



# DIGITAL EMC CO., LTD.

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<http://www.digitalemcc.com>

## CERTIFICATION OF COMPLIANCE

**Camos Co., Ltd.**

#429-9, Chongchon-2dong, Pupyong-ku, Inchon, Korea

Dates of Tests: December 31 ~ January 07, 2009

Test Report S/N: DR50110901AH

Test Site : DIGITAL EMC CO., LTD.

FCC ID

**U6CM-SONIC-600BH**

APPLICANT

**Camos Co., Ltd.**

<b>FCC Equipment Class</b>	<b>:</b>	<b>Part 15 Spread Spectrum Transmitter(DSS)</b>
<b>Device name</b>	<b>:</b>	<b>BLUETOOTH HEADSET SYSTEMS</b>
<b>Manufacturer</b>	<b>:</b>	<b>Camos Co., Ltd.</b>
<b>FCC ID</b>	<b>:</b>	<b>U6CM-SONIC-600BH</b>
<b>Model name</b>	<b>:</b>	<b>ROAD TECH-600BH</b>
<b>Test Device Serial number</b>	<b>:</b>	<b>Identical prototype</b>
<b>FCC Rule Part(s)</b>	<b>:</b>	<b>FCC Part 15.247 Subpart C</b>
		<b>ANSI C63.4-2003</b>
<b>Frequency Range</b>	<b>:</b>	<b>2402 ~ 2480 MHz</b>
<b>Max. Output power</b>	<b>:</b>	<b>-18.96 dBm Conducted</b>
<b>Data of issue</b>	<b>:</b>	<b>January 09, 2009</b>

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.



NVLAP LAB CODE 200559-0

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## 1. General information

This report contains the result of tests performed by:

DIGITAL EMC CO., LTD.

Address: 683-3, Yubang-Dong, Yongin-Si, Kyunggi-Do, Korea. 449-080

<http://www.digitalemc.com> E-mail: [Harveysung@digitalemc.com](mailto:Harveysung@digitalemc.com)

Tel: +82-31-321-2664 Fax: +82-31-321-1664

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competent of calibration and testing laboratory".

This laboratory is accredited by NVLAP for NVLAP Lab. Code : 200559-0.

**Test operator: engineer**

January 09, 2009

D.C. Cha



Data

Name

Signature

**Report Reviewed By: manager**

January 09, 2009

Harvey Sung



Data

Name

Signature

Ordering party:

Company name : Camos Co., Ltd.  
Address : #429-9, Chongchon-2dong, Pupyong-ku  
City/town : Inchon  
Country : Korea  
Date of order : November 12, 2008

## 2. Information about test item

### U6CM-SONIC-600BH

#### 2.1 Equipment information

Equipment model no.	ROAD TECH-600BH
Equipment serial no.	Identical prototype
Type of equipment	BLUETOOTH HEADSET SYSTEMS
Frequency band	2402 ~ 2480 MHz
Type of Modulation	GFSK
Spread Spectrum	Frequency Hopping
Channel Spacing	1.0 MHz
Type of antenna	Chip Antenna

- This device does not have EDR function.
- When charging the internal battery of this device, the Bluetooth function is disabled.

#### 2.2 Tested frequency

Frequency	TX	RX
Low frequency	2402MHz	2402MHz
Middle frequency	2441MHz	2441MHz
High frequency	2480MHz	2480MHz

#### 2.3 Tested environment

Temperature	: 15 ~ 35 (°C)
Relative humidity content	: 20 ~ 75 %
Air pressure	: 86 ~ 103 kPa
Details of power supply	: 3.7 V DC

#### 2.4 Ancillary Equipment

Equipment	Model No.	Serial No.	Manufacturer
Earphone & Mic 1*	N/A	N/A	Camos
Earphone & Mic 2*	N/A	N/A	Camos

- \*: Refer to external photo.

#### 2.5 EMI Suppression Device(s)/Modifications

EMI suppression device(s) added and/or modifications made during testing

-> None

### 3. Test Report

#### 3.1 Summary of tests

FCC Part Section(s)	Parameter	Limit (Using in 2400 ~ 2483.5MHz)	Test Condition	Status (note 1)
I. Test Items				
15.247(a)	Carrier Frequency Separation	>= 20dB BW or >= Two-Thirds of the 20dB BW	Conducted	C
	Number of Hopping Frequencies	>= 15 hops		C
	20 dB Bandwidth	None		C
	Dwell Time	=< 0.4 seconds		C
15.247(b)	Transmitter Output Power	=< 1Watt , if CHs >= 75 Others =<0.125W		C
15.247(c)	Band-edge /Conducted	The radiated emission to any 100 kHz of outband shall be at least 20dB below the highest inband spectral density.		C
	Conducted Spurious Emissions			C
15.205 15.209	Radiated Emissions	FCC 15.209 Limits	Radiated	C
15.207	AC Conducted Emissions	EN 55022	AC Line Conducted	NA
Note 1: C=Comply    NC=Not Comply    NT=Not Tested    NA=Not Applicable				

The sample was tested according to the following specification:

FCC Parts 15.247; ANSI C-63.4-2003, DA00-705

## 3.2 Transmitter requirements

### 3.2.1 Carrier Frequency Separation

#### - Procedure:

The carrier frequency separation was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

After the trace being stable, the reading value between the peaks of the adjacent channels using the marker-delta function was recorded as the measurement results.

The spectrum analyzer is set to:

Span = 3 MHz (wide enough to capture the peaks of two adjacent channels)

RBW = 30 kHz

Sweep = auto

VBW = 30 kHz

Detector function = peak

Trace = max hold

#### - Measurement Data:

Frequency of marker #1 (MHz)	Frequency of marker #2 (MHz)	Test Results	
		Carrier Frequency Separation (MHz)	Result
2440.013	2441.018	1.005	Comply

- See next pages for actual measured spectrum plots.

#### - Minimum Standard:

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

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

#### - Measurement Setup

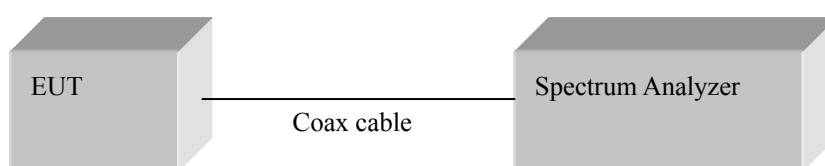
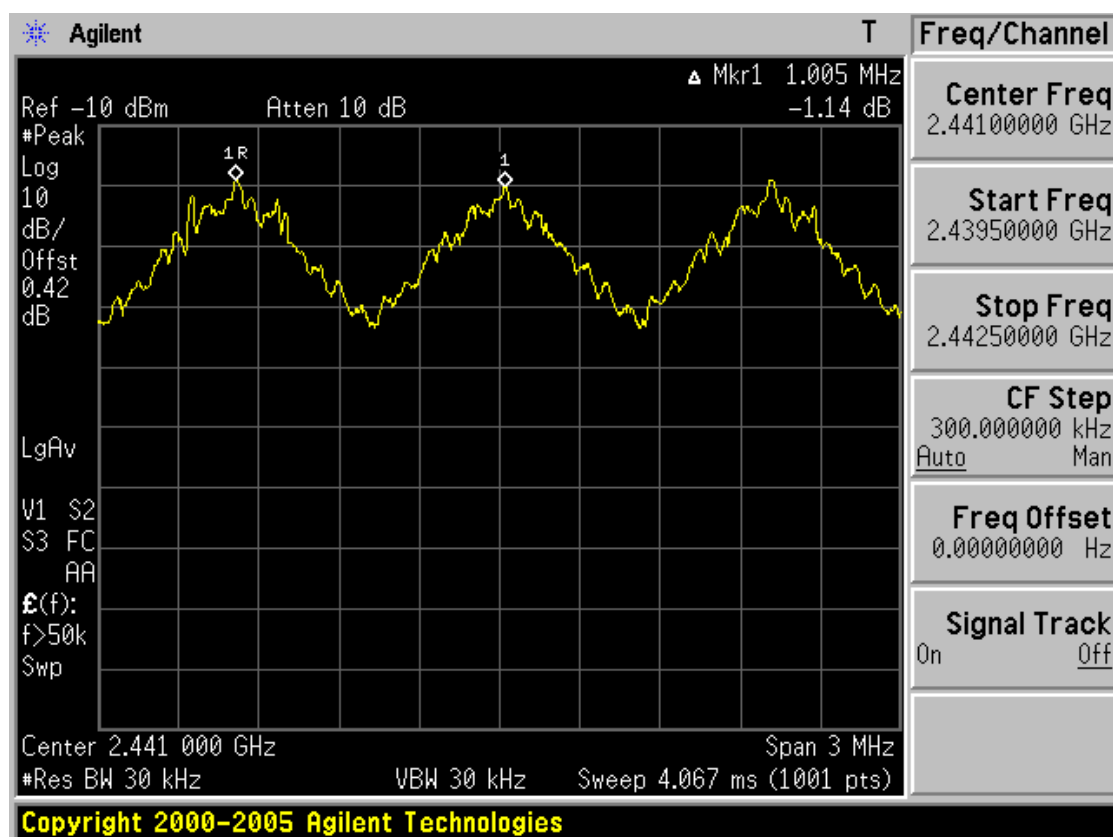


Figure 1: Measurement setup for the carrier frequency separation

## Carrier Frequency Separation



### 3.2.2 Number of Hopping Frequencies

#### - Procedure:

The number of hopping frequencies was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

To get higher resolution, four frequency ranges within the 2400 ~ 2483.5 MHz FH band were examined.

The spectrum analyzer is set to:

Frequency range 1: Start = 2389.5MHz, Stop = 2414.5 MHz

2: Start = 2414.5MHz, Stop = 2439.5 MHz

3: Start = 2439.5MHz, Stop = 2464.5 MHz

4: Start = 2464.5MHz, Stop = 2489.5 MHz

RBW = 300 kHz (1% of the span or more) Sweep = auto

VBW = 300 kHz (VBW  $\geq$  RBW) Detector function = peak

Trace = max hold Span = 25MHz

#### - Measurement Data: **Comply**

Total number of Hopping Channels	79
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See next pages for actual measured spectrum plots.

#### - Minimum Standard:

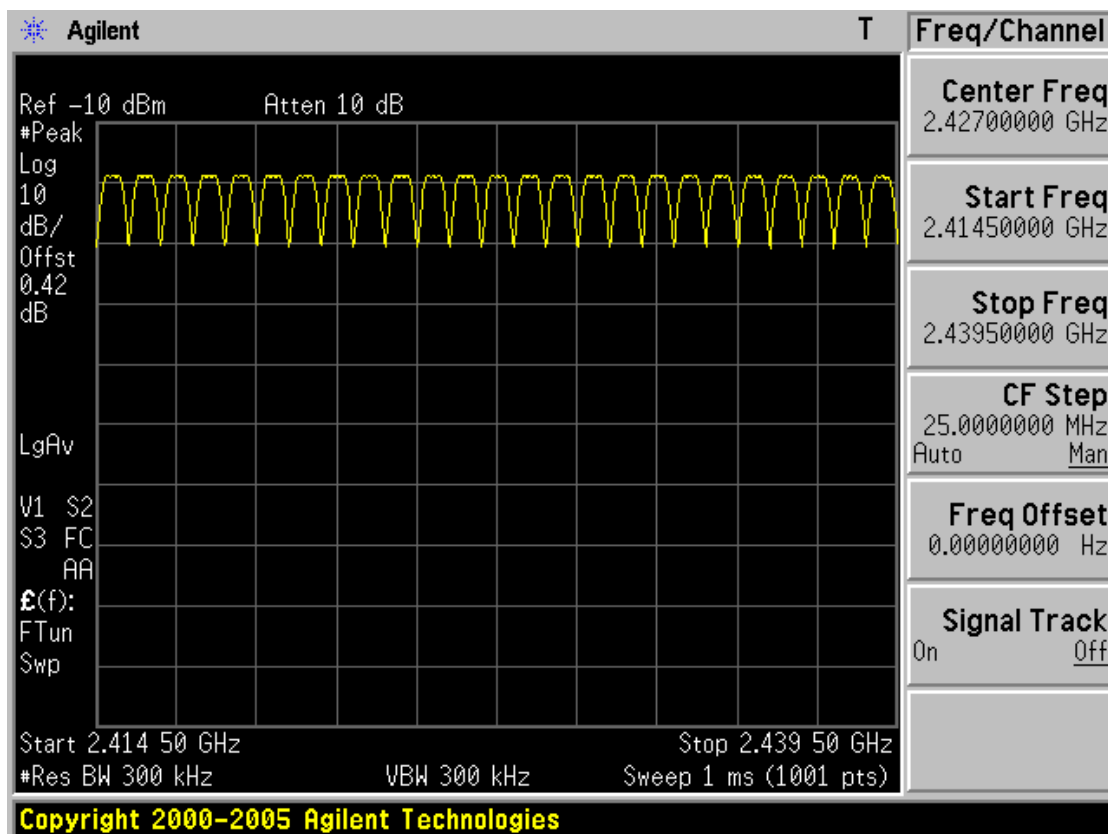
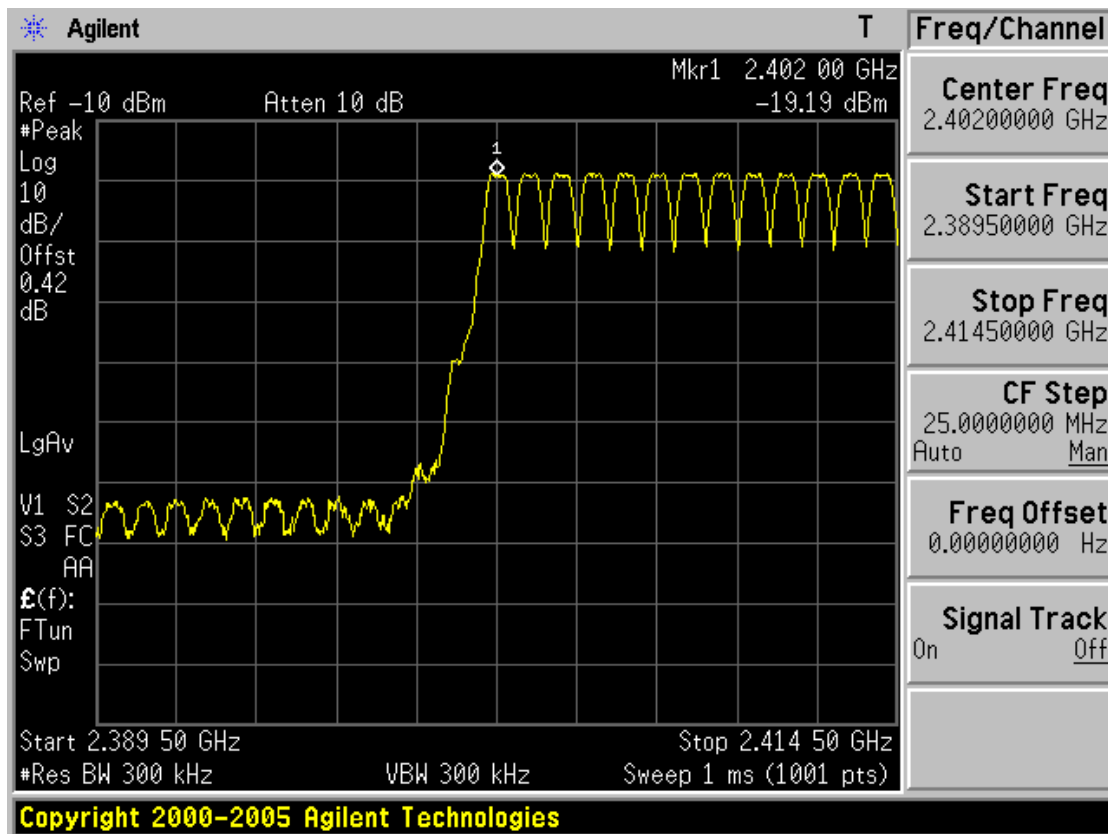
At least 15 hopes
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#### - Measurement Setup

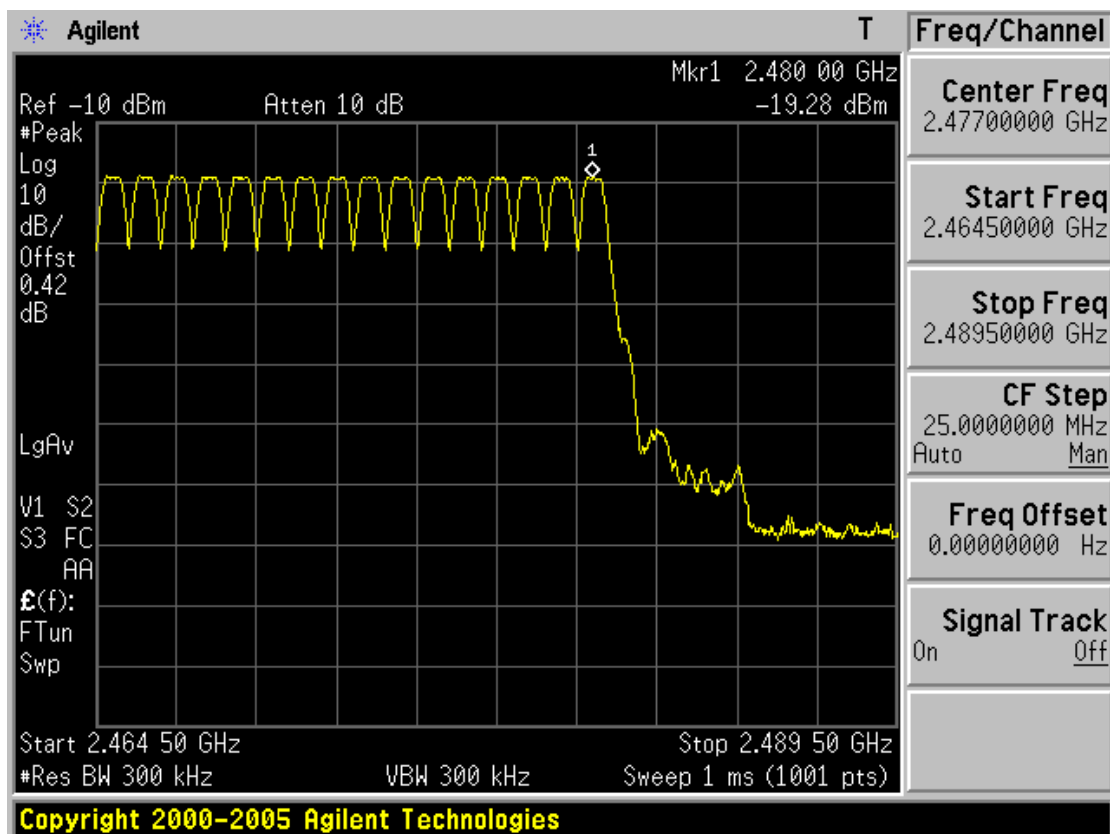
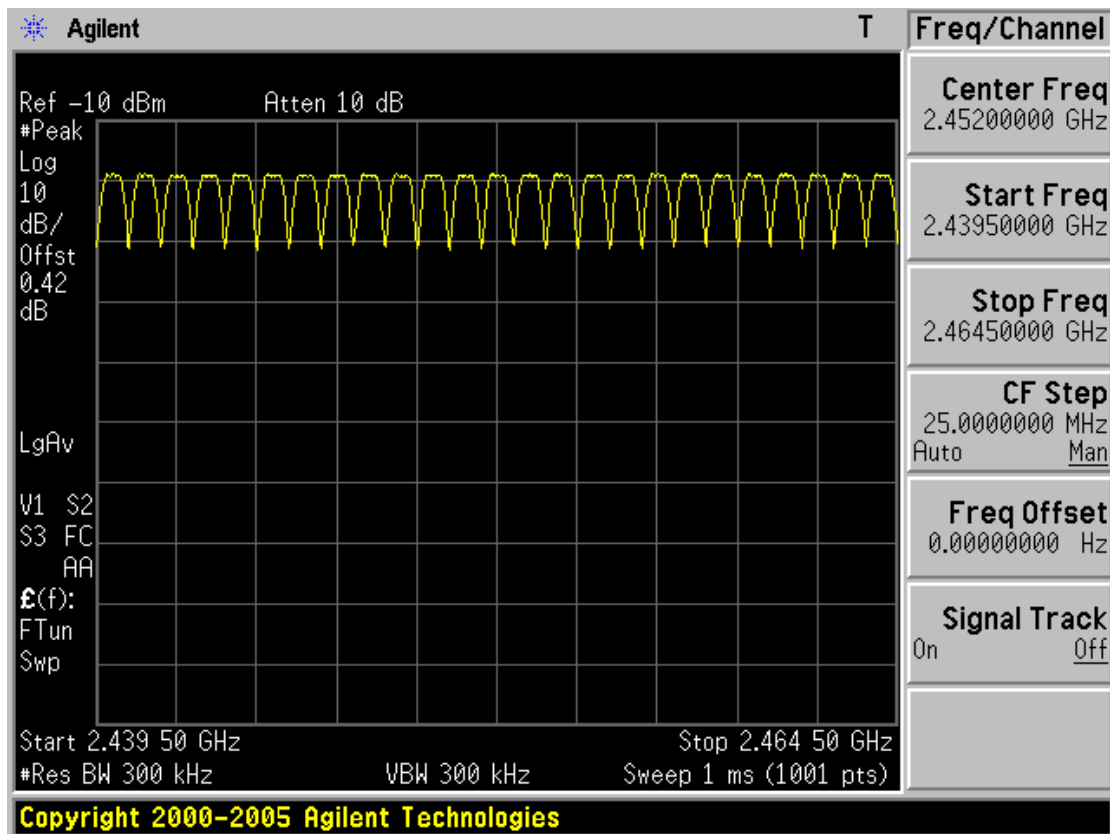
Same as the Chapter 3.2.1 (Figure 1)



# Number of Hopping Frequencies



# Number of Hopping Frequencies



### 3.2.3 20 dB Bandwidth

#### - Procedure:

The bandwidth at 20 dB below the highest inband spectral density was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function disabled at the highest, middle and the lowest available channels.

After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

Span = 5 MHz (approximately 2 or 3 times of the 20 dB bandwidth)

RBW = 10 kHz (1% of the 20dB bandwidth or more) Sweep = auto

VBW = 10 kHz (VBW  $\geq$  RBW) Detector function = peak

Trace = max hold

#### - Measurement Data:

Frequency (MHz)	Channel No.	Test Results	
		Measured Bandwidth (MHz)	Result
2402	1	0.890	Comply
2441	40	0.890	Comply
2480	79	0.880	Comply

See next pages for actual measured spectrum plots.

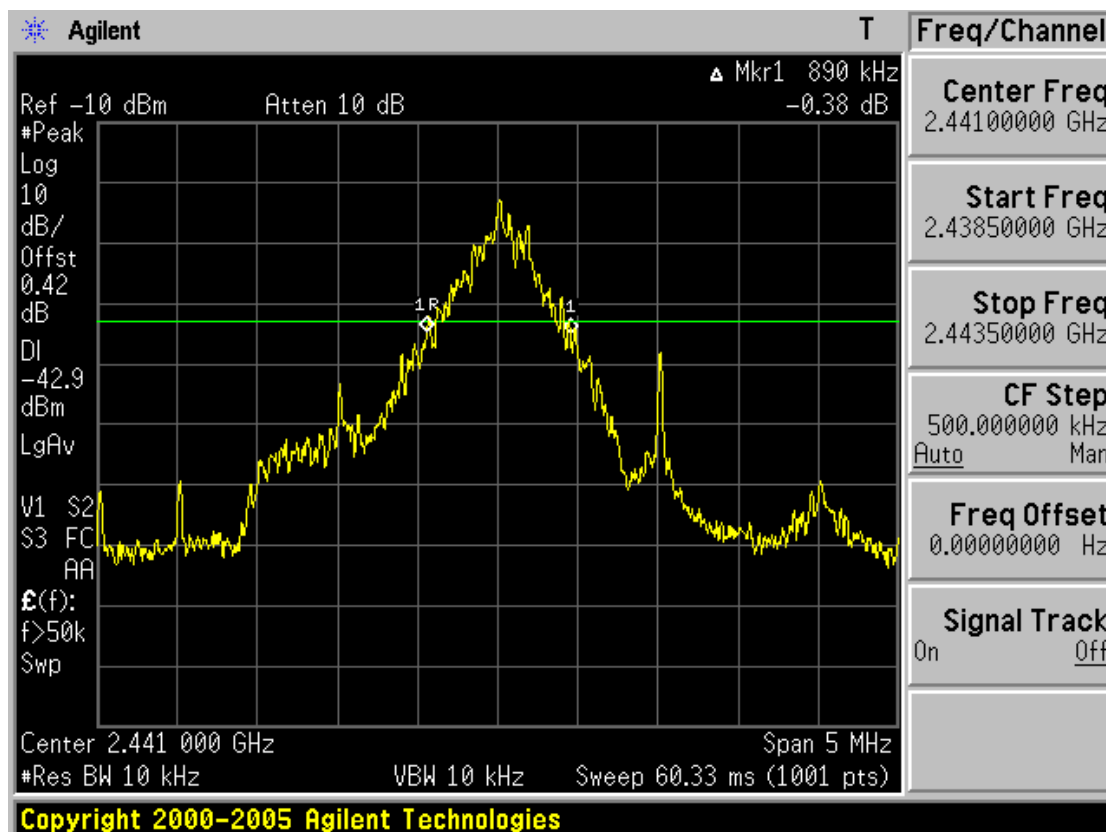
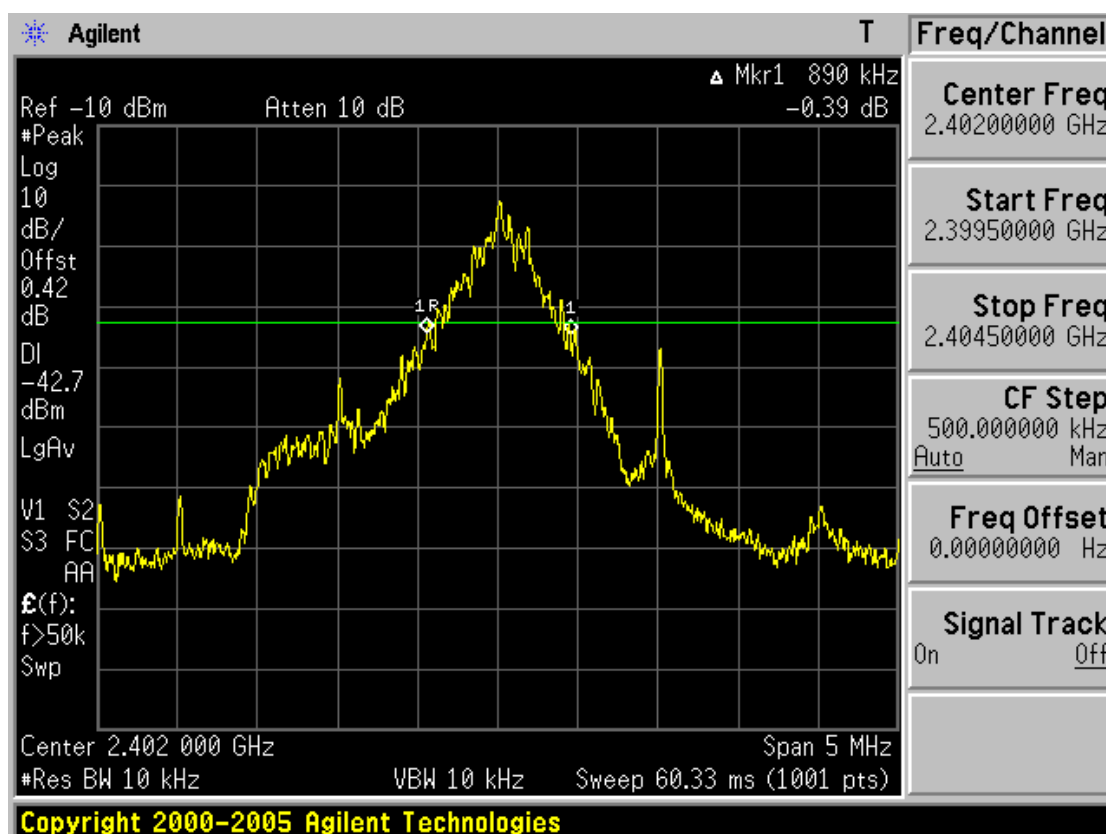
#### - Minimum Standard:

None

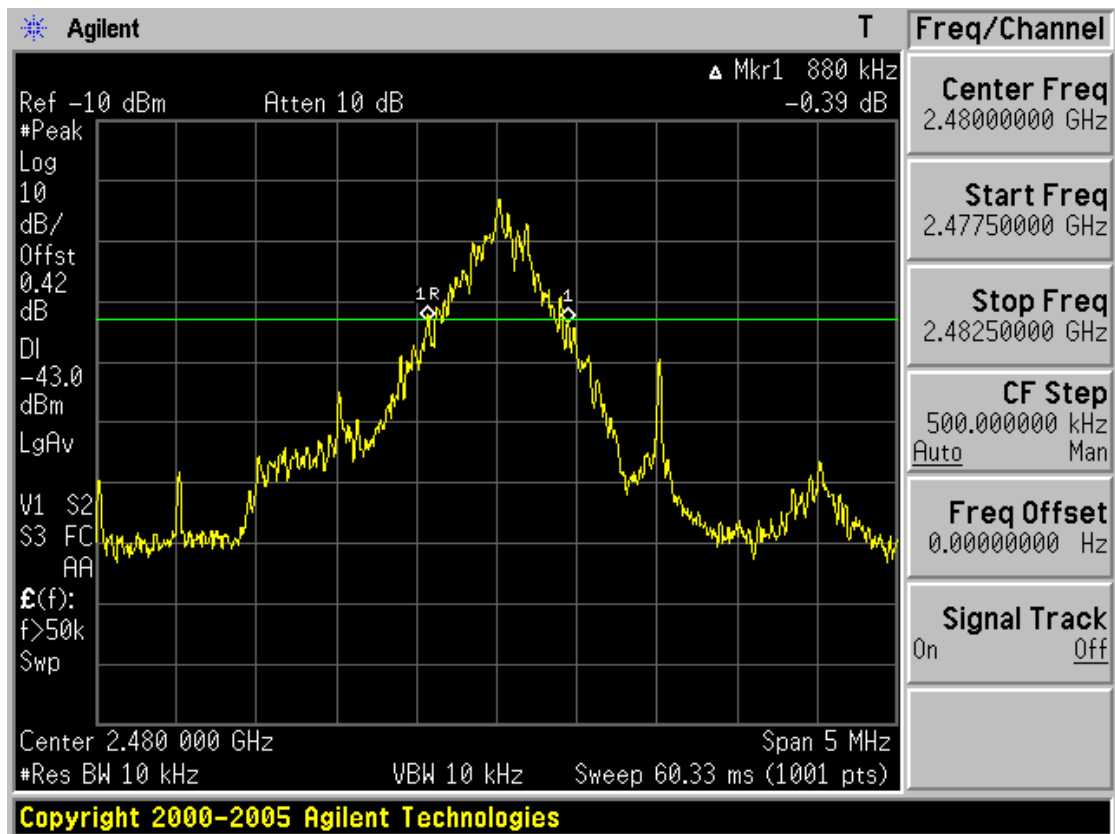
#### - Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

## 20 dB Bandwidth



## 20 dB Bandwidth



### 3.2.4 Time of Occupancy (Dwell Time)

#### - Procedure:

The dwell time was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

The spectrum analyzer is set to:

Center frequency = 2441 MHz

Span = zero

RBW = 1 MHz

VBW = 1 MHz (VBW  $\geq$  RBW)

Trace = max hold

Detector function = peak

- **Measurement Data:** See next pages for actual measured spectrum plots.

Packet Type	Burst On Time (ms)	Period (ms)	Number of hopping Channels	DWELL TIME (s)	Result
DH 5	2.925	3.750	79	0.312	Comply

Note: Each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event.

**DWELL TIME** = (0.4 x Number of hopping Channels) x Burst On time / (period x Number of hopping Channels)

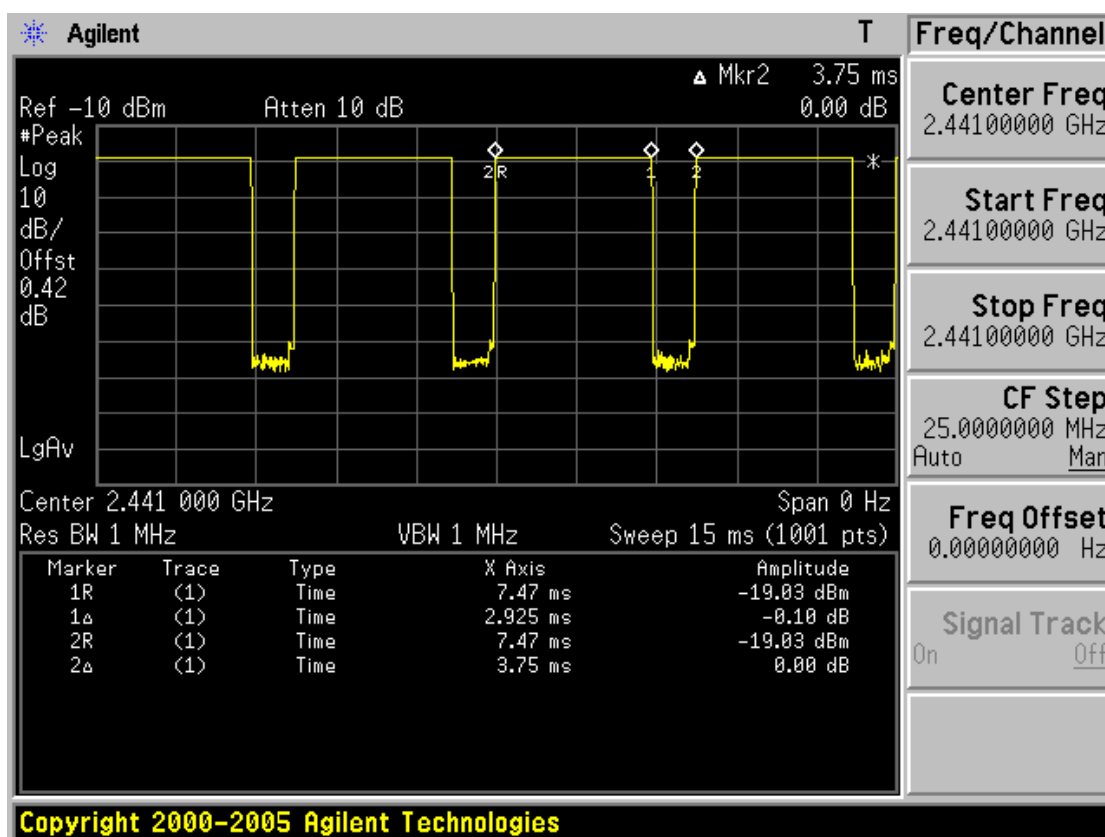
#### - Minimum Standard:

No greater than 0.4 seconds
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#### - Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

# Time of Occupancy for Packet Type DH 5



### 3.2.5 Peak Output Power

#### - Procedure:

The peak output power was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function disabled at the highest, middle and the lowest available channels.

After the trace being stable, Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

Span = 5 MHz (approximately 5 times of the 20 dB bandwidth)

RBW = 1 MHz (greater than the 20dB bandwidth of the emission being measured)

VBW = 1 MHz (VBW  $\geq$  RBW)

Detector function = peak

Trace = max hold

Sweep = auto

#### - Measurement Data:

Frequency (MHz)	Ch.	Test Results		
		dBm	mW	Result
2402	1	-18.96	0.0127	Comply
2441	40	-19.19	0.0121	Comply
2480	79	-19.42	0.0114	Comply

See next pages for actual measured spectrum plots.

#### - Minimum Standard:

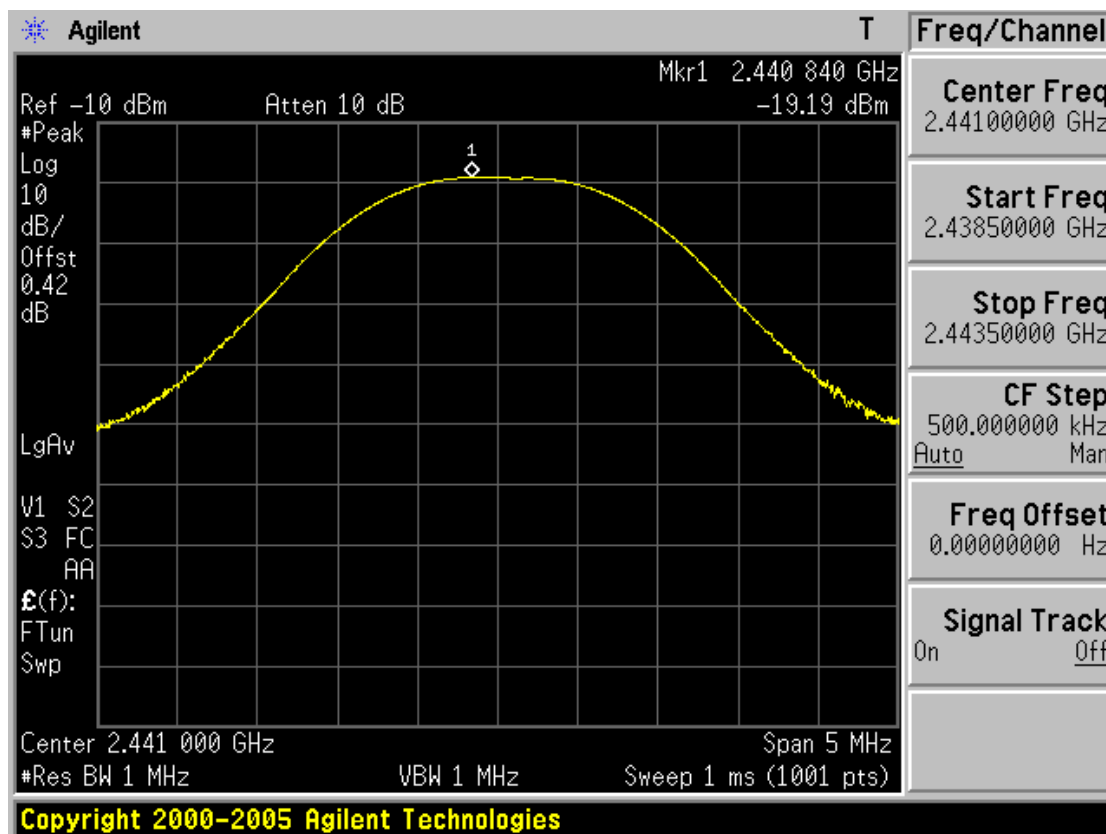
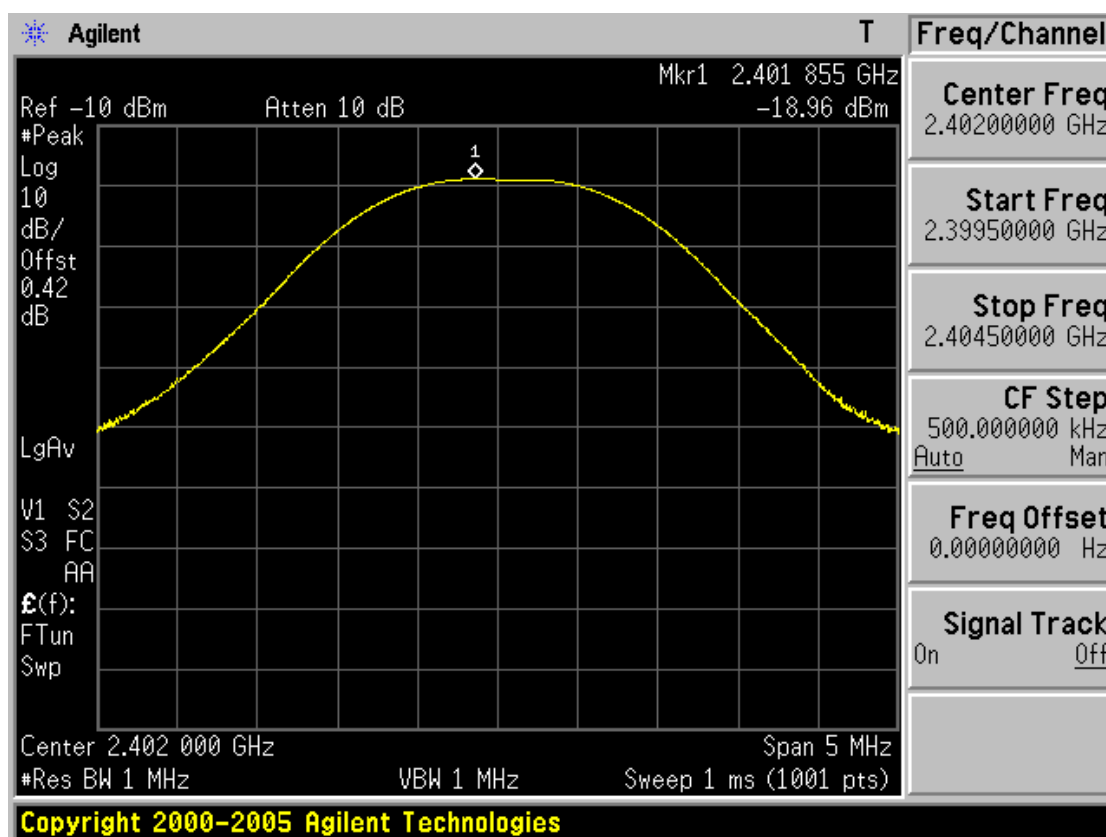
For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: **1 Watt**. For all other frequency hopping systems in the 2400-2483.5 MHz band: **0.125 Watts**

#### - Measurement Setup

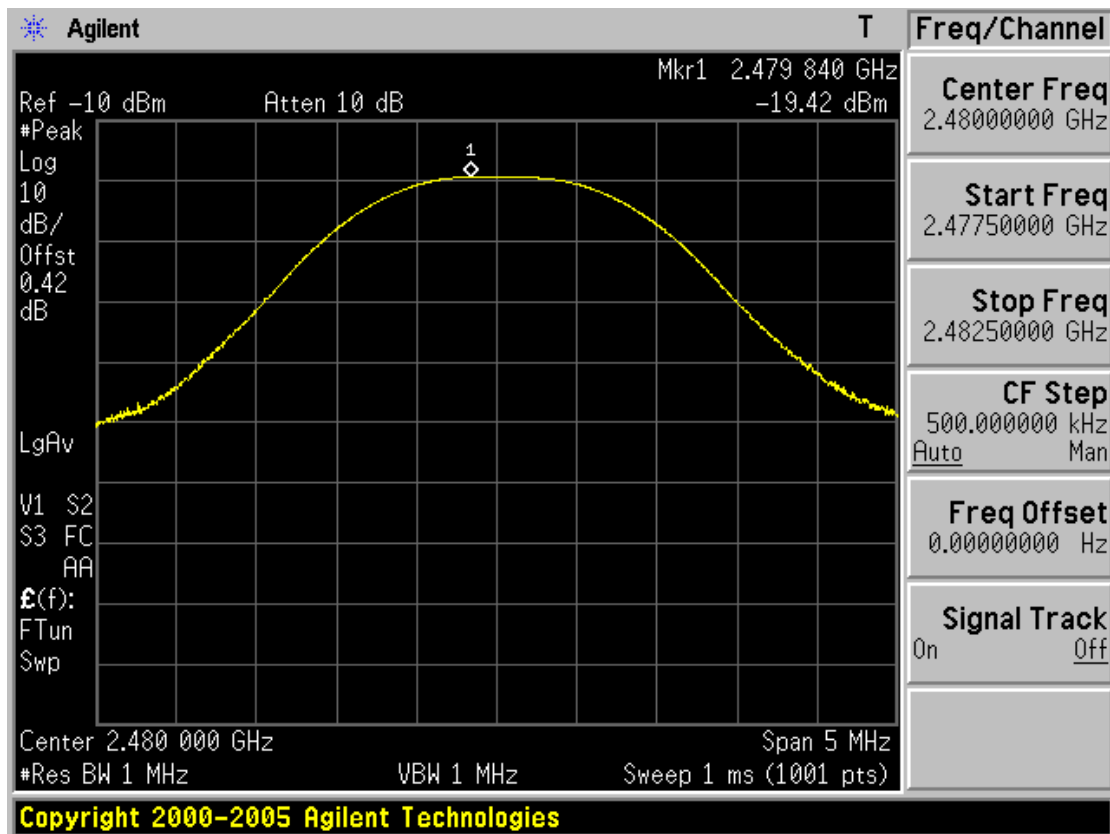
Same as the Chapter 3.2.1 (Figure 1)



# Peak Output Power



# Peak Output Power



### 3.2.6 Conducted Spurious Emissions

#### - Procedure:

The bandwidth at 20dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function disabled at the highest, middle and the lowest available channels.

After the trace being stable, Use the marker-to-peak function to measure 20 dB down both sides of the intentional emission.

The spectrum analyzer is set to:

Center frequency = the highest, middle and the lowest channels

RBW = 100 kHz

VBW = 100 kHz

Detector function = peak

Trace = max hold

Sweep = auto

#### - Measurement Data: **Comply**

See next pages for actual measured spectrum plots.

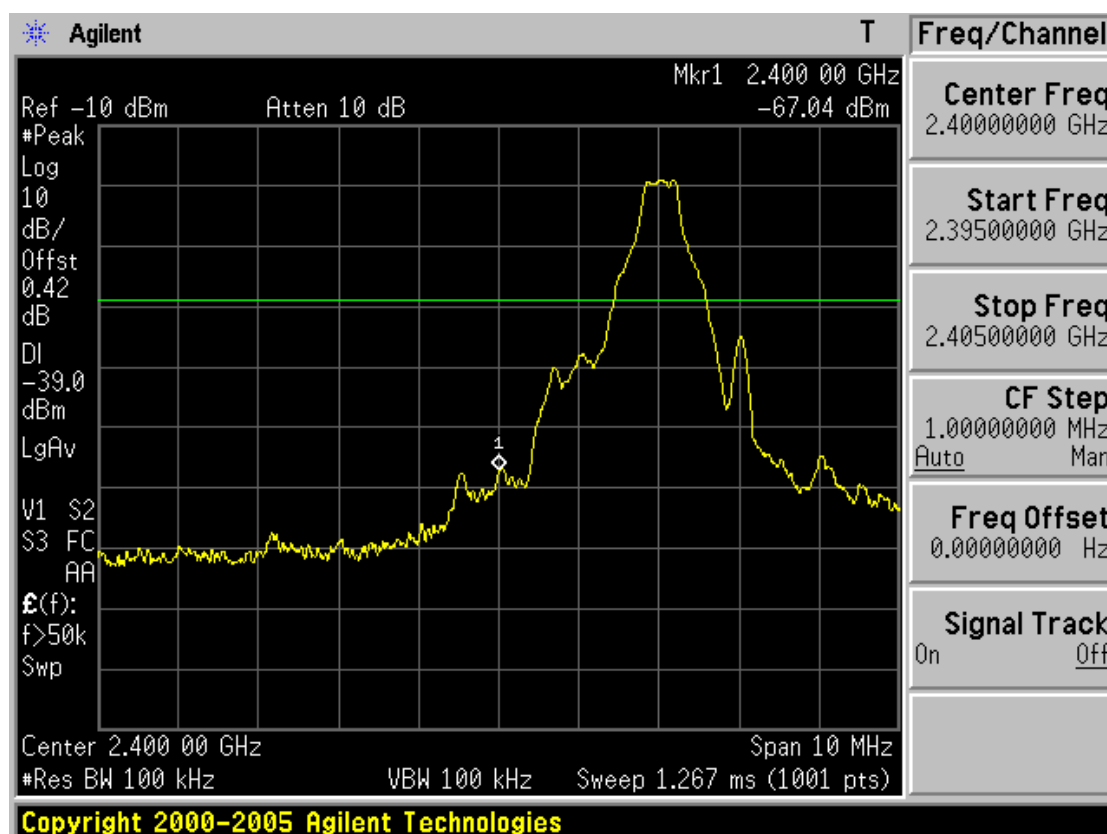
#### - Minimum Standard:

<b>Minimum Standard:</b>	> 20 dBc
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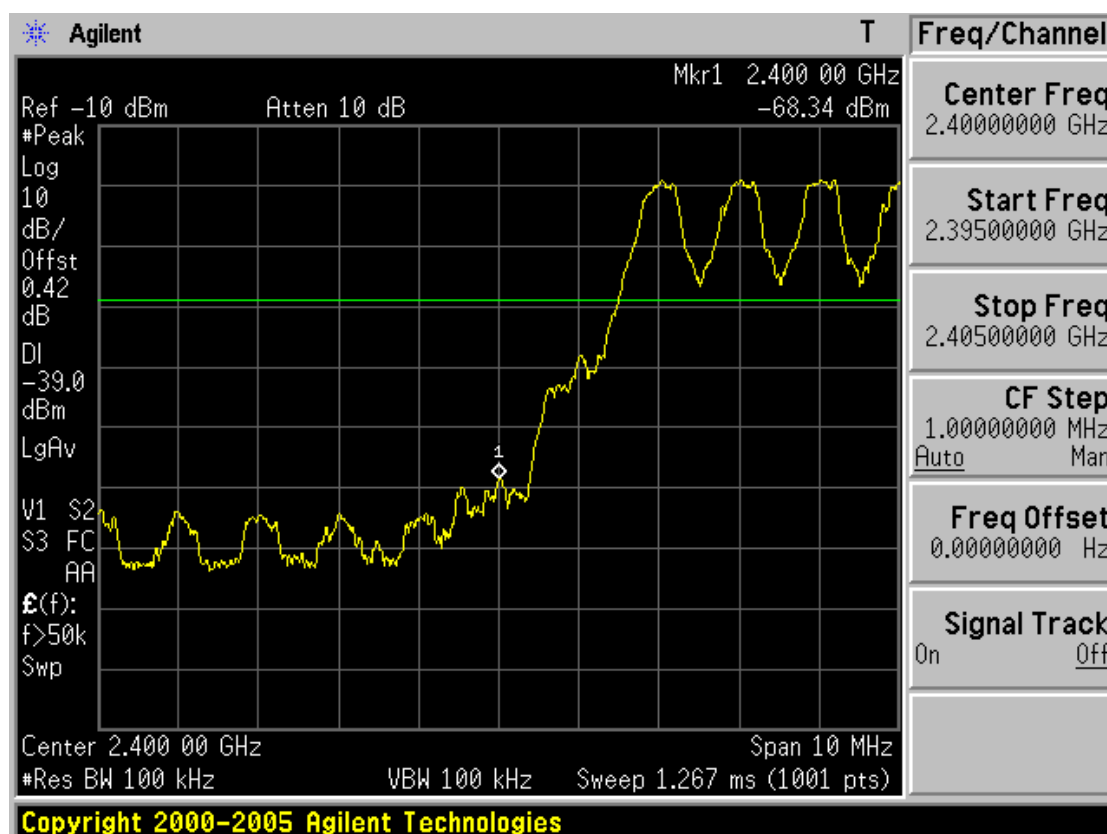
#### - Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

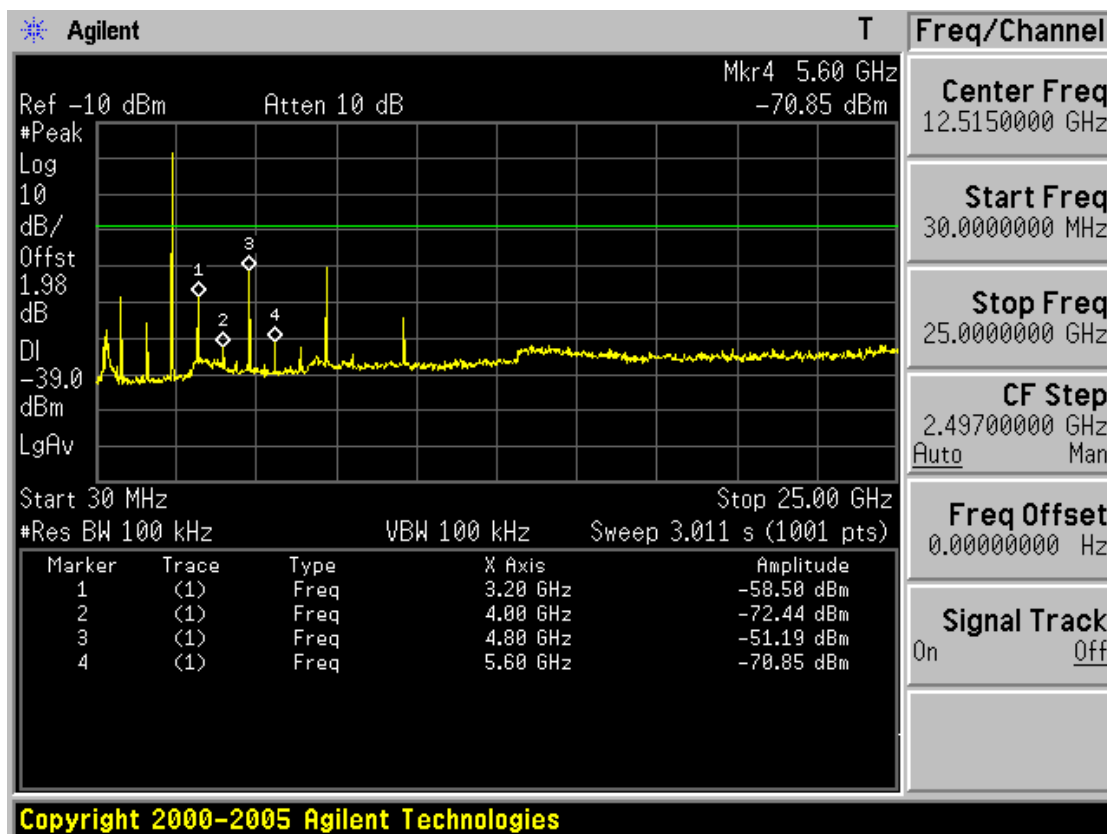
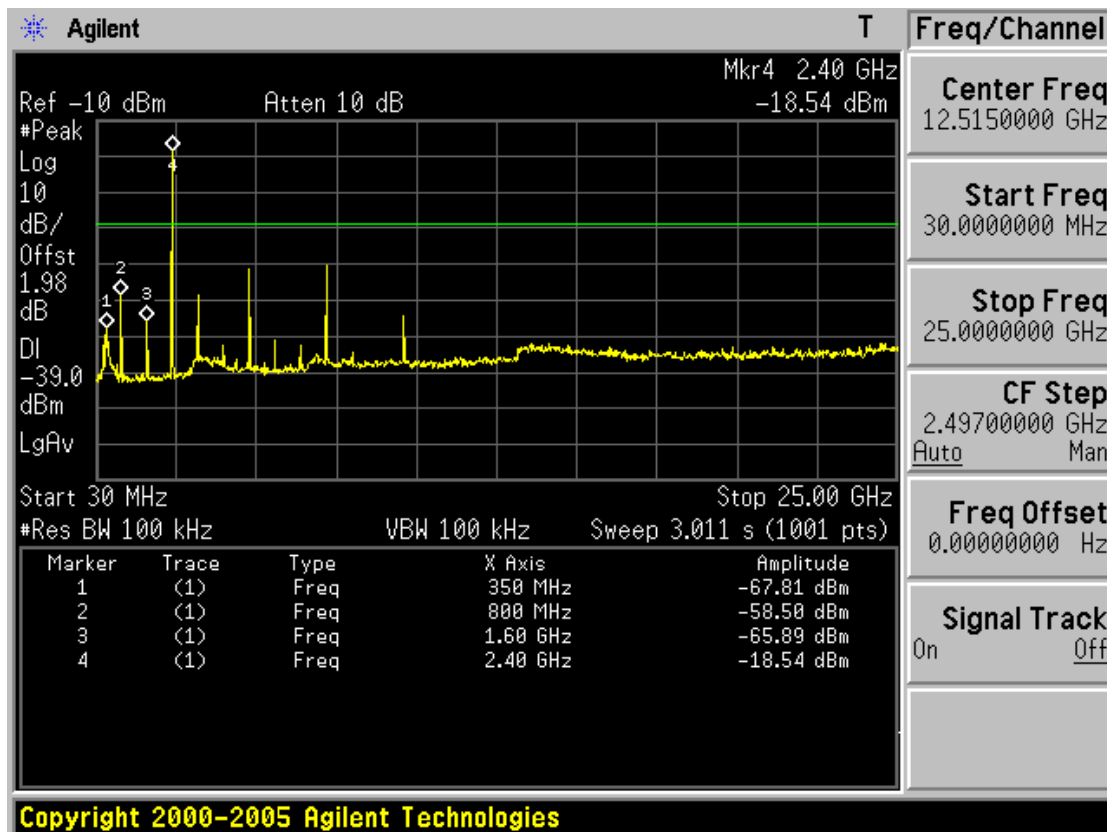
### Low band with hopping disabled



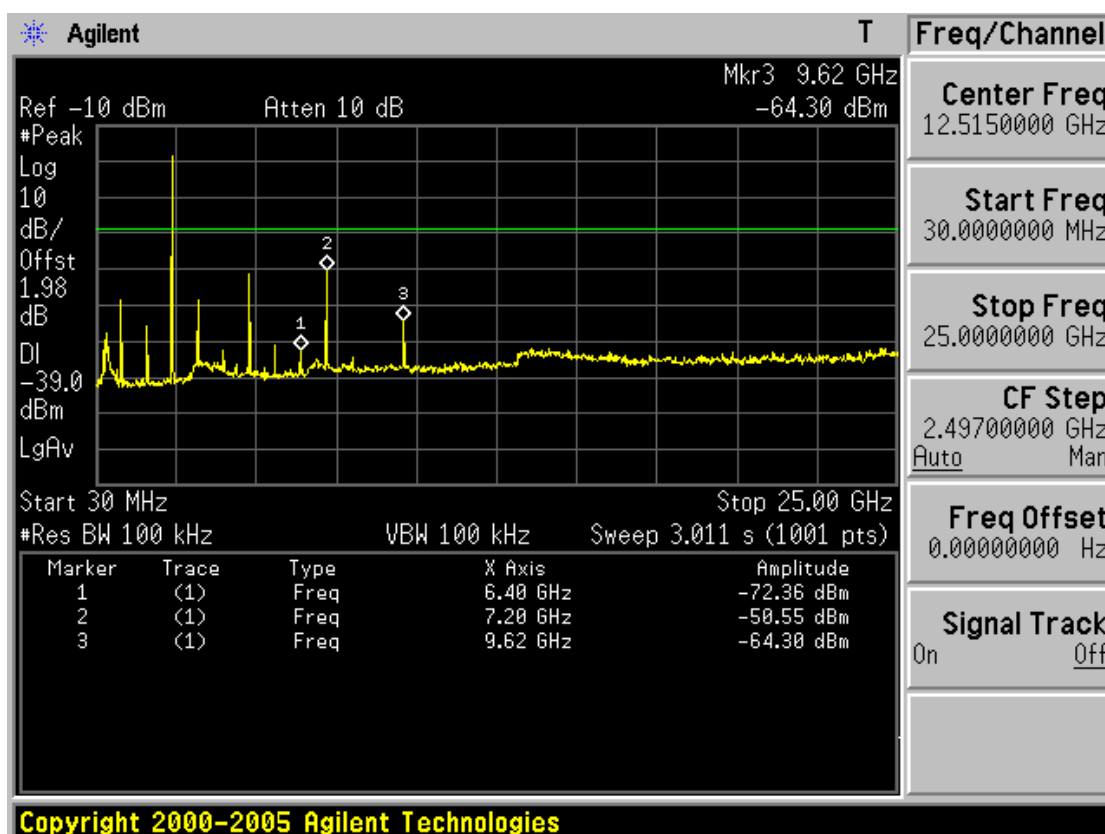
### Low band with hopping enabled



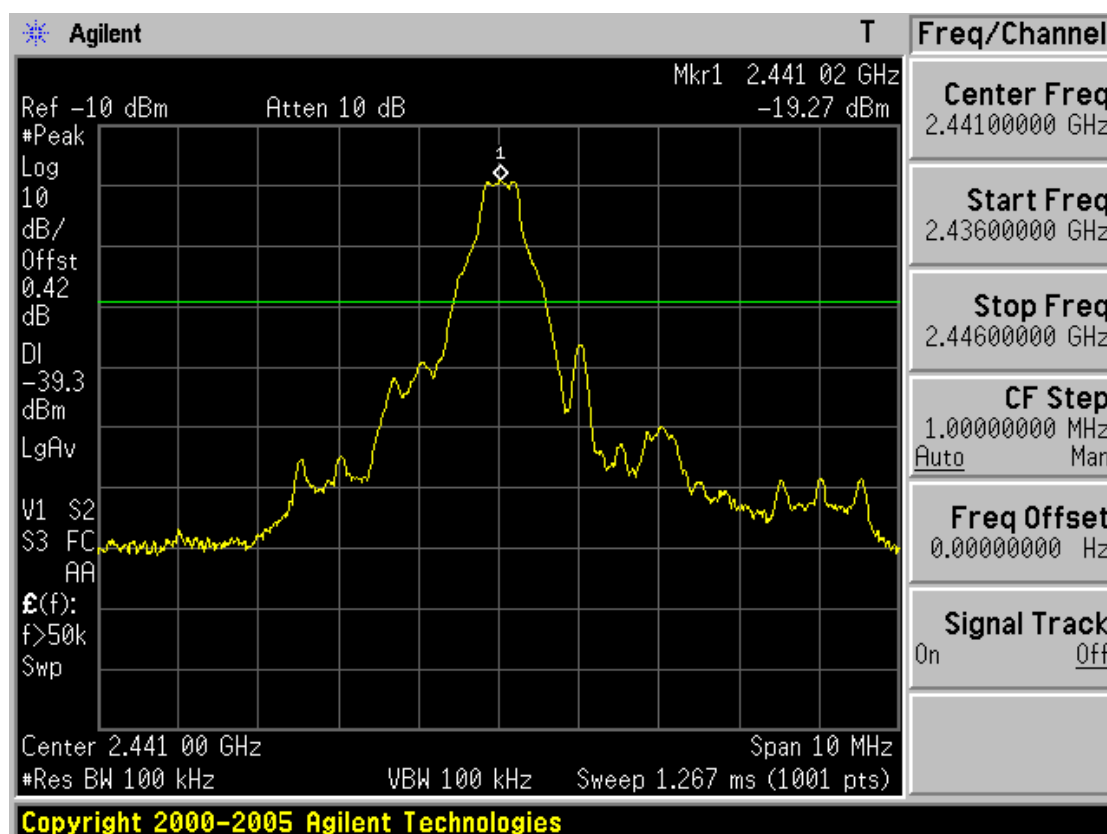
# Low channel spurious



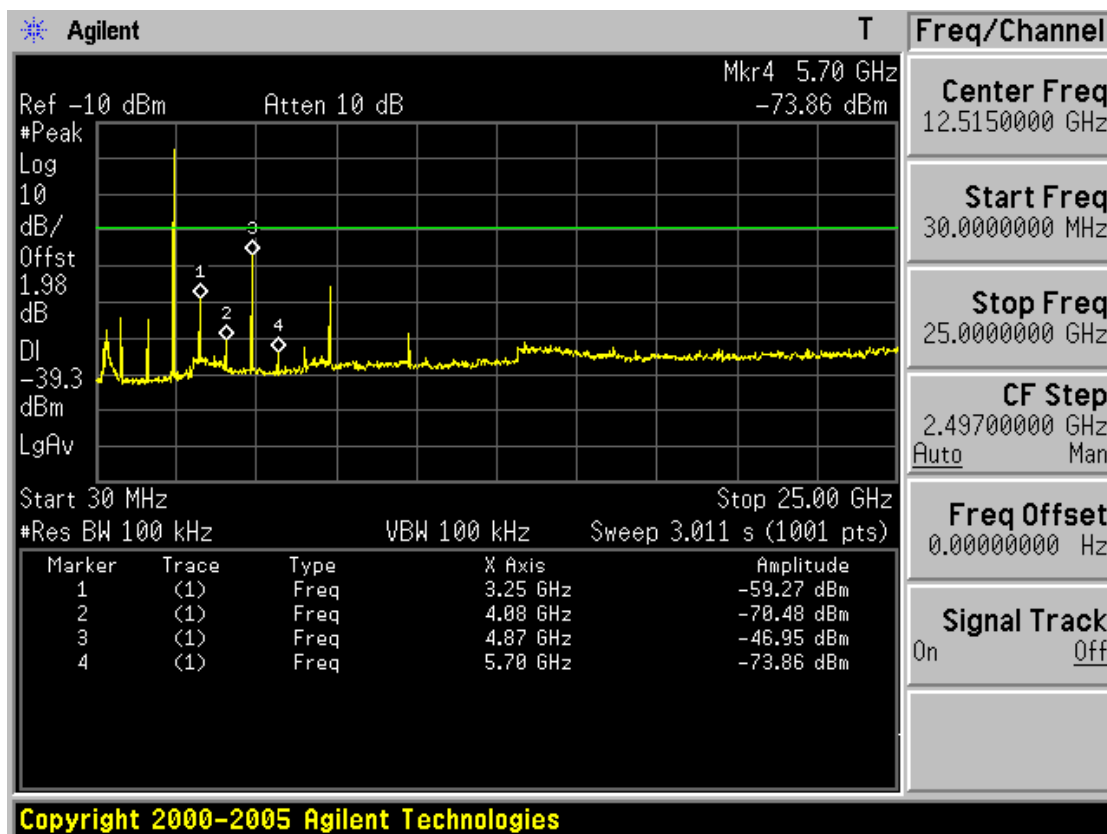
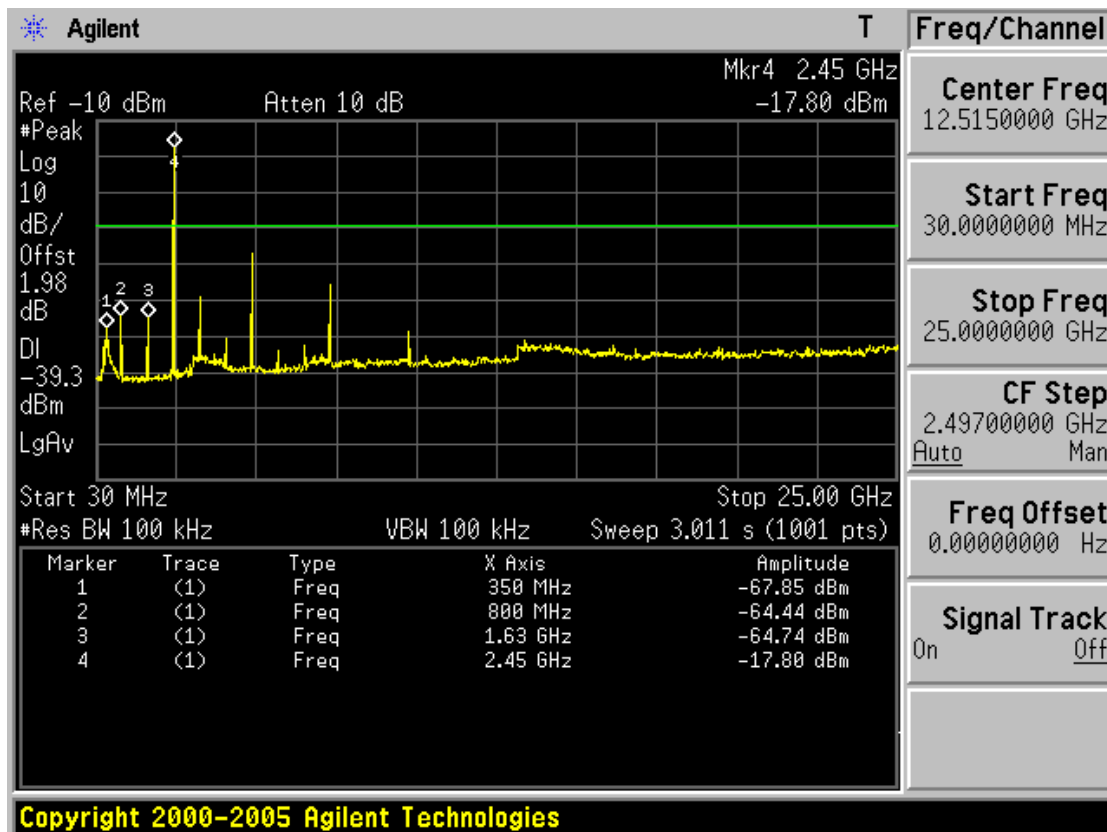
# Low channel spurious



# Mid channel ref

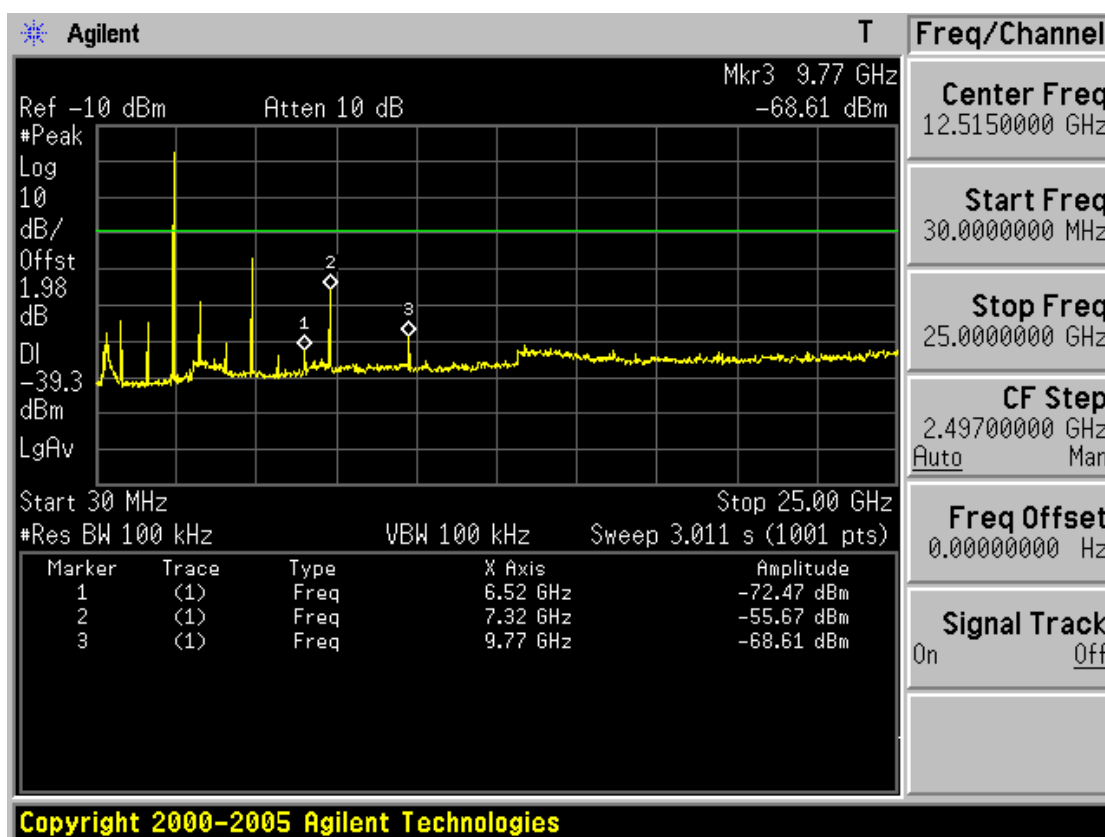


# Mid channel spurious

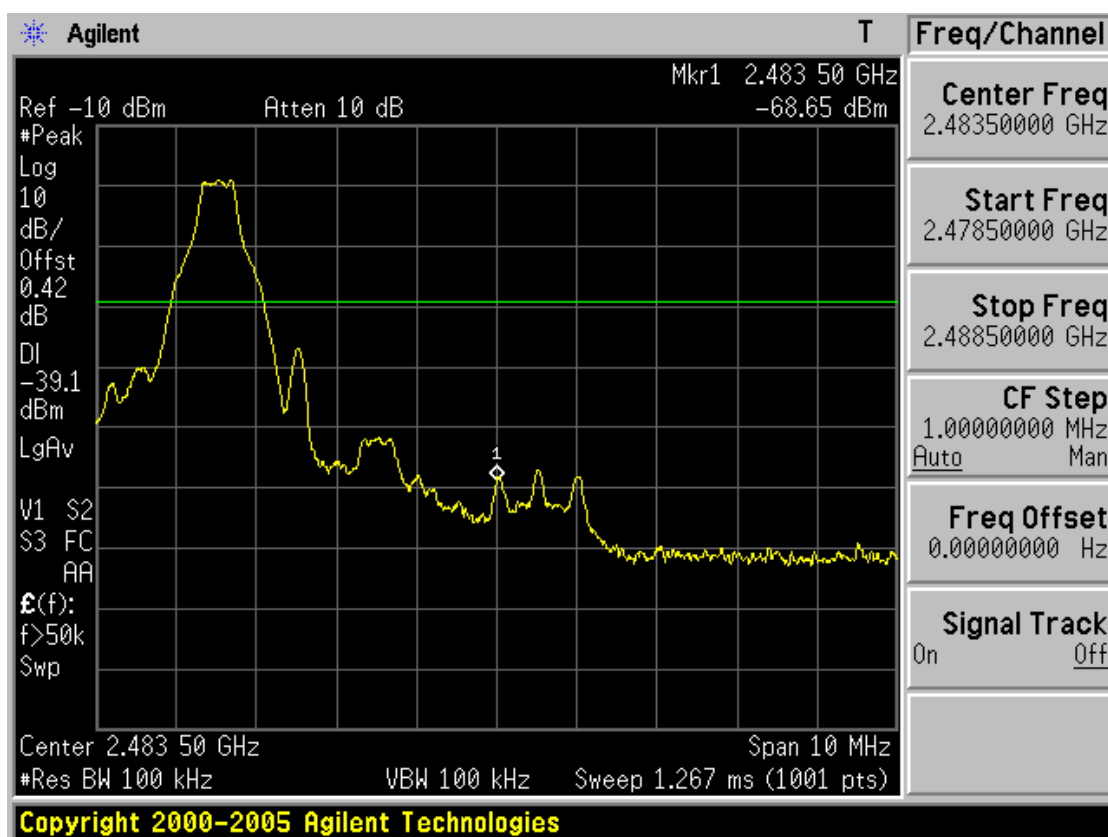




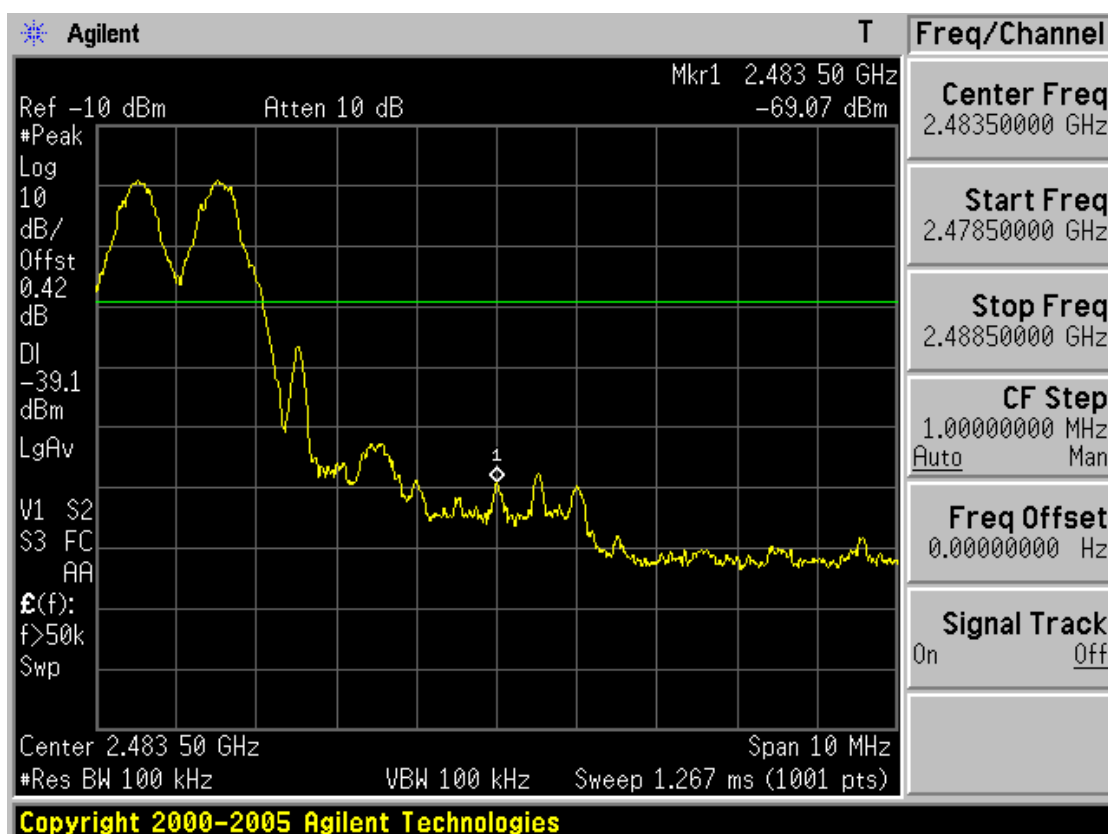
# Mid channel spurious



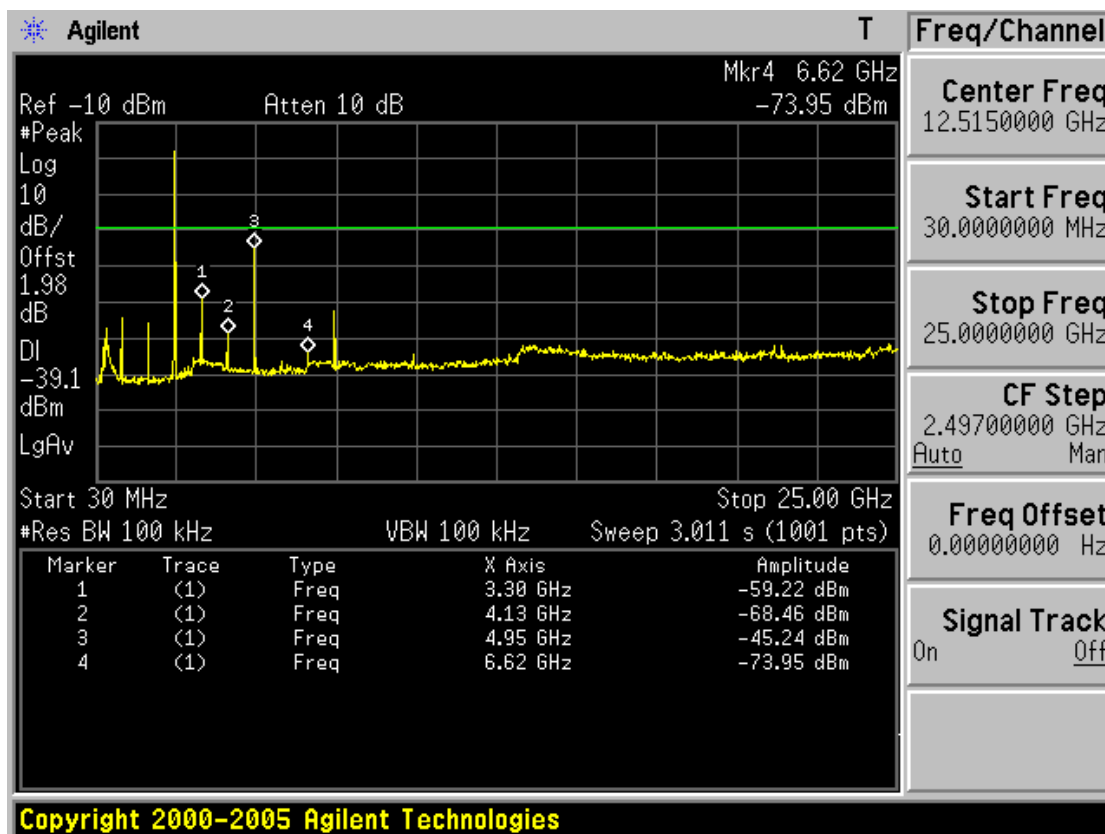
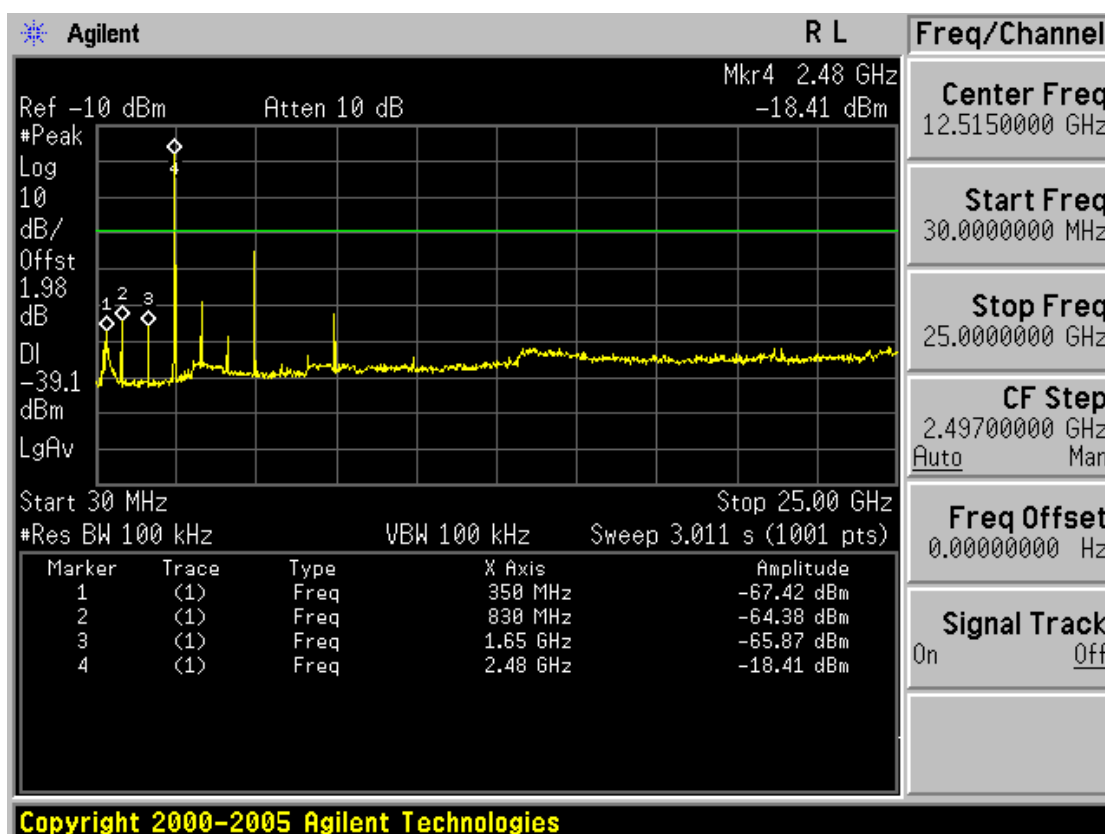
### High band with hopping disabled



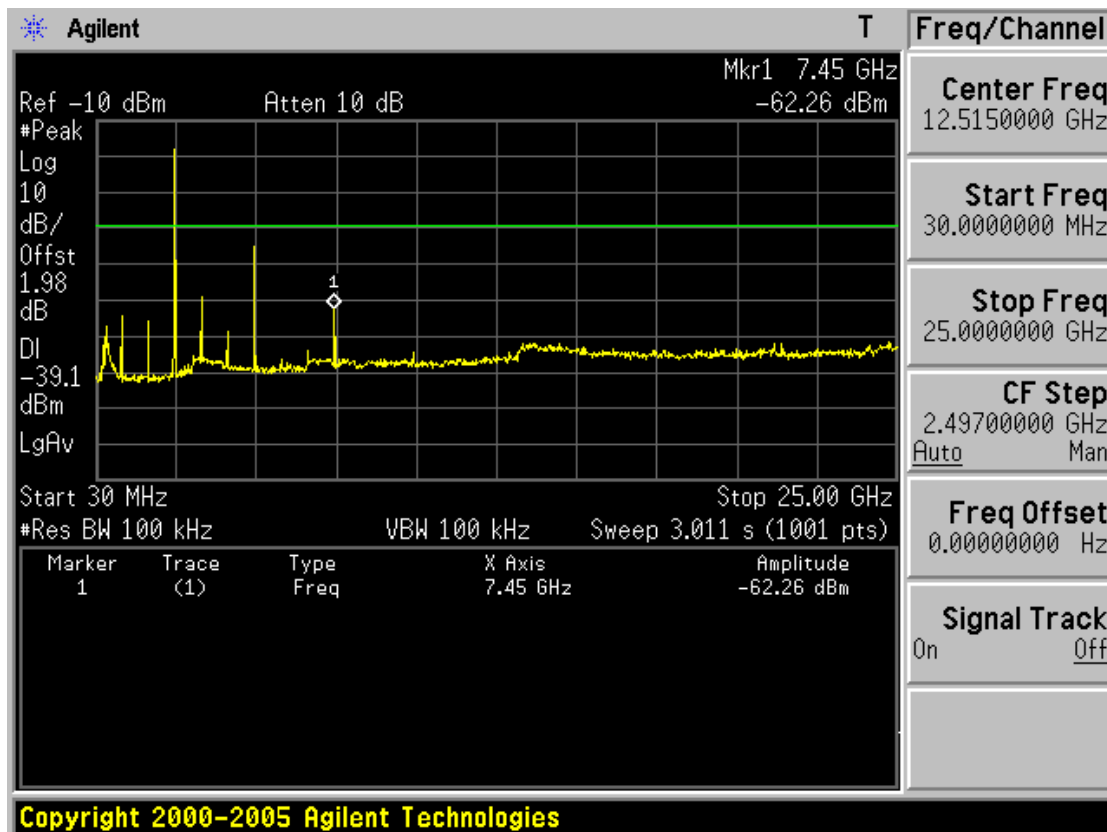
### High band with hopping enabled



# High channel spurious



# High channel spurious



### 3.2.7 Radiated Emissions

#### - Procedure:

The EUT was placed on a 0.8m high wooden table inside a shielded enclosure. An antenna was placed near the EUT and measurements of frequencies and amplitudes of field strengths were recorded for reference during final measurements. For final radiated testing, measurements were performed in OATS. Measurements were performed with the EUT oriented in 3 orthogonal axis and rotated 360 degrees to determine worst-case orientation for maximum emissions.

The spectrum analyzer is set to:

Center frequency = the worst channel

RBW = 120 kHz ( 30MHz ~ 1 GHz)

= 1 MHz ( 1 GHz ~ 10<sup>th</sup> harmonic )

Trace = max hold

Frequency Range = 30 MHz ~ 10<sup>th</sup> harmonic.

VBW ≥ RBW (Peak)

VBW = 10Hz (Average)

Sweep = auto

#### - Measurement Data: **Comply** (Refer to the next page.)

**Note. 1:** This test item was performed with following 2 configurations.

- Test case 1: EUT(ROAD TECH-600BH) + Earphone & Mic 1
- Test case 2: EUT(ROAD TECH-600BH) + Earphone & Mic 2

**Note. 2:** Marker 1's emissions of the low band edge test plots are emissions from WIMAX downlink signal in Korea. So it's not an emission from this device.

#### - Minimum Standard:

##### ▪ FCC Part 15.209(a) and (b)

Frequency (MHz)	Limit (uV/m) @ 3m
30 ~ 88	100 **
88 ~ 216	150 **
216 ~ 960	200 **
Above 960	500

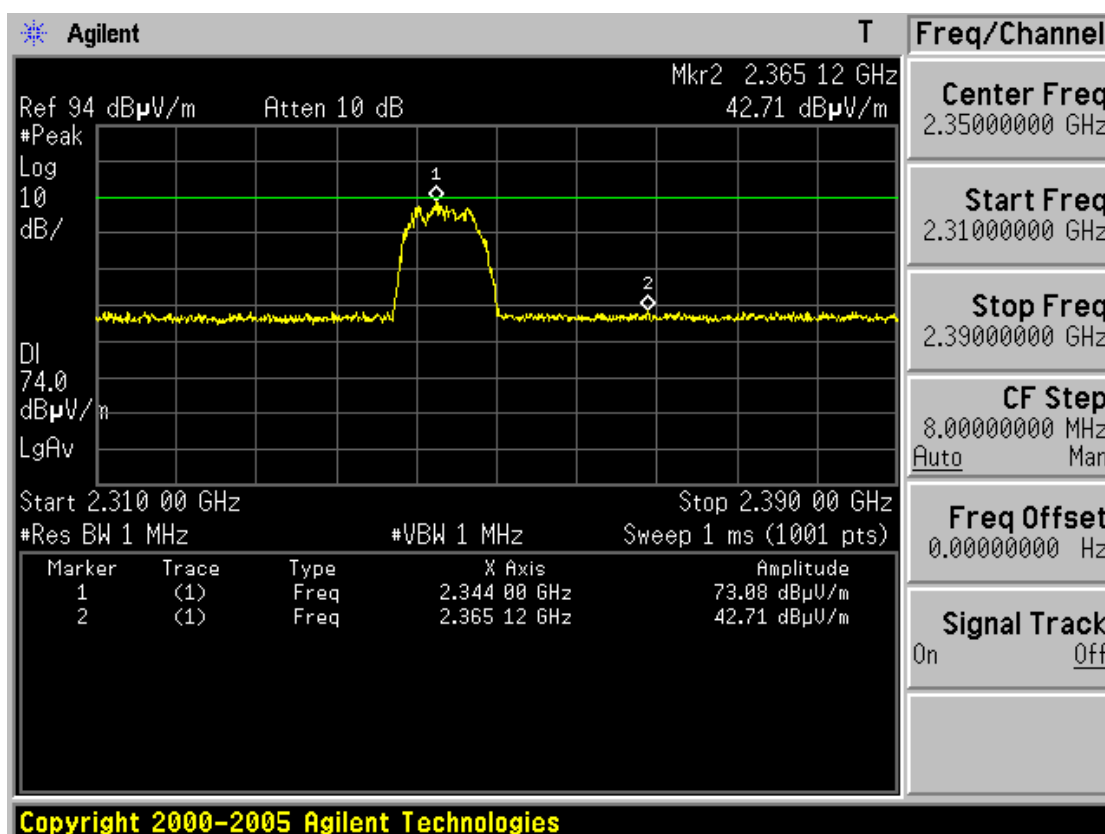
\*\* Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

##### ▪ FCC Part 15.205 (a): Only spurious emissions are permitted in any of the frequency bands listed below:

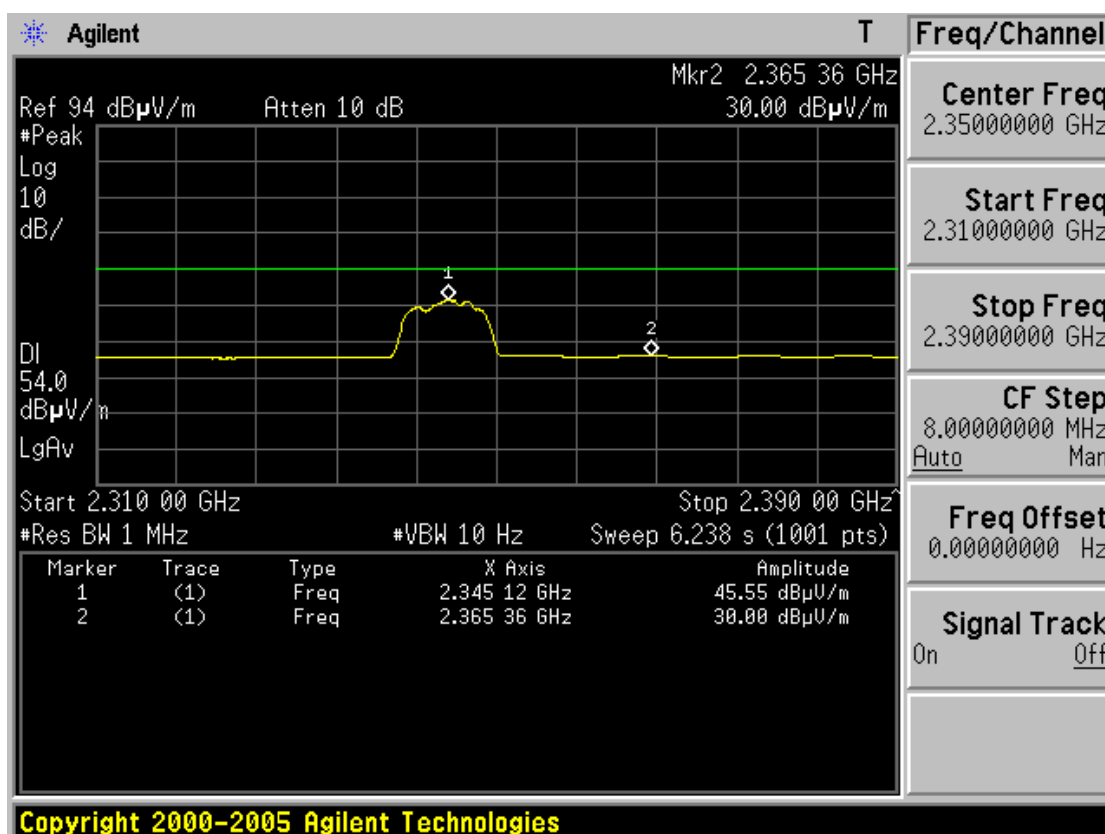
MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	12.29 ~ 12.293	149.9 ~ 150.05	1645.5 ~ 1646.5	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.51975 ~ 12.52025	156.52475 ~ 156.52525	1660 ~ 1710	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.57675 ~ 12.57725	156.7 ~ 156.9	1718.8 ~ 1722.2	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	13.36 ~ 13.41	162.0125 ~ 167.17	2200 ~ 2300	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	16.42 ~ 16.423	167.72 ~ 173.2	2310 ~ 2390	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.69475 ~ 16.69525	240 ~ 285	2483.5 ~ 2500	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.80425 ~ 16.80475	322 ~ 335.4	2655 ~ 2900	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	25.5 ~ 25.67	399.90 ~ 410	3260 ~ 3267	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	37.5 ~ 38.25	608 ~ 614	3332 ~ 3339		
8.291 ~ 8.294	73 ~ 74.6	960 ~ 1240	3345.8 ~ 3358		
8.362 ~ 8.366	74.8 ~ 75.2	1300 ~ 1427	3600 ~ 4400		
8.37625 ~ 8.38675	108 ~ 121.94	1435 ~ 1626.5			
8.41425 ~ 8.41475	123 ~ 138				

▪ **FCC Part 15.205(b):** The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

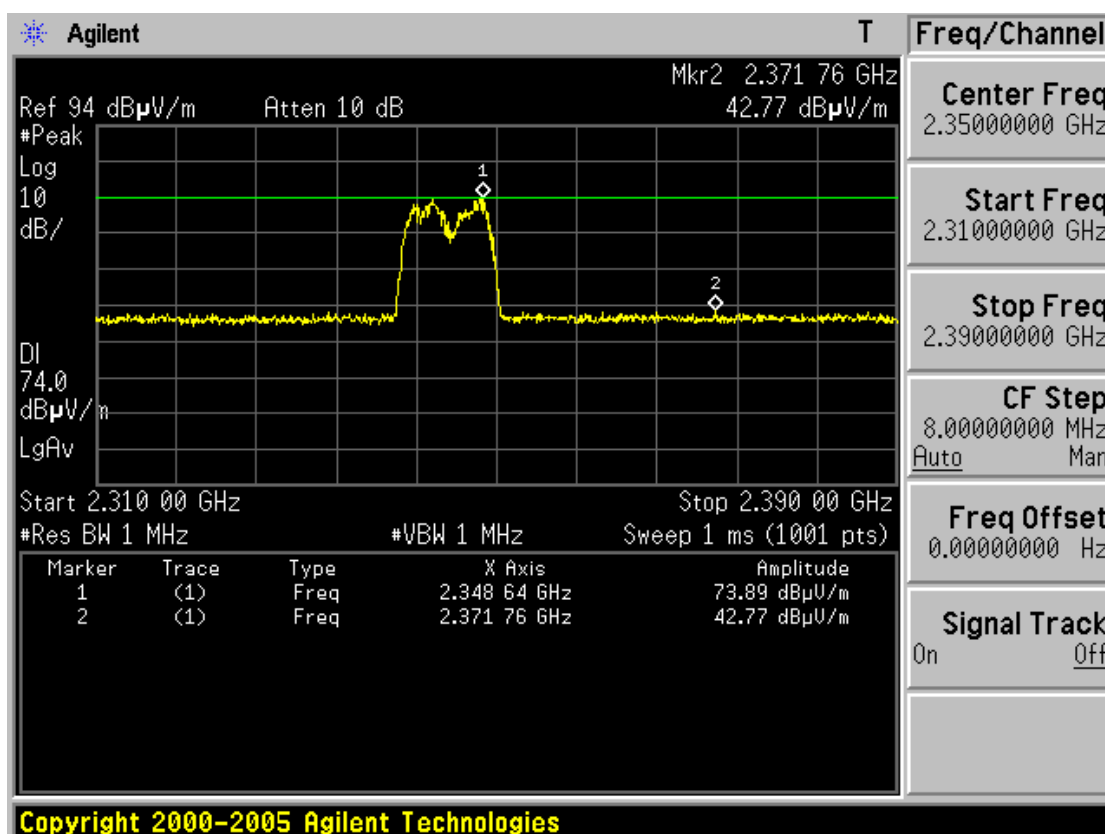
# Restricted Band Edge: Low Channel (Peak, Horizontal) - Test case 1 -



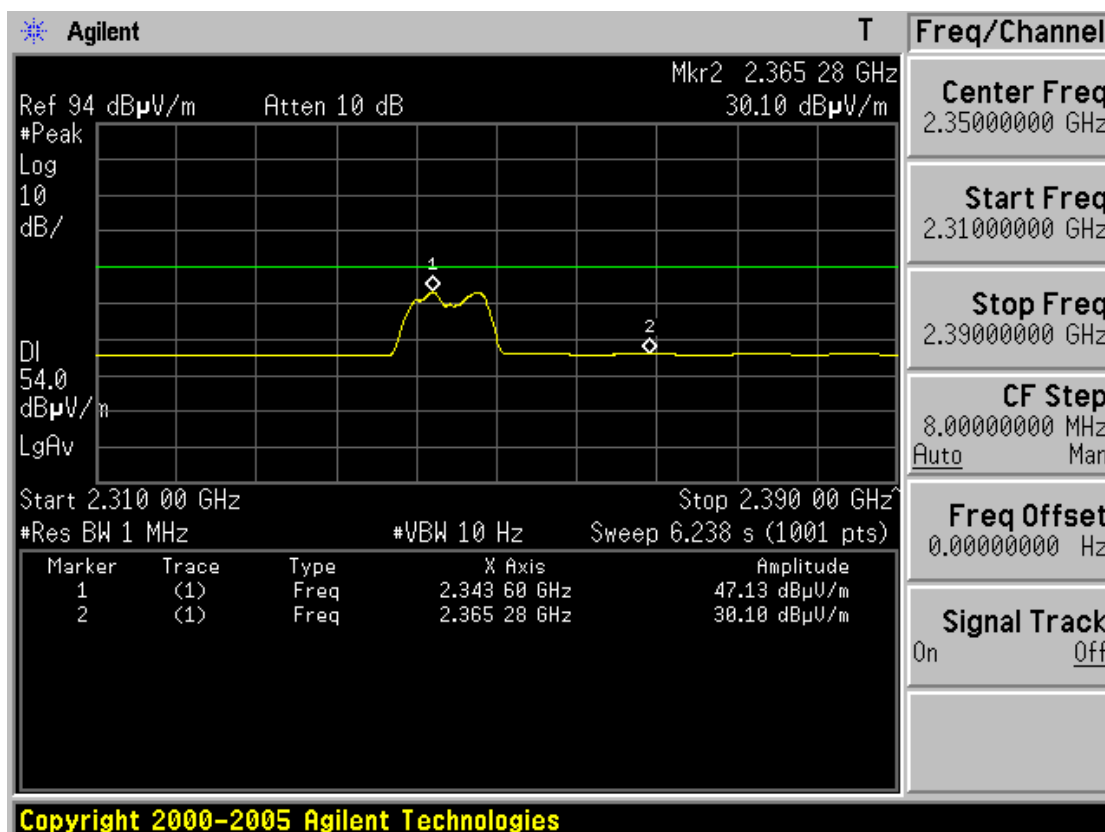
# Restricted Band Edge: Low Channel (Average, Horizontal) - Test case 1 -



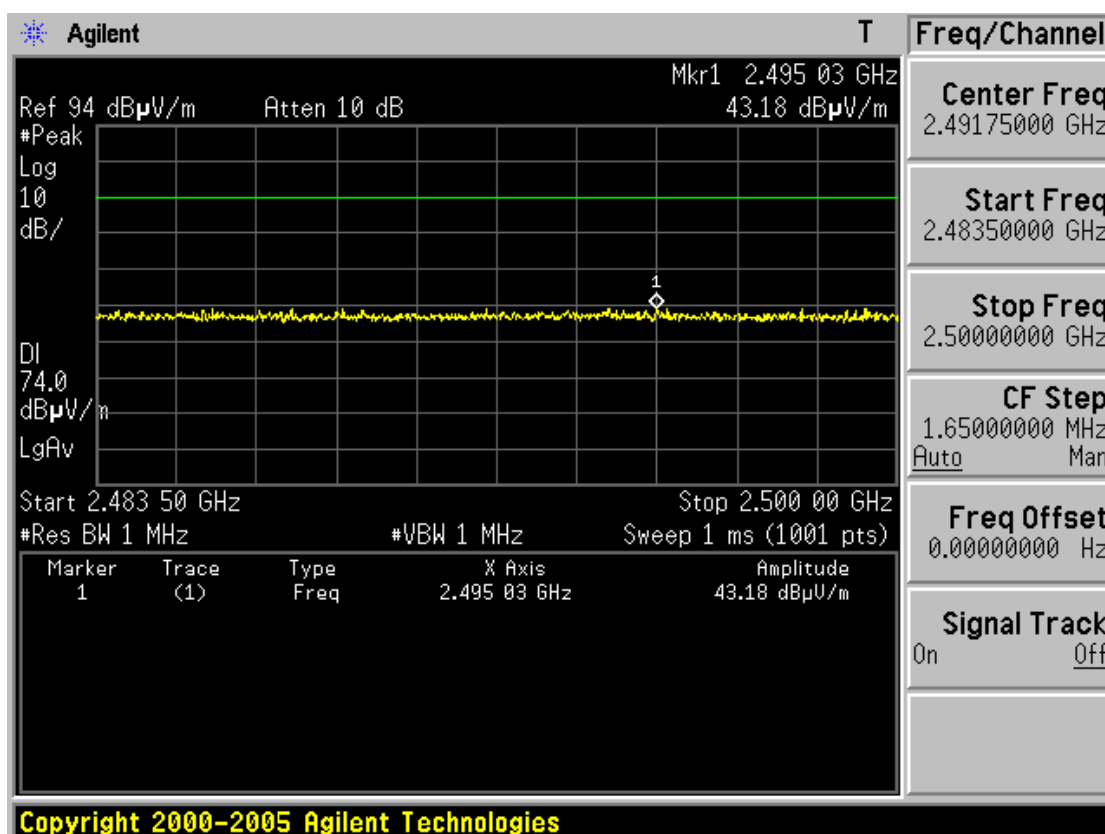
### Restricted Band Edge: Low Channel (Peak, Vertical) - Test case 1 -



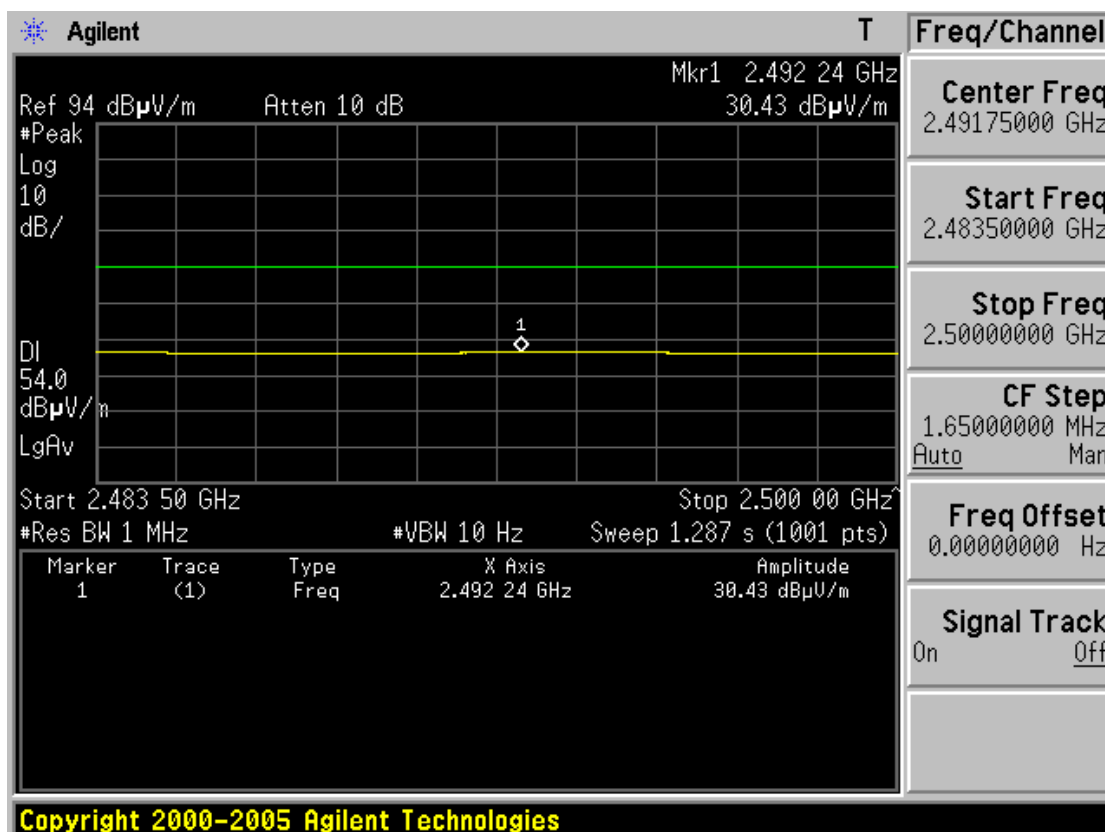
### Restricted Band Edge: Low Channel (Average, Vertical) - Test case 1 -



# Restricted Band Edge: High Channel (Peak, Horizontal) - Test case 1 -

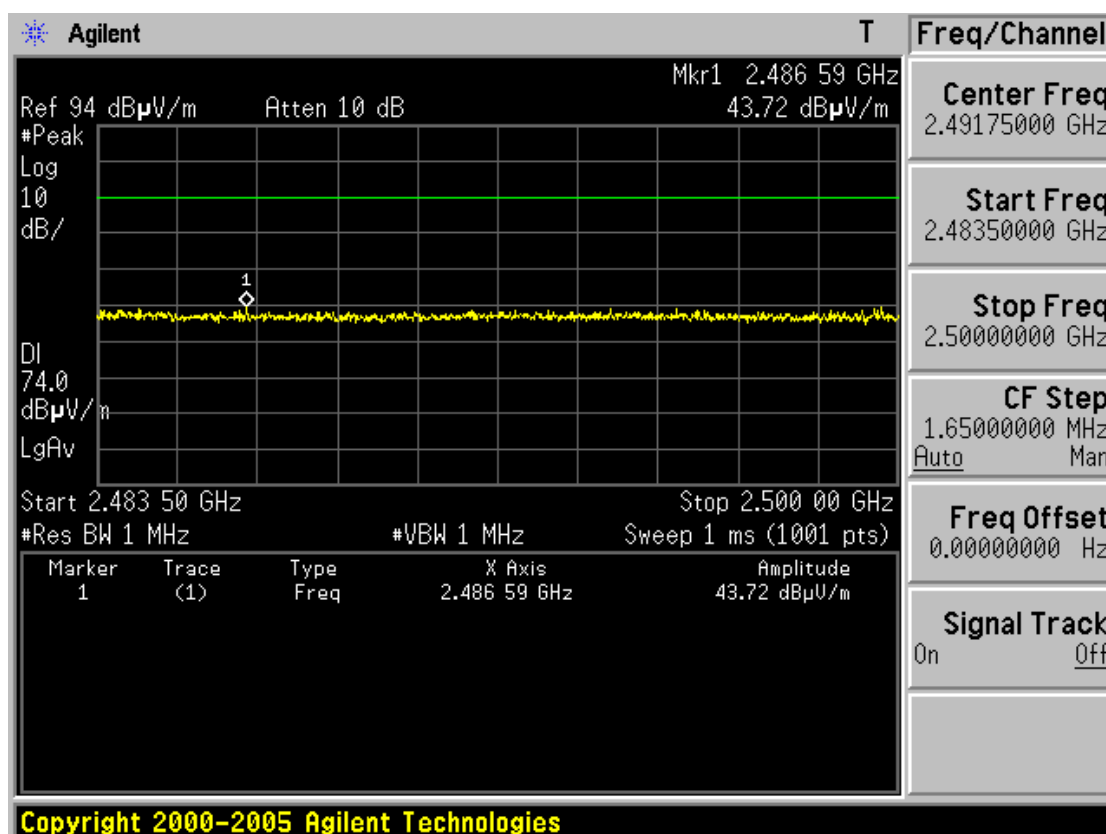


# Restricted Band Edge: High Channel (Average, Horizontal) - Test case 1 -

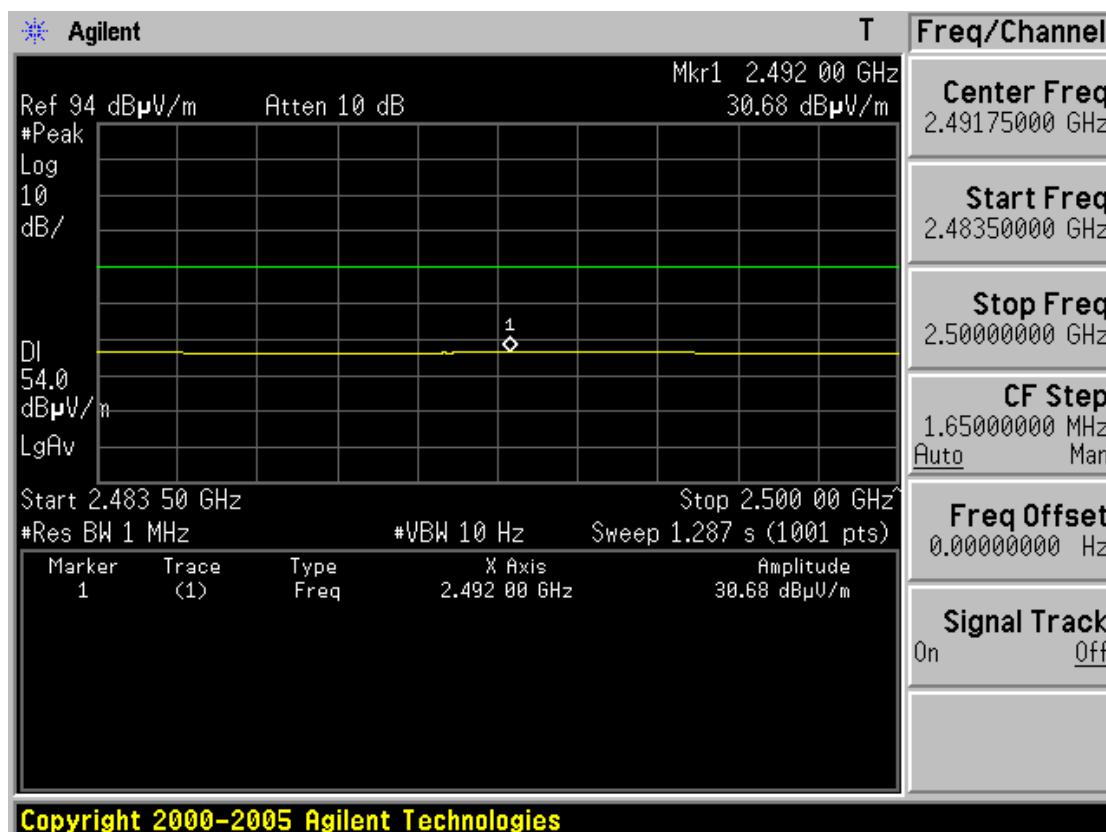




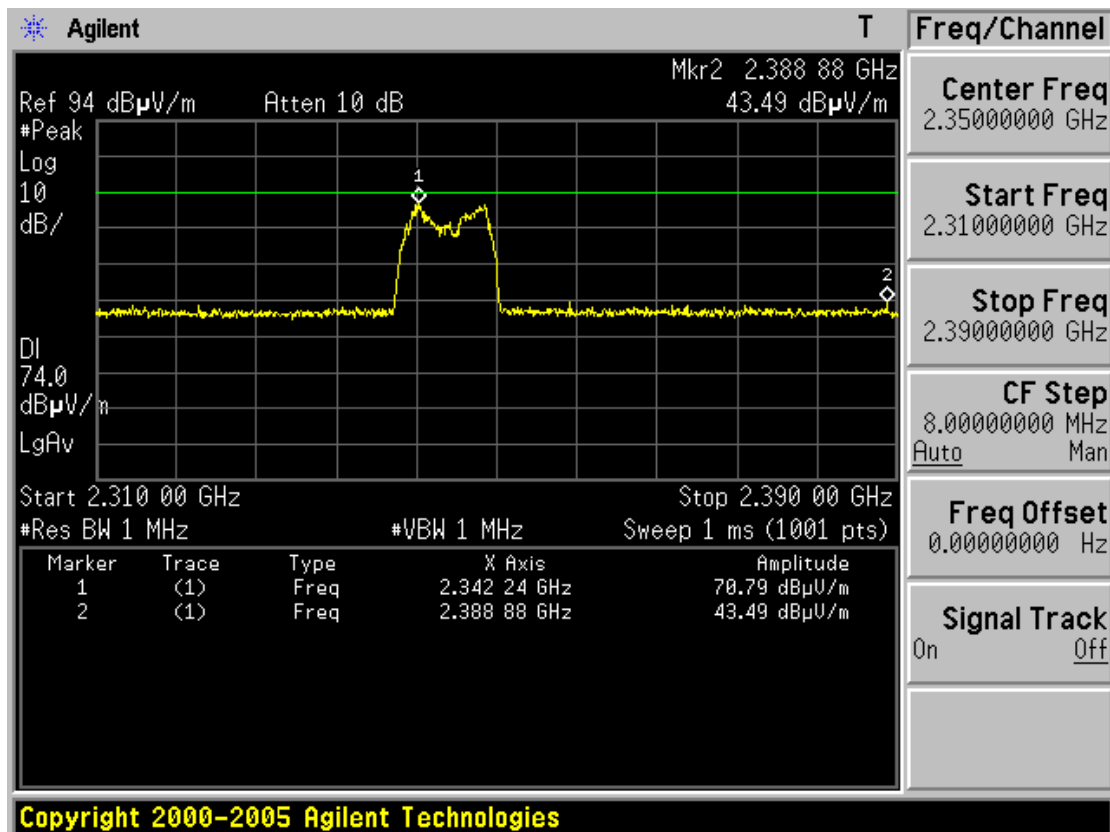
Restricted Band Edge: High Channel (Peak, Vertical) - Test case 1 -



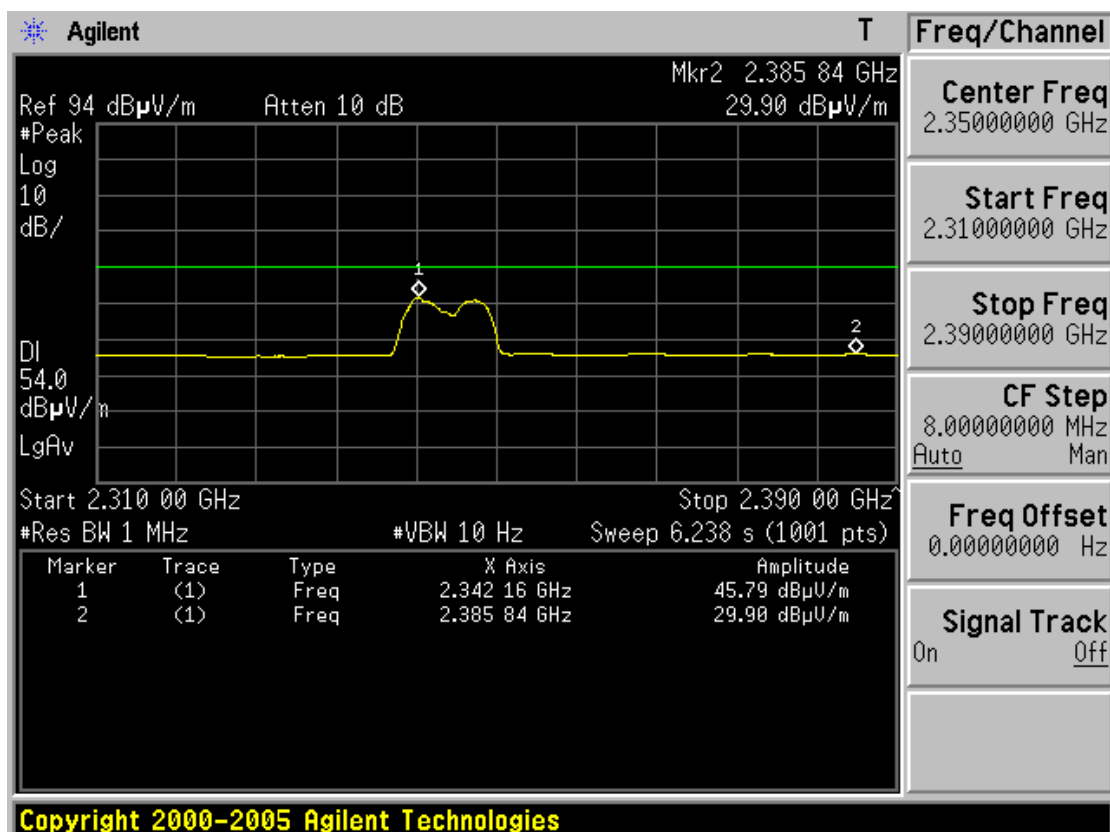
Restricted Band Edge: High Channel (Average, Vertical) - Test case 1 -



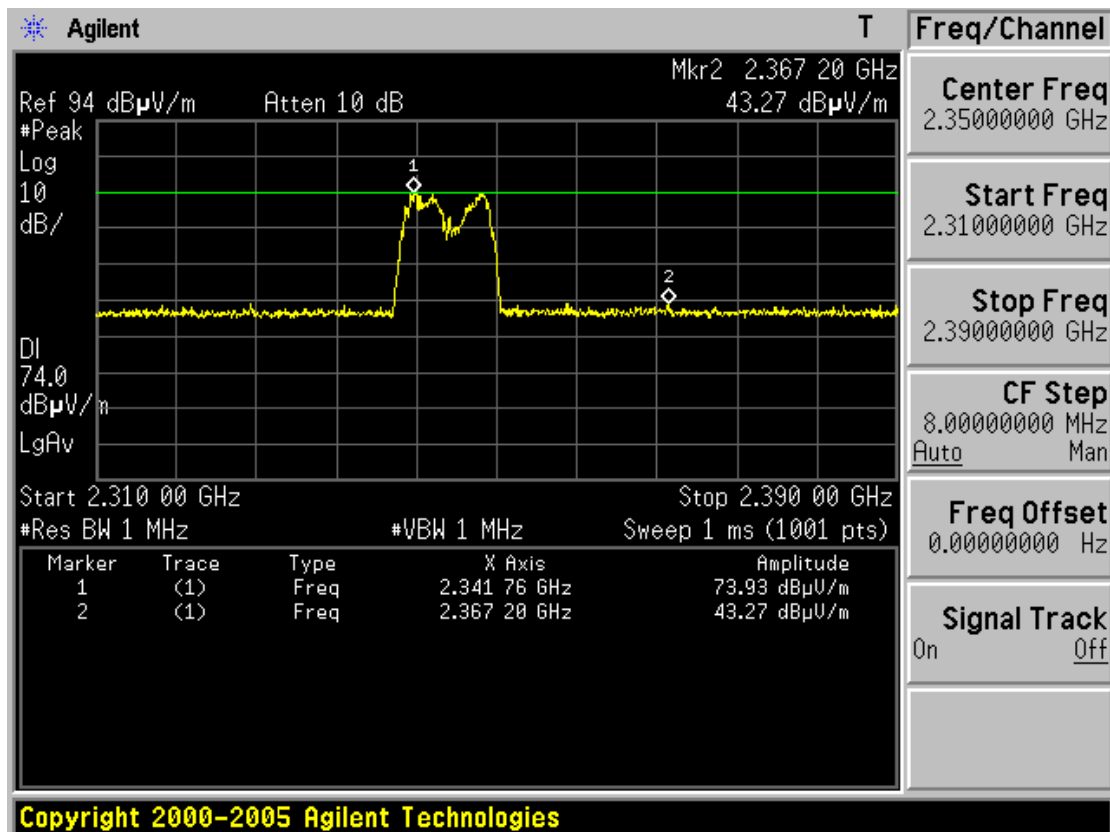
**Restricted Band Edge: Low Channel (Peak, Horizontal) - Test case 2 -**



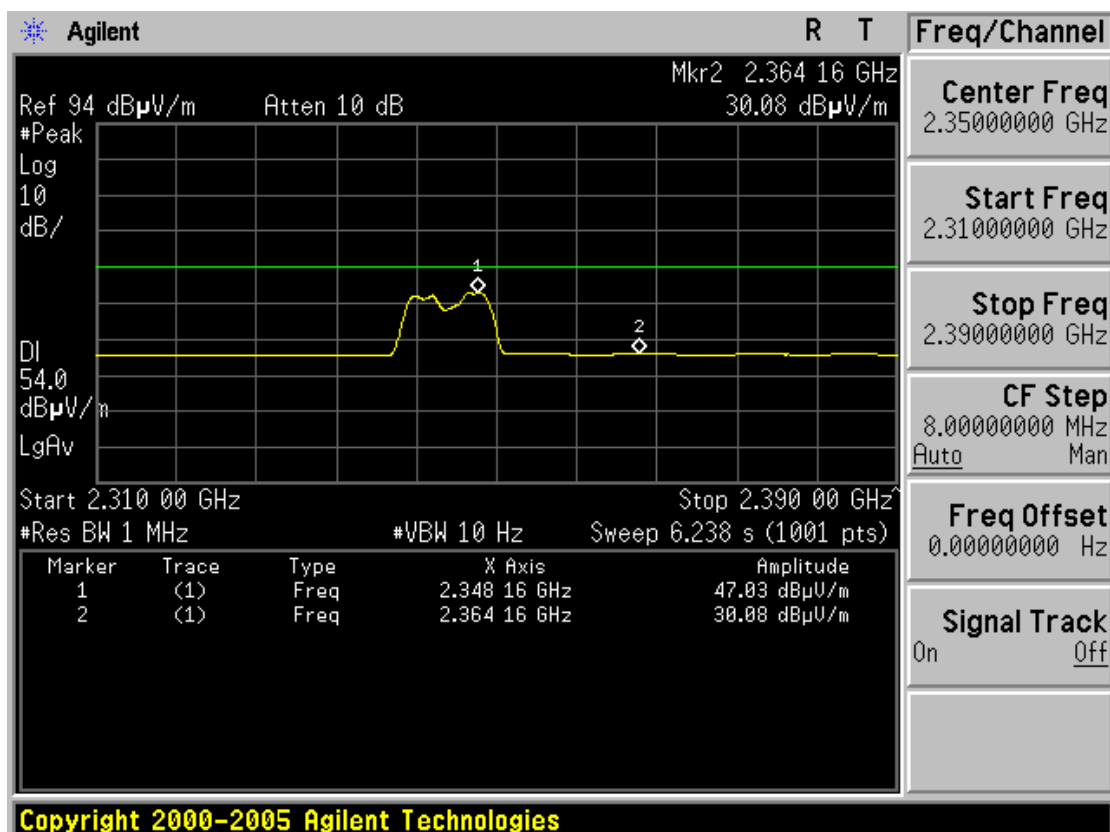
**Restricted Band Edge: Low Channel (Average, Horizontal) - Test case 2 -**



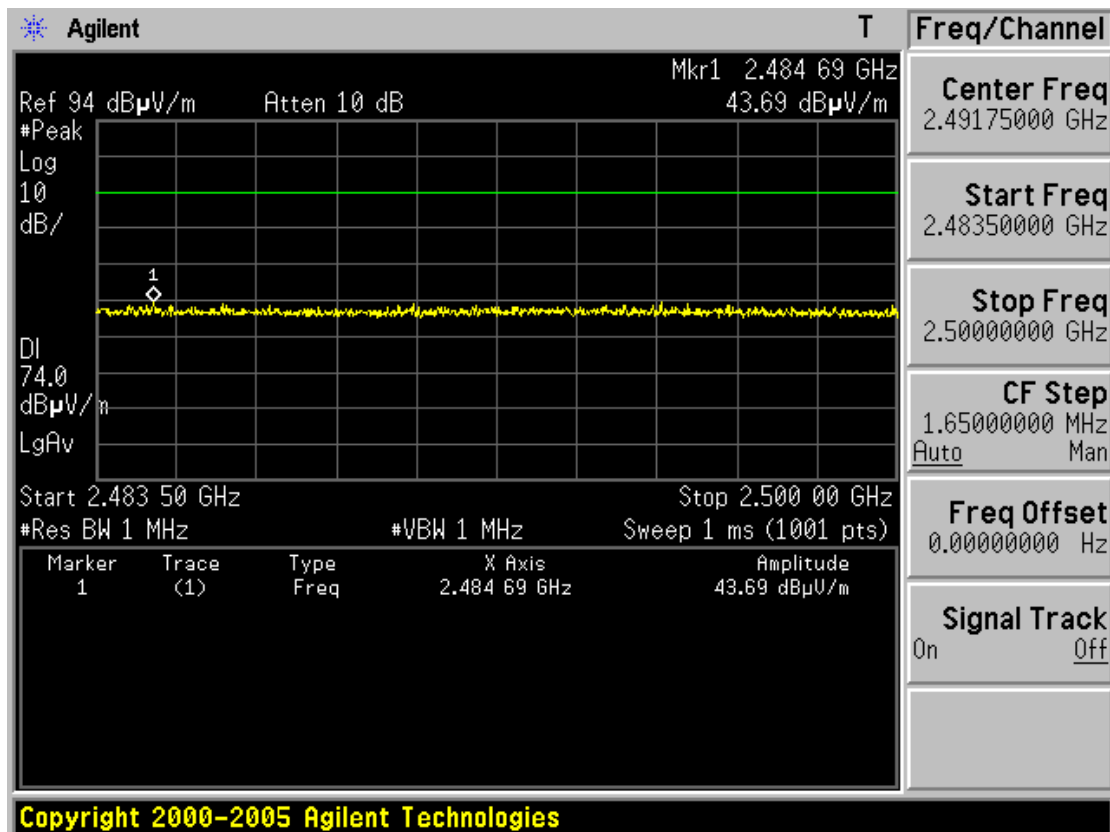
Restricted Band Edge: Low Channel (Peak, Vertical) - Test case 2 -



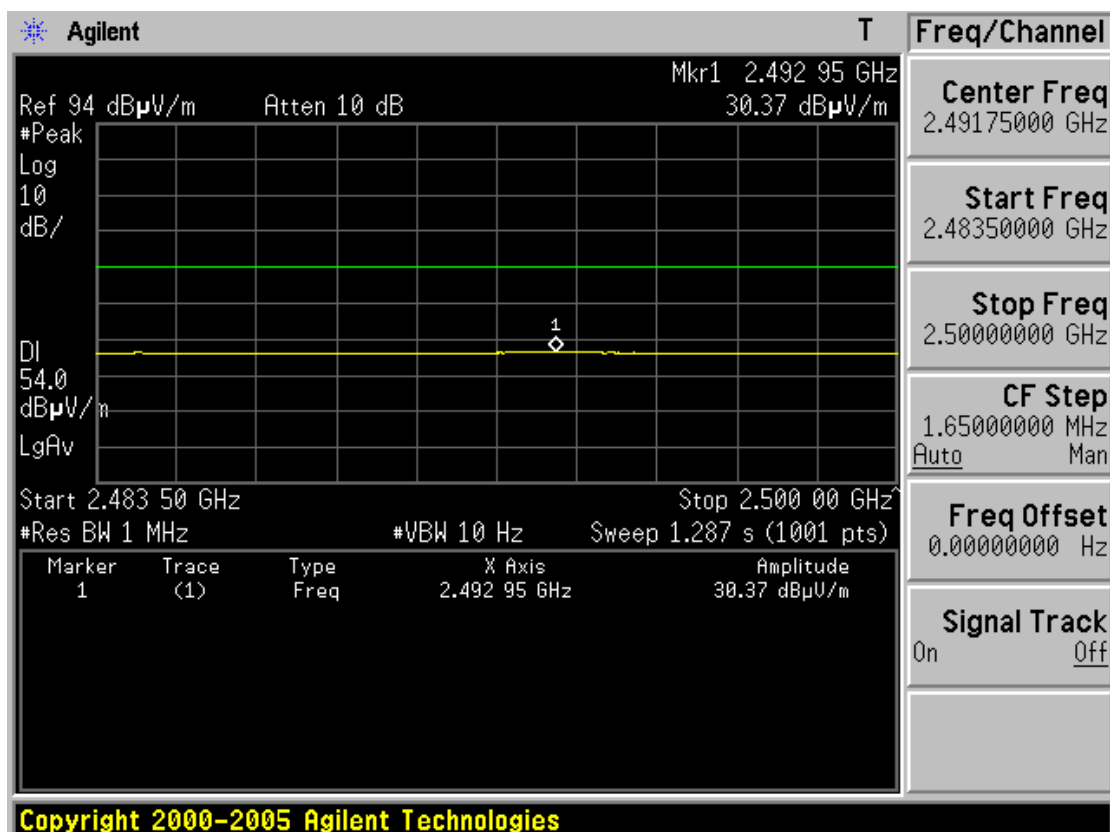
Restricted Band Edge: Low Channel (Average, Vertical) - Test case 2 -



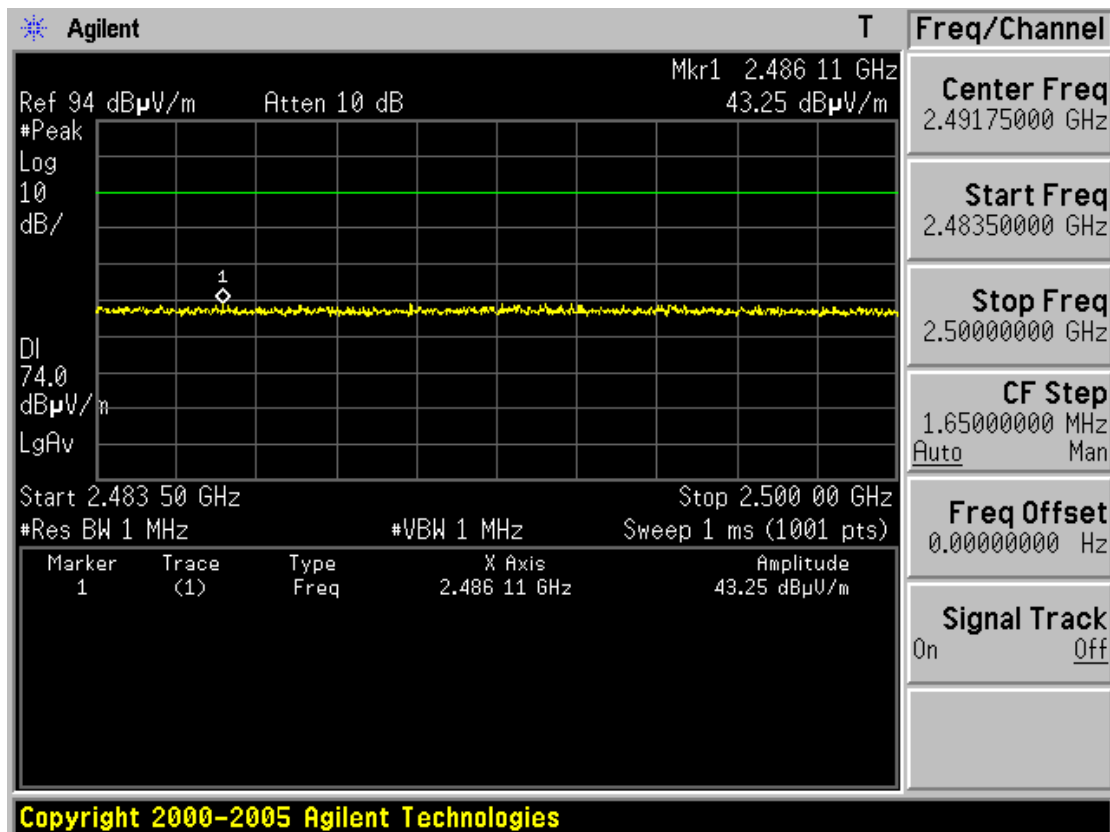
**Restricted Band Edge: High Channel (Peak, Horizontal) - Test case 2 -**



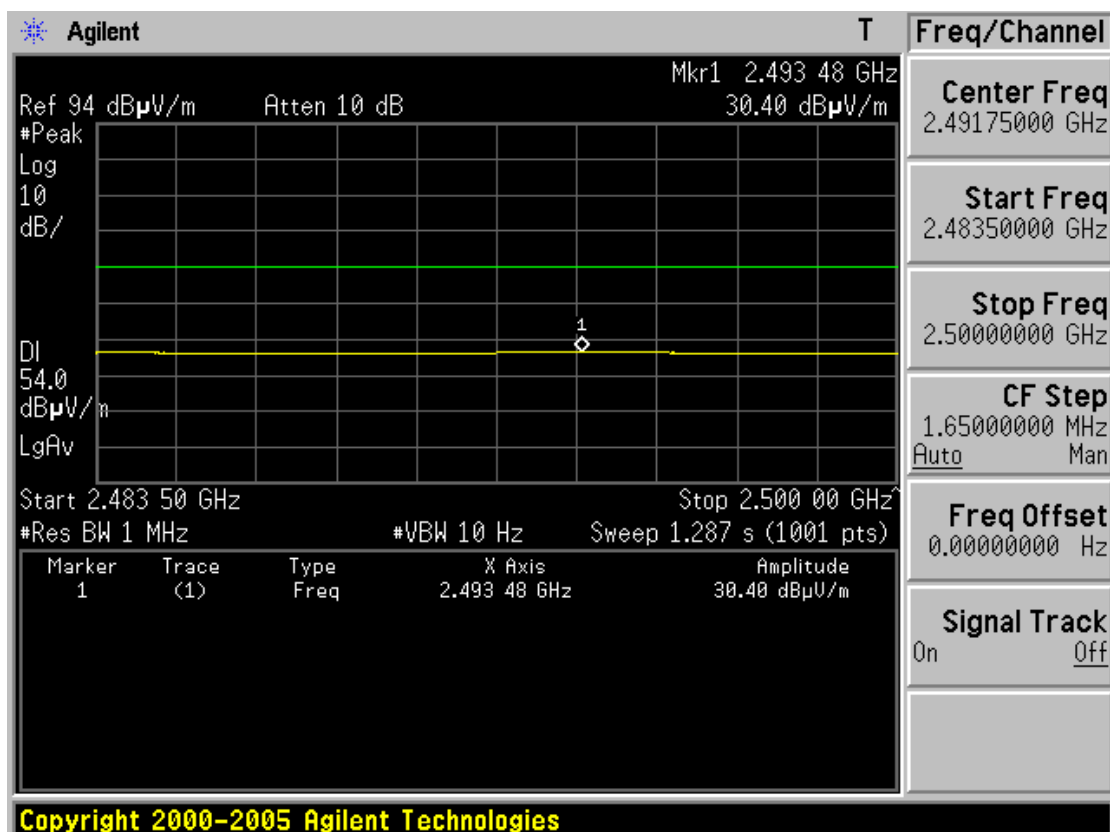
**Restricted Band Edge: High Channel (Average, Horizontal) - Test case 2 -**



Restricted Band Edge: High Channel (Peak, Vertical) - Test case 2 -



Restricted Band Edge: High Channel (Average, Vertical) - Test case 2 -



- Measurement: Test case 1

Harmonic and other emissions Measurement Data: Fundamental Frequency = 2402MHz

Frequency (MHz)	ANT Pol	Reading(dBuV)			T.F (dB)	Result(dBuV/m)			Limit(dBuV/m)			Margin(dB)		
		QP	PK	AV		QP	PK	AV	QP	PK	AV	QP	PK	AV
4804	Hor	-	57.31	42.70	6.37	-	63.68	49.07	-	74.00	54.00	-	10.32	4.93
4804	Ver	-	61.33	45.32	6.37	-	67.70	51.69	-	74.00	54.00	-	6.30	2.31

Harmonic and other emissions Measurement Data: Fundamental Frequency = 2441MHz

Frequency (MHz)	ANT Pol	Reading(dBuV)			T.F (dB)	Result(dBuV/m)			Limit(dBuV/m)			Margin(dB)		
		QP	PK	AV		QP	PK	AV	QP	PK	AV	QP	PK	AV
4882	Hor	-	58.64	43.75	6.69	-	65.33	50.44	-	74.00	54.00	-	8.67	3.56
4882	Ver	-	57.73	43.49	6.69	-	64.42	50.18	-	74.00	54.00	-	9.58	3.82

Harmonic and other emissions Measurement Data: Fundamental Frequency = 2480MHz

Frequency (MHz)	ANT Pol	Reading(dBuV)			T.F (dB)	Result(dBuV/m)			Limit(dBuV/m)			Margin(dB)		
		QP	PK	AV		QP	PK	AV	QP	PK	AV	QP	PK	AV
4960	Hor	-	55.58	44.70	7.18	-	62.76	51.88	-	74.00	54.00	-	11.24	2.12
4960	Ver	-	55.94	45.31	7.18	-	63.12	52.49	-	74.00	54.00	-	10.88	1.51

**Note.**

1. No other spurious and harmonic emissions were detected at a level greater than 20dB below limit.
2. If peak result meet AV limit, AV measurement is omitted.
3. Sample Calculation.

$$\text{Margin} = \text{Limit} - \text{Result} \quad / \quad \text{Result} = \text{Reading} + \text{T.F} \quad / \quad \text{T.F} = \text{AF} + \text{CL} - \text{AG}$$

Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain

- Measurement: Test case 2

(Continued...)

Harmonic and other emissions Measurement Data: Fundamental Frequency = 2402MHz

Frequency (MHz)	ANT Pol	Reading(dBuV)			T.F (dB)	Result(dBuV/m)			Limit(dBuV/m)			Margin(dB)		
		QP	PK	AV		QP	PK	AV	QP	PK	AV	QP	PK	AV
4804	Hor	-	57.94	43.33	6.37	-	64.31	49.70	-	74.00	54.00	-	9.69	4.30
4804	Ver	-	60.18	44.65	6.37	-	66.55	51.02	-	74.00	54.00	-	7.45	2.98

Harmonic and other emissions Measurement Data: Fundamental Frequency = 2441MHz

Frequency (MHz)	ANT Pol	Reading(dBuV)			T.F (dB)	Result(dBuV/m)			Limit(dBuV/m)			Margin(dB)		
		QP	PK	AV		QP	PK	AV	QP	PK	AV	QP	PK	AV
4882	Hor	-	57.50	43.13	6.69	-	64.19	49.82	-	74.00	54.00	-	9.81	4.18
4882	Ver	-	57.95	43.70	6.69	-	64.64	50.39	-	74.00	54.00	-	9.36	3.61

Harmonic and other emissions Measurement Data: Fundamental Frequency = 2480MHz

(Continued...)

Frequency (MHz)	ANT Pol	Reading(dBuV)			T.F (dB)	Result(dBuV/m)			Limit(dBuV/m)			Margin(dB)		
		QP	PK	AV		QP	PK	AV	QP	PK	AV	QP	PK	AV
4960	Hor	-	56.07	45.31	7.18	-	63.25	52.49	-	74.00	54.00	-	10.75	1.51
4960	Ver	-	55.73	44.96	7.18	-	62.91	52.14	-	74.00	54.00	-	11.09	1.86

**Note.**

1. No other spurious and harmonic emissions were detected at a level greater than 20dB below limit.
2. If peak result meet AV limit, AV measurement is omitted.
3. Sample Calculation.

$$\text{Margin} = \text{Limit} - \text{Result} \quad / \quad \text{Result} = \text{Reading} + \text{T.F} \quad / \quad \text{T.F} = \text{AF} + \text{CL} - \text{AG}$$

Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain

### 3.2.8 AC Line Conducted Emissions

#### - Procedure:

The conducted emissions are measured in the shielded room with a spectrum analyzer in peak hold. While the measurement, EUT had its hopping function disabled at the middle channels in line with Section 15.31(m). Emissions closest to the limit are measured in the quasi-peak and average detector mode with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation and Exerciser operation. The highest emissions relative to the limit are listed.

#### - Measurement Data: **N/A**

This test item is not applicable because when this device is in charging status, the Bluetooth function is disabled.

#### - Minimum Standard: FCC Part 15.207(a)/EN 55022

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

\* Decreases with the logarithm of the frequency

#### - Measurement Setup

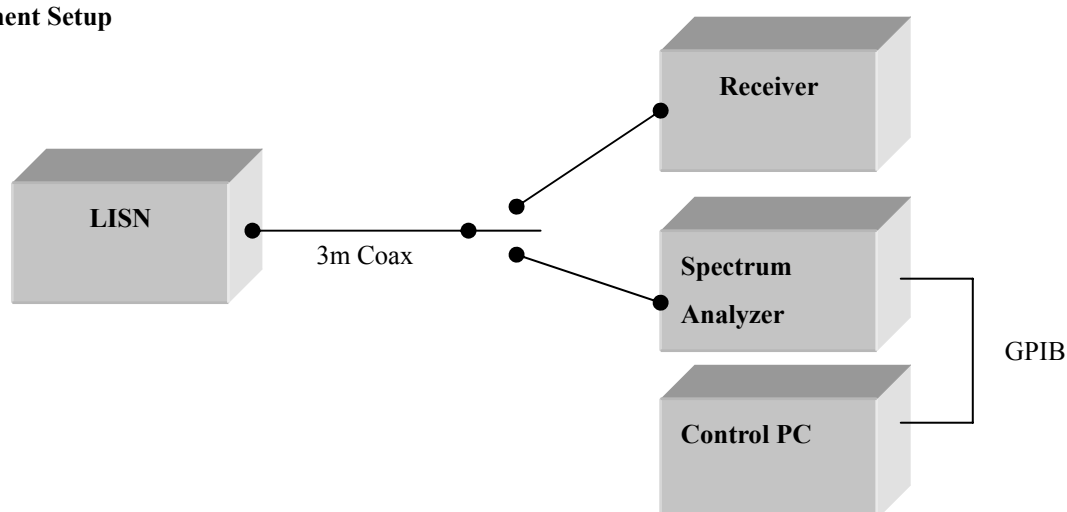


Figure 2: Measurement setup for AC Conducted Emission



APPENDIX

**TEST EQUIPMENT FOR TESTS**

To facilitate inclusion on each page of the test equipment used for related tests, each item of test equipment.

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	Next.Due.Date (dd/mm/yy)	S/N
<input checked="" type="checkbox"/>	Spectrum Analyzer	Agilent	E4440A	06/11/08	06/11/09	MY45304199
<input type="checkbox"/>	Spectrum Analyzer(RE)	H.P	8563E	13/10/08	13/10/09	3551A04634
<input type="checkbox"/>	Spectrum Analyzer	Rohde Schwarz	FSP	09/09/08	09/09/09	100385
<input type="checkbox"/>	Power Meter	H.P	EMP-442A	10/07/08	10/07/09	GB37170413
<input type="checkbox"/>	Power Sensor	H.P	8481A	14/07/08	14/07/09	3318A96332
<input type="checkbox"/>	Power Divider	Agilent	11636B	04/12/08	04/12/09	56471
<input type="checkbox"/>	Power Splitter	Anritsu	K241B	14/10/08	14/10/09	020611
<input type="checkbox"/>	Frequency Counter	H.P	5342A	16/09/08	16/09/09	2119A04450
<input type="checkbox"/>	TEMP & HUMIDITY Chamber	JISCO	KR-100/J-RHC2	10/10/08	10/10/09	30604493/021031
<input type="checkbox"/>	Digital Multimeter	H.P	34401A	20/03/08	20/03/09	3146A13475
<input checked="" type="checkbox"/>	Thermo hygrograph	SATO	NS II-Q	06/10/08	06/10/09	1503512
<input checked="" type="checkbox"/>	Thermo hygrograph	SATO	NS II-Q	17/10/08	17/10/09	1506426
<input type="checkbox"/>	Multifuction Synthesizer	HP	8904A	06/10/08	06/10/09	3633A08404
<input checked="" type="checkbox"/>	Signal Generator	Rohde Schwarz	SMR20	02/04/08	02/04/09	101251
<input checked="" type="checkbox"/>	Signal Generator	H.P	ESG-3000A	09/07/08	09/07/09	US37230529
<input type="checkbox"/>	Vector Signal Generator	Rohde Schwarz	SMJ100A	17/01/08	17/01/09	100148
<input type="checkbox"/>	Audio Analyzer	H.P	8903B	09/07/08	09/07/09	3011A09448
<input type="checkbox"/>	Modulation Analyzer	H.P	8901B	18/07/08	18/07/09	3028A03029
<input type="checkbox"/>	8960 Series 10 Wireless Comms. Test Set	Agilent	E5515C	31/07/08	31/07/09	GB43461134
<input type="checkbox"/>	Universal Radio communication Tester	Rohde Schwarz	CMU 200	02/04/08	02/04/09	107631
<input type="checkbox"/>	Bluetooth Tester	TESCOM	TC-3000A	16/12/08	16/12/09	3000A4A0121
<input type="checkbox"/>	BAND Reject Filter	Microwave Circuits	N0308372	06/10/08	06/10/09	3125-01DC0352
<input type="checkbox"/>	BAND Reject Filter	Wainwright	WRCG1750	06/10/08	06/10/09	2
<input type="checkbox"/>	High-Pass Filter	ANRITSU	MP526D	06/10/08	06/10/09	MP27756
<input type="checkbox"/>	High-pass filter	Wainwright	WHKX2.1	N/A	N/A	1
<input checked="" type="checkbox"/>	High-Pass Filter	Wainwright	WHKX3.0	N/A	N/A	9
<input type="checkbox"/>	Tunable Notch Filter	Wainwright	WRCT800.0 /960.0-0.2/40-8SSK	N/A	N/A	10
<input type="checkbox"/>	Tunable Notch Filter	Wainwright	WRCD1700.0 /2000.0-0.2/40-10SSK	N/A	N/A	27
<input type="checkbox"/>	Tunable Notch Filter	Wainwright	WRCT1900.0/ 2200.0-5/40-10SSK	N/A	N/A	7
<input type="checkbox"/>	AC Power supply	DAEKWANG	5KVA	20/03/08	20/03/09	20060321-1
<input checked="" type="checkbox"/>	DC Power Supply	HP	6622A	20/03/08	20/03/09	3448A03760
<input type="checkbox"/>	DC Power Supply	HP	6633A	20/03/08	20/03/09	3524A06634
<input type="checkbox"/>	HORN ANT	ETS	3115	13/06/08	13/06/09	6419
<input checked="" type="checkbox"/>	HORN ANT	ETS	3115	10/09/08	10/09/09	21097
<input type="checkbox"/>	HORN ANT	A.H.Systems	SAS-574	13/06/08	13/06/09	154
<input type="checkbox"/>	HORN ANT	A.H.Systems	SAS-574	13/06/08	13/06/09	155

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	Next.Due.Date (dd/mm/yy)	S/N
<input type="checkbox"/>	Dipole Antenna	Schwarzbeck	VHA9103	25/11/08	25/11/09	2116
<input type="checkbox"/>	Dipole Antenna	Schwarzbeck	VHA9103	25/11/08	25/11/09	2117
<input type="checkbox"/>	Dipole Antenna	Schwarzbeck	UHA9105	25/11/08	25/11/09	2261
<input type="checkbox"/>	Dipole Antenna	Schwarzbeck	UHA9105	25/11/08	25/11/09	2262
<input type="checkbox"/>	Coaxial Fixed Attenuators	Agilent	8491B	01/08/08	01/08/09	MY39260700
<input type="checkbox"/>	Coaxial Fixed Attenuators	Agilent	8491B	15/07/08	15/07/09	MY39260699
<input type="checkbox"/>	Attenuator (10dB)	WEINSCHL	23-10-34	01/10/08	01/10/09	BP4386
<input type="checkbox"/>	Attenuator (20dB)	WEINSCHL	86-20-11	06/10/08	06/10/09	432
<input type="checkbox"/>	Attenuator (10dB)	WEINSCHL	86-10-11	06/10/08	06/10/09	446
<input type="checkbox"/>	Attenuator (10dB)	WEINSCHL	86-10-11	06/10/08	06/10/09	408
<input type="checkbox"/>	Attenuator (40dB)	WEINSCHL	57-40-33	01/10/08	01/10/09	NN837
<input type="checkbox"/>	Attenuator (30dB)	JFW	50FH-030-300	24/03/08	24/03/09	060320-1
<input type="checkbox"/>	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0088CAN	11/07/08	11/07/09	788
<input type="checkbox"/>	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0185CAN	11/07/08	11/07/09	790
<input type="checkbox"/>	Type N Coaxial CIRCULATOR	NOVA MICROWAVE	0215CAN	11/07/08	11/07/09	112
<input checked="" type="checkbox"/>	Amplifier (30dB)	Agilent	8449B	13/10/08	13/10/09	3008A01590
<input type="checkbox"/>	RF Power Amplifier	OPHIRRF	5069F	09/07/08	09/07/08	1006
<input type="checkbox"/>	Software	Agilent	Benchlink	N/A	N/A	A.01.09 021211
<input type="checkbox"/>	EMI TEST RECEIVER	R&S	ESU	Calibrating	Calibrating	100014
<input type="checkbox"/>	BILOG ANTENNA	SCHAFFNER	CBL6112B	13/06/08	13/06/09	2737
<input type="checkbox"/>	Amplifier (22dB)	H.P	8447E	27/02/08	27/02/09	2945A02865
<input type="checkbox"/>	Position Controller	TOKIN	5905A	N/A	N/A	N/A
<input type="checkbox"/>	Software	ToYo EMI	EP5/RE	N/A	N/A	Ver 2.0.800
<input checked="" type="checkbox"/>	EMI TEST RECEIVER	R&S	ESCI	13/05/08	13/05/09	100364
<input checked="" type="checkbox"/>	Log Periodic Antenna	Schwarzbeck	UHALP9108A1	30/09/08	30/09/09	1098
<input checked="" type="checkbox"/>	Biconical Antenna	Schwarzbeck	VHA9103	13/06/08	13/06/09	2233
<input checked="" type="checkbox"/>	Amplifier (25dB)	Agilent	8447D	21/05/08	21/05/09	2944A10144
<input checked="" type="checkbox"/>	Position Controller	TOKIN	5901T	N/A	N/A	14173
<input checked="" type="checkbox"/>	Software	AUDIX	e3	N/A	N/A	Ver 3.0
<input checked="" type="checkbox"/>	Driver	TOKIN	5902T2	N/A	N/A	14174
<input type="checkbox"/>	Spectrum Analyzer(CE)	H.P	8591E	26/04/08	26/04/09	3649A05889
<input type="checkbox"/>	LISN	Kyorits	KNW-407	04/08/08	04/08/09	8-317-8
<input type="checkbox"/>	LISN	Kyorits	KNW-242	11/09/08	11/09/09	8-654-15
<input type="checkbox"/>	CVCF	NF Electronic	4420	21/03/08	21/03/09	304935/337980
<input type="checkbox"/>	Software	ToYo EMI	EP5/CE	N/A	N/A	Ver 2.0.801
<input type="checkbox"/>	DC BLOCK	Hyuplip	KEL-007	N/A	N/A	7-1581-5
<input type="checkbox"/>	50 ohm Terminator	HME	CT-01	30/01/08	30/01/09	N/A
<input type="checkbox"/>	RFI/FIELD Intensity Meter	Kyorits	KNW-2402	11/09/08	11/09/09	4N-170-3