

**DIGITAL EMC CO., LTD.**

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

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<http://www.digitalemc.com>**CERTIFICATION OF COMPLIANCE****Cartel Mobile Solutions Inc**

4619 Surf avenue, Brooklyn, New York, 11224, United States

Dates of Tests: March 13 ~ March 19, 2009

Test Report S/N: DR50110904D

Test Site : DIGITAL EMC CO., LTD.

FCC ID

VTTCT2000

APPLICANT

Cartel Mobile Solutions Inc

FCC Equipment Class : **Part 15 Spread Spectrum Transmitter(DSS)**
Device name : **BLUE CARPHONE with Bluetooth**
Manufacturer : **Cartel Mobile Solutions Inc**
FCC ID : **VTTCT2000**
Model name : **CT-2000**
Test Device Serial number : **Identical prototype**
FCC Rule Part(s) : **FCC Part 15.247 Subpart C**
ANSI C63.4-2003
Frequency Range : **2402 ~ 2480 MHz**
Max. Output power : **3.96 dBm Conducted**
Data of issue : **April 2, 2009**

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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

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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".

Tested by: Engineer

April 2, 2009

D.C. Cha



Data

Name

Signature

Reviewed by: Technical Director

April 2, 2009

Harvey Sung



Data

Name

Signature

Applicant:

Company name : Cartel Mobile Solutions Inc

Address : 4619 Surf avenue

City/town : Brooklyn

Zip Code : 11224

State : New York

Country : United States

Date of order : July 15, 2008

2. Information about test item

VTCT2000

2.1 Equipment information

Equipment model no.	CT-2000
Equipment serial no.	Identical prototype
Type of equipment	BLUE CARPHONE with Bluetooth
Frequency band	2402 ~ 2480 MHz
Type of Modulation	GFSK
Spread Spectrum	Frequency Hopping
Channel Spacing	1.0 MHz
Power	DC 12V
Type of antenna	Chip Antenna

- This device does not have EDR function.

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	: 12 V DC

2.4 Ancillary Equipment

Equipment	Model No.	Serial No.	Manufacturer	Note
-	-	-	-	-
-	-	-	-	-

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	$\geq 20\text{dB BW}$ or \geq 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	$\leq 1\text{Watt}$, if CHs ≥ 75 Others $\leq 0.125\text{W}$		C
15.247(c)	Band-edge /Conducted	The radiated emission to any 100 kHz of out-band shall be at least 20dB below the highest in-band 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 Note 2: Class B digital device portion was tested and approved by verification procedure.				

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
2441.000	2442.000	1.000	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

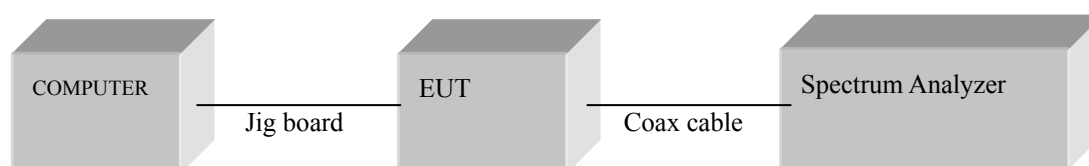
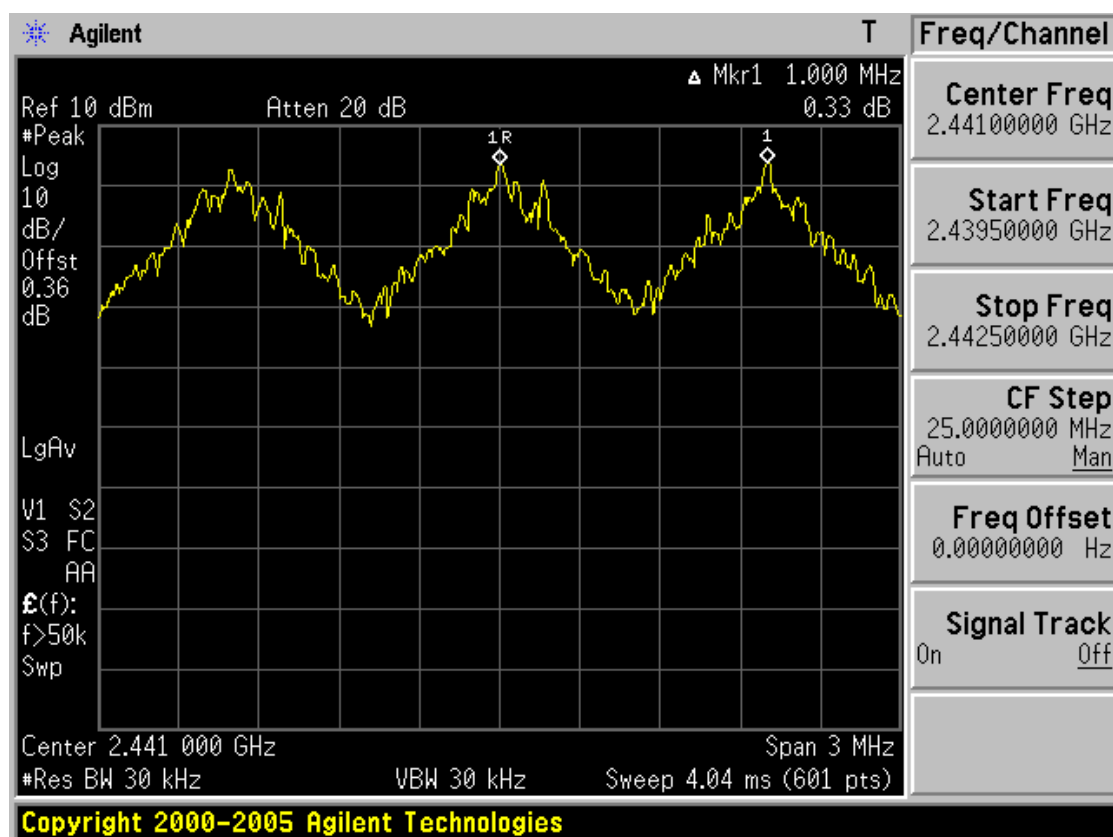


Figure 1: Measurement setup for the carrier frequency separation

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
---	----

- See next pages for actual measured spectrum plots.

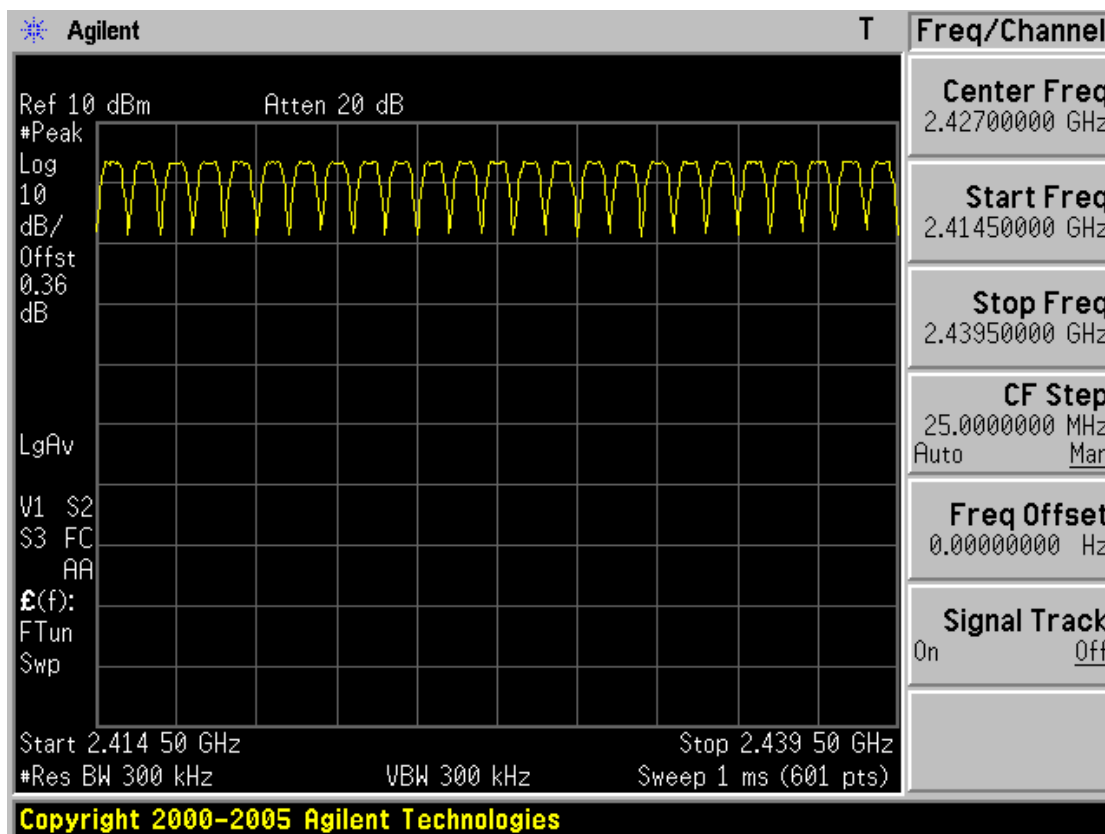
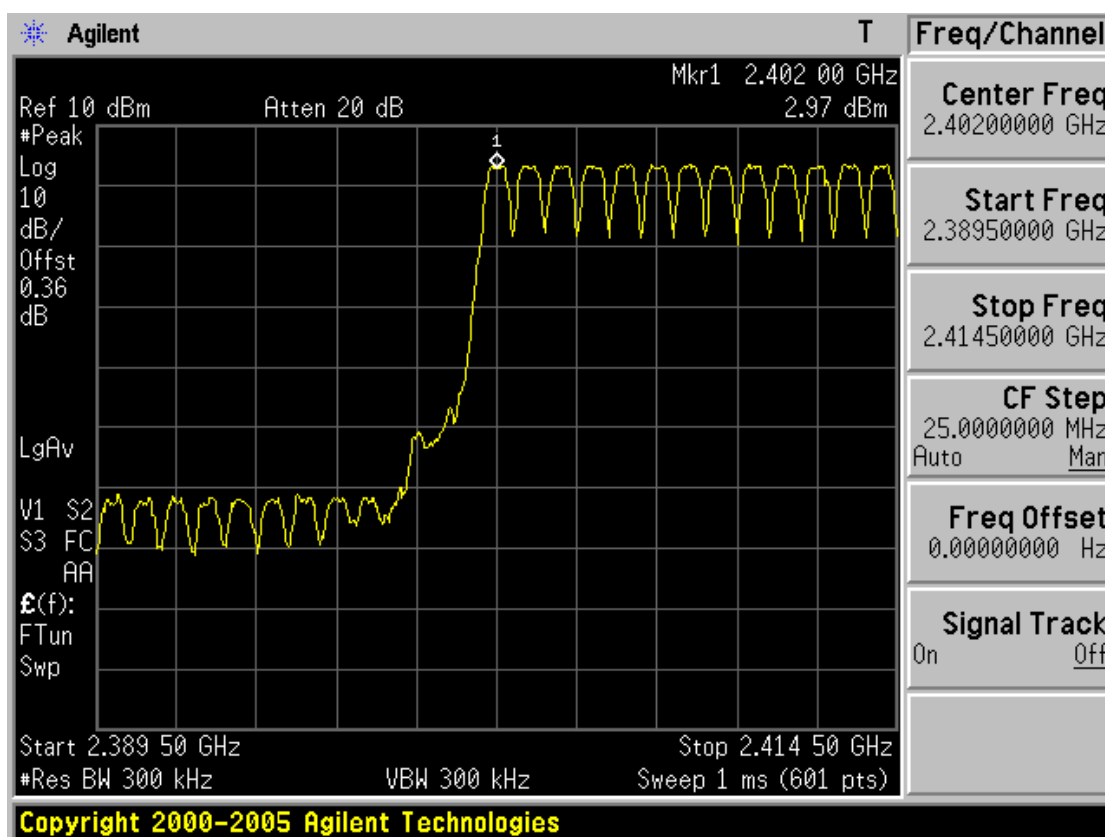
- Minimum Standard:

At least 15 hops

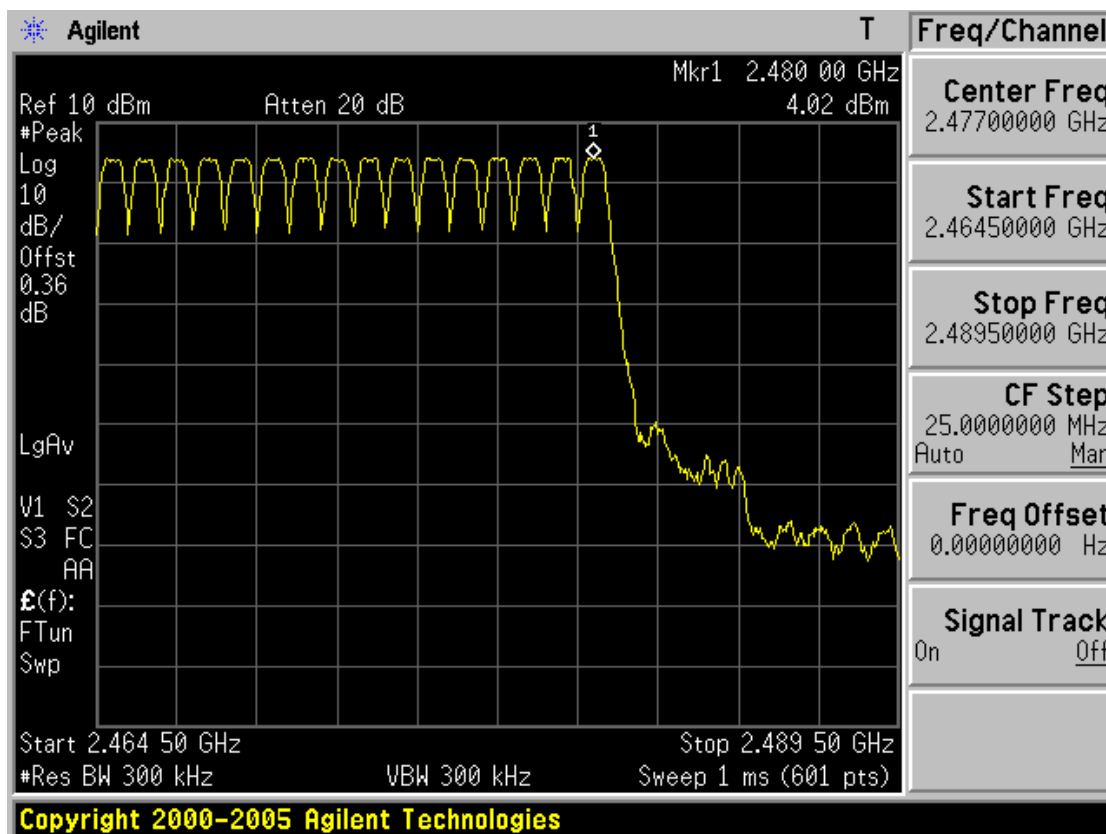
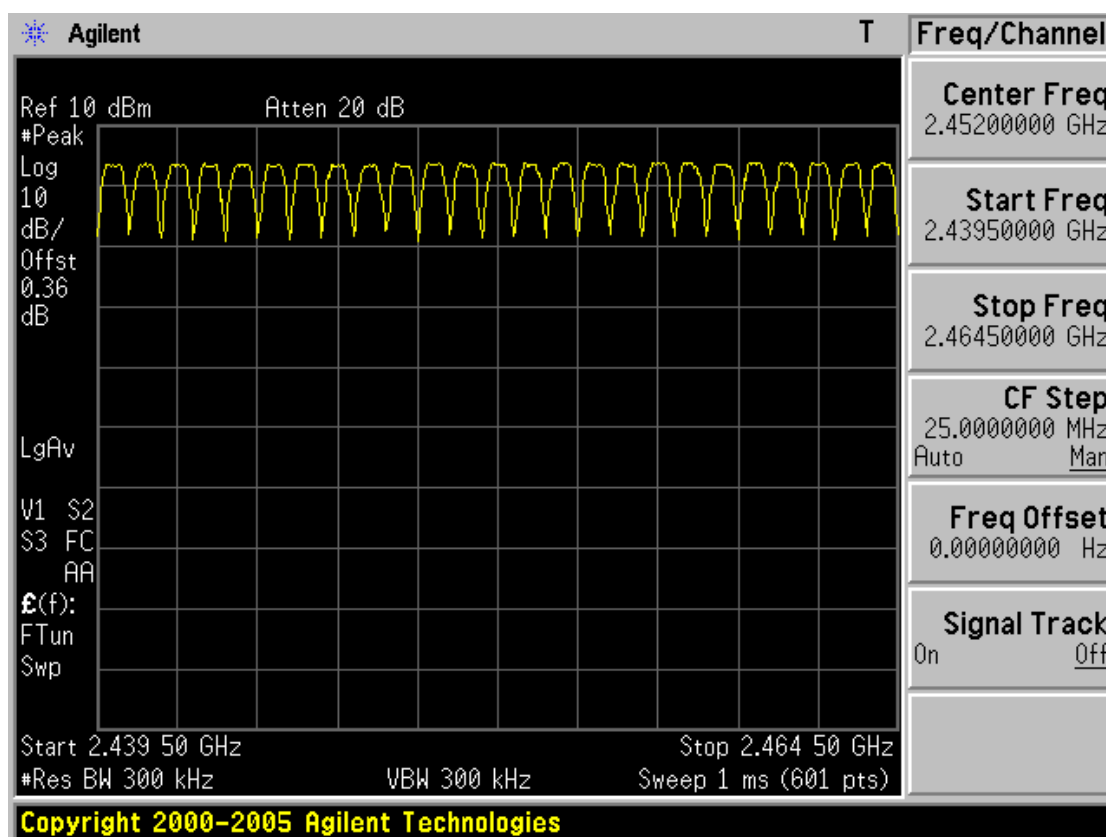
- Measurement Setup

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	0.892	Comply
2441	40	0.858	Comply
2480	79	0.892	Comply

- See next pages for actual measured spectrum plots.

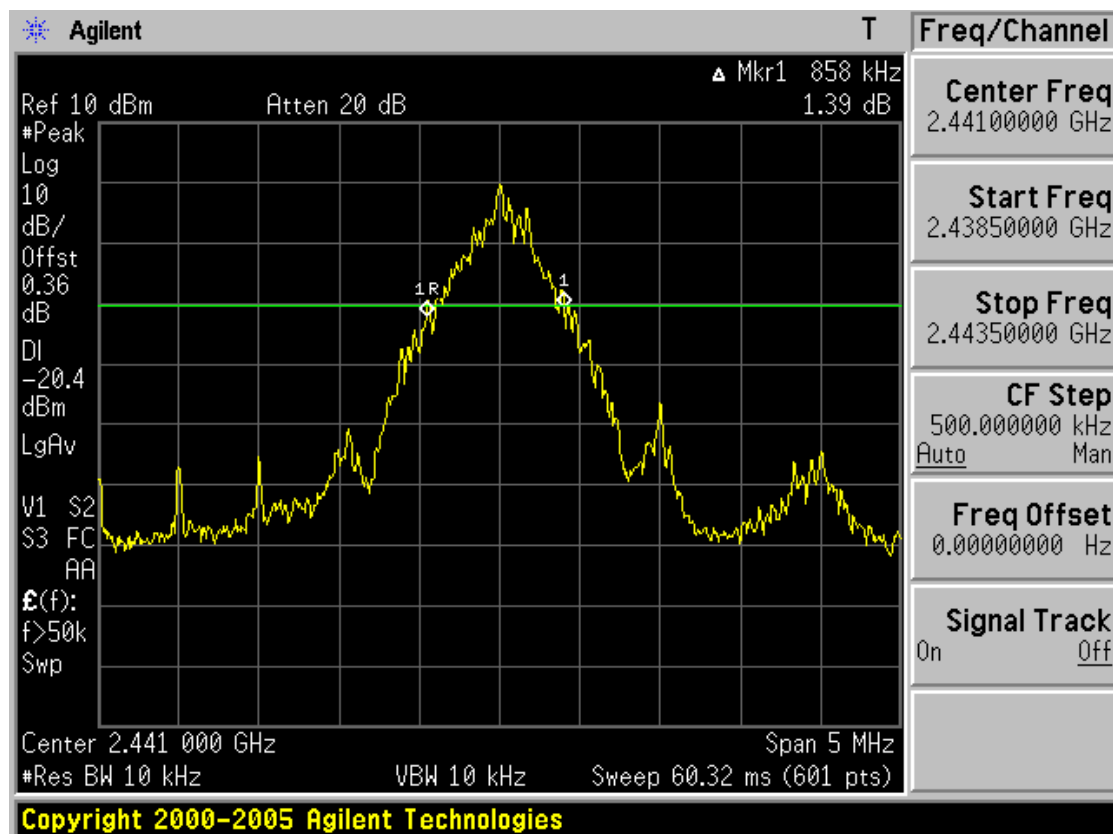
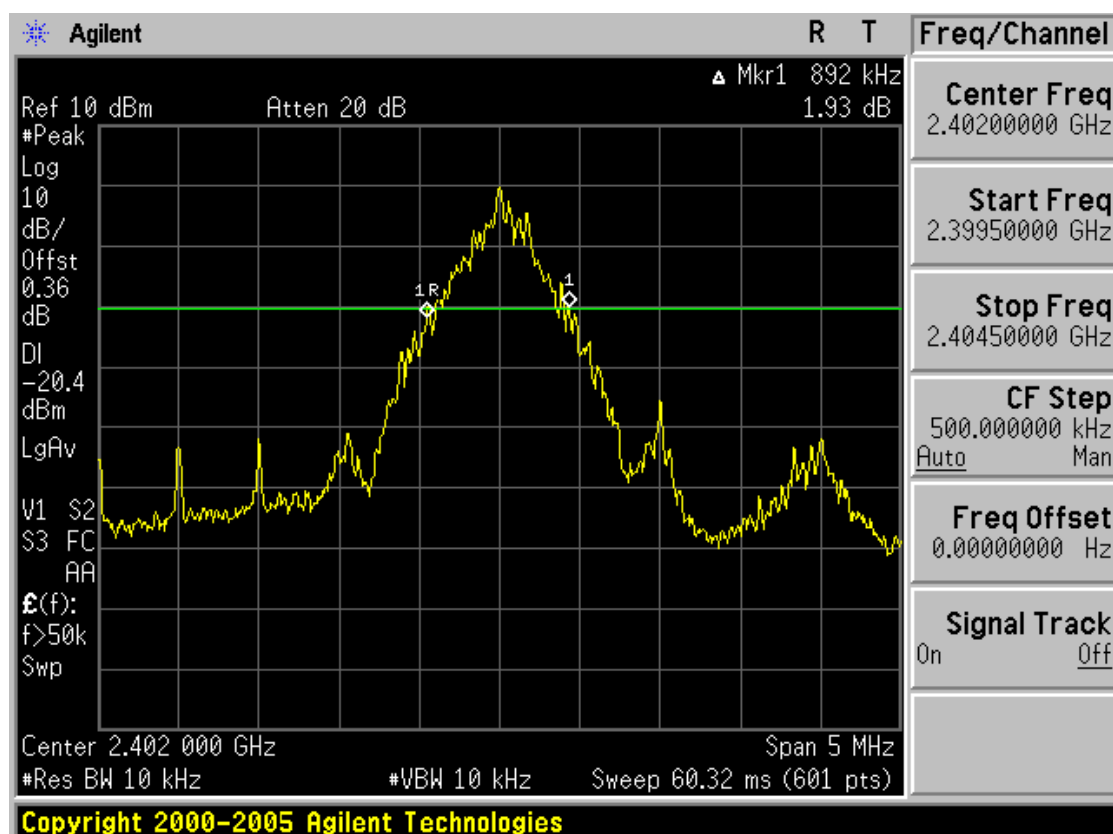
- Minimum Standard:

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 ≥ 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	2.917	3.75	79	0.311	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.

$$\text{DWELL TIME} = (0.4 \times \text{Number of hopping Channels}) \times \text{Burst On time} / (\text{period} \times \text{Number of hopping Channels})$$

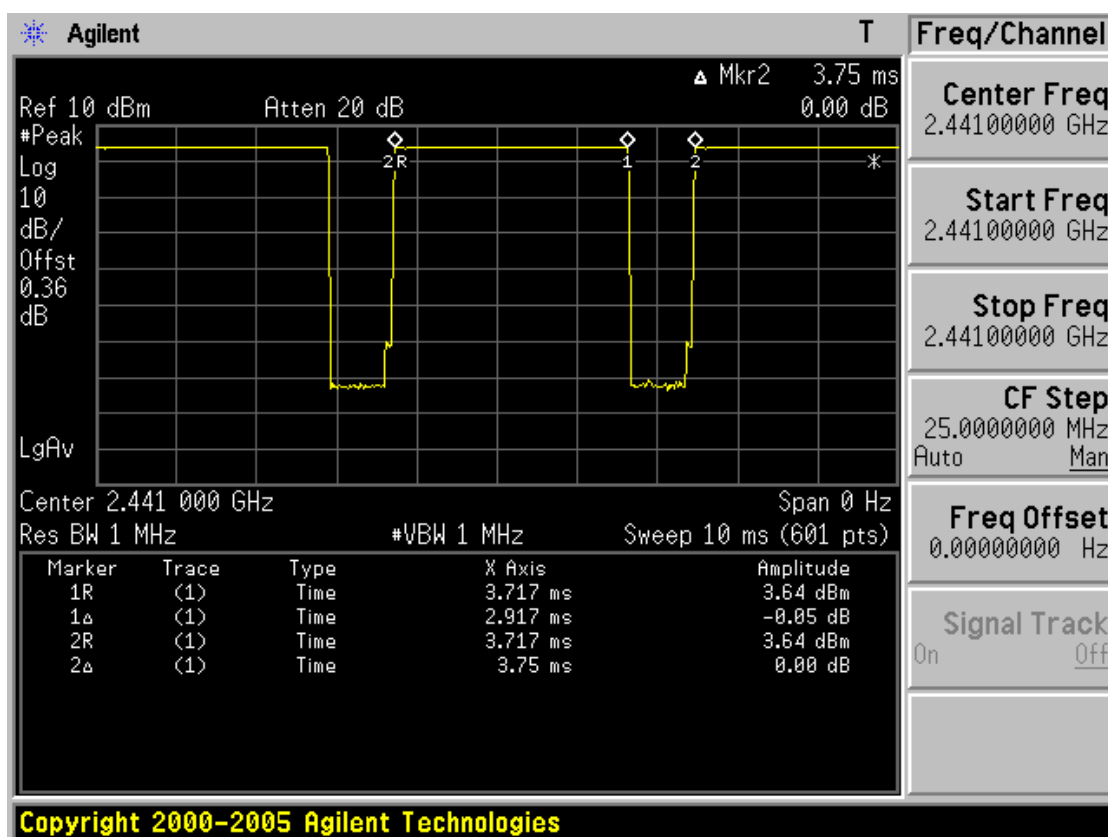
- Minimum Standard:

No greater than 0.4 seconds

- 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	3.13	2.056	Comply
2441	40	3.45	2.213	Comply
2480	79	3.96	2.489	Comply

- See next pages for actual measured spectrum plots.

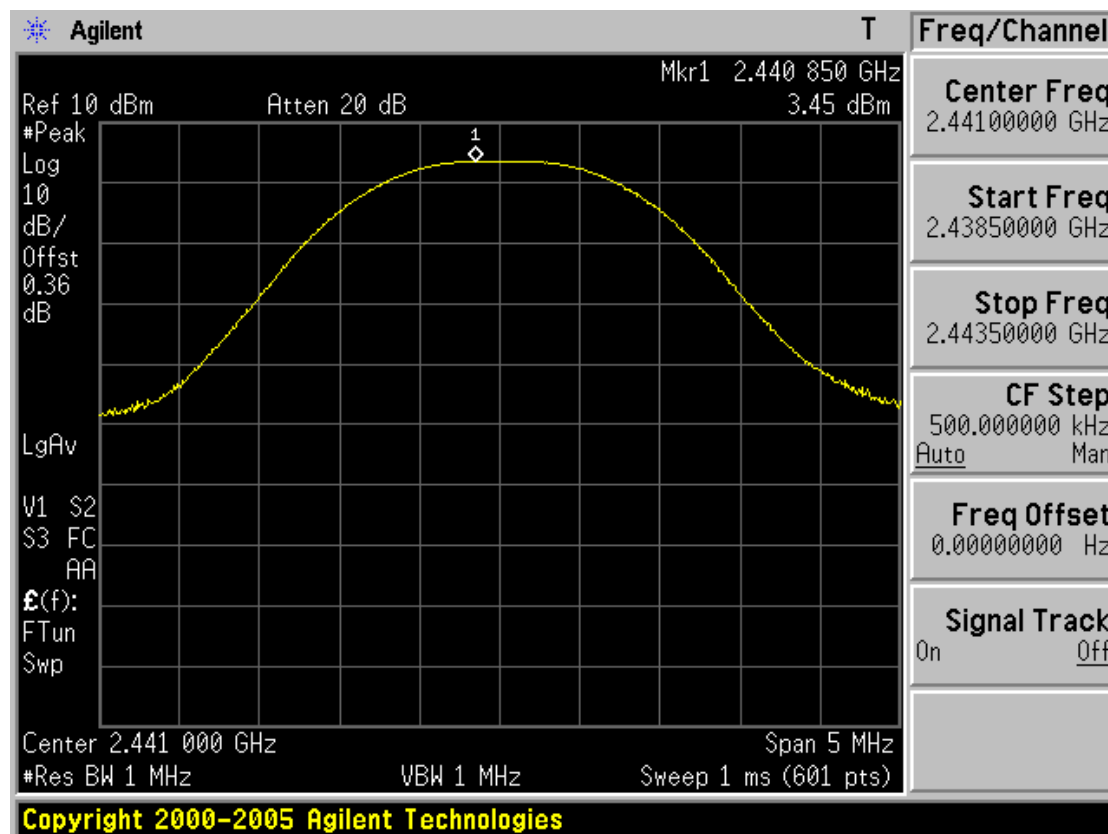
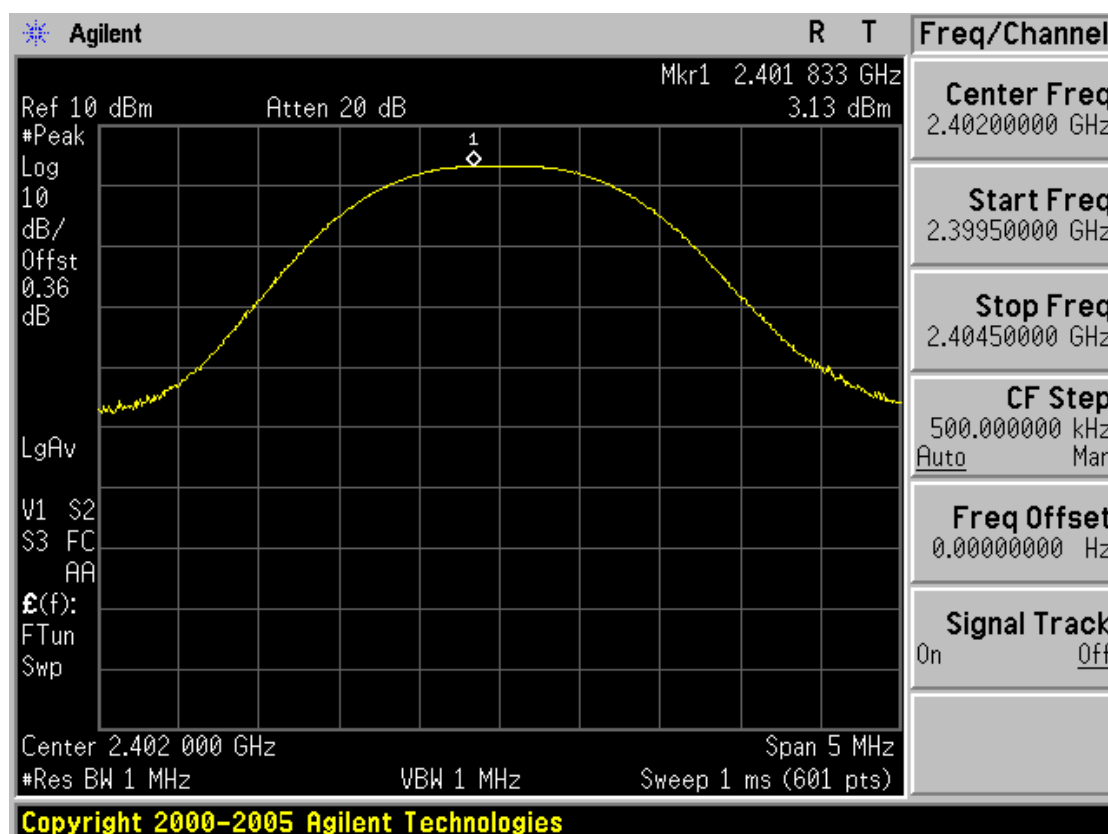
- Minimum Standard:

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**

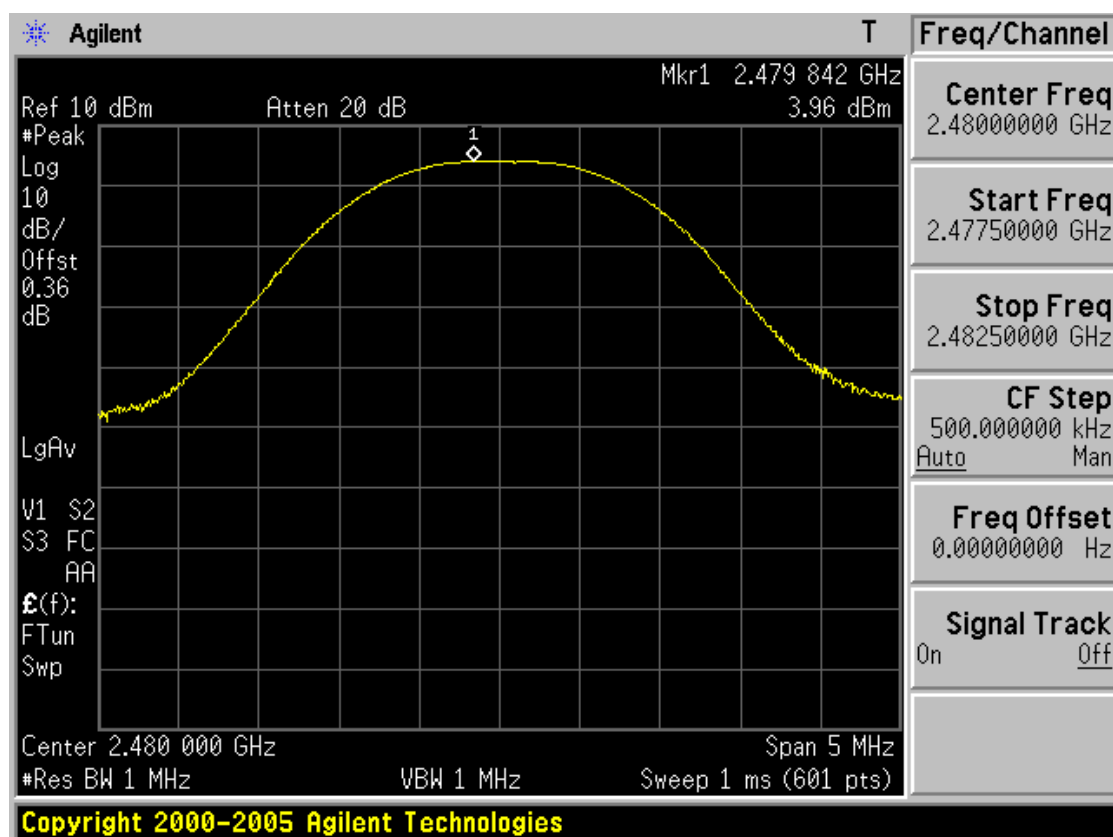
- Measurement Setup

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**

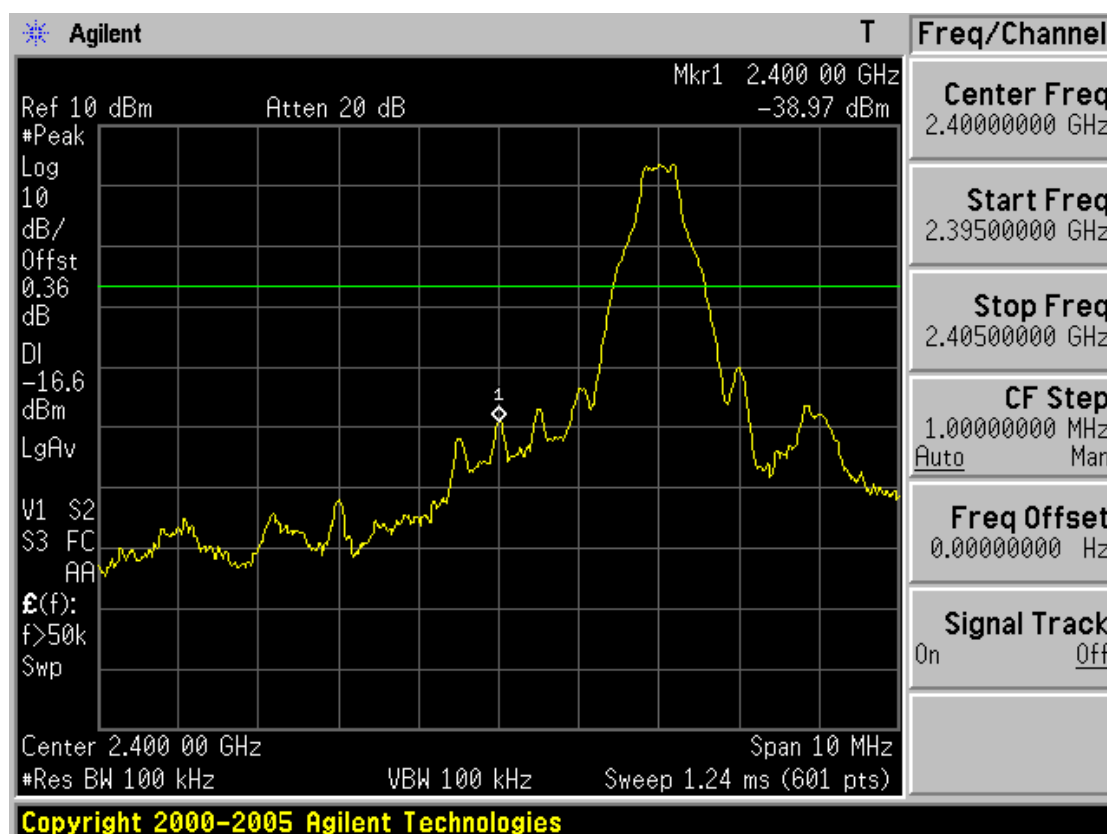
- See next pages for actual measured spectrum plots.

Minimum Standard:	> 20 dBc
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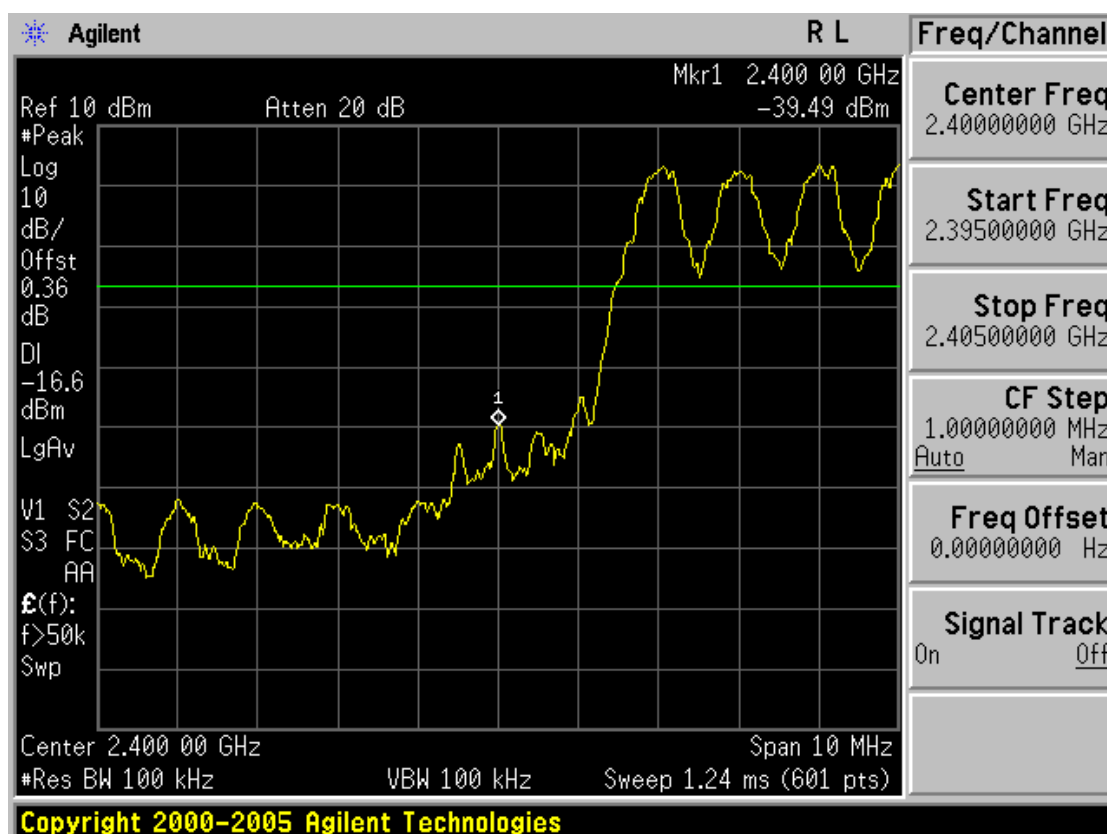
- Measurement Setup

Same as the Chapter 3.2.1 (Figure 1)

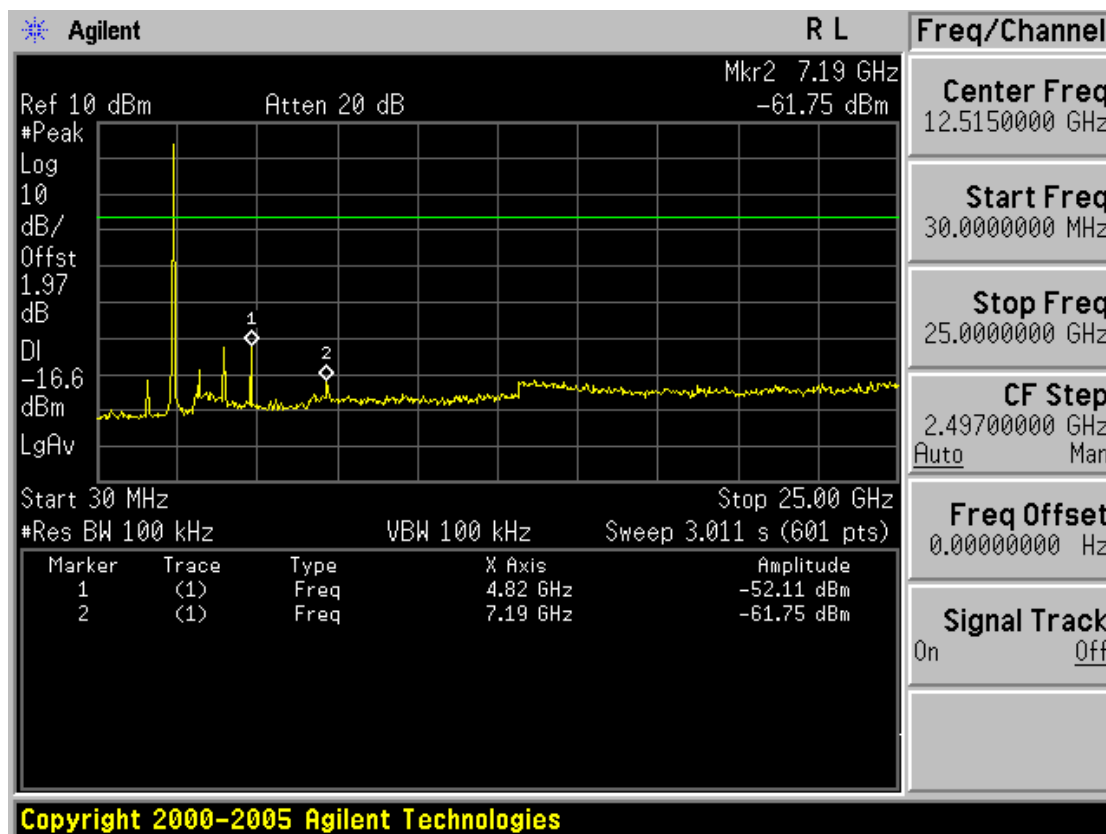
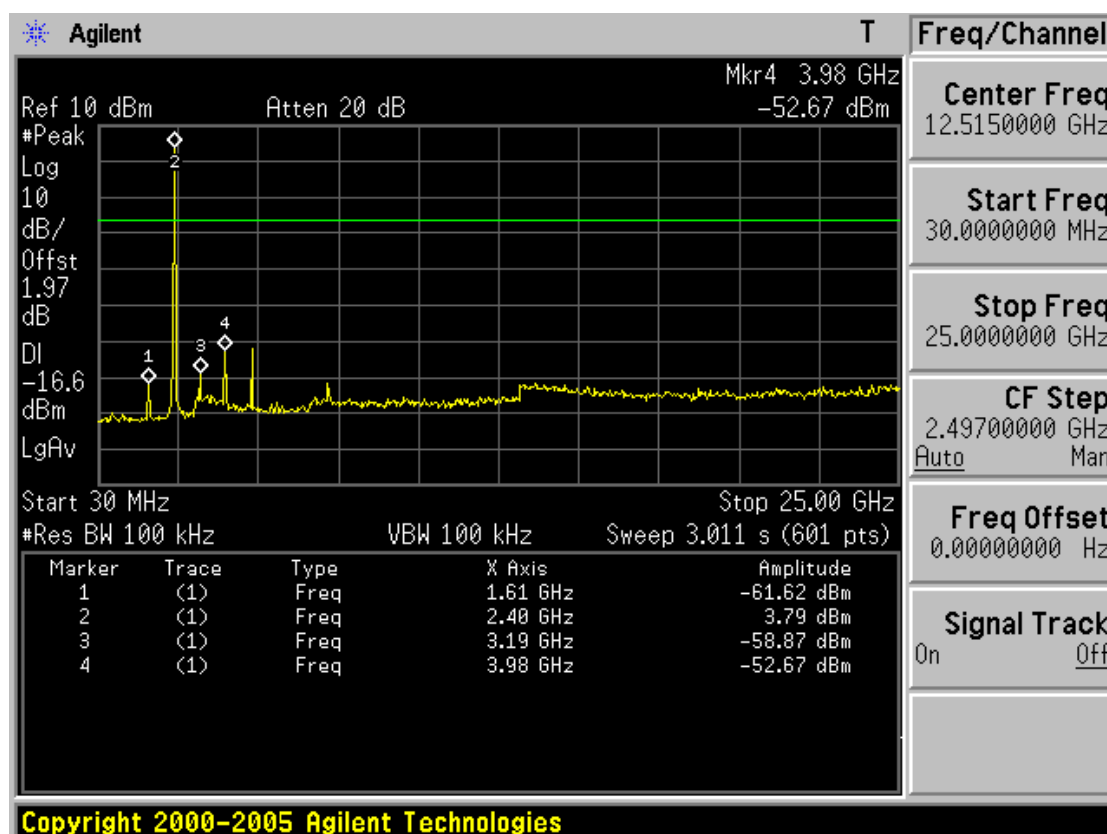
Low band with hopping disabled



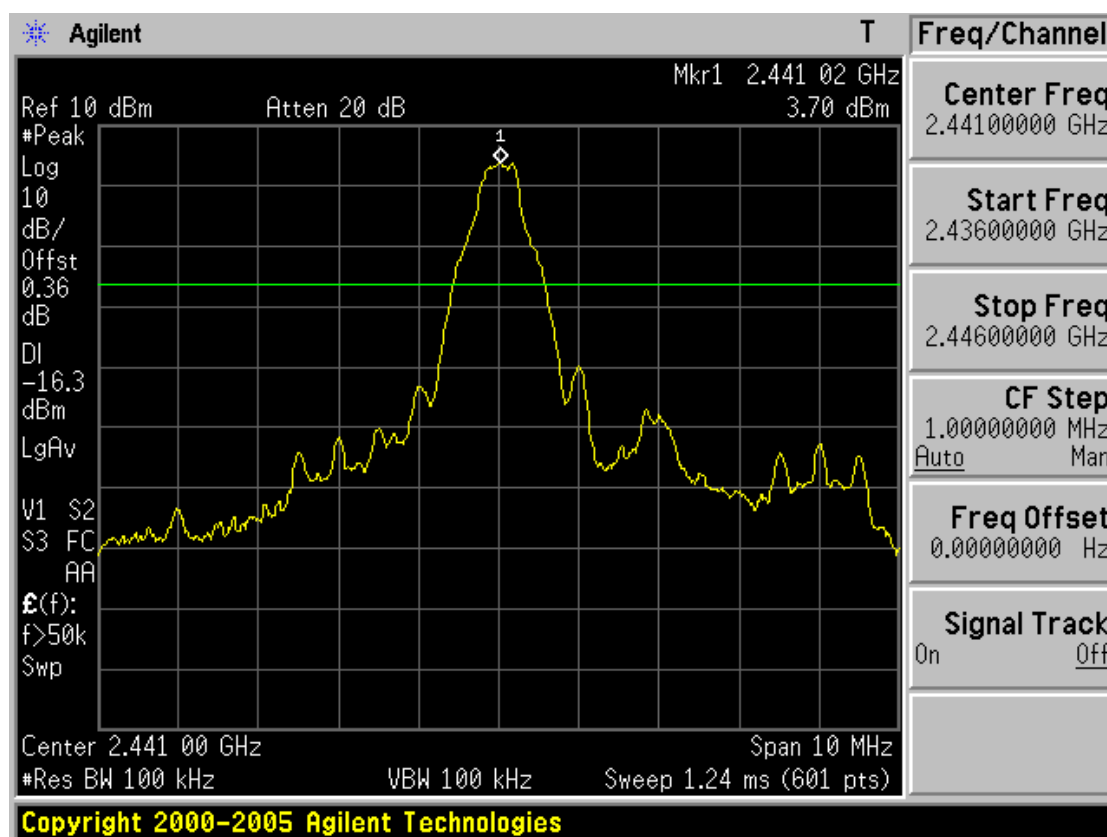
Low band with hopping enabled



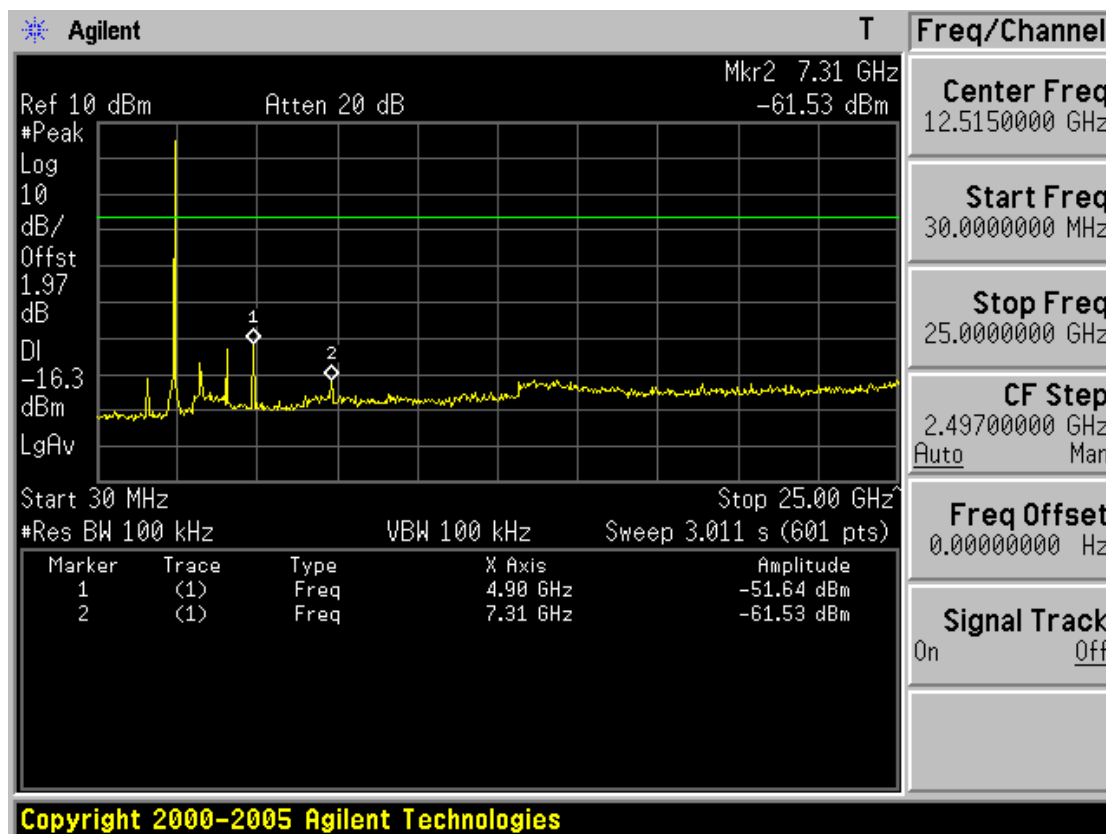
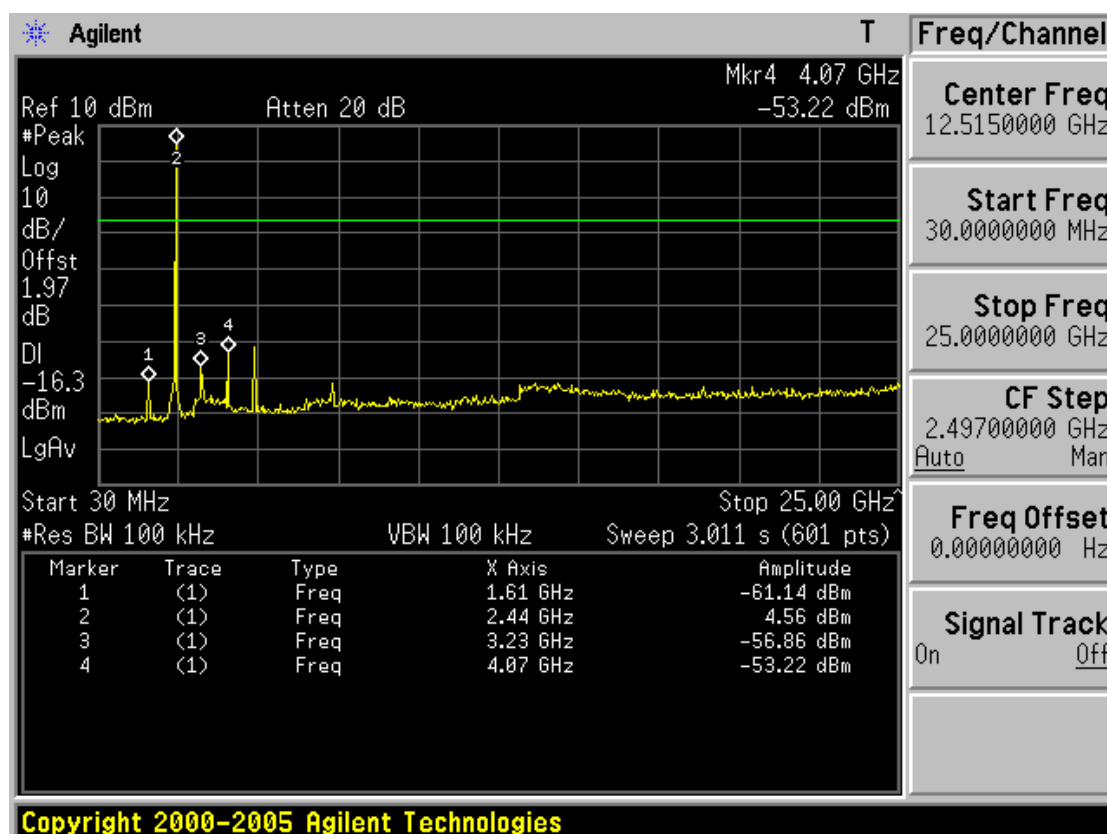
Low channel spurious



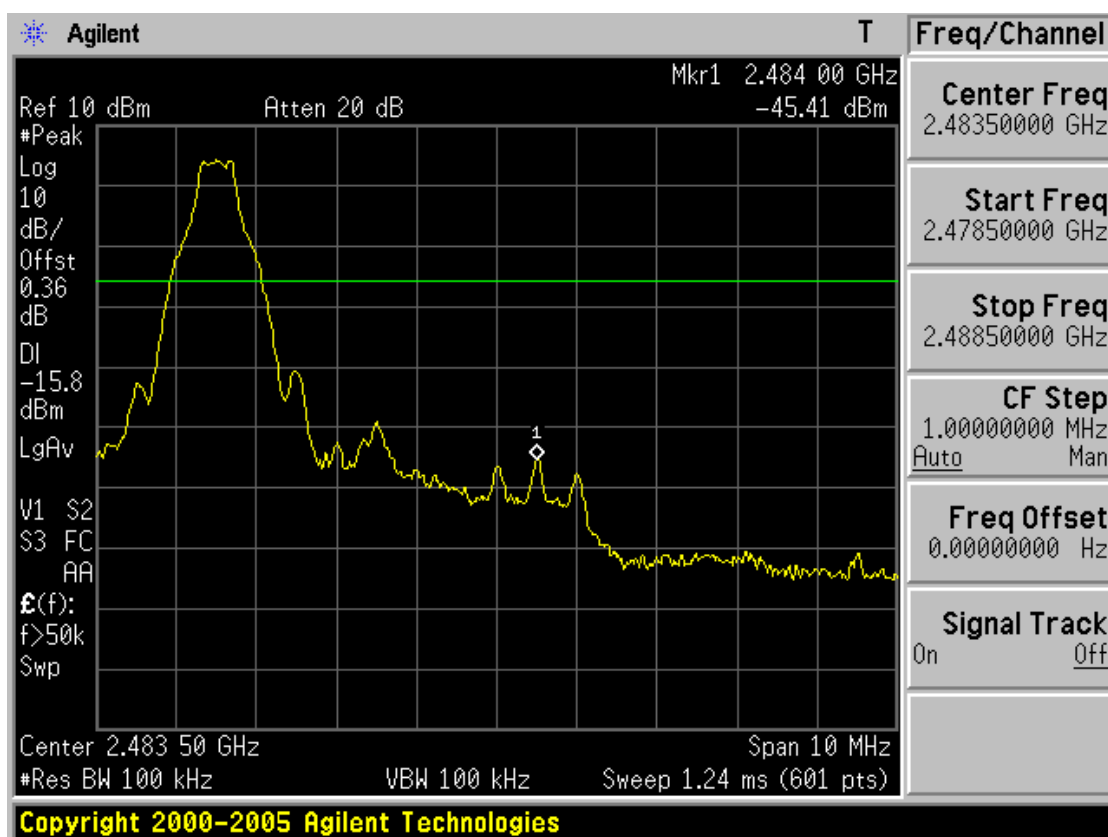
Mid channel ref



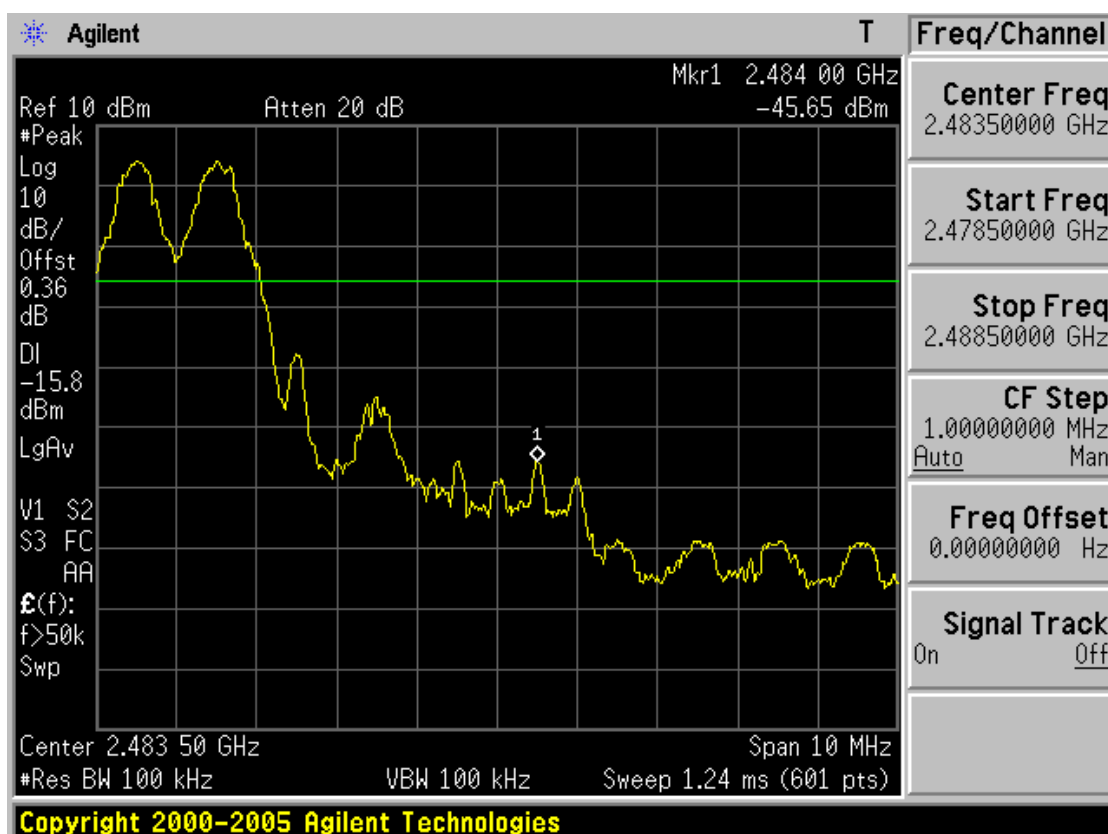
Mid channel spurious



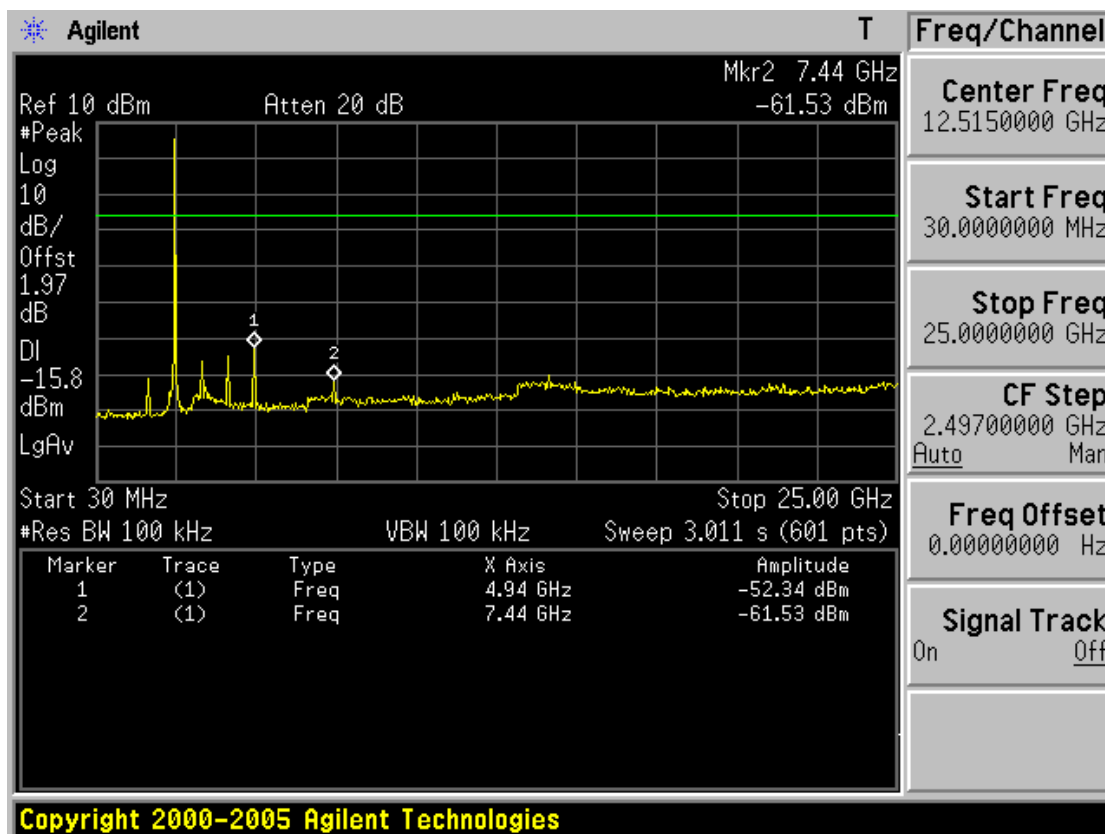
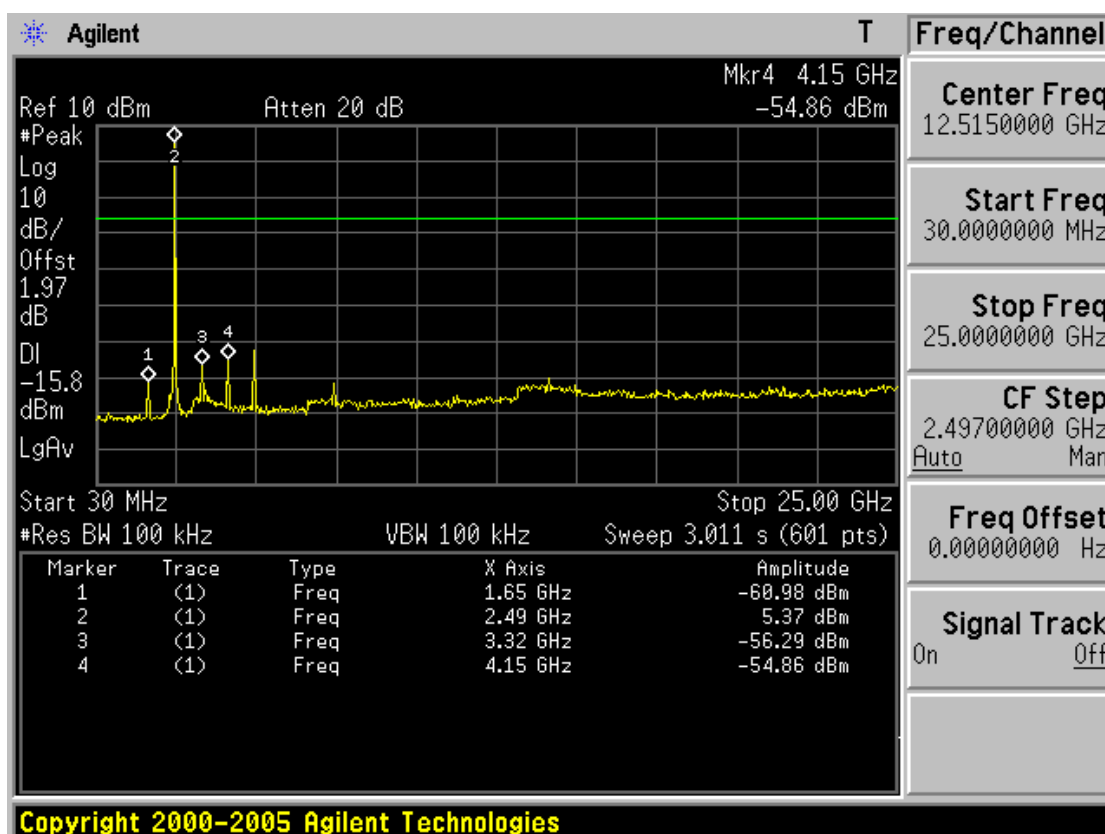
High band with hopping disabled



High band with hopping enabled



High channel spurious



- Procedure:

The spectrum analyzer is set to:

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

- Minimum Standard:

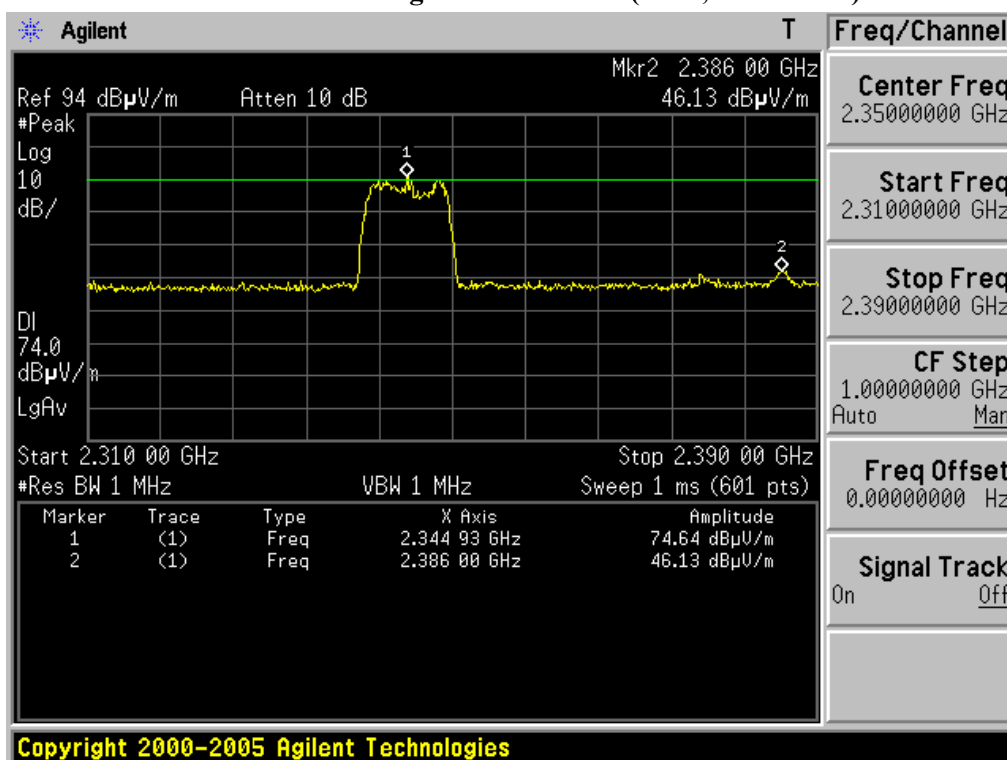
Frequency (MHz)	Limit (uV/m) @ 3m
30 ~ 88	100 **
88 ~ 216	150 **
216 ~ 960	200 **
Above 960	500

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

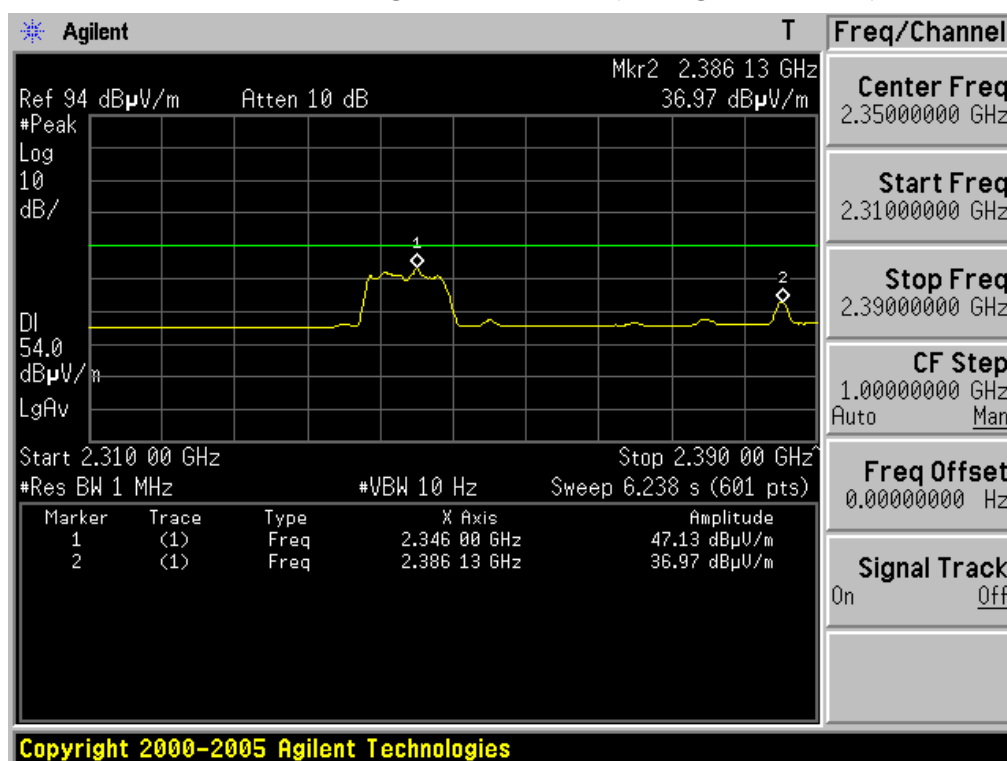
MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	3600 ~ 4400	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	4.5 ~ 5.15	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	5.35 ~ 5.46	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725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

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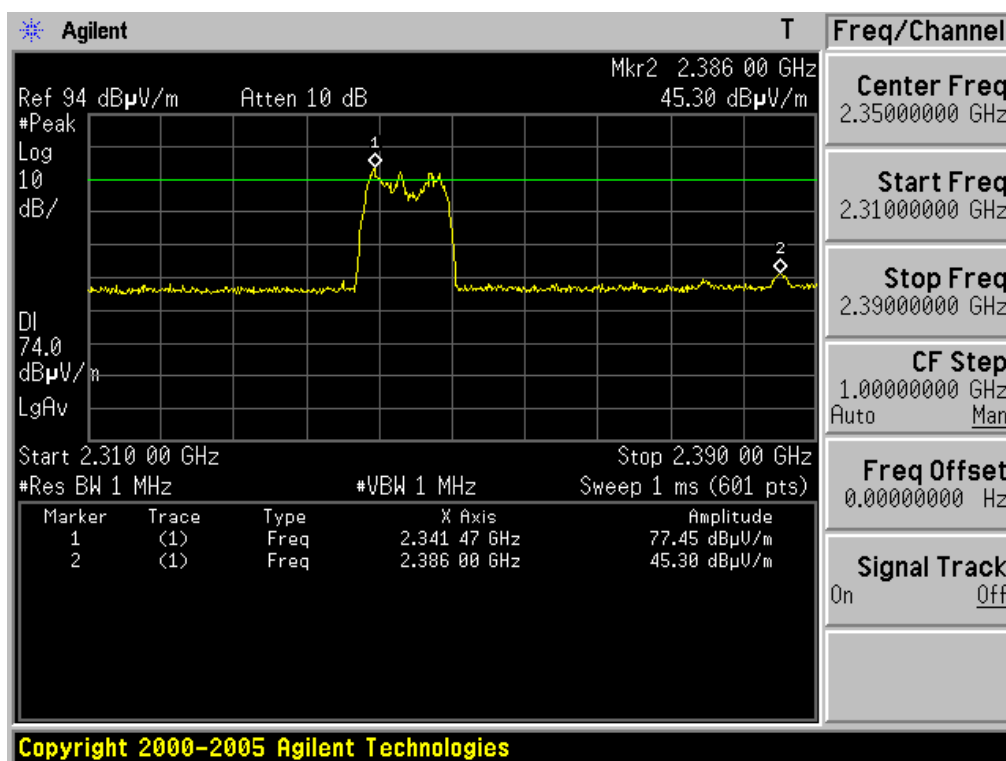
Restricted Band Edge: Low Channel (Peak, Horizontal)



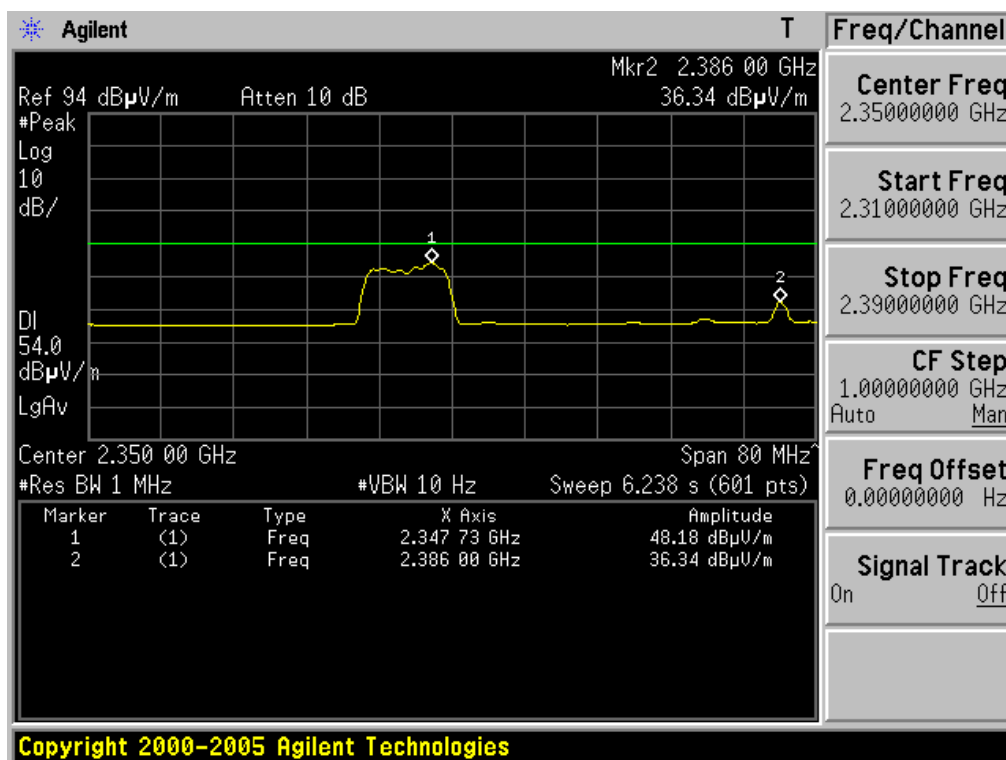
Restricted Band Edge: Low Channel (Average, Horizontal)



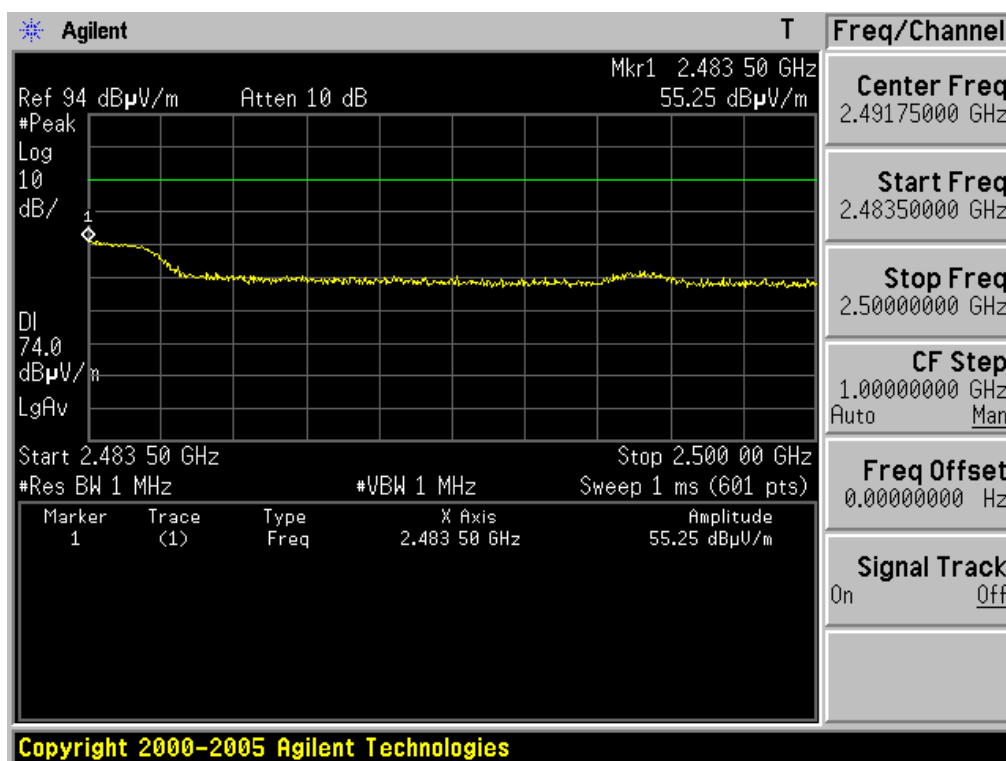
Restricted Band Edge: Low Channel (Peak, Vertical)



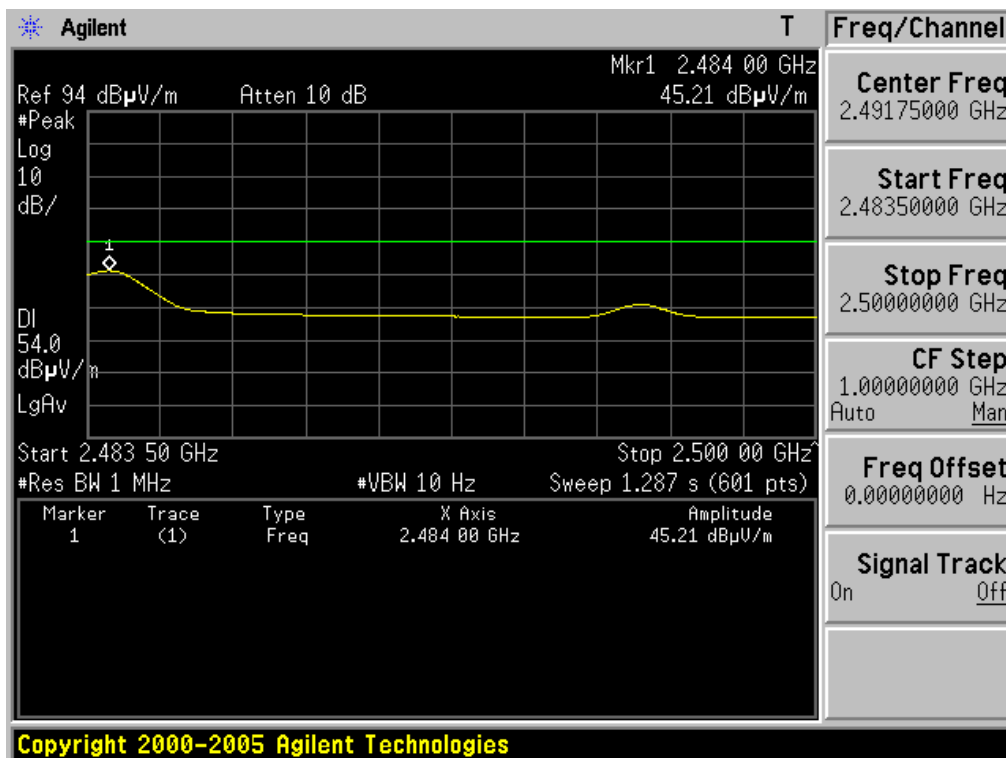
Restricted Band Edge: Low Channel (Average, Vertical)



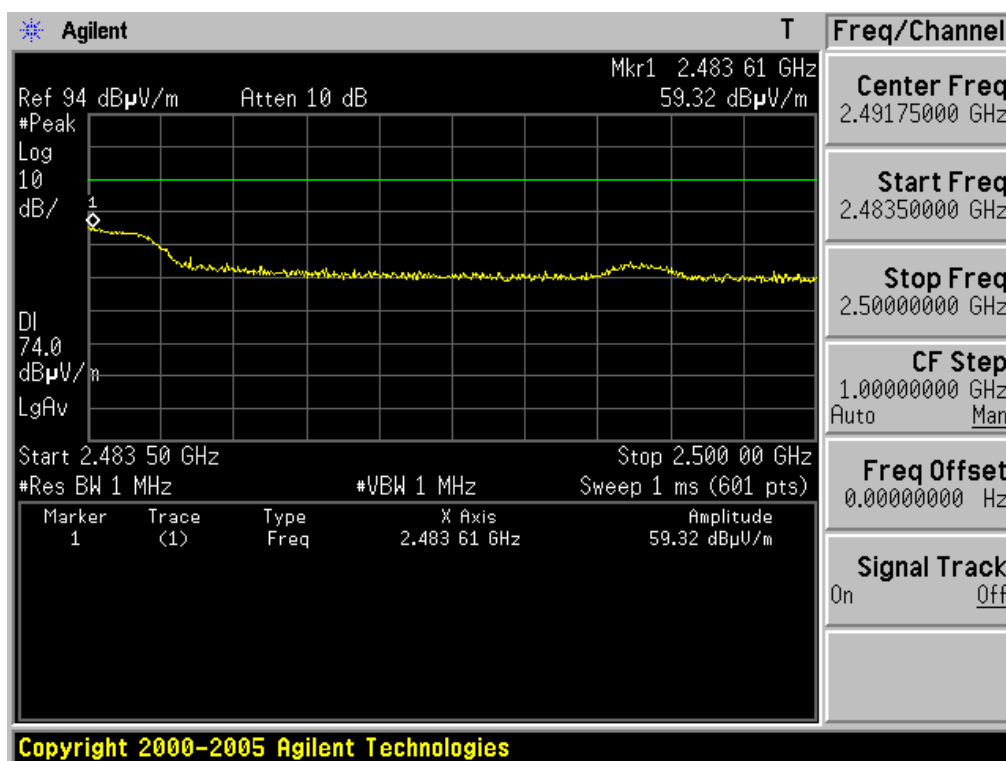
Restricted Band Edge: High Channel (Peak, Horizontal)



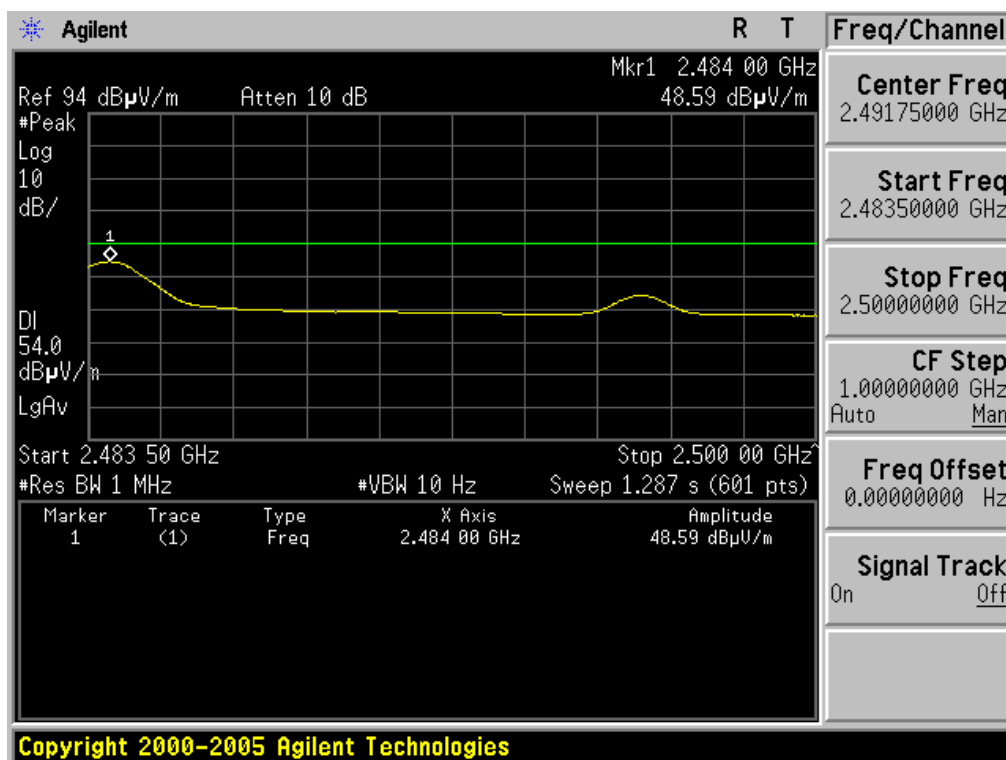
Restricted Band Edge: High Channel (Average, Horizontal)



Restricted Band Edge: High Channel (Peak, Vertical)



Restricted Band Edge: High Channel (Average, Vertical)



- Measurement Data:

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
31.990	Ver	39.06	-	-	-7.96	31.10	-	-	40.00	-	-	8.90	-	-
86.010	Hor	39.41	-	-	-17.11	22.30	-	-	40.00	-	-	17.70	-	-
86.016	Ver	45.71	-	-	-17.11	28.60	-	-	40.00	-	-	11.40	-	-
122.875	Hor	37.43	-	-	-11.63	25.80	-	-	43.50	-	-	17.70	-	-
122.887	Ver	38.53	-	-	-11.63	26.90	-	-	43.50	-	-	16.60	-	-
147.449	Hor	36.66	-	-	-9.46	27.20	-	-	43.50	-	-	16.30	-	-
147.450	Ver	35.16	-	-	-9.46	25.70	-	-	43.50	-	-	17.80	-	-
191.108	Ver	31.35	-	-	-7.35	24.00	-	-	43.50	-	-	19.50	-	-
319.480	Hor	40.40	-	-	-7.70	32.70	-	-	46.00	-	-	13.30	-	-
331.760	Hor	37.27	-	-	-7.37	29.90	-	-	46.00	-	-	16.10	-	-
4804	Hor	-	47.60	39.02	6.25	-	53.85	45.27	-	74.00	54.00	-	20.15	8.73
4804	Ver	-	46.89	37.67	6.25	-	53.14	43.92	-	74.00	54.00	-	20.86	10.08

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
31.990	Ver	39.66	-	-	-7.96	31.70	-	-	40.00	-	-	8.30	-	-
36.860	Ver	31.49	-	-	-9.59	21.90	-	-	40.00	-	-	18.10	-	-
73.730	Hor	40.58	-	-	-18.48	22.10	-	-	40.00	-	-	17.90	-	-
86.010	Ver	46.01	-	-	-17.11	28.90	-	-	40.00	-	-	11.10	-	-
86.015	Hor	39.71	-	-	-17.11	22.60	-	-	40.00	-	-	17.40	-	-
122.880	Ver	38.13	-	-	-11.63	26.50	-	-	43.50	-	-	17.00	-	-
122.880	Hor	38.03	-	-	-11.63	26.40	-	-	43.50	-	-	17.10	-	-
147.440	Hor	37.36	-	-	-9.46	27.90	-	-	43.50	-	-	15.60	-	-
147.450	Ver	35.36	-	-	-9.46	25.90	-	-	43.50	-	-	17.60	-	-
212.950	Hor	30.65	-	-	-6.75	23.90	-	-	43.50	-	-	19.60	-	-
319.488	Hor	40.90	-	-	-7.70	33.20	-	-	46.00	-	-	12.80	-	-
331.772	Hor	35.07	-	-	-7.37	27.70	-	-	46.00	-	-	18.30	-	-
344.060	Hor	36.43	-	-	-7.03	29.40	-	-	46.00	-	-	16.60	-	-
393.220	Hor	34.05	-	-	-5.75	28.30	-	-	46.00	-	-	17.70	-	-
4882	Hor	-	48.20	39.68	6.55	-	54.75	46.23	-	74.00	54.00	-	19.25	7.77
4882	Ver	-	47.38	39.03	6.55	-	53.93	45.58	-	74.00	54.00	-	20.07	8.42

- Continue next to page

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
32.000	Ver	37.86	-	-	-7.96	29.90	-	-	40.00	-	-	10.10	-	-
36.860	Ver	35.59	-	-	-9.59	26.00	-	-	40.00	-	-	14.00	-	-
73.330	Hor	40.00	-	-	-18.50	21.50	-	-	40.00	-	-	18.50	-	-
86.010	Hor	39.71	-	-	-17.11	22.60	-	-	40.00	-	-	17.40	-	-
86.010	Ver	45.91	-	-	-17.11	28.80	-	-	40.00	-	-	11.20	-	-
122.870	Hor	37.83	-	-	-11.63	26.20	-	-	43.50	-	-	17.30	-	-
122.880	Ver	38.33	-	-	-11.63	26.70	-	-	43.50	-	-	16.80	-	-
147.440	Ver	34.86	-	-	-9.46	25.40	-	-	43.50	-	-	18.10	-	-
147.450	Hor	36.56	-	-	-9.46	27.10	-	-	43.50	-	-	16.40	-	-
319.490	Hor	40.60	-	-	-7.70	32.90	-	-	46.00	-	-	13.10	-	-
331.770	Hor	36.67	-	-	-7.37	29.30	-	-	46.00	-	-	16.70	-	-
344.072	Hor	35.13	-	-	-7.03	28.10	-	-	46.00	-	-	17.90	-	-
393.220	Hor	34.75	-	-	-5.75	29.00	-	-	46.00	-	-	17.00	-	-
4960	Hor	-	47.56	38.26	6.92	-	54.48	45.18	-	74	54	-	19.52	8.82
4960	Ver	-	46.85	38.54	6.92	-	53.77	45.46	-	74	54	-	20.23	8.54

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: **NA**

Note: Conducted emission test is not applicable. Because the power of the EUT is supplied from a car battery.

- 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

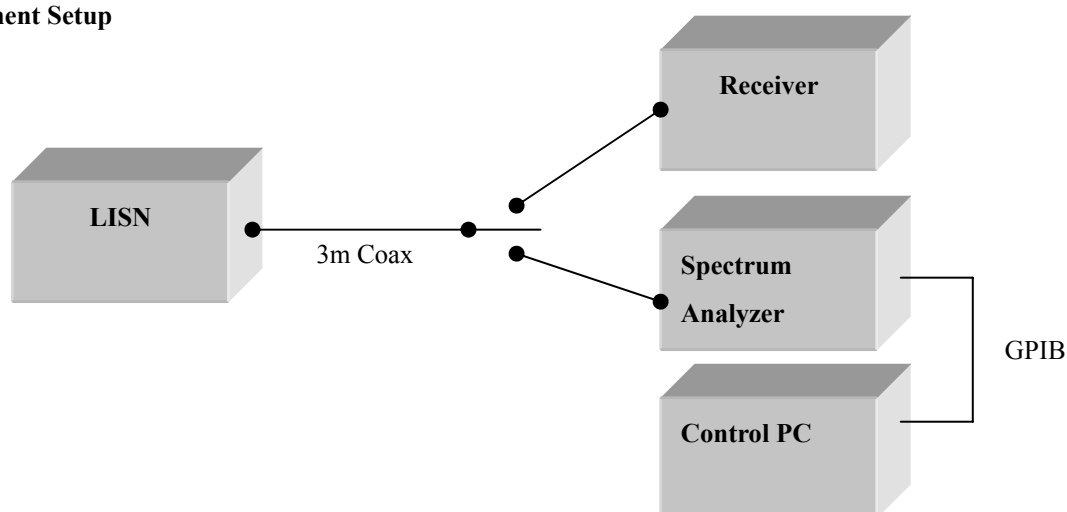


Figure 2: Measurement setup for AC Conducted Emission

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 checked="" type="checkbox"/>	Digital Multimeter	H.P	34401A	13/03/09	13/03/10	3146A13475
<input type="checkbox"/>	Thermo hygrometer	BODYCOM	BJ5478	06/02/09	06/02/10	090205-3
<input checked="" type="checkbox"/>	Thermo hygrometer	BODYCOM	BJ5478	06/02/09	06/02/10	090205-2
<input type="checkbox"/>	Thermo hygrometer	BODYCOM	BJ5478	06/02/09	06/02/10	090205-4
<input type="checkbox"/>	Multifuction Synthesizer	HP	8904A	06/10/08	06/10/09	3633A08404
<input checked="" type="checkbox"/>	Signal Generator	Rohde Schwarz	SMR20	13/03/09	13/03/10	101251
<input checked="" type="checkbox"/>	Signal Generator	H.P	ESG-3000A	09/07/08	09/07/09	US37230529
<input type="checkbox"/>	Amplifier	EMPOWER	BBS3Q7ELU	02/02/09	02/02/10	1020
<input type="checkbox"/>	Vector Signal Generator	Rohde Schwarz	SMJ100A	02/02/09	02/02/10	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	13/03/09	13/03/10	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	13/03/09	13/03/10	20060321-1
<input type="checkbox"/>	DC Power Supply	HP	6622A	13/03/09	13/03/10	3448A03760
<input checked="" type="checkbox"/>	DC Power Supply	HP	6633A	13/03/09	13/03/10	3524A06634
<input checked="" type="checkbox"/>	HORN ANT	ETS	3115	13/06/08	13/06/09	6419
<input 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
<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

	Type	Manufacturer	Model	Cal.Due.Date (dd/mm/yy)	Next.Due.Date (dd/mm/yy)	S/N
<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)	WEINSCHTEL	23-10-34	01/10/08	01/10/09	BP4386
<input type="checkbox"/>	Attenuator (20dB)	WEINSCHTEL	86-20-11	06/10/08	06/10/09	432
<input type="checkbox"/>	Attenuator (10dB)	WEINSCHTEL	86-10-11	06/10/08	06/10/09	446
<input type="checkbox"/>	Attenuator (10dB)	WEINSCHTEL	86-10-11	06/10/08	06/10/09	408
<input type="checkbox"/>	Attenuator (40dB)	WEINSCHTEL	57-40-33	01/10/08	01/10/09	NN837
<input type="checkbox"/>	Attenuator (30dB)	JFW	50FH-030-300	13/03/09	13/03/10	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	09/07/09	1006
<input type="checkbox"/>	Software	Agilent	Benchlink	N/A	N/A	A.01.09 021211
<input type="checkbox"/>	EMI TEST RECEIVER	R&S	ESU	02/02/09	02/02/10	100014
<input type="checkbox"/>	BILOG ANTENNA	SCHAFFNER	CBL6112B	13/06/08	13/06/09	2737
<input type="checkbox"/>	Amplifier (22dB)	H.P	8447E	05/02/09	05/02/10	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 ANT.	Schwarzbeck	UHALP9108A	13/06/08	13/06/09	590
<input checked="" type="checkbox"/>	BICONICAL ANT.	Schwarzbeck	VHA 9103	13/06/08	13/06/09	2233
<input type="checkbox"/>	LOG-PERIODIC ANT.	Schwarzbeck	UHALP 9108-A1	30/09/08	30/09/09	1098
<input type="checkbox"/>	BICONICAL ANT.	Schwarzbeck	VHA 9103	30/09/08	30/09/09	91031946
<input checked="" type="checkbox"/>	Low Noise Pre Amplifier	TSJ	MLA-100K01-B01-2	13/03/09	13/03/10	1252741
<input type="checkbox"/>	Amplifier (25dB)	Agilent	8447D	21/05/08	21/05/09	2944A10144
<input type="checkbox"/>	Amplifier (25dB)	Agilent	8447D	18/08/08	18/08/09	2648A04922
<input checked="" type="checkbox"/>	Position Controller	TOKIN	5901T	N/A	N/A	14173
<input type="checkbox"/>	Software	AUDIX	e3	N/A	N/A	Ver 3.0
<input 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	Kyoritsu	KNW-407	04/08/08	04/08/09	8-317-8
<input type="checkbox"/>	LISN	Kyoritsu	KNW-242	11/09/08	11/09/09	8-654-15
<input type="checkbox"/>	CVCF	NF Electronic	4420	N/A	N/A	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	22/01/09	22/01/10	N/A
<input type="checkbox"/>	RFI/FIELD Intensity Meter	Kyoritsu	KNM-2402	11/09/08	11/09/09	4N-170-3