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CERTIFICATION TEST REPORT

Report Number:	2010 06152152 FCC 15.247
Project Number:	42344-1
Nex Number:	152152
Applicant:	HME 14110 STOWE DR. Poway, CA 92064
Equipment Under Test (EUT):	WIRELESS HEADSET
Model:	HS6100
FCC ID:	BYMHS6100
IC:	1860A-HS6100
In Accordance With:	FCC Part 15 Subpart C, 15.247 IC RSS-210 Issue 7 June 2007 IC RSS-Gen Issue 2 June 2007
Tested By:	Nemko USA Inc. 11696 Sorrento Valley Road, Suite F San Diego, CA 92121
Authorized By:	Alan Laudani, EMC/RF Test Engineer
Date:	June 22, 2010
Total Number of Pages:	53

Section1: Summary of Test Results

General

All measurements are traceable to national standards

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC Part 15; Subpart C and IC RSS-210. Radiated tests were conducted is accordance with ANSI C63.4-2003. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC and IC.

The assessment summary is as follows:

Apparatus Assessed:	Wireless Headset
Model:	HS6100
Specification:	FCC Part 15 Subpart C, 15.247 IC RSS-210 Issue 7 June 2007
Date Received in Laboratory:	June 15, 2010
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None

1.1 Report Release History

REVISION	DATE	COMMENTS	
-	June 22, 2010	Prepared By:	Ferdinand Custodio
-	June 22, 2010	Initial Release:	Alan Laudani

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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TESTED BY: ______________________________ Date: June 22, 2010
Ferdinand Custodio, EMC Test Engineer

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Section 2: Equipment Under Test

2.1 Product Identification

The Equipment Under Test was indentified as follows:

HME HS6100 Wireless Headset

2.2 Samples Submitted for Assessment

The following sample of the apparatus has been submitted for type assessment:

Sample No.	Description	Serial No.
152152-1	WIRELESS HEADSET	F13M0029

2.3 Theory of Operation

The HS6100 is a Wireless Headset. Its function is to work as transceiver in communication with a base station, a fully certified transceiver. The EUT was exercised by linking with the base station. Its microphone modulates the RF output by digital means. Conducted RF measurements were made on the test antenna service port. A temporary communication connection on the EUT was provided by the client during assessment in order to control radio parameters. The EUT is powered by a battery which is charged externally (removed from the EUT) by a charger not covered in this certification.

2.4 Technical Specifications of the EUT

Manufacturer:	HME
Operating Frequency:	2401.920 MHz to 2481.408 MHz in the 2400-2483.5 MHz Band
Number of Operating Frequencies:	47
Rated Power:	91.0 mW
Modulation:	FHSS
Reference Designator:	1M38Q7W
Antenna Connector:	Internal/Integral (0dBi gain)
Power Source:	3.7VDC Li-ion custom removable battery

Section 3: Test Conditions

3.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart C, 15.247
Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5850 MHz and 24.0-24.25 GHz bands.

IC RSS-210 Issue 7 June 2007
Low-power Licence-exempt Radio-communication Devices (All Frequency Bands): Category I Equipment. Annex 8 - Frequency Hopping and Digital Modulation Systems Operating in the Bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

IC RSS-Gen Issue 2 June 2007
General Requirements and Information for the Certification of Radio-communication Equipment

3.2 Deviations From Laboratory Test Procedures

No deviations from Laboratory Test Procedure

3.3 Test Environment

All tests were performed under the following environmental conditions:

Temperature range	18-23 ^{o}C
Humidity range	47-63 %
Pressure range	87 - 105 kPa
Power supply range	3.145VDC to 4.255VDC

3.4 Test Equipment

Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
	DC Power Supply	Hewlett Packard	E3611A	N/A	Verified by Asset #E1009	
E1009	Multimeter, Logging	Fluke Corp	287	11610042	12/18/2009	12/18/2010
114	Antenna, Bicon	EMCO	3104	2997	3/5/2010	3/5/2012
110	Antenna, LPA	EMCO	3146	1382	10/20/2008	10/20/2010
877	Antenna, DRG Horn, .7-18GHz	AH Systems	SAS-571	688	7/28/2008	7/28/2010
911	Spectrum Analyzer	Agilent	E4440A	US41421266	12/17/2009	12/17/2010
902	pre amp	Sonoma	310 N	185803	6/8/2010	6/8/2011
317	Preamplifier	HP	8449A	2749A00167	5/7/2010	5/7/2011
946	Peak Power Sensor	Hewlett Packard	84815A 0.05-18GHz (-40 to 20dBm)	3318A01726	9/16/2009	9/16/2010
947	Peak Power Analyzer	Hewlett Packard	8991A	3621A00906	9/16/2009	9/16/2010
E1018	9kHz to 7GHz Spectrum Analyzer	Rohde & Schwarz	FSP7	835363/0003	1/22/2010	1/22/2011

Registration of the OATS are on file with the Federal Communications Commission, under Registration Number 90579, the VCCI under registration number R-3027, and are also registered with Industry Canada under Site Numbers 2040B-1 and 2040B-2.

Section 4: Observations

4.1 Modifications Performed During Assessment

No modifications were performed during assessment.

4.2 Record Of Technical Judgements

No technical judgements were made during the assessment.

4.3 EUT Parameters Affecting Compliance

The user of the apparatus could not alter parameters that would affect compliance.

4.4 Test Deleted

No Tests were deleted from this assessment.

4.5 Additional Observations

There were no additional observations made during this assessment.

Section 5: Results Summary

This section contains the following:

FCC Part 15 Subpart C:
IC RSS-210 Issue 7 June 2007 Annex 8
IC RSS-Gen Issue 2 June 2007

The column headed "Required" indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

- N	No: not applicable / not relevant
- Y	Yes: Mandatory i.e. the apparatus shall conform to these tests.
- N/T	Not Tested, mandatory but not assessed. (See section 4.4 Test deleted)

The results contained in this section are representative of the operation of the apparatus as originally submitted.

5.1 Test Results

Part 15C	RSS	Test Description	Required	Result
15.207 (a)	RSS-Gen 7.2.2	Conducted Emission Limit	N*	
15.247(a)(1)		Carrier Frequency Separation	Y	Pass
15.247(a)(1)(iii)		Number of Hopping Frequencies	Y	Pass
15.247(a)(1)(iii)		Time of Occupancy (Dwell Time)	Y	Pass
15.215(c)	RSS-Gen 4.6.1	20 dB Bandwidth	Y	Pass
15.247(b)(1)	RSS-Gen 4.8 & 4.9	Peak Output Power	Y	Pass
15.247(d)		Band-edge Compliance of RF Conducted Emissions	Y	Pass
15.247 (d)		Spurious RF Conducted Emissions	Y	Pass
15.247 (d)		Spurious Radiated Emissions	Y	Pass
	RSS-Gen 7.2.3	Receiver Spurious Emissions	Y	Pass

**EUT only employ battery power for operation.*

Appendix A: Test Results

Section 15.247(a)(1) – Carrier Frequency Separation

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. The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Test Conditions:

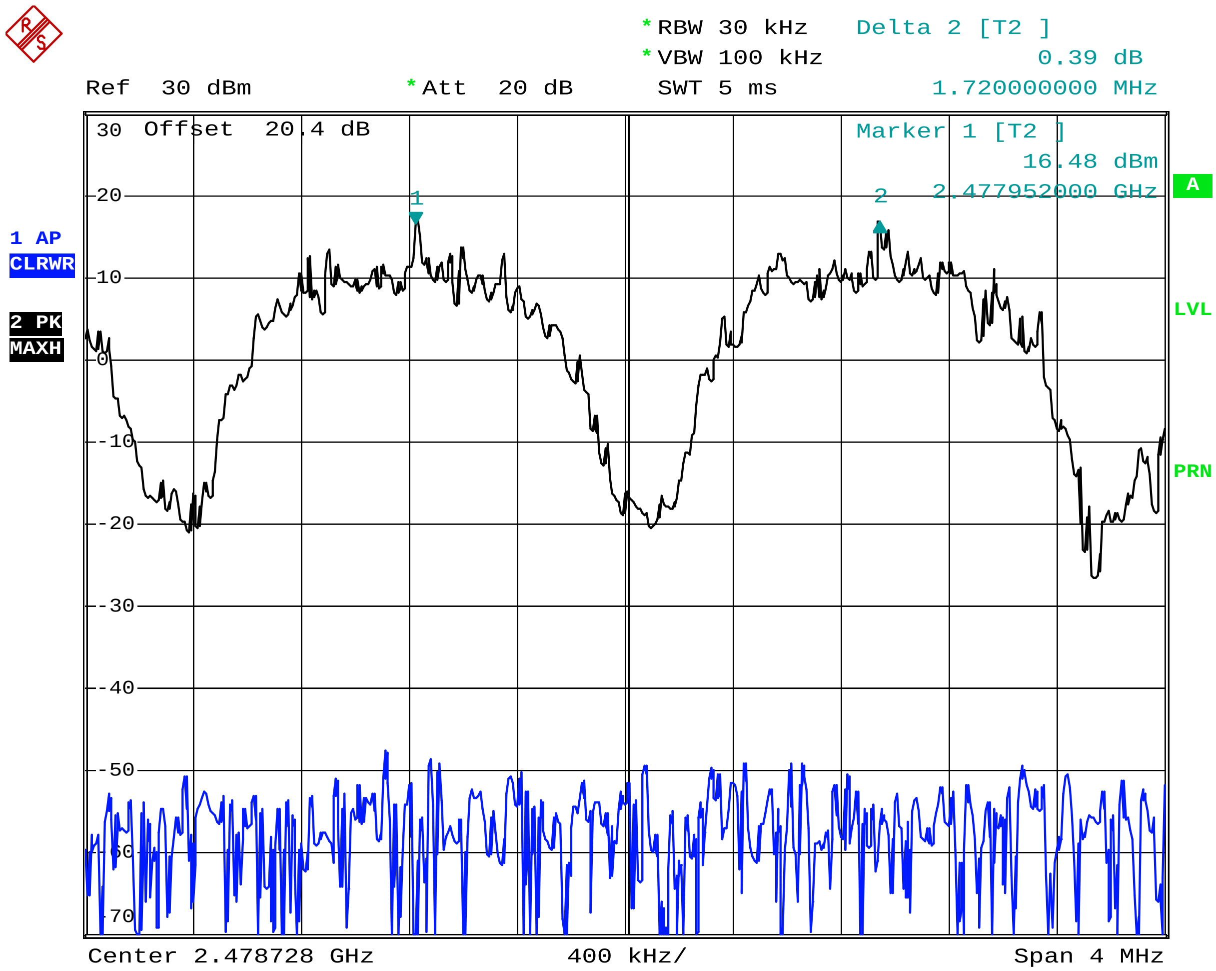
Sample Number:	HS6100	**Temperature:**	23°C
Date:	June 15, 2010	**Humidity:**	59%
Modification State:	Between Channel 44 and 45	**Tester:**	FSCustodio
		Laboratory:	Nemko

Test Results:

See attached plots.

Additional Observations:

- Hopping function enabled.
- Span is 4 MHz
- RBW is 1% of 4 MHz (limited to 30kHz by spectrum analyzer)
- VBW is 3X RBW
- Sweep is auto
- Detector is Peak
- Trace is Max Hold
- Marker-delta function is used between the peaks of the adjacent channels.
- Observed Carrier Frequency Separation is 1.72 MHz.
- 20dB Bandwidth as per Part 15.215 (c) is 1.38 MHz.
- Observed Carrier Frequency Separation > 20dB Bandwidth = Complies



Date: 15.JUN.2010 10:15:25

Section 15.247(a)(1)(iii) – Number of Hopping Frequencies

(iii) Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Conditions:

Sample Number:	HS6100	**Temperature:**	23°C
Date:	June 15, 2010	**Humidity:**	59%
Modification State:	Channel 0 to 46	**Tester:**	FSCustodio
		Laboratory:	Nemko

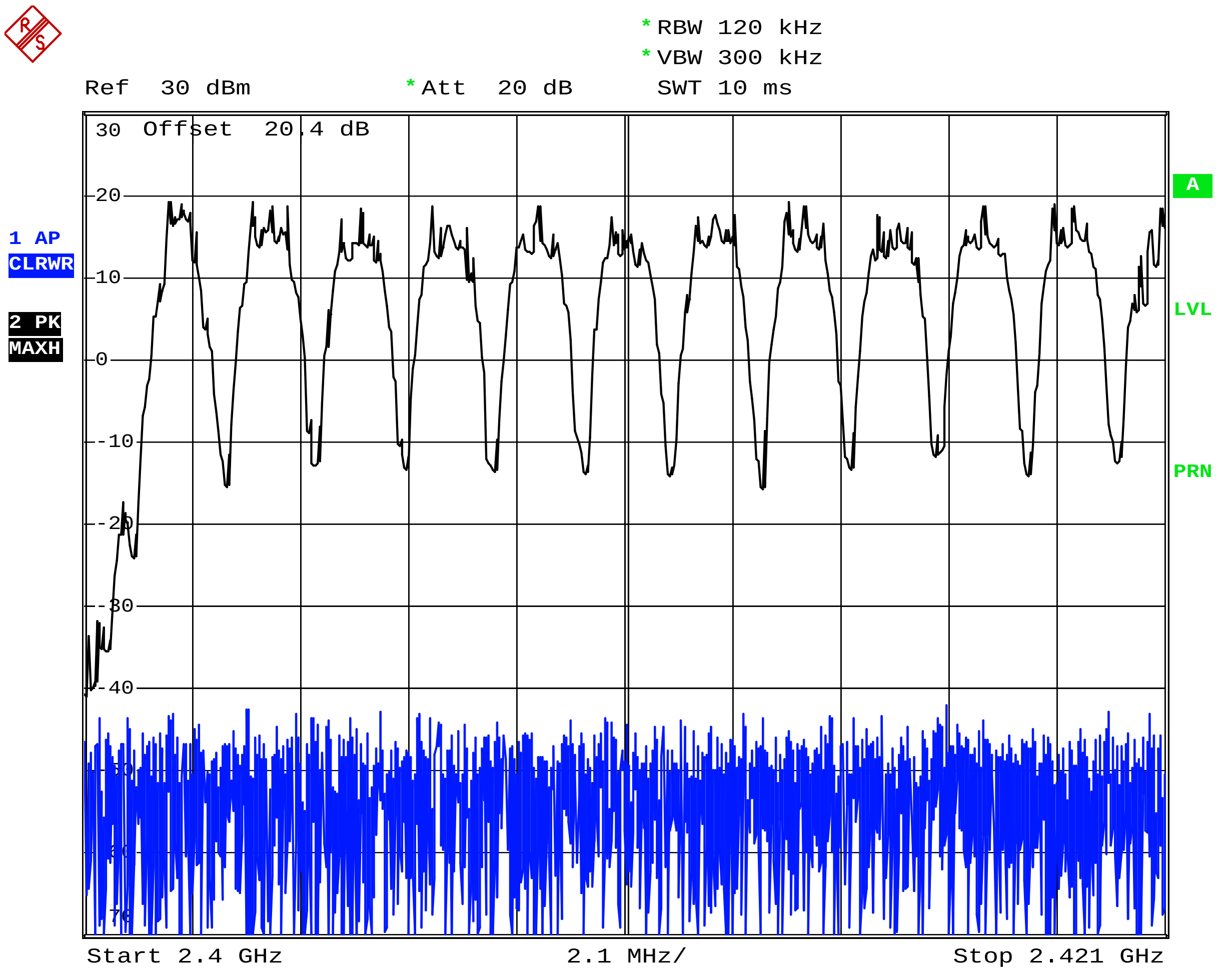
Test Results:

See attached plots.

Additional Observations:

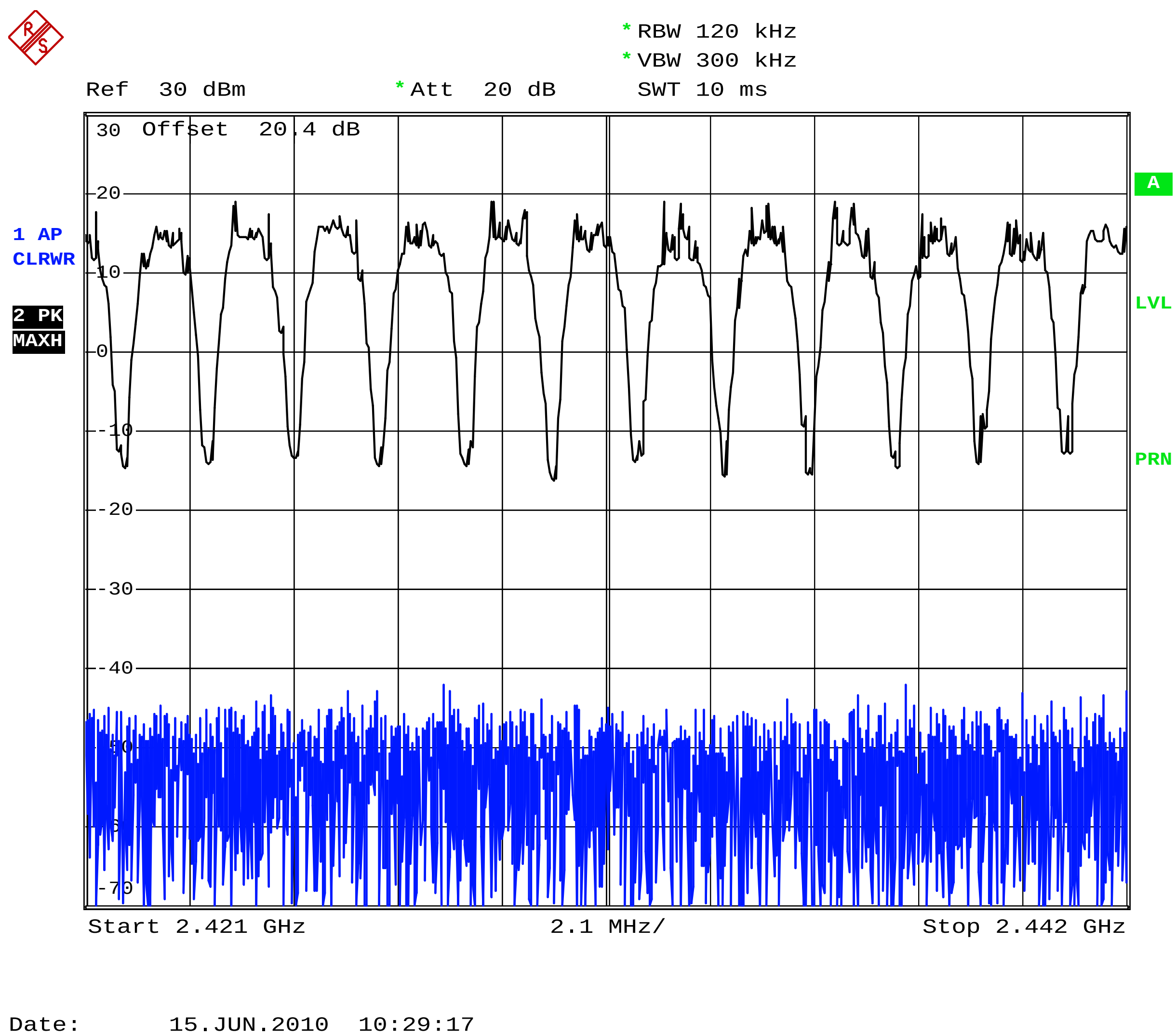
- Hopping function enabled.
- Span is frequency band of operation, divided into four plots for better resolution.
- RBW is 1% of the span (limited to 120kHz by spectrum analyzer)
- VBW is 3X RBW (limited to 300kHz by spectrum analyzer)
- Sweep is auto
- Detector is Peak
- Trace is Max Hold
- Observed Number of Hopping Frequencies is **47**.

  = Plot#1 + Plot#2 + Plot#3 + Plot#4
  = 12 + 12 + 12 + 11
  = 47 channels

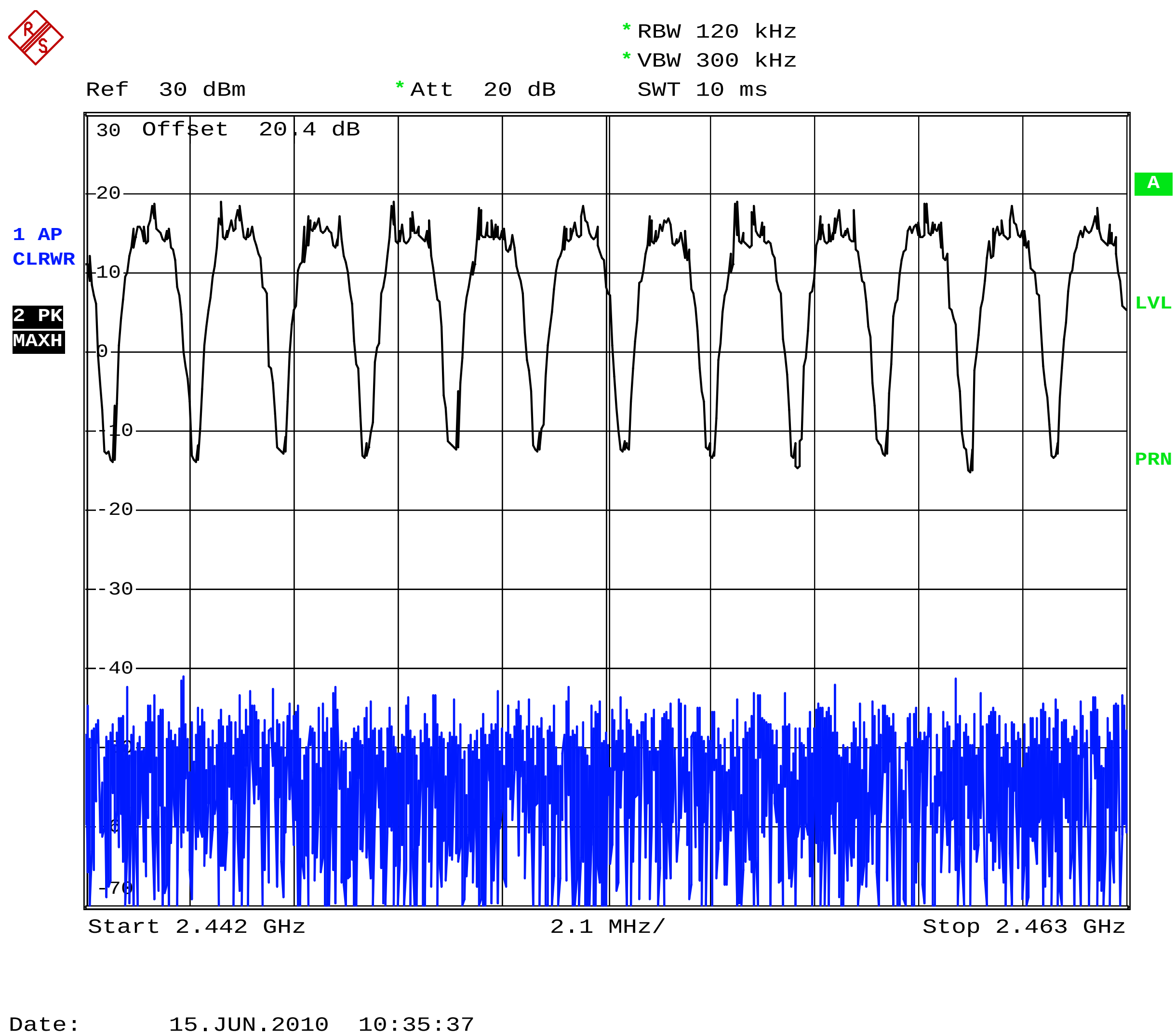


Date: 15.JUN.2010 10:26:24

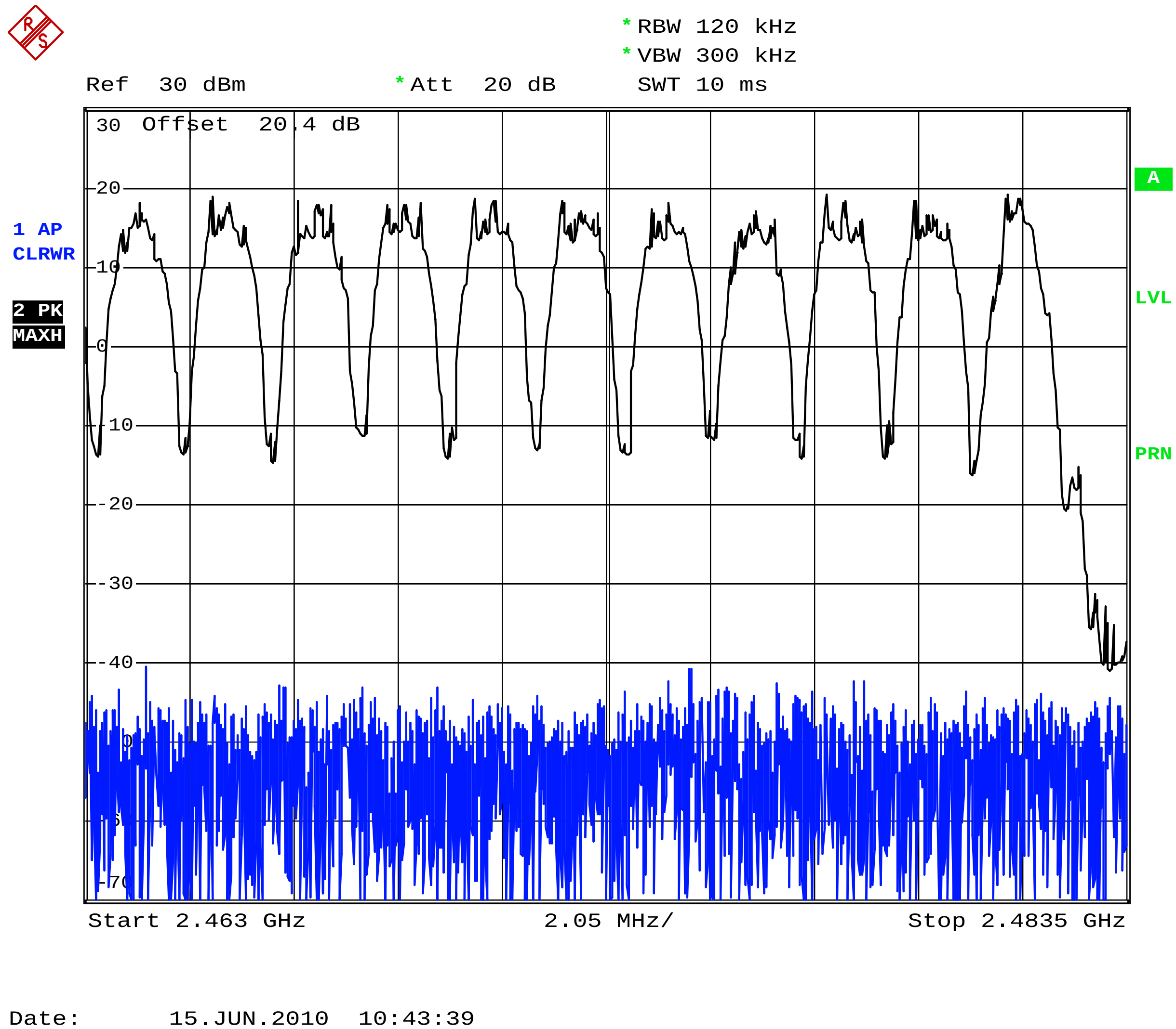
Plot #1: Number of Hopping Frequencies is 12



Plot #2: Number of Hopping Frequencies is 12



Plot #3: Number of Hopping Frequencies is 12



Plot #3: Number of Hopping Frequencies is 11

Section 15.247(a)(1)(iii) – Time of Occupancy (Dwell Time)

(iii) Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

Test Conditions:

Sample Number:	HS6100	Temperature:	23°C
Date:	June 15, 2010	**Humidity:**	59%
Modification State:	Channel 37	**Tester:**	FSCustodio
		Laboratory:	Nemko

Test Results:

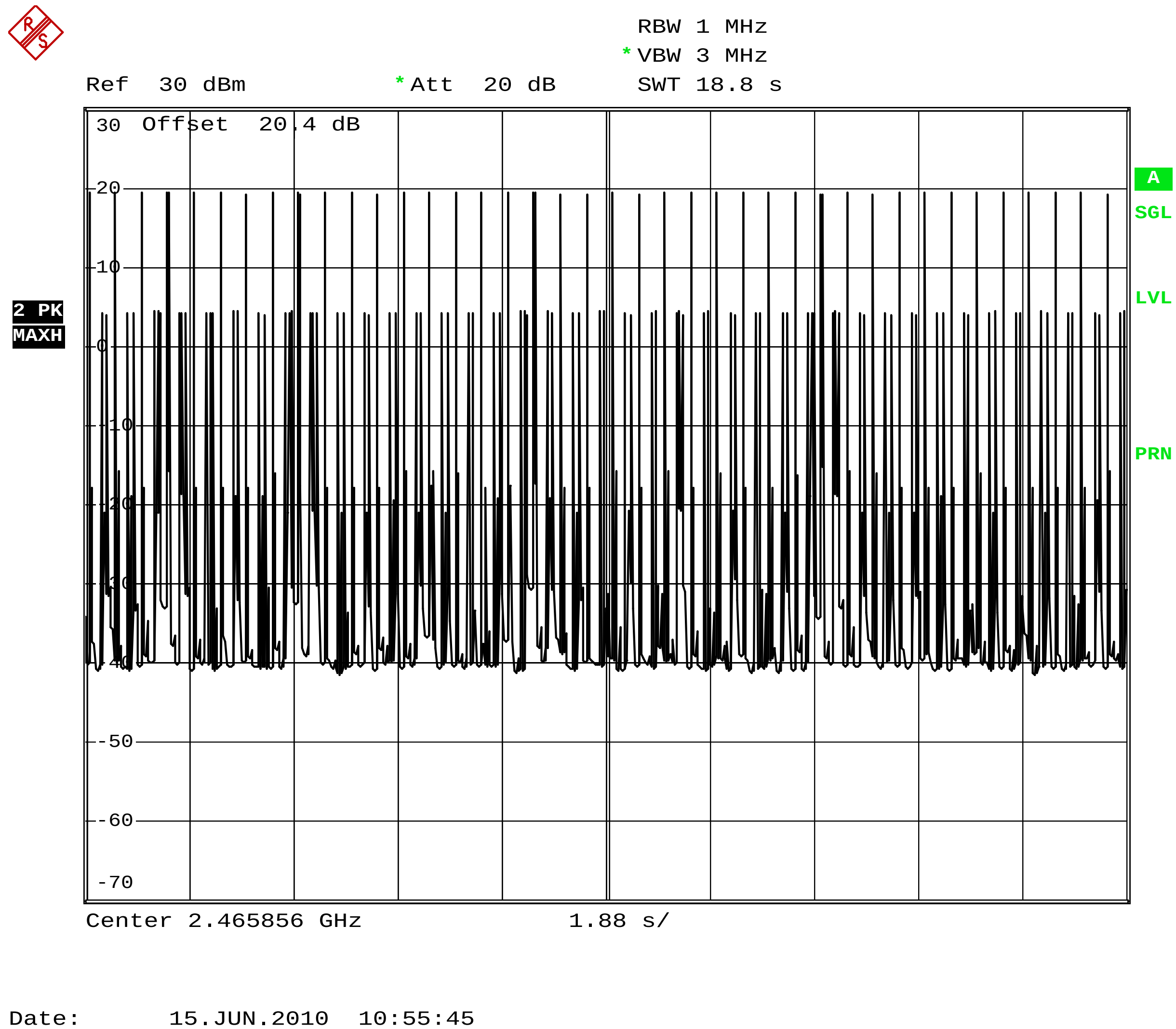
See attached plots.

Additional Observations:

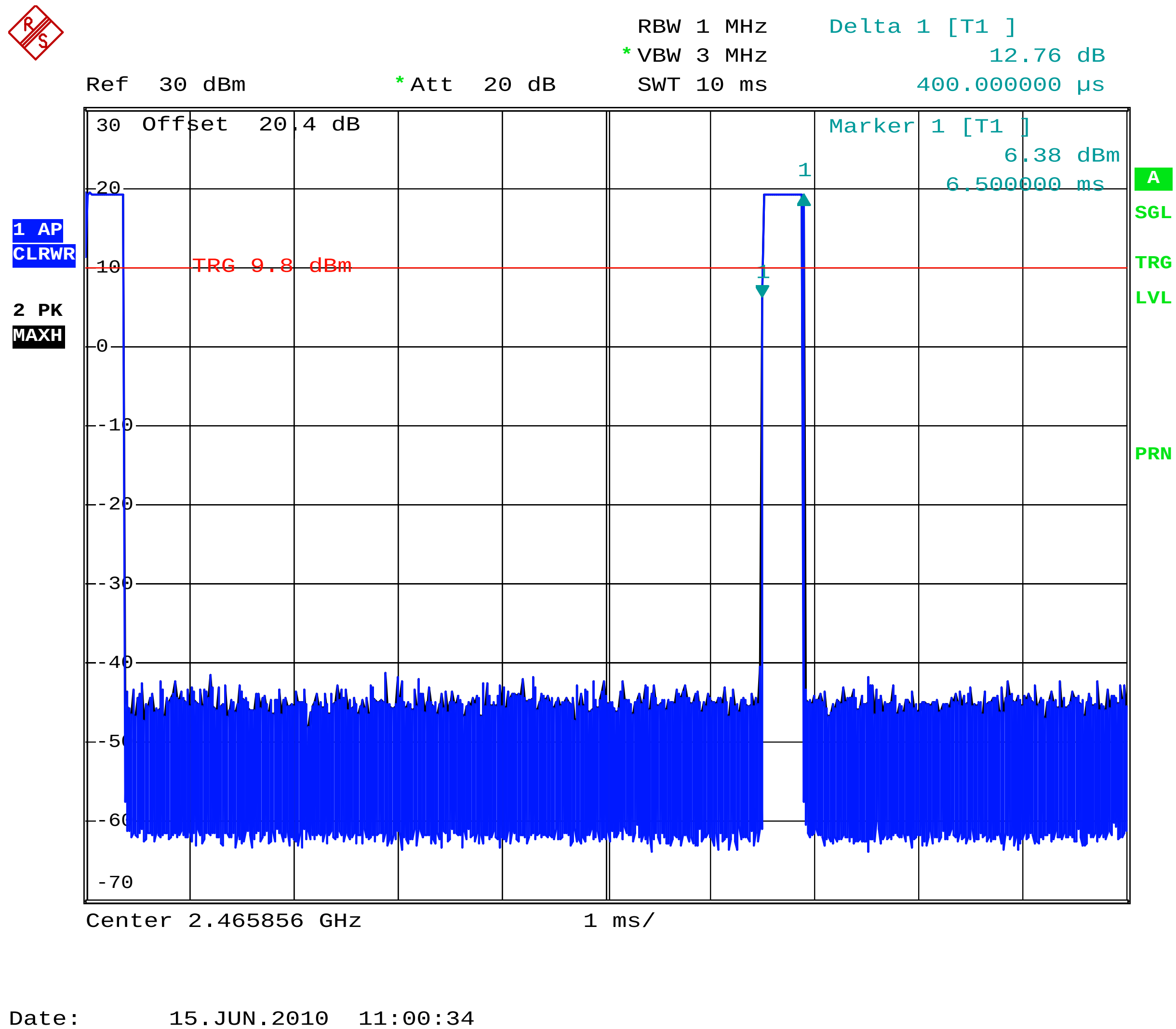
- Hopping function enabled.
- Span is Zero span
- RBW is 1 MHz
- VBW is 3X RBW
- Sweep is 0.4 seconds multiplied by the number of hopping channels employed (0.4 x 47 = 18.8 seconds).
- Detector is Peak
- Trace is Max Hold
- Limit is 400 ms, time of occupancy is:

  = No. of transmission per required sweep < 400 ms
  = 0.40 ms x 40
  = **16.0 ms**

16.0 ms < 400 ms, EUT Complies



Number of transmission per required sweep = **40**



Single transmission time = **400.00 µs**

Section 15.215(c) – 20 dB Bandwidth

(c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

Test Conditions:

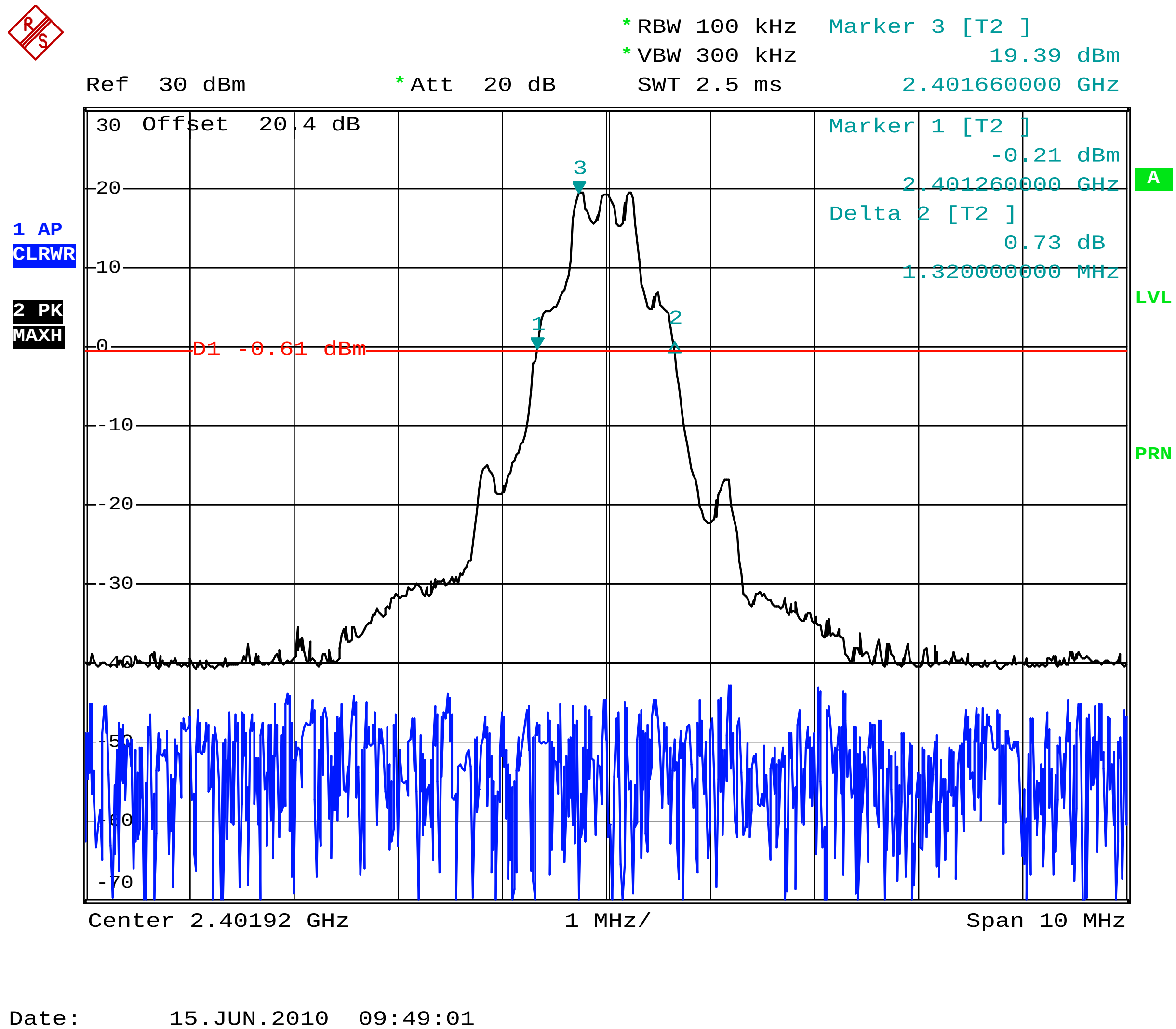
Sample Number:	HS6100	**Temperature:**	23°C
Date:	June 15, 2010	**Humidity:**	59%
Modification State:	Low ,Mid and High Channel	**Tester:**	FSCustodio
		Laboratory:	Nemko

Test Results:

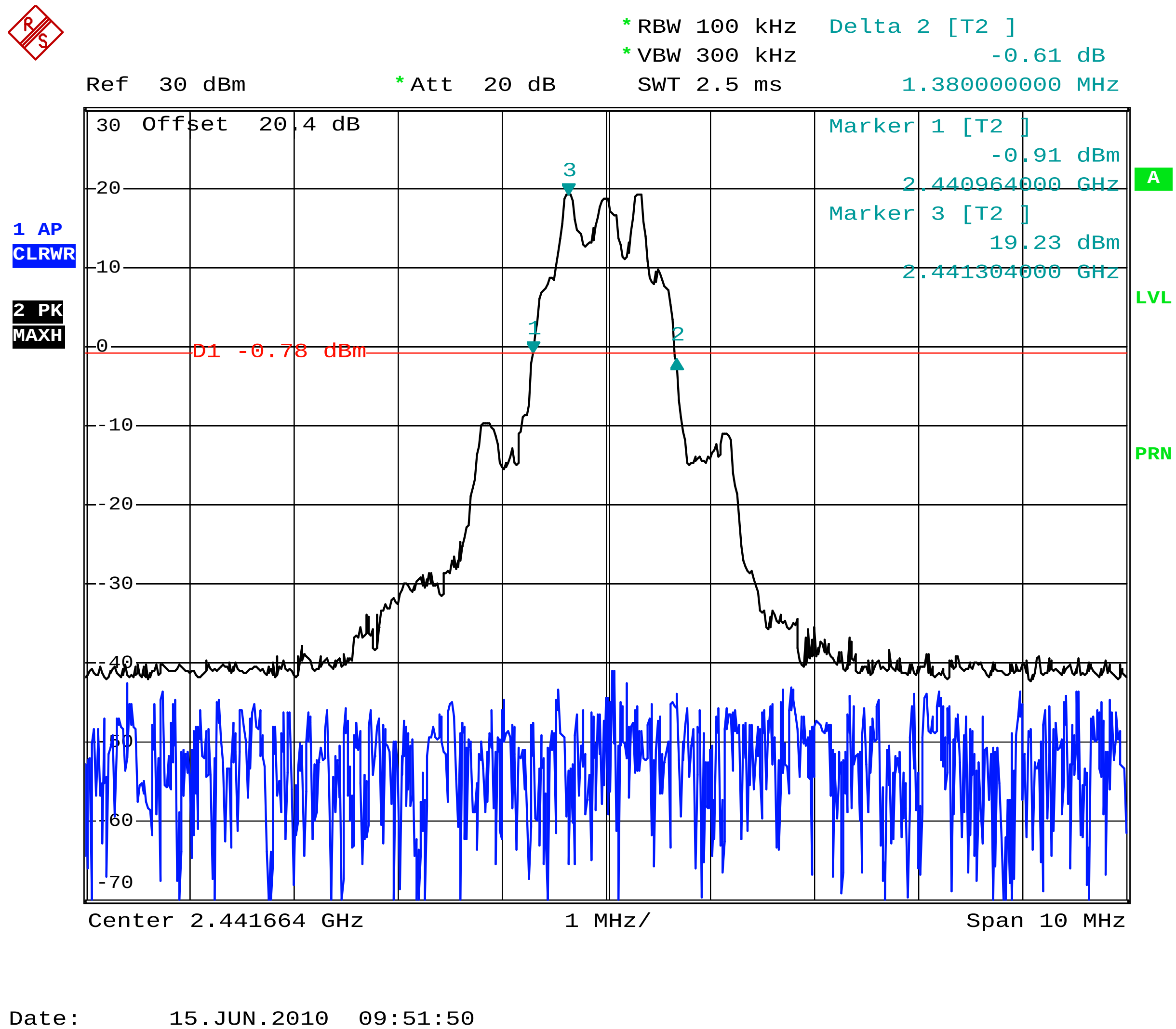
See attached plots.

Additional Observations:

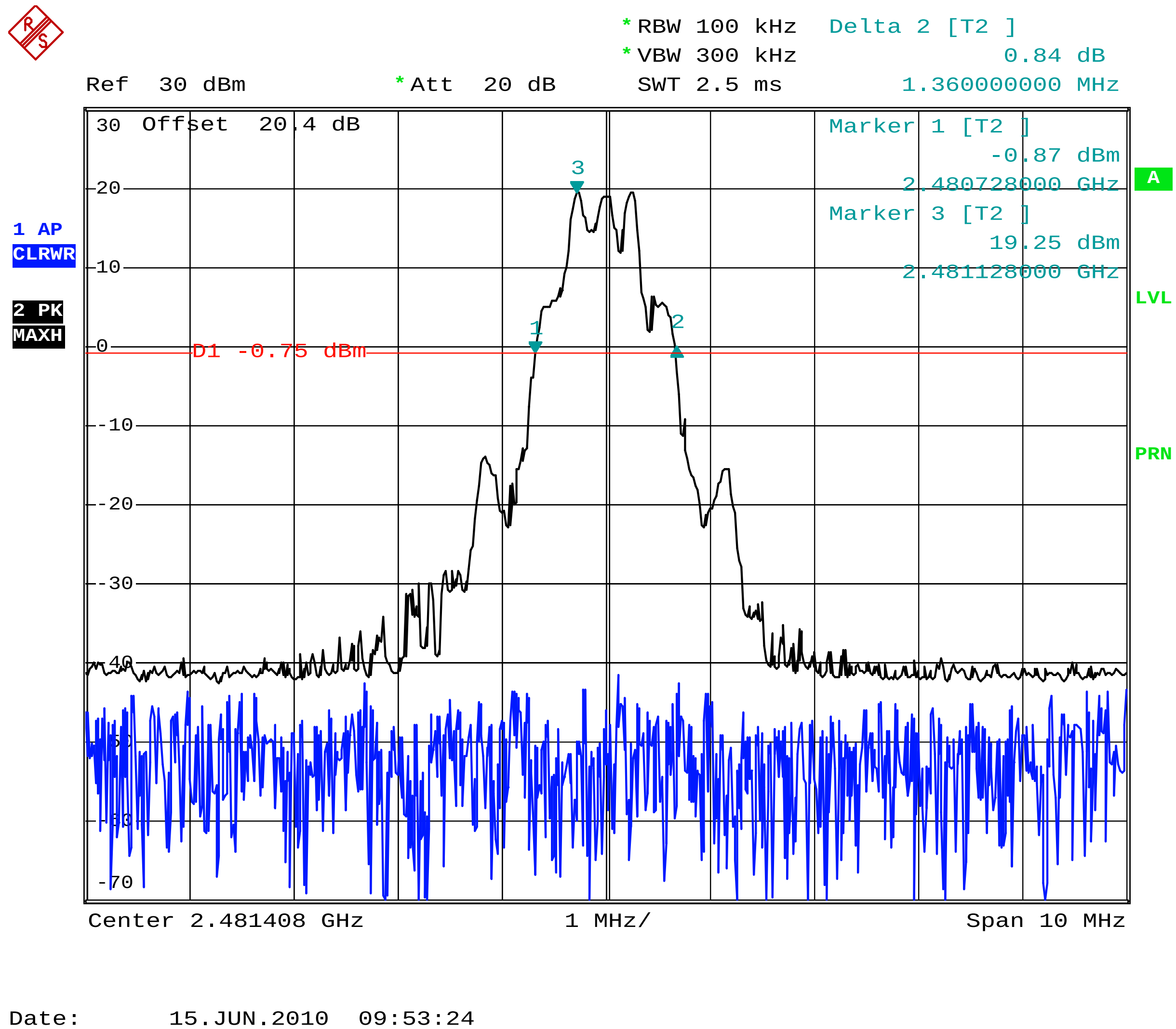
- Hopping disabled
- Span is wide enough to capture the channel transmission
- RBW is 1% of the span
- VBW is 3X RBW
- Sweep is auto
- Detector is Peak
- Trace is Max Hold
- A peak output max hold reading was taken, a display line was drawn 20 dB lower than peak level. The 20 dB bandwidth was determined from where the channel output spectrum intersected the display line.
- Observed 20 dB BW is 1.38 MHz.
- 2401.920 MHz – 0.69 MHz = 2401.230 MHz (within the frequency band)
- 2481.408 MHz + 0.69 MHz = 2482.098 MHz (within the frequency band)



(Low Channel) Observed 20 dB Bandwidth is **1.32 MHz**



(Mid Channel) Observed 20 dB Bandwidth is **1.38 MHz**



(High Channel) Observed 20 dB Bandwidth is **1.36 MHz**

Section 15.247(b)(1) – Peak Output Power

(1) 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.

Test Conditions:

Sample Number:	HS6100	**Temperature:**	23°C
Date:	June 15, 2010	**Humidity:**	59%
Modification State:	Low, Mid and High Channels	**Tester:**	FSCustodio
		Laboratory:	Nemko

Test Results:

Peak Power Analyzer used on this test

Additional Observations:

- This is a conducted test. A 20dB attenuator was placed between the sensor and the antenna port. Additional 0.4 dB was added for cable and connectors. Total offset used is 20.4 dB.
- Measurements were made at 3.145VDC, 3.7VDC and 4.255VDC.

Channel Range MHz	Peak Power Output dBm @ 3.145VDC	Peak Power Output 3.7VDC	Peak Power Output dBm @ 4.255VDC
2401.920	19.24	19.59	19.42
2441.664	19.07	19.07	19.07
2481.408	19.24	19.24	19.41

Peak Output Power = 19.59 dBm or **91.0 mW**

Section 15.247(d) – Band-edge Compliance of RF Conducted Emissions

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Conditions:

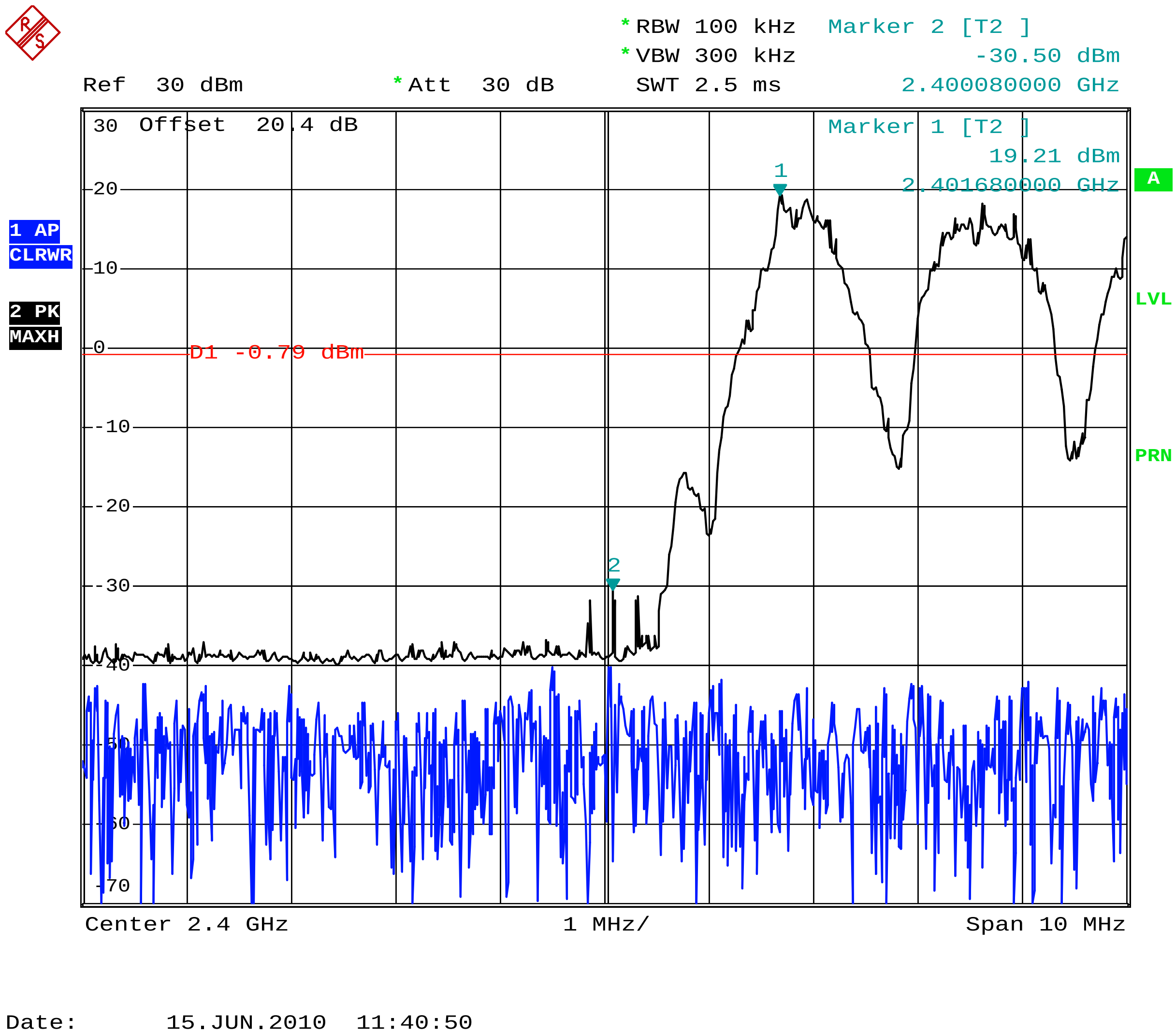
Sample Number:	HS6100	**Temperature:**	23°C
Date:	June 15, 2010	**Humidity:**	59%
Modification State:	Low and High Channel	**Tester:**	FSCustodio
		Laboratory:	Nemko

Test Results:

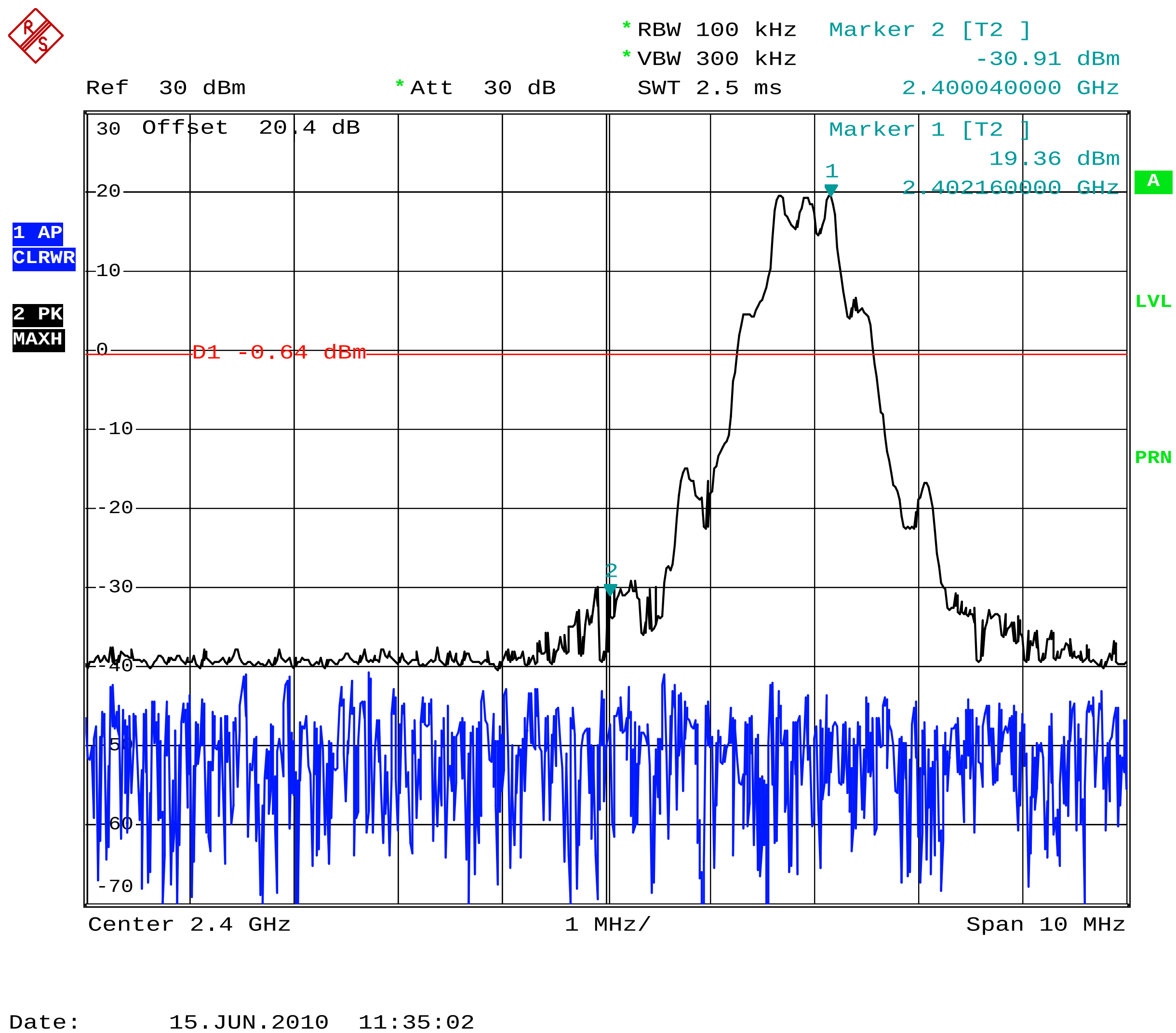
See attached plots.

Additional Observations:

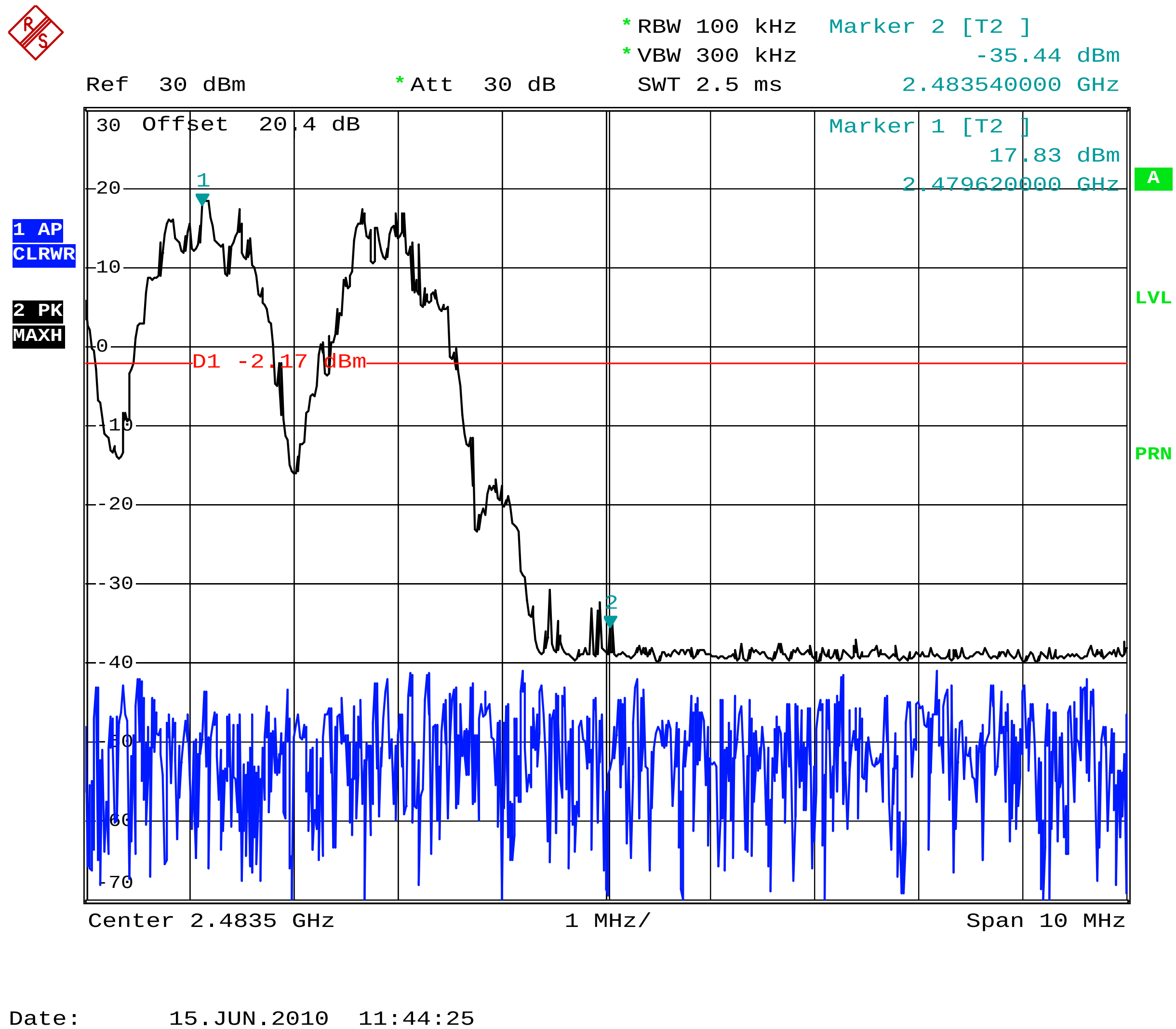
- This is a conducted test. The 20.4dB offset is from the external attenuator and cable used.
- Span is wide enough to capture the peak level of the emission operating on the channel closest to the band edges (Lower and Upper).
- RBW is 1% of the span
- VBW is 3X RBW
- Sweep is auto.
- Detector is Peak
- Trace is Max Hold
- For each investigation, the peak level reading was taken and a display line was drawn 20 dBc below this level which will be the limit for this test.
- Test repeated between Hopping and Non-Hopping mode (transmission centered on a carrier frequency)



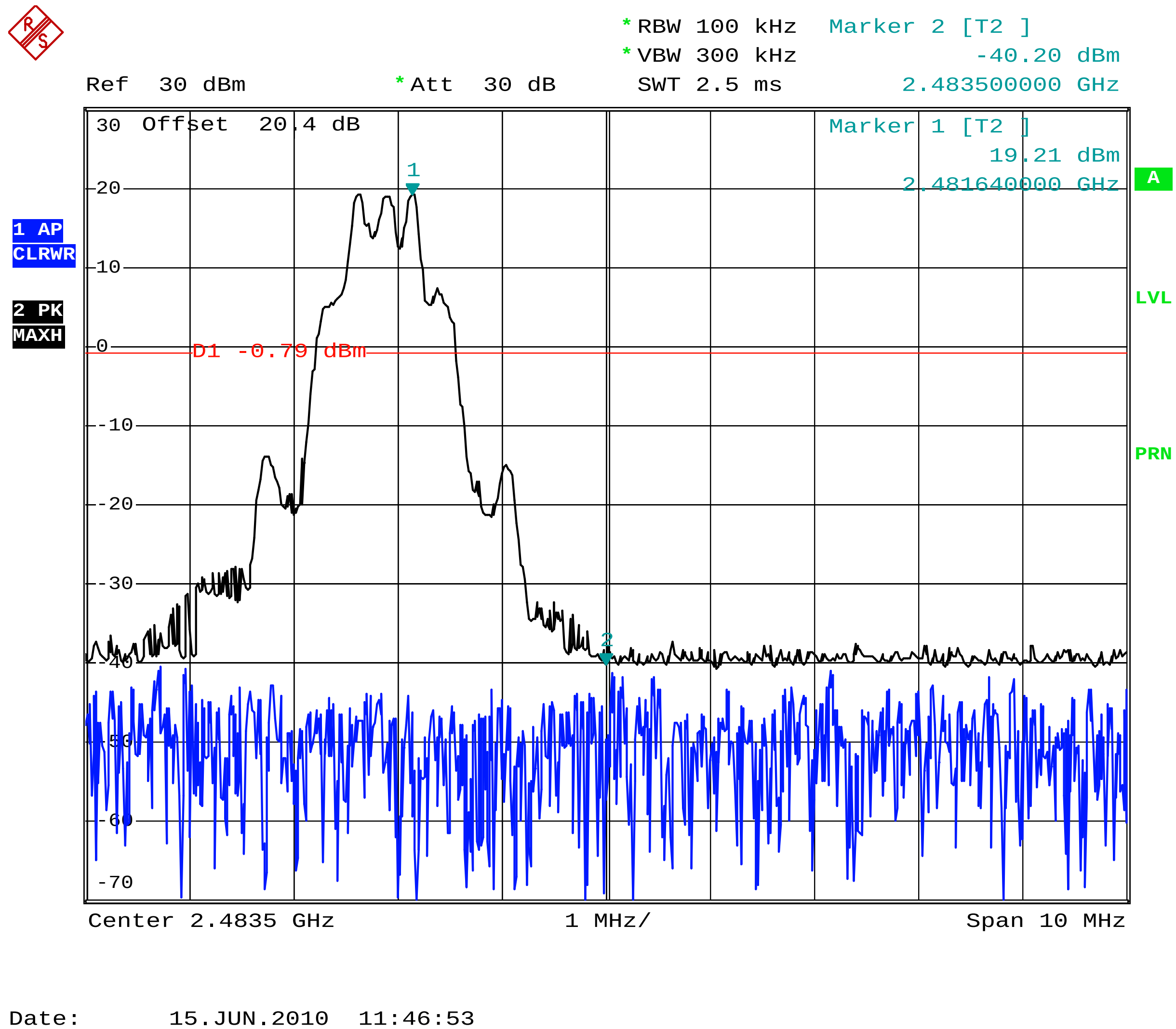
Lower Band edge (Hopping)



Lower Band edge (Non-Hopping)



Upper Band edge (Hopping)



Upper Band edge (Non-Hopping)

Section 15.247(d) – Spurious RF Conducted Emissions

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Conditions:

Sample Number:	HS6100	**Temperature:**	23°C
Date:	June 15, 2010	**Humidity:**	59%
Modification State:	Hopping + Low, Mid and High	**Tester:**	FSCustodio
		Laboratory:	Nemko

Test Results:

See attached plots.

Additional Observations:

- This is a conducted test. The 20.4dB offset is from the external attenuator and cable used.
- The EUT was hopping during this investigation. Test results when hopping is disabled (transmitting at specific frequency) can be found under Appendix B.
- The peak level reading was taken at the carrier frequency then a display line was drawn 20 dBc below this level which will be the limit for this test.
- VBW is 3X RBW
- Sweep is auto.
- Detector is Peak
- Trace is Max Hold
- EUT complies.

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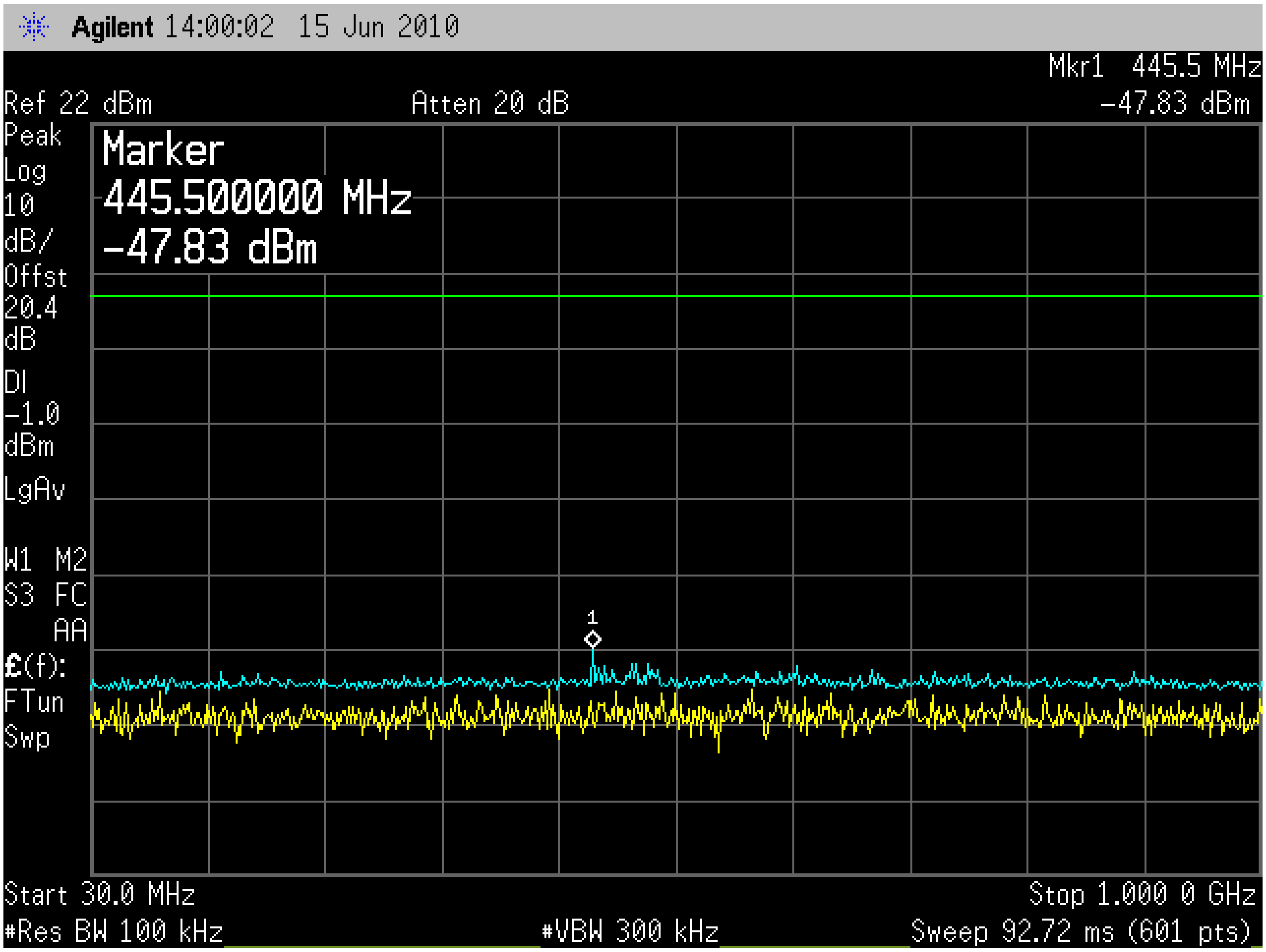
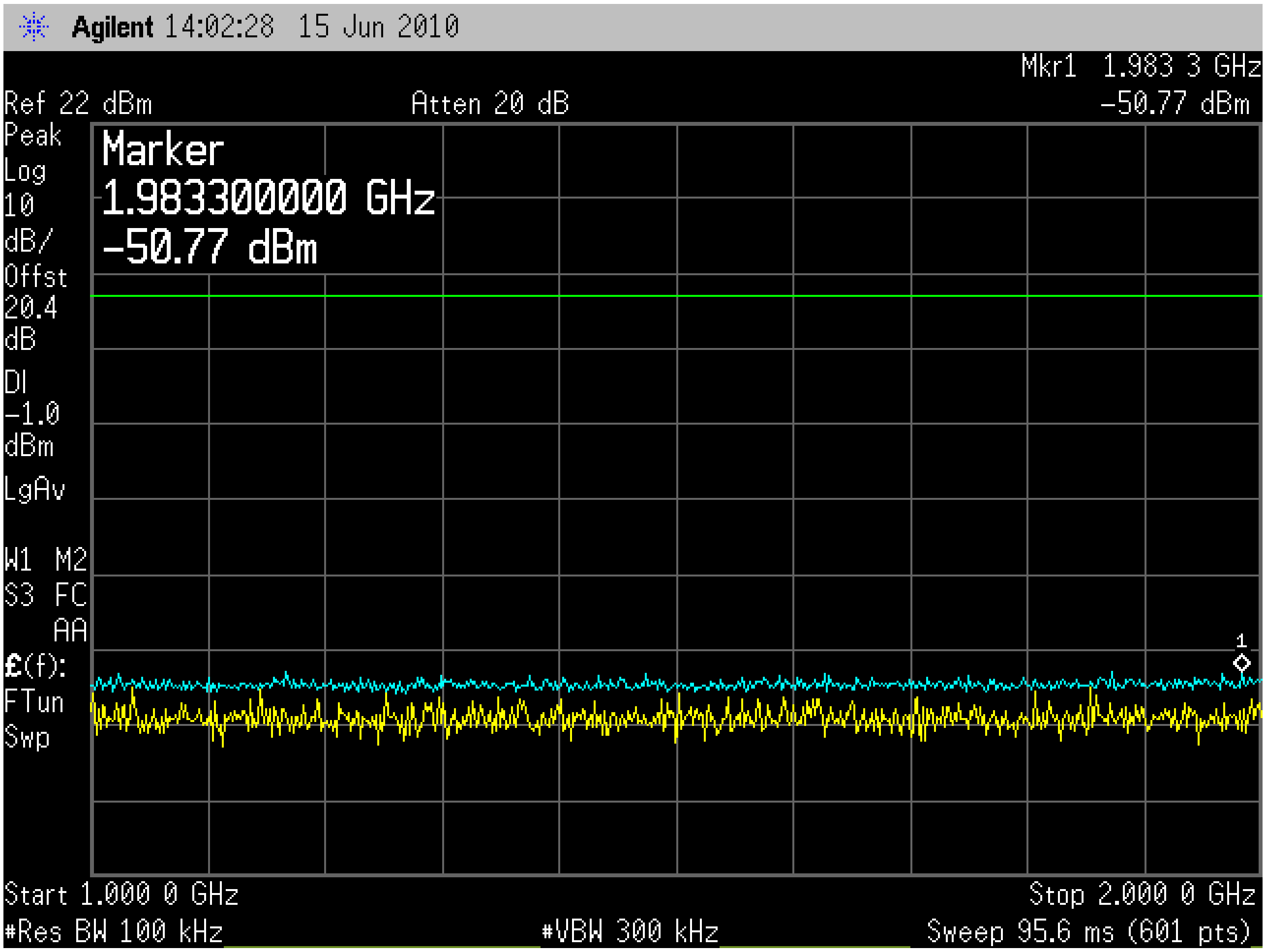
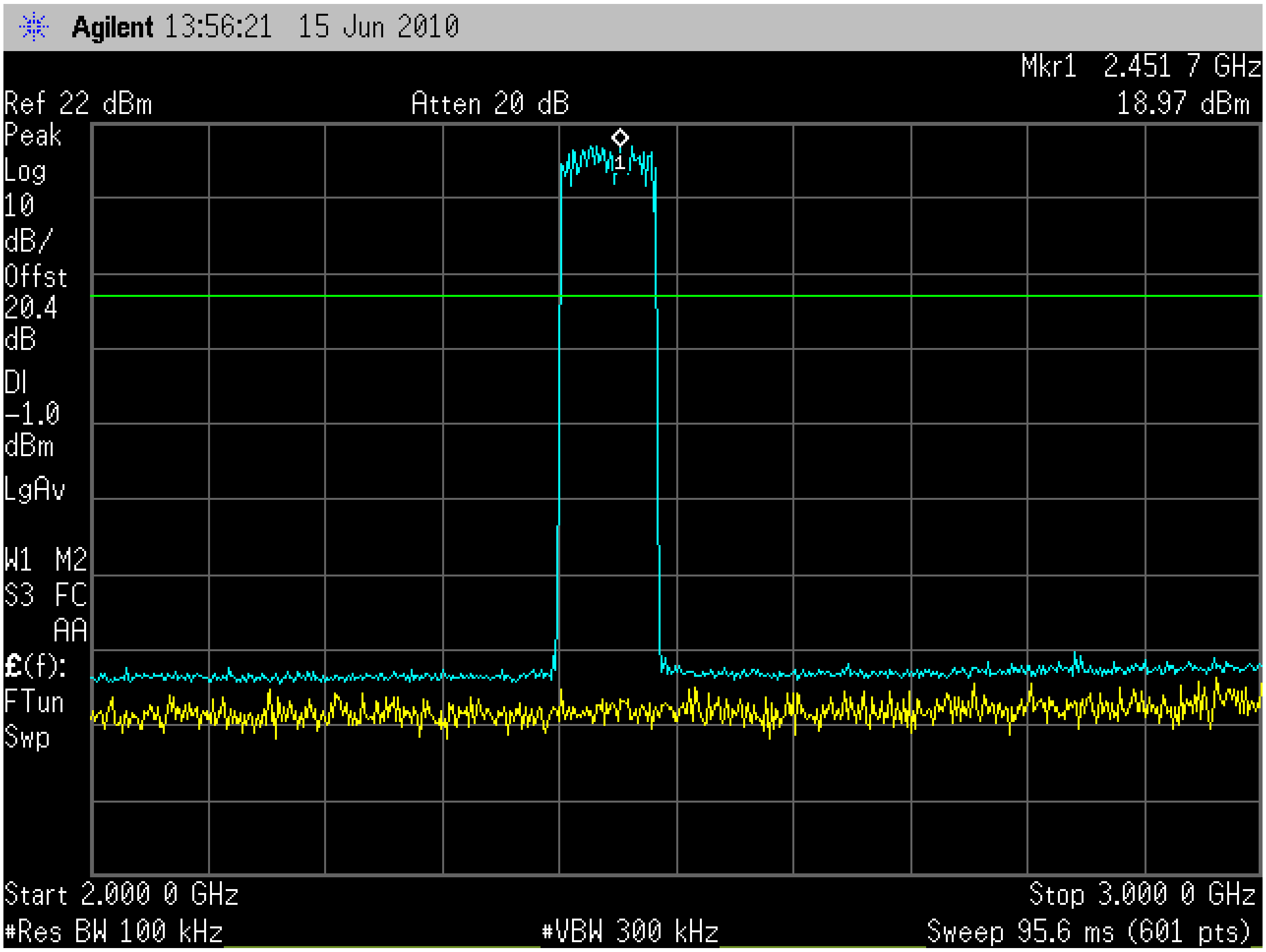


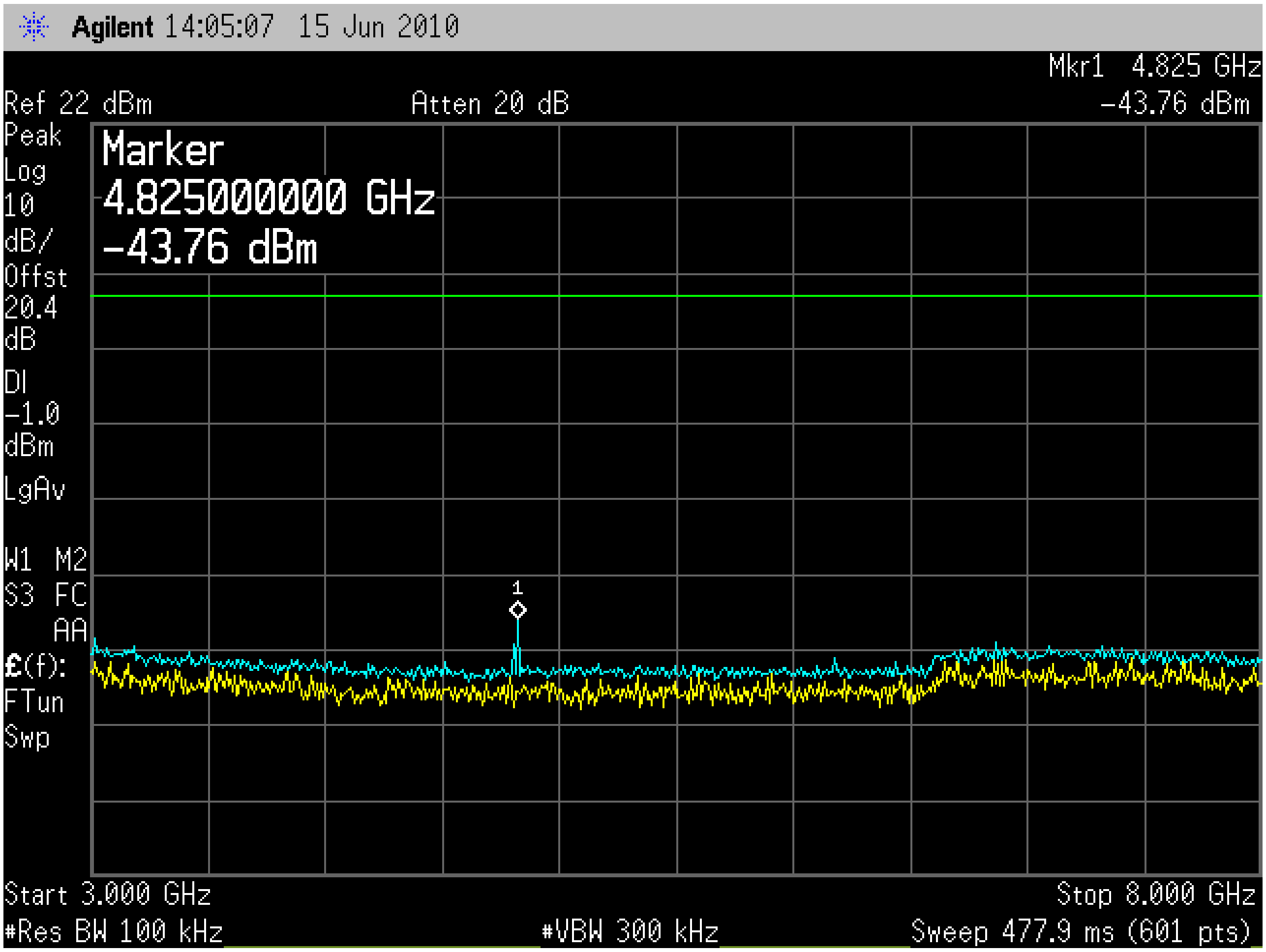
Plots from 30 MHz to 1GHz , Display Line is -1.03 dBm which is 20dB below the highest in band emission.



Plots from 1GHz to 2GHz , Display Line is -1.03 dBm which is 20dB below the highest in band emission.



Plots from 2GHz to 3GHz , Display Line is -1.03 dBm which is 20dB below the highest in band emission.



Plots from 3GHz to 8GHz , Display Line is -1.03 dBm which is 20dB below the highest in band emission.

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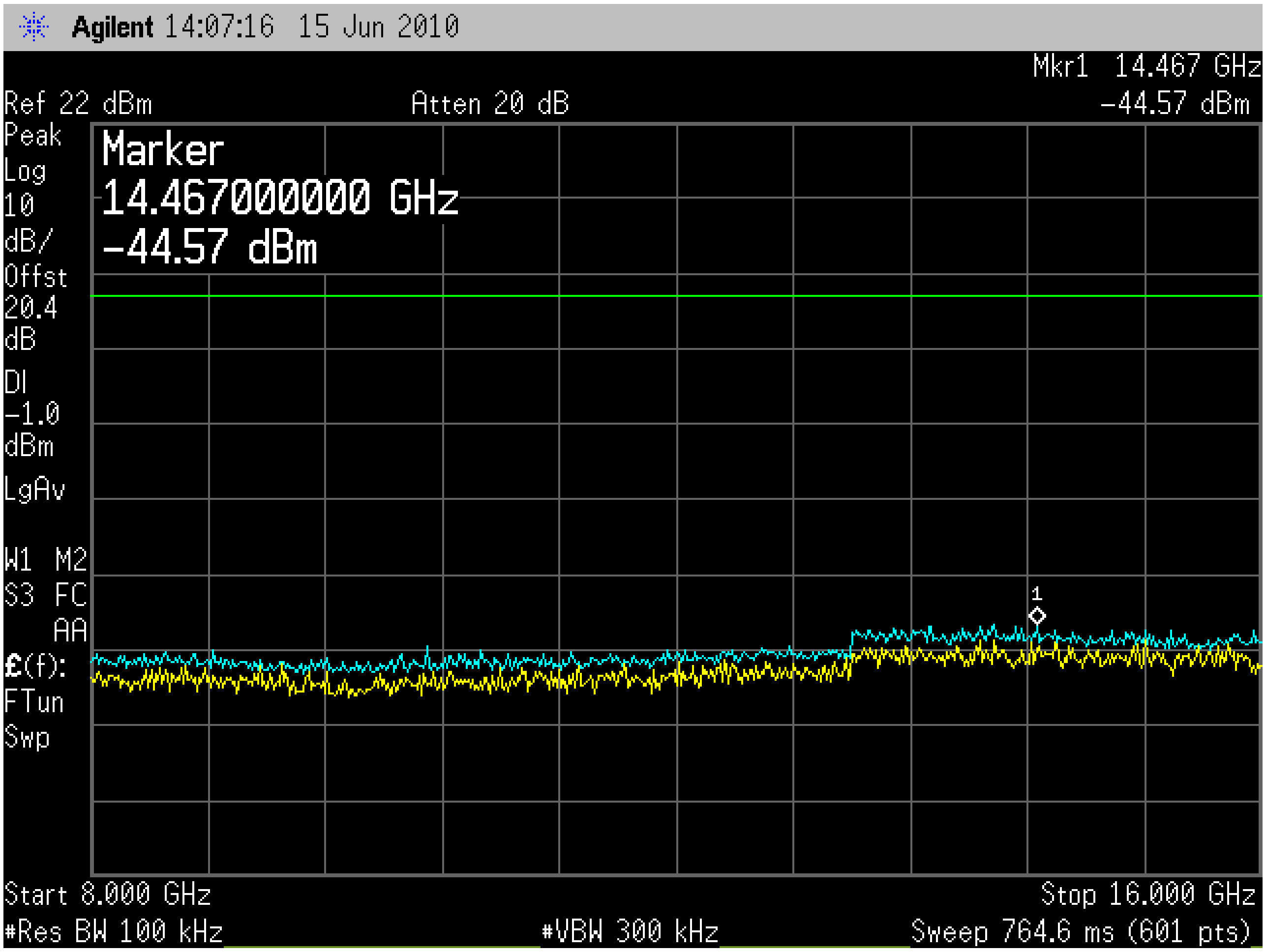
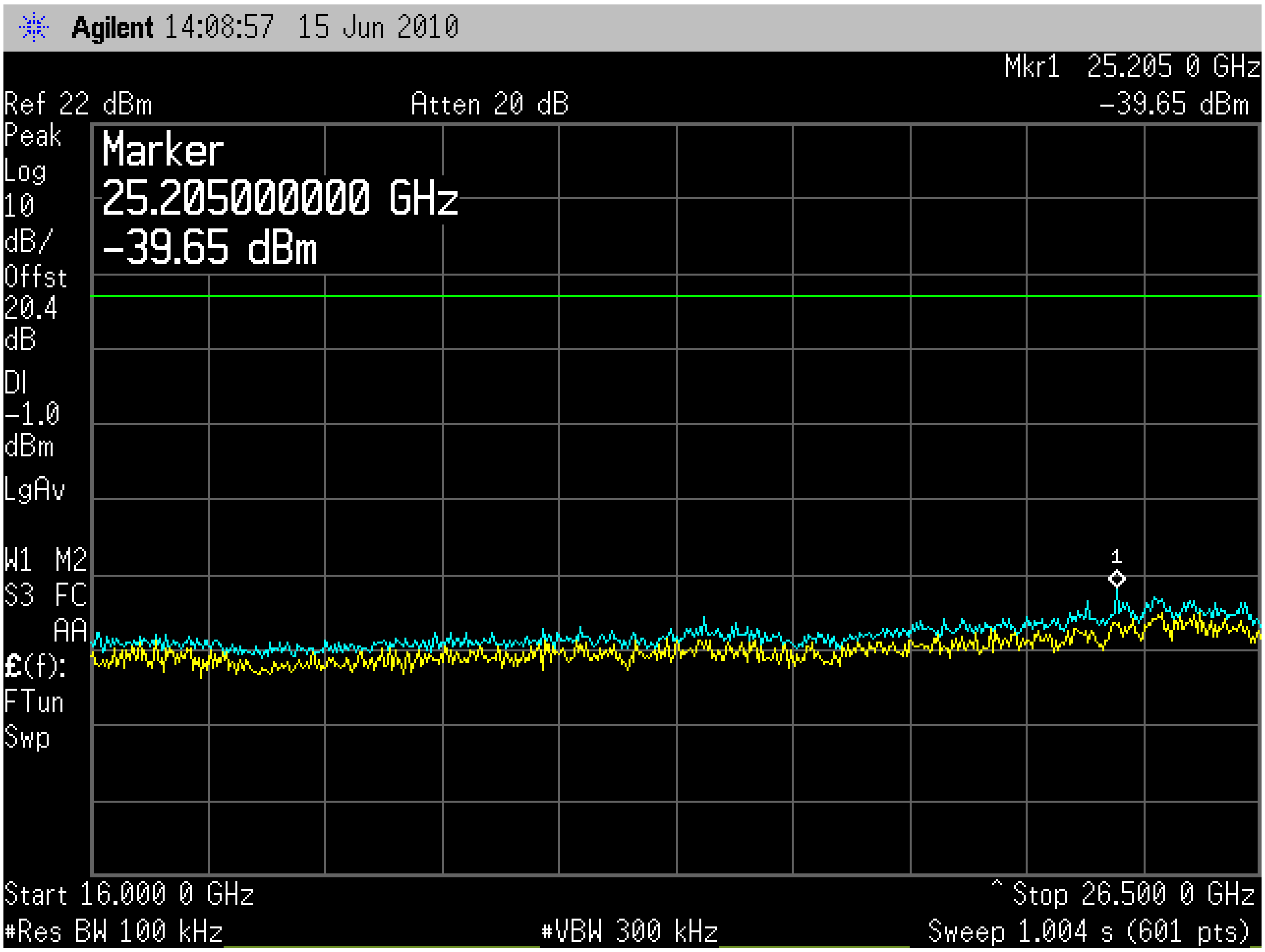


Plots from 8GHz to 16GHz , Display Line is -1.03 dBm which is 20dB below the highest in band emission.



Plots from 16GHz to 26.5GHz , Display Line is -1.03 dBm which is 20dB below the highest in band emission.

Section 15.247(d) – Spurious Radiated Emissions

(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Conditions:

Sample Number:	HS6100	**Temperature:**	16°C
Date:	June 16, 2010	**Humidity:**	72%
Modification State:	As required (Hopping or Single)	**Tester:**	FSCustodio
		Laboratory:	SOATS

Test Results:

See attached plots.

Additional Observations:

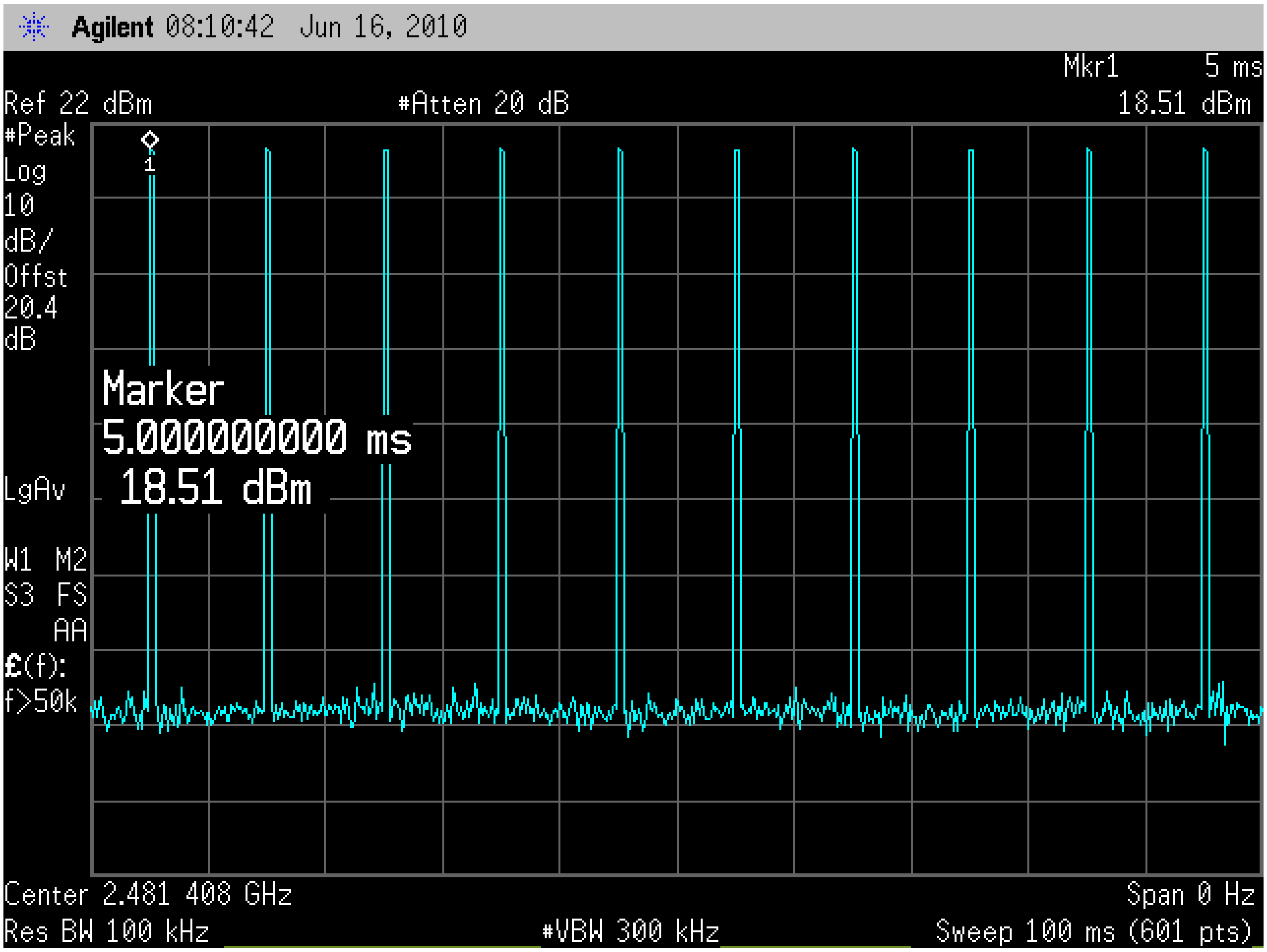
- This test was performed a using fully charged battery.
- The Spectrum was searched from 30MHz to the 10th Harmonic, 25000 MHz. There are no emissions found that do not comply to the restricted bands defined in **FCC Part 15 Subpart C, 15.205** or **Part 15.247(d)**.
- Duty Cycle Correction Factor used is -20 based from actual Duty Cycle of 4.83%.
- Only worst case band edge measurement presented (i.e. Low Channel for lower band edge and High Channel for upper band edge).
- Limit for lower band edge is base from radiated fundamental measurement of the Low Channel using 100 kHz RBW.
- No spurious detected below 1GHz, above 1GHz only the second harmonic of each channel was detected.

Sample Computation (base from above 1GHz data):

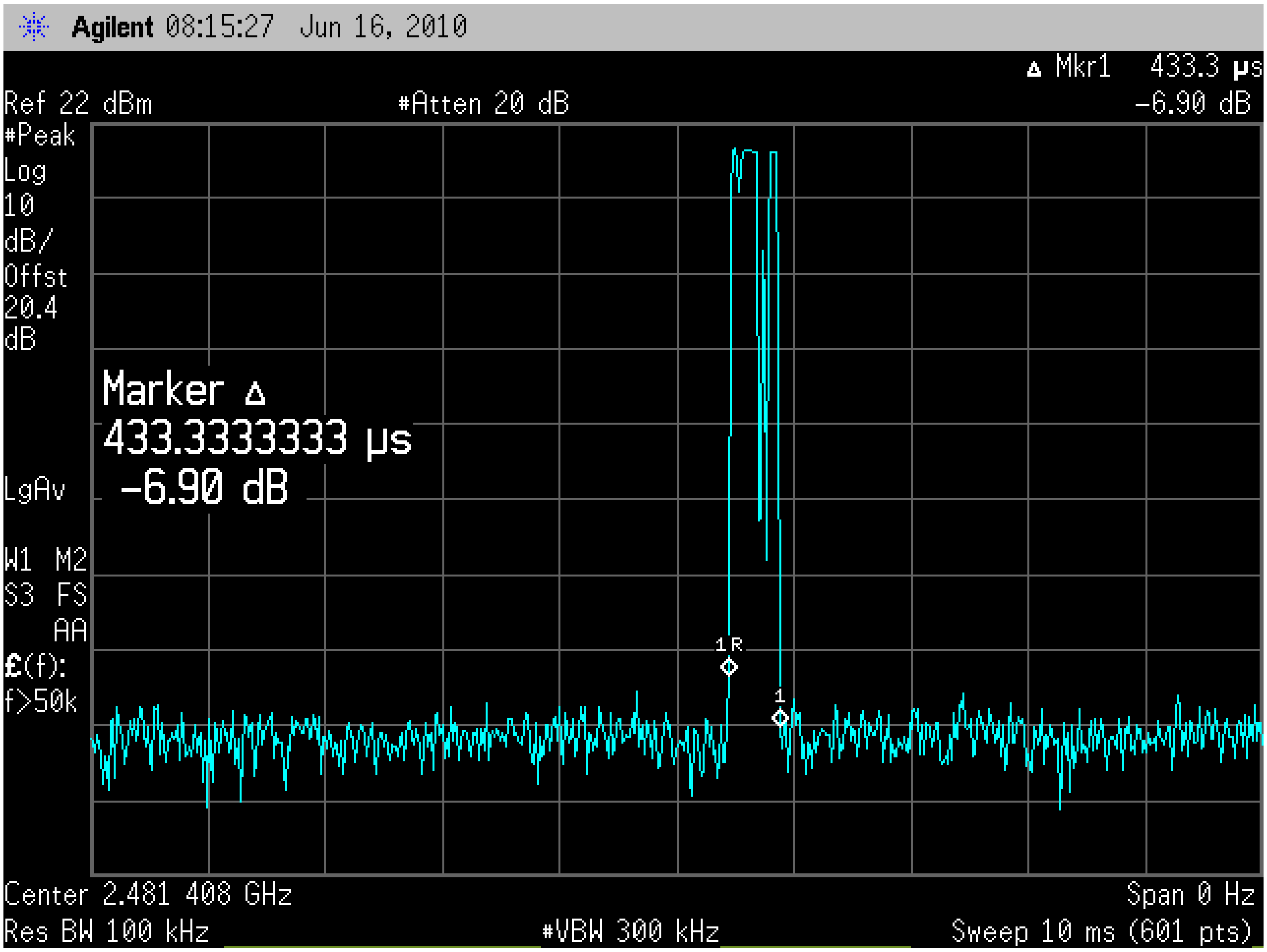
Correction factor @ 4803.8MHz = 10.9
= Antenna factor + Cable loss – Preamp gain
= 31.9 + 10.8 – 31.8

Corrected reading = Max. reading + Correction factor
= 57.7 + 10.9
= 68.6 dBμV/m

Duty Cycle Factor Computation:



10 transmissions per 100 ms



483.33 µs per transmission

Duty Cycle = (0.48333 ms) x 10
= 4.83 ms/100 ms
= 4.83%

DCCF = 20 log (0.04833)
= -26.32; limited to -20

Below 1GHz measurements:

NEMKO USA, Inc.

San Diego Headquarters:
11696 Sorrento Valley Rd.
San Diego, CA 92121
Tel: (858) 755-5525
Fax: (858) 452-1810

Radiated Emissions Data

Job # : 42344-1 Date : 6/16/2010 Page 1 of 1
NEX#: 152152 Time : 2PM
Staff : FSC

Client Name : HME
EUT Name : Wireless Headset
EUT Model # : HS6100
EUT Serial # : F13M0029
EUT Config. : Hopping

EUT Voltage : Battery
EUT Frequency :
Phase:
NOATS
SOATS X
Distance < 1000 MHz: 3 m
Distance > 1000 MHz: 3 m

Specification : CFR47 Part 15, Subpart B, Class B
Loop Ant. #: NA
Bicon Ant.#: 114_3m
Log Ant.#: 110_3m
DRG Ant. # 877
Cable LF#: SOATS
Cable HF#: SOATS
Preamp LF#: 902
Preamp HF# 317

Temp. (°C) : 18
Humidity (%) : 63
Spec Analyzer #: 911
Analyzer Display #: N/A
Quasi-Peak Detector #: 911
Preselector #: N/A
DCCF: 20

Peak	RBW:	1 MHz
	Video Bandwidth	3 MHz
Quasi-Peak	RBW:	120 kHz
	Video Bandwidth	-
Average	RBW:	1 MHz
	Video Bandwidth	10 Hz

Meas. Freq. (MHz)	Meter Reading **Vertical**	Meter Reading **Horizontal**	Det.	EUT Side F/L/R/B	Ant. Height m	Max. Reading (dBµV)	Corrected Reading (dBµV/m)	Spec. limit (dBµV/m)	CR/SL Diff. (dB)	Pass Fail	Comment
31.0	48.5	33.3	Q		1.0	48.52	30.7	40.0	-9.3	Pass	Ambient Noise
44.6	43.7	34.1	Q		1.0	43.67	24.3	40.0	-15.7	Pass	Ambient Noise
86.7	42.3	40.6	Q		1.0	42.34	19.6	40.0	-20.4	Pass	Ambient Noise
124.4	42.0	35.4	Q		1.0	41.96	24.2	43.5	-19.3	Pass	Ambient Noise
184.5	48.2	47.8	Q		1.0	48.15	34.9	43.5	-8.6	Pass	Ambient Noise
311.1	25.1	25.6	Q		1.0	25.59	11.4	46.0	-34.6	Pass	Ambient Noise
481.7	24.0	23.9	Q		1.0	24	12.8	46.0	-33.2	Pass	Ambient Noise
528.8	38.4	37.2	Q		1.0	38.39	28.7	46.0	-17.4	Pass	Ambient Noise

Above 1GHz measurements:

NEMKO USA, Inc.

San Diego Headquarters:
11696 Sorrento Valley Rd.
San Diego, CA 92121
Tel: (858) 755-5525
Fax: (858) 452-1810

Radiated Emissions Data

Job # :	42344-1	Date :	6/16/2010	Page	1 of 1
NEX #:	152152	Time :	10AM		
		Staff :	FSC		
Client Name :	HME			EUT Voltage :	Battery
EUT Name :	Wireless Headset			EUT Frequency :	
EUT Model # :	HS6100			Phase:	
EUT Serial # :	F13M0029			NOATS	
EUT Config. :	Low, Mid and High Channels			SOATS	X
				Distance < 1000 MHz:	3 m
				Distance > 1000 MHz:	3 m
Specification :	CFR47 Part 15, Subpart B, Class B				
Loop Ant. #:	NA				
Bicon Ant.#:	NA	Temp. (°C) :	16		
Log Ant.#:	NA	Humidity (%) :	72		
DRG Ant. #	877	Spec Analyzer #:	911		
Cable LF#:	NA	Analyzer Display #:	N/A		
Cable HF#:	40ft_blue	Quasi-Peak Detector #:	911		
Preamp LF#:	NA	Preselector #:	N/A		
Preamp HF#	317	DCCF:	20		

Peak	RBW:	1 MHz
	Video Bandwidth	3 MHz
Average = Peak- DCCF		
Average (NF)	RBW:	1 MHz
	Video Bandwidth	10 Hz

Meas. Freq. (MHz)	Meter Reading Vertical	Meter Reading Horizontal	Det.	EUT Side F/L/R/B	Ant. Height m	Max. Reading (dBµV)	Corrected Reading (dBµV/m)	Spec. limit (dBµV/m)	CR/SL Diff. (dB)	Pass Fail	Comment
2401.9	79.6	82.1	P	L	1.0	82.14	118.1				@100kHz RBW
2400.0	24.1	31.3	P		1.0	31.34	67.3	98.1	-30.8	Pass	@100kHz RBW
2400.0	4.1	11.3	A		1.0	11.34	47.3	78.1	-30.8	Pass	@100kHz RBW
2483.5	57.6	58.1	P		1.0	58.1	60.9	74.0	-13.1	Pass	
2483.5	37.6	38.1	A		1.0	38.1	40.9	54.0	-13.1	Pass	
4803.8	57.7	54.1	P	L	1.0	57.7	68.5	74.0	-5.5	Pass	
4803.8	37.7	34.1	A	L	1.0	37.7	48.5	54.0	-5.5	Pass	
7205.8	44.0	44.2	P		1.0	44.2	63.0	74.0	-11.0	Pass	Noise Floor
7205.8	24.0	24.2	A		1.0	24.2	43.0	54.0	-11.0	Pass	Noise Floor
4883.3	52.6	51.8	P	L	1.0	52.6	63.5	74.0	-10.5	Pass	
4883.3	32.6	31.8	A	L	1.0	32.6	43.5	54.0	-10.5	Pass	
7325.0	43.0	42.1	P		1.0	43.0	62.1	74.0	-11.8	Pass	Noise Floor
7325.0	23.0	22.1	A		1.0	23.0	42.1	54.0	-11.8	Pass	Noise Floor
4962.8	50.4	51.3	P	L	1.0	51.3	62.2	74.0	-11.8	Pass	
4962.8	38.4	39.6	A	L	1.0	39.6	50.5	54.0	-3.5	Pass	
7444.2	38.6	39.3	P		1.0	39.3	58.4	74.0	-15.6	Pass	Noise Floor
7444.2	29.1	29.3	A		1.0	29.3	48.4	54.0	-5.6	Pass	Noise Floor

7.2.3 (RSS-Gen) – Receiver Spurious Emission Limits

All spurious emissions shall comply with the limits of Table 1 (see Section 6).

Spurious Frequency (MHz)	Field Strength (microvolt/m at 3 metres)
30-88	100
88-216	150
216-960	200
Above 960	500

Test Conditions:

Sample Number:	HS6100	**Temperature:**	16°C
Date:	June 16, 2010	**Humidity:**	72%
Modification State:	Receiver Mode	**Tester:**	FSCustodio
		Laboratory:	SOATS

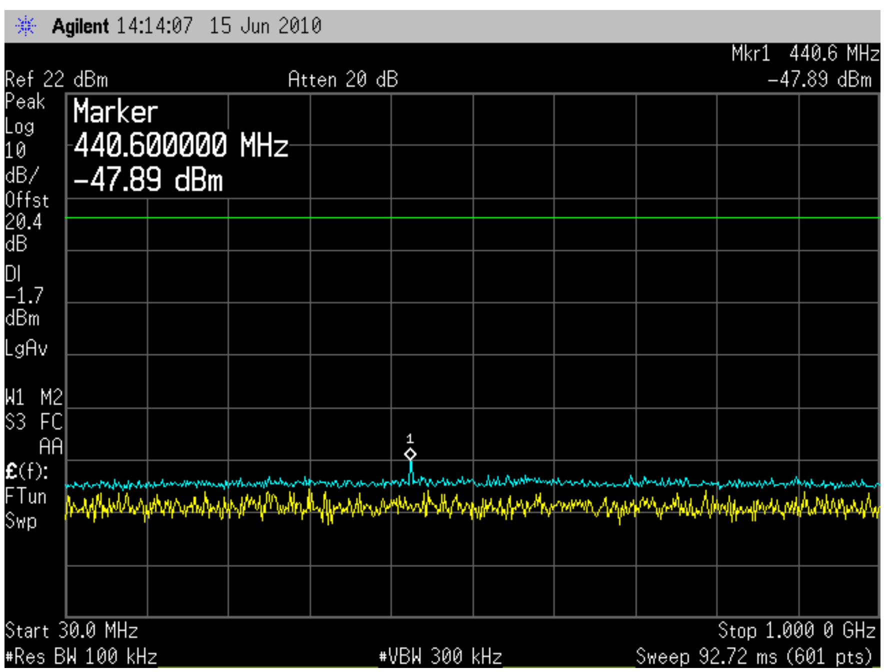
Test Results:

There are no emissions found when the EUT is on receiver mode (not transmitting).

Additional Observations:

- This test was performed a using fully charged battery.
- The Spectrum was searched from 30MHz to 8GHz.

Appendix B: Section 15.247(d) – Spurious RF Conducted Emissions Test Results (Low, Mid and High Channels)



LOW Channel

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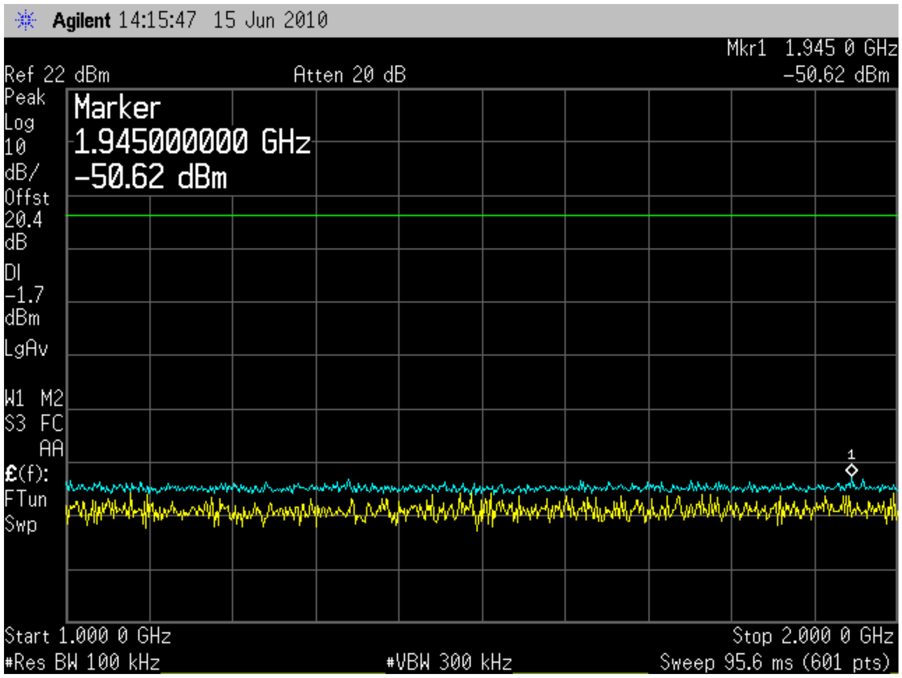
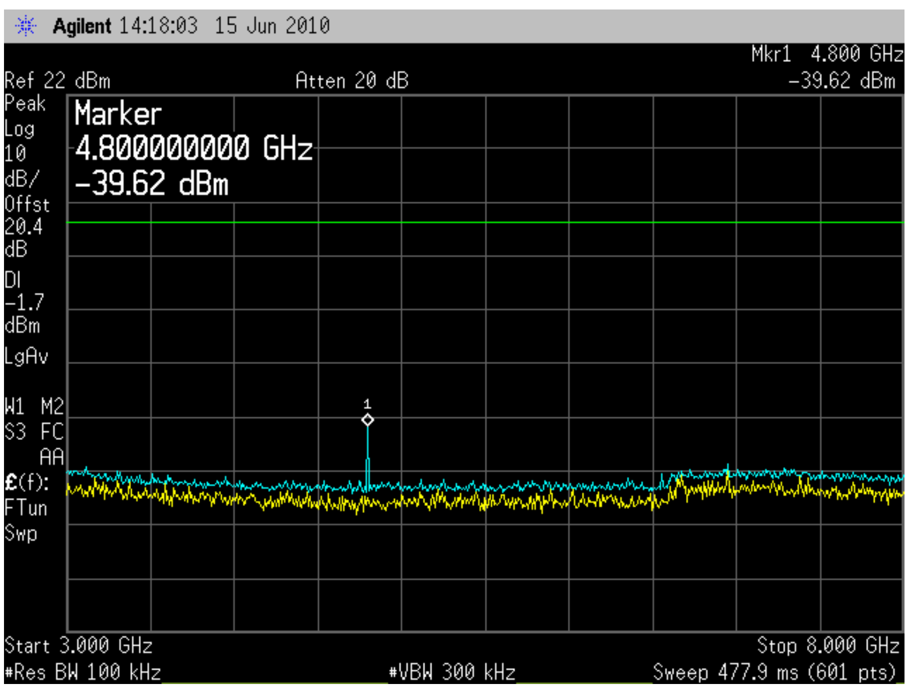
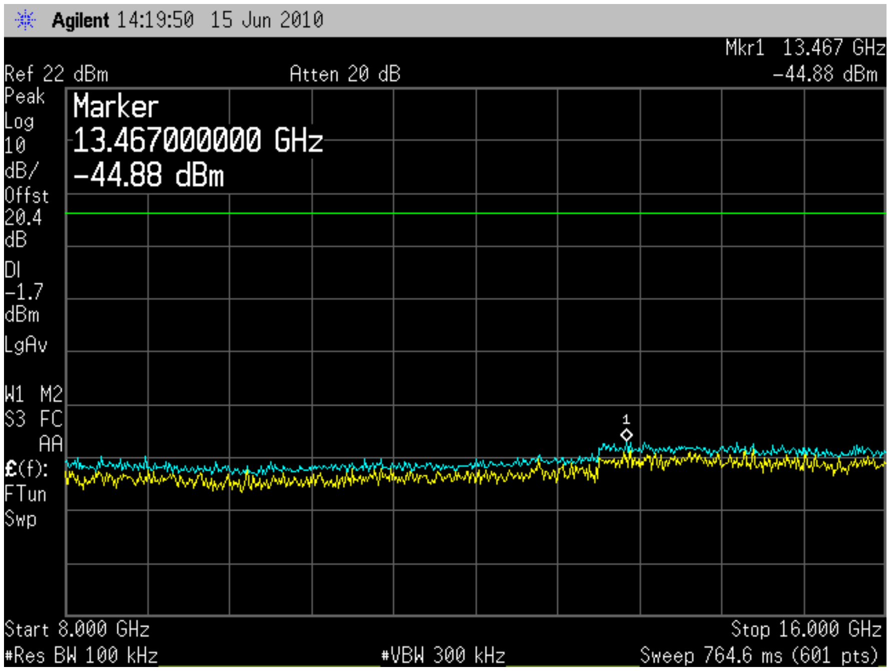
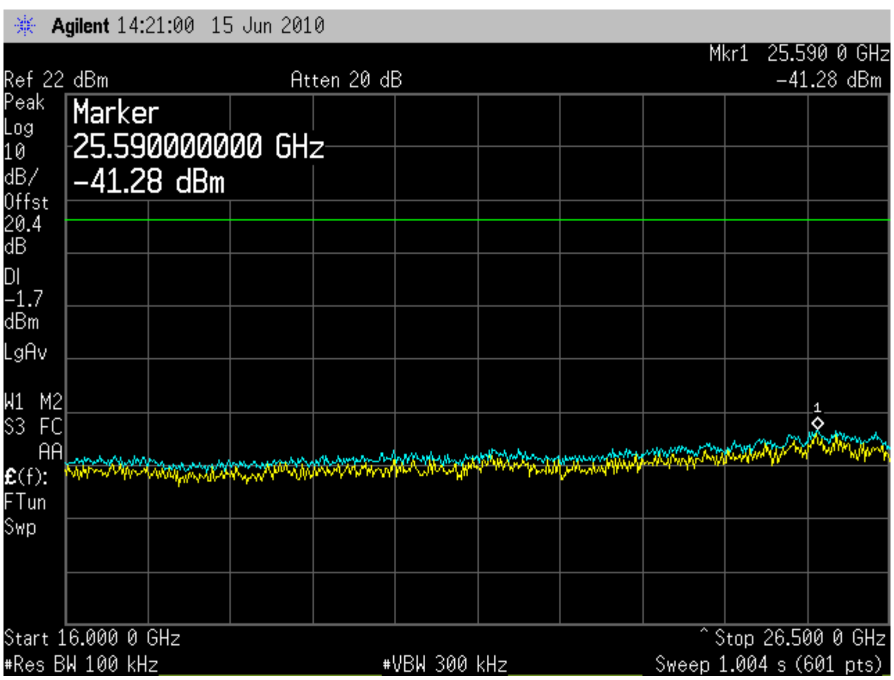


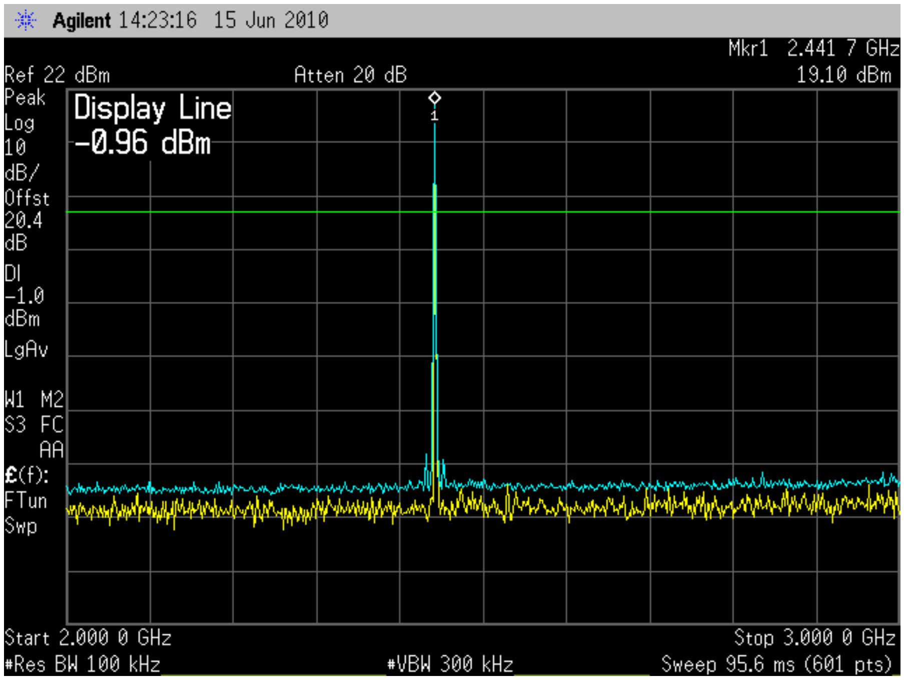


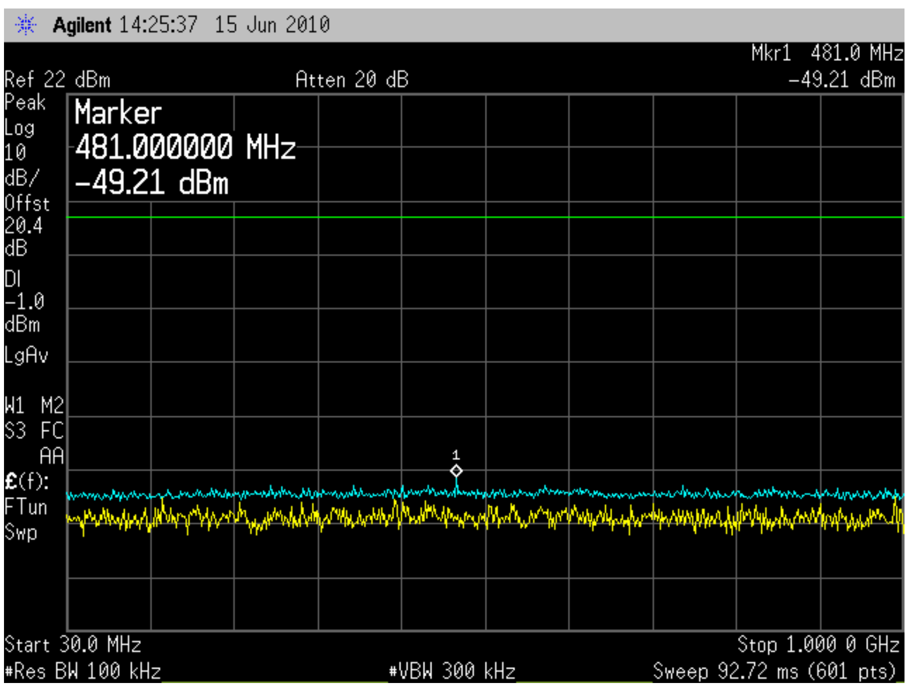
LOW Channel


Agilent 14:19:50 15 Jun 2010
Mkr1 13.467 GHz
Ref 22 dBm
Atten 20 dB
-44.88 dBm
Peak
Log
10
dB/
Offst
20.4
dB
DI
-1.7
dBm
LgAv
W1 M2
S3 FC
AA
£(f):
FTun
Swp
Marker
13.467000000 GHz
-44.88 dBm
Start 8.000 GHz
Stop 16.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 764.6 ms (601 pts)

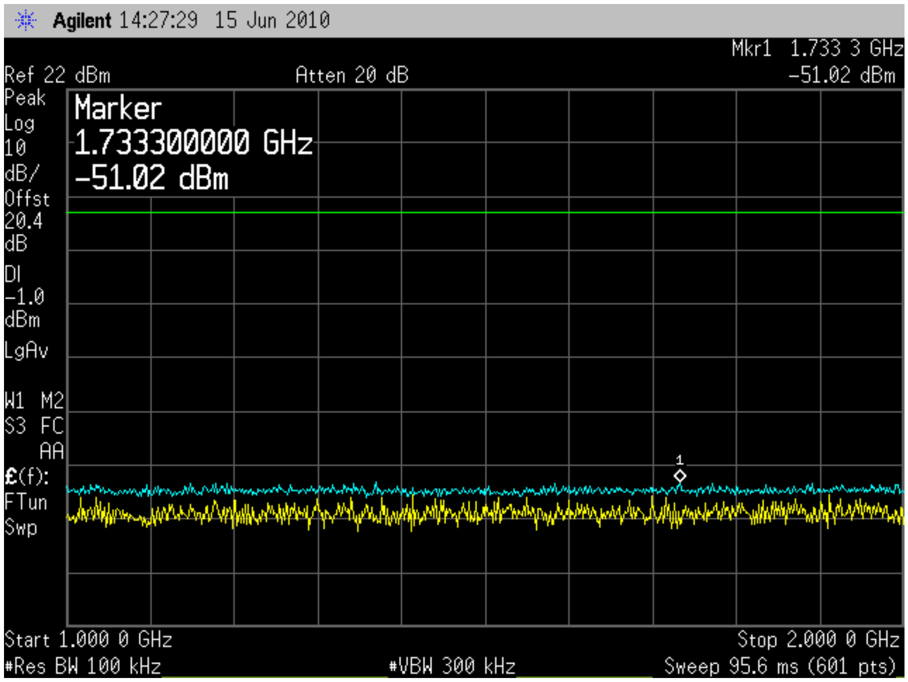

Agilent 14:21:00 15 Jun 2010
Mkr1 25.590 0 GHz
Ref 22 dBm
Atten 20 dB
-41.28 dBm
Peak
Log
10
dB/
Offst
20.4
dB
DI
-1.7
dBm
LgAv
W1 M2
S3 FC
AA
£(f):
FTun
Swp
Marker
25.590000000 GHz
-41.28 dBm
Start 16.000 0 GHz
Stop 26.500 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.004 s (601 pts)

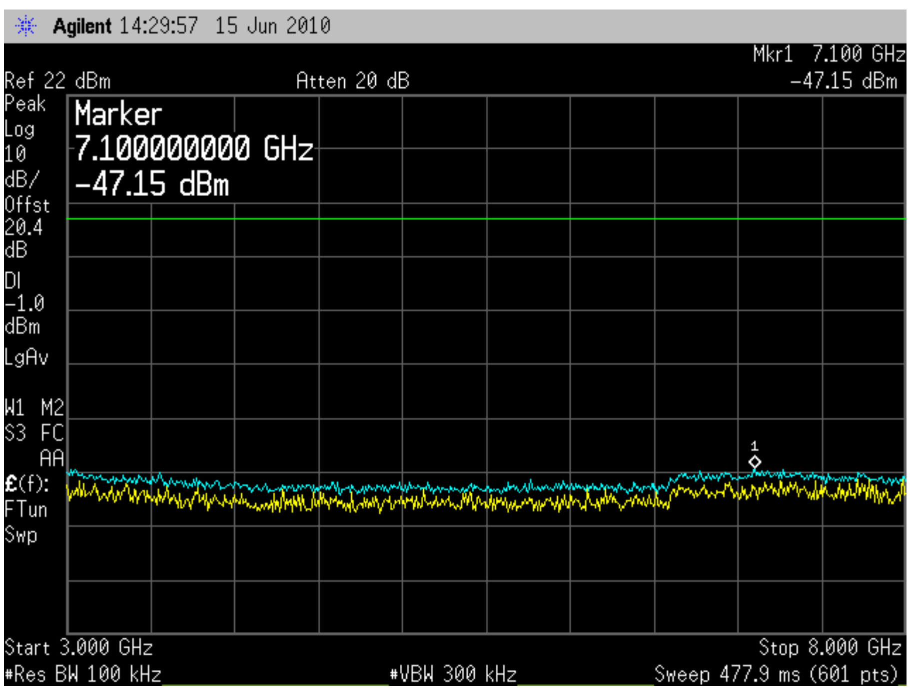
LOW Channel


Agilent 14:23:16 15 Jun 2010
Mkr1 2.441 7 GHz
Ref 22 dBm
Atten 20 dB
19.10 dBm
Peak
Log
10
dB/
Offst
20.4
dB
Dl
-1.0
dBm
LgAv
W1 M2
S3 FC
AA
£(f):
FTun
Swp
Display Line
-0.96 dBm
Start 2.000 0 GHz
Stop 3.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 95.6 ms (601 pts)

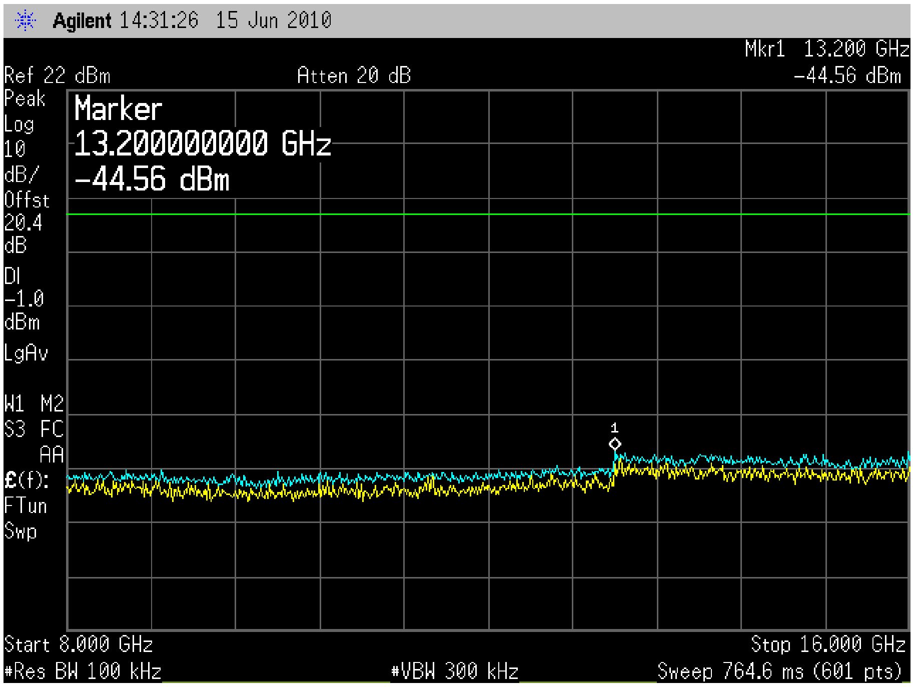

Agilent 14:25:37 15 Jun 2010
Mkr1 481.0 MHz
Ref 22 dBm
Atten 20 dB
-49.21 dBm
Peak
Log
10
dB/
Offst
20.4
dB
Dl
-1.0
dBm
LgAv
W1 M2
S3 FC
AA
£(f):
FTun
Swp
Marker
481.000000 MHz
-49.21 dBm
Start 30.0 MHz
Stop 1.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 92.72 ms (601 pts)

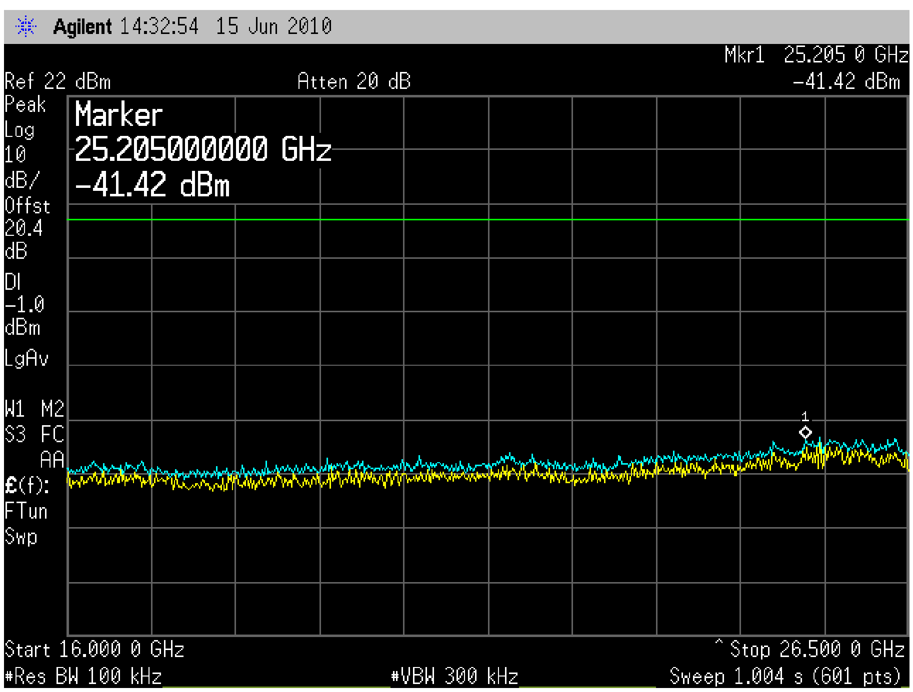
MID Channel


Agilent 14:27:29 15 Jun 2010
Mkr1 1.733 3 GHz
Ref 22 dBm
Atten 20 dB
-51.02 dBm
Peak
Log
10
dB/
Offst
20.4
dB
Marker
1.733300000 GHz
-51.02 dBm
Dl
-1.0
dBm
LgAv
W1 M2
S3 FC
AA
£(f):
FTun
Swp
Start 1.000 0 GHz
Stop 2.000 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 95.6 ms (601 pts)

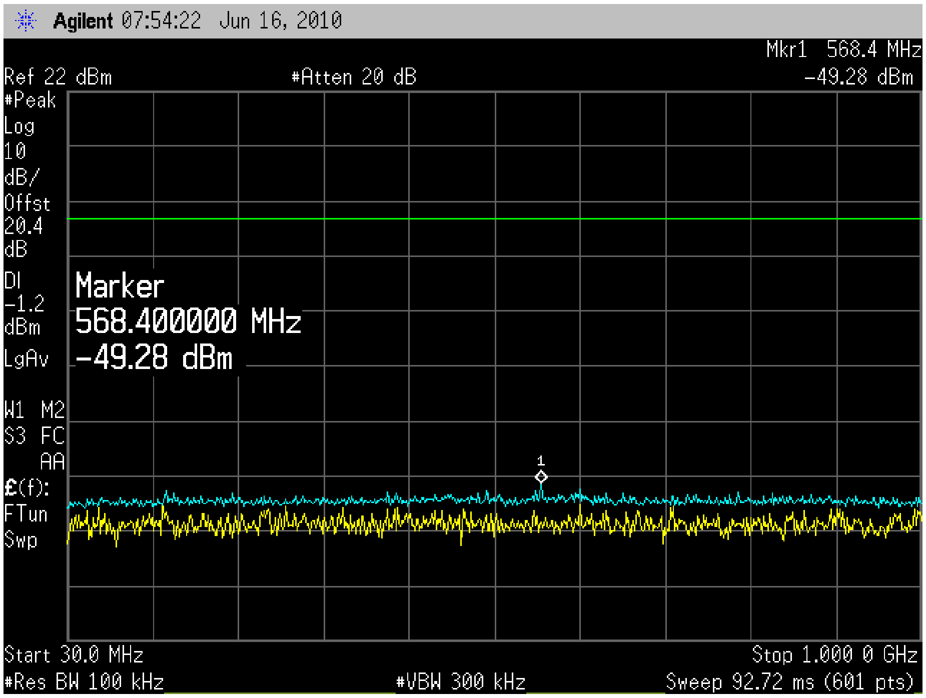

Agilent 14:29:57 15 Jun 2010
Mkr1 7.100 GHz
Ref 22 dBm
Atten 20 dB
-47.15 dBm
Peak
Log
10
dB/
Offst
20.4
dB
Marker
7.100000000 GHz
-47.15 dBm
Dl
-1.0
dBm
LgAv
W1 M2
S3 FC
AA
£(f):
FTun
Swp
Start 3.000 GHz
Stop 8.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 477.9 ms (601 pts)

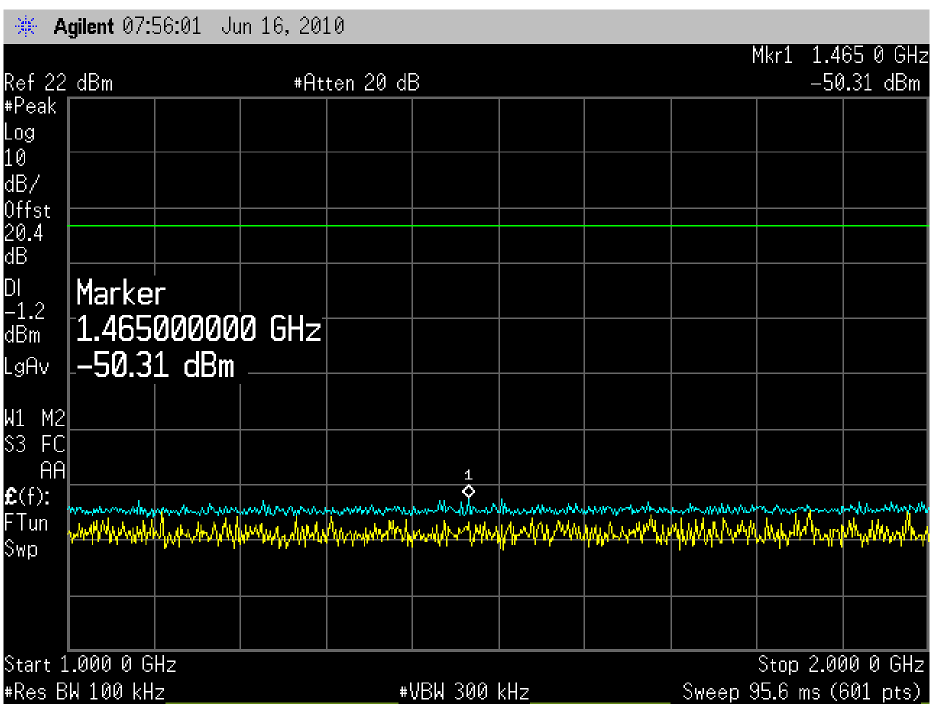
MID Channel


Agilent 14:31:26 15 Jun 2010
Mkr1 13.200 GHz
Ref 22 dBm
Atten 20 dB
-44.56 dBm
Peak
Log
10
dB/
Offst
20.4
dB
DI
-1.0
dBm
LgAv
W1 M2
S3 FC
AA
£(f):
FTun
Swp
Marker
13.200000000 GHz
-44.56 dBm
Start 8.000 GHz
Stop 16.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 764.6 ms (601 pts)

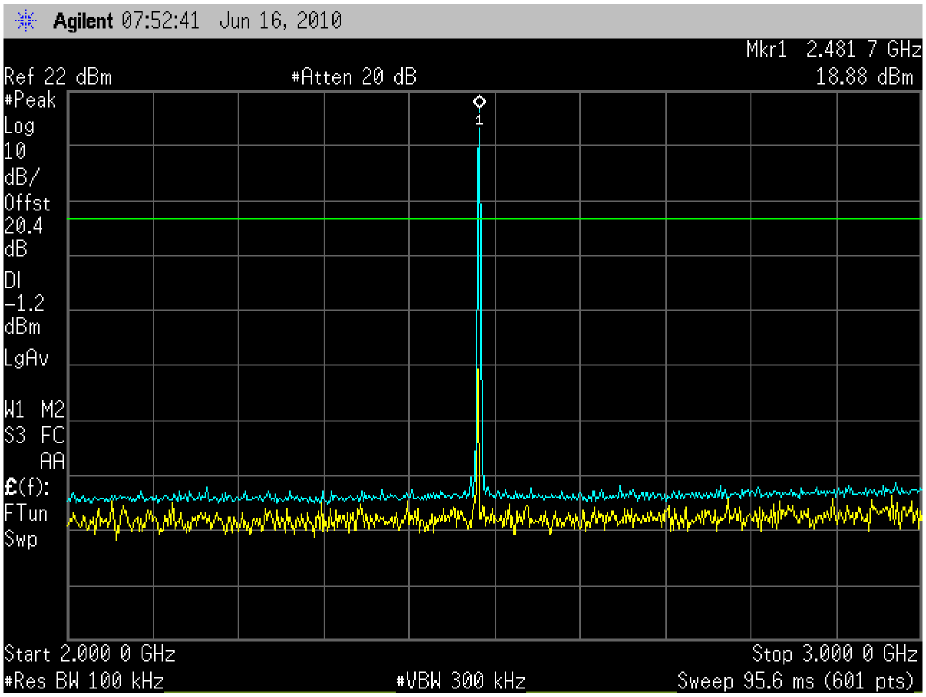

Agilent 14:32:54 15 Jun 2010
Mkr1 25.205 0 GHz
Ref 22 dBm
Atten 20 dB
-41.42 dBm
Peak
Log
10
dB/
Offst
20.4
dB
DI
-1.0
dBm
LgAv
W1 M2
S3 FC
AA
£(f):
FTun
Swp
Marker
25.205000000 GHz
-41.42 dBm
Start 16.000 0 GHz
Stop 26.500 0 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 1.004 s (601 pts)

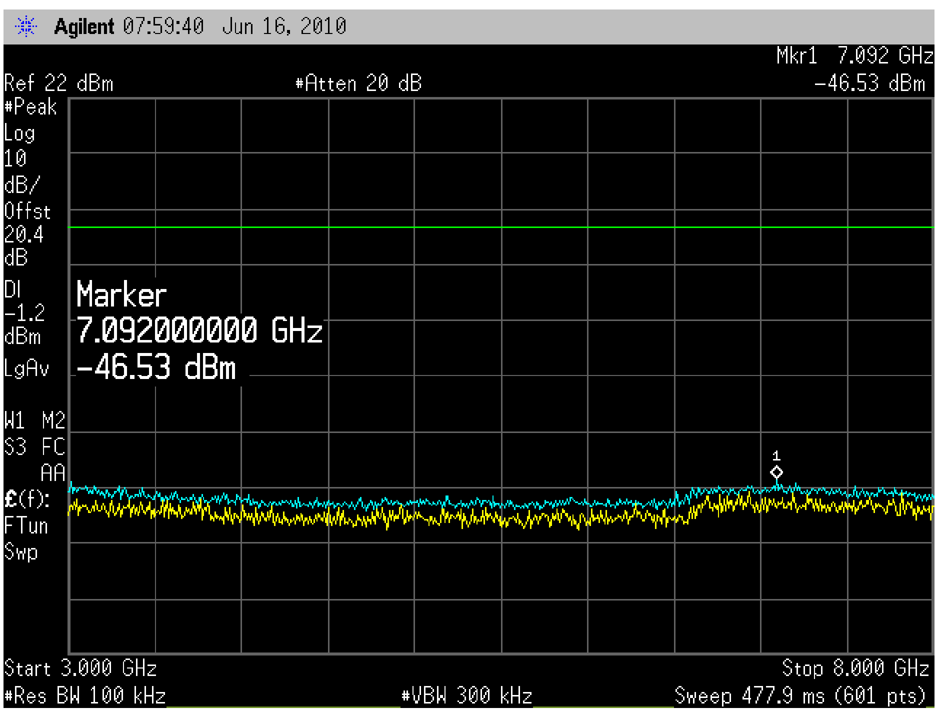
MID Channel



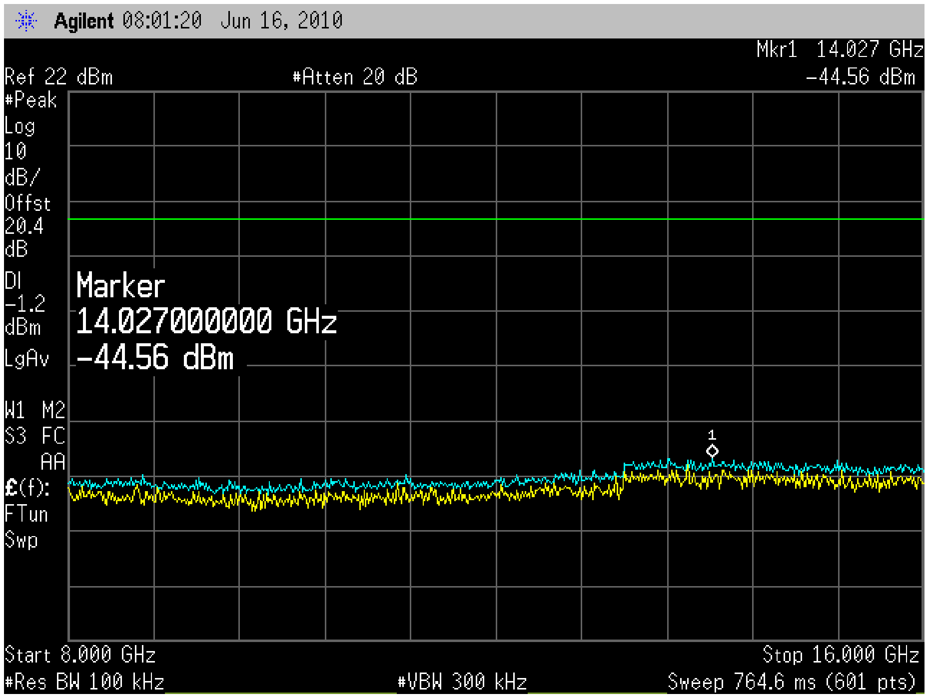


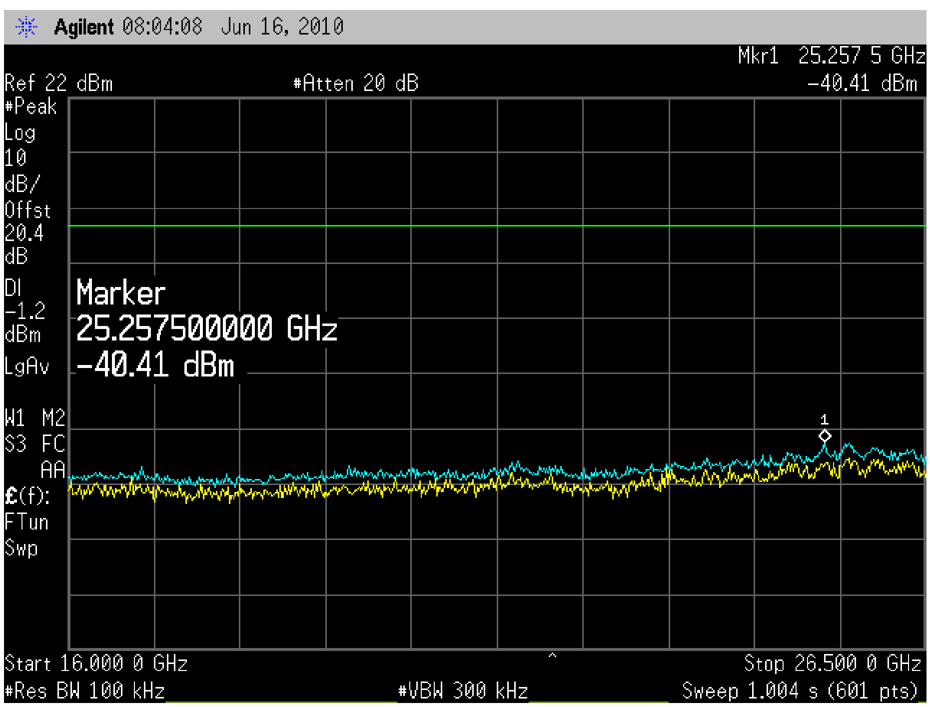
HIGH Channel





HIGH Channel





HIGH Channel

Appendix C: Block Diagram of Test Setups

Test Site For Radiated Emissions