Nemko USA, Inc.
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CERTIFICATION TEST REPORT

Report Number:	2009 02121504 FCC 15.247
Project Number:	20901
Nex Number:	121504
Applicant:	CALAMP CORP (MN) 117 PEAVY CIRCLE CHASKA, MN 55318
Equipment Under Test (EUT):	CORE MODULE
Model:	WIMETRY
FCC ID:	J26-500004
In Accordance With:	FCC Part 15 Subpart C, 15.247
Tested By:	Nemko USA Inc. 11696 Sorrento Valley Road, Suite F San Diego, CA 92121
Authorized By:	 Alan Laudani, EMC/RF Test Engineer
Date:	February 20, 2009
Total Number of Pages:	39

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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 Part 15; Subpart C. 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.

The assessment summary is as follows:

Apparatus Assessed:	Core Module
Model:	Wimetry
Specification:	FCC Part 15 Subpart C, 15.247
Date Received in Laboratory:	January 27, 2009
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None

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1.1 Report Release History

REVISION	DATE	COMMENTS
-	February 20, 2009	Prepared By: Ferdinand Custodio
-	February 20, 2009	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: February 20, 2009
Ferdinand Custodio, EMC Test Engineer

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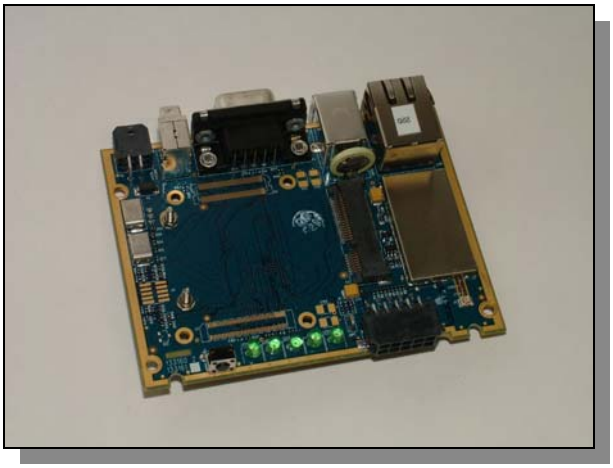
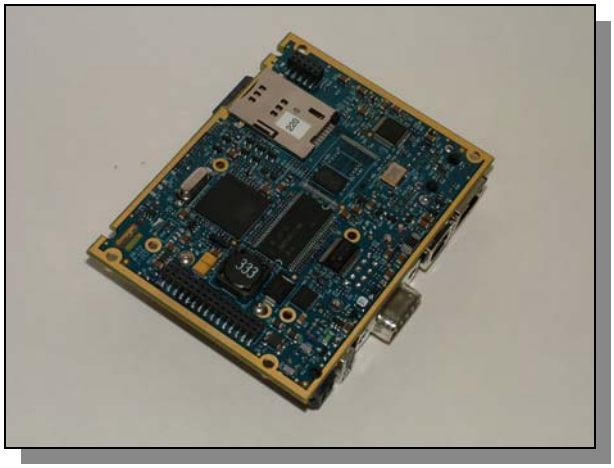
Section 2: Equipment Under Test

2.1 Product Identification

The Equipment Under Test was indentified as follows:

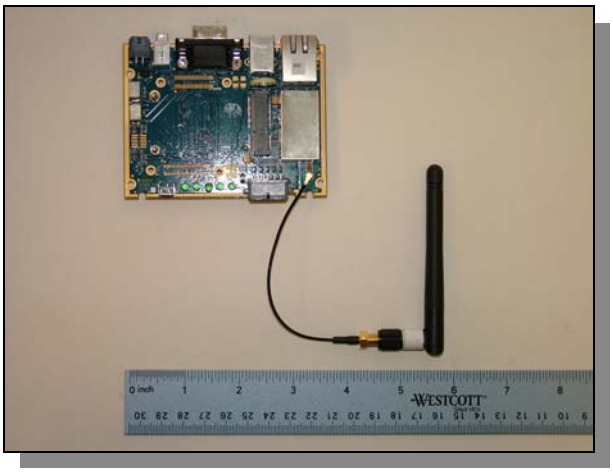
CalAmp Corp WiMetry Core Module

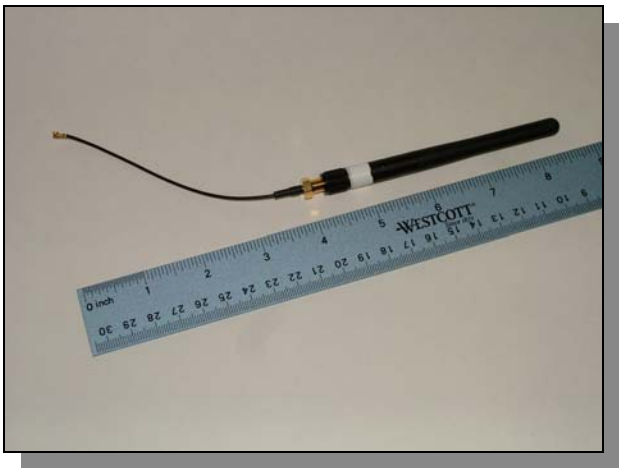




2.2 Samples Submitted for Assessment

The following sample of the apparatus and antenna have been submitted for type assessment:





External Antenna type: *Pulse W1010 Wireless External Antenna for 2.4 GHz Application (2dBi gain)*

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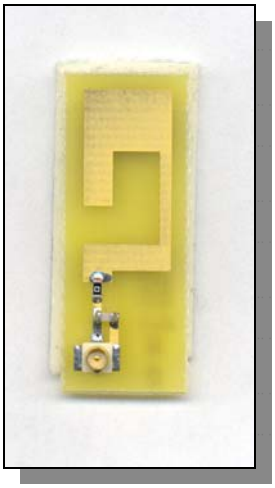

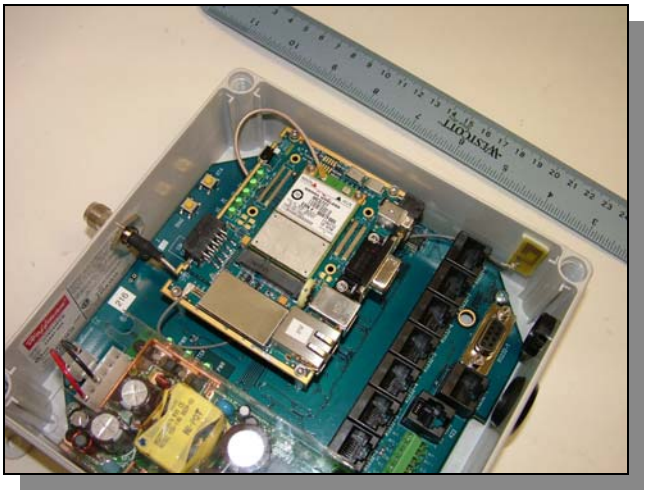

Internal Antenna type: *CalAmp WiMetry 2.4GHz Antenna (Part Number: 133330) with 0dBi gain. Typical installation of the patch antenna showing distance from the cellular antenna connector.*

2.3 Theory of Operation

The Wimetry is a Core Module. Its function is to provide long range data backhaul communication between the monitoring station and meters or other devices in the AMR/AMI market while using wireless zigbee or direct serial connection to connect locally to individual meters or devices. The Core Module can be used stand alone or as part of the WiMetry Concentrator unit. The Zigbee transceiver was exercised by running the Ember Rangetest Application. The Rangetest Application allows the user to change the channel and power of the module while outputting a constant tone for the purpose of transceiver testing. For this test, the Zigbee transceiver was set to output at max transmit power.

2.4 Technical Specifications of the EUT

Manufacturer:	CalAmp Corp (MN)
Operating Frequency:	2405 MHz to 2470 MHz in the 2400-2483.5 MHz Band
Number of Operating Frequencies:	14
Rated Power:	126.2 mW
Modulation:	802.15.4 Standard Compliant
Antenna Connector:	U.FL
Power Source:	12VDC from external AC Adapter (CUI Inc. Model: EPS120050 used for testing purposes only, please refer to Installation Guide Rev. 1 for power connection requirements of EUT)

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.

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	:	14-35 ^{o}C
Humidity range	:	22-59 %
Pressure range	:	87 - 105 kPa
Power supply range	:	10.2 to 13.8VDC

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3.4 Test Equipment

Nemko ID	Device	Manufacturer	Model	Serial Number	Cal Date	Cal Due Date
533	Quasi-Peak Adapter	HP	85650A	2043A00211	27-Jun-08	27-Jun-09
422	Spectrum Analyzer Display	HP	85662A	2403A07080	27-Jun-08	27-Jun-09
535	Spectrum Analyzer	HP	85680A	2517A01757	27-Jun-08	27-Jun-09
403	RF Preselector	HP	85685A	2648A00410	21-Aug-08	27-Jun-09
384	LISN	Solar	9348-50-R-24-BNC	941716	27-Aug-08	27-Aug-09
564	High Pass Filter	Solar	7801-5.0	853130	17-Jul-08	17-Jul-09
685	Transient Limiter	HP	11974A	3107A02637	05-Sep-08	05-Sep-09
956	Attenuator Set	Narda	118A/4	33693	21-Jan-09	21-Jan-10
936	DC Power Supply 0-50V 0-10A 200W	Hewlett Packard	6002A	N/A	Verified by Asset #815	
815	Multimeter	Fluke	111	78130066	16-Jul-08	16-Jul-09
116	Antenna, Bicon	EMCO	3110	1267	12-Nov-08	12-Nov-10
111	Antenna, LPA	EMCO	3146	1382	20-Oct-08	20-Oct-10
877	Antenna, DRG Horn, .7-18GHz	AH Systems	SAS-571	688	28-Jul-08	28-Jul-10
898	EMI Receiver & filter set	HP	8546A	3625A00348	09-May-08	09-May-09
899	Filter Section	HP	85460A	3448A00288	09-May-08	09-May-09
911	Spectrum Analyzer	Agilent	E4440A	US41421266	06-Nov-08	06-Nov-09
317	Preamplifier	HP	8449A	2749A00167	31-Mar-08	31-Mar-09
901	pre amp	Sonoma	310 N	130607	13-Mar-08	13-Mar-09

2040B-1 OATS

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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: Test Results
§ 15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

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 test.
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	Test Description	Required	Result
15.207	Transmitter and Receiver AC Power Lines Conducted Emission Limit	Y	Pass
15.247(a)(2)	Minimum 6dB RF Bandwidth	Y	Pass
15.247(b)(3)	Maximum peak output power of systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands	Y	Pass
15.247 (d)	Spurious Emissions (RF Antenna Port Conducted Test)	Y	Pass
15.247 (d)	Spurious Emissions (Radiated Emission Test)	Y	Pass
15.247(e)	Power Spectral Density for Digitally Modulated Devices	Y	Pass

Appendix A: Test Results

Section 15.207 – Power Line Conducted Emissions

15.207(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	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.

Test Conditions:

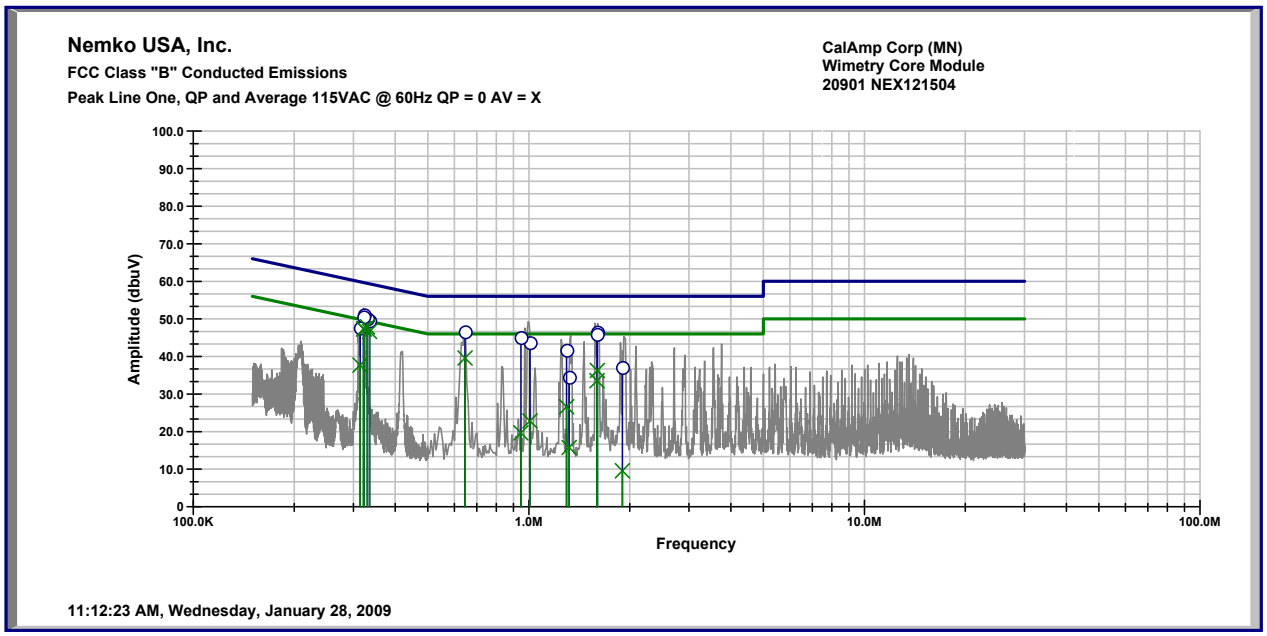
Sample Number:	Wimetry	**Temperature:**	22
Date:	January 28, 2009	**Humidity:**	35
Modification State:	High Channel	**Tester:**	FSCustodio
		Laboratory:	Shield Room #2

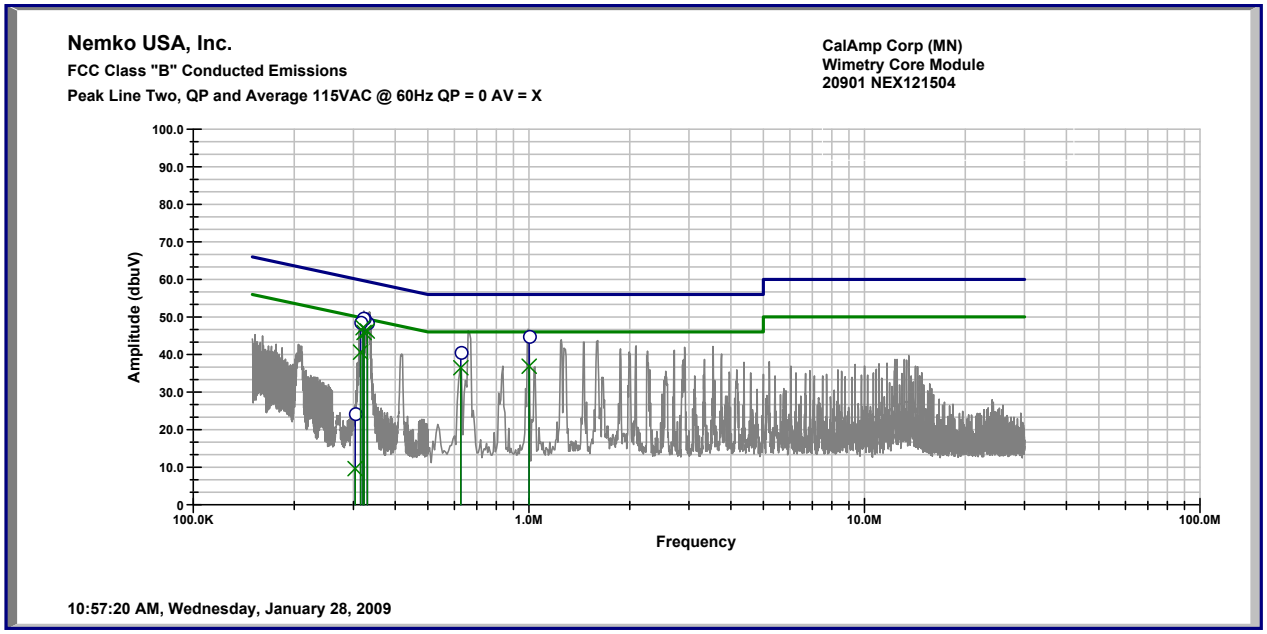
Test Results:

See attached plots for Line 1 (Hot) and Line 2 (Neutral).

Additional Observations:

- Test parameters: Peak RBW/VBW is 100kHz/100kHz, Quasi-Peak and Average is 9kHz/30kHz.
- Test was performed using the client provided AC Adapter.
- Test was performed on the worst case channel based from Power Output measurements.





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Section 15.247(a)(2) – Bandwidth

15.247(a) (2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Conditions:

Sample Number:	**Wimetry**	**Temperature:**	22
Date:	January 28 and 30, 2009	**Humidity:**	35
Modification State:	Low, Mid and High Channels	**Tester:**	FSCustodio
		Laboratory:	Shield Room #2

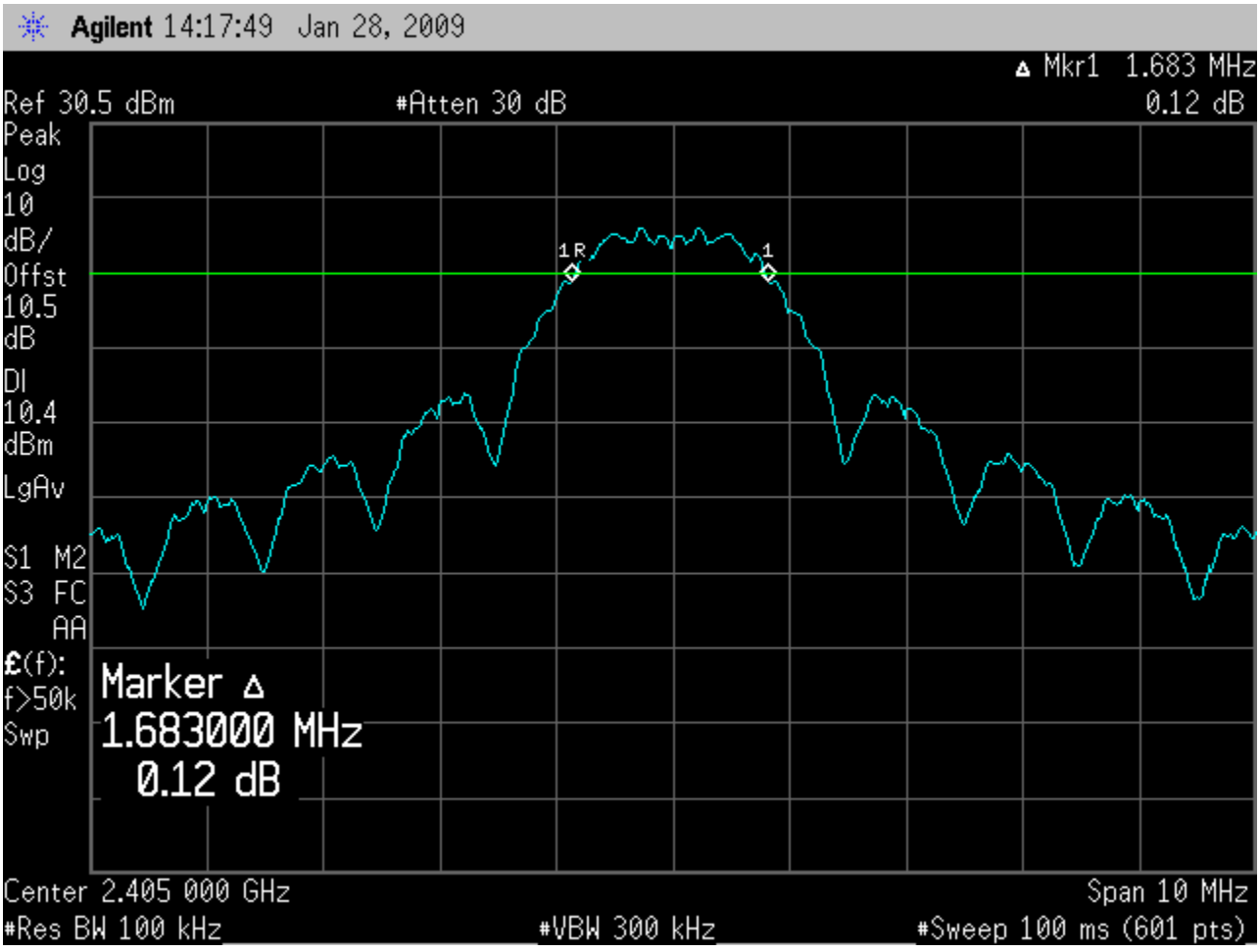
Test Results:

See attached plots.

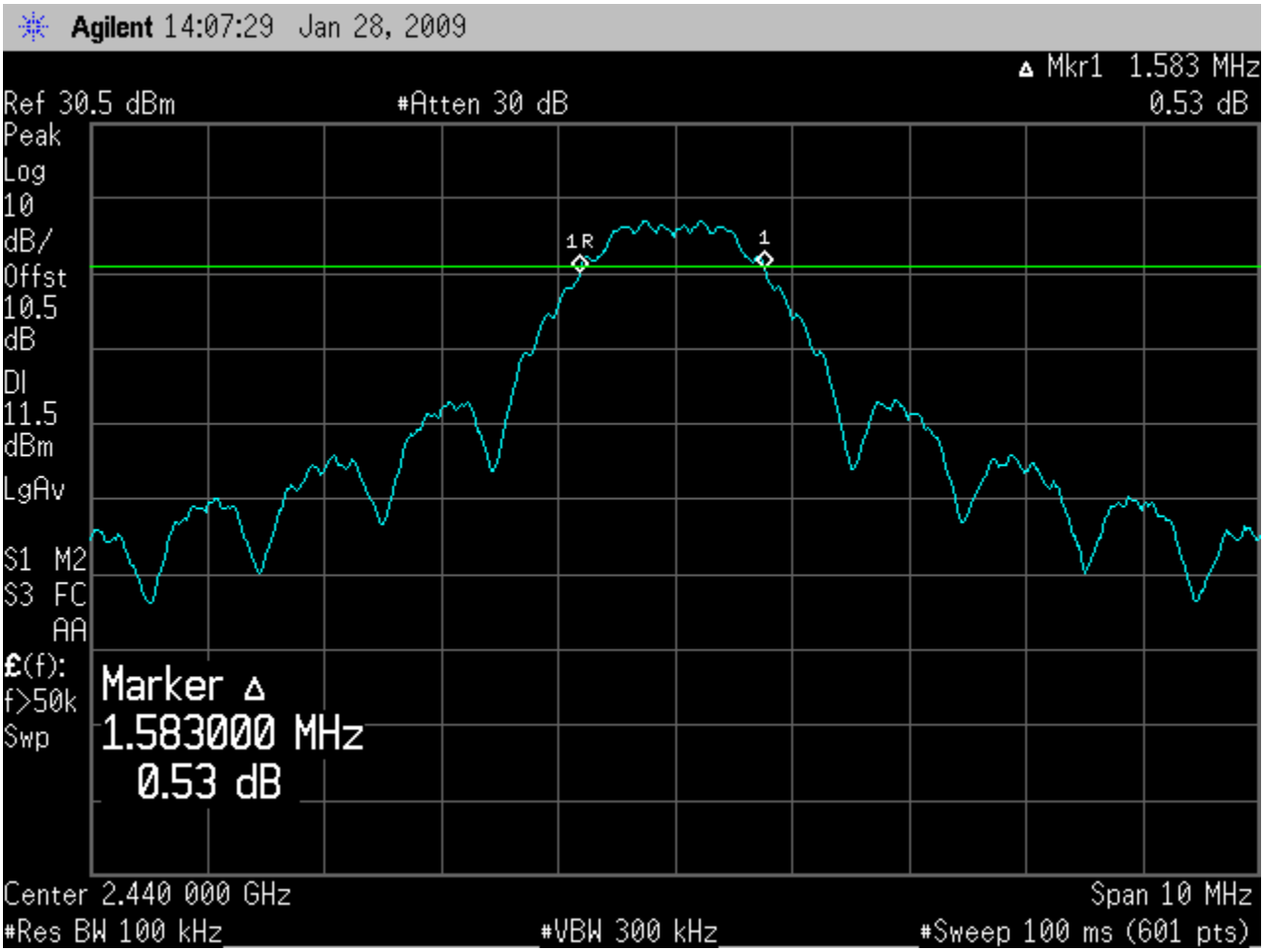
Additional Observations:

- This is a conducted test. The 10.5dB offset is from the external attenuator and cable used.
- Spectrum analyzer RES BW was set to 100 kHz. For each output channel investigated, the spectrum analyzer's center frequency was set to the channel carrier. A peak output max hold reading was taken, a display line was drawn 6 dB lower than peak level. The 6 dB bandwidth was determined from where the channel output spectrum intersected the display line.

Channel Range	6 dB Bandwidth
Low (2405 MHz)	1.683 MHz
Mid (2440 MHz)	1.583 MHz
High (2470 MHz)	1.600 MHz



LOW Channel (2405 MHz)



MID Channel (2440 MHz)

HIGH Channel (2470 MHz)

Section 15.247(b) – Power Output

15.247(b) 3) For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the *maximum conducted output power* is the highest total transmit power occurring in any mode.

Test Conditions:

Sample Number:	Wimetry	**Temperature:**	22
Date:	January 28 and 30, 2009	**Humidity:**	35
Modification State:	Low, Mid and High Channels	**Tester:**	FSCustodio
		Laboratory:	Shield Room #2

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 output (J5) of the EUT.
- Measurements were made at 10.2VDC, 12VDC and 13.8VDC, however no difference on result was observed.
- Maximum antenna gain 2 dBi.

Channel Range MHz	Peak Power Output dBm	Peak Power Output mW
2405	19.65 dBm	90.2
2440	20.52 dBm	112.7
2470	21.01 dBm	126.2

Section 15.247(d) – Spurious Emissions (RF Antenna Port Conducted Test)

15.247(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.

Test Conditions:

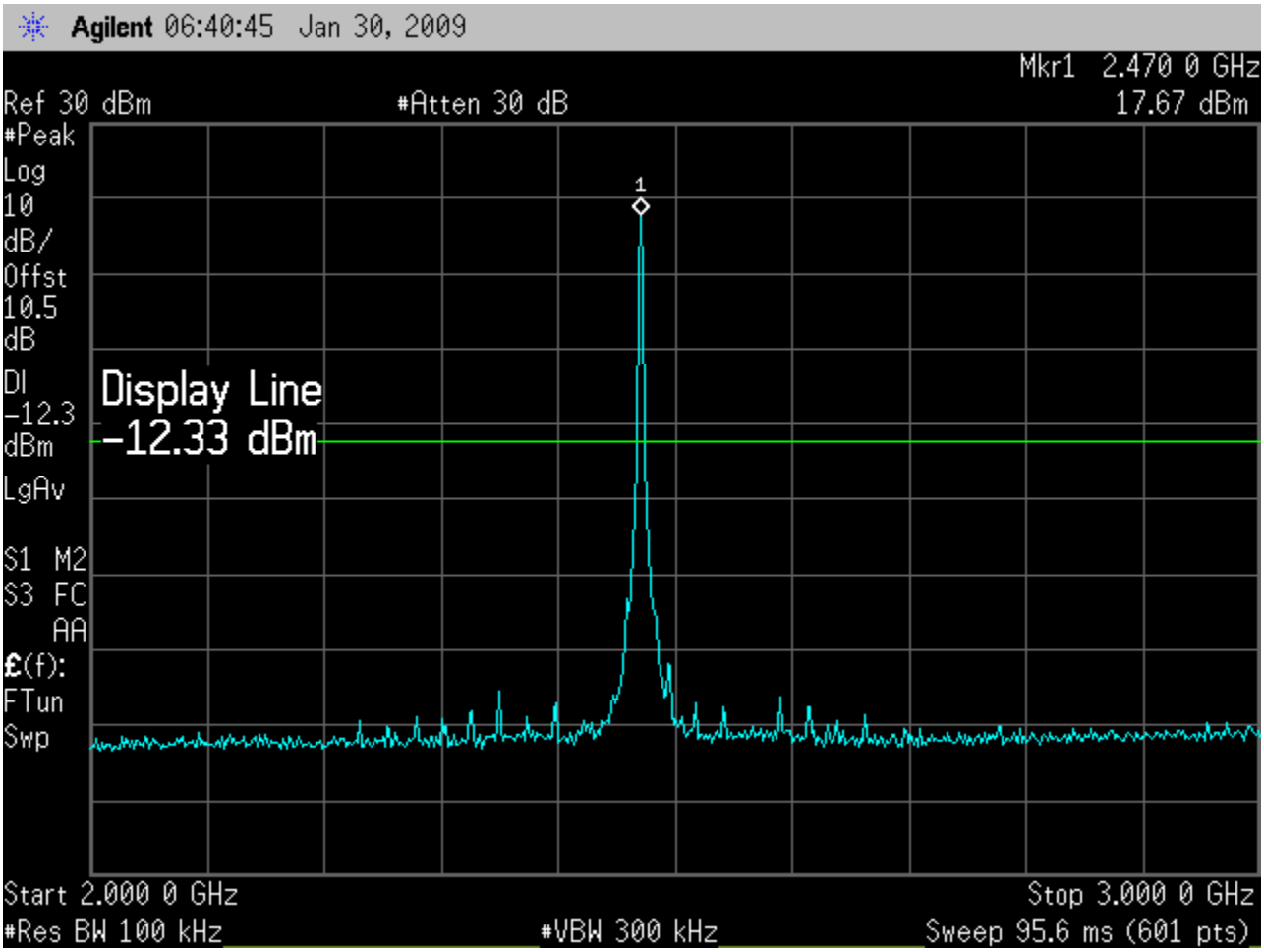
Sample Number:	Wimetry	**Temperature:**	22
Date:	January 28 and 30, 2009	**Humidity:**	35
Modification State:	Low, Mid and High Channels	**Tester:**	FSCustodio
		Laboratory:	Shield Room #2

Test Results:

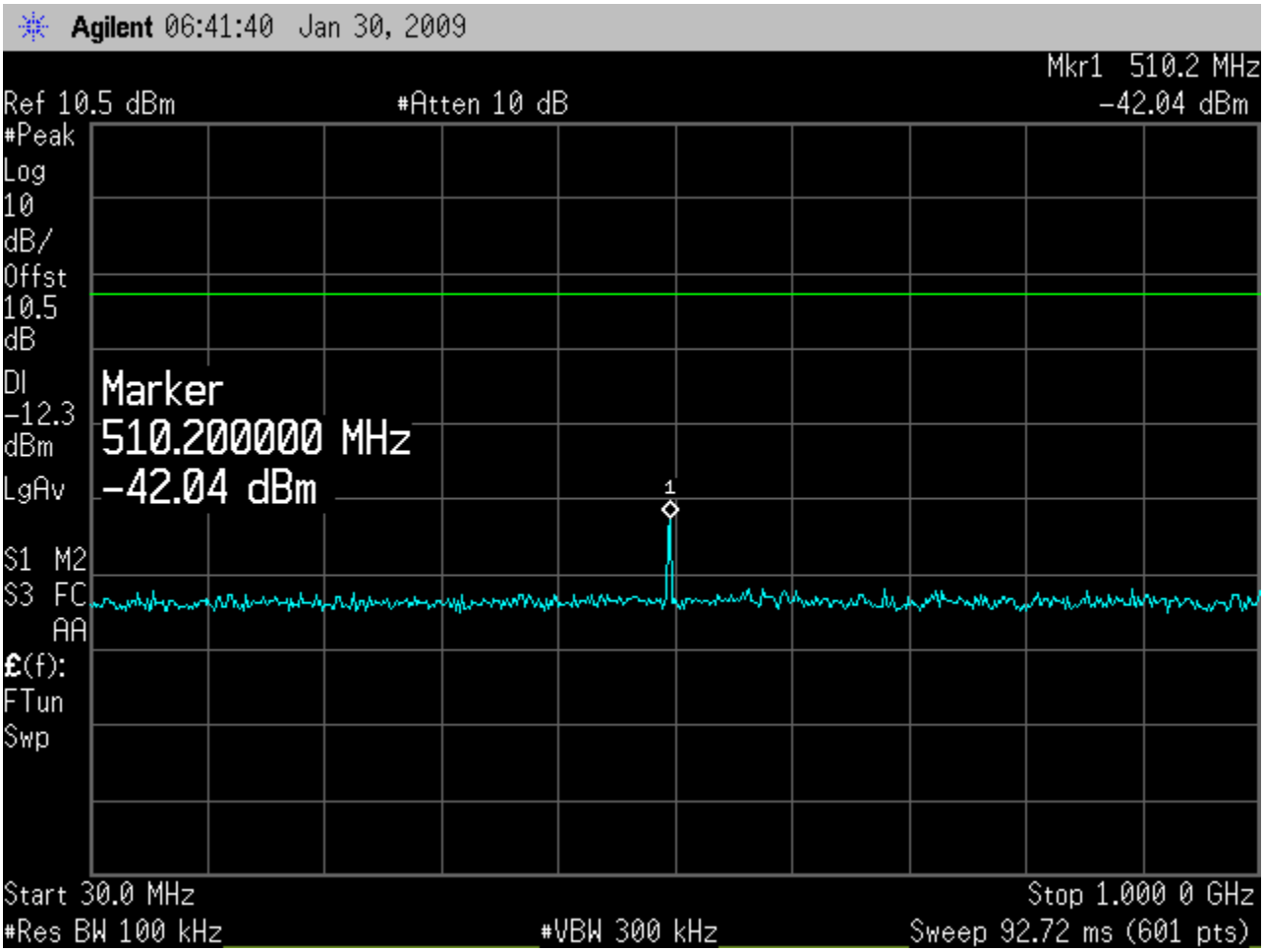
See attached plots.

Additional Observations:

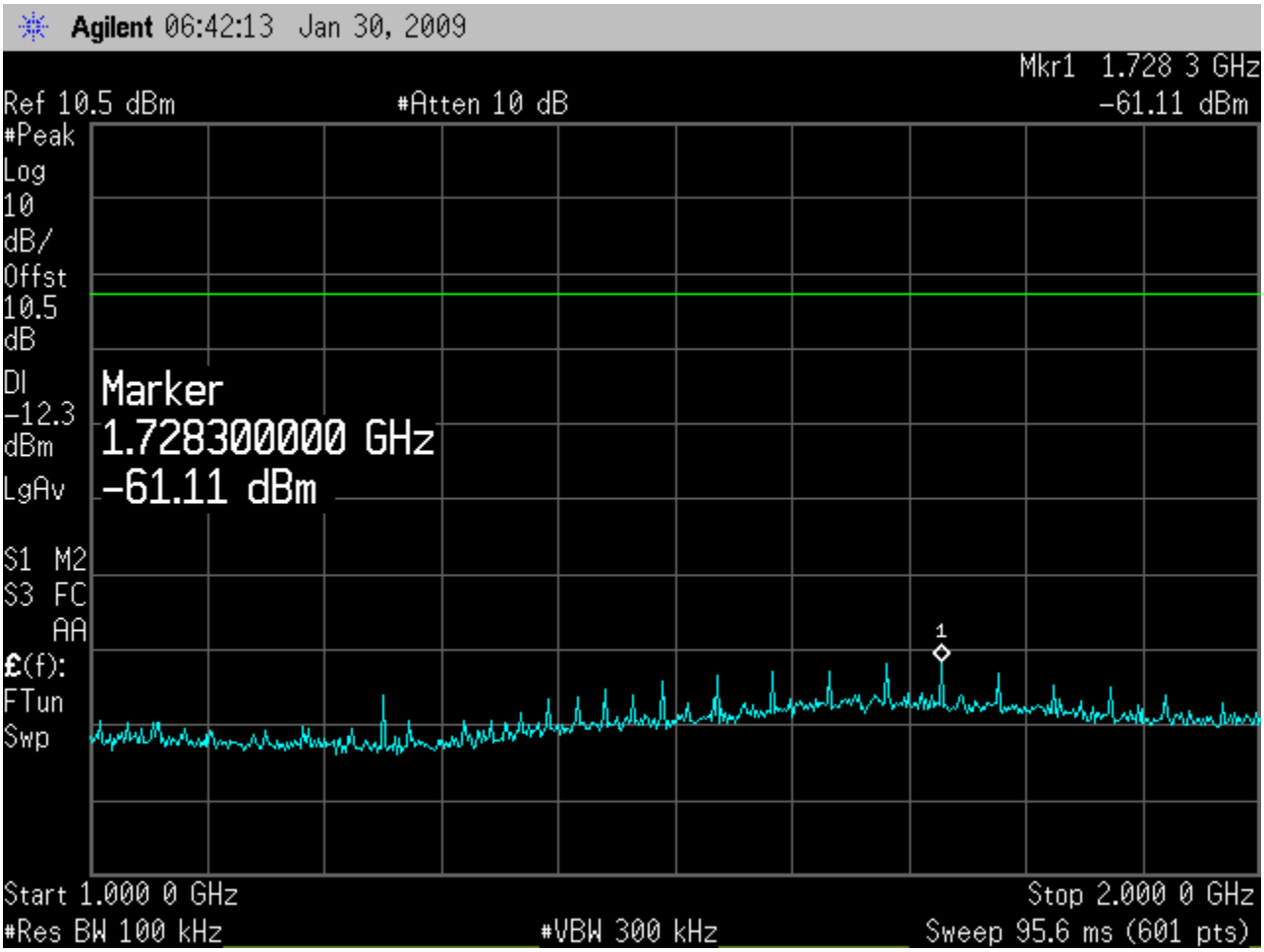
- This is a conducted test. The 10.5dB offset is for the external attenuator and cable used.
- Spectrum analyzer RES BW was set to 100 kHz and VBW to 300 kHz. For each output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A peak output reading was taken; a display line was drawn 30 dB lower than peak level. Limit is 20 dBc. Internal attenuation varied accordingly for each range of measurements to balance protection and resolution for the spectrum analyzer. Max hold detector used.
- Each channel investigated from 30 MHz up to 26.5 GHz.
- High Channel data presented, Low and Mid Channel data located in Appendix B.
- EUT complies.



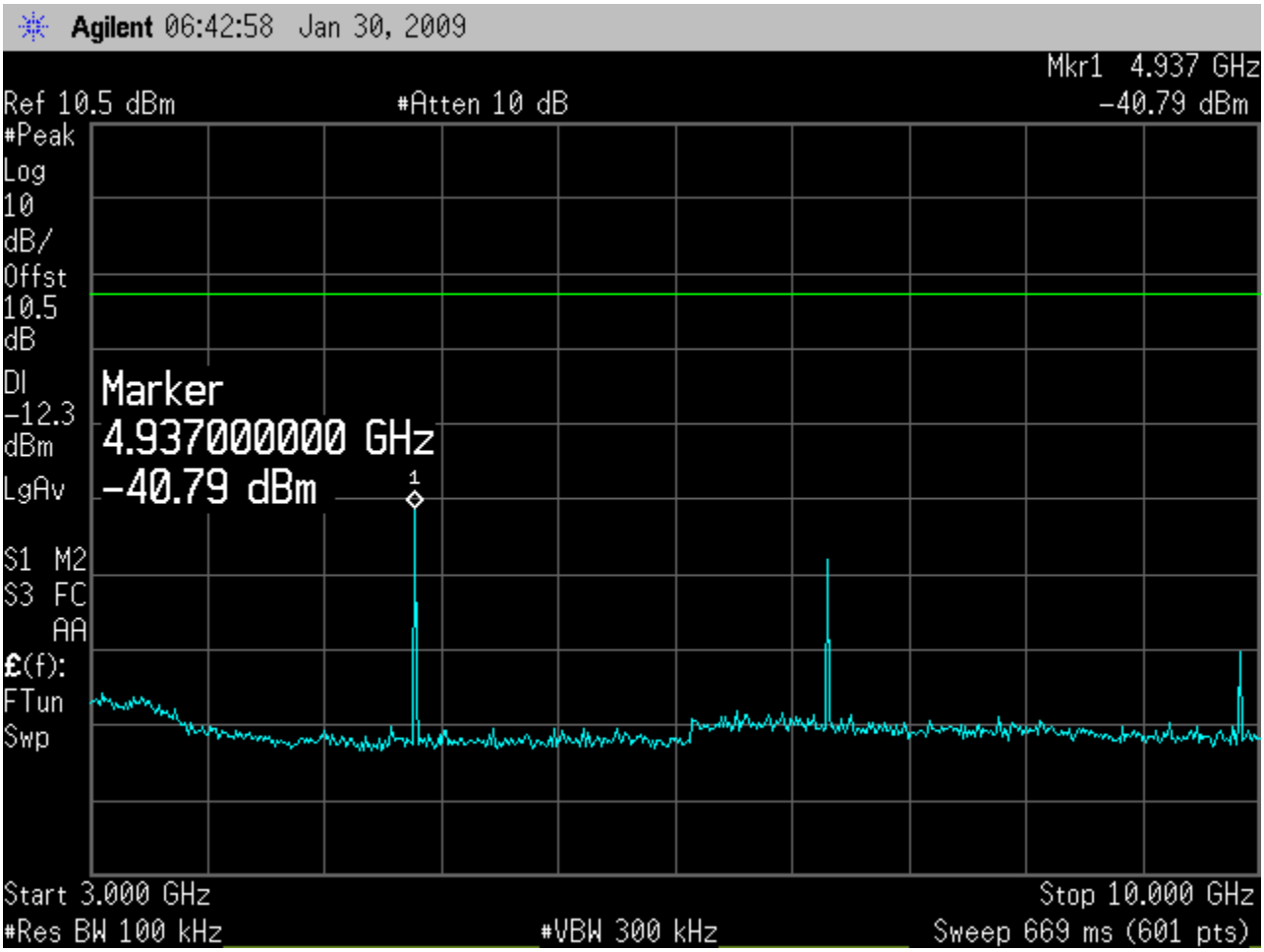
Plots from 2 to 3GHz (Peak) High Channel, Display Line 1 (-12.33 dBm) is the line 30dB below the highest inband emission.



Plots from 30 to 1000MHz (Peak) High Channel, Display Line (-12.33 dBm) is the line 30dB below the highest inband emission.



Plots from 1 to 2GHz (Peak) High Channel, Display Line (-12.33 dBm) is the line 30dB below the highest inband emission.



Plots from 3 to 10GHz (Peak) High Channel, Display Line (-12.33 dBm) is the line 30dB below the highest inband emission.

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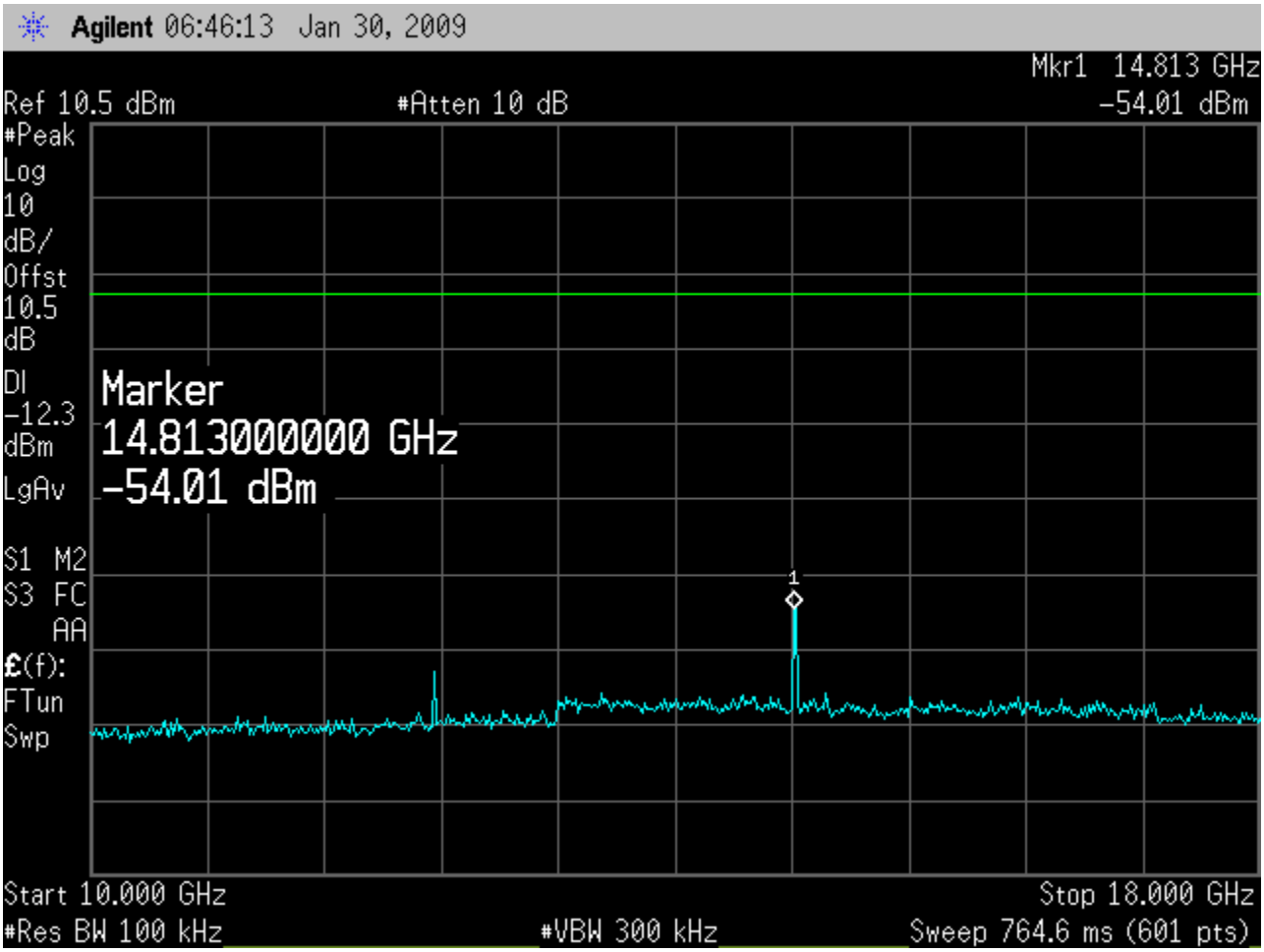

Plots from 10 to 18GHz (Peak) High Channel, Display Line (-12.33 dBm) is the line 30dB below the highest inband emission.

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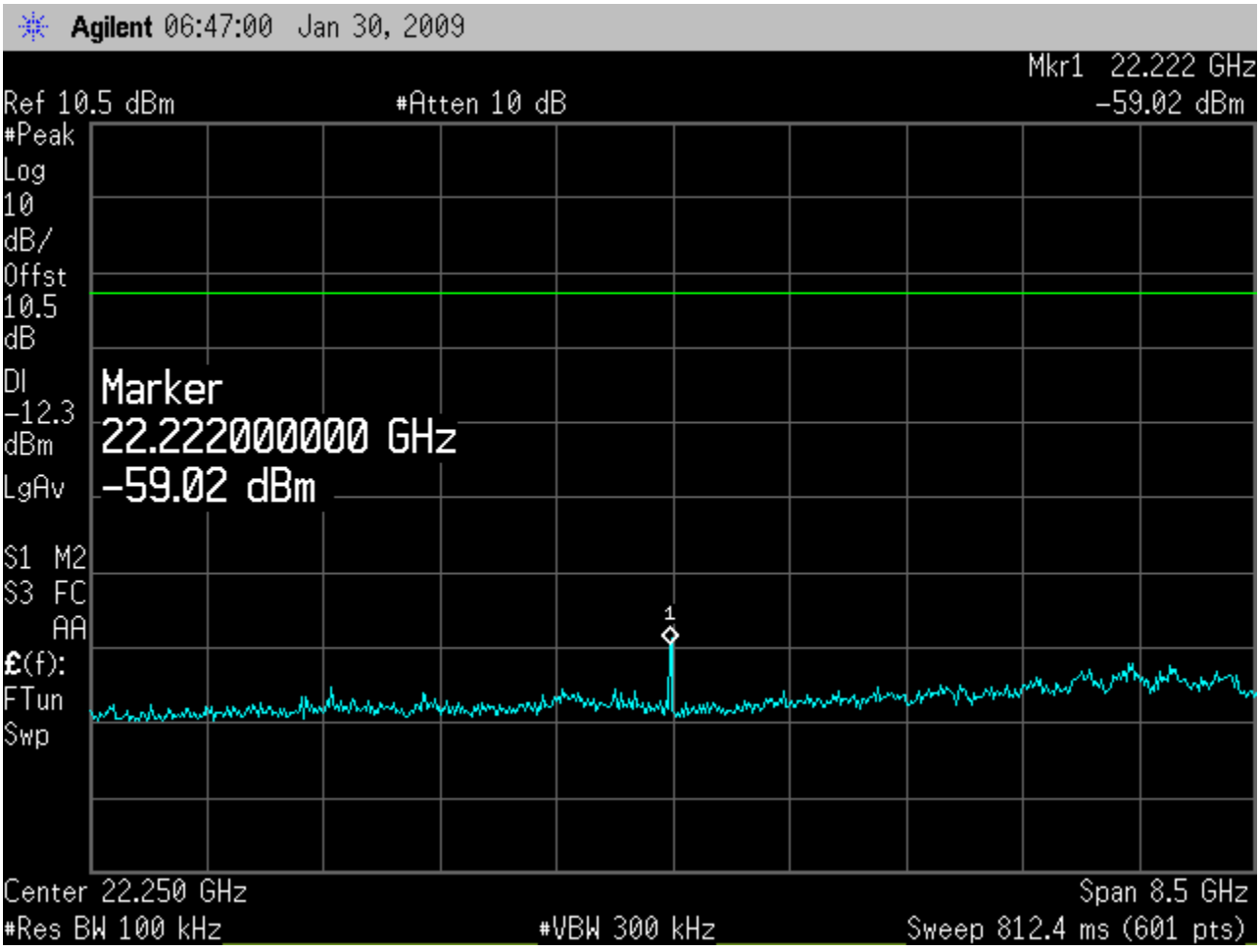
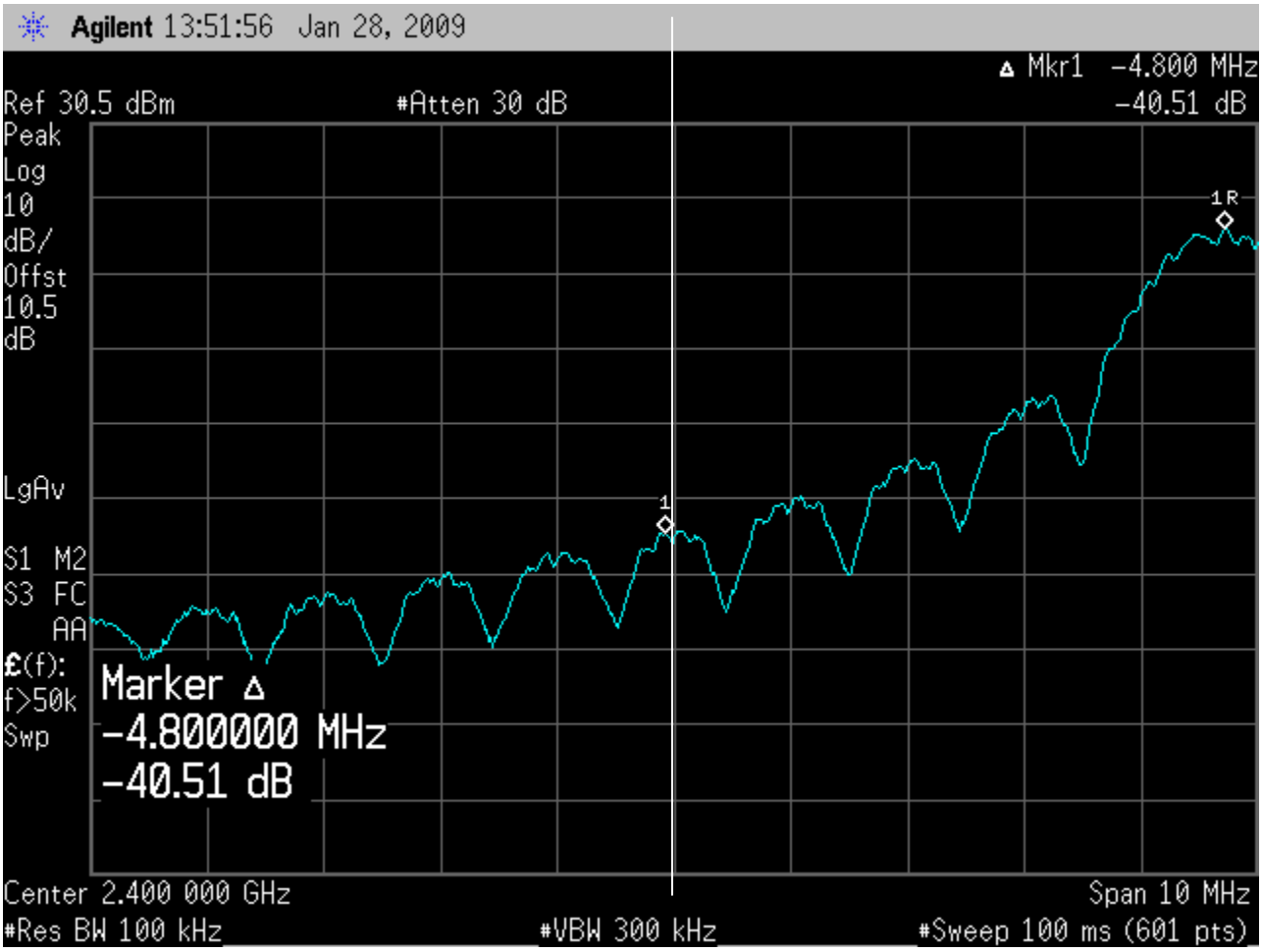
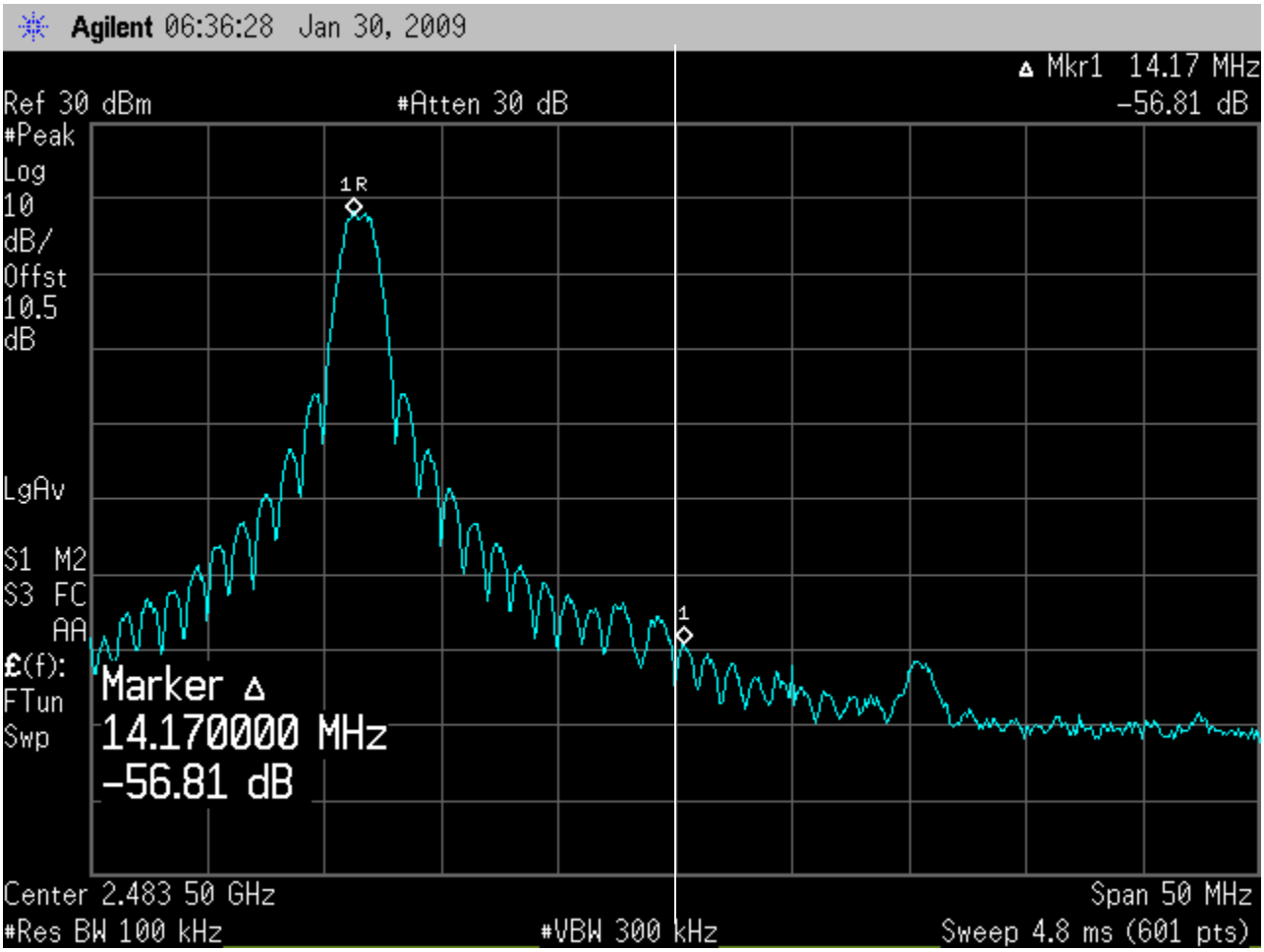


Plots from 18 to 26.5GHz (Peak) High Channel, Display Line (-12.33 dBm) is the line 30dB below the highest inband emission.

Band edge measurements--Conducted:



Low Channel (2405 MHz) @ 100kHz RBW: 40.51 dB from peak



High Channel (2470 MHz) @ 100kHz RBW: 56.81 dB from peak

Section 15.247(d) – Spurious Emissions (Radiated Emission Test)

15.247(d) 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:	Wimetry	**Temperature:**	14
Date:	January 29 and February 17, 2009	**Humidity:**	59
Modification State:	Low, Mid and High Channels	**Tester:**	FSCustodio
		Laboratory:	SOATS

Test Results:

See attached plots.

Additional Observations:

- 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)**.
- The EUT was measured on three orthogonal axes.
- Radiated Measurements below 1GHz were performed at 3m with a Quasi-Peak detector (RBW 120kHz/VBW 300kHz) while Radiated Peak (RBW 1MHz/VBW 3MHz) and Average (RBW 1MHz/VBW 10Hz) measurements conducted above 1GHz.
- Worst Case duty cycle 100 %.

Test Notes: Non-radio, non-intentional spurious emissions.

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Radiated Emissions Data

Job # :	20901	Date :	2/17/2009	Page	1 of 1
NEX #:	121504	Time :	3:30PM		
		Staff :	FSC		
Client Name :	CalAmp Corp. (MN)			EUT Voltage :	120VAC
EUT Name :	Core Module			EUT Frequency :	60
EUT Model # :	Wimetry			Phase:	1
EUT Serial # :	000222			NOATS	
EUT Config. :	Running default program			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.#:	116_3m	Temp. (°C) :	14		
Log Ant.#:	111_3m	Humidity (%) :	59		
DRG Ant. #	877	Spec An.#:	898/911		
Cable LF#:	SOATS	Spec An. Display #:	898/899		
Cable HF#:	40ft	QP #:	898/899		
Preamp LF#:	NA	PreSelect#:	NA		
Preamp HF#	NA				

Quasi-Peak	RBW:	120 kHz
	Video Bandwidth	300 kHz
Peak	RBW:	1 MHz
	Video Bandwidth	3 MHz
Average	RBW:	1 MHz
	Video Bandwidth	10 Hz

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.

Measurements above 1 GHz are Average values, unless otherwise stated.

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
41.3	15.4	24.7	Q		1.0	24.7	39.7	40.0	-0.3	Pass	Ambient
45.2	24.7	15.4	Q		1.0	24.7	38.2	40.0	-1.8	Pass	Ambient
68.3	15.2	15.7	Q		1.0	15.7	23.4	40.0	-16.6	Pass	
150.0	14.6	11.5	Q		1.0	14.6	32.1	43.5	-11.4	Pass	
169.0	14.3	13.5	Q		1.0	14.3	32.4	43.5	-11.1	Pass	
250.0	23.6	23.2	Q		1.0	23.6	39.5	46.0	-6.5	Pass	
350.0	18.8	20.0	Q		1.0	20	38.0	46.0	-8.1	Pass	
550.0	15.7	11.5	Q		1.0	15.7	37.4	46.0	-8.6	Pass	

Test Notes: *No other spurious emissions detected above 1GHz other than harmonics.*

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Radiated Emissions Data

Job # :	20901	Date :	1/29/2009	Page	1 of 1
NEX #:	121504	Time :	12:30PM		
		Staff :	FSC		
Client Name :	CalAmp Corp. (MN)			EUT Voltage :	120VAC
EUT Name :	Core Module			EUT Frequency :	60
EUT Model # :	Wimetry			Phase:	1
EUT Serial # :	000222			NOATS	
EUT Config. :	Running default program			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) :	19.6		
Log Ant.#:	NA	Humidity (%) :	24		
DRG Ant. #	877	Spec An.#:	911		
Cable LF#:	NA	Spec An. Display #:	911		
Cable HF#:	40ft	QP #:	NA		
Preamp LF#:	NA	PreSelect#:	NA		
Preamp HF#	317				

Quasi-Peak	RBW:	120 kHz
	Video Bandwidth	300 kHz
Peak	RBW:	1 MHz
	Video Bandwidth	3 MHz
Average	RBW:	1 MHz
	Video Bandwidth	10 Hz

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.

Measurements above 1 GHz are Average values, unless otherwise stated.

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
2400.0	30.6	29.5	P		1.0	30.6	64.8	74.0	-9.2	Pass	100 kHz BW
2400.0	19.4	18.3	A		1.0	19.4	53.6	54.0	-0.4	Pass	
2483.5	28.7	23.9	P		1.0	28.74	62.9	74.0	-11.1	Pass	No PA
2483.5	18.2	12.4	A		1.0	18.15	52.3	54.0	-1.7	Pass	No PA
4810.0	33.7	33.5	A		1.0	33.73	38.7	54.0	-15.2	Pass	
7215.0	29.9	30.0	A		1.0	29.98	44.8	54.0	-9.2	Pass	Noise Floor
9620.0	28.6	28.5	A		1.0	28.6	47.7	54.0	-6.3	Pass	Noise Floor
4880.0	34.1	33.9	A		1.0	34.14	39.1	54.0	-14.8	Pass	
7320.0	29.1	29.1	A		1.0	29.06	44.0	54.0	-10.0	Pass	Noise Floor
9760.0	29.2	29.3	A		1.0	29.25	48.5	54.0	-5.5	Pass	Noise Floor
4939.9	33.1	33.2	A		1.0	33.18	38.4	54.0	-15.6	Pass	
7409.9	30.0	29.7	A		1.0	30.03	45.2	54.0	-8.8	Pass	Noise Floor
9879.9	29.6	29.5	A		1.0	29.61	48.9	54.0	-5.0	Pass	Noise Floor

Test Notes: *Radiated Emission test result using the patch antenna (Wimetry 2.4GHz PN133330).*

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Radiated Emissions Data

Job # :	20901	Date :	2/17/2009	Page	1 of 1
NEX #:	121504	Time :	1PM		
		Staff :	FSC		
Client Name :	CalAmp Corp. (MN)			EUT Voltage :	120VAC
EUT Name :	Concentrator			EUT Frequency :	60
EUT Model # :	Wimetry			Phase:	1
EUT Serial # :	000222			NOATS	
EUT Config. :	Running default program			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.#:	116_3m	Temp. (°C) :	15.8		
Log Ant.#:	111_3m	Humidity (%) :	53		
DRG Ant. #	877	Spec An.#:	898/899		
Cable LF#:	SOATS	Spec An. Display #:	898/899		
Cable HF#:	SOATS	QP #:	898/899		
Preamp LF#:	NA	PreSelect#:	NA		
Preamp HF#	NA				

Quasi-Peak	RBW:	120 kHz
	Video Bandwidth	300 kHz
Peak	RBW:	1 MHz
	Video Bandwidth	3 MHz
Average	RBW:	1 MHz
	Video Bandwidth	10 Hz

Measurements below 1 GHz are Quasi-Peak values, unless otherwise stated.

Measurements above 1 GHz are Average values, unless otherwise stated.

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
150.0	14.8	18.2	Q	B	2.0	18.2	35.7	43.5	-7.8	Pass	
250.0	9.3	8.8	Q	F	1.0	9.3	25.2	46.0	-20.8	Pass	
264.0	12.1	17.1	Q	F	1.0	17.1	34.6	46.0	-11.4	Pass	
288.0	15.0	18.2	Q	F	1.0	18.2	35.9	46.0	-10.1	Pass	
350.0	6.8	14.5	Q	B	1.0	14.5	32.5	46.0	-13.6	Pass	
450.0	10.6	6.2	Q	B	1.0	10.6	30.3	46.0	-15.8	Pass	
550.0	11.9	8.3	Q	R	1.0	11.9	33.6	46.0	-12.4	Pass	
722.5	19.9	19.6	Q	L	1.0	19.9	45.1	46.0	-0.9	Pass	
812.8	10.4	12.2	Q	B	1.0	12.2	38.1	46.0	-7.9	Pass	
1085.0	7.8	7.6	A	B	1.0	7.8	35.6	54.0	-18.3	Pass	Noise Floor
1175.6	7.6	7.6	A	B	1.0	7.6	35.7	54.0	-18.3	Pass	Noise Floor

Section 15.247(e) – Power Spectral Density

15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Conditions:

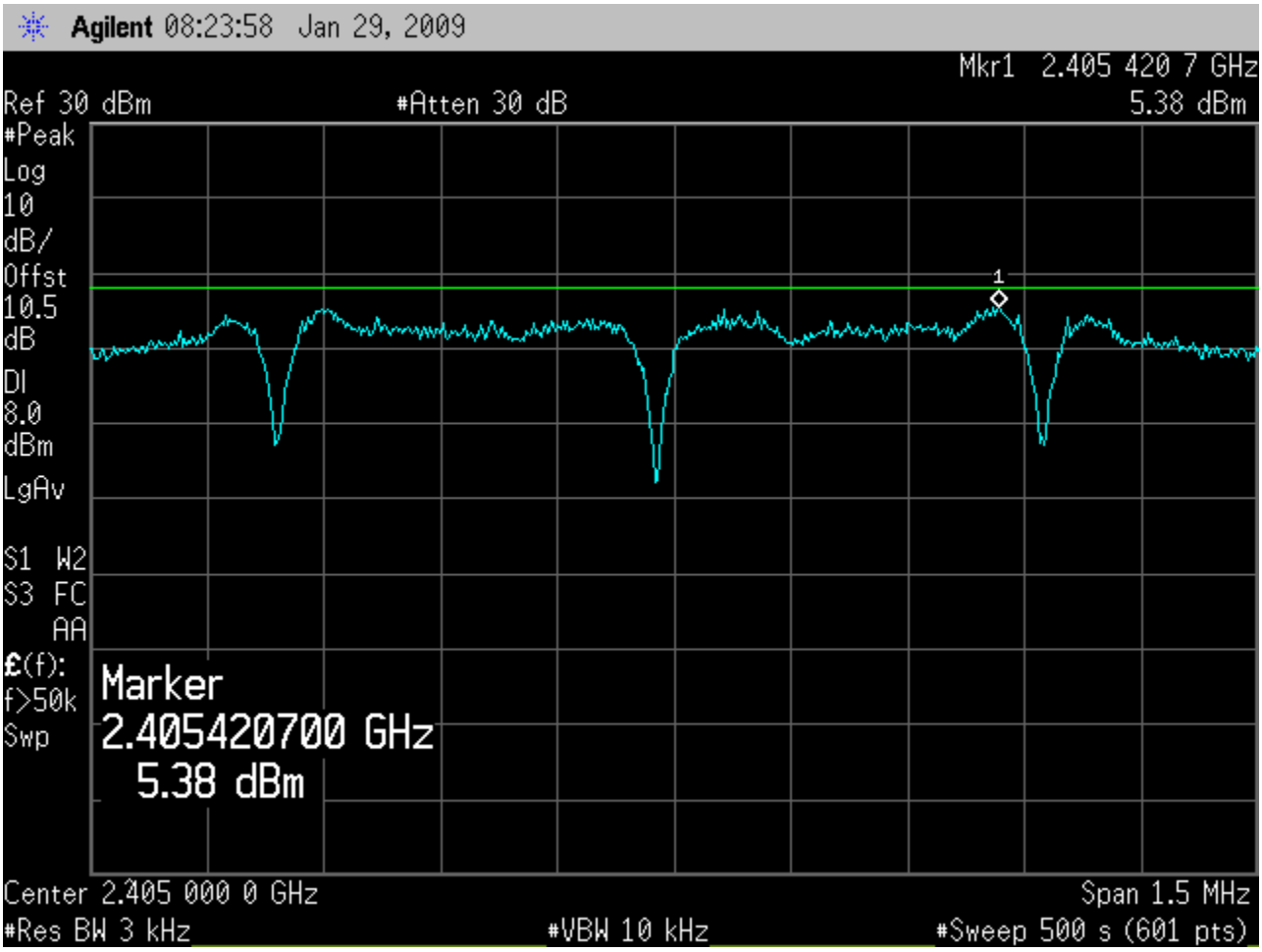
Sample Number:	Wimetry	**Temperature:**	22
Date:	January 29 and 30, 2009	**Humidity:**	35
Modification State:	Low, Mid and High Channels	**Tester:**	FSCustodio
		Laboratory:	Shield Room #2

Test Results:

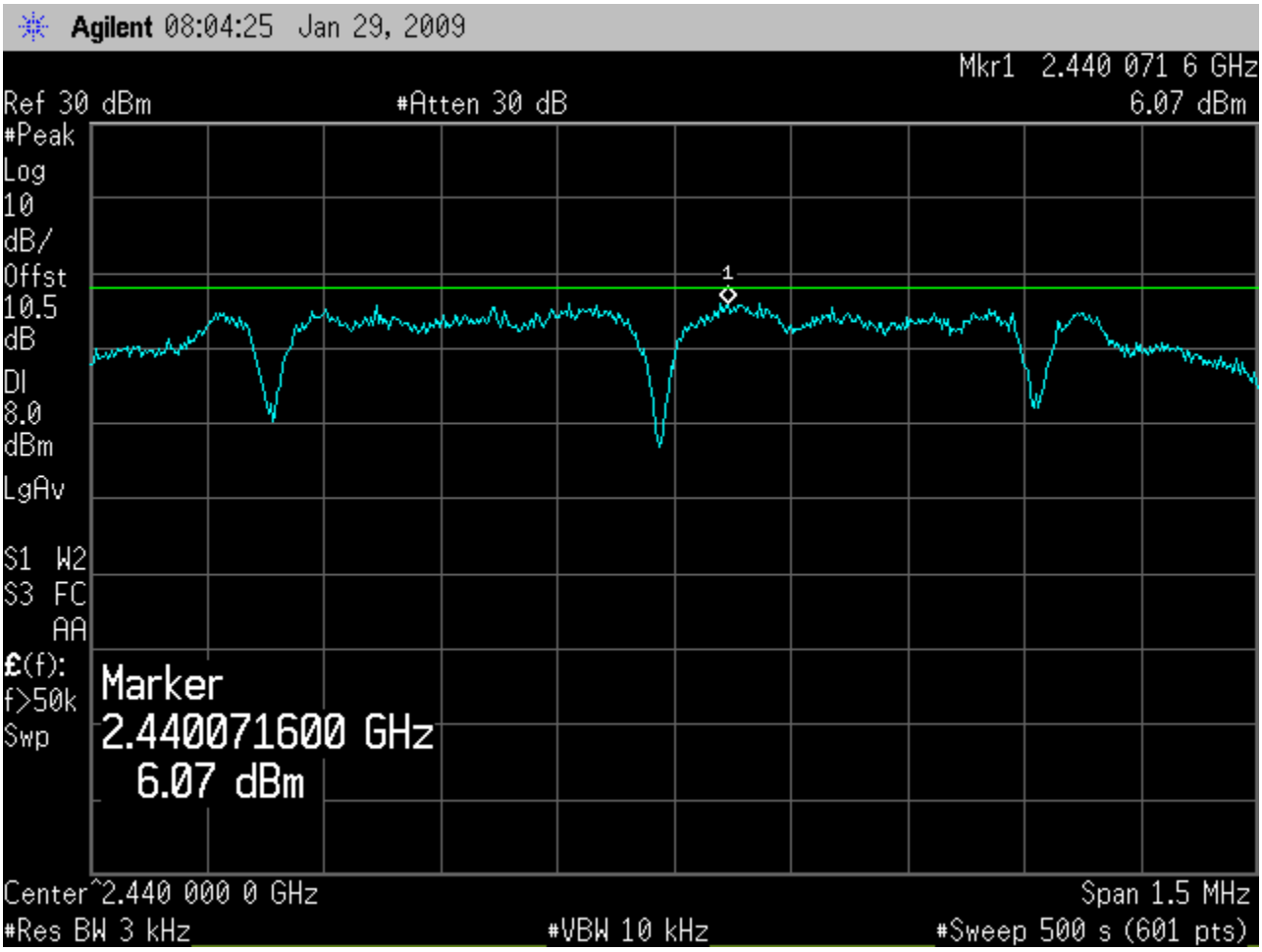
See attached plots.

Additional Observations:

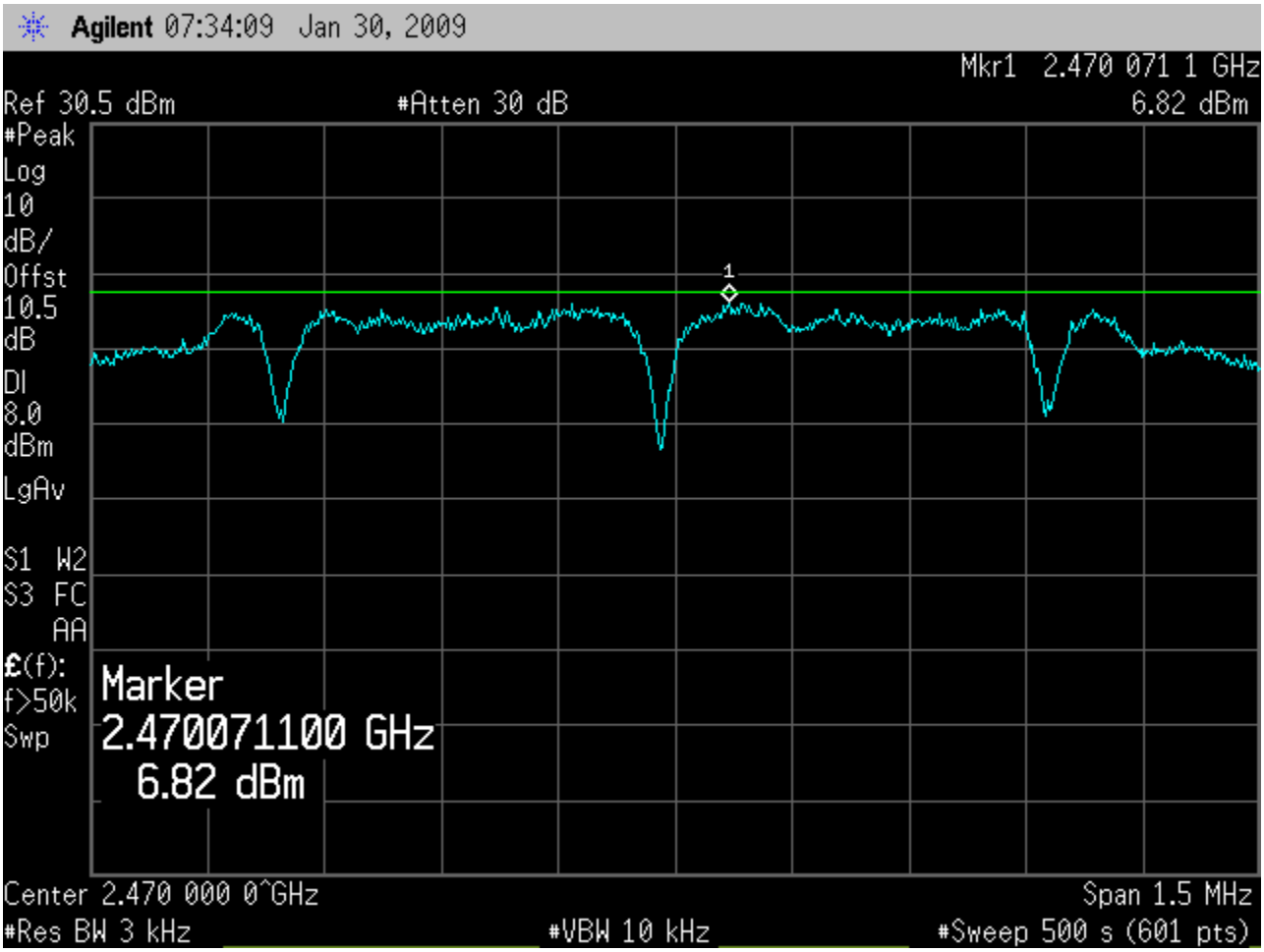
- This is a conducted test. The 10.5dB offset is from the external attenuator and cable used.
- Analyzer RES BW was set to 3 kHz, VBW to 10 kHz, Span to 1.5 MHz with sweep time of 500 seconds. Max Hold detector.
- Peak level obtained after the 500-second sweeps are compared to the +8 dBm limit for each channel.



Low Channel 2405 MHz



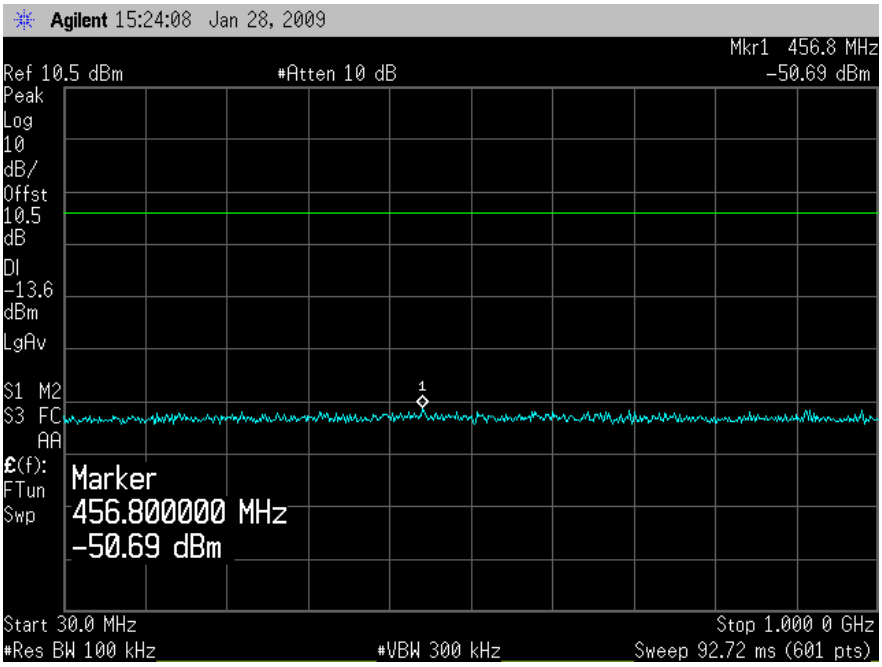
Mid Channel 2440 MHz

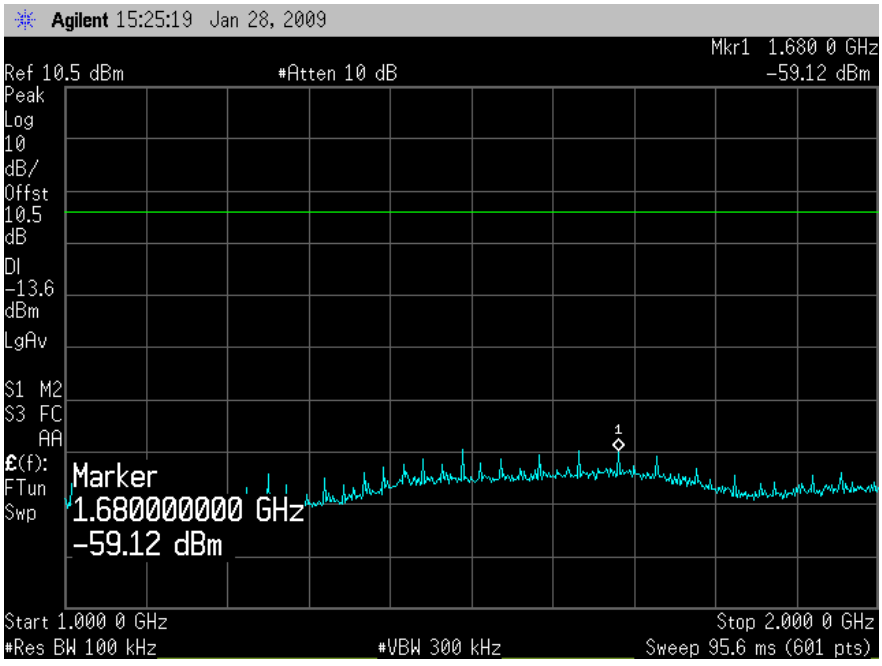


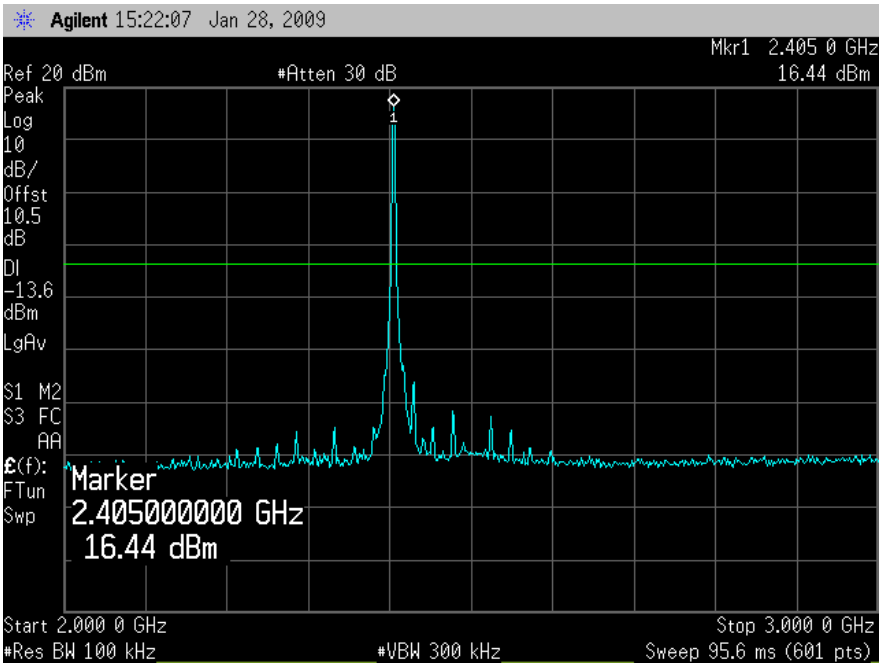
High Channel 2470 MHz

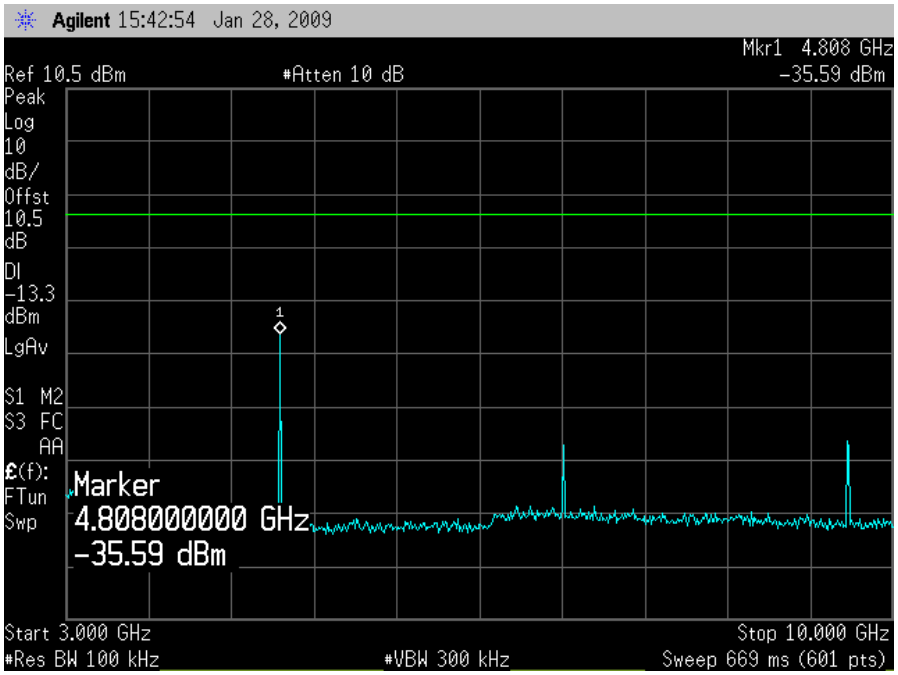
Appendix B: Section 15.247(d) – Spurious Emissions (RF Antenna Conducted Test) data for Low and Mid Channels

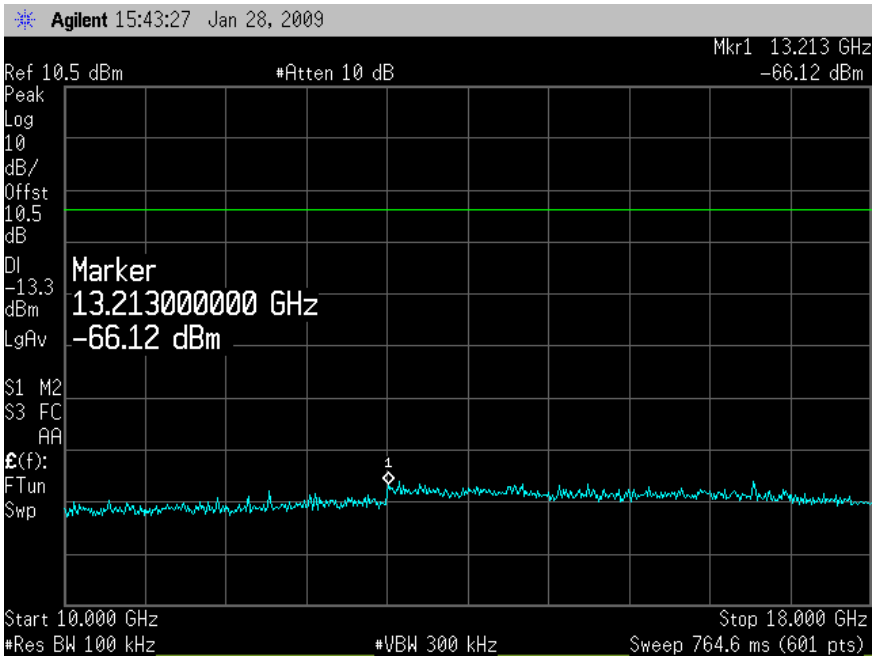
Low Channel

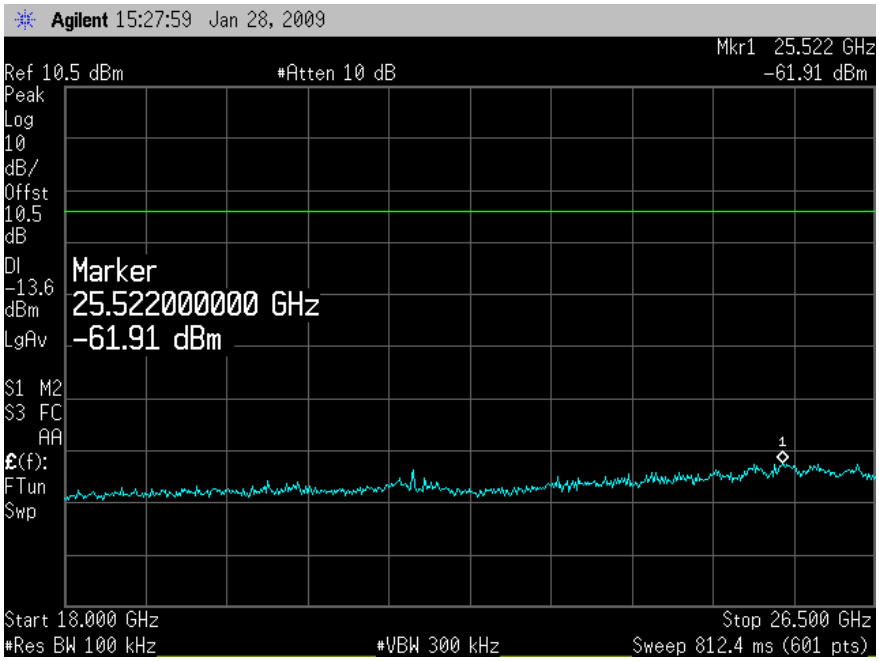




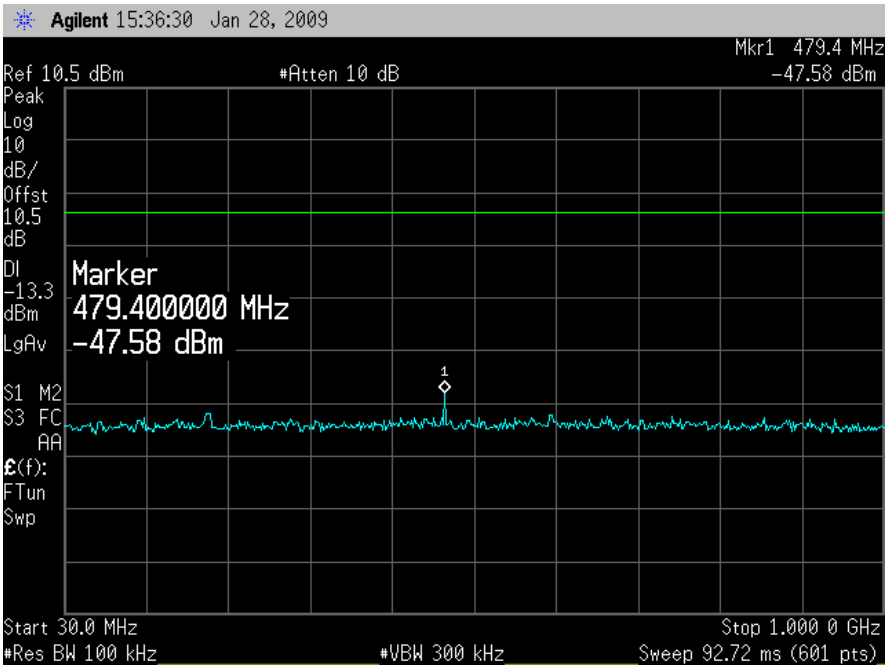


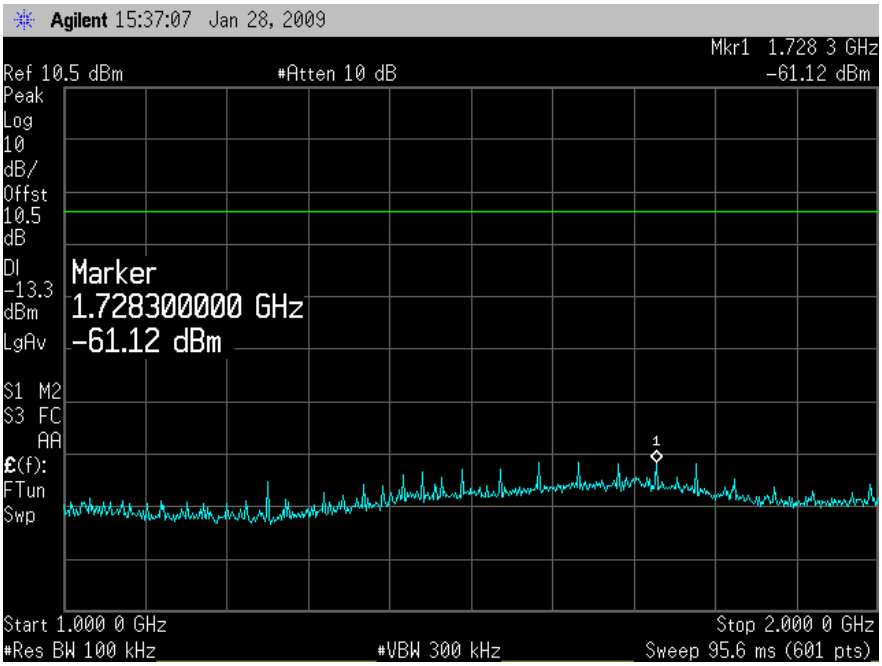


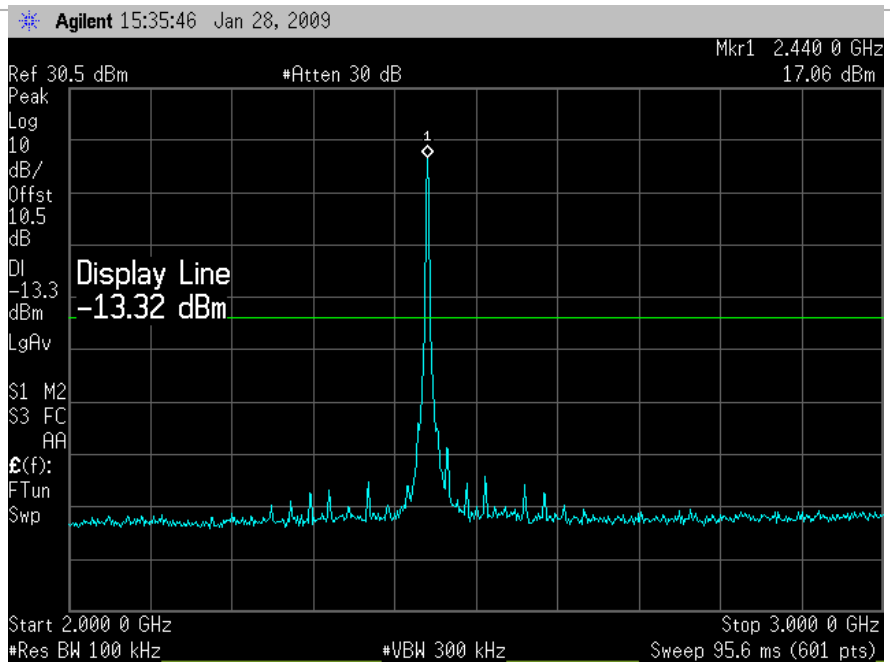


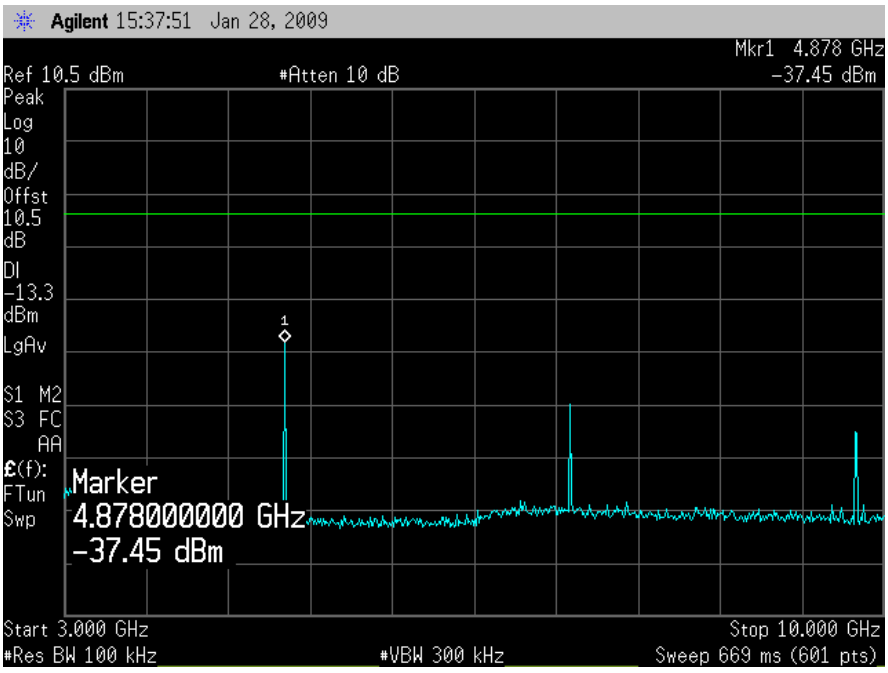


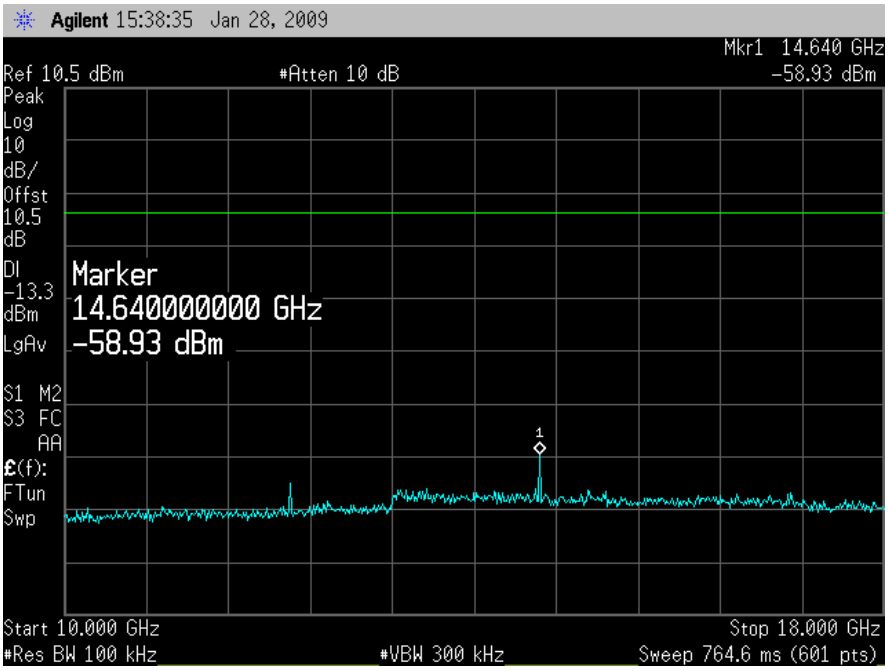
Mid Channel

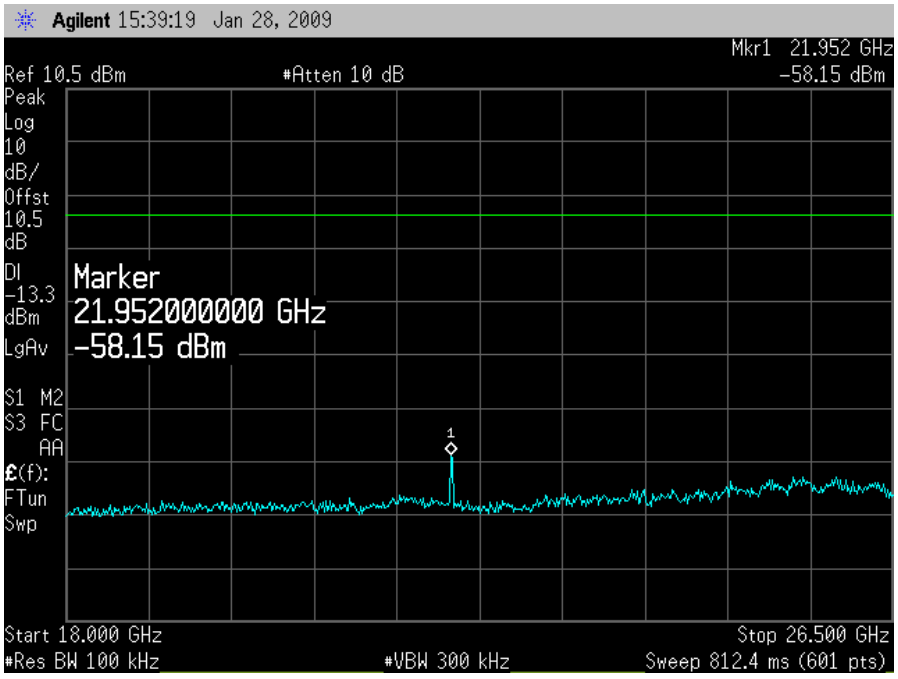












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Appendix C: Block Diagram of Test Setups

Test Site For Radiated Emissions