



Test Report

Product Name : Iqua Vizor
Model No. : PHF-602
FCC ID : TUFPHF-602

Applicant : Iqua Ltd.
Address : Kimmeltie 3, 02110 Espoo, Finland

Date of Receipt : 2007/06/20
Issued Date : 2007/07/10
Report No. : 076S055-RF-US-P06V01

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.

This report must not be used to claim product endorsement by CNLA, NVLAP, NIST or any agency of the Government.

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Test Report Certification

Issued Date : 2007/07/10

Report No. : 076S055-RF-US-P06V01




Product Name : Iqua Vizor
 Applicant : Iqua Ltd.
 Address : Kimmeltie 3, 02110 Espoo, Finland
 Manufacturer : Iqua Ltd.
 Model No. : PHF-602
 FCC ID : TUFPHF-602
 Rated Voltage : AC 120 V / 60 Hz
 EUT Voltage : DC 3.7V
 Trade Name : IQUA
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2007
 ANSI C63.4: 2003
 Test Result : Complied
 Performed Location : SuZhou EMC laboratory
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 Hi-Tech Development Zone., SuZhou, China
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Laboratory Information

We , **QuietTek Corporation**, are an independent EMC and safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025, EN 45001 and Guide 25:

Taiwan R.O.C.	: BSMI, DGT, CNLA
Germany	: TÜV Rheinland
Norway	: Nemko, DNV
USA	: FCC, NVLAP
Japan	: VCCI

The related certificate for our laboratories about the test site and management system can be downloaded from QuietTek Corporation's Web Site : <http://tw.quietek.com/modules/myalbum/>
 The address and introduction of QuietTek Corporation's laboratories can be founded in our Web site : <http://www.quietek.com/>
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1. General Information

1.1. EUT Description

Product Name	Iqua Vizor
Trade Name	IQUA
Model No.	PHF-602
FCC ID	TUFPHF-602
Working Voltage	DC 3.7V
Frequency Range	2400 - 2483.5MHz
Channel Number	79
Type of Modulation	Frequency Hopping Spread Spectrum
Channel Control	Auto
Antenna type	CHIP
Antenna Gain	-3.5dBi

Component	
Vehicular Adapter	M/N: TTX-06500 Input: DC12~24V, Output: DC5.0V 0.5mA
USB Cable	Shielded, 1.6m

Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 01:	2403 MHz	Channel 02:	2404 MHz	Channel 03:	2405 MHz
Channel 04:	2406 MHz	Channel 05:	2407 MHz	Channel 06:	2408 MHz	Channel 07:	2409 MHz
Channel 08:	2410 MHz	Channel 09:	2411 MHz	Channel 10:	2412 MHz	Channel 11:	2413 MHz
Channel 12:	2414 MHz	Channel 13:	2415 MHz	Channel 14:	2416 MHz	Channel 15:	2417 MHz
Channel 16:	2418 MHz	Channel 17:	2419 MHz	Channel 18:	2420 MHz	Channel 19:	2421 MHz
Channel 20:	2422 MHz	Channel 21:	2423 MHz	Channel 22:	2424 MHz	Channel 23:	2425 MHz
Channel 24:	2426 MHz	Channel 25:	2427 MHz	Channel 26:	2428 MHz	Channel 27:	2429 MHz
Channel 28:	2430 MHz	Channel 29:	2431 MHz	Channel 30:	2432 MHz	Channel 31:	2433 MHz
Channel 32:	2434 MHz	Channel 33:	2435 MHz	Channel 34:	2436 MHz	Channel 35:	2437 MHz
Channel 36:	2438 MHz	Channel 37:	2439 MHz	Channel 38:	2440 MHz	Channel 39:	2441 MHz
Channel 40:	2442 MHz	Channel 41:	2443 MHz	Channel 42:	2444 MHz	Channel 43:	2445 MHz
Channel 44:	2446 MHz	Channel 45:	2447 MHz	Channel 46:	2448 MHz	Channel 47:	2449 MHz
Channel 48:	2450 MHz	Channel 49:	2451 MHz	Channel 50:	2452 MHz	Channel 51:	2453 MHz
Channel 52:	2454 MHz	Channel 53:	2455 MHz	Channel 54:	2456 MHz	Channel 55:	2457 MHz
Channel 56:	2458 MHz	Channel 57:	2459 MHz	Channel 58:	2460 MHz	Channel 59:	2461 MHz
Channel 60:	2462 MHz	Channel 61:	2463 MHz	Channel 62:	2464 MHz	Channel 63:	2465 MHz
Channel 64:	2466 MHz	Channel 65:	2467 MHz	Channel 66:	2468 MHz	Channel 67:	2469 MHz
Channel 68:	2470 MHz	Channel 69:	2471 MHz	Channel 70:	2472 MHz	Channel 71:	2473 MHz
Channel 72:	2474 MHz	Channel 73:	2475 MHz	Channel 74:	2476 MHz	Channel 75:	2477 MHz
Channel 76:	2478 MHz	Channel 77:	2479 MHz	Channel 78:	2480 MHz		

1.2. Mode of Operation

Quietek has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: Transmit

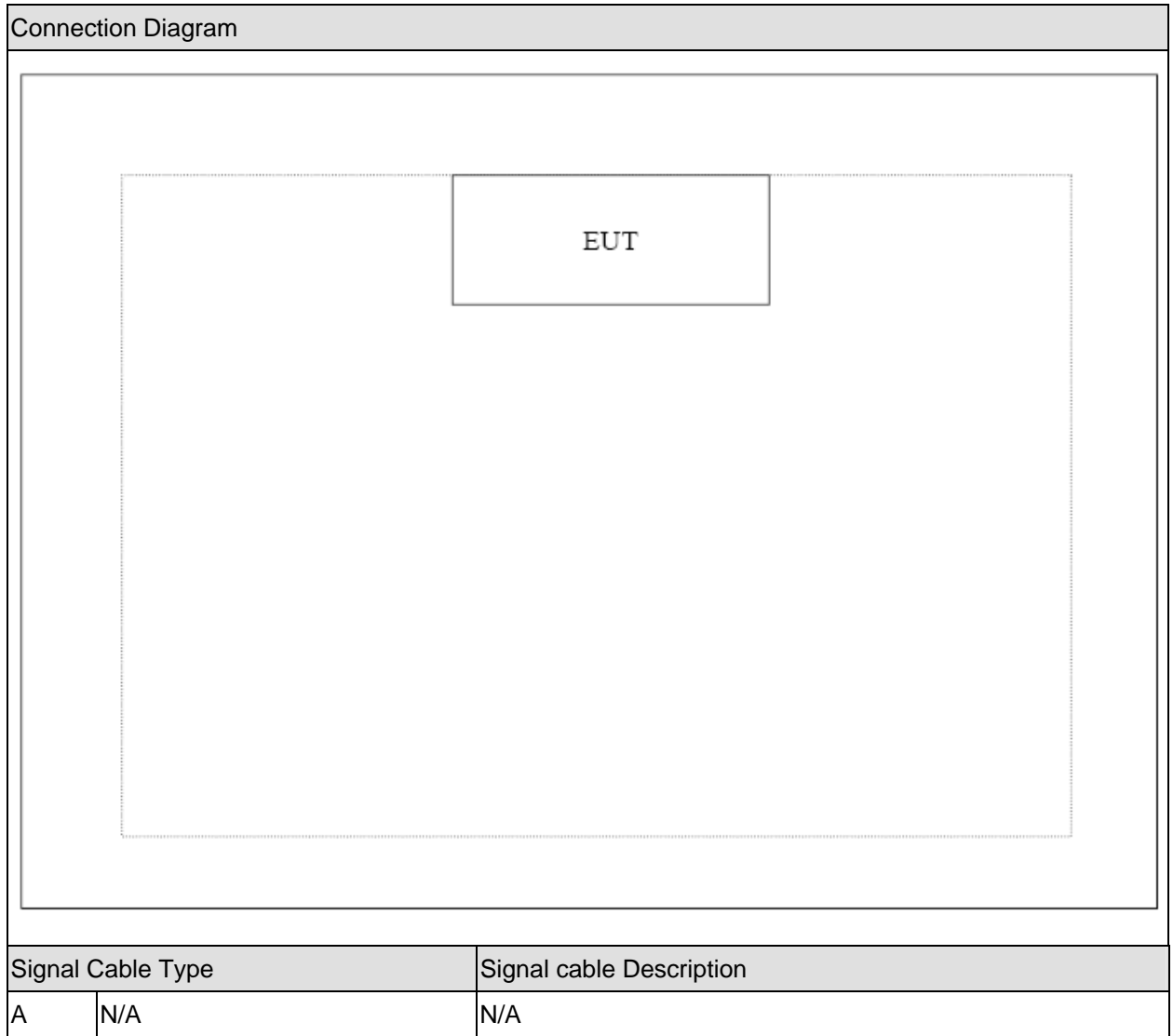
- Note: 1. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.
2. This device is a composite device in accordance with Part 15 Subpart B regulations. The function for the receiver was measured and made a test report that the report number is 076S055-RF-US-P01V02, certified under Declaration of Conformity.

1.3. Tested System Details

The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	N/A	N/A	N/A	N/A	N/A

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Connect the EUT to PC via a control board and a RS232 cable.
3	Execute the Blue Test program on the PC.
4	Setup the test channel and the test mode press ok to start the Continue Transmit.

2. Technical Test

2.1. Summary of Test Result

- No deviations from the test standards
- Deviations from the test standards as below description:

Performed Test Item	Normative References	Test Performed	Deviation
Conducted Emission	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.207	N/A	No
Radiated Emission	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.209	Yes	No
Peak Power Output	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(b)(1)	Yes	No
Occupied Bandwidth	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(1)	Yes	No
Band Edge	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(d)	Yes	No
Channel Number	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(1)(iii)	Yes	No
Channel Separation	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(1)	Yes	No
Dwell Time	FCC CFR Title 47 Part 15 Subpart C: 2007 Section 15.247(a)(1)(iii)	Yes	No

2.2. Test Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	21
Humidity (%RH)	25-75	50
Barometric pressure (mbar)	860-1060	950-1000

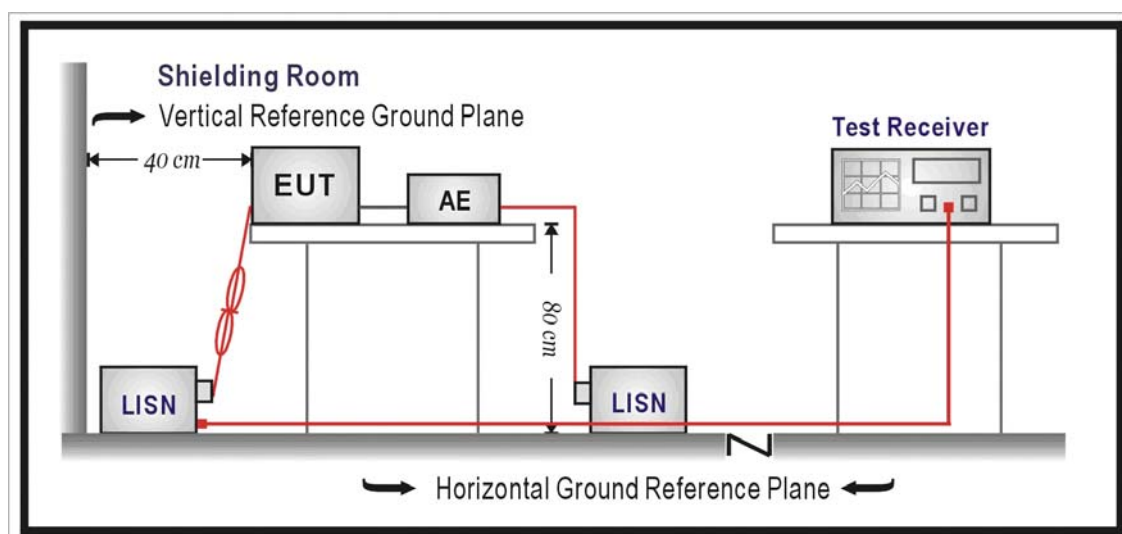
3. Conducted Emission

3.1. Test Equipment

Conducted Emission / SR-1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
EMI Test Receiver	R&S	ESCI	100176	2006/11/22
Two-Line V-Network	R&S	ENV216	100013	2006/11/20
Two-Line V-Network	R&S	ENV216	100014	2006/11/20
50ohm Coaxial Switch	ANRITSU	MP59B	6200464462	2006/11/25
50ohm Termination	SHX	50ohml	QT-IM001	2007/03/20
Coaxial Cable	Luthi	RG214	519358	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH004	2007/03/31

3.2. Test Setup



3.3. Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

3.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5. Uncertainty

The measurement uncertainty is defined as ± 2.02 dB

3.6. Test Result

EUT is a DC (3.7V) power device, so the test item is not necessary performed.

4. Radiated Emission

4.1. Test Equipment

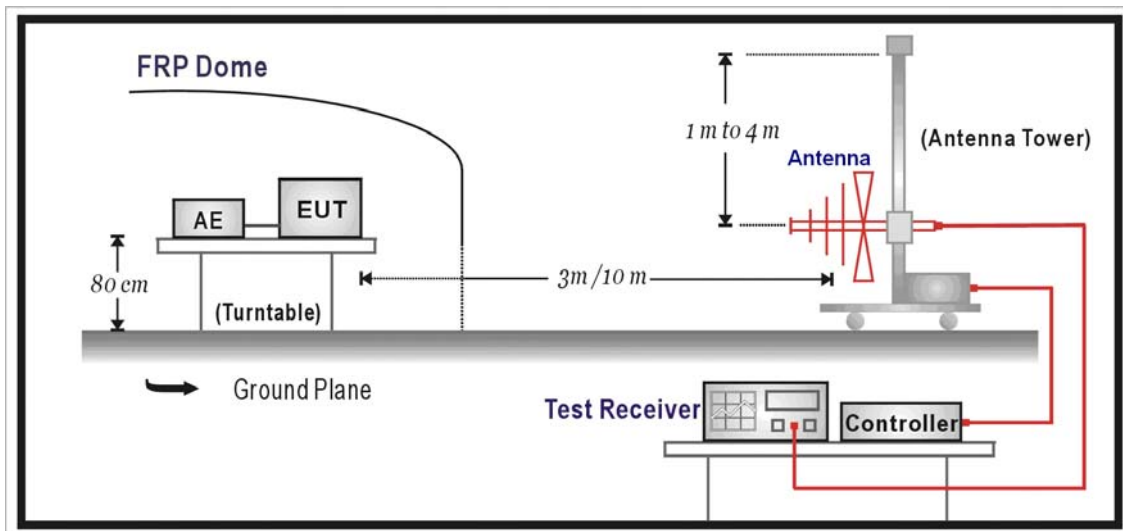
Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2006/11/20
EMI Test Receiver	R&S	ESCI	100573	2007/05/23
Preamplifier	Quietek	AP-025C	QT-AP003	2006/11/25
Preamplifier	Quietek	AP-180C	CHM-0602013	2006/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2006/11/22
*Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2005/11/25
50ohm Coaxial Switch	ANRITSU	MP59B	6200447304	2006/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2007/03/30

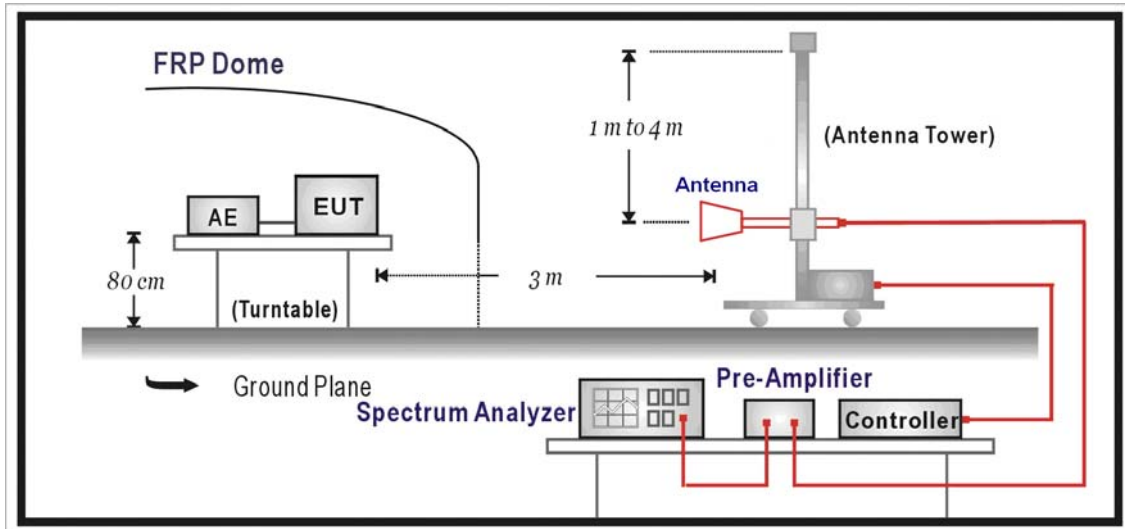
Note: "*" means the test device calibration period for two years.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limit

FCC Part 15 Subpart C Paragraph 15.209 Limits (dBuV/m)		
Frequency (MHz)	Distance (m)	dBuV/m
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

Remark:

1. The tighter limit shall apply at the edge between two frequency bands.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. $RF\ Voltage\ (dBuV/m) = 20\ \log\ RF\ Voltage\ (\mu V/m)$

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCI) is 120 kHz and above 1GHz is 1MHz.

The frequency range from 30MHz to 10th harmonic is checked.

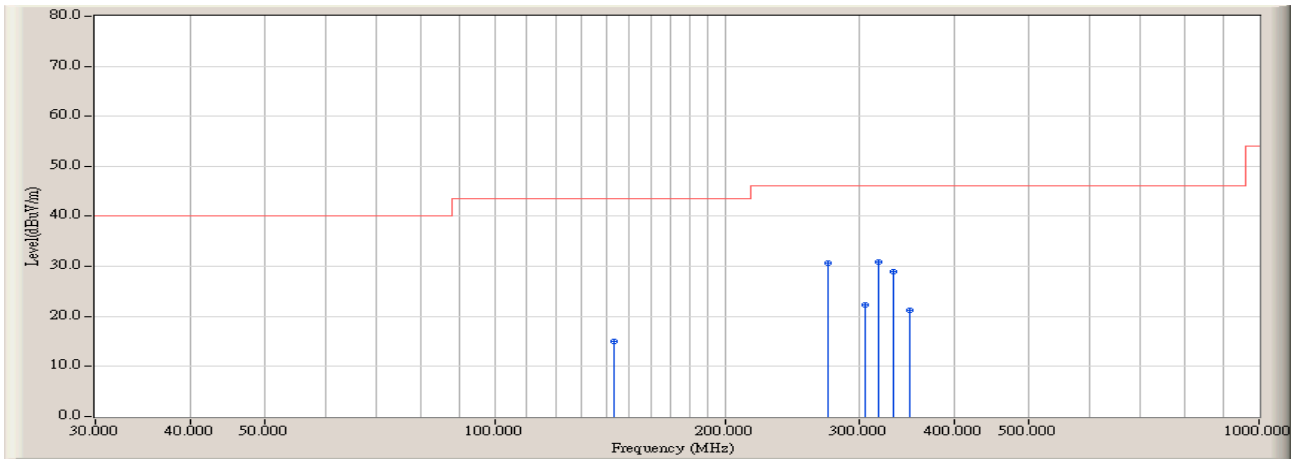
4.5. Uncertainty

The measurement uncertainty above 1G is defined as ± 3.9 dB

under 1G is defined as ± 3.8 dB

4.6. Test Result

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 17:51
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2402MHz)

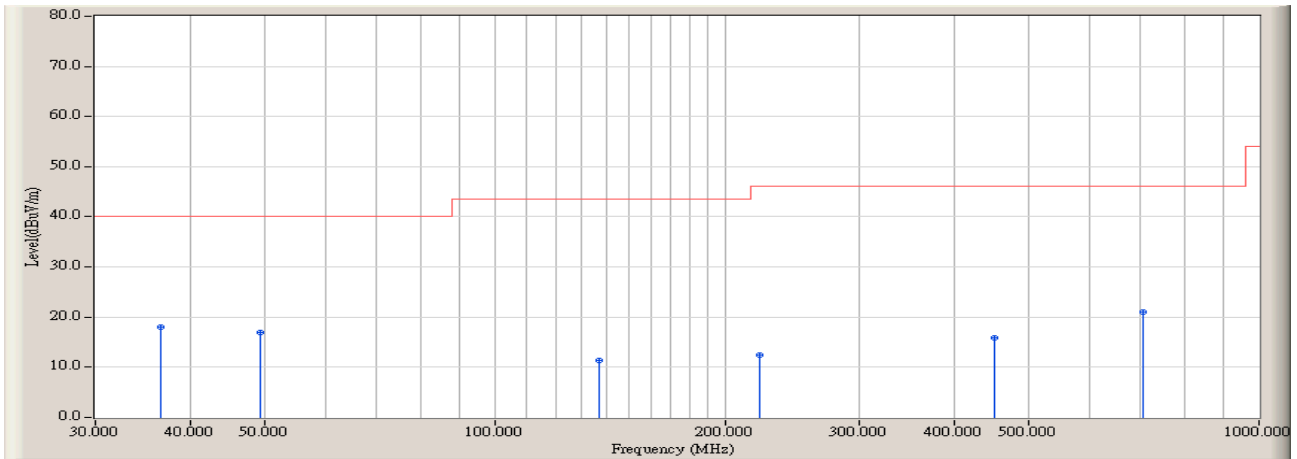


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	143.167	-11.662	26.649	14.987	-28.533	43.520	QUASIPeAK
2	272.500	-10.794	41.360	30.566	-15.454	46.020	QUASIPeAK
3	304.833	-9.671	31.938	22.266	-23.754	46.020	QUASIPeAK
4	* 317.767	-9.317	40.101	30.785	-15.235	46.020	QUASIPeAK
5	332.317	-8.840	37.802	28.962	-17.058	46.020	QUASIPeAK
6	348.483	-8.360	29.487	21.127	-24.893	46.020	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 17:53
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2402MHz)

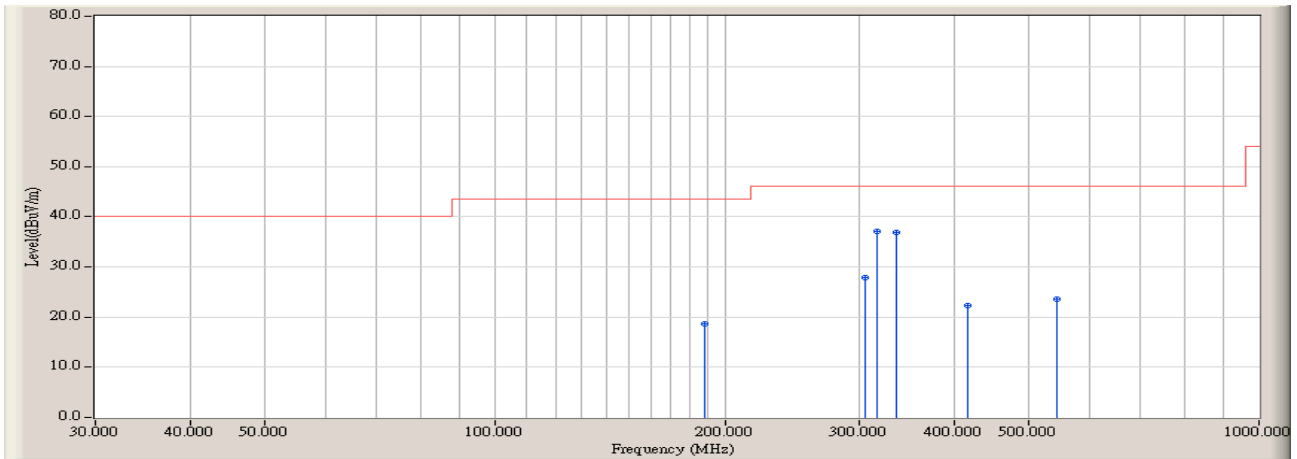


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	36.467	-4.518	22.625	18.107	-21.893	40.000	QUASIPeAK
2		49.400	-10.857	27.781	16.924	-23.076	40.000	QUASIPeAK
3		136.700	-11.874	23.337	11.463	-32.057	43.520	QUASIPeAK
4		222.383	-11.042	23.389	12.347	-33.673	46.020	QUASIPeAK
5		450.333	-6.659	22.545	15.886	-30.134	46.020	QUASIPeAK
6		704.150	-1.538	22.525	20.987	-25.033	46.020	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 18:01
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2441MHz)

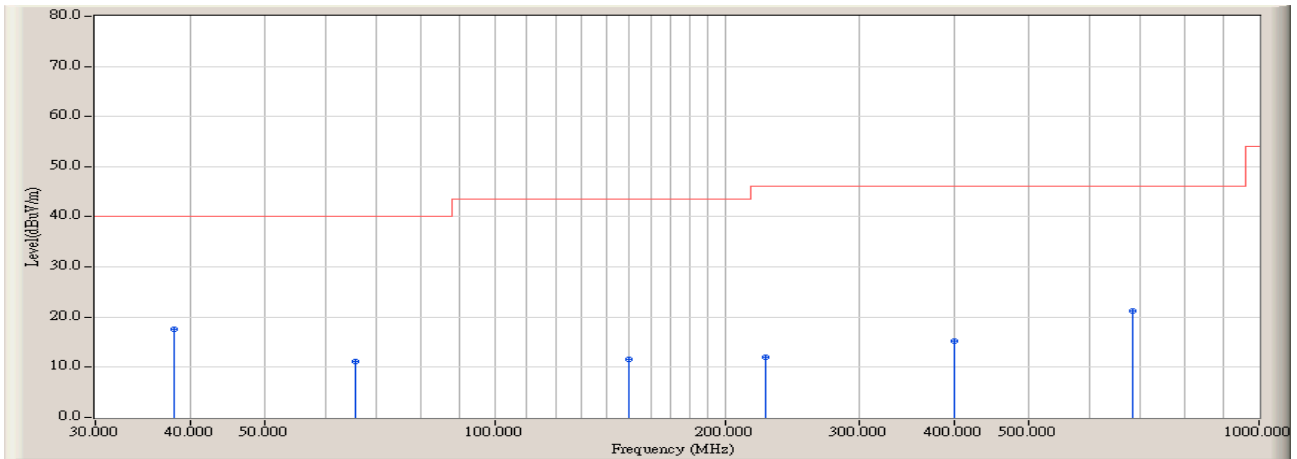


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	188.433	-13.809	32.514	18.705	-24.815	43.520	QUASIPeAK
2	304.833	-9.671	37.519	27.847	-18.173	46.020	QUASIPeAK
3	* 316.150	-9.300	46.298	36.998	-9.022	46.020	QUASIPeAK
4	335.550	-8.735	45.532	36.797	-9.223	46.020	QUASIPeAK
5	416.383	-6.694	29.078	22.384	-23.636	46.020	QUASIPeAK
6	544.100	-4.906	28.594	23.688	-22.332	46.020	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 18:02
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2441MHz)

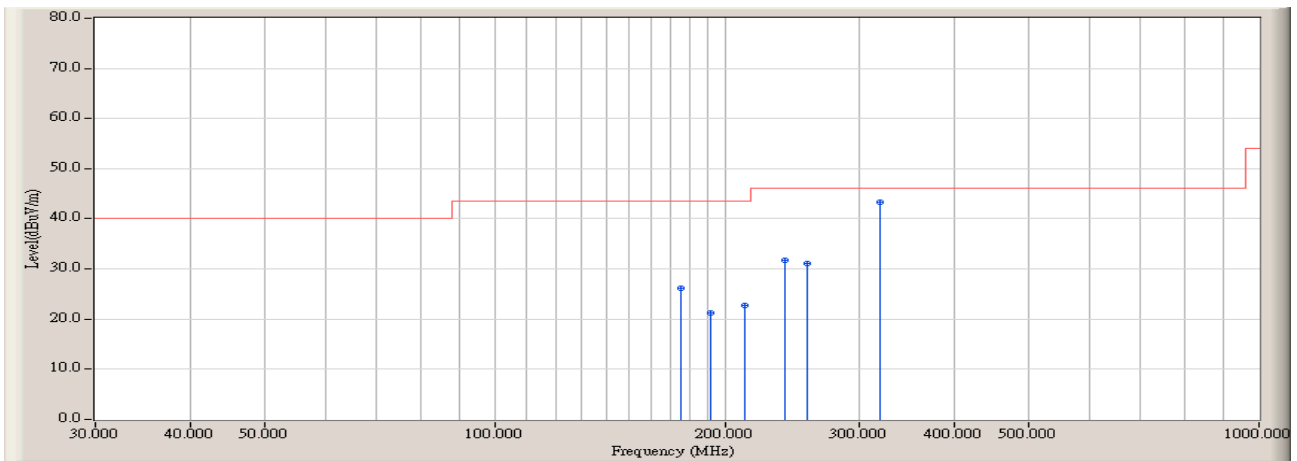


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	38.083	-5.292	22.819	17.526	-22.474	40.000	QUASIPeAK
2		65.567	-16.689	27.817	11.127	-28.873	40.000	QUASIPeAK
3		149.633	-11.820	23.329	11.508	-32.012	43.520	QUASIPeAK
4		225.617	-10.927	22.907	11.979	-34.041	46.020	QUASIPeAK
5		398.600	-7.181	22.350	15.169	-30.851	46.020	QUASIPeAK
6		684.750	-1.813	23.098	21.285	-24.735	46.020	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 18:19
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : CBL6141A_4278(30-2000MHz) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2480MHz)

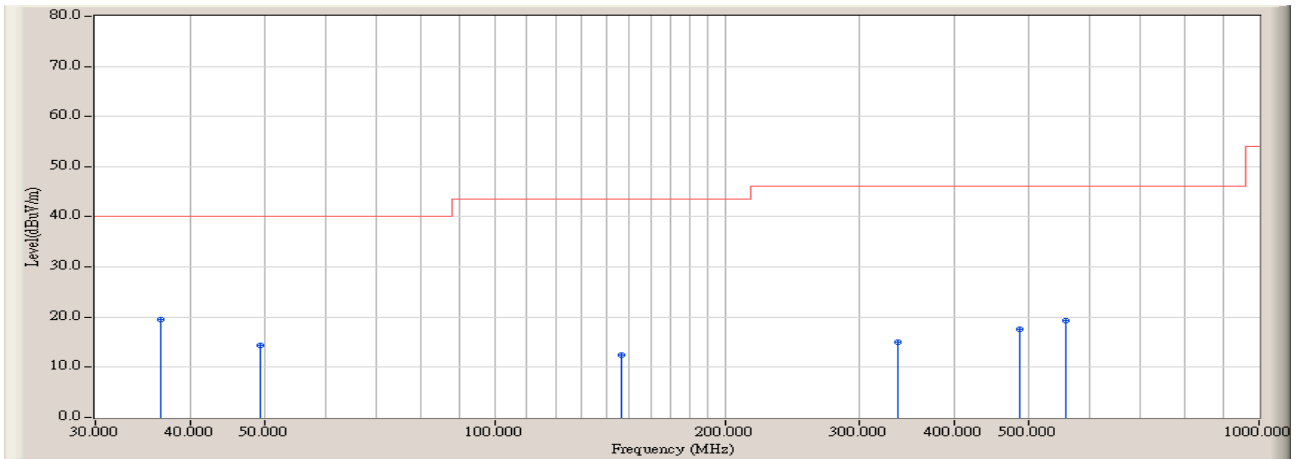


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		175.500	-13.579	39.828	26.249	-17.271	43.520	QUASIPeAK
2		191.667	-13.654	34.812	21.158	-22.362	43.520	QUASIPeAK
3		212.683	-12.216	34.990	22.774	-20.746	43.520	QUASIPeAK
4		240.167	-11.618	43.299	31.680	-14.340	46.020	QUASIPeAK
5		256.333	-10.878	41.998	31.120	-14.900	46.020	QUASIPeAK
6	*	319.383	-9.336	52.562	43.226	-2.794	46.020	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 18:21
Limit : FCC_SpartC_15.209_03M_QP	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : CBL6141A_4278(30-2000MHz) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2480MHz)

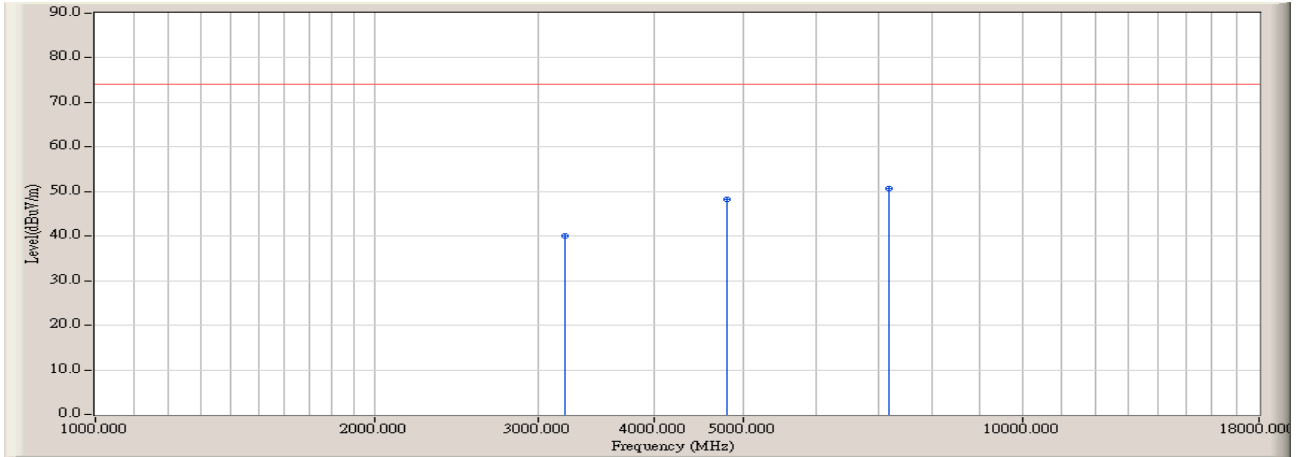


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	36.467	-4.518	24.010	19.492	-20.508	40.000	QUASIPeAK
2		49.400	-10.857	25.185	14.328	-25.672	40.000	QUASIPeAK
3		146.400	-11.650	24.013	12.363	-31.157	43.520	QUASIPeAK
4		337.167	-8.687	23.640	14.953	-31.067	46.020	QUASIPeAK
5		485.900	-5.833	23.460	17.627	-28.393	46.020	QUASIPeAK
6		558.650	-3.657	23.067	19.410	-26.610	46.020	QUASIPeAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 18:57
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2402MHz)

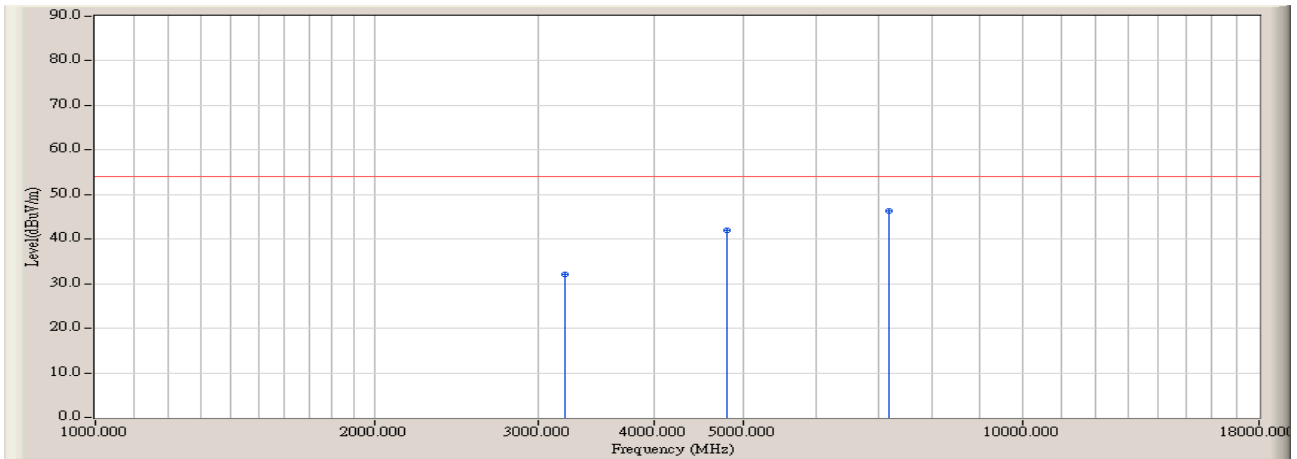


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3210.000	-0.190	40.314	40.124	-33.846	73.970	PEAK
2		4796.667	4.834	43.356	48.189	-25.781	73.970	PEAK
3	*	7176.667	15.347	35.248	50.595	-23.375	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 18:57
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2402MHz)

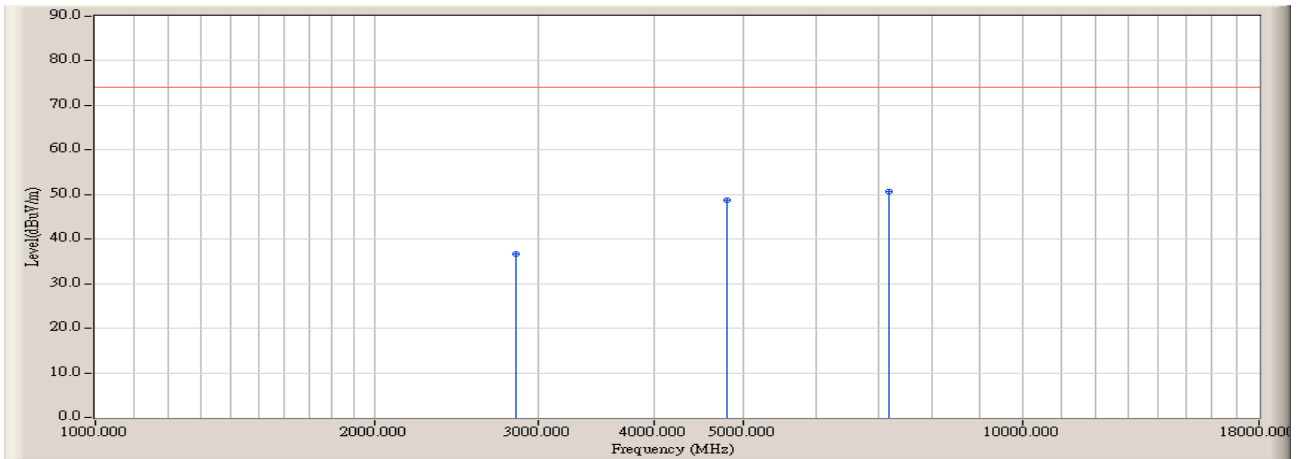


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	3210.000	-0.190	32.400	32.210	-21.760	53.970	AVERAGE
2	4796.667	4.834	37.200	42.033	-11.937	53.970	AVERAGE
3	* 7176.667	15.347	31.100	46.447	-7.523	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:01
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2402MHz)

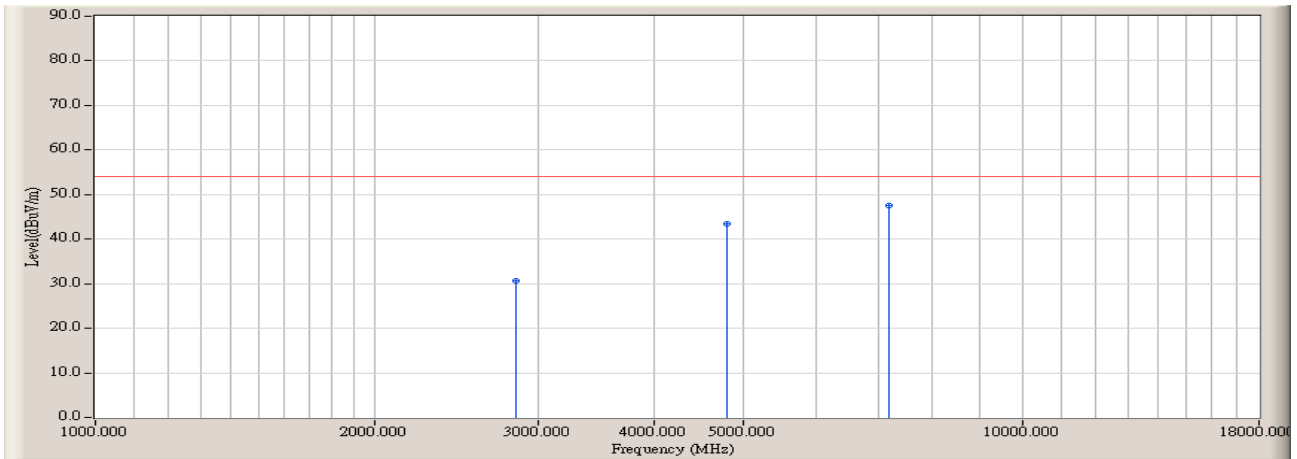


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2841.667	-0.939	37.695	36.755	-37.215	73.970	PEAK
2	4796.667	4.834	43.918	48.751	-25.219	73.970	PEAK
3	* 7176.667	15.347	35.309	50.656	-23.314	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:01
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2402MHz)

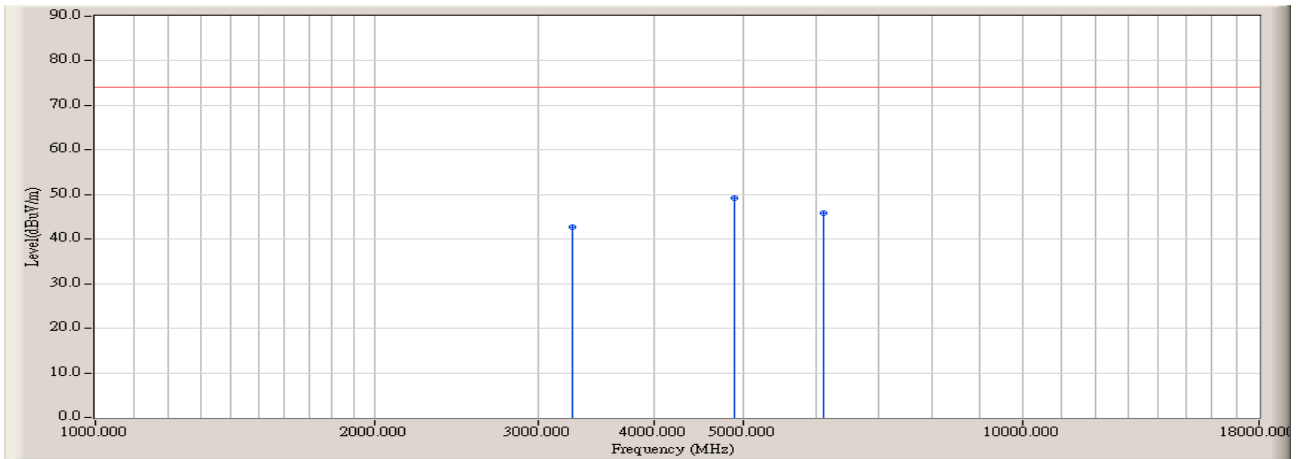


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	2841.667	-0.939	31.500	30.560	-23.410	53.970	AVERAGE
2	4796.667	4.834	38.700	43.533	-10.437	53.970	AVERAGE
3	* 7176.667	15.347	32.200	47.547	-6.423	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:05
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2441MHz)

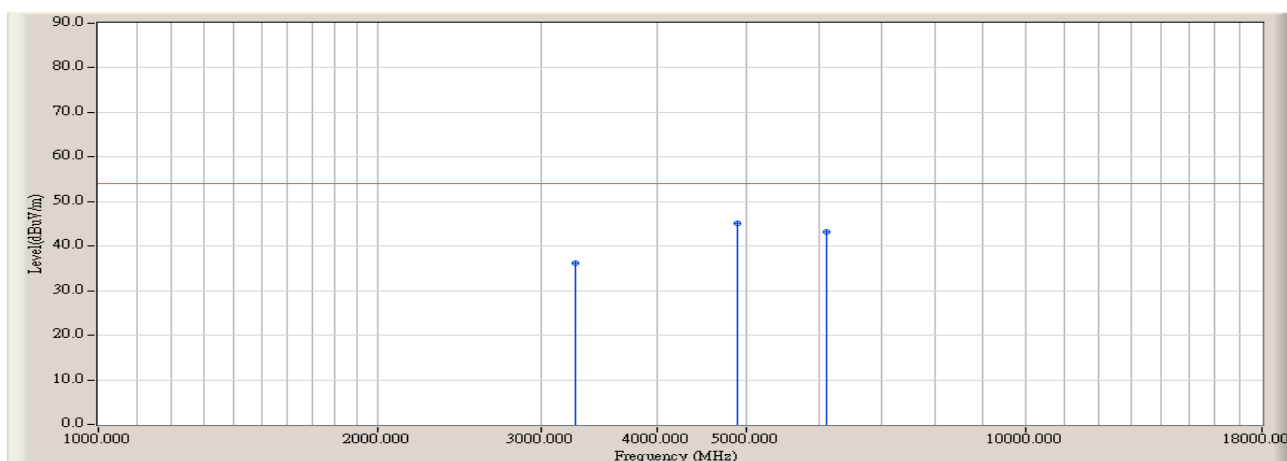


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3266.667	-0.299	42.999	42.699	-31.271	73.970	PEAK
2	*	4881.667	5.034	44.309	49.342	-24.628	73.970	PEAK
3		6100.000	9.110	36.637	45.747	-28.223	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:05
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2441MHz)

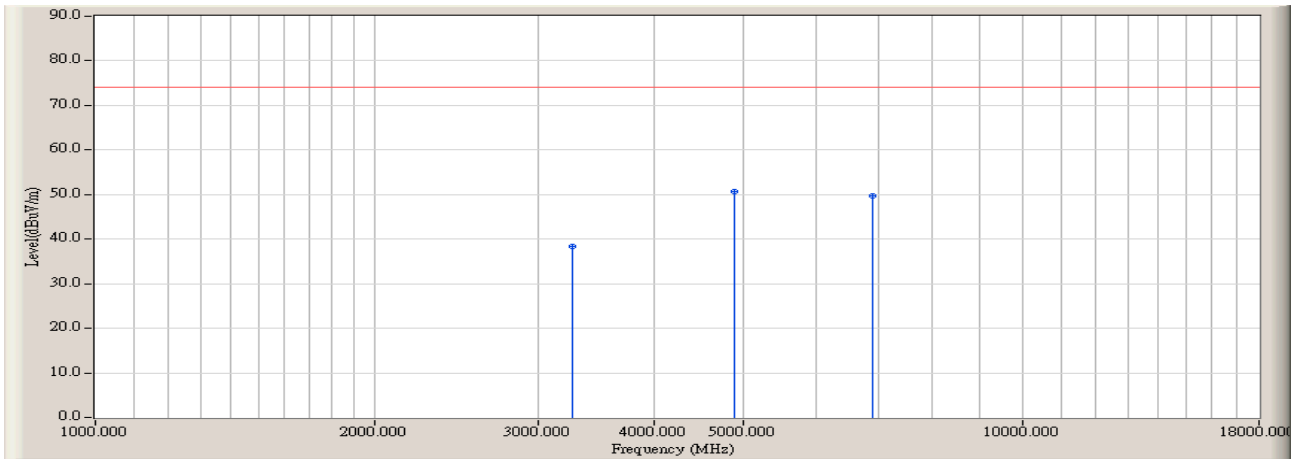


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3266.667	-0.299	36.500	36.200	-17.770	53.970	AVERAGE
2	*	4881.667	5.034	40.200	45.233	-8.737	53.970	AVERAGE
3		6100.000	9.110	34.200	43.310	-10.660	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:07
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2441MHz)

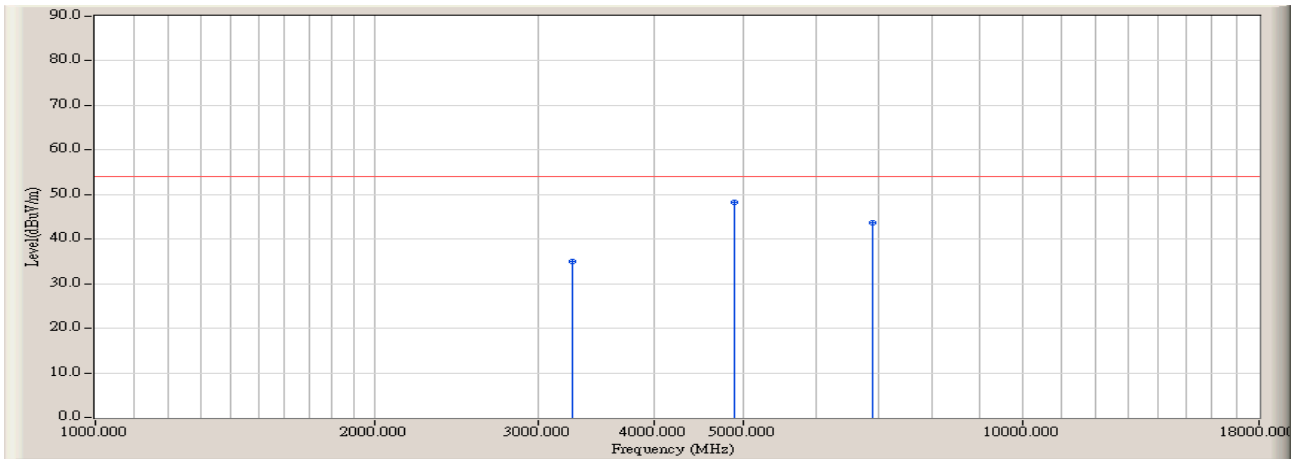


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3266.667	-0.299	38.762	38.462	-35.508	73.970	PEAK
2	*	4881.667	5.034	45.578	50.611	-23.359	73.970	PEAK
3		6893.333	14.340	35.473	49.813	-24.157	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:07
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2441MHz)

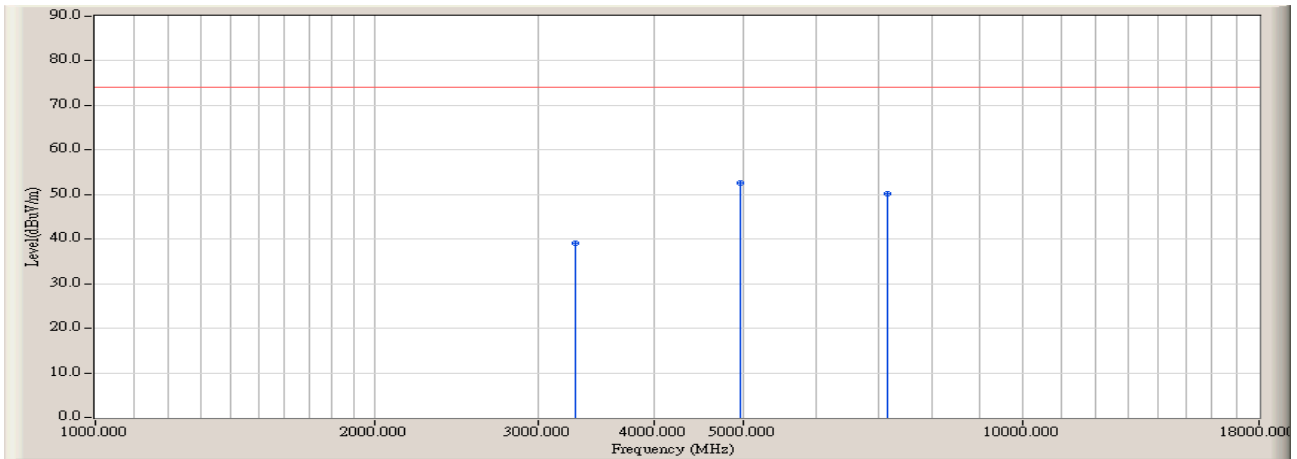


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3266.667	-0.299	35.200	34.900	-19.070	53.970	AVERAGE
2	*	4881.667	5.034	43.200	48.233	-5.737	53.970	AVERAGE
3		6893.333	14.340	29.300	43.640	-10.330	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:11
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2480MHz)

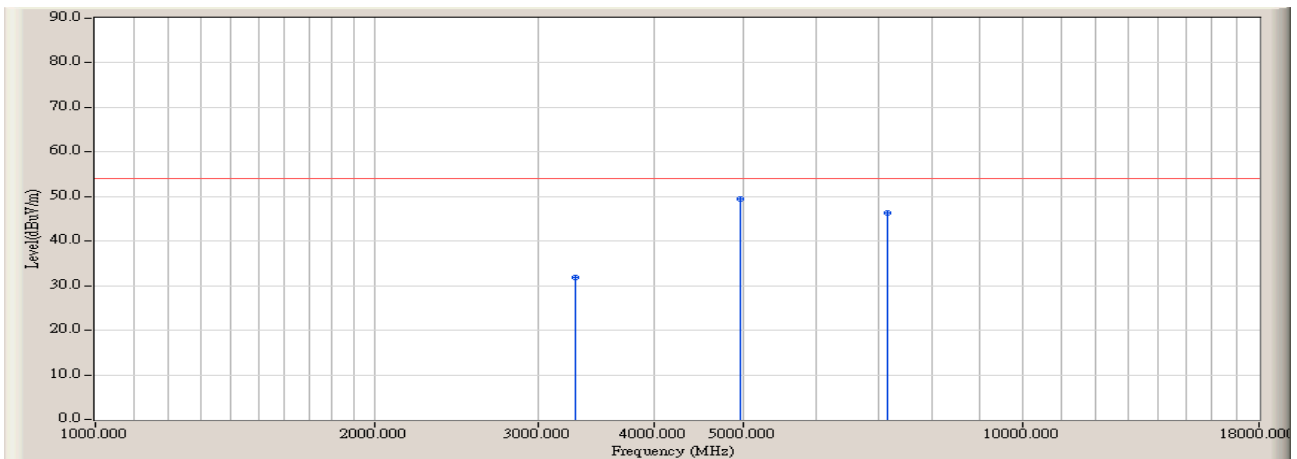


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	3295.000	-0.360	39.447	39.087	-34.883	73.970	PEAK
2	* 4966.667	5.234	47.329	52.562	-21.408	73.970	PEAK
3	7148.333	15.236	34.971	50.208	-23.762	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:11
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - HORIZONTAL
Power : DC 3.7V	Note : Mode 1: Transmit (2480MHz)

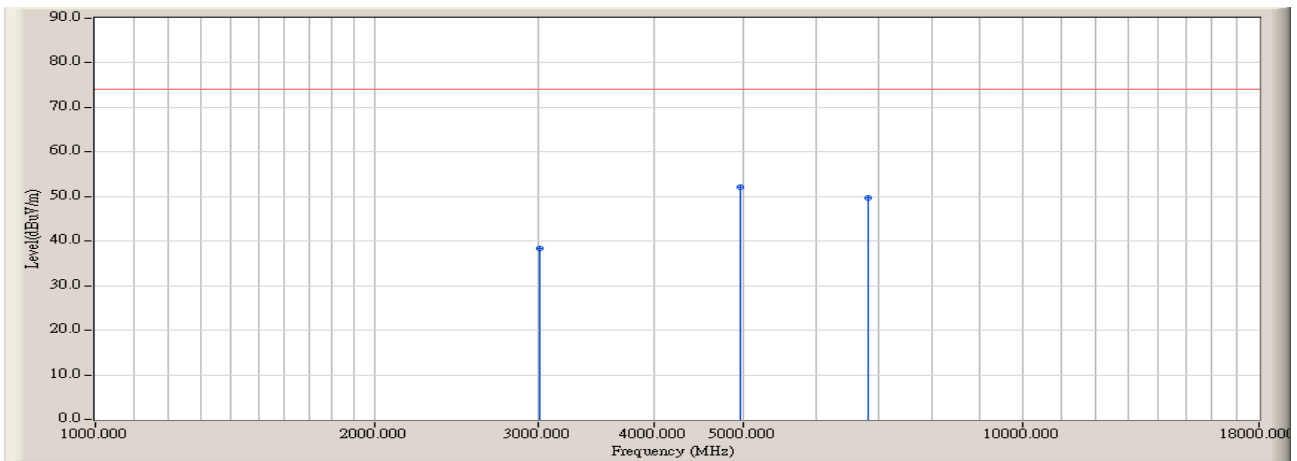


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3295.000	-0.360	32.100	31.740	-22.230	53.970	AVERAGE
2	*	4966.667	5.234	44.200	49.433	-4.537	53.970	AVERAGE
3		7148.333	15.236	31.200	46.437	-7.533	53.970	AVERAGE

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:13
Limit : FCC_SpartC_15.209_03M_PK	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2480MHz)

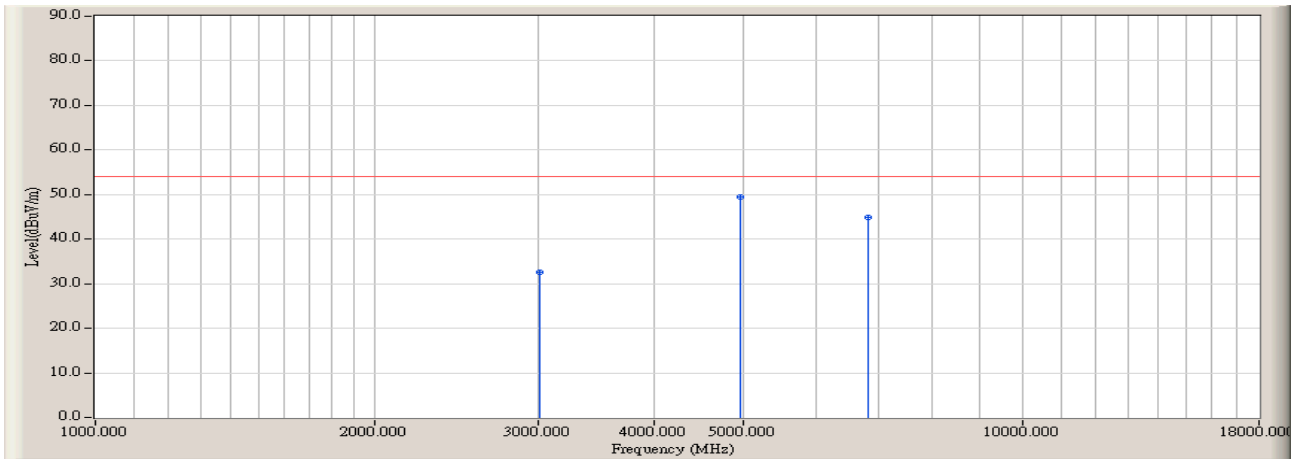


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	3011.667	-0.483	38.859	38.376	-35.594	73.970	PEAK
2	* 4966.667	5.234	46.830	52.063	-21.907	73.970	PEAK
3	6808.333	14.093	35.694	49.787	-24.183	73.970	PEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Engineer : Marlin	
Site : AC-2 (3m Radiated Emission Chamber)	Time : 2007/07/03 - 19:13
Limit : FCC_SpartC_15.209_03M_AV	Margin : 0
EUT : Iqua Vizor (M/N: PHF-602)	Probe : 9120D_(1G-18G) - VERTICAL
Power : DC 3.7V	Note : Mode 1: Transmit (2480MHz)

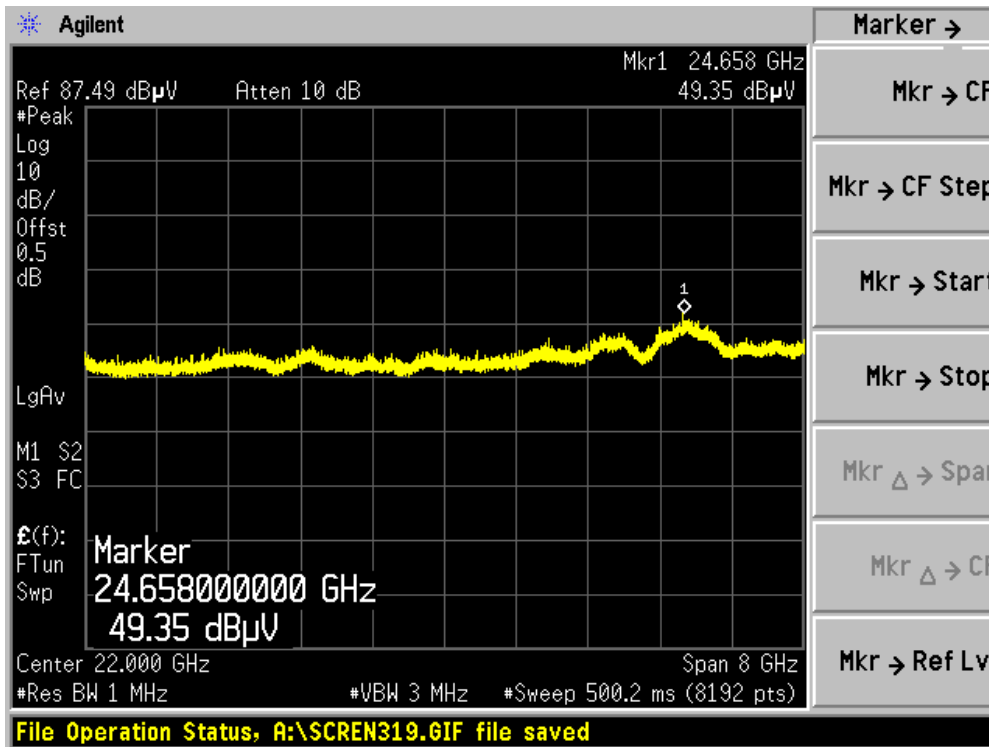


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		3011.667	-0.483	33.100	32.617	-21.353	53.970	AVERAGE
2	*	4966.667	5.234	44.300	49.533	-4.437	53.970	AVERAGE
3		6808.333	14.093	30.800	44.893	-9.077	53.970	AVERAGE

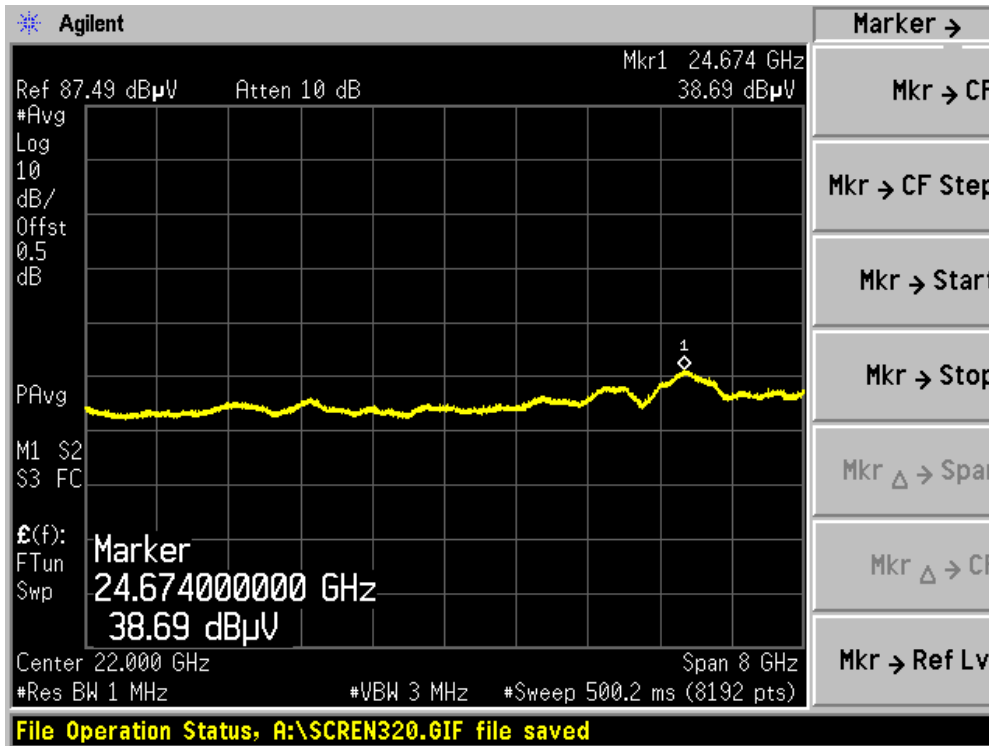
Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

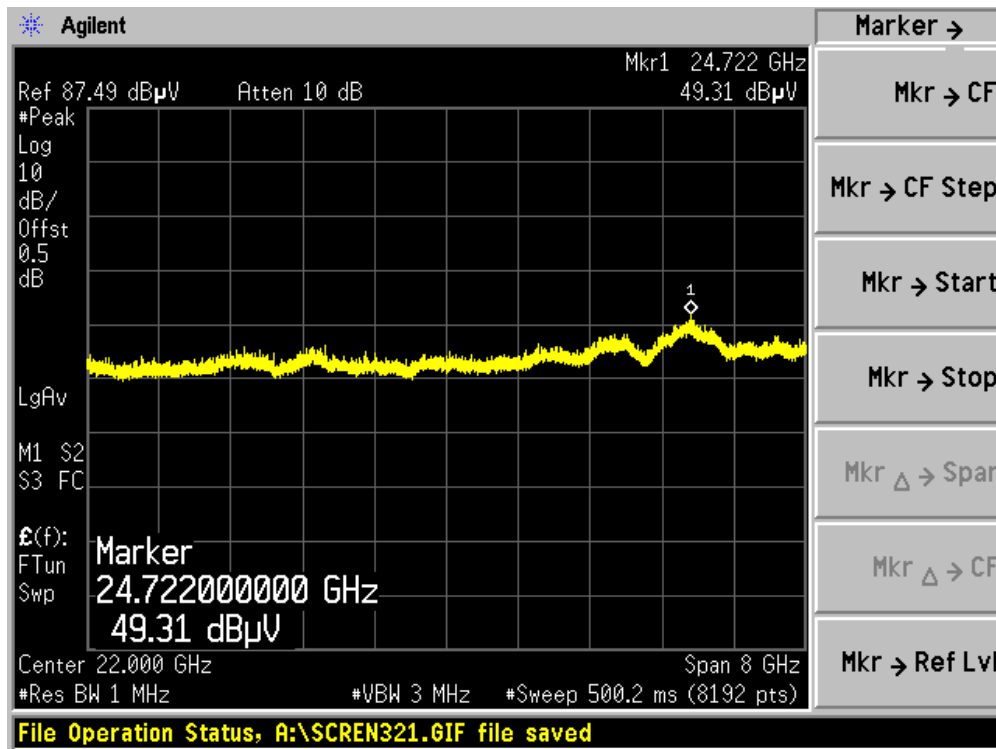
Conducted Spurious - Channel 00 (2402MHz)



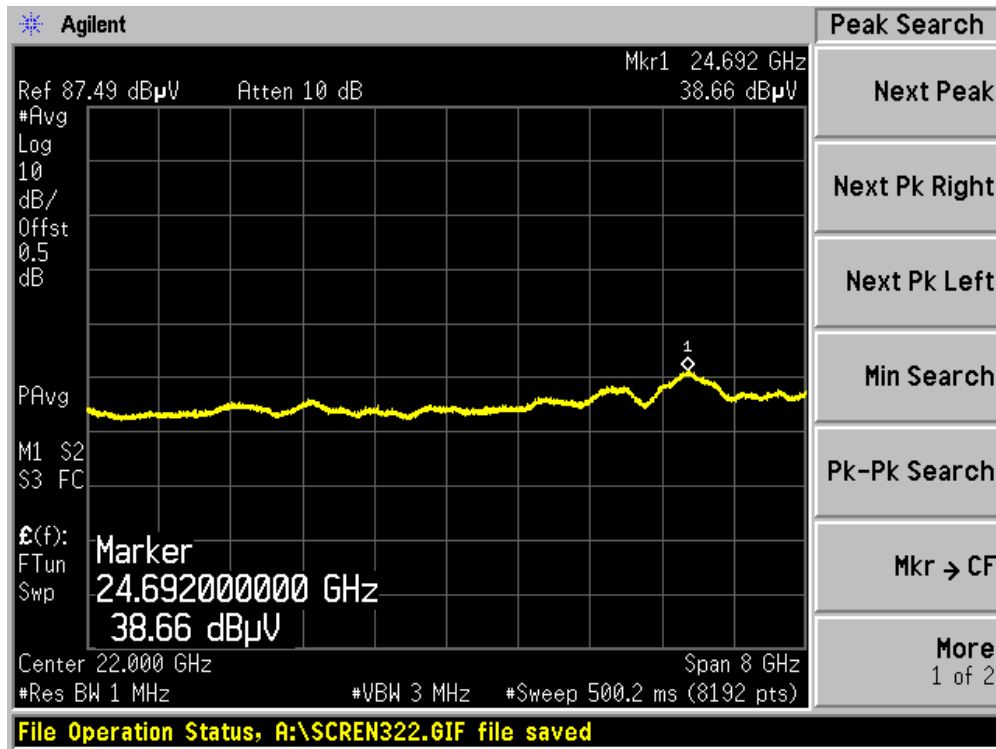
Conducted Spurious - Channel 00 (2402MHz)



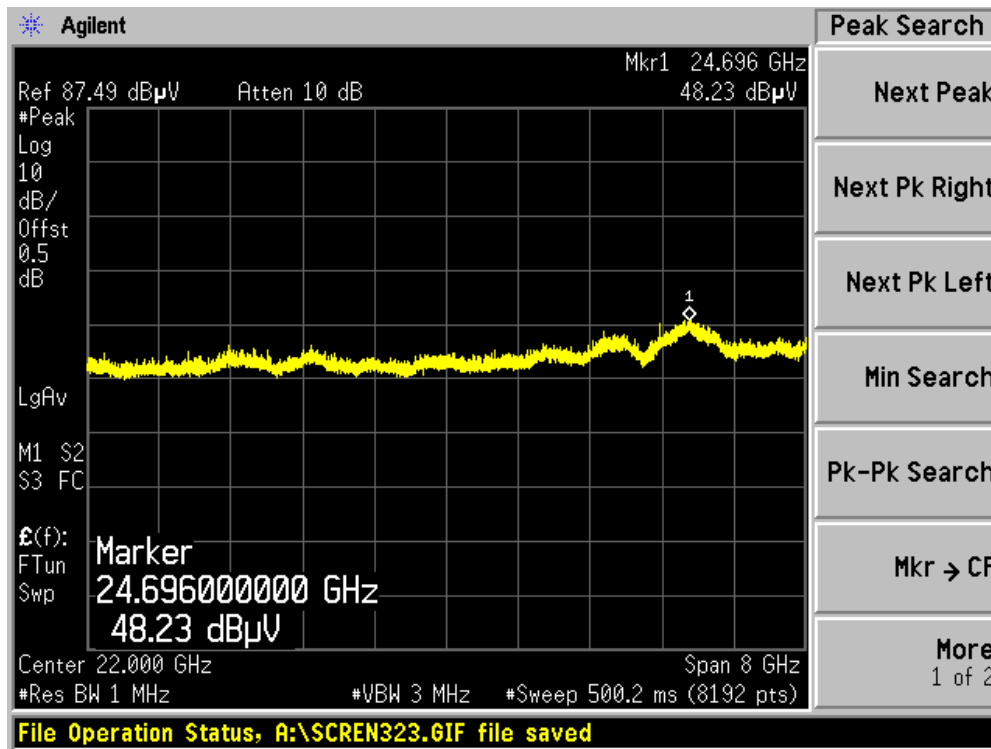
Conducted Spurious - Channel 39 (2441MHz)



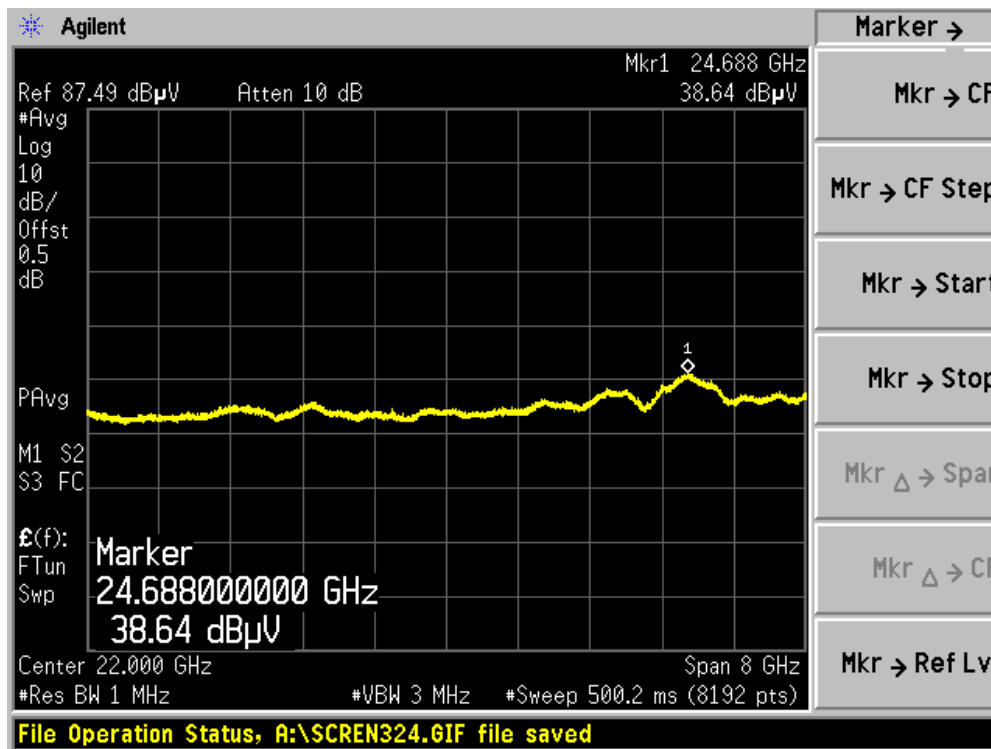
Conducted Spurious - Channel 39 (2441MHz)



Conducted Spurious - Channel 78 (2480MHz)



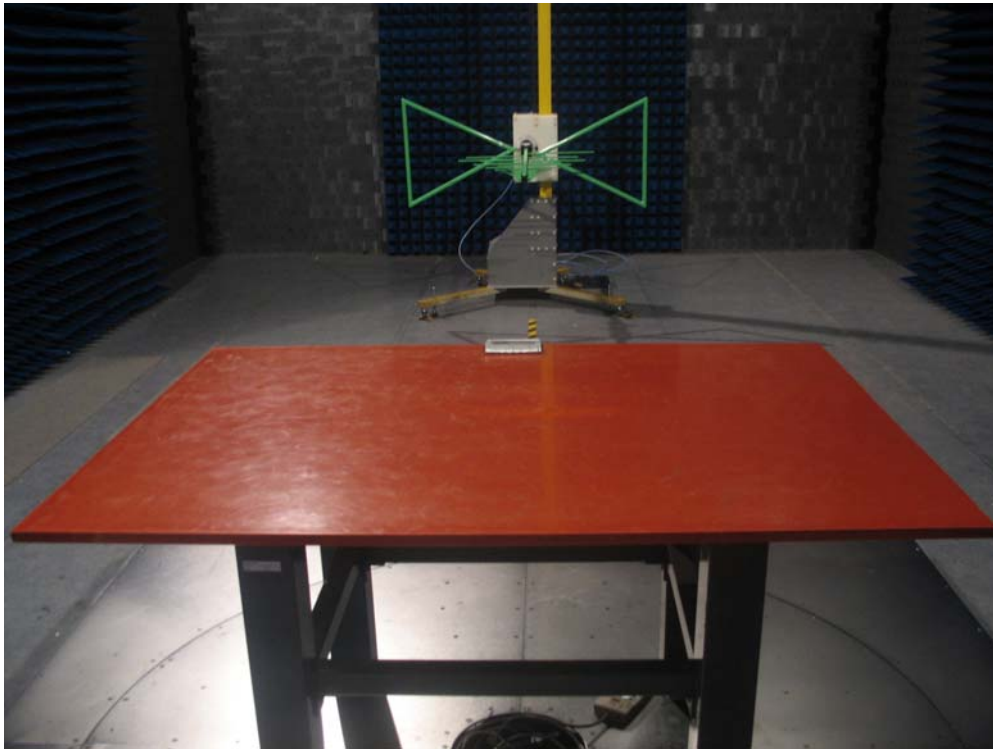
Conducted Spurious - Channel 78 (2480MHz)



4.7. Test Photograph

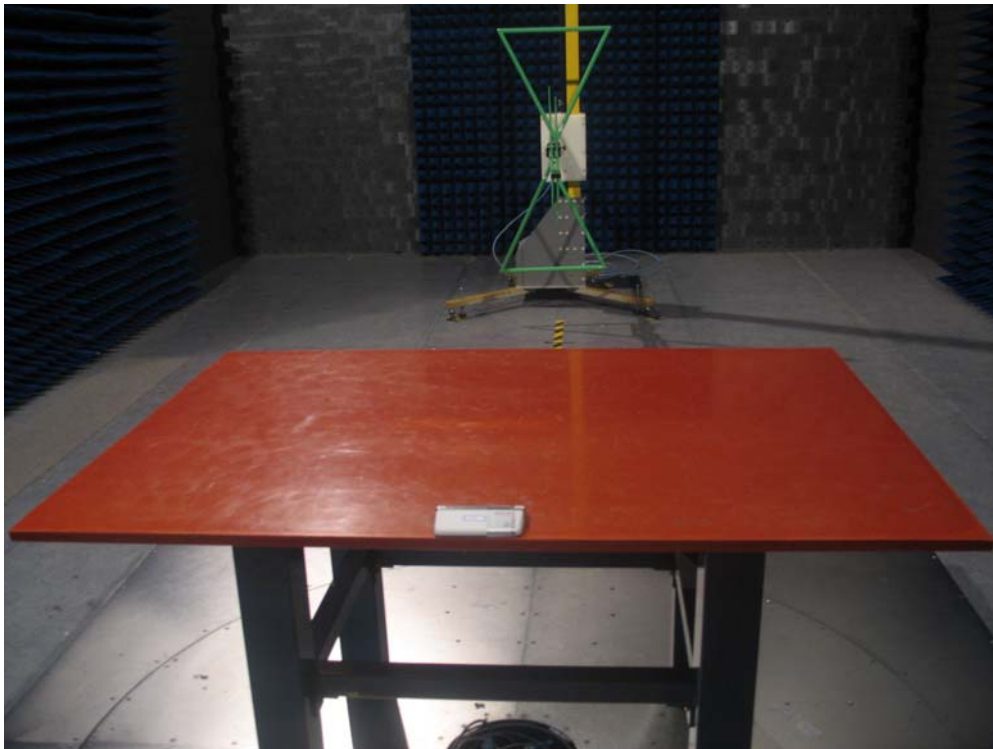
Test Mode: Mode 1: Transmit

Description: Front View of Radiated Test for Under 1GHz



Test Mode: Mode 1: Transmit

Description: Back View of Radiated Test for Under 1GHz



Test Mode: Mode 1: Transmit

Description: Front View of Radiated Test for Above 1GHz



Test Mode: Mode 1: Transmit

Description: Back View of Radiated Test for Above 1GHz



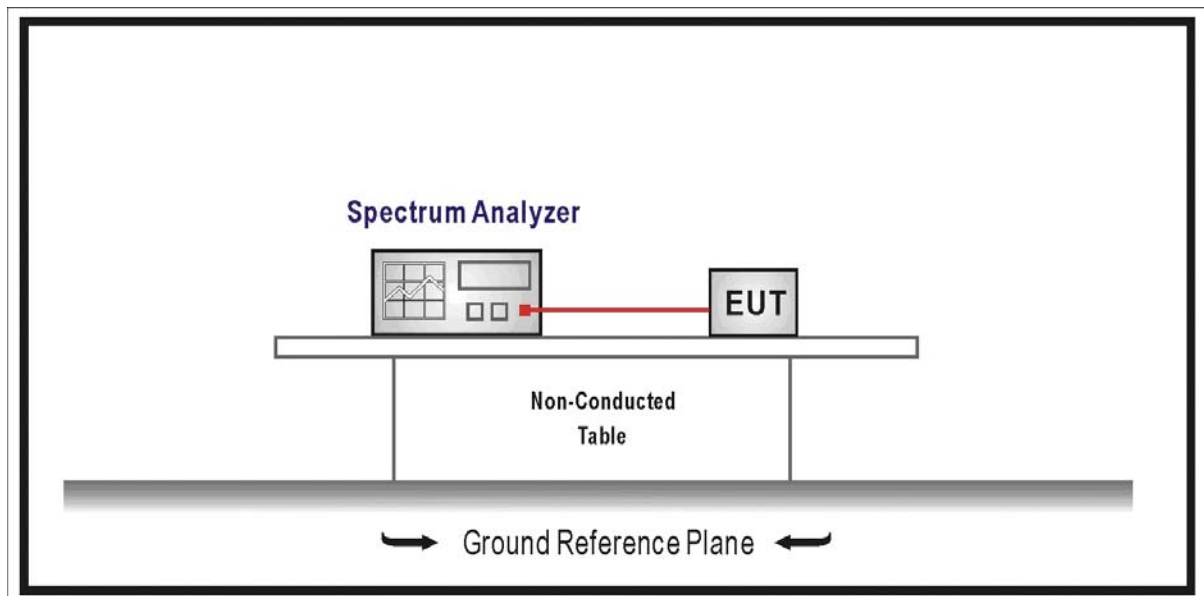
5. Peak Power Output

5.1. Test Equipment

Peak Power Output / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2007/06/11
Coaxial Cable	Huber+Suhner	AC3-RF	08	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2007/03/31

5.2. Test Setup



5.3. Limit

The maximum peak power shall be less 1Watt (30dBm).

The conducted output power limit is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of standard FCC part 15.247, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values above, by the amount in dB that the directional gain of the antenna exceeds dBi.

5.4. Test Procedure

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

5.5. Uncertainty

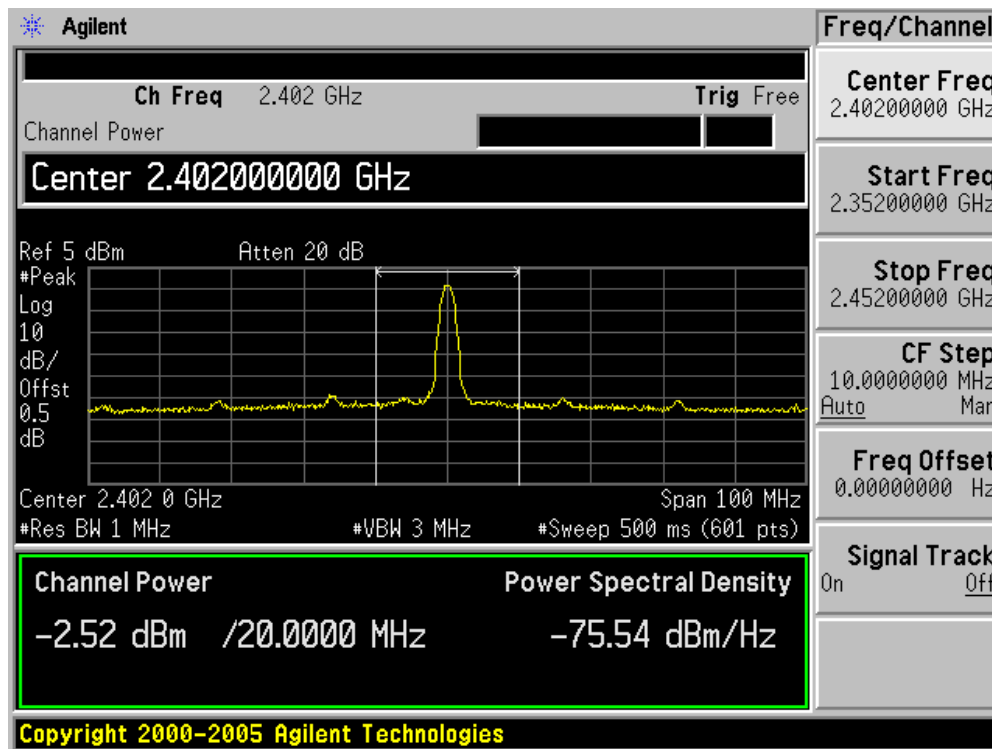
The measurement uncertainty is defined as ± 1.27 dB

5.6. Test Result

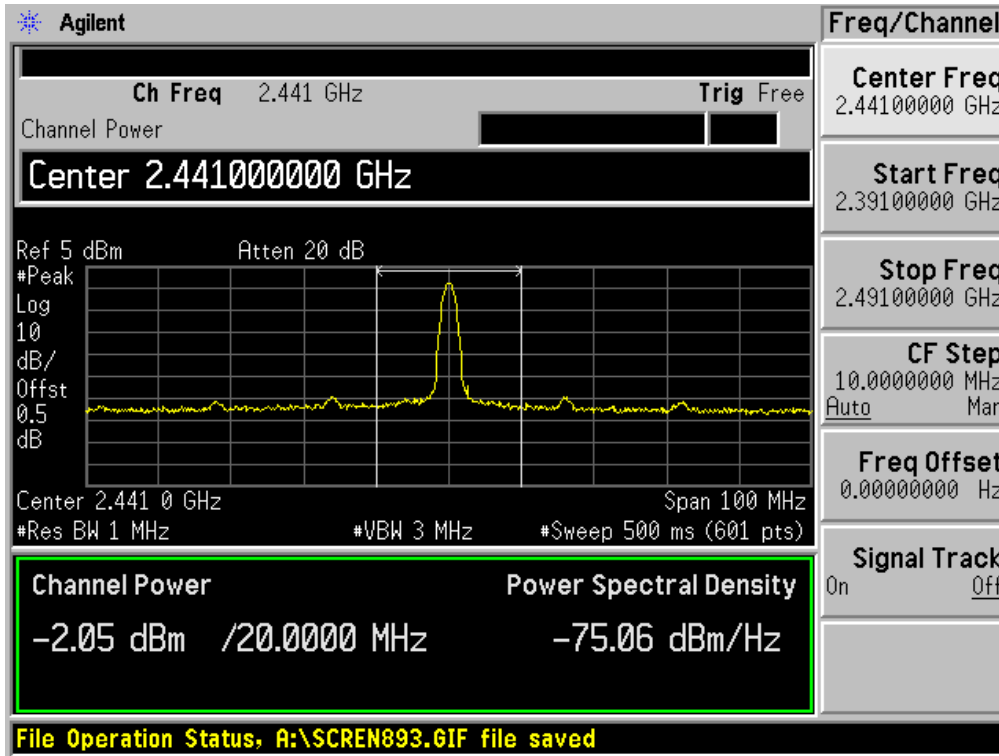
Product	:	Iqua Vizor
Test Item	:	Peak Power Output
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit (dBm)	Result
00	2402.00	-2.52	1 Watt= 30 dBm	Pass
39	2441.00	-2.05	1 Watt= 30 dBm	Pass
78	2480.00	-1.34	1 Watt= 30 dBm	Pass

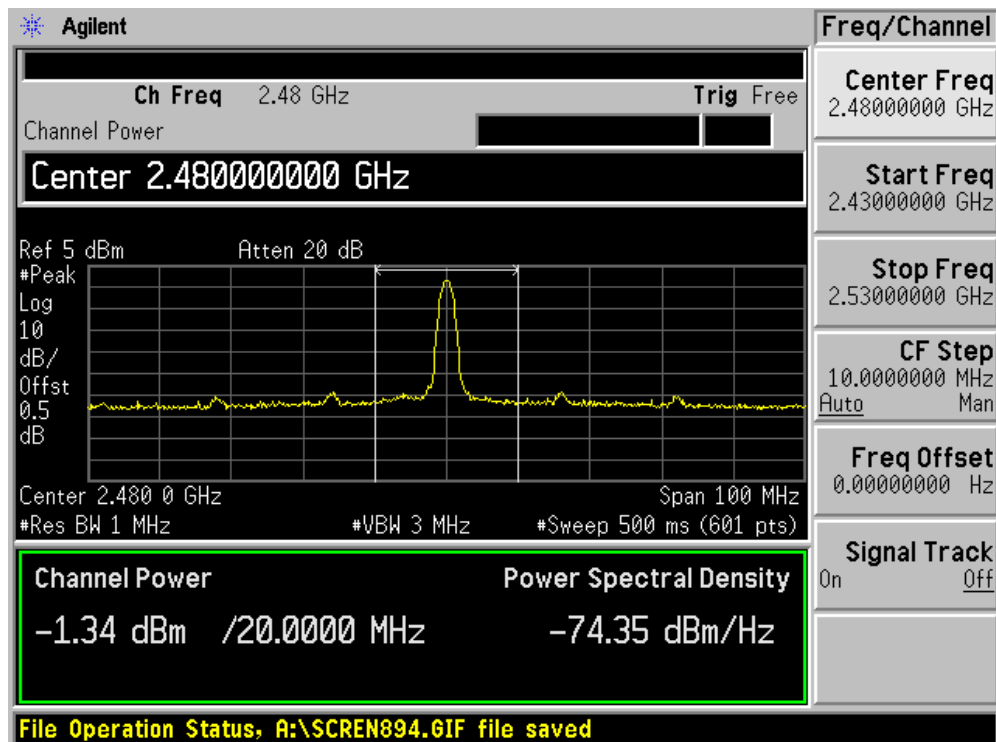
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



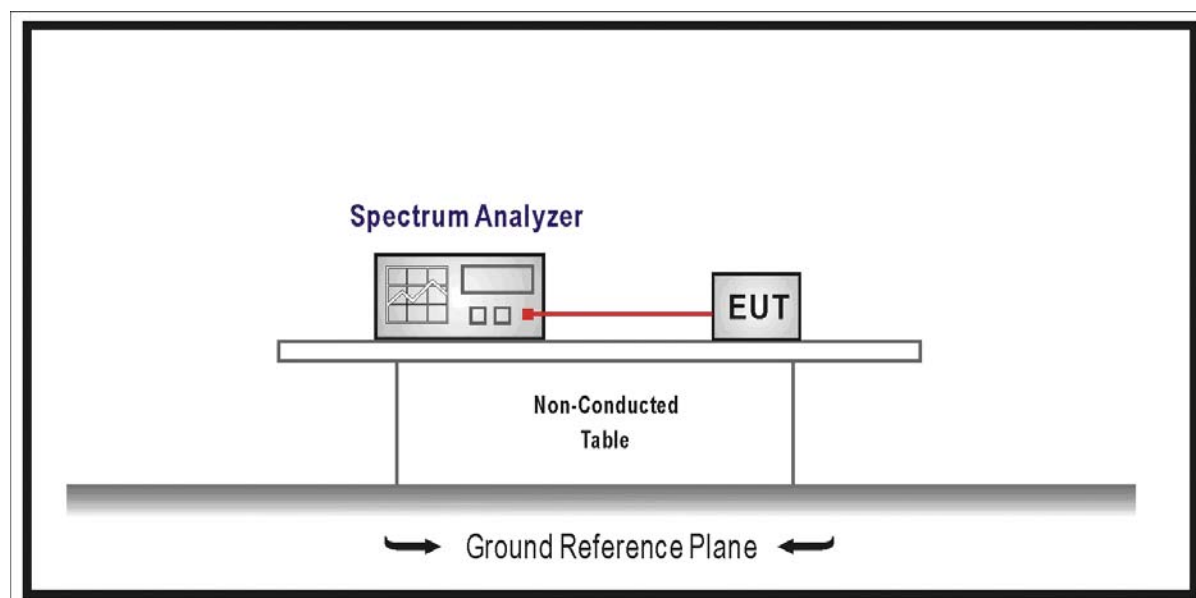
6. Occupied Bandwidth

6.1. Test Equipment

Occupied Bandwidth / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2007/06/11
Coaxial Cable	Huber+Suhner	AC3-RF	08	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2007/03/31

6.2. Test Setup



6.3. Limit

N/A

6.4. Test Procedure

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

6.5. Uncertainty

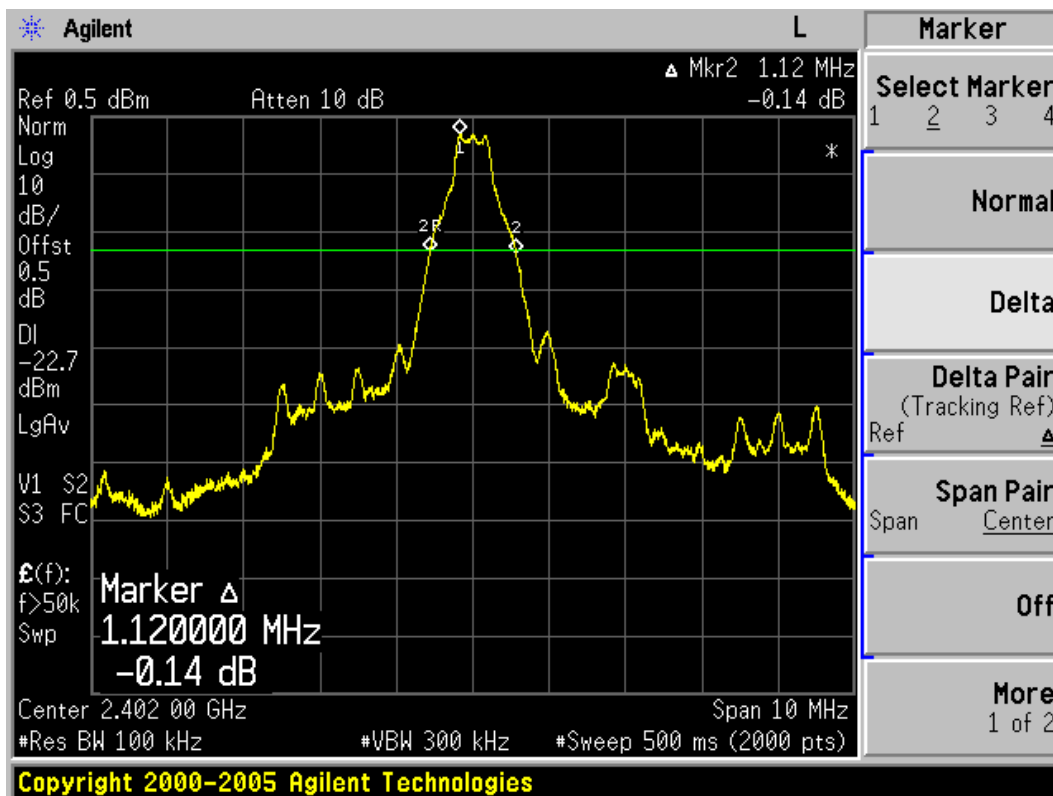
The measurement uncertainty is defined as ± 100 Hz

6.6. Test Result

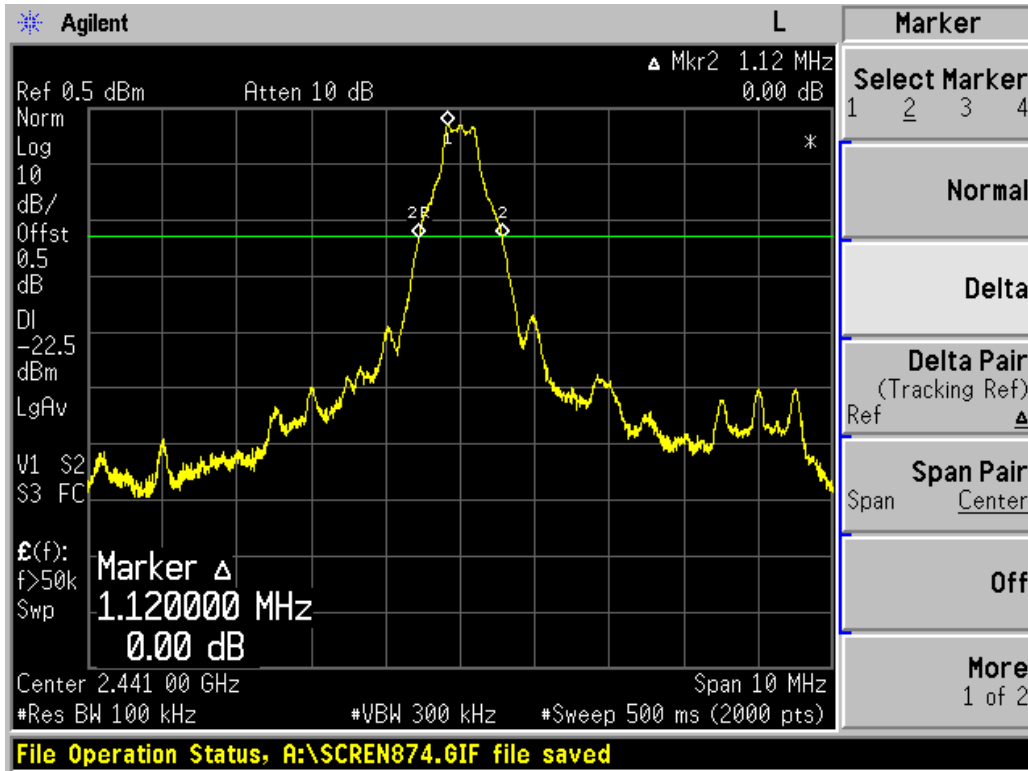
Product	:	Iqua Vizor
Test Item	:	Occupied Bandwidth
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1120	N/A	Pass
39	2441	1120	N/A	Pass
78	2480	1110	N/A	Pass

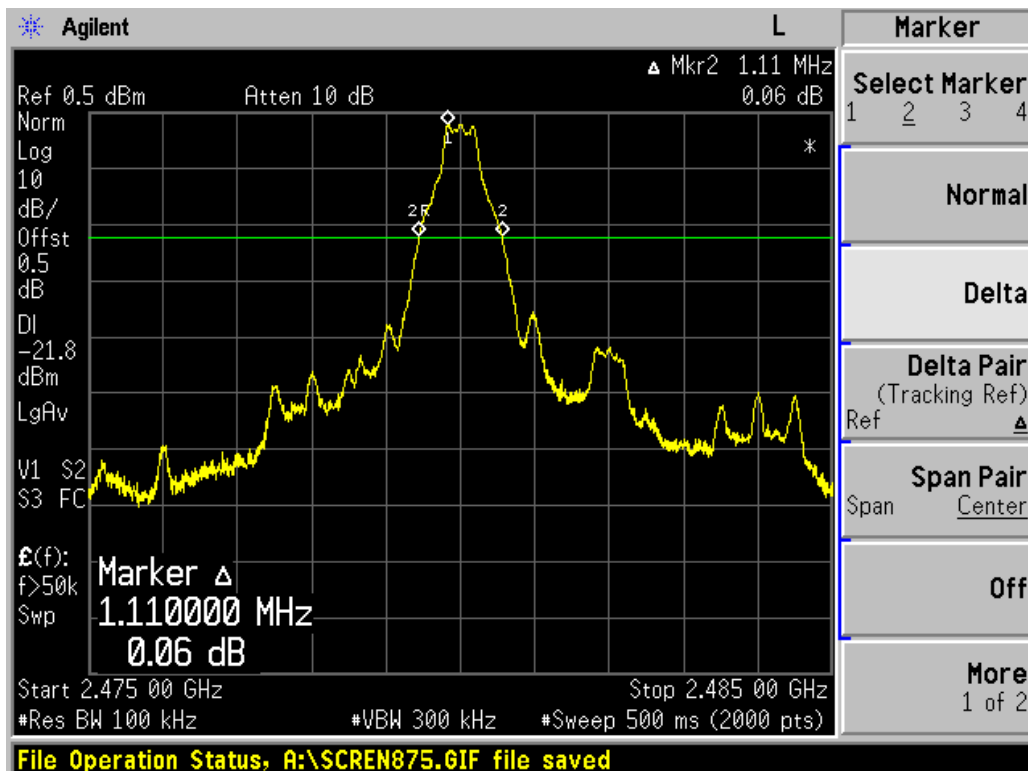
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



7. Band Edge

7.1. Test Equipment

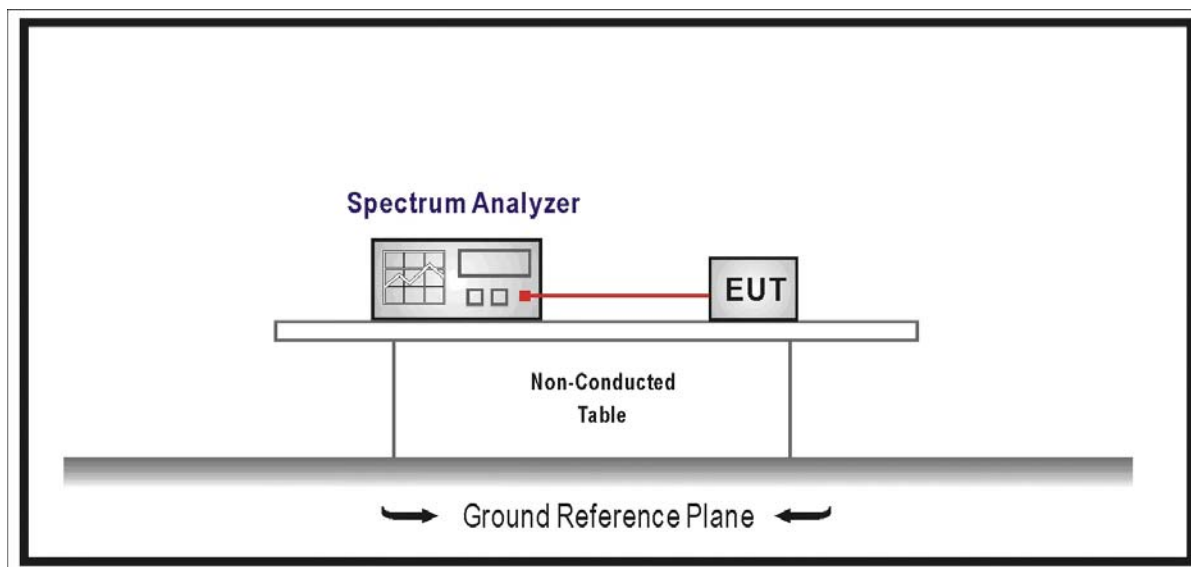
Radiated Emission / AC-2

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4408B	MY45102679	2006/11/20
Preamplifier	Quietek	AP-180C	CHM-0602013	2006/11/25
Bilog Type Antenna	Schaffner	CBL6112B	2932	2006/11/22
*Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	496	2005/11/25
50ohm Coaxial Switch	ANRITSU	MP59B	6200447304	2006/11/25
Coaxial Cable	Huber+Suhner	AC2-C	04	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH002	2007/03/30

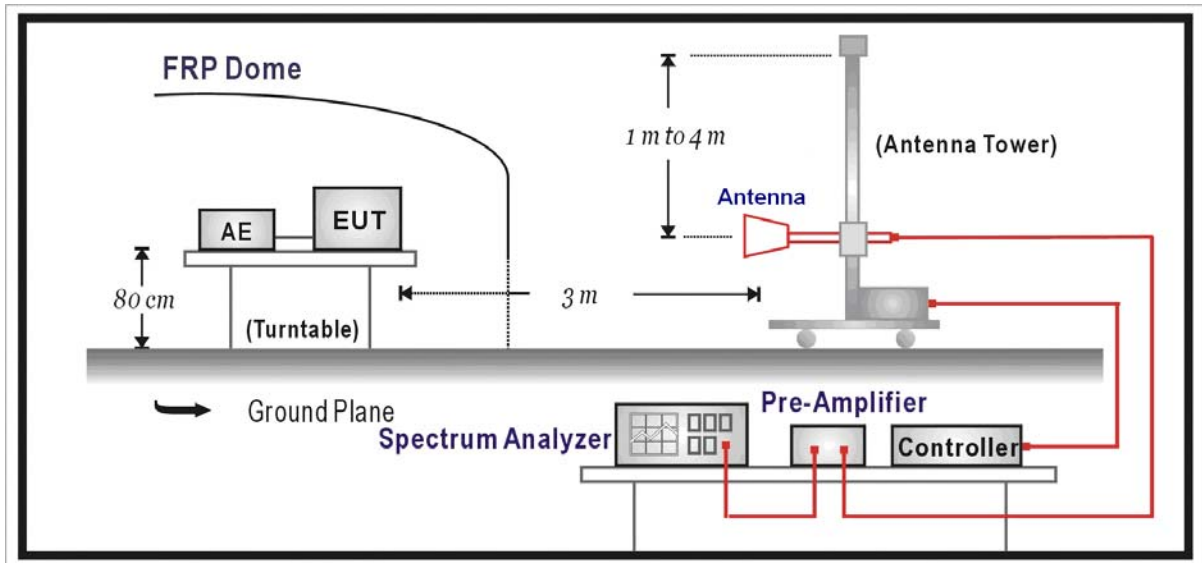
Note: "*" means the test device calibration period for two years.

7.2. Test Setup

RF Conducted Measurement



RF Radiated Measurement



7.3. Limit

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 FCC part 15, must be designed to ensure that 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.

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

7.4. Test Procedure

For RF Conducted Measurement:

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

For RF Radiated Measurement:

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground.

The turn table can rotate 360 degrees to determine the position of the maximum emission level and the antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated on radiated measurement.

The additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCI) is 120 kHz and above 1GHz is 1MHz.

7.5. Uncertainty**For RF Conducted Measurement:**

The measurement uncertainty is defined as ± 1.27 dB

For RF Radiated Measurement:

The measurement uncertainty above 1G is defined as ± 3.9 dB

under 1G is defined as ± 3.8 dB

7.6. Test Result

Product	:	Iqua Vizor
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 1: Transmit (2402MHz)

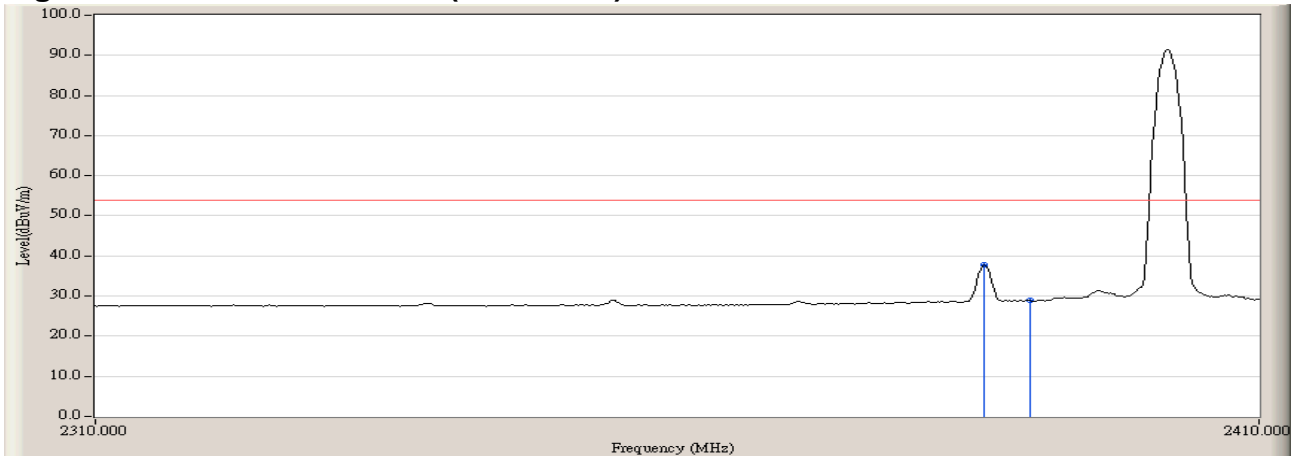
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
00	<2400	>20	Pass

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2390.000	45.460	43.799	74.00	--	Pass
00 (Average)	2390.000	30.673	29.008	--	54.00	Pass

Figure Channel 00: 2402MHz (Horizontal)



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	: Iqua Vizor
Test Item	: Band Edge
Test Site	: AC-2
Test Mode	: Mode 1: Transmit (2402MHz)

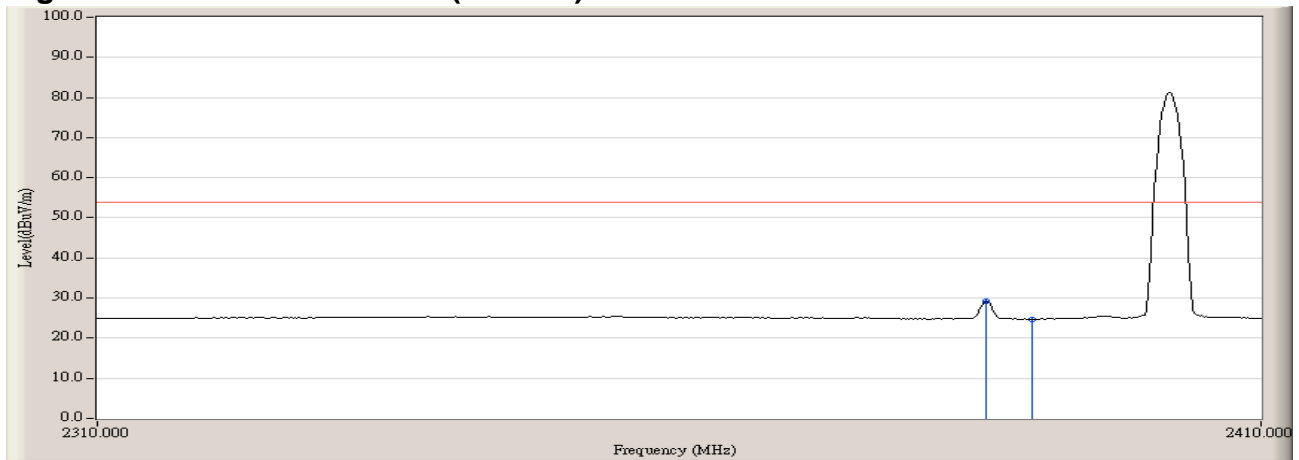
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
00	<2400	>20	Pass

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
00 (Peak)	2390.000	39.681	38.020	74.00	--	Pass
00 (Average)	2390.000	26.384	24.719	--	54.00	Pass

Figure Channel 00: 2402MHz (Vertical)



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	: Iqua Vizor
Test Item	: Band Edge
Test Site	: AC-2
Test Mode	: Mode 1: Transmit (2480MHz)

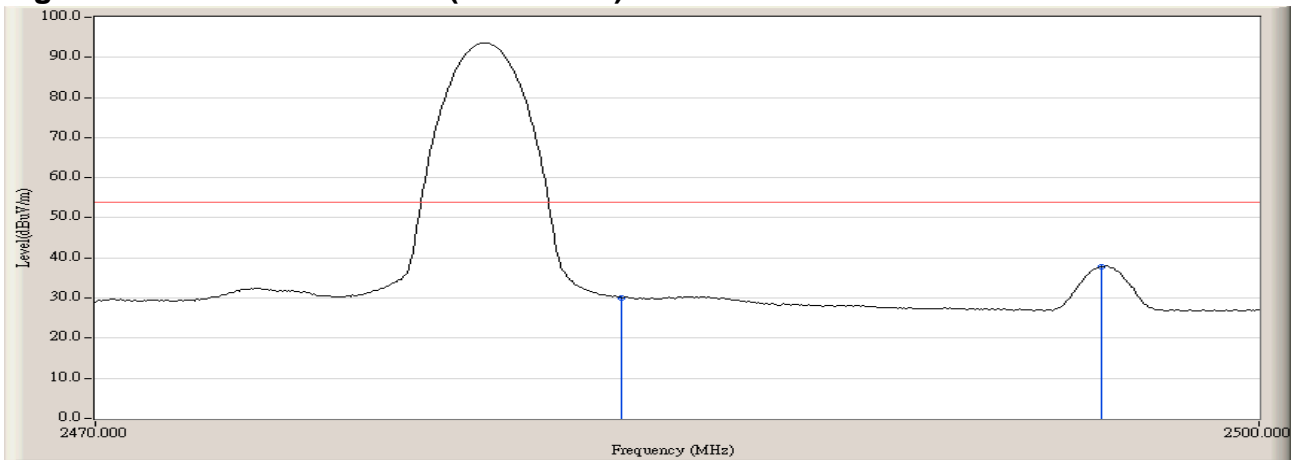
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
78	>2483.5	>20	Pass

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78(Peak)	2495.900	39.407	37.777	74.00	--	Pass
78(Average)	2495.900	40.923	39.293	--	54.00	Pass

Figure Channel 78: 2480MHz (Horizontal)



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product	:	Iqua Vizor
Test Item	:	Band Edge
Test Site	:	AC-2
Test Mode	:	Mode 1: Transmit (2441MHz)

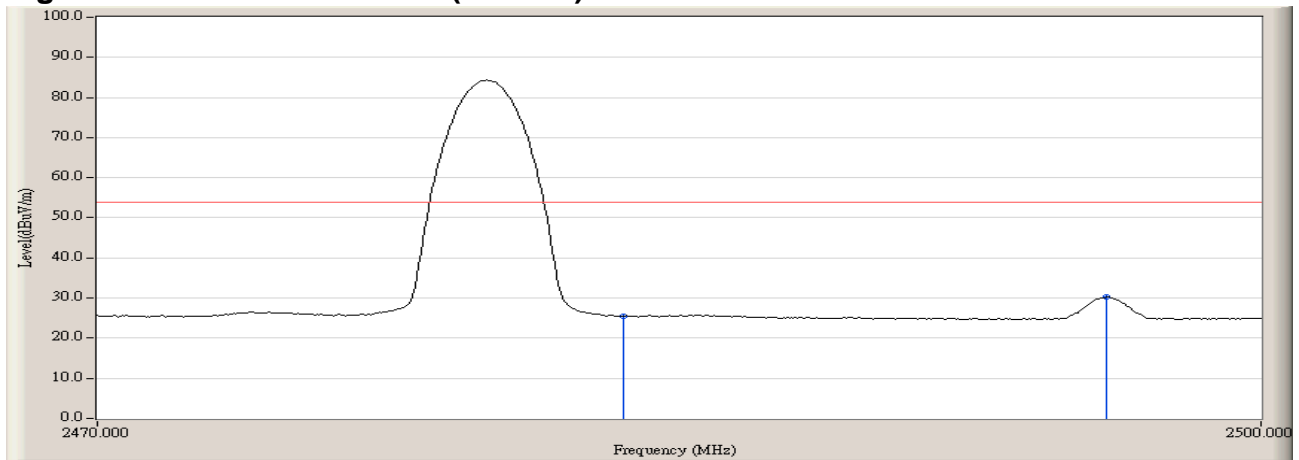
RF Radiated Measurement:

Channel No.	Frequency (MHz)	Required Limit (dBc)	Result
78	>2483.5	>20	Pass

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
78(Peak)	2495.550	40.923	39.293	74.00	--	Pass
78(Average)	2496.000	31.873	30.243	--	54.00	Pass

Figure Channel 78: 2480MHz (Vertical)



Note:

RBW=1MHz, VBW=1MHz, Sweep Time=500ms.

Note: The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

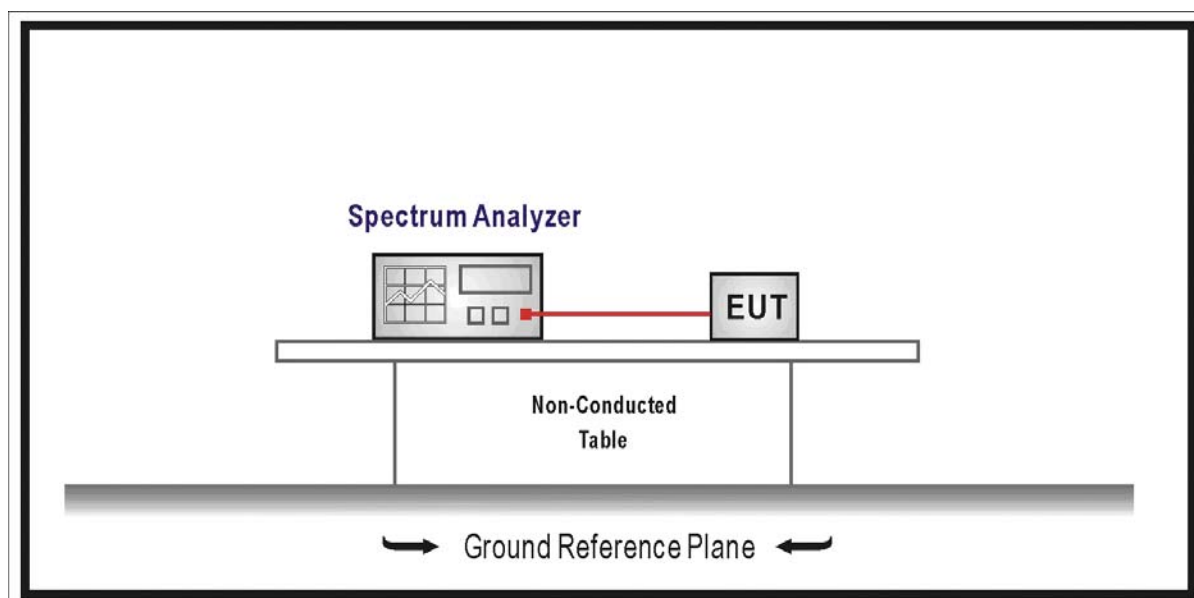
8. Channel Number

8.1. Test Equipment

Channel Number / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2007/06/11
Coaxial Cable	Huber+Suhner	AC3-RF	08	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2007/03/31

8.2. Test Setup



8.3. Limit

Frequency hopping systems operating in the 2400-2483.5 MHz bands shall use at least 15 hopping frequencies.

8.4. Test Procedure

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

8.5. Uncertainty

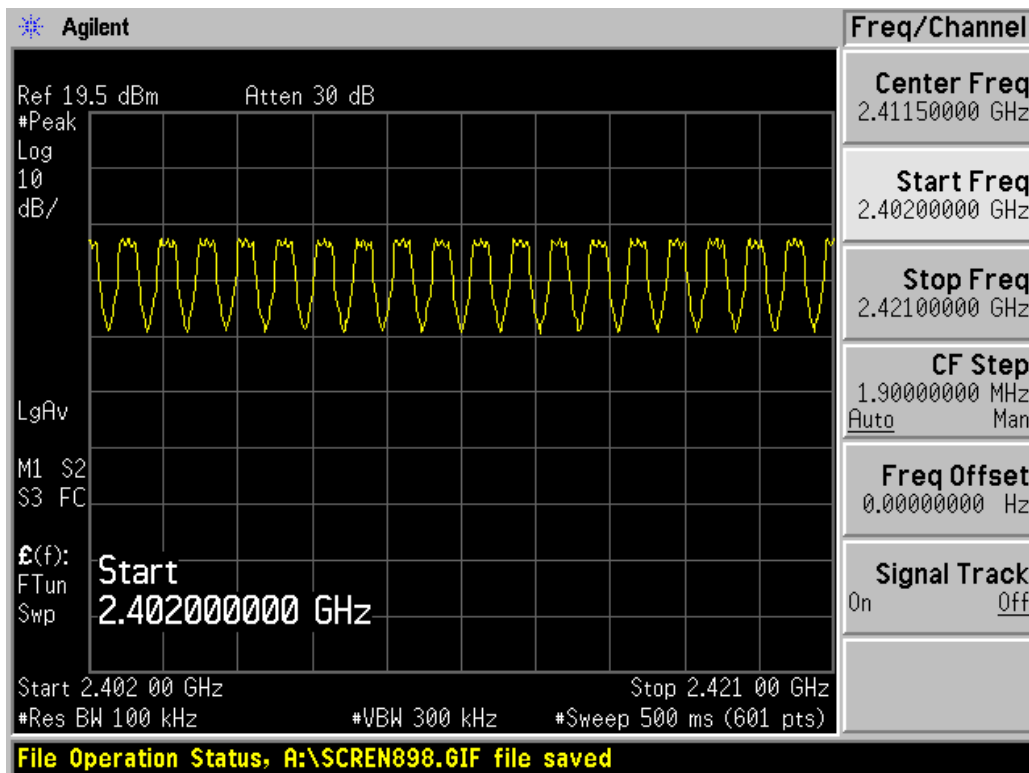
The measurement uncertainty is defined as ± 200 kHz

8.6. Test Result

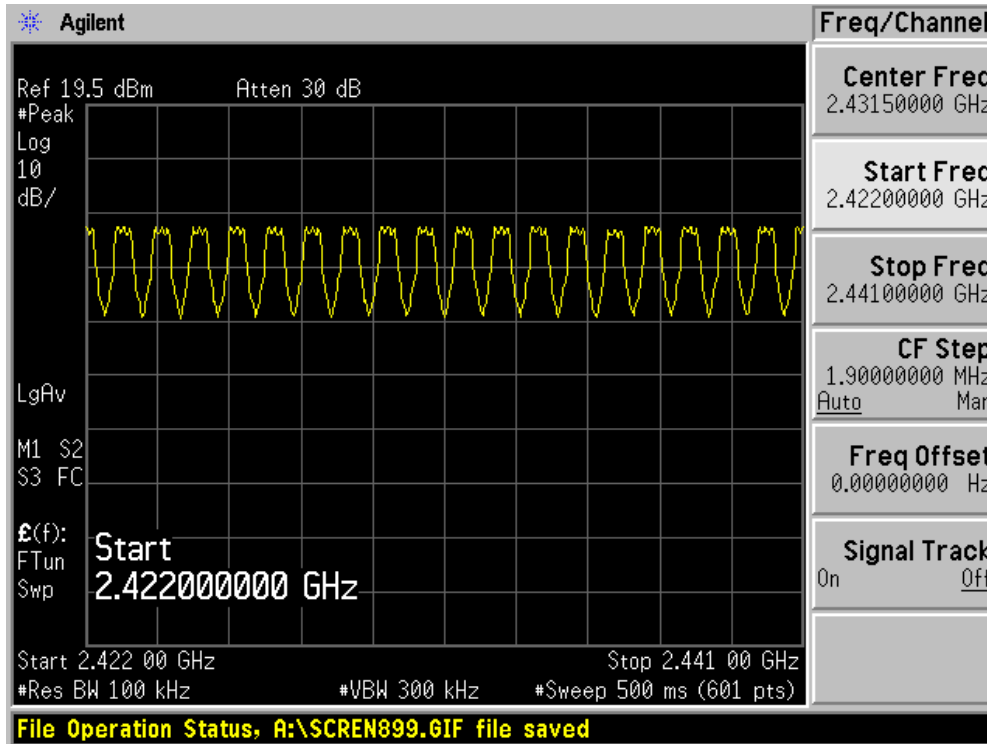
Product	:	Iqua Vizor
Test Item	:	Channel Number
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit

Frequency Range (MHz)	Measurement (Hopping Channel)	Required Limit (Hopping Channel)	Result
2402 ~ 2480	79	>15	Pass

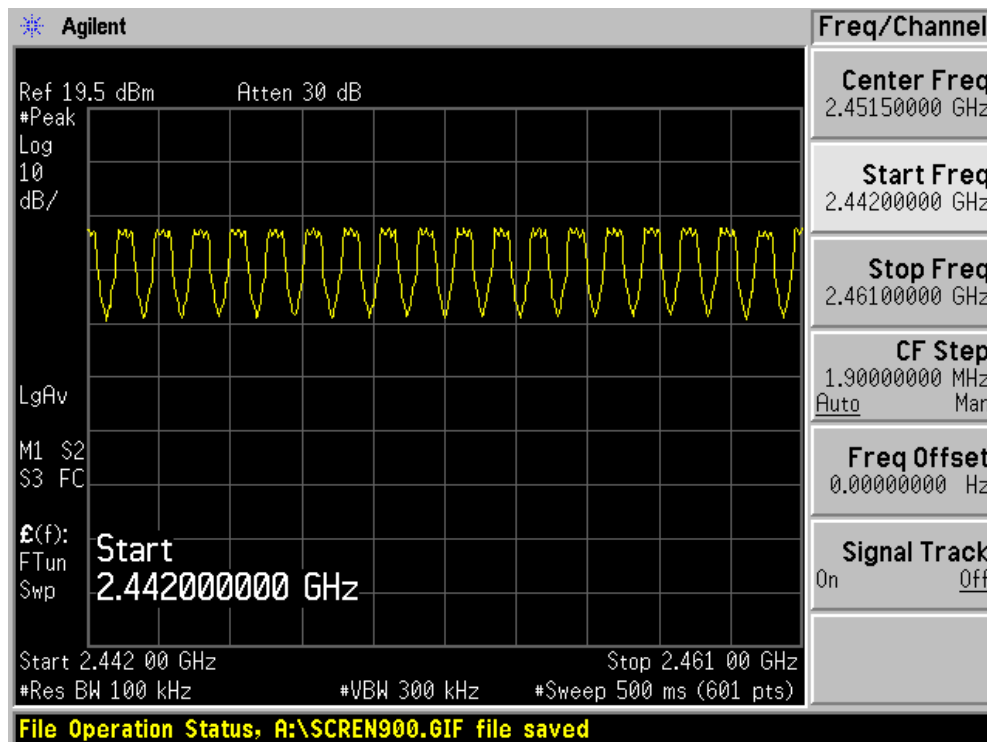
Frequency Range (2402~2421MHz)



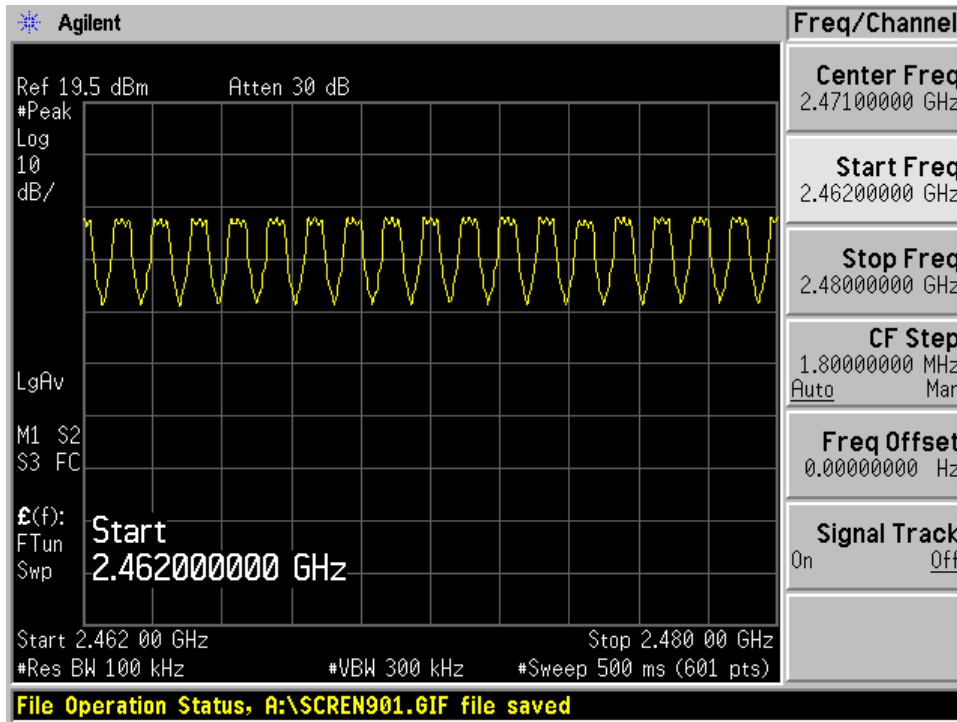
Frequency Range (2422~2441MHz)



Frequency Range (2442~2461MHz)



Frequency Range (2462~2480MHz)



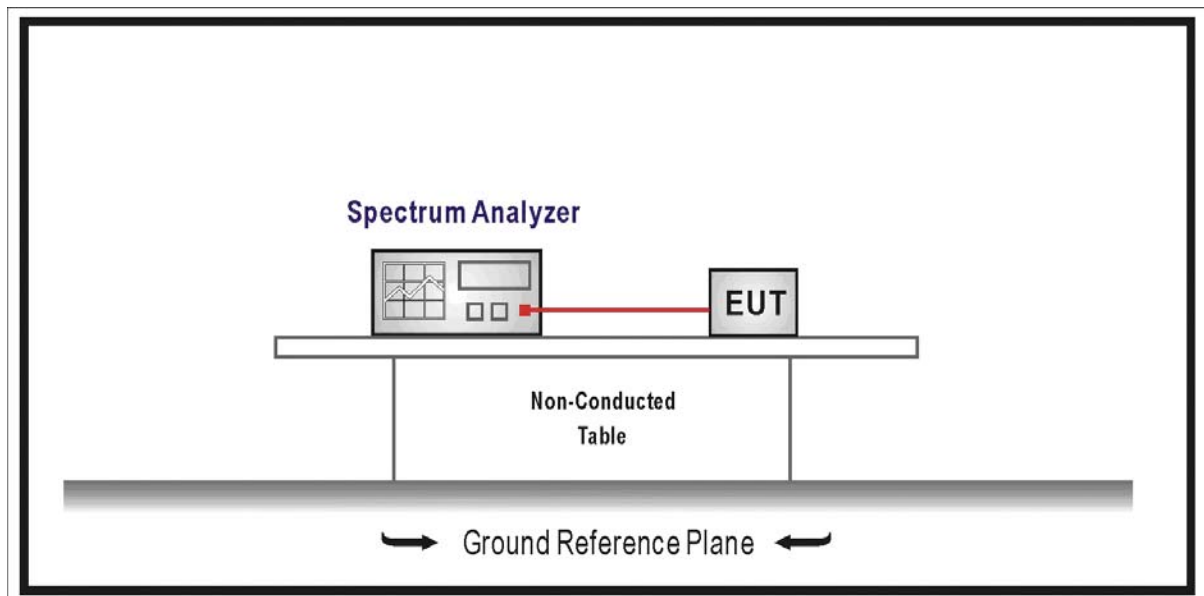
9. Channel Separation

9.1. Test Equipment

Channel Separation / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2007/06/11
Coaxial Cable	Huber+Suhner	AC3-RF	08	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2007/03/31

9.2. Test Setup



9.3. Limit

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.

9.4. Test Procedure

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

9.5. Uncertainty

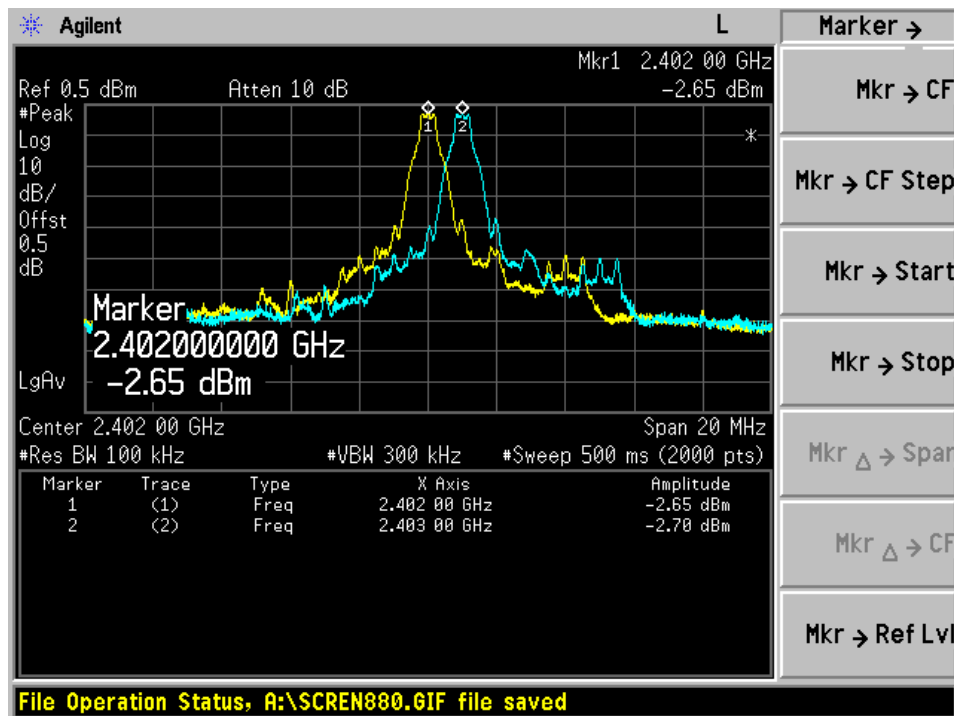
The measurement uncertainty is defined as ± 150 kHz

9.6. Test Result

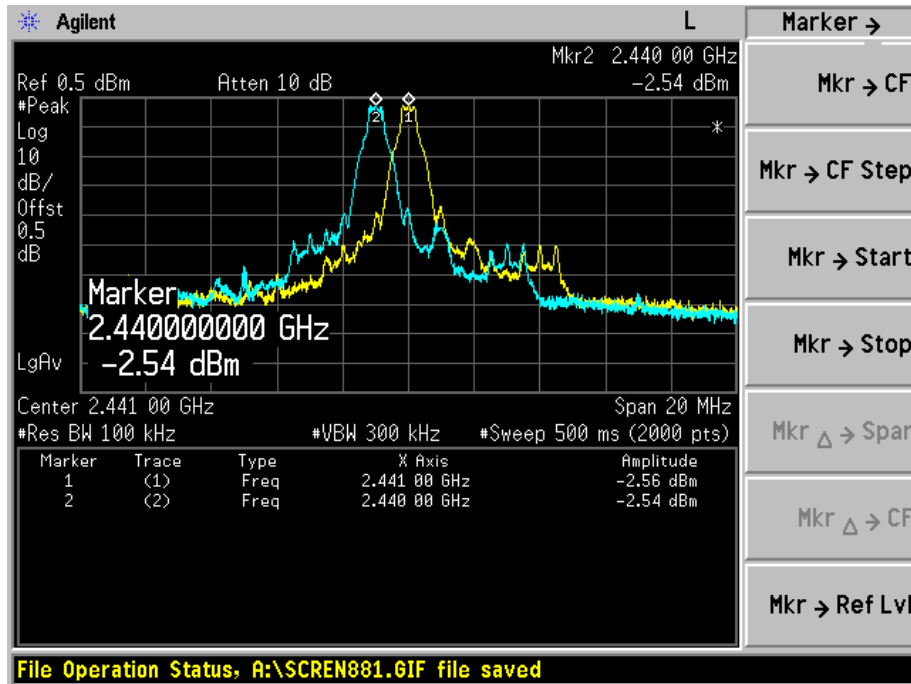
Product	:	Iqua Vizor
Test Item	:	Channel Separation
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit

Frequency (MHz)	Measurement Level (MHz)	Required Limit	Result
2402	1.00	>25 kHz or 2/3 * 20 dB BW	Pass
2441	1.00	>25 kHz or 2/3 * 20 dB BW	Pass
2480	1.00	>25 kHz or 2/3 * 20 dB BW	Pass

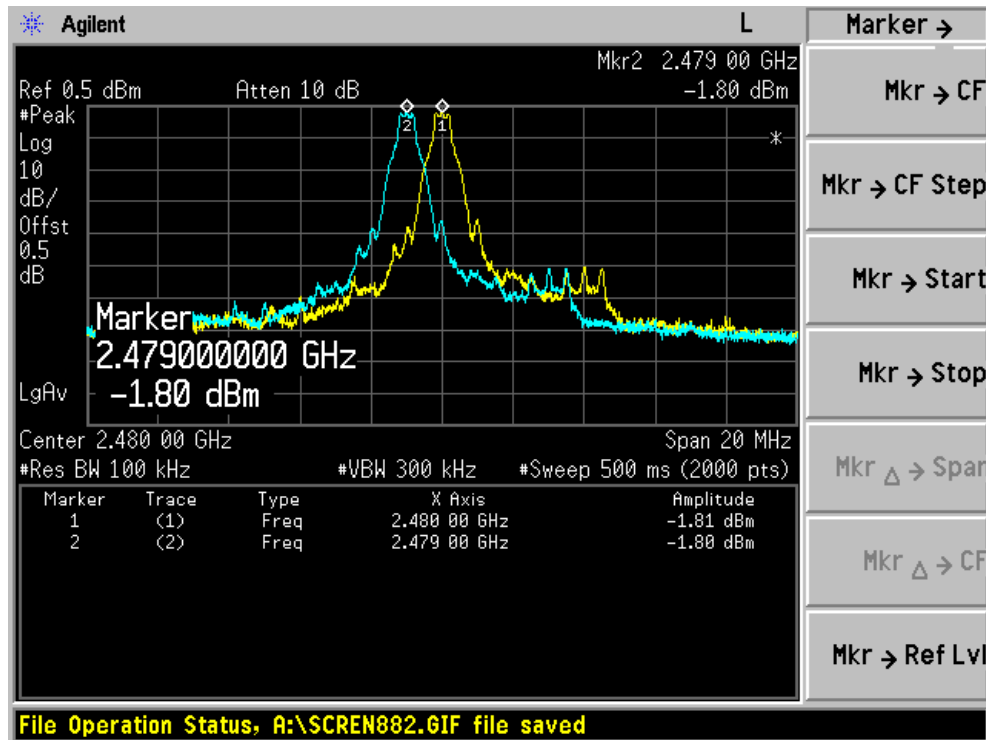
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



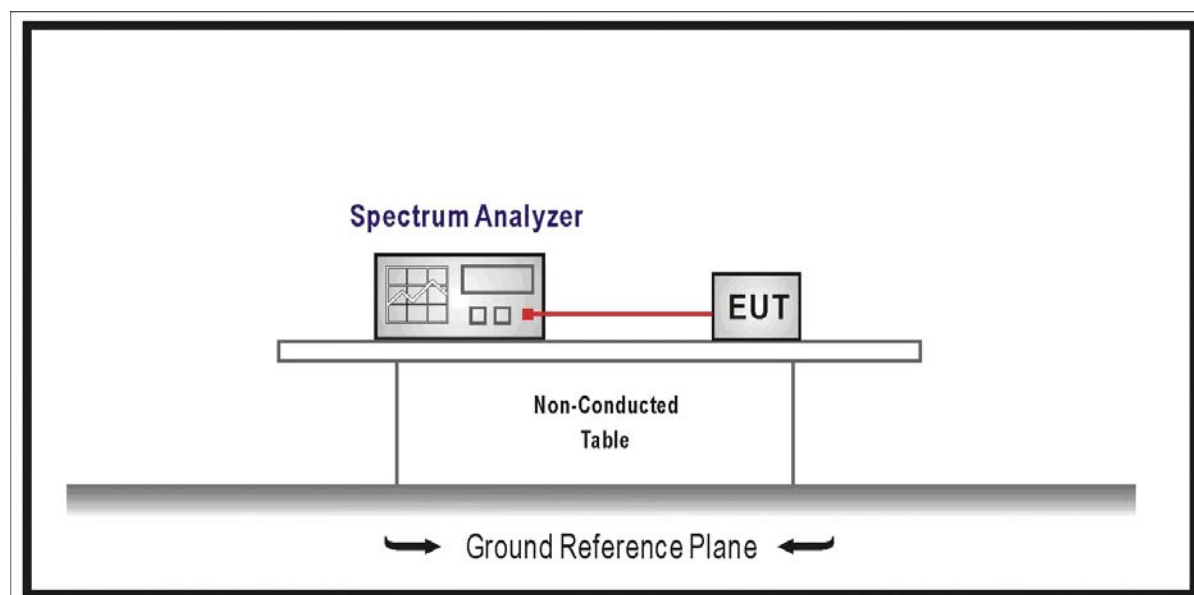
10. Dwell Time

10.1. Test Equipment

Dwell Time / AC-3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Spectrum Analyzer	Agilent	E4446A	MY45300103	2007/06/11
Coaxial Cable	Huber+Suhner	AC3-RF	08	2006/11/25
Temperature/Humidity Meter	zhicheng	ZC1-2	QT-TH003	2007/03/31

10.2. Test Setup



10.3. Limit

The dwell time shall be the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

10.4. Test Procedure

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer.
- c) Add a correction factor to the display, and then test.

10.5. Uncertainty

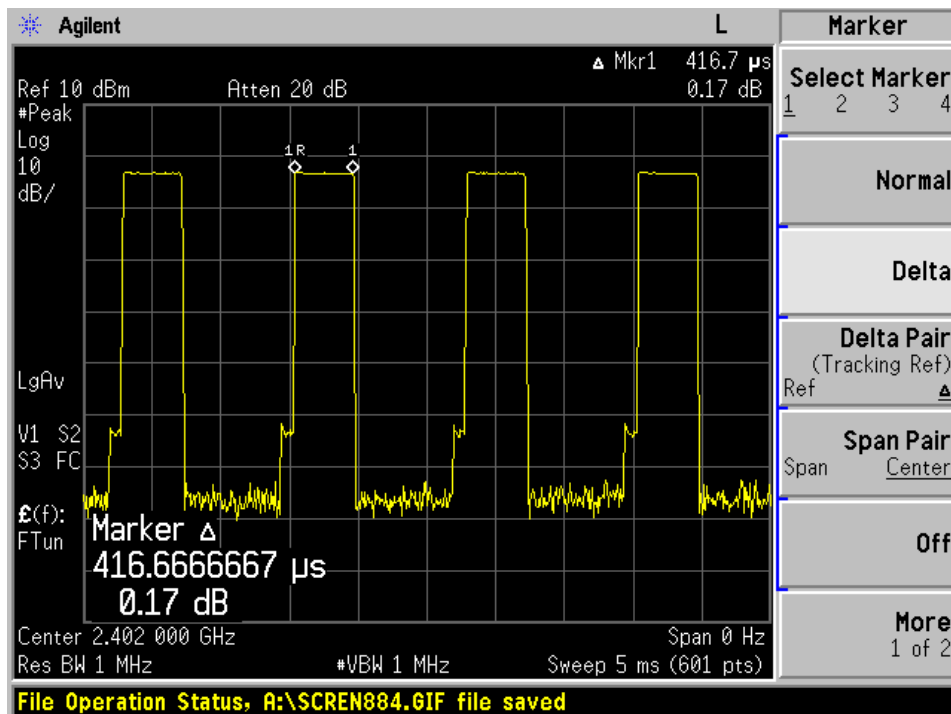
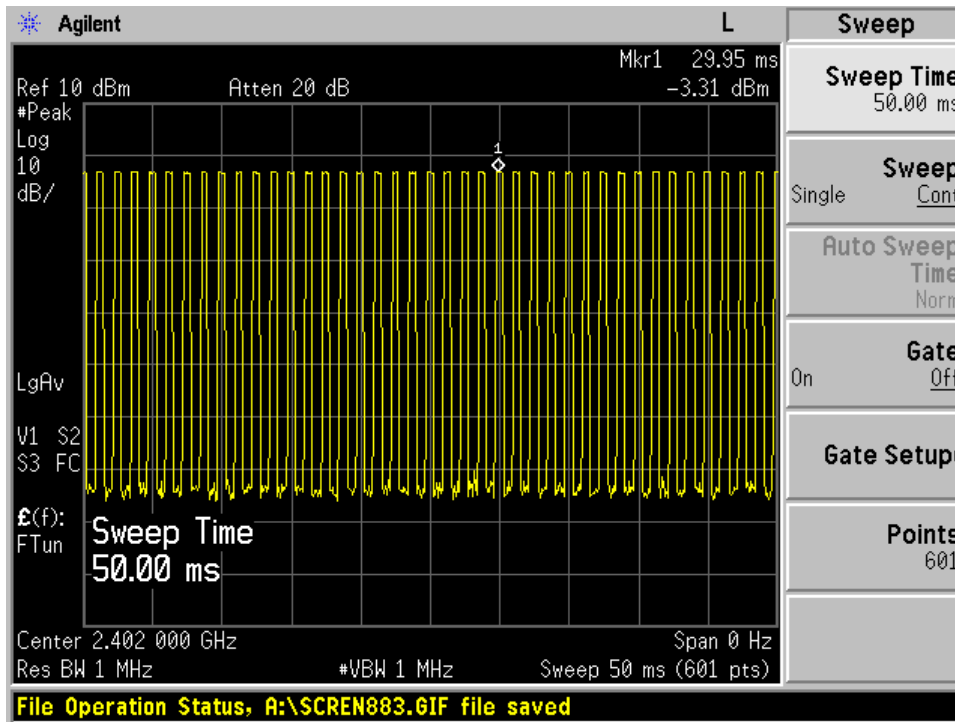
The measurement uncertainty is defined as ± 25 ms

10.6. Test Result

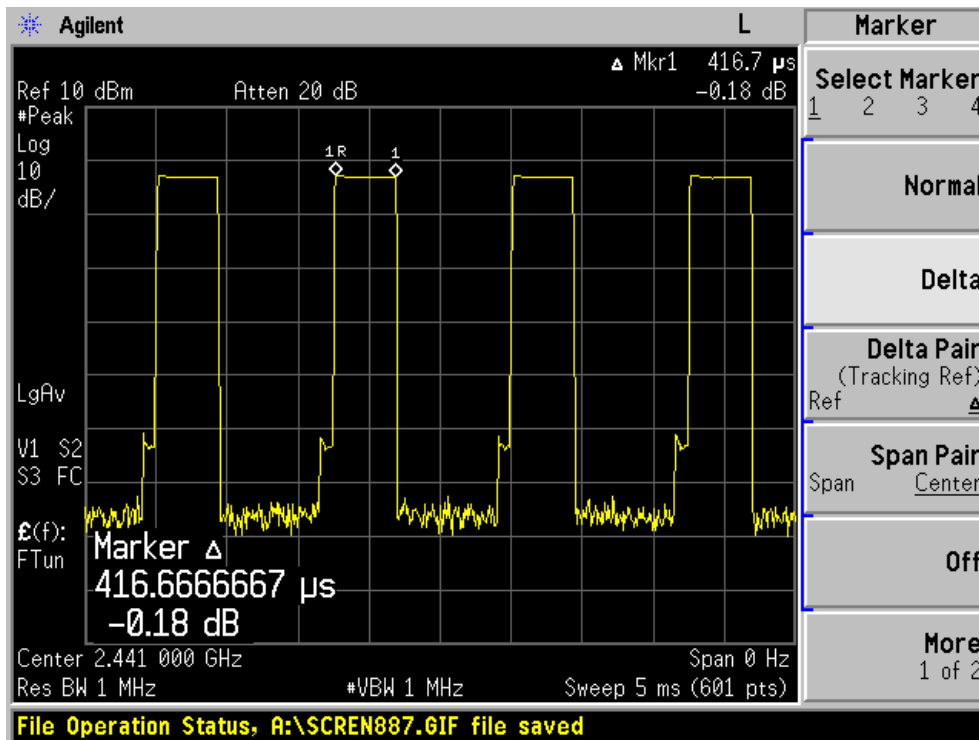
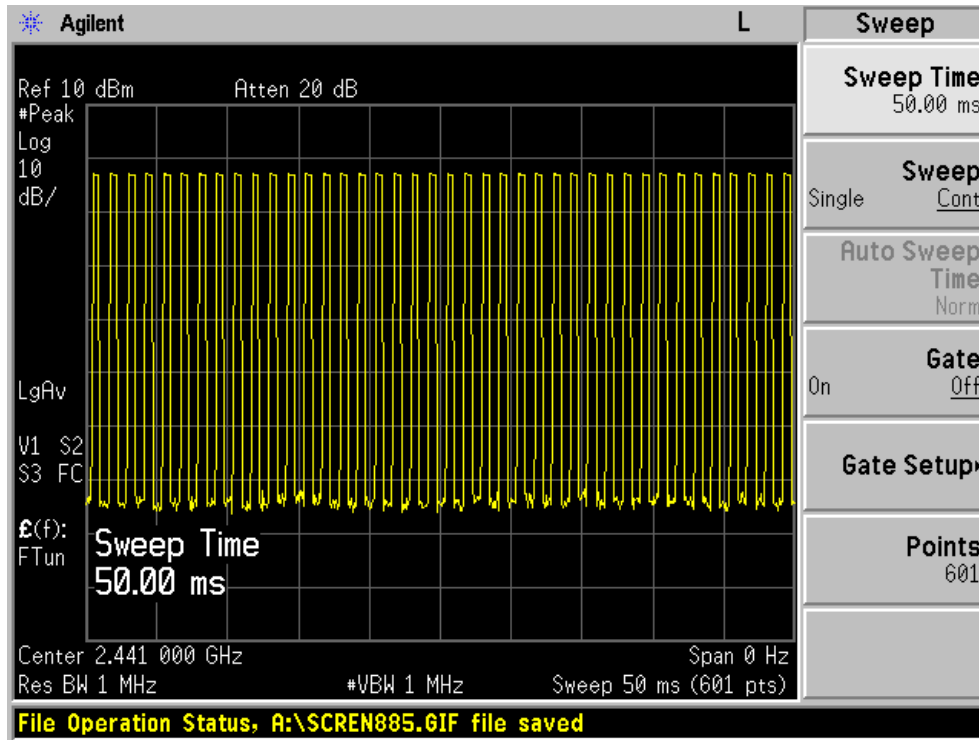
Product	:	Iqua Vizor
Test Item	:	Dwell Time
Test Site	:	AC-3
Test Mode	:	Mode 1: Transmit

Frequency (MHz)	Measurement Level (ms)	Required Limit (sec.)	Result
2402	133.344	< 0.4	Pass
2441	133.344	< 0.4	Pass
2480	130.656	< 0.4	Pass

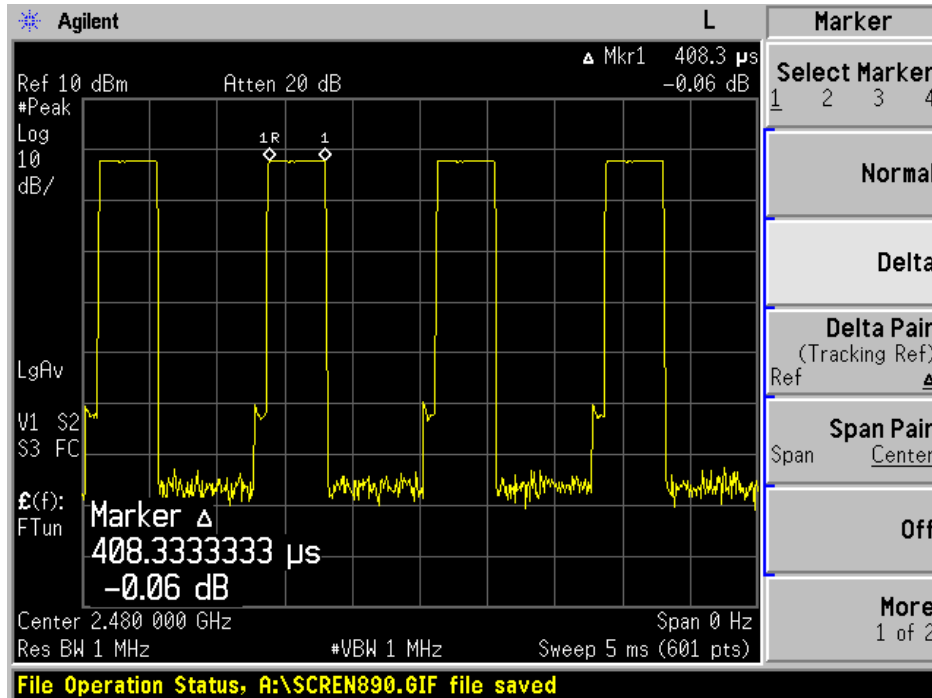
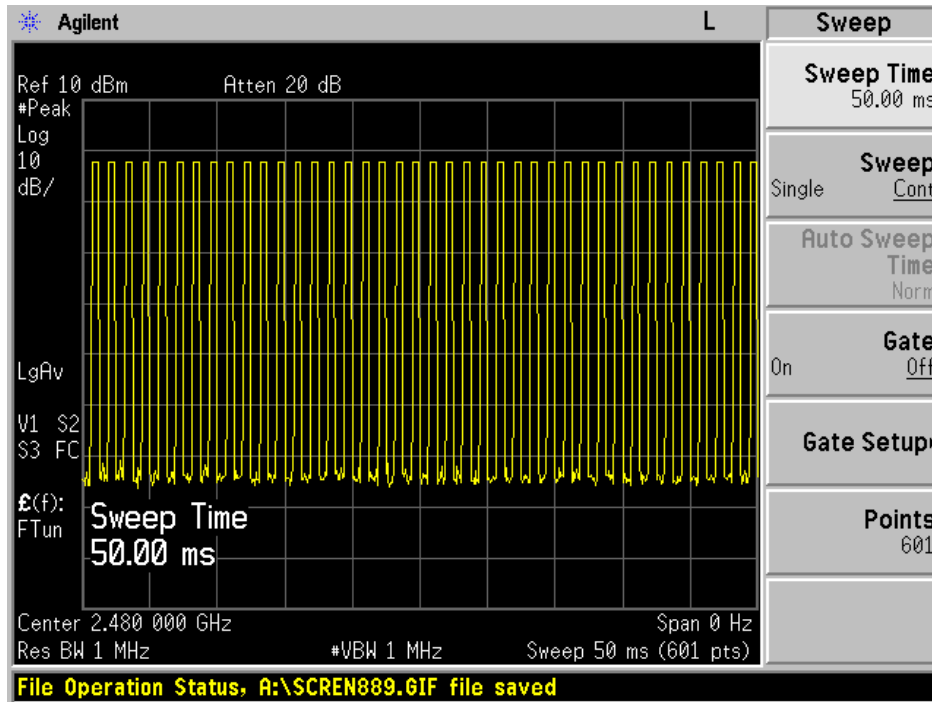
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)



Occupancy Time of Frequency Hopping System

Test Time Period: $0.4 \times 79 = 31.6\text{sec}$, Hopping Times Within 1sec: $40/50\text{msec} = 800 \text{ hops/sec}$.

A) 2402MHz The Maximum Occupancy Time Within 31.6sec: $(416.7 \mu\text{s} \times 800) / 79 \times 31.6 = 133.344\text{msec}$

B) 2441MHz The Maximum Occupancy Time Within 31.6sec: $(416.7 \mu\text{s} \times 800) / 79 \times 31.6 = 133.344\text{msec}$

C) 2480MHz The Maximum Occupancy Time Within 31.6sec: $(408.3 \mu\text{s} \times 800) / 79 \times 31.6 = 130.656\text{msec}$

Test Result: The Average Occupancy Time of Each Highest , Middle and Lowest Channel Is Less Than 0.4sec , And Corresponds to The Standard

PS: (1) From Bluetooth Specification , It Hops 1640 Times in 1sec ◦ The Average Occupancy Time of Each 79 Channels is $1640/79$ Times , Therefore , We Calculate The Maximum Occupancy Time (worse cars)As Below:

A) 2402Mhz The Occupancy Time of Each Pulse is 0.4msec , The Maximum Occupancy Time within 31.6sec is $0.4\text{msec} \times 1640 / 79 \times 31.6 = 289.056\text{msec}$

B) 2441MHz The Occupancy Time of Each Pulse is 0.4msec , The Maximum Occupancy Time within 31.6sec is $0.4\text{msec} \times 1640 / 79 \times 31.6 = 289.056\text{msec}$

C) 2480MHz The Occupancy Time of Each Pulse is 0.4msec , The Maximum Occupancy Time within 31.6sec is $0.4\text{msec} \times 1640 / 79 \times 31.6 = 289.056\text{msec}$

Test Result: The Maximum Occupancy Time of Each Highest , Middle and Lowest Channel Is Less Than 0.4sec , And Corresponds to The Standard