Test Report

Product Name ： VoIP Ethernet Home Gateway
Model No. ： HG2301, HG2302, HG2303
FCC ID. ： Y8ZHG2300

Applicant ： Tilgin IPRG AB
Address ： Finlandsgatan 40, SE-164 74 Kista, Sweden

Date of Receipt ： 2010/12/08
Issued Date ： 2011/01/12
Report No. ： 10C154R-RFUSP42V01
Report Version ： V1.0

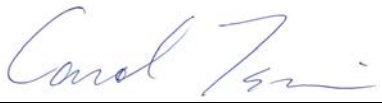
Test Report Certification

Issued Date : 2011/01/12
Report No. : 10C154R-RFUSP42V01

QuieTek

Product Name	:	VoIP Ethernet Home Gateway
Applicant	:	Tilgin IPRG AB
Address	:	Finlandsgatan 40, SE-164 74 Kista, Sweden
Manufacturer	:	Alpha Networks Inc.
MODEL NO.	:	HG2301, HG2302, HG2303
FCC ID.	:	Y8ZHG2300
EUT Voltage	:	AC 100-240V / 50/60Hz
Trade Name	:	Tilgin IPRG AB
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.247:2009
Test Result	:	Complied

The test results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

Documented By : 
(Carol Tsai / Engineering Adm. Specialist)

Reviewed By : 
(Sheena Huang / Engineer)

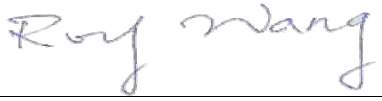
Approved By : 
(Roy Wang / Manager)

TABLE OF CONTENTS

1. General Information

1.1. EUT Description

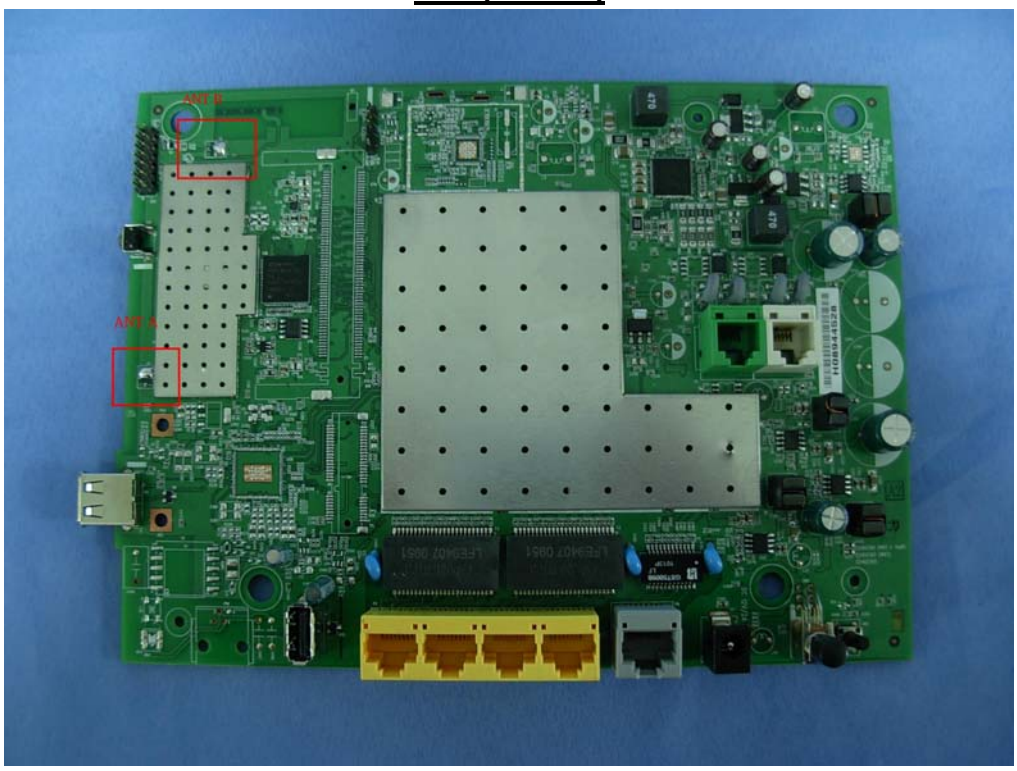
Product Name	VoIP Ethernet Home Gateway
Product Type	WLAN (2TX, 2RX)
Trade Name	Tilgin IPRG AB
Model No.	HG2301, HG2302, HG2303
Frequency Range -IEEE 802.11b/g & IEEE 802.11n (20MHz)	2412~2462MHz
Frequency Range- IEEE 802.11n (40MHz)	2422~2452MHz
Channel Number (IEEE 802.11b/g & IEEE 802.11n (20MHz))	11
Channel Number- IEEE 802.11n (40MHz)	7
Type of Modulation (IEEE 802.11b)	Direct Sequence Spread Spectrum (DSSS)
Type of Modulation (IEEE 802.11g/n)	Orthogonal Frequency Division Multiplexing (OFDM)
Data Speed (IEEE 802.11b)	1Mbps, 2Mbps, 5.5Mbps, 11Mbps
Data Speed (IEEE 802.11g)	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps
Data Speed (IEEE 802.11n)	Support a subset of the combination of GI, MCS 0~MCS 15 and bandwidth defined in 802.11n
Antenna Gain	1.8dBi
Channel Control	Manual
Antenna Type	PIFA Antenna

Component	
LAN Cable	Non-Shielded, 1.75m
Power Adapter	UNIFIVE, UTL324-1220 I/P: AC 100-240V, 50/60Hz, 0.6A O/P: DC 12V, 2A Cable Out: Non-Shielded, 1.8m
Power Adapter	UNIFIVE, UTI324-1220 I/P: AC 100-240V, 50/60Hz, 0.6A O/P: DC 12V, 2A Cable Out: Non-Shielded, 1.8m
Power Cord	Non-Shielded, 1m

ANT-TX / Rx & Bandwidth

ANT-TX / RX	SINGLE-TX		TWO-TX		RX	
Mode/ Channel Bandwidth	20MHz	40MHz	20MHz	40MHz	20MHz	40MHz
IEEE802.11b	✓				✓	
IEEE802.11g	✓					
IEEE802.11n			✓	✓	✓	✓

ANT (TX / RX)



IEEE 802.11n Spec.

MCS Index	Modulation	R	N_{BPSCS}	N_{CBPS}		N_{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI (Note1)	
								20MHz	40MHz	20MHz	40MHz
0	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.2	15.0
1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.4	30.0
2	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.7	45.0
3	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.9	60.0
4	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.3	90.0
5	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.8	120.0
6	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.0	135.0
7	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.2	150.0
Note 1: Support of 400ns GI is optional on transmit and receive.											

Table 1 – MCS parameters for TX Antenna number = 1

MCS Index	Modulation	R	N_{BPSCS}	N_{CBPS}		N_{DBPS}		Data Rate(Mb/s)			
				20MHz	40MHz	20MHz	40MHz	800ns GI		400ns GI (Note1)	
								20MHz	40MHz	20MHz	40MHz
8	BPSK	1/2	1	104	216	52	108	13.0	27.0	14.4	30.0
9	QPSK	1/2	2	208	432	104	216	26.0	54.0	28.9	60.0
10	QPSK	3/4	2	208	432	156	324	39.0	81.0	43.3	90.0
11	16-QAM	1/2	4	416	864	208	432	52.0	108.0	57.8	120.0
12	16-QAM	3/4	4	416	864	312	648	78.0	162.0	86.7	180.0
13	64-QAM	2/3	6	624	1296	416	864	104.0	216.0	115.6	240.0
14	64-QAM	3/4	6	624	1296	468	972	117.0	243.0	130.0	270.0
15	64-QAM	5/6	6	624	1296	520	1080	130.0	270.0	144.4	300.0
Note 1: Support of 400ns GI is optional on transmit and receive.											

Table 2 – MCS parameters for TX Antenna number = 2

Symbol	Explanation
R	Code rate
N_{BPSC}	Number of coded bits per single carrier
N_{CBPS}	Number of coded bits per symbol
N_{DBPS}	Number of data bits per symbol
GI	guard interval

IEEE 802.11b/g & IEEE 802.11n (20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
001	2412 MHz	002	2417 MHz	003	2422 MHz	004	2427 MHz
005	2432 MHz	006	2437 MHz	007	2442 MHz	008	2447 MHz
009	2452 MHz	010	2457 MHz	011	2462 MHz		

IEEE 802.11n (40MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
003	2422 MHz	004	2427 MHz	005	2432 MHz	006	2437 MHz
007	2442 MHz	008	2447 MHz	009	2452 MHz		

Note:

1. This device is a VoIP Ethernet Home Gateway, which including 2.4GHz 11b/g and 11n (2x2) transmitting and receiving function.
2. The different of the each model is shown as below:

Model No.	With Wireless Function	With VoIP Function
HG2301	O	O
HG2302	X	O
HG2303	X	X

3. These test results on a sample of the device are for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.247.
4. Regards to the frequency band operation; the lowest、middle and highest frequency of channel were selected to perform the test, and then shown on this report.
5. This device is a composite device in accordance with Part 15 regulations. The receiving function receiving was tested and its test report number is 10C154R-RFUSP37V02 under Declaration of Conformity.

1.3. Test Mode

QuieTek has verified the construction and function in typical operation. The preliminary tests were performed in different data rate, and to find the worst condition, which was shown in this test report. The following table is the final test mode.

TX	Mode 1: Transmit_UTL324-1220 Mode 2: Transmit_UTI324-1220

Test Items	Mode		Channel	Result
Conducted Emission	1/2	11n (40MHz)	6	Complies
Peak Power Output	1	b/g	1 /6/ 11	Complies
	1	11n(20MHz)	1 /6/ 11	Complies
	1	11n(40MHz)	3 /6/ 9	Complies
Radiated Emission (Under 1GHz)	1/2	b/g	6	Complies
	1/2	11n(20MHz)	6	Complies
	1/2	11n(40MHz)	6	Complies
Radiated Emission (Above 1GHz)	1/2	b/g	1 /6/ 11	Complies
	1/2	11n(20MHz)	1 /6/ 11	Complies
	1/2	11n(40MHz)	3 /6/ 9	Complies
RF antenna conducted test	1	b/g	1 /11	Complies
	1	11n(20MHz)	1 /11	Complies
	1	11n(40MHz)	3 /9	Complies
Radiated Emission Band Edge	1	b/g	1 /11	Complies
	1	11n(20MHz)	1 /11	Complies
	1	11n(40MHz)	3 /9	Complies
Occupied Bandwidth	1	b/g	1 /6/ 11	Complies
	1	11n(20MHz)	1 /6/ 11	Complies
	1	11n(40MHz)	3 /6/ 9	Complies
Power Density	1	b/g	1 /6/ 11	Complies
	1	11n(20MHz)	1 /6/ 11	Complies
	1	11n(40MHz)	3 /6/ 9	Complies

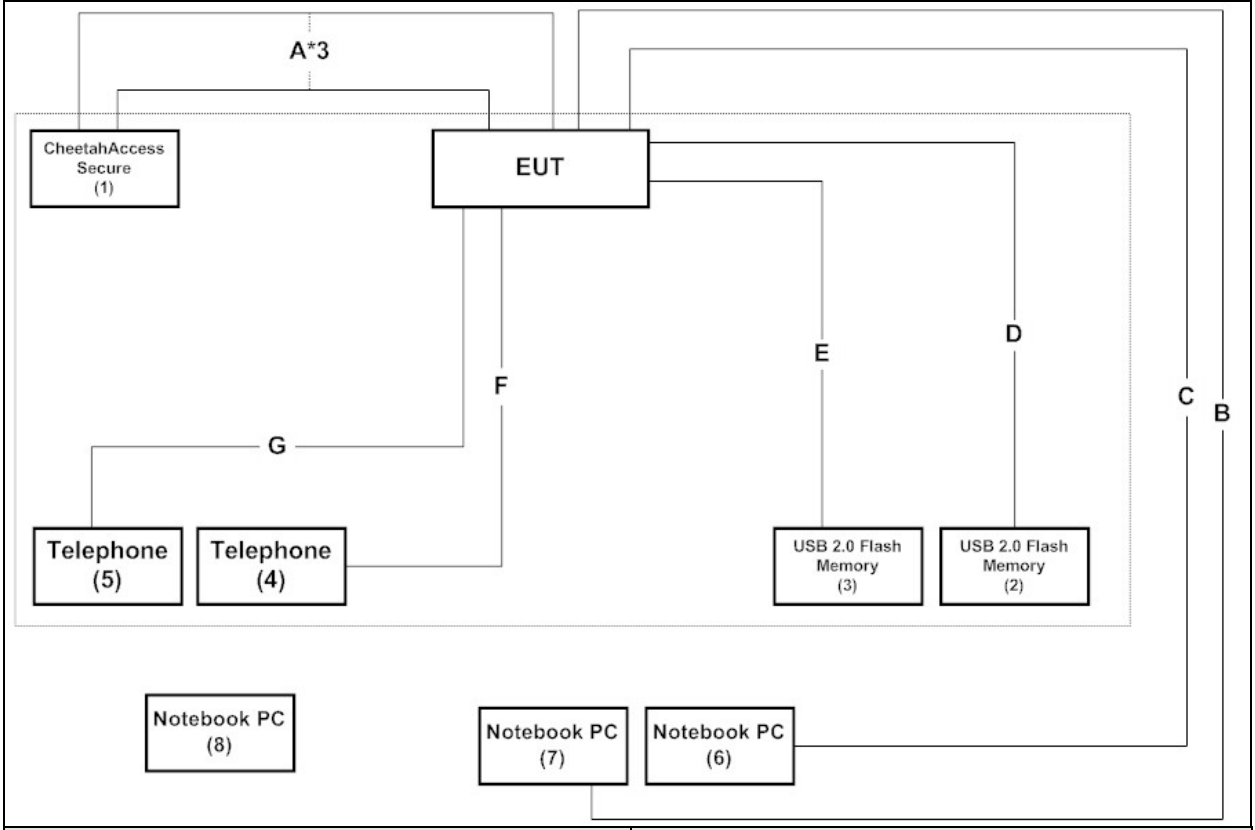
1.4. Tested System Details

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.	FCC ID	Power Cord
1	CheetahAccess Secure	Accton	AC-IG1104	N/A	DoC	Non-Shielded, 1.8m
2	USB 2.0 Flash Memory	Sony	USM2GJX	N/A	DoC	--
3	USB 2.0 Flash Memory	Sony	USM2GJX	N/A	DoC	--
4	Telephone	TENTEL	K-302	41230008000054	DoC	--
5	Telephone	TENTEL	K-302	50721005000551	DoC	--
6	Notebook PC	DELL	LATITUDE D400	GK43D1S	DoC	Non-Shielded, 1.7m, one ferrite core bonded
7	Notebook PC	DELL	LATITUDE D400	HK43D1S	DoC	Non-Shielded, 1.7m, one ferrite core bonded
8	Notebook PC	HP Compaq	NX6320FF	CNU7020BXT	DoC	Non-Shielded, 1.8m

1.5. Configuration of tested System

Connection Diagram



Signal Cable Type		Signal cable Description
A	LAN Cable	Non-Shielded, 1.75m
B	LAN Cable	Non-Shielded, 10m
C	LAN Cable	Non-Shielded, 10m
D	USB 2.0 Flash Memory Cable	Shielded, 1.5m
E	USB 2.0 Flash Memory Cable	Shielded, 1.5m
F	Telephone Cable	Non-Shielded, 1.5m
G	Telephone Cable	Non-Shielded, 1.5m

1.6. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.5.
2	Turn on the power of all equipment.
3	RF function will continue transmit and changes specifications and channels.
4	Repeat the above procedure (3).

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C 15.207 Conducted Emission	15 - 35	20
Humidity (%RH)		25 - 75	50
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Peak Power Output (DSSS)	15 - 35	25
Humidity (%RH)		25 - 75	46
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Radiated Emission (DSSS)	15 - 35	25
Humidity (%RH)		25 - 75	65
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 RF antenna conducted test (DSSS)	15 - 35	24
Humidity (%RH)		25 - 75	49
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Band Edge (DSSS)	15 - 35	25
Humidity (%RH)		25 - 75	48
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Occupied Bandwidth (DSSS)	15 - 35	26
Humidity (%RH)		25 - 75	46
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C 15.247 Power Density (DSSS)	15 - 35	25
Humidity (%RH)		25 - 75	48
Barometric pressure (mbar)		860 - 1060	950-1000

Site Description:

Accredited by NVLAP
NVLAP Lab Code: 200347-0
Effective through: September 30, 2011

Accredited by TAF
Accreditation Number: 1313
Effective through: December 27, 2013

Accredited by DNV
Statement No. : 413-99-LAB11
Effective through: March 23, 2011

Accredited by TUV
Certificate No.: 10011438-2-2010
Effective through: February 23, 2012

Accredited by Nemko
Authorisation No.: ELA 165
Effective through: December 31, 2011

Site Name: Quietek Corporation

Site Address: No. 75-2, 3rd Lin, Wangye Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan
TEL : 886-3-5928858 / FAX : 886-3-5928859
E-Mail : service@quietek.com

2. Conducted Emission

2.1. Test Equipment

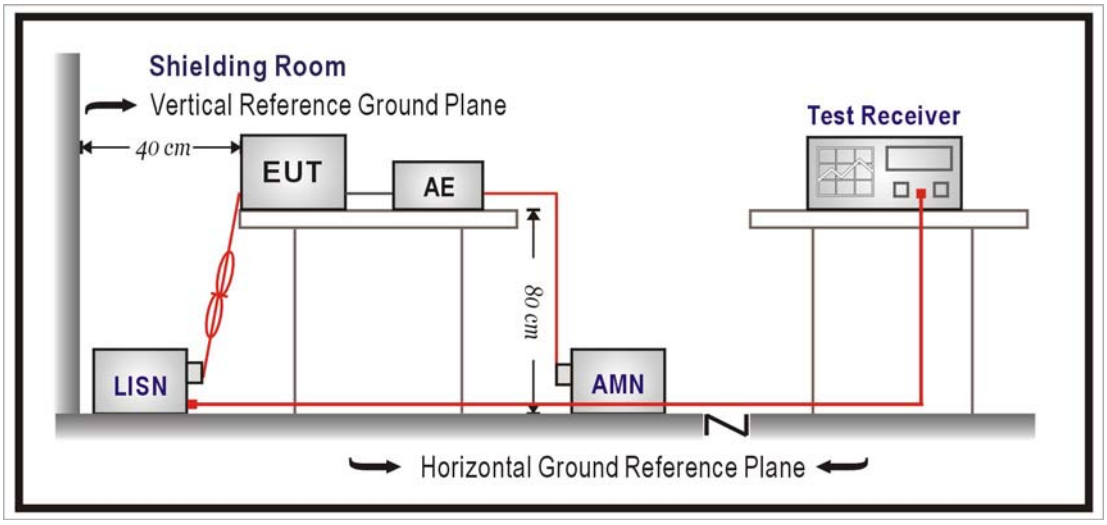
The following test equipments are used during the test:

Conducted Emission / SR2

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2011/03/14
LISN	R&S	ENV216	100092	2011/09/12
Test Receiver	R&S	ESCS 30	825442/014	2011/09/02

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
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.

2.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs.)
Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.

2.5. Test Specification

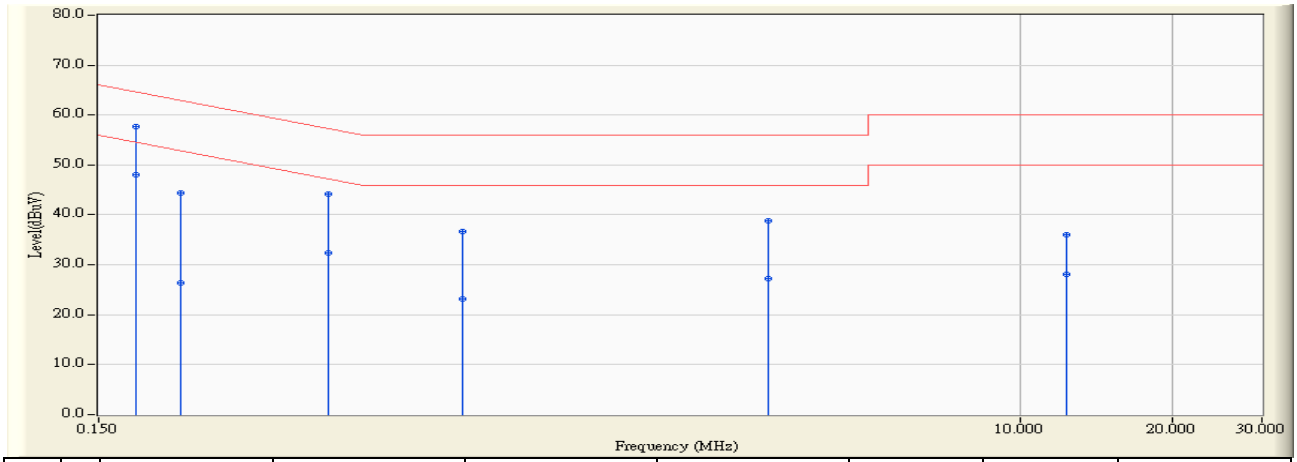
According to FCC Part 15 Subpart C Paragraph 15.207: 2009

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR2	**Time : 2010/12/14 - 10:07**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A) - Line1	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 -802.11n(40M)-2437MHz**

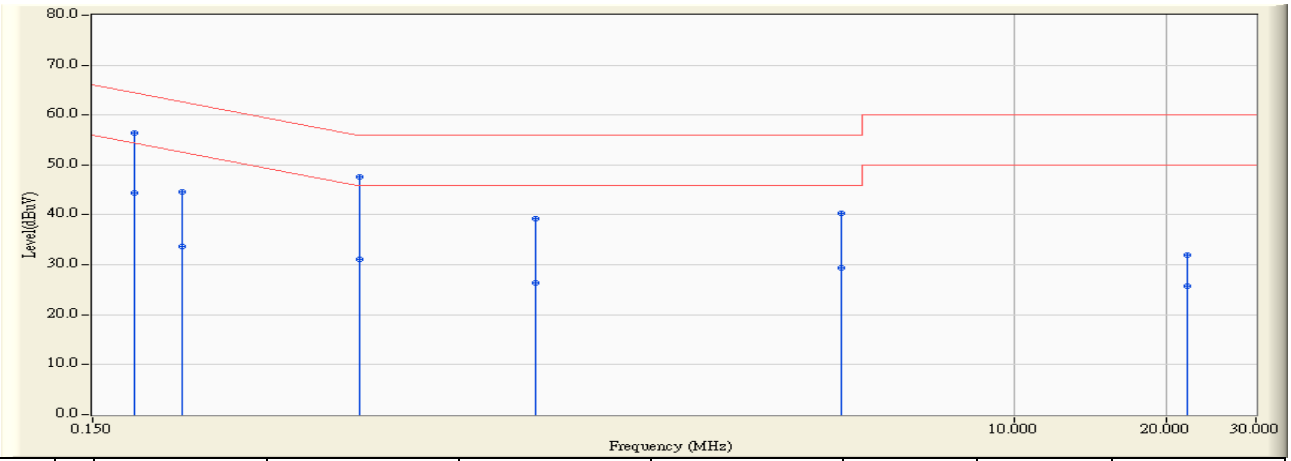


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.178	9.600	48.143	57.743	-6.836	64.578	QUASIPEAK
2	*	0.178	9.600	38.376	47.976	-6.602	54.578	AVERAGE
3		0.218	9.600	34.899	44.499	-18.396	62.895	QUASIPEAK
4		0.218	9.600	16.716	26.316	-26.579	52.895	AVERAGE
5		0.426	9.610	34.578	44.188	-13.142	57.330	QUASIPEAK
6		0.426	9.610	22.882	32.492	-14.838	47.330	AVERAGE
7		0.786	9.629	27.055	36.684	-19.316	56.000	QUASIPEAK
8		0.786	9.629	13.508	23.137	-22.863	46.000	AVERAGE
9		3.158	9.819	28.970	38.789	-17.211	56.000	QUASIPEAK
10		3.158	9.819	17.526	27.345	-18.655	46.000	AVERAGE
11		12.302	10.141	25.931	36.073	-23.927	60.000	QUASIPEAK
12		12.302	10.141	17.991	28.132	-21.868	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : SR2	**Time : 2010/12/14 - 10:13**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A) - Line2	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 -802.11n(40M)-2437MHz**

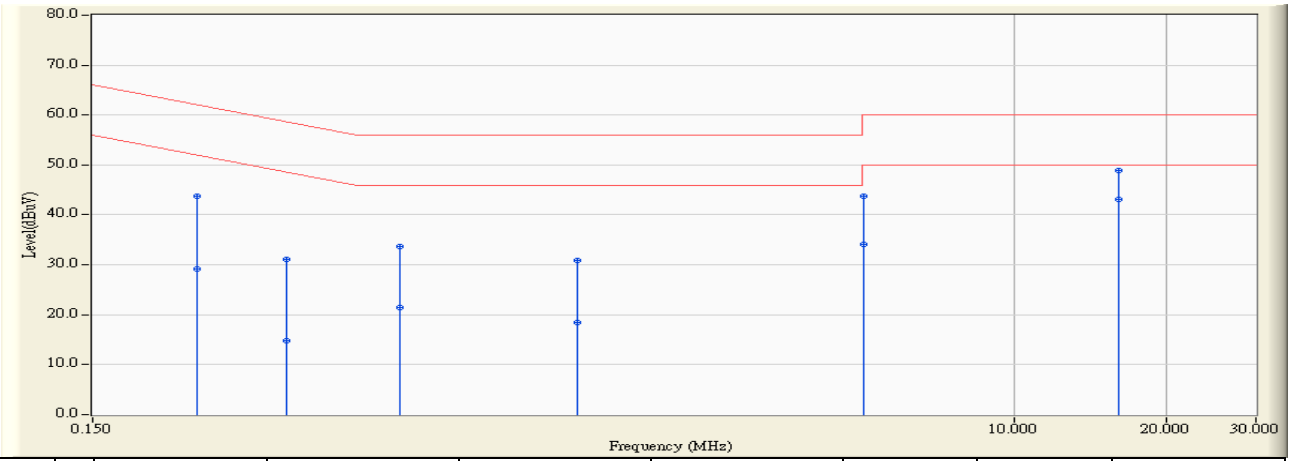


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	*	0.182	9.600	46.823	56.423	-7.971	64.394	QUASIPEAK
2		0.182	9.600	34.837	44.437	-9.957	54.394	AVERAGE
3		0.226	9.600	34.990	44.590	-18.006	62.595	QUASIPEAK
4		0.226	9.600	24.151	33.751	-18.844	52.595	AVERAGE
5		0.506	9.600	38.120	47.720	-8.280	56.000	QUASIPEAK
6		0.506	9.600	21.478	31.078	-14.922	46.000	AVERAGE
7		1.126	9.686	29.615	39.301	-16.699	56.000	QUASIPEAK
8		1.126	9.686	16.633	26.319	-19.681	46.000	AVERAGE
9		4.526	9.872	30.500	40.372	-15.628	56.000	QUASIPEAK
10		4.526	9.872	19.607	29.478	-16.522	46.000	AVERAGE
11		21.910	10.654	21.396	32.051	-27.949	60.000	QUASIPEAK
12		21.910	10.654	15.027	25.681	-24.319	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : SR2	**Time : 2010/12/14 - 10:40**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A) - Line1	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11n(40M)-2437MHz**

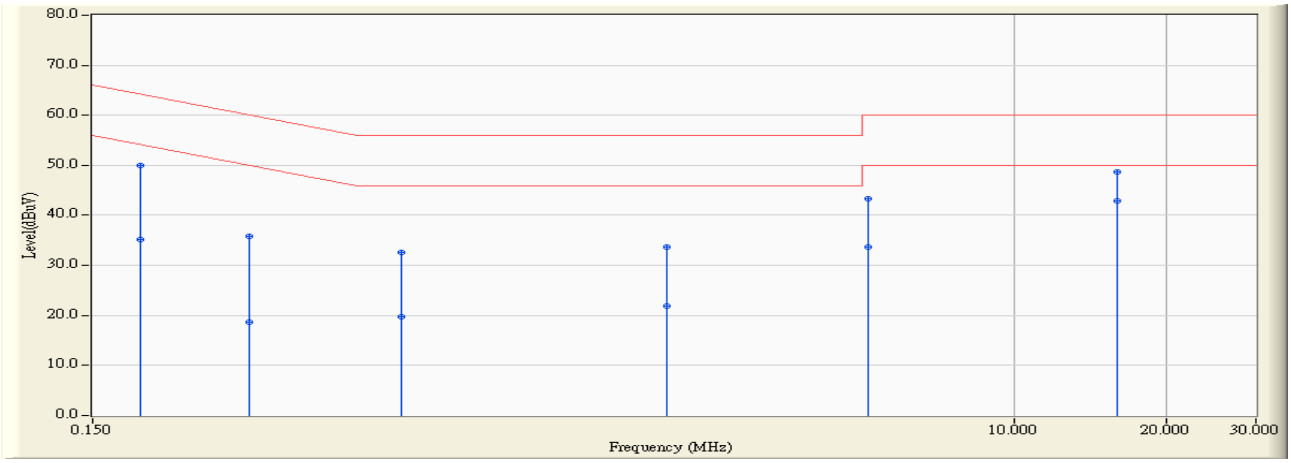


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.242	9.600	34.192	43.792	-18.235	62.027	QUASIPEAK
2		0.242	9.600	19.664	29.264	-22.763	52.027	AVERAGE
3		0.362	9.606	21.423	31.030	-27.653	58.682	QUASIPEAK
4		0.362	9.606	5.220	14.826	-33.857	48.682	AVERAGE
5		0.606	9.610	23.970	33.580	-22.420	56.000	QUASIPEAK
6		0.606	9.610	11.765	21.375	-24.625	46.000	AVERAGE
7		1.362	9.746	21.060	30.806	-25.194	56.000	QUASIPEAK
8		1.362	9.746	8.639	18.385	-27.615	46.000	AVERAGE
9		5.038	9.875	33.975	43.849	-16.151	60.000	QUASIPEAK
10		5.038	9.875	24.202	34.077	-15.923	50.000	AVERAGE
11		16.106	10.252	38.573	48.825	-11.175	60.000	QUASIPEAK
12	*	16.106	10.252	32.766	43.019	-6.981	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : SR2	**Time : 2010/12/14 - 10:42**
Limit : CISPR_B_00M_QP	**Margin : 10**
Probe : SR2_LISN(16A) - Line2	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11n(40M)-2437MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1		0.186	9.600	40.378	49.978	-14.236	64.213	QUASIPEAK
2		0.186	9.600	25.553	35.153	-19.060	54.213	AVERAGE
3		0.306	9.600	26.269	35.869	-24.209	60.078	QUASIPEAK
4		0.306	9.600	8.975	18.575	-31.503	50.078	AVERAGE
5		0.614	9.600	23.099	32.700	-23.300	56.000	QUASIPEAK
6		0.614	9.600	10.181	19.781	-26.219	46.000	AVERAGE
7		2.050	9.782	23.929	33.711	-22.289	56.000	QUASIPEAK
8		2.050	9.782	12.079	21.860	-24.140	46.000	AVERAGE
9		5.130	9.896	33.525	43.420	-16.580	60.000	QUASIPEAK
10		5.130	9.896	23.848	33.744	-16.256	50.000	AVERAGE
11		16.002	10.381	38.337	48.718	-11.282	60.000	QUASIPEAK
12	*	16.002	10.381	32.478	42.859	-7.141	50.000	AVERAGE

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

3. Peak Power Output

3.1. Test Equipment

The following test equipments are used during the test:

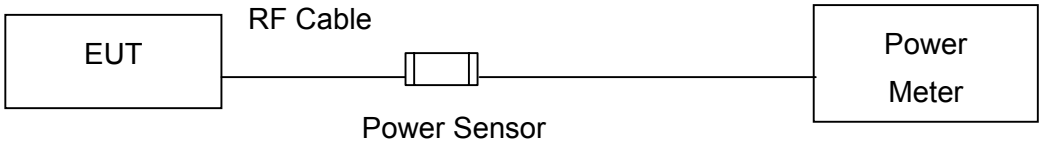
Peak Power Output / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Power Meter	Agilent	N1911A	MY45101353	2011/01/17
Power Sensor	Agilent	N1921A	MY45241670	2011/01/17

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

3.2. Test Setup

IEEE 802.11 b / g / n (20M / 40M) MODE



3.3. Test procedures

The EUT was tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.

3.4. Limits

The maximum peak power shall be less 1 Watt.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2009

3.6. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

3.7. Test Result

Product	VoIP Ethernet Home Gateway		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/12/15	Test Site	SR7

IEEE 802.11b				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	20.18	1Watt= 30 dBm	Pass
6	2437	20.10	1Watt= 30 dBm	Pass
11	2462	20.07	1Watt= 30 dBm	Pass

The worst emission of data rate is 11 Mbps.

Peak Power Output Value (dBm)						
Channel No.	Frequency (MHz)	Data Rate				Required Limit
		1	2	5.5	11	
1	2412	18.90	20.14	19.68	20.18	30dBm
6	2437	19.92	20.03	19.60	20.10	30dBm
11	2462	19.98	20.02	19.23	20.07	30dBm

Note: Measure Level =Reading value + cable loss

Product	VoIP Ethernet Home Gateway		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/12/15	Test Site	SR7

IEEE 802.11g				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	23.78	1Watt= 30 dBm	Pass
6	2437	23.38	1Watt= 30 dBm	Pass
11	2462	23.19	1Watt= 30 dBm	Pass

The worst emission of data rate is 54 Mbps.

Peak Power Output Value(dBm)										
Channel No.	Frequency (MHz)	Data Rate (Mbps)								Required Limit
		6	9	12	18	24	36	48	54	
1	2412	23.20	23.40	23.05	23.39	23.16	23.08	23.34	23.78	30dBm
6	2437	23.06	23.31	22.95	23.18	23.02	22.96	23.21	23.38	30dBm
11	2462	23.01	23.15	22.89	23.18	22.94	22.91	23.14	23.19	30dBm

Note: Measure Level =Reading value + cable loss

Product	VoIP Ethernet Home Gateway		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/12/15	Test Site	SR7

IEEE 802.11n (ANT A (20MHz))				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	23.10	1Watt= 30 dBm	Pass
6	2437	23.08	1Watt= 30 dBm	Pass
11	2462	22.94	1Watt= 30 dBm	Pass

The worst emission of data rate is 13 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13	26	39	52	78	104	117	130	
1	2412	23.10	22.70	22.64	22.94	23.15	22.84	22.47	22.74	30dBm
6	2437	23.08	22.60	22.51	22.85	23.04	22.60	22.31	22.65	30dBm
11	2462	22.94	22.48	22.41	22.76	22.88	22.59	22.24	22.50	30dBm

Note: Measure Level =Reading value + cable loss

Product	VoIP Ethernet Home Gateway		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/12/15	Test Site	SR7

IEEE 802.11n (ANT B (20MHz))				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	23.62	1Watt= 30 dBm	Pass
6	2437	23.71	1Watt= 30 dBm	Pass
11	2462	23.28	1Watt= 30 dBm	Pass

The worst emission of data rate is 13 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13	26	39	52	78	104	117	130	
1	2412	23.62	23.04	23.39	22.87	23.42	23.51	22.84	23.54	30dBm
6	2437	23.71	23.15	23.45	22.73	23.52	23.61	22.90	23.63	30dBm
11	2462	23.28	22.64	22.94	22.28	23.07	23.04	22.46	22.17	30dBm

Note: Measure Level =Reading value + cable loss

Product	VoIP Ethernet Home Gateway		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/12/15	Test Site	SR7

IEEE 802.11n(20MHz), ANT A+ANT B				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	26.38	1Watt= 30 dBm	Pass
6	2437	26.42	1Watt= 30 dBm	Pass
11	2462	26.12	1Watt= 30 dBm	Pass

The worst emission of data rate is 13 Mbps.

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		13	26	39	52	78	104	117	130	
1	2412	26.38	25.88	26.04	25.92	26.30	26.20	25.67	26.17	30dBm
6	2437	26.42	25.89	26.02	25.80	26.30	26.14	25.63	26.18	30dBm
11	2462	26.12	25.57	26.69	25.54	25.99	25.83	25.36	25.35	30dBm

Note: Measure Level =Reading value + cable loss

Product	VoIP Ethernet Home Gateway		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/12/15	Test Site	SR7

IEEE 802.11n (ANT A (40MHz))				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	23.00	1Watt= 30 dBm	Pass
6	2437	22.94	1Watt= 30 dBm	Pass
9	2452	22.90	1Watt= 30 dBm	Pass

The worst emission of data rate is 270Mbps

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		27	54	81	108	162	216	243	270	
3	2422	22.85	22.66	22.87	22.98	22.95	22.91	22.91	23.00	30dBm
6	2437	22.41	22.50	22.57	22.71	22.87	22.86	22.75	22.94	30dBm
9	2452	22.37	22.49	22.47	22.68	22.80	22.78	22.67	22.90	30dBm

Note: Measure Level =Reading value + cable loss

Product	VoIP Ethernet Home Gateway		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/12/15	Test Site	SR7

IEEE 802.11n (ANT B (40MHz))				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	24.07	1Watt= 30 dBm	Pass
6	2437	23.62	1Watt= 30 dBm	Pass
9	2452	23.70	1Watt= 30 dBm	Pass

The worst emission of data rate is 270Mbps

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		27	54	81	108	162	216	243	270	
3	2422	23.82	23.64	24.01	23.84	23.64	23.41	23.71	24.07	30dBm
6	2437	23.21	23.14	23.60	23.45	23.15	22.93	23.21	23.62	30dBm
9	2452	23.49	23.34	23.69	23.50	23.04	22.84	23.37	23.70	30dBm

Note: Measure Level =Reading value + cable loss

Product	VoIP Ethernet Home Gateway		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/12/15	Test Site	SR7

IEEE 802.11n(40MHz), ANT A+ANT B				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	26.58	1Watt= 30 dBm	Pass
6	2437	26.30	1Watt= 30 dBm	Pass
9	2452	26.33	1Watt= 30 dBm	Pass

The worst emission of data rate is 270Mbps

Peak Power Output (dBm)										
MCS Index		8	9	10	11	12	13	14	15	Required Limit
Channel No	Frequency (MHz)	Data Rate								
		27	54	81	108	162	216	243	270	
3	2422	26.37	26.19	26.49	26.44	26.32	26.18	26.34	26.58	30dBm
6	2437	25.84	25.84	26.13	26.11	26.02	25.91	26.00	26.30	30dBm
9	2452	25.98	25.95	26.13	26.12	25.93	25.82	26.04	26.33	30dBm

Note: Measure Level =Reading value + cable loss

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

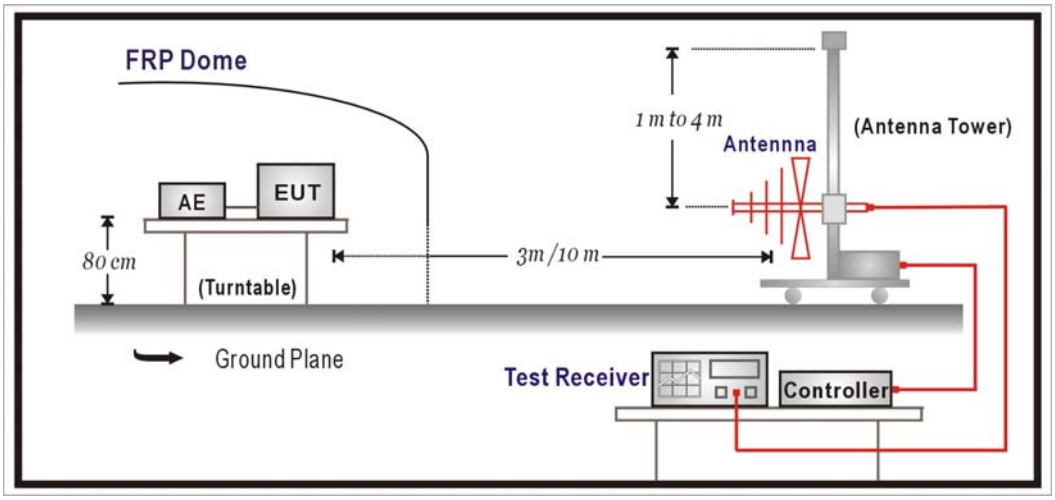
Radiated Emission / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Bilog Antenna	SCHAFFNER	CBL6112B	2895	2011/08/14
Horn Antenna	Schwarzback	BBHA 9120D	743	2011/03/14
Pre-Amplifier	MITEQ	AMF-4D-005180-24-10P	888003	2011/12/16
Pre-Amplifier	QuieTek	AP-025C	CHM-0706049	2011/03/25
Spectrum Analyzer	Agilent	E4440A	MY46187335	2011/01/14
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2011/04/07

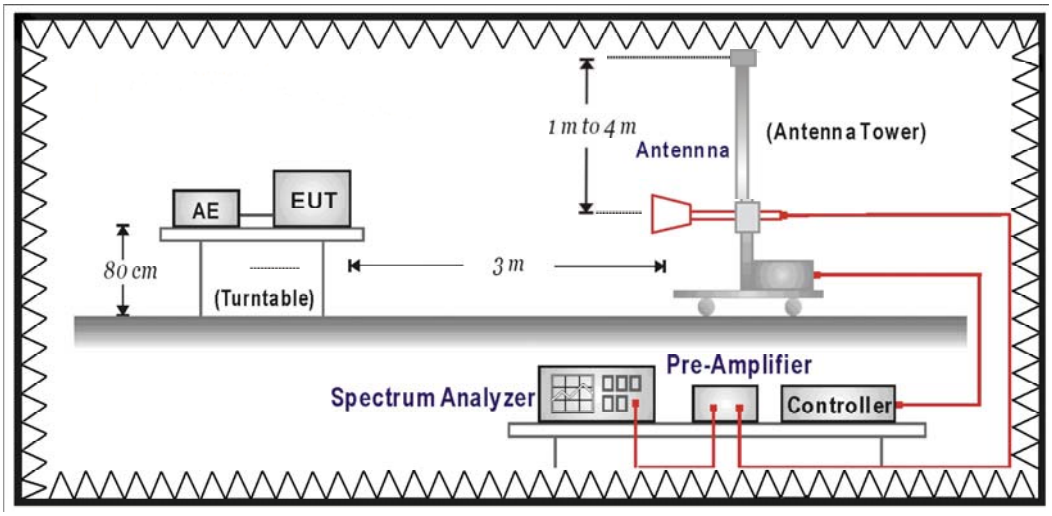
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

4.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	dBuV/m	dBuV/m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

4.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
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. 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 according to ANSI C63.4: 2009 on radiated measurement.
On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a quasi-peak detector function and on any frequency or frequencies above 1000 MHz the radiated limits shown are based upon the use of measurement instrumentation employing an average detector function. When average radiated emission measurement are included emission measurement below 1000 MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit. The bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

4.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2009

4.6. Uncertainty

The measurement uncertainty

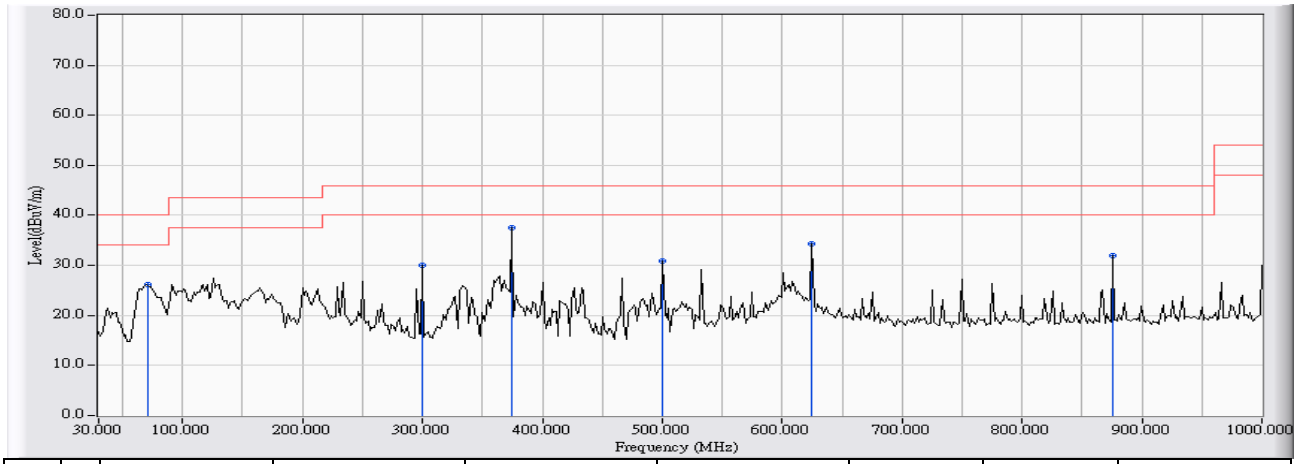
30MHz～1GHz as ±3.43dB

1GHz～26.5GHz as ±3.65dB

4.7. Test Result

30MHz-1GHz Spurious

Site : CB1	**Time : 2010/12/16 - 11:05**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220-802.11b-2437MHz**

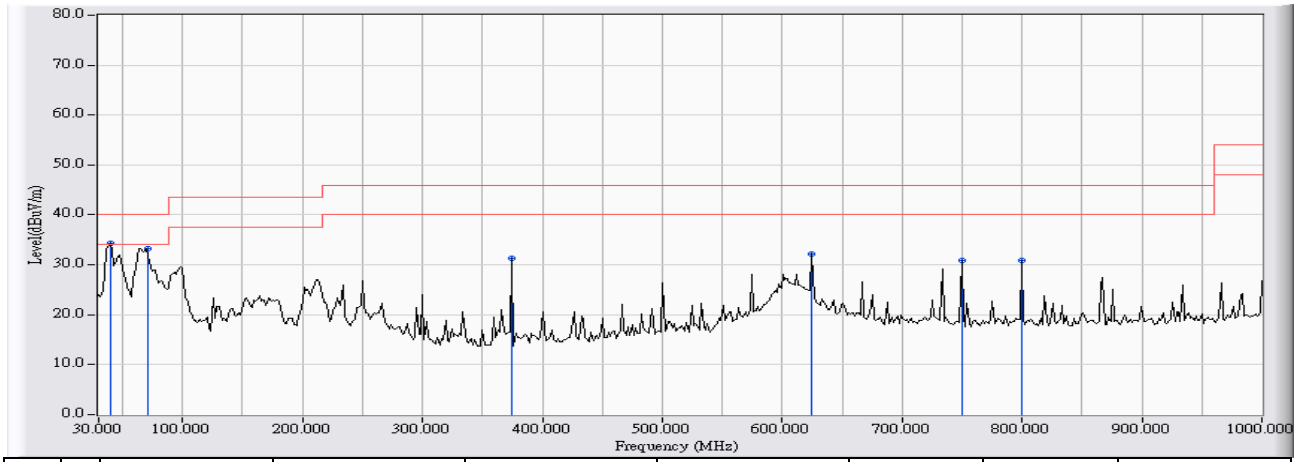


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		70.417	-18.120	44.381	26.261	-13.739	40.000	QUASIPEAK
2		299.983	-10.671	40.734	30.063	-15.937	46.000	QUASIPEAK
3	*	374.350	-8.586	46.075	37.490	-8.510	46.000	QUASIPEAK
4		500.450	-6.072	36.994	30.923	-15.077	46.000	QUASIPEAK
5		624.933	-4.882	39.286	34.404	-11.596	46.000	QUASIPEAK
6		875.517	-3.015	34.927	31.912	-14.088	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 11:09**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - VERTICAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220-802.11b-2437MHz**

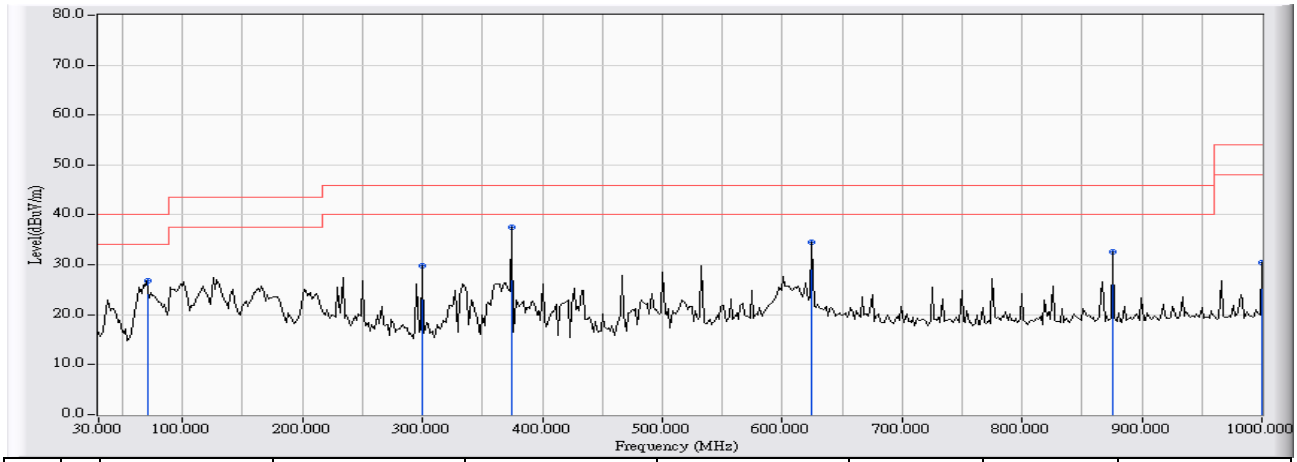


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	39.700	-12.668	46.909	34.241	-5.759	40.000	QUASIPEAK
2		70.417	-18.120	51.440	33.320	-6.680	40.000	QUASIPEAK
3		374.350	-8.586	39.958	31.373	-14.627	46.000	QUASIPEAK
4		624.933	-4.882	36.984	32.102	-13.898	46.000	QUASIPEAK
5		749.417	-3.947	34.740	30.794	-15.206	46.000	QUASIPEAK
6		799.533	-3.355	34.146	30.791	-15.209	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 11:15**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220-802.11g-2437MHz**

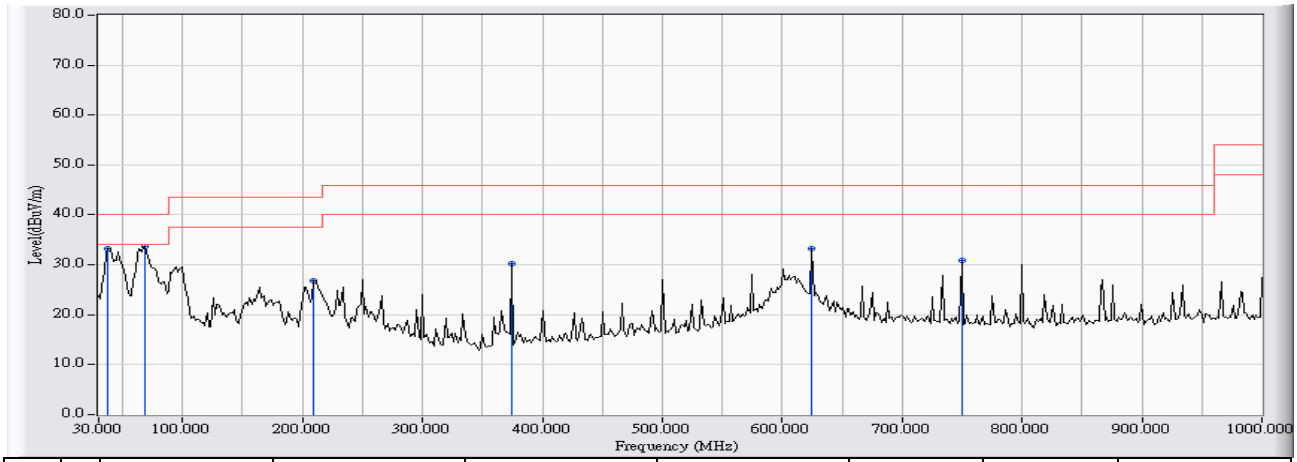


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		70.417	-18.120	45.012	26.892	-13.108	40.000	QUASIPEAK
2		299.983	-10.671	40.465	29.794	-16.206	46.000	QUASIPEAK
3	*	374.350	-8.586	46.213	37.628	-8.372	46.000	QUASIPEAK
4		624.933	-4.882	39.502	34.620	-11.380	46.000	QUASIPEAK
5		875.517	-3.015	35.700	32.685	-13.315	46.000	QUASIPEAK
6		1000.000	-2.029	32.458	30.429	-23.571	54.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 11:18**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - VERTICAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220-802.11g-2437MHz**

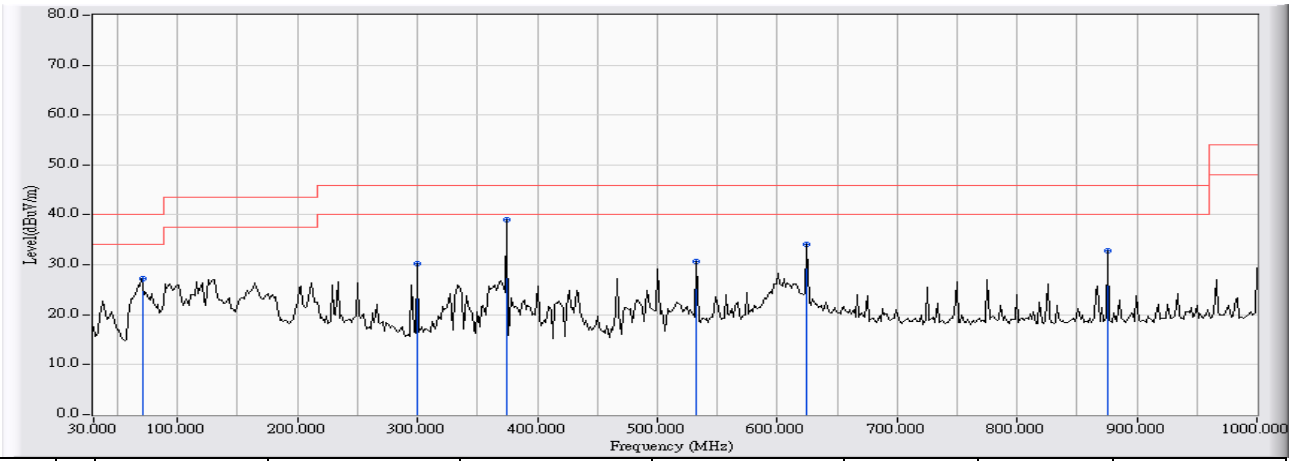


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		38.083	-12.172	45.485	33.314	-6.686	40.000	QUASIPEAK
2	*	68.800	-18.159	51.839	33.679	-6.321	40.000	QUASIPEAK
3		209.450	-14.426	41.139	26.714	-16.786	43.500	QUASIPEAK
4		374.350	-8.586	38.868	30.283	-15.717	46.000	QUASIPEAK
5		624.933	-4.882	38.023	33.141	-12.859	46.000	QUASIPEAK
6		749.417	-3.947	34.875	30.929	-15.071	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 11:30**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2437MHz**

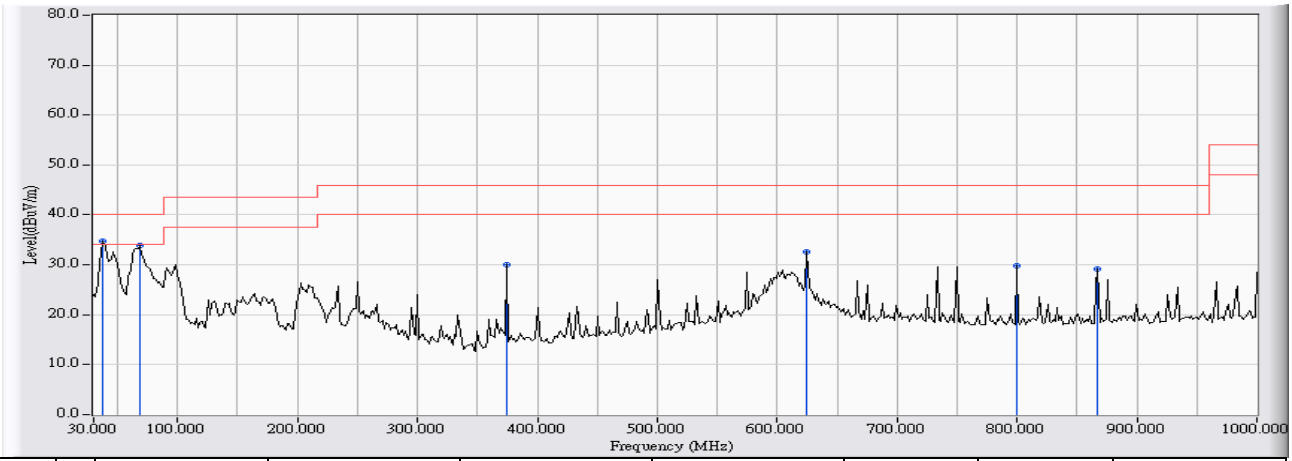


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		70.417	-18.120	45.262	27.142	-12.858	40.000	QUASIPEAK
2		299.983	-10.671	40.827	30.156	-15.844	46.000	QUASIPEAK
3	*	374.350	-8.586	47.712	39.127	-6.873	46.000	QUASIPEAK
4		532.783	-5.652	36.304	30.652	-15.348	46.000	QUASIPEAK
5		624.933	-4.882	38.896	34.014	-11.986	46.000	QUASIPEAK
6		875.517	-3.015	35.809	32.794	-13.206	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 11:37**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - VERTICAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2437MHz**

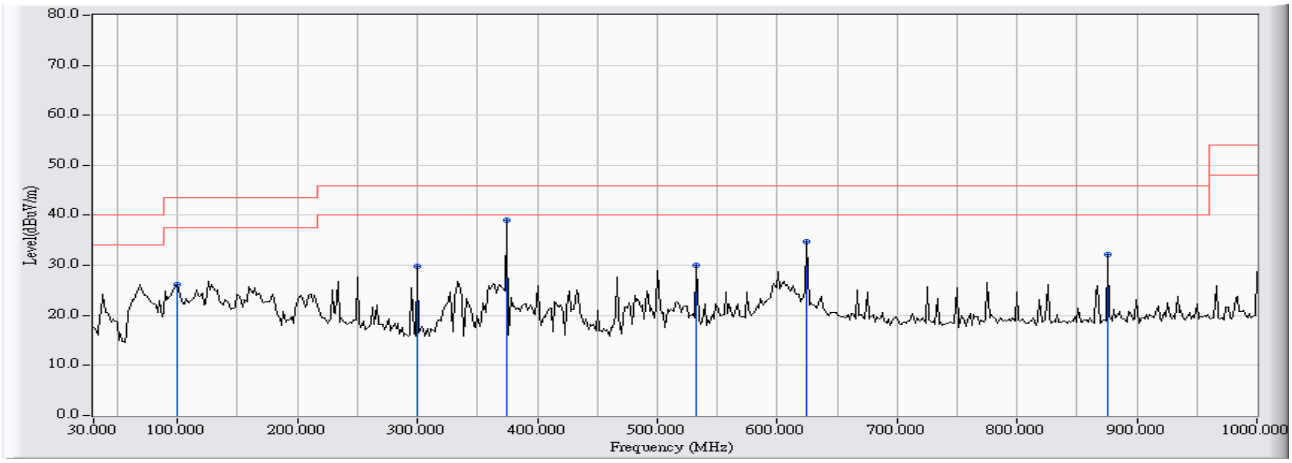


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	38.083	-12.172	46.824	34.653	-5.347	40.000	QUASIPEAK
2		68.800	-18.159	52.058	33.898	-6.102	40.000	QUASIPEAK
3		374.350	-8.586	38.557	29.972	-16.028	46.000	QUASIPEAK
4		624.933	-4.882	37.455	32.573	-13.427	46.000	QUASIPEAK
5		799.533	-3.355	33.221	29.866	-16.134	46.000	QUASIPEAK
6		867.433	-3.049	32.301	29.252	-16.748	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 11:43**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2437MHz**

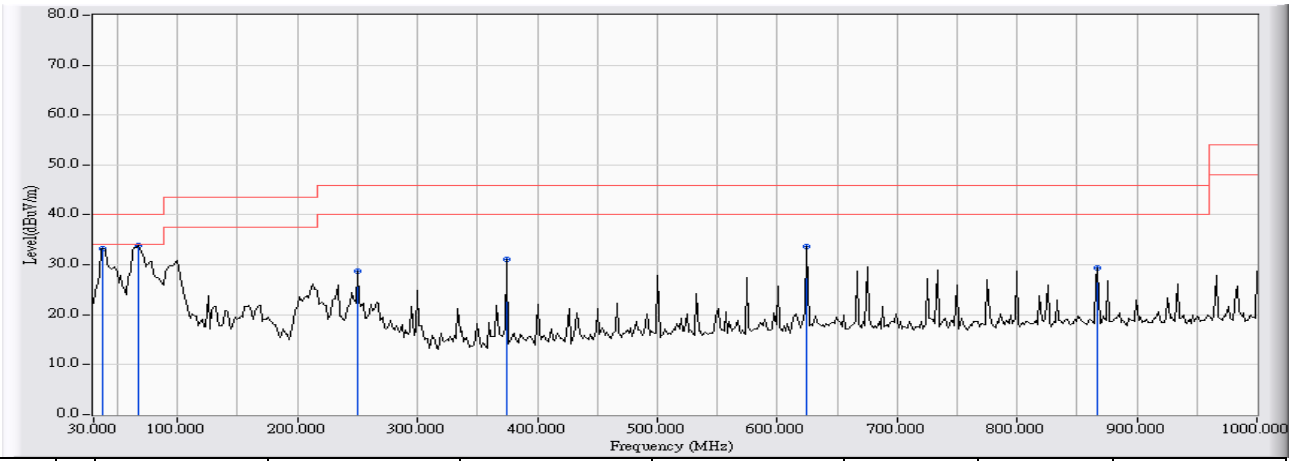


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		99.517	-14.027	40.282	26.255	-17.245	43.500	QUASIPEAK
2		299.983	-10.671	40.377	29.706	-16.294	46.000	QUASIPEAK
3	*	374.350	-8.586	47.537	38.952	-7.048	46.000	QUASIPEAK
4		532.783	-5.652	35.580	29.928	-16.072	46.000	QUASIPEAK
5		624.933	-4.882	39.697	34.815	-11.185	46.000	QUASIPEAK
6		875.517	-3.015	35.136	32.121	-13.879	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 11:57**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - VERTICAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2437MHz**

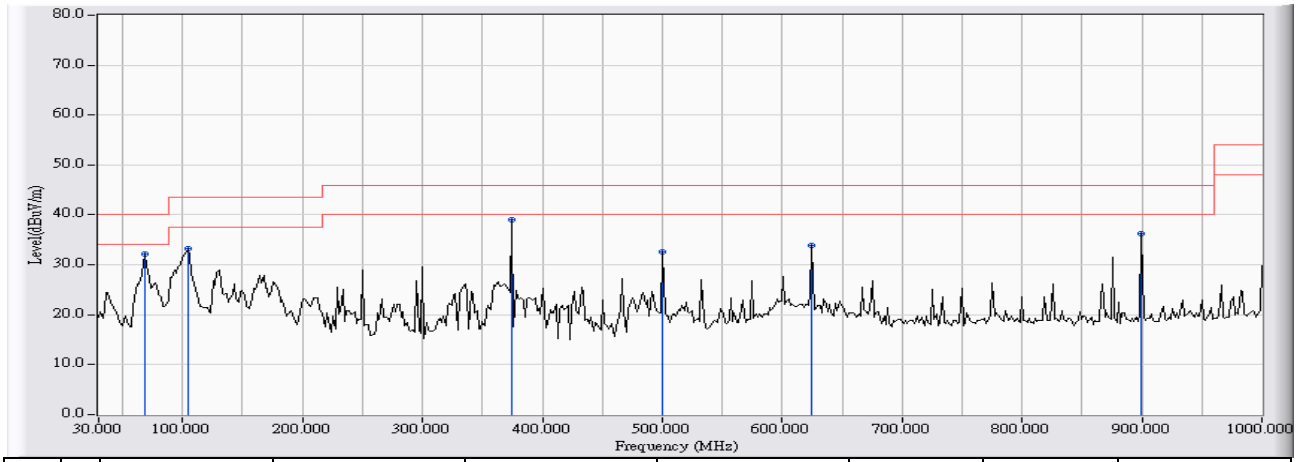


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		38.083	-12.172	45.449	33.278	-6.722	40.000	QUASIPEAK
2	*	67.183	-18.166	52.031	33.865	-6.135	40.000	QUASIPEAK
3		249.867	-11.483	40.215	28.732	-17.268	46.000	QUASIPEAK
4		374.350	-8.586	39.636	31.051	-14.949	46.000	QUASIPEAK
5		624.933	-4.882	38.496	33.614	-12.386	46.000	QUASIPEAK
6		867.433	-3.049	32.360	29.311	-16.689	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 13:11**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11b-2437MHz**

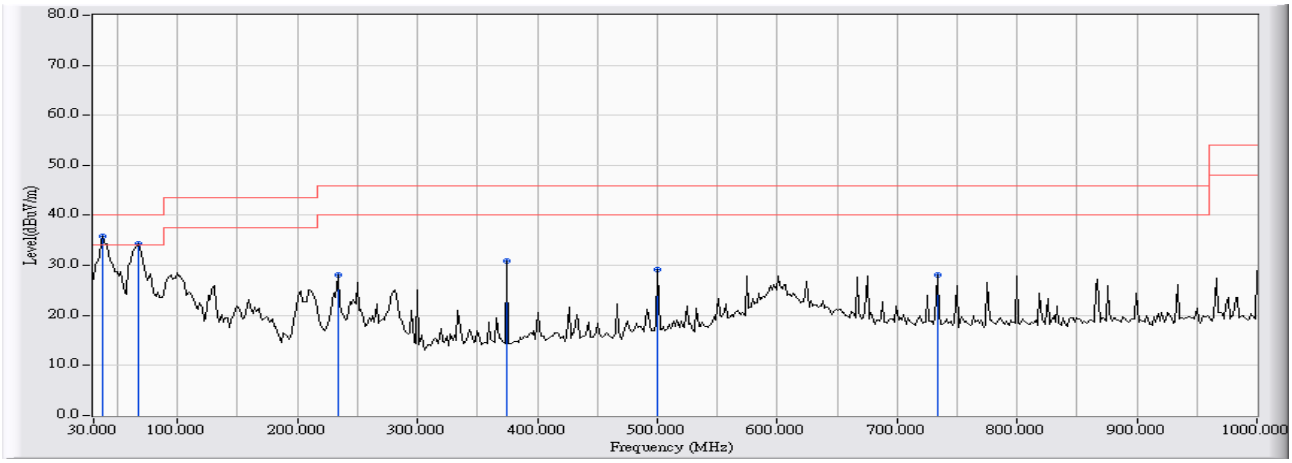


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		68.800	-18.159	50.419	32.259	-7.741	40.000	QUASIPEAK
2		104.367	-13.545	46.786	33.241	-10.259	43.500	QUASIPEAK
3	*	374.350	-8.586	47.658	39.073	-6.927	46.000	QUASIPEAK
4		500.450	-6.072	38.580	32.509	-13.491	46.000	QUASIPEAK
5		624.933	-4.882	38.689	33.807	-12.193	46.000	QUASIPEAK
6		899.767	-2.911	39.053	36.142	-9.858	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 13:14**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - VERTICAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11b-2437MHz**

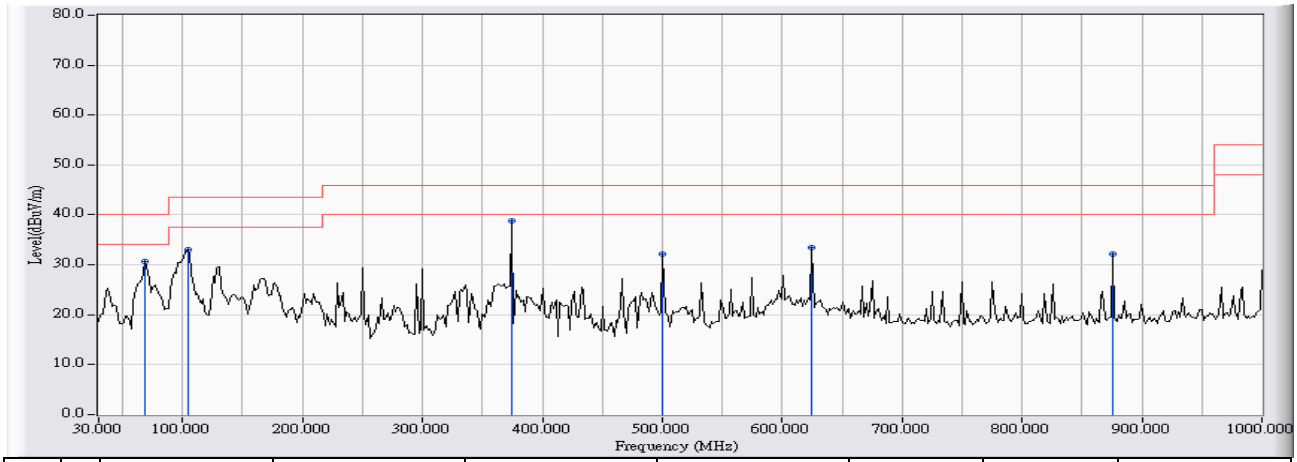


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	38.083	-12.172	47.901	35.730	-4.270	40.000	QUASIPEAK
2		67.183	-18.166	52.578	34.412	-5.588	40.000	QUASIPEAK
3		233.700	-12.656	40.724	28.068	-17.932	46.000	QUASIPEAK
4		374.350	-8.586	39.418	30.833	-15.167	46.000	QUASIPEAK
5		500.450	-6.072	35.193	29.122	-16.878	46.000	QUASIPEAK
6		733.250	-4.139	32.224	28.085	-17.915	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 13:22**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11g-2437MHz**

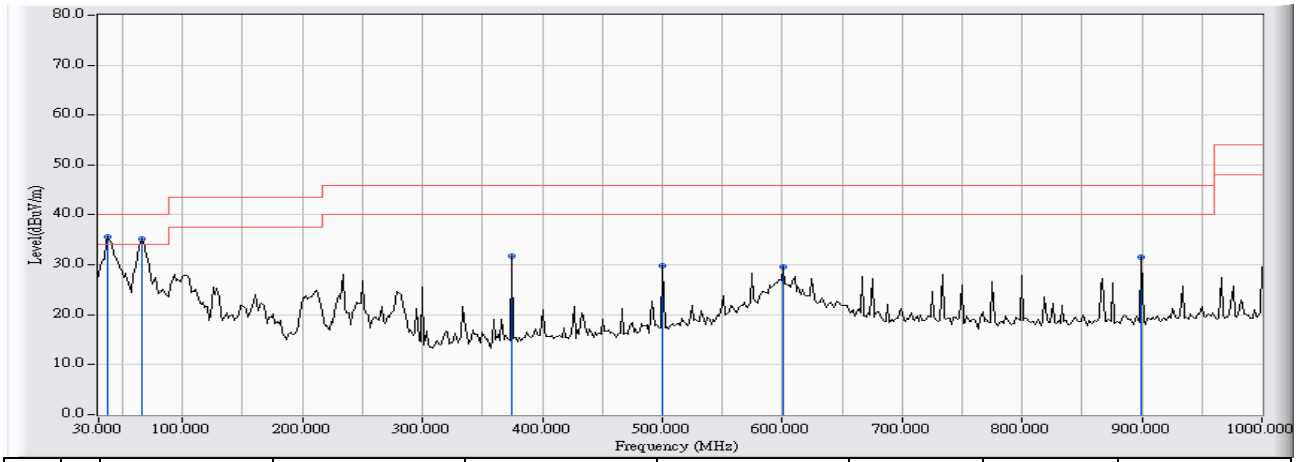


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		68.800	-18.159	48.771	30.611	-9.389	40.000	QUASIPEAK
2		104.367	-13.545	46.522	32.977	-10.523	43.500	QUASIPEAK
3	*	374.350	-8.586	47.312	38.727	-7.273	46.000	QUASIPEAK
4		500.450	-6.072	38.208	32.137	-13.863	46.000	QUASIPEAK
5		624.933	-4.882	38.396	33.514	-12.486	46.000	QUASIPEAK
6		875.517	-3.015	35.156	32.141	-13.859	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 13:27**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - VERTICAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11g-2437MHz**

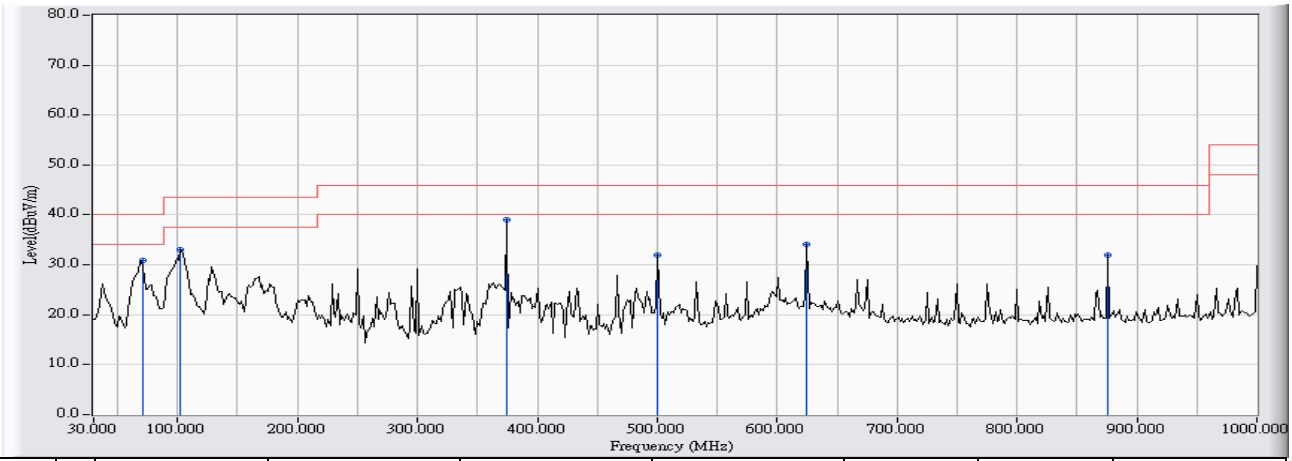


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	38.083	-12.172	47.843	35.672	-4.328	40.000	QUASIPEAK
2		65.567	-18.172	53.326	35.154	-4.846	40.000	QUASIPEAK
3		374.350	-8.586	40.247	31.662	-14.338	46.000	QUASIPEAK
4		500.450	-6.072	35.813	29.742	-16.258	46.000	QUASIPEAK
5		600.683	-5.025	34.531	29.505	-16.495	46.000	QUASIPEAK
6		899.767	-2.911	34.495	31.584	-14.416	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 13:37**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11n(20M)-2437MHz**

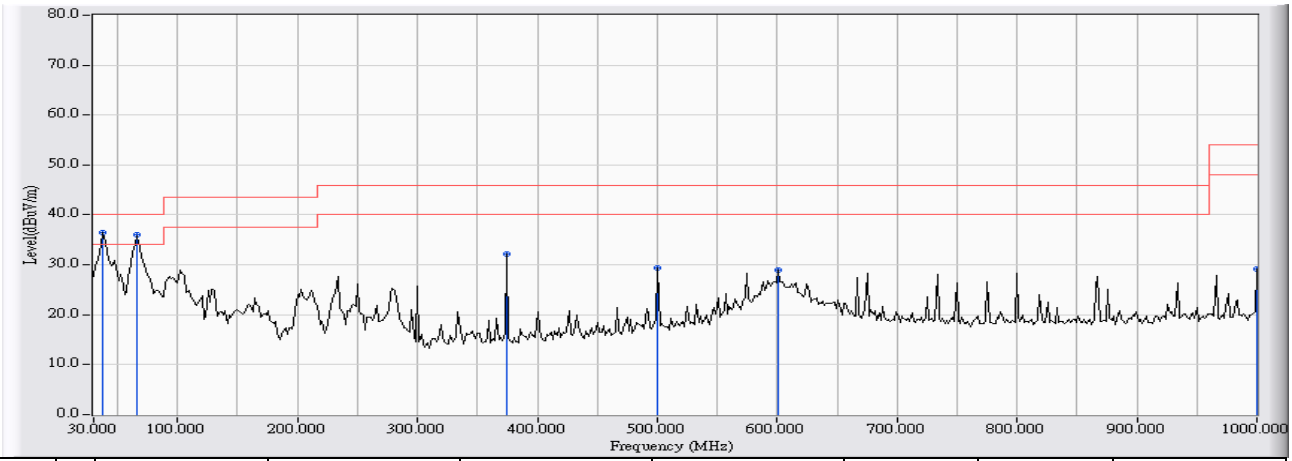


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		70.417	-18.120	48.931	30.811	-9.189	40.000	QUASIPEAK
2		102.750	-13.685	46.676	32.991	-10.509	43.500	QUASIPEAK
3	*	374.350	-8.586	47.565	38.980	-7.020	46.000	QUASIPEAK
4		500.450	-6.072	37.977	31.906	-14.094	46.000	QUASIPEAK
5		624.933	-4.882	39.046	34.164	-11.836	46.000	QUASIPEAK
6		875.517	-3.015	35.003	31.988	-14.012	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 13:40**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - VERTICAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11n(20M)-2437MHz**

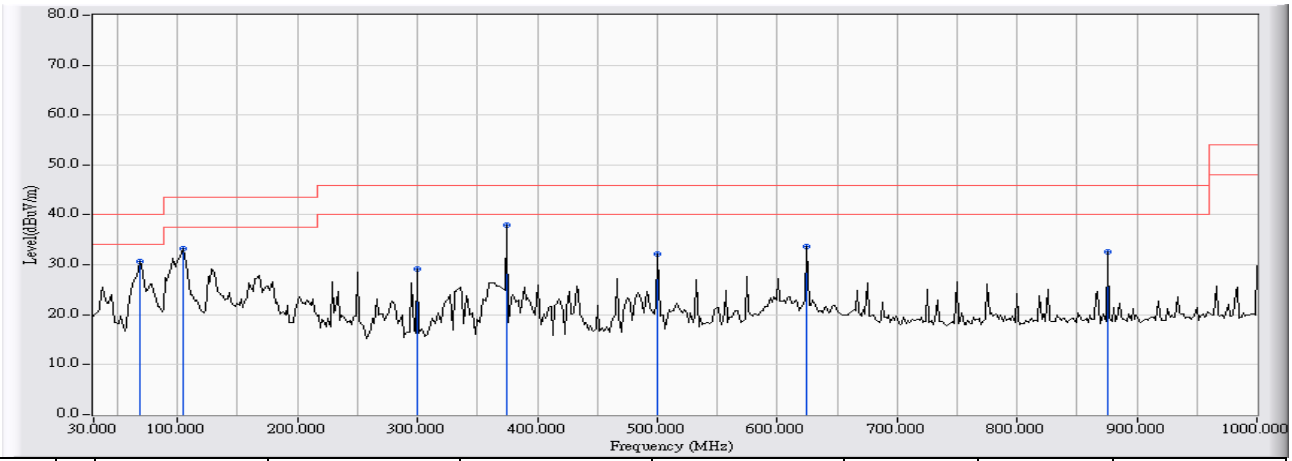


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	38.083	-12.172	48.685	36.514	-3.486	40.000	QUASIPEAK
2		65.567	-18.172	54.097	35.925	-4.075	40.000	QUASIPEAK
3		374.350	-8.586	40.769	32.184	-13.816	46.000	QUASIPEAK
4		500.450	-6.072	35.399	29.328	-16.672	46.000	QUASIPEAK
5		600.683	-5.025	33.958	28.932	-17.068	46.000	QUASIPEAK
6		1000.000	-2.029	31.191	29.162	-24.838	54.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 13:47**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - HORIZONTAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11n(40M)-2437MHz**

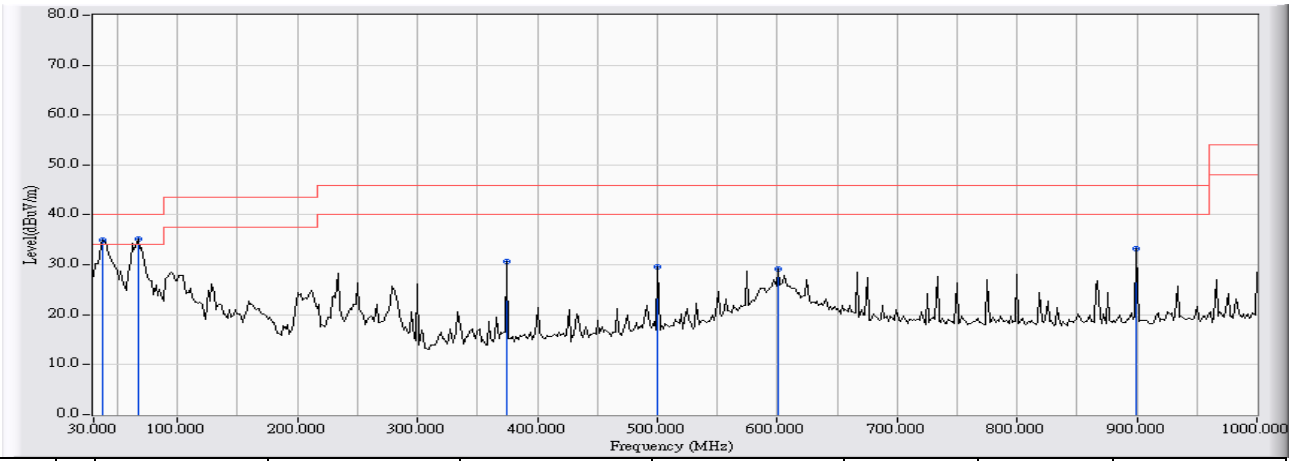


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		68.800	-18.159	48.772	30.612	-9.388	40.000	QUASIPEAK
2		104.367	-13.545	46.749	33.204	-10.296	43.500	QUASIPEAK
3		299.983	-10.671	39.895	29.224	-16.776	46.000	QUASIPEAK
4	*	374.350	-8.586	46.473	37.888	-8.112	46.000	QUASIPEAK
5		500.450	-6.072	38.273	32.202	-13.798	46.000	QUASIPEAK
6		624.933	-4.882	38.647	33.765	-12.235	46.000	QUASIPEAK
7		875.517	-3.015	35.592	32.577	-13.423	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. " * ", means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Site : CB1	**Time : 2010/12/16 - 13:50**
Limit : FCC_CLASS_B_03M_QP	**Margin : 6**
Probe : FCC_EFS_30-1G(2010-12) - VERTICAL	**Power : AC 102V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220-802.11n(40M)-2437MHz**



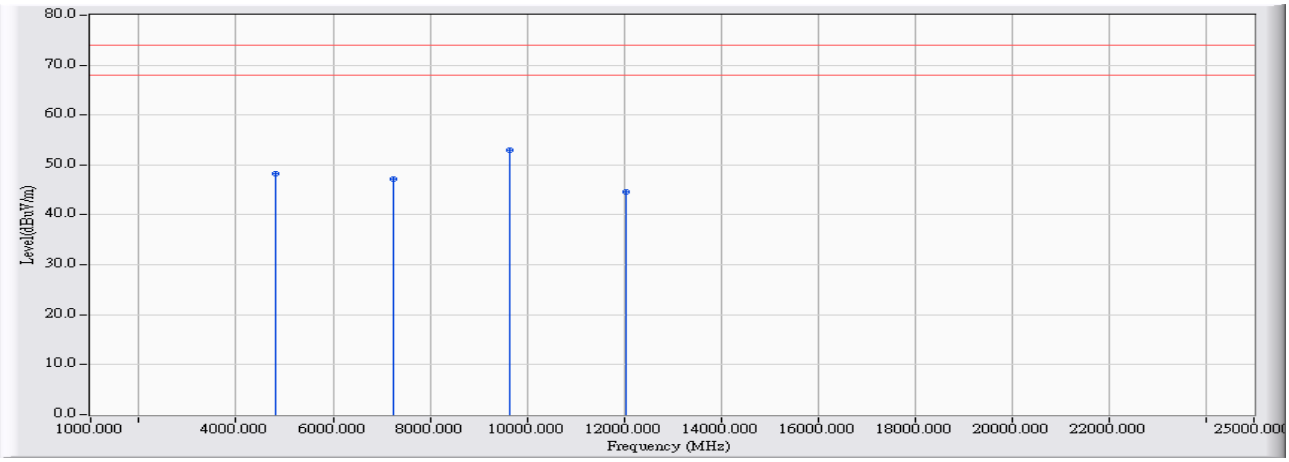
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		38.083	-12.172	47.168	34.997	-5.003	40.000	QUASIPEAK
2	*	67.183	-18.166	53.375	35.209	-4.791	40.000	QUASIPEAK
3		374.350	-8.586	39.276	30.691	-15.309	46.000	QUASIPEAK
4		500.450	-6.072	35.563	29.492	-16.508	46.000	QUASIPEAK
5		600.683	-5.025	34.244	29.218	-16.782	46.000	QUASIPEAK
6		899.767	-2.911	36.248	33.337	-12.663	46.000	QUASIPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Above 1GHz Spurious:

Site : CB1	**Time : 2010/12/17 - 09:52**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2412MHz**

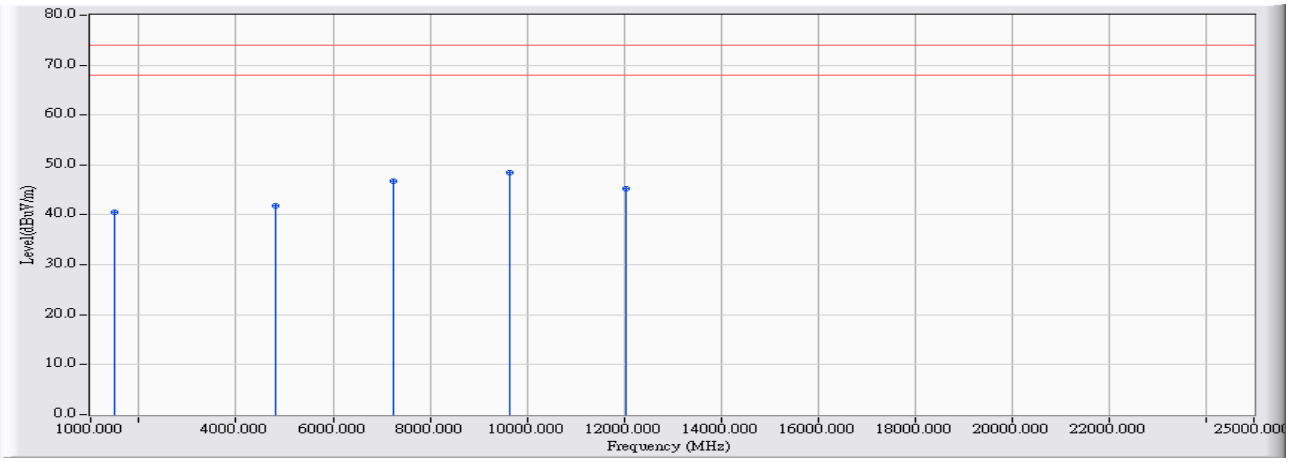


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4823.940	-10.877	59.230	48.354	-25.646	74.000	54.00	PEAK
2		7236.100	-3.820	51.007	47.187	-26.813	74.000	54.00	PEAK
3	*	9647.860	-0.373	53.346	52.973	-21.027	74.000	54.00	PEAK
4		12059.900	1.347	43.239	44.587	-29.413	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 10:00**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2412MHz**

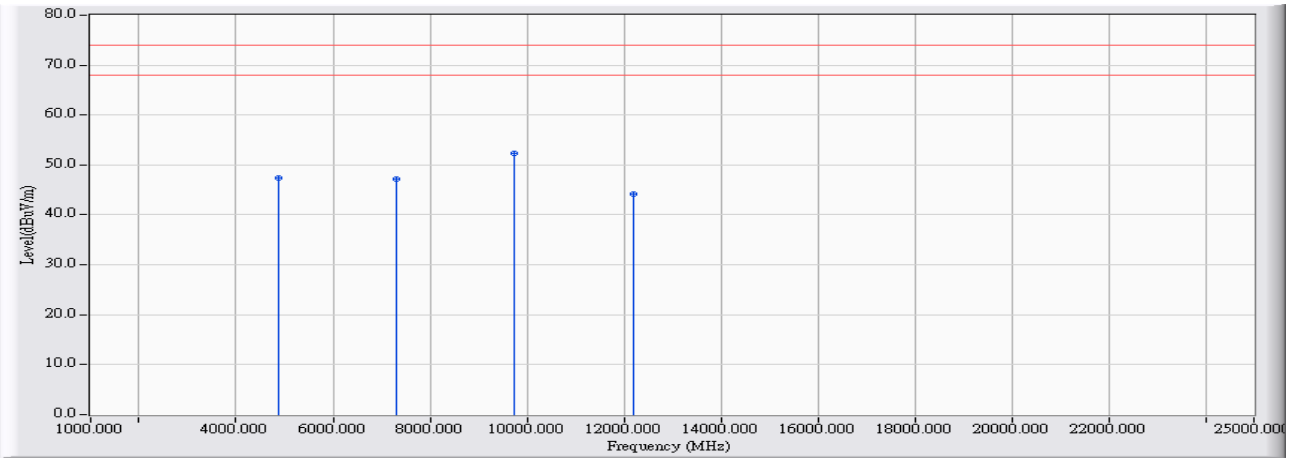


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	61.231	40.532	-33.468	74.000	54.00	PEAK
2		4823.940	-10.877	52.786	41.910	-32.090	74.000	54.00	PEAK
3		7236.200	-3.820	50.617	46.797	-27.203	74.000	54.00	PEAK
4	*	9647.850	-0.373	48.860	48.487	-25.513	74.000	54.00	PEAK
5		12059.890	1.347	43.909	45.257	-28.743	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 10:09**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2437MHz**

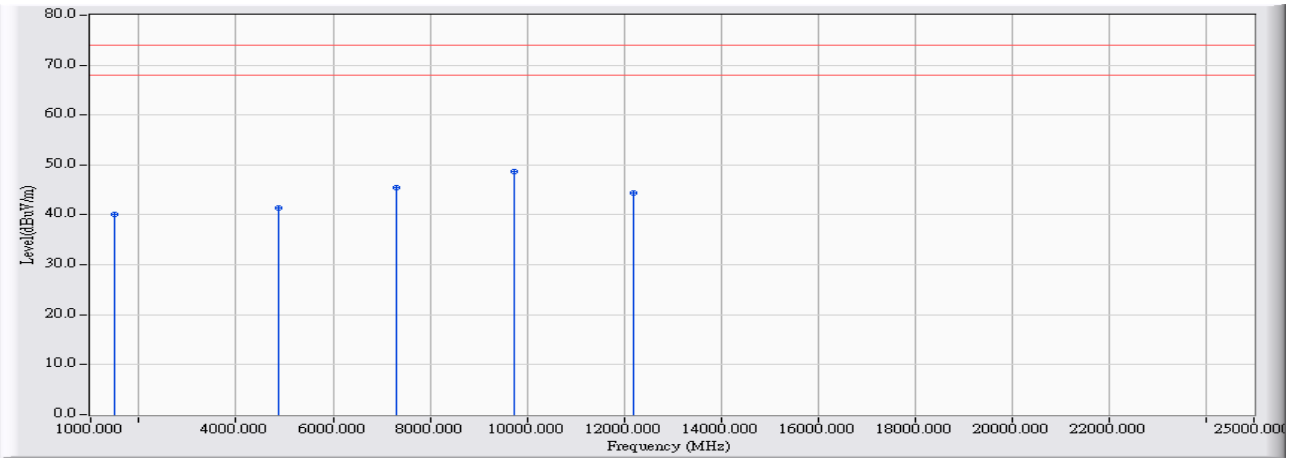


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.960	-10.731	58.072	47.342	-26.658	74.000	54.00	PEAK
2		7311.020	-3.614	50.703	47.088	-26.912	74.000	54.00	PEAK
3	*	9747.900	-0.084	52.414	52.330	-21.670	74.000	54.00	PEAK
4		12184.910	1.303	42.880	44.183	-29.817	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 10:15**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2437MHz**

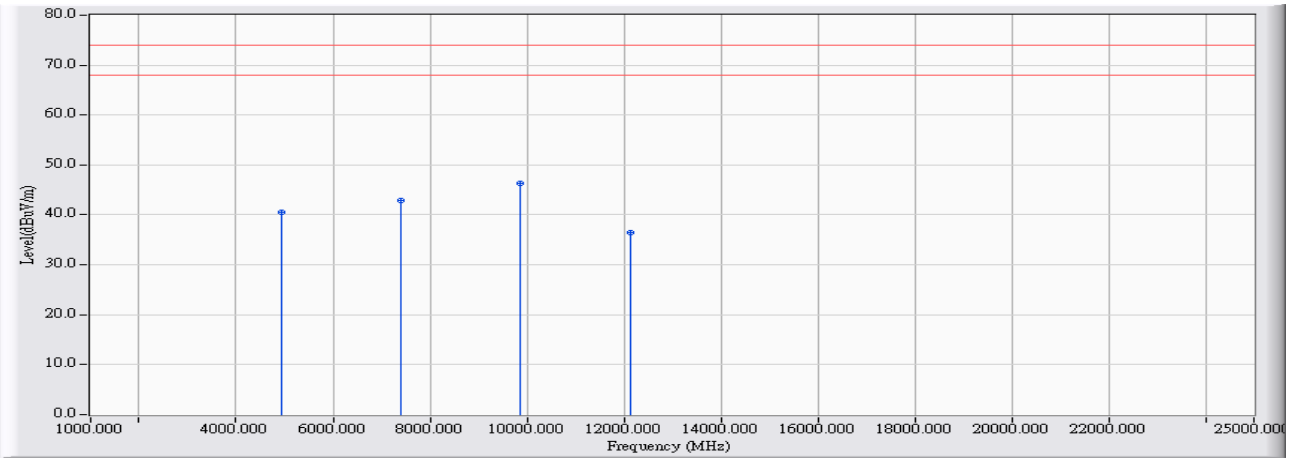


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	60.734	40.035	-33.965	74.000	54.00	PEAK
2		4873.950	-10.731	52.094	41.364	-32.636	74.000	54.00	PEAK
3		7311.000	-3.614	49.047	45.432	-28.568	74.000	54.00	PEAK
4	*	9747.920	-0.084	48.836	48.752	-25.248	74.000	54.00	PEAK
5		12184.920	1.303	43.016	44.319	-29.681	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 10:26**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2462MHz**

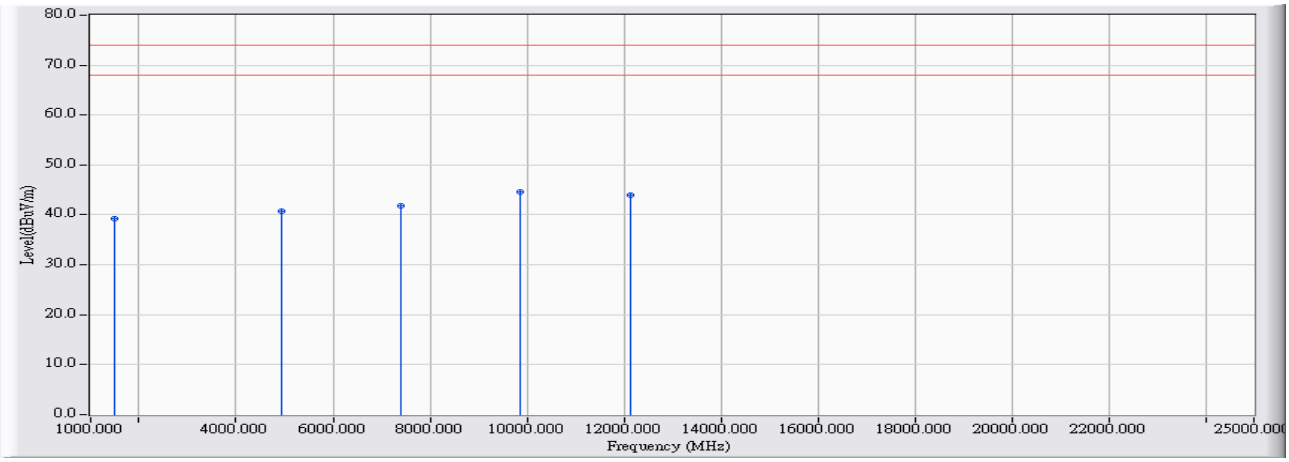


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4923.914	-10.585	51.143	40.558	-33.442	74.000	54.00	PEAK
2		7385.910	-3.410	46.313	42.903	-31.097	74.000	54.00	PEAK
3	*	9847.822	0.206	46.179	46.384	-27.616	74.000	54.00	PEAK
4		12130.200	1.322	35.235	36.557	-37.443	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 16:00**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2462MHz**

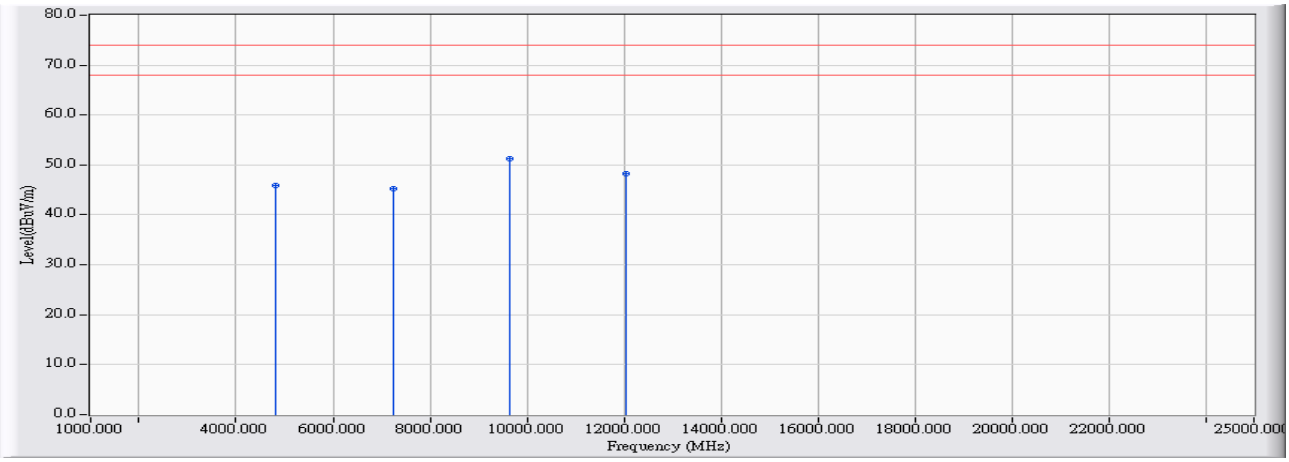


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	59.848	39.149	-34.851	74.000	54.00	PEAK
2		4923.914	-10.585	51.318	40.733	-33.267	74.000	54.00	PEAK
3		7385.910	-3.410	45.239	41.829	-32.171	74.000	54.00	PEAK
4	*	9847.822	0.206	44.476	44.681	-29.319	74.000	54.00	PEAK
5		12130.981	1.322	42.667	43.989	-30.011	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 16:06**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2412MHz**

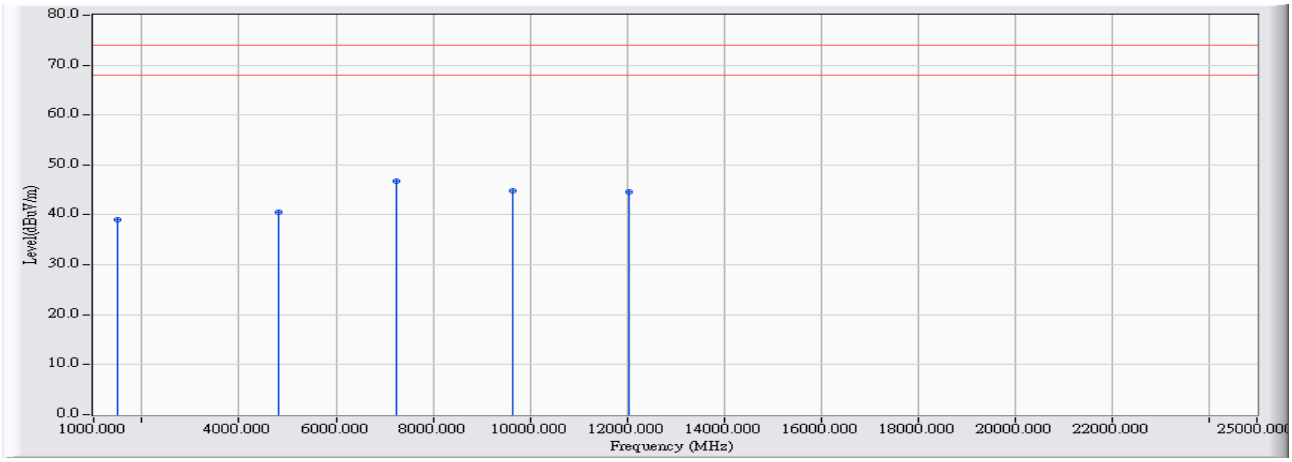


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4823.250	-10.878	56.786	45.908	-28.092	74.000	54.00	PEAK
2		7236.100	-3.820	49.128	45.308	-28.692	74.000	54.00	PEAK
3	*	9647.800	-0.373	51.664	51.291	-22.709	74.000	54.00	PEAK
4		12059.840	1.347	46.859	48.207	-25.793	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 16:12**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 -802.11g-2412MHz**

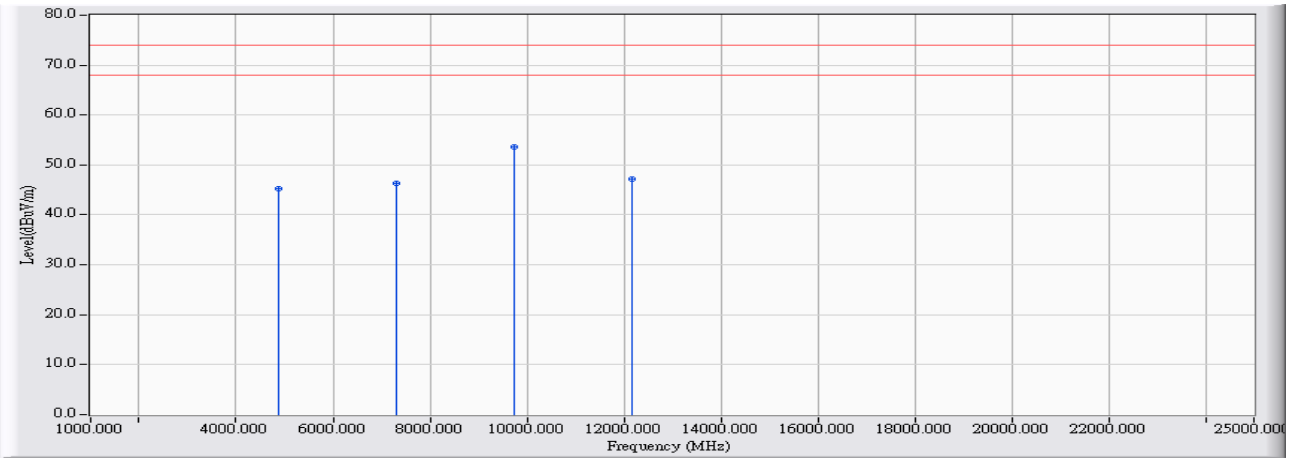


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	59.816	39.117	-34.883	74.000	54.00	PEAK
2		4823.940	-10.877	51.443	40.567	-33.433	74.000	54.00	PEAK
3	*	7236.120	-3.820	50.581	46.761	-27.239	74.000	54.00	PEAK
4		9647.890	-0.373	45.234	44.861	-29.139	74.000	54.00	PEAK
5		12059.820	1.347	43.299	44.647	-29.353	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 16:19**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2437MHz**

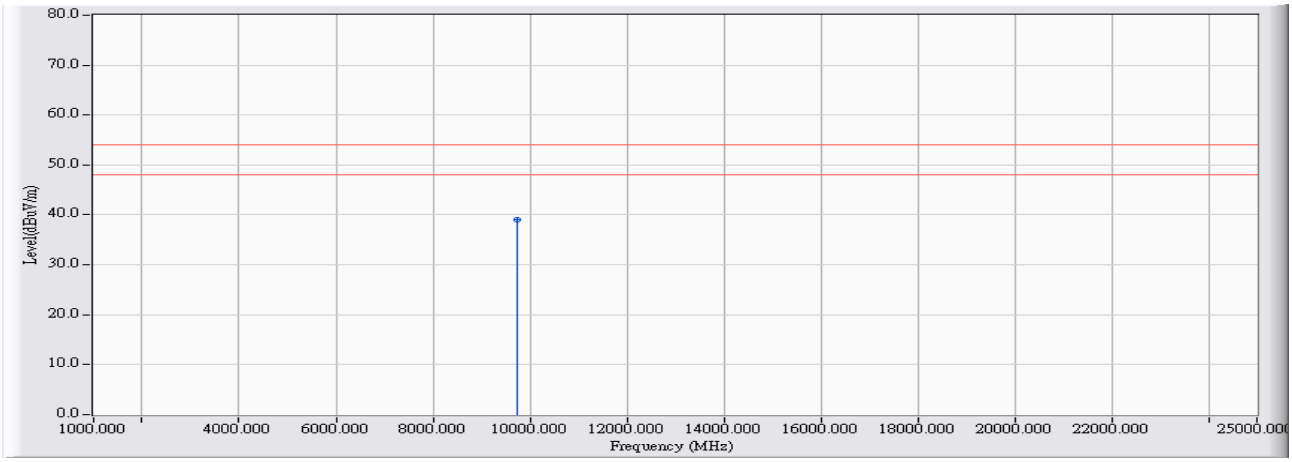


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.940	-10.731	55.973	45.243	-28.757	74.000	54.00	PEAK
2		7311.020	-3.614	49.911	46.296	-27.704	74.000	54.00	PEAK
3	*	9747.860	-0.084	53.804	53.720	-20.280	74.000	54.00	PEAK
4		12184.000	1.302	45.960	47.263	-26.737	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 16:26**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2437MHz**

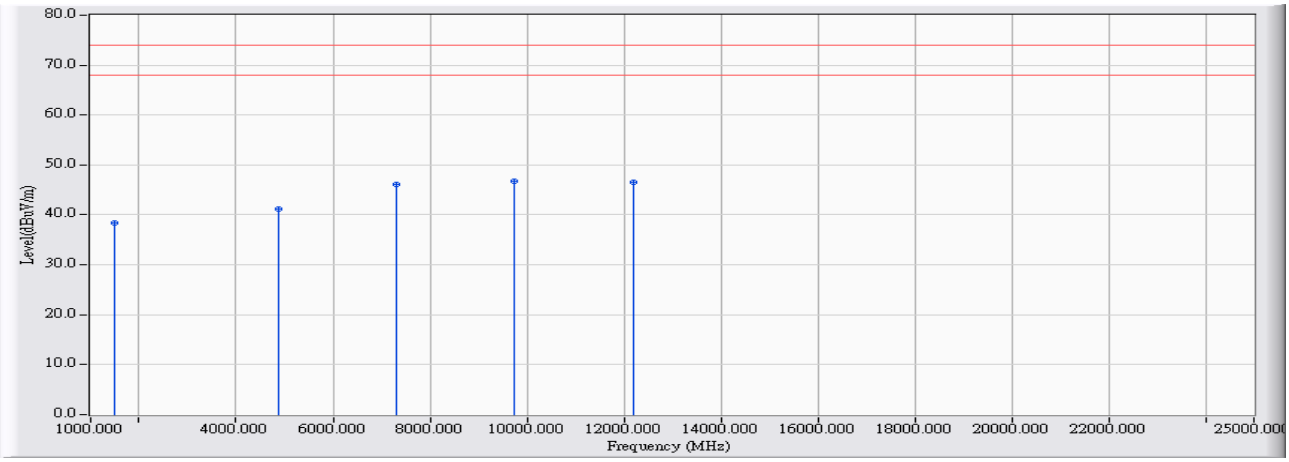


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9747.800	-0.084	39.187	39.103	-14.897	74.000	54.00	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 16:47**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2437MHz**

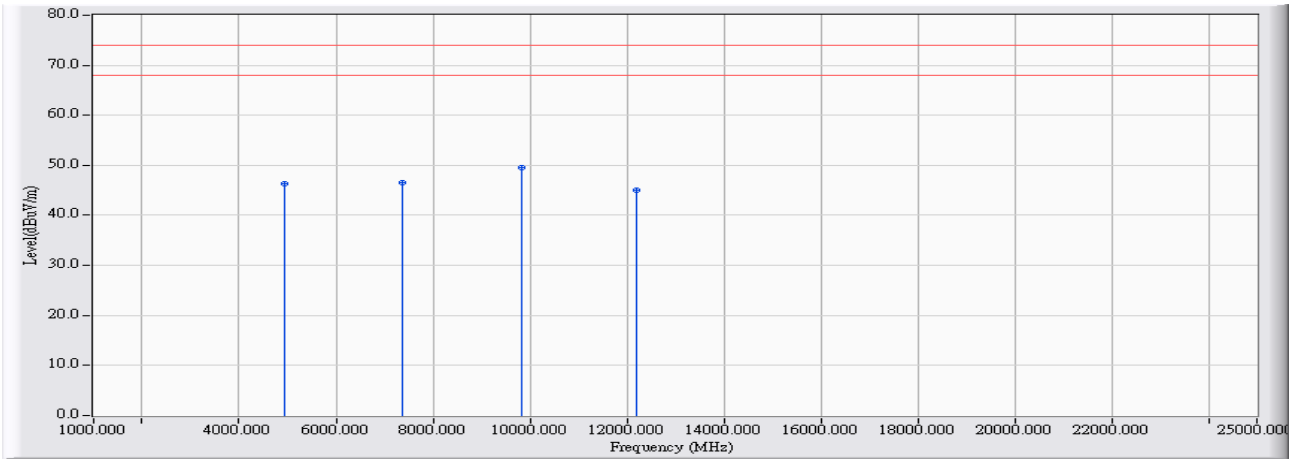


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	59.181	38.482	-35.518	74.000	54.00	PEAK
2		4873.970	-10.731	51.898	41.168	-32.832	74.000	54.00	PEAK
3		7311.120	-3.614	49.735	46.120	-27.880	74.000	54.00	PEAK
4	*	9747.890	-0.084	46.943	46.859	-27.141	74.000	54.00	PEAK
5		12184.850	1.303	45.183	46.486	-27.514	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 16:56**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2462MHz**

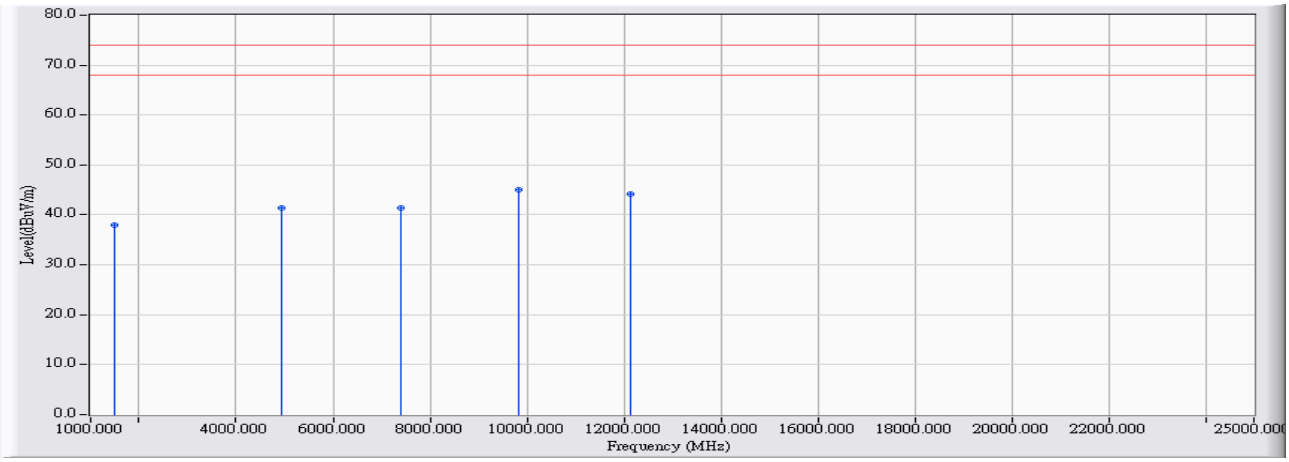


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4936.000	-10.550	56.958	46.409	-27.591	74.000	54.00	PEAK
2		7384.000	-3.415	50.062	46.647	-27.353	74.000	54.00	PEAK
3	*	9832.000	0.159	49.295	49.455	-24.545	74.000	54.00	PEAK
4		12190.980	1.300	43.833	45.133	-28.867	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 17:02**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2462MHz**

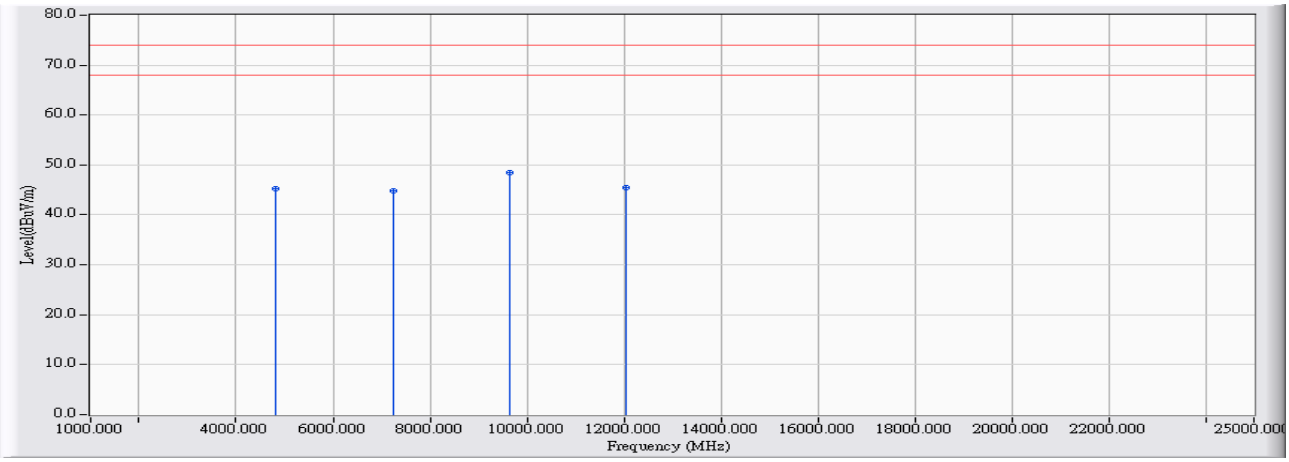


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	58.616	37.917	-36.083	74.000	54.00	PEAK
2		4923.920	-10.585	51.883	41.298	-32.702	74.000	54.00	PEAK
3		7385.900	-3.410	44.850	41.440	-32.560	74.000	54.00	PEAK
4	*	9841.823	0.188	44.850	45.038	-28.962	74.000	54.00	PEAK
5		12130.940	1.322	42.788	44.110	-29.890	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 17:09**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2412MHz**

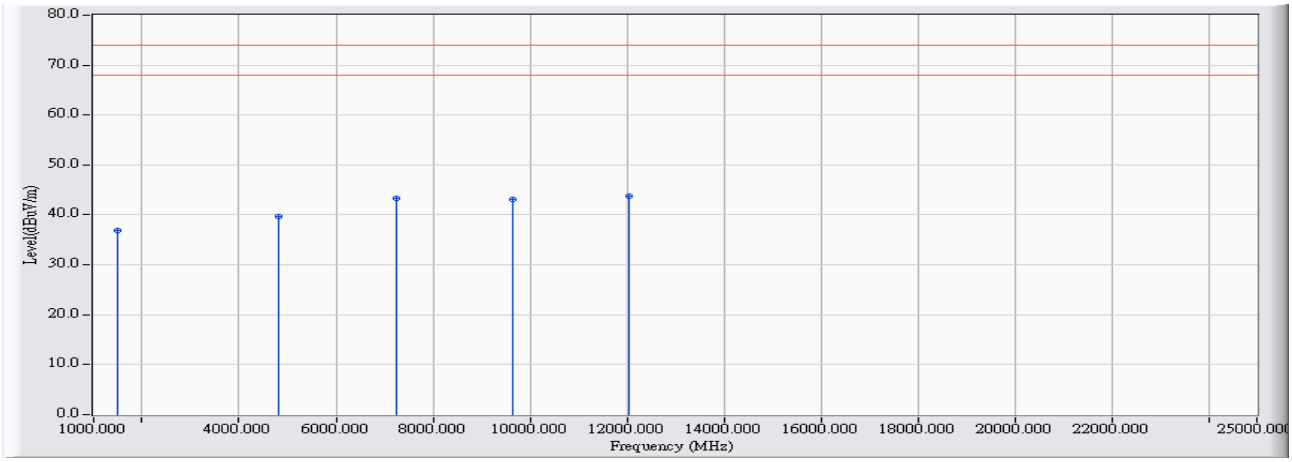


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4816.000	-10.900	56.188	45.288	-28.712	74.000	54.00	PEAK
2		7240.000	-3.809	48.659	44.850	-29.150	74.000	54.00	PEAK
3	*	9640.000	-0.395	48.926	48.530	-25.470	74.000	54.00	PEAK
4		12059.780	1.347	44.110	45.458	-28.542	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 17:12**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2412MHz**

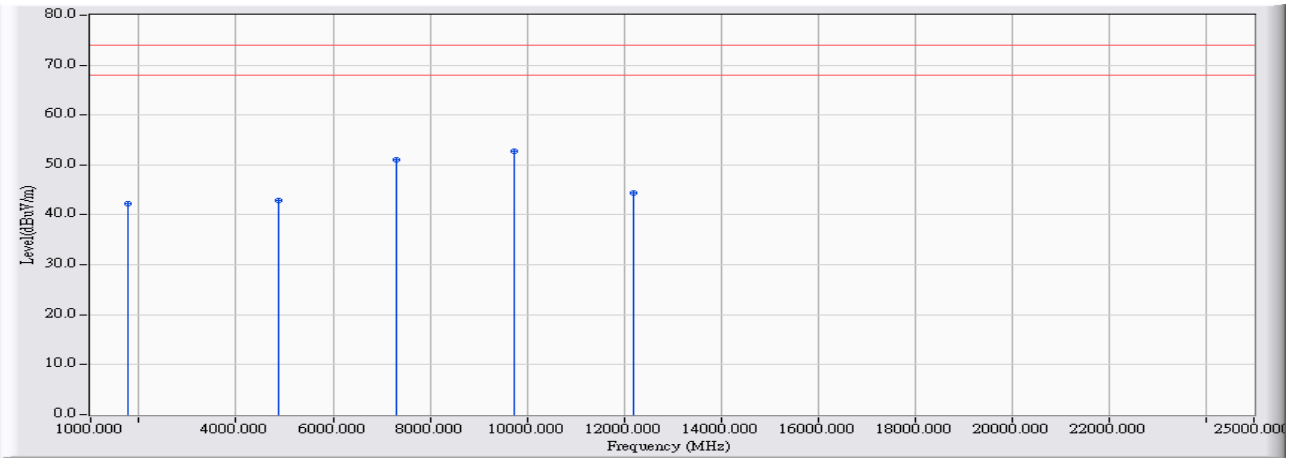


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	57.482	36.783	-37.217	74.000	54.00	PEAK
2		4823.840	-10.877	50.519	39.642	-34.358	74.000	54.00	PEAK
3		7236.200	-3.820	47.244	43.424	-30.576	74.000	54.00	PEAK
4		9647.840	-0.373	43.432	43.059	-30.941	74.000	54.00	PEAK
5	*	12059.870	1.347	42.391	43.739	-30.261	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 17:18**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2437MHz**

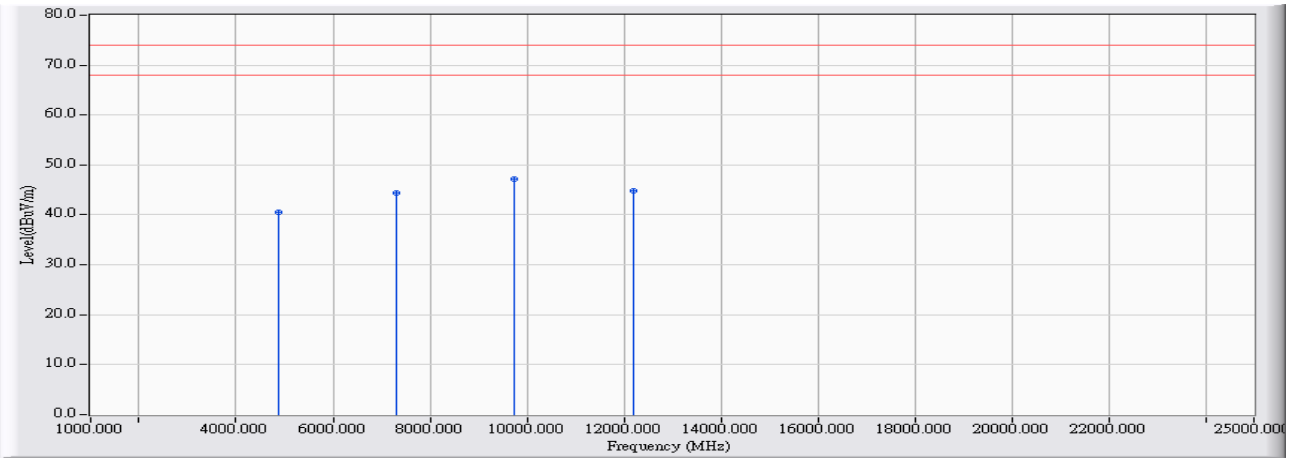


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1768.000	-20.023	62.242	42.219	-31.781	74.000	54.00	PEAK
2		4873.940	-10.731	53.625	42.895	-31.105	74.000	54.00	PEAK
3		7311.030	-3.614	54.708	51.093	-22.907	74.000	54.00	PEAK
4	*	9747.840	-0.084	52.836	52.752	-21.248	74.000	54.00	PEAK
5		12184.920	1.303	43.131	44.434	-29.566	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 17:26**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2437MHz**

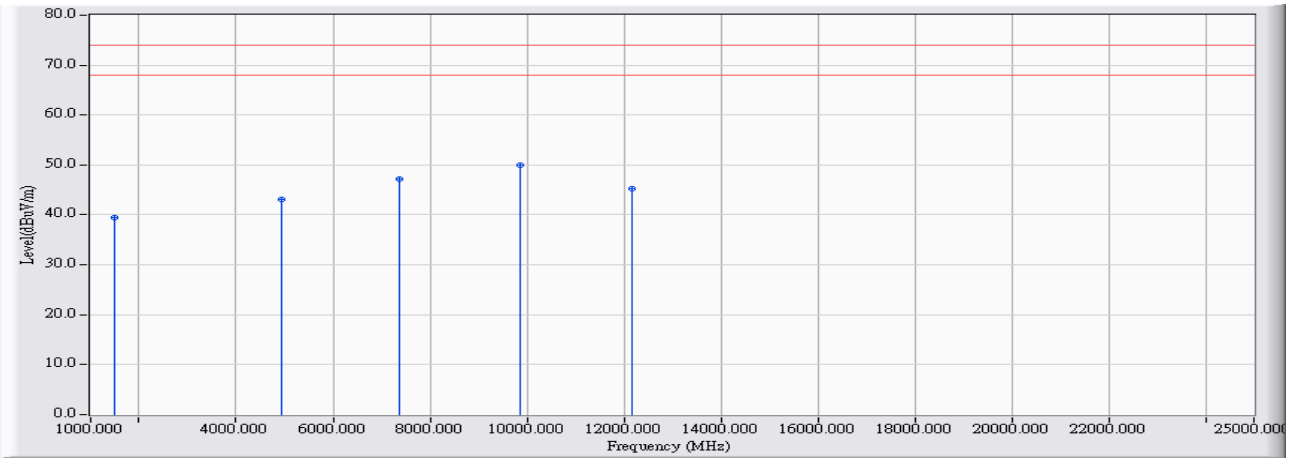


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.940	-10.731	51.258	40.528	-33.472	74.000	54.00	PEAK
2		7311.050	-3.614	48.069	44.454	-29.546	74.000	54.00	PEAK
3	*	9747.840	-0.084	47.243	47.159	-26.841	74.000	54.00	PEAK
4		12184.910	1.303	43.626	44.929	-29.071	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 17:32**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2462MHz**

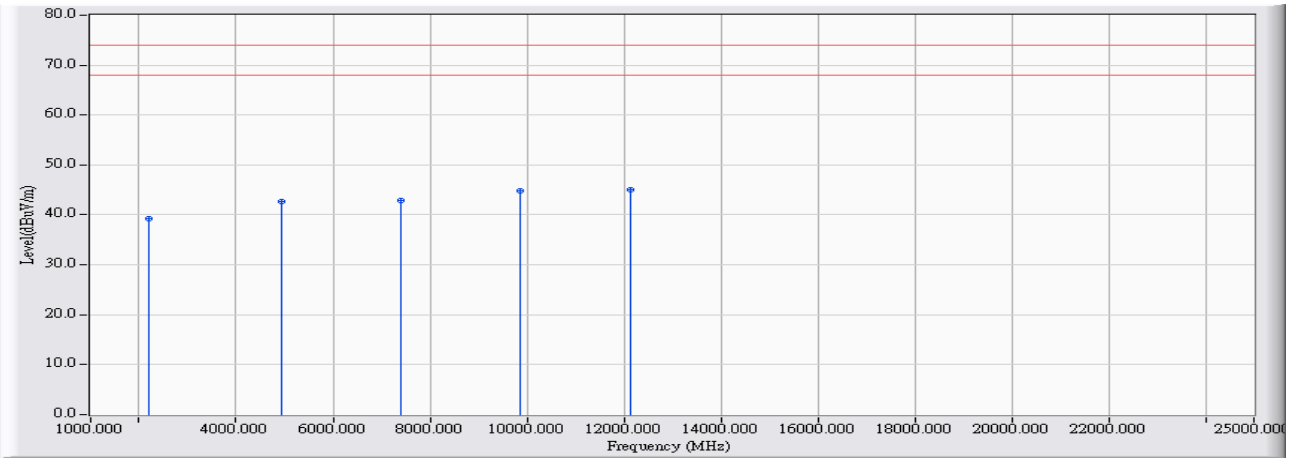


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	60.134	39.435	-34.565	74.000	54.00	PEAK
2		4923.920	-10.585	53.789	43.204	-30.796	74.000	54.00	PEAK
3		7384.000	-3.415	50.504	47.089	-26.911	74.000	54.00	PEAK
4	*	9856.000	0.229	49.800	50.029	-23.971	74.000	54.00	PEAK
5		12160.950	1.311	43.995	45.306	-28.694	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 17:50**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2462MHz**

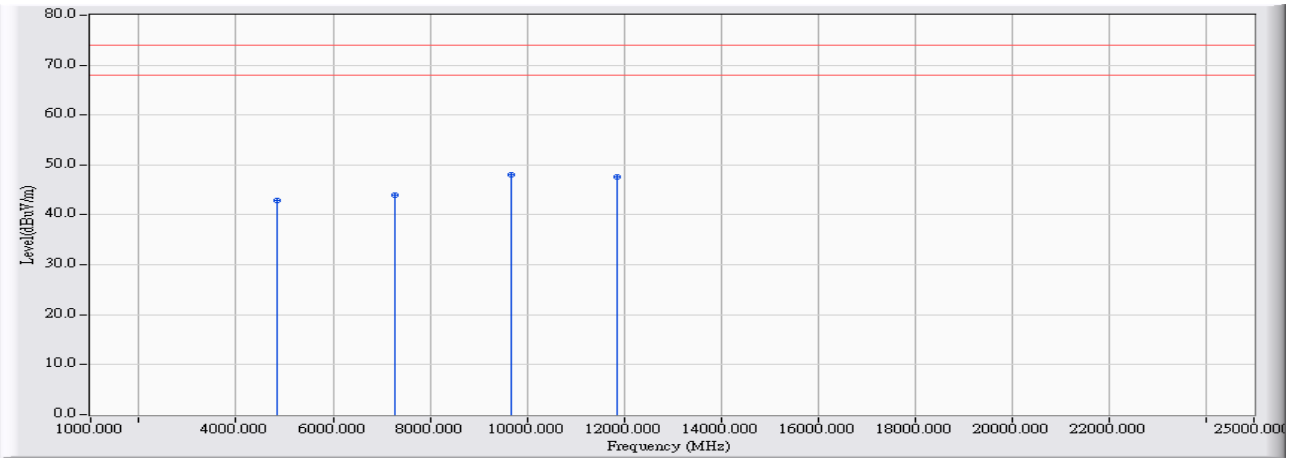


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		2200.000	-18.407	57.565	39.158	-34.842	74.000	54.00	PEAK
2		4923.910	-10.585	53.228	42.643	-31.357	74.000	54.00	PEAK
3		7385.900	-3.410	46.205	42.795	-31.205	74.000	54.00	PEAK
4		9847.830	0.206	44.524	44.729	-29.271	74.000	54.00	PEAK
5	*	12130.940	1.322	43.656	44.978	-29.022	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 18:01**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2422MHz**

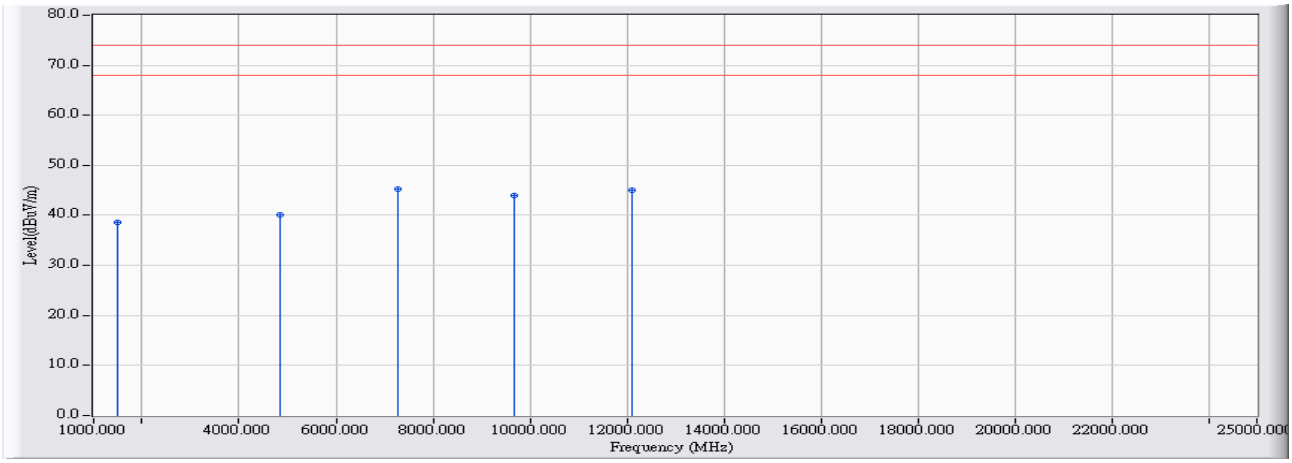


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4843.100	-10.820	53.804	42.984	-31.016	74.000	54.00	PEAK
2		7266.900	-3.736	47.755	44.019	-29.981	74.000	54.00	PEAK
3	*	9687.300	-0.259	48.335	48.076	-25.924	74.000	54.00	PEAK
4		11848.000	1.548	46.046	47.594	-26.406	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 18:39**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2422MHz**

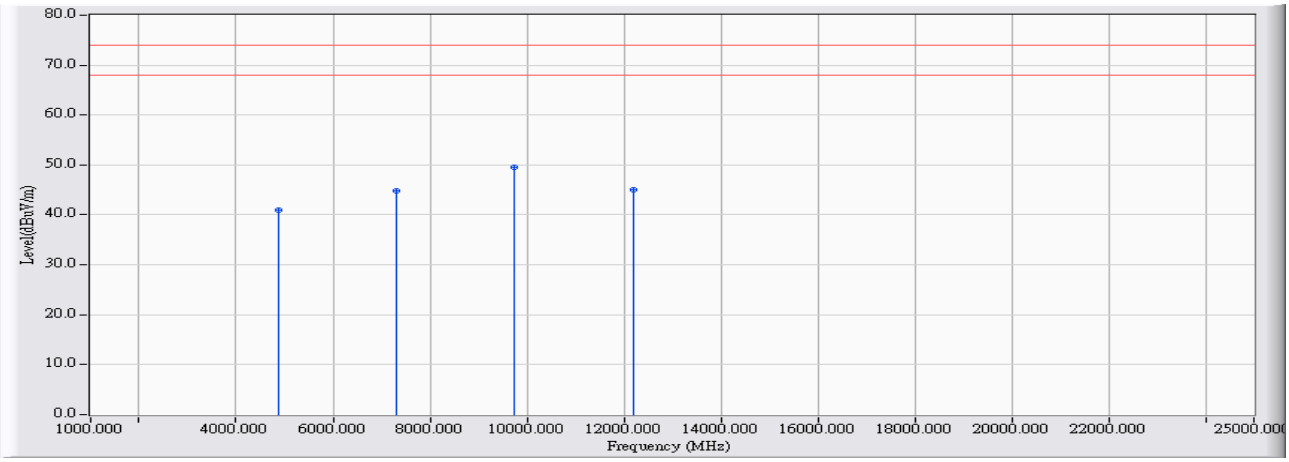


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.000	-20.699	59.329	38.630	-35.370	74.000	54.00	PEAK
2		4843.900	-10.819	50.924	40.106	-33.894	74.000	54.00	PEAK
3	*	7266.900	-3.736	49.073	45.337	-28.663	74.000	54.00	PEAK
4		9687.190	-0.259	44.334	44.075	-29.925	74.000	54.00	PEAK
5		12109.580	1.330	43.619	44.949	-29.051	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 18:47**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2437MHz**

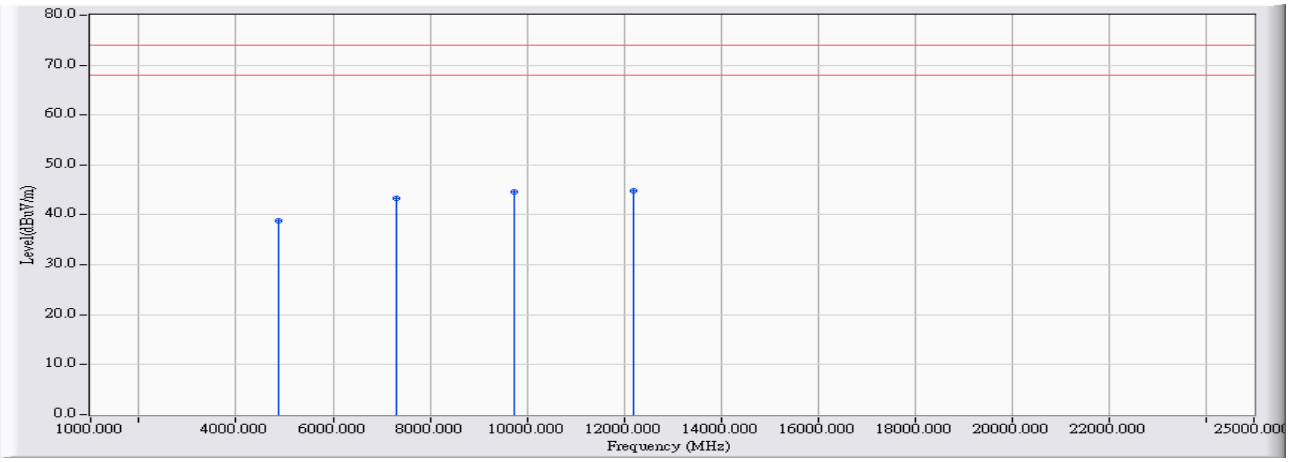


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.950	-10.731	51.800	41.070	-32.930	74.000	54.00	PEAK
2		7311.020	-3.614	48.334	44.719	-29.281	74.000	54.00	PEAK
3	*	9747.870	-0.084	49.711	49.627	-24.373	74.000	54.00	PEAK
4		12184.910	1.303	43.793	45.096	-28.904	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 18:53**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2437MHz**

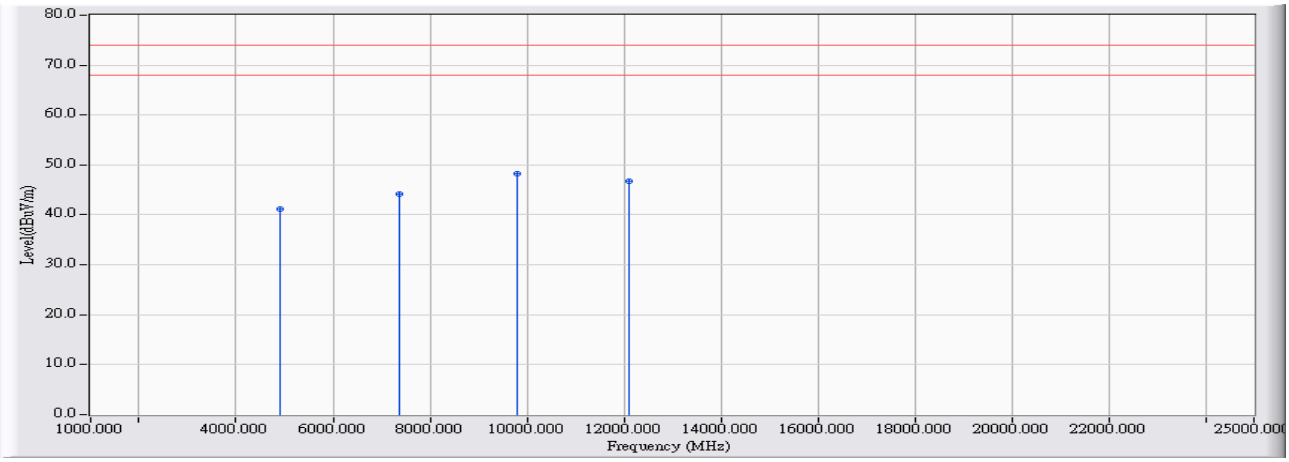


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.960	-10.731	49.450	38.720	-35.280	74.000	54.00	PEAK
2		7311.060	-3.614	47.019	43.404	-30.596	74.000	54.00	PEAK
3		9747.840	-0.084	44.598	44.514	-29.486	74.000	54.00	PEAK
4	*	12184.920	1.303	43.555	44.858	-29.142	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 18:59**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2452MHz**

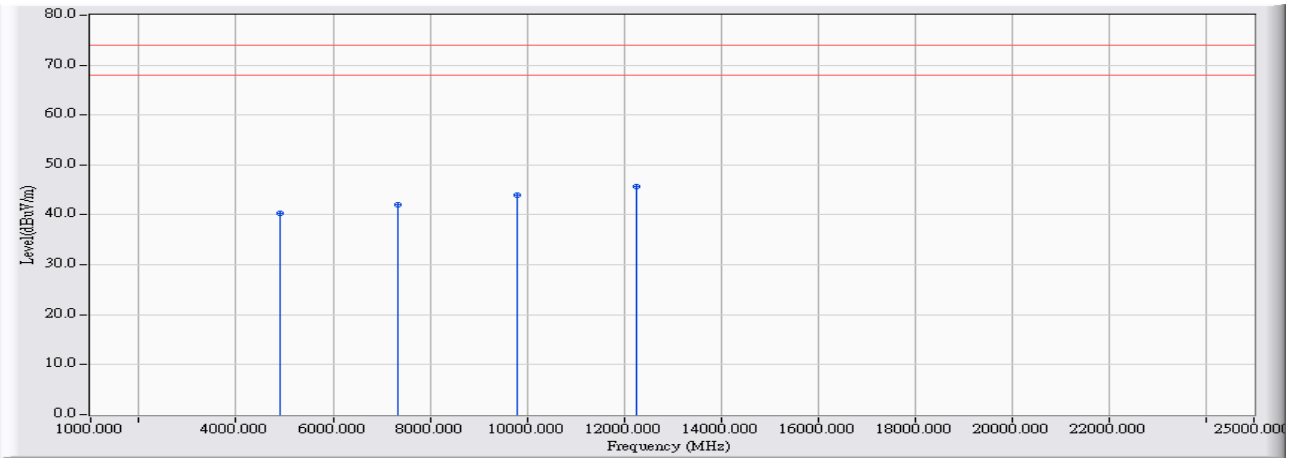


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4905.100	-10.640	51.909	41.269	-32.731	74.000	54.00	PEAK
2		7356.800	-3.490	47.621	44.131	-29.869	74.000	54.00	PEAK
3	*	9807.900	0.090	48.077	48.167	-25.833	74.000	54.00	PEAK
4		12109.600	1.330	45.370	46.700	-27.300	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/17 - 19:04**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2452MHz**

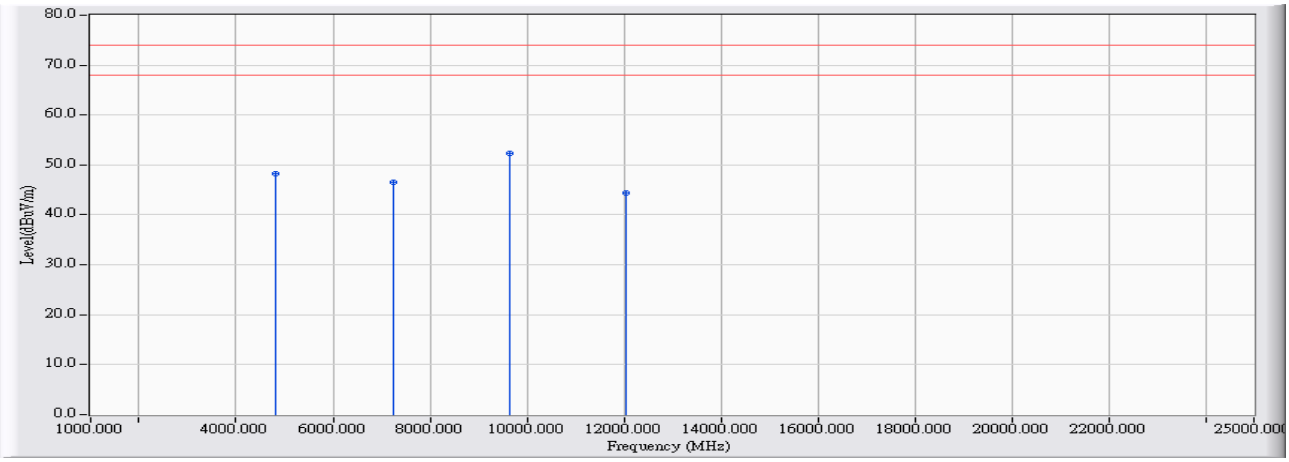


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4912.000	-10.619	50.897	40.278	-33.722	74.000	54.00	PEAK
2		7350.800	-3.506	45.598	42.092	-31.908	74.000	54.00	PEAK
3		9807.900	0.090	43.925	44.015	-29.985	74.000	54.00	PEAK
4	*	12260.400	1.275	44.420	45.695	-28.305	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 16:53**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11b-2412MHz**

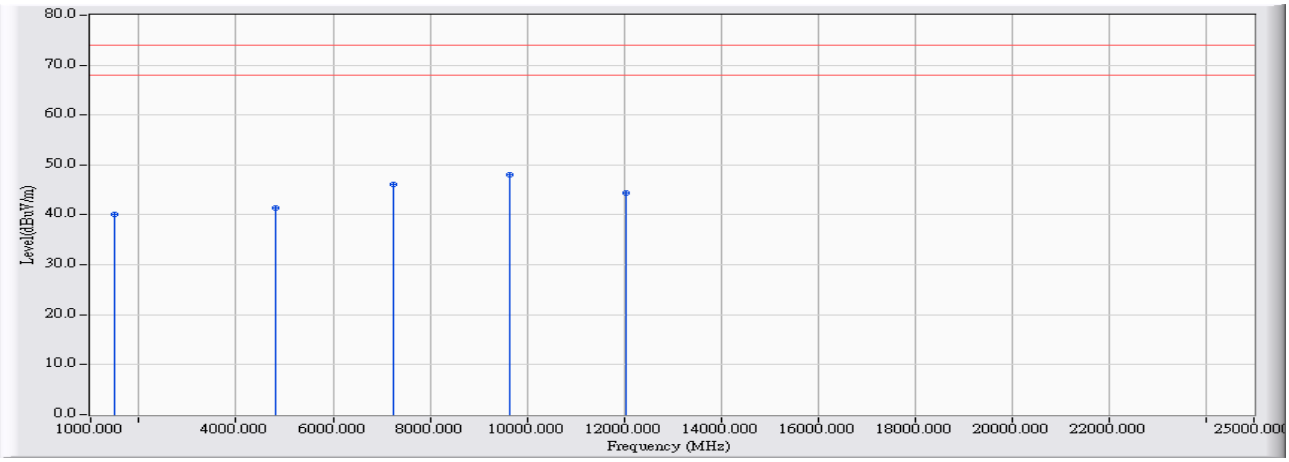


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4823.796	-10.877	59.037	48.160	-25.840	74.000	54.00	PEAK
2		7235.872	-3.820	50.344	46.524	-27.476	74.000	54.00	PEAK
3	*	9647.913	-0.373	52.637	52.264	-21.736	74.000	54.00	PEAK
4		12059.946	1.347	43.069	44.416	-29.584	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 17:09**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11b-2412MHz**

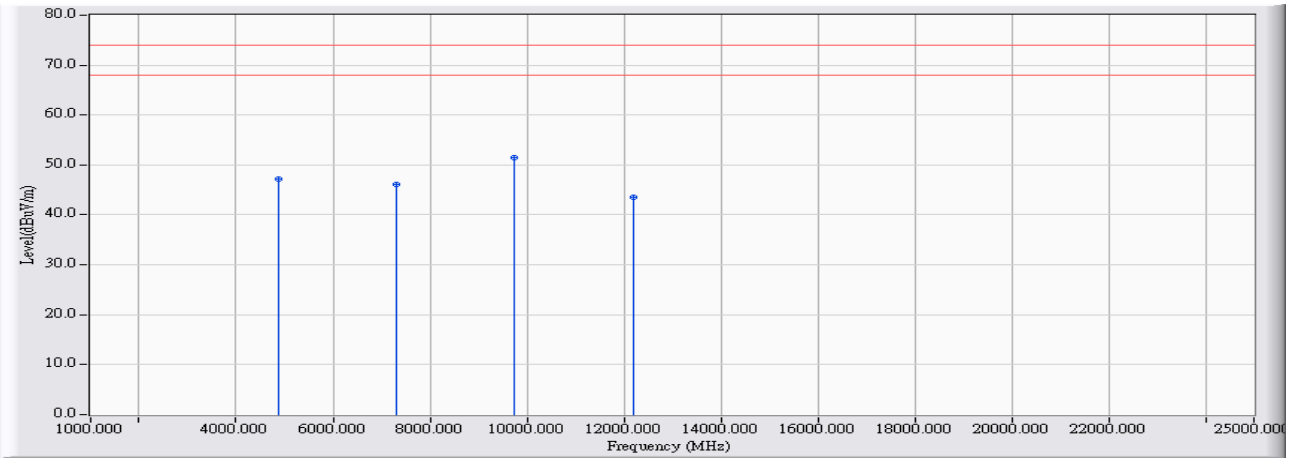


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.058	-20.699	60.783	40.084	-33.916	74.000	54.00	PEAK
2		4823.720	-10.877	52.272	41.395	-32.605	74.000	54.00	PEAK
3		7236.292	-3.820	50.030	46.210	-27.790	74.000	54.00	PEAK
4	*	9647.934	-0.373	48.346	47.973	-26.027	74.000	54.00	PEAK
5		12059.902	1.347	42.996	44.343	-29.657	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 17:20**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11b-2437MHz**

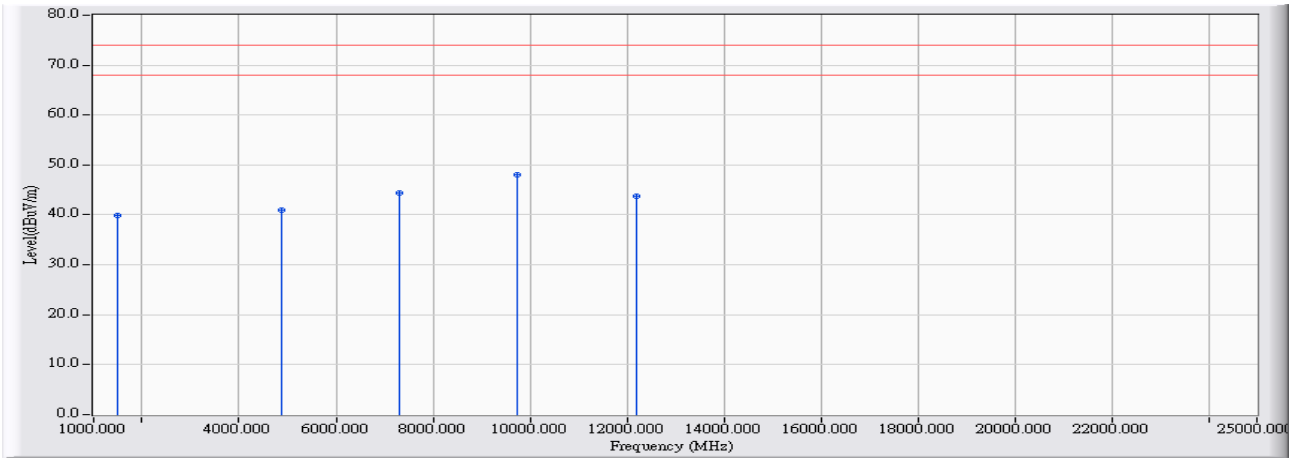


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4874.035	-10.731	57.815	47.084	-26.916	74.000	54.00	PEAK
2		7310.889	-3.614	49.832	46.218	-27.782	74.000	54.00	PEAK
3	*	9747.965	-0.084	51.461	51.377	-22.623	74.000	54.00	PEAK
4		12184.763	1.303	42.292	43.595	-30.405	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 17:29**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11b-2437MHz**

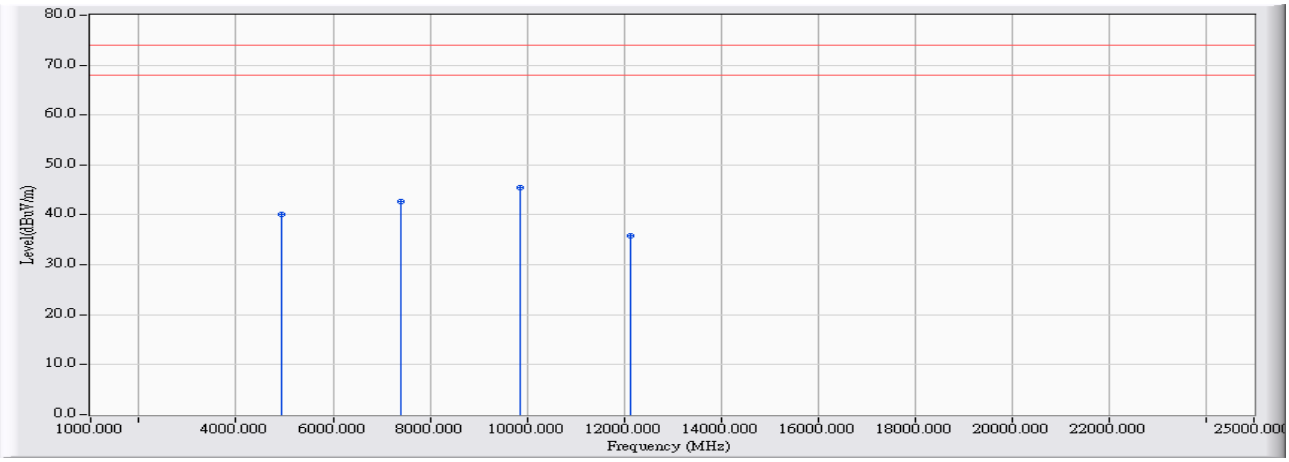


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.016	-20.699	60.669	39.970	-34.030	74.000	54.00	PEAK
2		4873.790	-10.731	51.749	41.018	-32.982	74.000	54.00	PEAK
3		7310.872	-3.614	48.081	44.467	-29.533	74.000	54.00	PEAK
4	*	9747.988	-0.084	48.206	48.122	-25.878	74.000	54.00	PEAK
5		12184.778	1.303	42.445	43.748	-30.252	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 17:38**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11b-2462MHz**

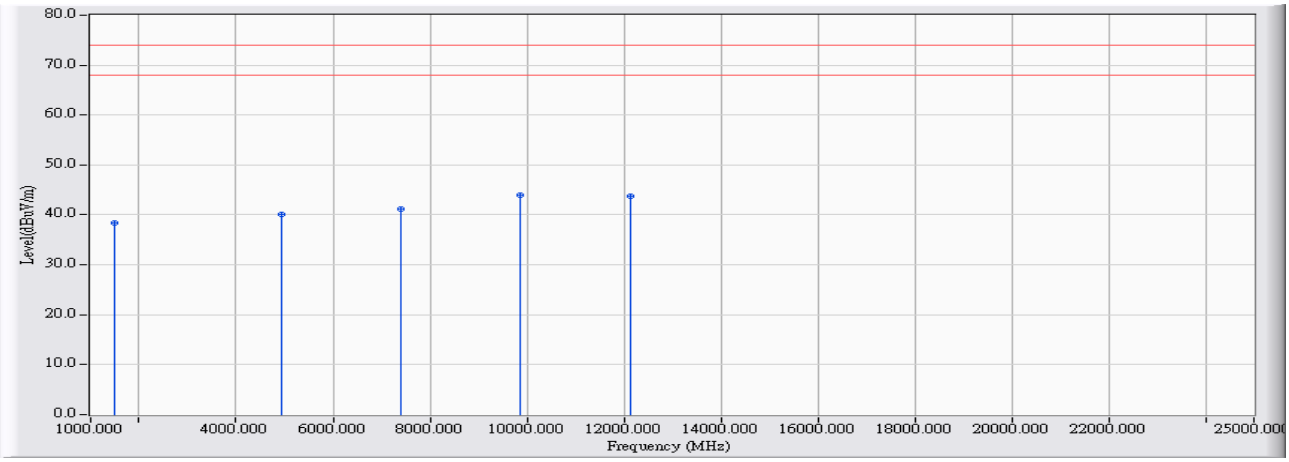


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4923.915	-10.585	50.769	40.184	-33.816	74.000	54.00	PEAK
2		7385.928	-3.410	46.046	42.636	-31.364	74.000	54.00	PEAK
3	*	9847.666	0.206	45.230	45.436	-28.564	74.000	54.00	PEAK
4		12130.030	1.322	34.584	35.906	-38.094	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 17:50**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11b-2462MHz**

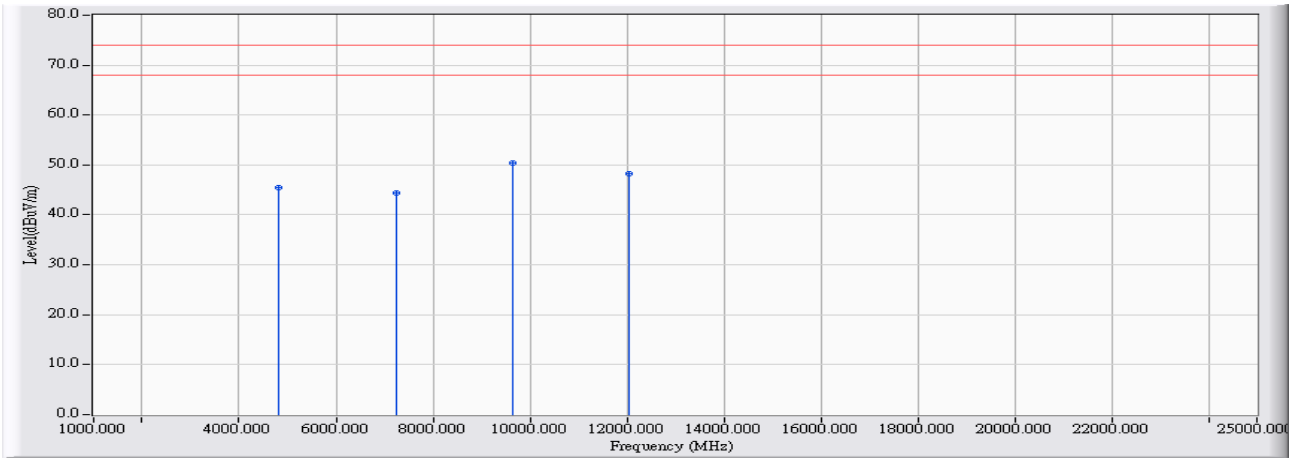


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1503.795	-20.699	59.140	38.441	-35.559	74.000	54.00	PEAK
2		4923.972	-10.585	50.648	40.063	-33.937	74.000	54.00	PEAK
3		7385.744	-3.410	44.543	41.133	-32.867	74.000	54.00	PEAK
4	*	9847.604	0.206	43.784	43.990	-30.010	74.000	54.00	PEAK
5		12131.068	1.322	42.423	43.745	-30.255	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 17:59**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11g-2412MHz**

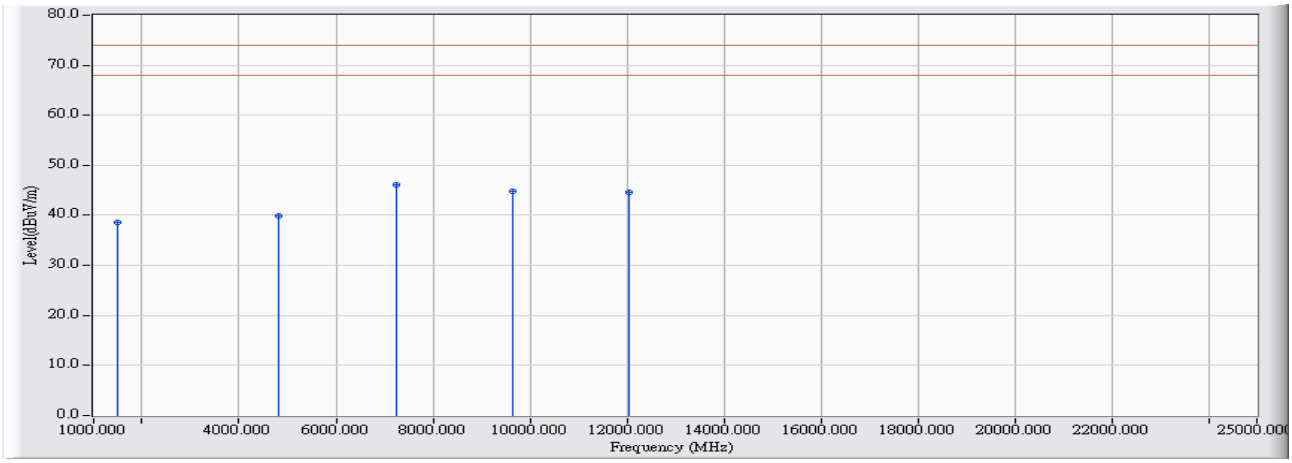


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4823.068	-10.878	56.253	45.375	-28.625	74.000	54.00	PEAK
2		7235.902	-3.820	48.306	44.486	-29.514	74.000	54.00	PEAK
3	*	9647.877	-0.373	50.778	50.405	-23.595	74.000	54.00	PEAK
4		12059.652	1.347	46.817	48.164	-25.836	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 – 18:12**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11g-2412MHz**

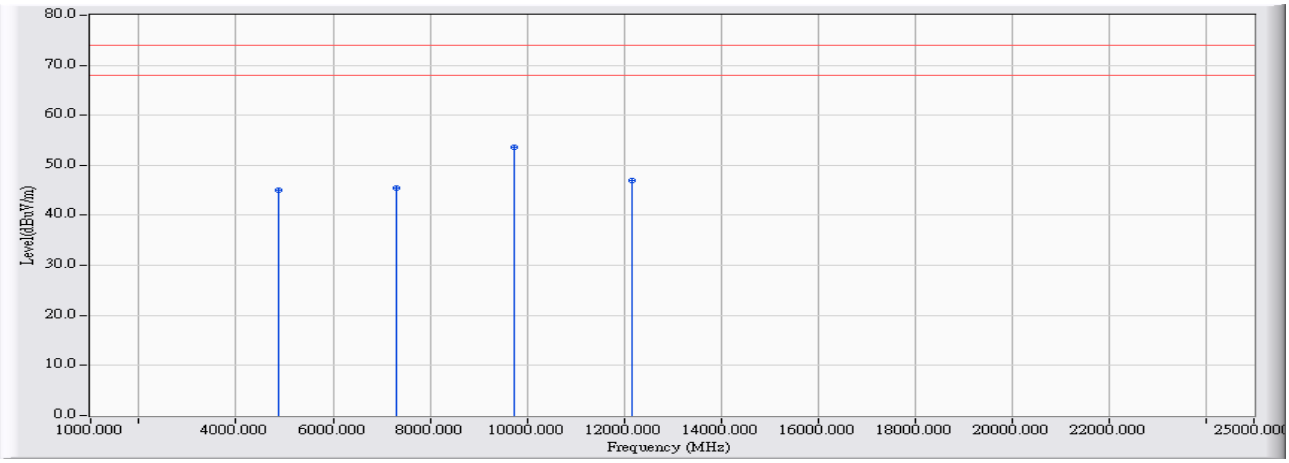


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.036	-20.699	59.351	38.652	-35.348	74.000	54.00	PEAK
2		4823.770	-10.877	50.729	39.852	-34.148	74.000	54.00	PEAK
3	*	7235.897	-3.820	50.029	46.209	-27.791	74.000	54.00	PEAK
4		9647.991	-0.373	45.135	44.762	-29.238	74.000	54.00	PEAK
5		12059.696	1.347	43.227	44.574	-29.426	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 18:24**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11g-2437MHz**

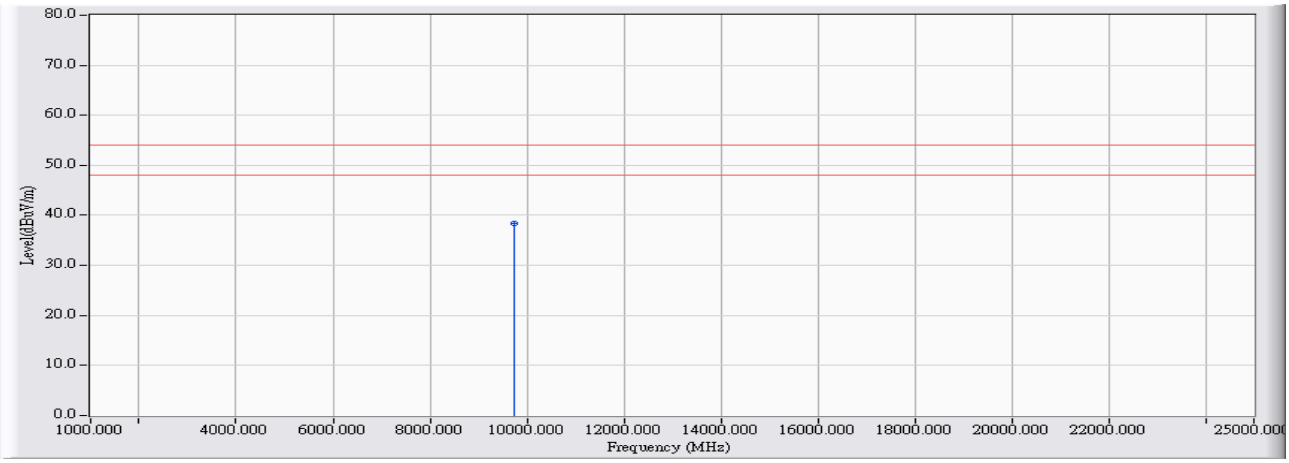


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.715	-10.731	55.720	44.989	-29.011	74.000	54.00	PEAK
2		7310.886	-3.614	49.032	45.418	-28.582	74.000	54.00	PEAK
3	*	9747.663	-0.084	53.680	53.596	-20.404	74.000	54.00	PEAK
4		12184.108	1.302	45.705	47.007	-26.993	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 18:26**
Limit : FCC_SpartC_15.247_H_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11g-2437MHz**

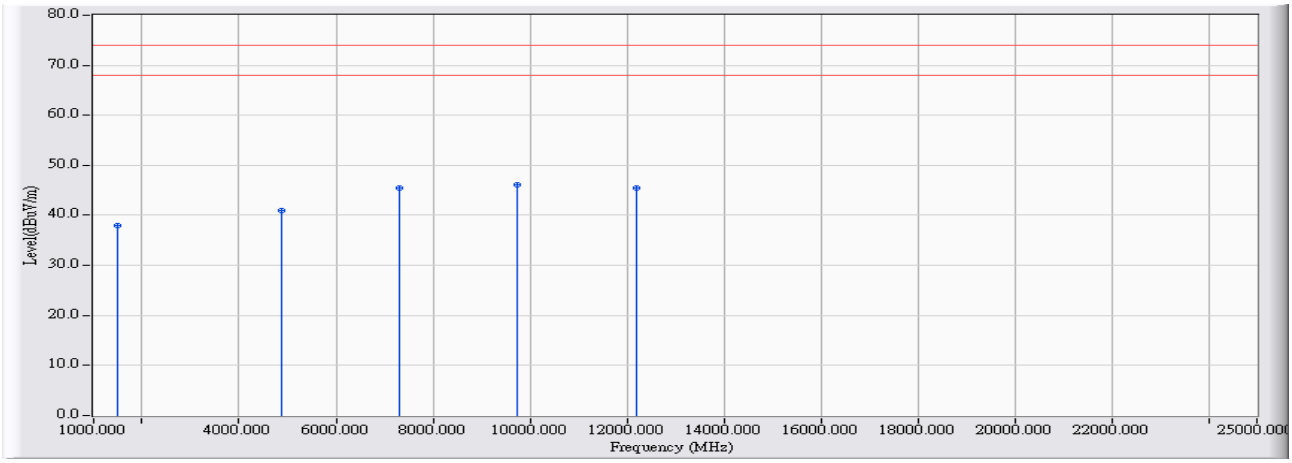


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1	*	9747.907	-0.084	38.460	38.376	-15.624	74.000	54.00	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 18:39**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11g-2437MHz**

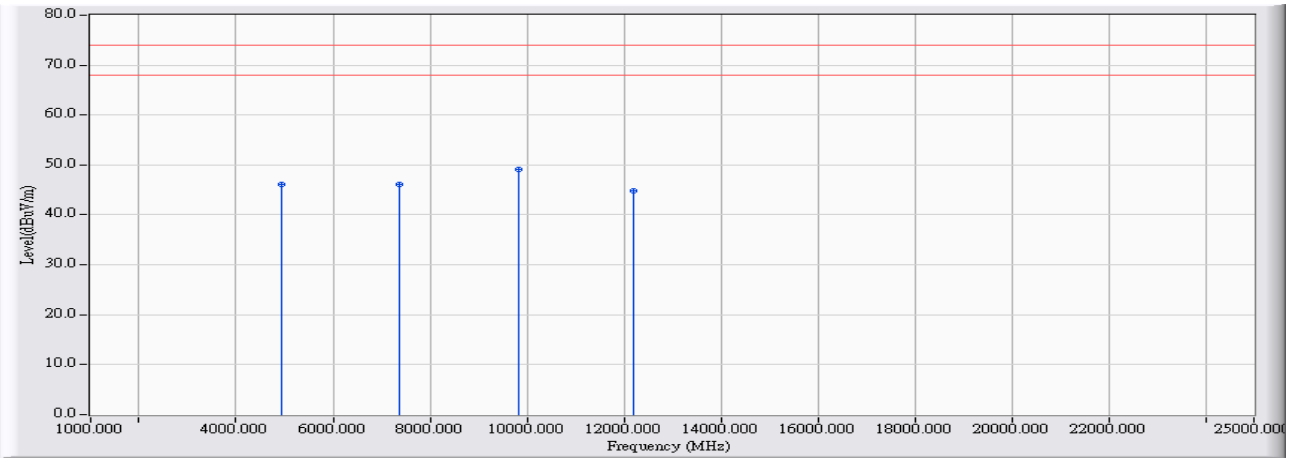


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1503.874	-20.699	58.687	37.988	-36.012	74.000	54.00	PEAK
2		4873.847	-10.731	51.773	41.042	-32.958	74.000	54.00	PEAK
3		7310.904	-3.614	49.101	45.487	-28.513	74.000	54.00	PEAK
4	*	9747.975	-0.084	46.294	46.210	-27.790	74.000	54.00	PEAK
5		12184.628	1.303	44.222	45.525	-28.475	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 18:48**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11g-2462MHz**

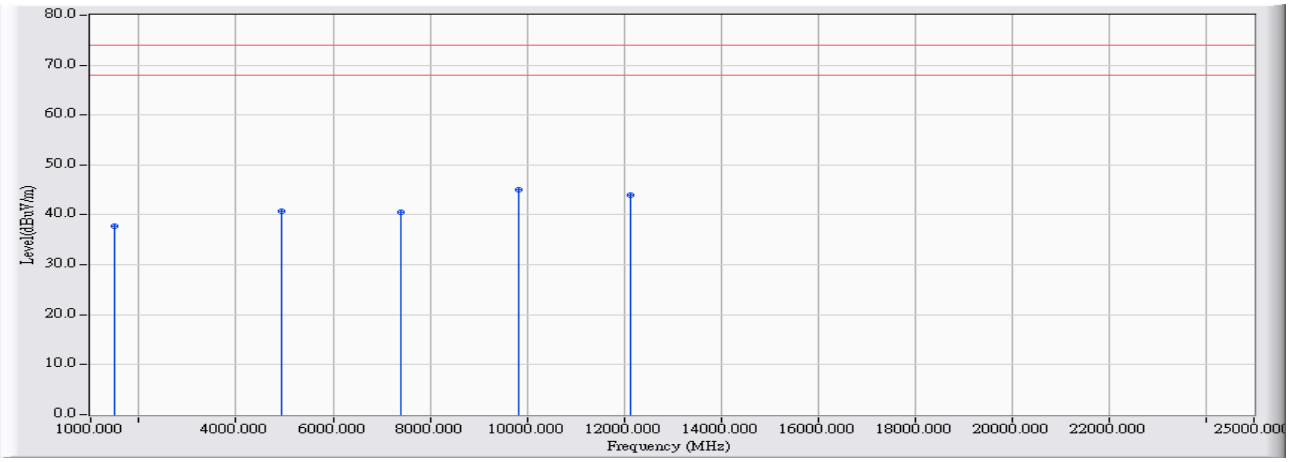


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4935.774	-10.550	56.705	46.155	-27.845	74.000	54.00	PEAK
2		7384.118	-3.415	49.444	46.029	-27.971	74.000	54.00	PEAK
3	*	9832.076	0.159	48.942	49.101	-24.899	74.000	54.00	PEAK
4		12190.762	1.300	43.447	44.747	-29.253	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 -18:59**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11g-2462MHz**

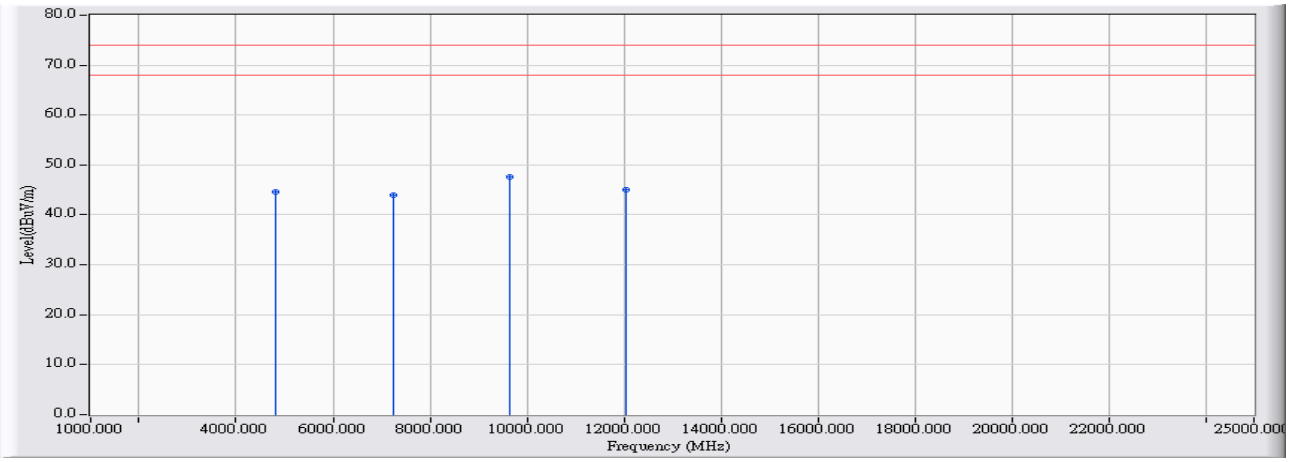


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.003	-20.699	58.452	37.753	-36.247	74.000	54.00	PEAK
2		4923.739	-10.585	51.232	40.647	-33.353	74.000	54.00	PEAK
3		7385.750	-3.410	43.932	40.522	-33.478	74.000	54.00	PEAK
4	*	9841.832	0.188	44.757	44.945	-29.055	74.000	54.00	PEAK
5		12130.968	1.322	42.753	44.075	-29.925	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 –19:12**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(20M)-2412MHz**

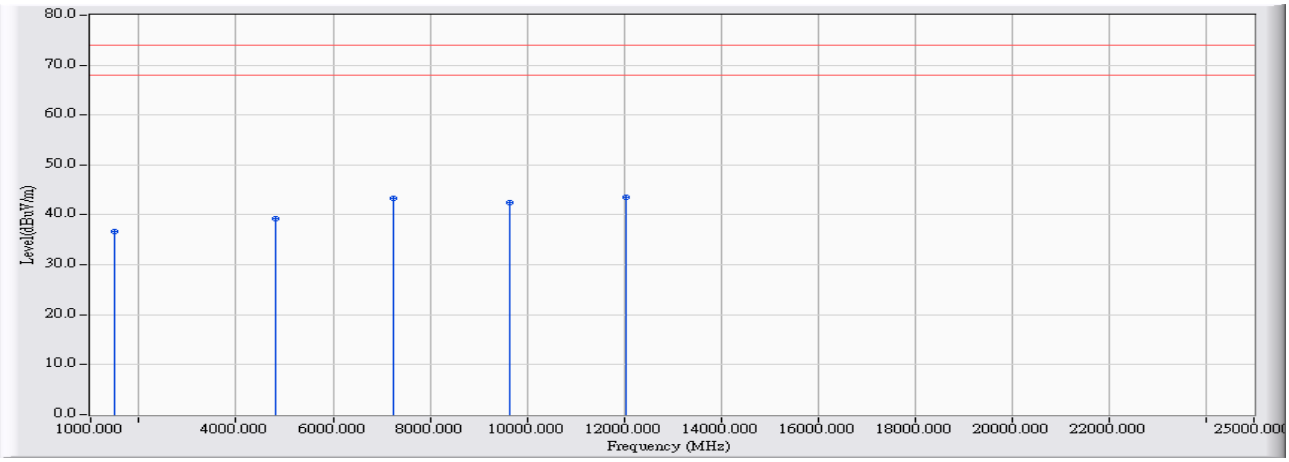


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4816.036	-10.900	55.434	44.534	-29.466	74.000	54.00	PEAK
2		7239.781	-3.809	47.736	43.927	-30.073	74.000	54.00	PEAK
3	*	9640.062	-0.395	48.001	47.606	-26.394	74.000	54.00	PEAK
4		12059.581	1.347	43.674	45.021	-28.979	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 19:22**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(20M)-2412MHz**

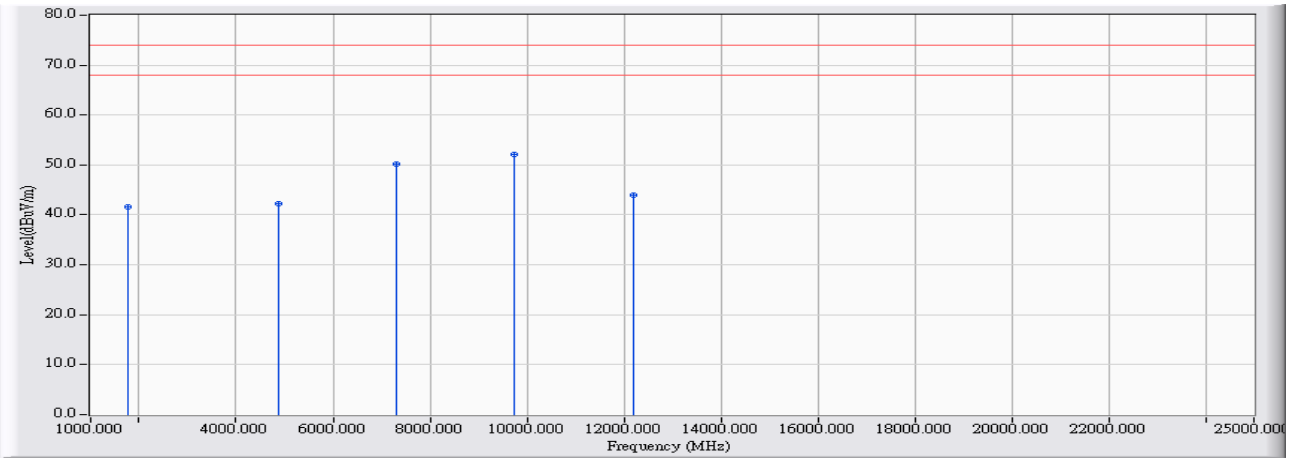


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1503.857	-20.699	57.384	36.685	-37.315	74.000	54.00	PEAK
2		4823.621	-10.877	50.141	39.264	-34.736	74.000	54.00	PEAK
3		7235.993	-3.820	47.078	43.258	-30.742	74.000	54.00	PEAK
4		9647.863	-0.373	42.813	42.440	-31.560	74.000	54.00	PEAK
5	*	12059.944	1.347	42.249	43.596	-30.404	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 -19:29**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11n(20M)-2437MHz**

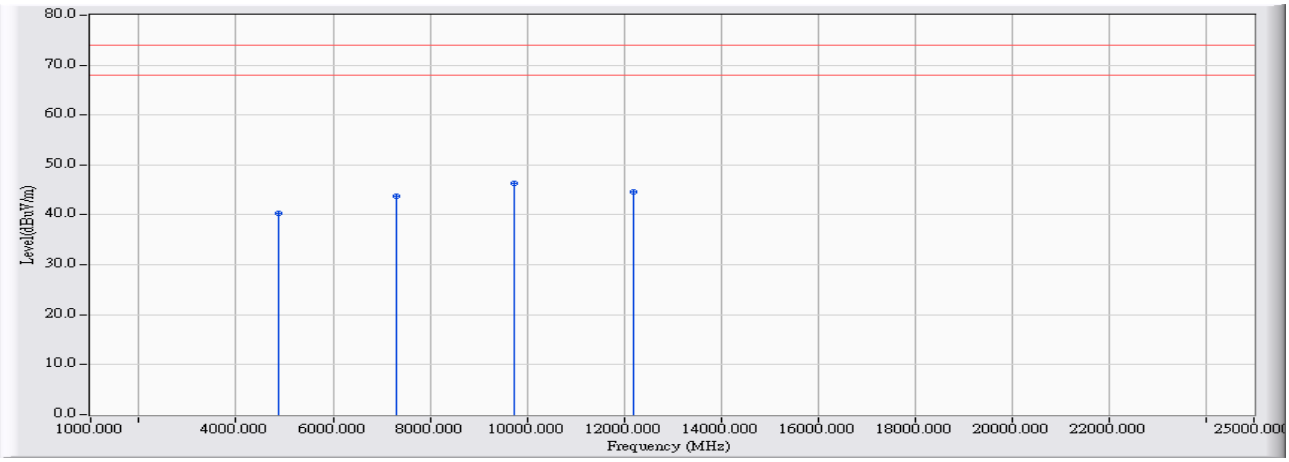


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1768.020	-20.023	61.717	41.694	-32.306	74.000	54.00	PEAK
2		4874.021	-10.731	52.969	42.238	-31.762	74.000	54.00	PEAK
3		7310.831	-3.614	53.713	50.099	-23.901	74.000	54.00	PEAK
4	*	9747.610	-0.084	52.098	52.014	-21.986	74.000	54.00	PEAK
5		12184.944	1.303	42.602	43.905	-30.095	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 -19:34**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(20M)-2437MHz**

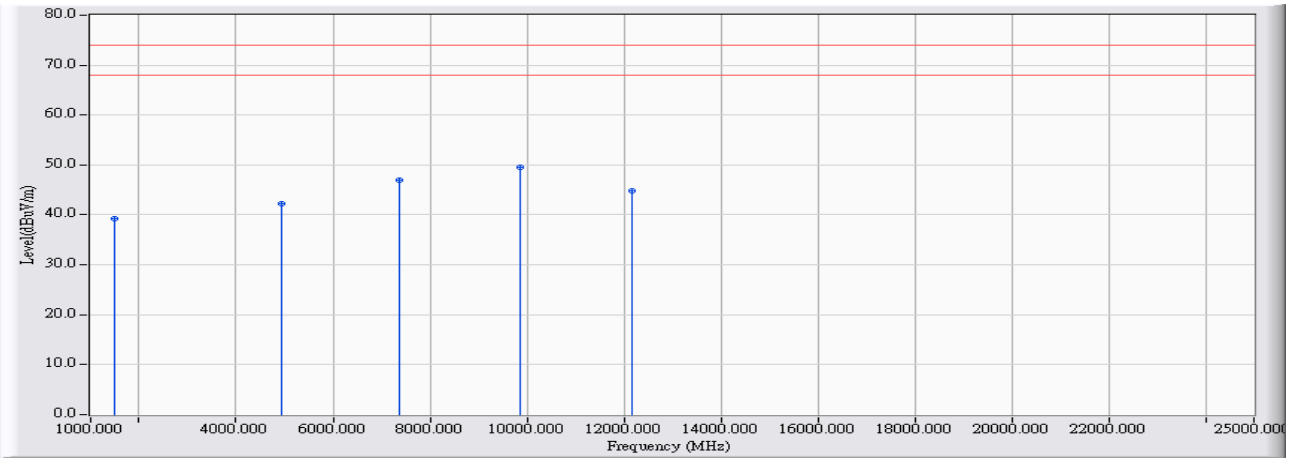


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4874.046	-10.731	51.089	40.358	-33.642	74.000	54.00	PEAK
2		7311.139	-3.614	47.275	43.661	-30.339	74.000	54.00	PEAK
3	*	9747.711	-0.084	46.406	46.322	-27.678	74.000	54.00	PEAK
4		12184.916	1.303	43.227	44.530	-29.470	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 -19:41**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(20M)-2462MHz**

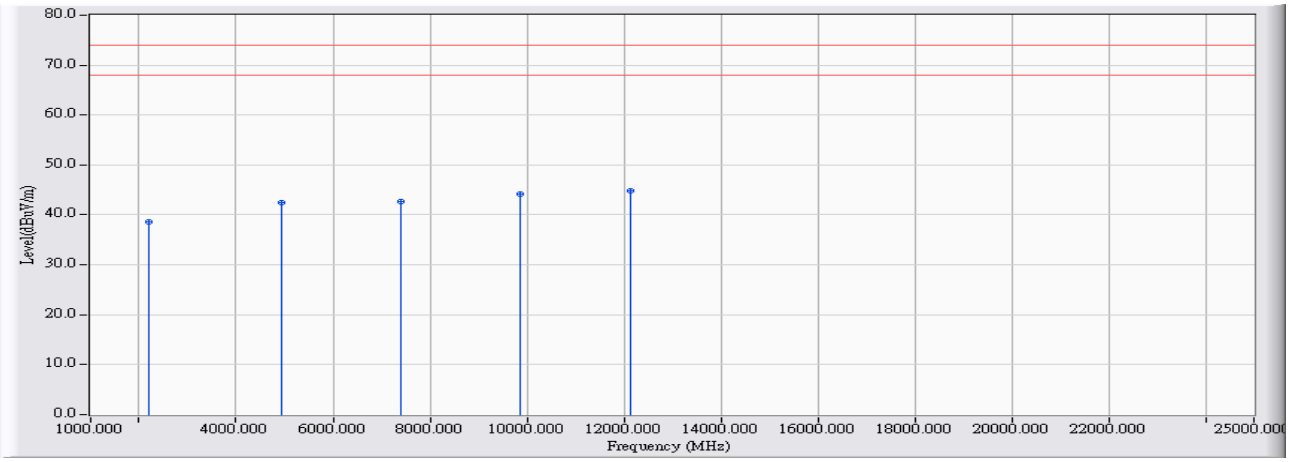


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.068	-20.699	59.999	39.300	-34.700	74.000	54.00	PEAK
2		4923.797	-10.585	52.886	42.301	-31.699	74.000	54.00	PEAK
3		7384.084	-3.415	50.306	46.891	-27.109	74.000	54.00	PEAK
4	*	9856.053	0.229	49.332	49.561	-24.439	74.000	54.00	PEAK
5		12161.011	1.311	43.533	44.844	-29.156	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 19:50**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(20M)-2462MHz**

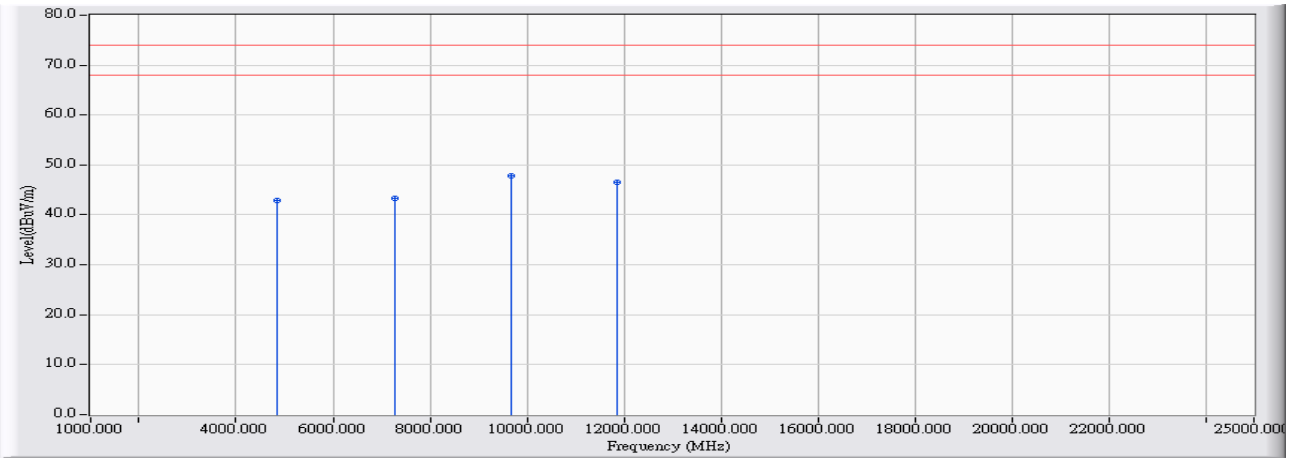


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		2200.033	-18.407	57.096	38.689	-35.311	74.000	54.00	PEAK
2		4924.020	-10.585	53.158	42.573	-31.427	74.000	54.00	PEAK
3		7385.705	-3.410	46.035	42.625	-31.375	74.000	54.00	PEAK
4		9847.633	0.206	44.006	44.212	-29.788	74.000	54.00	PEAK
5	*	12130.969	1.322	43.549	44.871	-29.129	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 – 20:01**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11n(40M)-2422MHz**

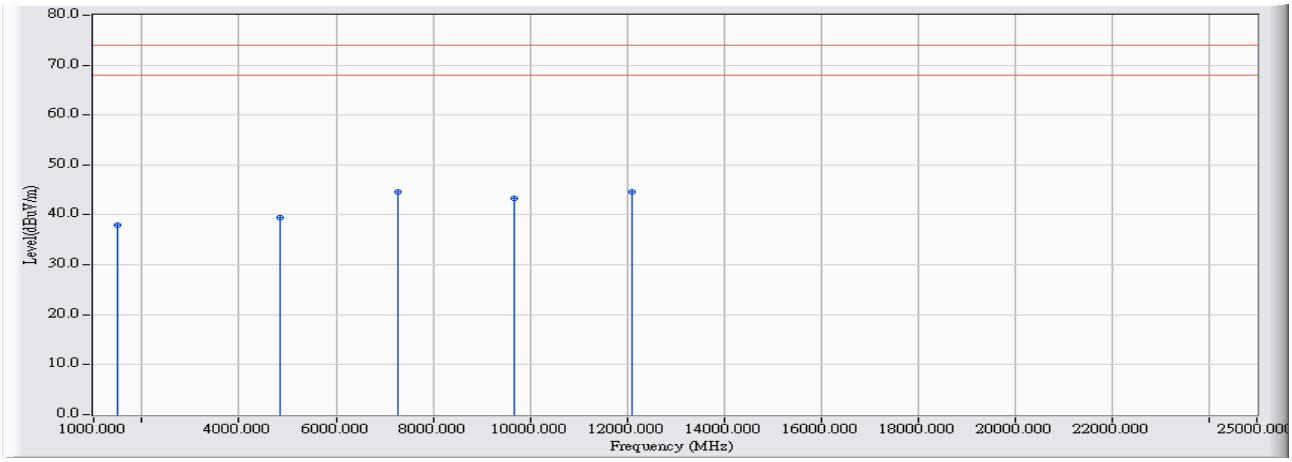


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4842.876	-10.820	53.722	42.902	-31.098	74.000	54.00	PEAK
2		7266.741	-3.736	47.061	43.325	-30.675	74.000	54.00	PEAK
3	*	9687.174	-0.259	48.036	47.777	-26.223	74.000	54.00	PEAK
4		11848.009	1.548	45.076	46.624	-27.376	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 - 20:10**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(40M)-2422MHz**

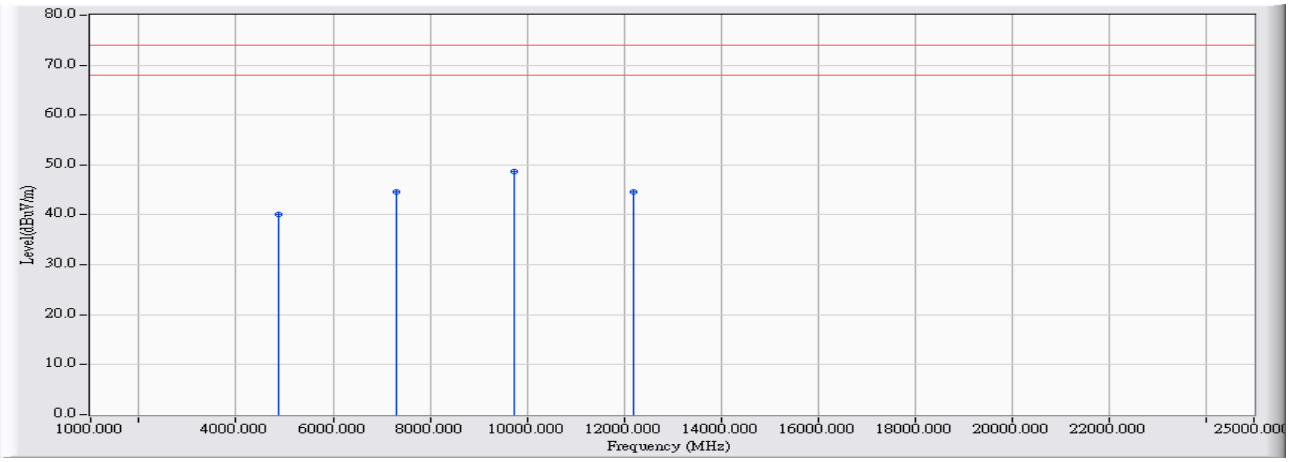


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		1504.087	-20.699	58.758	38.059	-35.941	74.000	54.00	PEAK
2		4843.739	-10.819	50.378	39.559	-34.441	74.000	54.00	PEAK
3	*	7266.912	-3.736	48.319	44.583	-29.417	74.000	54.00	PEAK
4		9687.284	-0.259	43.598	43.339	-30.661	74.000	54.00	PEAK
5	*	12109.375	1.330	43.283	44.613	-29.387	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 -15:20**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(40M)-2437MHz**

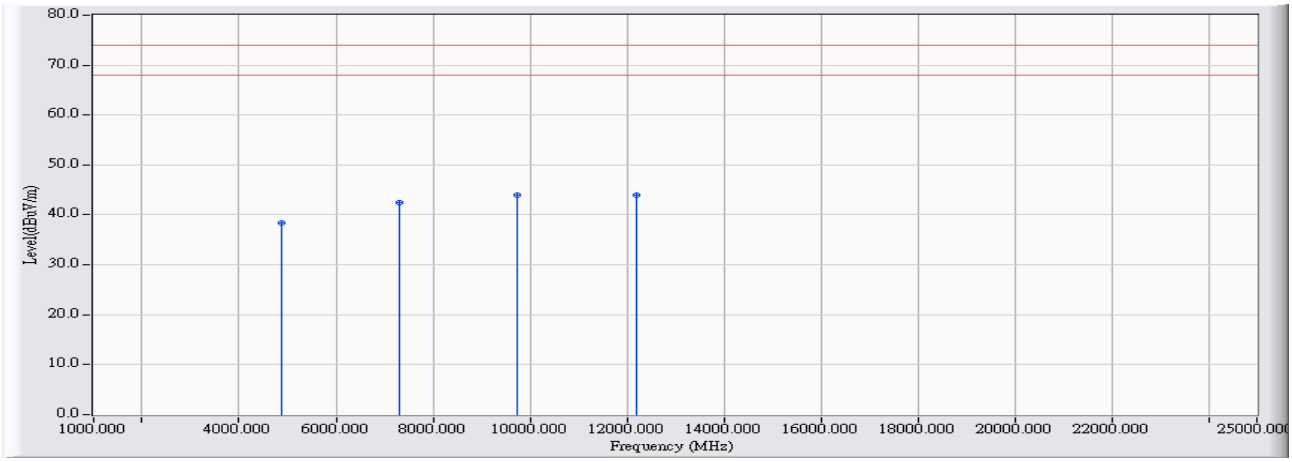


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4873.730	-10.731	50.804	40.073	-33.927	74.000	54.00	PEAK
2		7311.029	-3.614	48.195	44.581	-29.419	74.000	54.00	PEAK
3	*	9747.735	-0.084	48.844	48.760	-25.240	74.000	54.00	PEAK
4		12184.776	1.303	43.212	44.515	-29.485	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22 -15:29**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220–802.11n(40M)-2437MHz**

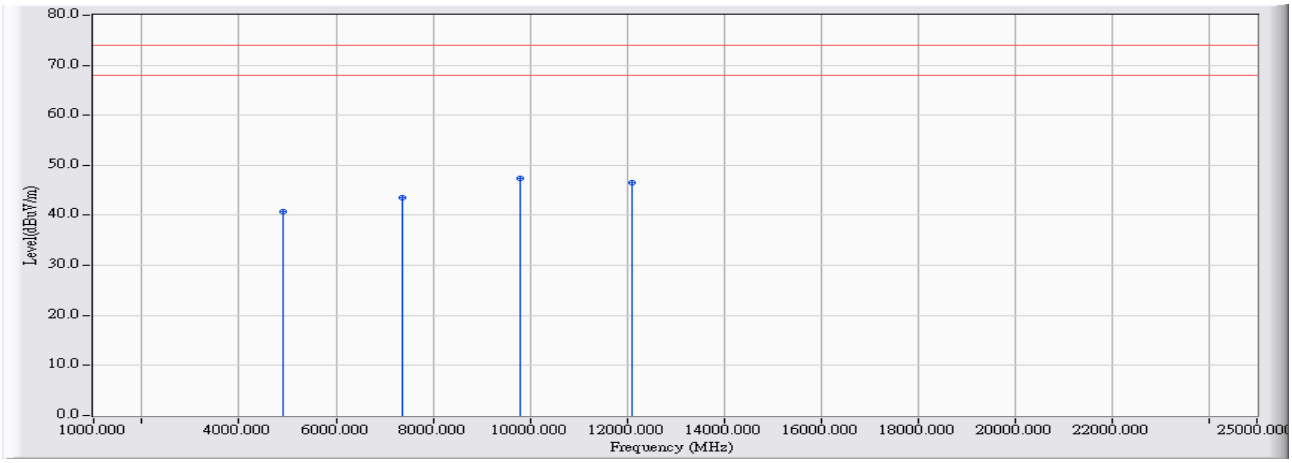


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4874.028	-10.731	49.053	38.322	-35.678	74.000	54.00	PEAK
2		7311.130	-3.614	46.074	42.460	-31.540	74.000	54.00	PEAK
3	*	9747.856	-0.084	44.078	43.994	-30.006	74.000	54.00	PEAK
4		12185.028	1.303	42.601	43.904	-30.096	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22-15:41**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(40M)-2452MHz**

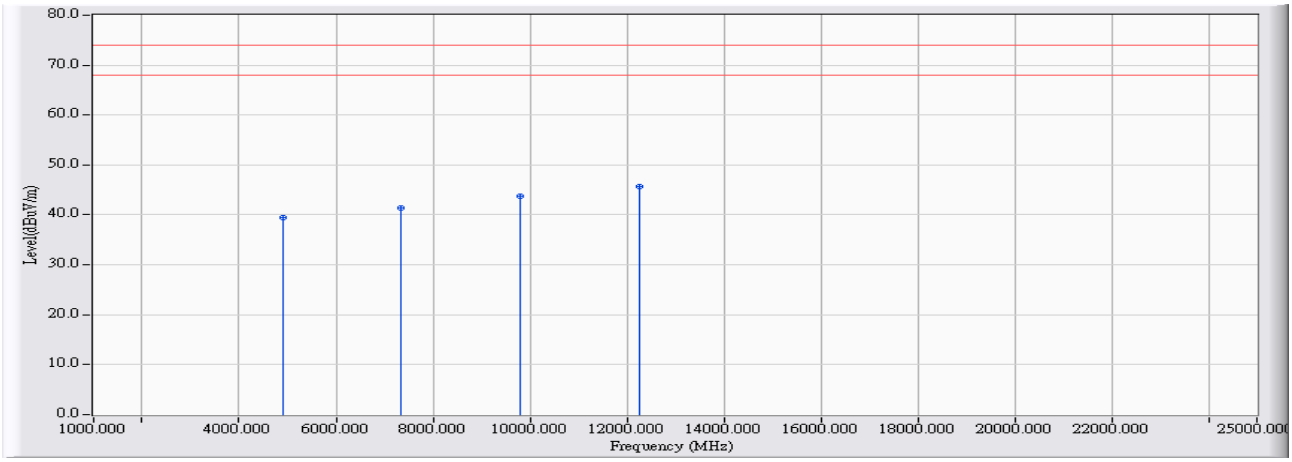


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4904.868	-10.640	51.341	40.701	-33.299	74.000	54.00	PEAK
2		7356.624	-3.490	47.099	43.609	-30.391	74.000	54.00	PEAK
3	*	9807.680	0.090	47.402	47.492	-26.508	74.000	54.00	PEAK
4		12109.394	1.330	45.207	46.537	-27.463	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	**Time : 2010/12/22-15:49**
Limit : FCC_SpartC_15.247_H_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VoIP Ethernet Home Gateway	**Note : Mode 2: Transmit_UTI324-1220 – 802.11n(40M)-2452MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Detector Type
1		4911.837	-10.619	49.987	39.368	-34.632	74.000	54.00	PEAK
2		7350.871	-3.506	44.922	41.416	-32.584	74.000	54.00	PEAK
3		9807.963	0.090	43.764	43.854	-30.146	74.000	54.00	PEAK
4	*	12260.449	1.275	44.402	45.677	-28.323	74.000	54.00	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

5. RF antenna conducted test

5.1. Test Equipment

The following test equipment is used during the test:

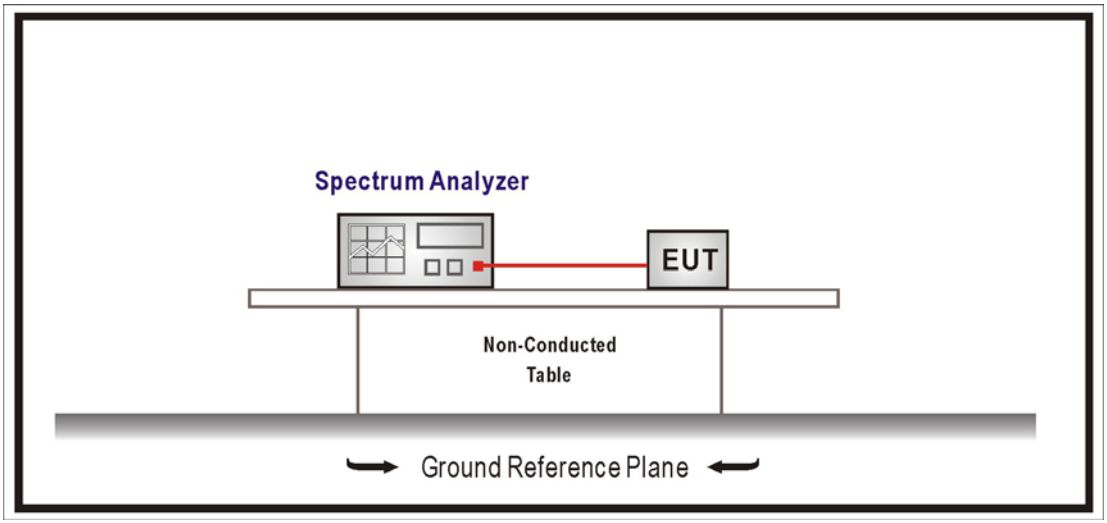
RF antenna conducted test / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2011/02/04

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

5.2. Test Setup

RF Antenna Conducted Measurement:



5.3. Limits

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 an RF conducted or 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)).

5.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements Set RBW = 100 kHz, Set VBW> RBW, scan up through 10th harmonic.

5.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2009

5.6. Uncertainty

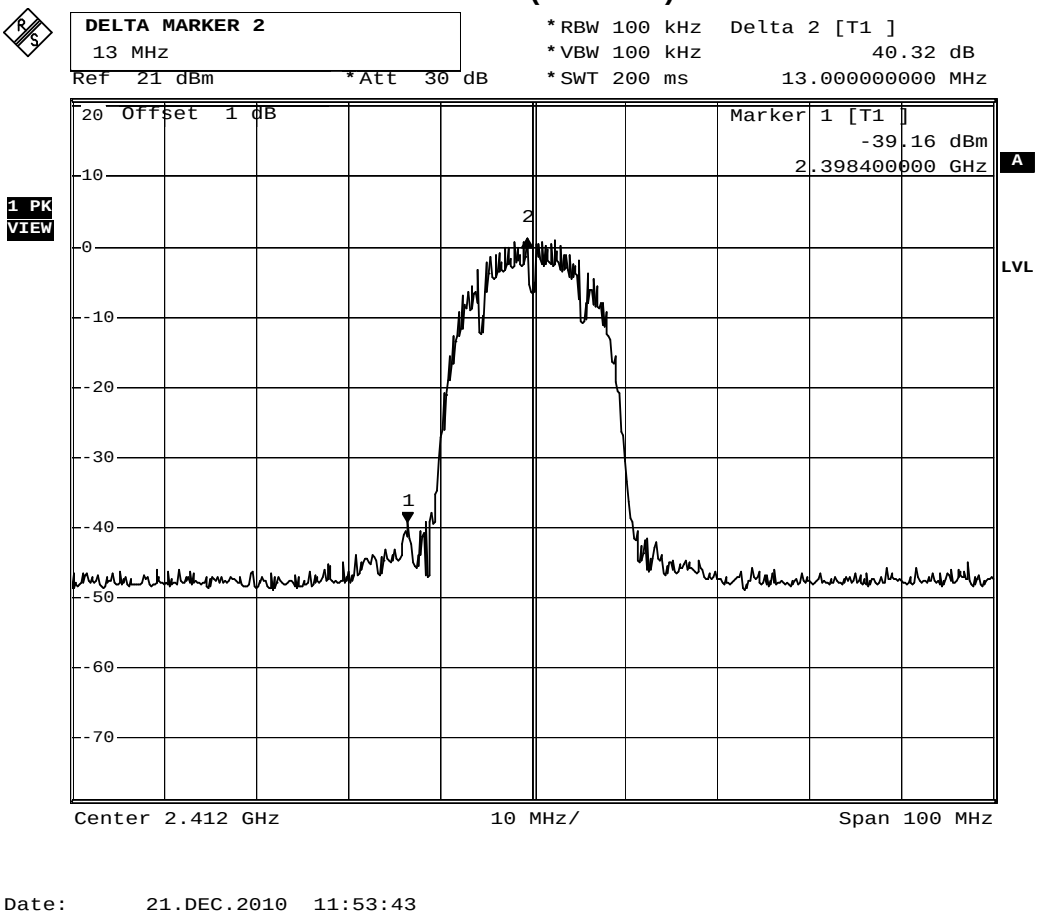
Conducted is defined as ± 1.27dB

5.7. Test Result

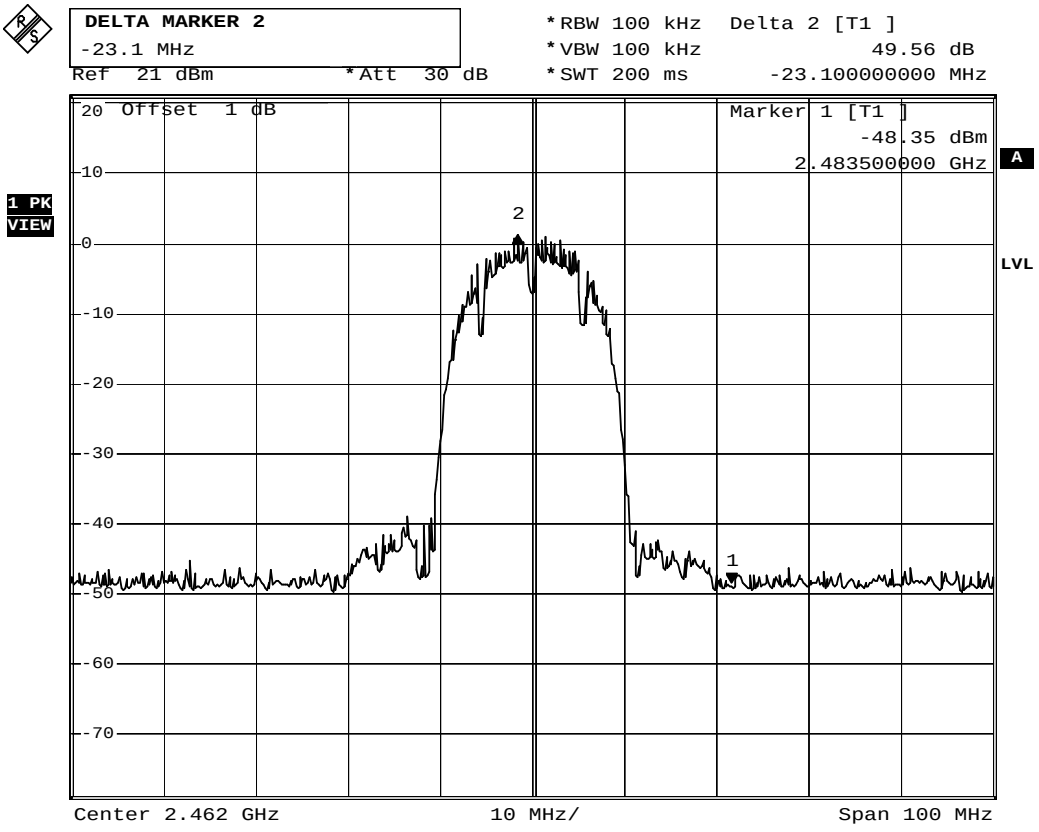
Product	VoIP Ethernet Home Gateway		
Test Item	RF antenna conducted test		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11b, Antenna Gain: 1.8dBi, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	40.32	≧20	Pass
11	2462	49.56	≧20	Pass

Channel 01 (2412MHz)



Channel 11 (2462MHz)

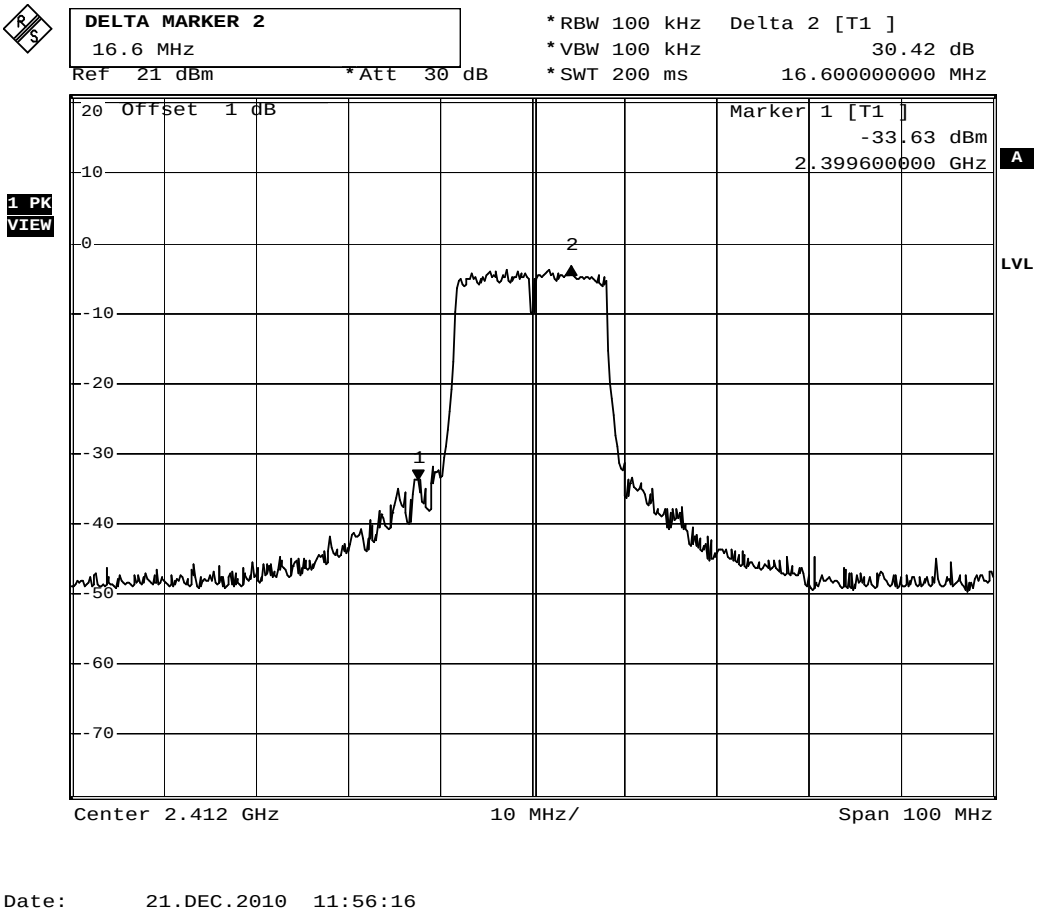


Date: 21.DEC.2010 11:55:12

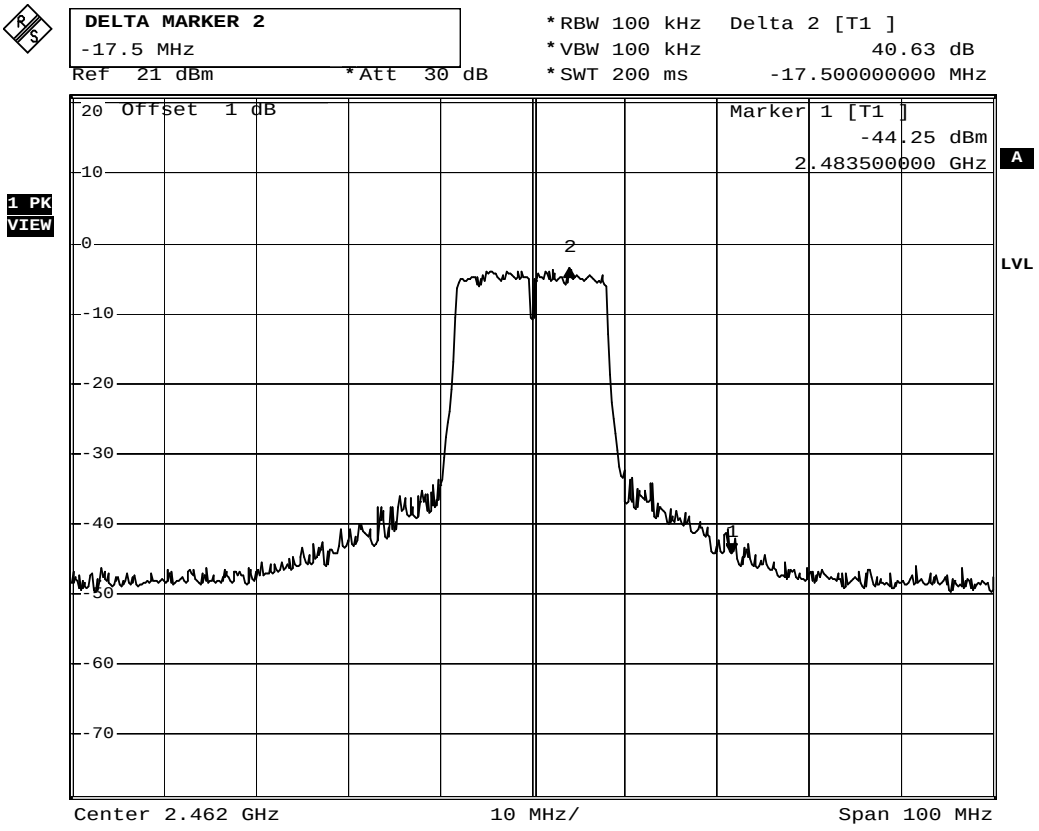
Product	VoIP Ethernet Home Gateway		
Test Item	RF antenna conducted test		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11g, Antenna Gain: 1.8dBi, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	30.42	≧20	Pass
11	2462	40.63	≧20	Pass

Channel 01 (2412MHz)



Channel 11 (2462MHz)

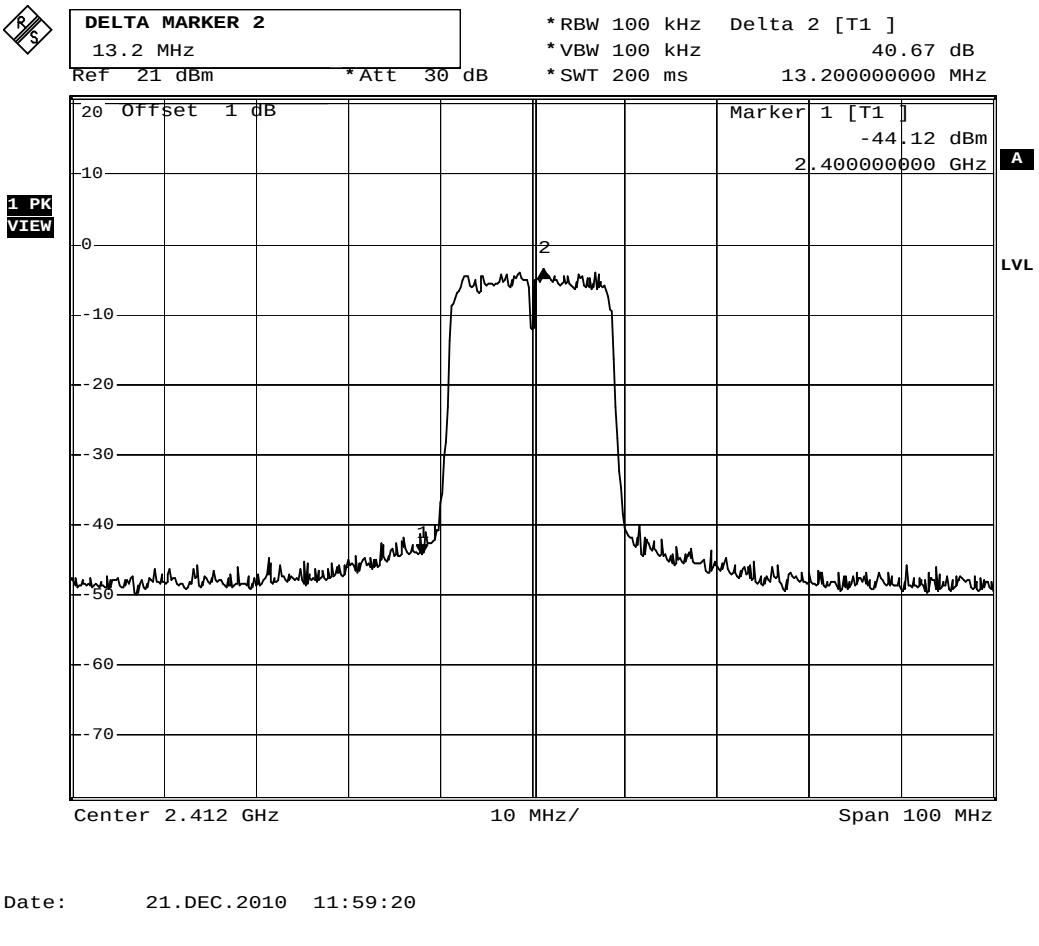


Date: 21.DEC.2010 11:57:16

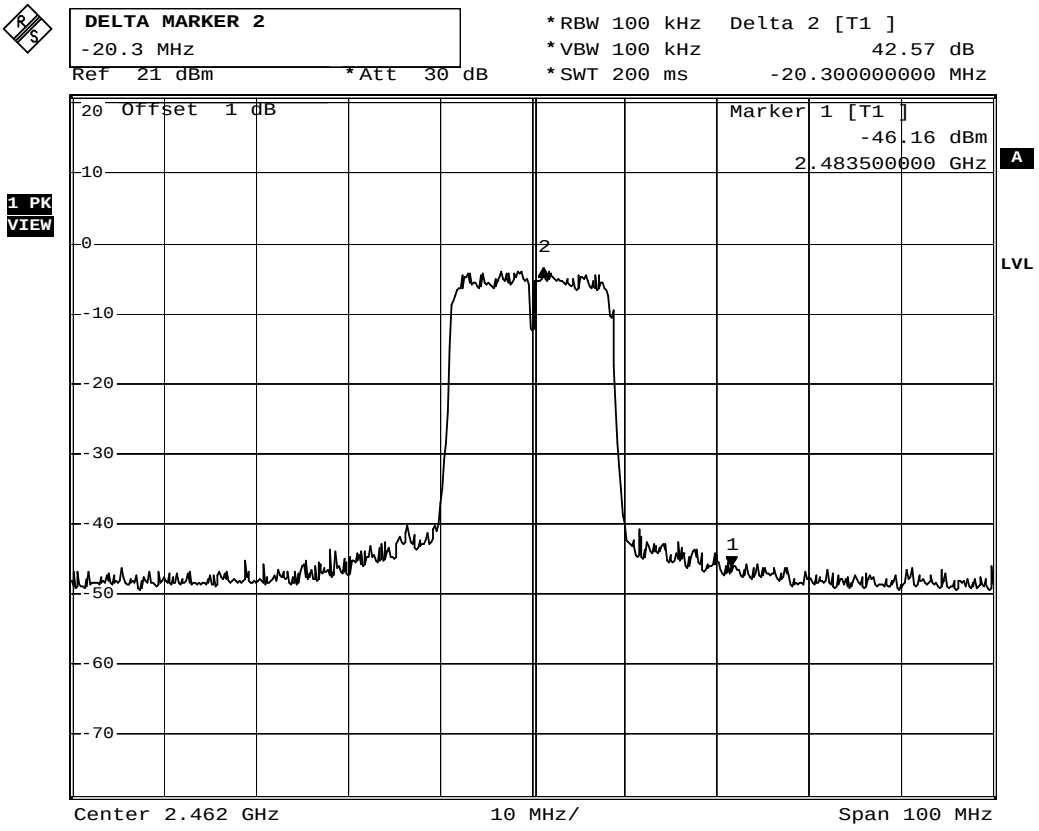
Product	VoIP Ethernet Home Gateway		
Test Item	RF antenna conducted test		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT A (20MHz)), Antenna Gain: 1.8dBi, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	40.67	≥20	Pass
11	2462	42.57	≥20	Pass

Channel 1 (2412MHz)



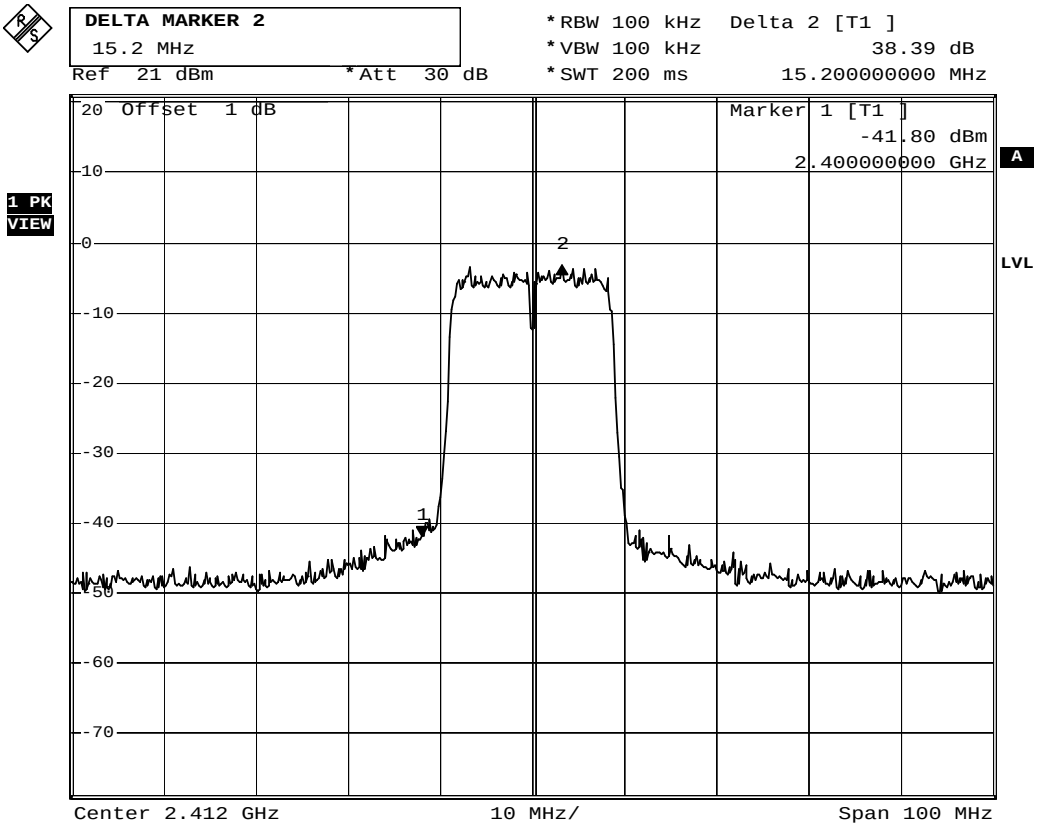
Channel 11 (2462MHz)



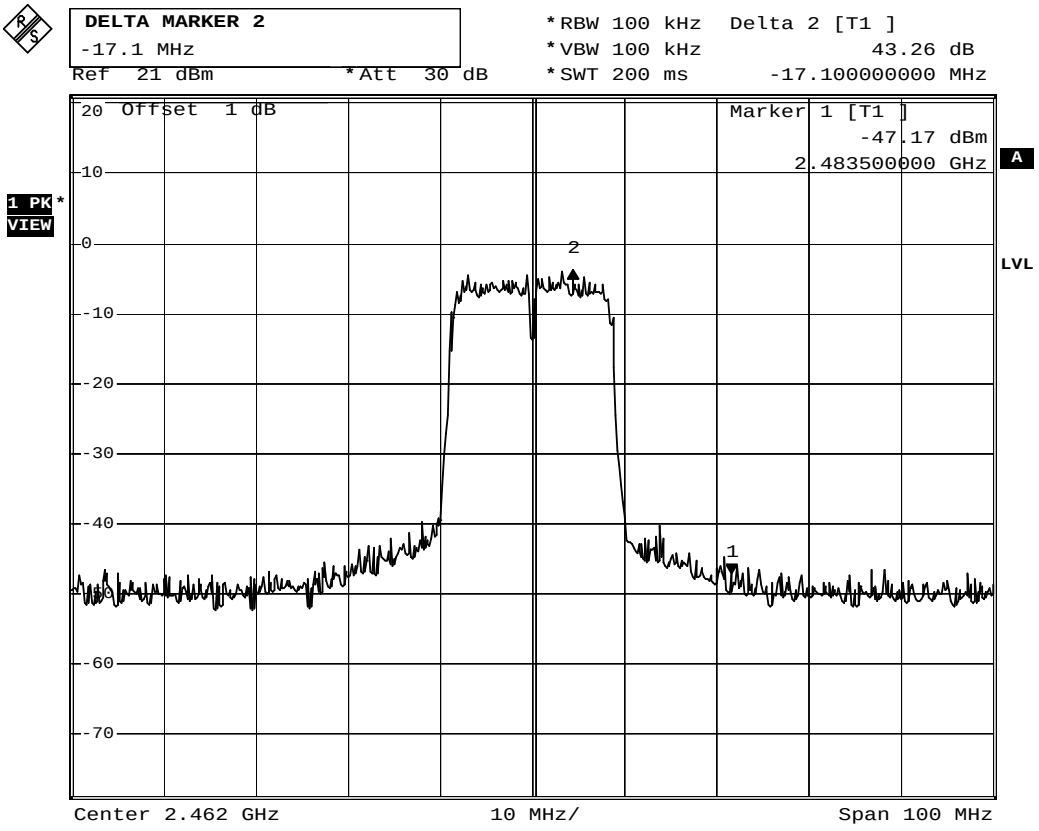
Product	VoIP Ethernet Home Gateway		
Test Item	RF antenna conducted test		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT B (20MHz)), Antenna Gain: 1.8dBi, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
1	2412	38.39	≥20	Pass
11	2462	43.26	≥20	Pass

Channel 1 (2412MHz)



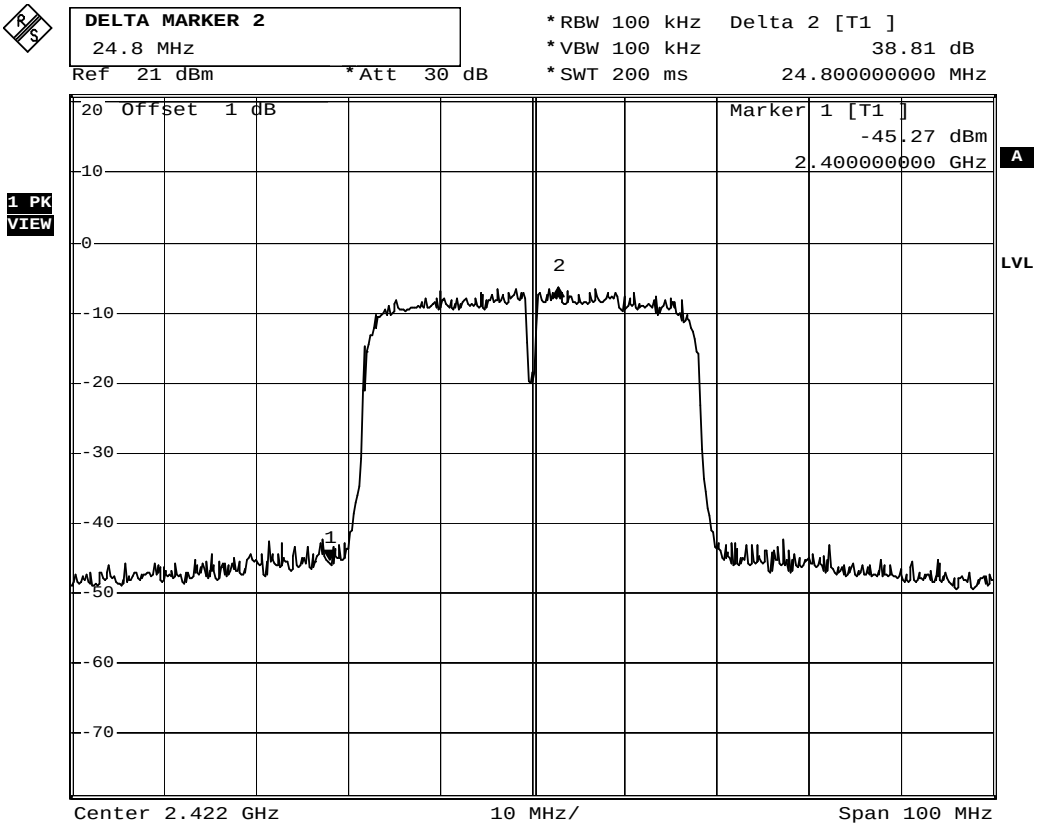
Channel 11 (2462MHz)



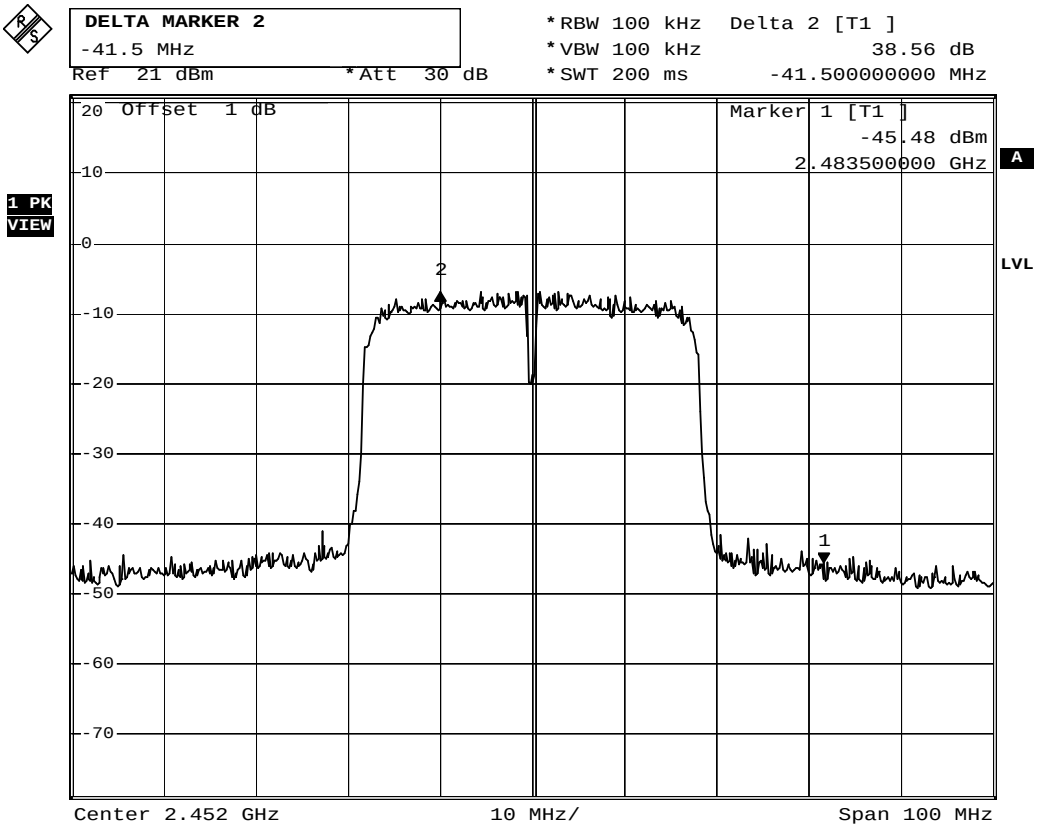
Product	VoIP Ethernet Home Gateway		
Test Item	RF antenna conducted test		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT A (40MHz)), Antenna Gain: 1.8dBi, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
3	2422	38.81	≥20	Pass
9	2452	38.56	≥20	Pass

Channel 3 (2422MHz)



Channel 9 (2452MHz)

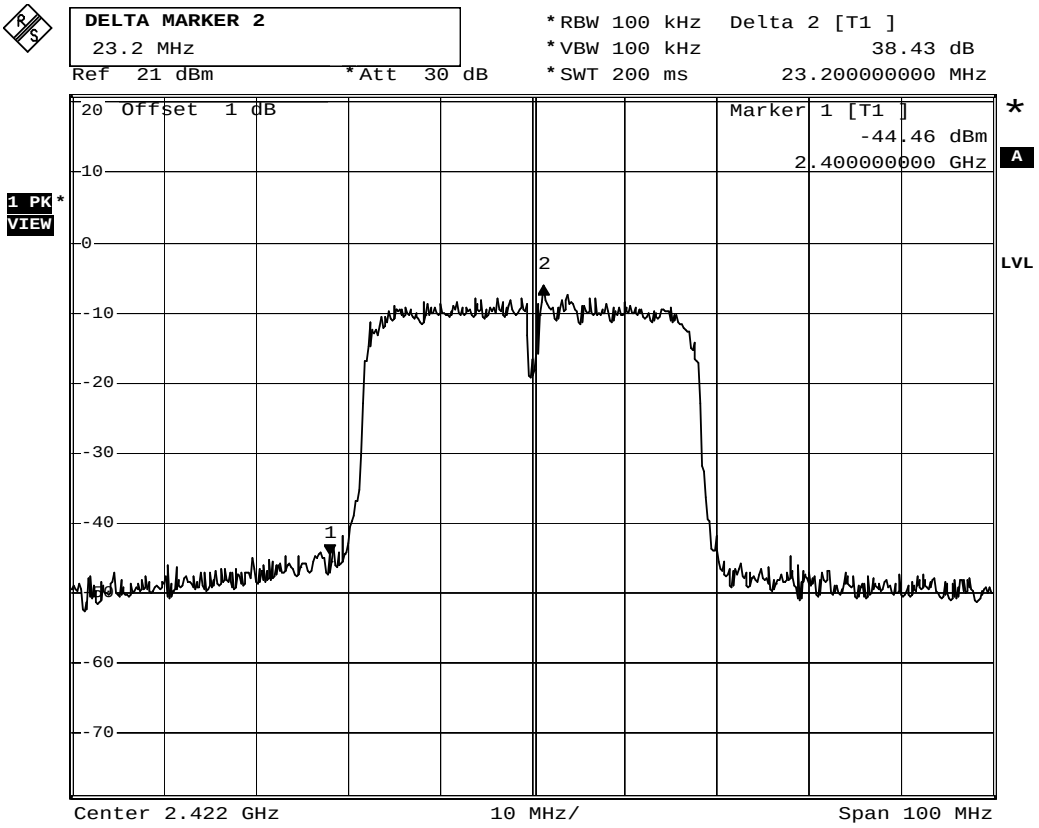


Date: 21.DEC.2010 13:09:57

Product	VoIP Ethernet Home Gateway		
Test Item	RF antenna conducted test		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

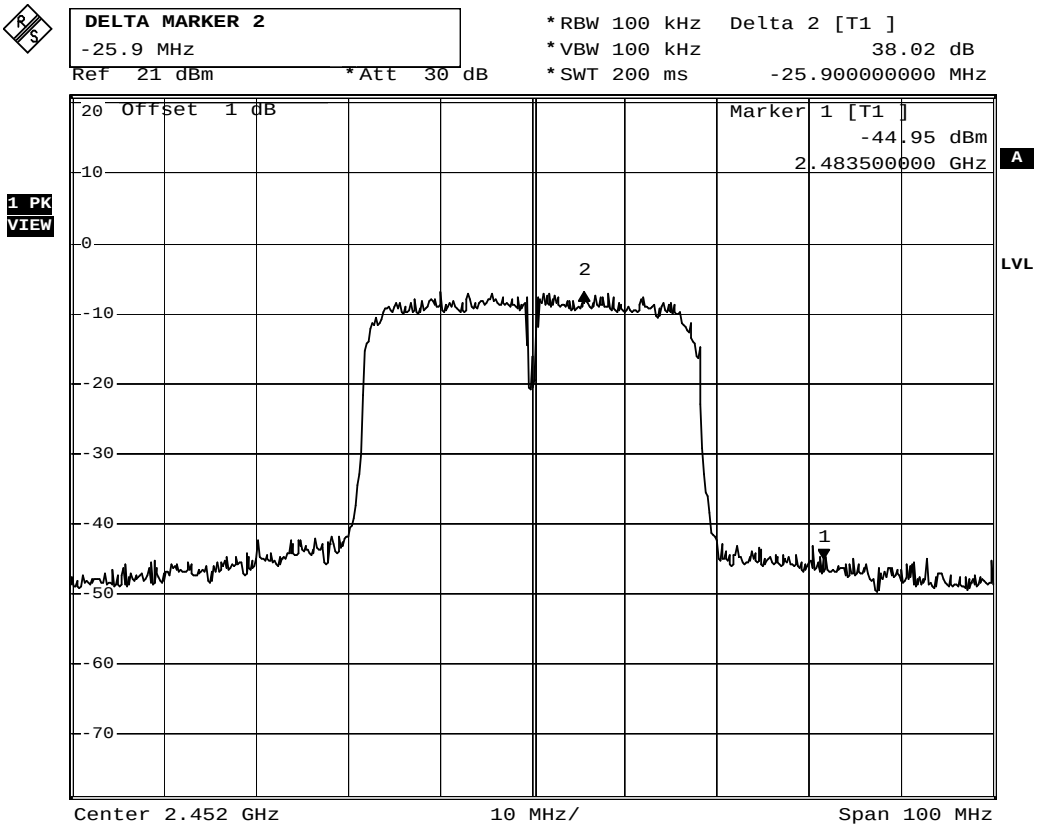
IEEE 802.11n (ANT B (40MHz)), Antenna Gain: 1.8dBi, Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
3	2422	38.43	≥20	Pass
9	2452	38.02	≥20	Pass

Channel 3 (2422MHz)



Date: 21.DEC.2010 11:50:11

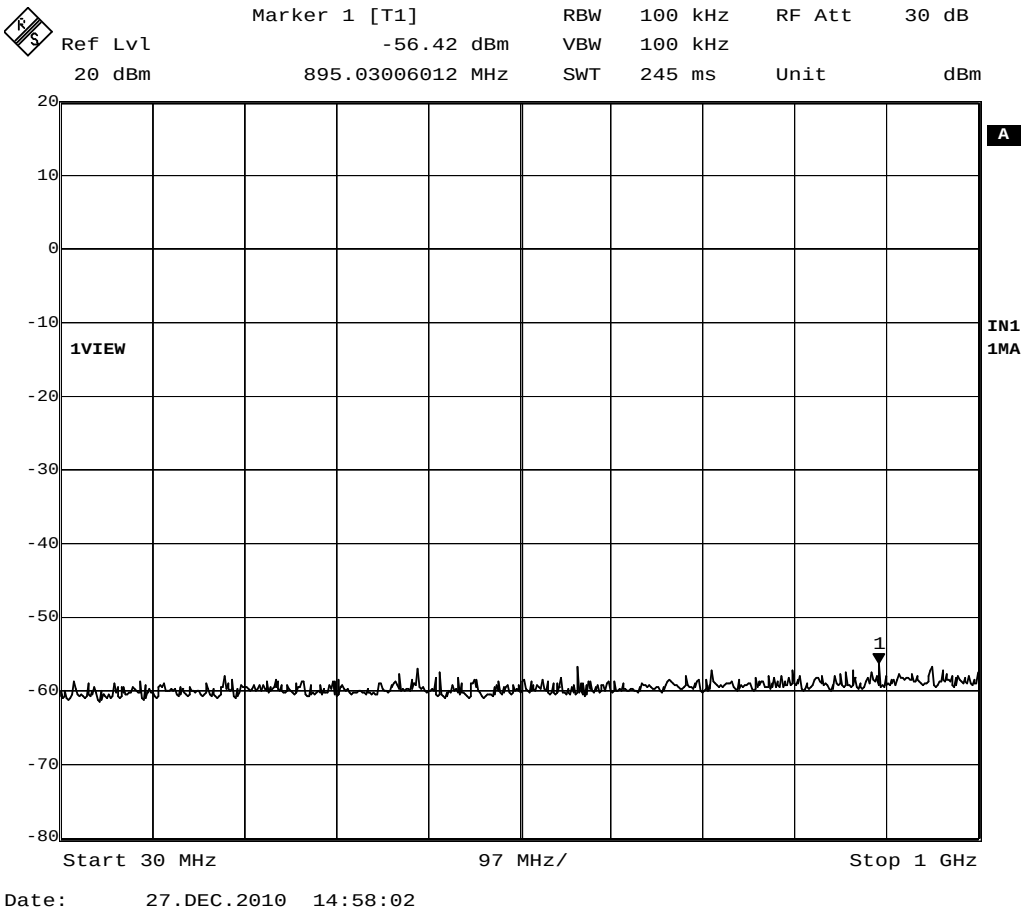
Channel 9 (2452MHz)



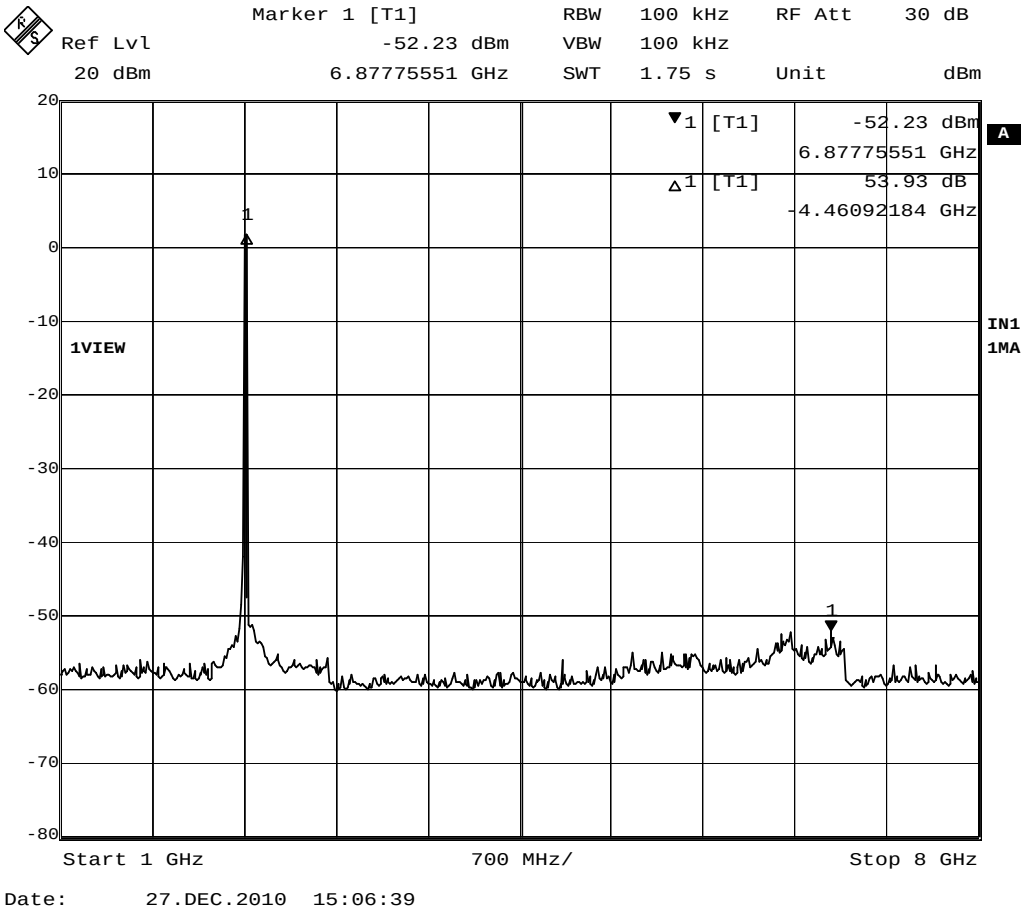
Date: 21.DEC.2010 11:51:28

Product	VoIP Ethernet Home Gateway		
Test Item	RF antenna conducted test		
Test Mode	Transmit		
Date of Test	2010/12/27	Test Site	SR7

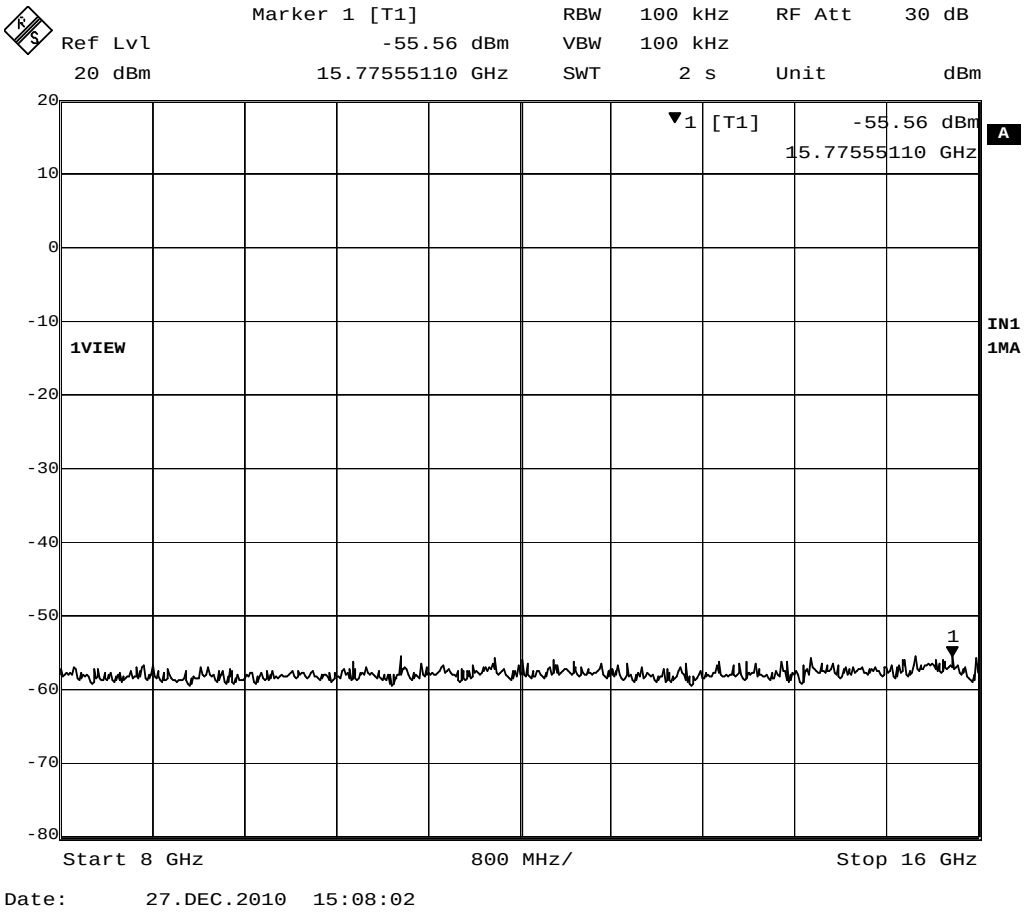
2412MHz (30MHz-1GHz)-B



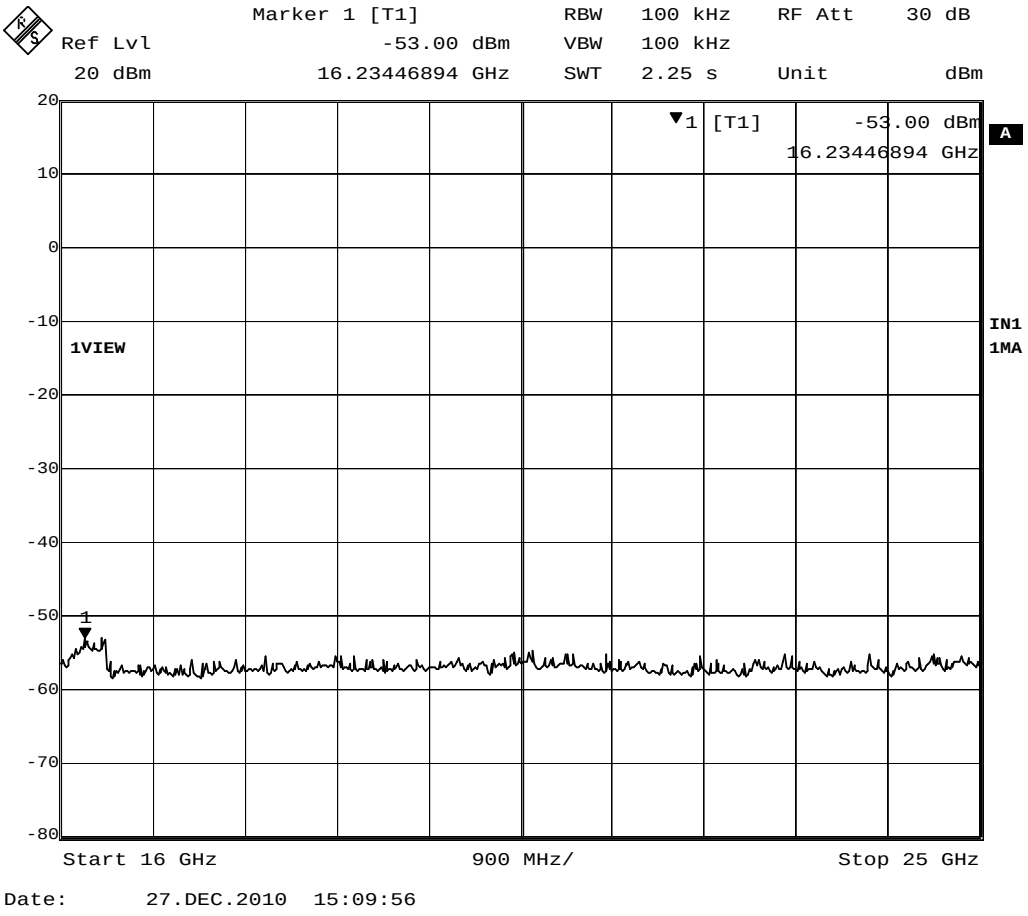
2412MHz (1GHz-8GHz)-B



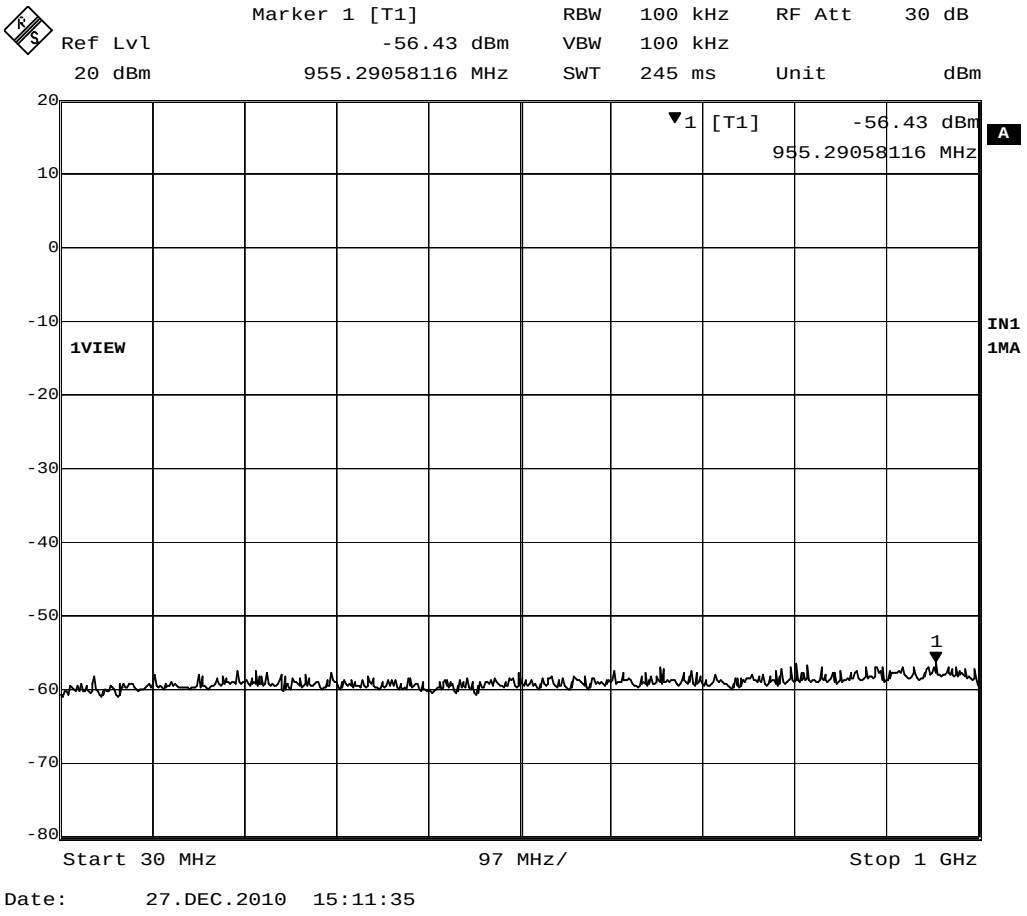
2412MHz (8GHz-16GHz)-B



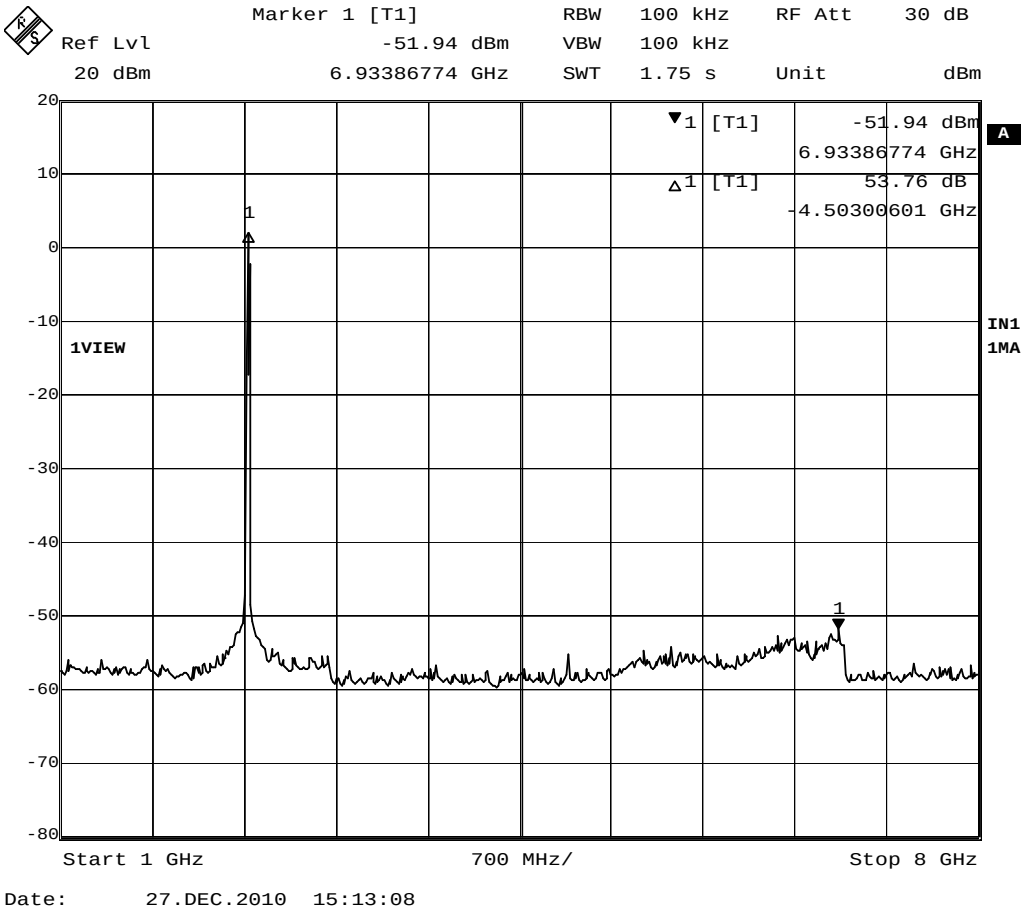
2412MHz (16GHz-25GHz)-B



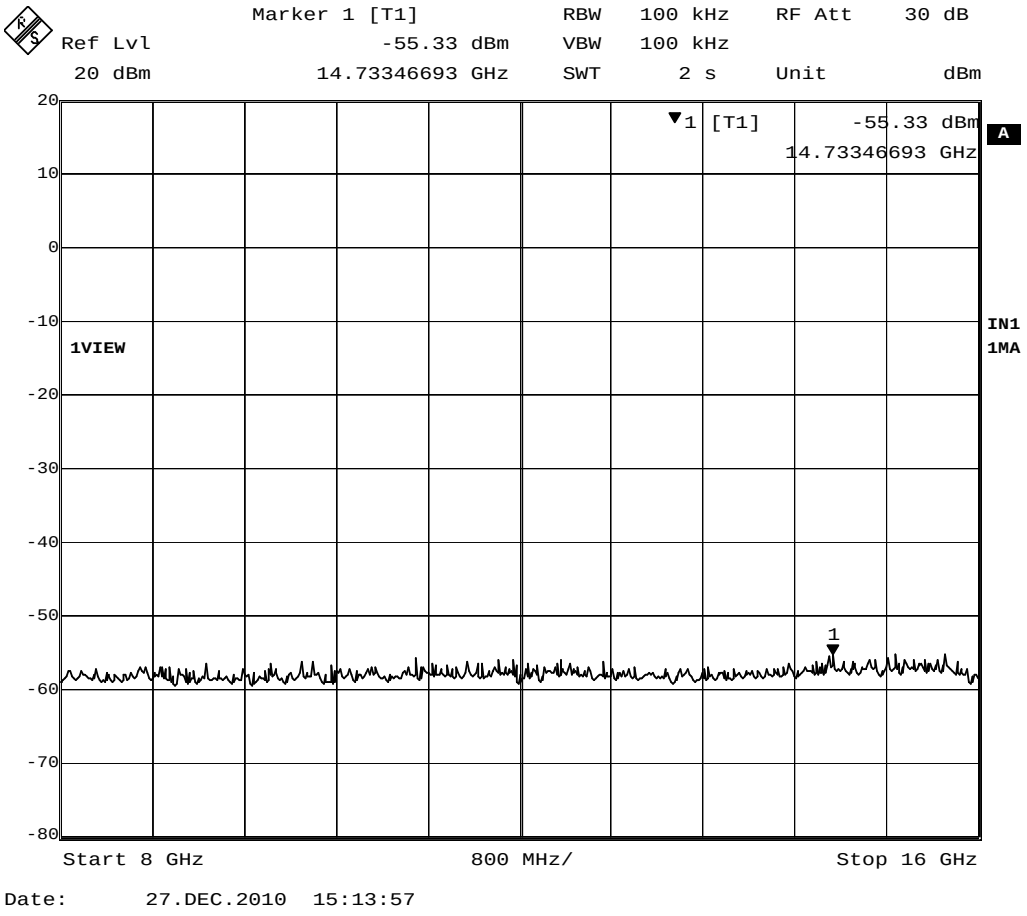
2437MHz (30MHz-1GHz)-B



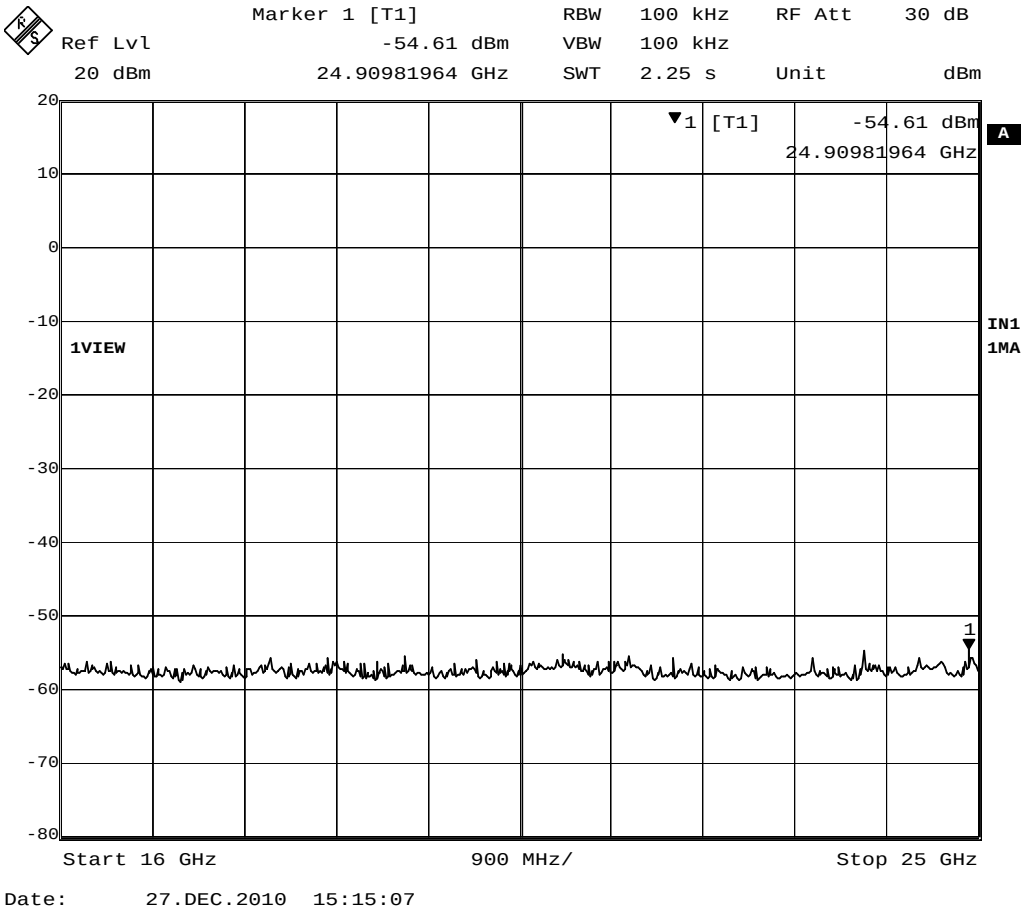
2437MHz (1GHz-8GHz)-B



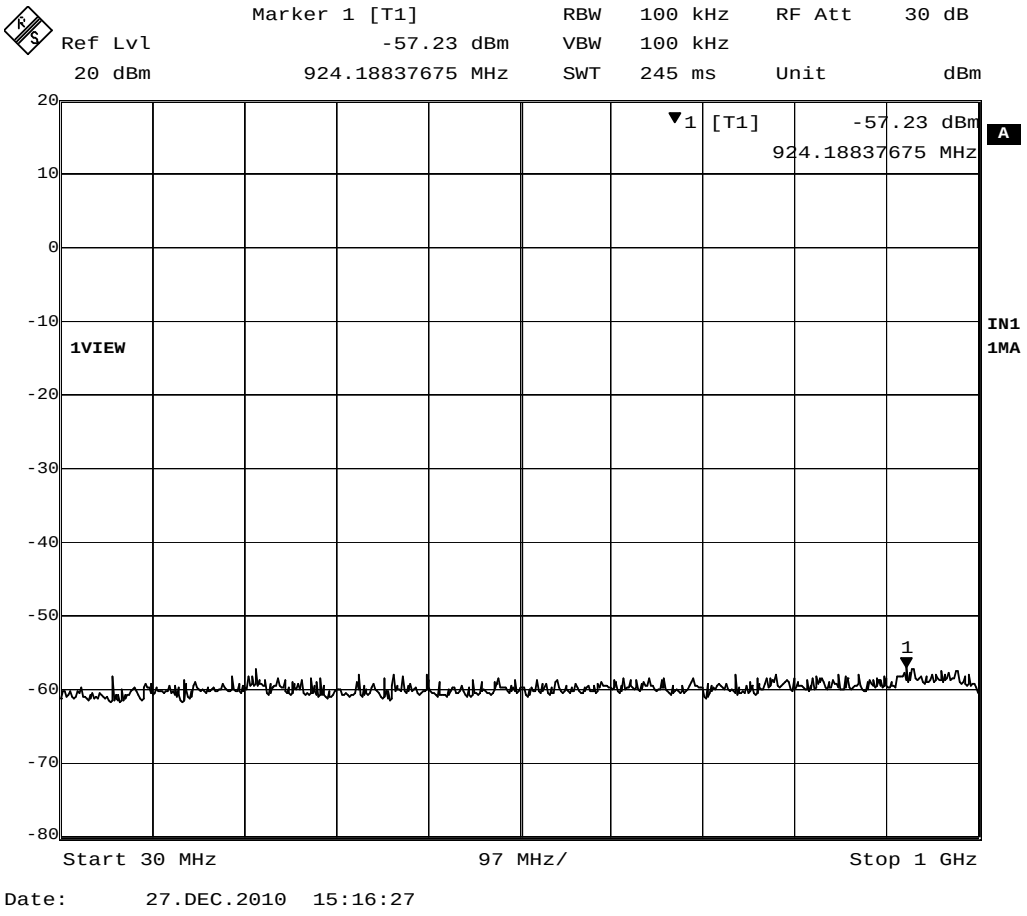
2437MHz (8GHz-16GHz)-B



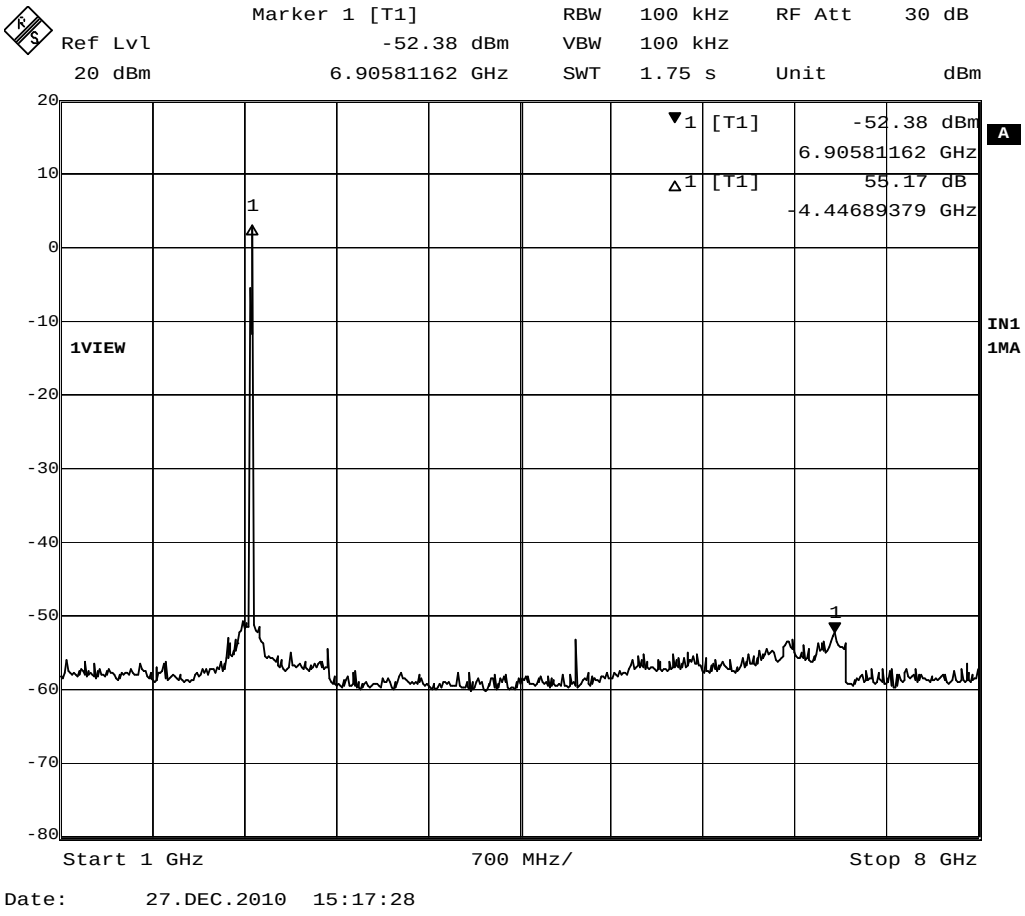
2437MHz (16GHz-25GHz)-B



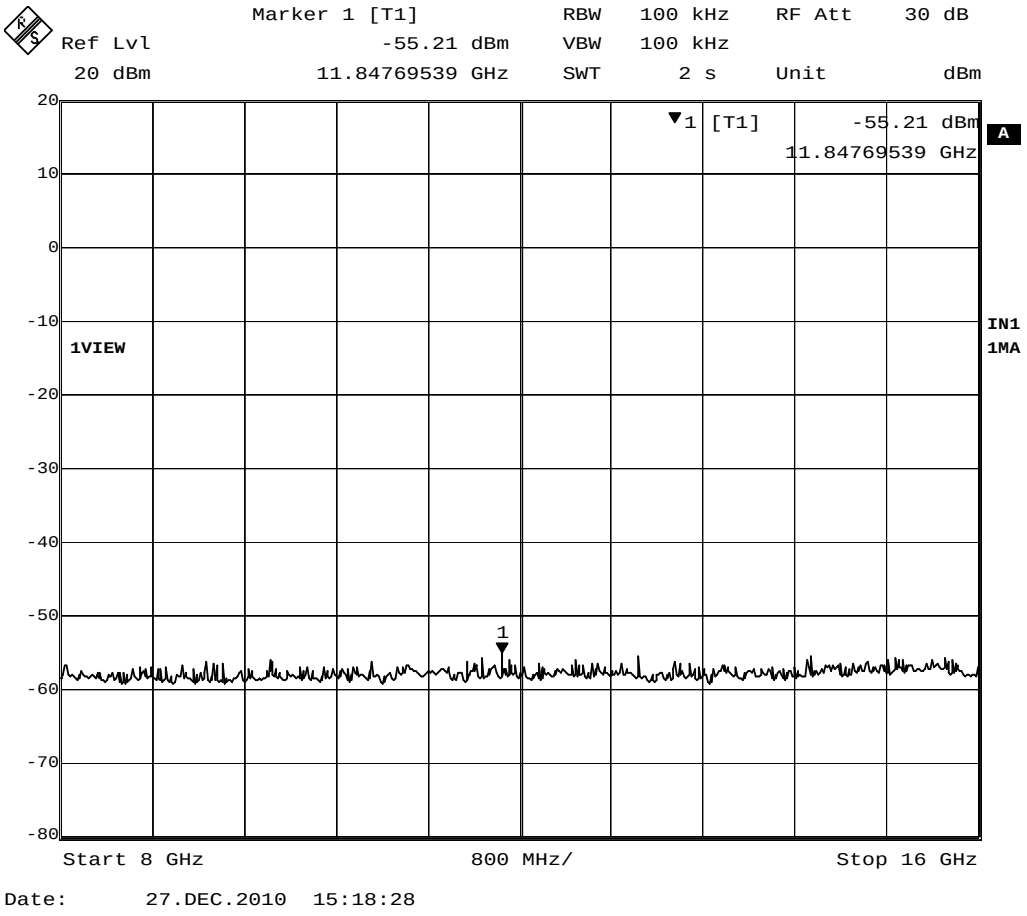
2462MHz (30MHz-1GHz)-B



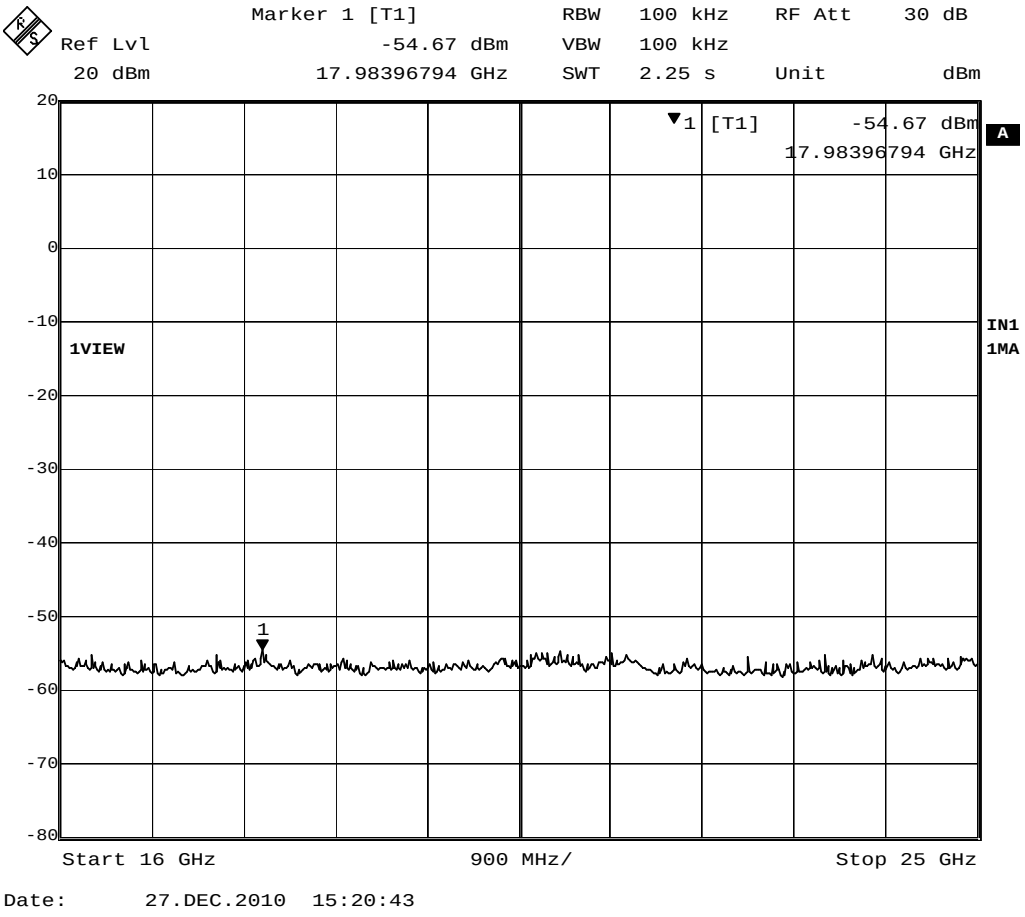
2462MHz (1GHz-8GHz)-B



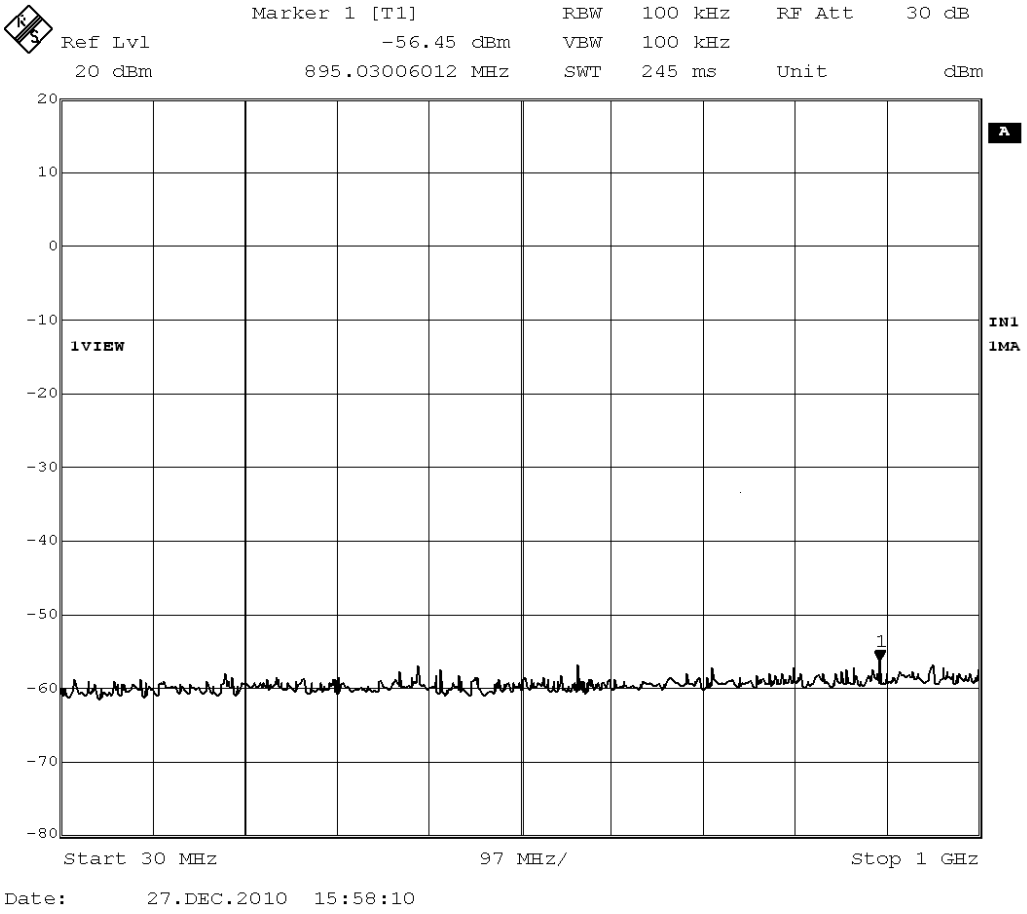
2462MHz (8GHz-16GHz)-B



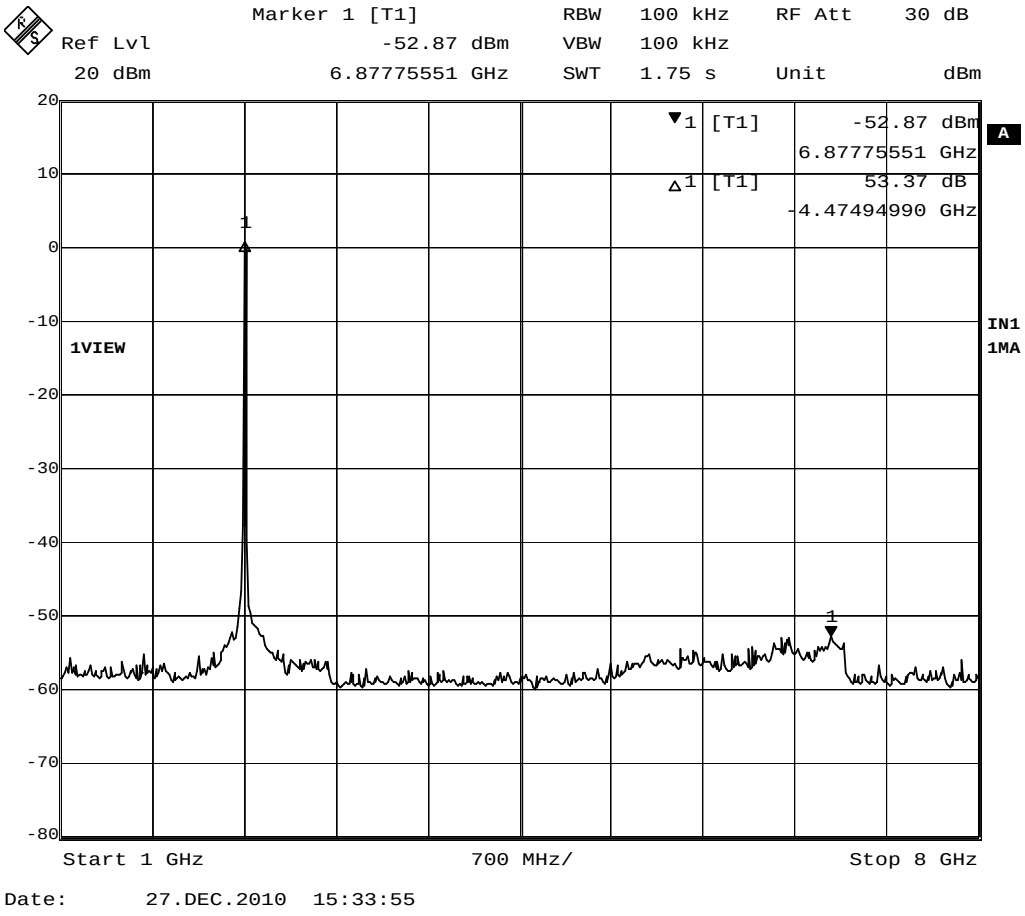
2462MHz (16GHz-25GHz)-B



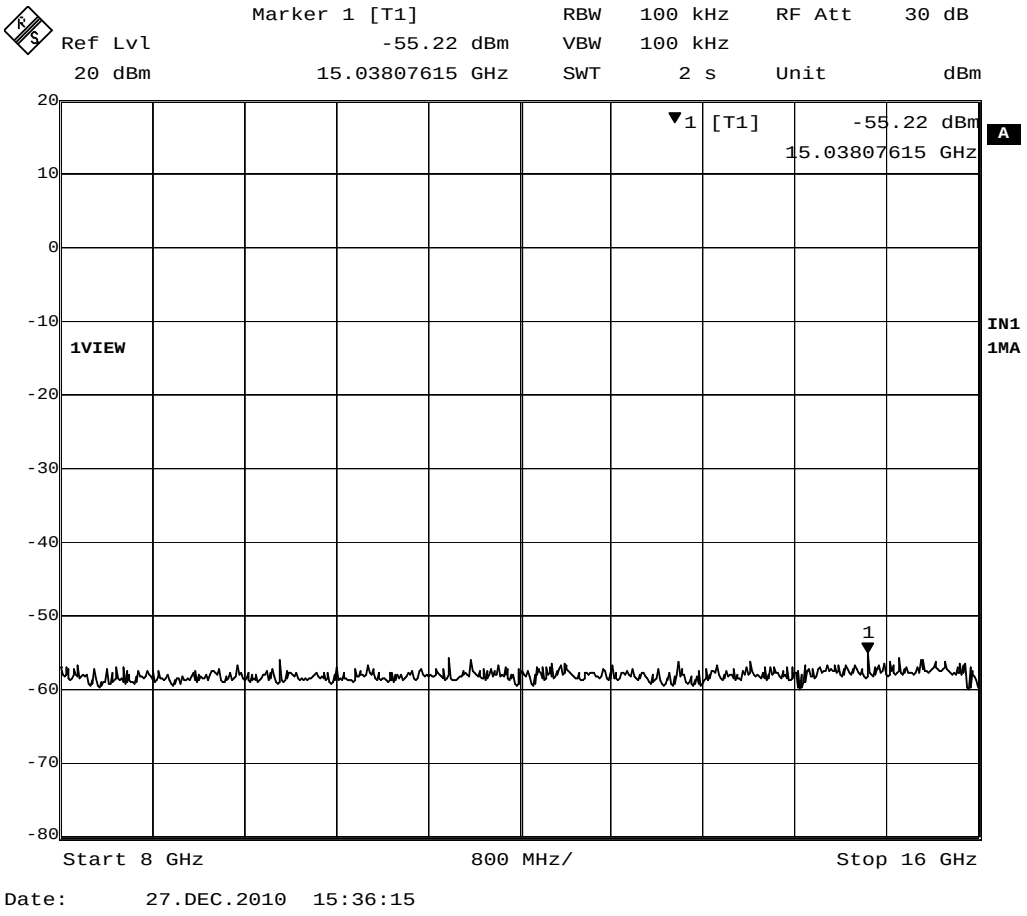
2412MHz (30MHz-1GHz)-g



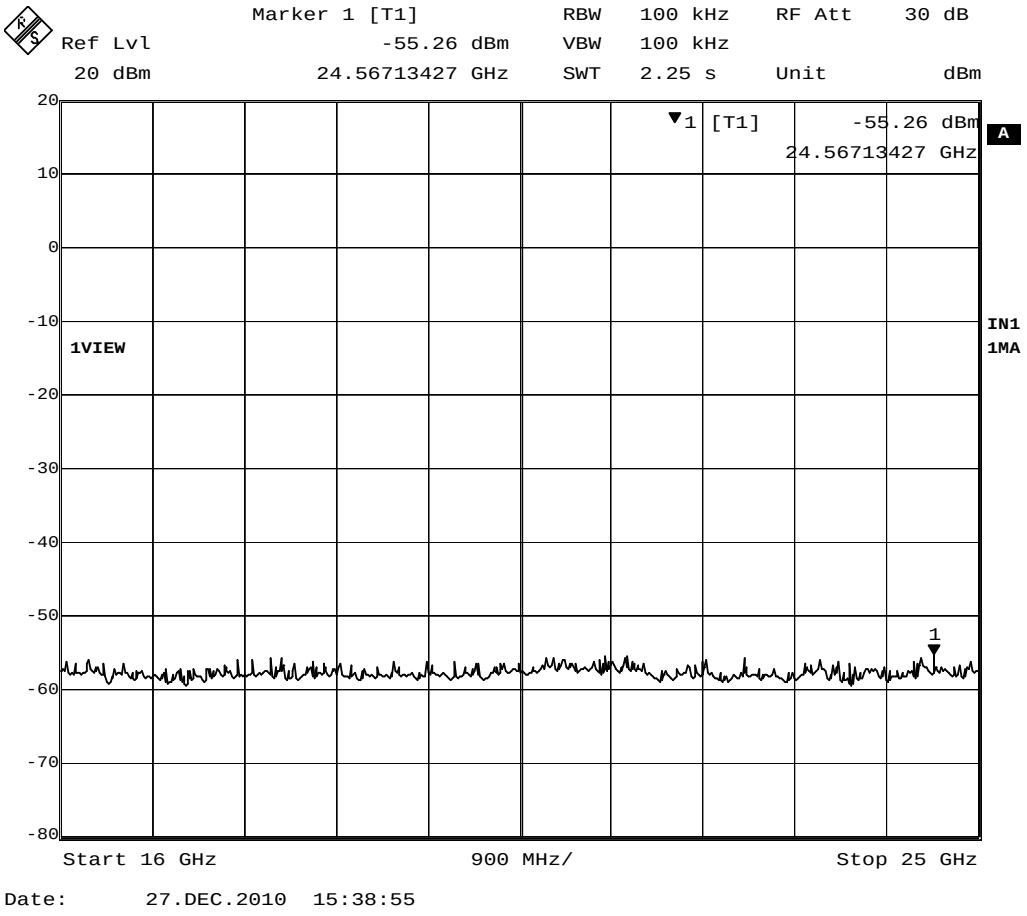
2412MHz (1GHz-8GHz)-g



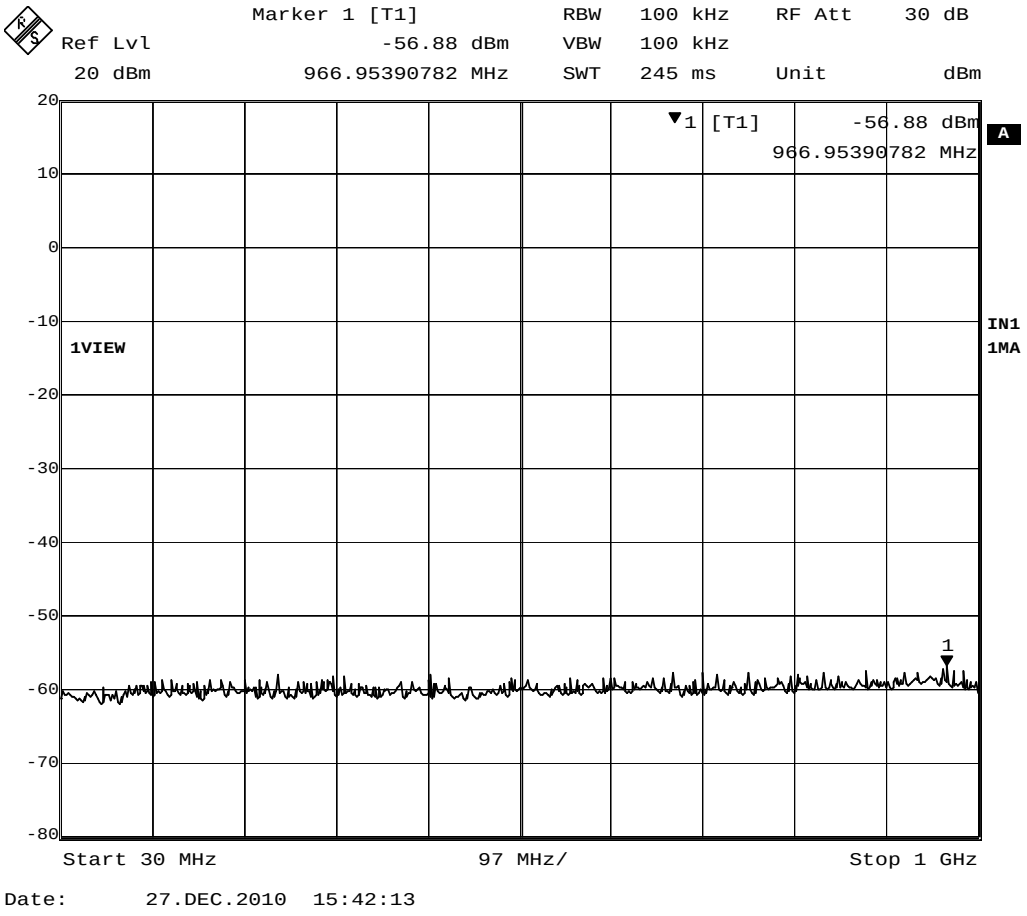
2412MHz (8GHz-16GHz)-g



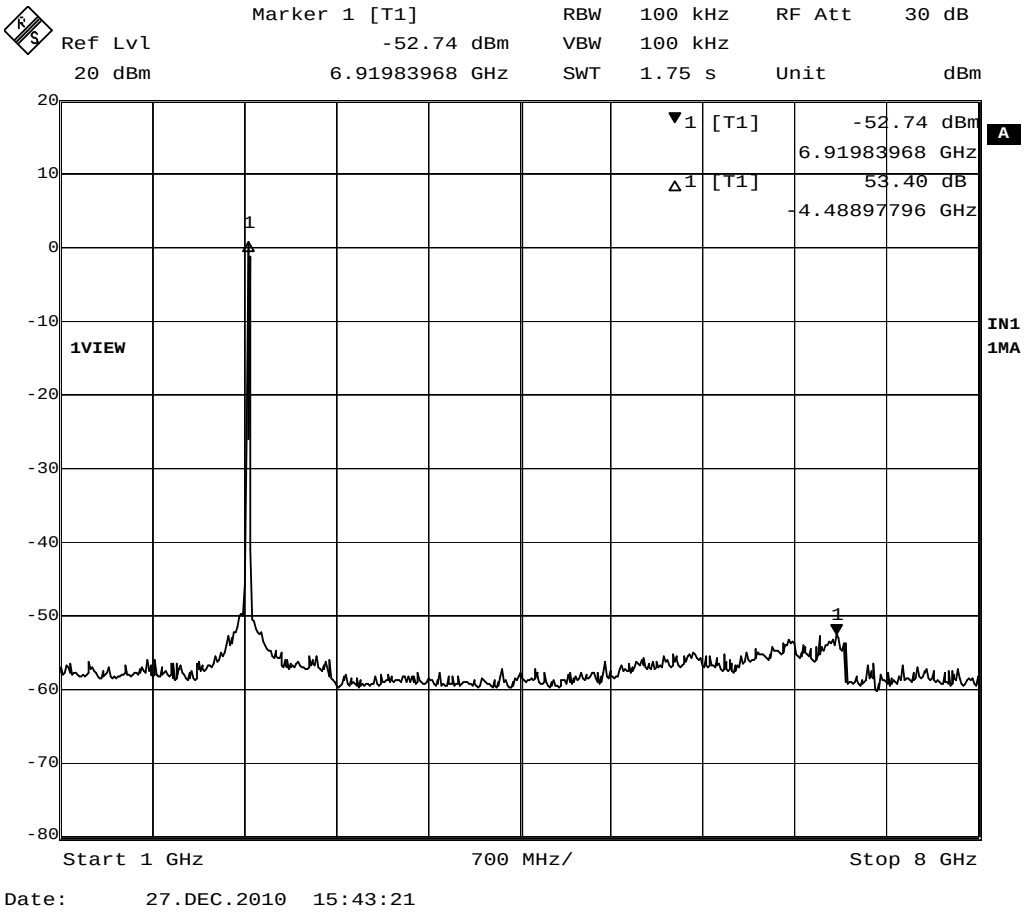
2412MHz (16GHz-25GHz)-g



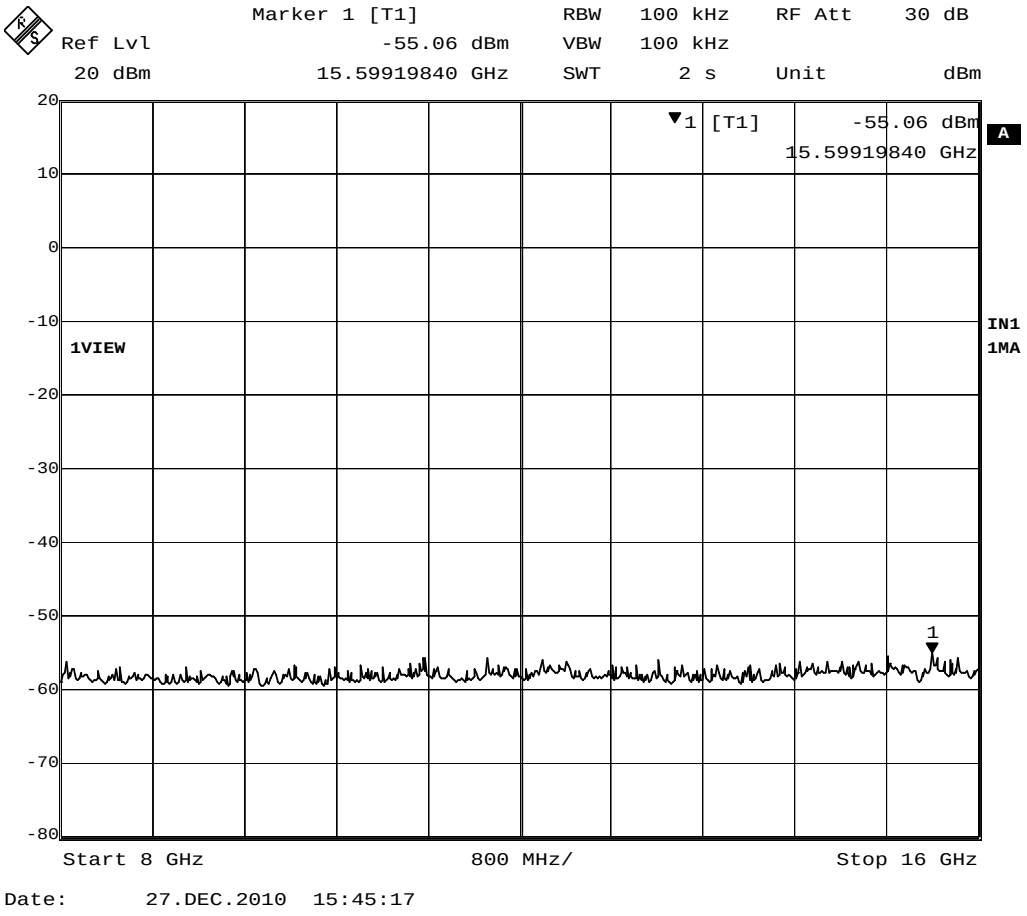
2437MHz (30MHz-1GHz)-g



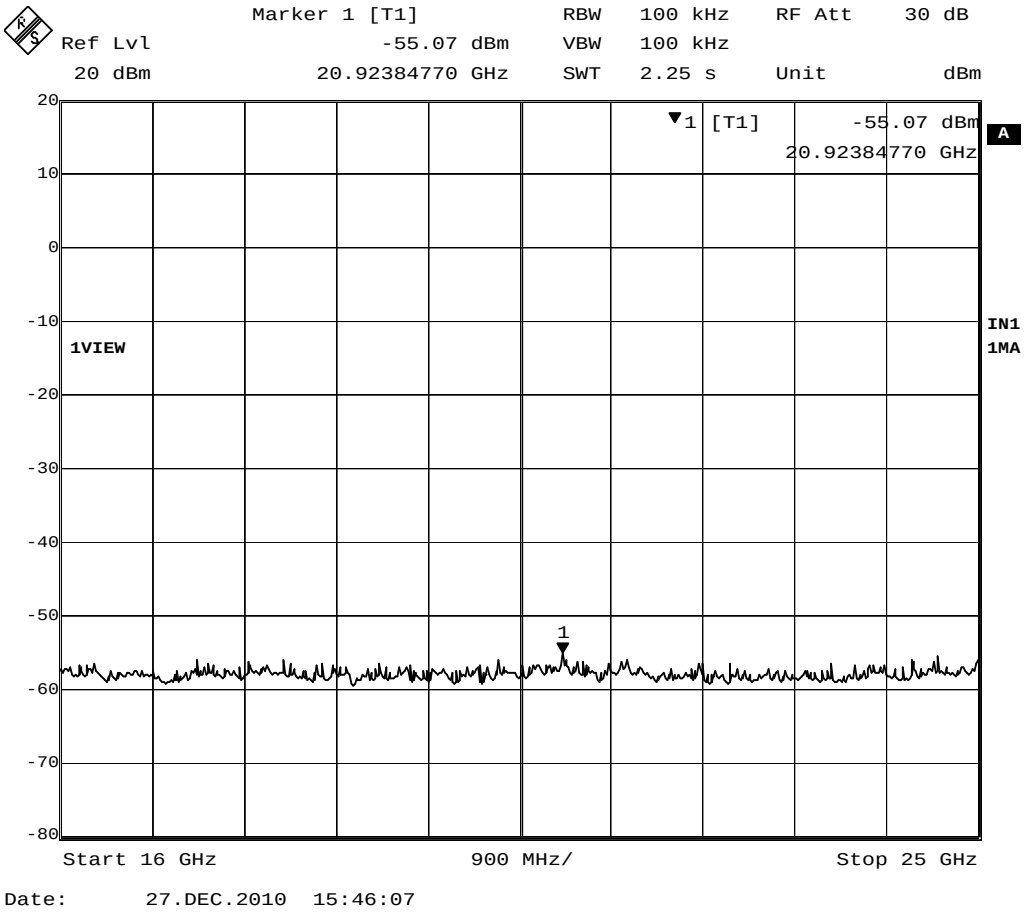
2437MHz (1GHz-8GHz)-g



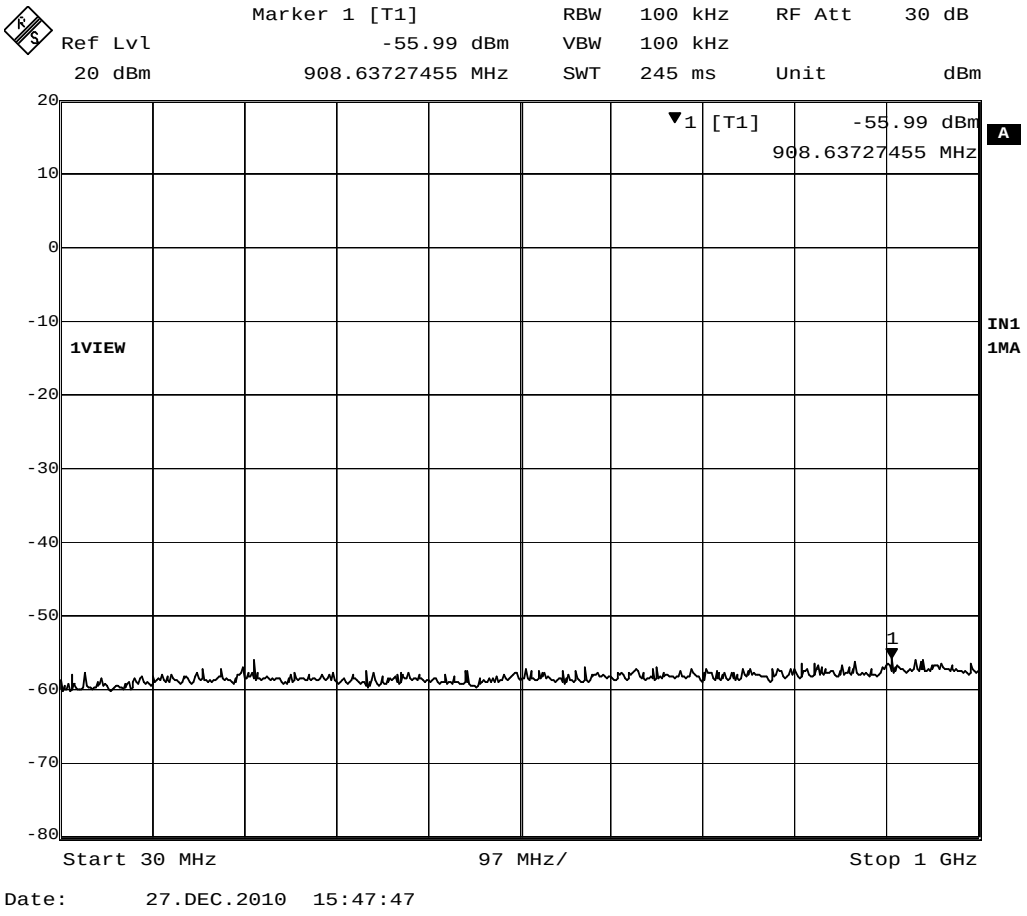
2437MHz (8GHz-16GHz)-g



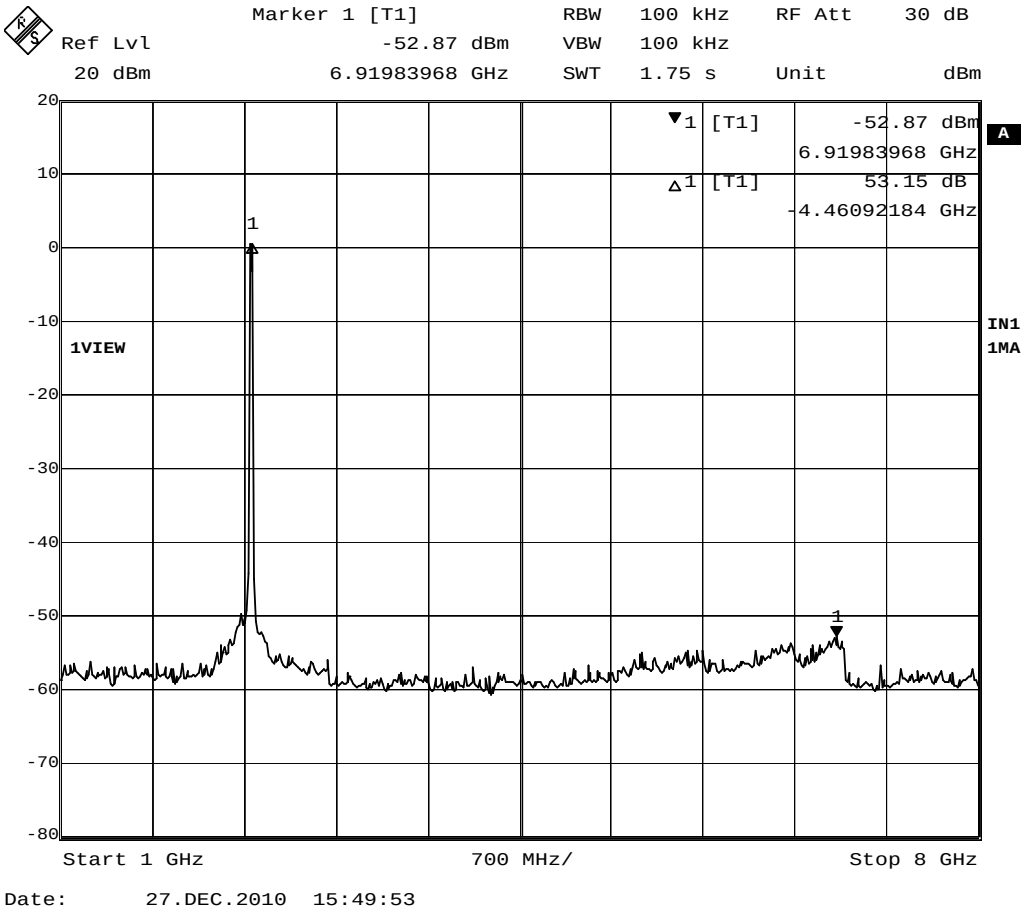
2437MHz (16GHz-25GHz)-g



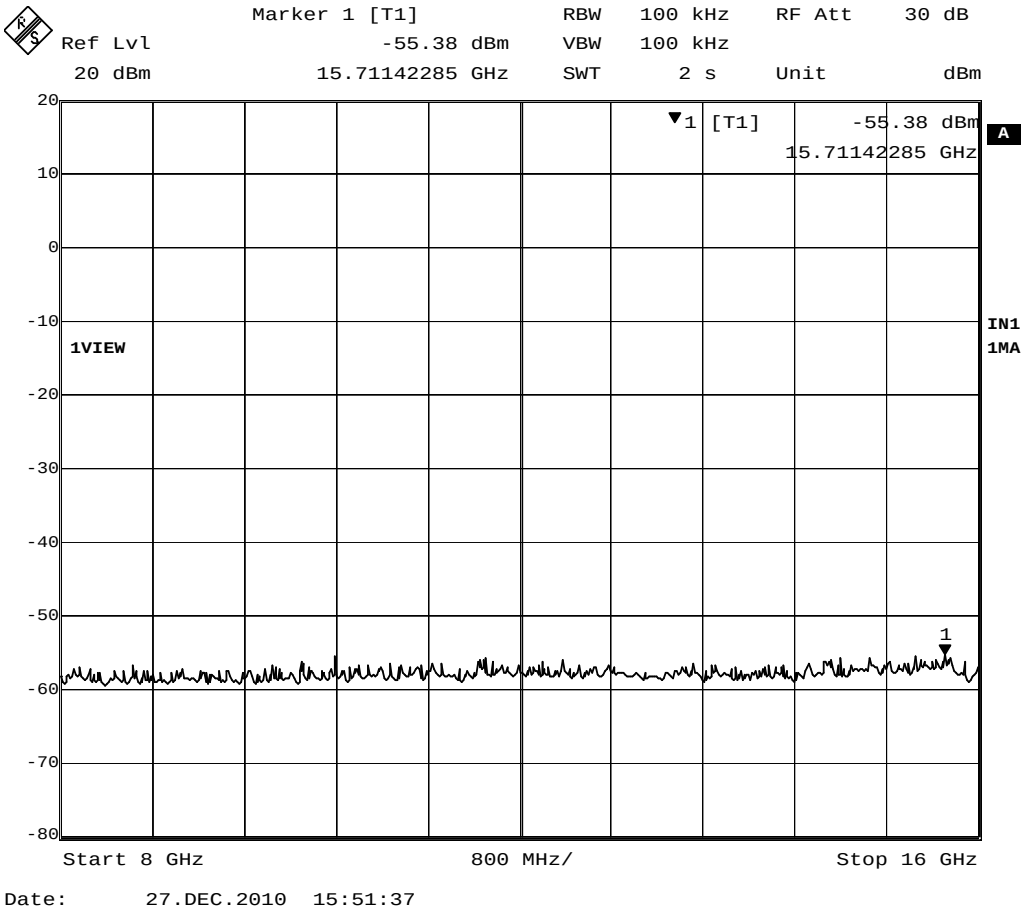
2462MHz (30MHz-1GHz)-g



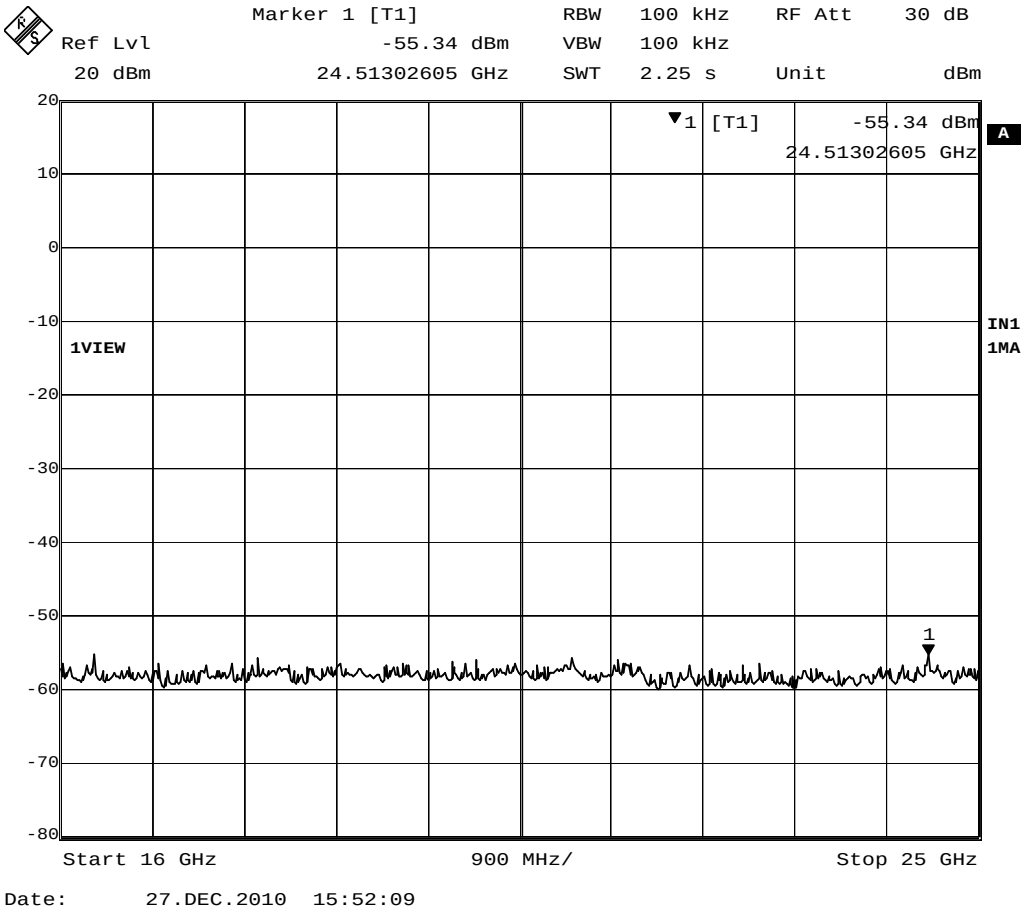
2462MHz (1GHz-8GHz)-g



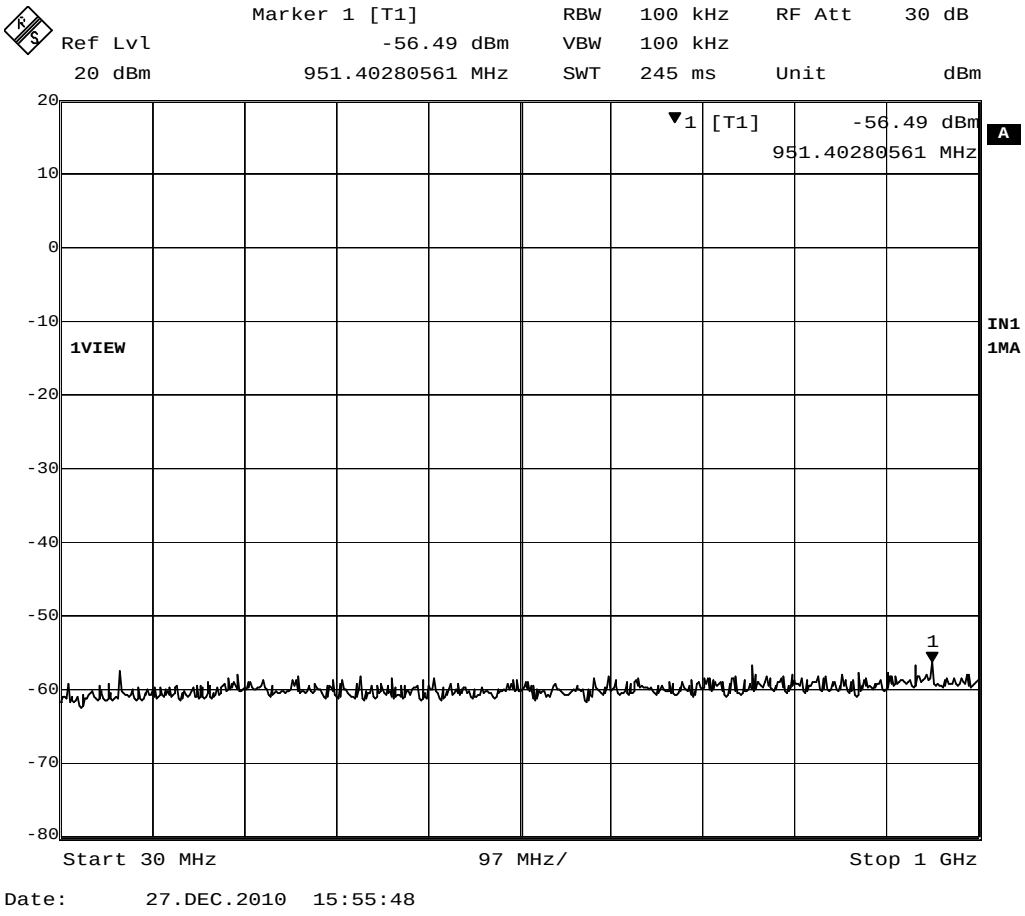
2462MHz (8GHz-16GHz)-g



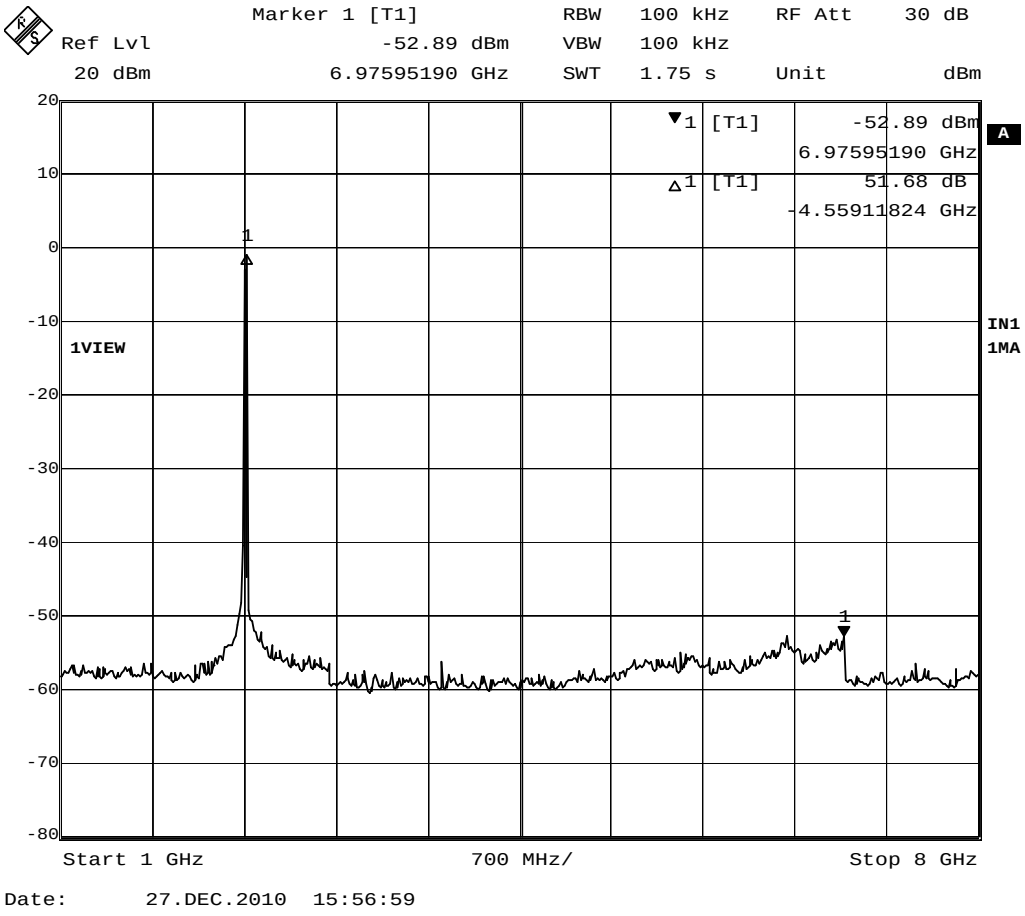
2462MHz (16GHz-25GHz)-g



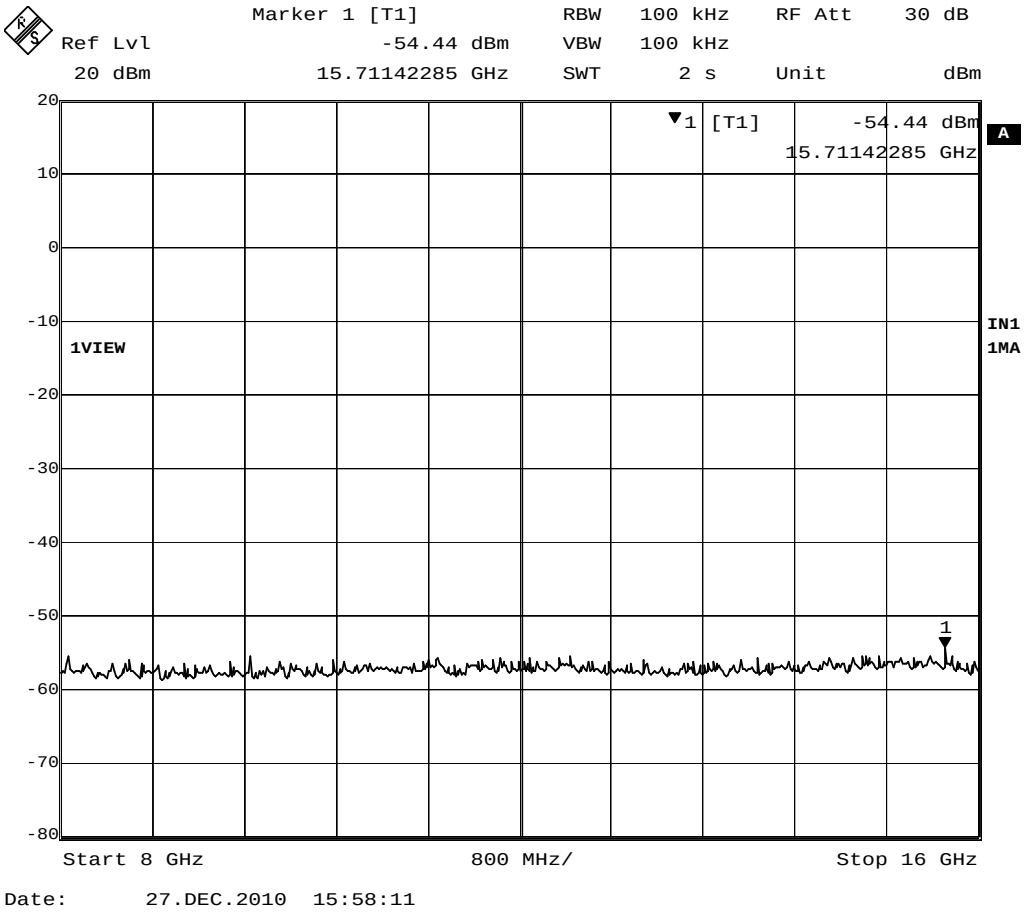
2412MHz (30MHz-1GHz)- n (20MHz) (ANT A)



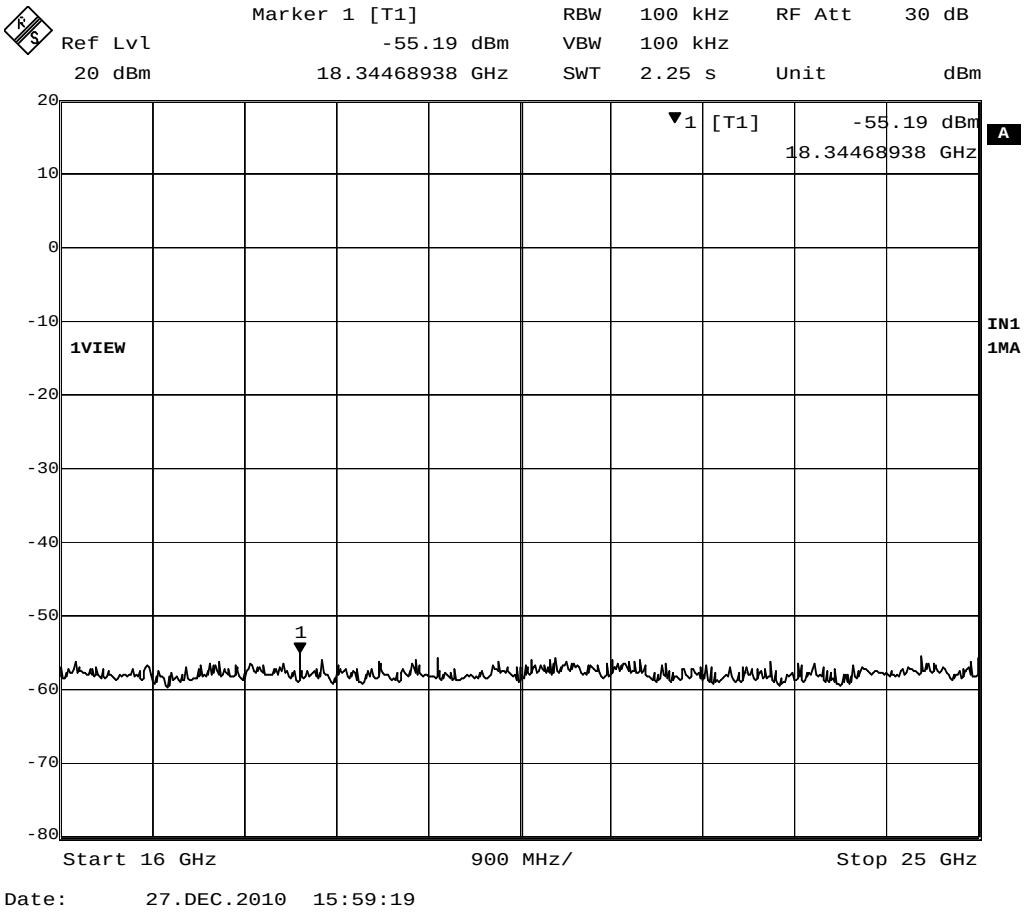
2412MHz (1GHz-8GHz)- n (20MHz) (ANT A)



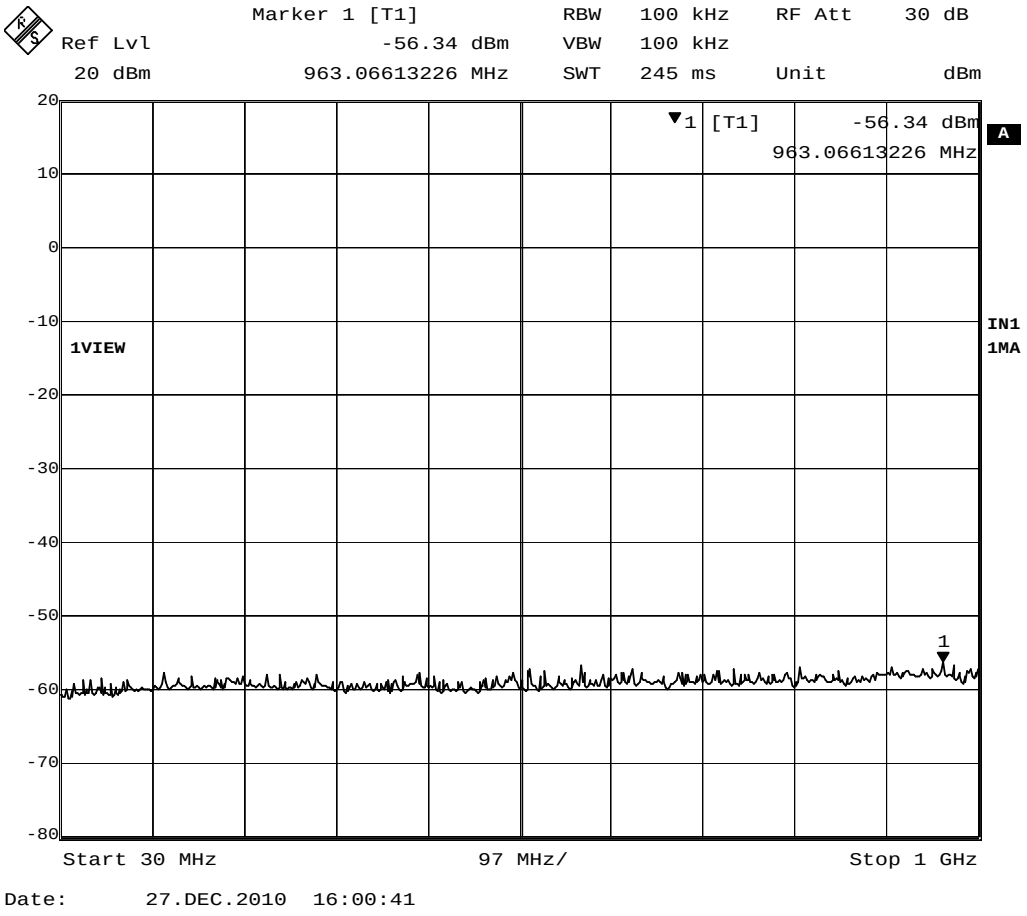
2412MHz (8GHz-16GHz)- n (20MHz) (ANT A)



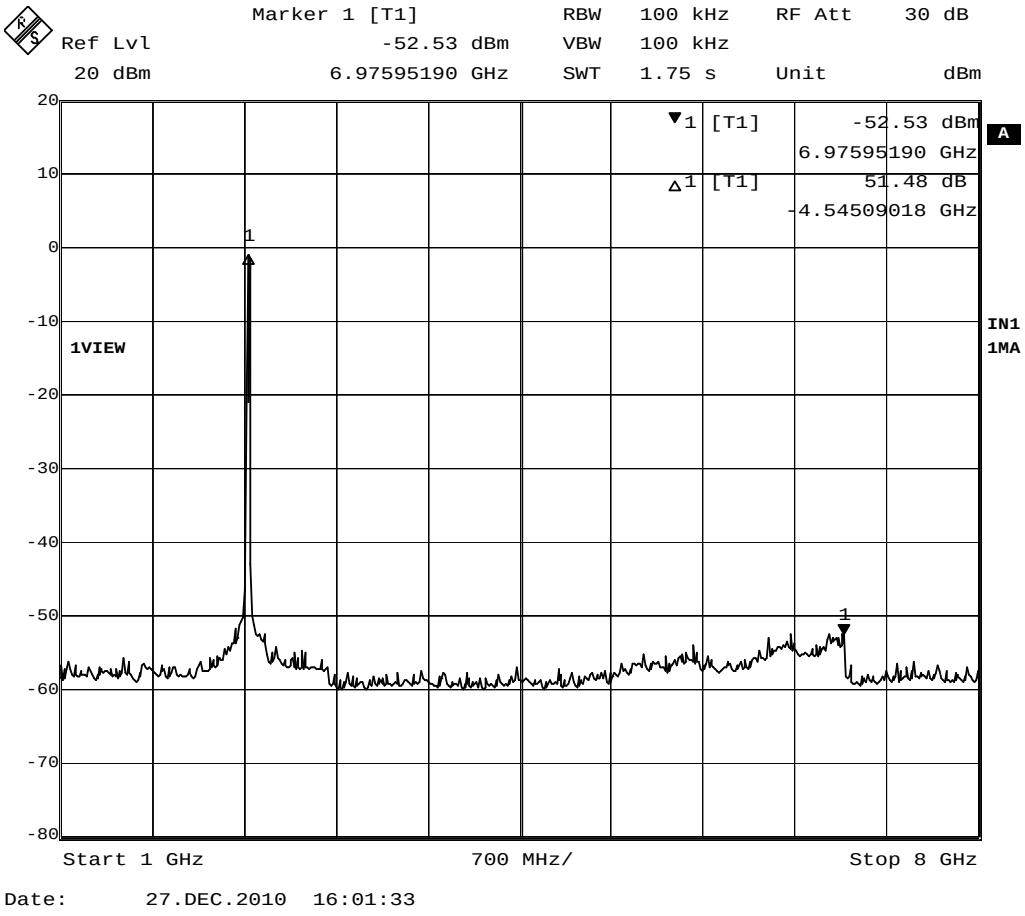
2412MHz (16GHz-25GHz)- n (20MHz) (ANT A)



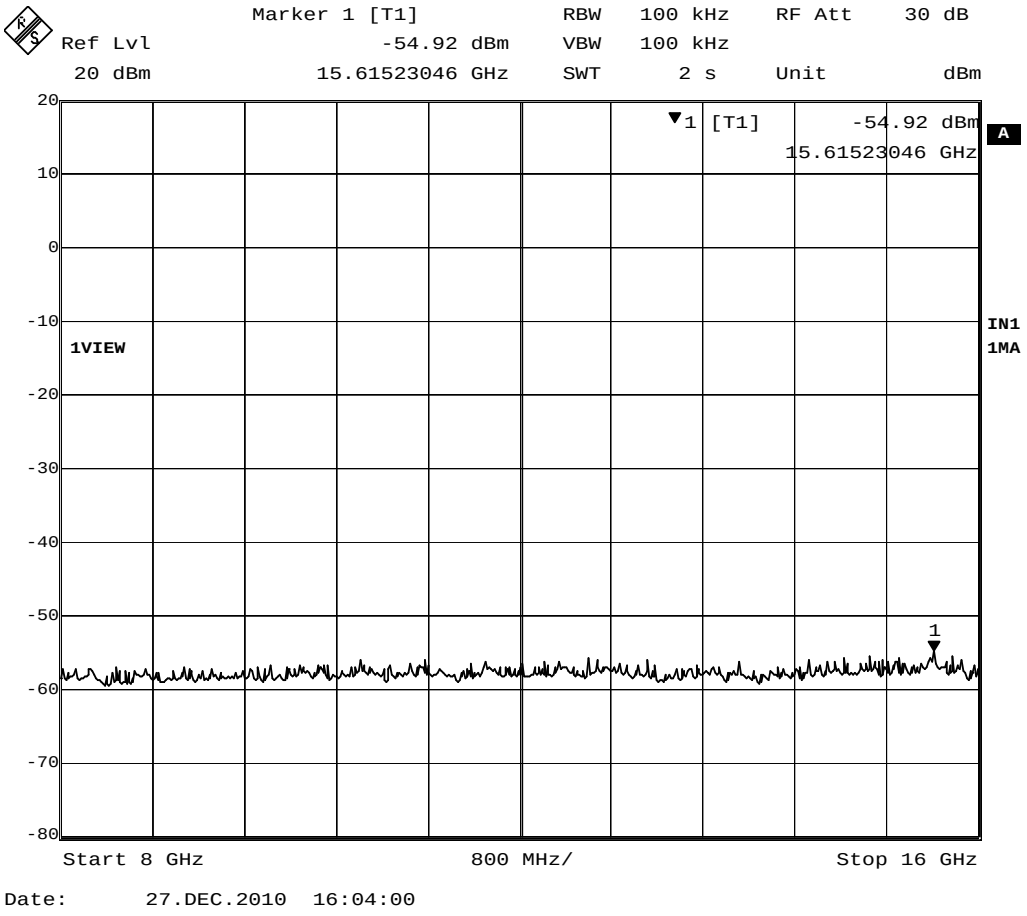
2437MHz (30MHz-1GHz)- n (20MHz) (ANT A)



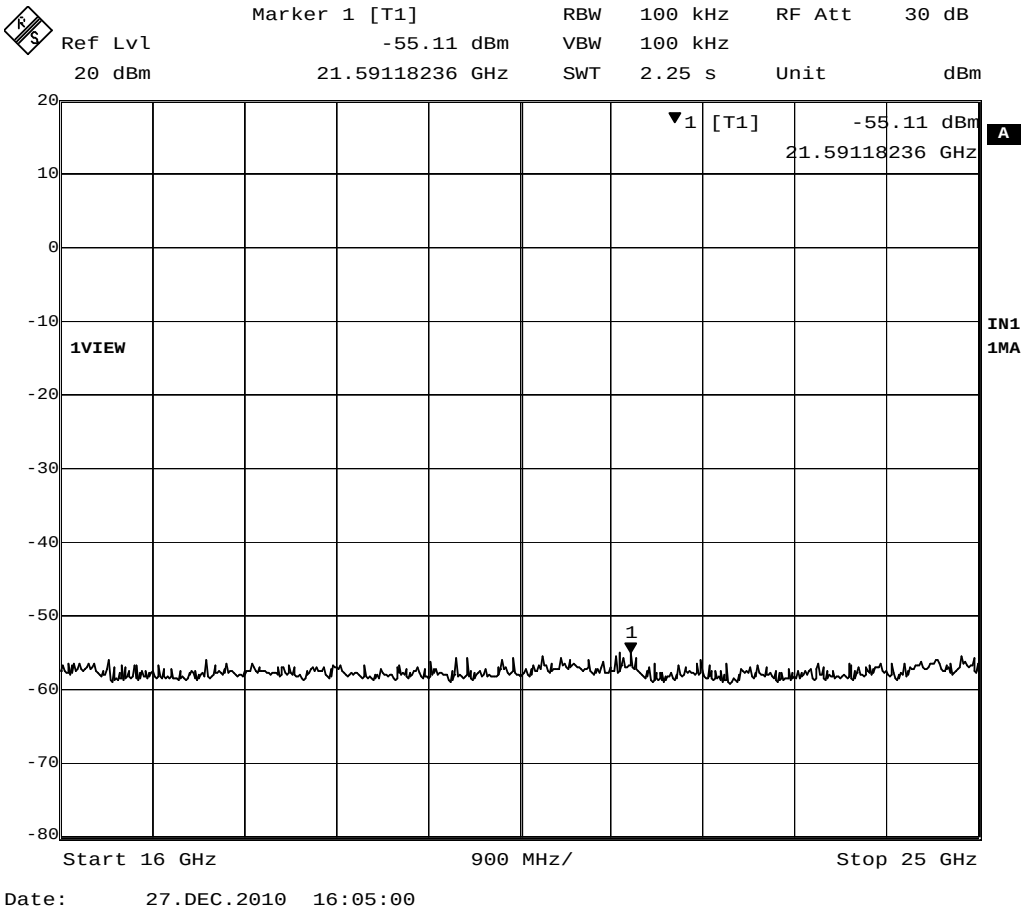
2437MHz (1GHz-8GHz)- n (20MHz) (ANT A)



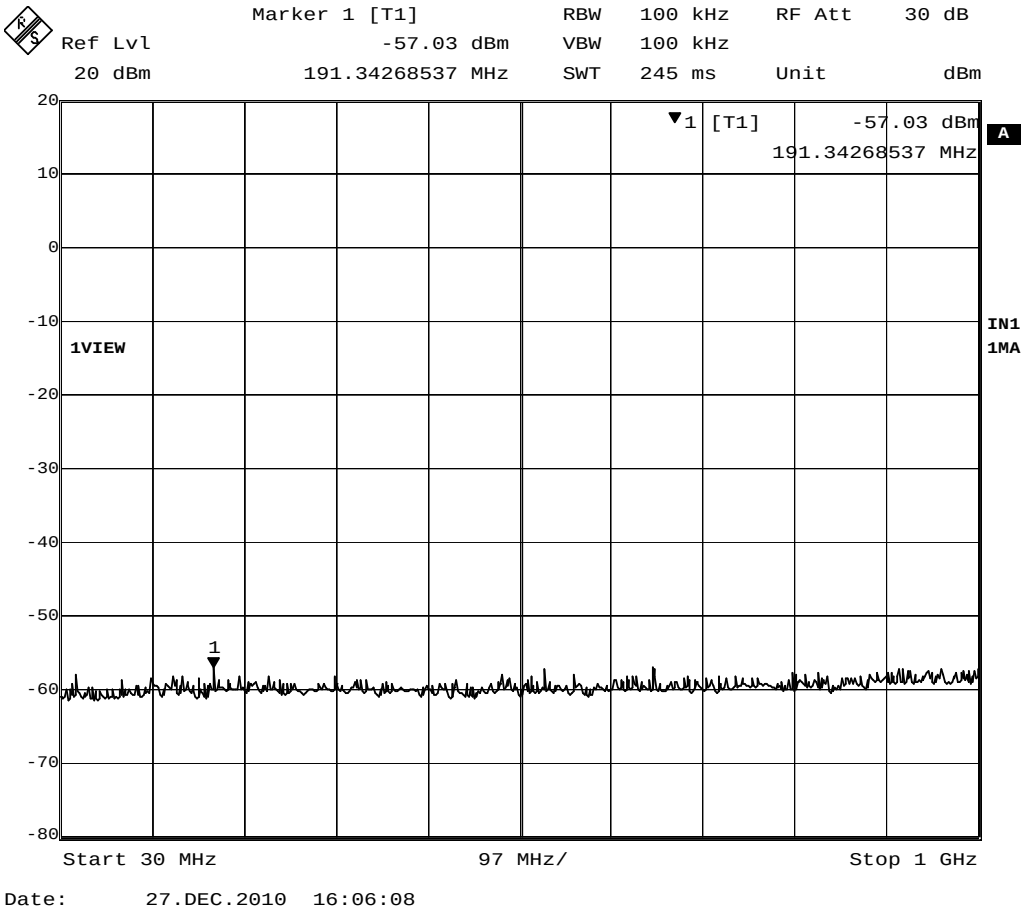
2437MHz (8GHz-16GHz)- n (20MHz) (ANT A)



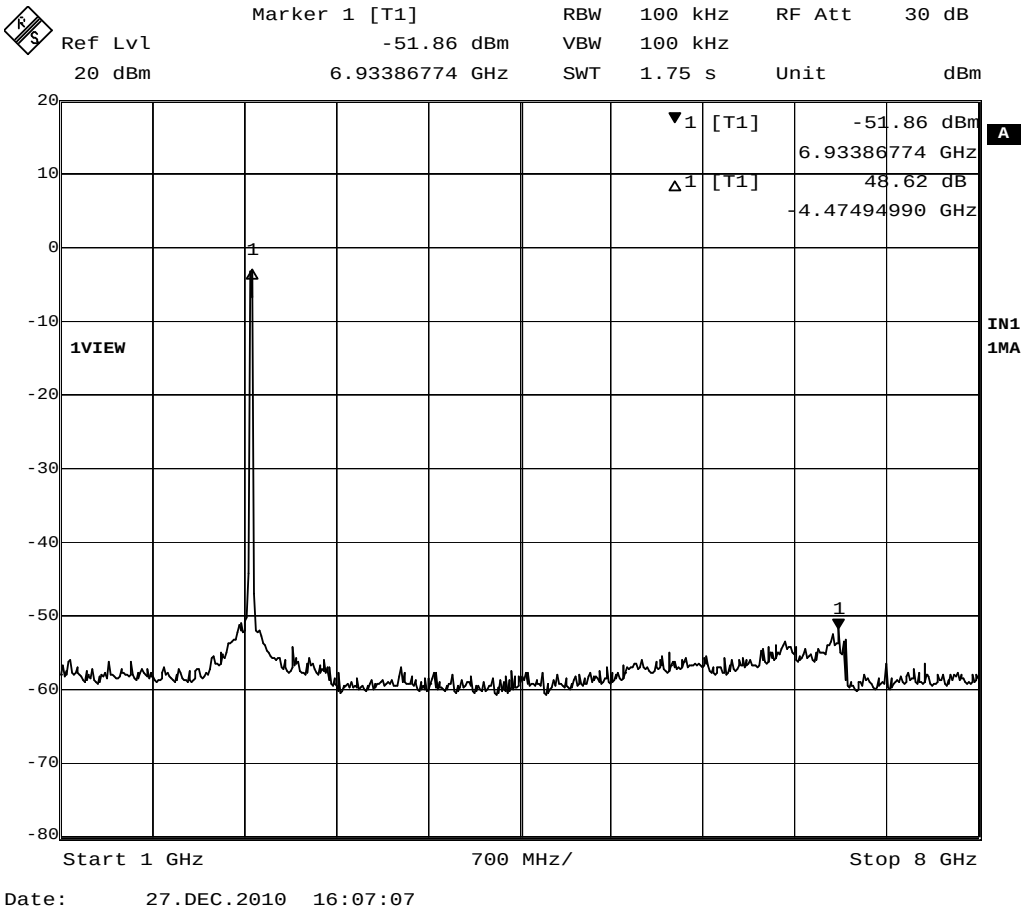
2437MHz (16GHz-25GHz)- n (20MHz) (ANT A)



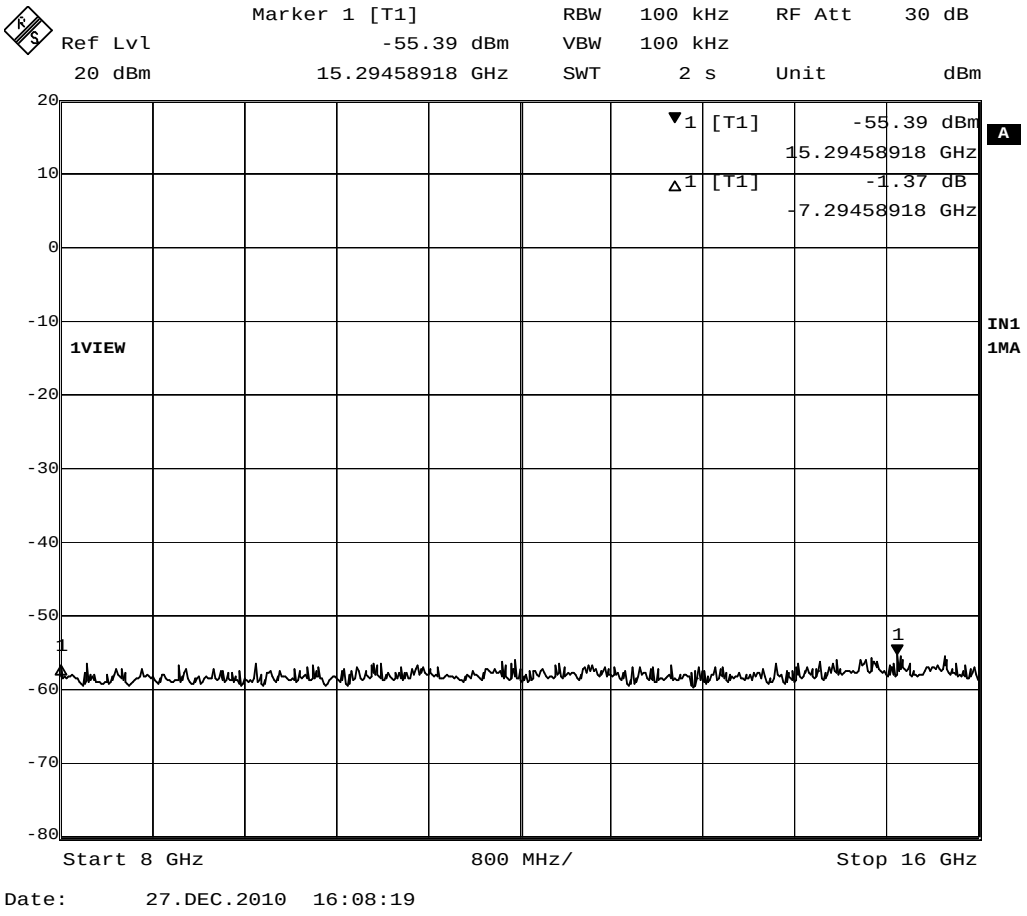
2462MHz (30MHz-1GHz)- n (20MHz) (ANT A)



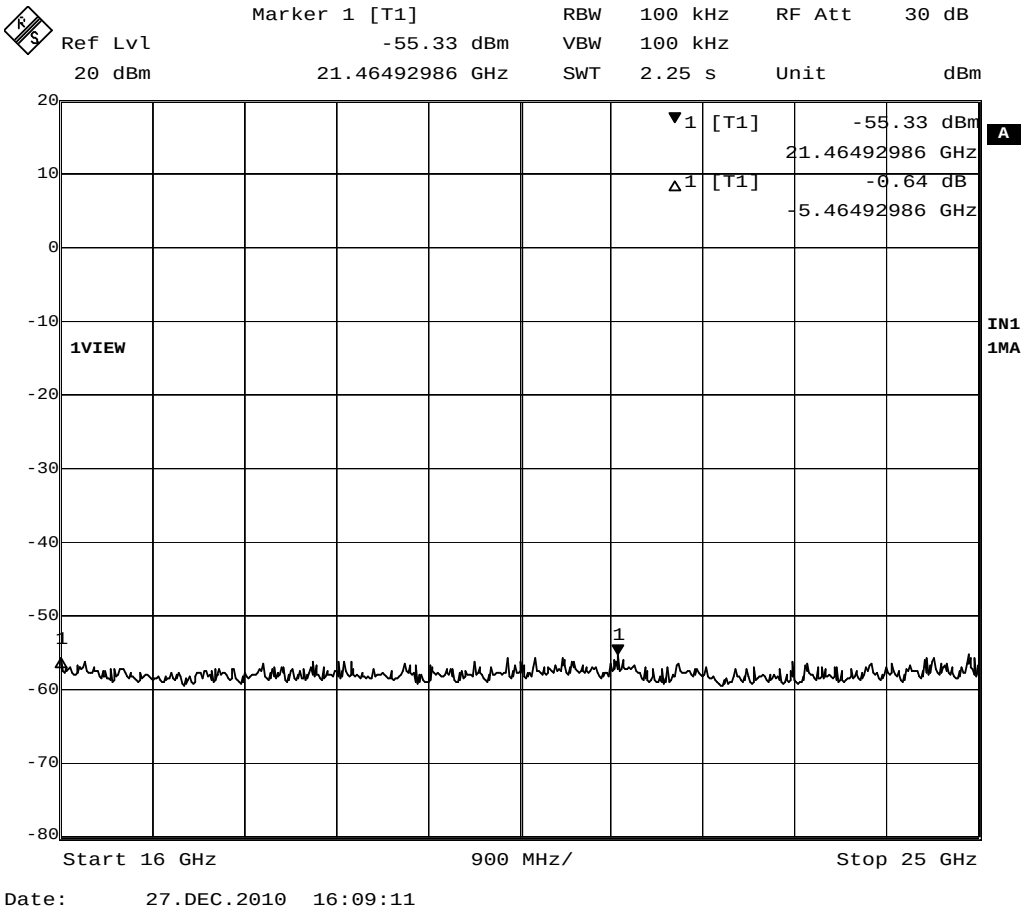
2462MHz (1GHz-8GHz)- n (20MHz) (ANT A)



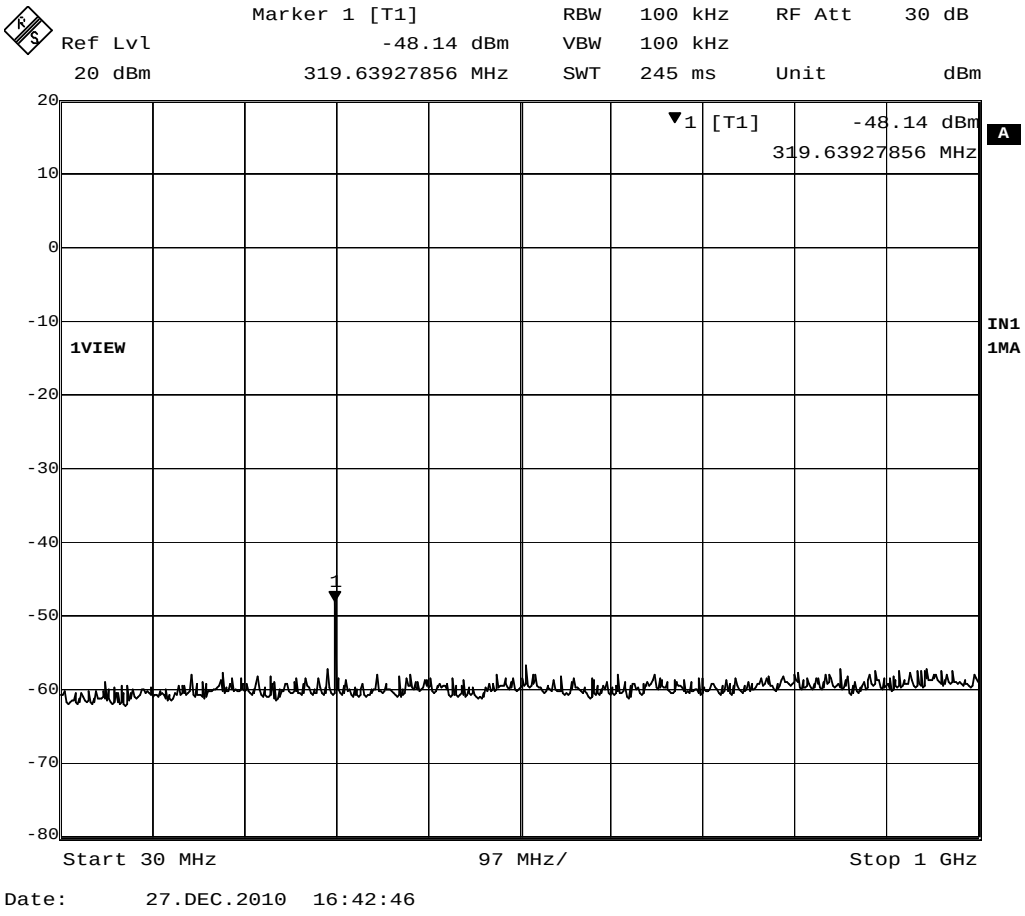
2462MHz (8GHz-16GHz)- n (20MHz) (ANT A)



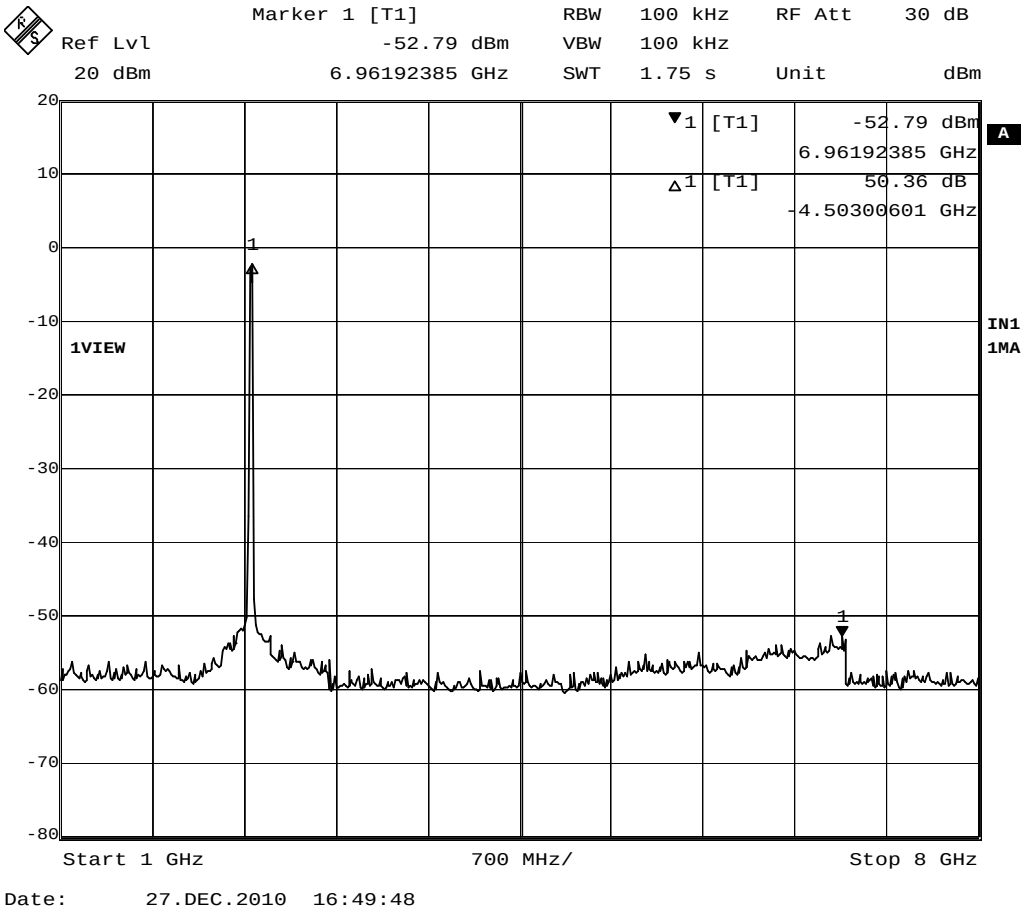
2462MHz (16GHz-25GHz)- n (20MHz) (ANT A)



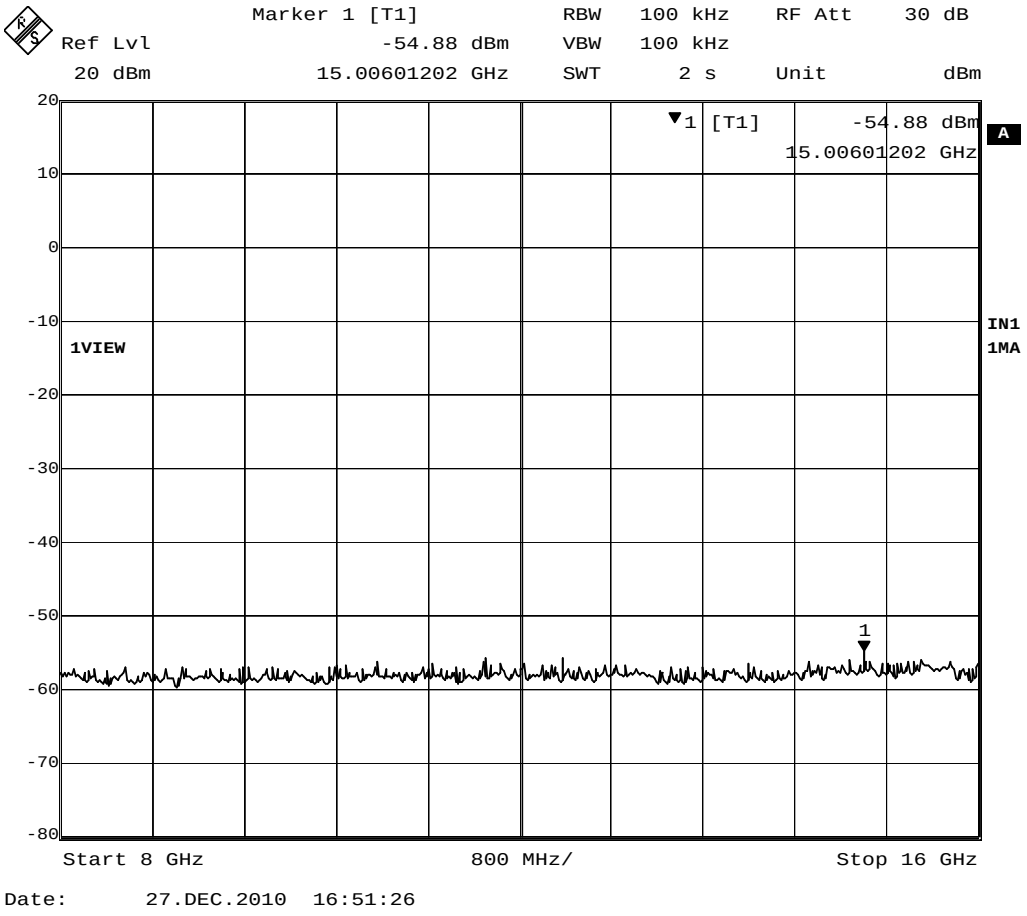
2412MHz (30MHz-1GHz)- n (20MHz) (ANT B)



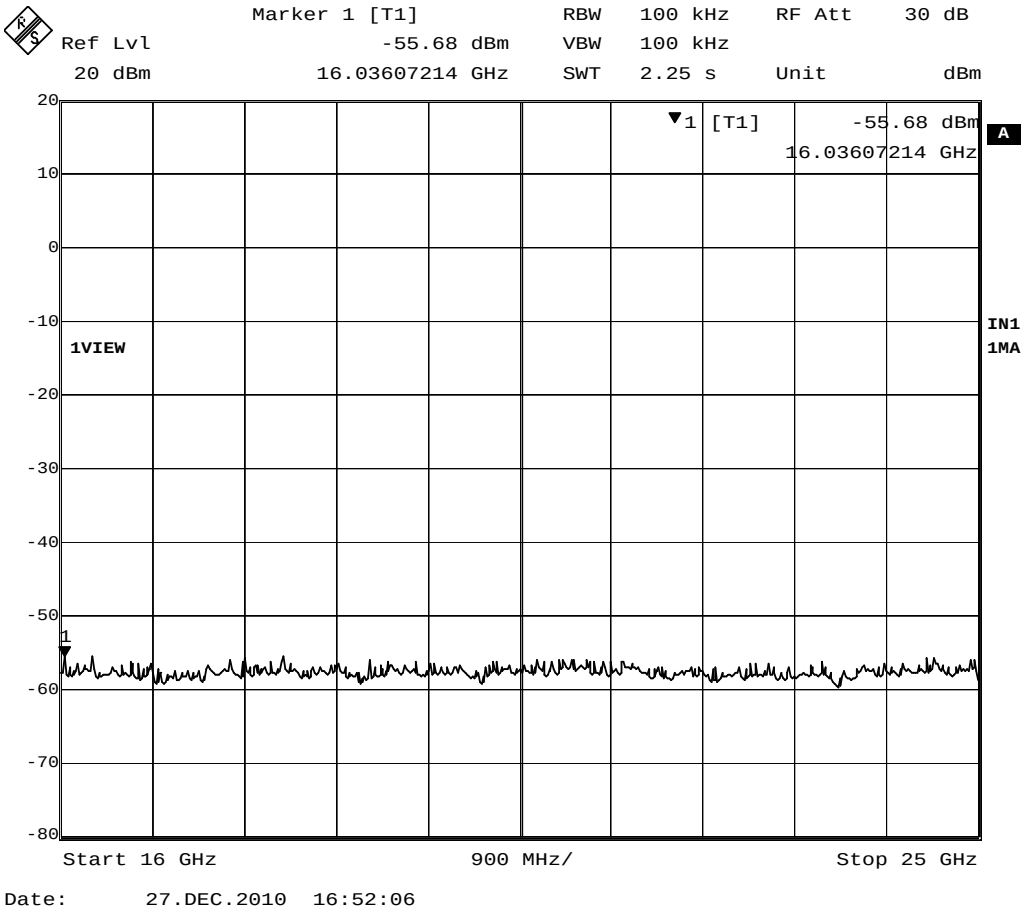
2412MHz (1GHz-8GHz)- n (20MHz) (ANT B)



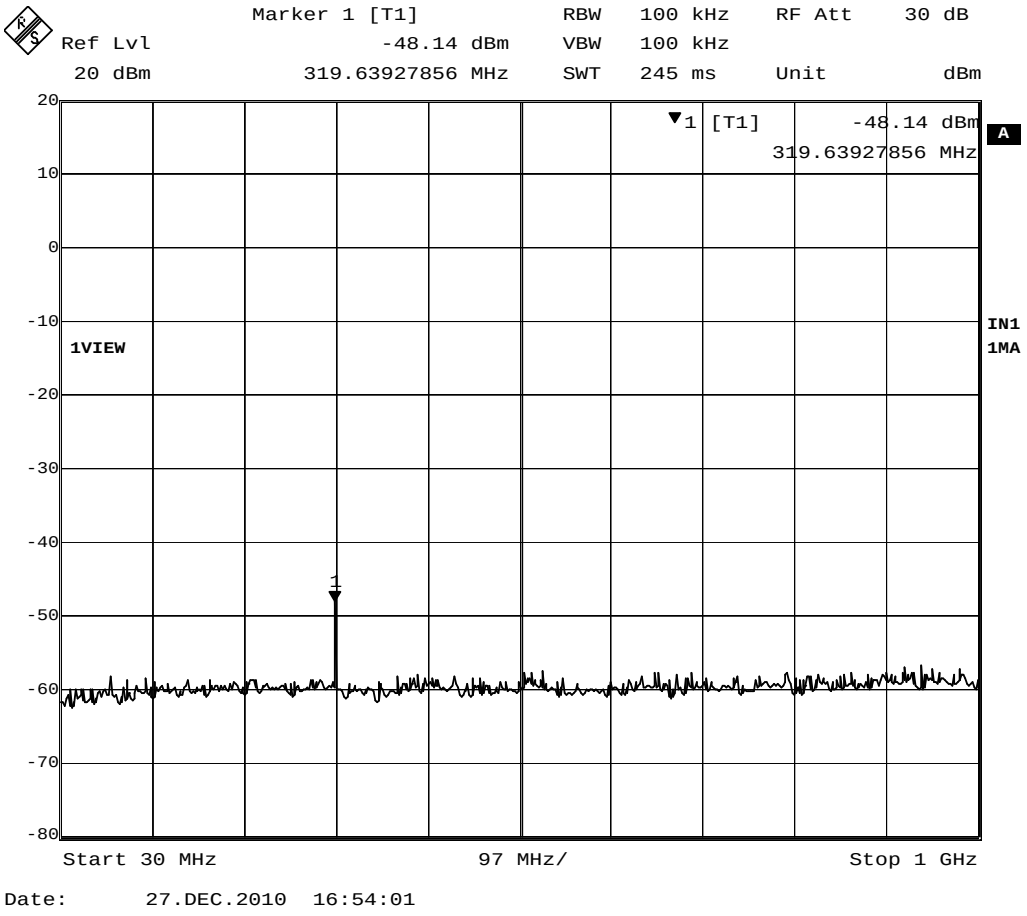
2412MHz (8GHz-16GHz)- n (20MHz) (ANT B)



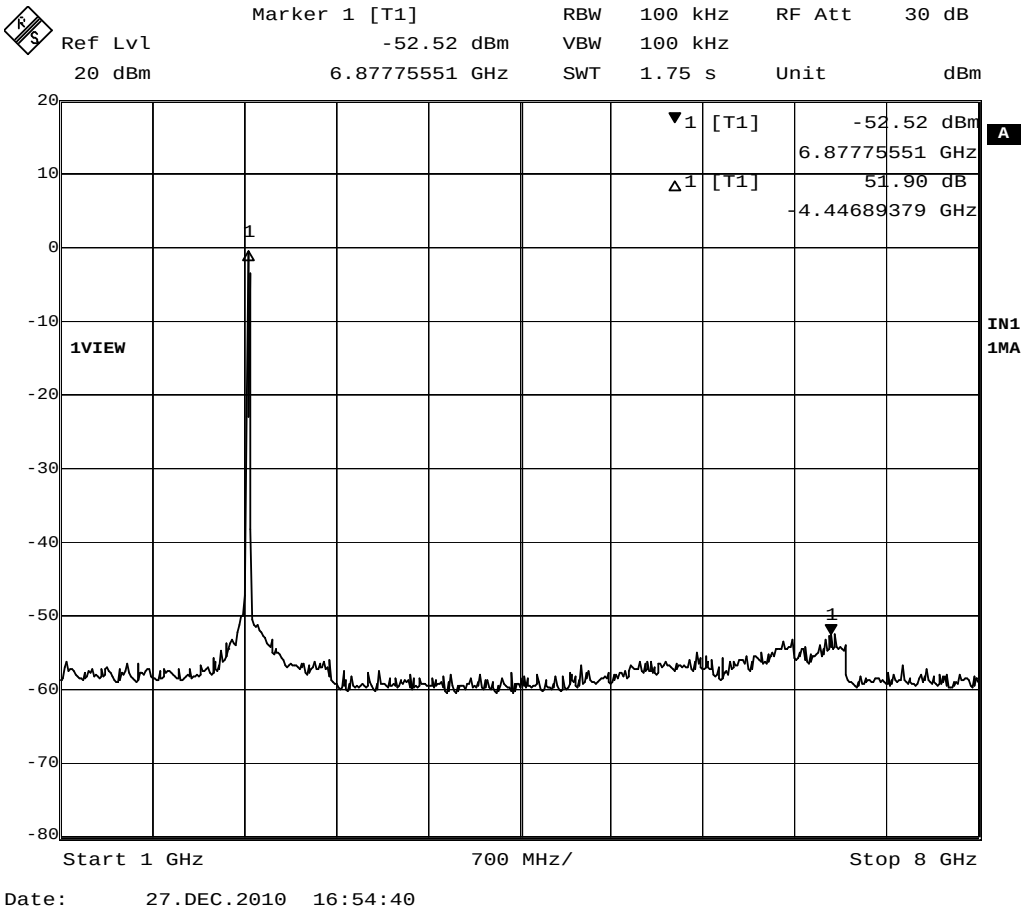
2412MHz (16GHz-25GHz)- n (20MHz) (ANT B)



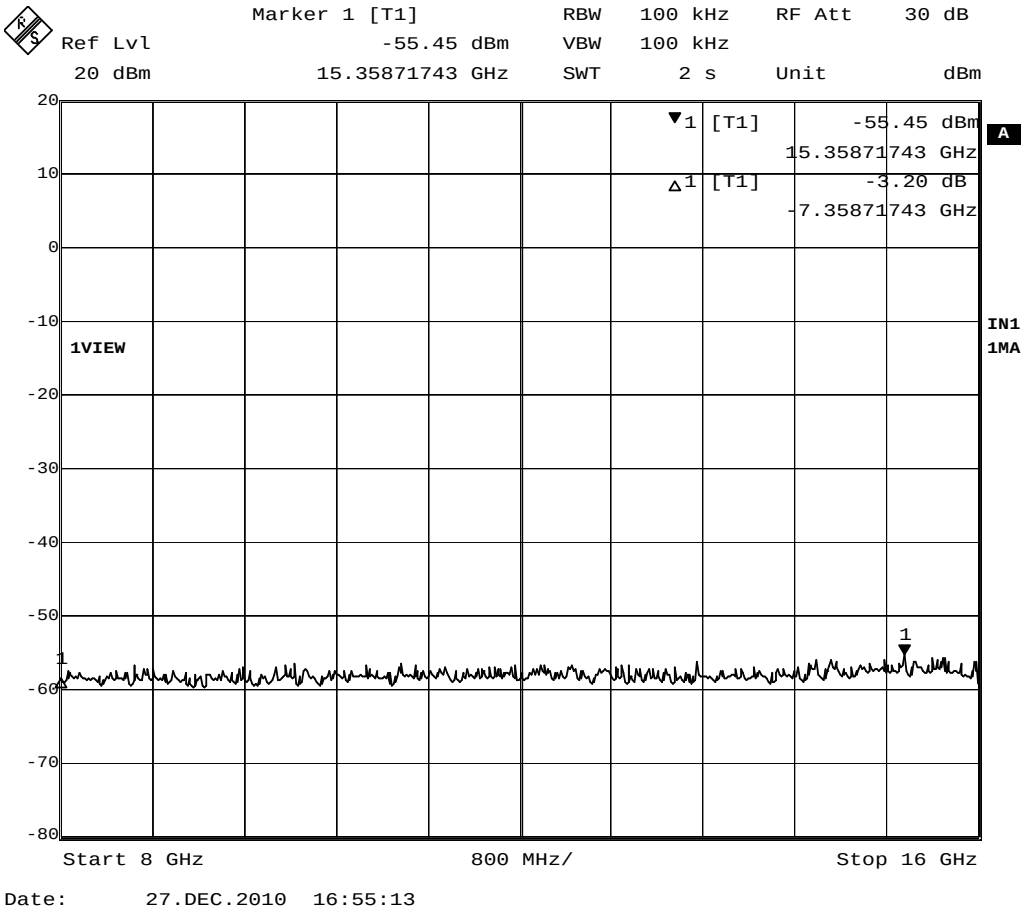
2437MHz (30MHz-1GHz)- n (20MHz) (ANT B)



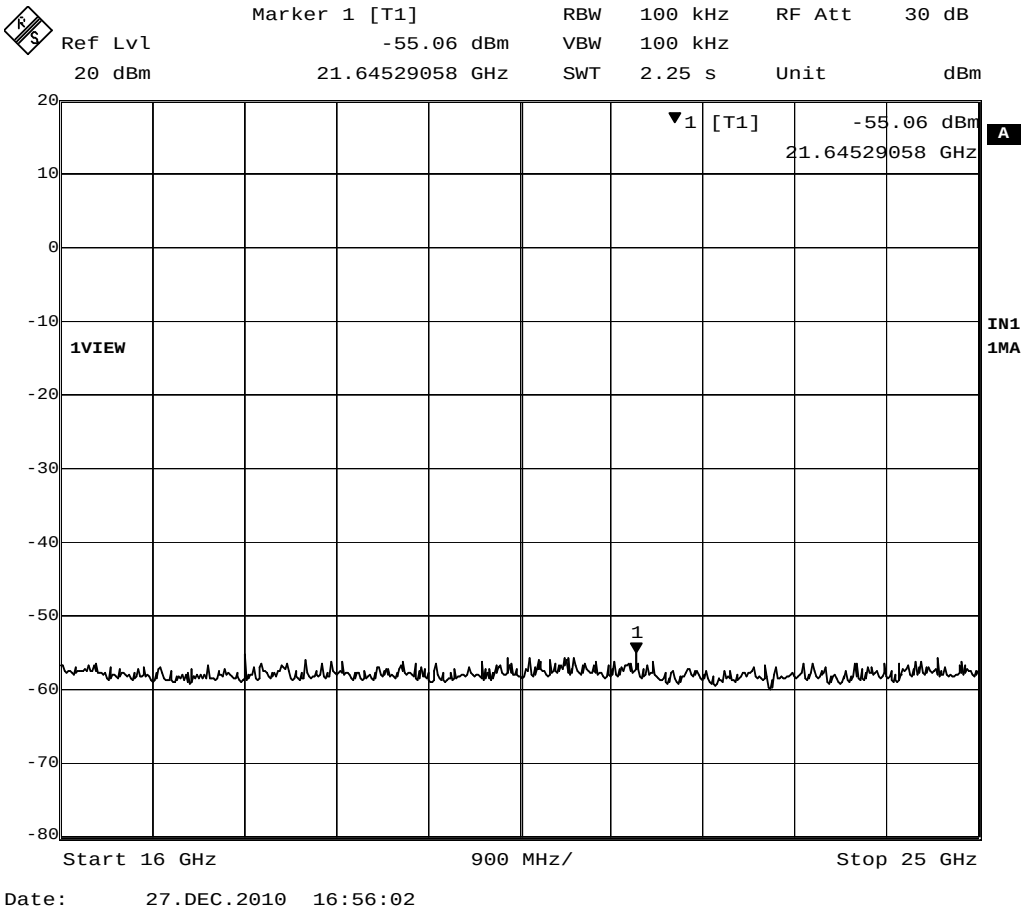
2437MHz (1GHz-8GHz)- n (20MHz) (ANT B)



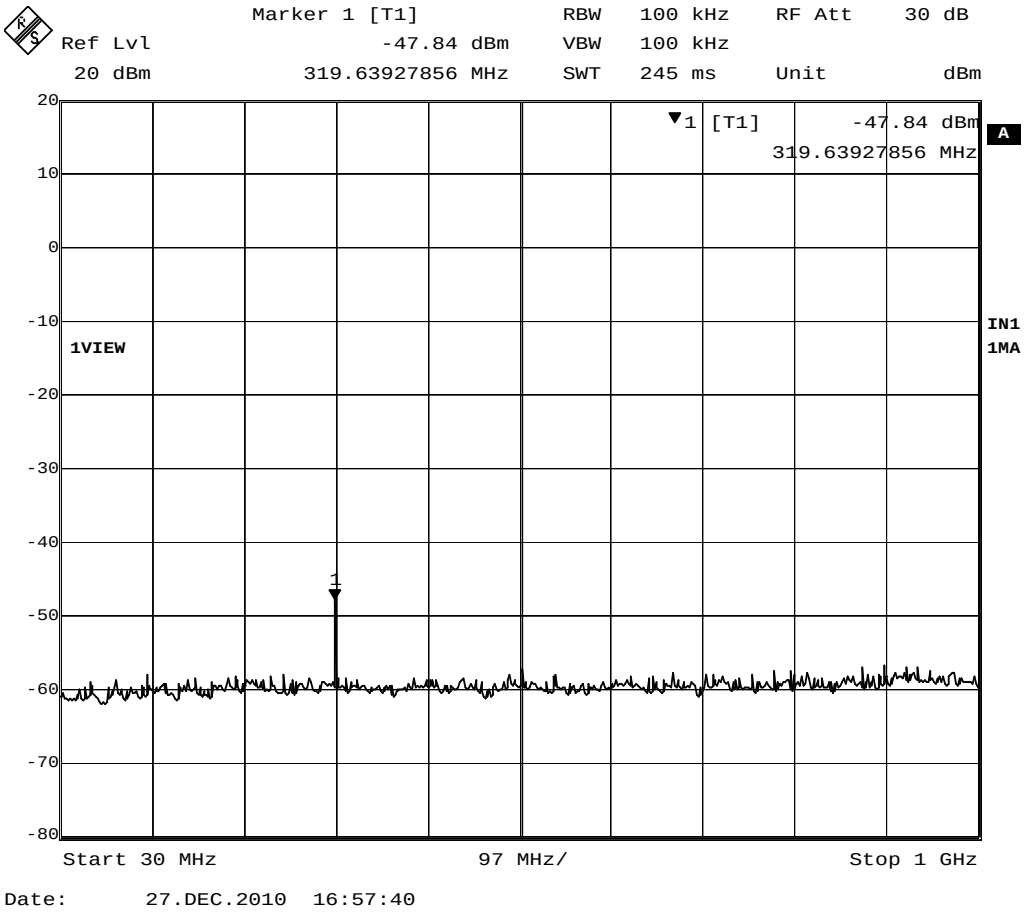
2437MHz (8GHz-16GHz)- n (20MHz) (ANT B)



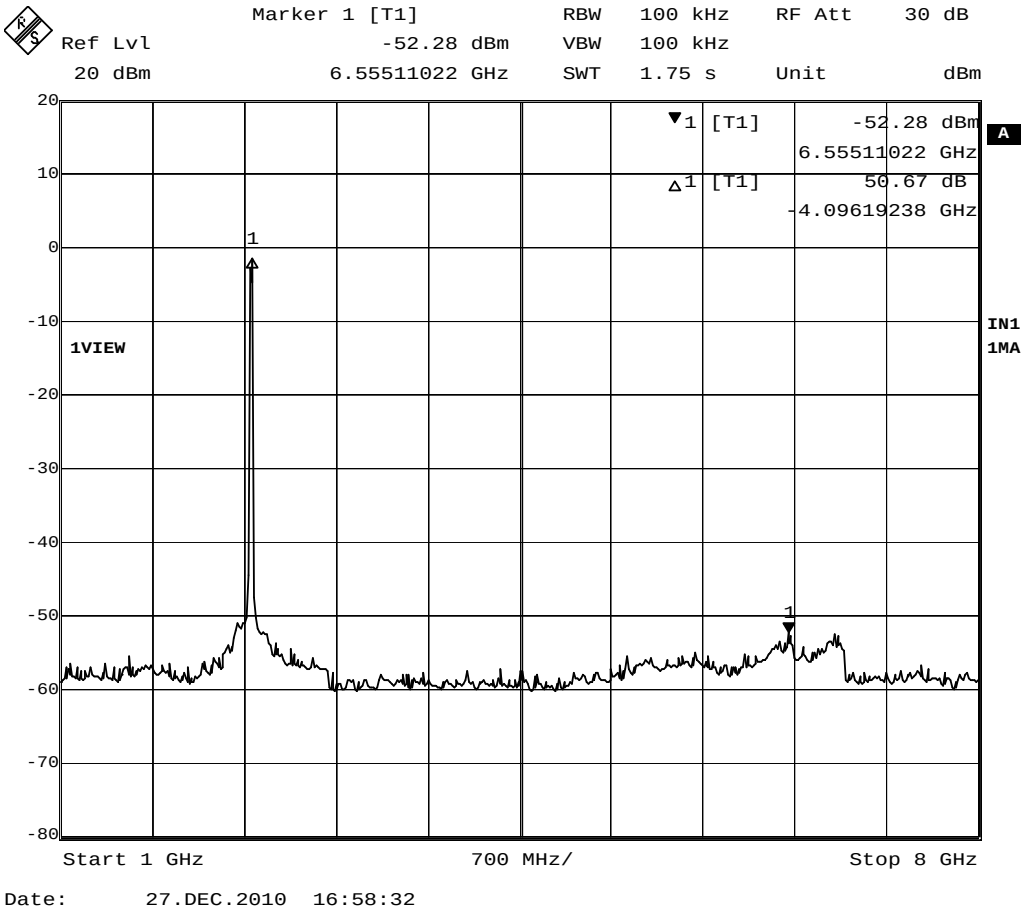
2437MHz (16GHz-25GHz)- n (20MHz) (ANT B)



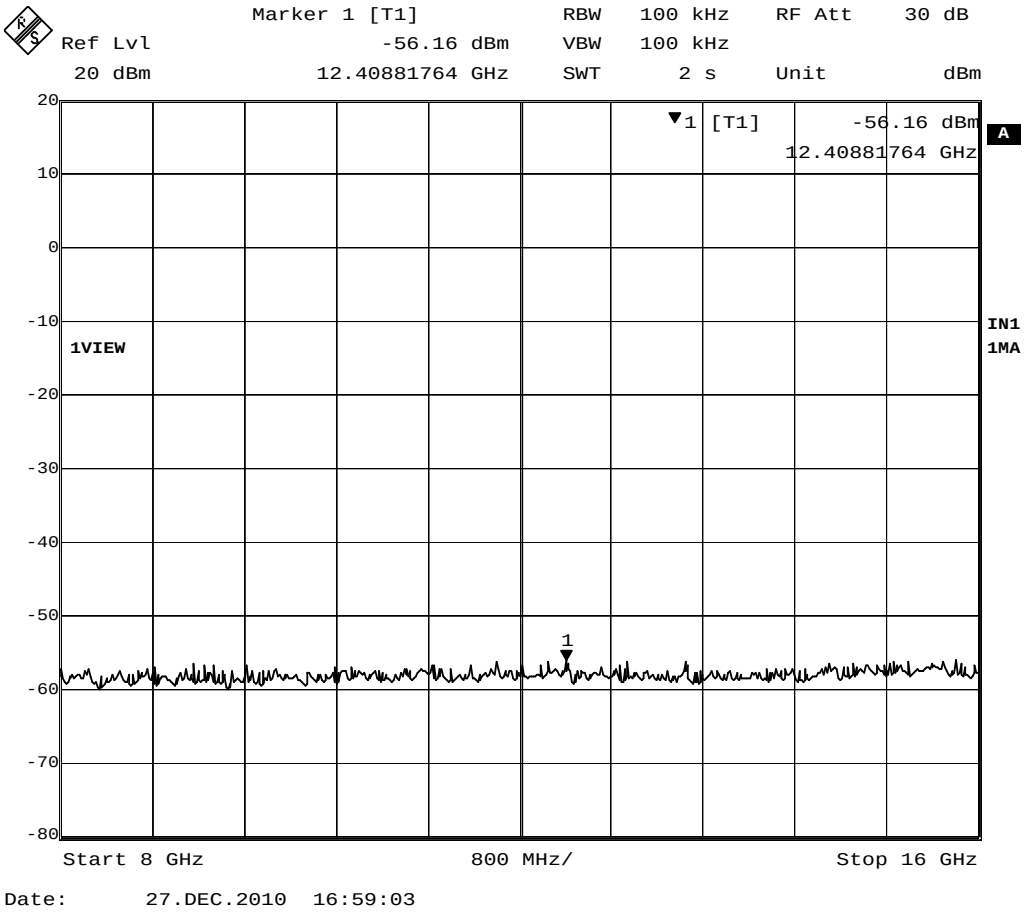
2462MHz (30MHz-1GHz)- n (20MHz) (ANT B)



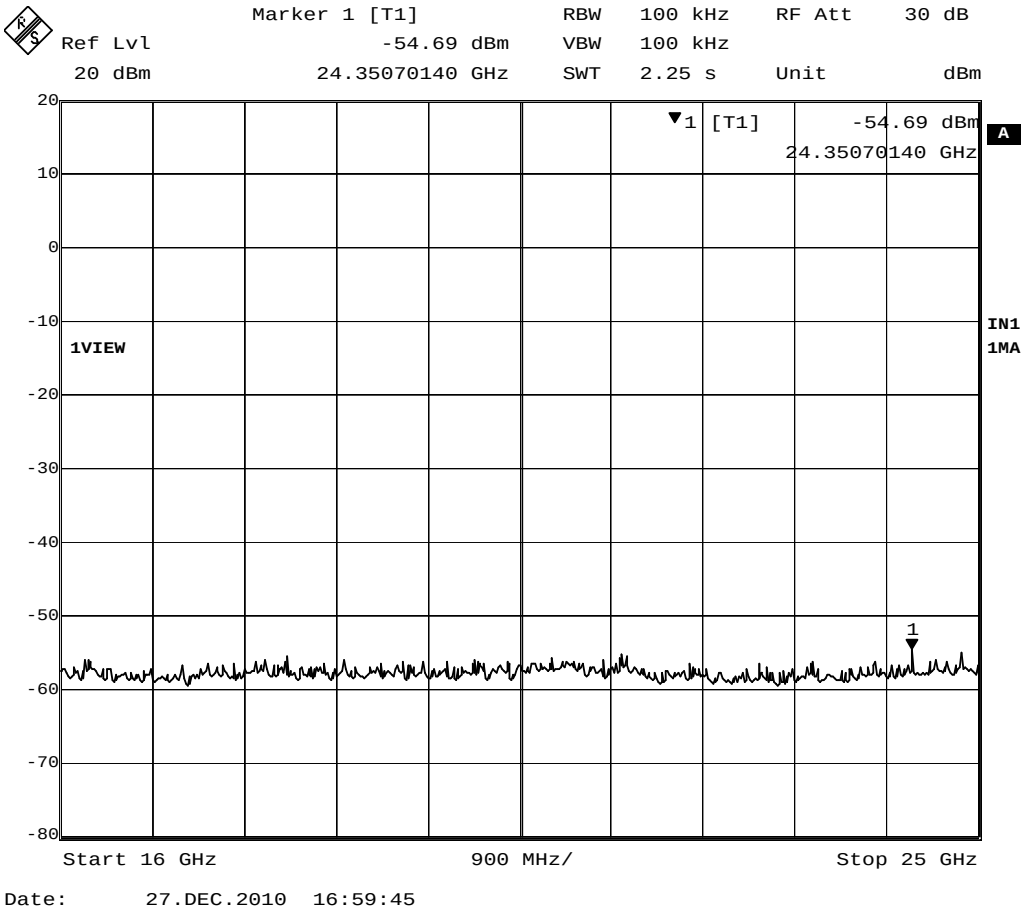
2462MHz (1GHz-8GHz)- n (20MHz) (ANT B)



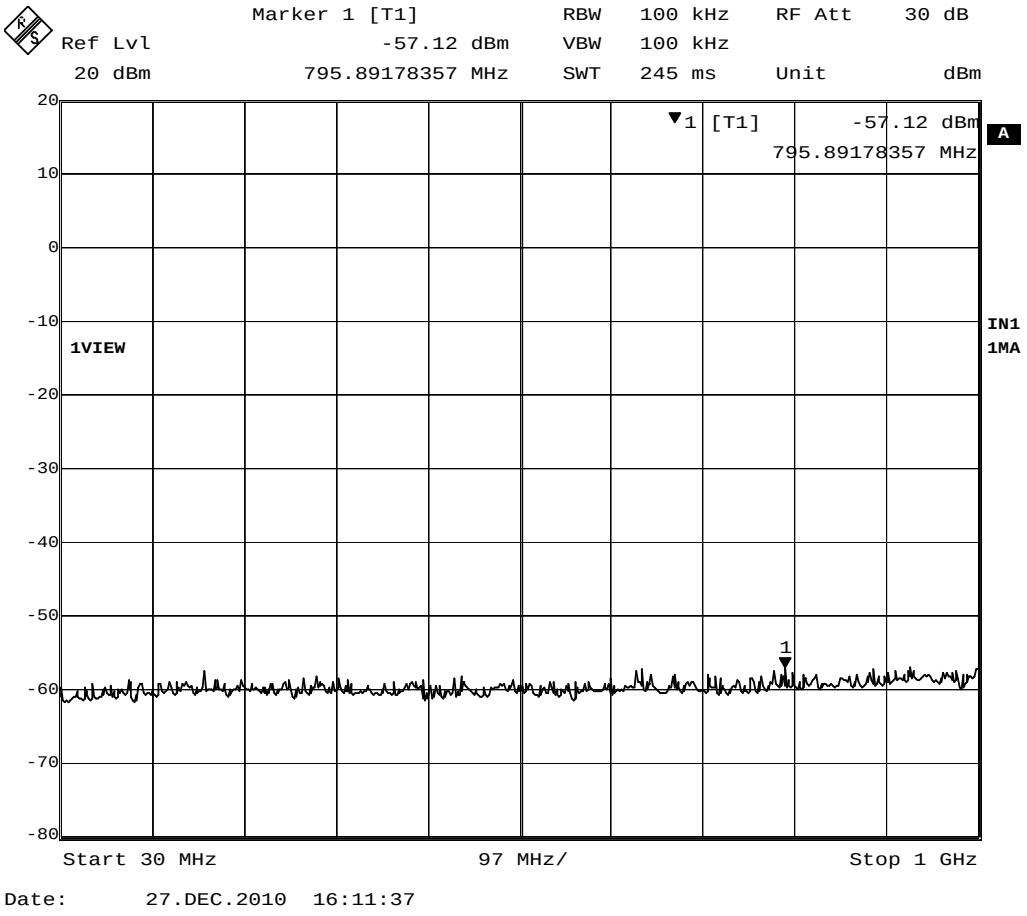
2462MHz (8GHz-16GHz)- n (20MHz) (ANT B)



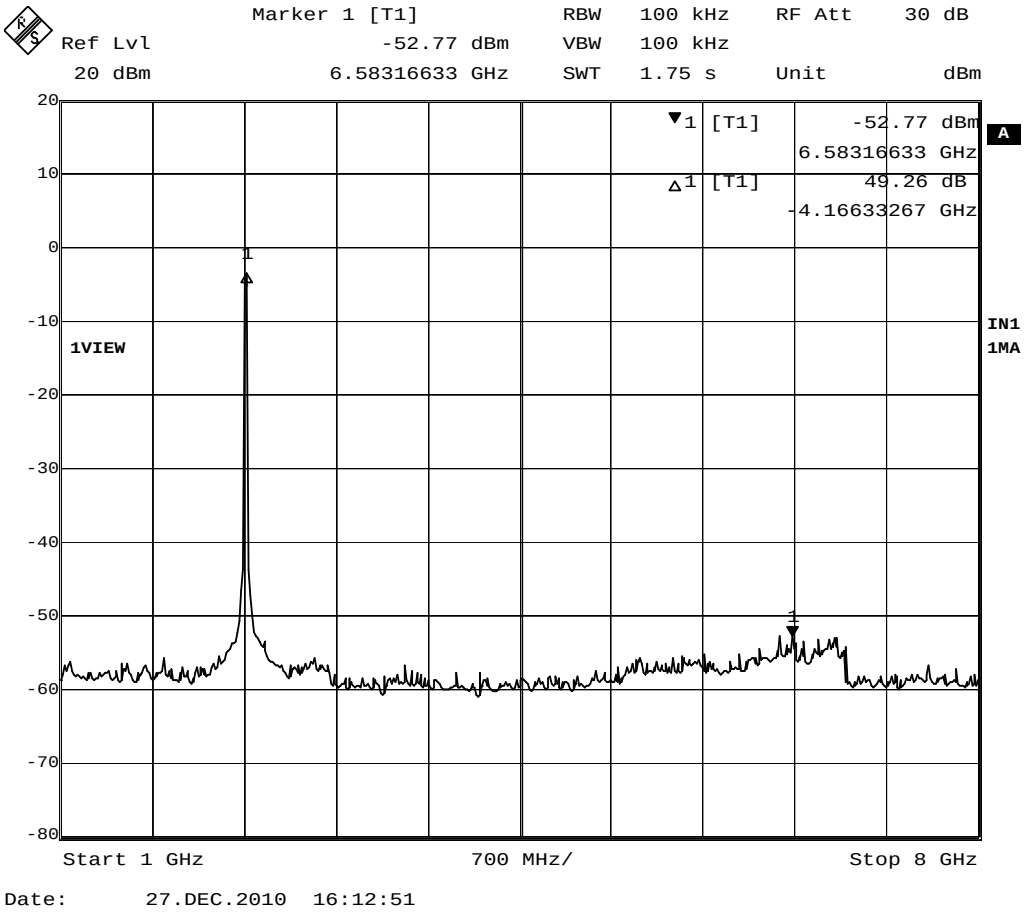
2462MHz (16GHz-25GHz)- n (20MHz) (ANT B)



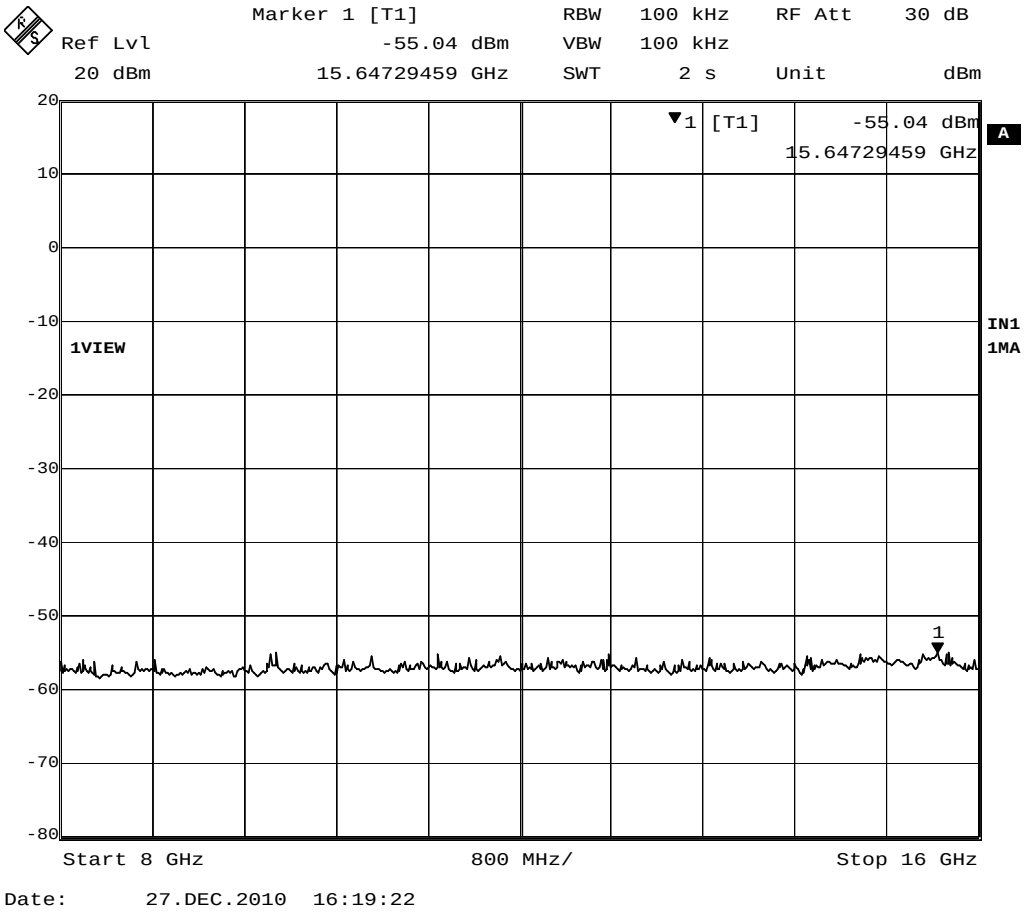
2422MHz (30MHz-1GHz)- n (40MHz) (ANT A)



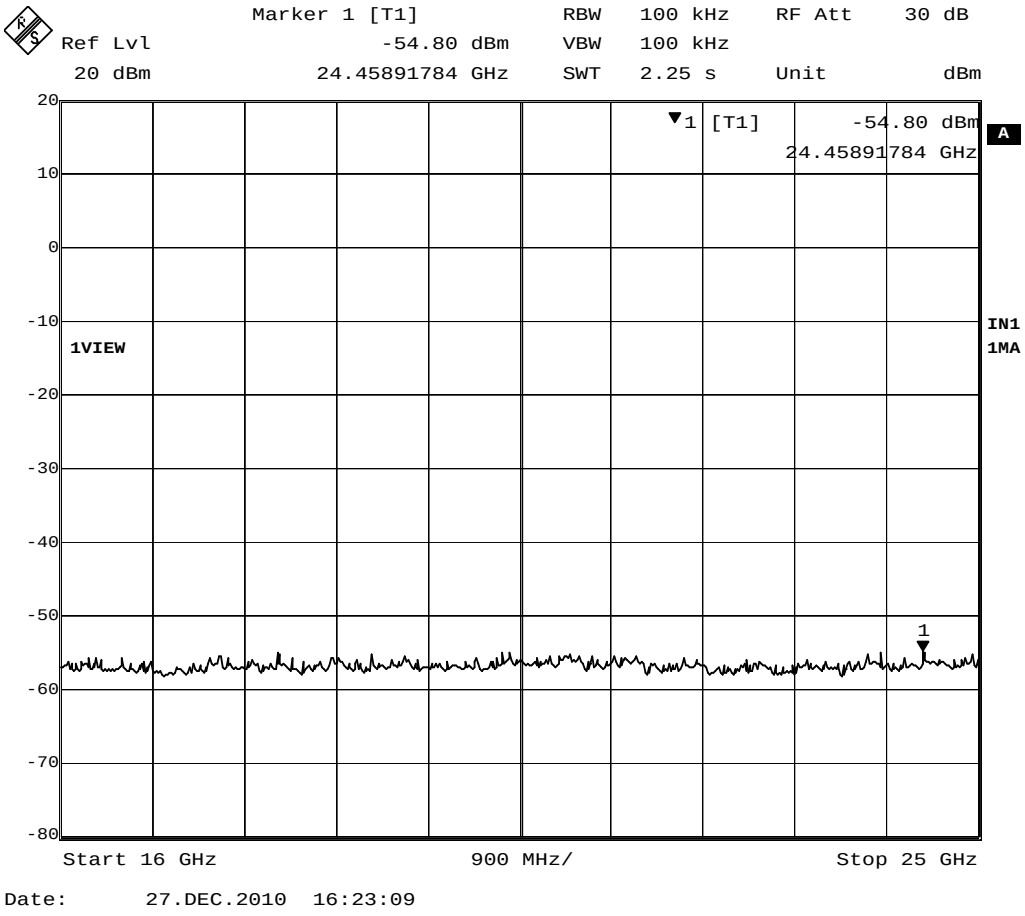
2422MHz (1GHz-8GHz)- n (40MHz) (ANT A)



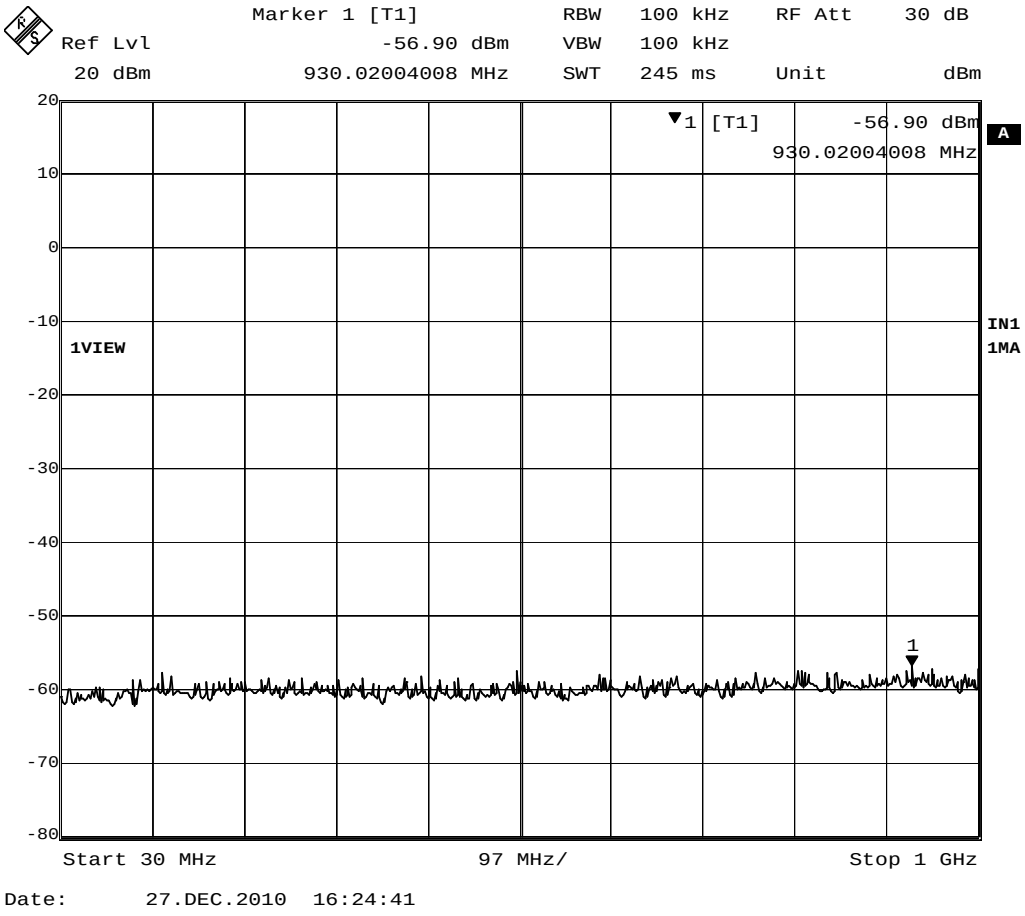
2422MHz (8GHz-16GHz)- n (40MHz) (ANT A)



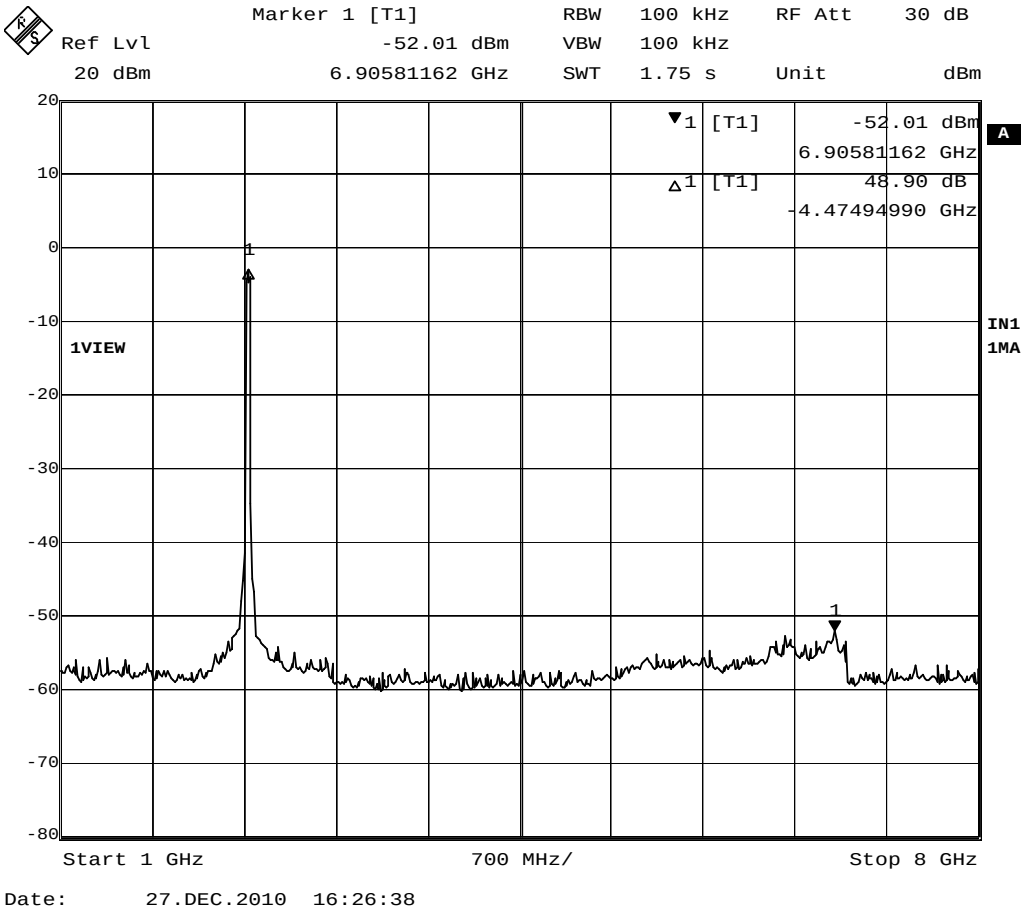
2422MHz (16GHz-25GHz)- n (40MHz) (ANT A)



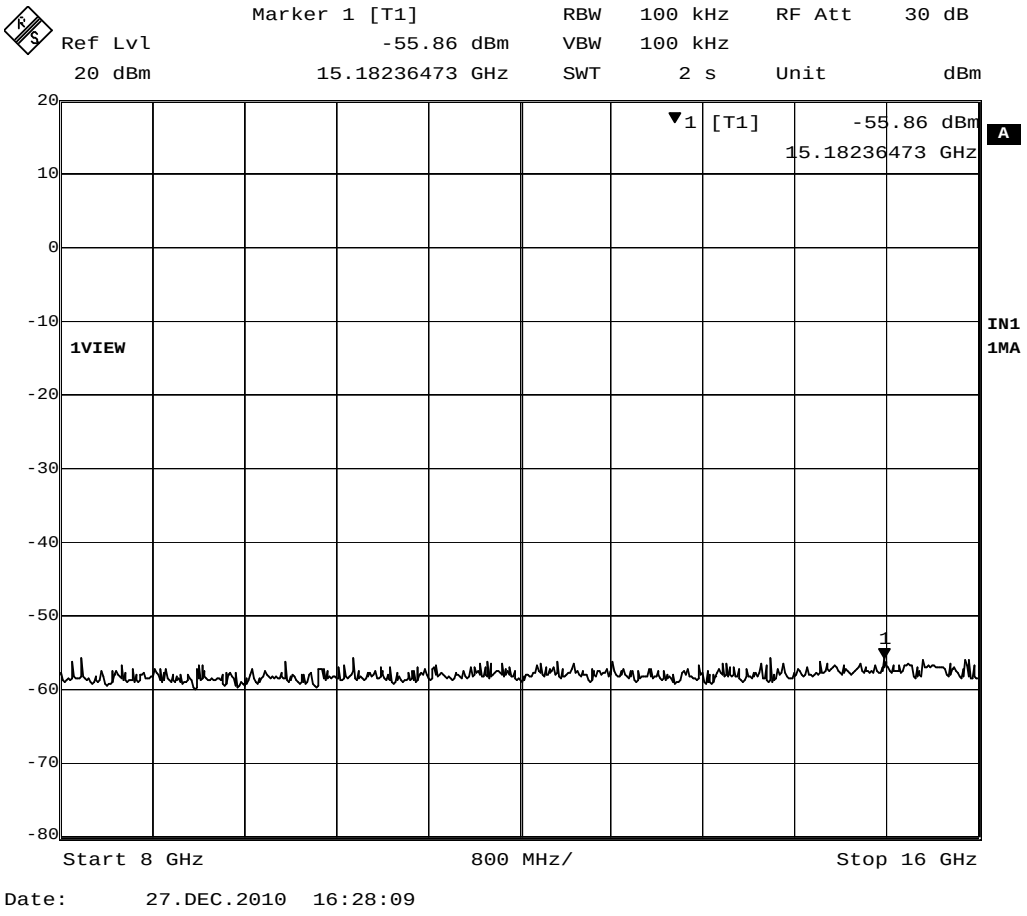
2437MHz (30MHz-1GHz)- n (40MHz) (ANT A)



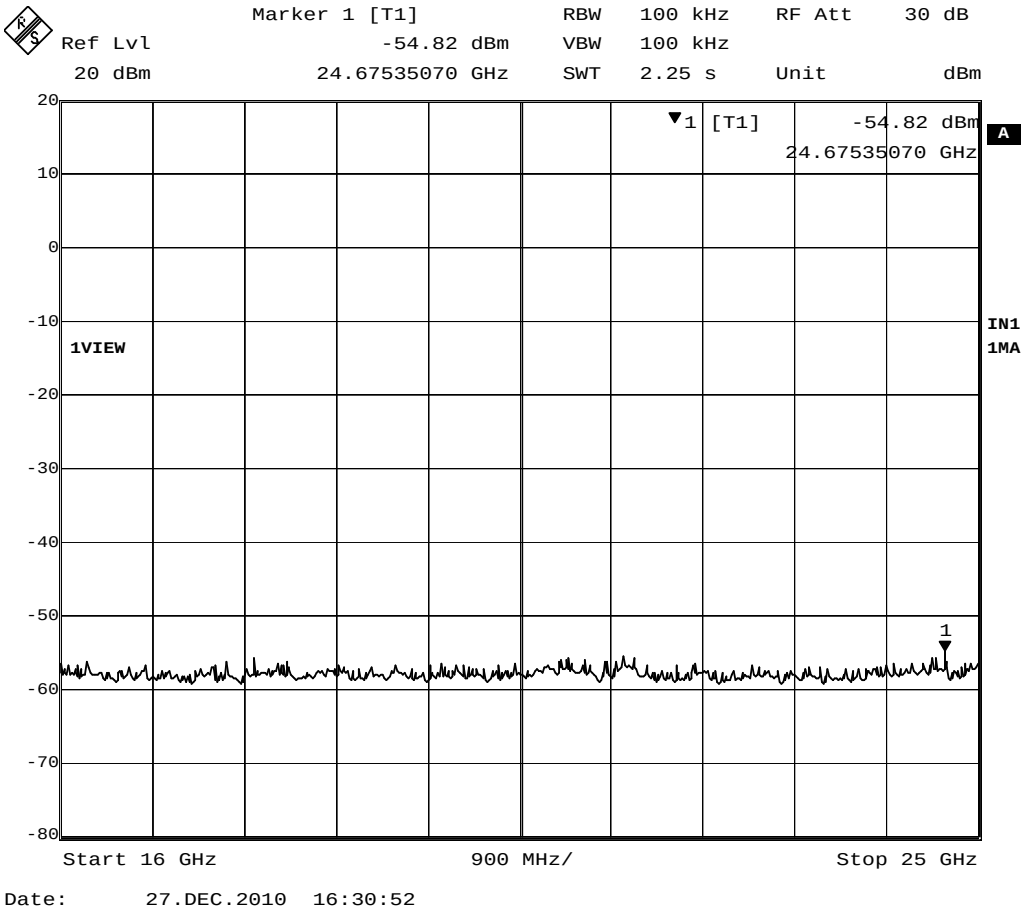
2437MHz (1GHz-8GHz)- n (40MHz) (ANT A)



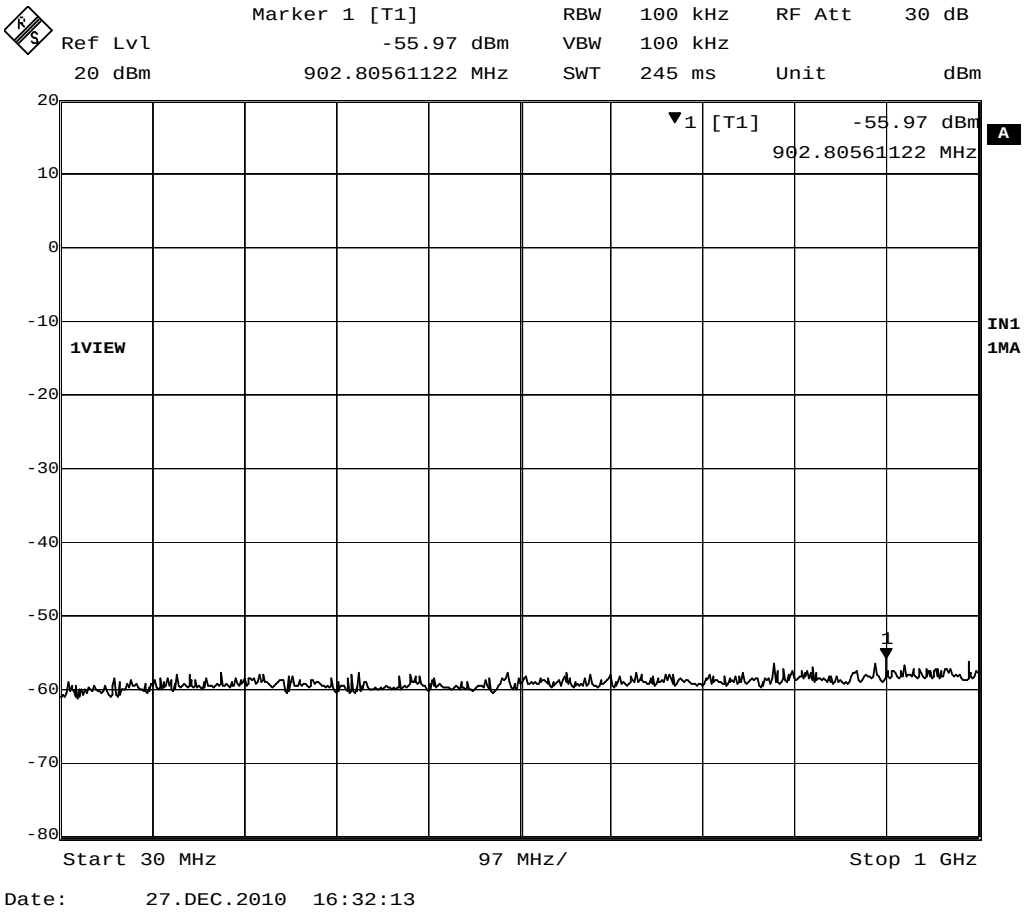
2437MHz (8GHz-16GHz)- n (40MHz) (ANT A)



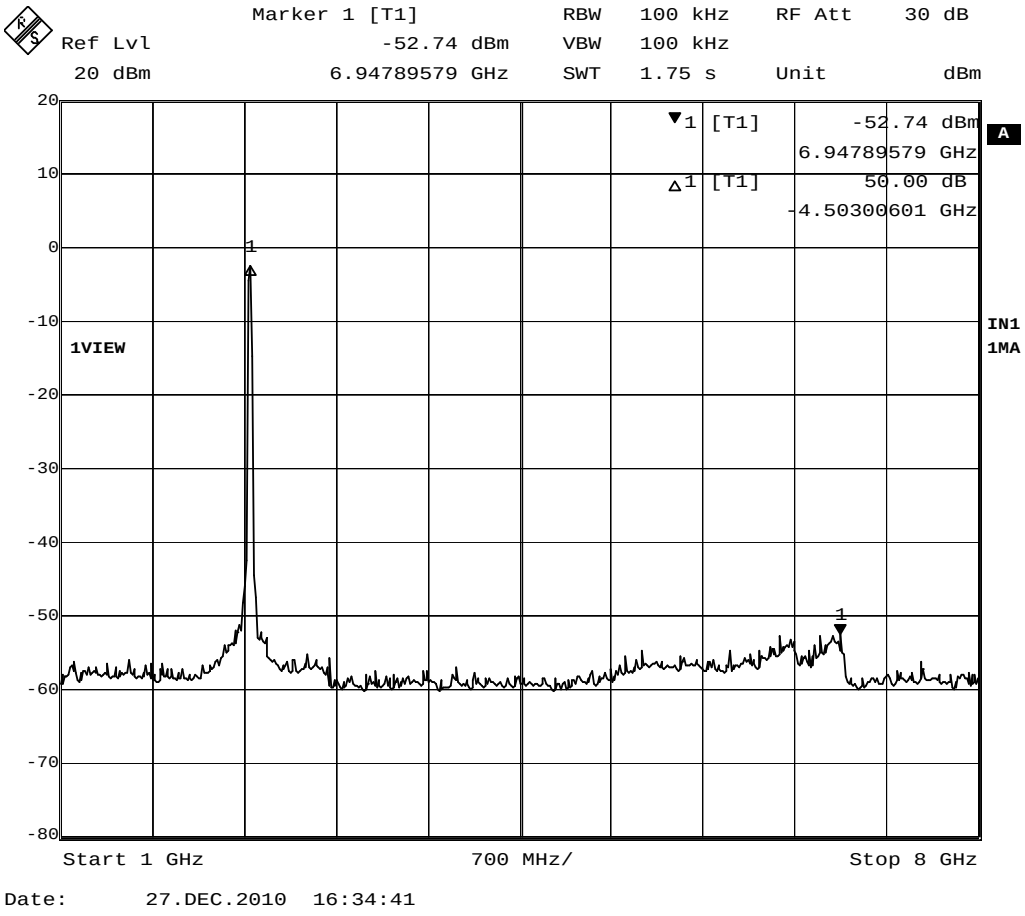
2437MHz (16GHz-25GHz)- n (40MHz) (ANT A)



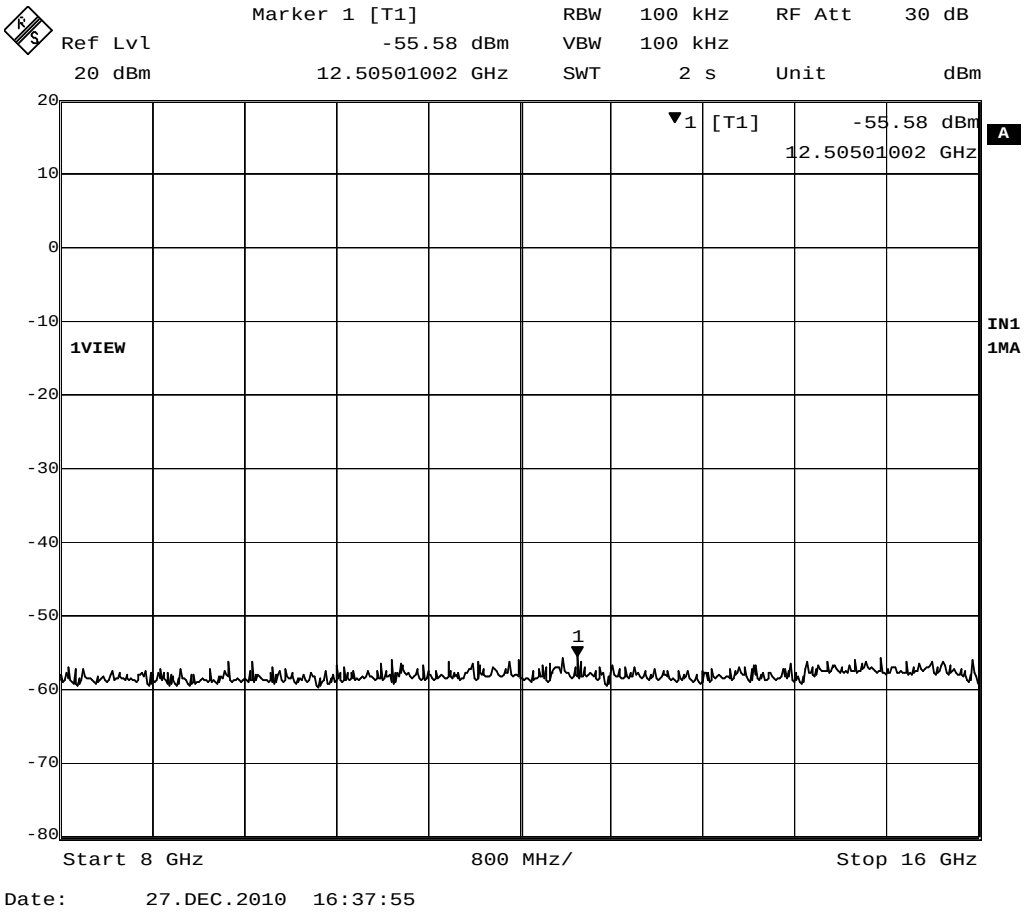
2452MHz (30MHz-1GHz)- n (40MHz) (ANT A)



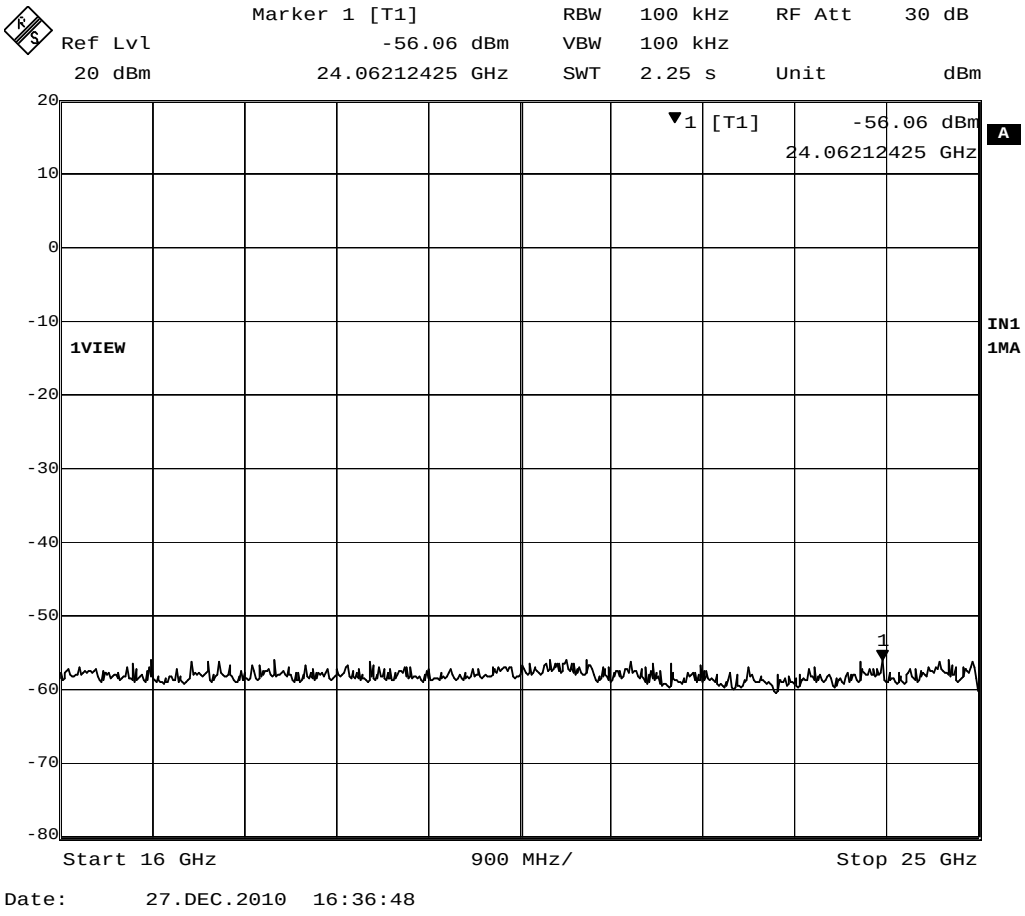
2452MHz (1GHz-8GHz)- n (40MHz) (ANT A)



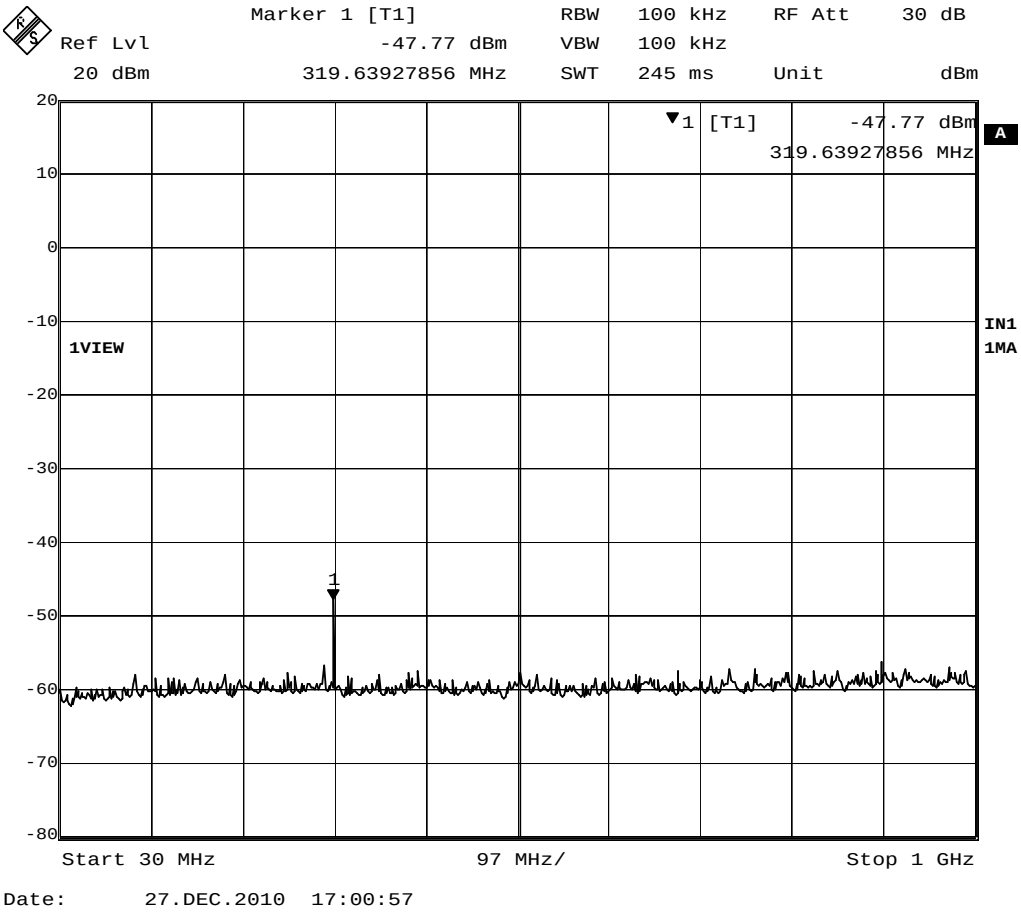
2452MHz (8GHz-16GHz)- n (40MHz) (ANT A)



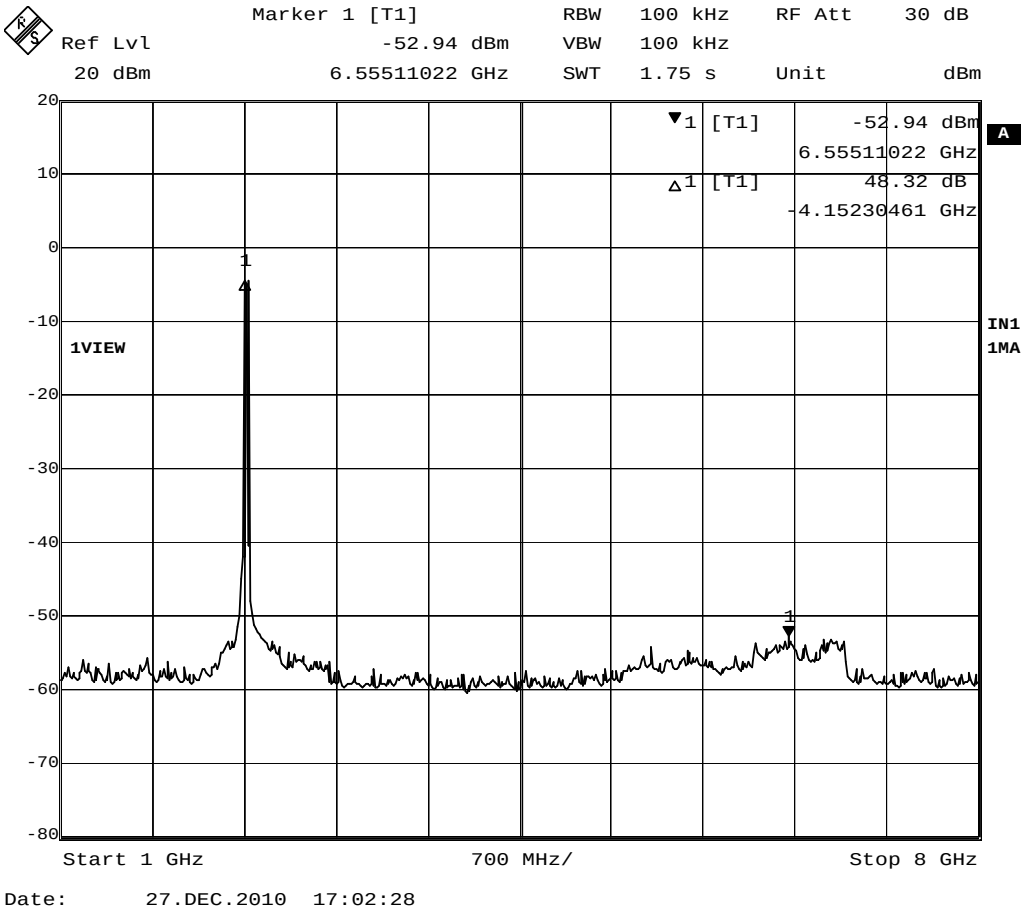
2452MHz (16GHz-25GHz)- n (40MHz) (ANT A)



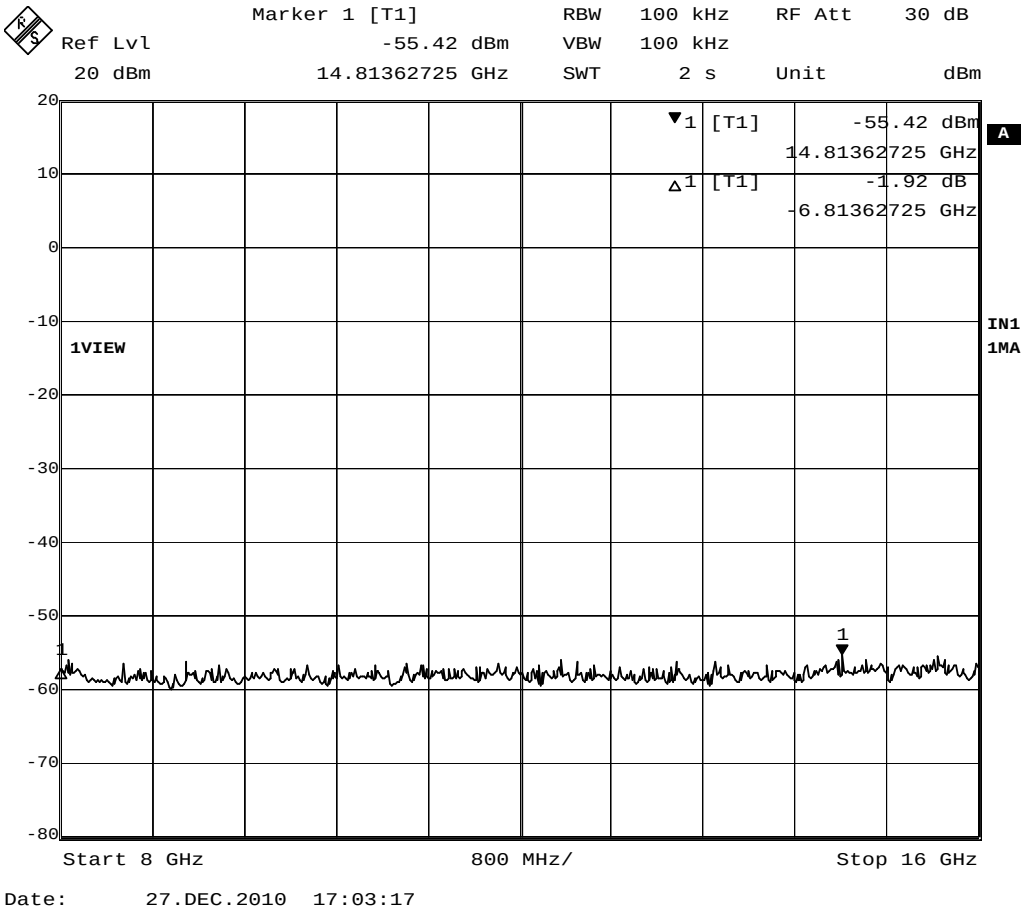
2422MHz (30MHz-1GHz)- n (40MHz) (ANT B)



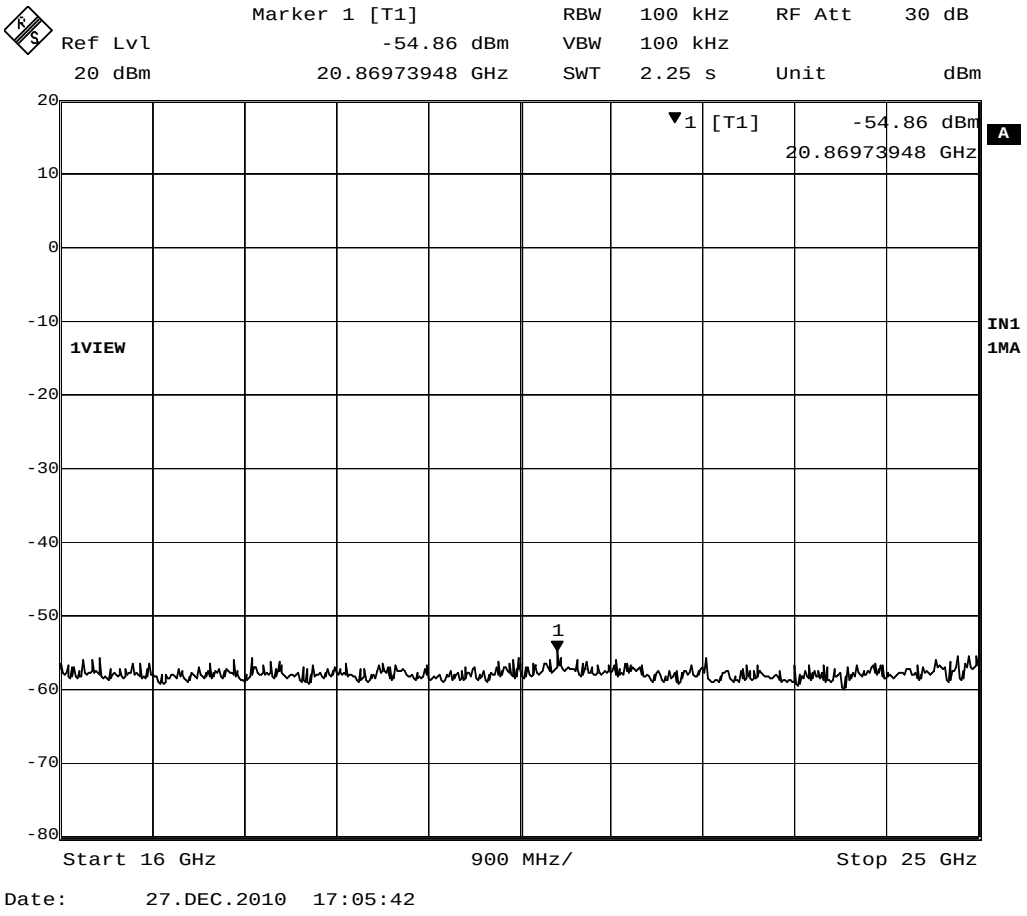
2422MHz (1GHz-8GHz)- n (40MHz) (ANT B)



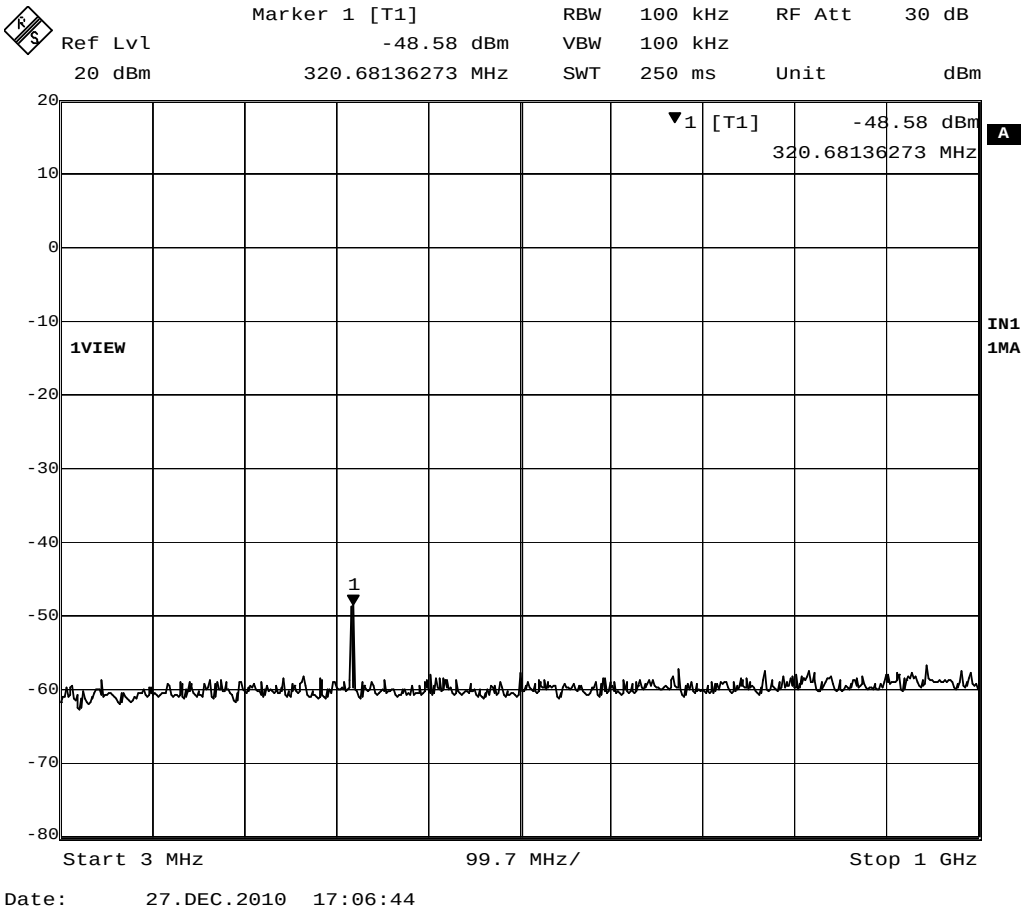
2422MHz (8GHz-16GHz)- n (40MHz) (ANT B)



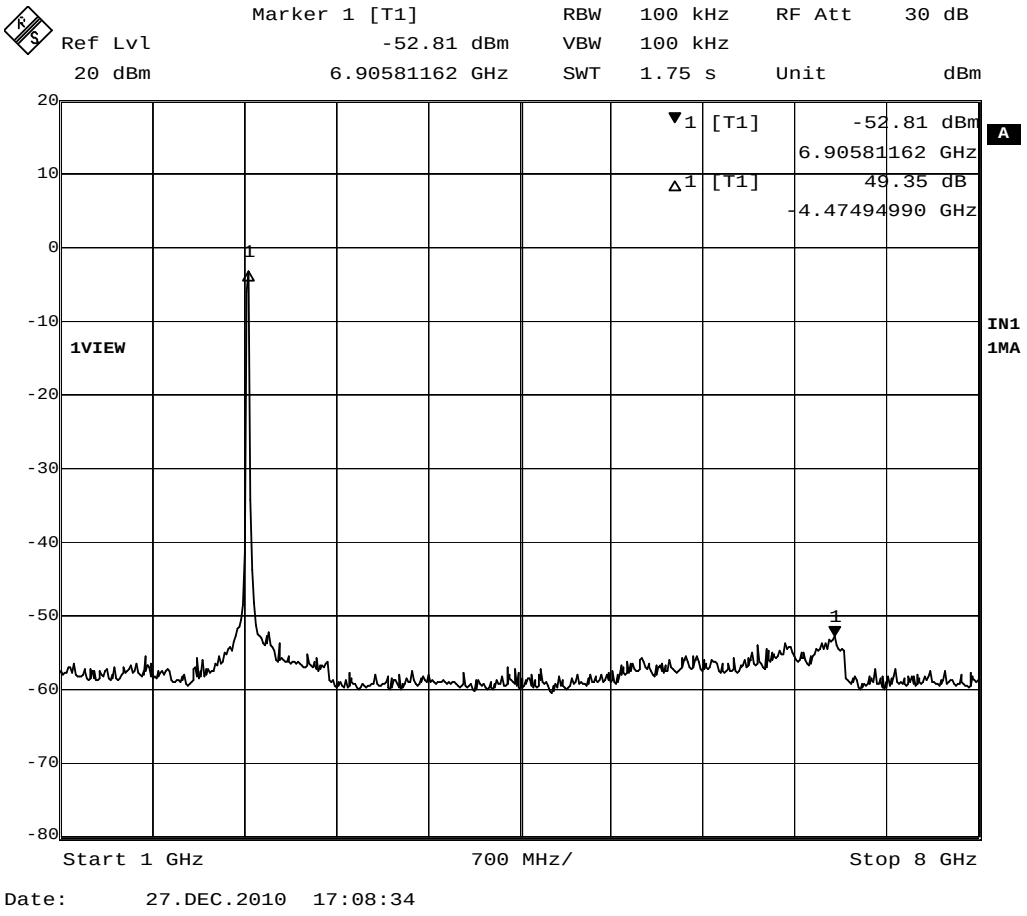
2422MHz (16GHz-25GHz)- n (40MHz) (ANT B)



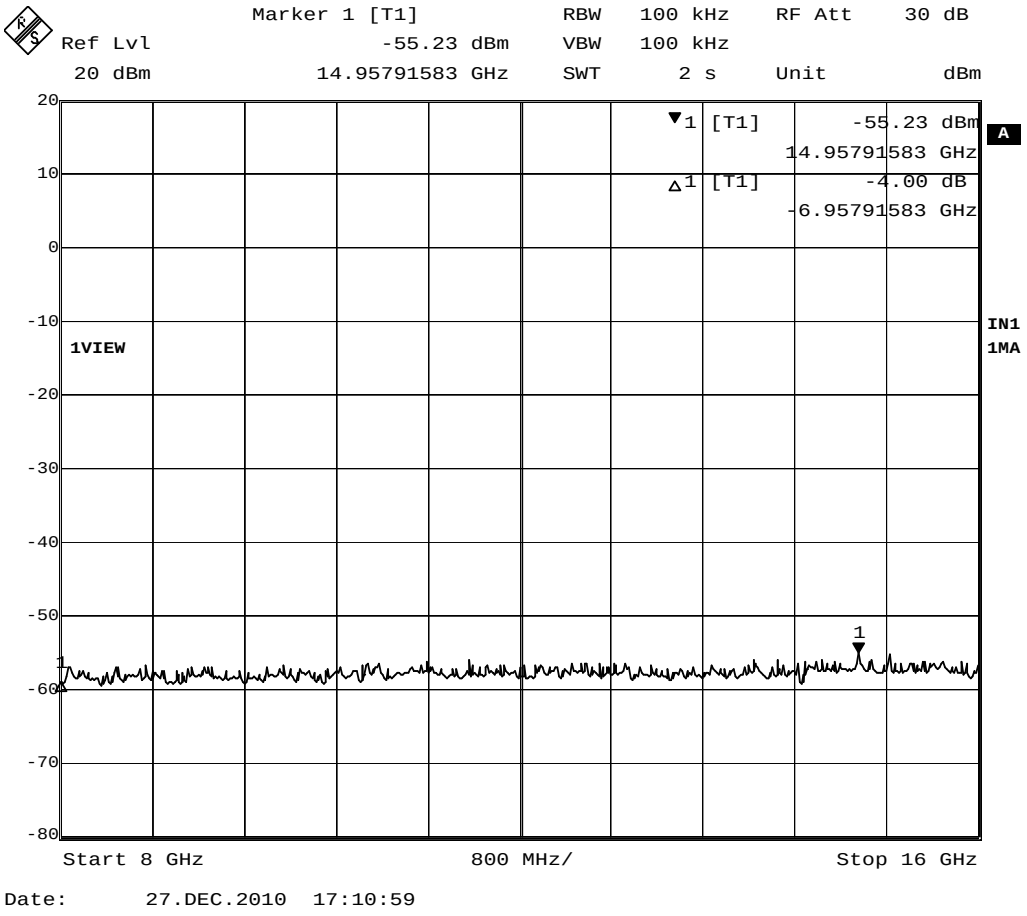
2437MHz (30MHz-1GHz)- n (40MHz) (ANT B)



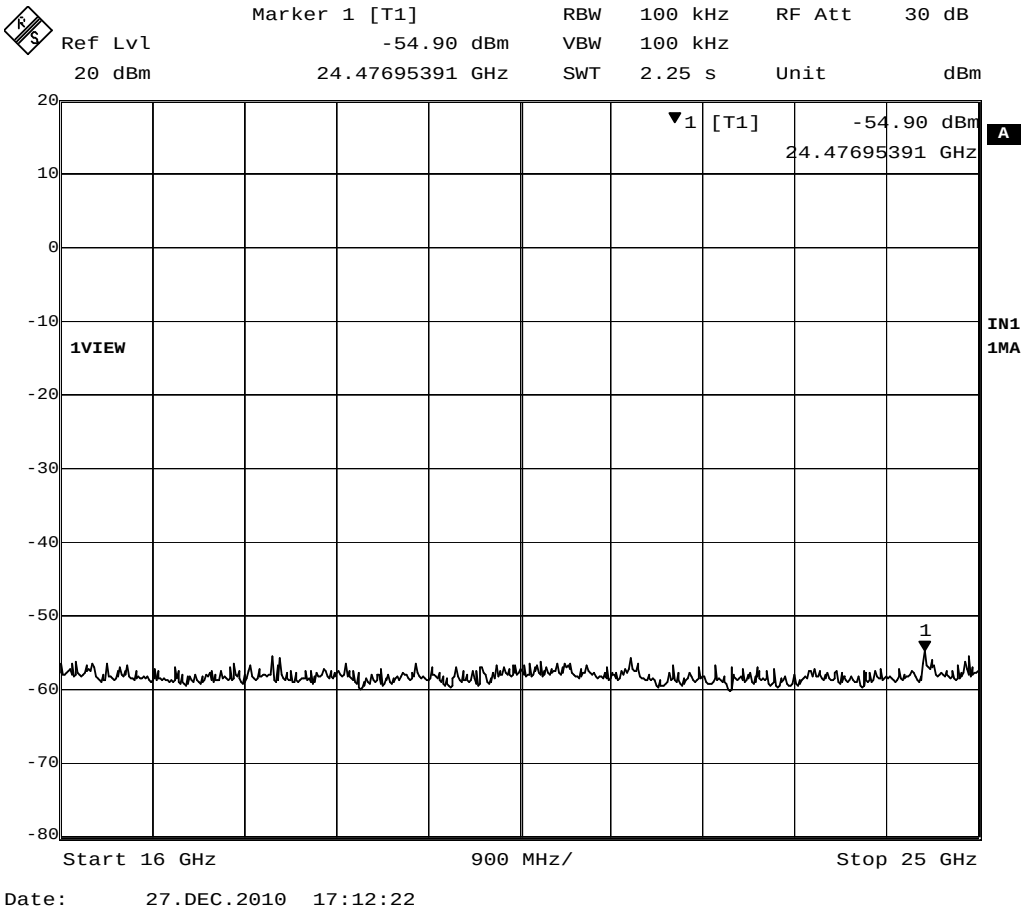
2437MHz (1GHz-8GHz)- n (40MHz) (ANT B)



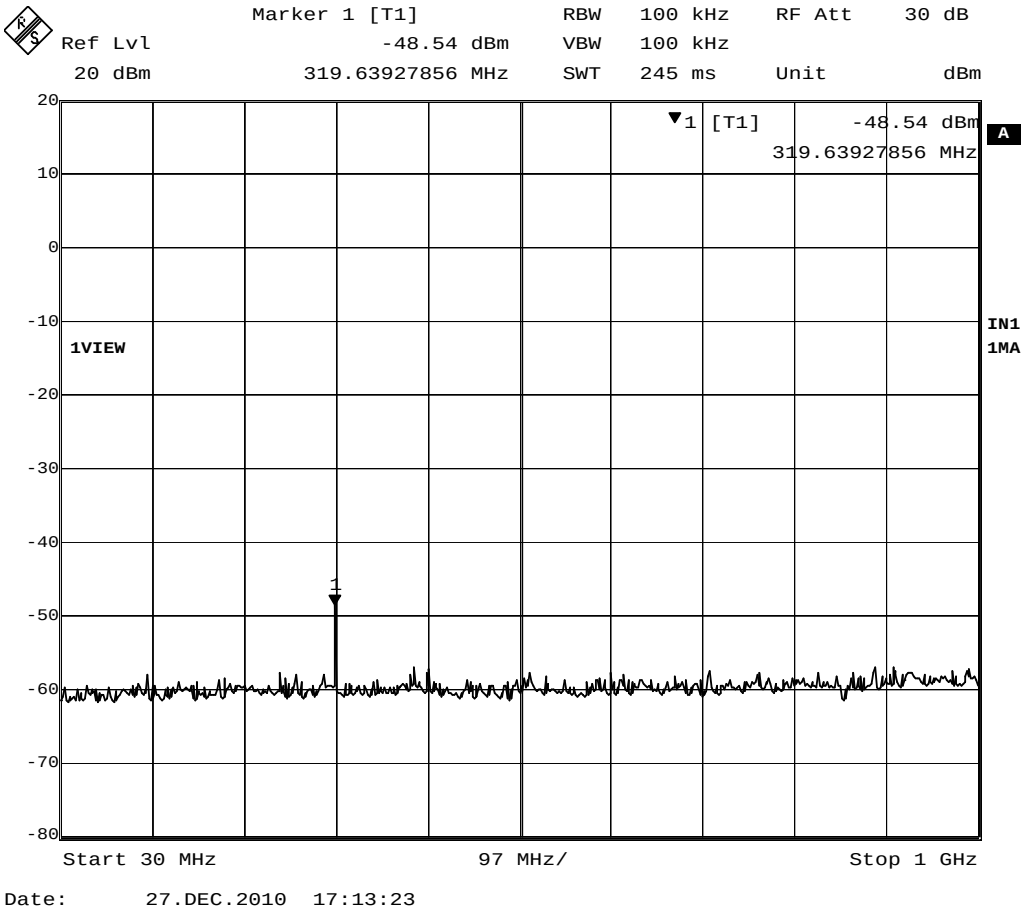
2437MHz (8GHz-16GHz)- n (40MHz) (ANT B)



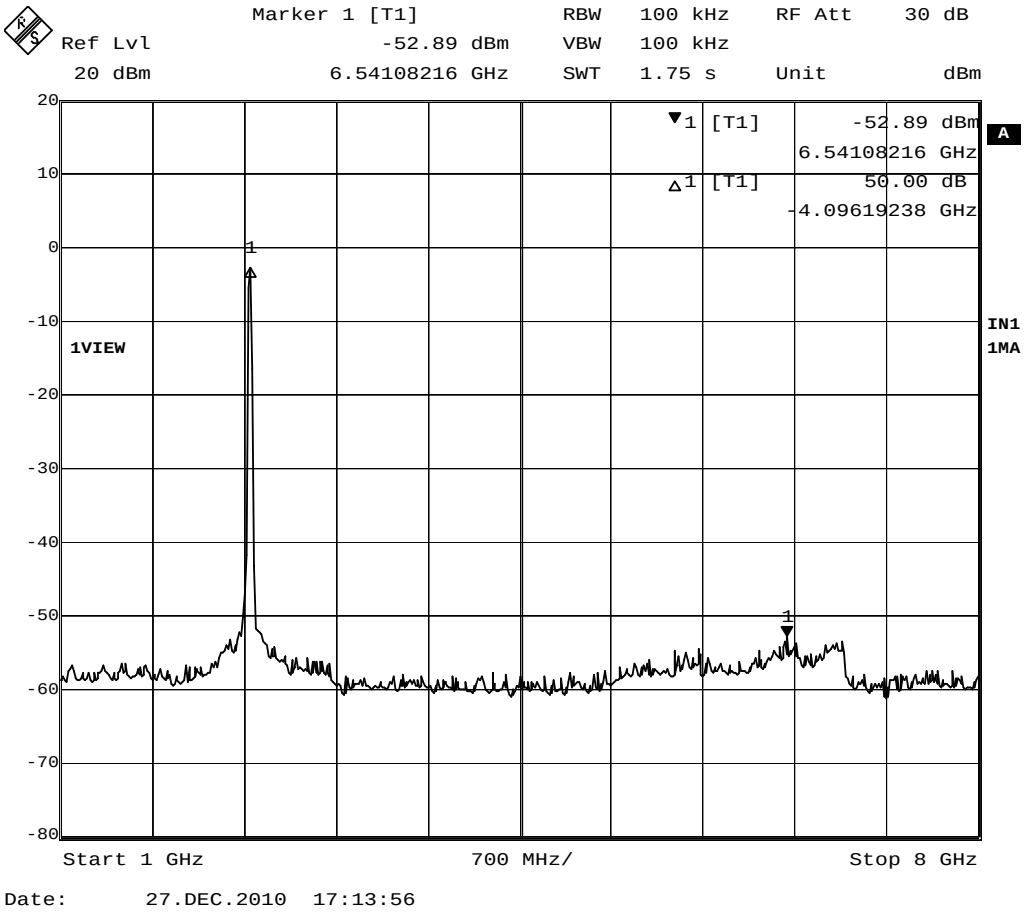
2437MHz (16GHz-25GHz)- n (40MHz) (ANT B)



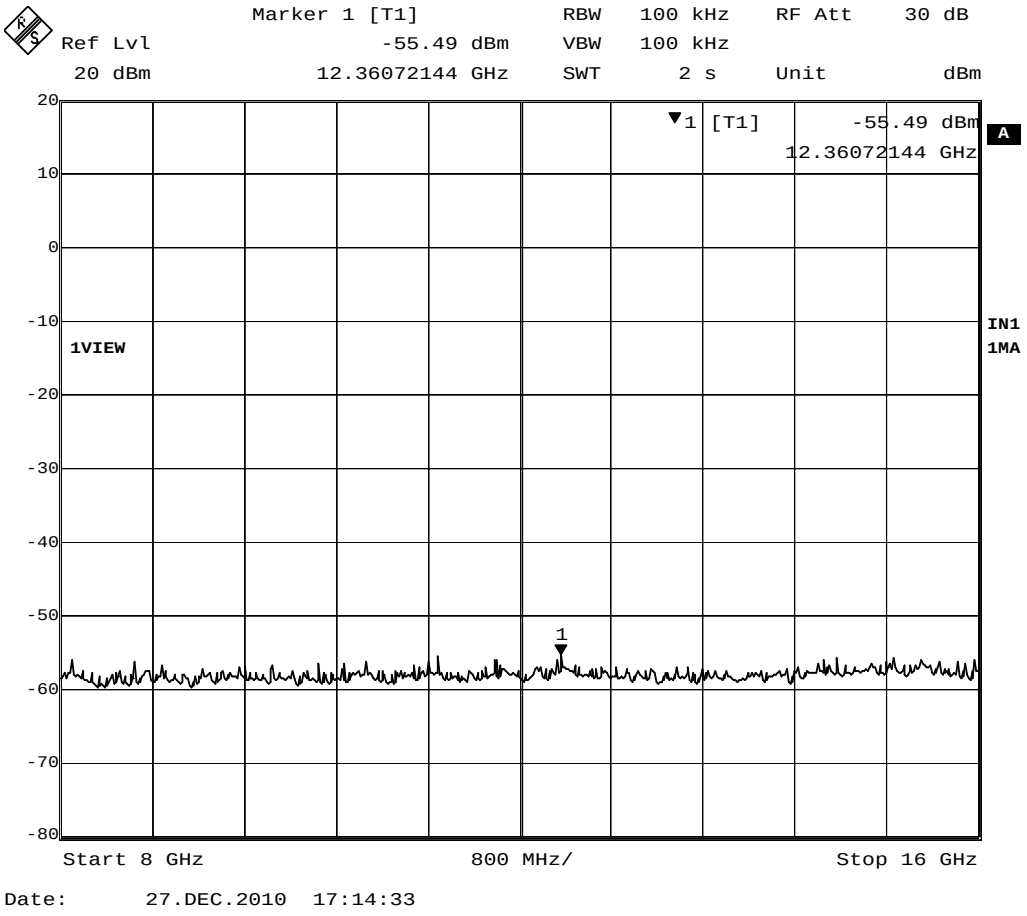
2452MHz (30MHz-1GHz)- n (40MHz) (ANT B)



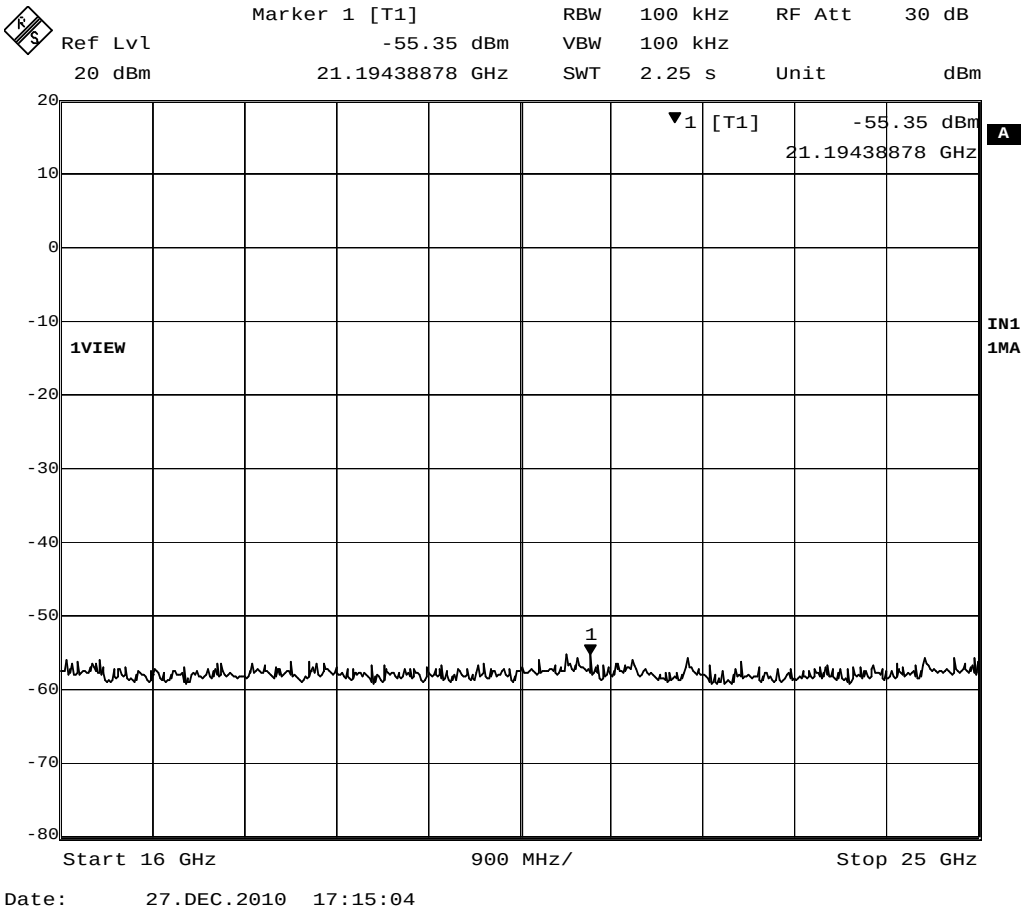
2452MHz (1GHz-8GHz)- n (40MHz) (ANT B)



2452MHz (8GHz-16GHz)- n (40MHz) (ANT B)



2452MHz (16GHz-25GHz)- n (40MHz) (ANT B)



6. Radiated Emission Band Edge

6.1. Test Equipment

The following test equipments are used during the test:

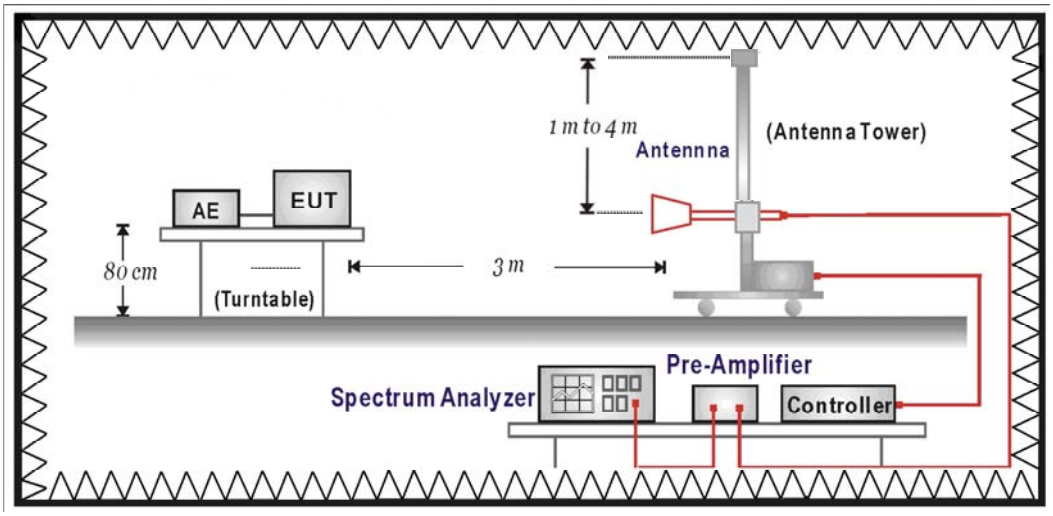
Band Edge / CB1

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Horn Antenna	Schwarzback	BBHA 9120D	743	2011/03/14
Spectrum Analyzer	Agilent	E4440A	MY46187335	2011/01/14
Coaxial Cable	Huber+Suhner AG	Sucoflex 102	25623/2	2011/04/07

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

6.2. Test Setup

RF Radiated Measurement:



6.3. Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

6.4. Test Procedure

The EUT was setup according to ANSI C63.4: 2009 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
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. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
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 according to ANSI C63.4: 2009 on radiated measurement.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2009

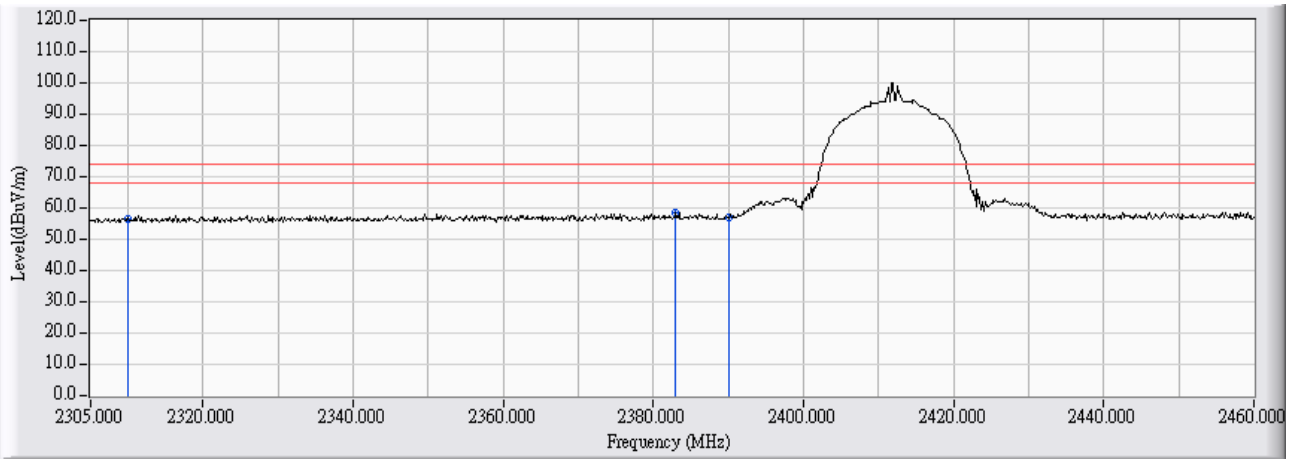
6.6. Uncertainty

The measurement uncertainty
± 3.9 dB above 1GHz

6.7. Test Result

Radiated is defined as

Site : CB1	**Time : 2010/12/20 - 16:49**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2412MHz**

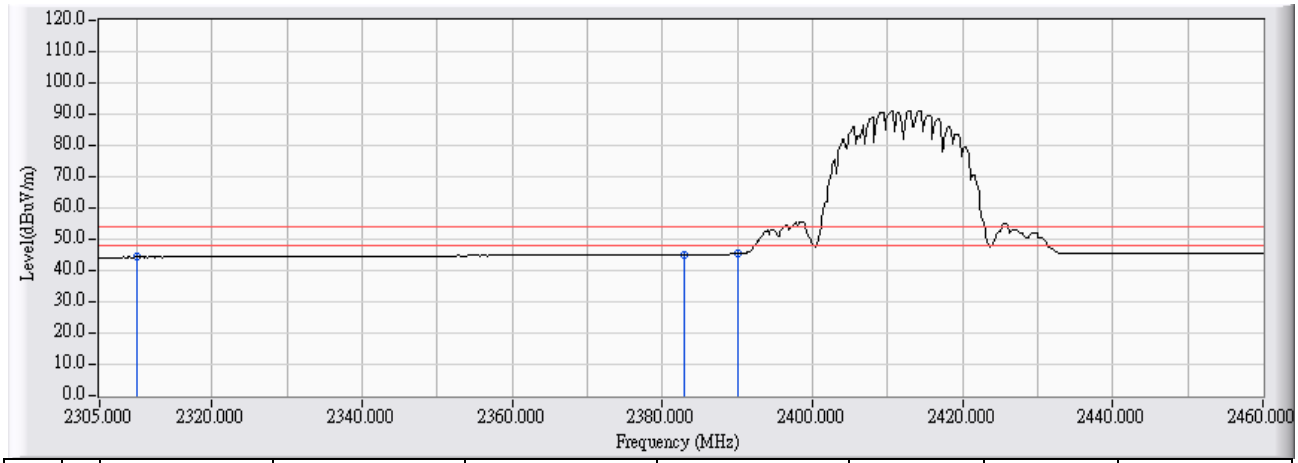


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	29.252	56.517	-17.483	74.000	PEAK
2	*	2382.965	27.570	30.818	58.389	-15.611	74.000	PEAK
3		2390.000	27.600	29.298	56.898	-17.102	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 16:51**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2412MHz**

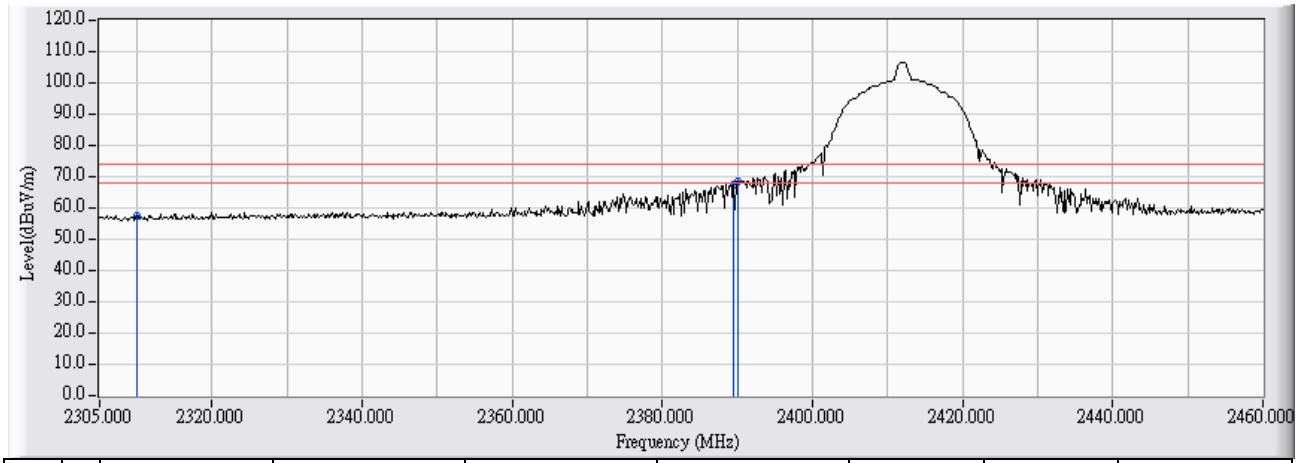


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	17.003	44.268	-9.732	54.000	AVERAGE
2		2382.965	27.570	17.534	45.105	-8.895	54.000	AVERAGE
3	*	2390.000	27.600	17.723	45.323	-8.677	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:21**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2412MHz**

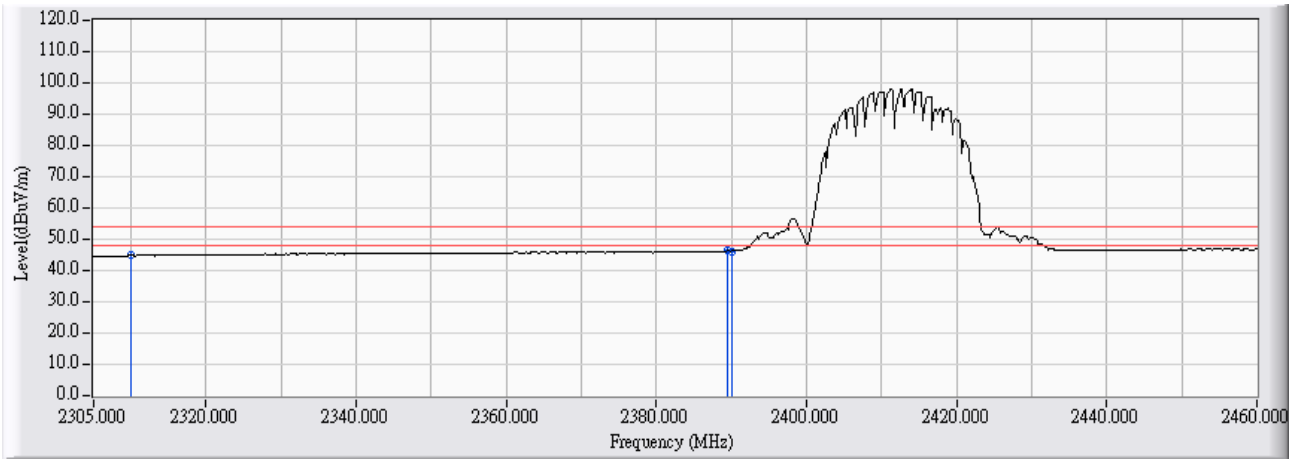


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	30.250	57.515	-16.485	74.000	PEAK
2		2389.475	27.597	39.797	67.395	-6.605	74.000	PEAK
3	*	2390.000	27.600	40.756	68.356	-5.644	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:22**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2412MHz**

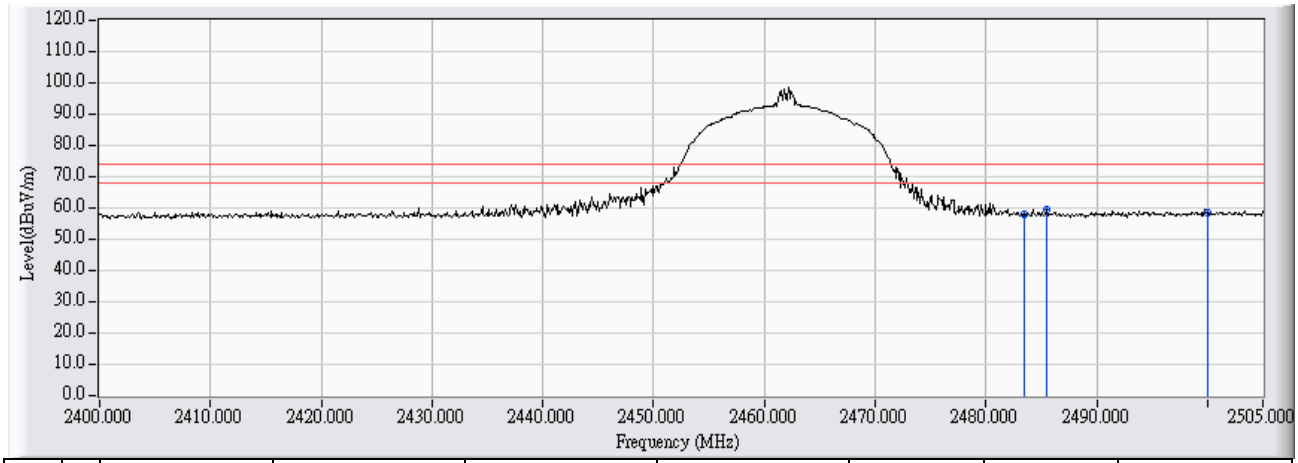


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	17.540	44.805	-9.195	54.000	AVERAGE
2	*	2389.475	27.597	18.712	46.310	-7.690	54.000	AVERAGE
3		2390.000	27.600	18.607	46.207	-7.793	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:03**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2462MHz**

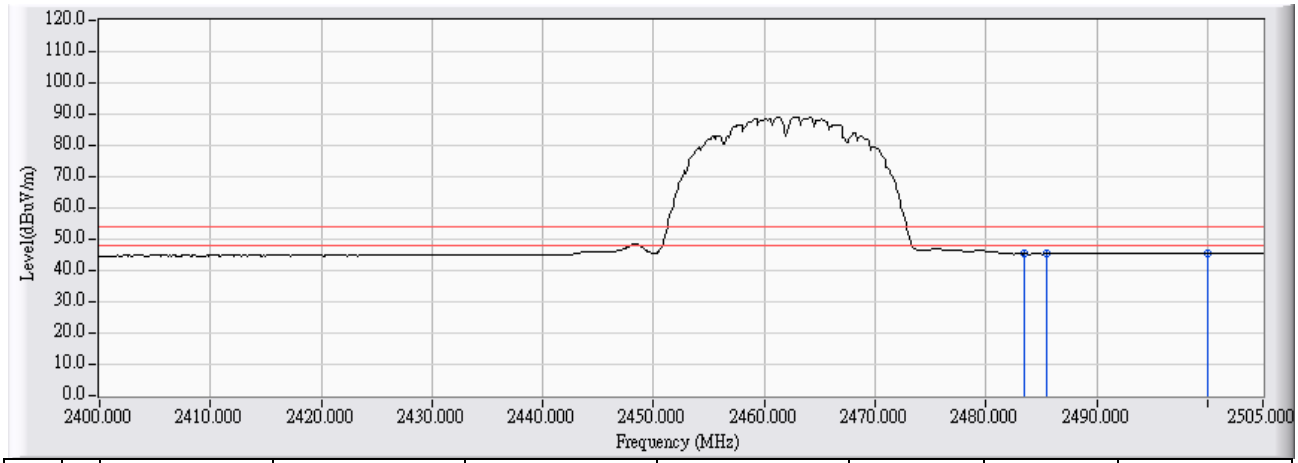


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	29.781	57.772	-16.228	74.000	PEAK
2	*	2485.470	28.000	31.423	59.422	-14.578	74.000	PEAK
3		2500.000	28.057	30.299	58.356	-15.644	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:04**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2462MHz**

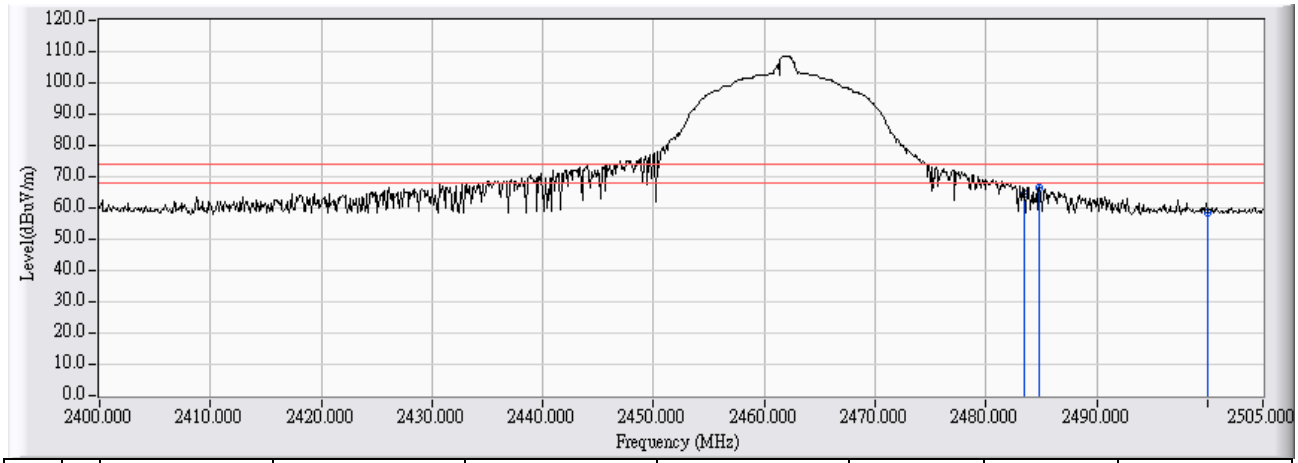


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	17.288	45.279	-8.721	54.000	AVERAGE
2		2485.470	28.000	17.289	45.288	-8.712	54.000	AVERAGE
3	*	2500.000	28.057	17.424	45.481	-8.519	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:21**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2462MHz**

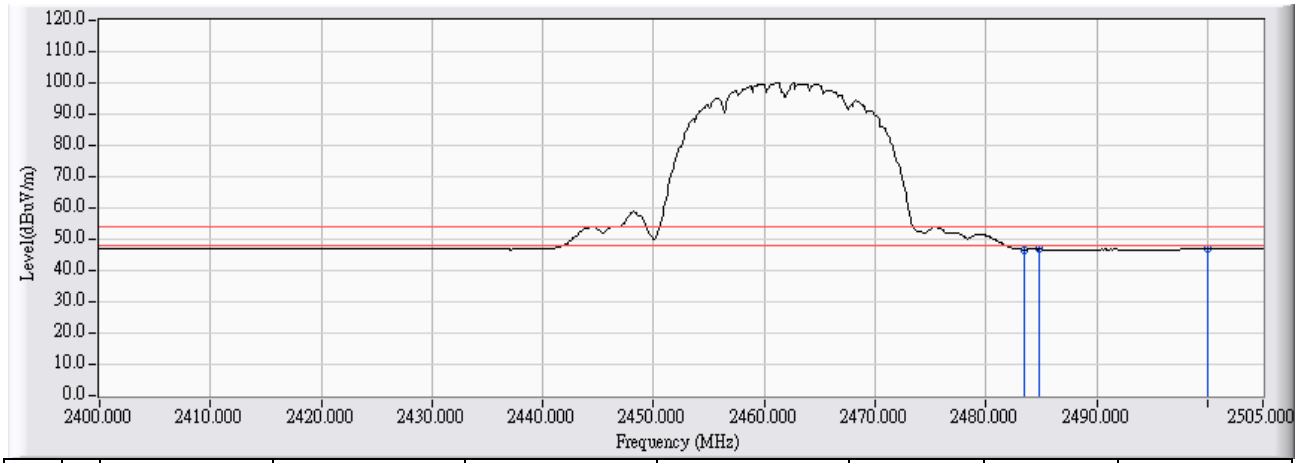


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	36.428	64.419	-9.581	74.000	PEAK
2	*	2484.840	27.996	38.601	66.598	-7.402	74.000	PEAK
3		2500.000	28.057	30.646	58.703	-15.297	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:21**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11b-2462MHz**

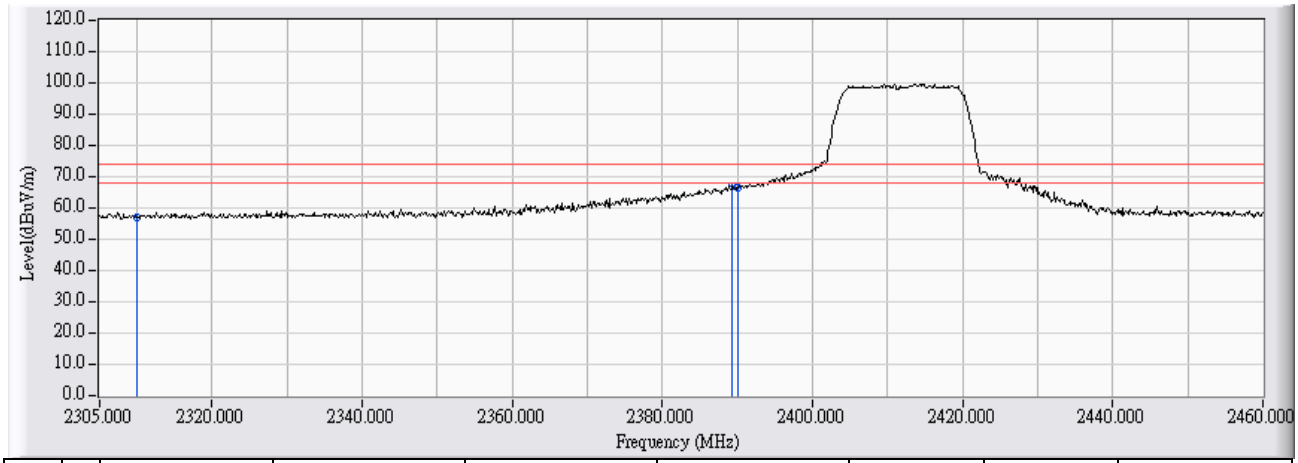


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	18.735	46.726	-7.274	54.000	AVERAGE
2		2484.840	27.996	18.789	46.786	-7.214	54.000	AVERAGE
3	*	2500.000	28.057	18.792	46.849	-7.151	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:08**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2412MHz**

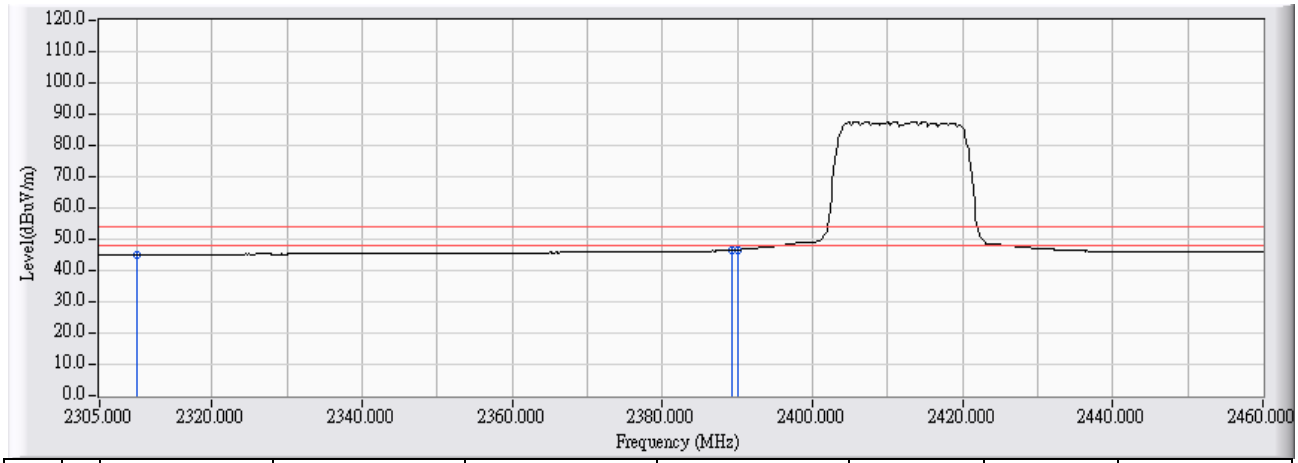


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	29.645	56.910	-17.090	74.000	PEAK
2	*	2389.320	27.597	39.609	67.206	-6.794	74.000	PEAK
3		2390.000	27.600	38.784	66.384	-7.616	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:09**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2412MHz**

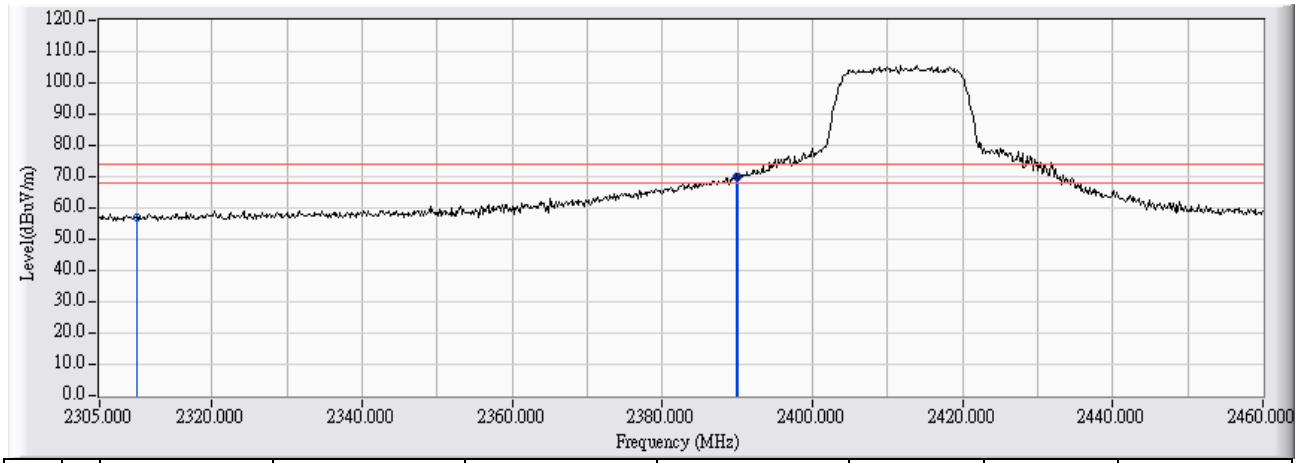


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	17.867	45.132	-8.868	54.000	AVERAGE
2		2389.320	27.597	18.956	46.553	-7.447	54.000	AVERAGE
3	*	2390.000	27.600	19.041	46.641	-7.359	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:18**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2412MHz**

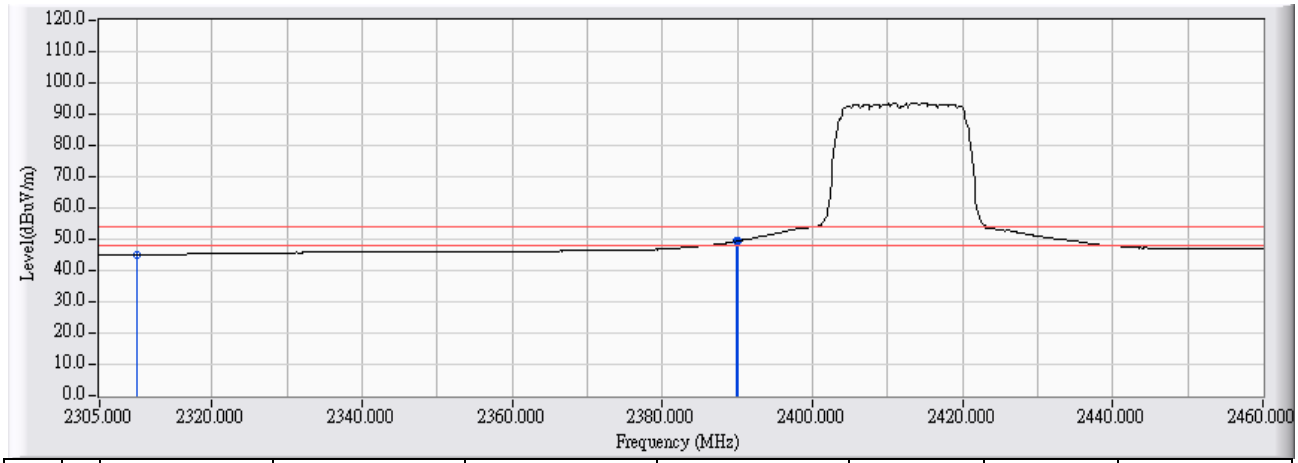


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	29.547	56.812	-17.188	74.000	PEAK
2		2389.785	27.599	42.441	70.040	-3.960	74.000	PEAK
3	*	2390.000	27.600	42.517	70.117	-3.883	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:19**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2412MHz**

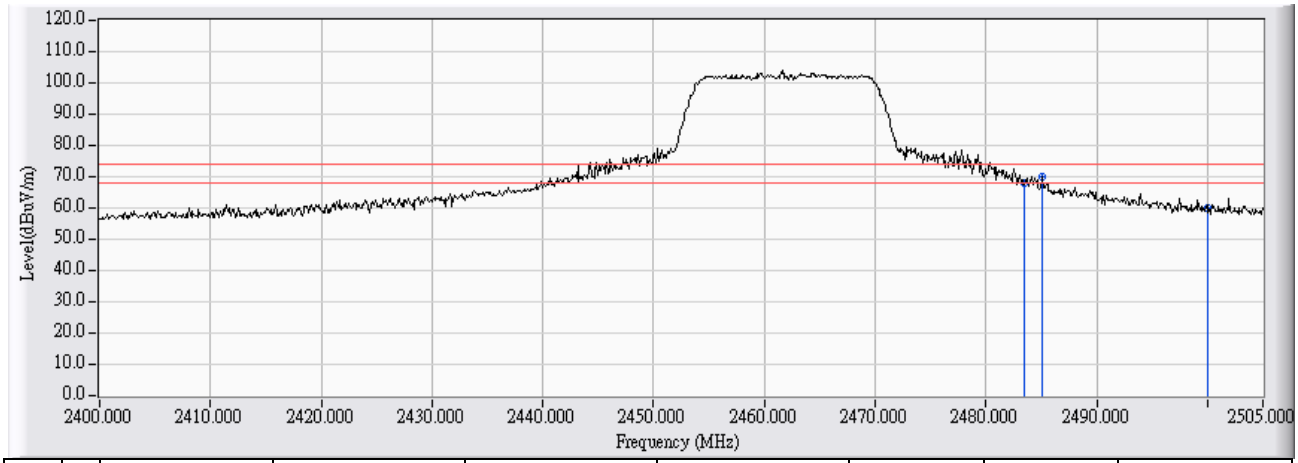


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	17.769	45.034	-8.966	54.000	AVERAGE
2		2389.785	27.599	21.720	49.319	-4.681	54.000	AVERAGE
3	*	2390.000	27.600	21.851	49.451	-4.549	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:05**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2462MHz**

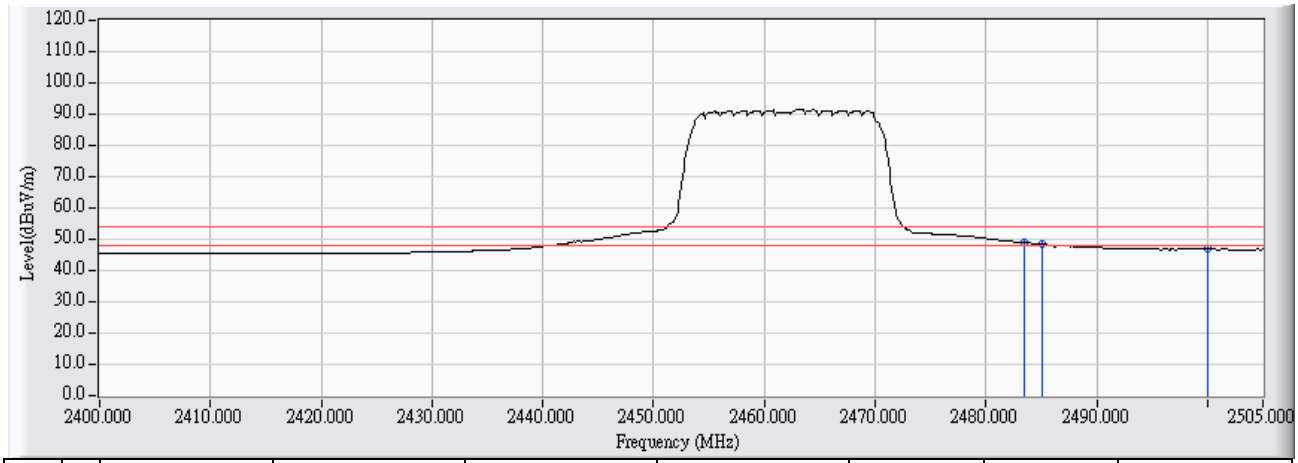


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	39.891	67.882	-6.118	74.000	PEAK
2	*	2485.050	27.997	41.997	69.995	-4.005	74.000	PEAK
3		2500.000	28.057	31.966	60.023	-13.977	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:06**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2462MHz**

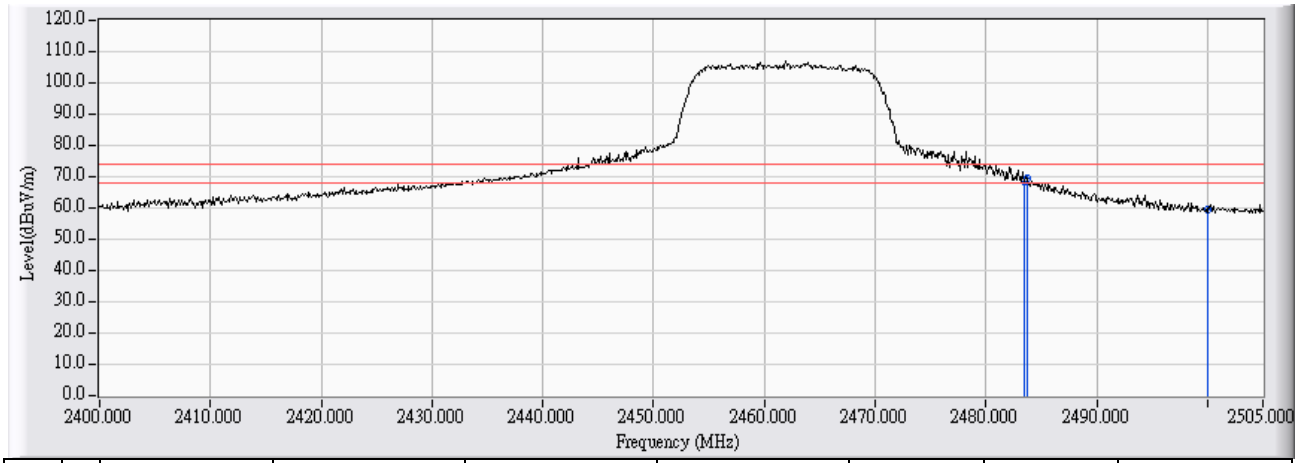


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	27.991	20.976	48.967	-5.033	54.000	AVERAGE
2		2485.050	27.997	20.472	48.470	-5.530	54.000	AVERAGE
3		2500.000	28.057	18.793	46.850	-7.150	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:18**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2462MHz**

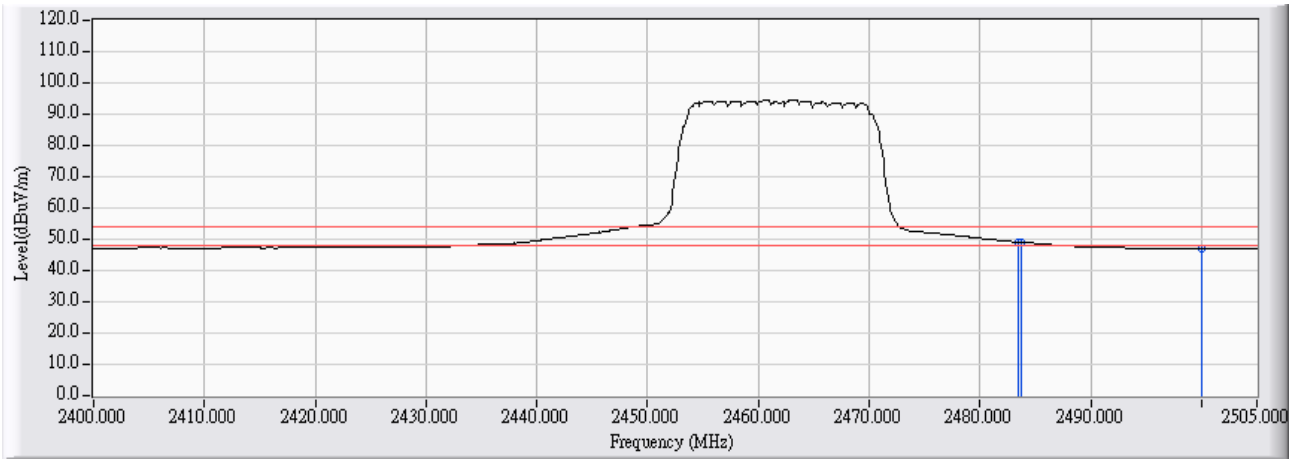


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	40.501	68.492	-5.508	74.000	PEAK
2	*	2483.685	27.992	41.264	69.256	-4.744	74.000	PEAK
3		2500.000	28.057	31.399	59.456	-14.544	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:19**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11g-2462MHz**

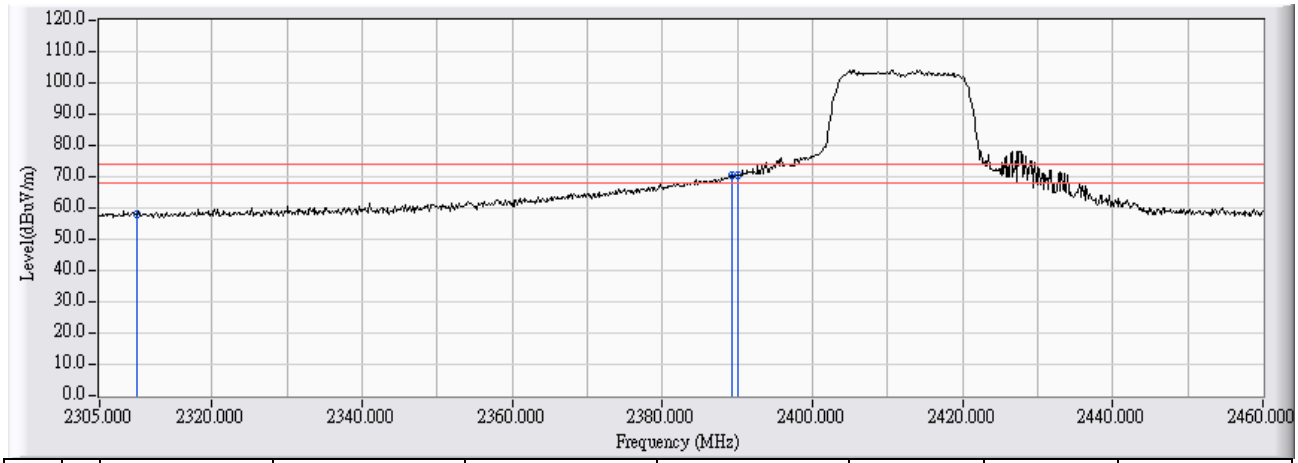


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	27.991	21.049	49.040	-4.960	54.000	AVERAGE
2		2483.685	27.992	20.977	48.969	-5.031	54.000	AVERAGE
3		2500.000	28.057	18.955	47.012	-6.988	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:11**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2412MHz**

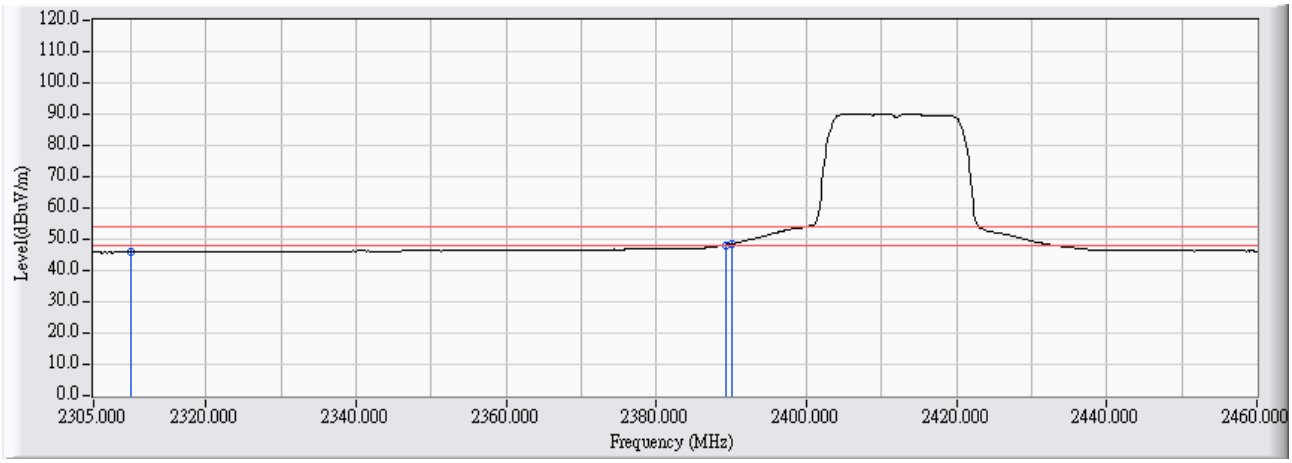


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	30.598	57.863	-16.137	74.000	PEAK
2		2389.320	27.597	42.674	70.271	-3.729	74.000	PEAK
3	*	2390.000	27.600	42.838	70.438	-3.562	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:12**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2412MHz**

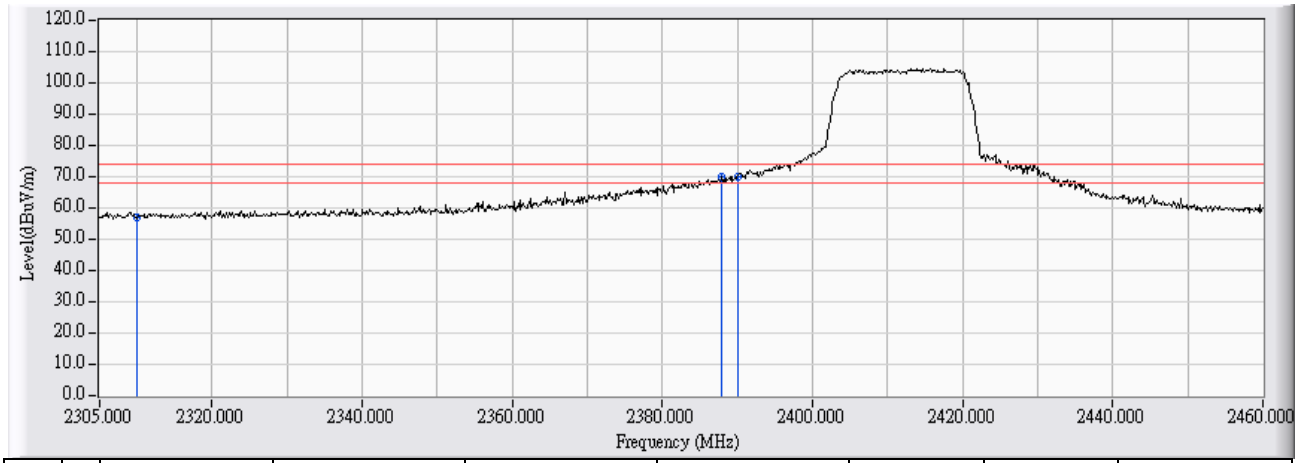


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	18.609	45.874	-8.126	54.000	AVERAGE
2		2389.320	27.597	20.636	48.233	-5.767	54.000	AVERAGE
3	*	2390.000	27.600	20.954	48.554	-5.446	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:16**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2412MHz**

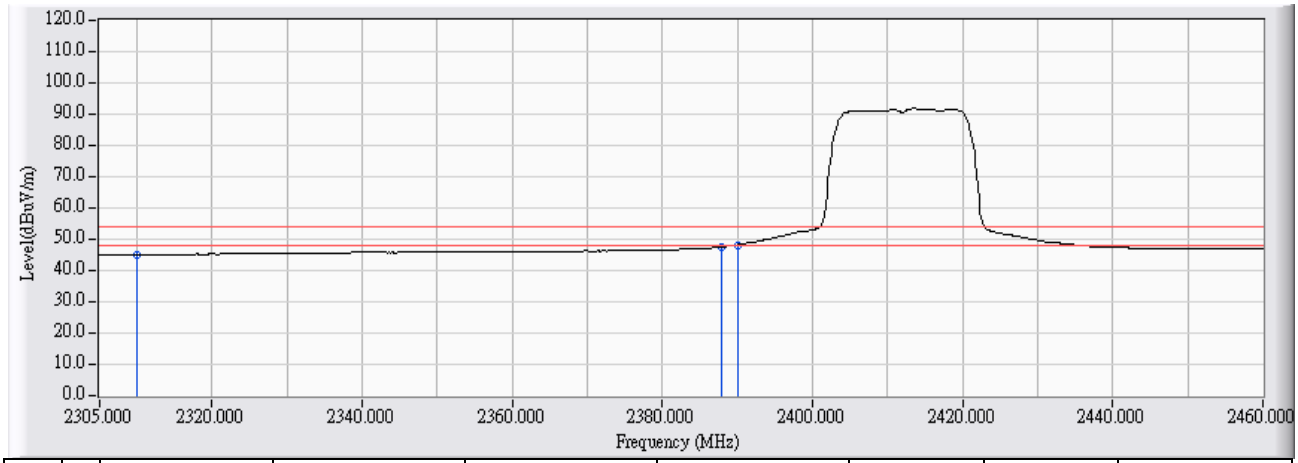


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	29.635	56.900	-17.100	74.000	PEAK
2		2387.925	27.591	42.173	69.764	-4.236	74.000	PEAK
3	*	2390.000	27.600	42.273	69.873	-4.127	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:17**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2412MHz**

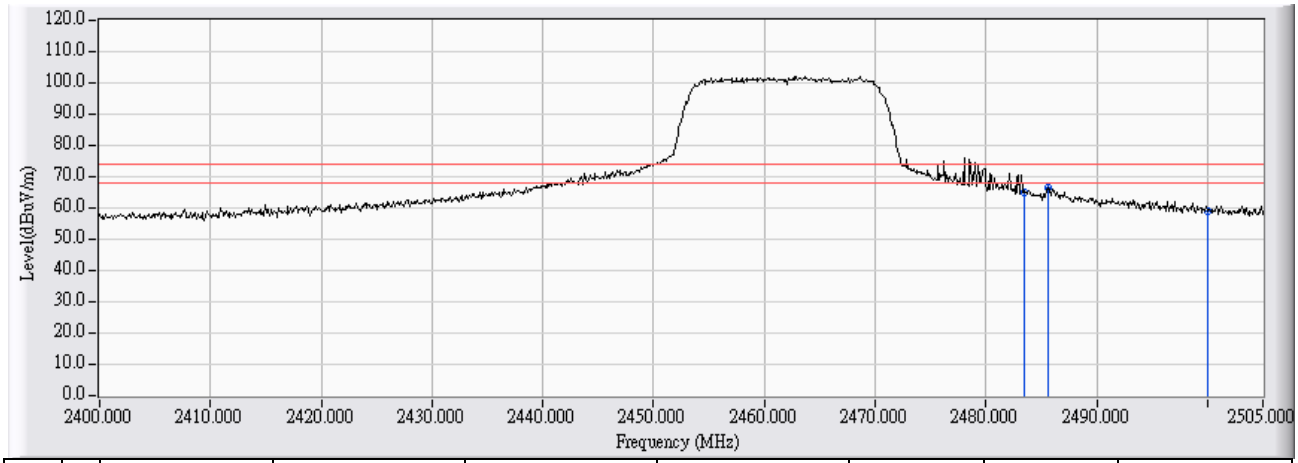


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	17.706	44.971	-9.029	54.000	AVERAGE
2		2387.925	27.591	19.890	47.481	-6.519	54.000	AVERAGE
3	*	2390.000	27.600	20.638	48.238	-5.762	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:09**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2462MHz**

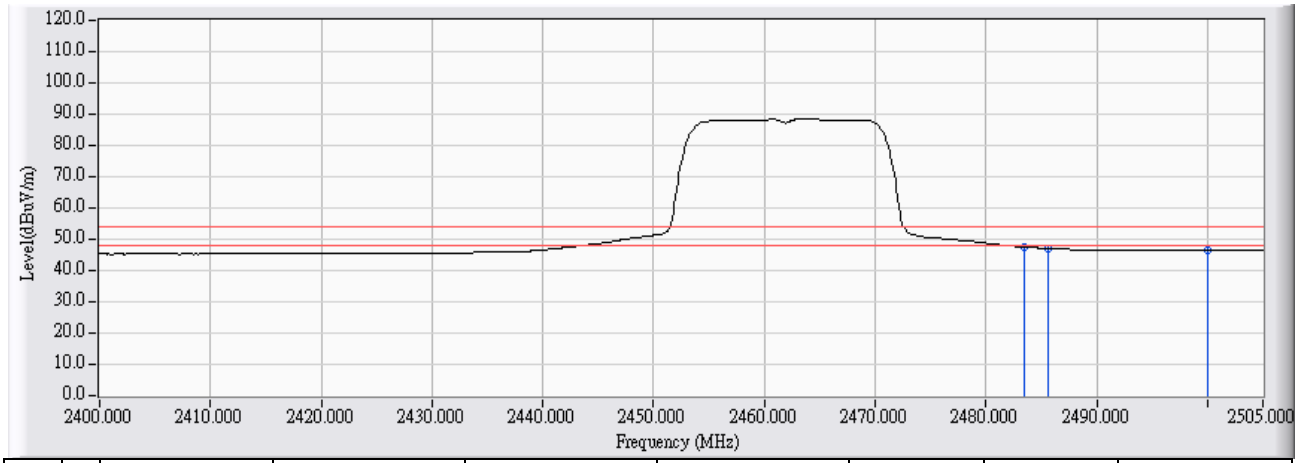


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	36.925	64.916	-9.084	74.000	PEAK
2	*	2485.575	28.000	38.696	66.696	-7.304	74.000	PEAK
3		2500.000	28.057	31.147	59.204	-14.796	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:10**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2462MHz**

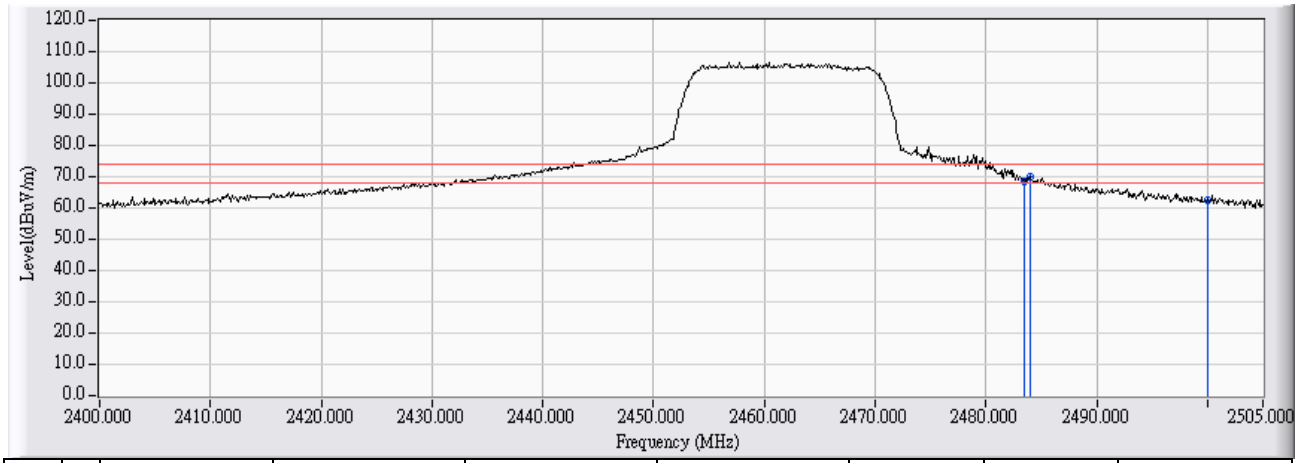


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	27.991	19.560	47.551	-6.449	54.000	AVERAGE
2		2485.575	28.000	19.080	47.080	-6.920	54.000	AVERAGE
3		2500.000	28.057	18.557	46.614	-7.386	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:17**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 - 802.11n(20M)-2462MHz**

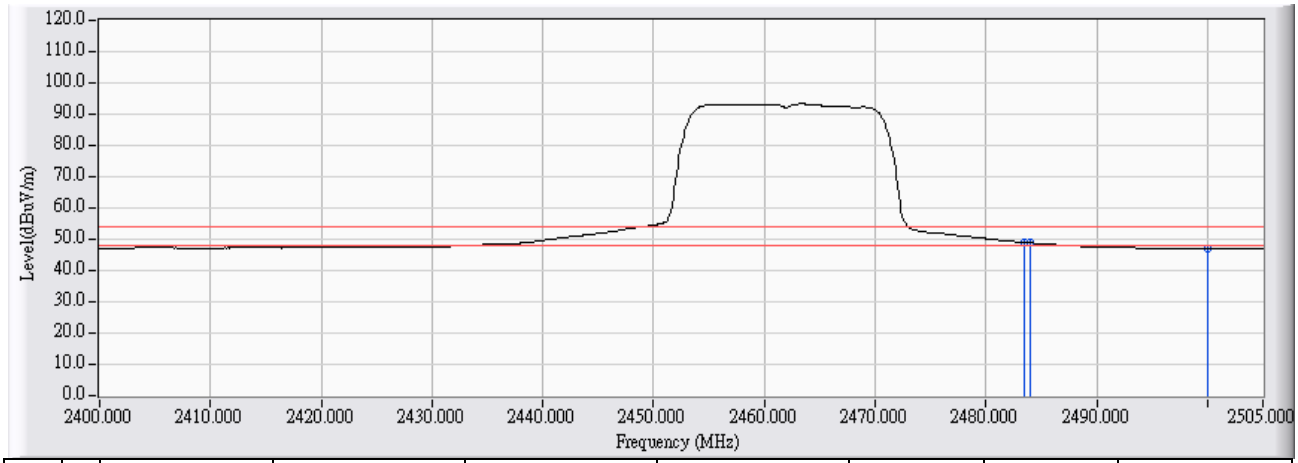


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	40.740	68.731	-5.269	74.000	PEAK
2	*	2484.000	27.993	42.049	70.042	-3.958	74.000	PEAK
3		2500.000	28.057	34.609	62.666	-11.334	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 20:17**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(20M)-2462MHz**

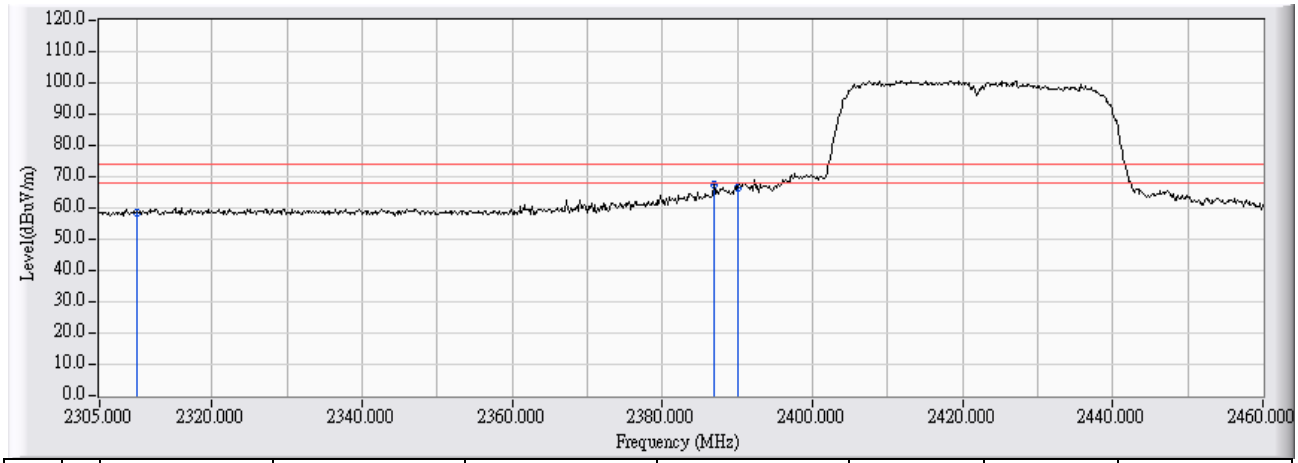


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	27.991	20.996	48.987	-5.013	54.000	AVERAGE
2		2484.000	27.993	20.861	48.854	-5.146	54.000	AVERAGE
3		2500.000	28.057	19.030	47.087	-6.913	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:33**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2422MHz**

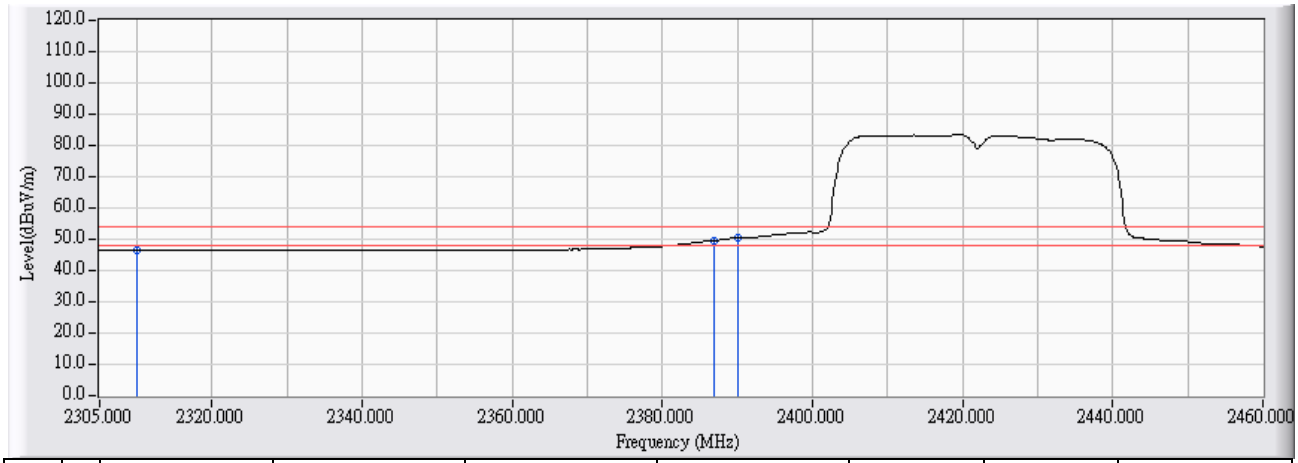


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	31.438	58.703	-15.297	74.000	PEAK
2	*	2386.840	27.587	40.099	67.686	-6.314	74.000	PEAK
3		2390.000	27.600	39.100	66.700	-7.300	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:34**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2422MHz**

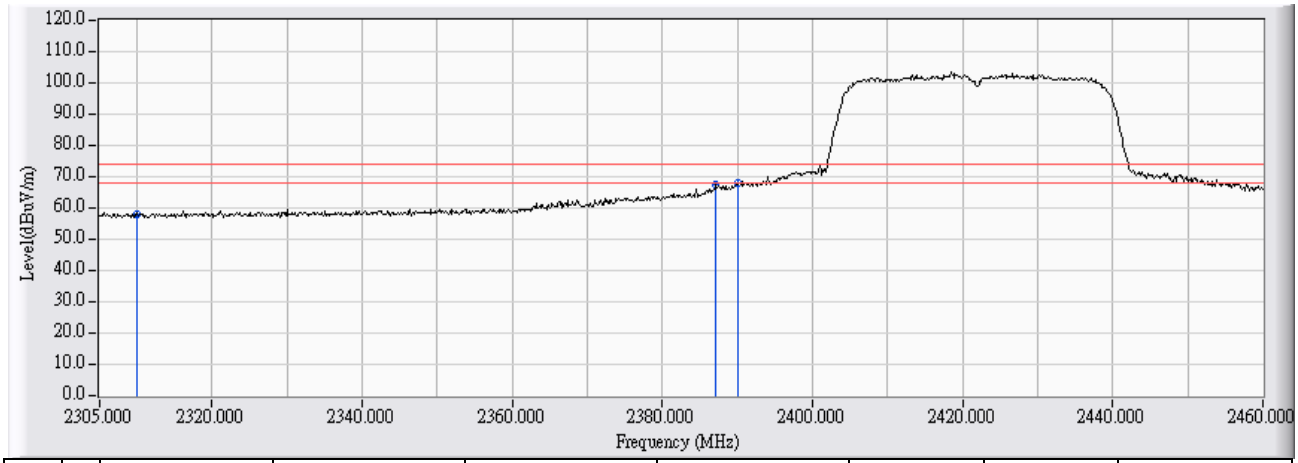


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	19.226	46.491	-7.509	54.000	AVERAGE
2		2386.840	27.587	22.085	49.672	-4.328	54.000	AVERAGE
3	*	2390.000	27.600	22.806	50.406	-3.594	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:38**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2422MHz**

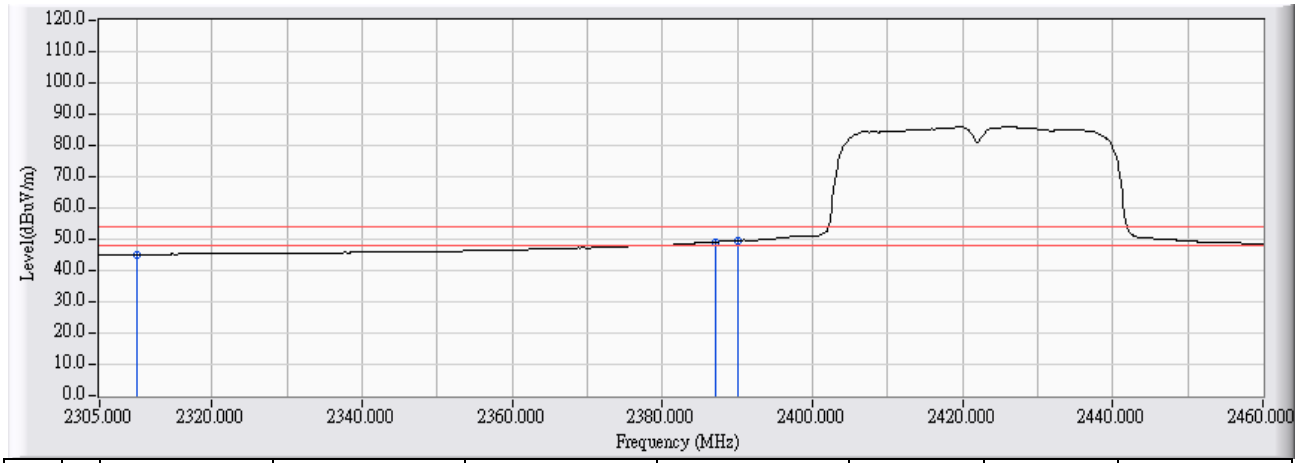


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	30.933	58.198	-15.802	74.000	PEAK
2		2387.150	27.588	39.687	67.275	-6.725	74.000	PEAK
3	*	2390.000	27.600	40.327	67.927	-6.073	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:39**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2422MHz**

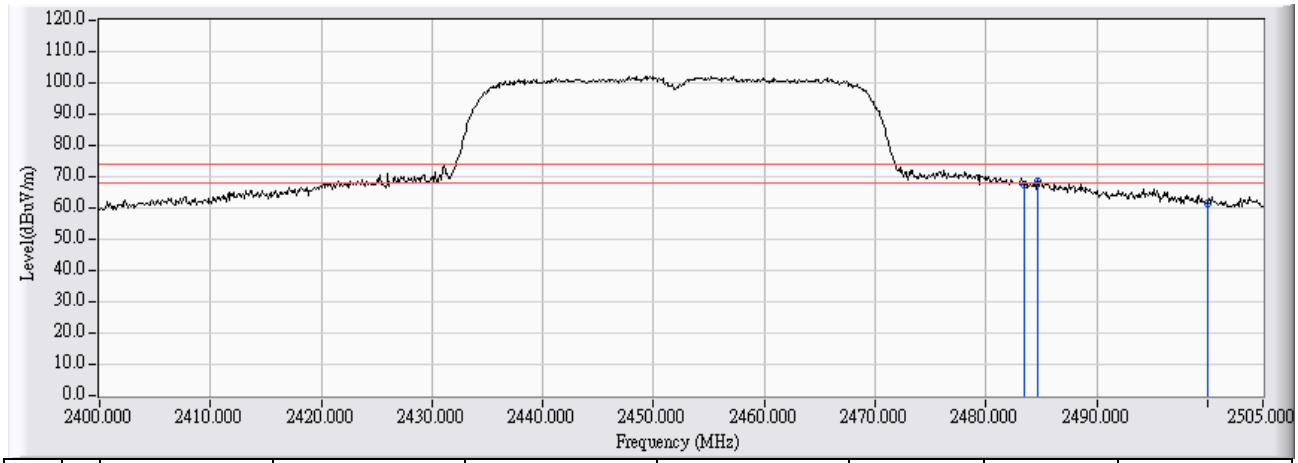


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2310.000	27.265	17.912	45.177	-8.823	54.000	AVERAGE
2		2387.150	27.588	21.592	49.180	-4.820	54.000	AVERAGE
3	*	2390.000	27.600	22.059	49.659	-4.341	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:51**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2452MHz**

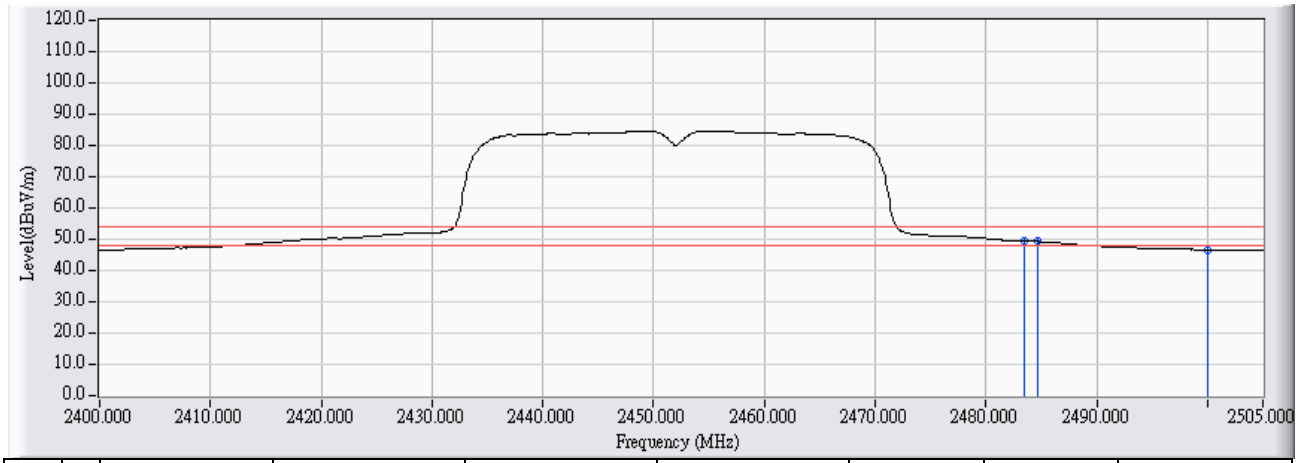


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	39.461	67.452	-6.548	74.000	PEAK
2	*	2484.630	27.996	40.640	68.636	-5.364	74.000	PEAK
3		2500.000	28.057	33.491	61.548	-12.452	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:52**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - HORIZONTAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2452MHz**

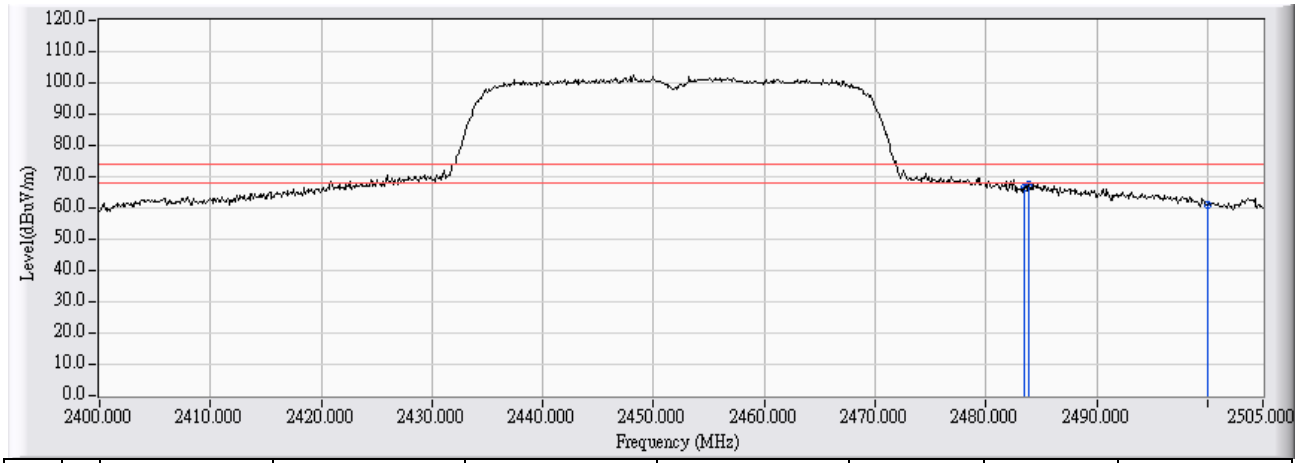


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	27.991	21.365	49.356	-4.644	54.000	AVERAGE
2		2484.630	27.996	21.277	49.273	-4.727	54.000	AVERAGE
3		2500.000	28.057	18.609	46.666	-7.334	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:56**
Limit : FCC_SpartC_15.209_03M_PK	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2452MHz**

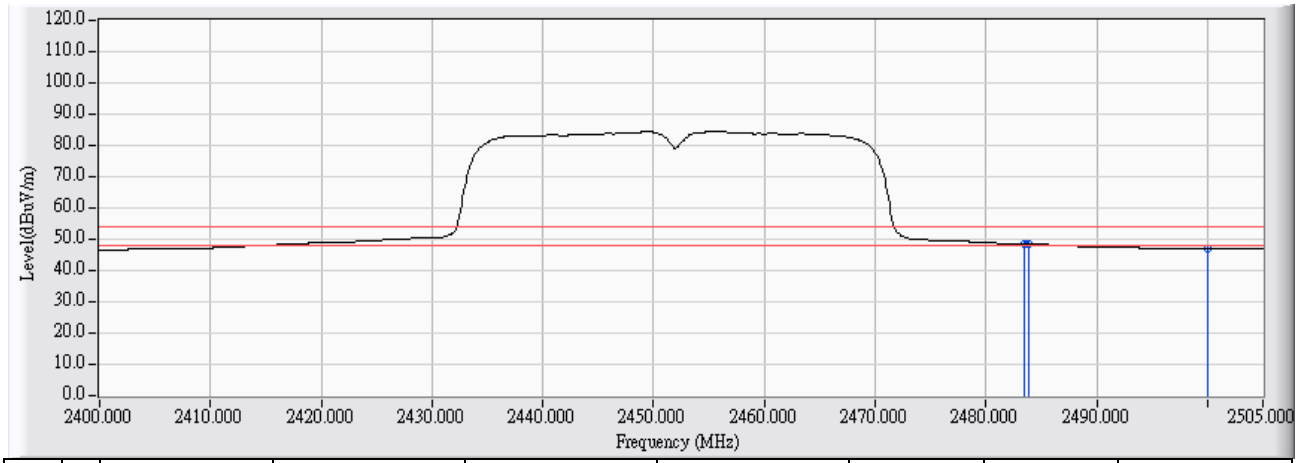


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1		2483.500	27.991	38.287	66.278	-7.722	74.000	PEAK
2	*	2483.895	27.992	39.608	67.601	-6.399	74.000	PEAK
3		2500.000	28.057	32.960	61.017	-12.983	74.000	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Site : CB1	**Time : 2010/12/20 - 19:56**
Limit : FCC_SpartC_15.209_03M_AV	**Margin : 6**
Probe : FCC_EFS_1-18G(2010-12) - VERTICAL	**Power : AC 120V/60Hz**
EUT : VOIP Ethemet Home Gateway	**Note : Mode 1: Transmit_UTL324-1220 – 802.11n(40M)-2452MHz**



		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	2483.500	27.991	20.457	48.448	-5.552	54.000	AVERAGE
2		2483.895	27.992	20.395	48.388	-5.612	54.000	AVERAGE
3		2500.000	28.057	18.920	46.977	-7.023	54.000	AVERAGE

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

7. Occupied Bandwidth

7.1. Test Equipment

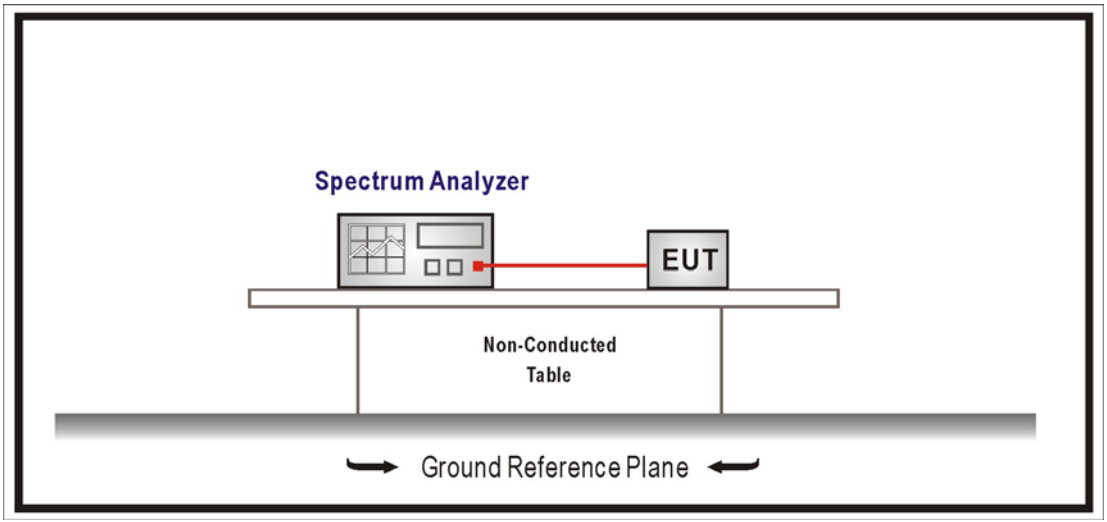
The following test equipment is used during the test:

Occupied Bandwidth / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2011/02/04

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

7.2. Test Setup



7.3. Test Procedures

The EUT was setup according to ANSI C63.4: 2009; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 100 kHz, Span greater than RBW.

7.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2009

7.6. Uncertainty

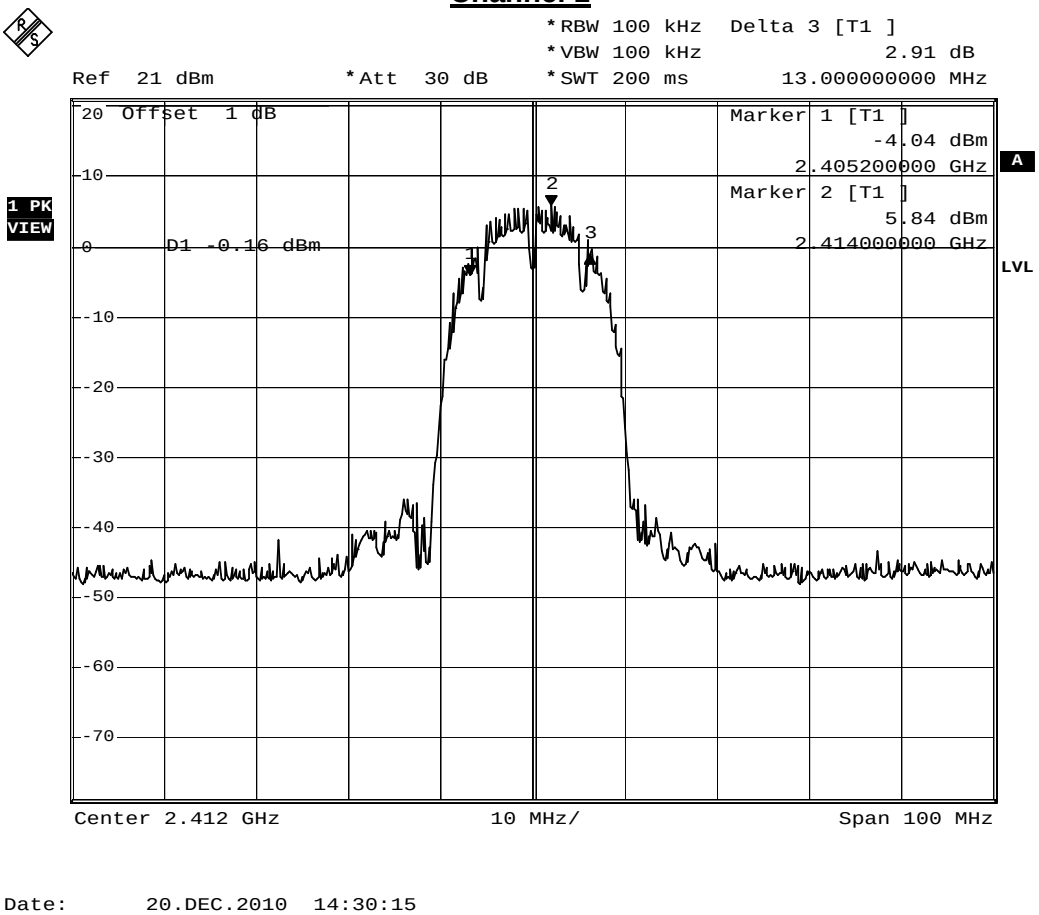
The measurement uncertainty is defined as ±150Hz

7.7. Test Result

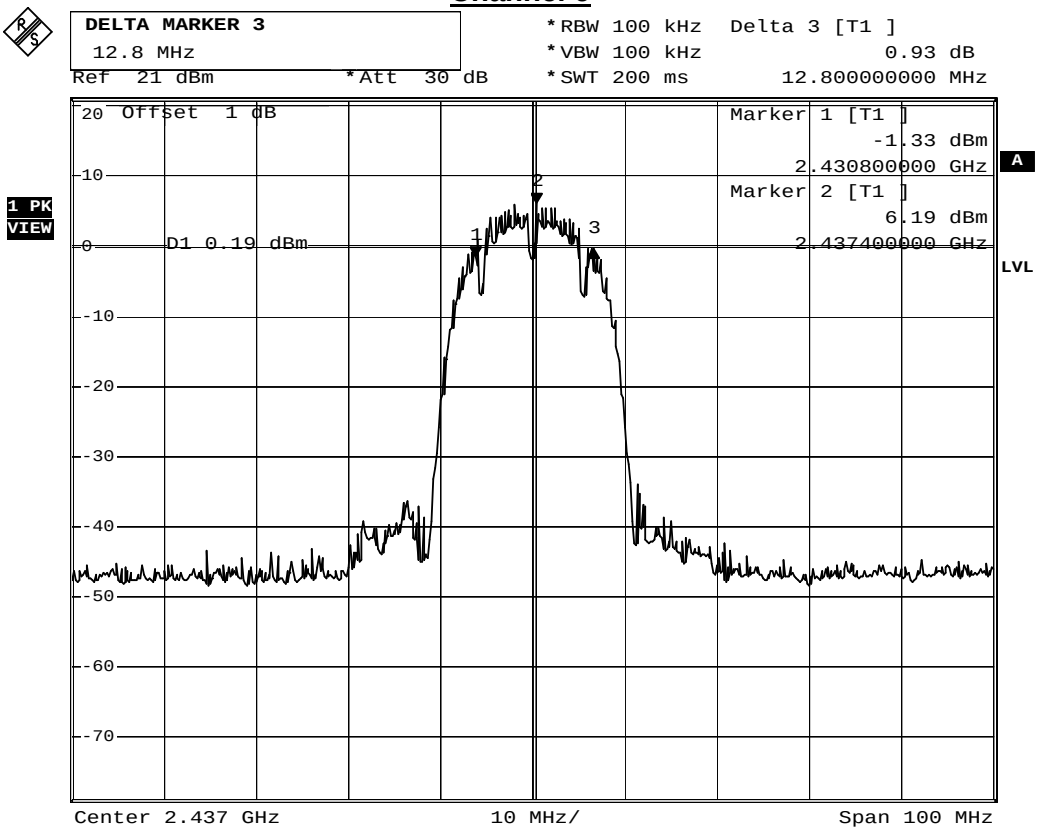
Product	VoIP Ethernet Home Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2010/12/20	Test Site	SR7

802.11 b				
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	13000	≧500	Pass
6	2437	12800	≧500	Pass
11	2462	12800	≧500	Pass

Channel 1

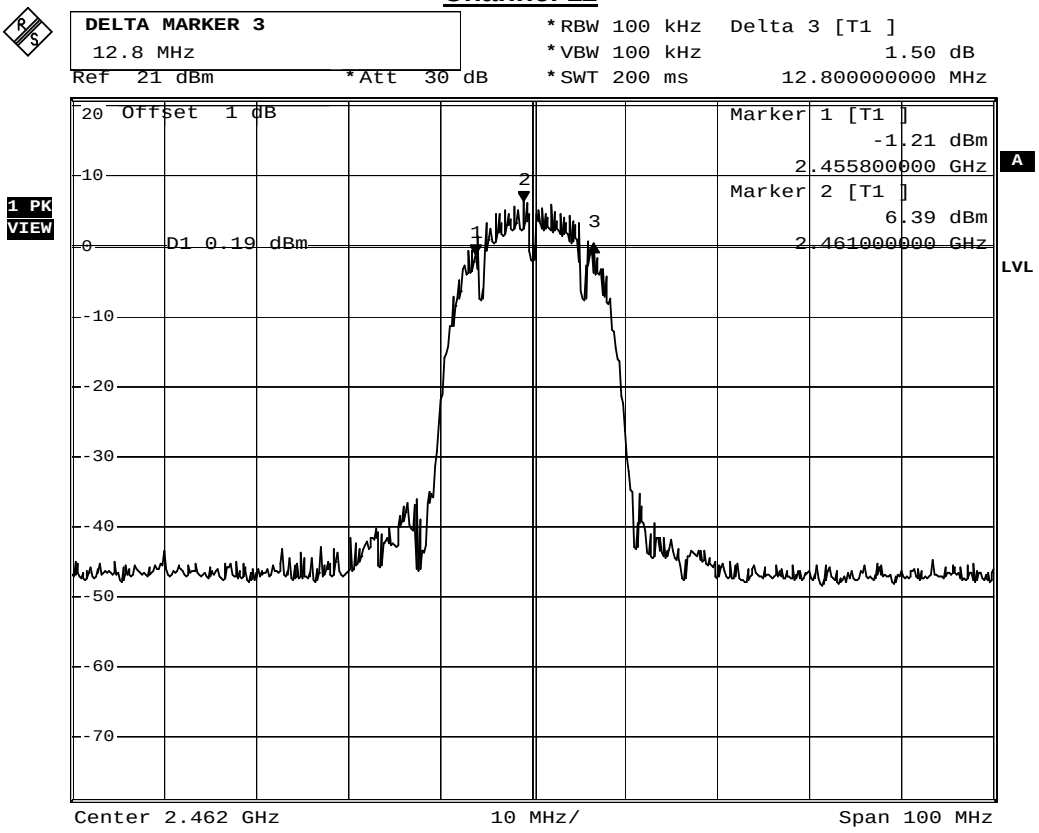


Channel 6



Date: 20.DEC.2010 14:32:41

Channel 11

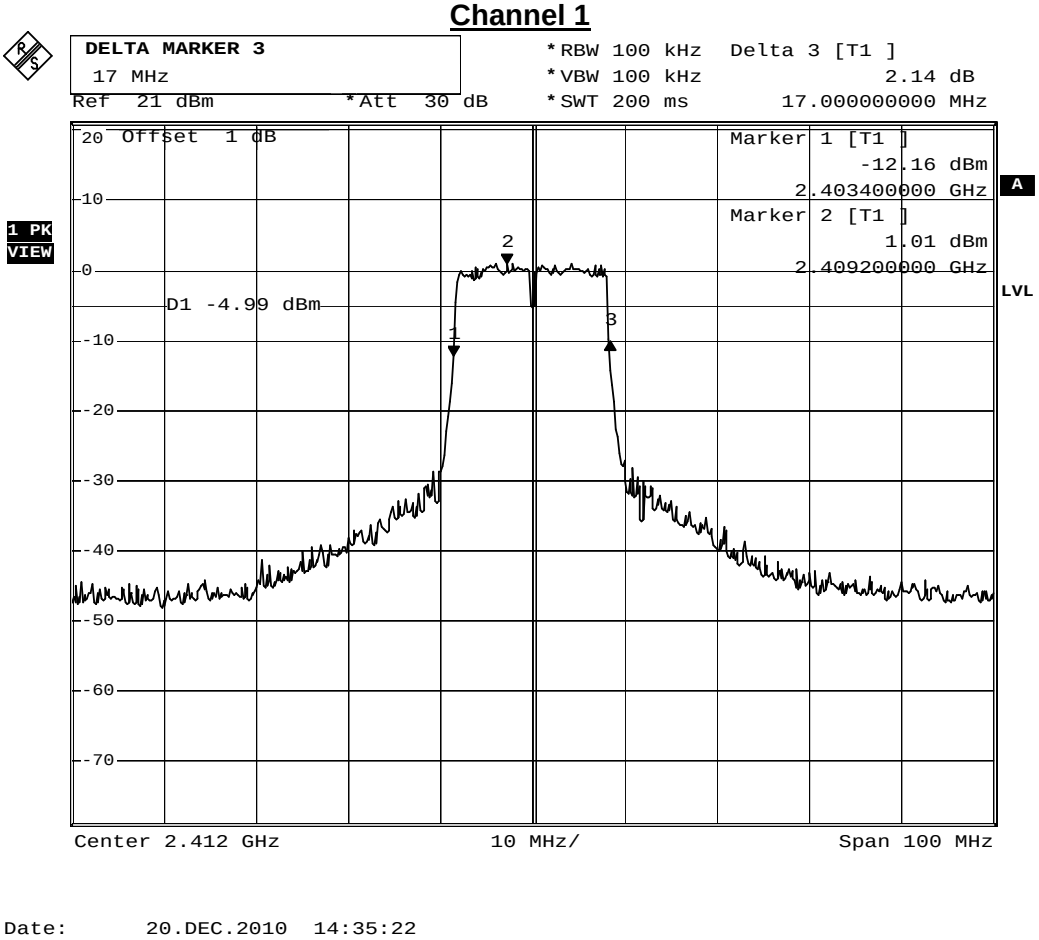


Date: 20.DEC.2010 14:33:46

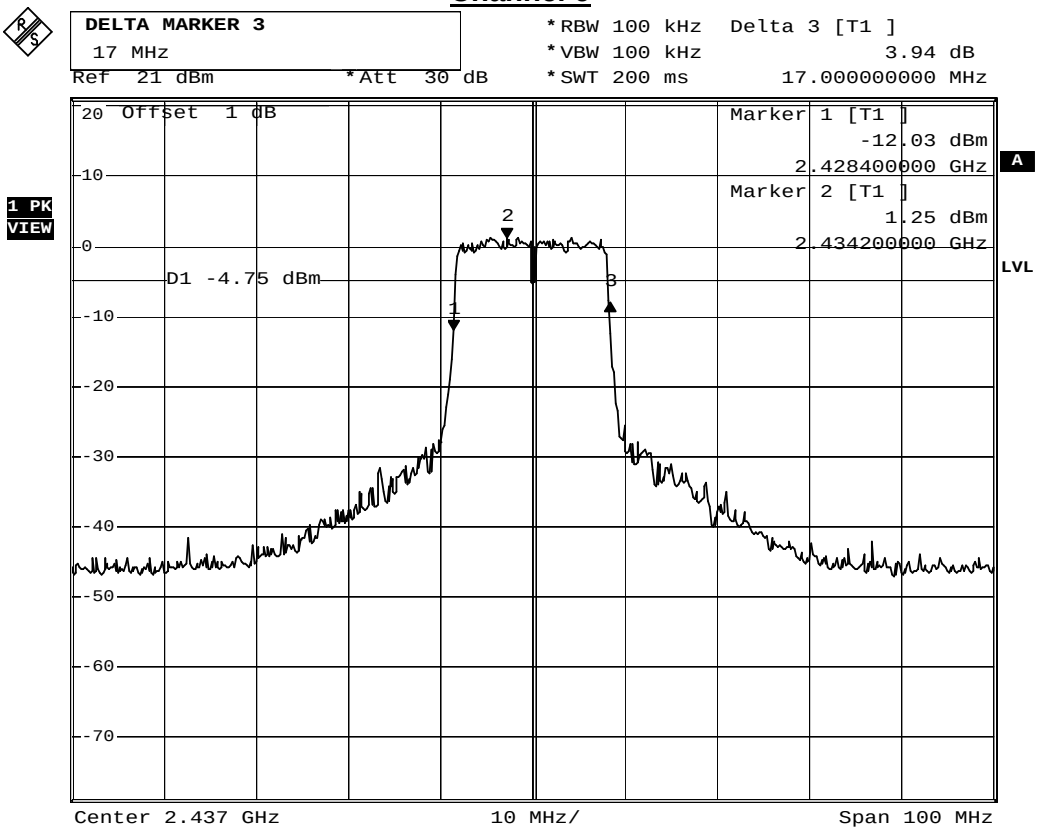
Product	VoIP Ethernet Home Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2010/12/20	Test Site	SR7

IEEE 802.11g				
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	17000	≧500	Pass
6	2437	17000	≧500	Pass
11	2462	16800	≧500	Pass

Channel 1

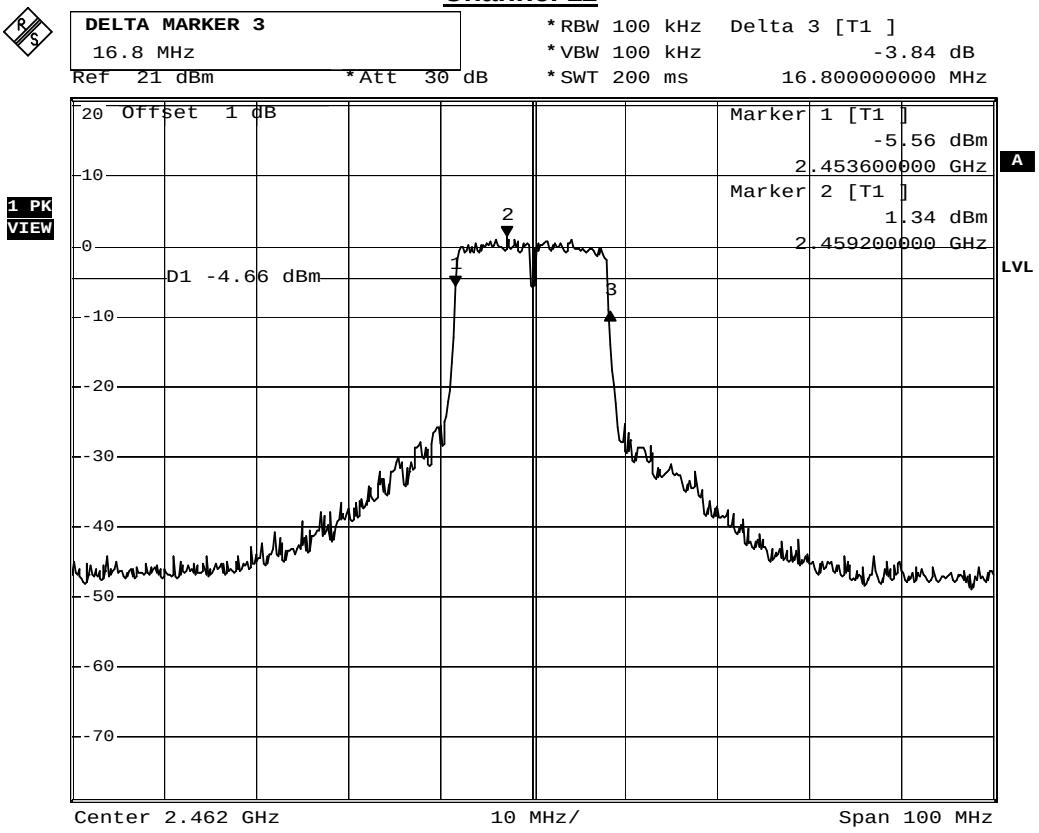


Channel 6



Date: 20.DEC.2010 14:37:21

Channel 11

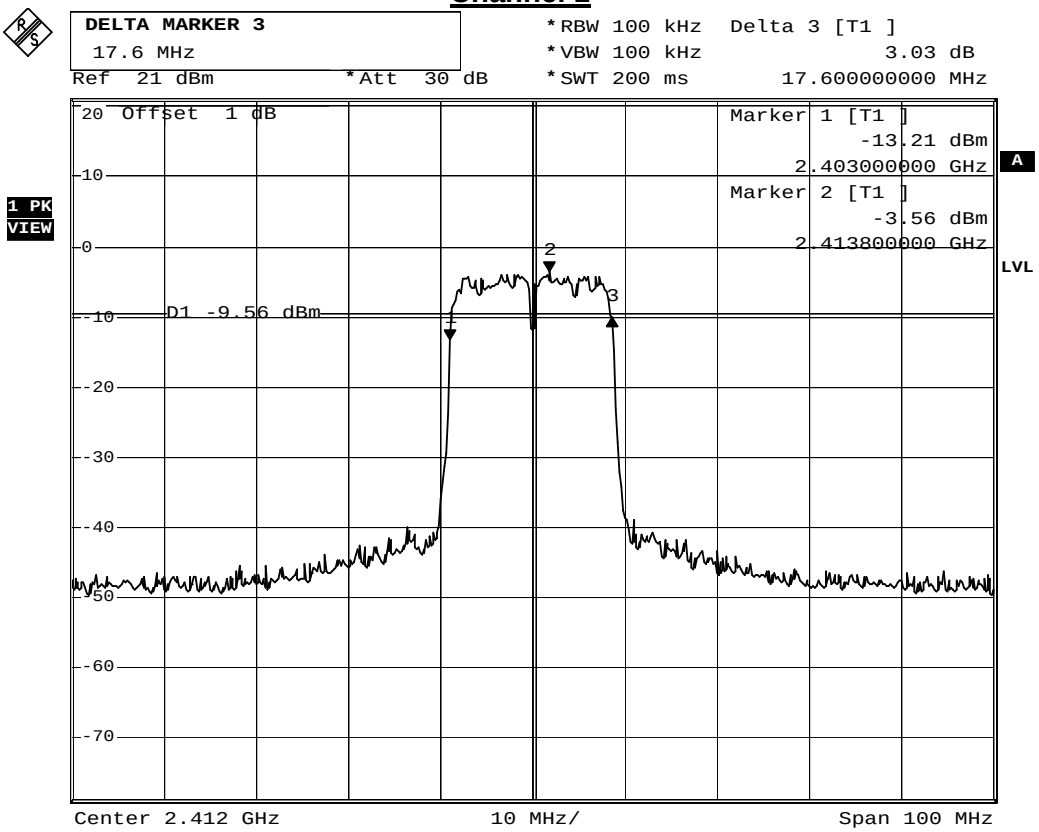


Date: 20.DEC.2010 14:39:53

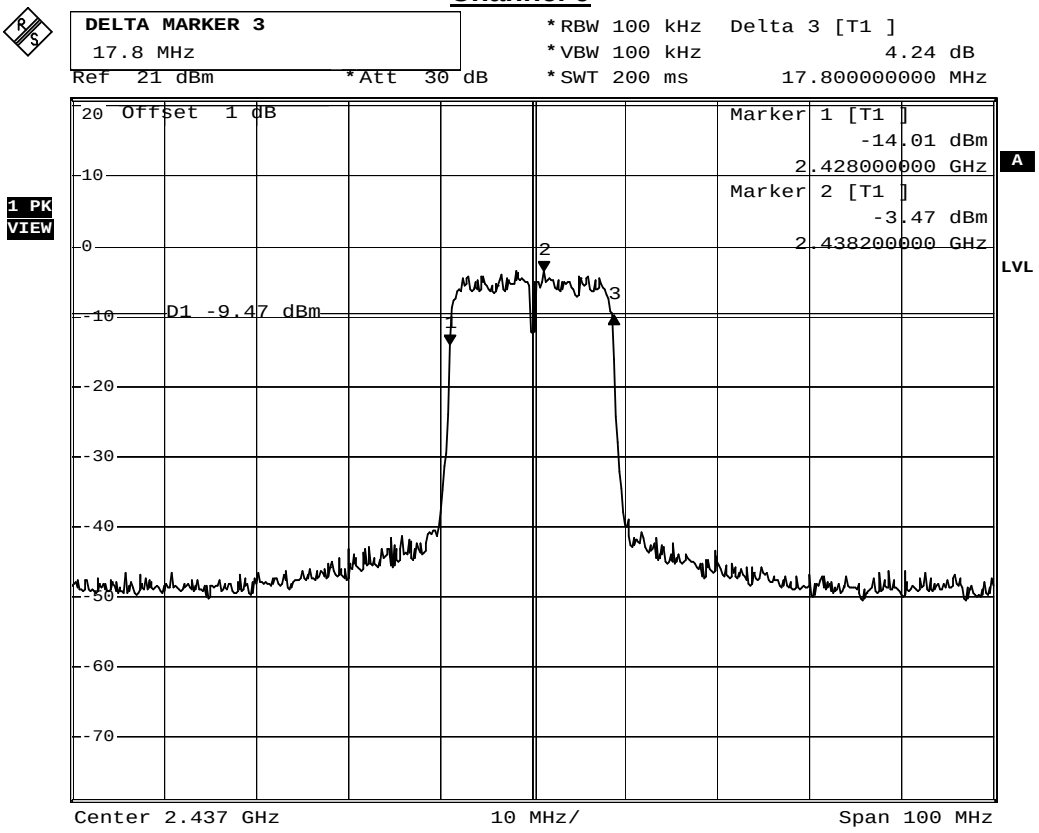
Product	VoIP Ethernet Home Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT A (20MHz))				
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	17600	≧500	Pass
6	2437	17800	≧500	Pass
11	2462	17400	≧500	Pass

Channel 1

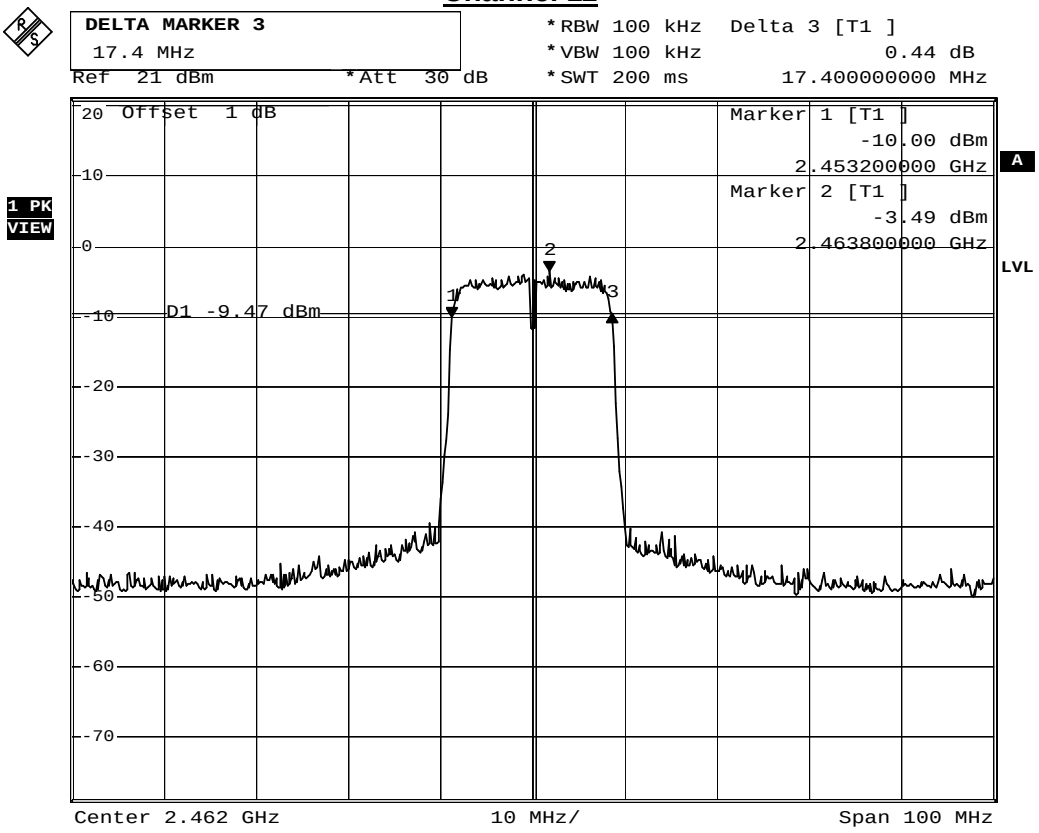


Channel 6



Date: 21.DEC.2010 11:09:44

Channel 11

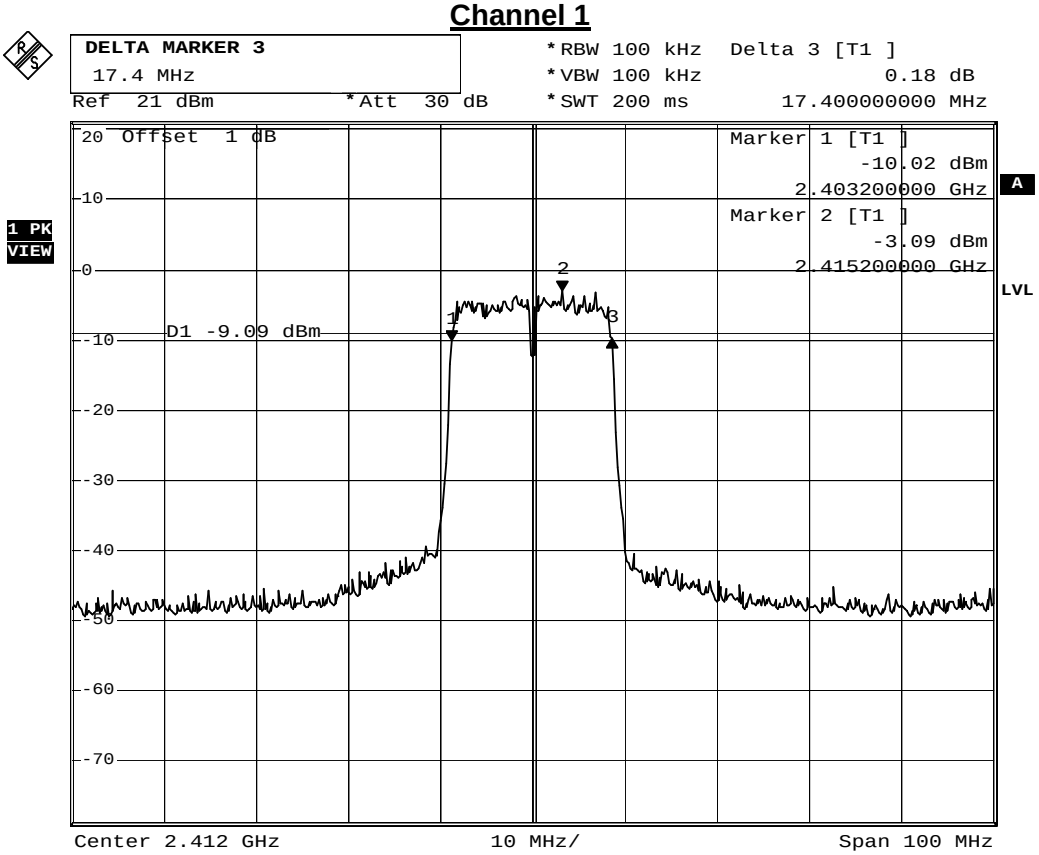


Date: 21.DEC.2010 11:11:18

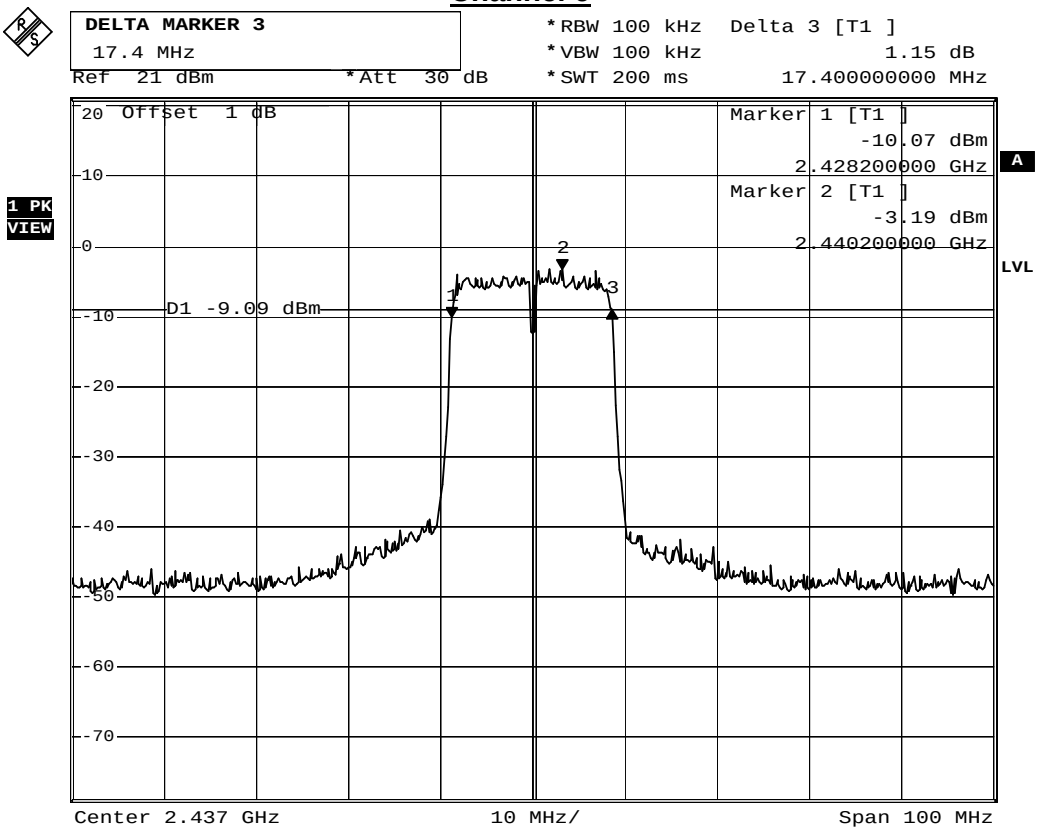
Product	VoIP Ethernet Home Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT B (20MHz))				
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
1	2412	17400	≧500	Pass
6	2437	17400	≧500	Pass
11	2462	17600	≧500	Pass

Channel 1

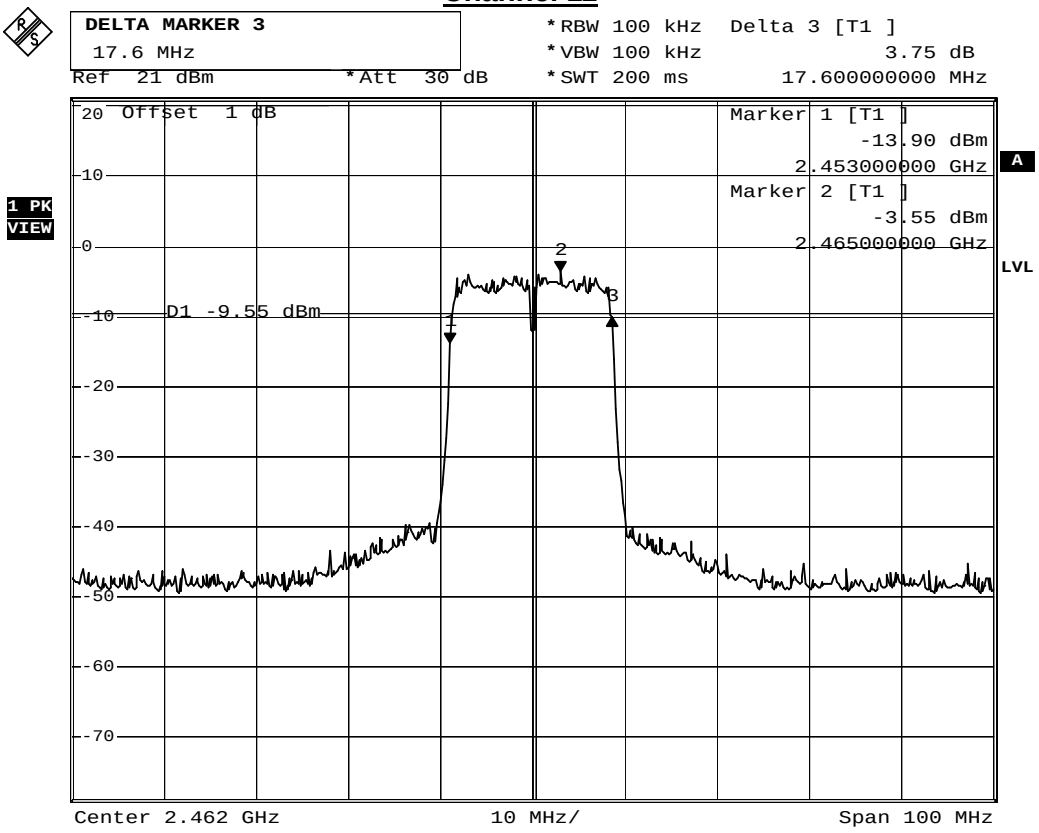


Channel 6



Date: 21.DEC.2010 11:33:51

Channel 11

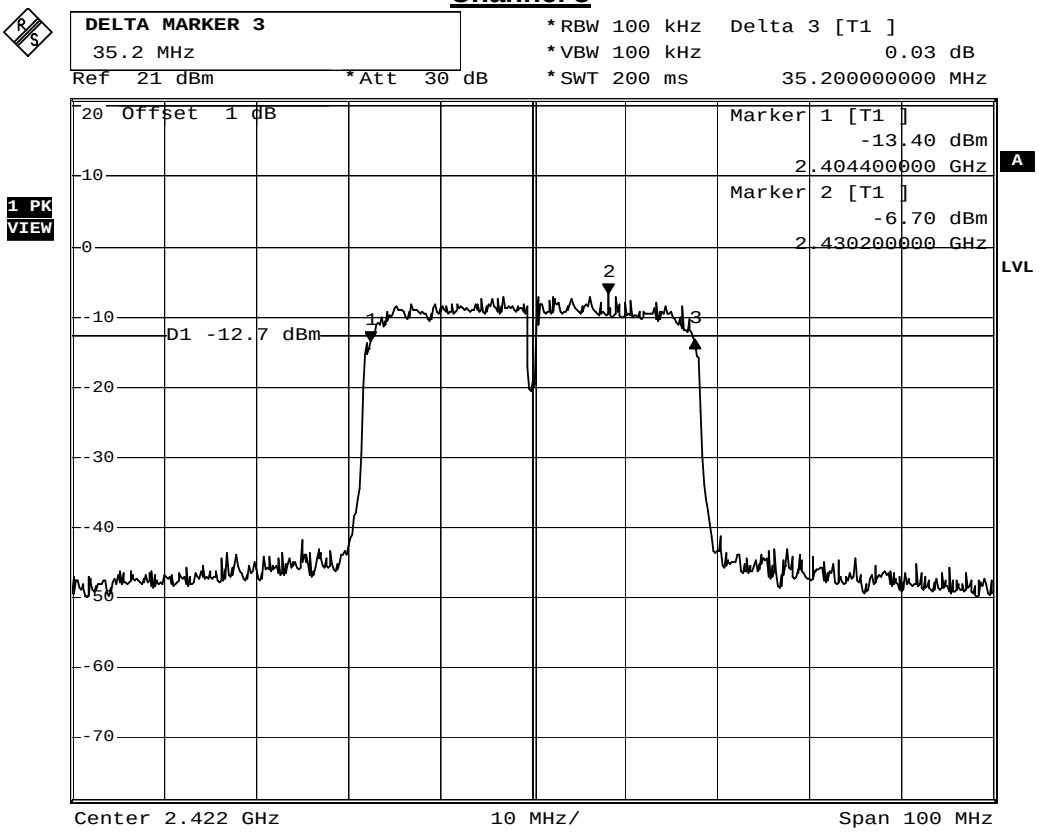


Date: 21.DEC.2010 11:36:34

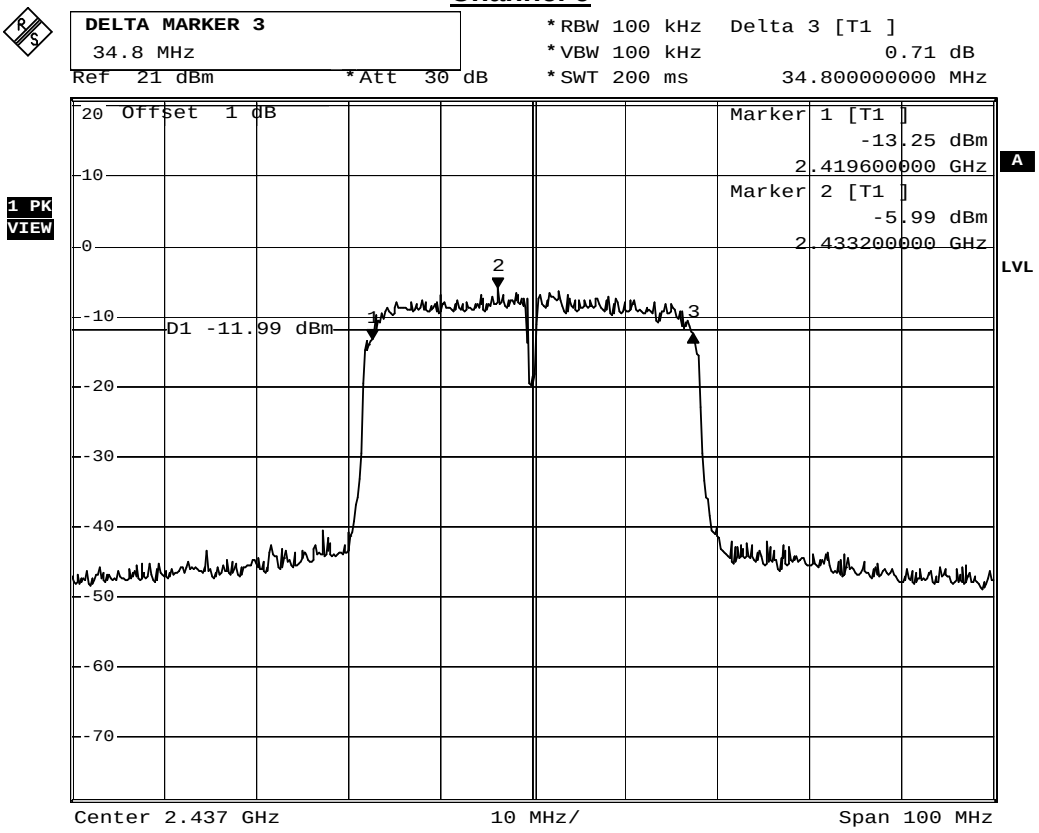
Product	VoIP Ethernet Home Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT A (40MHz))				
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
3	2422	35200	≧500	Pass
6	2437	34800	≧500	Pass
9	2452	35200	≧500	Pass

Channel 3

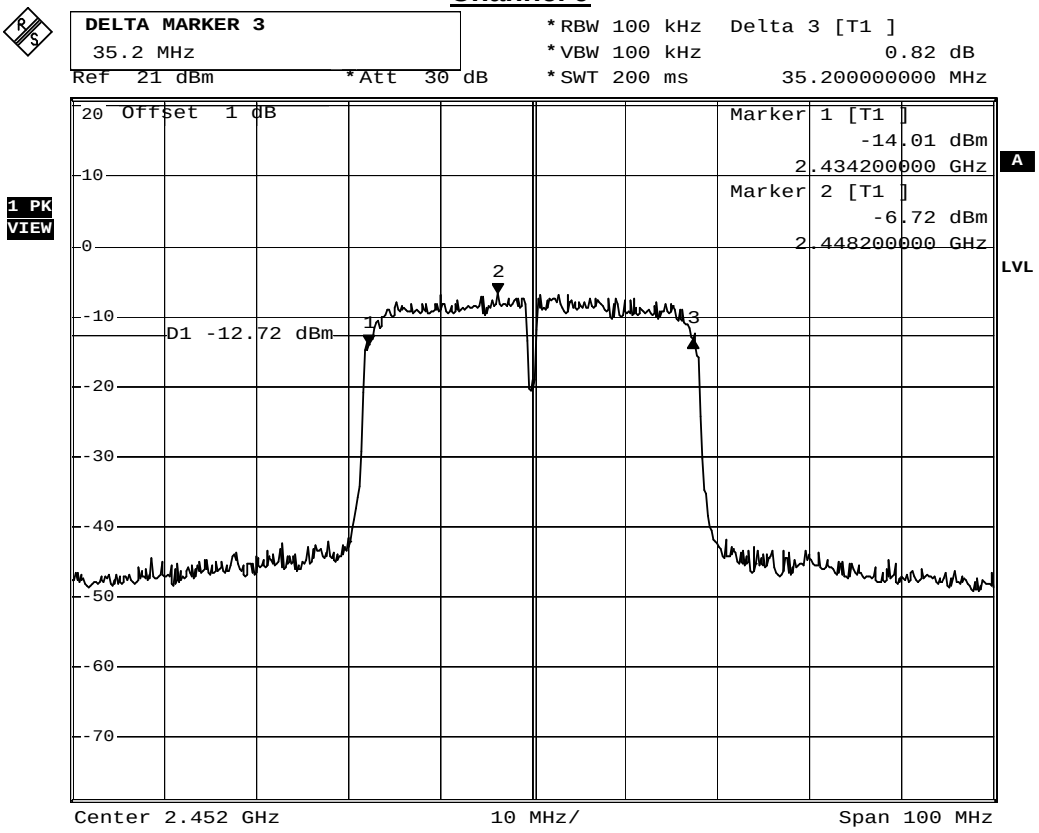


Channel 6



Date: 21.DEC.2010 11:25:34

Channel 9

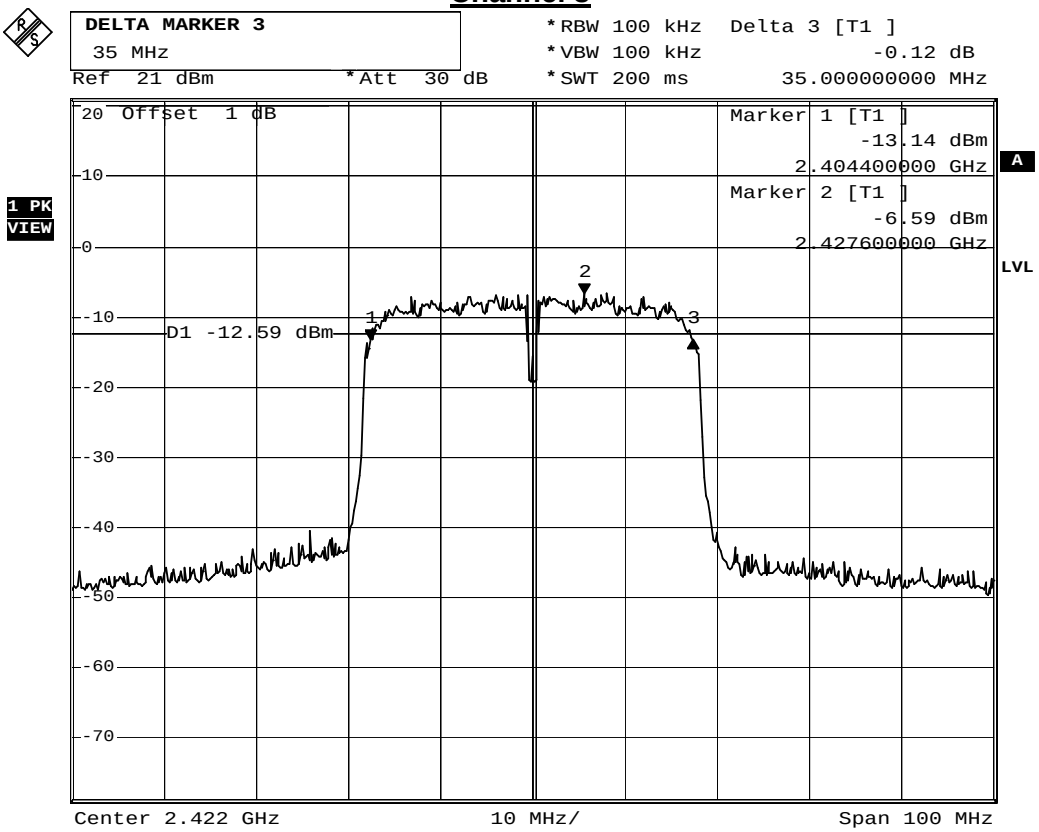


Date: 21.DEC.2010 11:27:46

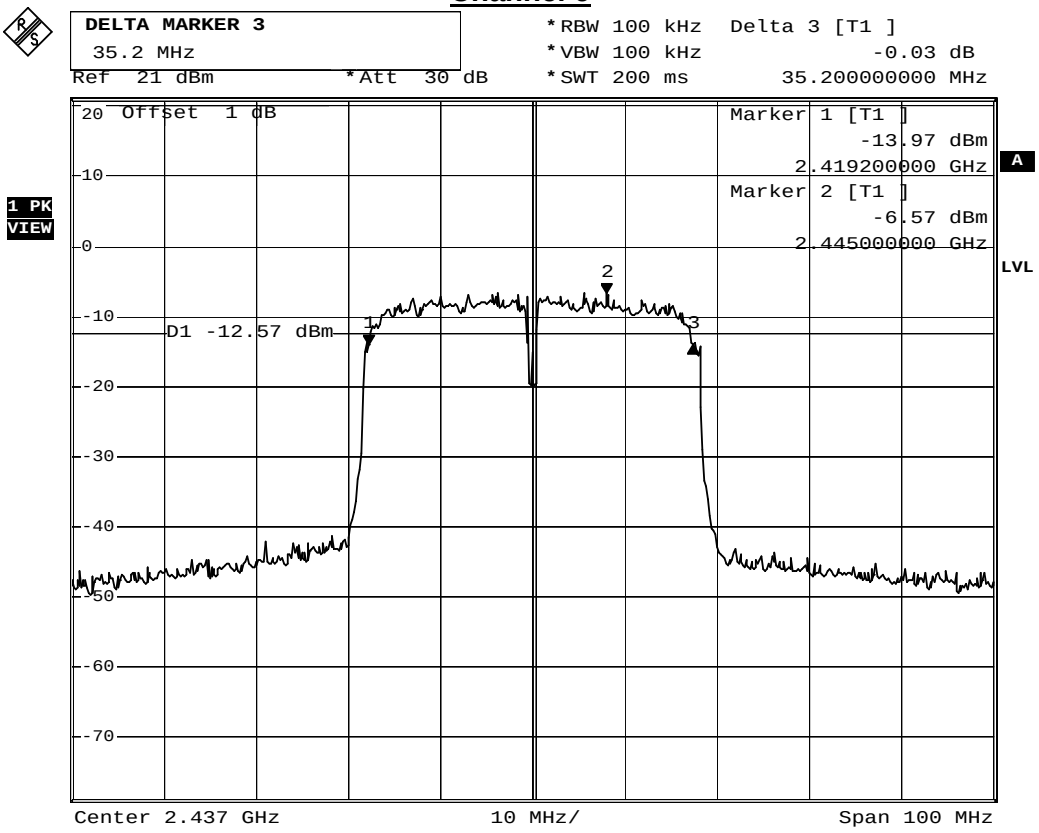
Product	VoIP Ethernet Home Gateway		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT B (40MHz))				
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
3	2422	35000	≧500	Pass
6	2437	35200	≧500	Pass
9	2452	35200	≧500	Pass

Channel 3

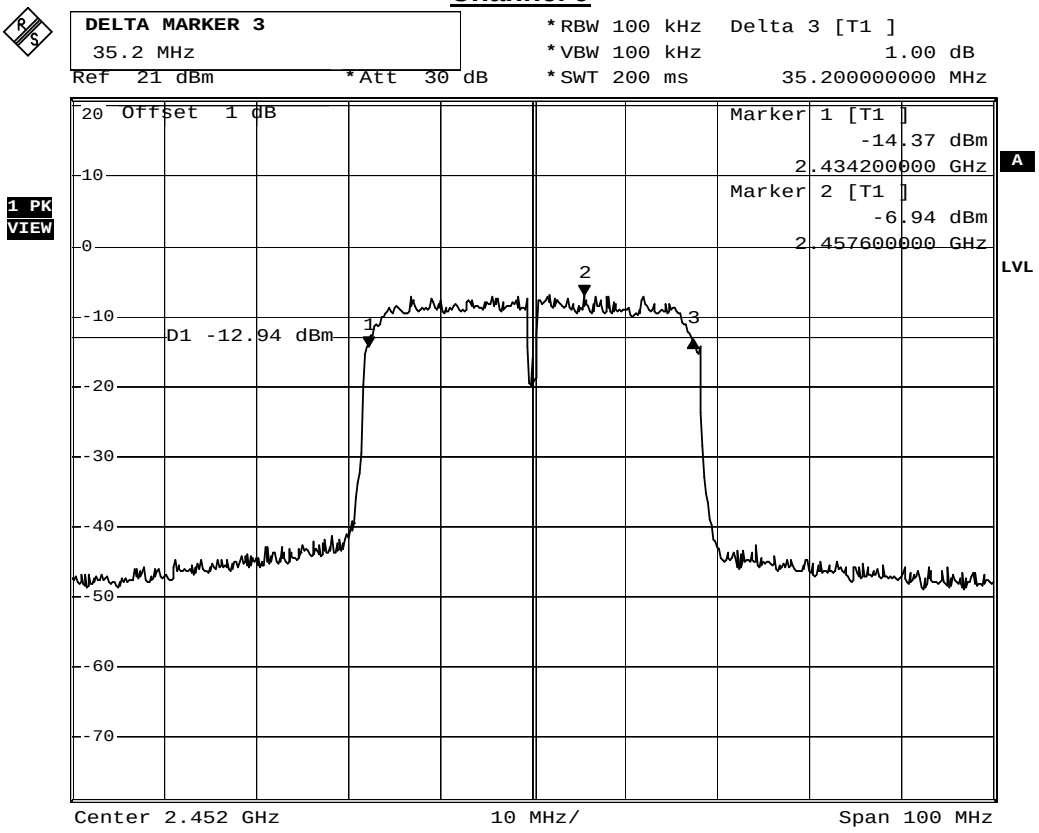


Channel 6



Date: 21.DEC.2010 11:39:56

Channel 9



Date: 21.DEC.2010 11:42:33

8. Power Density

8.1. Test Equipment

The following test equipment is used during the test:

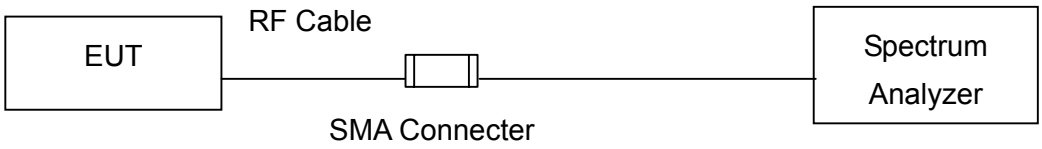
Power Density / SR7

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
Spectrum Analyzer	R&S	FSP	100561	2011/02/04

Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

8.2. Test Setup

IEEE 802.11 b / g / n (20M / 40M) MODE



8.3. Limits

The peak power spectral density conducted from the intentional radiated to the antenna shall not be greater than +8dBm in any 3kHz band during any time interval of continuous transmission.

8.4. Test Procedures

The EUT was setup according to ANSI C63.4: 2009; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW= 3 kHz, Set VBW≧ 9 kHz, Sweep time=Auto, Set detector=Peak detector

8.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2009

8.6. Uncertainty

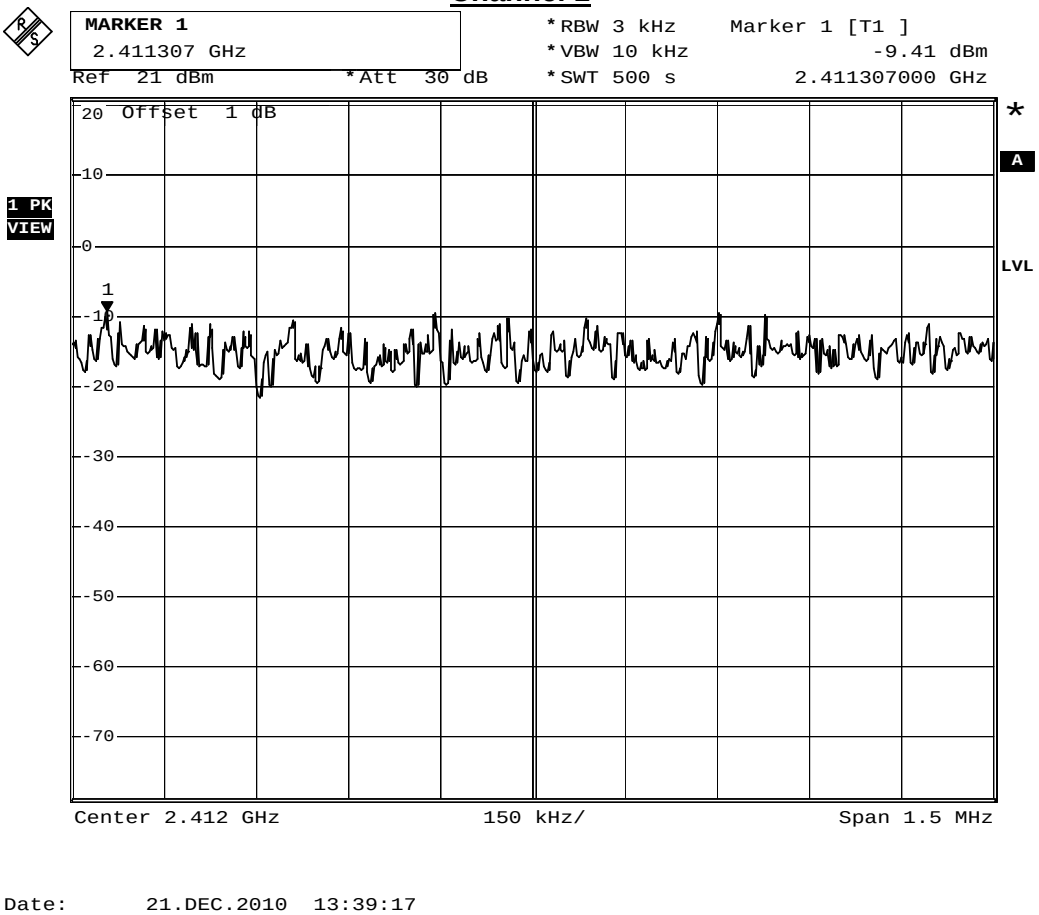
The measurement uncertainty is defined as ±1.27dB.

8.7. Test Result

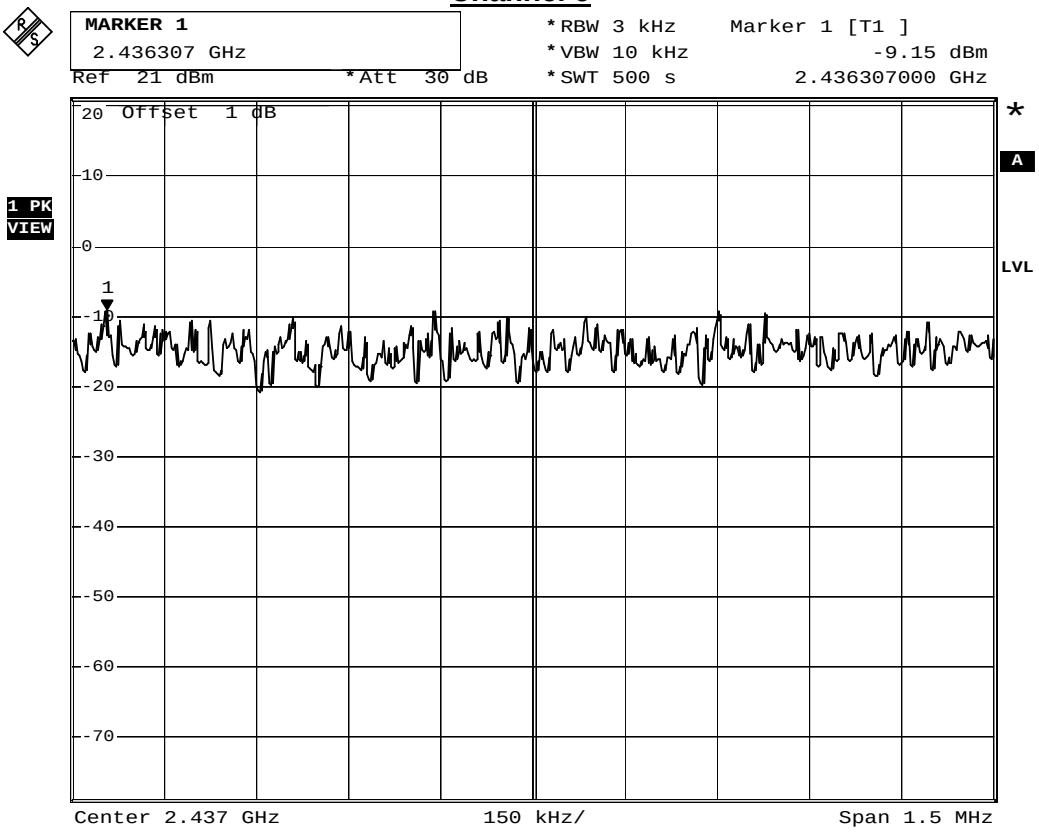
Product	VoIP Ethernet Home Gateway		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11b				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-9.41	≦8	Pass
6	2437	-9.15	≦8	Pass
11	2462	-9.35	≦8	Pass

Channel 1

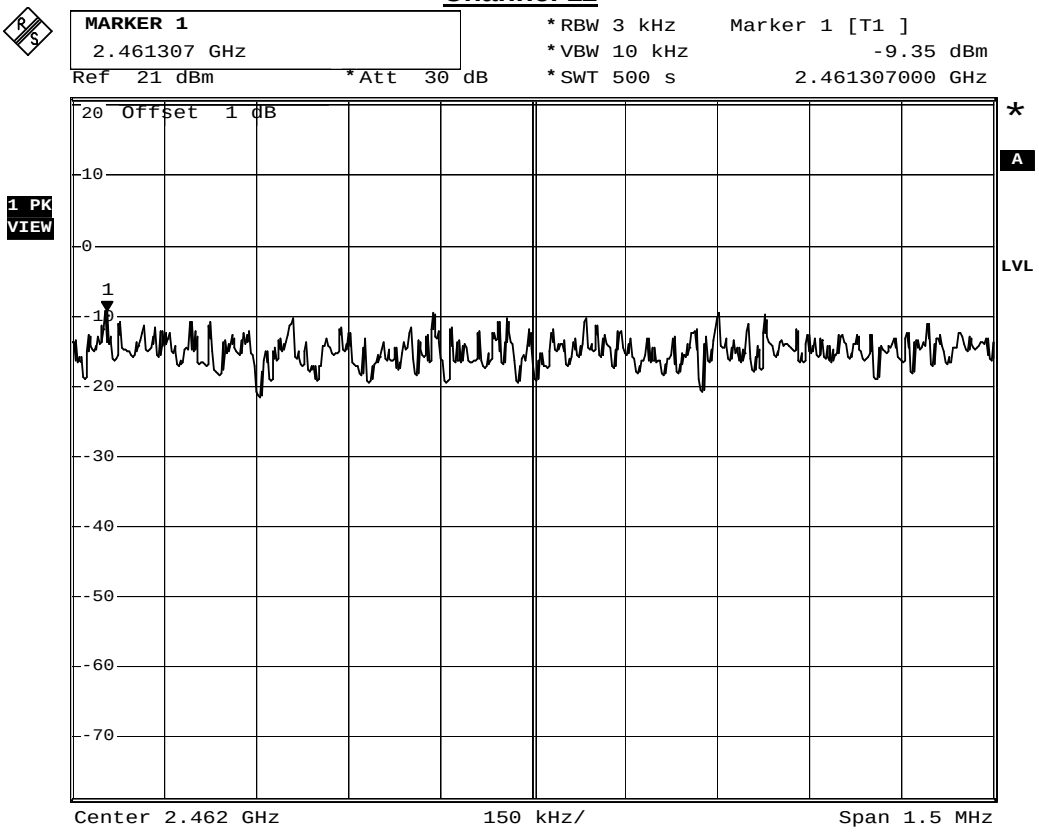


Channel 6



Date: 21.DEC.2010 13:36:19

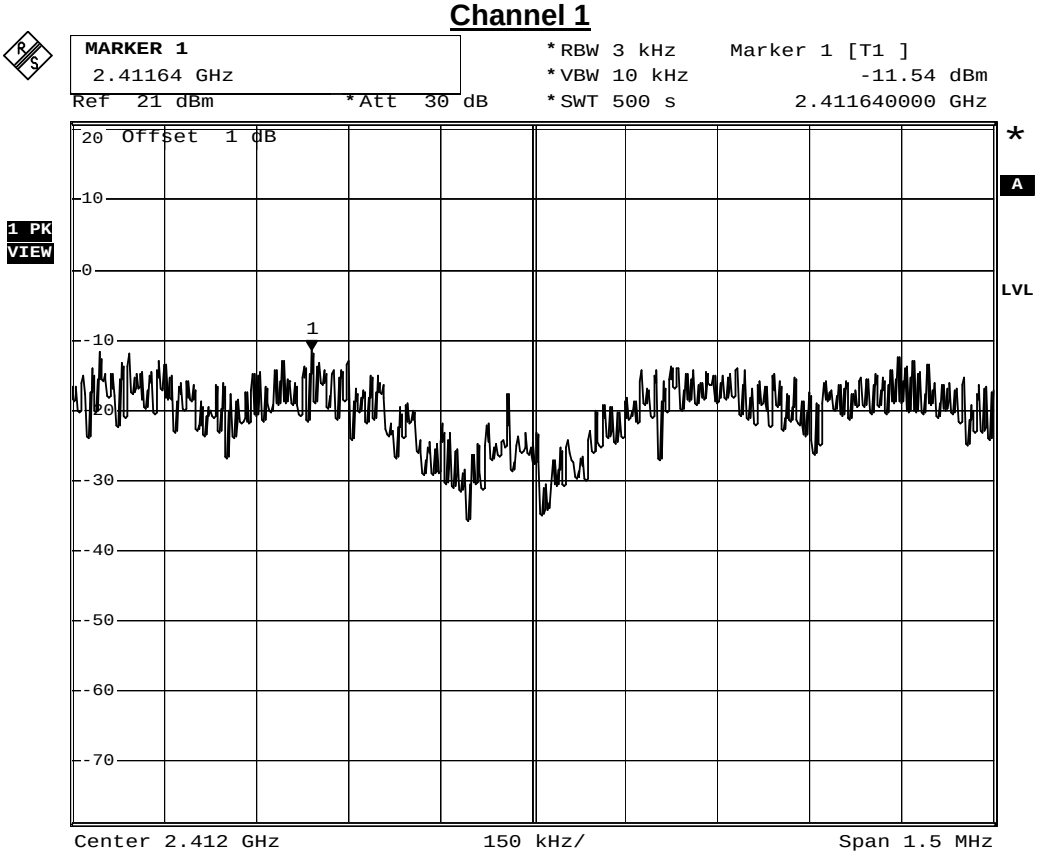
Channel 11


MARKER 1
2.461307 GHz
*RBW 3 kHz
*VBW 10 kHz
*SWT 500 s
Marker 1 [T1]
-9.35 dBm
2.461307000 GHz
Ref 21 dBm
*Att 30 dB
Offset 1 dB
1 PK
VIEW
A
LVL
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
150 kHz/
Span 1.5 MHz
Date: 21.DEC.2010 13:32:29

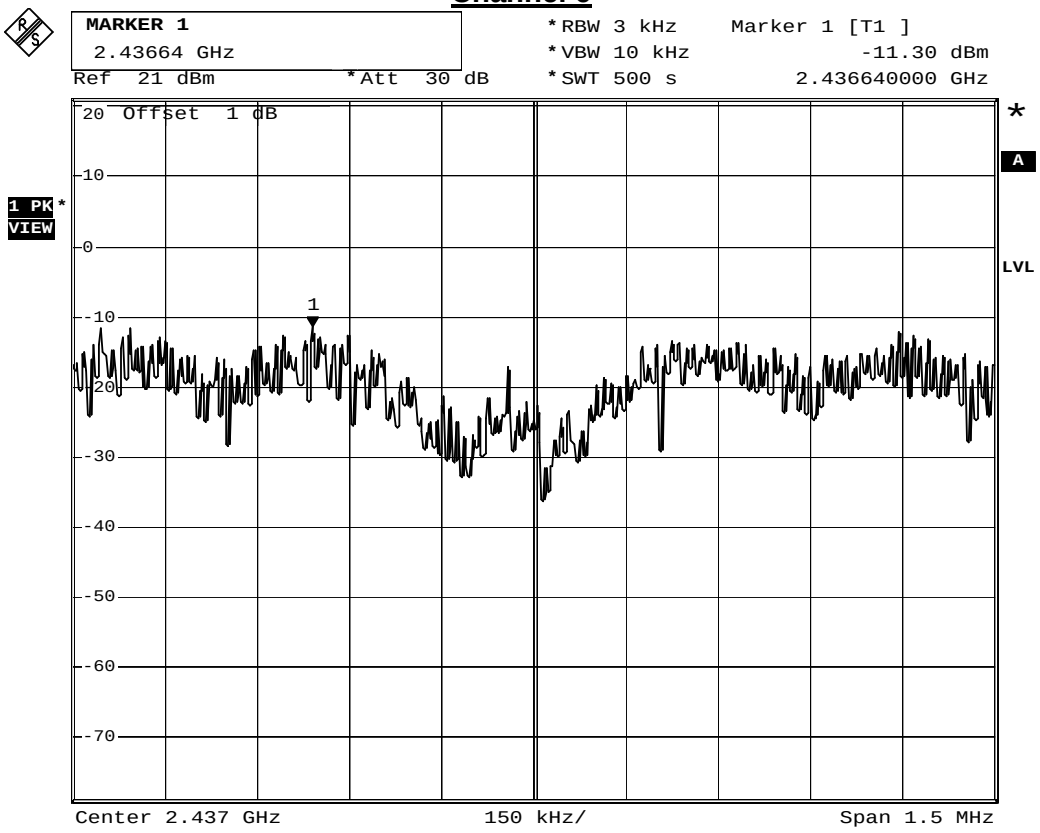
Product	VoIP Ethernet Home Gateway		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11g				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-11.54	≦8	Pass
6	2437	-11.30	≦8	Pass
11	2462	-11.73	≦8	Pass

Channel 1

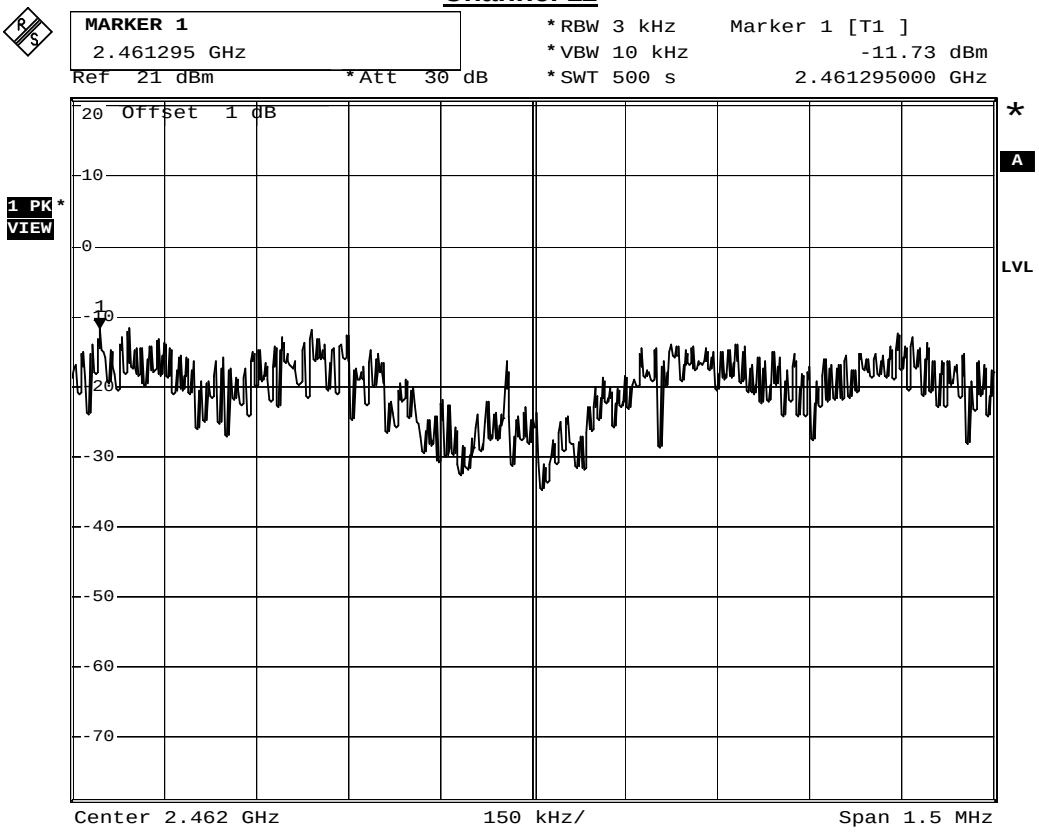


Channel 6



Date: 21.DEC.2010 13:46:26

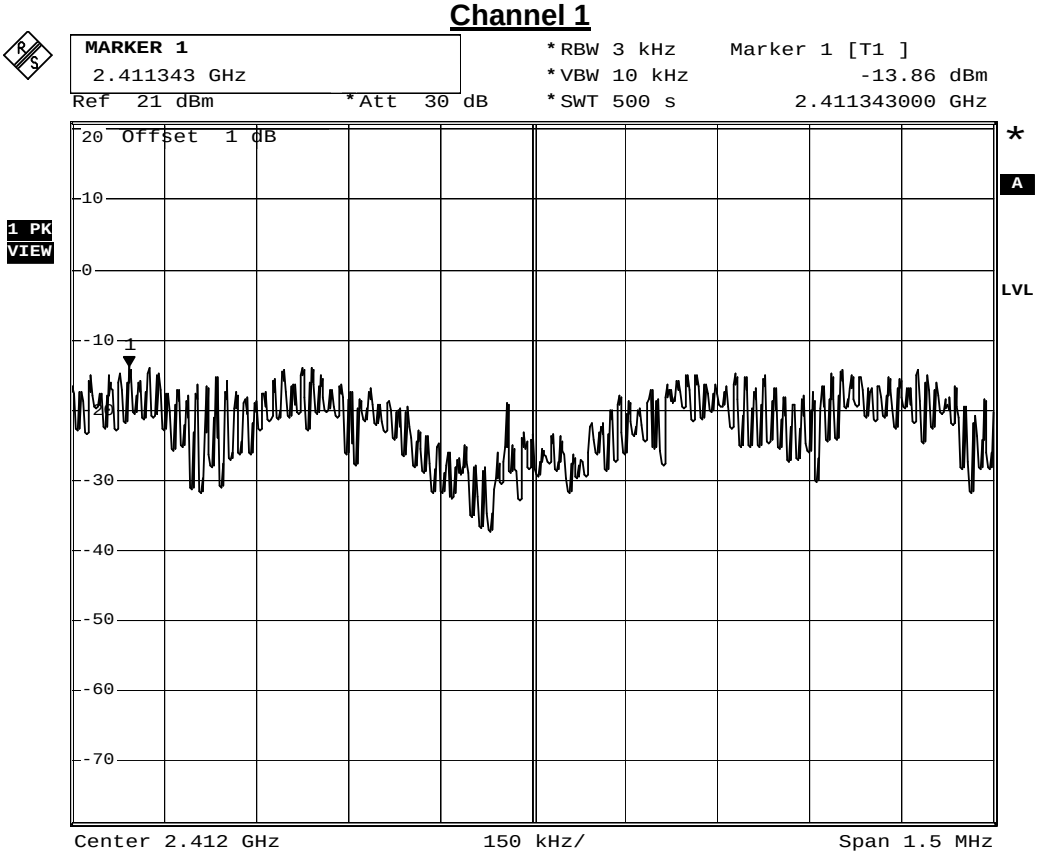
Channel 11


MARKER 1
2.461295 GHz
*RBW 3 kHz
*VBW 10 kHz
*SWT 500 s
Marker 1 [T1]
-11.73 dBm
2.461295000 GHz
Ref 21 dBm
*Att 30 dB
Offset 1 dB
1 PK
VIEW
A
LVL
20
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.462 GHz
150 kHz/
Span 1.5 MHz
Date: 21.DEC.2010 13:53:05

Product	VoIP Ethernet Home Gateway		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

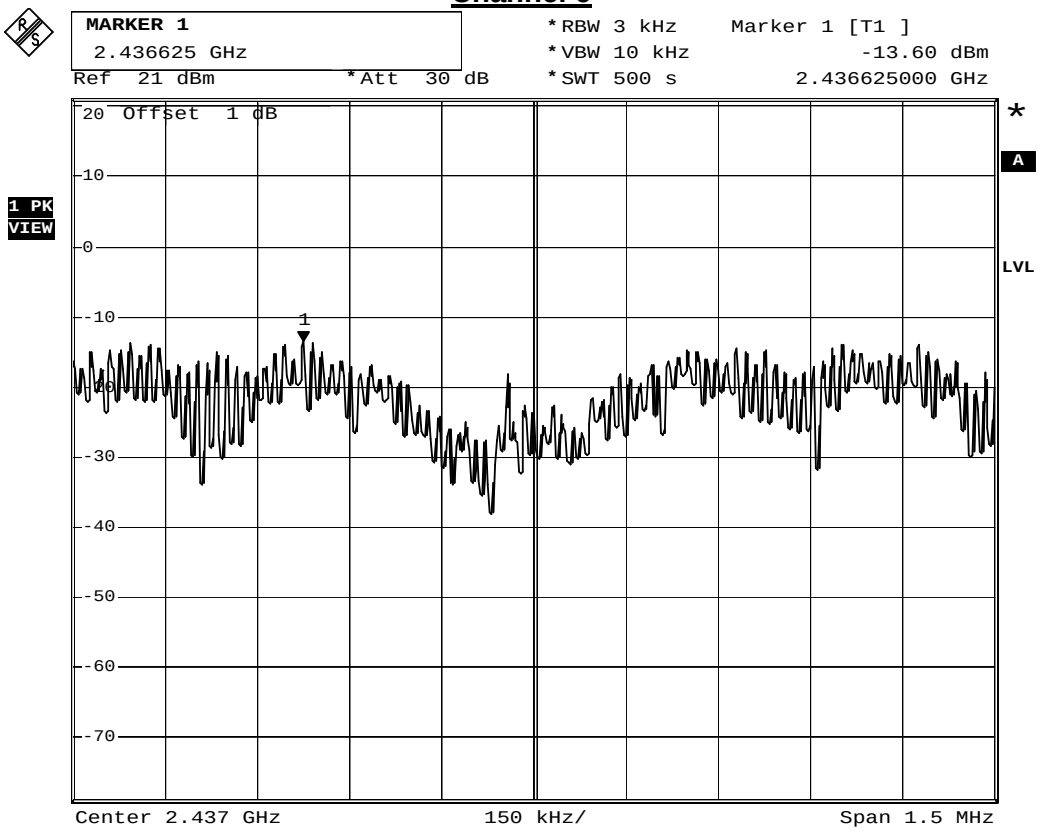
IEEE 802.11n (ANT A (20MHz))				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-13.86	≦8	Pass
6	2437	-13.60	≦8	Pass
11	2462	-13.78	≦8	Pass

Channel 1



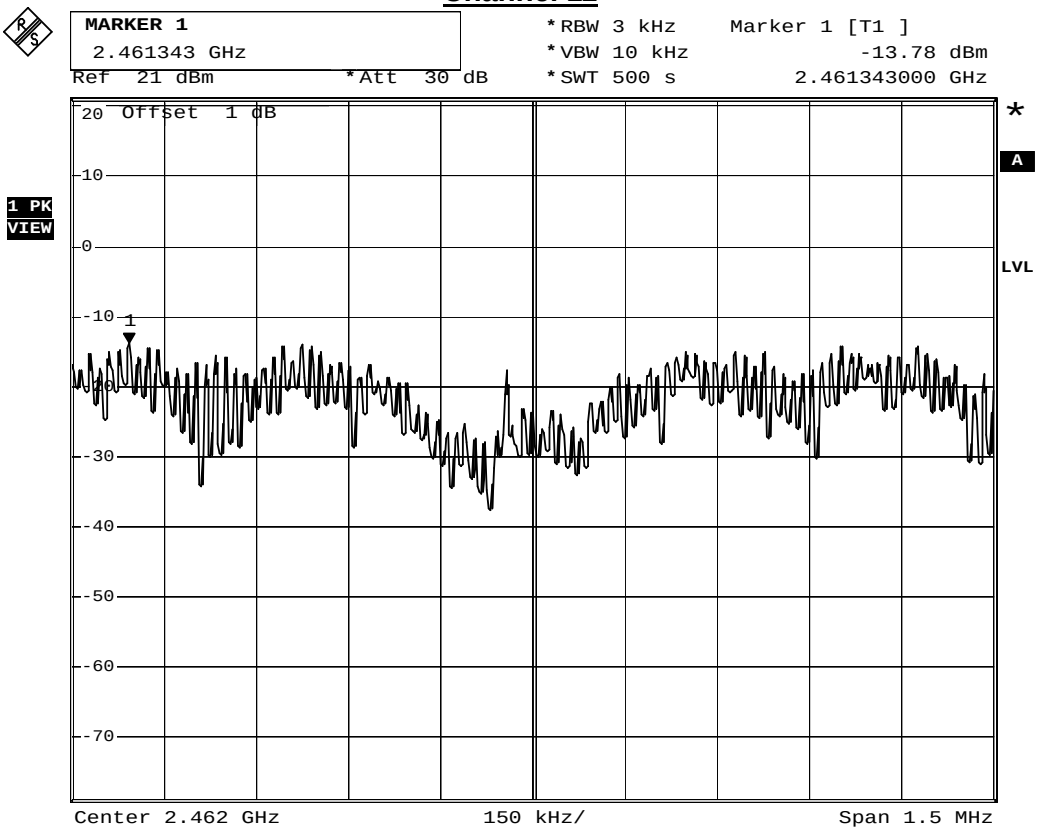
Date: 21.DEC.2010 13:58:57

Channel 6



Date: 21.DEC.2010 14:02:11

Channel 11

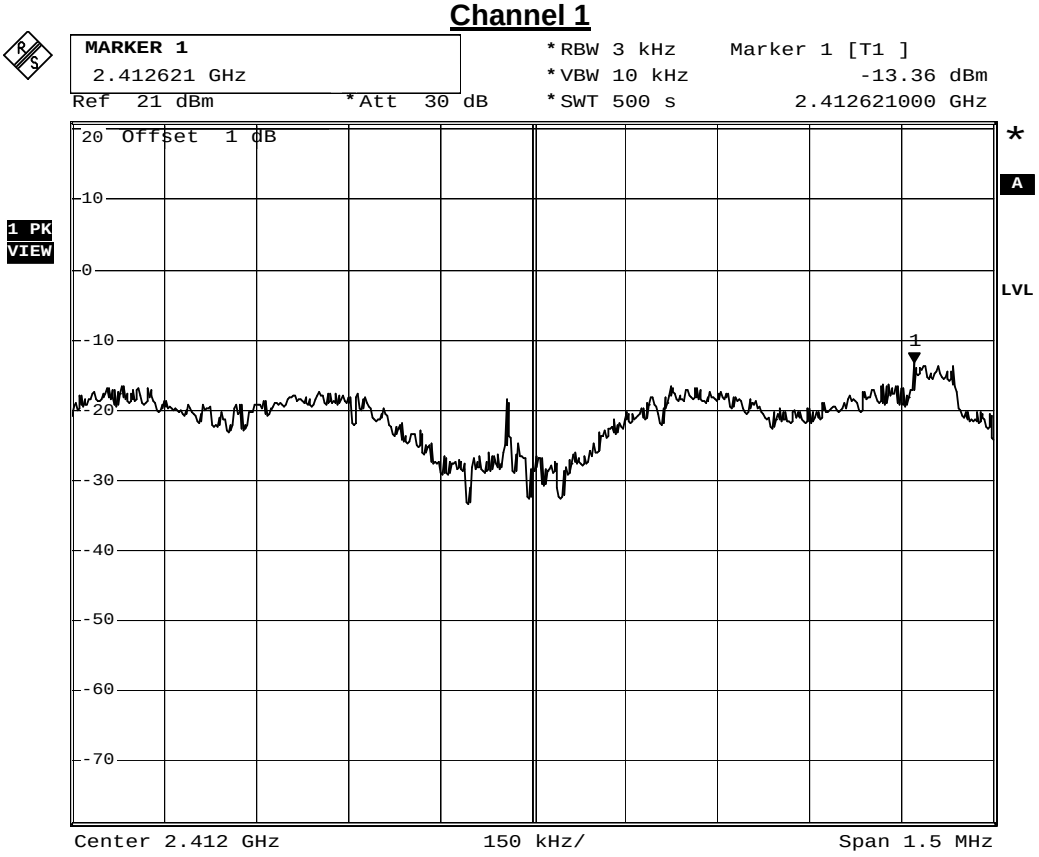


Date: 21.DEC.2010 14:05:05

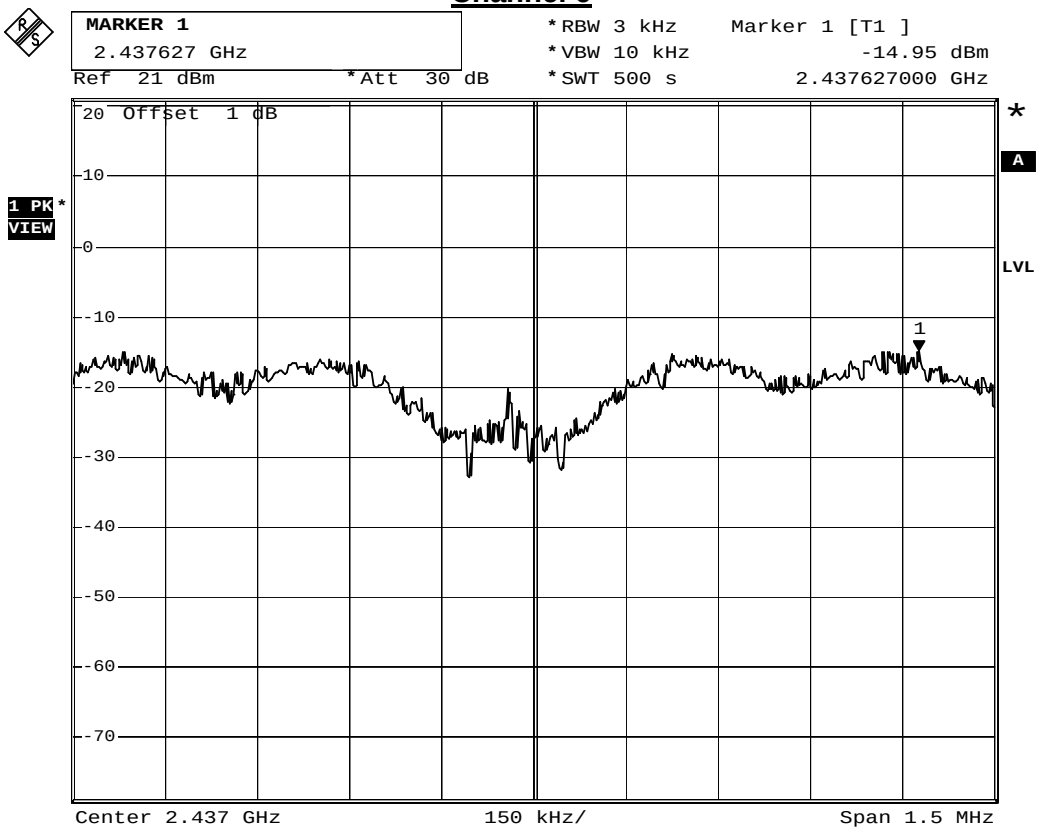
Product	VoIP Ethernet Home Gateway		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT B (20MHz))				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-13.36	≦8	Pass
6	2437	-14.95	≦8	Pass
11	2462	-15.75	≦8	Pass

Channel 1

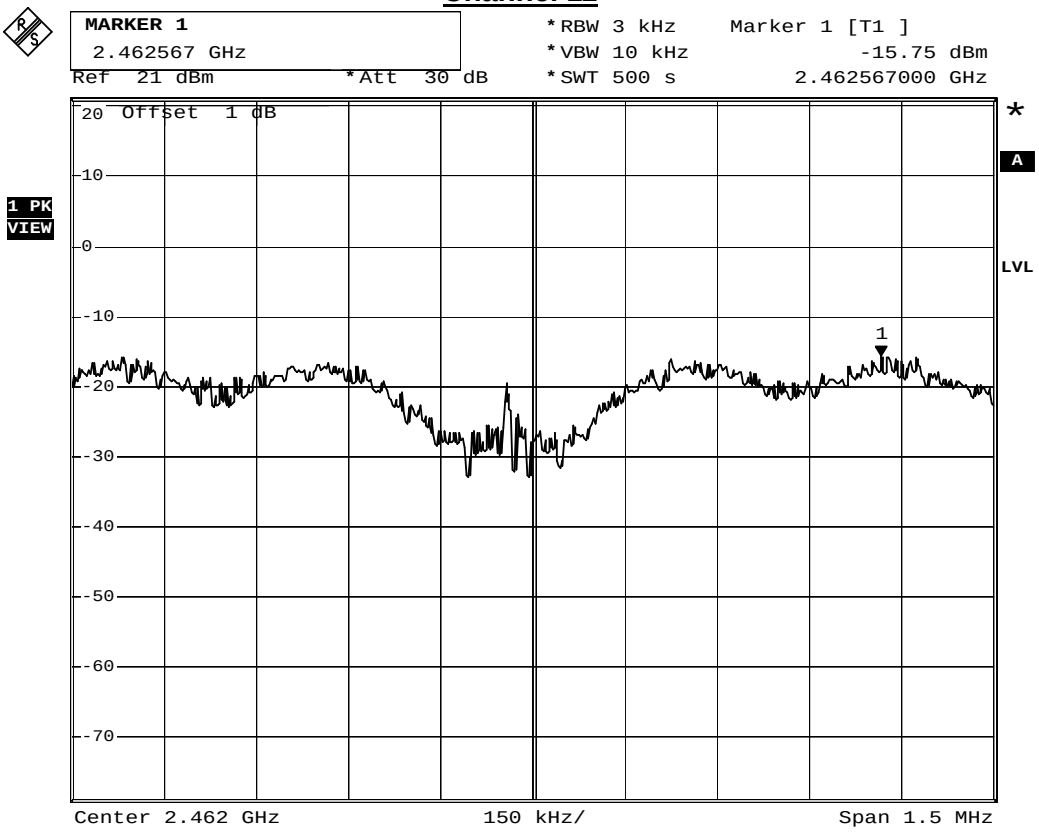


Channel 6



Date: 21.DEC.2010 14:48:13

Channel 11



Date: 21.DEC.2010 15:06:11

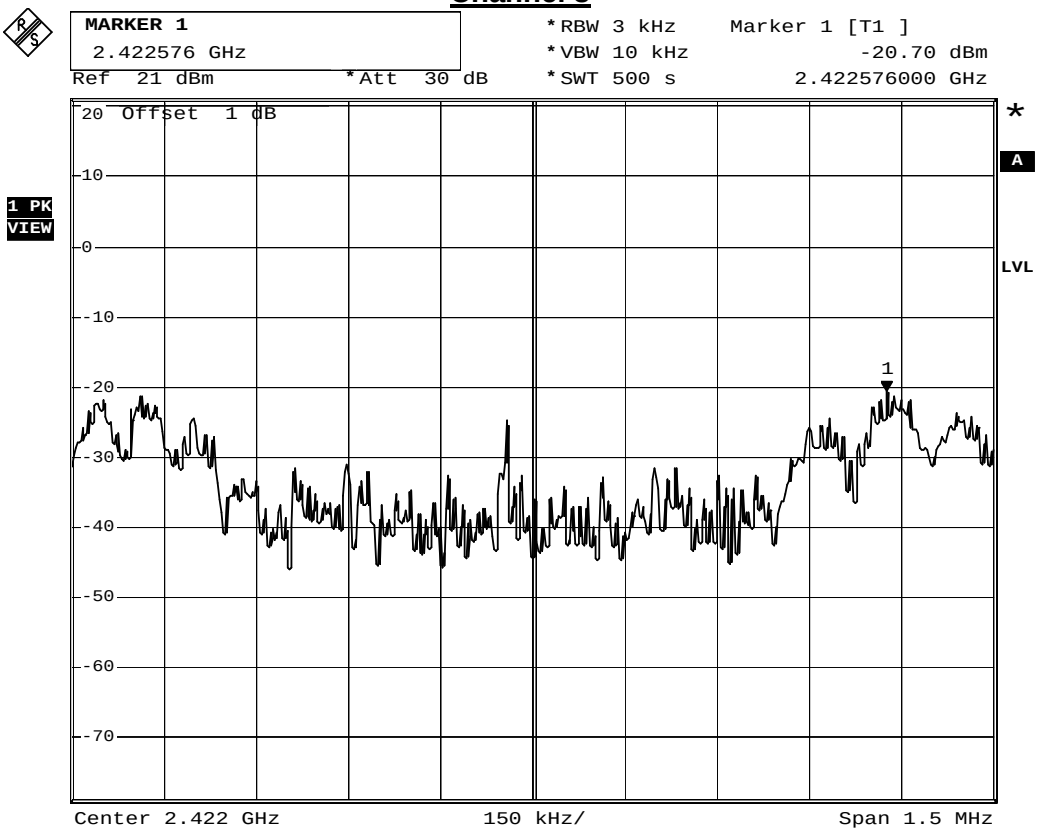
Product	VoIP Ethernet Home Gateway		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n(20MHz), ANT A+ANT B				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
1	2412	-10.59	≦8	Pass
6	2437	-11.21	≦8	Pass
11	2462	-11.64	≦8	Pass

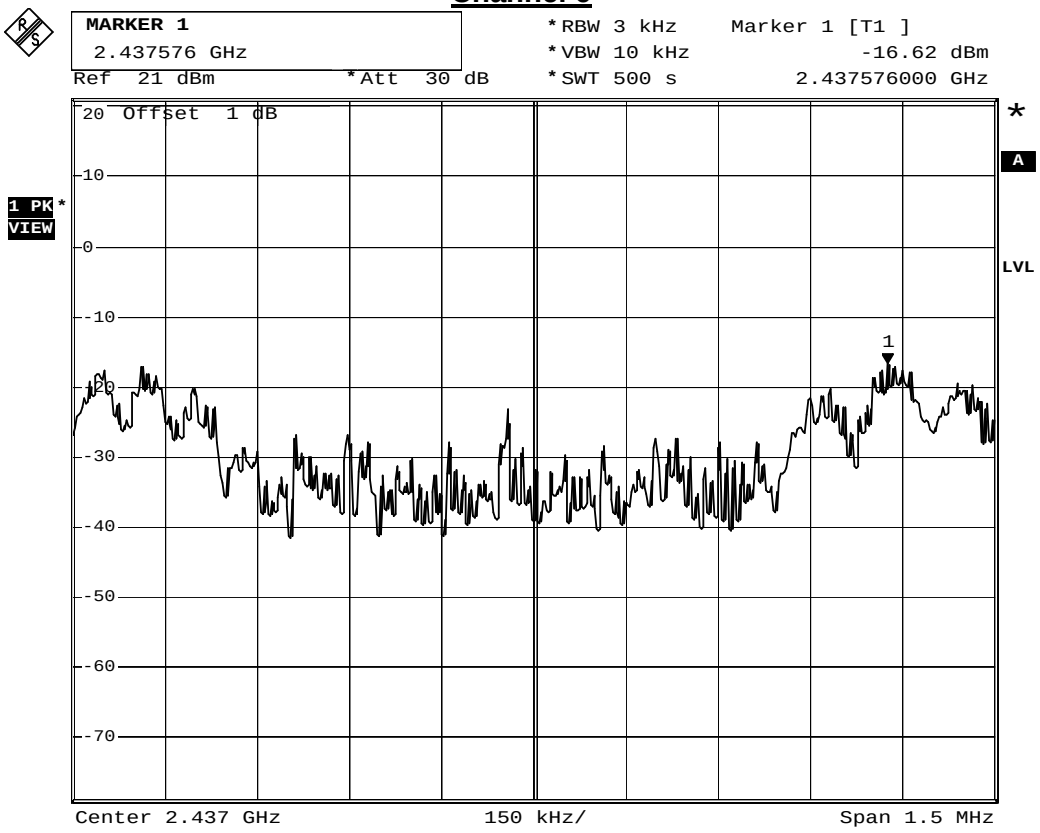
Product	VoIP Ethernet Home Gateway		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT A (40MHz))				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	-20.70	≦8	Pass
6	2437	-16.62	≦8	Pass
9	2452	-16.63	≦8	Pass

Channel 3

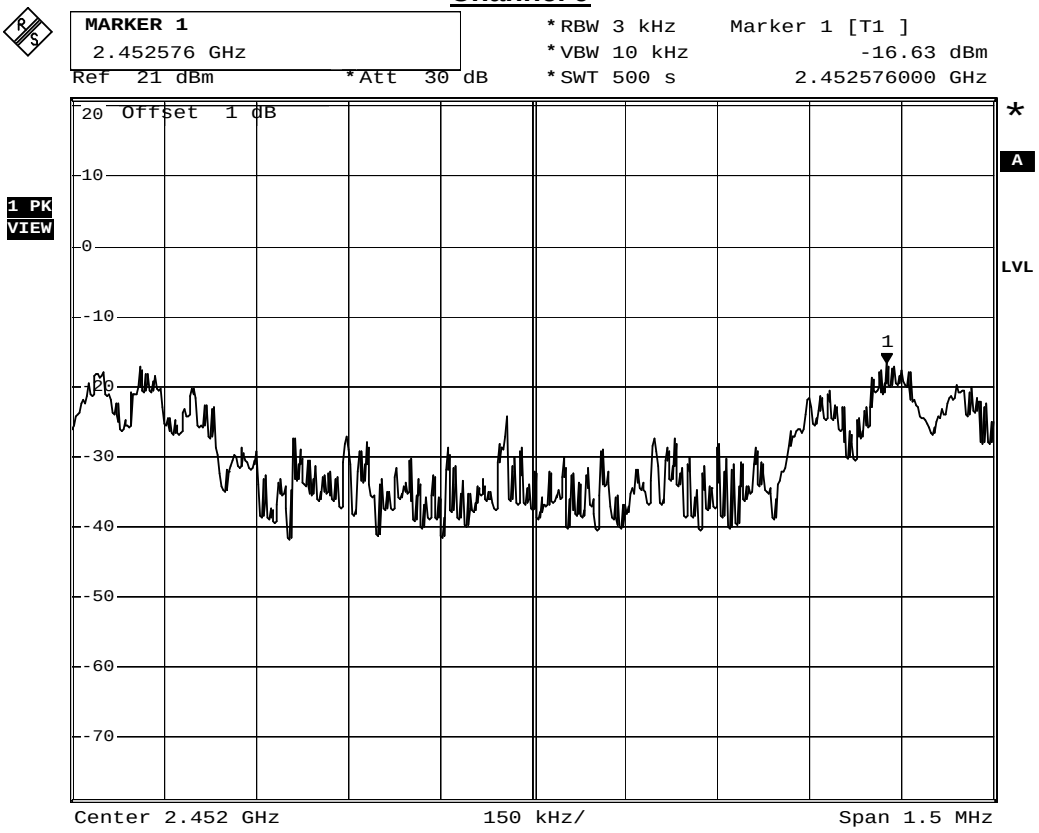


Channel 6



Date: 21.DEC.2010 14:25:14

Channel 9

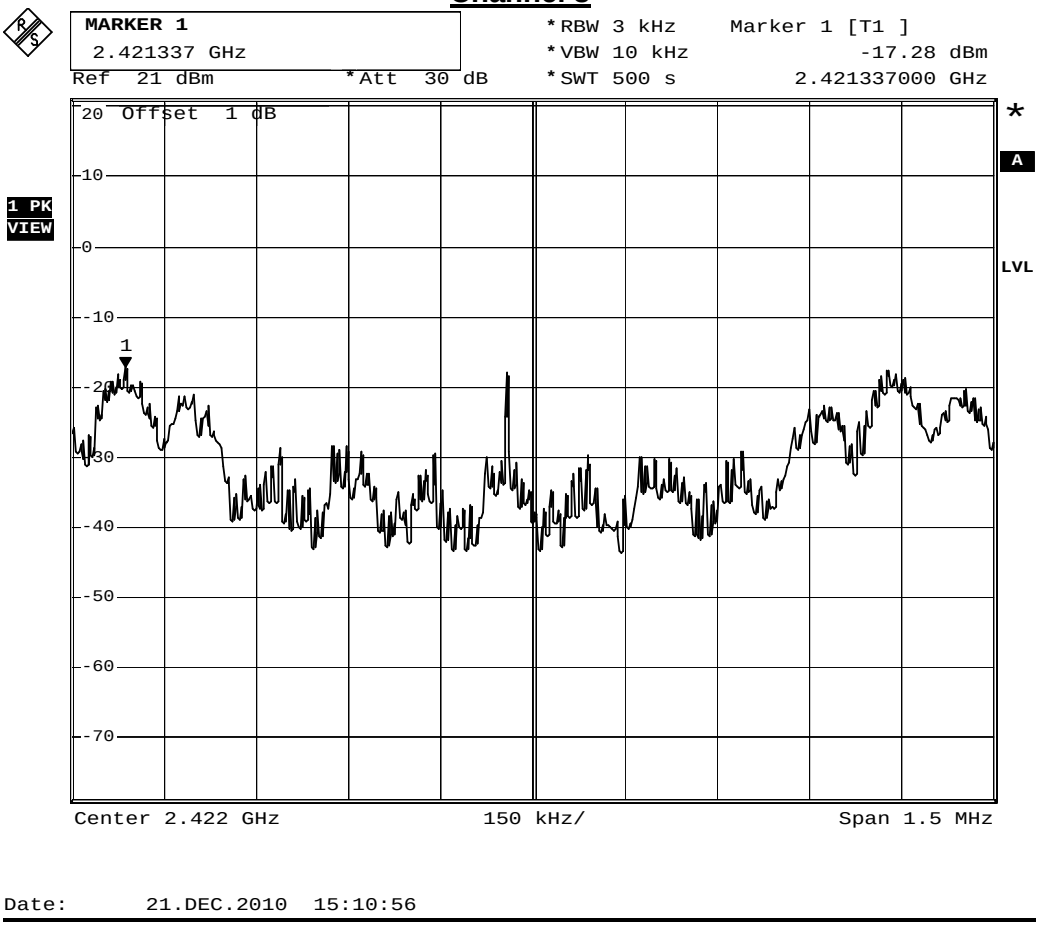


Date: 21.DEC.2010 14:31:09

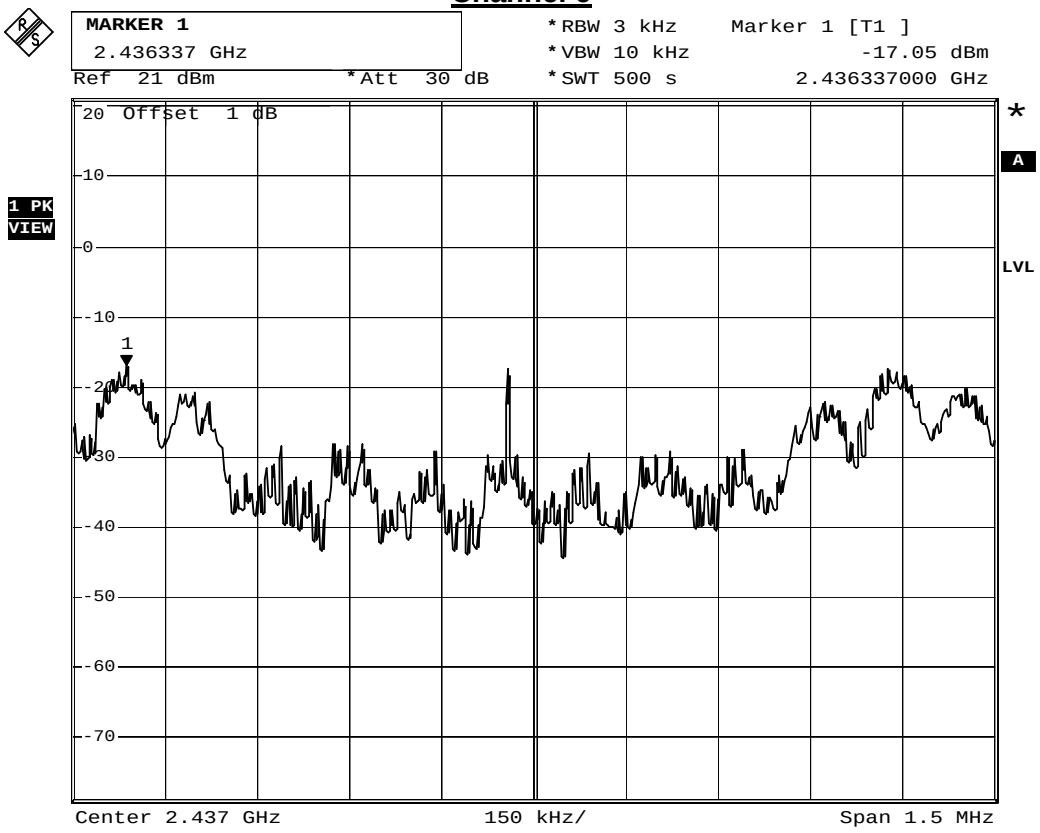
Product	VoIP Ethernet Home Gateway		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n (ANT B (40MHz))				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	-17.28	≦8	Pass
6	2437	-17.05	≦8	Pass
9	2452	-16.96	≦8	Pass

Channel 3

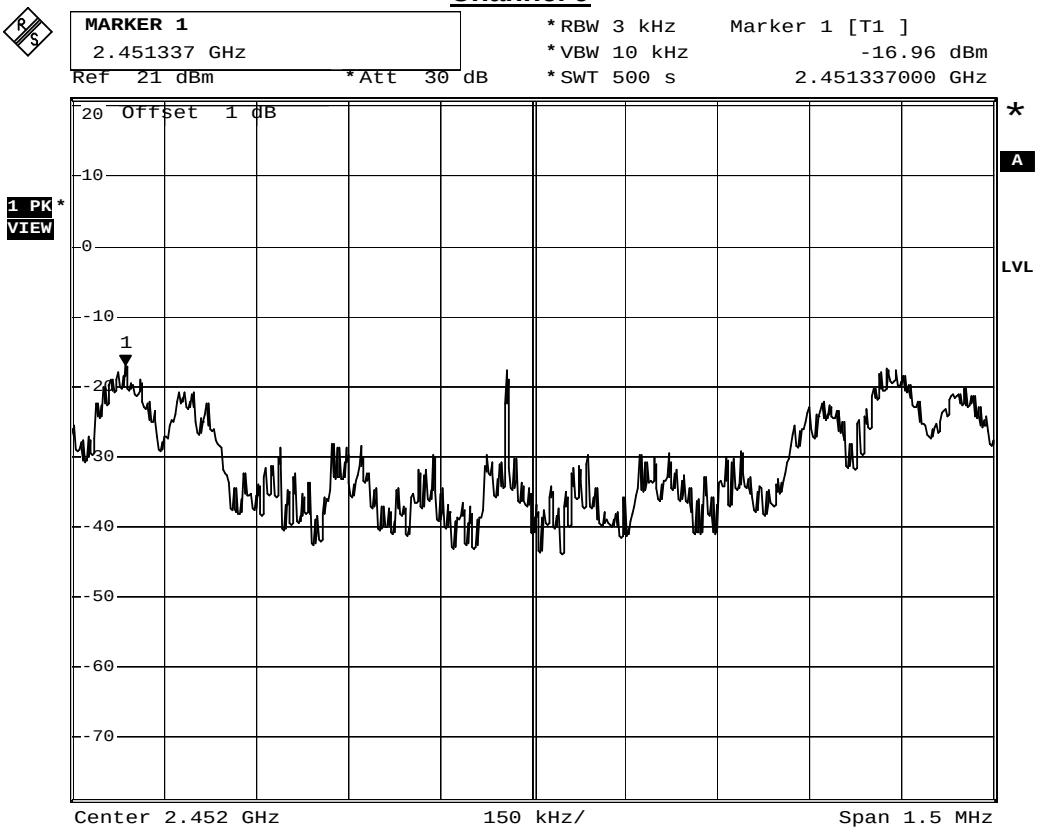


Channel 6



Date: 21.DEC.2010 15:16:09

Channel 9



Date: 21.DEC.2010 15:19:37

Product	VoIP Ethernet Home Gateway		
Test Item	Power Density		
Test Mode	Transmit		
Date of Test	2010/12/21	Test Site	SR7

IEEE 802.11n(40MHz), ANT A+ANT B				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
3	2422	-15.65	≦8	Pass
6	2437	-13.82	≦8	Pass
9	2452	-13.78	≦8	Pass