FCC Test Report
(TR-1006-033-01)

Applicant	:	Starbridge Networks L.L.C.
Address	:	3265 Meridian Parkway, STE # 134 Weston, FL 33331, USA
Manufacturer	:	Kasda Digital Technology Co., Ltd.
Address	:	B-31 Building,Tanglang Industry Zone, XiLi, Nanshan, Shenzhen, China
Product Name	:	ADSL2+ 802.11b/g/n 4 Port Managed Switch Router
Trademark	:	Starbridge
Model(s)	:	Lynx 528
Standard(s)	:	FCC Part 15 Subpart C
Test Result	:	Pass
Date of Test	:	Jun 13, 2010 to Sep 08, 2010
Report issued Dated	:	Sep 08, 2010

The results in this report apply only to the sample(s) tested. The production units are required to conform to the initial sample as received when the units are placed in the market.

Responsible Engineer	:	Phenix Zhang	Approved by	:	CHAN king-chui
Date	:	2010.09.08	Technical manager / Date	:	2010.09.08

Table of Contents

1. Description of the Test Site

1.1 Test Site Location:

Laboratory	:	TDK South China EMC Center SAE Technologies Development (Dongguan) Co., Ltd. Changan Branch
Address	:	Zhenan Hi-tech Industrial Park, Dongguang City, Guangdong Province, China
Phone no.	:	(86)-769-8564-4678
Fax no.	:	(86)-769-8564-4499
Email	:	emc@cn.tdk.com

1.2 Site Registration

VCCI (September, 2008)	:	Reg. No. R-2205, C-2392
FCC site registration (July, 2008)	:	Reg. No. 732901
IC registration	:	Reg. No. 7993
EMCC (September, 2008)	:	Reg. No. NAR/tl-060330

1.3 Test Scope

EMC and RF testing according to national / international standards

2. Description of the Tested Samples

2.1 Customer Information

Customer	:	Starbridge Networks L.L.C.
Address	:	3265 Meridian Parkway, STE # 134 Weston, FL 33331, USA
Phone no.	:	954-334-1390
Fax no.	:	954 334-1395

2.2 Identification of EUT

Trademark	:	Starbridge
Model(s) No.	:	ADSL2+ 802.11b/g/n 4 Port Managed Switch Router
Serial No.	:	K1258UR00044

2.3 Spec of EUT

Description of Antenna	:	fixed omnidirectional antenna, 3dBi gain
Power Supply	:	12V DC, 1A
Description of adaptor	:	Trademark: HONOR Model: ADS-12G-12 12012GPCU Input: AC 100-240V, 50/60Hz, 0.3A Output: DC 12V 1A
Operation Frequency	:	2412 MHz ~ 2462 MHz
Number of Channels	:	11
Type of Modulation	:	DSSS for IEEE 802.11b ; OFDM for IEEE 802.11g MIMO-OFDM for IEEE 802.11n
Data Rate	:	IEEE 802.11b: 11/5.5/2/1Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6Mbps IEEE 802.11n: 300/270/243/216/162/144/130/117/108/ 104/81/78/54/52/39/27/26/13 Mbps

2.4 Test Standards List

FCC Part 15 (2009)
American national standard for methods of measurement of radio noise emissions from low-voltage electrical and electronic equipment in the range of 9KHz to 40GHz.

3. Test Specifications

3.1 Standard(s) Used

FCC Rules	Description Of Test	Result
15.203/15.247(b)	Antenna Requirement	Pass
15.207	Conducted Emission	Pass
15.247(b)(3)	Maximum Peak Output Power	Pass
15.247(d)	Band Edges Emission	Pass
15.247(a)(2)	6 dB Bandwidth	Pass
15.247(e)	Power Spectral Density	Pass
15.247(d)	Spurious Radiated Emission	Pass

3.2 Test Mode

The EUT has been tested under operating condition.
Software used to control the EUT for staying in continuous transmitting and receiving mode is programmed.
IEEE 802.11b: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 11Mbps data rate (worst case) are chosen for the final testing. In pretesting, we found out the Ant. 1(J801) generated higher output power than Ant. 2(J802). All the tests were base on this setting.

IEEE 802.11g: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 54Mbps data rate (worst case) are chosen for the final testing. In pretesting, we found out the Ant. 1(J801) generated higher output power than Ant. 2(J802). All the tests were base on this setting.

IEEE 802.11n: Channel 1(2412MHz), Channel 6(2437MHz) and Channel 11(2462MHz) with 26Mbps data rate on 20MHz bandwidth mode (worst case) are chosen for the final testing, and chosen the 270Mbps data rate to apply 40MHz bandwidth mode. Ant.1 and Ant.2 can both transmit/receive simultaneously, so all the tests were base on Ant.1 + Ant. 2.

3.3 Deviations from the Test Specification

N/A

4. Test Result

4.1 Antenna Requirement

4.1.1 Standard Applicable

Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna James or electrical connector is prohibited.

Section 15.247(b):

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.1.2 Antenna Connected Construction

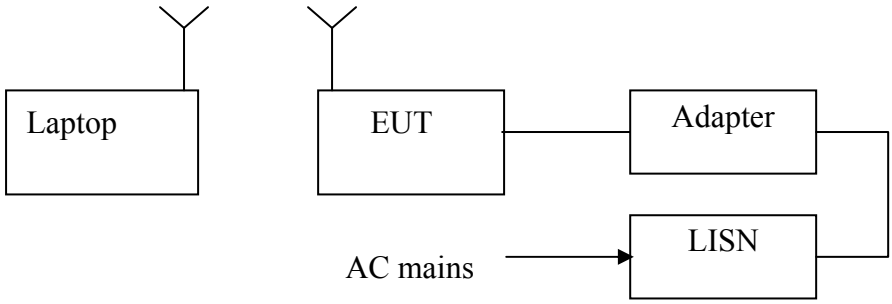
The antenna connector is designed with permanent attachment and no consideration of replacement.
Transmitter antenna of directional gain is 3dBi.

4.2 Conducted Emission (mains)

4.2.1 Test Summary

Test Room	:	Shielded Room
Power Source	:	AC 120V / 60Hz
Standards:	:	FCC Part15 B : 2009
EUT Type	:	Table Top
EUT configuration	:	EUT's highest possible emission level

4.2.2 Block diagram of test setup



4.2.3 Measurement method

The EUT along with its peripherals were placed on a 1.0m (W) x 1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4m space from a vertical reference plane. The EUT was connected to power mains through a Artificial Mains Network(AMN), which provided 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.

The excess power cable between the EUT and the AMN was bundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

4.2.4. Result

PASS

2010-07-13 14:46:43

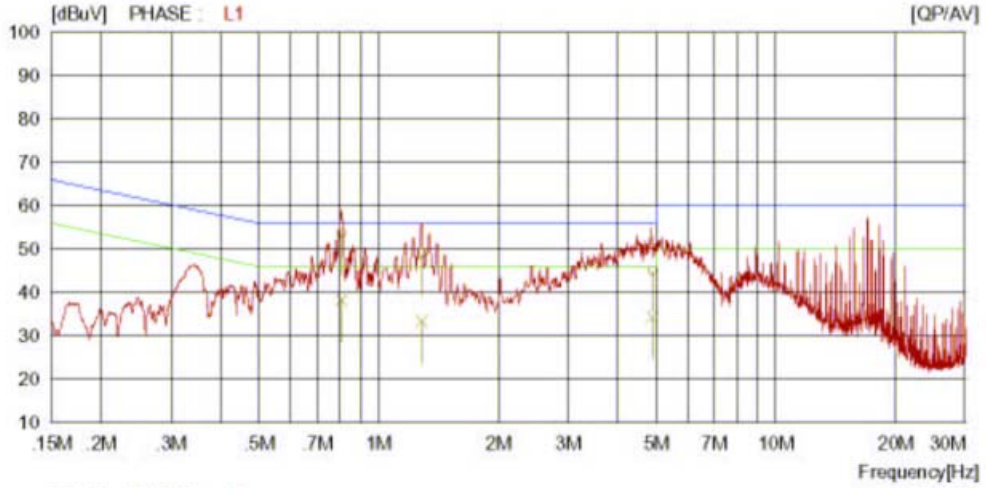
Conducted Emission

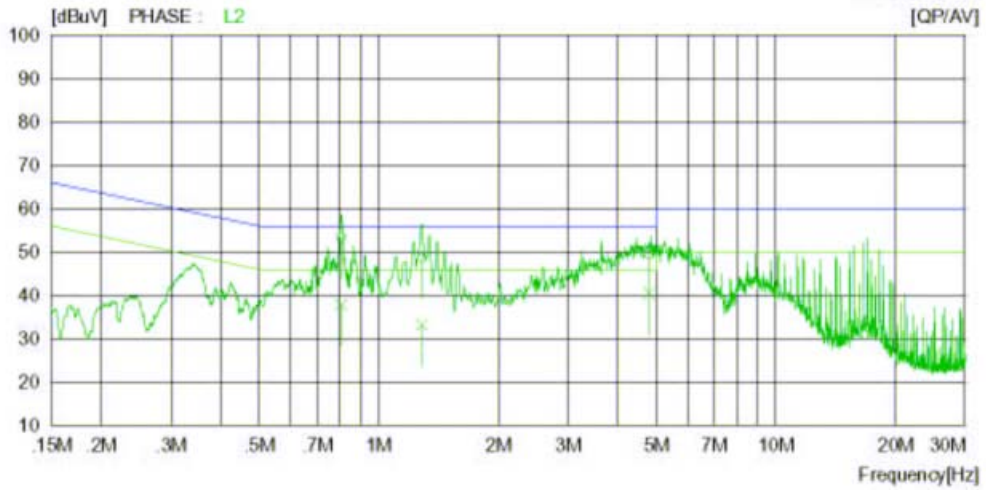
TDK South China EMC Centre
Date : 2010-07-13 14:46:40

Company Name	: Starbridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Product Name	:	Temp/Humi	: 25deg / 52%RH
Test condition	: Normal	Operator	: Jialiang Cao

Memo : Product: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part 15 B QP
FCC Part 15 B AV





TDK South China EMC Centre Tel:0769-8564-4678 Fax:0769-8564-4499

2010-07-13 14:46:44

Conducted Emission

TDK South China EMC Centre
Date : 2010-07-13 14:46:40

Company Name	: Starbridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Product Name	:	Temp/Humi	: 25deg / 52%RH
Test condition	: Normal	Operator	: Jialiang Cao

Memo : Product: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part 15 B QP
FCC Part 15 B AV

NO	FREQ	READING		C.FACTOR	RESULT		LIMIT		MARGIN		PHASE
		QP	AV		QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.80700	43.6	28.3	10.0	53.6	38.3	56.0	46.0	2.4	7.8	L1
2	1.28500	39.1	23.5	9.9	49.0	33.4	56.0	46.0	7.0	12.6	L1
3	4.89900	35.0	24.2	10.0	45.0	34.2	56.0	46.0	11.0	11.8	L1
4	0.80600	43.3	27.8	10.0	53.3	37.8	56.0	46.0	2.7	8.2	L2
5	1.28500	38.7	23.3	9.9	48.6	33.2	56.0	46.0	7.4	12.8	L2
6	4.80700	39.4	30.4	10.0	49.4	40.4	56.0	46.0	6.6	5.6	L2

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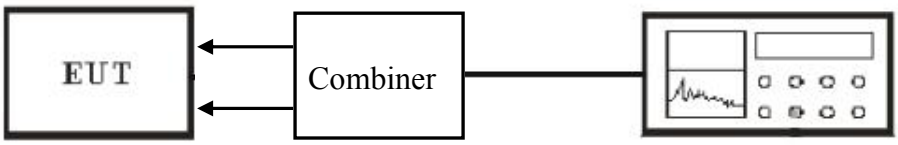
4.3 Maximum Peak Output Power

4.3.1 Applicable Standard

According to Section 15.247(b)(3), for systems using digital modulation in 2400-2483.5MHz: 1 Watt.

4.3.2 Block diagram of test setup



Spectrum

Connection method: The shield cable was connected with EUT and Spectrum which have 50Ω Z_C. There have a combiner inserted between the spectrum and EUT. The connector of EUT side is original by manufacturer. The connector of Spectrum side is N type.
The Combiner only applies the 802.11n mode test.

4.3.3 Measurement method

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in above figure without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Use the following spectrum analyzer settings:
   Measurement mode: Channel Power
   Center Frequency = 2412MHz, 2437MHz or 2462MHz for802.11b/g/n(n20 mode);
   2422MHz, 2437MHz or 2452MHz for 802.11n(n40 mode)
   Channel Power Span = 48MHz
   Integ. Bandwidth = 30MHz for 802.11b/g/n(n20 mode), 40MHz for 802.11n(n40 mode)
   Sweep = auto
   Detector function = peak
4. Hold on 30s, find out the max value on the screen of Spectrum.
5. Repeat above procedures until all frequencies measured were complete.

4.3.4. Result

Temperature (℃) : 22~23	EUT: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router
Humidity (%RH): 50~54	M/N: Lynx 528
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx Mode
Test date: Jul 13, 2010 & Aug 10,2010	Test engineer: Phenix

802.11b mode:

Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)	Margin (dB)
LOW (CH 1)	2412	10.67	30	19.33
MID (CH 6)	2437	11.13	30	18.87
HIG (CH 11)	2462	13.17	30	16.83

802.11g mode:

Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)	Margin (dB)
LOW (CH 1)	2412	13.50	30	16.50
MID (CH 6)	2437	12.01	30	17.99
HIG (CH 11)	2462	13.04	30	16.96

802.11n mode:

20MHz bandwidth, Ant.1 only

Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)	Margin (dB)
LOW (CH 1)	2412	6.54	30	23.46
MID (CH 6)	2437	7.26	30	22.74
HIG (CH 11)	2462	7.01	30	22.99

20MHz bandwidth, Ant.2 only

Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)	Margin (dB)
LOW (CH 1)	2412	7.96	30	22.04
MID (CH 6)	2437	8.61	30	21.39
HIG (CH 11)	2462	8.44	30	21.56

20MHz bandwidth, Ant.1 + Ant. 2

Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)	Margin (dB)
LOW (CH 1)	2412	10.32	30	19.68
MID (CH 6)	2437	10.99	30	19.01
HIG (CH 11)	2462	10.79	30	19.21

40MHz bandwidth, Ant.1 only

Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)	Margin (dB)
LOW (CH 3)	2422	6.05	30	23.95
MID (CH 6)	2437	6.58	30	23.42
HIG (CH 9)	2452	6.31	30	23.69

40MHz bandwidth, Ant.2 only

Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)	Margin (dB)
LOW (CH 3)	2422	7.10	30	22.90
MID (CH 6)	2437	7.71	30	22.29
HIG (CH 9)	2452	7.31	30	22.69

40MHz bandwidth, Ant.1 + Ant. 2

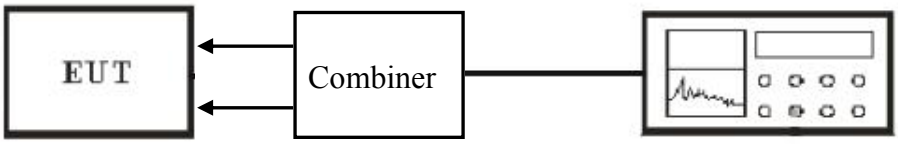
Channel No.	Frequency (MHz)	Output Power (dBm)	Limits (dBm)	Margin (dB)
LOW (CH 3)	2422	9.62	30	20.38
MID (CH 6)	2437	10.19	30	19.81
HIG (CH 9)	2452	9.85	30	20.15

4.4 Band Edges Emission

4.4.1 Applicable Standard

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions that fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209.

4.4.2 Block diagram of test setup



Spectrum

Connection method: The shield cable was connected with EUT and Spectrum which have 50Ω Z_C. There have a combiner inserted between the spectrum and EUT. The connector of EUT side is original by manufacturer. The connector of Spectrum side is N type.
The Combiner only applies the 802.11n mode test.

4.4.3 Measurement method

1. The transmitter is set to the lowest channel.
2. The transmitter output was connected to the spectrum analyzer via a cable and cable loss is used as the offset of the spectrum analyzer.
3. Set both RBW and VBW of spectrum analyzer to 100KHz with convenient frequency span including 20MHz bandwidth from lower band edge. Then detector set to peak and max hold this trace.
4. The lowest band edges emission was measured and recorded.
5. The transmitter set to the highest channel and repeated 2~4.

4.4.4. Result

Conducted:

Temperature (℃) : 22~23	EUT: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router
Humidity (%RH): 50~54	M/N: Lynx 528
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx Mode
Test date: Jul 13, 2010 to Aug 10, 2010	Test engineer: Phenix

802.11b mode:

Frequency (MHz)	Read Delta (dB)	Limits (dB)	Margin (dB)
2400	-46.9	-20	26.9
2483.5	-54.7	-20	34.7

802.11g mode:

Frequency (MHz)	Read Delta (dB)	Limits (dB)	Margin (dB)
2400	-45.7	-20	25.7
2483.5	-54.8	-20	34.8

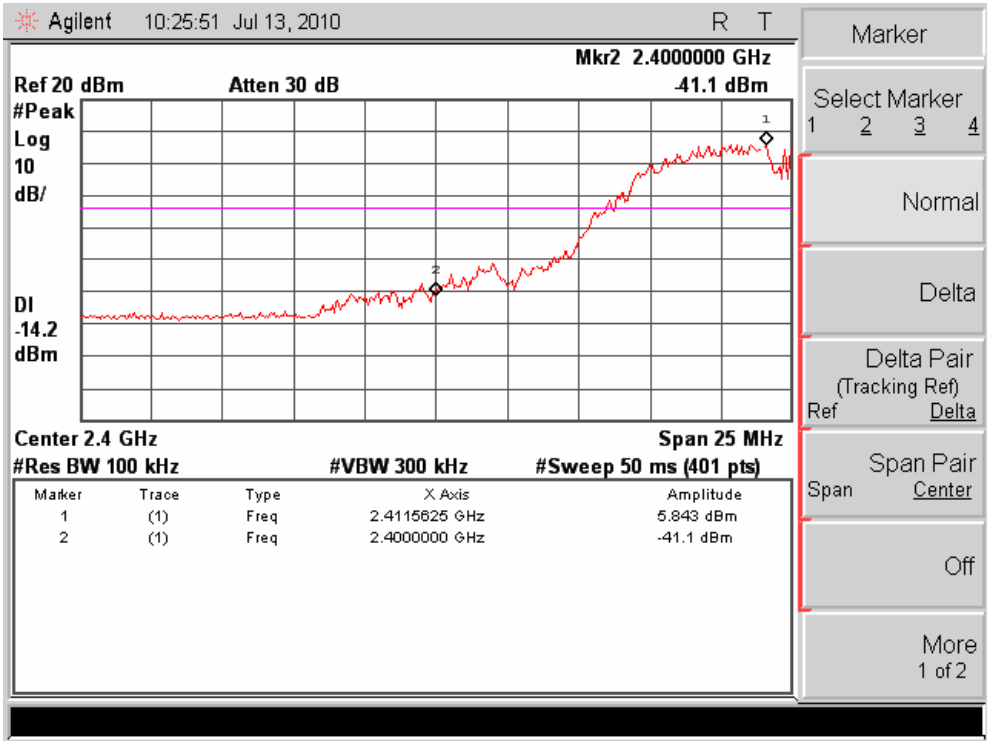
802.11n mode:
20MHz bandwidth, Ant.1 + Ant.2

Frequency (MHz)	Read Delta (dB)	Limits (dB)	Margin (dB)
2400	-46.3	-20	26.3
2483.5	-50.5	-20	30.5

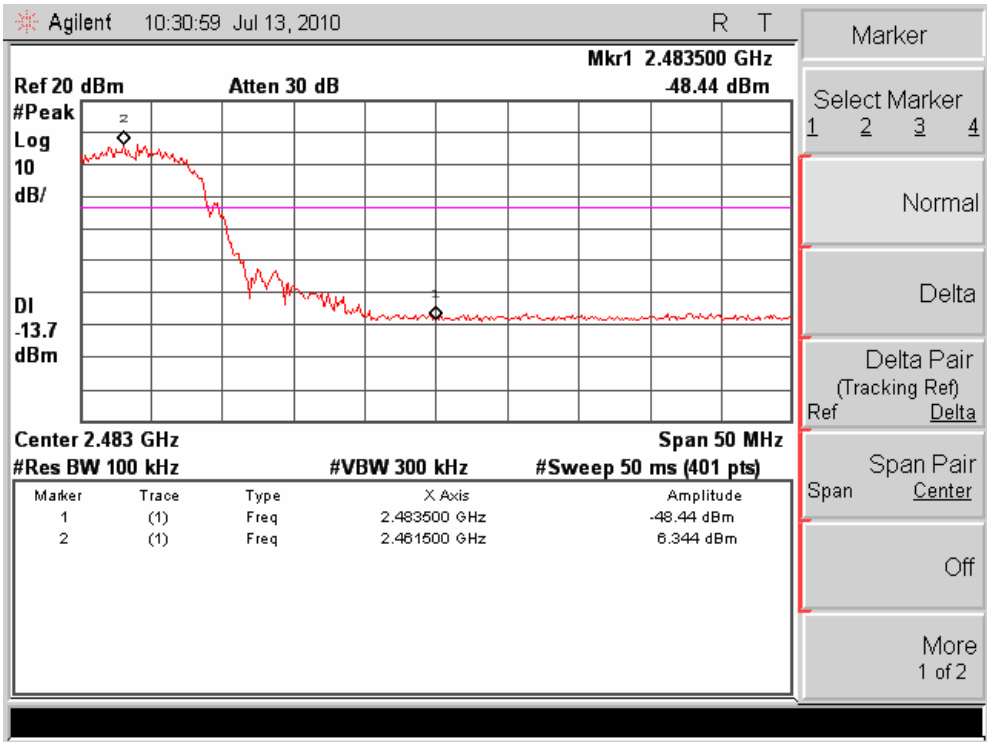
40MHz bandwidth, Ant.1 + Ant.2

Frequency (MHz)	Read Delta (dB)	Limits (dB)	Margin (dB)
2400	-43.62	-20	23.62
2483.5	-51.37	-20	31.37

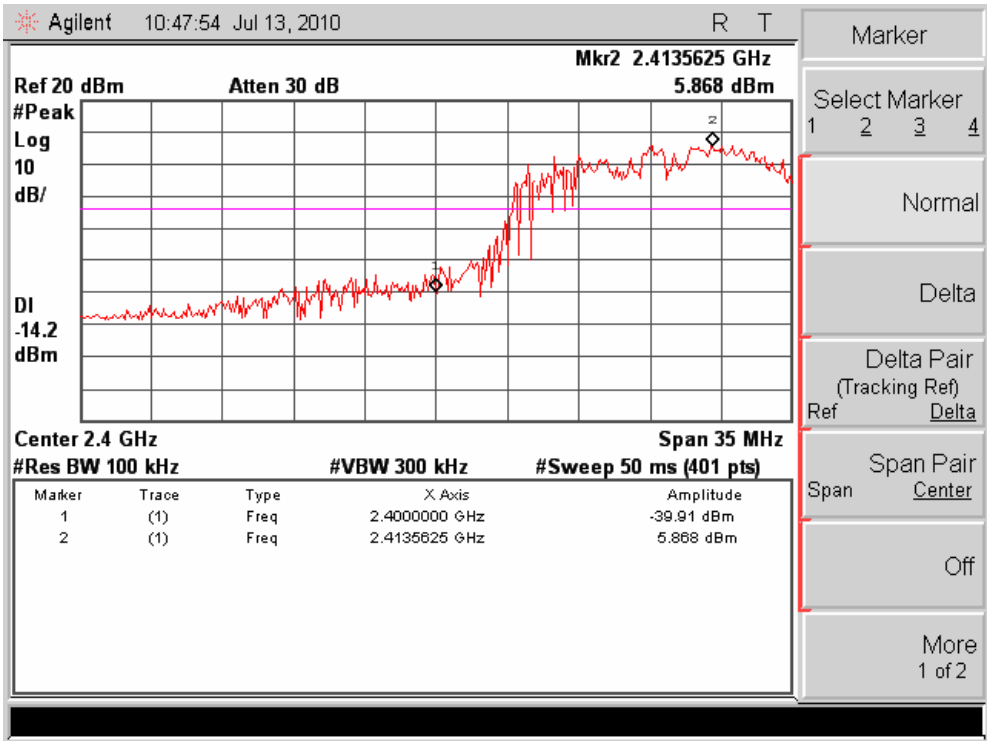
802.11b mode Plot:
Channel LOW：



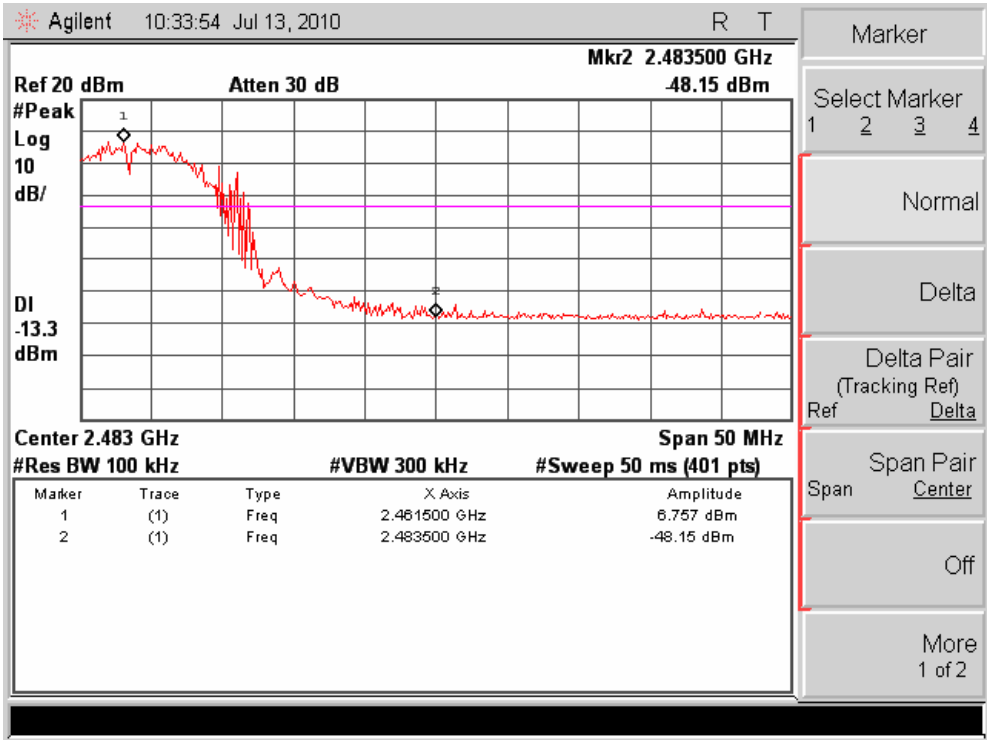
Channel HIG：



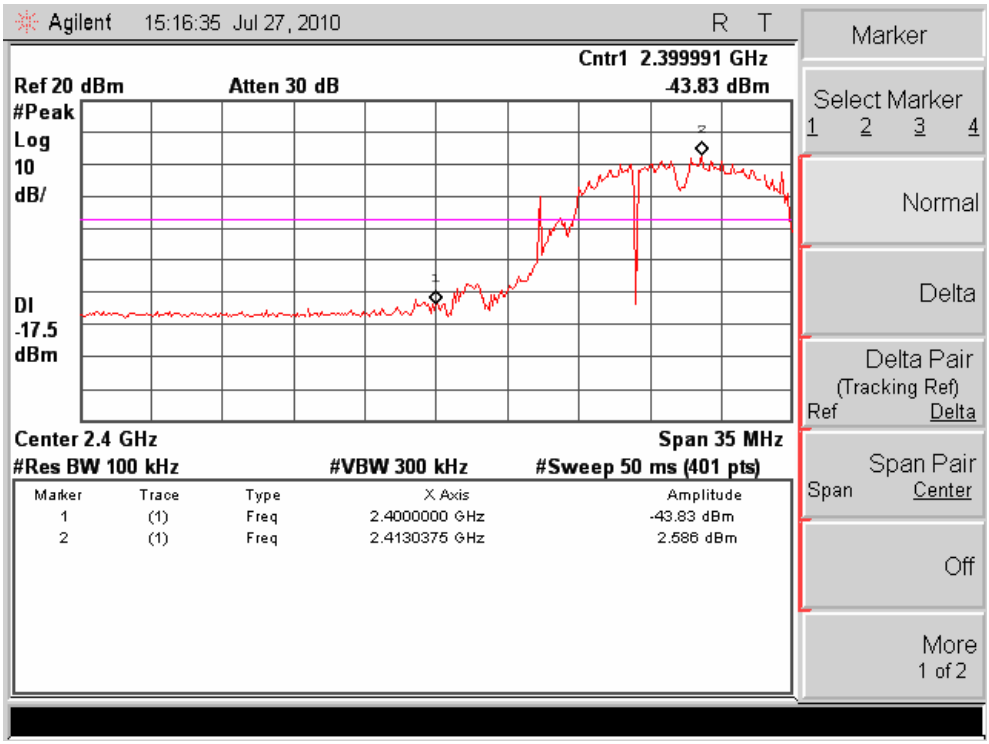
802.11g mode Plot:
Channel LOW：



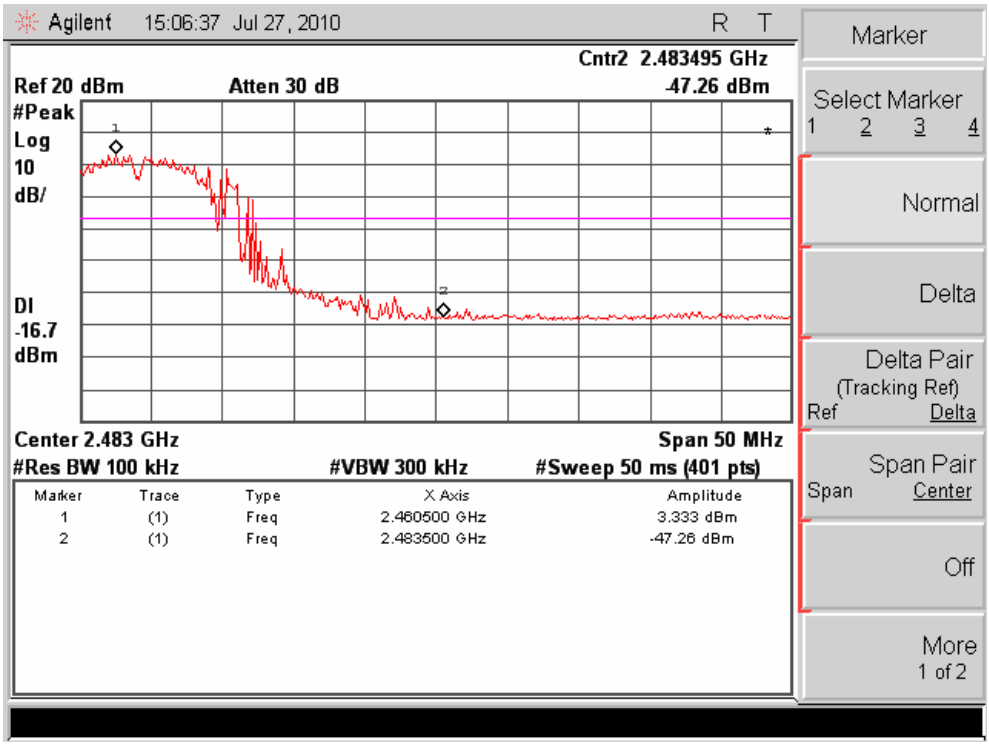
Channel HIG：



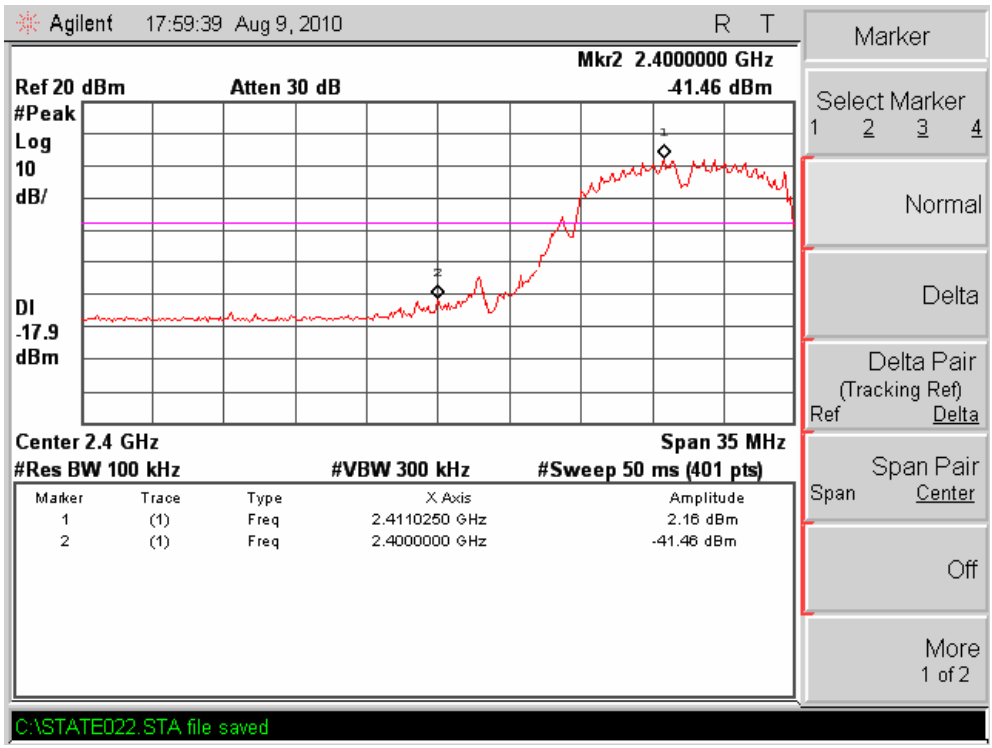
802.11n mode Plot:
20MHz bandwidth, Ant.1 + Ant.2,Channel LOW：



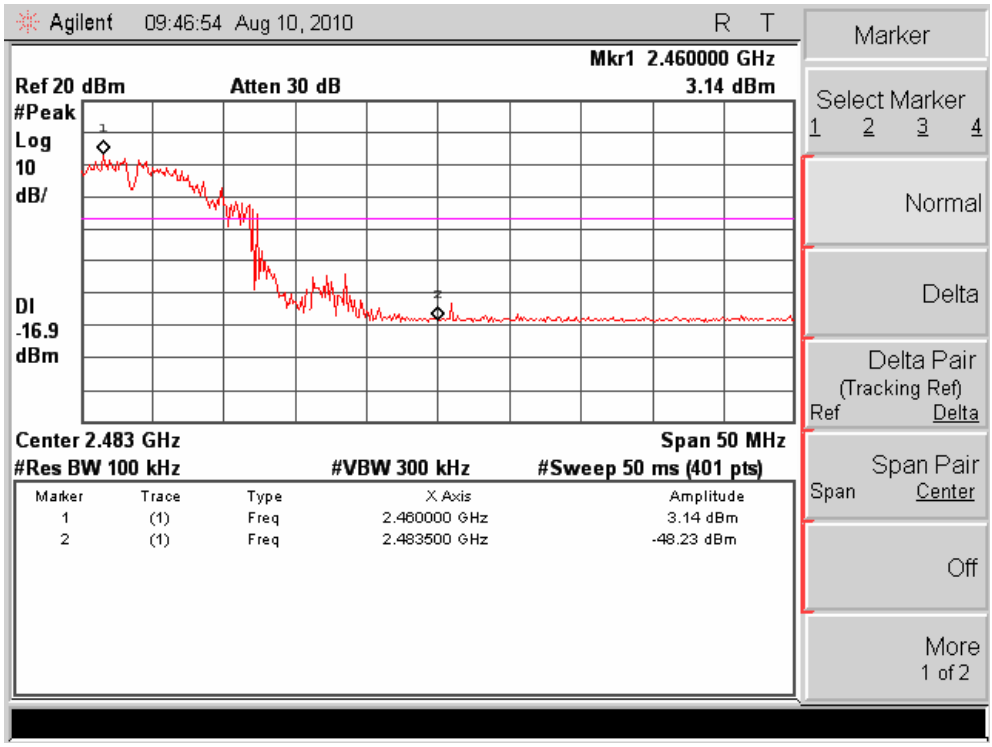
20MHz bandwidth, Ant.1 + Ant.2,Channel HIG：



40MHz bandwidth, Ant.1 + Ant.2,Channel LOW：

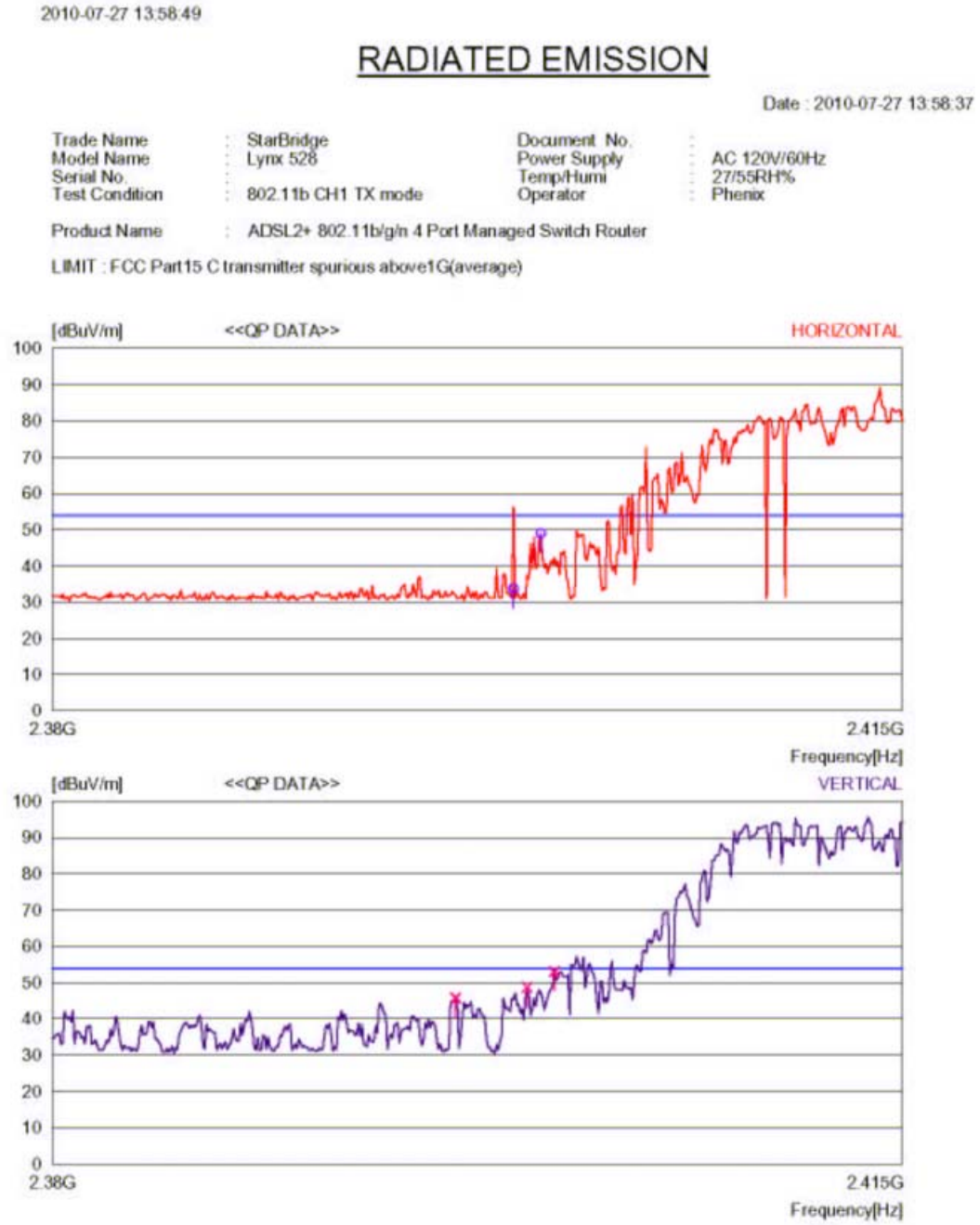


40MHz bandwidth, Ant.1 + Ant.2,Channel HIG：



Radiated:

802.11b mode:



2010-07-27 13:58:49

RADIATED EMISSION

Date : 2010-07-27 13:58:37

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11b CH1 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2398.918	36.4	-2.6	33.8	54.0	20.2	300	138	AVG
2	2400.040	51.6	-2.6	49.0	54.0	5.0	300	138	PK
----- Vertical -------									
3	2396.536	48.4	-2.6	45.8	54.0	8.2	200	259	PK
4	2399.479	51.3	-2.6	48.7	54.0	5.3	200	135	PK
5	2400.600	55.6	-2.6	53.0	54.0	1.0	200	284	PK

2010-07-27 11:18:12

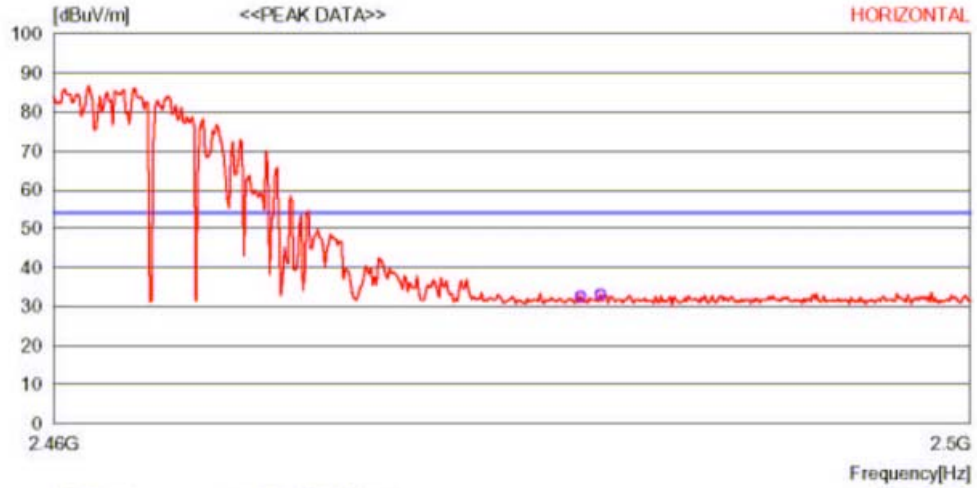
RADIATED EMISSION

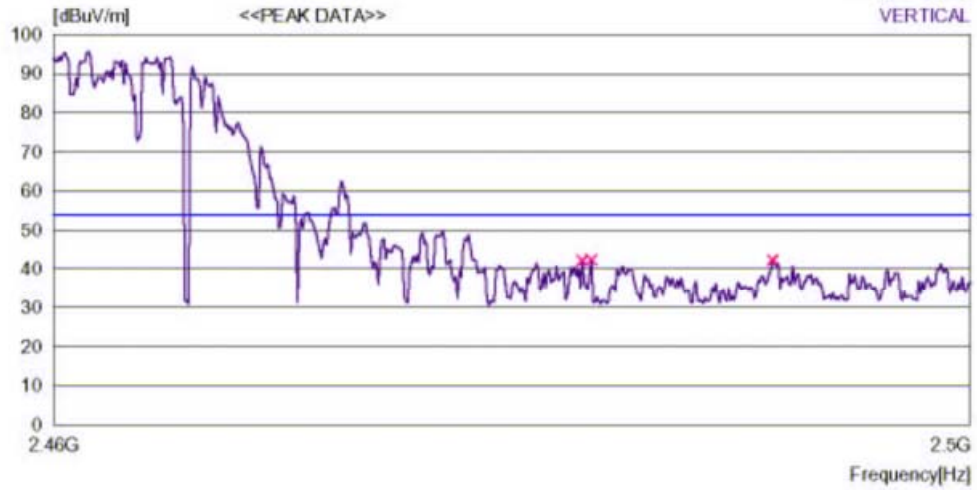
Date : 2010-07-27 11:17:54

Trade Name	: StarBridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Serial No.	:	Temp/Humi	: 27/55RH%
Test Condition	: 802.11b CH11 TX mode	Operator	: Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)





2010-07-27 11:18:12

RADIATED EMISSION

Date : 2010-07-27 11:17:54

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11b CH11 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	2482.902	35.2	31.2	5.6	39.4	32.6	54	21.4	300	224
2	2483.783	35.7	31.2	5.6	39.4	33.1	54	20.9	100	155
----- Vertical ------										
3	2482.982	44.8	31.2	5.6	39.4	42.2	54	11.8	199	187
4	2483.383	45.0	31.2	5.6	39.4	42.4	54	11.6	199	187
5	2491.311	44.9	31.2	5.6	39.4	42.3	54	11.7	199	195

802.11g mode:

2010-07-27 11:52:04

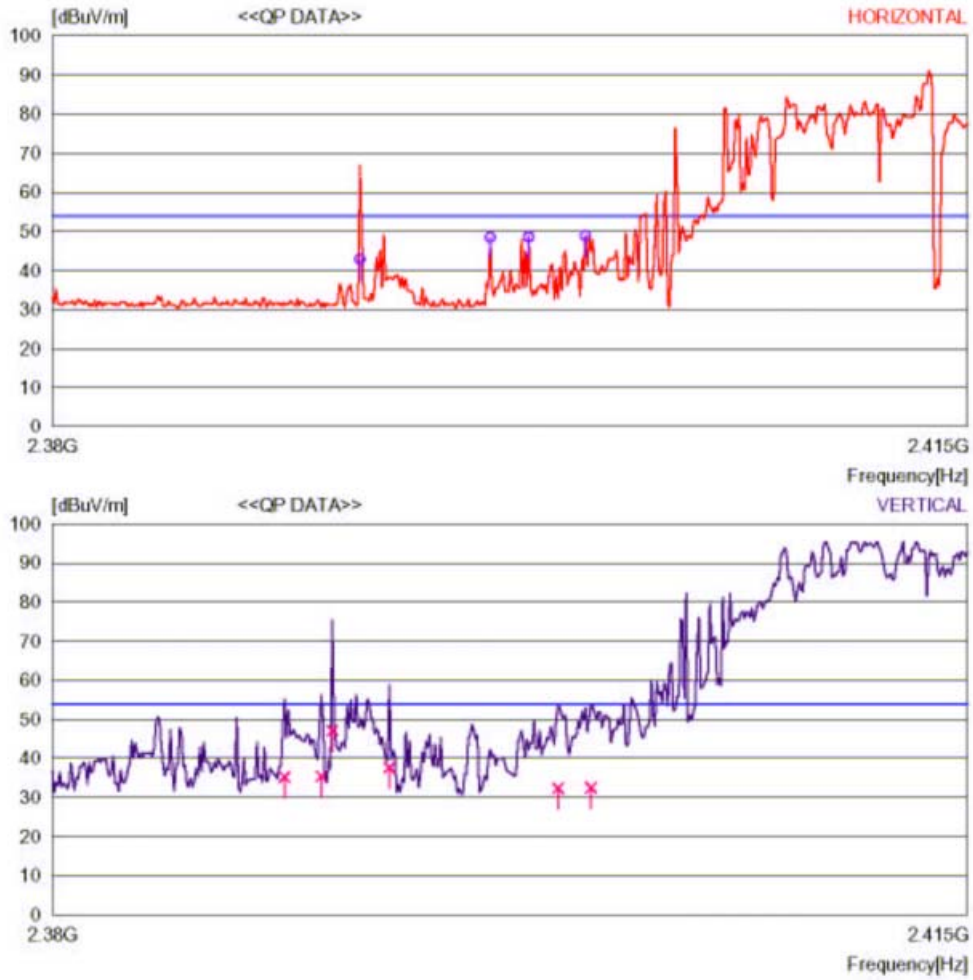
RADIATED EMISSION

Date : 2010-07-27 11:51:57

Trade Name	: StarBridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Serial No.	:	Temp/Humi	: 27/55RH%
Test Condition	: 802.11g CH1 TX mode	Operator	: Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)



2010-07-27 11:52:04

RADIATED EMISSION

Date : 2010-07-27 11:51:57

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11g CH1 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2391.701	45.5	-2.6	42.9	54.0	11.1	300	245	AVG
2	2396.676	51.1	-2.6	48.5	54.0	5.5	200	288	PK
3	2398.148	51.2	-2.6	48.6	54.0	5.4	200	288	PK
4	2400.320	51.5	-2.6	48.9	54.0	5.1	200	267	PK
----- Vertical -------									
5	2388.829	37.8	-2.6	35.2	54.0	18.8	200	352	AVG
6	2390.230	38.1	-2.6	35.5	54.0	18.5	200	352	AVG
7	2390.650	49.7	-2.6	47.1	54.0	6.9	200	352	AVG
8	2392.823	40.2	-2.6	37.6	54.0	16.4	200	352	AVG
9	2399.269	34.9	-2.6	32.3	54.0	21.7	100	13	AVG
10	2400.530	35.1	-2.6	32.5	54.0	21.5	200	302	AVG

2010-07-27 11:36:22

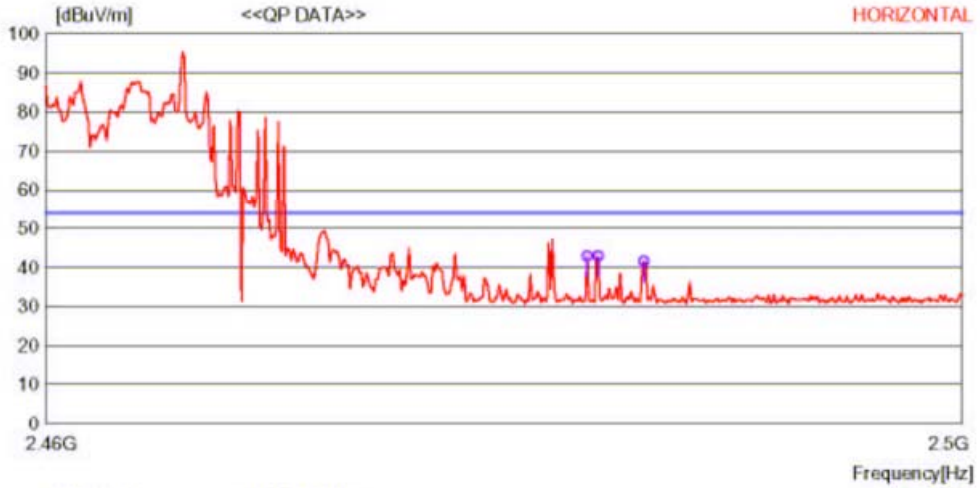
RADIATED EMISSION

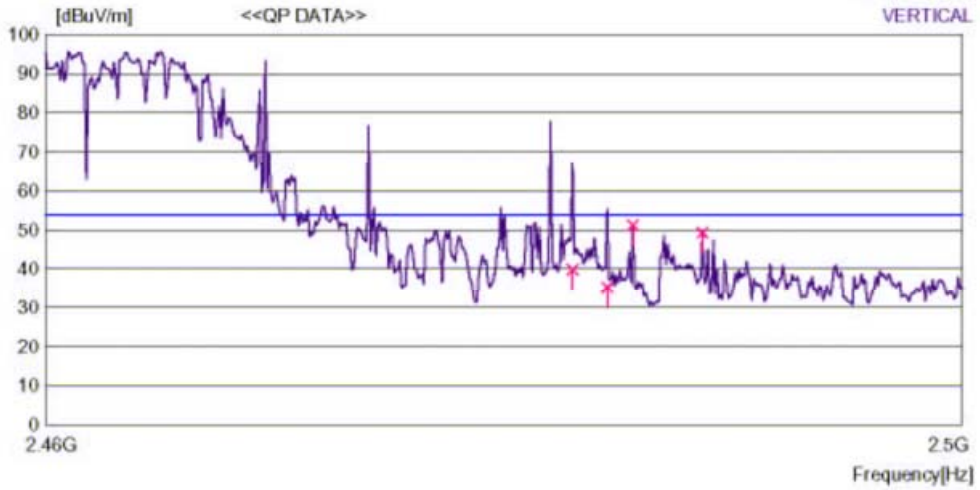
Date : 2010-07-27 11:36:12

Trade Name	: StarBridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Serial No.	:	Temp/Humi	: 27/55RH%
Test Condition	: 802.11g CH11 TX mode	Operator	: Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)





2010-07-27 11:36:22

RADIATED EMISSION

Date : 2010-07-27 11:36:12

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11g CH11 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2483.543	45.5	-2.6	42.9	54.0	11.1	300	14	PK
2	2484.023	45.5	-2.6	42.9	54.0	11.1	300	14	PK
3	2486.025	44.2	-2.6	41.6	54.0	12.4	300	14	PK
----- Vertical -------									
4	2482.902	42.5	-2.6	39.9	54.0	14.1	100	338	AVG
5	2484.424	37.8	-2.6	35.2	54.0	18.8	300	117	AVG
6	2485.545	53.8	-2.6	51.2	54.0	2.8	100	338	PK
7	2488.588	51.9	-2.6	49.3	54.0	4.7	300	354	PK

802.11n mode:
20MHz bandwidth, Ant.1 + Ant.2

2010-07-27 14:20:25

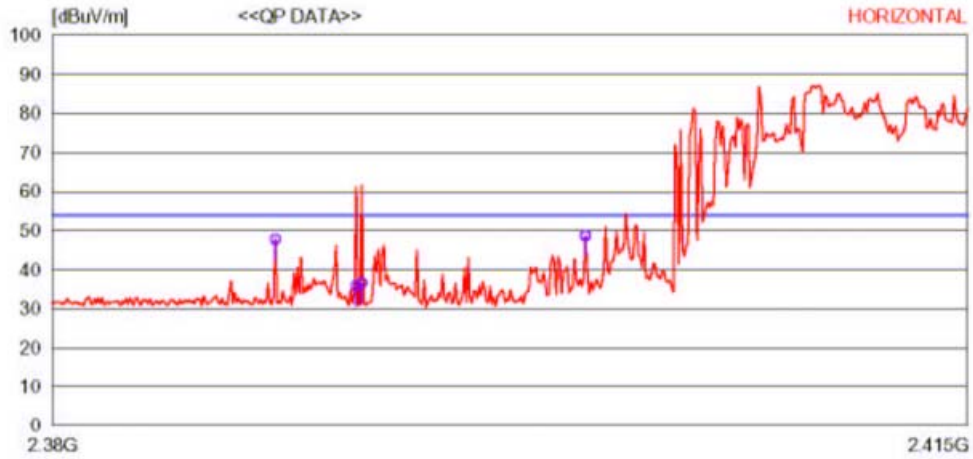
RADIATED EMISSION

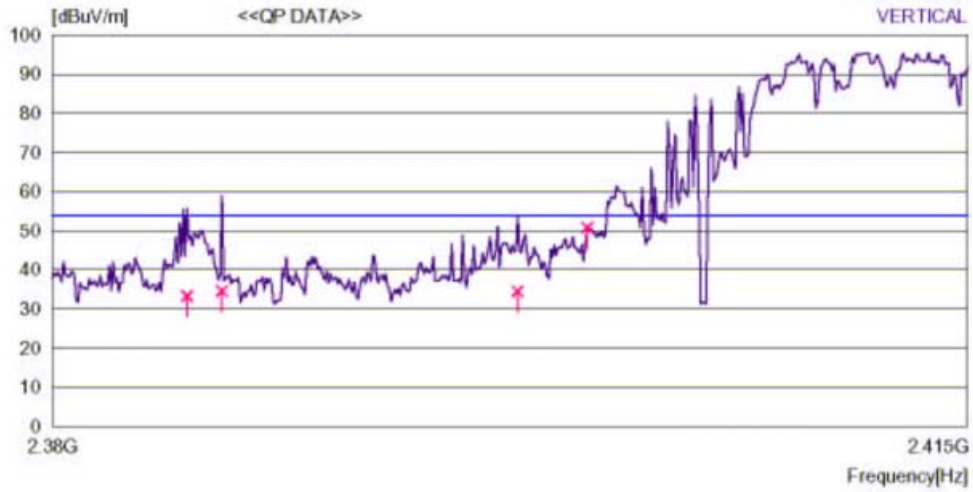
Date : 2010-07-27 14:20:18

Trade Name	: StarBridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Serial No.	:	Temp/Humi	: 27/55RH%
Test Condition	: 802.11n CH1 TX mode	Operator	: Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)





2010-07-27 14:20:25

RADIATED EMISSION

Date : 2010-07-27 14:20:18

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH1 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2388.478	50.4	-2.6	47.8	54.0	6.2	100	335	PK
2	2391.561	38.5	-2.6	35.9	54.0	18.1	200	77	AVG
3	2391.771	39.2	-2.6	36.6	54.0	17.4	300	38	AVG
4	2400.320	51.3	-2.6	48.7	54.0	5.3	200	110	PK
----- Vertical -------									
5	2385.115	35.9	-2.6	33.3	54.0	20.7	200	39	AVG
6	2386.446	37.2	-2.6	34.6	54.0	19.4	200	39	AVG
7	2397.727	37.1	-2.6	34.5	54.0	19.5	200	142	AVG
8	2400.390	53.4	-2.6	50.8	54.0	3.2	200	30	PK

2010-07-27 14:56:13

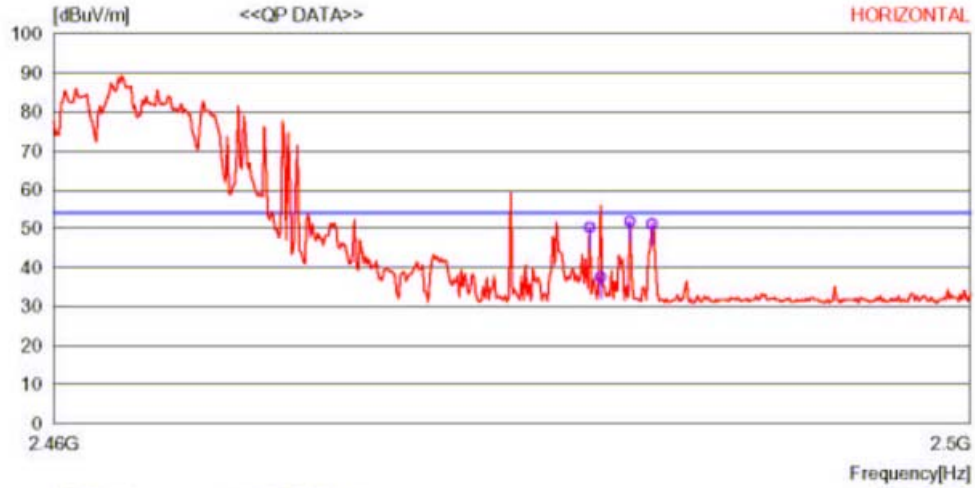
RADIATED EMISSION

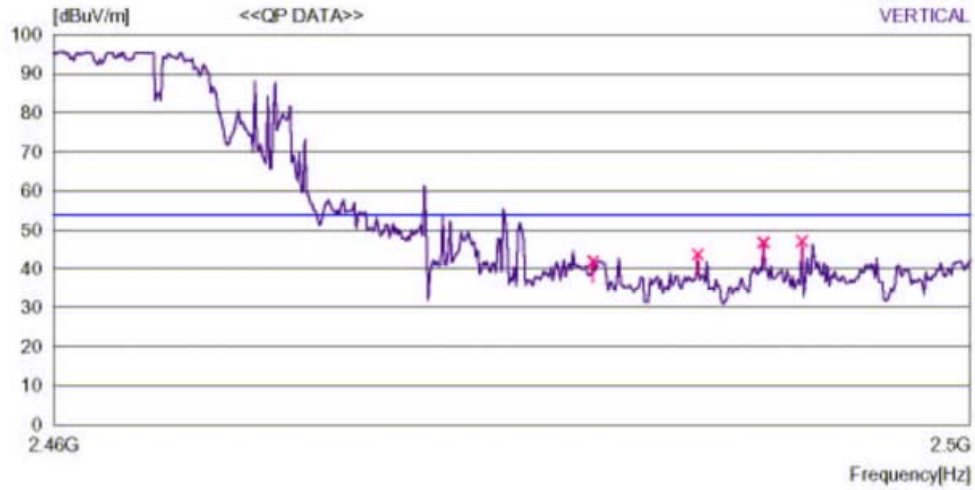
Date : 2010-07-27 14:56:02

Trade Name	: StarBridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Serial No.	:	Temp/Humi	: 27/55RH%
Test Condition	: 802.11n CH11 TX mode	Operator	: Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)





2010-07-27 14:56:13

RADIATED EMISSION

Date : 2010-07-27 14:56:02

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH11 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2483.303	52.8	-2.6	50.2	54.0	3.8	300	282	PK
2	2483.783	40.1	-2.6	37.5	54.0	16.5	300	282	AVG
3	2485.064	54.4	-2.6	51.8	54.0	2.2	200	139	PK
4	2486.025	53.7	-2.6	51.1	54.0	2.9	200	139	PK
----- Vertical -------									
5	2483.463	44.6	-2.6	42.0	54.0	12.0	199	282	PK
6	2488.027	46.4	-2.6	43.8	54.0	10.2	199	154	PK
7	2490.910	49.4	-2.6	46.8	54.0	7.2	300	224	PK
8	2492.592	49.8	-2.6	47.2	54.0	6.8	300	224	PK

40MHz bandwidth, Ant.1 + Ant.2

2010-08-09 11:03:10

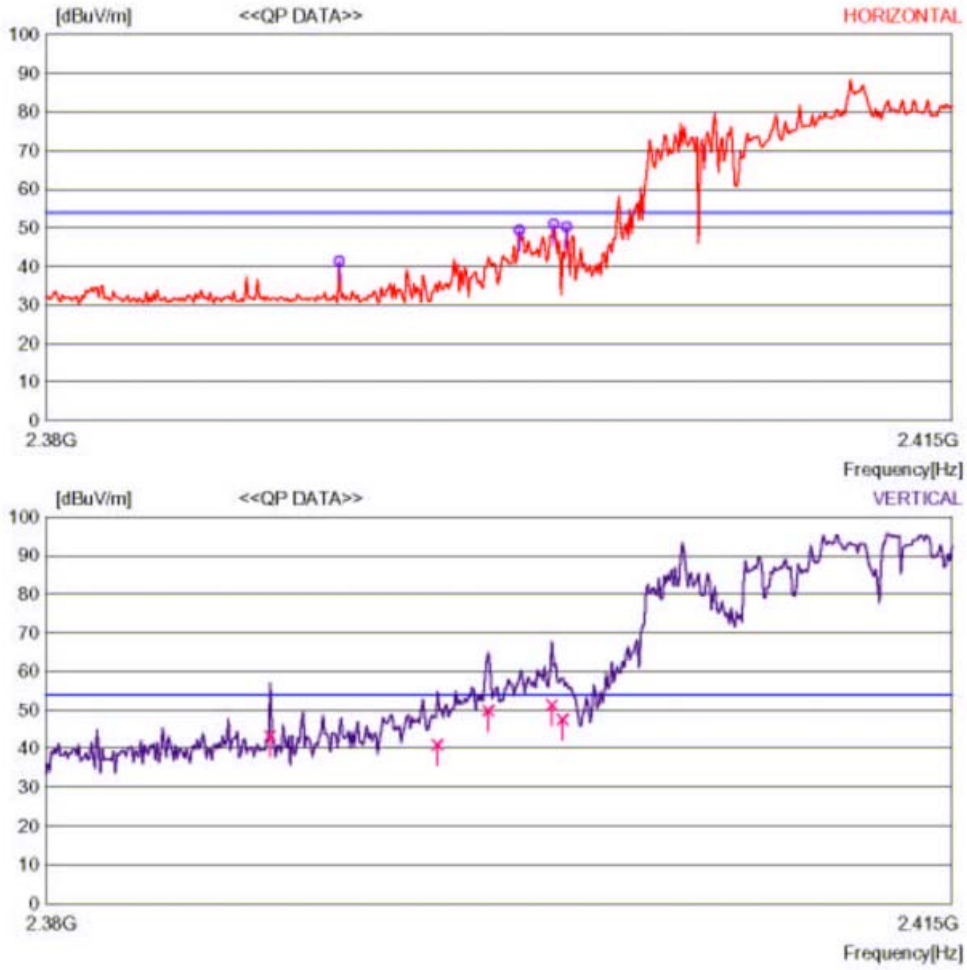
RADIATED EMISSION

Date : 2010-08-09 11:03:00

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH1 40MHz band	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)



2010-08-09 11:03:10

RADIATED EMISSION

Date : 2010-08-09 11:03:00

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH1 40MHz band	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2391.281	44.0	-2.6	41.4	54.0	12.6	100	197	PK
2	2398.218	52.0	-2.6	49.4	54.0	4.6	300	183	PK
3	2399.549	53.6	-2.6	51.0	54.0	3.0	300	183	PK
4	2400.040	52.9	-2.6	50.3	54.0	3.7	100	193	PK
----- Vertical -------									
5	2388.618	45.8	-2.6	43.2	54.0	10.8	100	312	AVG
6	2395.065	43.5	-2.6	40.9	54.0	13.1	200	261	AVG
7	2397.027	52.4	-2.6	49.8	54.0	4.2	200	129	AVG
8	2399.479	53.8	-2.6	51.2	54.0	2.8	200	121	AVG
9	2399.899	50.1	-2.6	47.5	54.0	6.5	200	121	AVG

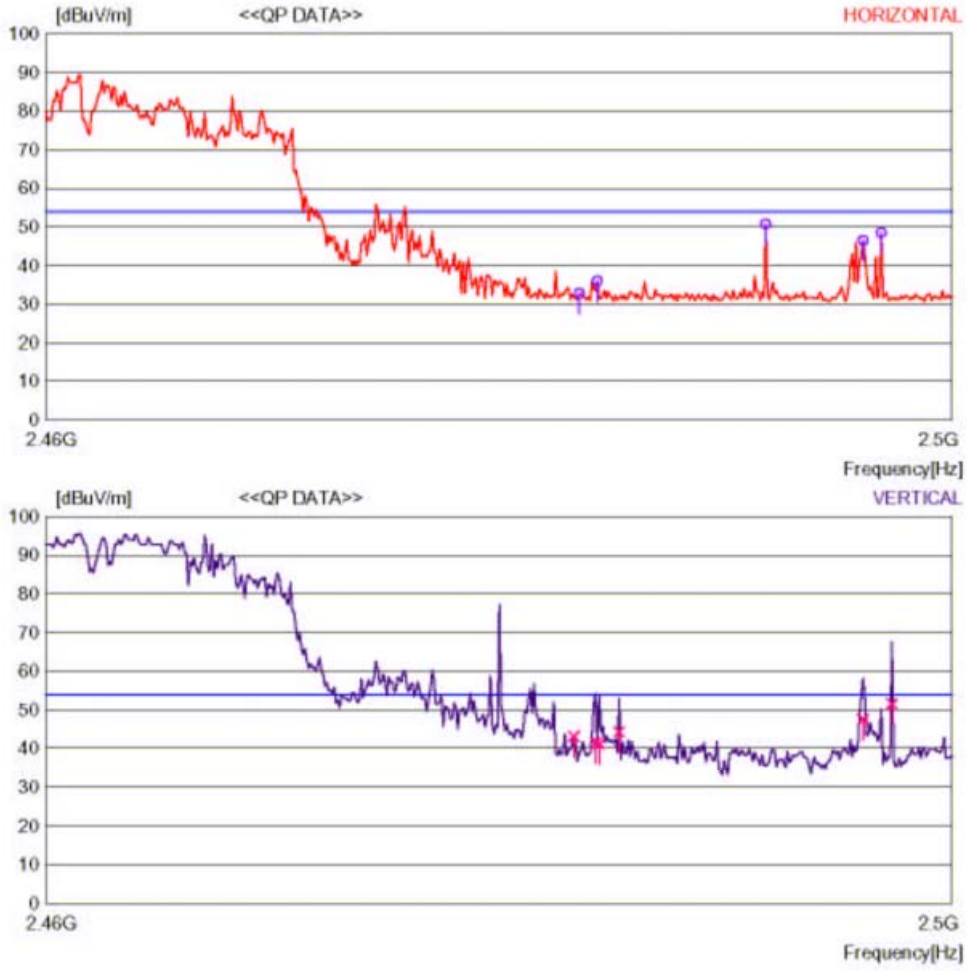
2010-08-09 10:30:23

RADIATED EMISSION

Date : 2010-08-09 10:30:12

Trade Name	: StarBridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Serial No.	:	Temp/Humi	: 27/55RH%
Test Condition	: 802.11n CH11 40MHz band	Operator	: Phenix
Product Name	: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router		

LIMIT : FCC Part15 C transmitter spurious above1G(average)



2010-08-09 10:30:24

RADIATED EMISSION

Date : 2010-08-09 10:30:12

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH11 40MHz band	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

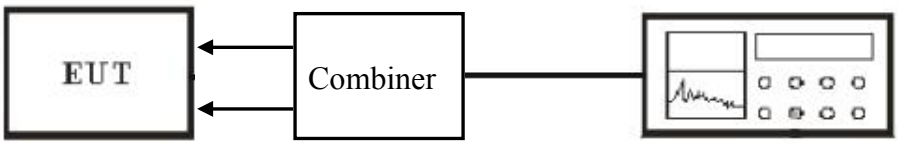
No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2483.463	35.4	-2.6	32.8	54.0	21.2	300	22	PK
2	2484.264	38.6	-2.6	36.0	54.0	18.0	100	142	PK
3	2491.711	53.3	-2.6	50.7	54.0	3.3	100	250	PK
4	2496.035	49.1	-2.6	46.5	54.0	7.5	200	246	PK
5	2496.836	51.1	-2.6	48.5	54.0	5.5	200	246	PK
----- Vertical -------									
6	2483.223	45.7	-2.6	43.1	54.0	10.9	199	63	PK
7	2484.184	44.1	-2.6	41.5	54.0	12.5	300	2	AVG
8	2484.344	43.8	-2.6	41.2	54.0	12.8	300	2	AVG
9	2485.225	46.9	-2.6	44.3	54.0	9.7	300	2	AVG
10	2496.035	50.1	-2.6	47.5	54.0	6.5	199	63	AVG
11	2497.316	54.1	-2.6	51.5	54.0	2.5	199	63	AVG

4.5 6dB BANDWIDTH

4.5.1 Applicable Standard

According to section 15.247(a)(2), for digital modulation technique, the minimum 6dB bandwidth shall be at least 500kHz.

4.5.2 Block diagram of test setup



Spectrum

Connection method: The shield cable was connected with EUT and Spectrum which have 50Ω Z_C. There have a combiner inserted between the spectrum and EUT. The connector of EUT side is original by manufacturer. The connector of Spectrum side is N type.
The Combiner only applies the 802.11n mode test.

4.5.3 Measurement method

1. The transmitter output was connected to the spectrum analyzer through a shielded cable.
2. Set the spectrum analyzer as RBW=100 kHz, VBW=300 kHz, Span=40MHz, Sweep=auto.
3. Set Detector to Peak, Trace to Max Hold and Sweep Time is auto.
4. Mark the peak frequency and -6dB(upper and lower) frequency.
5. Repeat above 1-4 points for the middle and highest channel of the EUT.

4.5.4. Result

Temperature (℃) : 22~23	EUT: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router
Humidity (%RH): 50~54	M/N: Lynx 528
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx Mode
Test data: Jul 13, 2010 to Sep 08, 2010	Test engineer: Phenix

802.11b mode:

Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limits (MHz)
LOW (CH 1)	2412	8.7	＞0.5
MID (CH 6)	2437	8.7	＞0.5
HIG (CH 11)	2462	7.7	＞0.5

802.11g mode:

Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limits (MHz)
LOW (CH 1)	2412	15.1	＞0.5
MID (CH 6)	2437	15.0	＞0.5
HIG (CH 11)	2462	12.5	＞0.5

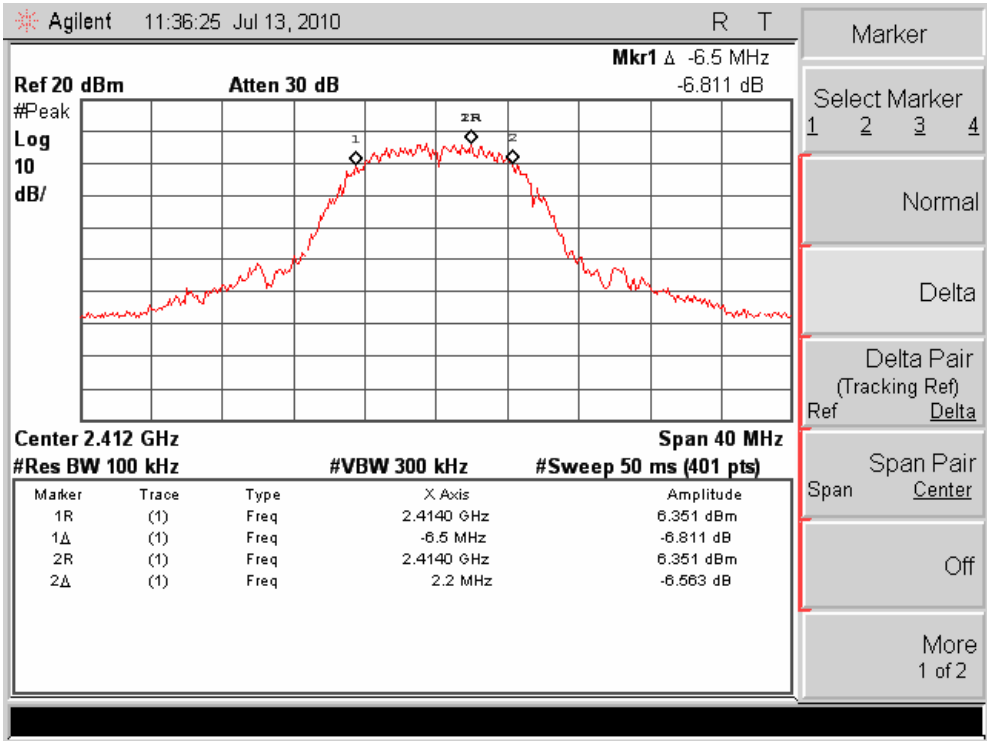
802.11n mode:
20MHz bandwidth, Ant.1 + Ant.2

Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limits (MHz)
LOW (CH 1)	2412	8.4	＞0.5
MID (CH 6)	2437	8.7	＞0.5
HIG (CH 11)	2462	7.9	＞0.5

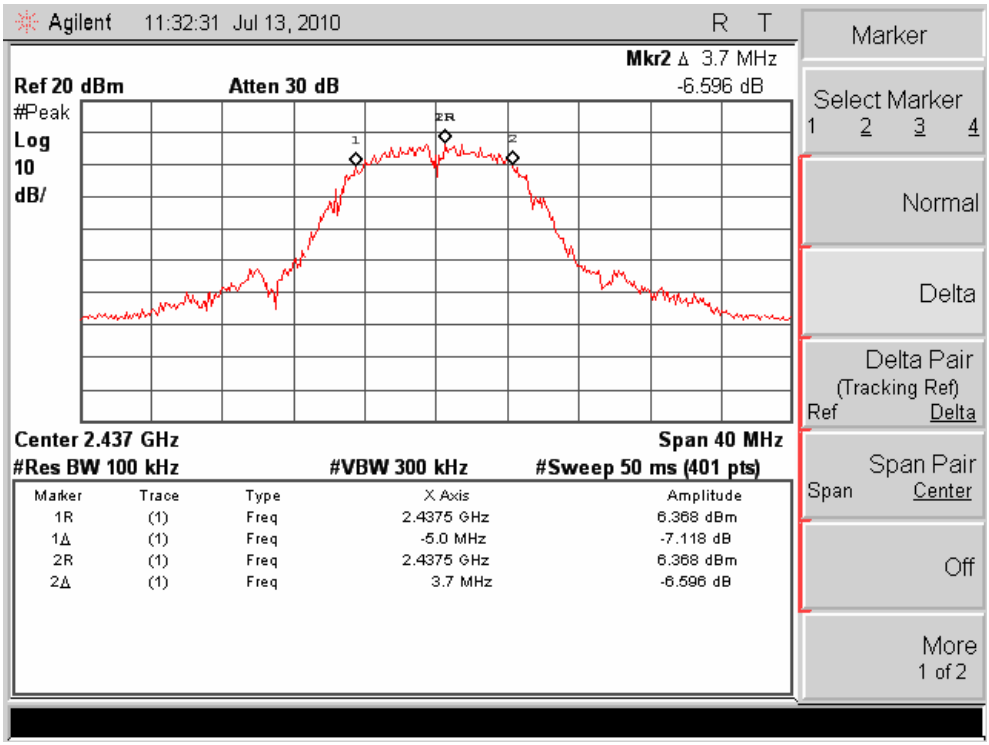
40MHz bandwidth, Ant.1 + Ant.2

Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limits (MHz)
LOW (CH 3)	2422	35.75	＞0.5
MID (CH 6)	2437	36.50	＞0.5
HIG (CH 9)	2452	36.75	＞0.5

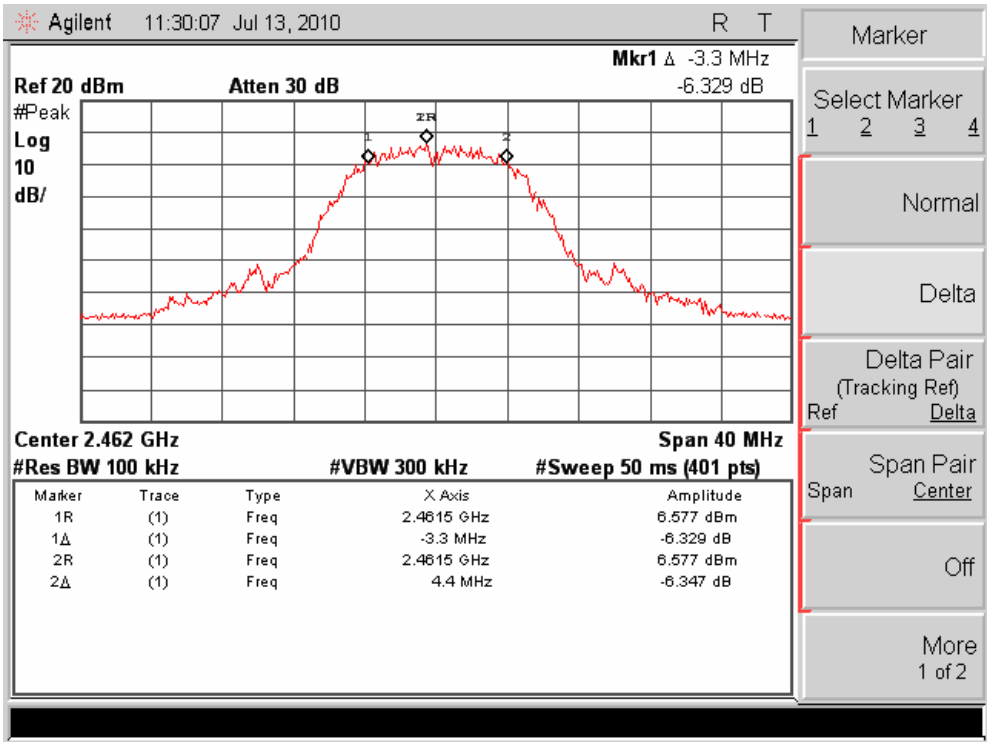
802.11b mode Plot:
Channel LOW：



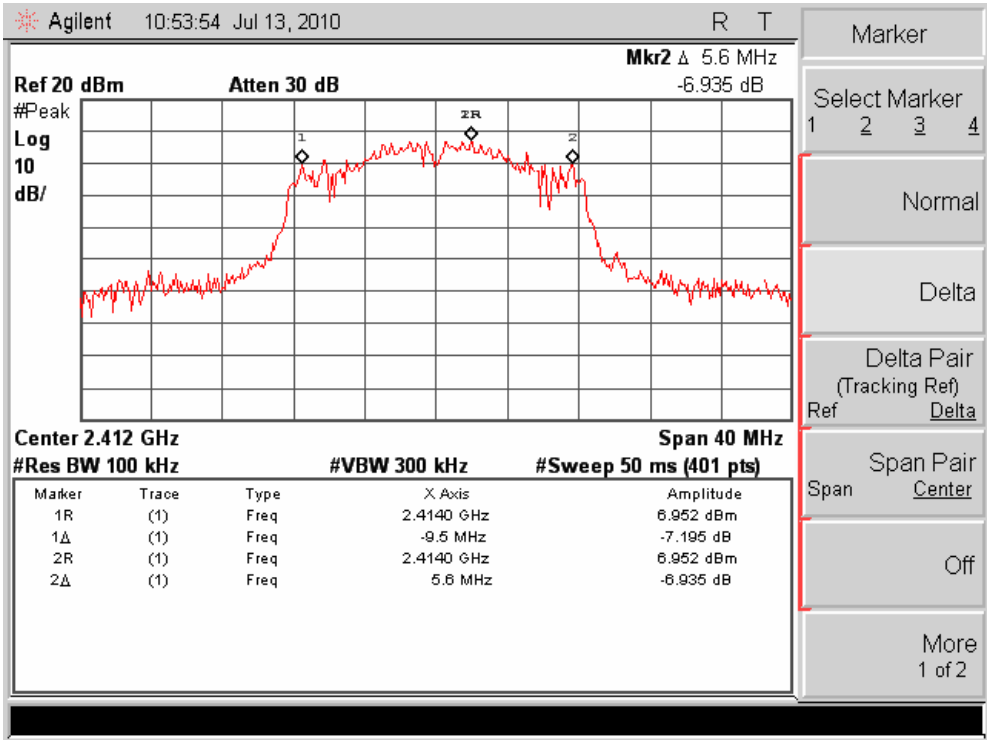
Channel MID：



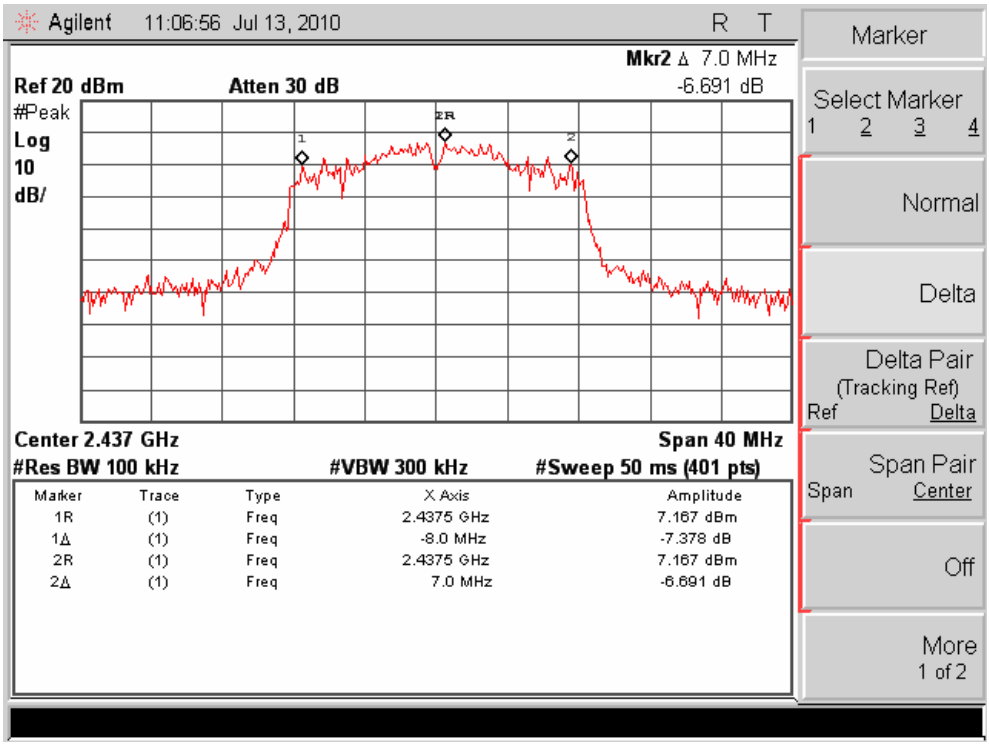
Channel HIG：



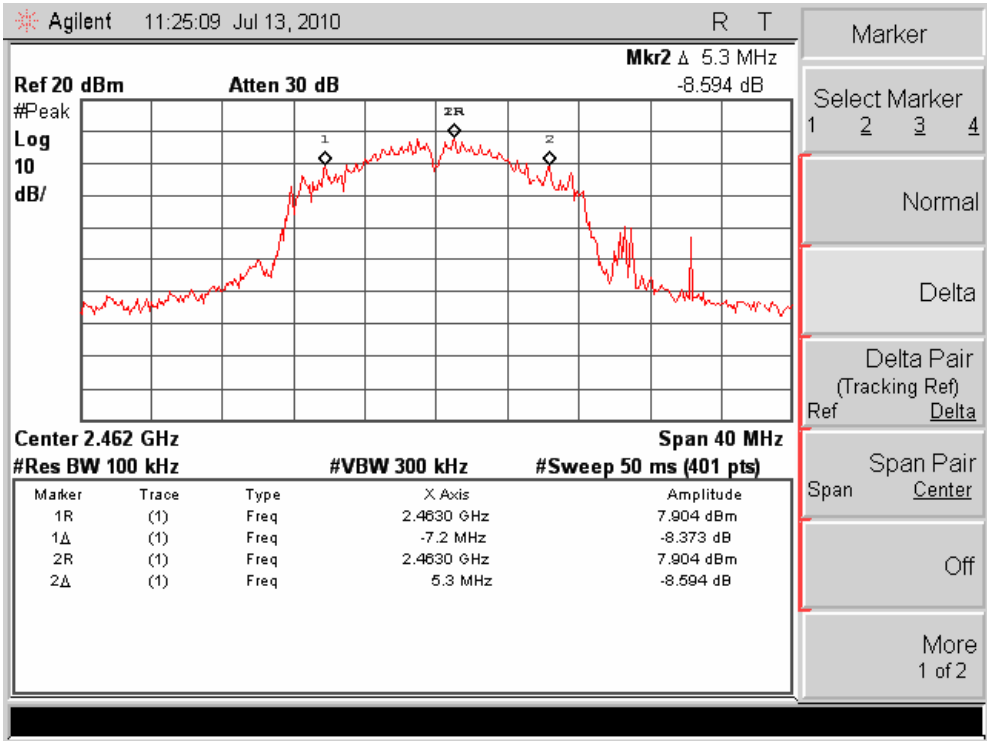
802.11g mode Plot:
Channel LOW：



Channel MID：

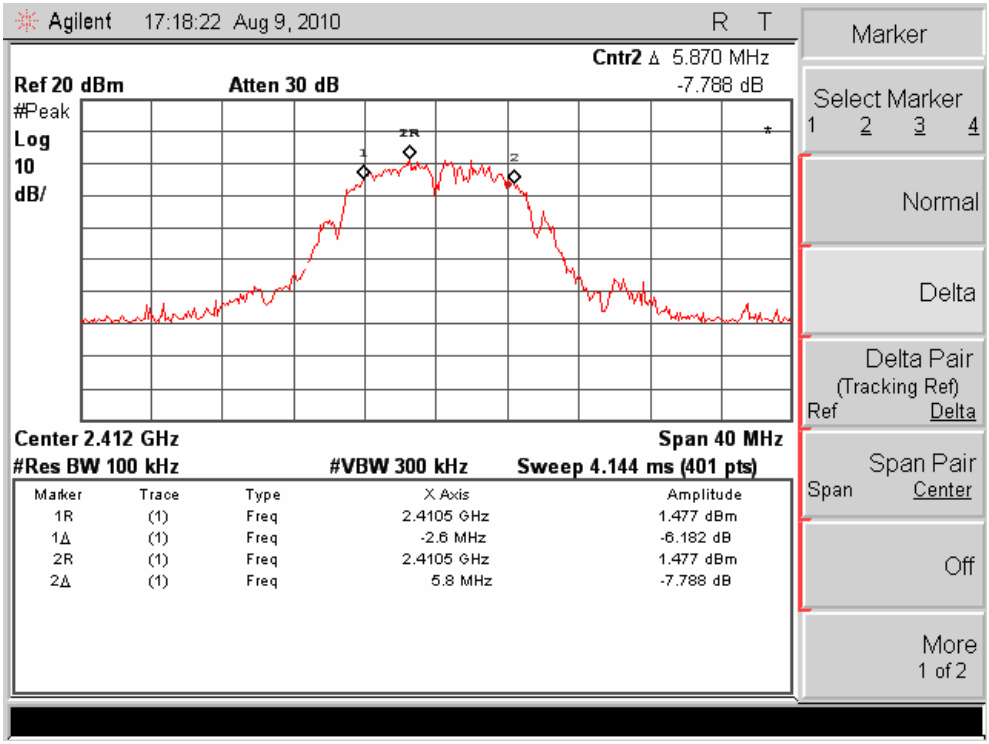


Channel HIG：

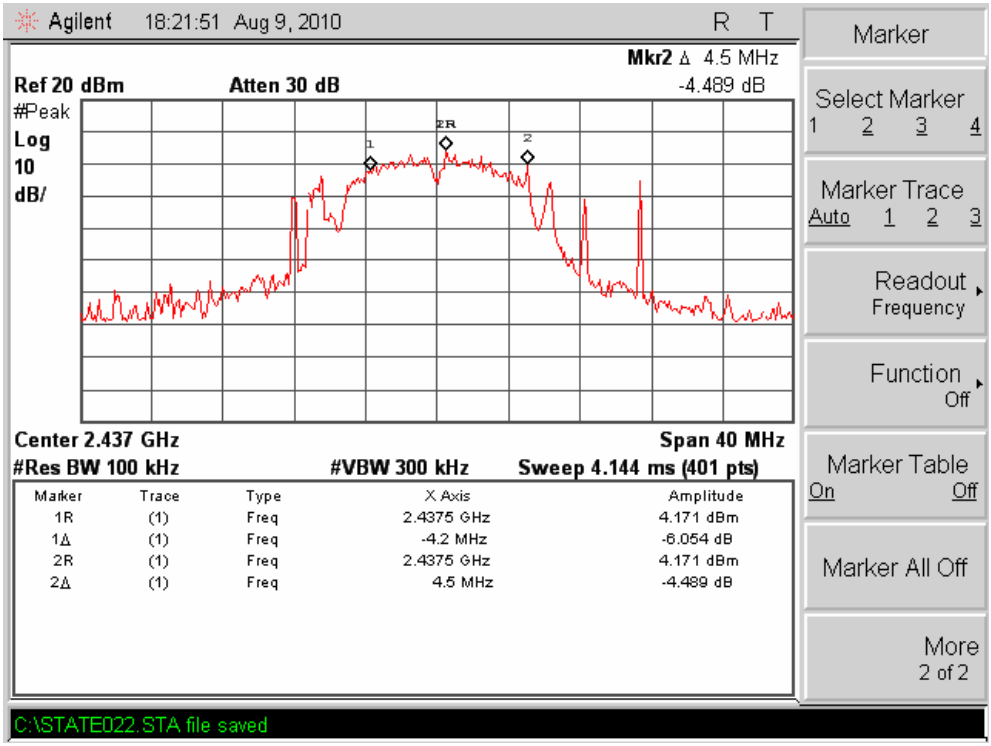


802.11n mode Plot:

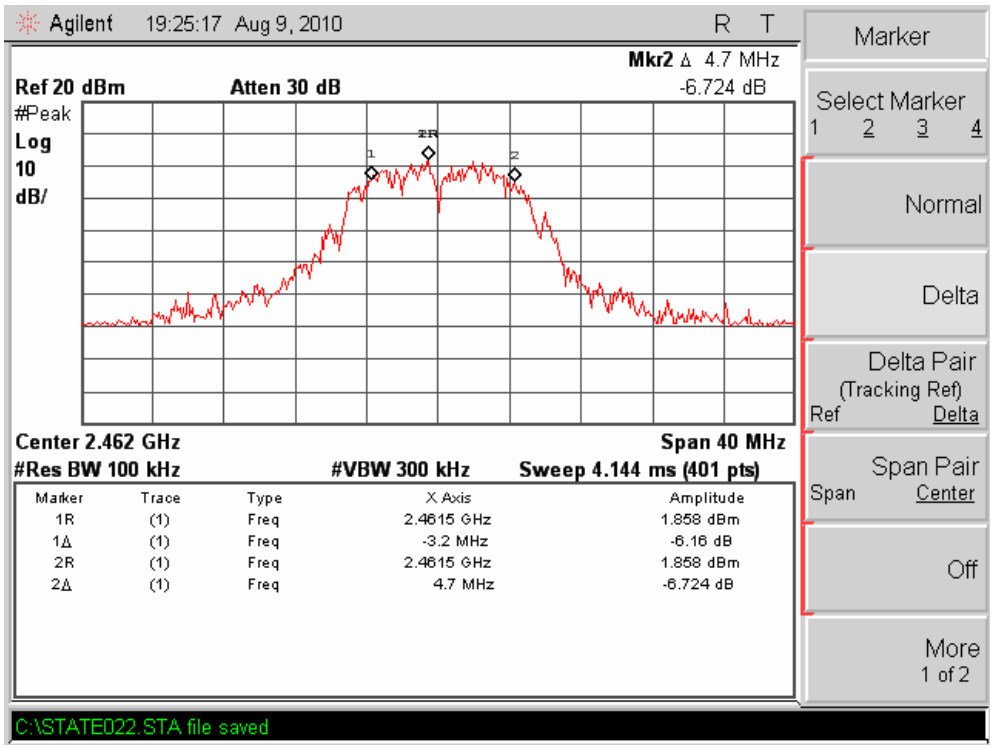
20MHz bandwidth, Ant.1 + Ant.2,Channel LOW：



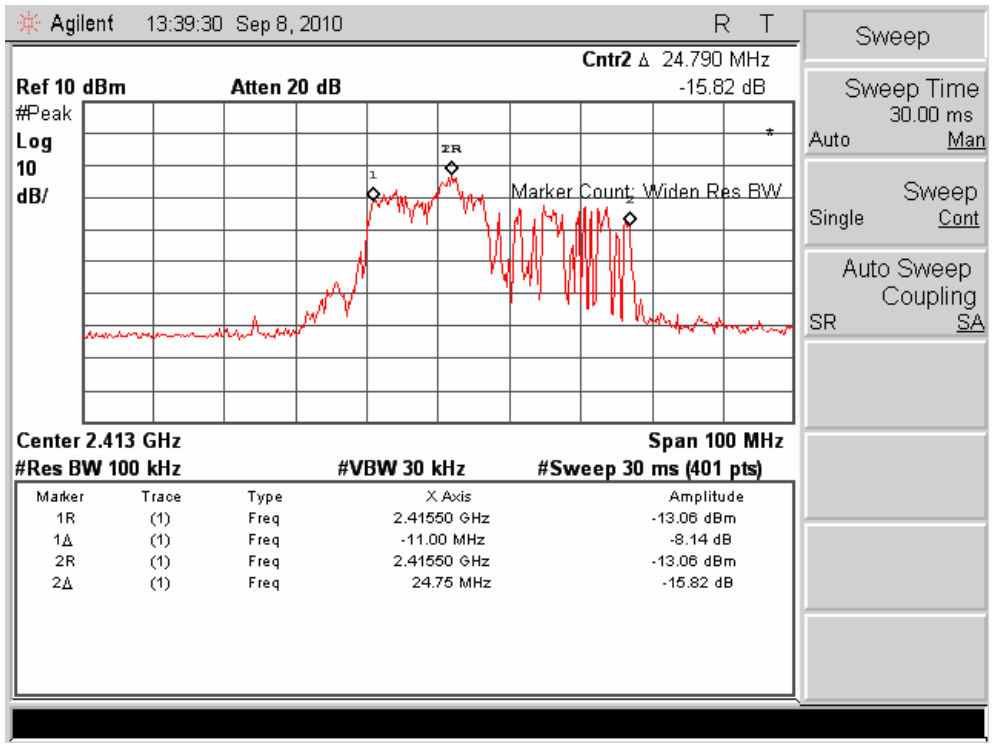
20MHz bandwidth, Ant.1 + Ant.2,Channel MID：



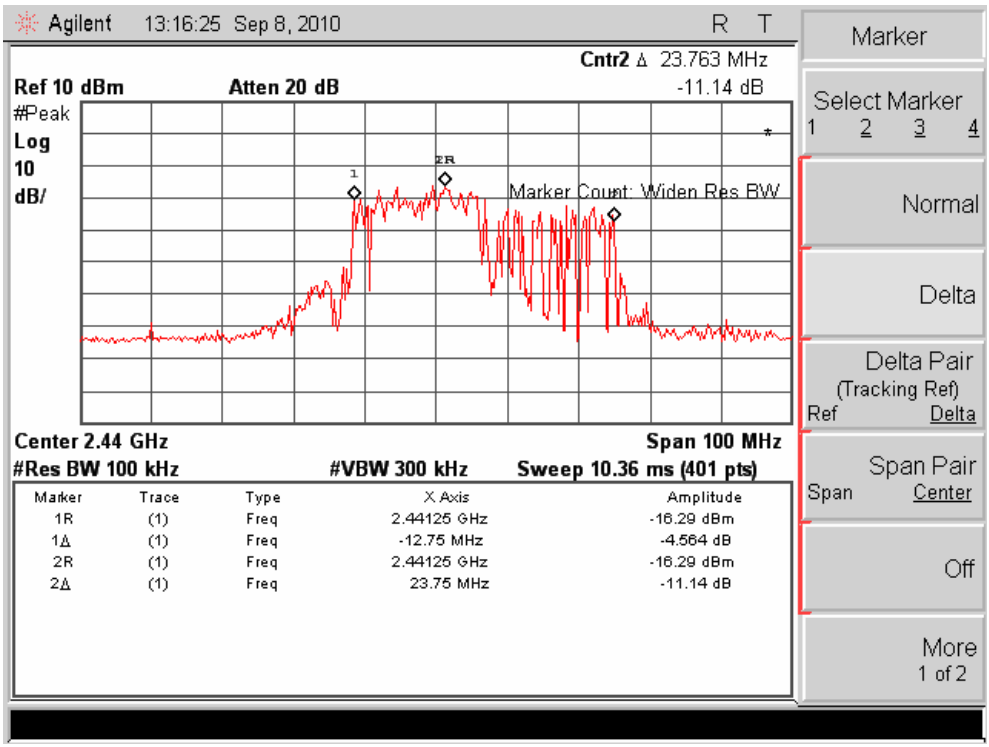
20MHz bandwidth, Ant.1 + Ant.2,Channel HIG：



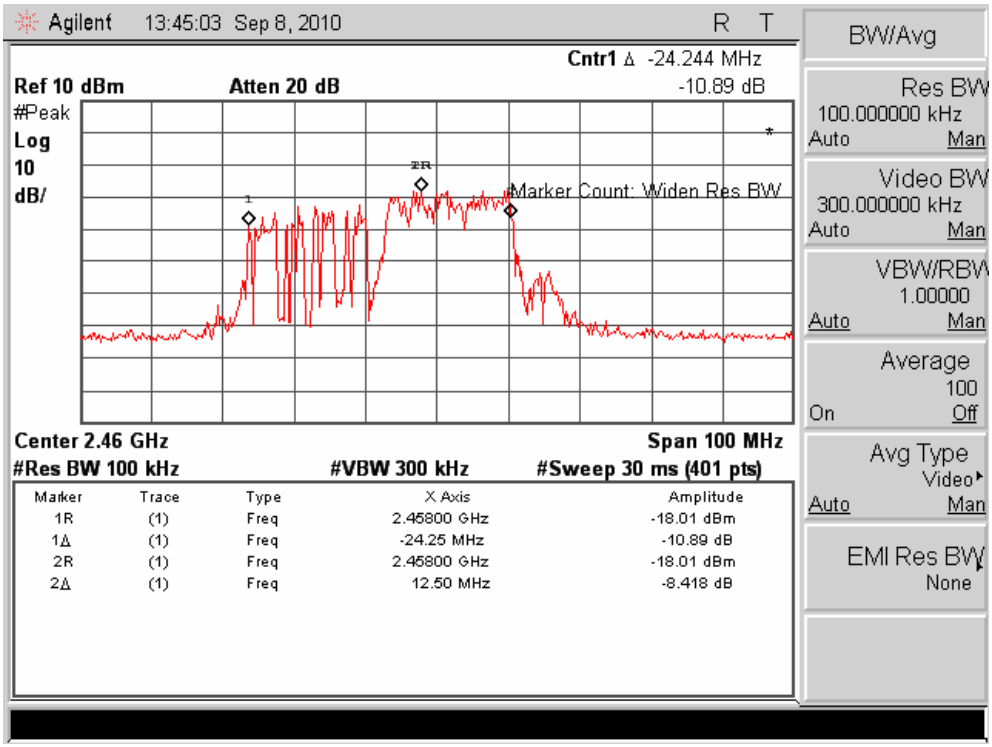
40MHz bandwidth, Ant.1 + Ant.2,Channel LOW：



40MHz bandwidth, Ant.1 + Ant.2,Channel MID：



40MHz bandwidth, Ant.1 + Ant.2,Channel HIG：

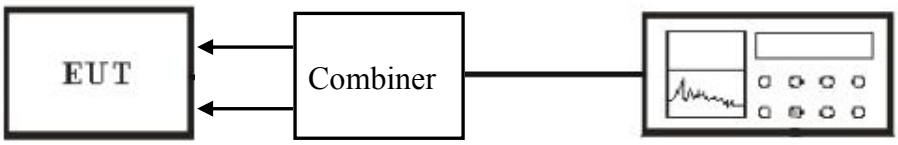


4.6 Power Spectral Density

4.6.1 Applicable Standard

According to section 15.247(d), for digital modulation technique, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

4.6.2 Block diagram of test setup



Spectrum

Connection method: The shield cable was connected with EUT and Spectrum which have 50Ω Z_C. There have a combiner inserted between the spectrum and EUT. The connector of EUT side is original by manufacturer. The connector of Spectrum side is N type.
The Combiner only applies the 802.11n mode test.

4.6.3 Measurement method

1. The transmitter output was connected to the spectrum analyzer through a shielded cable.
2. Set the spectrum analyzer as RBW=3 kHz, VBW=10 kHz, Span=300 kHz, Sweep=100s.
3. Set Detector to Peak, Trace to Max Hold.
4. Allow the trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The plot of result is show on the screen of spectrum analyzer.
5. Repeat above 1-4 points for the middle and highest channel of the EUT.

4.6.4. Result

Temperature (℃) : 22~23	EUT: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router
Humidity (%RH): 50~54	M/N: Lynx 528
Barometric Pressure (mbar): 950~1000	Operation Condition: Tx Mode
Test data: Jul 13, 2010 to Aug 10, 2010	Test engineer: Phenix

802.11b mode:

Channel No.	Frequency (MHz)	Power Spectral Density (MHz)	Limits (dBm)	Margin (dB)
LOW (CH 1)	2412	-7.35	8	14.57
MID (CH 6)	2437	-7.78	8	15.17
HIG (CH 11)	2462	-9.48	8	15.61

802.11g mode:

Channel No.	Frequency (MHz)	Power Spectral Density (MHz)	Limits (dBm)	Margin (dB)
LOW (CH 1)	2412	-6.47	8	20.43
MID (CH 6)	2437	-6.63	8	19.51
HIG (CH 11)	2462	-6.21	8	18.56

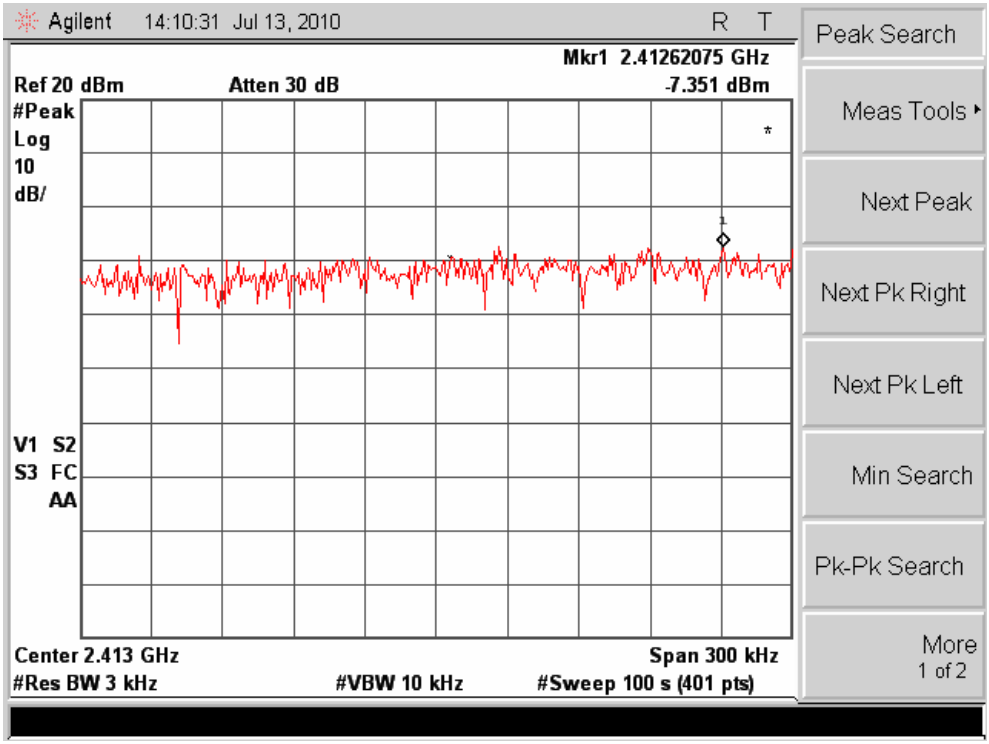
802.11n mode:
20MHz bandwidth, Ant.1 + Ant.2

Channel No.	Frequency (MHz)	Power Spectral Density (MHz)	Limits (dBm)	Margin (dB)
LOW (CH 1)	2412	-12.14	8	20.43
MID (CH 6)	2437	-6.16	8	19.51
HIG (CH 11)	2462	-8.51	8	18.56

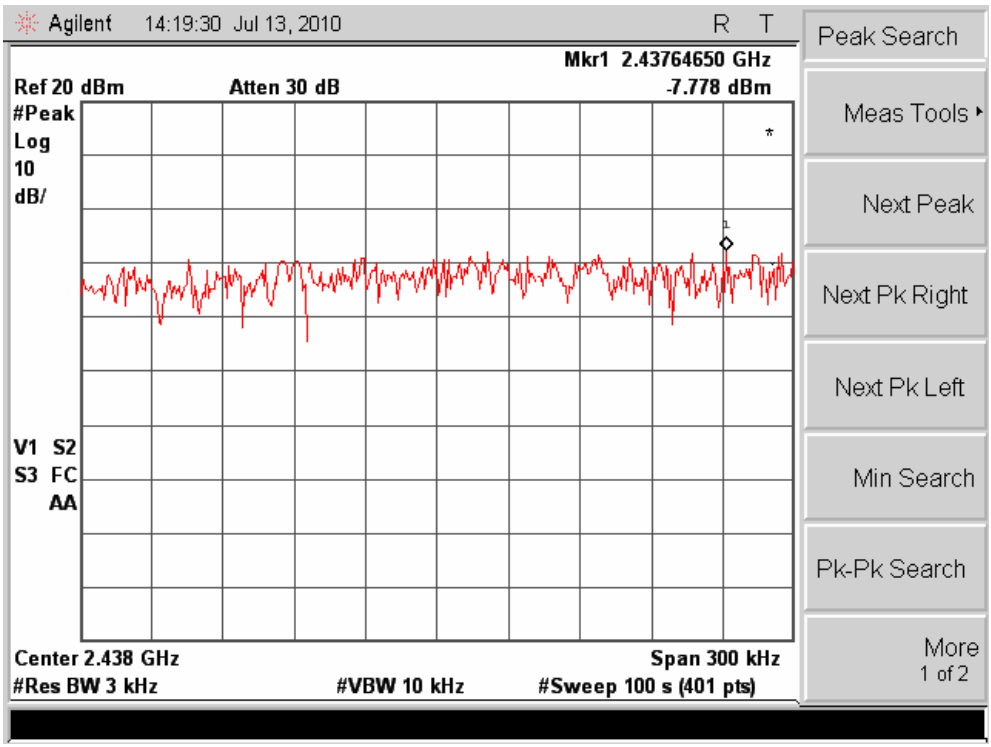
40MHz bandwidth, Ant.1 + Ant.2

Channel No.	Frequency (MHz)	Power Spectral Density (MHz)	Limits (dBm)	Margin (dB)
LOW (CH 3)	2422	-13.07	8	21.07
MID (CH 6)	2437	-13.32	8	21.32
HIG (CH 9)	2452	-12.28	8	20.28

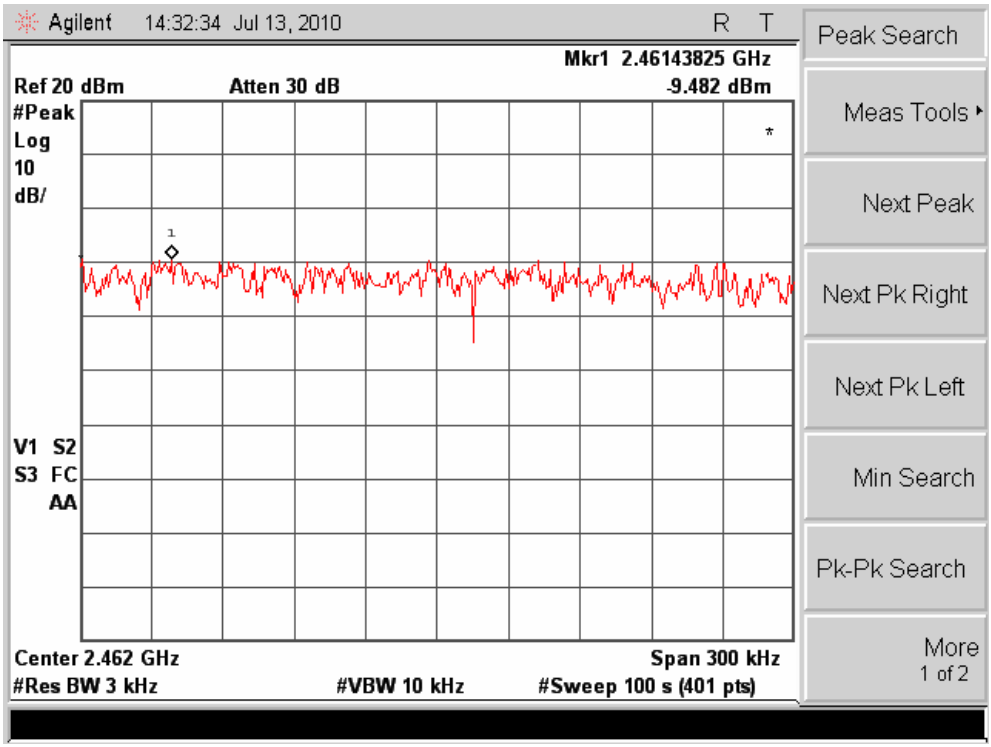
802.11b mode Plot:
Channel LOW：



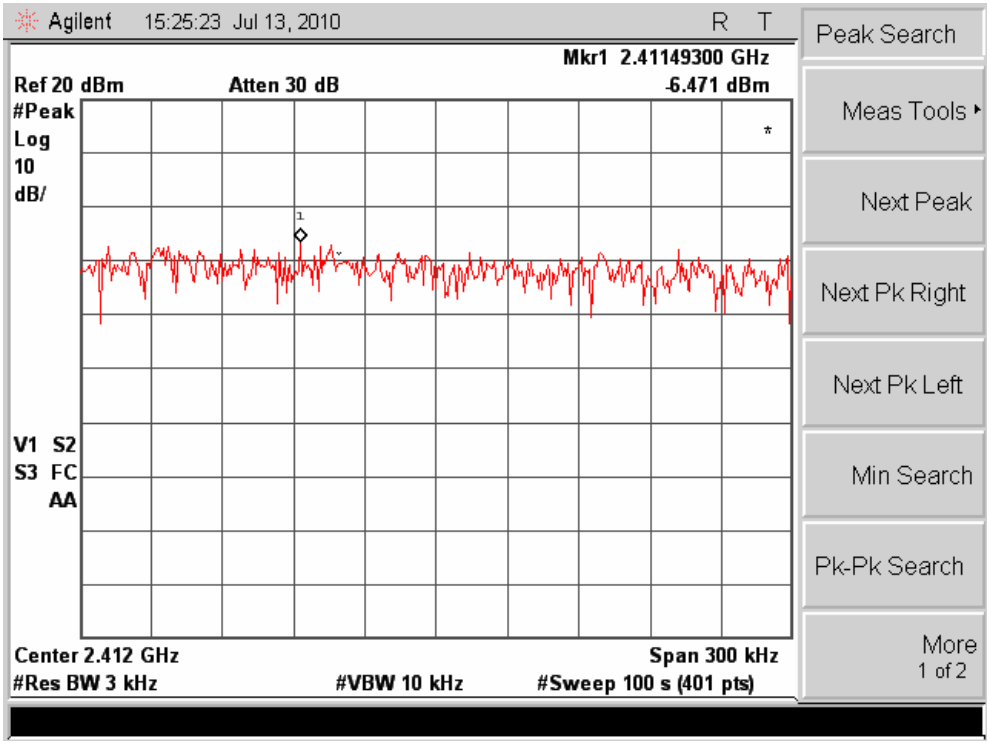
Channel MID：



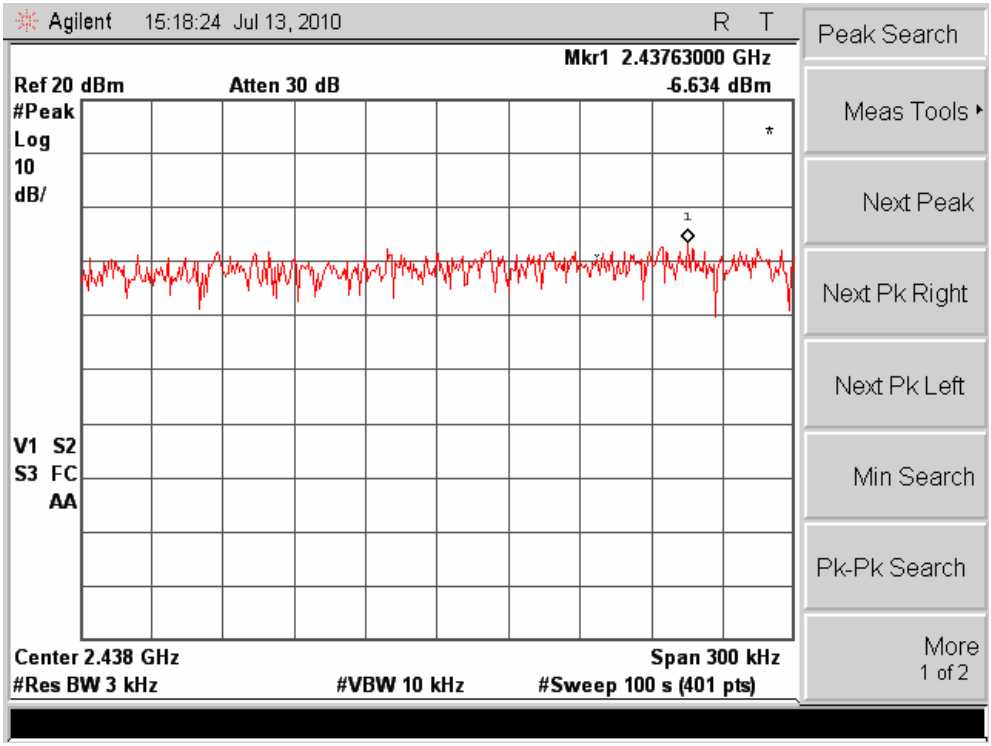
Channel HIG：



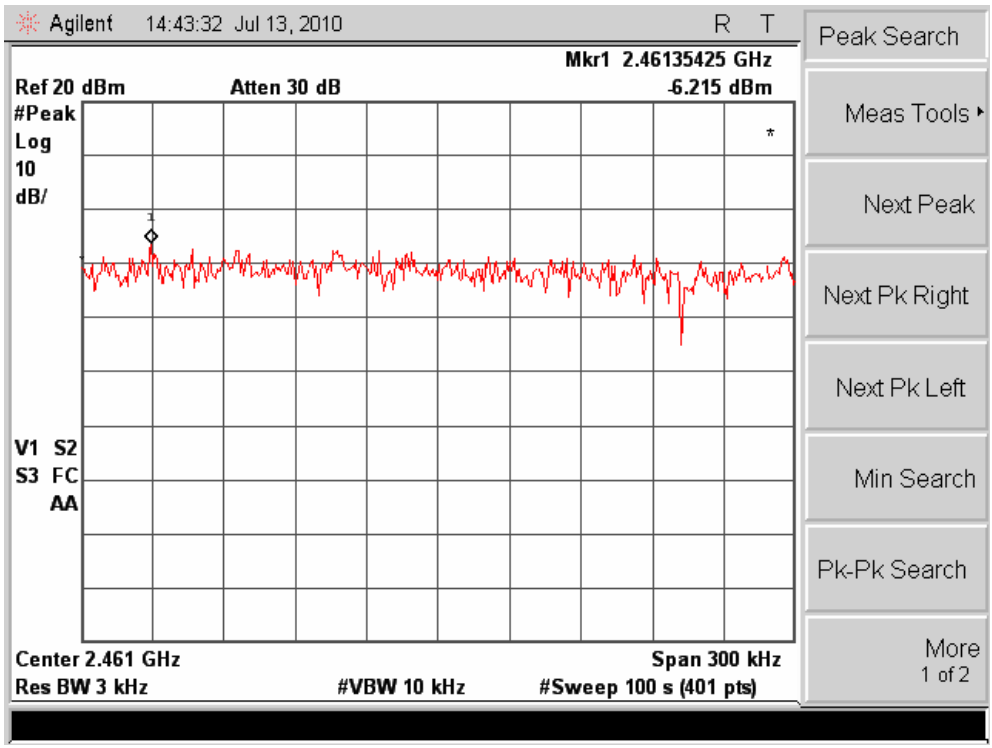
802.11g mode Plot:
Channel LOW：



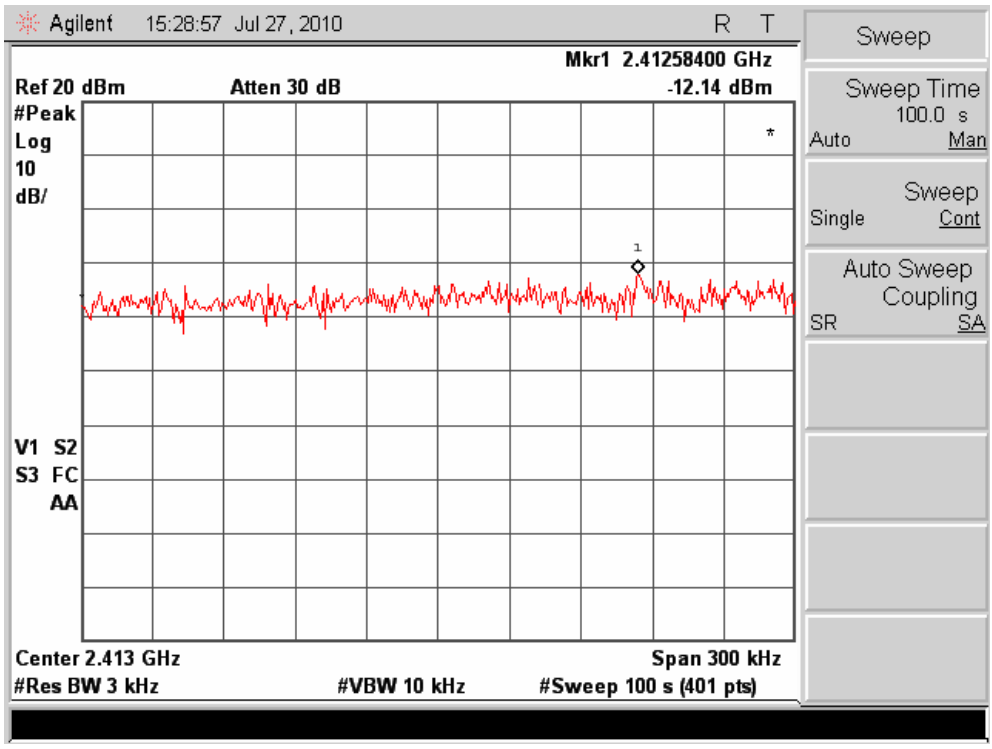
Channel MID：



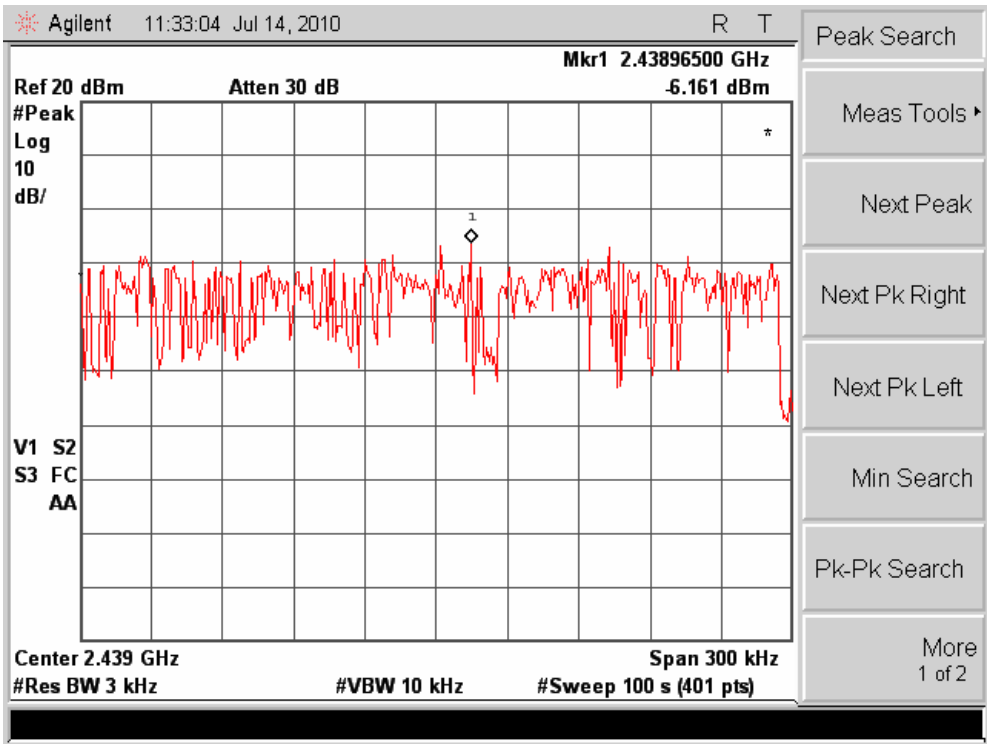
Channel HIG：



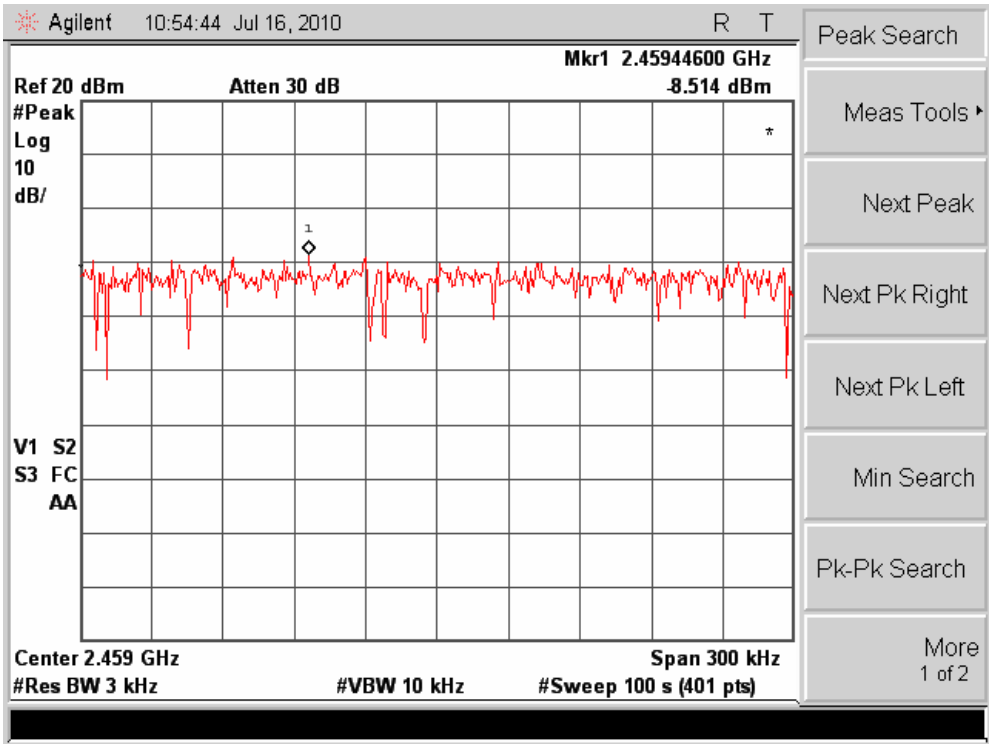
802.11n mode Plot:
20MHz bandwidth,Ant.1 + Ant.2,Channel LOW：



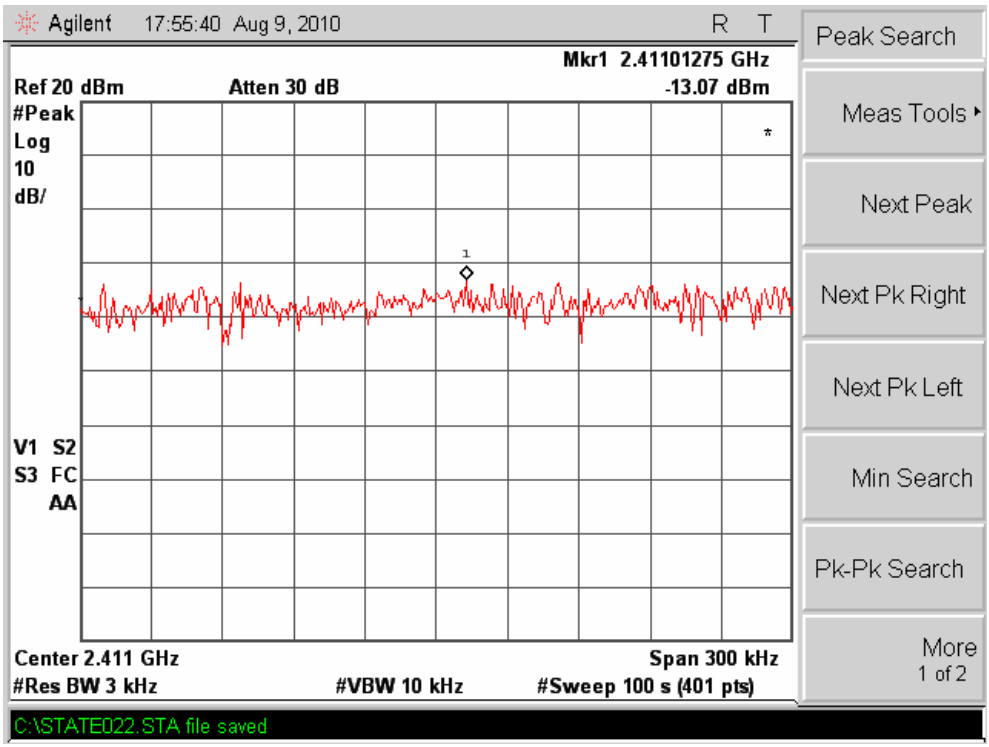
20MHz bandwidth,Ant.1 + Ant.2,Channel MID：



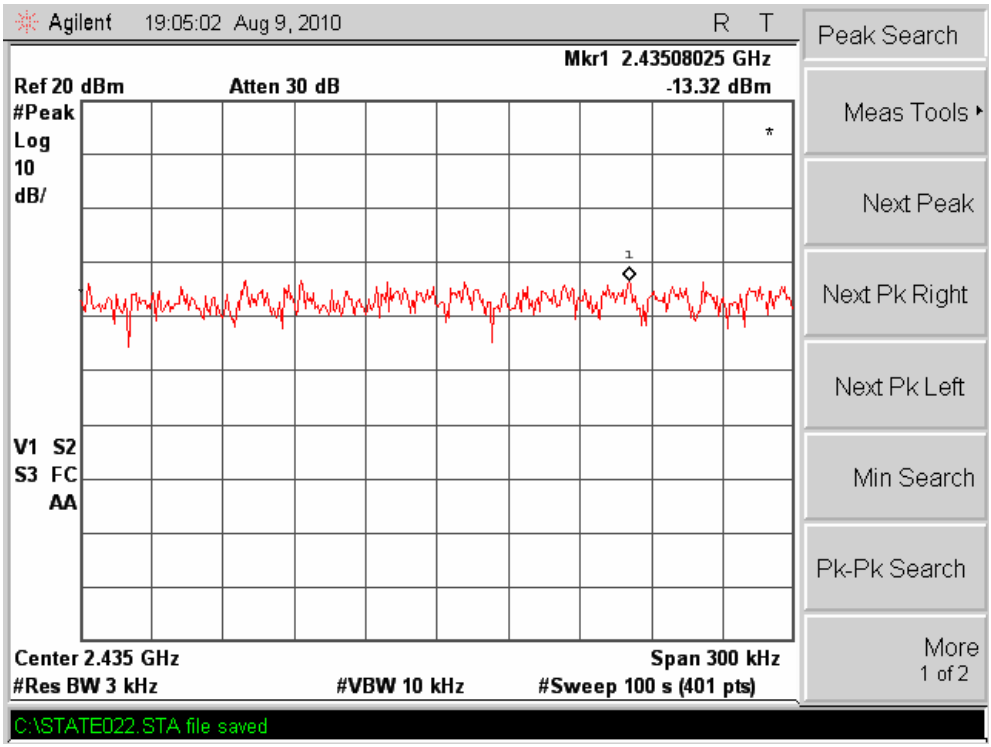
20MHz bandwidth,Ant.1 + Ant.2,Channel HIG：



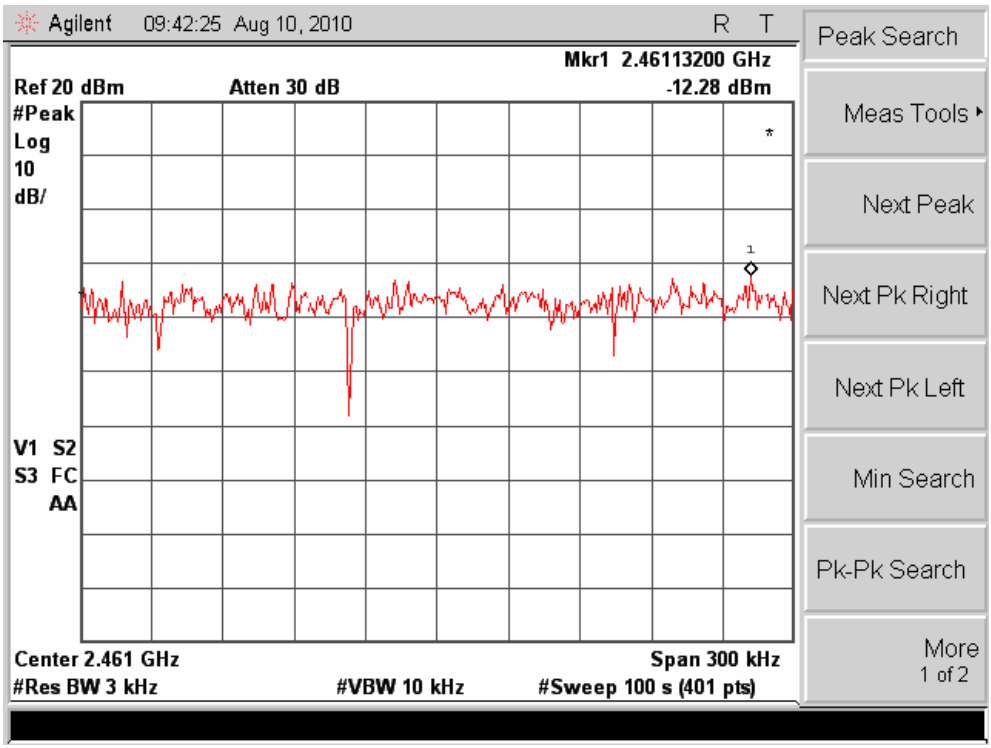
40MHz bandwidth,Ant.1 + Ant.2,Channel LOW：



40MHz bandwidth,Ant.1 + Ant.2,Channel MID：



40MHz bandwidth,Ant.1 + Ant.2,Channel HIG：



4.7 Spurious Radiated Emission

4.7.1 Applicable Standard

Section 15.247(d): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. In addition, radiated emissions that fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209.

4.7.2 Block diagram of test setup

Radiated Measurement Setup:

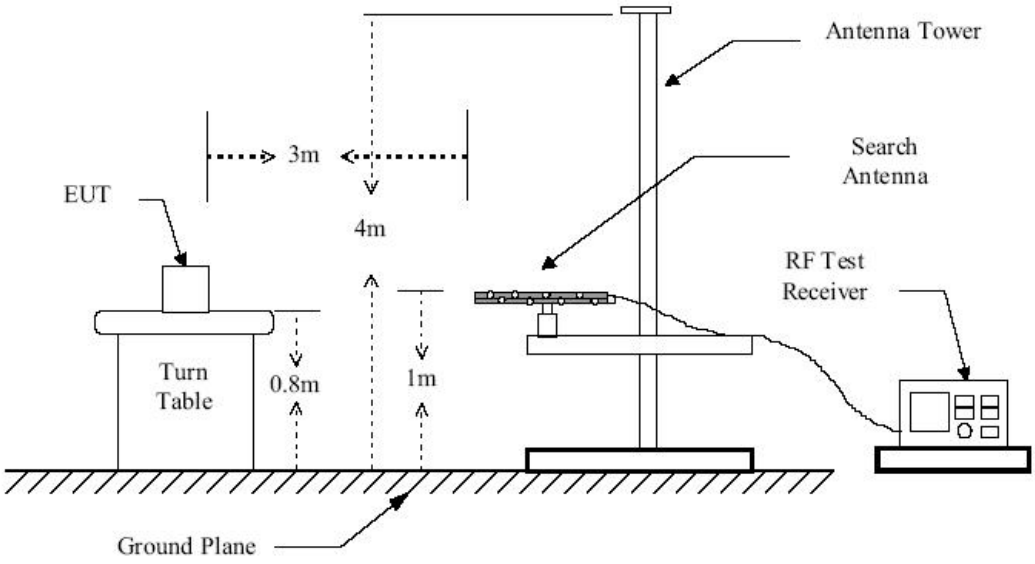


Figure 1 : Frequencies measured below 1 GHz configuration

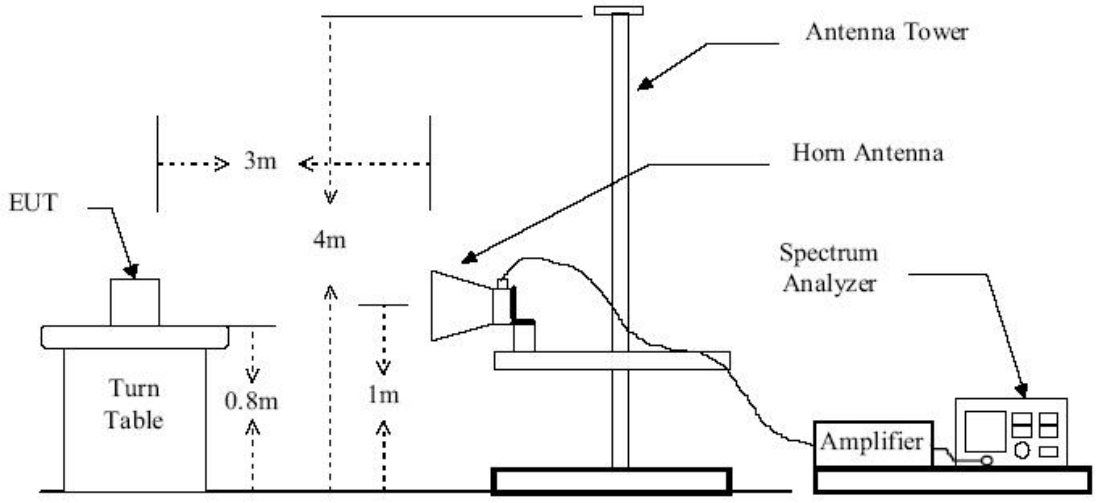
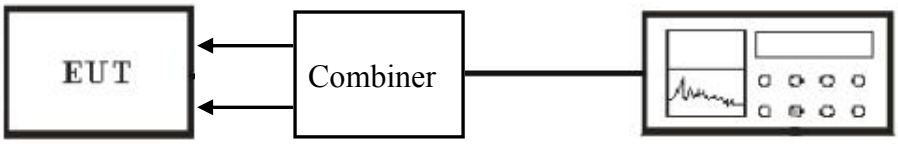


Figure 2 : Frequencies measured above 1 GHz configuration

Conducted Measurement Setup:



Spectrum

Connection method: The shield cable was connected with EUT and Spectrum which have 50Ω Z_C. There have a combiner inserted between the spectrum and EUT. The connector of EUT side is original by manufacturer. The connector of Spectrum side is N type.
The Combiner only applies the 802.11n mode test.

4.7.3 Measurement method

Radiated Measurement

1. Configure the EUT according to ANSI C63.4 (2003).
2. The EUT was placed on the top of the turntable 0.8 meter above ground.
3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
4. Power on the EUT and all the supporting units.
5. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
7. For each suspected emission, the antenna tower was scanned (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
8. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.

Conducted Measurement

1. For emission above 1GHz, conducted measurement method is used.
2. The transmitter is set to the lowest channel.
3. The transmitter output was connected to the spectrum analyzer via a cable and cable loss is used as the offset of the spectrum analyzer.
4. Set RBW to 100 KHz and VBW to 300 KHz, Then detector set to peak and max hold this trace.
5. The lowest band edges emission was measured and recorded.
6. The transmitter set to the highest channel and repeated 2~4.

4.7.4. Result

PASS

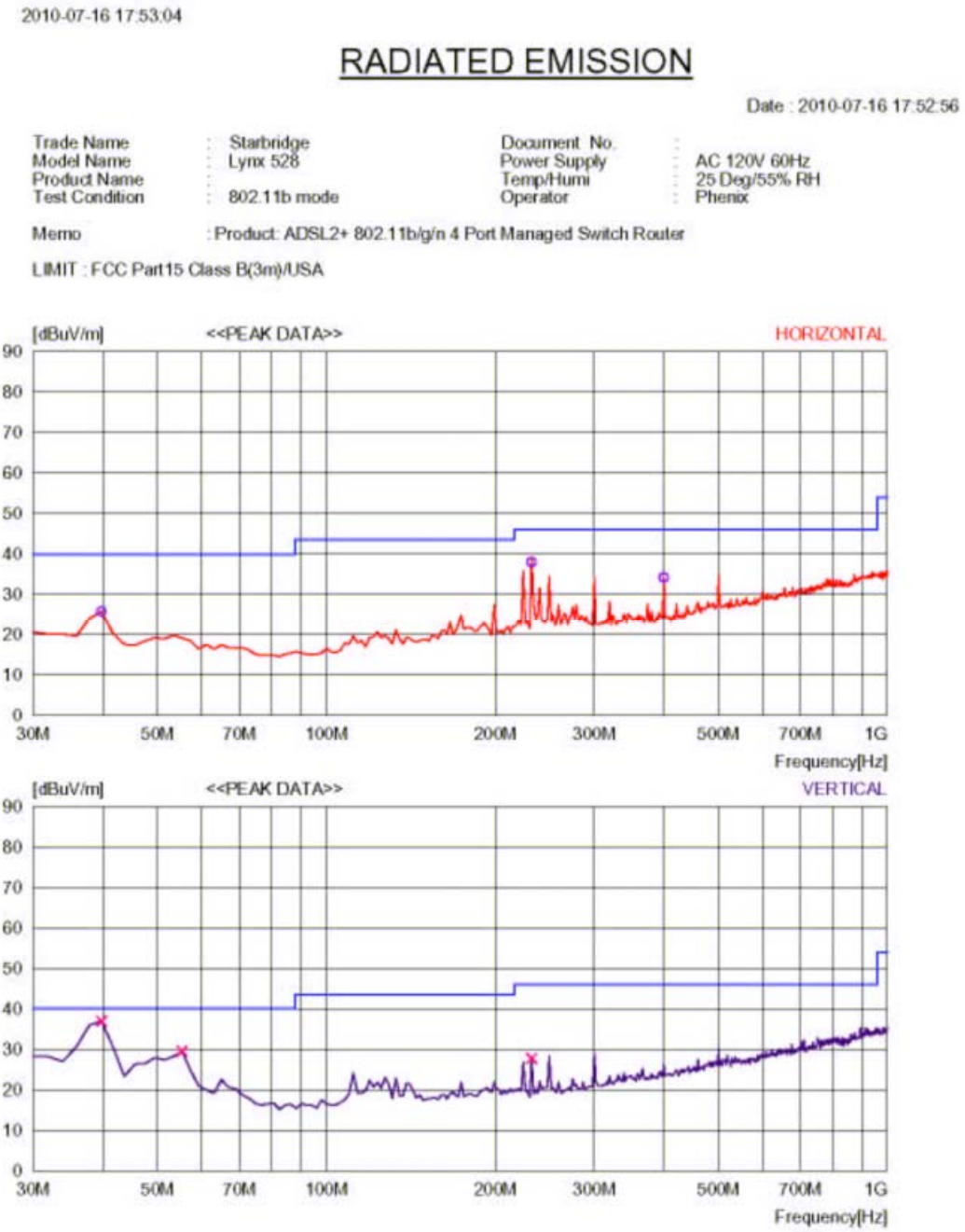
Radiated:

Below 30MHz:

No further spurious emissions found between lowest internal used or generated frequency and 30 MHz.

30M- 1GHz:

802.11b mode:



2010-07-16 17:53:04

RADIATED EMISSION

Date : 2010-07-16 17:52:56

Trade Name	:	Starbridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V 60Hz
Product Name	:		Temp/Humi	:	25 Deg/55% RH
Test Condition	:	802.11b mode	Operator	:	Phenix

Memo : Product: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 Class B(3m)/USA

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	39.719	39.4	11.3	6.7	31.6	25.8	40	14.2	400	148
2	232.165	50.4	12.4	6.8	31.6	38.0	46	8.0	100	271
3	399.338	40.3	16.4	9.0	31.5	34.2	46	11.8	100	296
----- Vertical ------										
4	39.719	50.6	11.3	6.7	31.6	37.0	40	3.0	200	57
5	55.271	43.5	10.8	6.8	31.6	29.5	40	10.5	200	152
6	232.165	38.8	12.4	8.1	31.6	27.7	46	18.3	200	53

802.11g mode:

2010-07-16 16:45:30

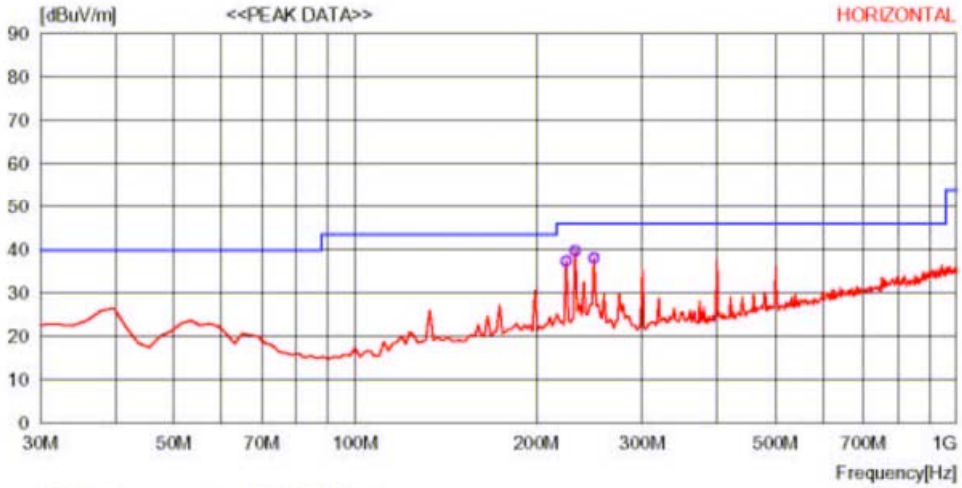
RADIATED EMISSION

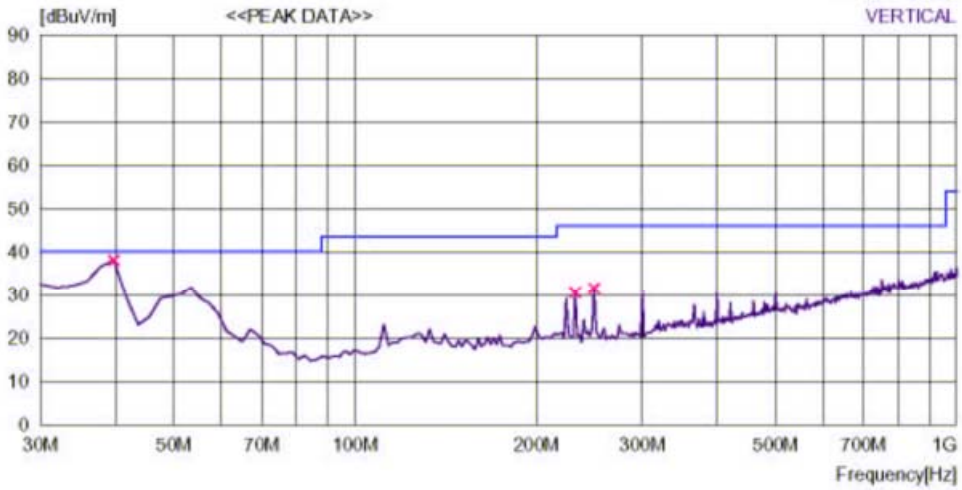
Date : 2010-07-16 16:45:14

Trade Name	: Starbridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V 60Hz
Product Name	:	Temp/Humi	: 25 Deg/55% RH
Test Condition	: 802.11g mode	Operator	: Phenix

Memo : Product: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 Class B(3m)/USA





2010-07-16 16:45:30

RADIATED EMISSION

Date : 2010-07-16 16:45:14

Trade Name	:	Starbridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V 60Hz
Product Name	:		Temp/Humi	:	25 Deg/55% RH
Test Condition	:	802.11g mode	Operator	:	Phenix

Memo : Product: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 Class B(3m)/USA

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	224.389	48.2	12.7	8.1	31.6	37.4	46	8.6	200	271
2	232.165	50.9	12.4	8.1	31.6	39.8	46	6.2	200	275
3	249.660	49.9	11.6	8.2	31.6	38.1	46	7.9	100	293
----- Vertical ------										
4	39.719	51.6	11.3	6.7	31.6	38.0	40	2.0	200	166
5	232.165	41.6	12.4	8.1	31.6	30.5	46	15.5	200	232
6	249.660	43.3	11.6	8.2	31.6	31.5	46	14.5	200	63

802.11n mode:

2010-07-16 16:50:55

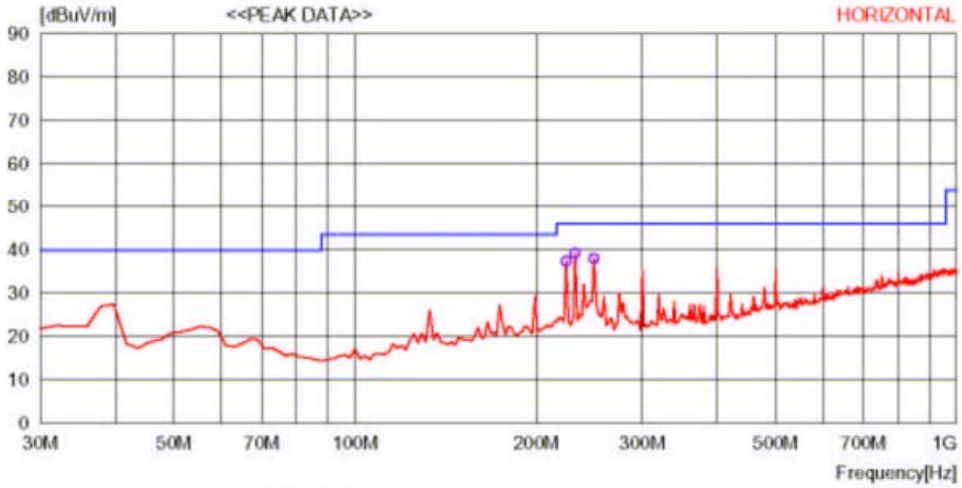
RADIATED EMISSION

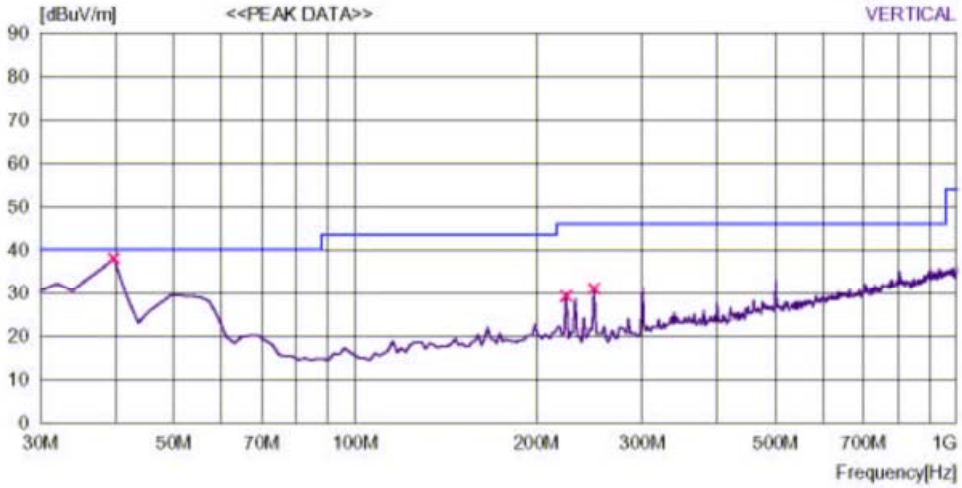
Date : 2010-07-16 16:50:43

Trade Name	: Starbridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V 60Hz
Product Name	:	Temp/Humi	: 25 Deg/55% RH
Test Condition	: 802.11n mode	Operator	: Phenix

Memo : Product: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 Class B(3m)/USA





2010-07-16 16:50:55

RADIATED EMISSION

Date : 2010-07-16 16:50:43

Trade Name	:	Starbridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V 60Hz
Product Name	:		Temp/Humi	:	25 Deg/55% RH
Test Condition	:	802.11n mode	Operator	:	Phenix

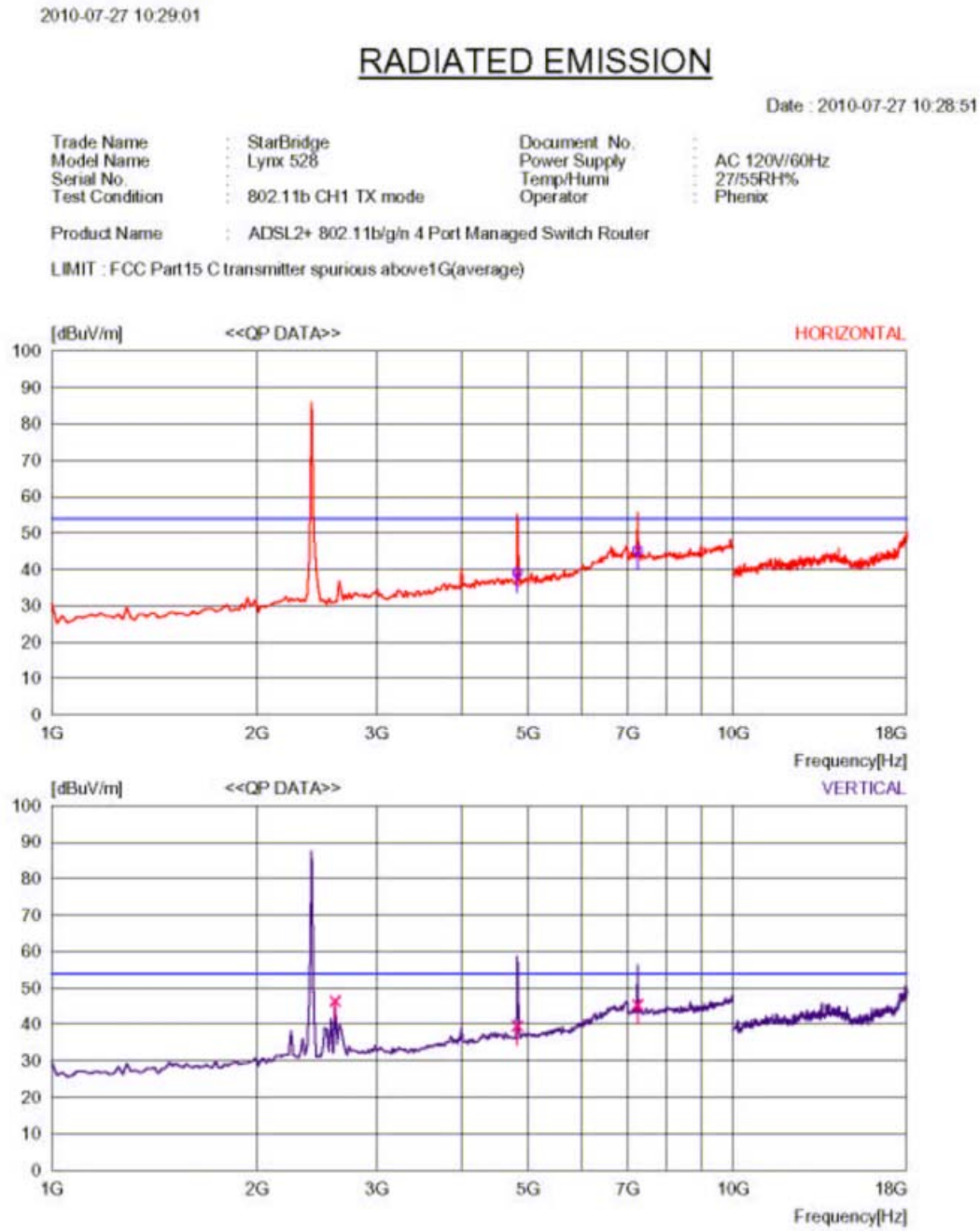
Memo : Product: ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 Class B(3m)/USA

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	224.389	48.2	12.7	8.1	31.6	37.4	46	8.6	200	273
2	232.165	50.3	12.4	8.1	31.6	39.2	46	6.8	100	282
3	249.660	49.8	11.6	8.2	31.6	38.0	46	8.0	100	266
----- Vertical ------										
4	39.719	51.6	11.3	6.7	31.6	38.0	40	2.0	200	183
5	224.389	40.0	12.7	8.1	31.6	29.2	46	16.8	200	236
6	249.660	42.7	11.6	8.2	31.6	30.9	46	15.1	200	55

Above 1GHz:

802.11b mode Channel Low:



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 10:29:01

RADIATED EMISSION

Date : 2010-07-27 10:28:51

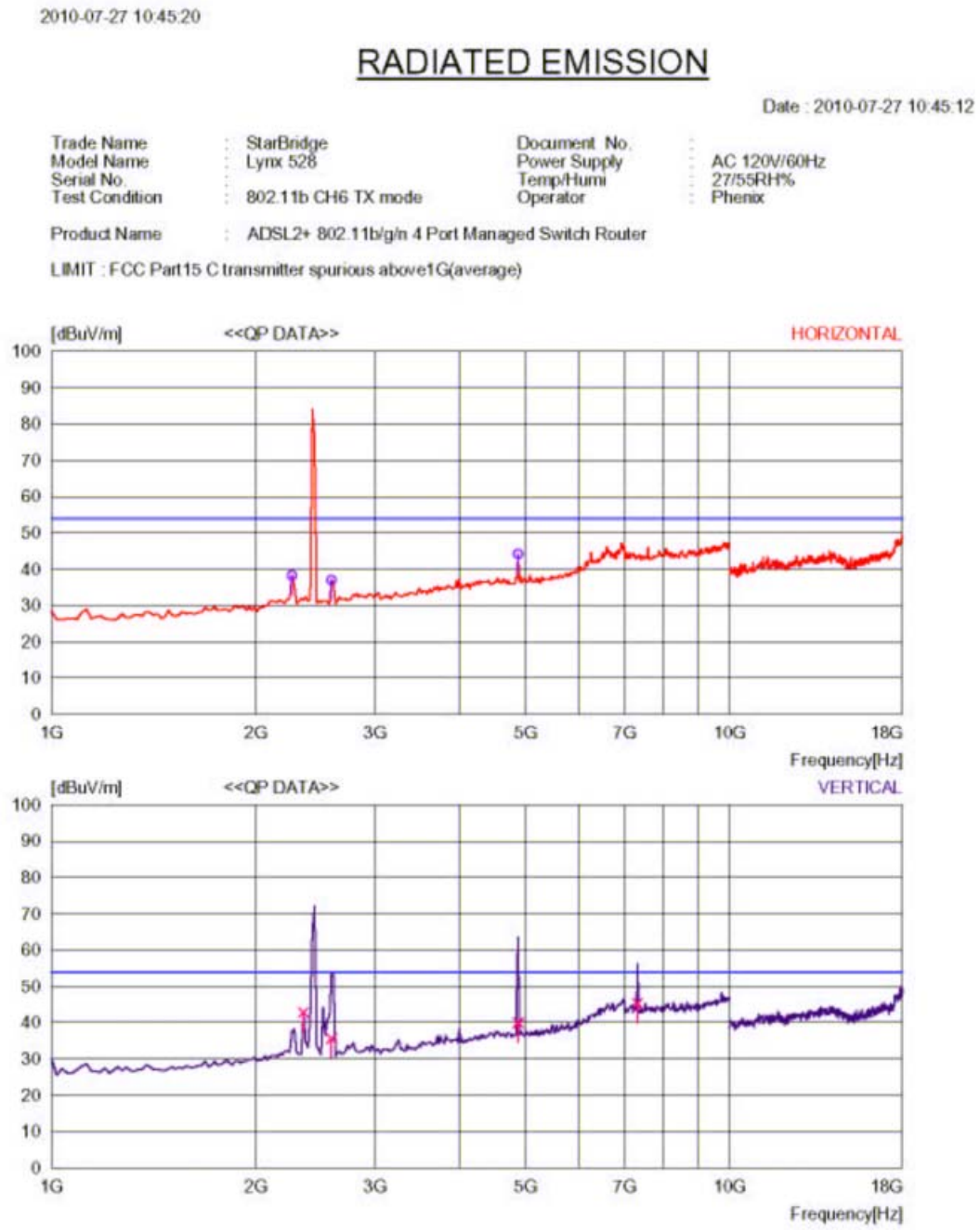
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11b CH1 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	4823.660	34.0	5.1	39.1	54.0	14.9	200	357	AVG
2	7240.501	33.0	12.2	45.2	54.0	8.8	100	320	AVG
----- Vertical -------									
3	2605.216	48.9	-2.5	46.4	54.0	7.6	100	55	PK
4	4823.660	34.5	5.1	39.6	54.0	14.4	200	34	AVG
5	7240.501	33.2	12.2	45.4	54.0	8.6	200	47	AVG

802.11b mode Channel Mid:



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 10:45:20

RADIATED EMISSION

Date : 2010-07-27 10:45:12

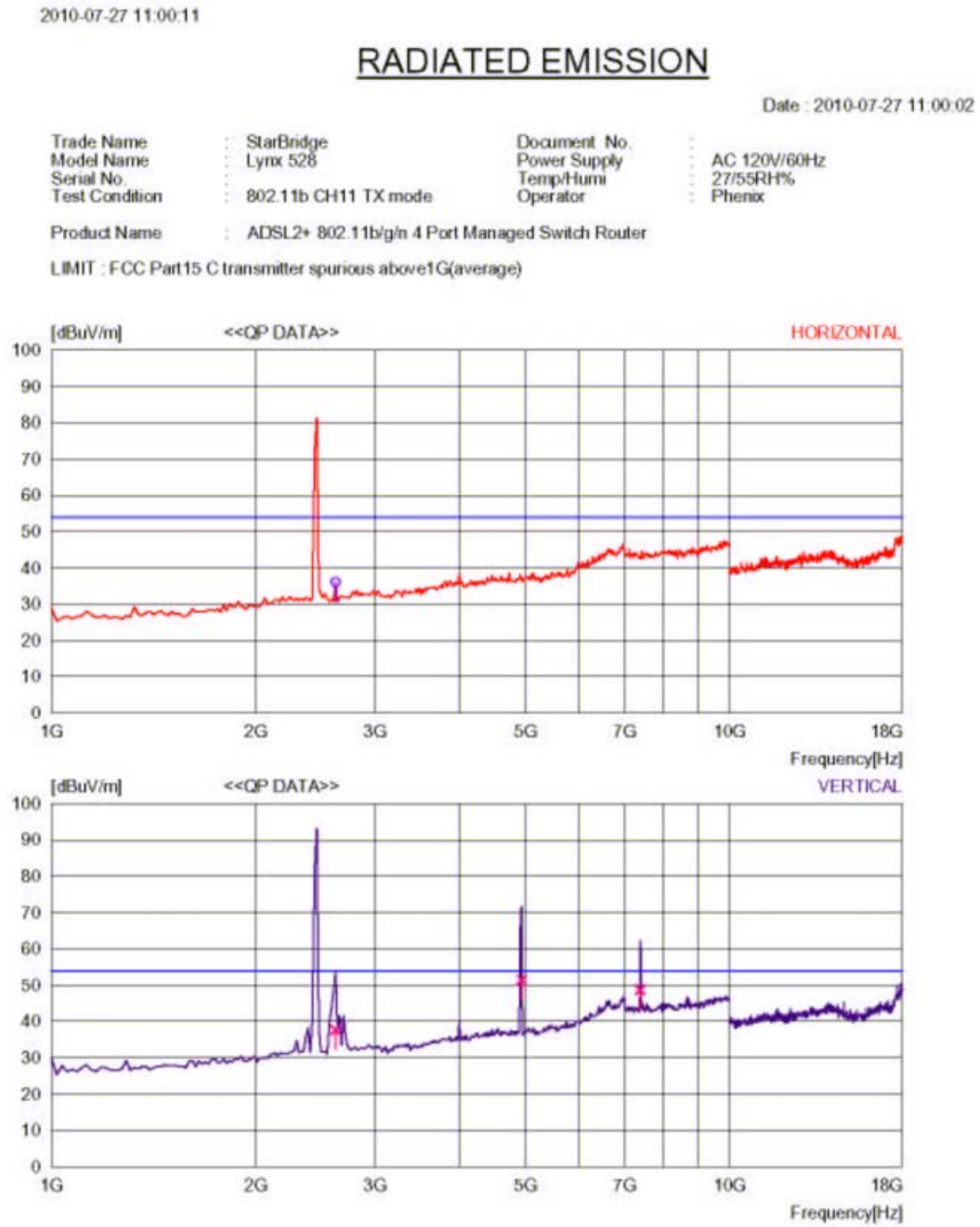
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11b CH6 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2262.529	40.7	-2.4	38.3	54.0	15.7	200	14	PK
2	2587.179	39.6	-2.6	37.0	54.0	17.0	200	114	PK
3	4877.768	38.9	5.3	44.2	54.0	9.8	100	275	PK
----- Vertical -------									
4	2352.710	45.3	-2.5	42.8	54.0	11.2	100	168	PK
5	2587.179	38.2	-2.6	35.6	54.0	18.4	200	1	AVG
6	4877.768	34.6	5.3	39.9	54.0	14.1	200	131	AVG
7	7312.646	33.4	11.9	45.3	54.0	8.7	200	213	AVG

802.11b mode Channel High:



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 11:00:11

RADIATED EMISSION

Date : 2010-07-27 11:00:02

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11b CH11 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2623.252	38.5	-2.4	36.1	54.0	17.9	100	224	PK
----- Vertical -------									
2	2623.252	40.0	-2.4	37.6	54.0	16.4	200	3	AVG
3	4931.876	46.0	5.4	51.4	54.0	2.6	200	213	AVG
4	7384.791	37.1	11.6	48.7	54.0	5.3	200	201	AVG

802.11g mode Channel Low:

2010-07-27 09:47:53

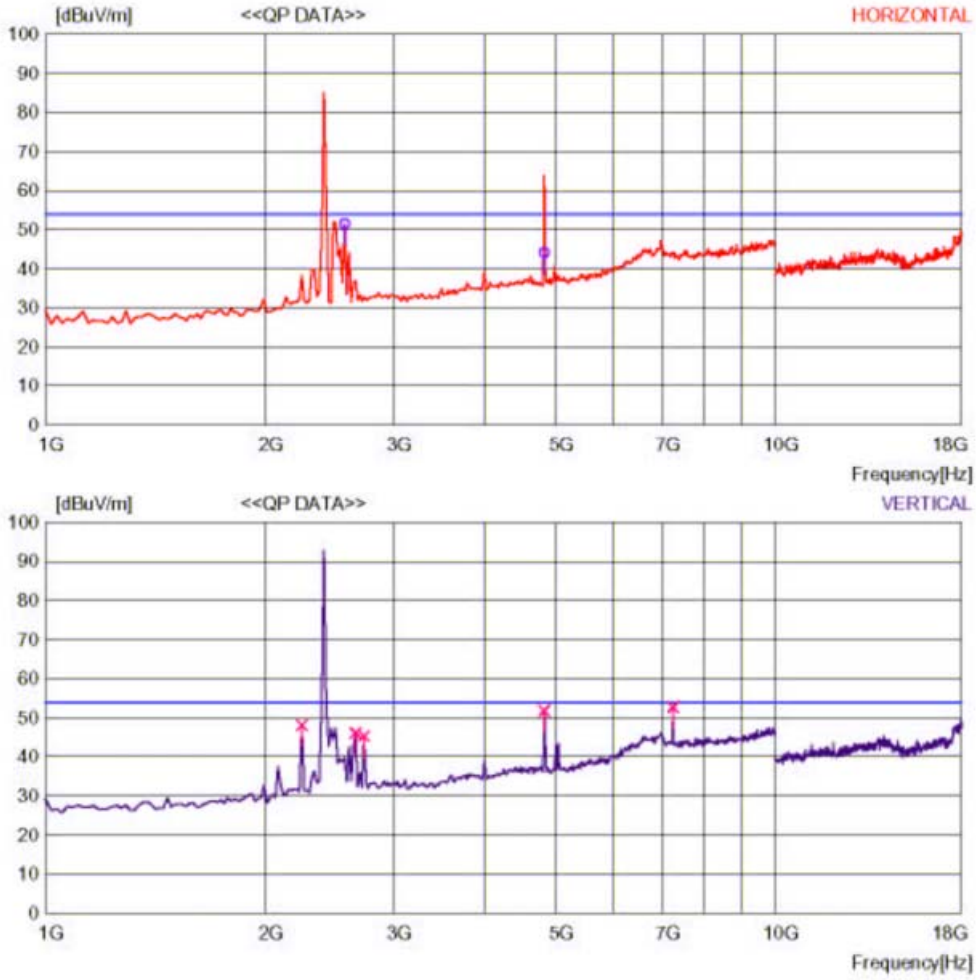
RADIATED EMISSION

Date : 2010-07-27 09:46:45

Trade Name	: StarBridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Serial No.	:	Temp/Humi	: 27/55RH%
Test Condition	: 802.11g CH1 TX mode	Operator	: Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 09:47:53

RADIATED EMISSION

Date : 2010-07-27 09:46:45

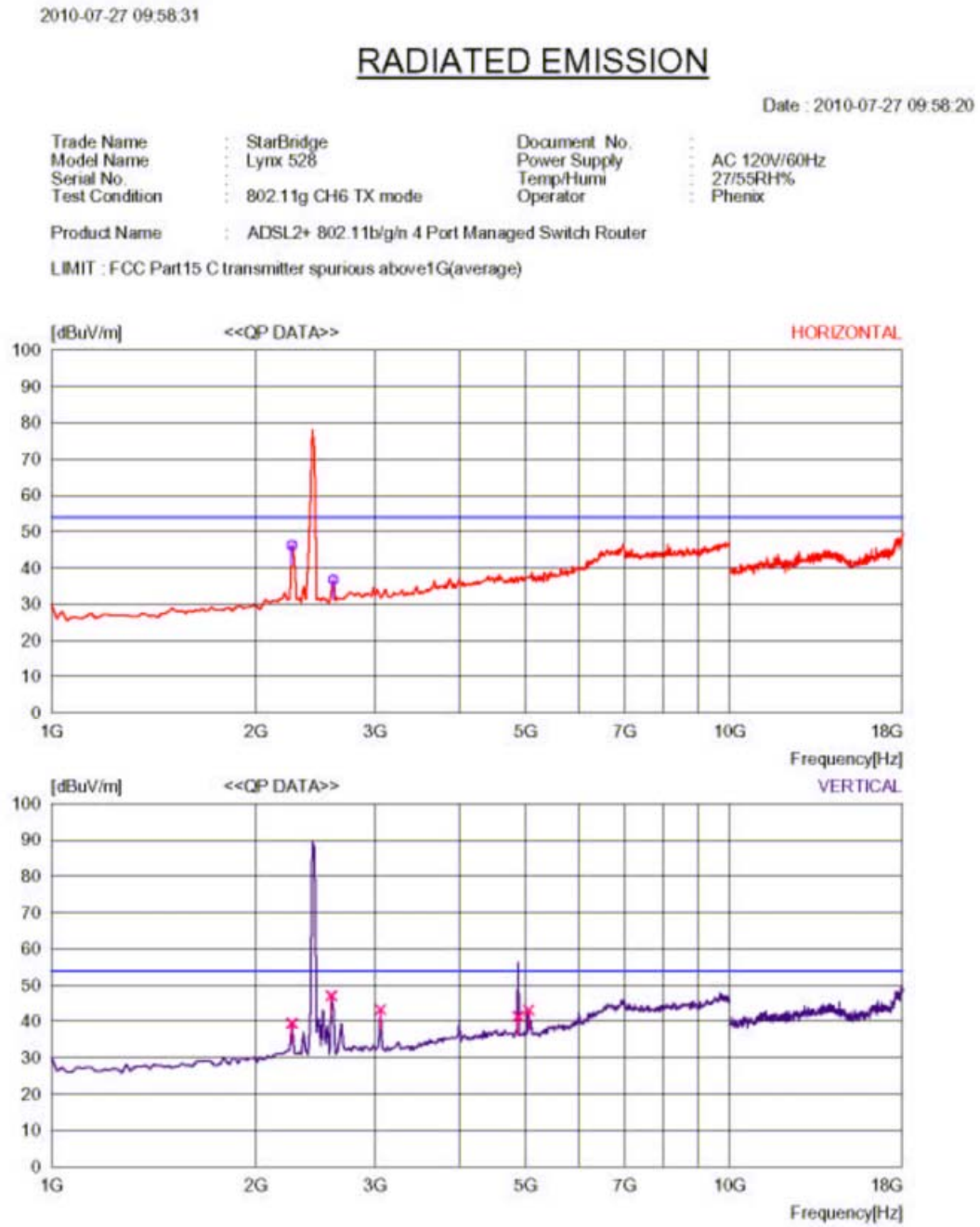
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11g CH1 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	4823.660	39.0	5.1	44.1	54.0	9.9	100	6	AVG
2	2569.143	54.0	-2.5	51.5	54.0	2.5	200	196	PK
----- Vertical -------									
3	2244.493	50.4	-2.3	48.1	54.0	5.9	100	28	PK
4	2659.324	48.3	-2.2	46.1	54.0	7.9	100	205	PK
5	2731.469	46.9	-1.6	45.3	54.0	8.7	100	205	PK
6	4823.660	46.7	5.1	51.8	54.0	2.2	200	345	PK
7	7240.501	40.5	12.2	52.7	54.0	1.3	200	354	PK

802.11g mode Channel Mid:



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 09:58:32

RADIATED EMISSION

Date : 2010-07-27 09:58:20

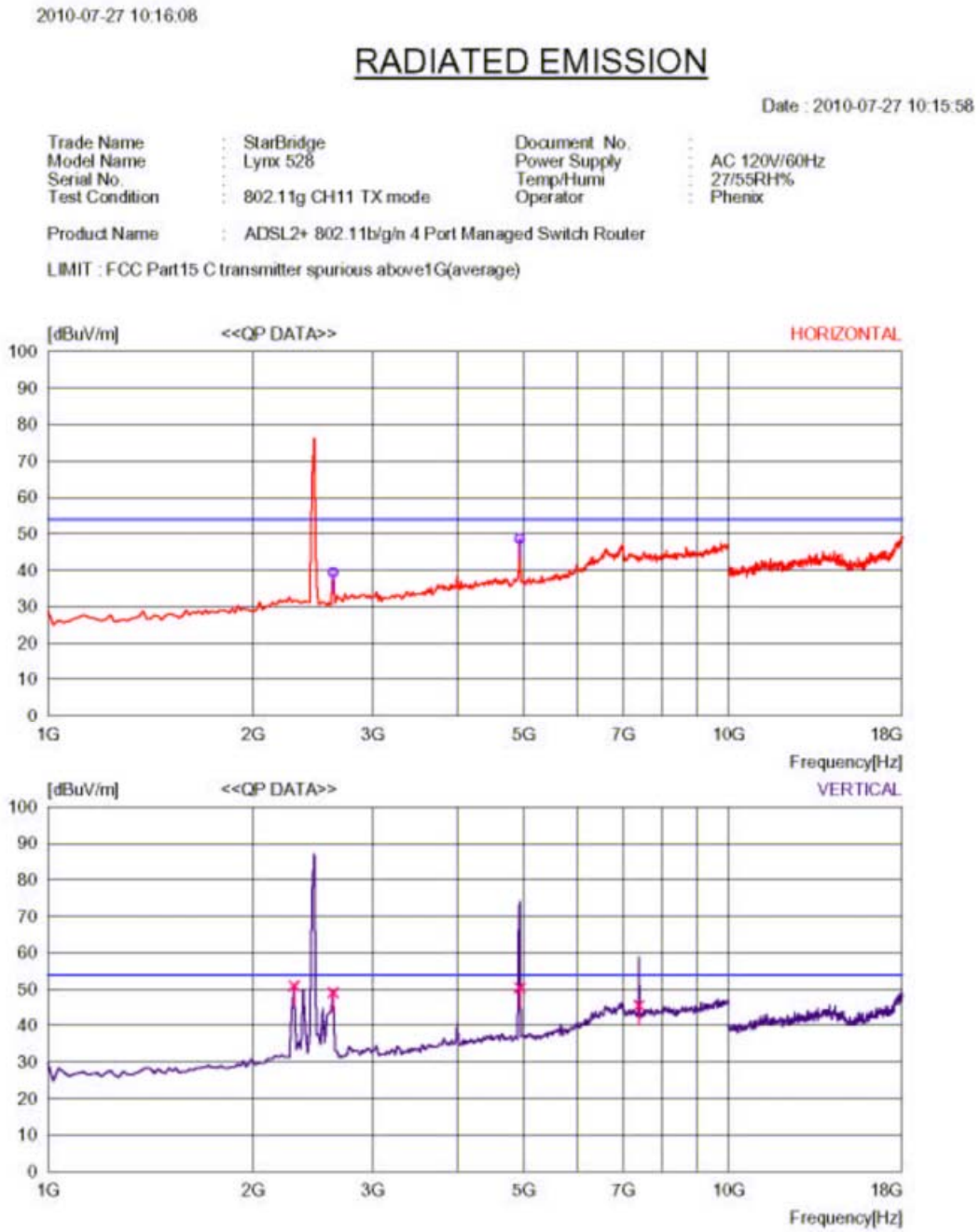
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11g CH6 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2262.529	48.6	-2.4	46.2	54.0	7.8	300	357	PK
2	2605.216	39.2	-2.5	36.7	54.0	17.3	300	63	PK
----- Vertical -------									
3	2262.529	41.9	-2.4	39.5	54.0	14.5	100	183	PK
4	2587.179	49.7	-2.6	47.1	54.0	6.9	100	10	PK
5	3056.119	43.6	-0.4	43.2	54.0	10.8	200	283	PK
6	4877.768	36.1	5.3	41.4	54.0	12.6	200	21	AVG
7	5058.129	37.6	5.5	43.1	54.0	10.9	200	21	PK

802.11g mode Channel High:



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 10:16:08

RADIATED EMISSION

Date : 2010-07-27 10:15:58

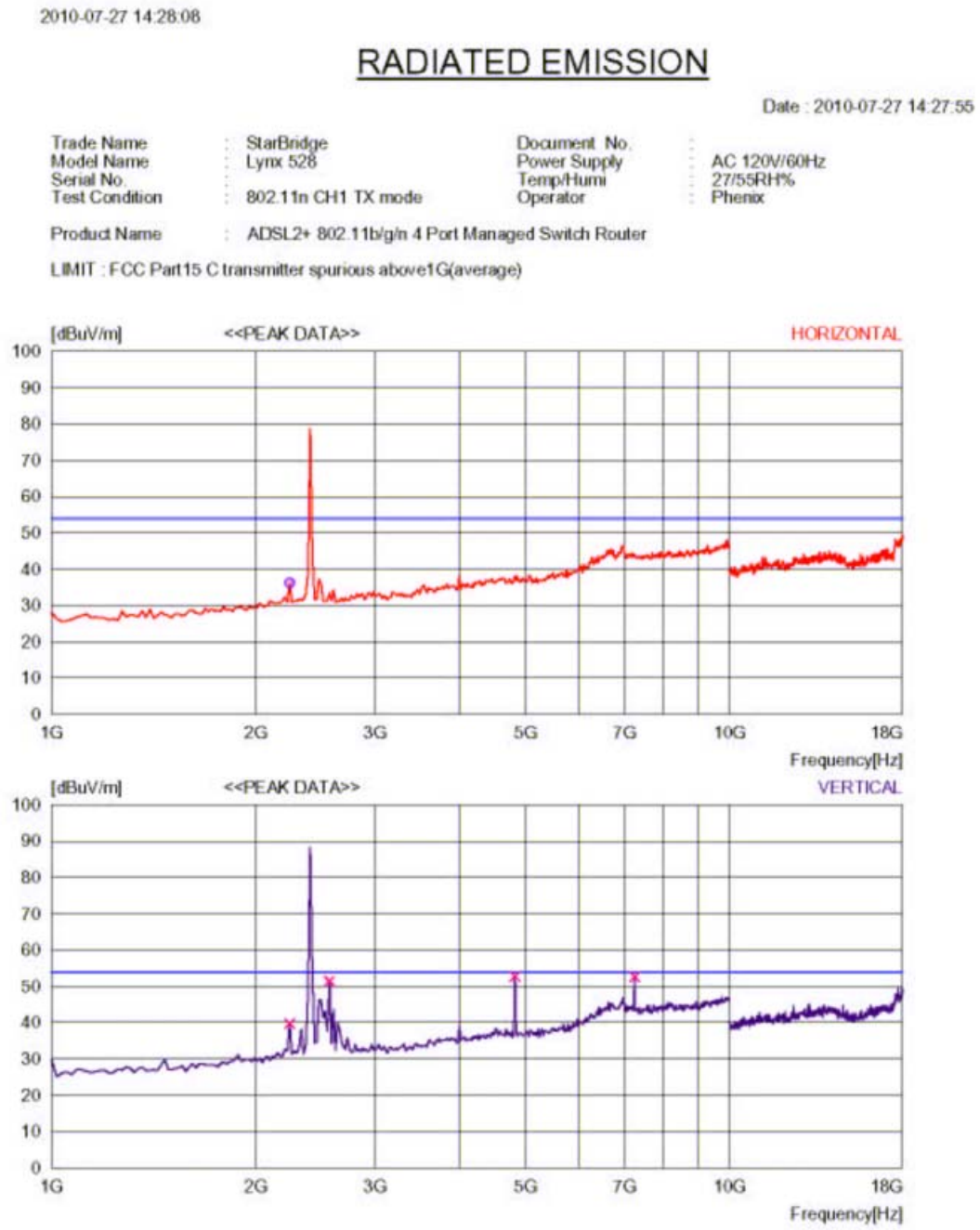
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11g CH11 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2623.252	41.8	-2.4	39.4	54.0	14.6	100	187	PK
2	4931.876	43.3	5.4	48.7	54.0	5.3	300	204	PK
----- Vertical -------									
3	4931.876	45.0	5.4	50.4	54.0	3.6	200	196	AVG
4	7384.791	34.0	11.6	45.6	54.0	8.4	200	184	AVG
5	2298.601	53.3	-2.4	50.9	54.0	3.1	200	7	PK
6	2623.252	51.4	-2.4	49.0	54.0	5.0	200	73	PK

802.11n mode, 20MHz bandwidth,Ant.1 + Ant.2, Channel Low:



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 14:28:08

RADIATED EMISSION

Date : 2010-07-27 14:27:55

Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH1 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	2244.493	38.5	31.9	5.3	39.5	36.2	54	17.8	200	213
----- Vertical ------										
2	2244.493	42.1	31.9	5.3	39.5	39.8	54	14.2	200	230
3	2569.143	53.9	31.1	5.8	39.4	51.4	54	2.6	200	4
4	4823.660	47.6	36.4	7.8	39.1	52.7	54	1.3	200	156
5	7240.501	40.4	41.4	9.9	39.1	52.6	54	1.4	200	110

802.11n mode, 20MHz bandwidth,Ant.1 + Ant.2, Channel Mid:

2010-07-27 14:38:19

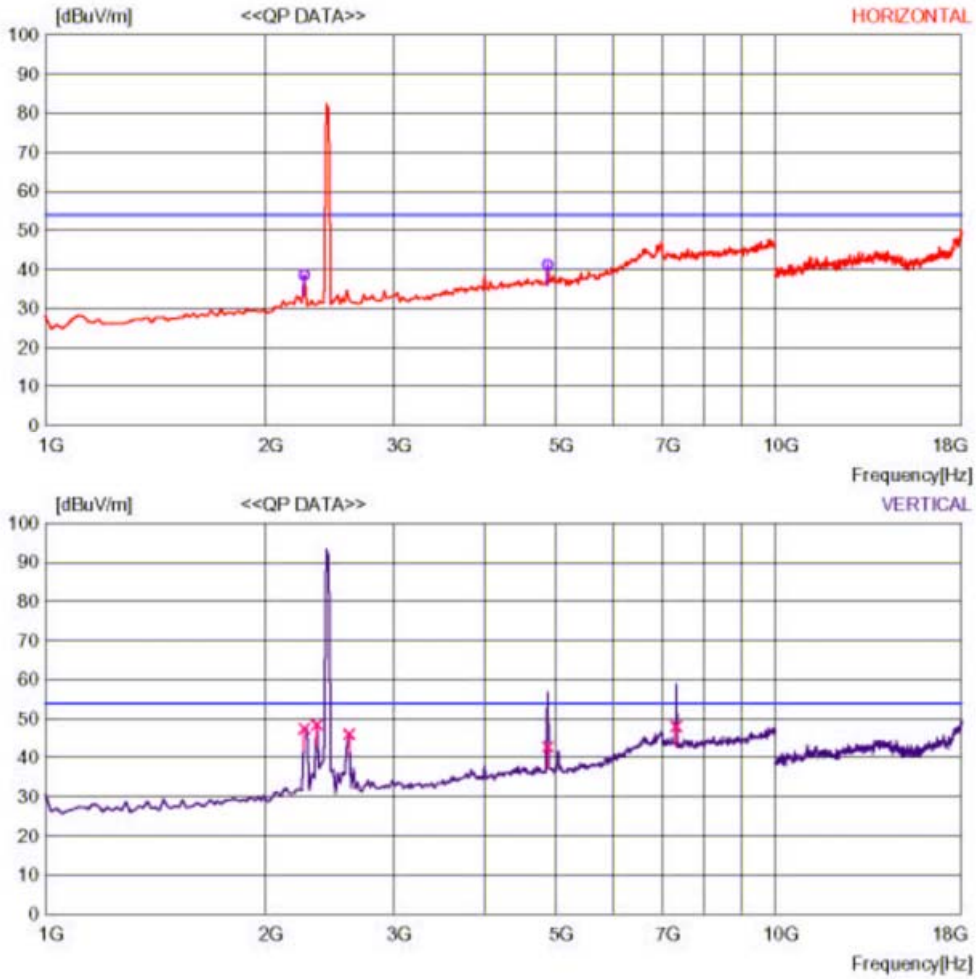
RADIATED EMISSION

Date : 2010-07-27 14:37:58

Trade Name	: StarBridge	Document No.	:
Model Name	: Lynx 528	Power Supply	: AC 120V/60Hz
Serial No.	:	Temp/Humi	: 27/55RH%
Test Condition	: 802.11n CH6 TX mode	Operator	: Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 14:38:19

RADIATED EMISSION

Date : 2010-07-27 14:37:58

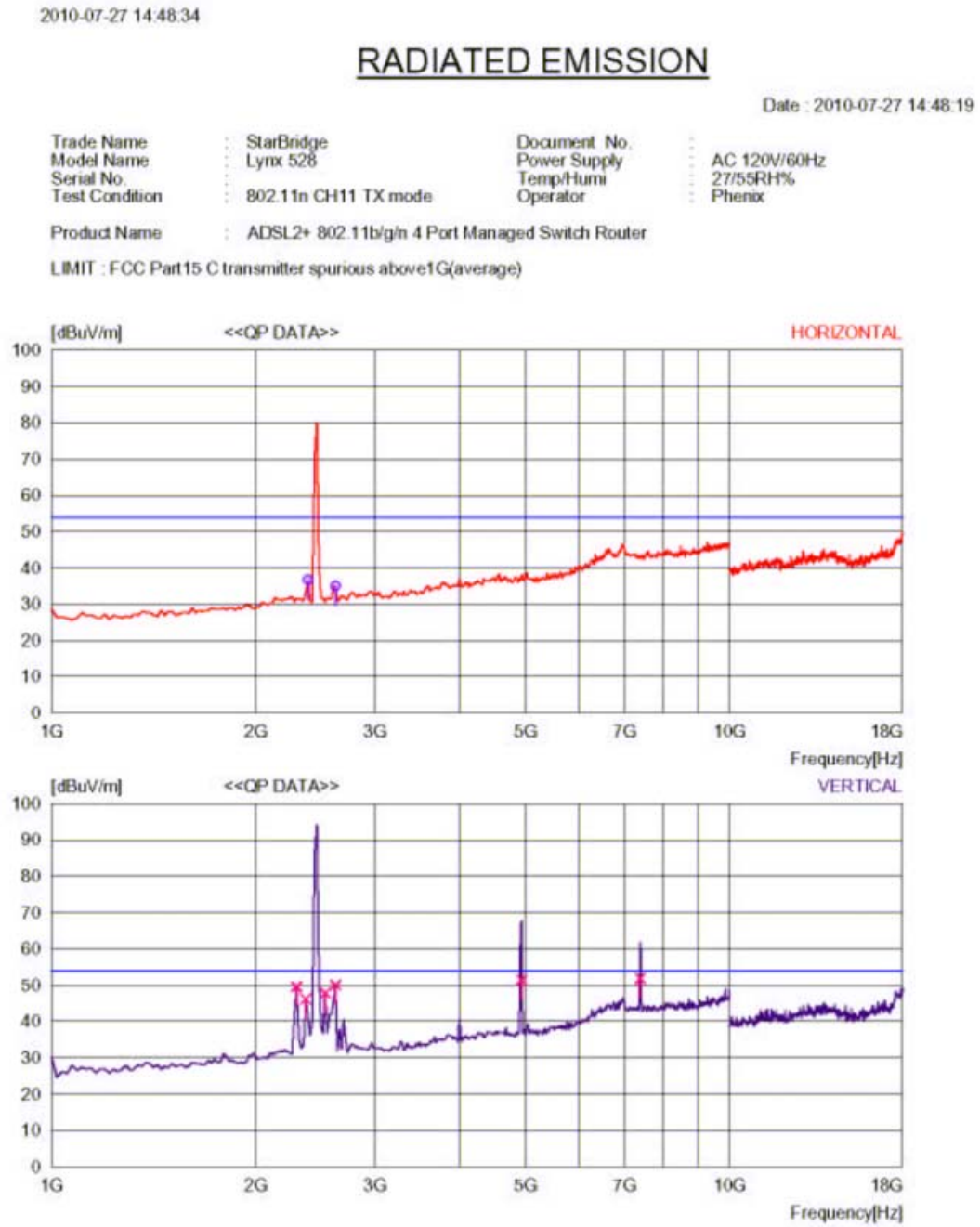
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH6 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2262.529	41.0	-2.4	38.6	54.0	15.4	300	30	PK
2	4877.768	35.9	5.3	41.2	54.0	12.8	300	211	PK
----- Vertical -------									
3	2262.529	49.8	-2.4	47.4	54.0	6.6	200	271	PK
4	2352.710	50.9	-2.5	48.4	54.0	5.6	200	271	PK
5	2605.216	48.5	-2.5	46.0	54.0	8.0	200	73	PK
6	4877.768	37.5	5.3	42.8	54.0	11.2	200	160	AVG
7	7312.646	36.1	11.9	48.0	54.0	6.0	100	204	AVG

802.11n mode, 20MHz bandwidth,Ant.1 + Ant.2, Channel High:



No further spurious emissions found between 18GHz and 25GHz.

2010-07-27 14:48:34

RADIATED EMISSION

Date : 2010-07-27 14:48:19

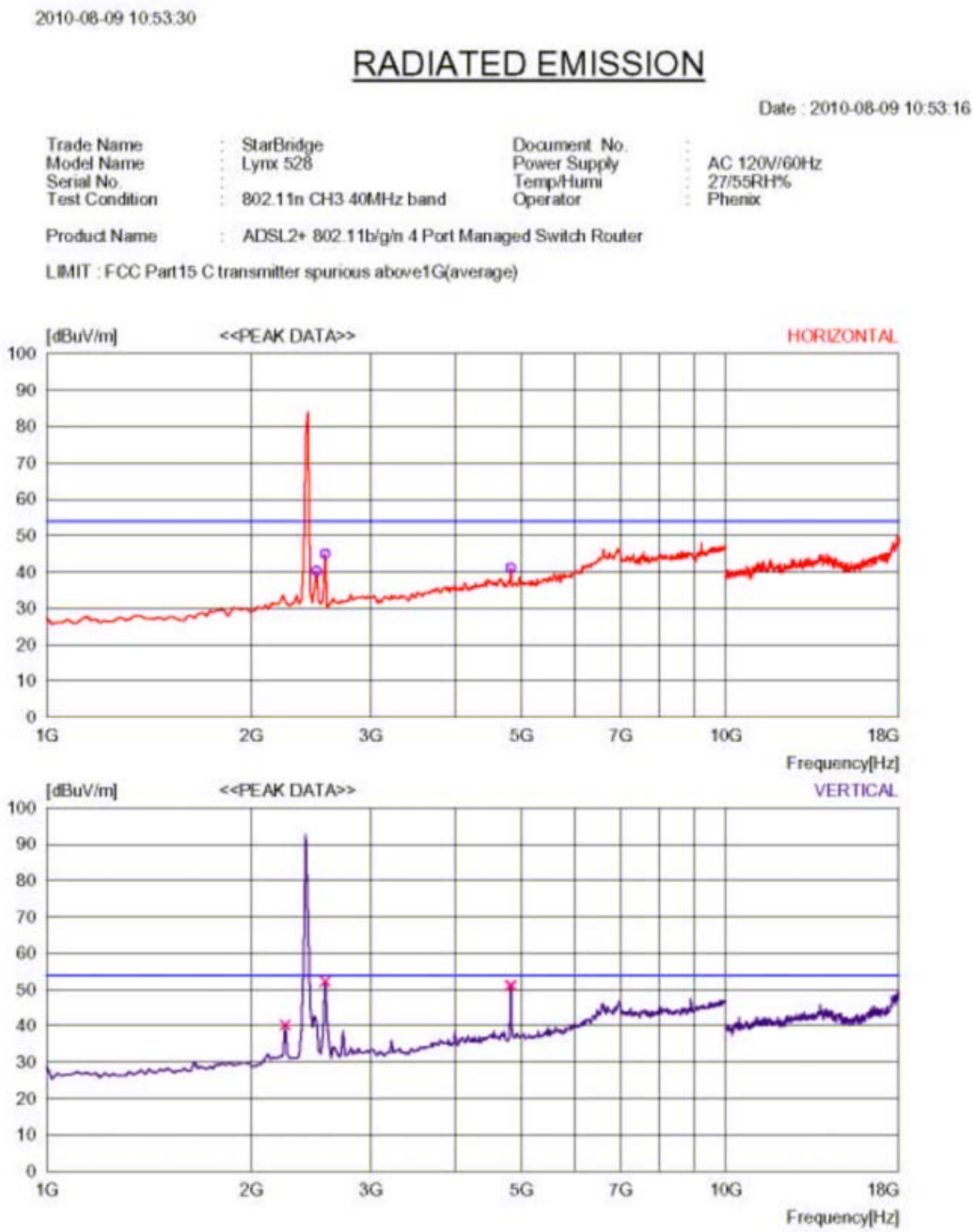
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH11 TX mode	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2388.782	39.3	-2.6	36.7	54.0	17.3	300	146	PK
2	2623.252	37.4	-2.4	35.0	54.0	19.0	300	108	PK
----- Vertical -------									
3	2298.601	52.0	-2.4	49.6	54.0	4.4	200	8	PK
4	2370.746	48.7	-2.5	46.2	54.0	7.8	200	8	PK
5	2533.071	50.4	-2.6	47.8	54.0	6.2	200	2	PK
6	2623.252	52.4	-2.4	50.0	54.0	4.0	200	61	PK
7	4931.876	46.0	5.4	51.4	54.0	2.6	200	152	AVG
8	7384.791	40.2	11.6	51.8	54.0	2.2	200	139	AVG

802.11n mode, 40MHz bandwidth, Ant.1 + Ant.2, Channel Low:



No further spurious emissions found between 18GHz and 25GHz.

2010-08-09 10:53:30

RADIATED EMISSION

Date : 2010-08-09 10:53:16

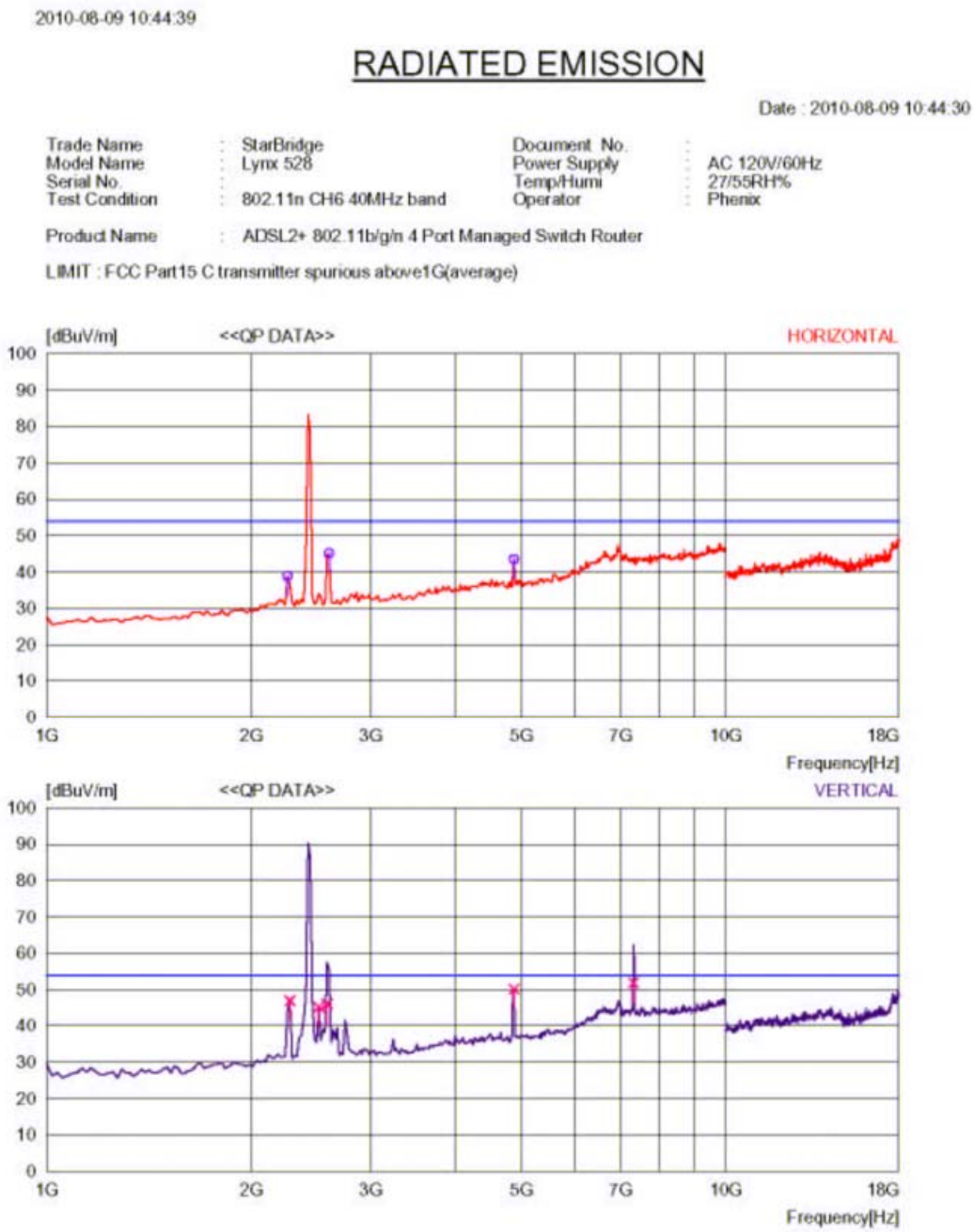
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH3 40MHz band	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING PEAK [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal ------										
1	2496.999	42.9	31.2	5.6	39.4	40.3	54	13.7	300	323
2	2569.143	47.5	31.1	5.8	39.4	45.0	54	9.0	100	174
3	4823.660	36.0	36.4	7.8	39.1	41.1	54	12.9	200	306
----- Vertical ------										
4	2244.493	42.6	31.9	5.3	39.5	40.3	54	13.7	200	57
5	2569.143	54.7	31.1	5.8	39.4	52.2	54	1.8	200	32
6	4823.660	46.0	36.4	7.8	39.1	51.1	54	2.9	200	86

802.11n mode, 40MHz bandwidth, Ant.1 + Ant.2, Channel Mid:



No further spurious emissions found between 18GHz and 25GHz.

2010-08-09 10:44:40

RADIATED EMISSION

Date : 2010-08-09 10:44:30

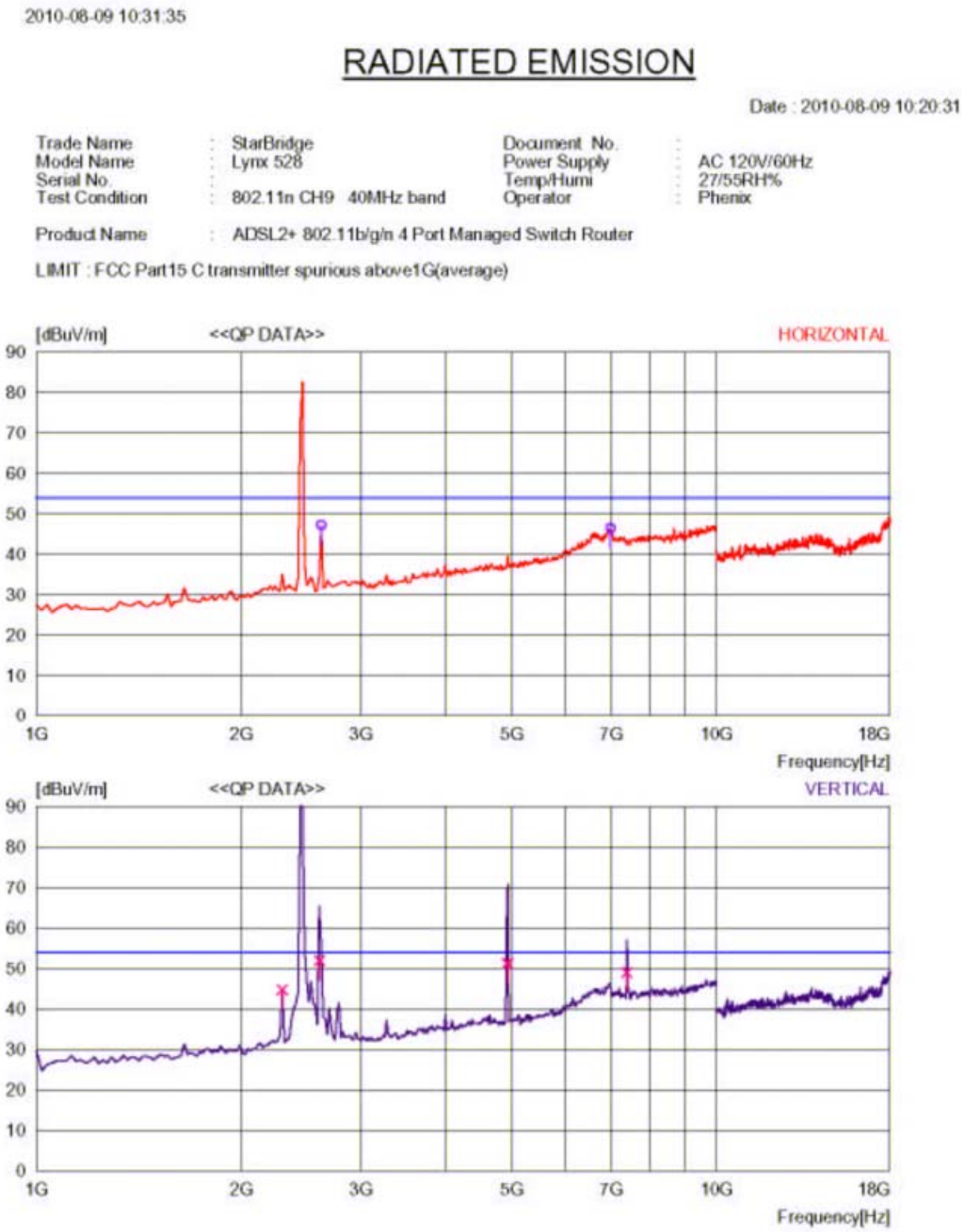
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH6 40MHz band	Operator	:	Phenix

Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2262.529	41.3	-2.4	38.9	54.0	15.1	100	312	PK
2	2605.216	47.6	-2.5	45.1	54.0	8.9	100	172	PK
3	4877.768	38.2	5.3	43.5	54.0	10.5	200	246	PK
----- Vertical -------									
4	2280.565	49.2	-2.3	46.9	54.0	7.1	200	296	PK
5	2515.035	47.6	-2.5	45.1	54.0	8.9	100	34	PK
6	2587.179	48.6	-2.6	46.0	54.0	8.0	200	61	AVG
7	4877.768	44.8	5.3	50.1	54.0	3.9	200	259	PK
8	7312.646	40.0	11.9	51.9	54.0	2.1	200	172	AVG

802.11n mode, 40MHz bandwidth, Ant.1 + Ant.2, Channel High:



No further spurious emissions found between 18GHz and 25GHz.

2010-08-09 10:31:35

RADIATED EMISSION

Date : 2010-08-09 10:20:31

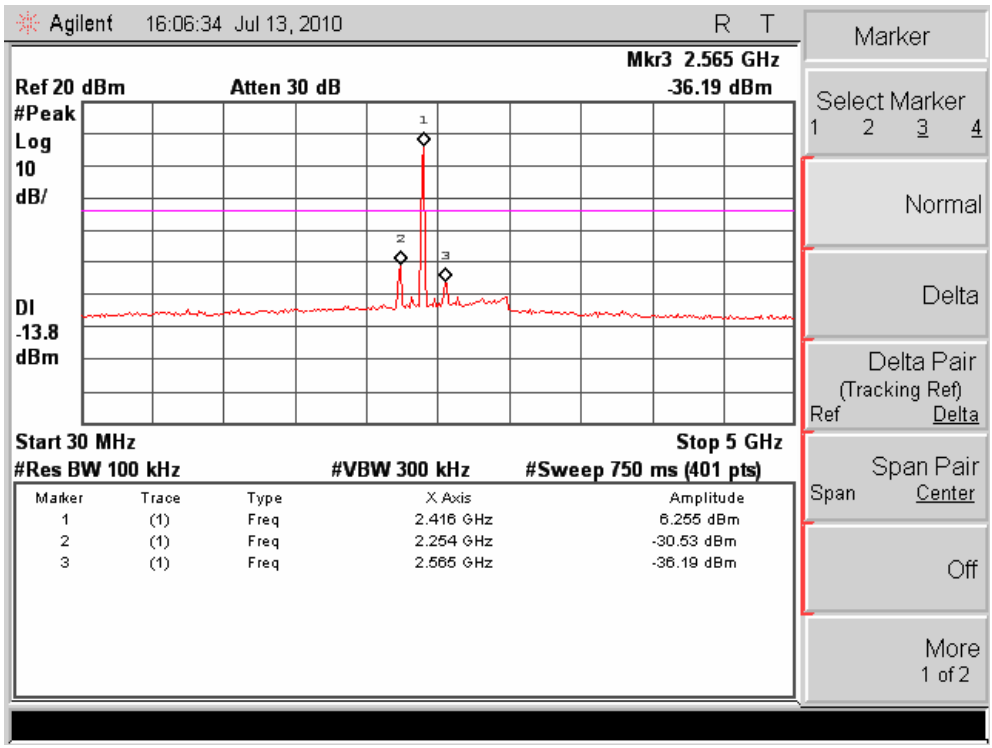
Trade Name	:	StarBridge	Document No.	:	
Model Name	:	Lynx 528	Power Supply	:	AC 120V/60Hz
Serial No.	:		Temp/Humi	:	27/55RH%
Test Condition	:	802.11n CH9 40MHz band	Operator	:	Phenix

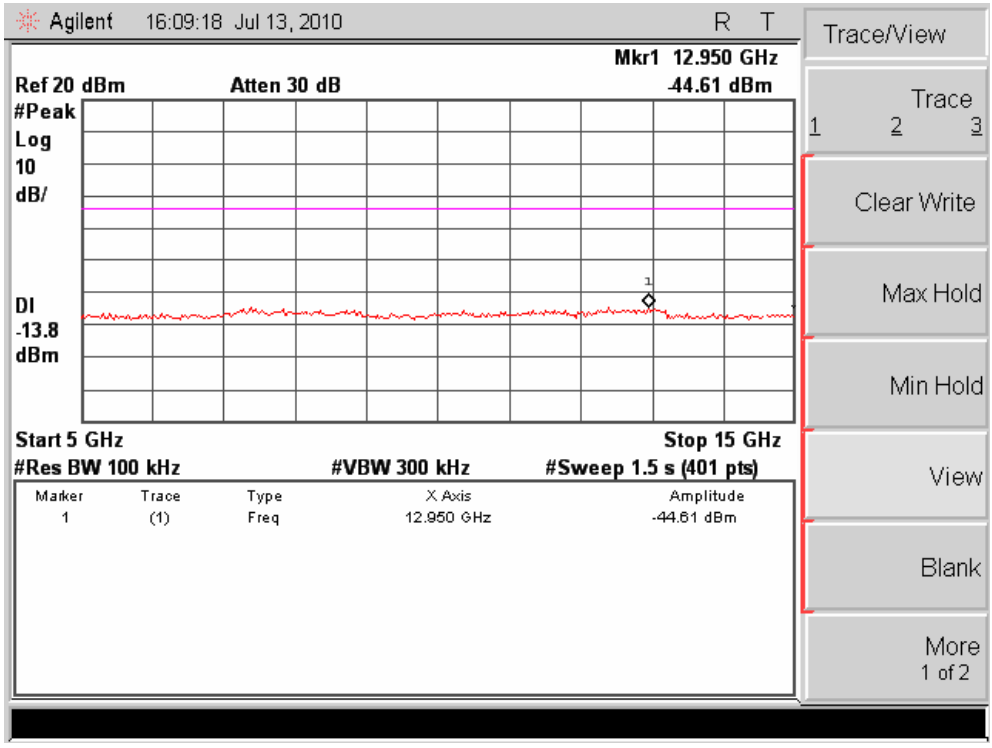
Product Name : ADSL2+ 802.11b/g/n 4 Port Managed Switch Router

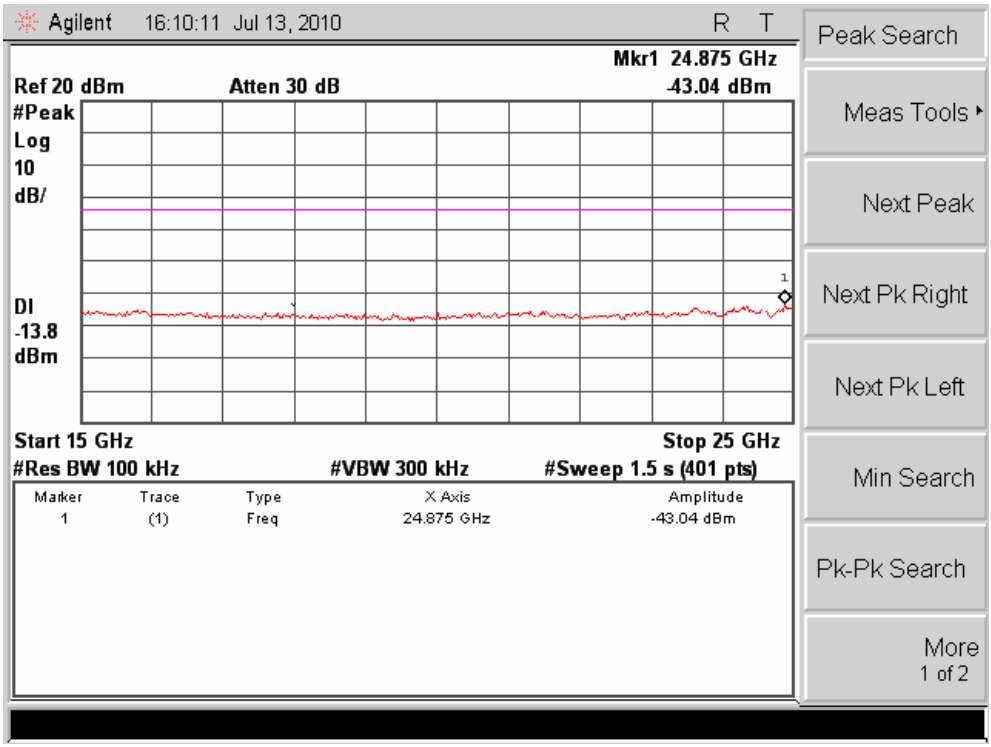
LIMIT : FCC Part15 C transmitter spurious above1G(average)

No.	FREQ [MHz]	READING [dBuV]	C.FACTOR [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]	DETECTOR
----- Horizontal -------									
1	2623.252	49.7	-2.4	47.3	54.0	6.7	100	92	PK
2	6987.996	35.1	11.4	46.5	54.0	7.5	300	257	PK
----- Vertical -------									
3	2298.601	46.7	-2.0	44.7	54.0	9.3	300	172	PK
4	2605.216	54.4	-2.5	51.9	54.0	2.1	200	67	AVG
5	4931.876	45.8	5.4	51.2	54.0	2.8	200	207	AVG
6	7384.791	37.4	11.6	49.0	54.0	5.0	200	220	AVG

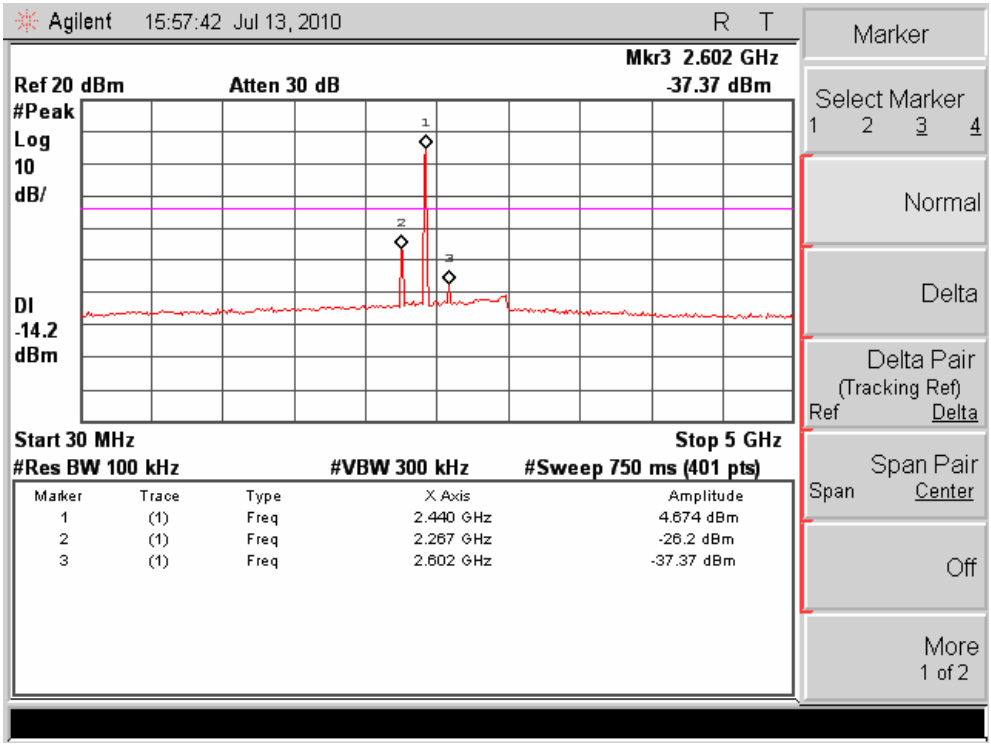
Conducted:
802.11b mode Channel LOW：

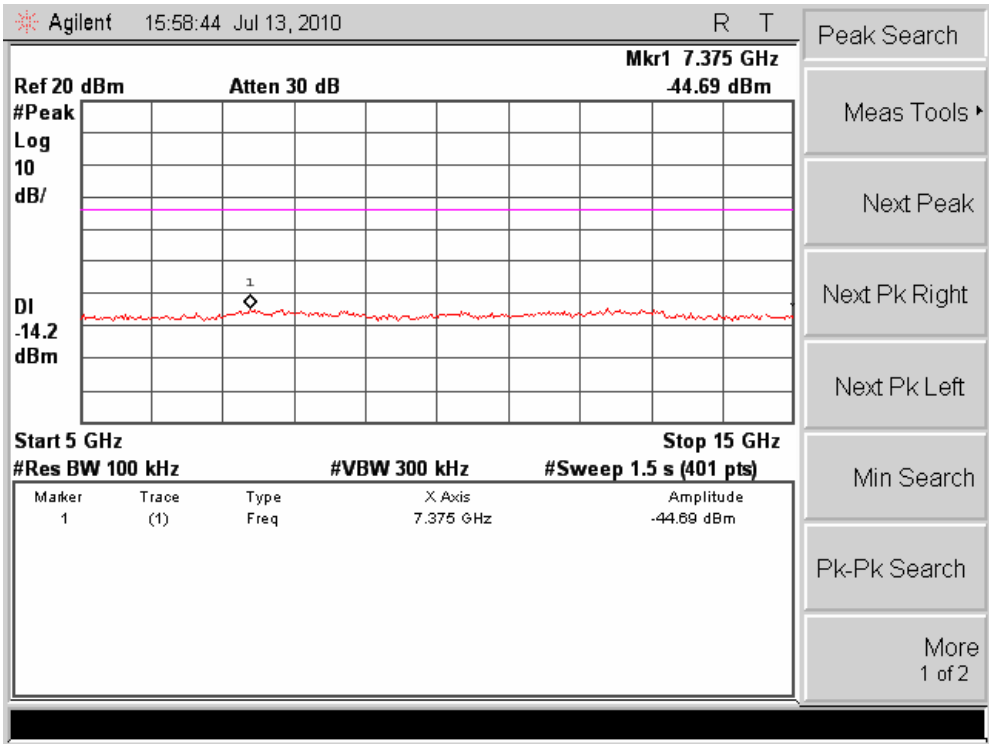


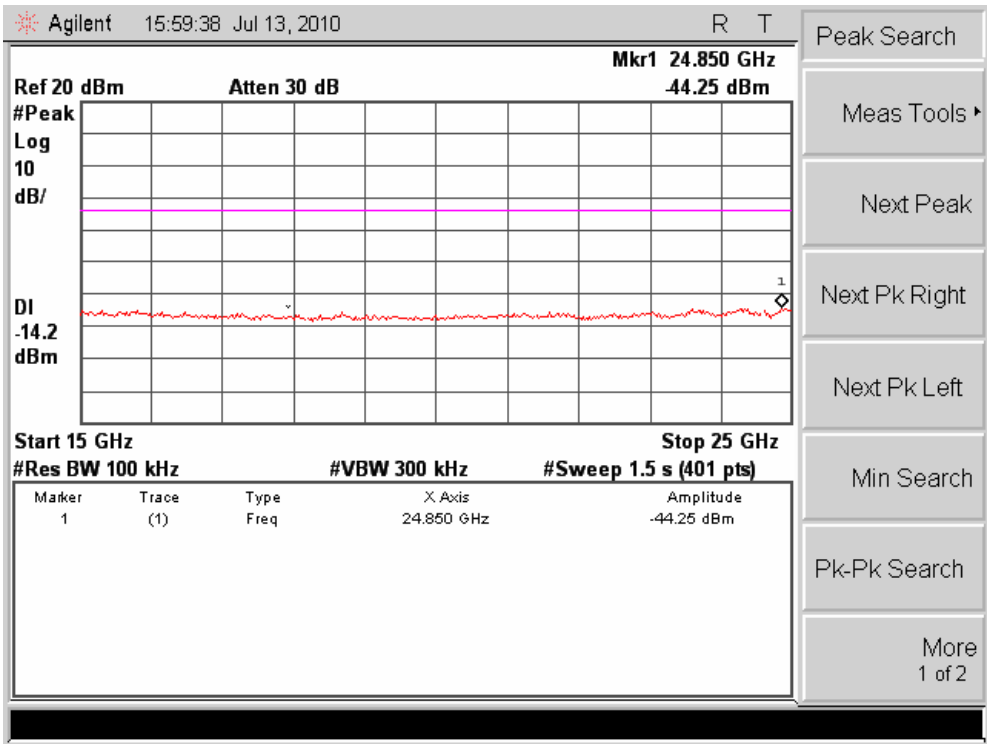



Agilent 16:10:11 Jul 13, 2010
R T
Mkr1 24.875 GHz
Ref 20 dBm
Atten 30 dB
-43.04 dBm
#Peak
Log
10
dB/
DI
-13.8
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.875 GHz -43.04 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

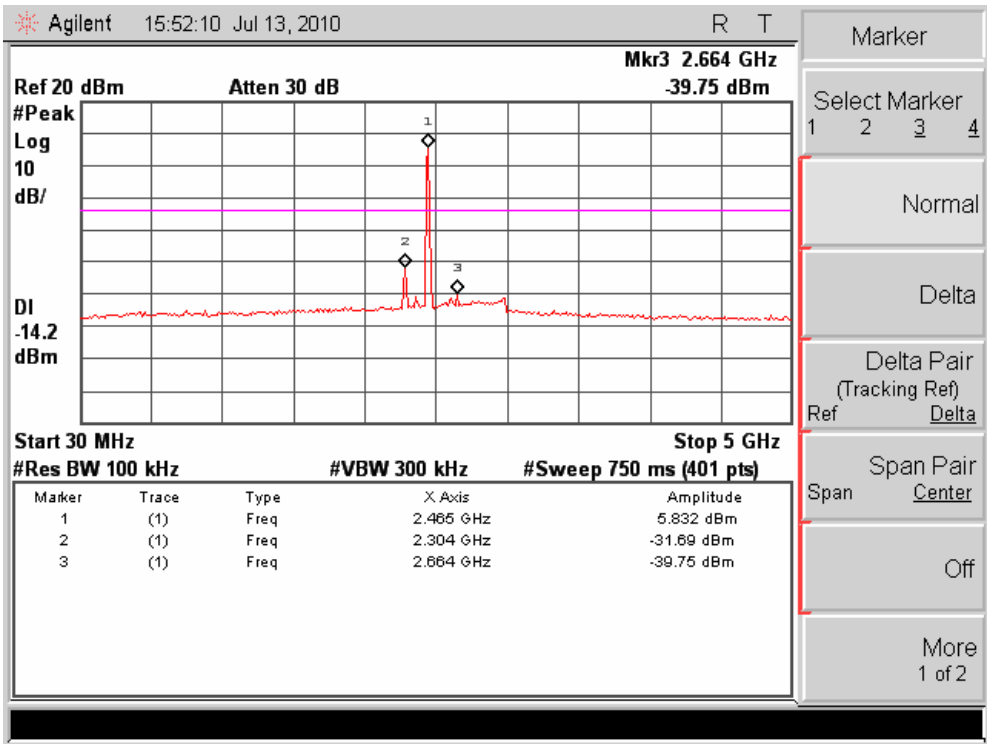
Channel MID：

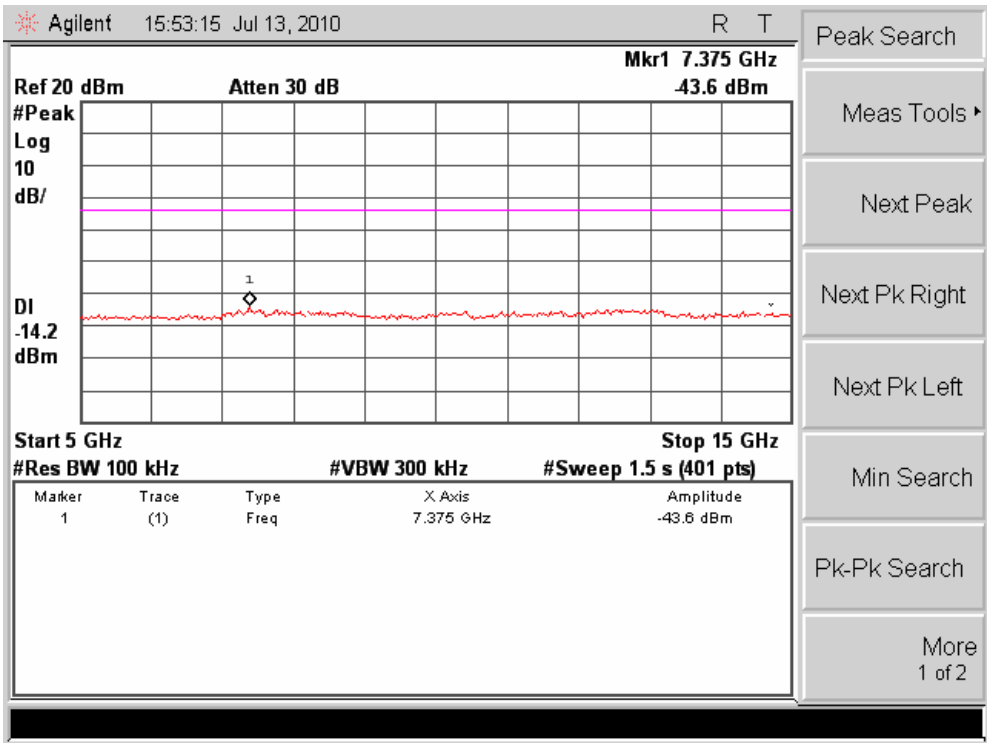

Agilent 15:57:42 Jul 13, 2010
R T
Mkr3 2.602 GHz
Ref 20 dBm
Atten 30 dB
-37.37 dBm
#Peak
Log
10
dB/
DI
-14.2
dBm
Start 30 MHz
Stop 5 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 750 ms (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.440 GHz 4.674 dBm
2 (1) Freq 2.267 GHz -26.2 dBm
3 (1) Freq 2.602 GHz -37.37 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

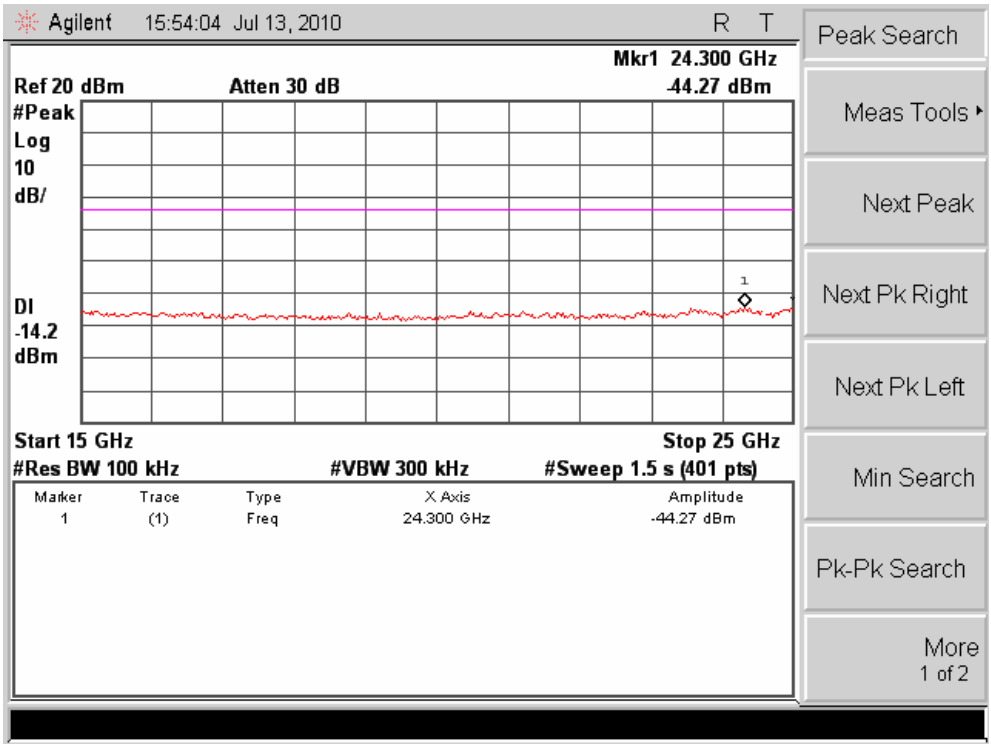

Agilent 15:58:44 Jul 13, 2010
R T
Mkr1 7.375 GHz
Ref 20 dBm
Atten 30 dB
-44.69 dBm
#Peak
Log
10
dB/
DI
-14.2
dBm
Start 5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.375 GHz -44.69 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2


Agilent 15:59:38 Jul 13, 2010
R T
Mkr1 24.850 GHz
Ref 20 dBm
Atten 30 dB
-44.25 dBm
#Peak
Log
10
dB/
DI
-14.2
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.850 GHz -44.25 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

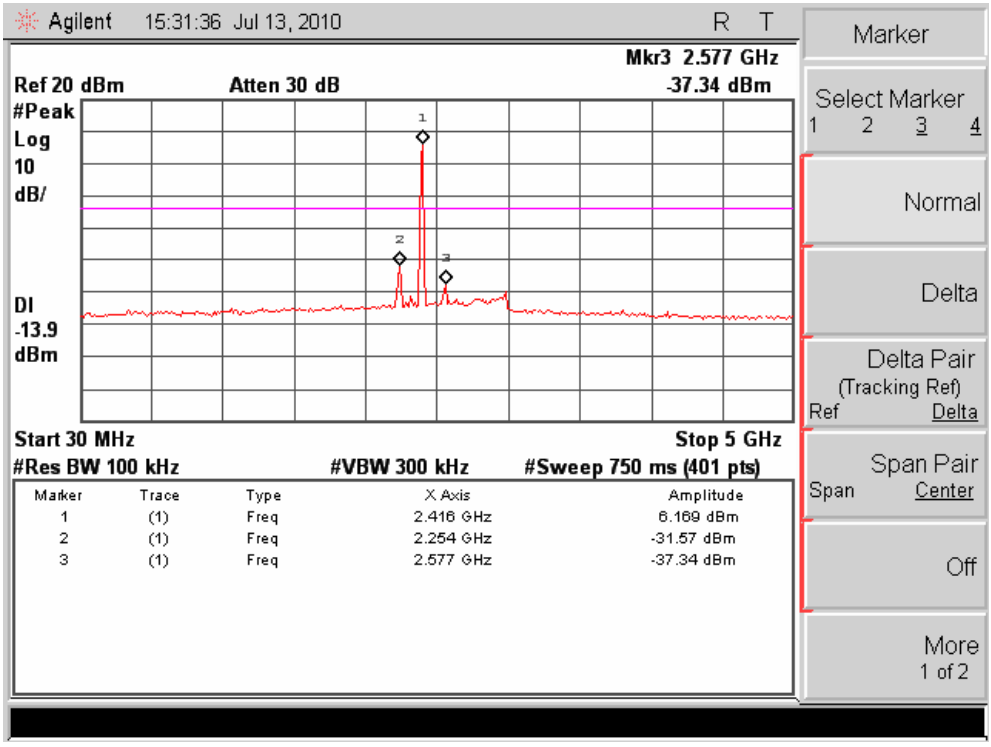
Channel HIG：

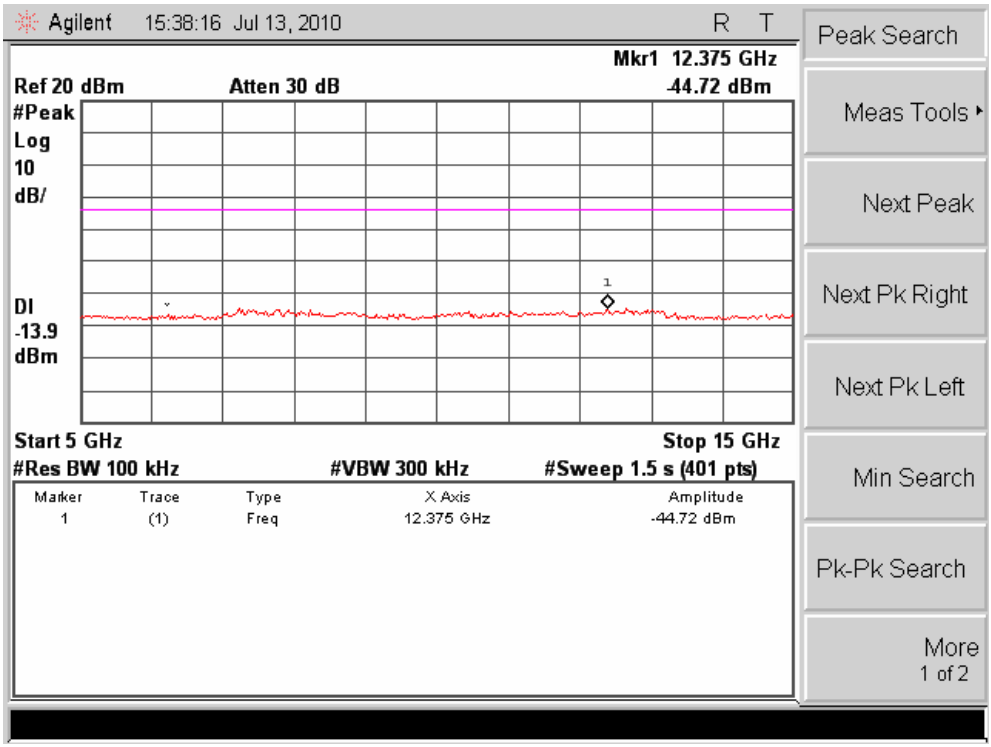

Agilent 15:52:10 Jul 13, 2010
R T
Mkr3 2.664 GHz
Ref 20 dBm
Atten 30 dB
-39.75 dBm
#Peak
Log
10
dB/
DI
-14.2
dBm
Start 30 MHz
Stop 5 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 750 ms (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.465 GHz 5.832 dBm
2 (1) Freq 2.304 GHz -31.69 dBm
3 (1) Freq 2.664 GHz -39.75 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

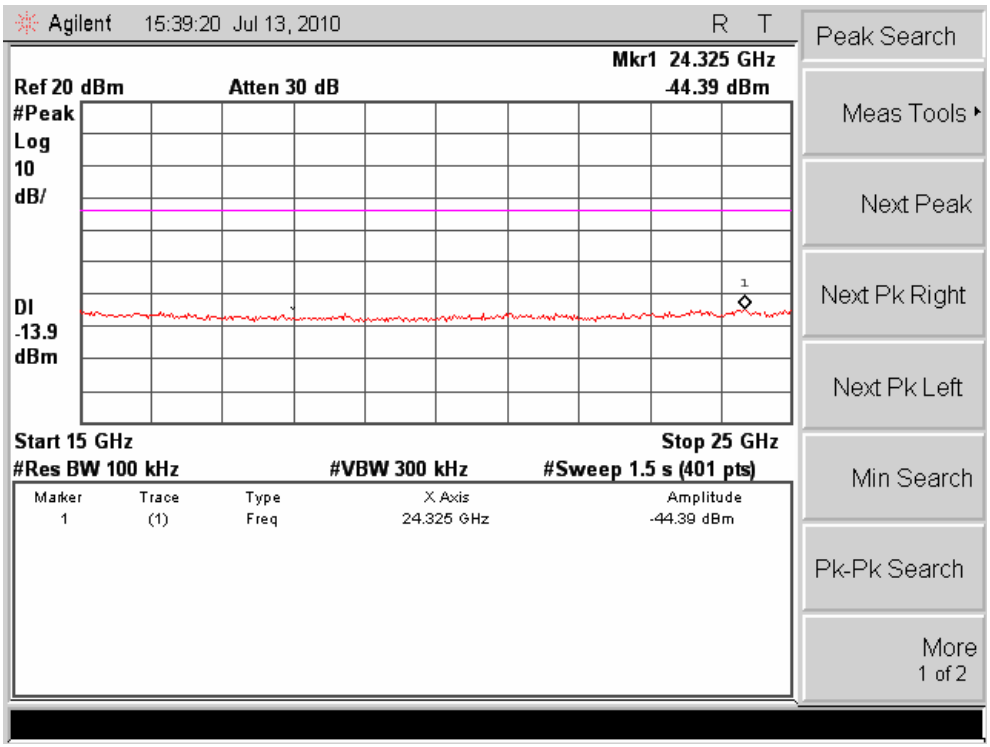

Agilent 15:53:15 Jul 13, 2010
R T
Mkr1 7.375 GHz
Ref 20 dBm
Atten 30 dB
-43.6 dBm
#Peak
Log
10
dB/
DI
-14.2
dBm
Start 5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.375 GHz -43.6 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2



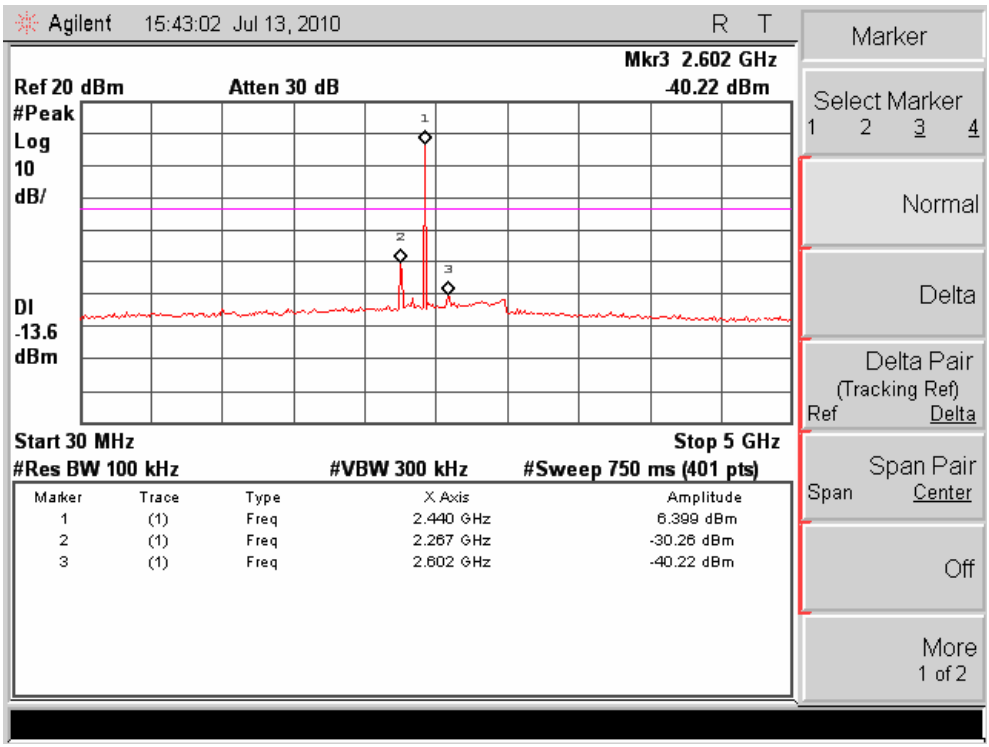
802.11g mode Channel LOW：

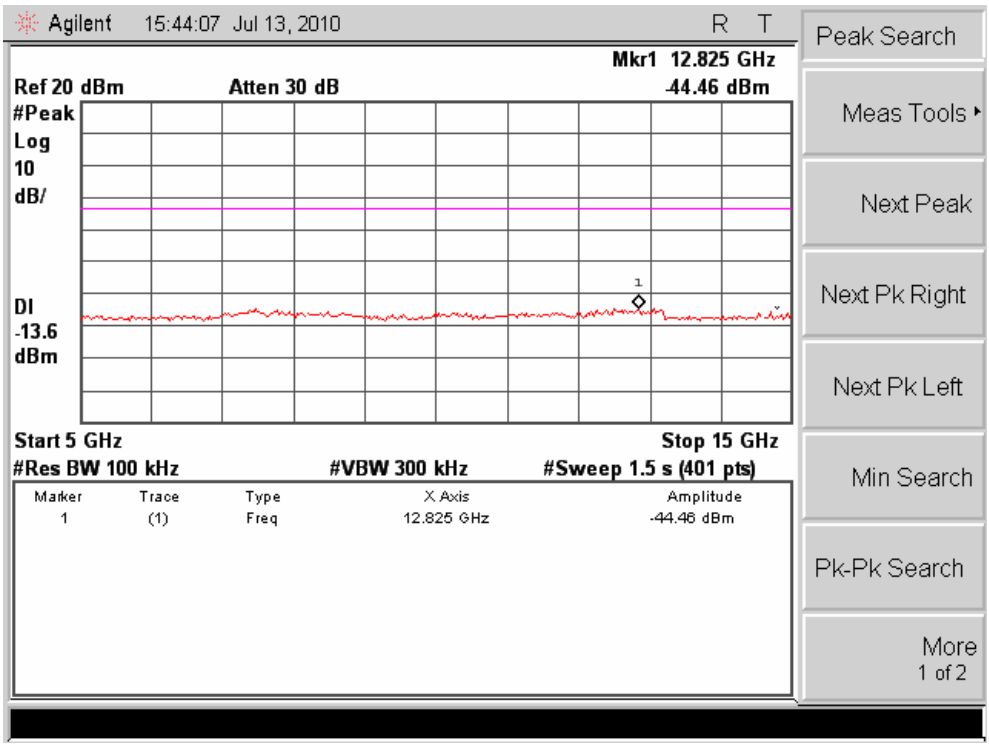


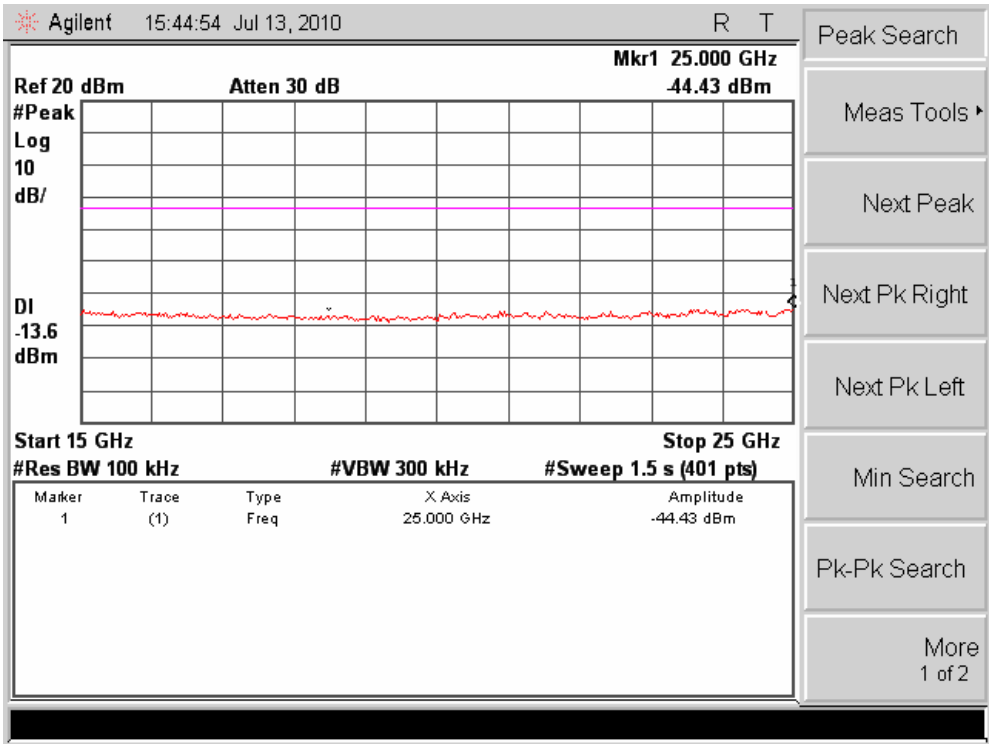

Agilent 15:38:16 Jul 13, 2010
R T
Mkr1 12.375 GHz
Ref 20 dBm
Atten 30 dB
-44.72 dBm
#Peak
Log
10
dB/
DI
-13.9
dBm
Start 5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 12.375 GHz -44.72 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2


Agilent 15:39:20 Jul 13, 2010
R T
Mkr1 24.325 GHz
Ref 20 dBm
Atten 30 dB
-44.39 dBm
#Peak
Log
10
dB/
DI
-13.9
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.325 GHz -44.39 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

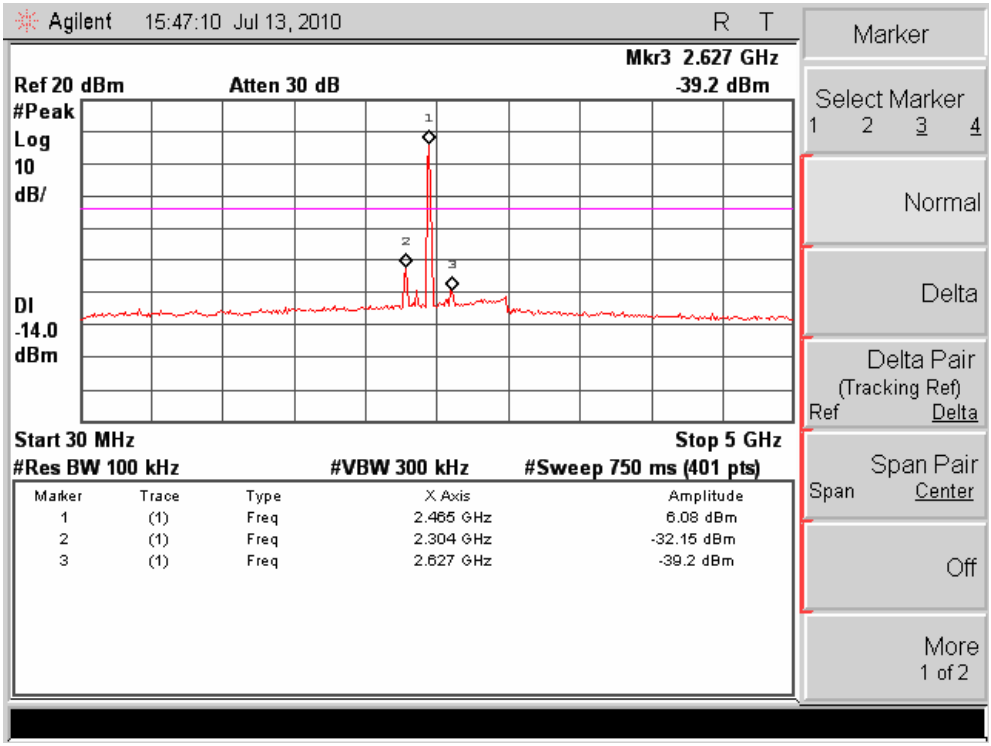
Channel MID：

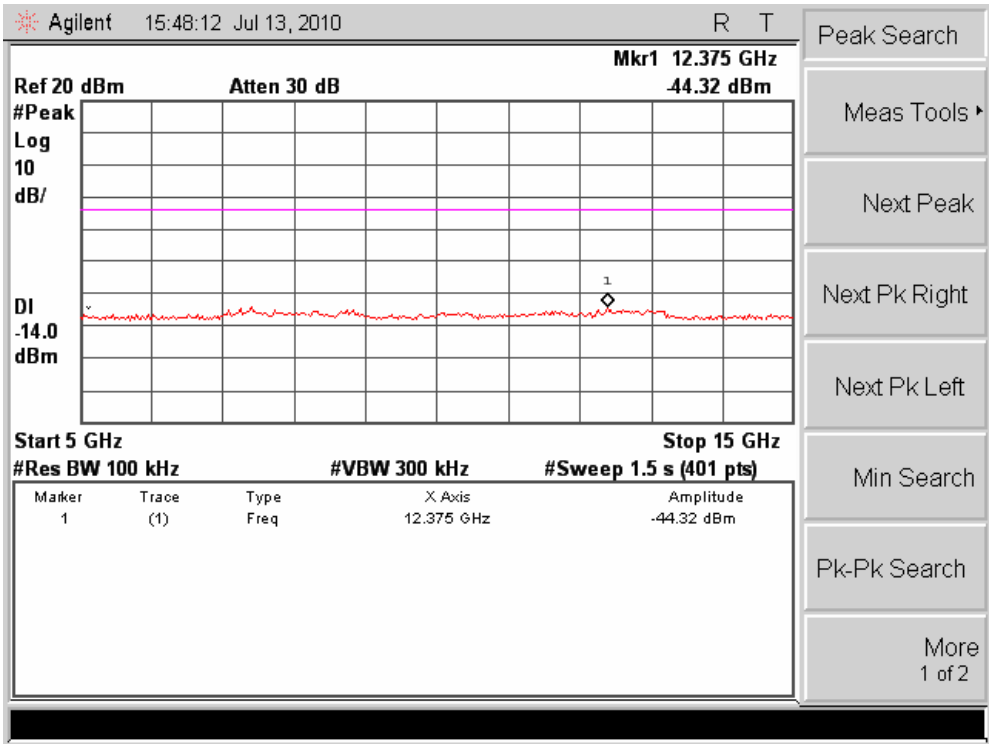

Agilent 15:43:02 Jul 13, 2010
R T
Mkr3 2.602 GHz
Ref 20 dBm
Atten 30 dB
-40.22 dBm
#Peak
Log
10
dB/
DI
-13.6
dBm
Start 30 MHz
Stop 5 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 750 ms (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.440 GHz 6.399 dBm
2 (1) Freq 2.267 GHz -30.26 dBm
3 (1) Freq 2.602 GHz -40.22 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

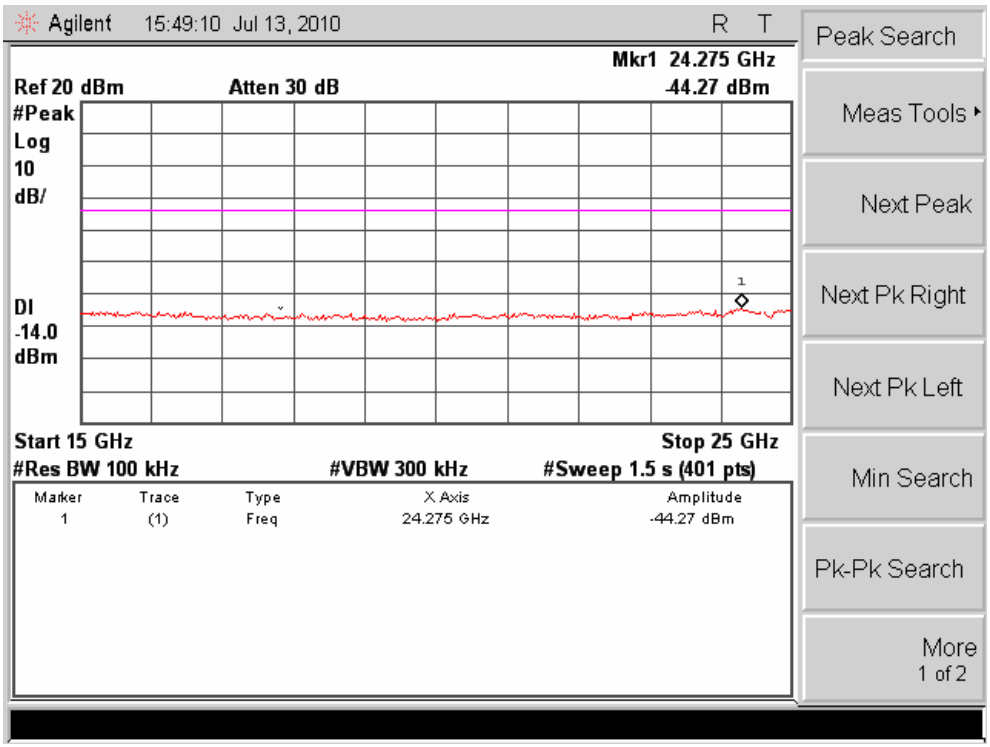

Agilent 15:44:07 Jul 13, 2010
R T
Mkr1 12.825 GHz
Ref 20 dBm
Atten 30 dB
-44.46 dBm
#Peak
Log
10
dB/
DI
-13.6
dBm
Start 5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 12.825 GHz -44.46 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2


Agilent 15:44:54 Jul 13, 2010
R T
Mkr1 25.000 GHz
Ref 20 dBm
Atten 30 dB
-44.43 dBm
#Peak
Log
10
dB/
DI
-13.6
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 25.000 GHz -44.43 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

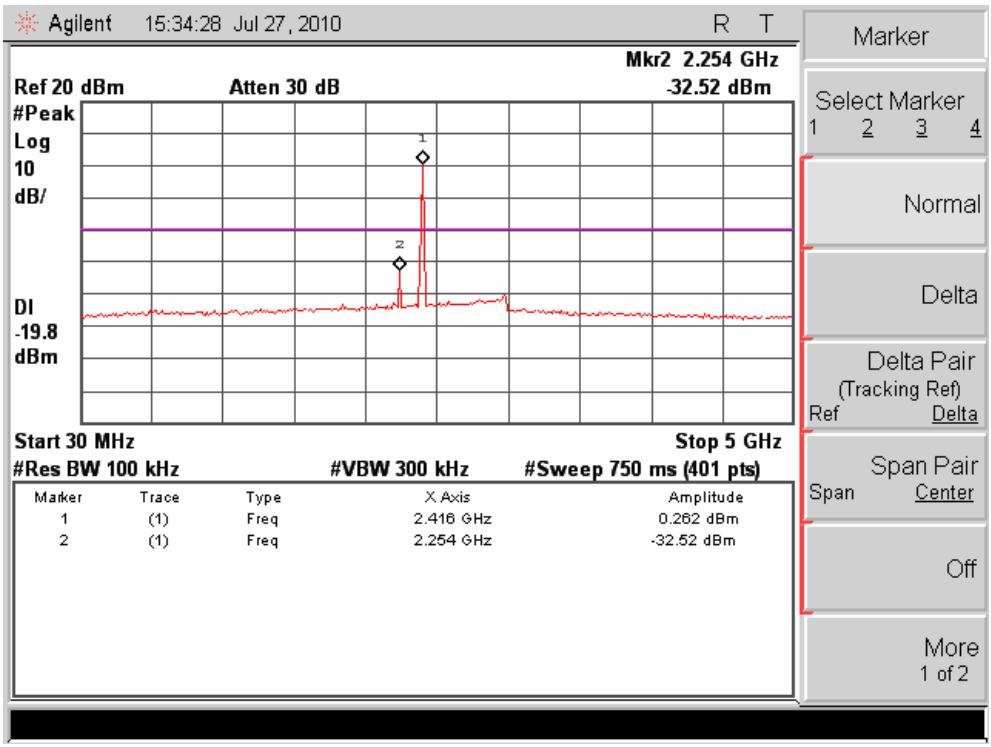
Channel HIG：

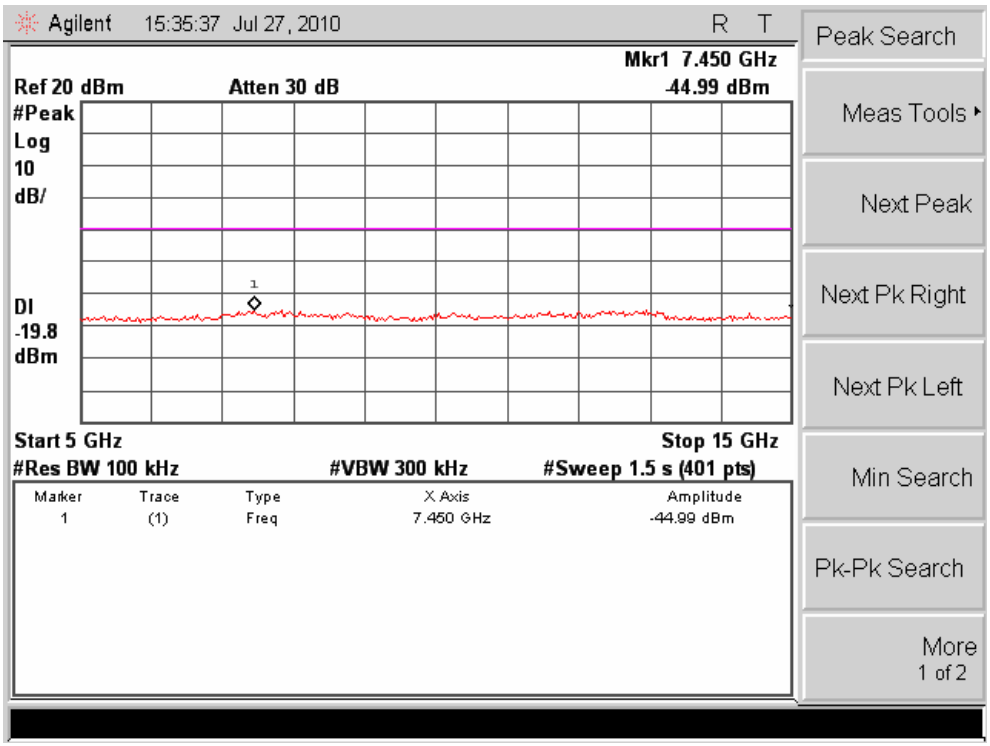

Agilent 15:47:10 Jul 13, 2010
R T
Mkr3 2.627 GHz
Ref 20 dBm
Atten 30 dB
-39.2 dBm
#Peak
Log
10
dB/
DI
-14.0
dBm
Start 30 MHz
Stop 5 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 750 ms (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.465 GHz 6.08 dBm
2 (1) Freq 2.304 GHz -32.15 dBm
3 (1) Freq 2.627 GHz -39.2 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

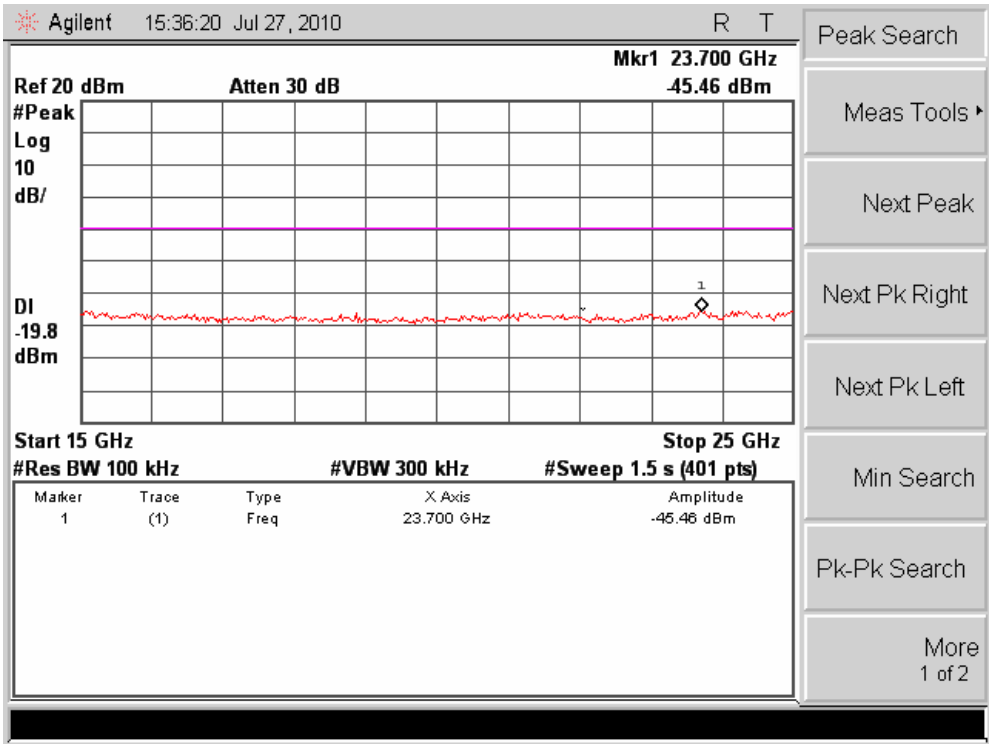

Agilent 15:48:12 Jul 13, 2010
R T
Mkr1 12.375 GHz
Ref 20 dBm
Atten 30 dB
-44.32 dBm
#Peak
Log
10
dB/
DI
-14.0
dBm
Start 5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 12.375 GHz -44.32 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2


Agilent 15:49:10 Jul 13, 2010
R T
Mkr1 24.275 GHz
Ref 20 dBm
Atten 30 dB
-44.27 dBm
#Peak
Log
10
dB/
DI
-14.0
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.275 GHz -44.27 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

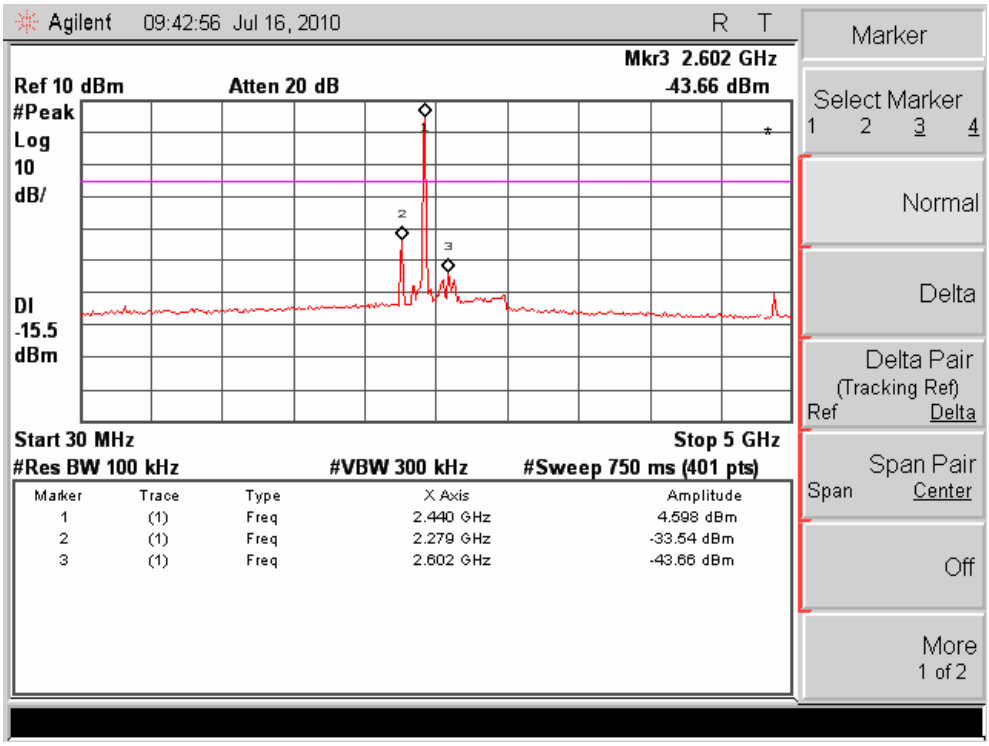
802.11n mode, 20MHz bandwidth, Ant.1 + Ant.2, Channel LOW：

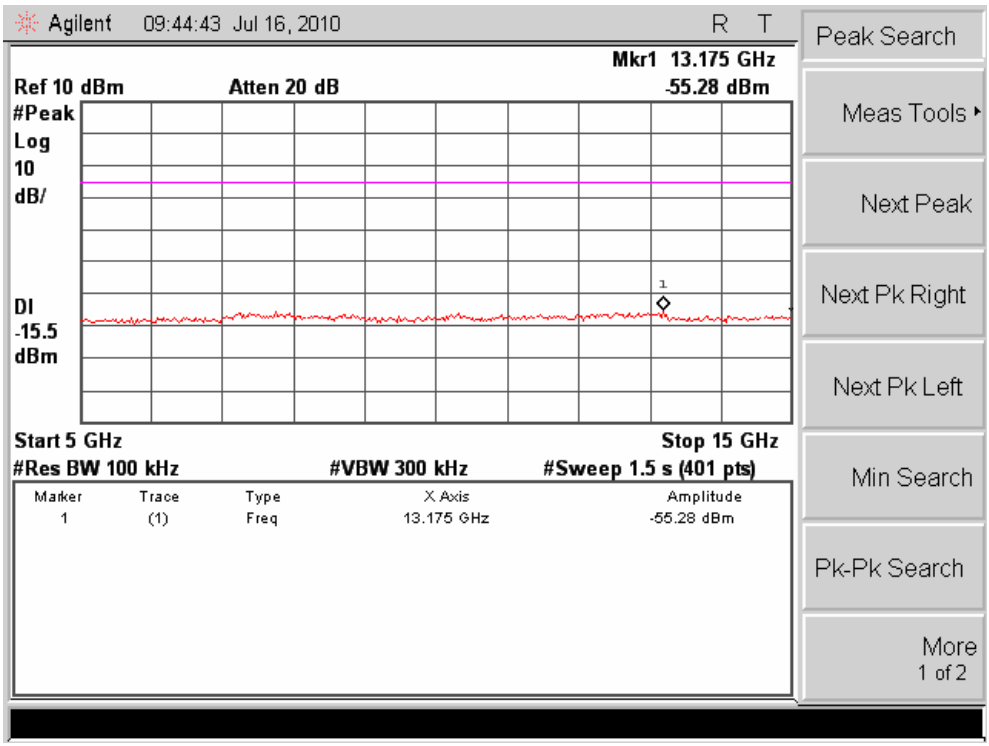


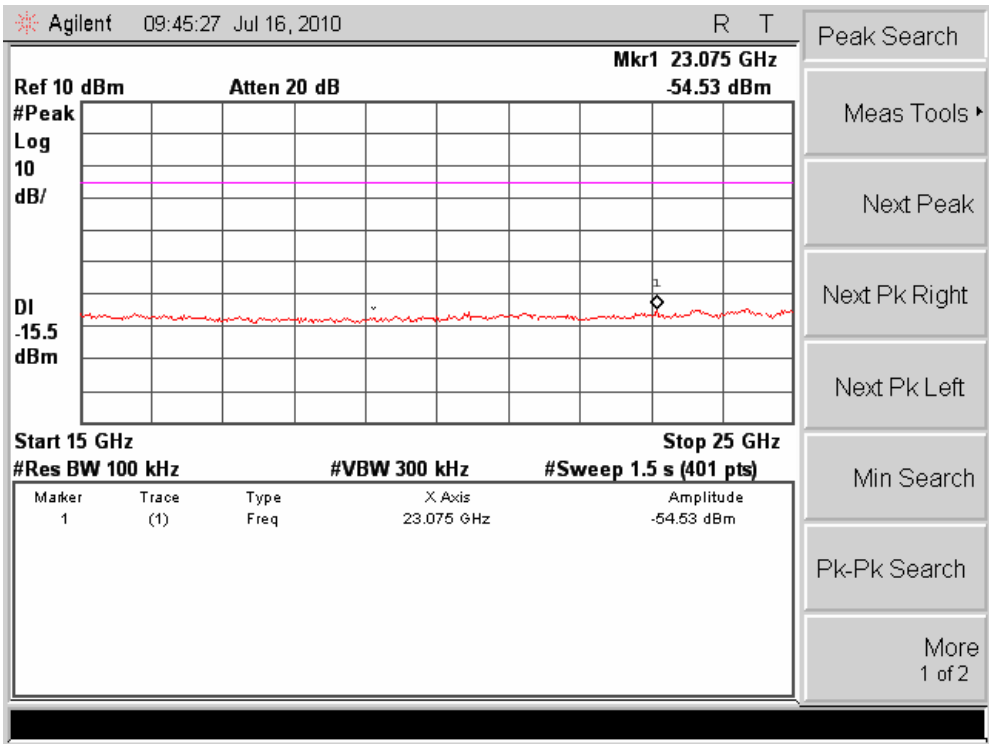




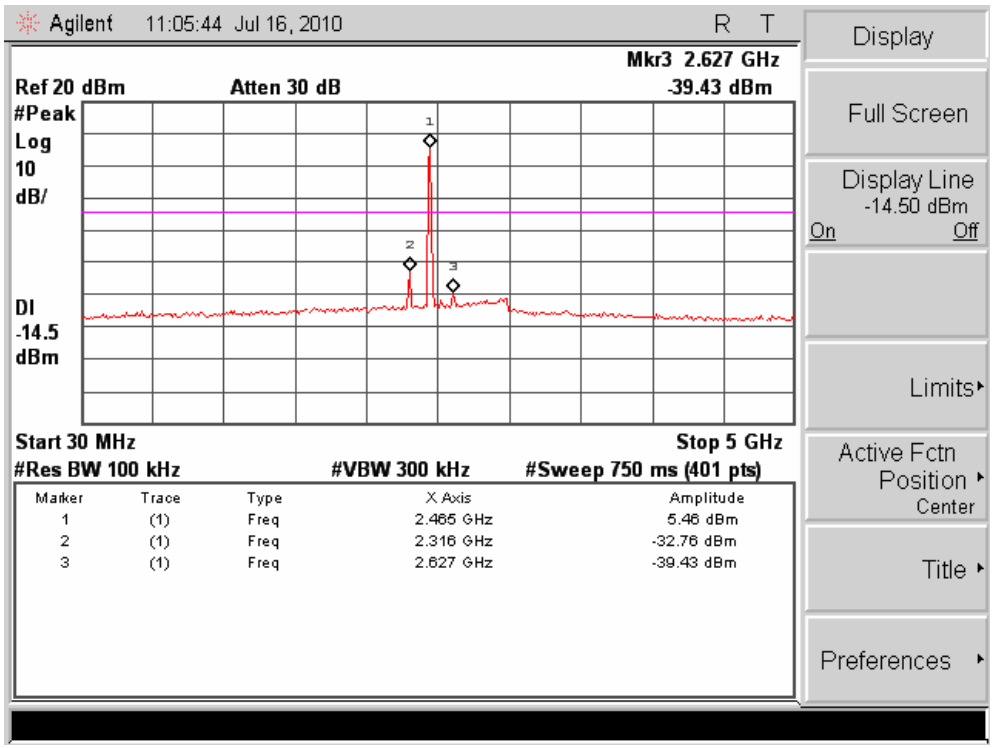
20MHz bandwidth, Ant.1 + Ant.2, Channel MID：

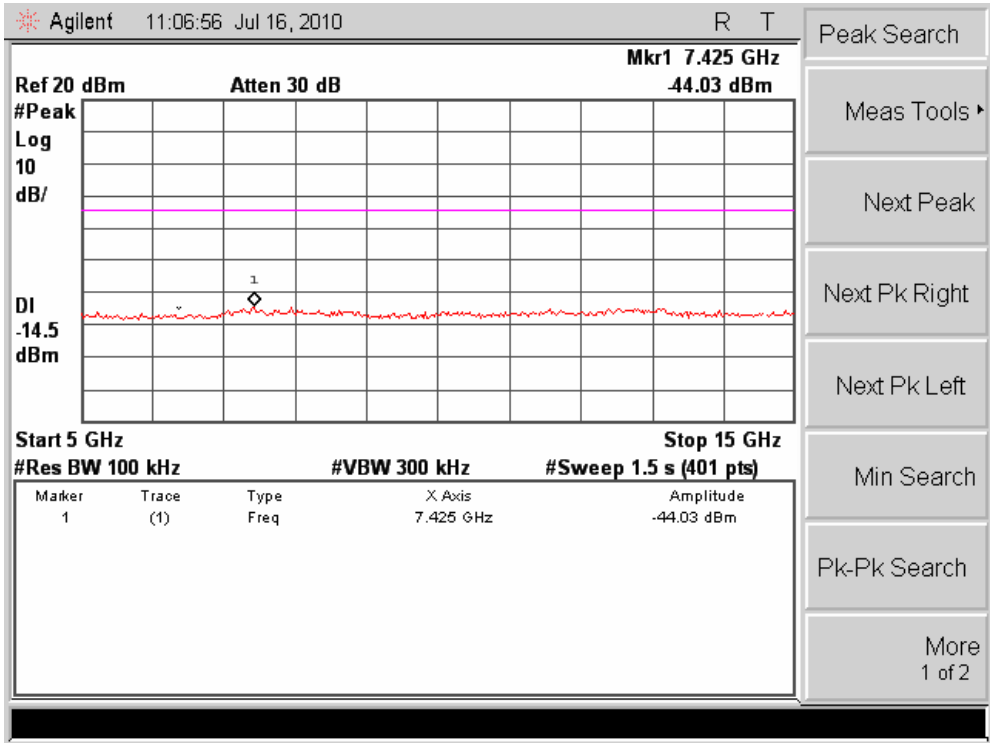


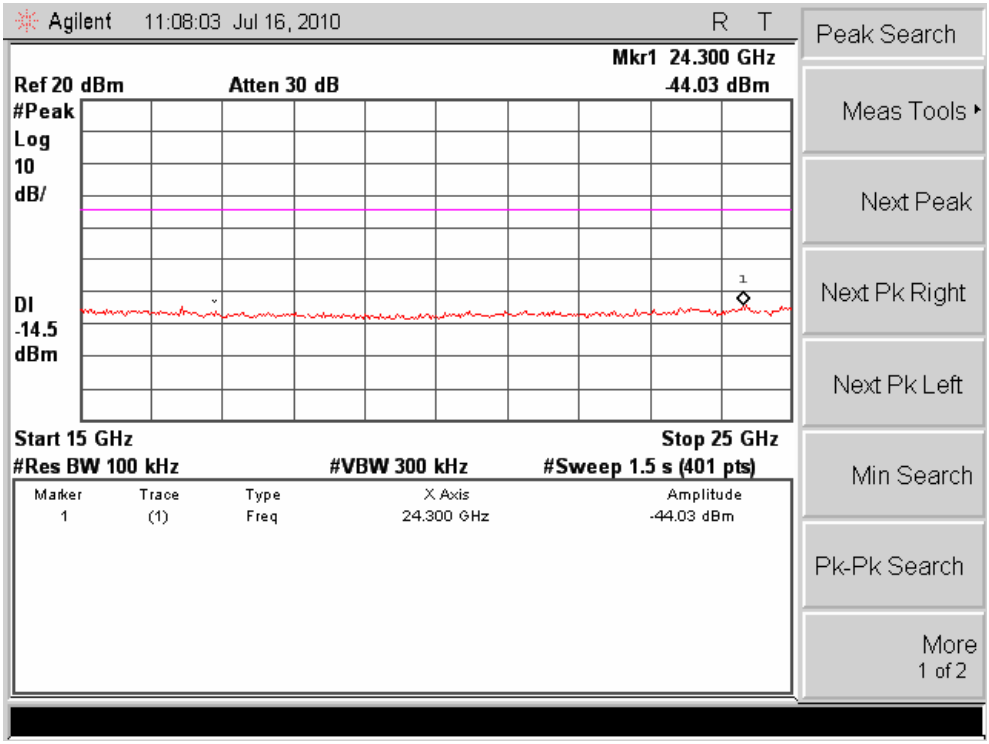

Agilent 09:44:43 Jul 16, 2010
R T
Mkr1 13.175 GHz
Ref 10 dBm
Atten 20 dB
-55.28 dBm
#Peak
Log
10
dB/
DI
-15.5
dBm
Start 5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 13.175 GHz -55.28 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2


Agilent 09:45:27 Jul 16, 2010
R T
Mkr1 23.075 GHz
Ref 10 dBm
Atten 20 dB
-54.53 dBm
#Peak
Log
10
dB/
DI
-15.5
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 23.075 GHz -54.53 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

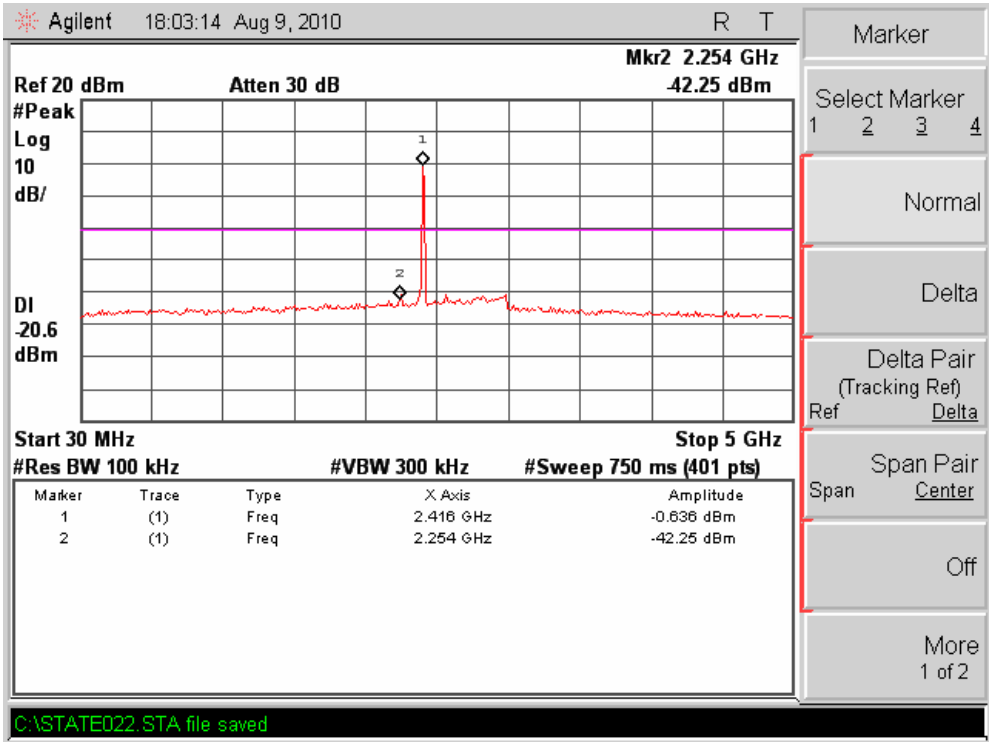
20MHz bandwidth, Ant.1 + Ant.2, Channel HIG：

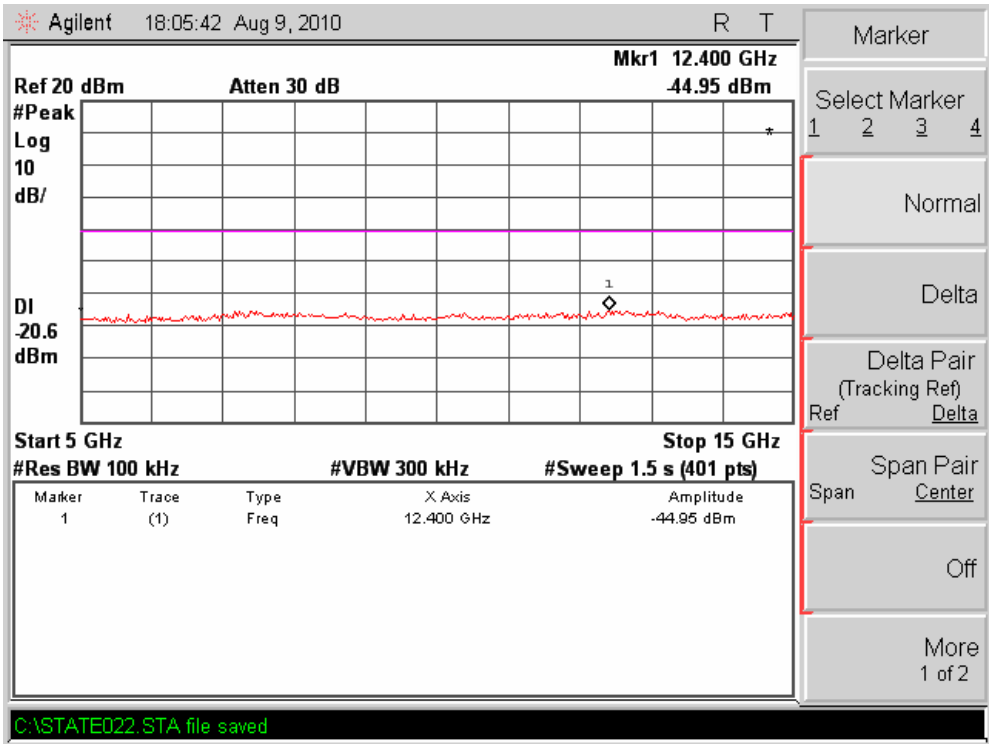


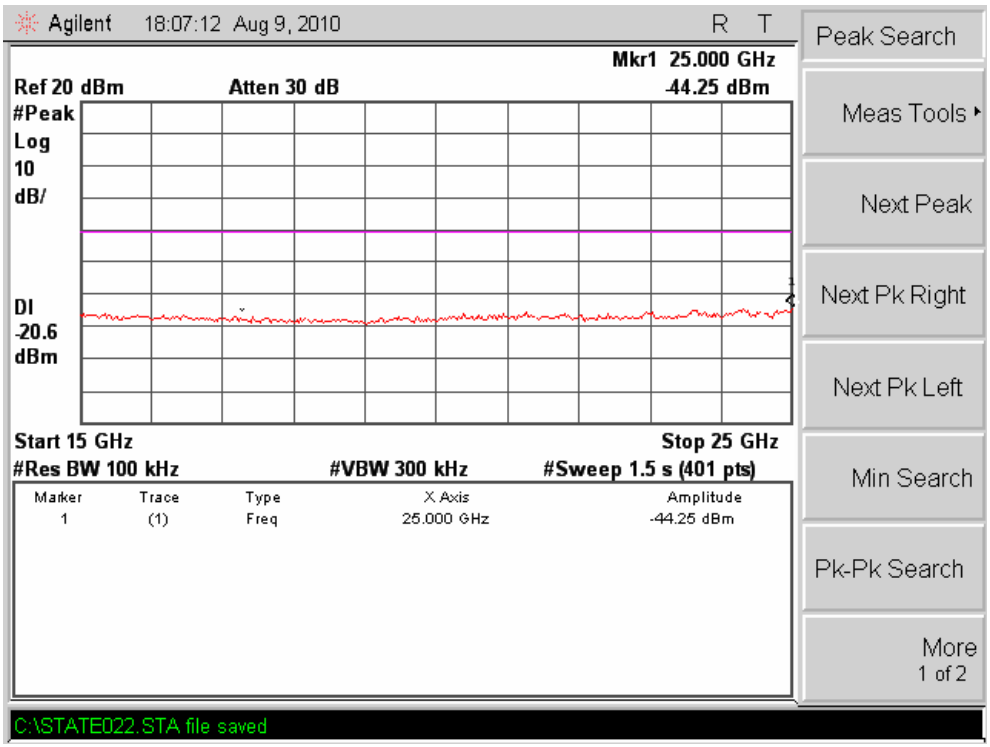




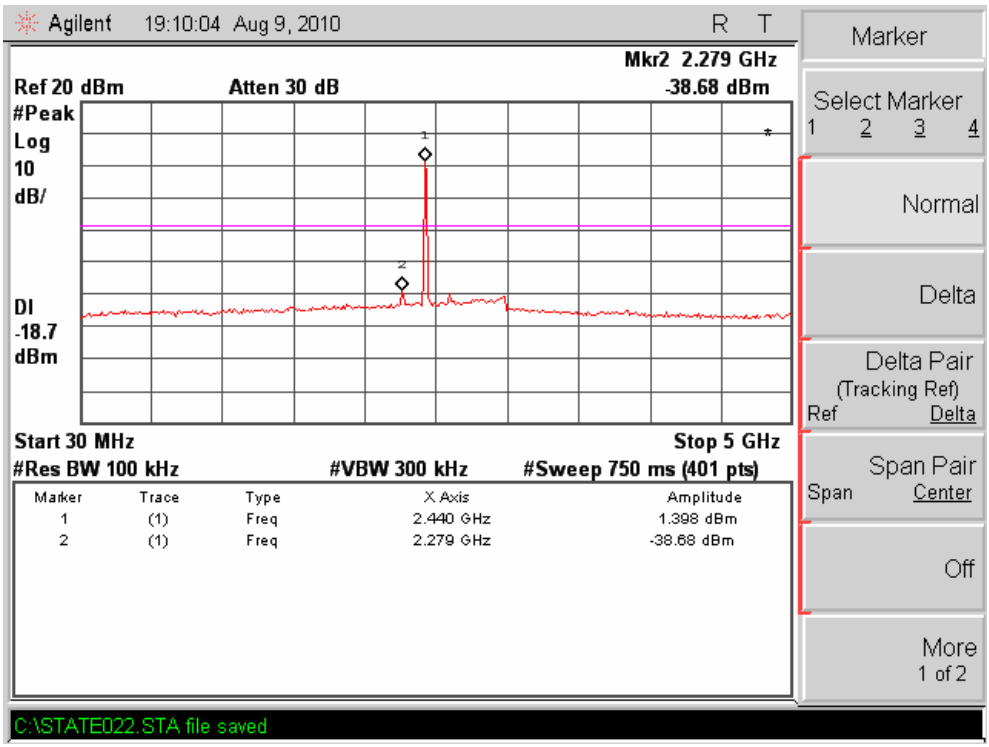
802.11n mode, 40MHz bandwidth, Ant.1 + Ant.2, Channel LOW：

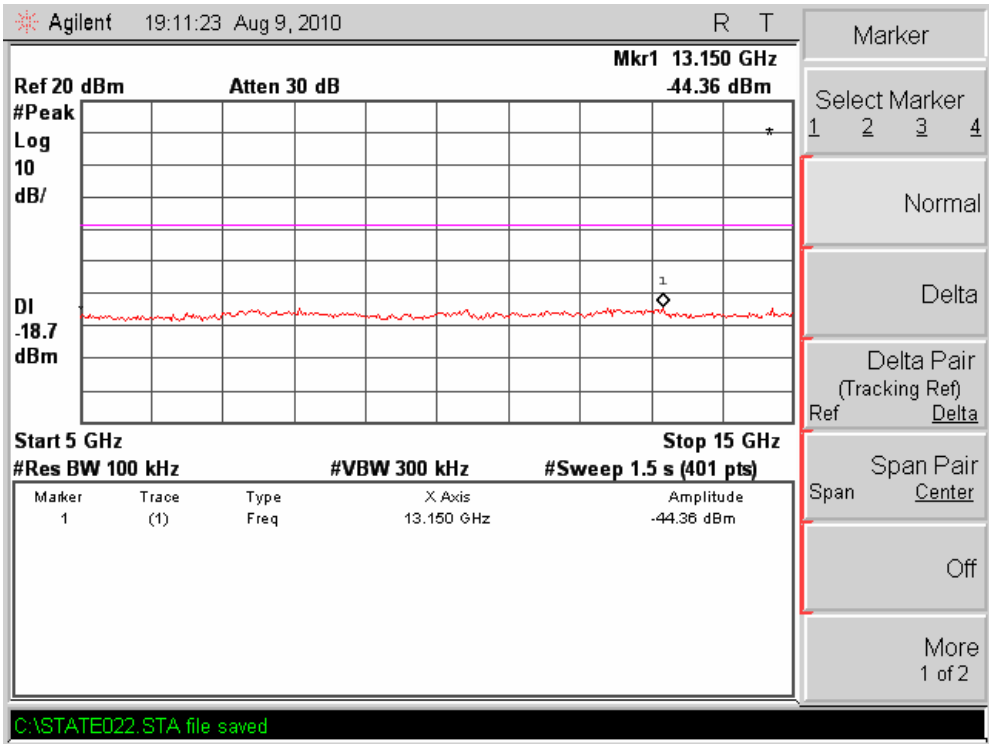


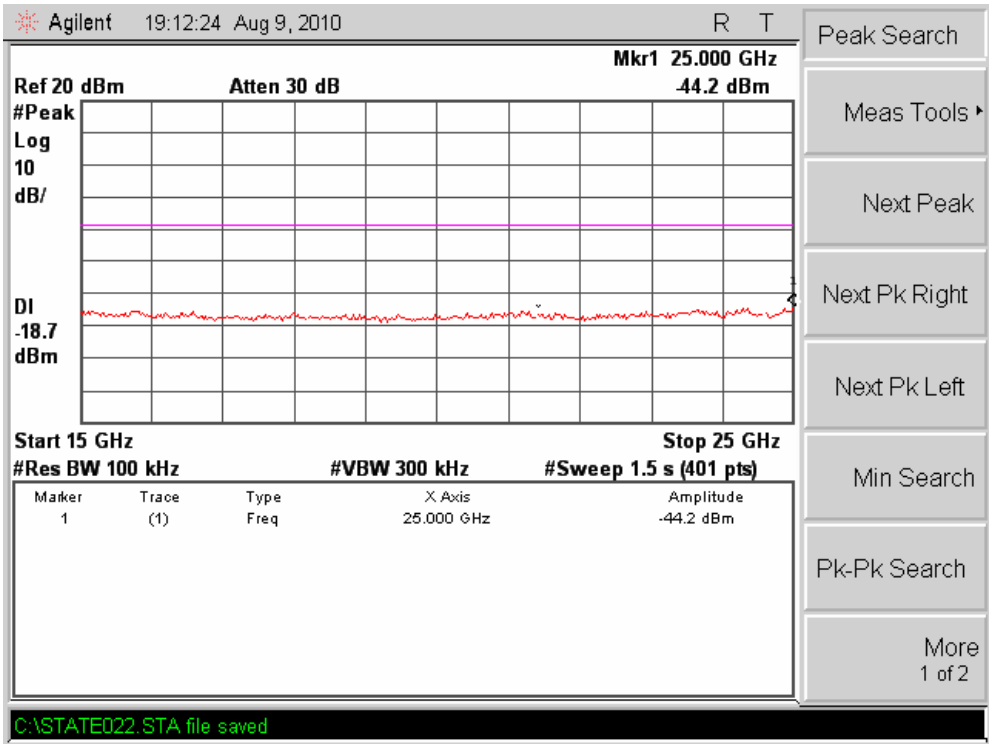

Agilent 18:05:42 Aug 9, 2010
R T
Mkr1 12.400 GHz
Ref 20 dBm
Atten 30 dB
-44.95 dBm
#Peak
Log
10
dB/
DI
-20.6
dBm
Start 5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 12.400 GHz -44.95 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2
C:\STATE022.STA file saved


Agilent 18:07:12 Aug 9, 2010
R T
Mkr1 25.000 GHz
Ref 20 dBm
Atten 30 dB
-44.25 dBm
#Peak
Log
10
dB/
DI
-20.6
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 25.000 GHz -44.25 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2
C:\STATE022.STA file saved

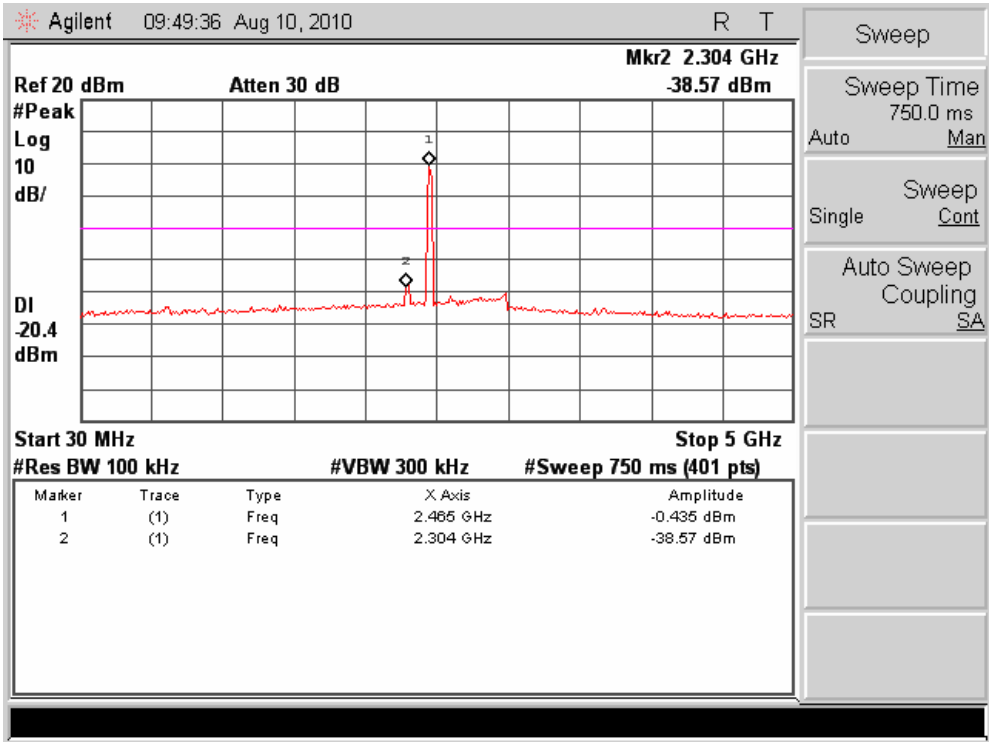
40MHz bandwidth, Ant.1 + Ant.2, Channel MID：

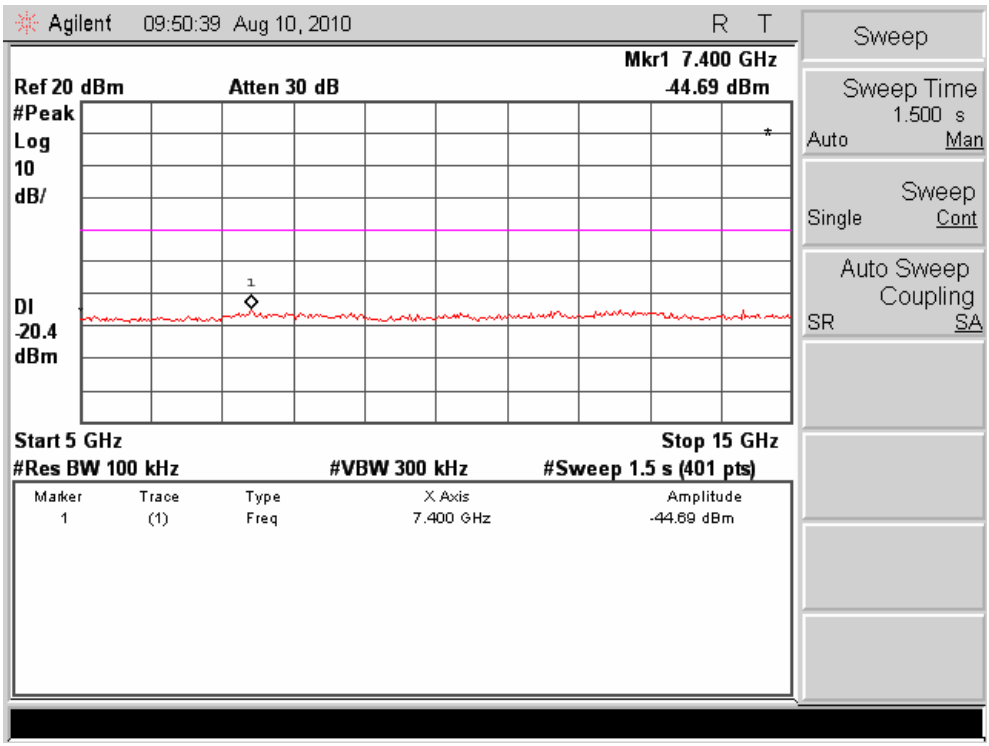


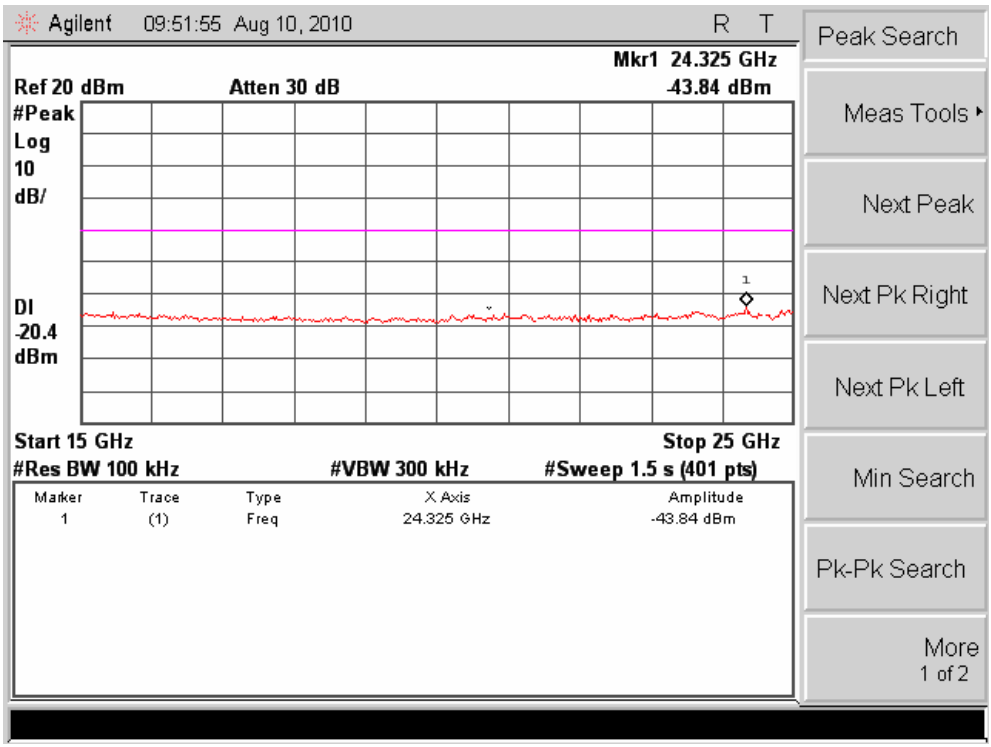




40MHz bandwidth, Ant.1 + Ant.2, Channel HIG：




Agilent 09:50:39 Aug 10, 2010
R T
Mkr1 7.400 GHz
Ref 20 dBm
Atten 30 dB
-44.69 dBm
#Peak
Log
10
dB/
DI
-20.4
dBm
Start 5 GHz
Stop 15 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 7.400 GHz -44.69 dBm
Sweep
Sweep Time
1.500 s
Auto Man
Sweep
Single Cont
Auto Sweep
Coupling
SR SA


Agilent 09:51:55 Aug 10, 2010
R T
Mkr1 24.325 GHz
Ref 20 dBm
Atten 30 dB
-43.84 dBm
#Peak
Log
10
dB/
DI
-20.4
dBm
Start 15 GHz
Stop 25 GHz
#Res BW 100 kHz
#VBW 300 kHz
#Sweep 1.5 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 24.325 GHz -43.84 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2

5. FCC ID Label

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions :(1)this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Mark Location:

6. Test Setup

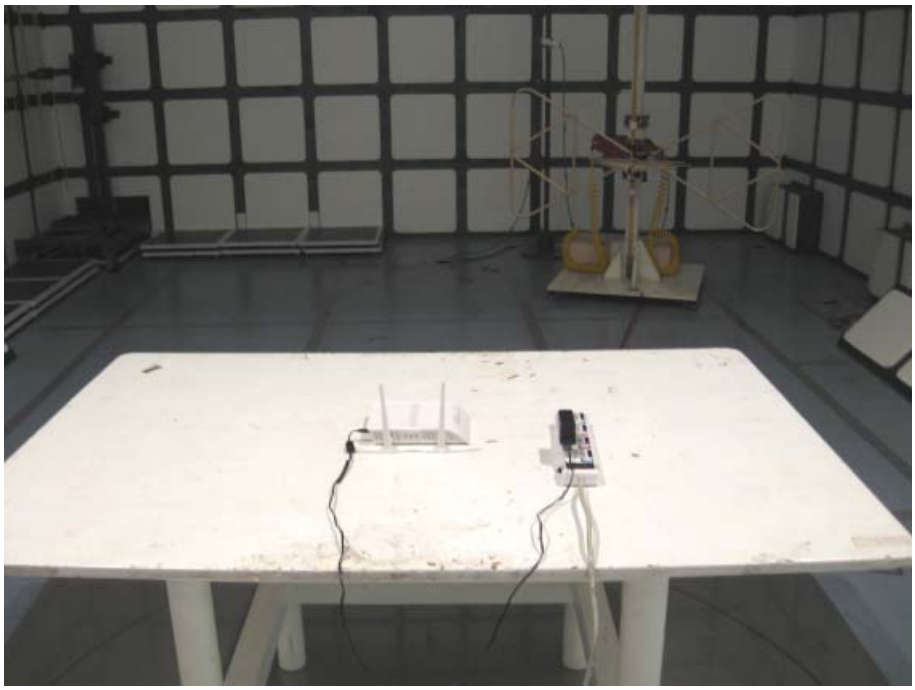
6.1 Ancillary and Accessory Equipment Used

No.	Description	Specification	Quantity
1.	PC	DELL, M/N:OPTIPLEX, S/N: 33494477289	1
2.	Monitor	SHARP/AQUOS, M/N:LCD-19A35-BK, S/N:806915210	1
3.	Keyboard	DELL, M/N:L100, S/N: CN0RH6566589006860007J	1
4.	Mouse	HP, M/N:M-SBF96	1
5.	Laptop	DELL, M/N:Vostro 1400	1

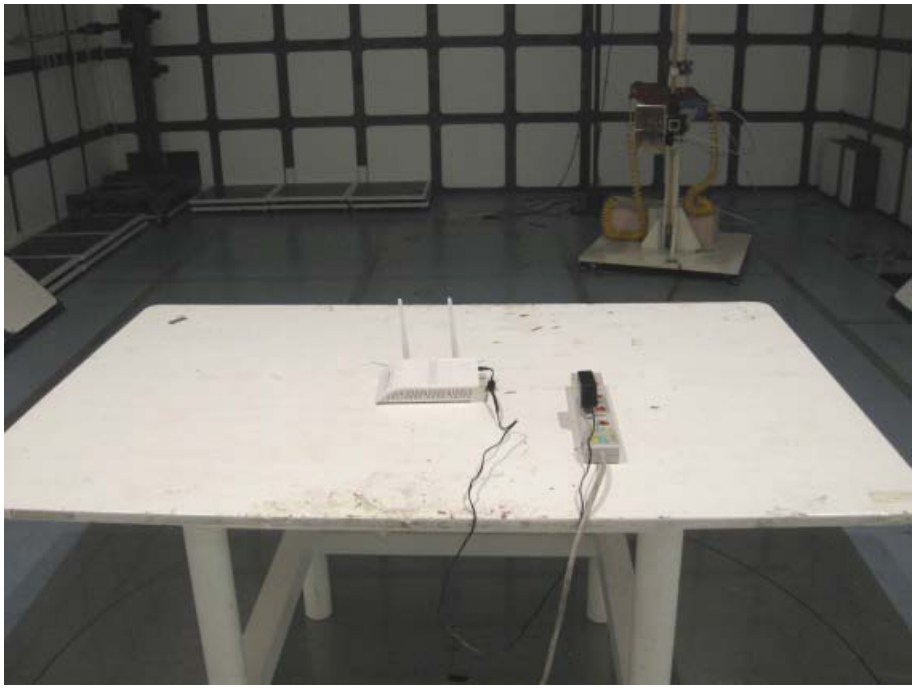
6.2 Photographs of the Test Configuration

6.2.1 Radiated emission

Below 1GHz:



Above 1GHz:



6.2.2 Conducted emission

6.3 Photographs of the EUT

Enclosure of EUT

Enclosure of EUT

Internal Photo

Photo of adapter

7. Equipment List

No.	Equipment	Manufacturer	Model	Serial No.	Calibration Date
1	Precision Biconical Antenna	TDK Co.	PBA-2030	090500	2009-09-18
2	Precision Log Periodic Antenna	TDK Co.	PLP-3003	061001	2009-09-18
3	Hybrid Log Periodic Antenna	TDK	HLP-3003C	130174	2009-09-18
4	Horn antenna	TDK	HRN-0118	130186	2010-04-07
5	Attenuator 6 dB	Agilent	8491B	MY39260147	2009-09-18
6	Preamplifier	TDK Sonoma	310	242803	2010-04-07
7	Preamplifier	ELENA	EAU-3718 GXA	A070701	2010-04-07
8	EMI Receiver	Rohde & Schwarz	ESIB26	100234	2010-04-07
9	EMI Receiver	Rohde & Schwarz	ESCS30	100350	2010-04-07
10	Spectrum Analyzer	Agilent	E4403B	MY44210199	2010-04-07
11	Art. Mains Network	EMCO	3816/2	00044921	2010-04-07
12	Transient Limiter(10 dB)	Agilent	11947A	3107A03736	2010-04-07
13	Personal Computer	HP	DX2000MT	MXD4250FZM	N/A
14	Personal Computer	HP	DX2000MT	MXD4130B2N	N/A
15	Semi-Anechoic Chamber	TDK Co.	N/A	N/A	2010-04-07
16	Shielded Room	TDK Co.	N/A	N/A	N/A
17	Loop Antenna	EMCO	6502	9107-2440	2010-04-07
18	Combiner	Mini-Circuits	ZFRSC-183 -S+	F492100907	2010-04-02

8. Test Uncertainty

Test	Range	Confidence Level	Calculated Uncertainty
Radiated emission(3m)	30-1000MHz	95%	4.3dB
Conducted emission	0.15-30MHz	95%	3.3dB

9. Appendix

9.1 Confirmation of Compliance within the Limits

9.1.1 Method of calculating measurement result

Radiated Emission

For example the point of 39.719MHz, vertical, Page 57.

	Reading	+	Antenna factor	+	Cable loss	-	Gain	=	Result
Example	50.6	+	11.3	+	6.7	-	31.6	=	37.0

Conducted Emission

For example the point of 0.807MHz, L1 QP, Page 9.

	Reading	+	C. FACTOR	=	Result
Example	43.6	+	10.0	=	53.6