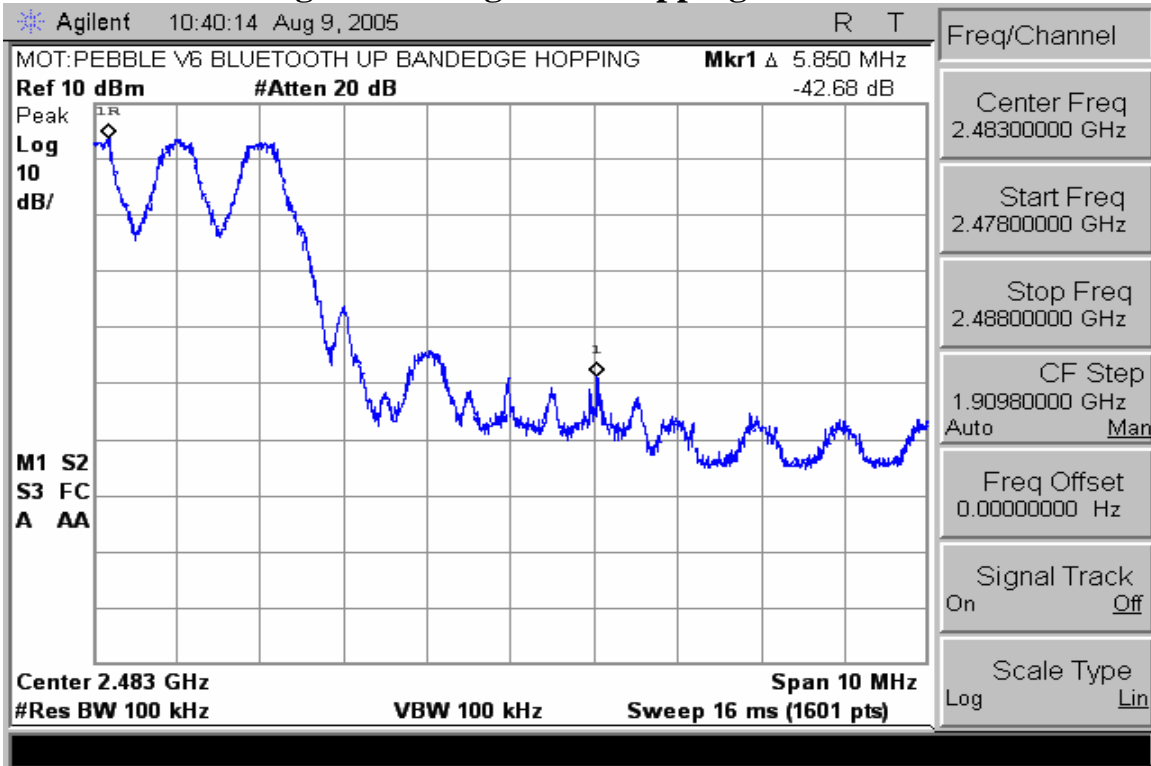
**Low Band Edge with Hopping Disabled**



**Low Band Edge with Hopping Enabled**



**High Band Edge with Hopping Disabled**



**High Band Edge with Hopping Enabled**

## **SPURIOUS RF CONDUCTED EMISSIONS**

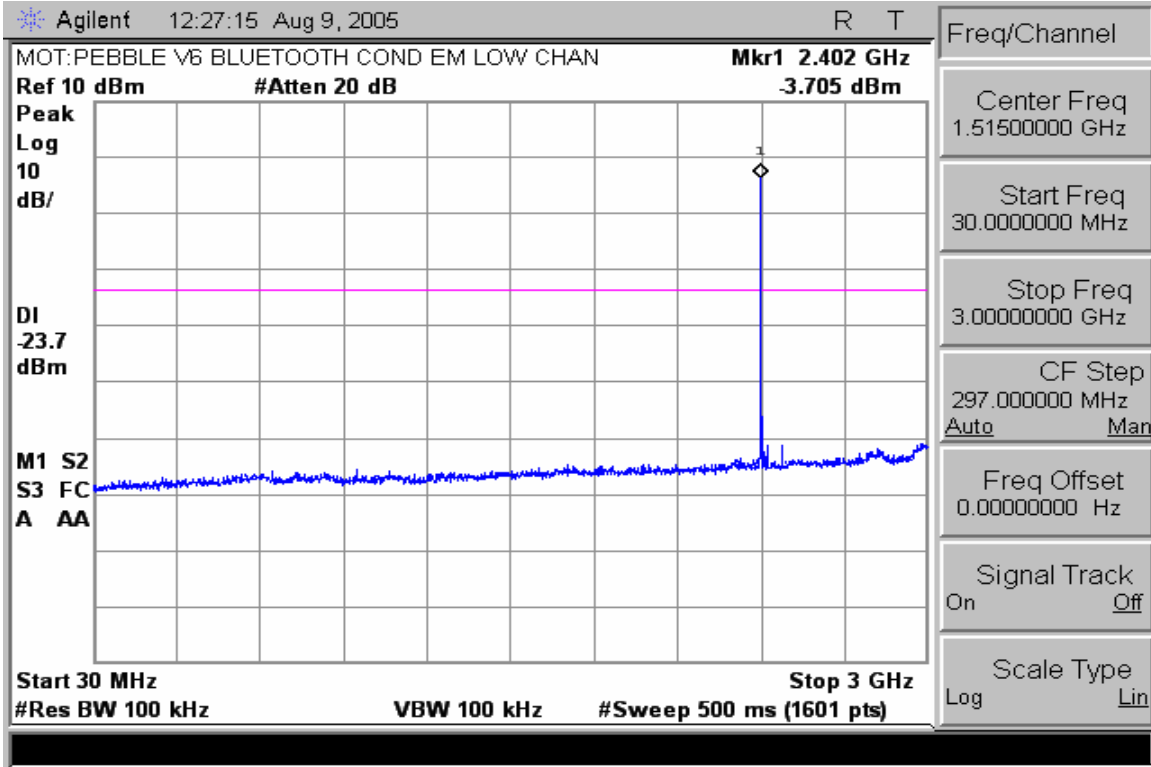
CFR 47 Part 15.247

### **Measurement Procedure**

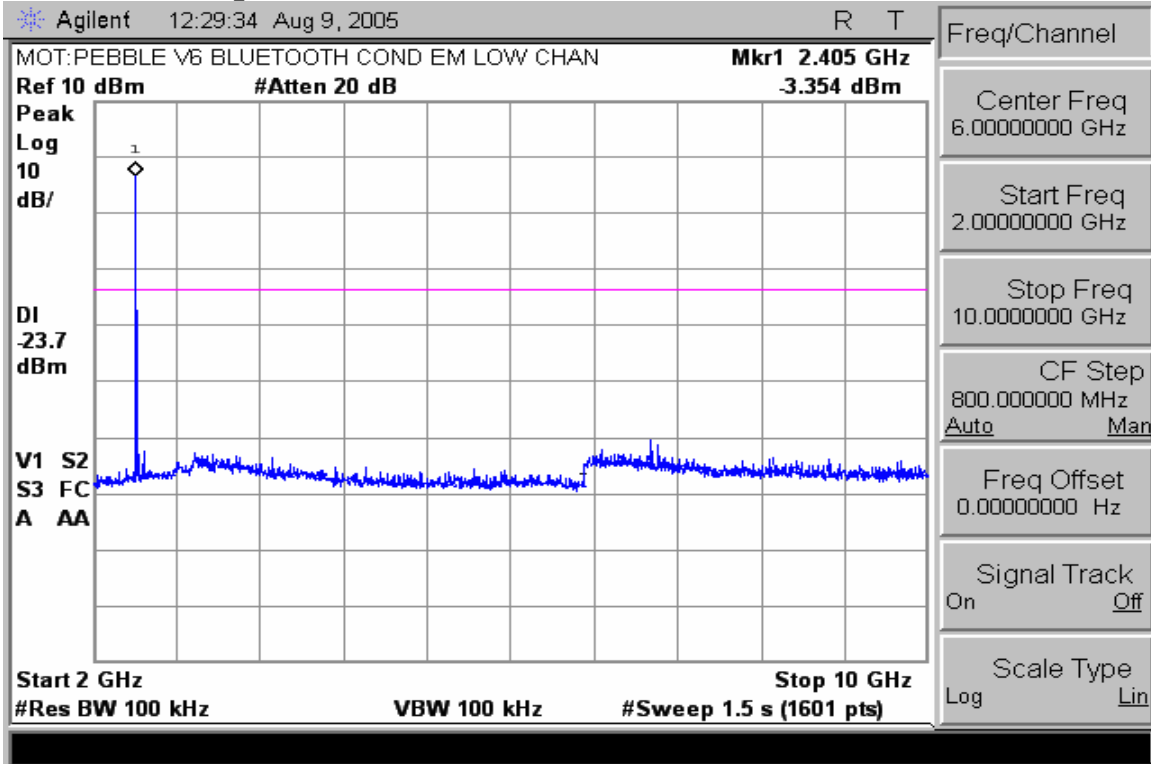
The RF output port of the Equipment-Under-Test is directly coupled to the input of the EMC analyzer through a specialized RF connector and a 10dB passive attenuator. A fully charged battery was used for the supply voltage.

### **Measurement Results**

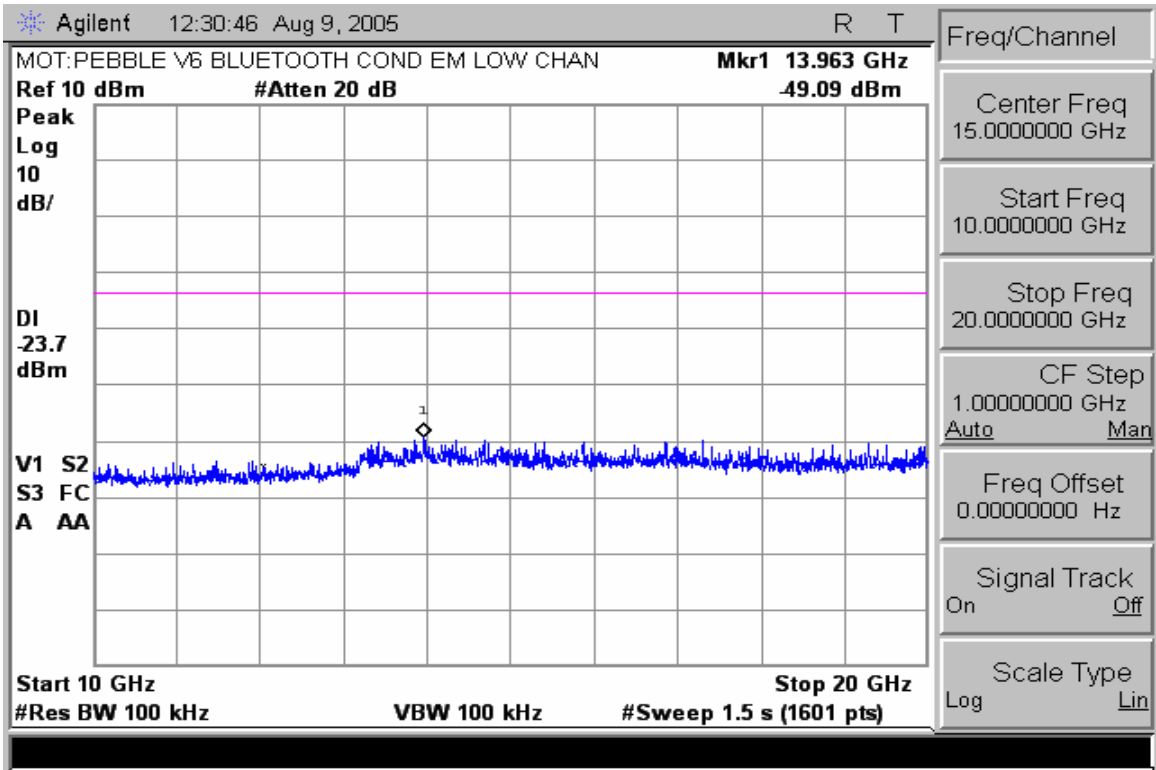
See attached:



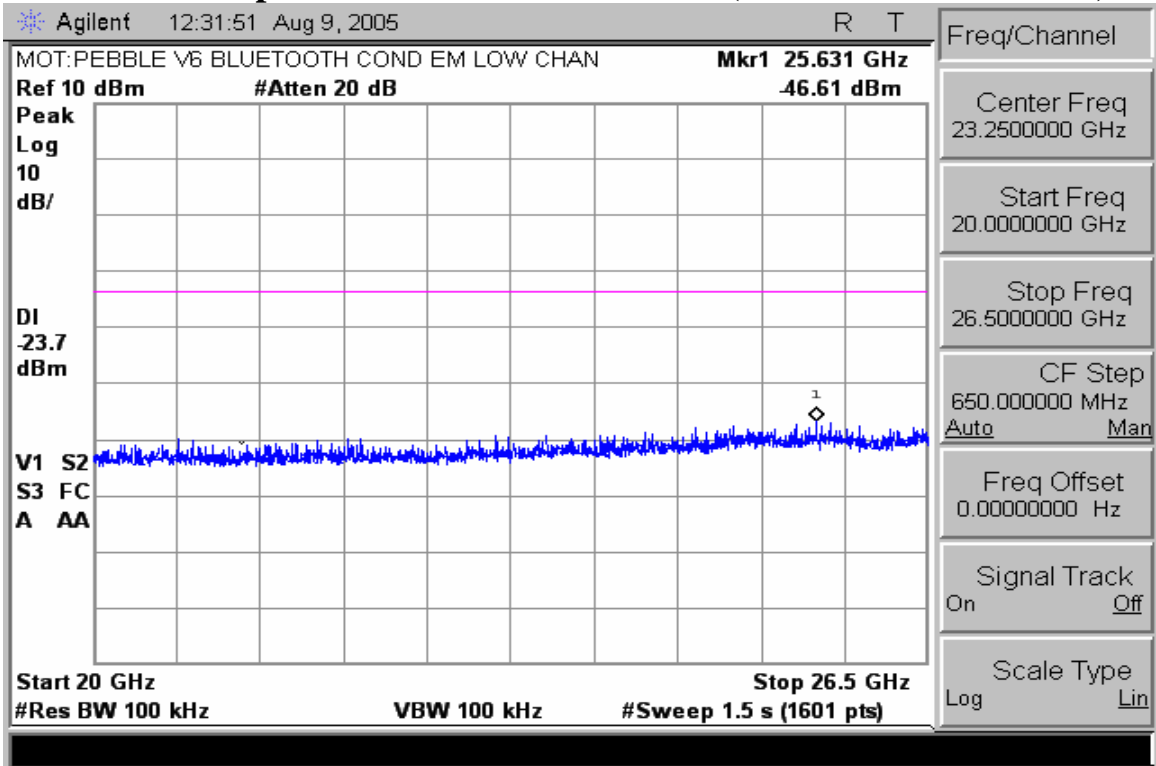
**Conducted Spurious Emissions 30-3000MHz (Low Channel Enabled)**



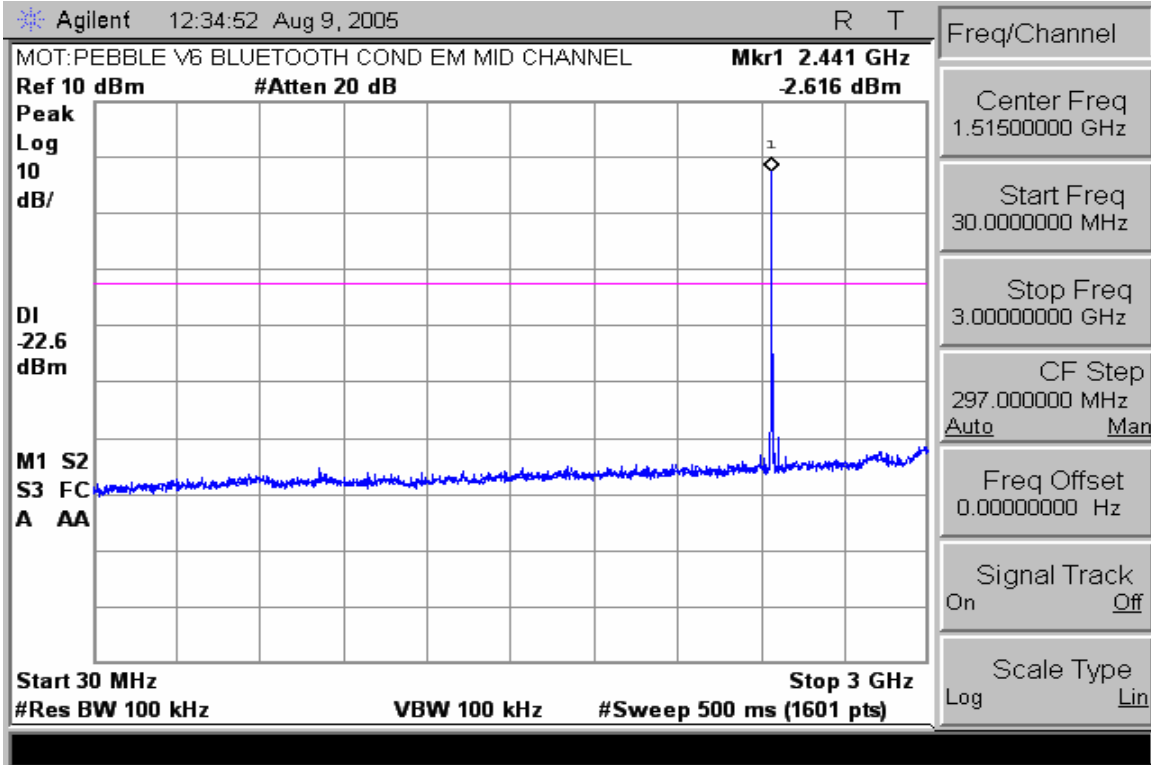
**Conducted Spurious Emissions 2-10GHz (Low Channel Enabled)**



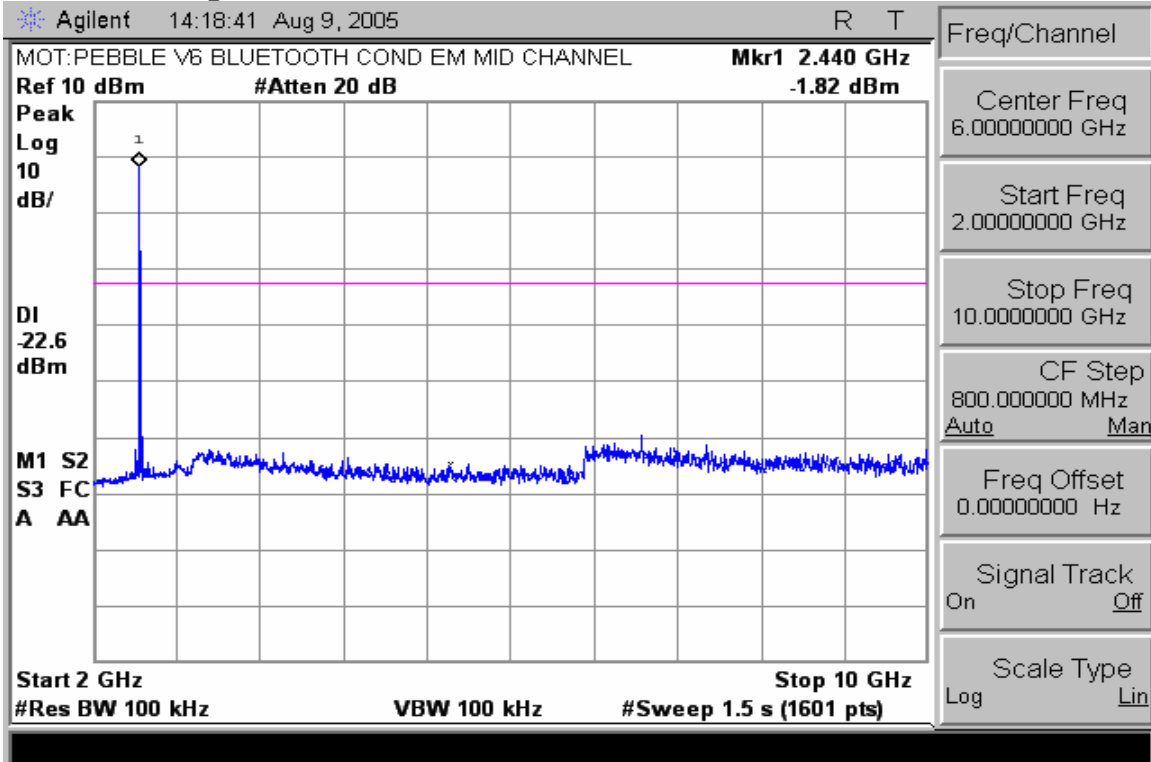
**Conducted Spurious Emissions 10-20GHz (Low Channel Enabled)**



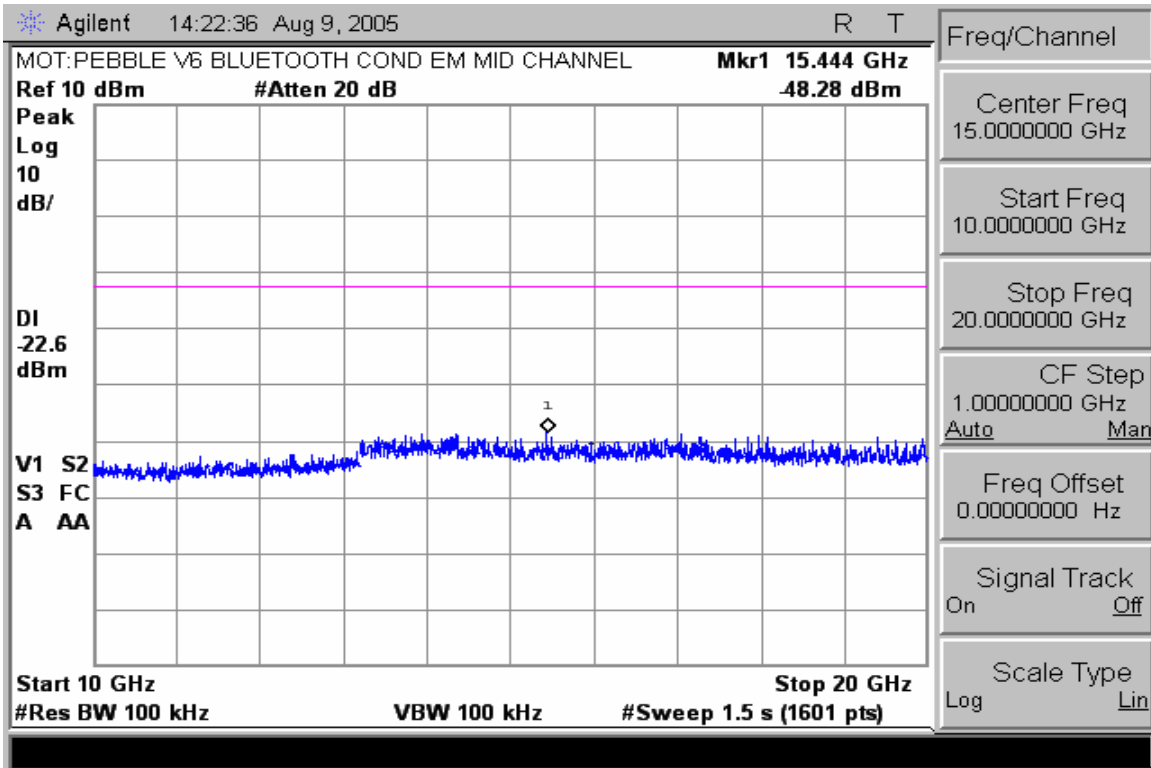
**Conducted Spurious Emissions 20-26.5GHz (Low Channel Enabled)**



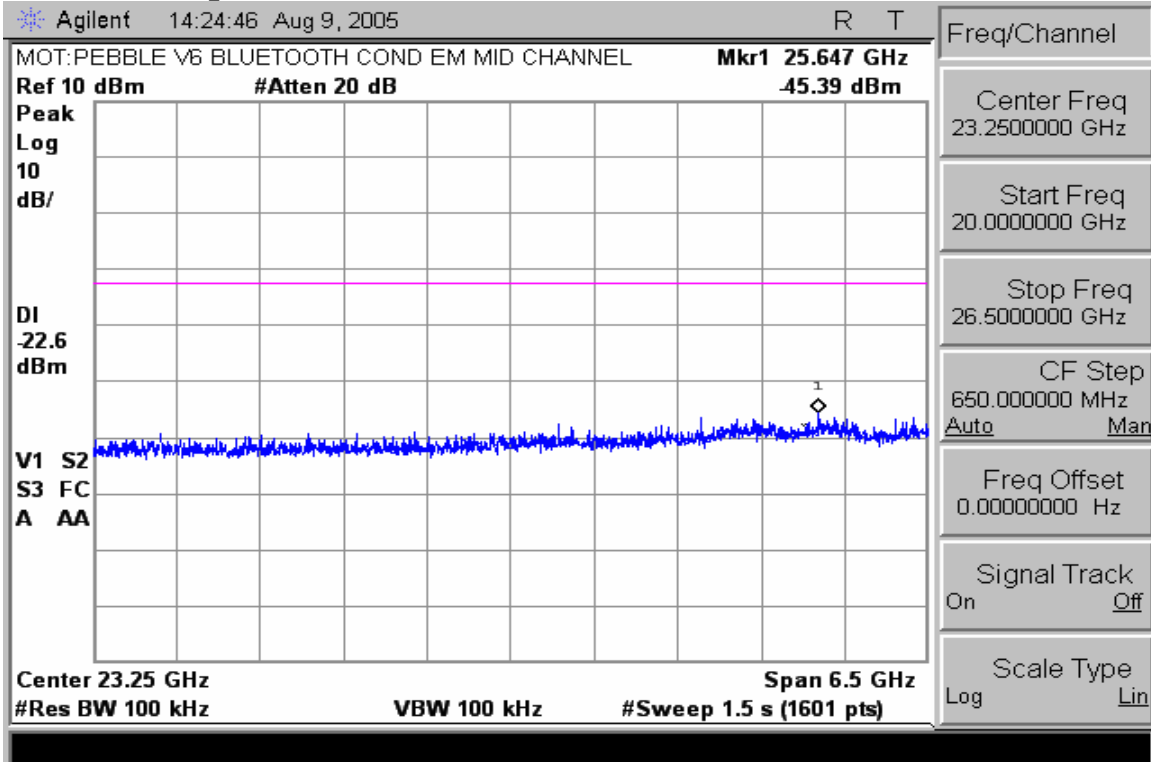
**Conducted Spurious Emissions 30-3000MHz (Mid Channel Enabled)**



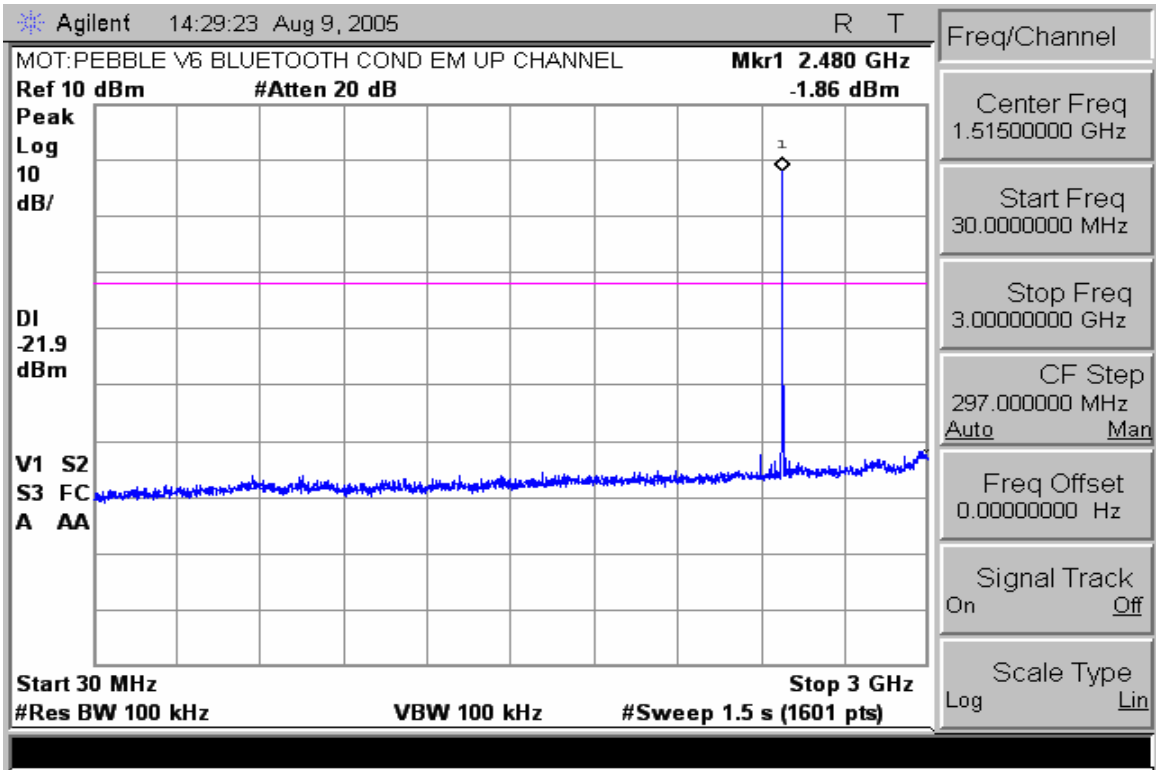
**Conducted Spurious Emissions 2-10GHz (Mid Channel Enabled)**



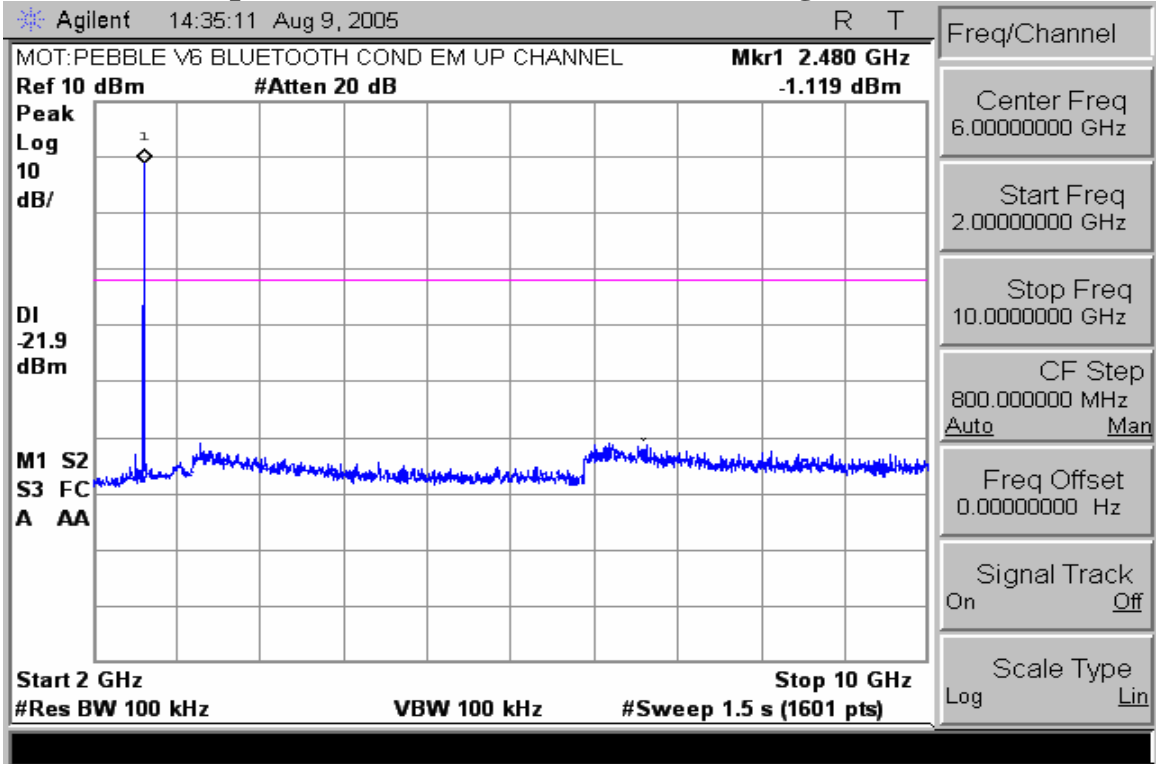
**Conducted Spurious Emissions 10-20GHz (Mid Channel Enabled)**



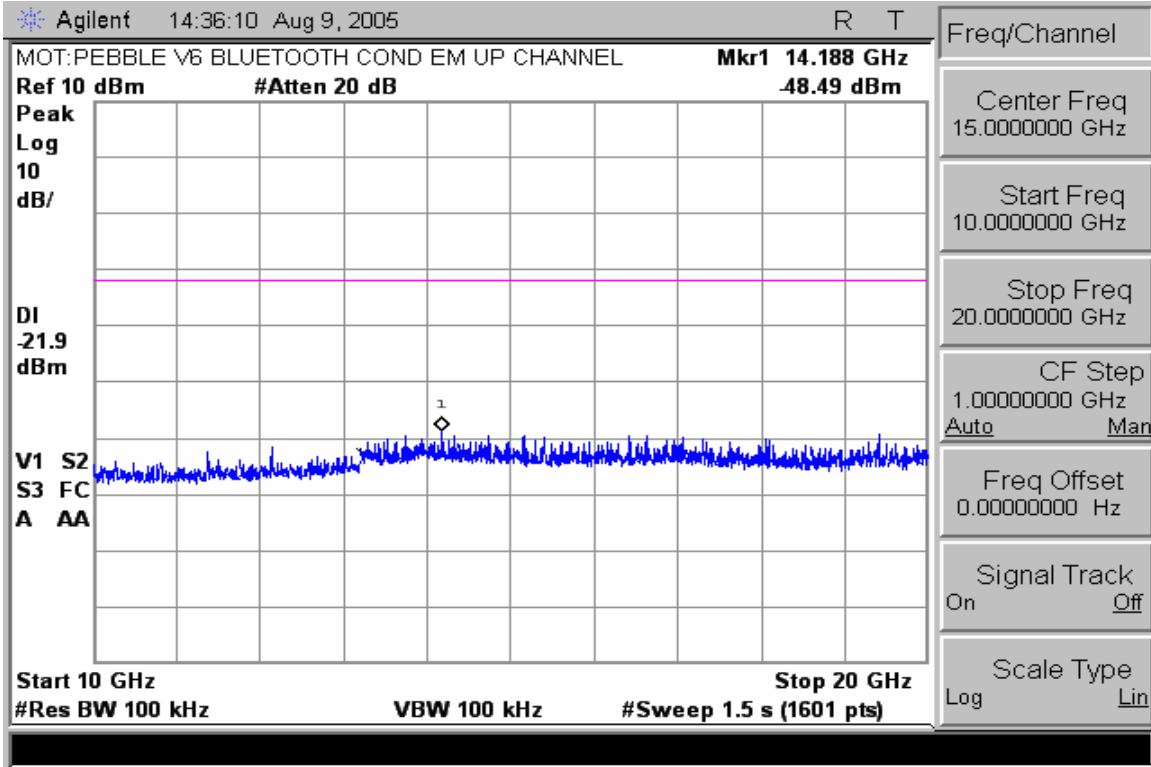
**Conducted Spurious Emissions 20-26.5GHz (Mid Chan Enabled)**



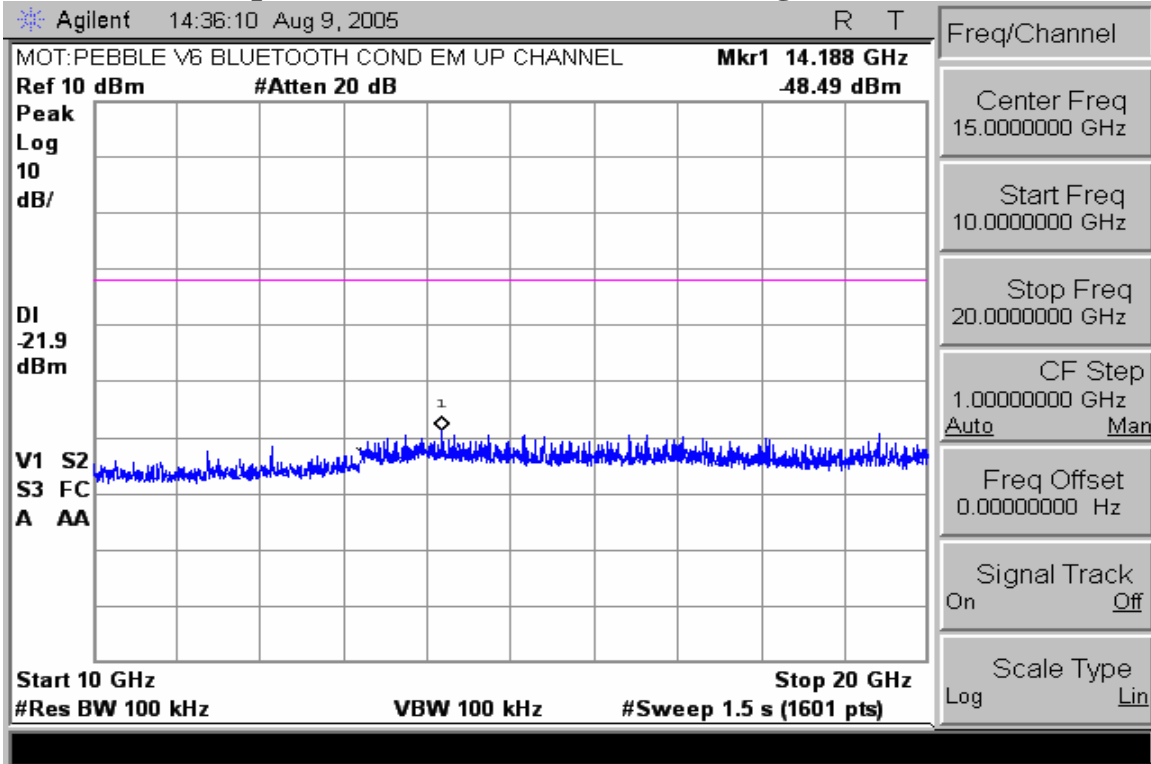
**Conducted Spurious Emissions 30-3000MHz (High Channel Enabled)**



**Conducted Spurious Emissions 2-10GHz (High Channel Enabled)**



**Conducted Spurious Emissions 10-20GHz (High Channel Enabled)**



**Conducted Spurious Emissions 20-26.5GHz (High Chan Enabled)**

## **AC LINE CONDUCTED**

CFR 47 Part 15.207

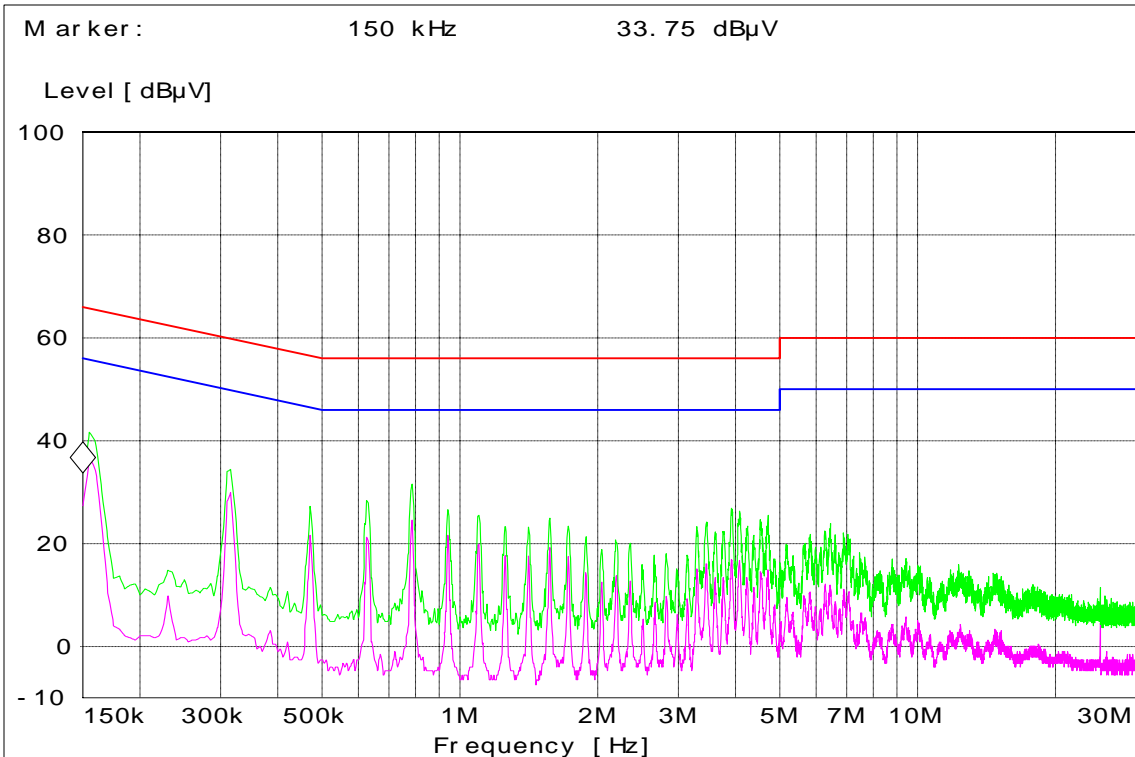
### **Measurement Procedure**

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

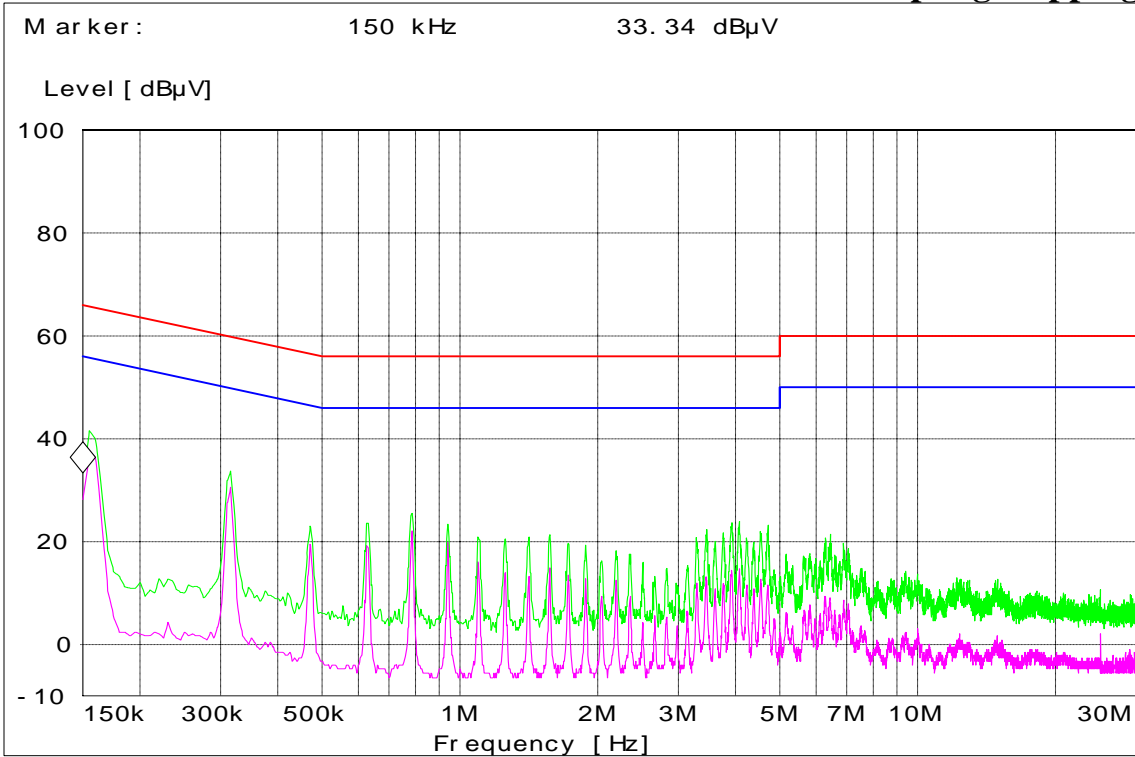
All radio-noise voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord or calibrated extension cord by the use of mating plugs and receptacles on the EUT and LISN. Equipment shall be tested with power cords that are normally supplied using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

### **Measurement Results**

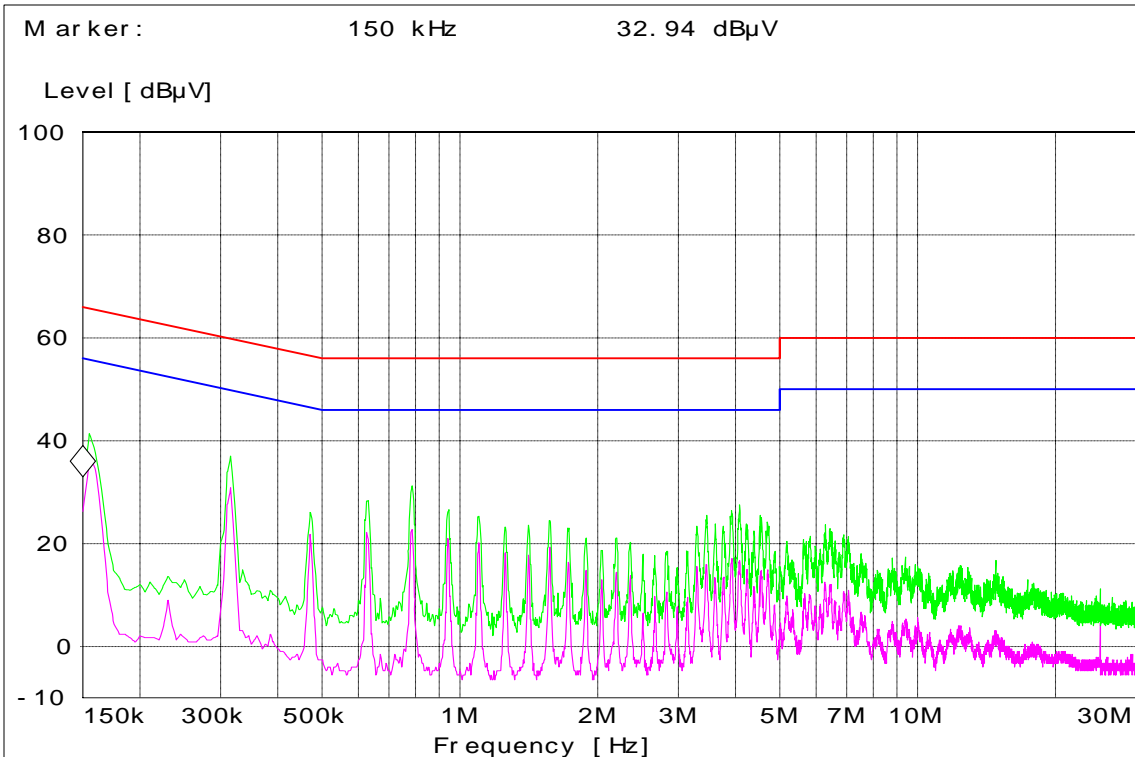
See attached:



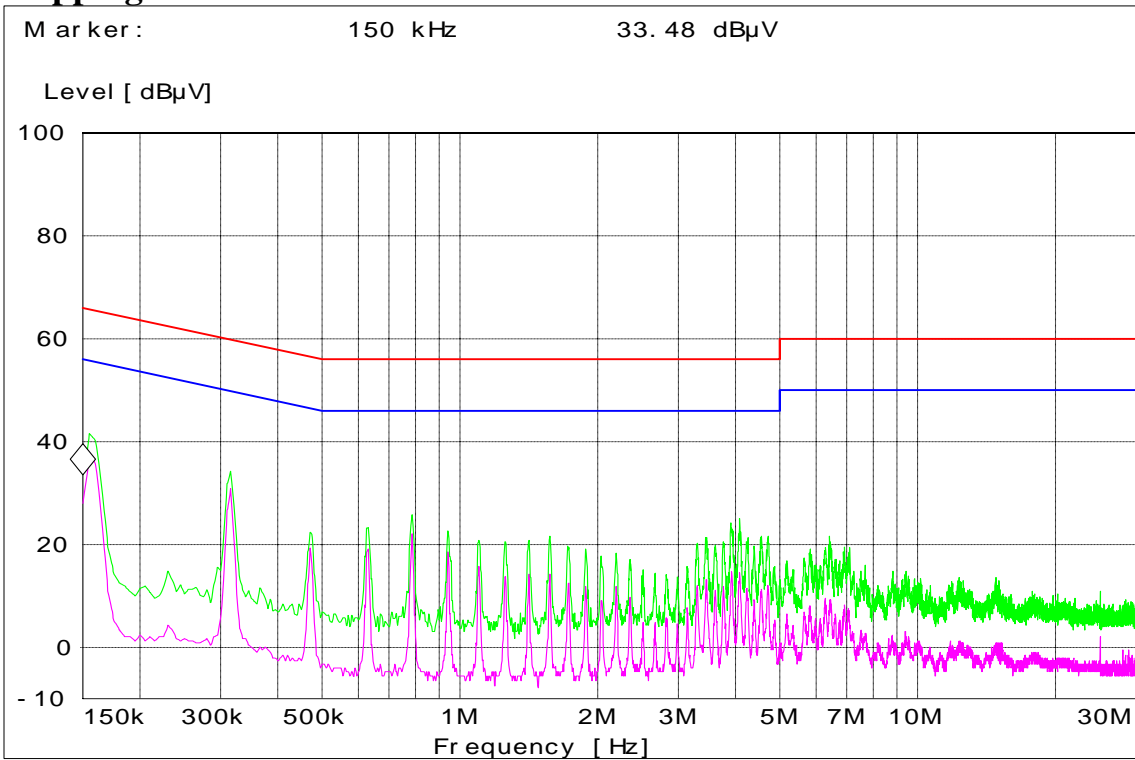
**Bluetooth Channel 0 2402MHz - Tx Mode - Neutral Coupling Hopping**



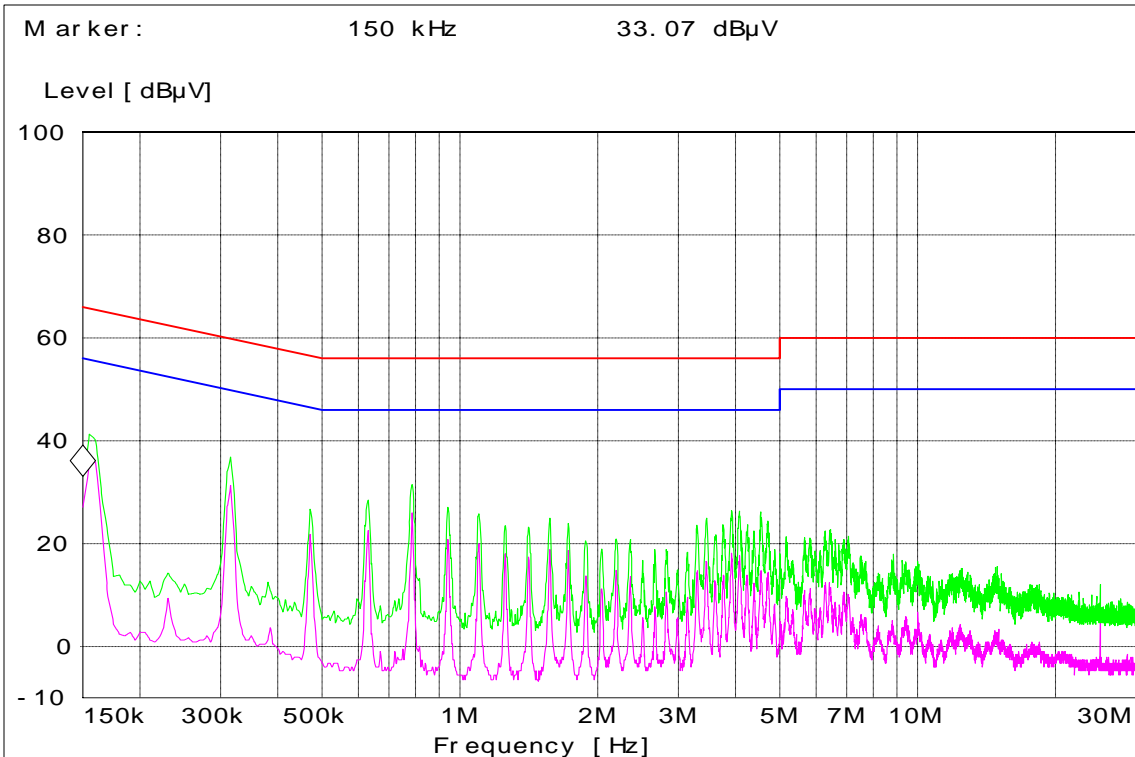
**Bluetooth Channel 39 2441MHz - Tx Mode - Line Coupling Nonhopping**



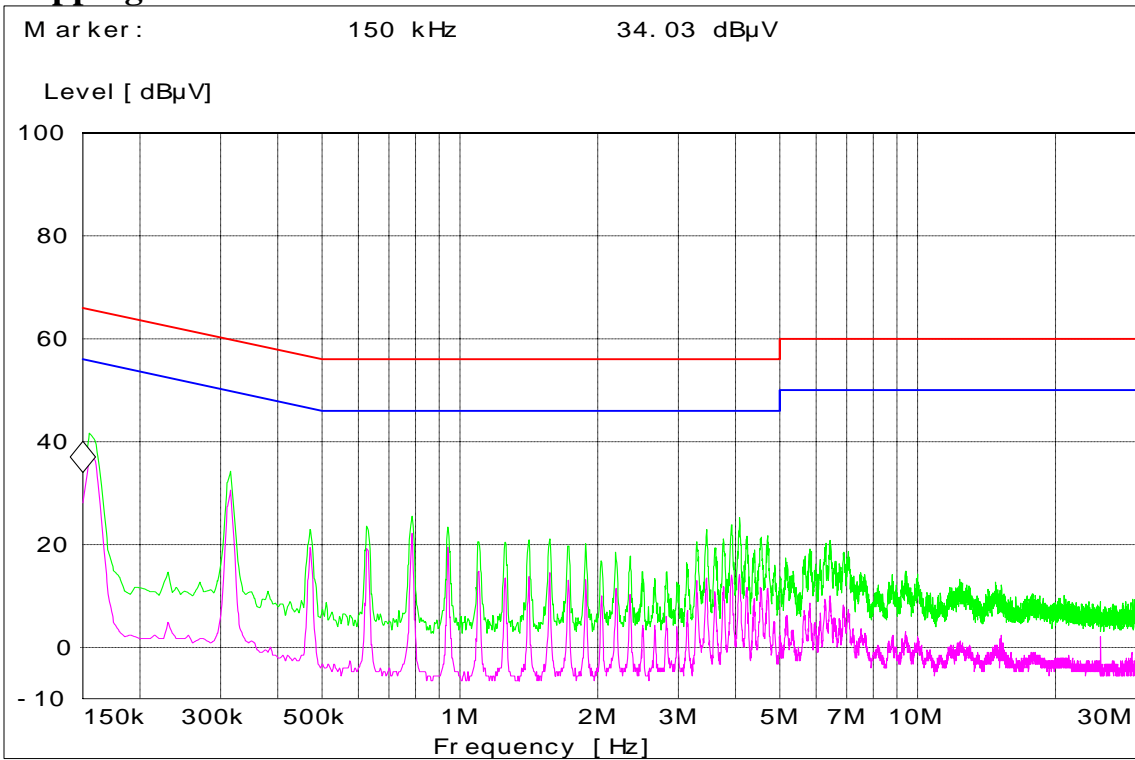
**Bluetooth Channel 39 2441MHz - Tx Mode - Neutral Coupling Hopping**



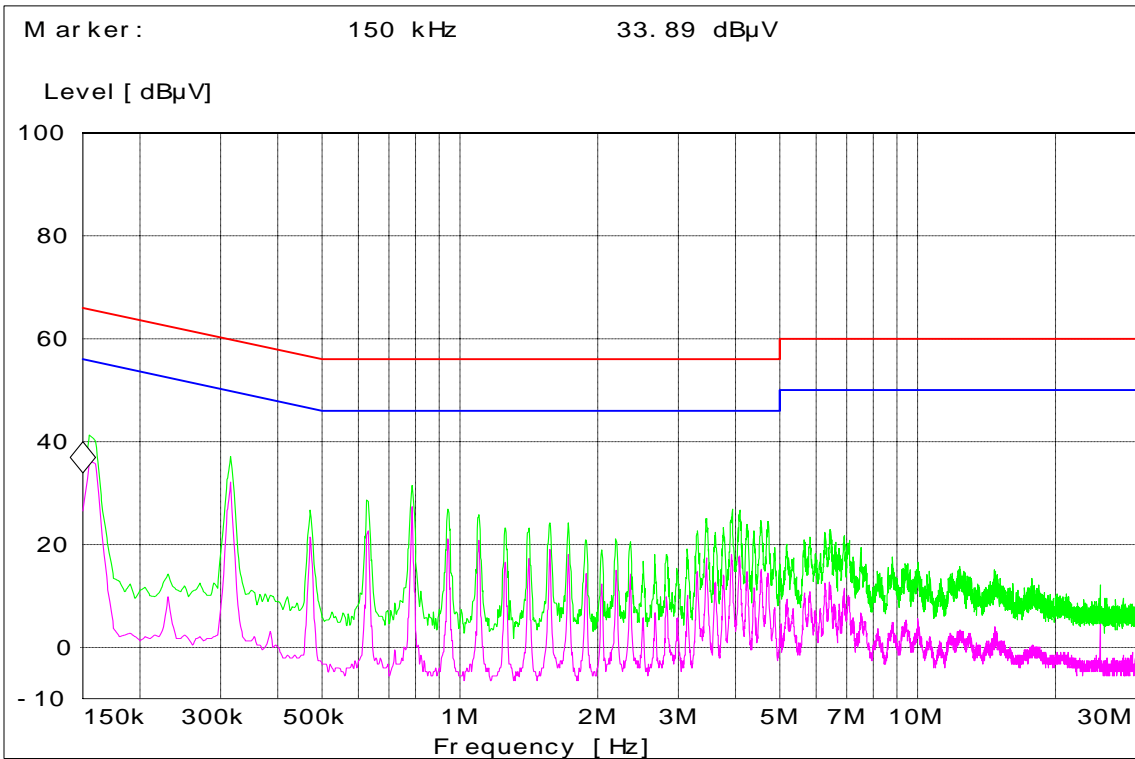
**Bluetooth Channel 78 2480MHz - Tx Mode - Line Coupling Hopping**



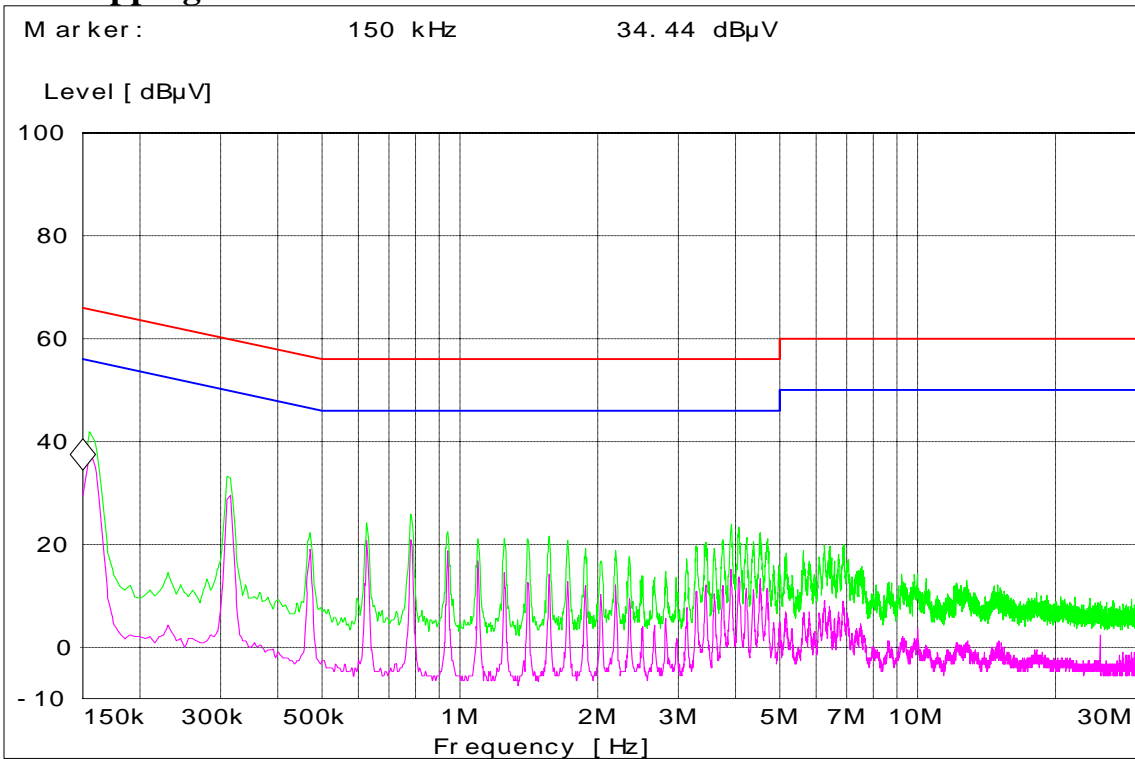
**Bluetooth Channel 78 2480MHz - Tx Mode - Neutral Coupling Hopping**



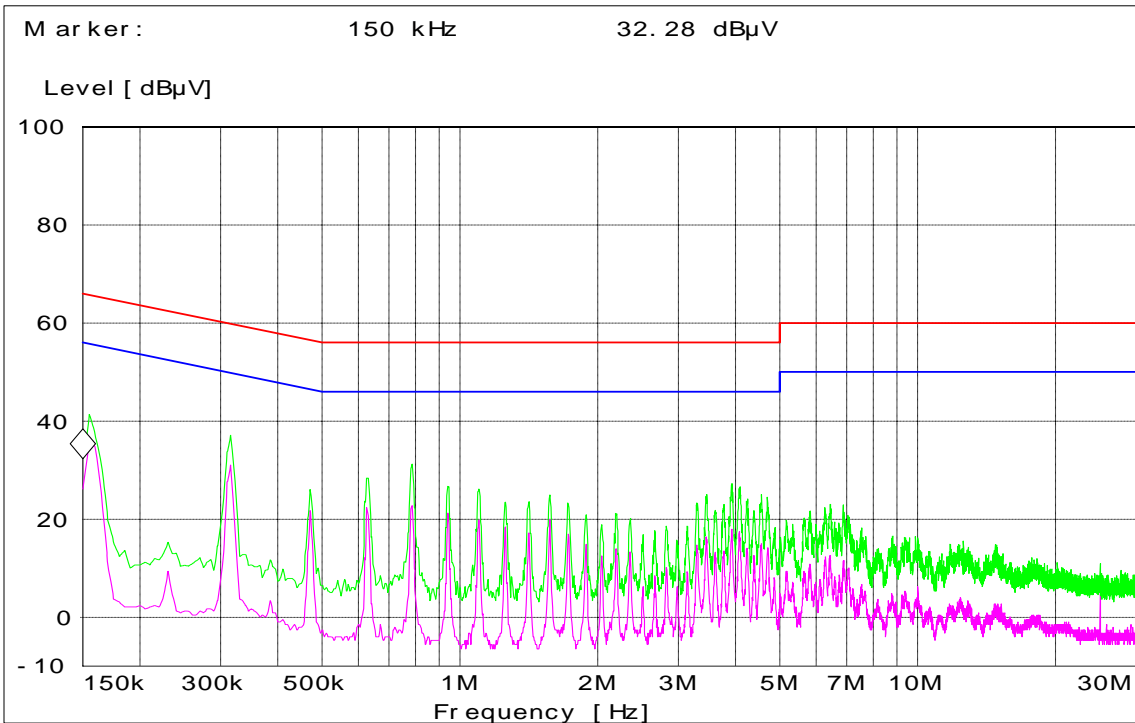
**Bluetooth Channel 0 2402MHz - Tx Mode - Line Coupling Hopping**



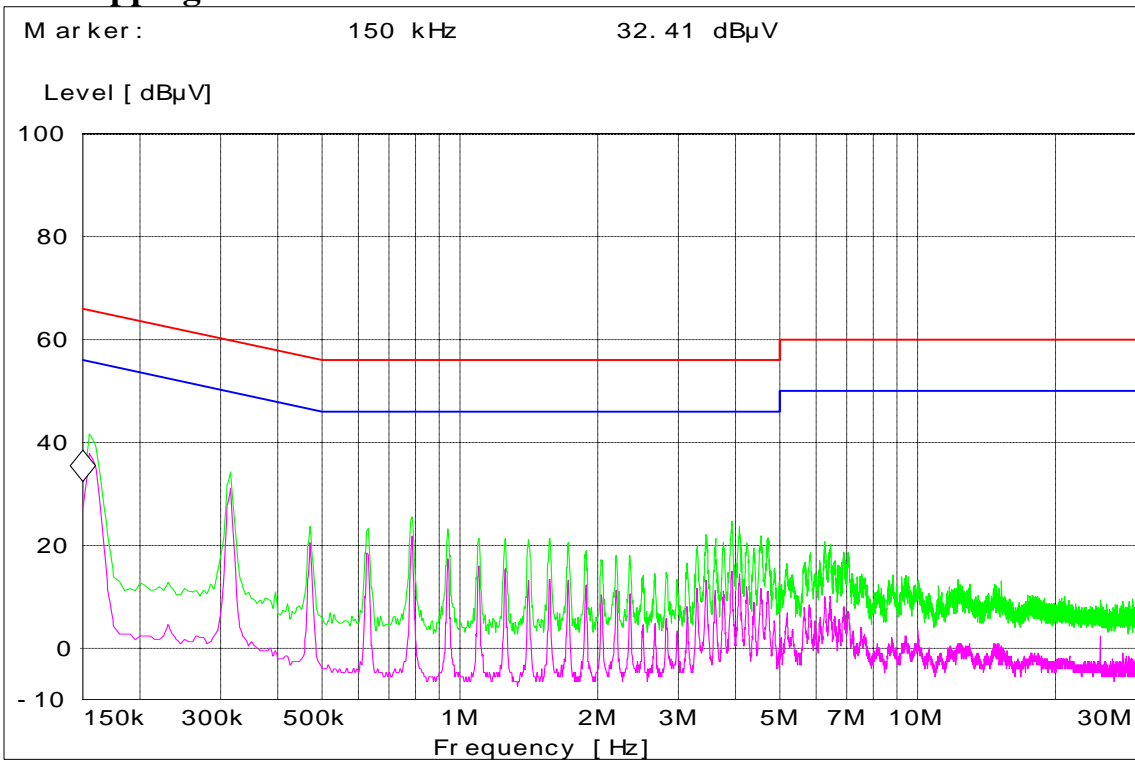
**Bluetooth Channel 0 2402MHz - Tx Mode - Neutral Coupling Nonhopping**



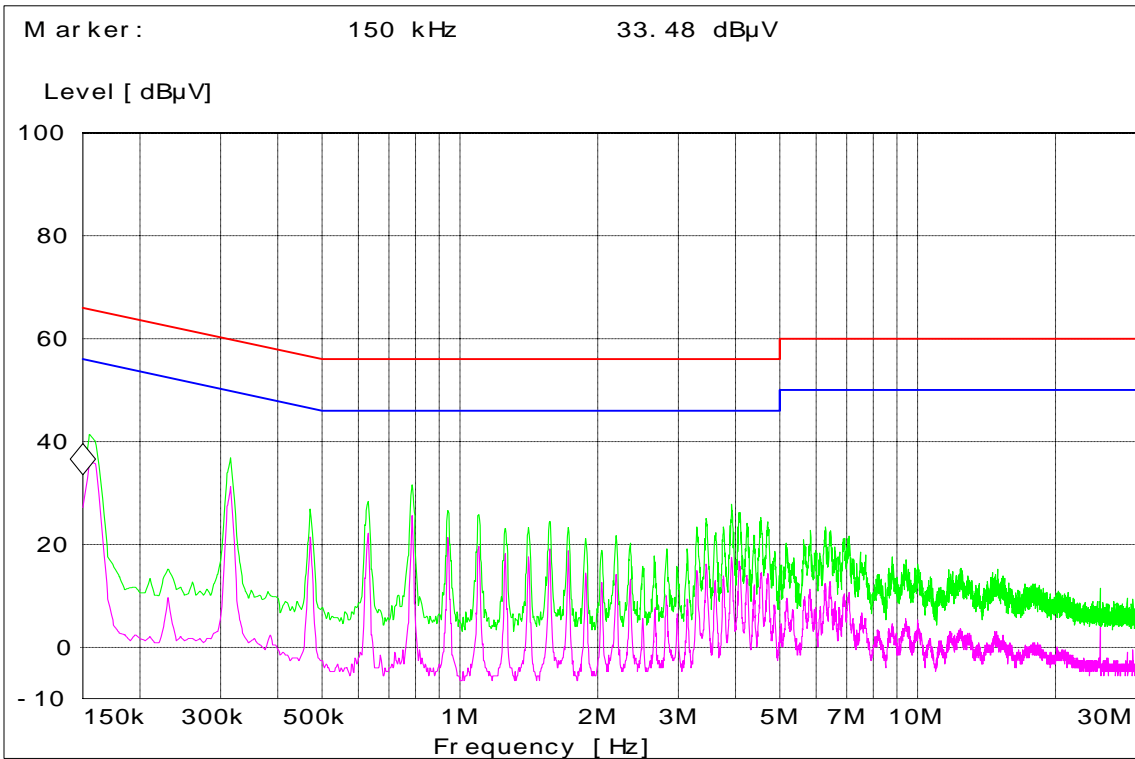
**Bluetooth Channel 39 2441MHz - Tx Mode - Line Coupling Hopping**



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



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



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

**End of Test Report**