



Test Report

Product Name : Wireless Extender
Model No. : BeamLink 5834, CT-5834, 5834, WL5538AP, WAP-5834
FCC ID. : L9V-COMTREND5834

Applicant : Comtrend Corporation
Address : 3F-1, 10 Lane 609, Chung Hsin Road, Section 5,
San Chung City, Taipei County 24159, Taiwan

Date of Receipt : 2010/06/17
Issued Date : 2010/09/17
Report No. : 106293R-RFUSP28V01
Report Version : V1.0

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.

Test Report Certification

Issued Date : 2010/09/17

Report No. : 106293R-RFUSP28V01



Product Name : Wireless Extender

Applicant : Comtrend Corporation

Address : 3F-1, 10 Lane 609, Chung Hsin Road, Section 5, San Chung
City, Taipei County 24159, Taiwan

Manufacturer : Ayecom Technology Co., Ltd

Model No. : BeamLink 5834, CT-5834, 5834, WL5538AP, WAP-5834

FCC ID. : L9V-COMTREND5834

EUT Voltage : 100-120V~50/60 Hz

Trade Name : BeamLink, Comtrend

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.

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1. General Information

1.1. EUT Description

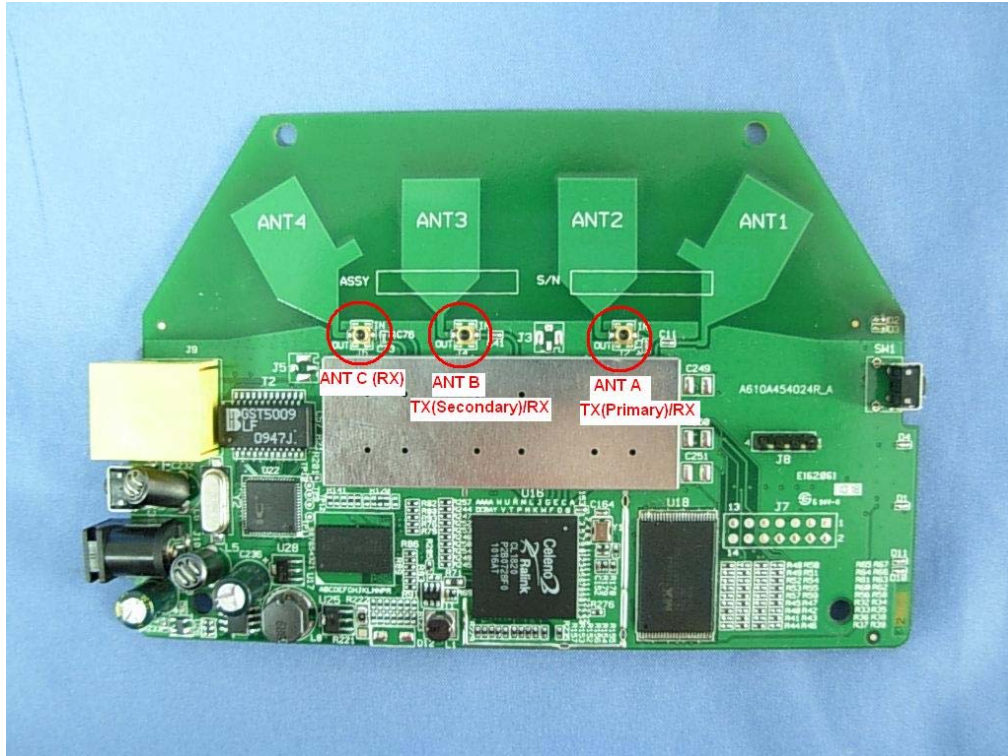
Product Name	Wireless Extender
Product Type	WLAN (1TX, 3RX)
Trade Name	BeamLink, Comtrend
Model No.	BeamLink 5834, CT-5834, 5834, WL5538AP, WAP-5834
Frequency Range - IEEE 802.11n (20MHz)	5745~5825MHz
Frequency Range- IEEE 802.11n (40MHz)	5755~5795MHz
Channel Number- IEEE 802.11n (20MHz)	5
Channel Number- IEEE 802.11n (40MHz)	2
Type of Modulation	Orthogonal Frequency Division Multiplexing (OFDM)
Data Speed (IEEE 802.11n)	Support a subset of the combination of GI, MCS 0~MCS 7 and bandwidth defined in 802.11n
Antenna Gain	2dBi
Channel Control	Auto
Antenna Type	Printed Antenna

Component	
LAN Cable	Non-Shielded, 1.0m
Power Adapter	DVE, DSA-12G-12 AUS 120120 I/P: 100-120V~50/60 Hz 0.3A O/P: 12V=== 1A Cable Out: Non-Shielded, 1.5m

ANT-TX / Rx & Bandwidth

ANT-TX / Rx	TX		Rx	
Mode/ Channel Bandwidth	20MHz	40MHz	20MHz	40MHz
IEEE802.11n	✓	✓	✓	✓

ANT (TX / RX)



IEEE802.11n

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

Symbol	Explanation
R	Code rate
N _{BPSCS}	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 802.11n (20MHz)

Working Frequency of Each Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745	153	5765	157	5785	161	5805
165	5825						

IEEE 802.11n (40MHz)

Working Frequency of Each Channel			
Channel	Frequency	Channel	Frequency
151	5755	159	5795

Note:

1. This device is a Wireless Extender including 5.8GHz 802.11n (1x3) transmitting and receiving function. Only one antenna port will be transmitted and three antenna ports will be received signals at once. The Software will change the output antenna port according to the received signals.
2. The preliminary tests were performed in different antenna ports, and the antenna A is worse than Antenna. The test data of antenna A was shown in this test report only.
3. The variation of model number is for different strategy of marketing.
4. These test results on a sample of the device are for the purpose of demonstrating Compliance with Part 15 Subpart C Paragraph 15.247.
5. 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.
6. This device is a composite device in accordance with Part 15 regulations. The receiving function receiving was tested and its test report number is 106293R-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
----	------------------

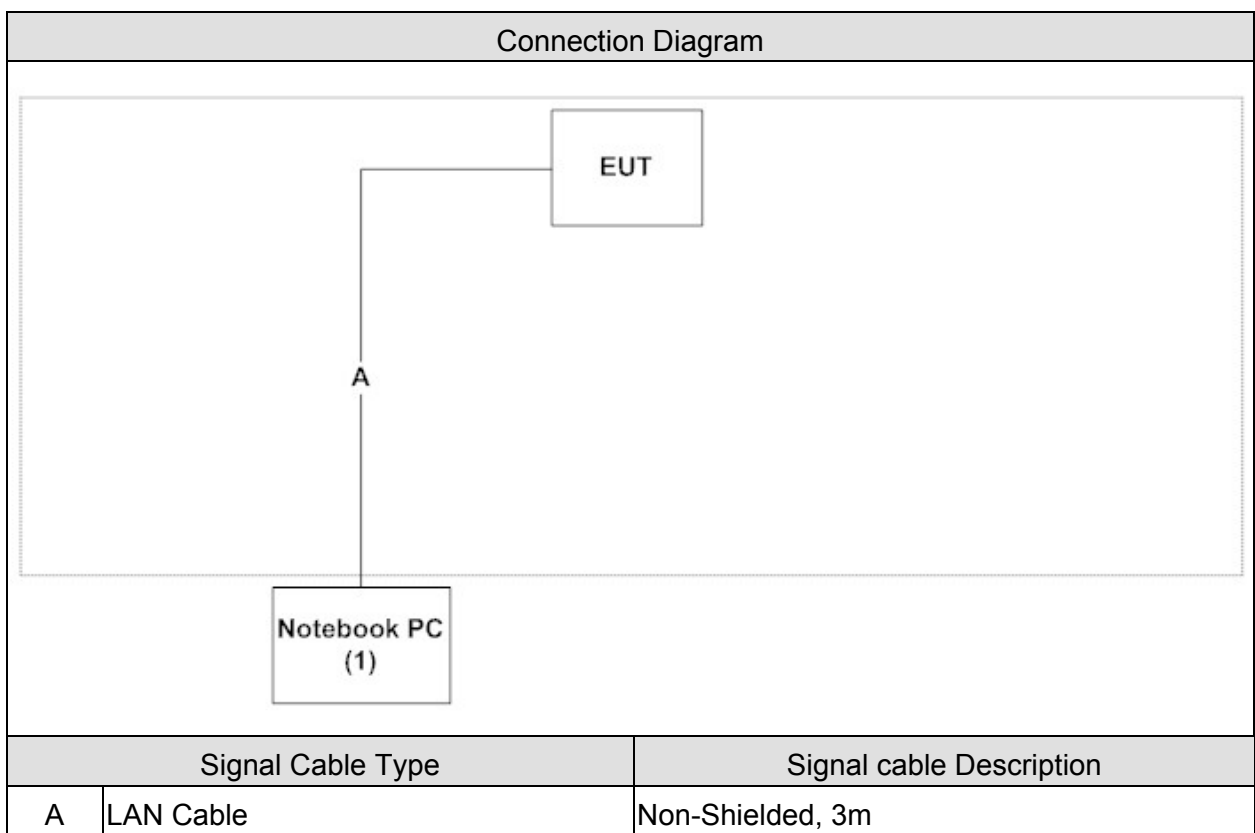
Test Items	Mode	Channel	Result
Conducted Emission	11n(40MHz)	151	Complies
Peak Power Output	11n(20MHz)	149/157/165	Complies
	11n(40MHz)	151/159	Complies
Radiated Emission	11n(20MHz)	149/157/165	Complies
	11n(40MHz)	151/159	Complies
RF antenna conducted test	11n(20MHz)	149/165	Complies
	11n(40MHz)	151/159	Complies
Radiated Emission Band Edge	11n(20MHz)	149/165	Complies
	11n(40MHz)	151/159	Complies
Occupied Bandwidth	11n(20MHz)	149/157/165	Complies
	11n(40MHz)	151/159	Complies
Power Density	11n(20MHz)	149/157/165	Complies
	11n(40MHz)	151/159	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 Notebook PC	HP	HSTNN-146C	8253S1X	DoC	Non-Shielded, 1.8m

1.5. Configuration of tested System



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	Boot the Notebook PC from Hard Disk.
4	Data will communicate by connecting to LAN port of Notebook PC.
5	The computer's monitor will show the transmitting and receiving characteristics when the communication is success.
6	Repeat the above procedure (4) to (5).

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	48
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	25
Humidity (%RH)		25 - 75	48
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:

January 24, 2005 File on
Federal Communications Commission
Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046
Registration Number: 365520



Accredited by TAF
Accreditation Number: 1313
Effective through: December 27, 2010



Accredited by NVLAP
NVLAP Lab Code: 200347-0
Effective through: September 30, 2010



Site Name: Quietek Corporation
Site Address: No.75-1, Wang-Yeh Valley, Yung-Hsing,
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Taiwan, R.O.C.
TEL : 886-3-592-8858 / FAX : 886-3-592-8859
E-Mail : service@quietek.com

2. Conducted Emission

2.1. Test Equipment

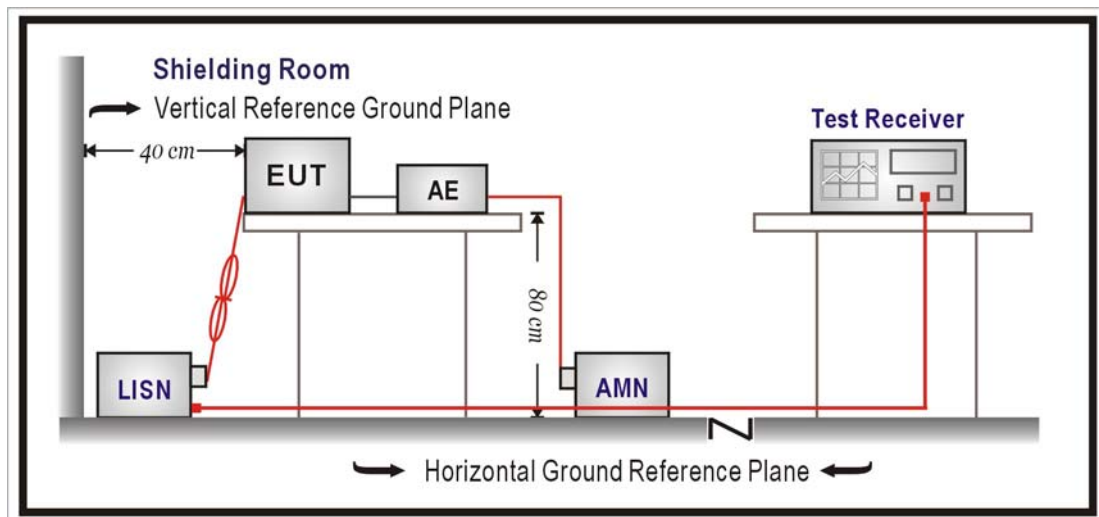
The following test equipments are used during the test:

Conducted Emission / SR3

Instrument	Manufacturer	Model No.	Serial No	Next Cal. Date
LISN	R&S	ENV216	100096	2010/09/27
LISN	R&S	ESH3-Z5	836679/022	2011/05/30
Test Receiver	R&S	ESCS 30	825442/017	2011/02/04

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: 2003 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

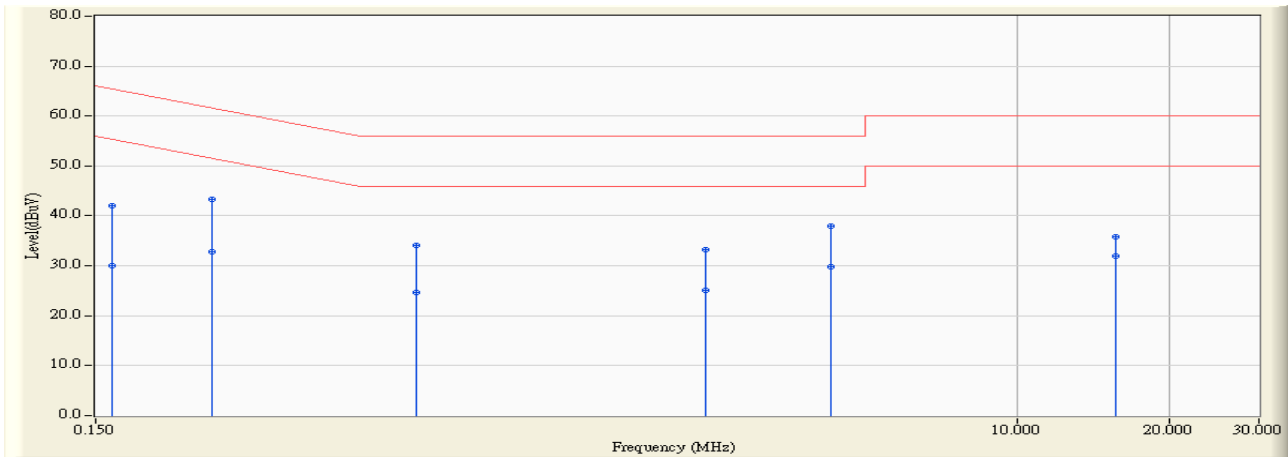
According to FCC Part 15 Subpart C Paragraph 15.207: 2009

2.6. Uncertainty

The measurement uncertainty is defined as ± 2.26 dB.

2.7. Test Result

Site : SR3	Time : 2010/08/12 - 20:31
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR3_LISN(16A) - Line1	Power : AC 120V/50Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5755MHz(N-40M)

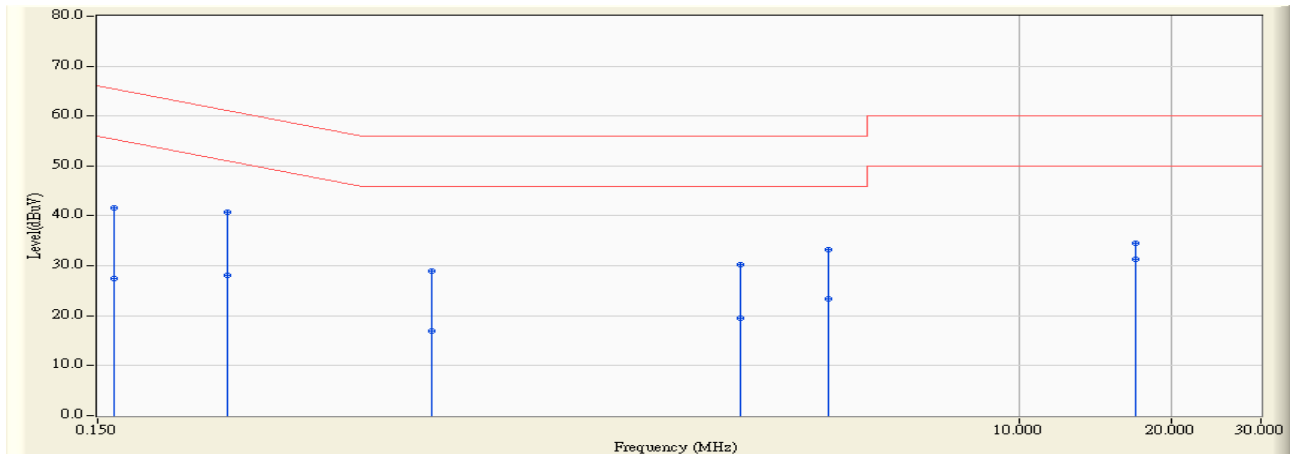


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.162	9.807	32.220	42.027	-23.349	65.375	QUASPEAK
2	0.162	9.807	20.270	30.077	-25.299	55.375	AVERAGE
3	0.255	9.827	33.480	43.307	-18.270	61.577	QUASPEAK
4	0.255	9.827	23.020	32.847	-18.730	51.577	AVERAGE
5	0.646	9.754	24.260	34.014	-21.986	56.000	QUASPEAK
6	0.646	9.754	14.860	24.614	-21.386	46.000	AVERAGE
7	2.420	9.872	23.360	33.232	-22.768	56.000	QUASPEAK
8	2.420	9.872	15.220	25.092	-20.908	46.000	AVERAGE
9	4.275	9.883	28.130	38.013	-17.987	56.000	QUASPEAK
10	* 4.275	9.883	19.970	29.853	-16.147	46.000	AVERAGE
11	15.665	10.172	25.640	35.812	-24.188	60.000	QUASPEAK
12	15.665	10.172	21.880	32.052	-17.948	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 : SR3	Time : 2010/08/12 - 20:34
Limit : CISPR_B_00M_QP	Margin : 10
Probe : SR3_LISN(16A) - Line2	Power : AC 120V/50Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5755MHz(N-40M)



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV)	Margin (dB)	Limit (dBuV)	Detector Type
1	0.162	9.807	31.840	41.647	-23.729	65.375	QUASPEAK
2	0.162	9.807	17.550	27.357	-28.019	55.375	AVERAGE
3	0.271	9.822	30.990	40.812	-20.272	61.084	QUASPEAK
4	0.271	9.822	18.270	28.092	-22.992	51.084	AVERAGE
5	0.685	9.755	19.180	28.935	-27.065	56.000	QUASPEAK
6	0.685	9.755	7.150	16.905	-29.095	46.000	AVERAGE
7	2.802	9.878	20.410	30.288	-25.712	56.000	QUASPEAK
8	2.802	9.878	9.730	19.608	-26.392	46.000	AVERAGE
9	4.181	9.893	23.410	33.303	-22.697	56.000	QUASPEAK
10	4.181	9.893	13.520	23.413	-22.587	46.000	AVERAGE
11	16.907	10.316	24.110	34.426	-25.574	60.000	QUASPEAK
12	* 16.907	10.316	21.100	31.416	-18.584	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:

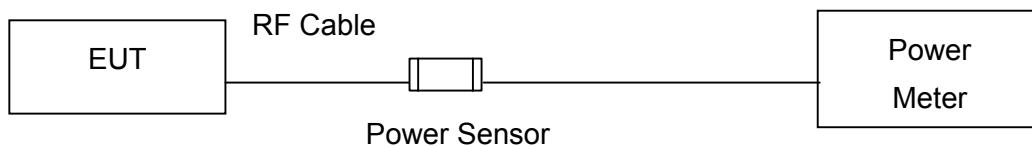
Peak Power Output / SR7

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 a / 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	Wireless Extender		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/08/10	Test Site	No.1 OATS

IEEE 802.11n 20MHz_Tx

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
149	5745	24.09	30 dBm	Pass
157	5785	24.14	30 dBm	Pass
165	5825	24.03	30 dBm	Pass

The worst emission of data rate is 6.5 Mbps.

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	Required Limit
Channel No	Frequency (MHz)	Data Rate (800nsGI)								
		6.5	13	19.5	26	39	52	58.5	65	
149	5745	24.09	23.82	23.8	23.66	23.08	23.66	23.23	22.92	30 dBm
157	5785	24.14	24.13	24.06	24.1	23.88	23.71	23.1	23.02	30 dBm
165	5825	24.03	24.01	23.91	23.87	23.66	23.43	23.2	22.95	30 dBm

Product	Wireless Extender		
Test Item	Peak Power Output		
Test Mode	Transmit		
Date of Test	2010/08/10	Test Site	No.1 OATS

IEEE802.11n 40MHz_Tx

Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
151	5755	23.87	30 dBm	Pass
159	5795	23.88	30 dBm	Pass

The worst emission of data rate is 13.5 Mbps.

Peak Power Output (dBm)										
MCS Index		0	1	2	3	4	5	6	7	
Channel No	Frequency (MHz)	Data Rate								Required Limit
		13.5	27	40.5	54	81	108	121.5	135	
151	5755	23.87	23.74	23.34	23.54	23.12	23.06	22.41	21.85	30 dBm
159	5795	23.88	23.81	23.6	23.47	23.21	23.17	22.81	22.73	30 dBm

4. Radiated Emission

4.1. Test Equipment

The following test equipments are used during the test:

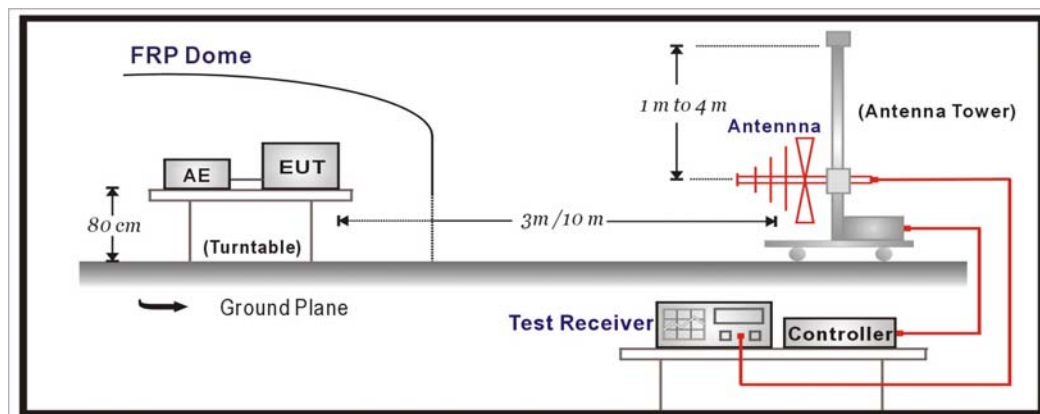
Radiated Emission / CB1

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	2010/12/03
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

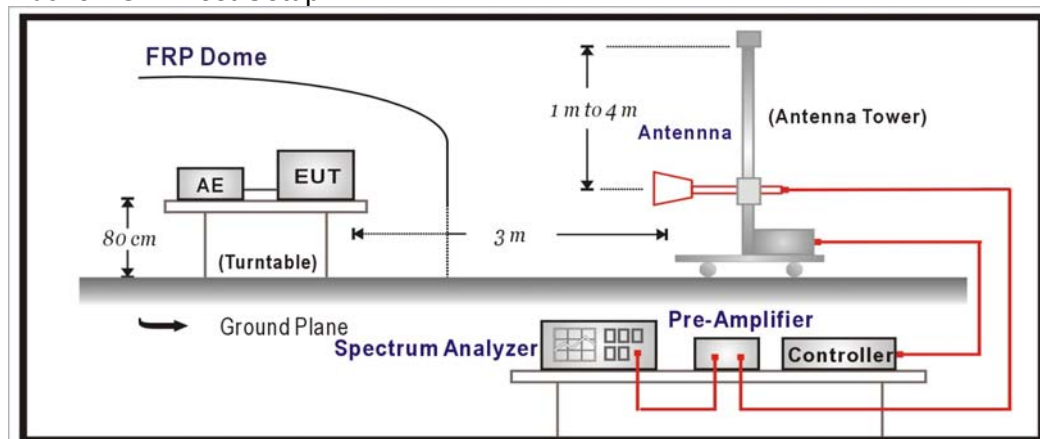
Note: 1. All equipments that need to calibrate are with calibration period of 1 year.

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: 2003 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: 2003 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

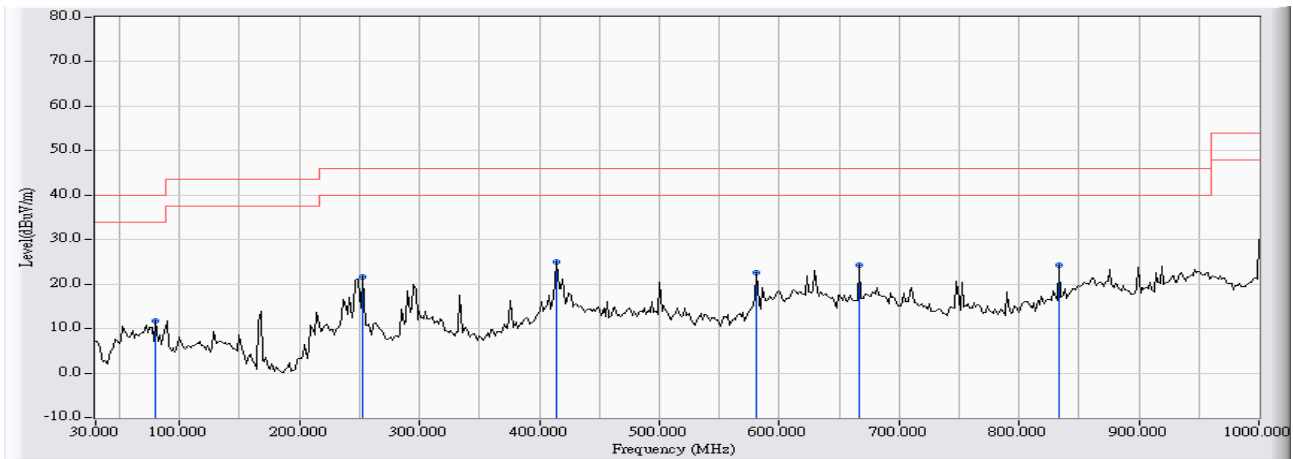
30MHz~1GHz as ±3.43dB

1GHz~26.5Ghz as ±3.65dB

4.7. Test Result

30MHz-1GHz Spurious

Site : CB1	Time : 2010/08/12 - 23:28
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_30-1G(2009) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5785MHz(N-20M)

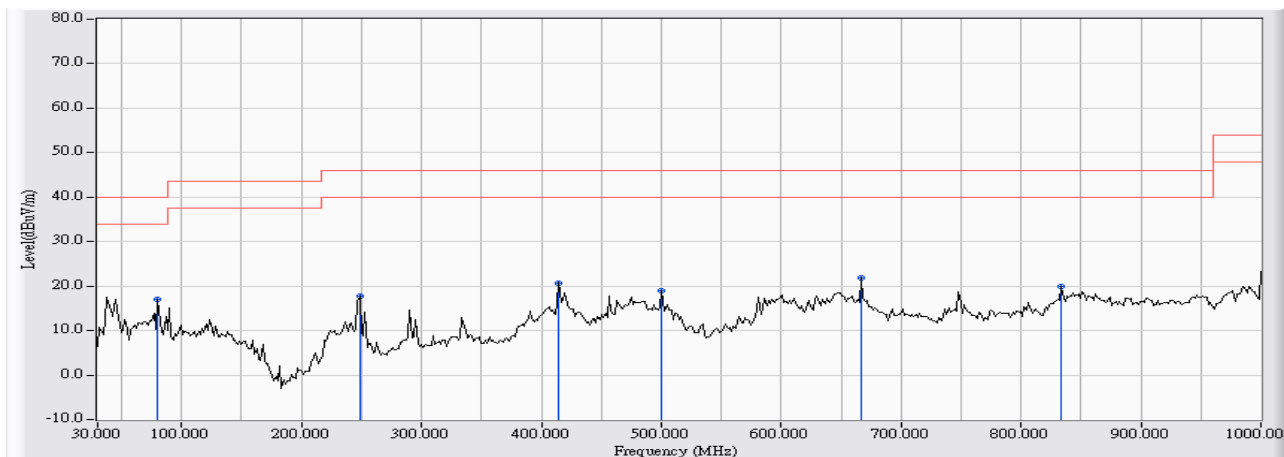


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	80.109	-16.141	27.756	11.615	-28.385	40.000	QUASPEAK
2	253.103	-12.866	34.584	21.718	-24.282	46.000	QUASPEAK
3	* 414.758	-4.821	29.872	25.051	-20.949	46.000	QUASPEAK
4	581.274	-5.896	28.350	22.454	-23.546	46.000	QUASPEAK
5	666.971	-3.698	27.924	24.226	-21.774	46.000	QUASPEAK
6	833.488	-3.793	28.154	24.361	-21.639	46.000	QUASPEAK

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 : 2010/08/12 - 23:41
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_30-1G(2009) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5785MHz(N-20M)

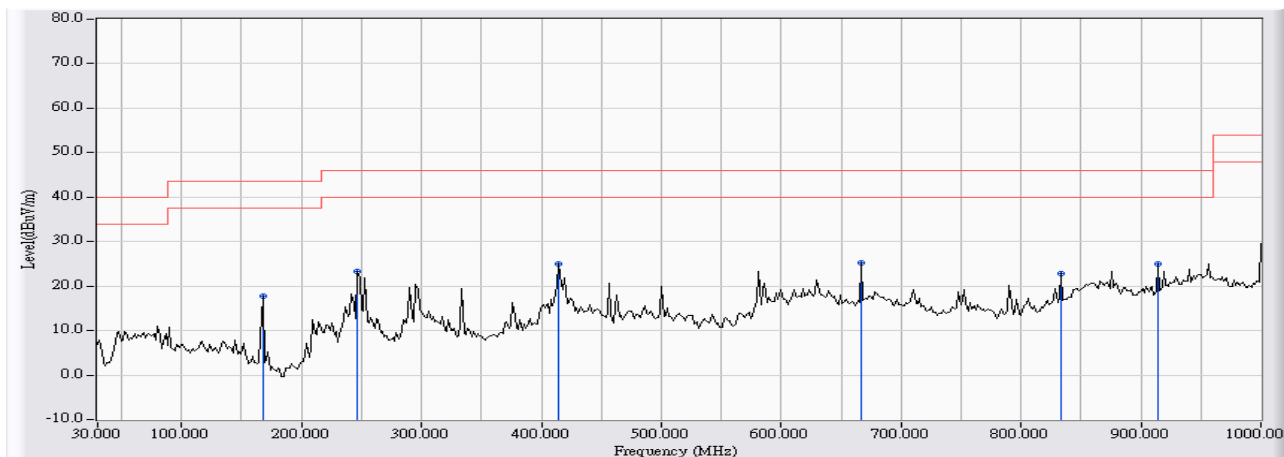


		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	80.118	-14.657	31.684	17.027	-22.973	40.000	QUASPEAK
2		248.241	-13.862	31.623	17.761	-28.239	46.000	QUASPEAK
3		414.770	-4.836	25.595	20.759	-25.241	46.000	QUASPEAK
4		500.441	-6.839	25.888	19.049	-26.951	46.000	QUASPEAK
5		666.960	-3.707	25.458	21.751	-24.249	46.000	QUASPEAK
6		833.487	-3.182	23.047	19.865	-26.135	46.000	QUASPEAK

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 : 2010/08/12 - 23:49
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_30-1G(2009) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5755MHz(N-40M)

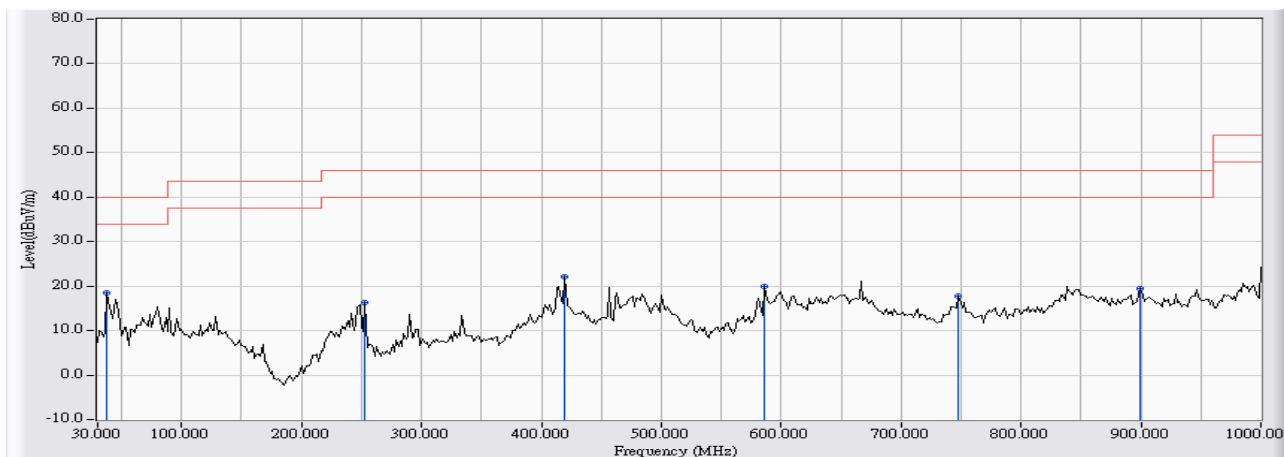


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	167.409	-20.178	37.968	17.790	-25.710	43.500	QUASIPeAK
2	246.636	-13.541	36.883	23.342	-22.658	46.000	QUASIPeAK
3	414.759	-4.821	29.731	24.910	-21.090	46.000	QUASIPeAK
4	* 666.959	-3.698	28.865	25.167	-20.833	46.000	QUASIPeAK
5	833.477	-3.793	26.712	22.919	-23.081	46.000	QUASIPeAK
6	914.320	-1.737	26.755	25.018	-20.982	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 : 2010/08/12 - 23:58
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB1_FCC_30-1G(2009) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5755MHz(N-40M)



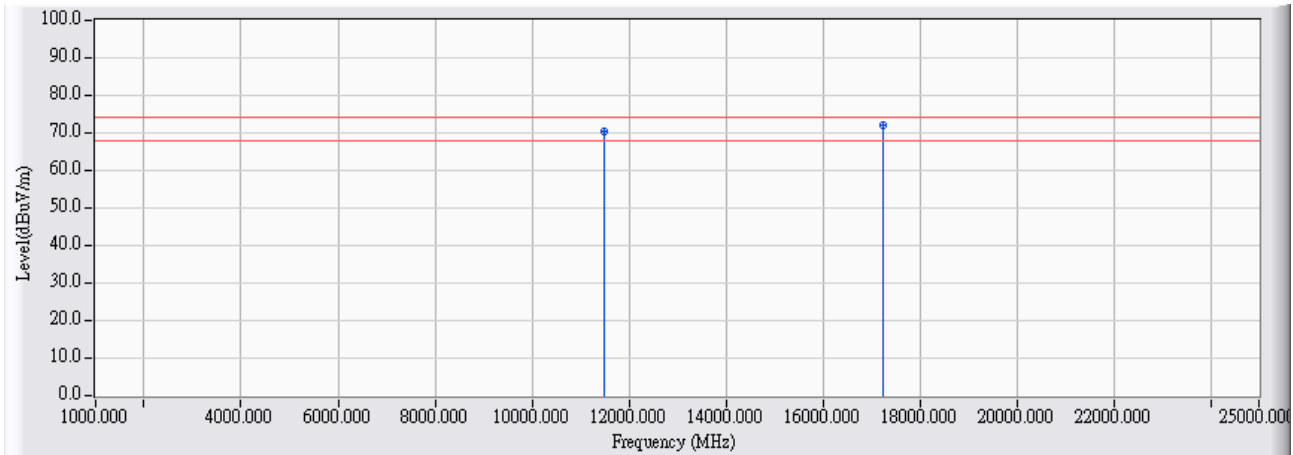
		Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	*	38.084	-10.585	29.075	18.490	-21.510	40.000	QUASPEAK
2		253.092	-14.644	30.981	16.337	-29.663	46.000	QUASPEAK
3		419.608	-5.114	27.289	22.175	-23.825	46.000	QUASPEAK
4		586.133	-5.849	25.852	20.003	-25.997	46.000	QUASPEAK
5		747.804	-5.637	23.306	17.669	-28.331	46.000	QUASPEAK
6		899.760	-3.980	23.329	19.349	-26.651	46.000	QUASPEAK

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.

Harmonic & Spurious:

Site : CB1	Time : 2010/08/12 - 21:45
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5745_802.11n(20MHz)

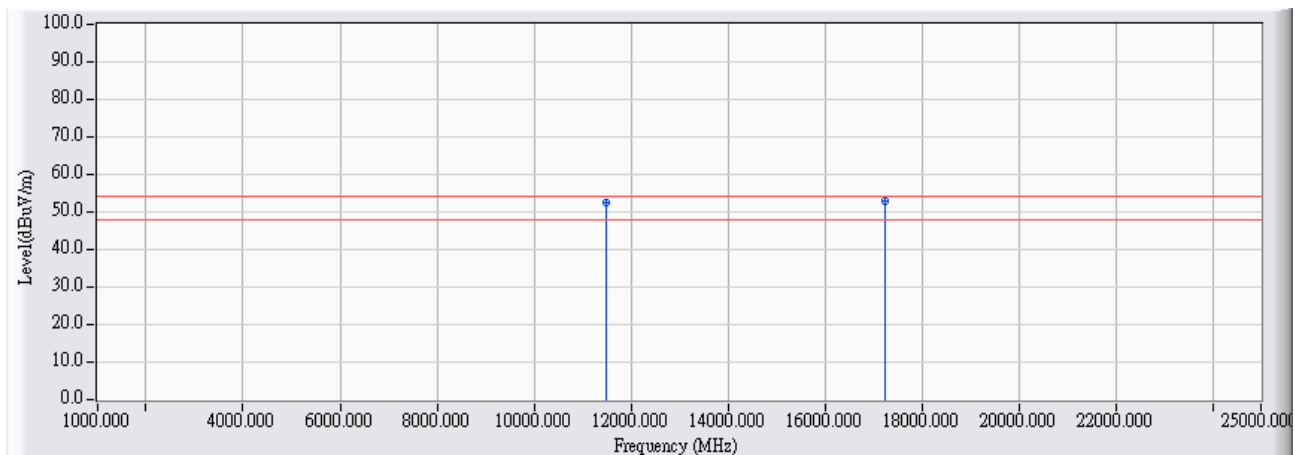


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11483.750	10.935	59.570	70.504	-3.496	74.000	PEAK
2	* 17236.420	23.630	48.340	71.970	-2.030	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 21:46
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5745_802.11n(20MHz)

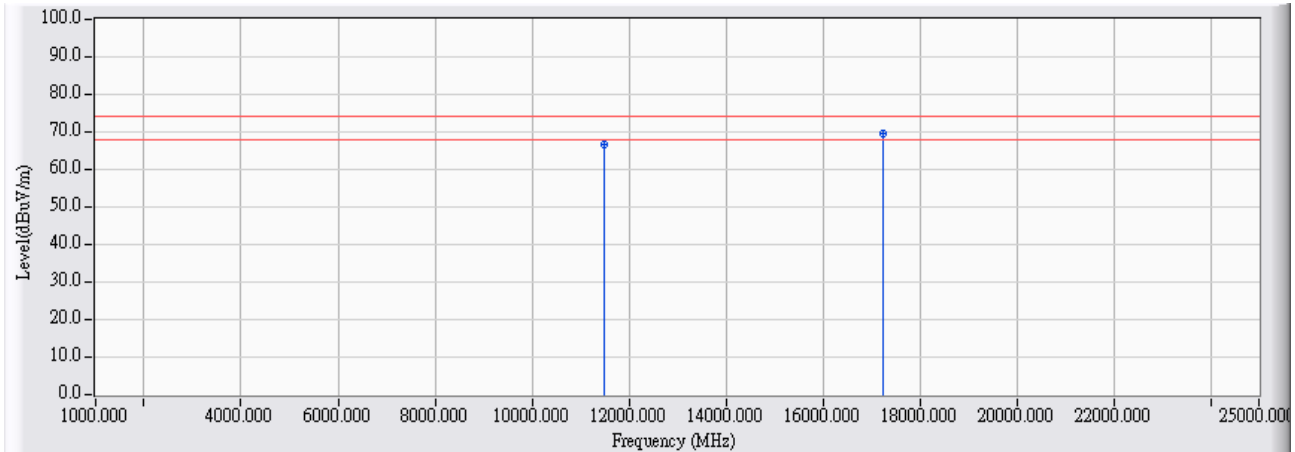


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11485.000	10.931	41.530	52.462	-1.538	54.000	AVERAGE
2	* 17234.170	23.543	29.410	52.953	-1.047	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 21:51
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5745_802.11n(20MHz)

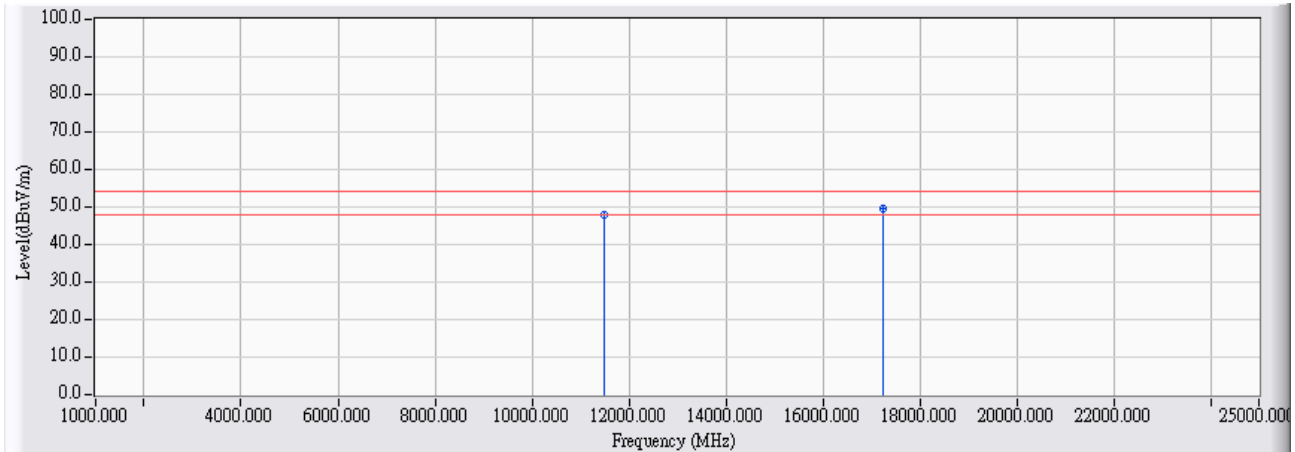


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11483.670	9.078	57.480	66.558	-7.442	74.000	PEAK
2	* 17233.000	23.463	46.220	69.684	-4.316	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 21:52
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5745_802.11n(20MHz)

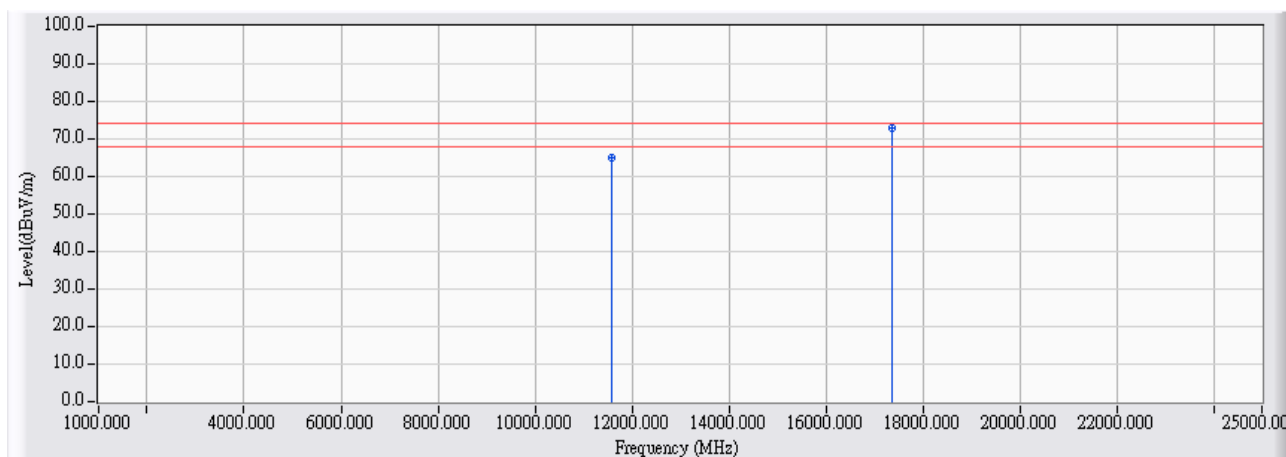


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11484.250	9.076	38.640	47.716	-6.284	54.000	AVERAGE
2	* 17233.580	23.484	26.300	49.784	-4.216	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:00
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5785_802.11n(20MHz)

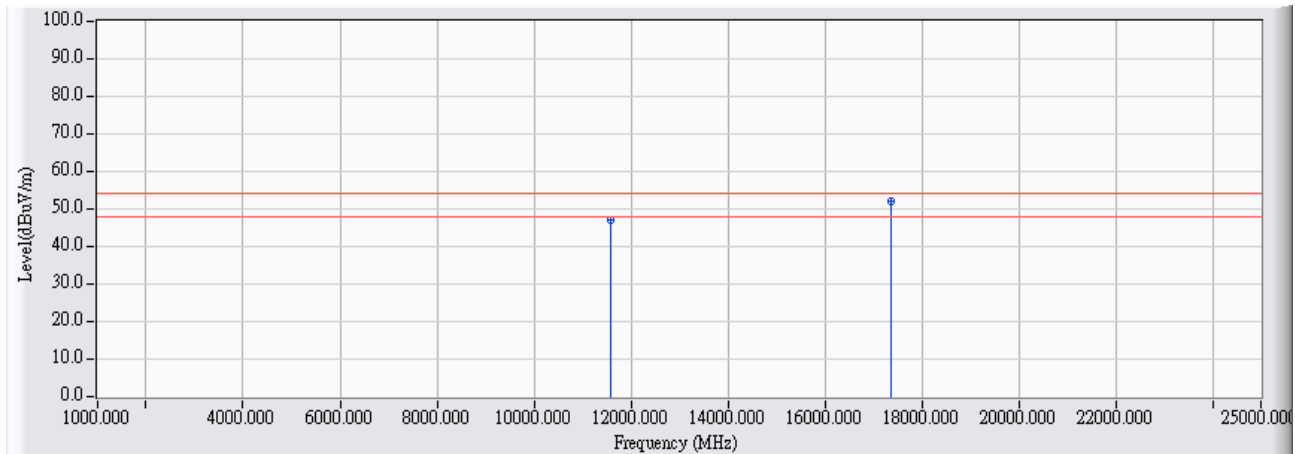


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11569.580	11.006	54.040	65.046	-8.954	74.000	PEAK
2	* 17361.750	24.506	48.410	72.917	-1.083	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:01
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5785_802.11n(20MHz)

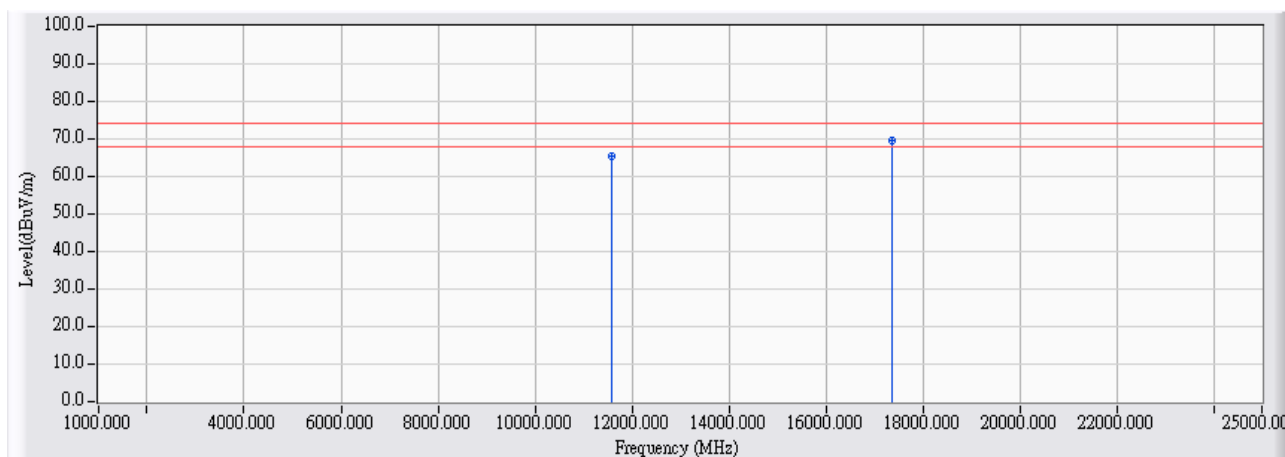


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11570.170	11.011	36.250	47.261	-6.739	54.000	AVERAGE
2	* 17355.330	24.395	27.820	52.215	-1.785	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:08
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5785_802.11n(20MHz)

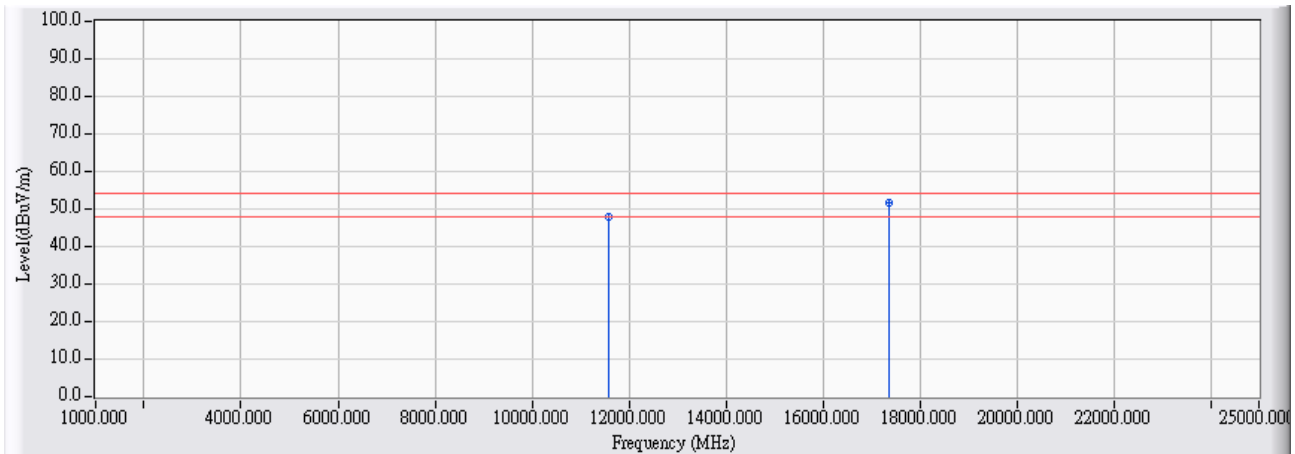


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11569.580	9.235	56.310	65.545	-8.455	74.000	PEAK
2	* 17362.080	24.492	45.090	69.581	-4.419	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:08
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5785_802.11n(20MHz)

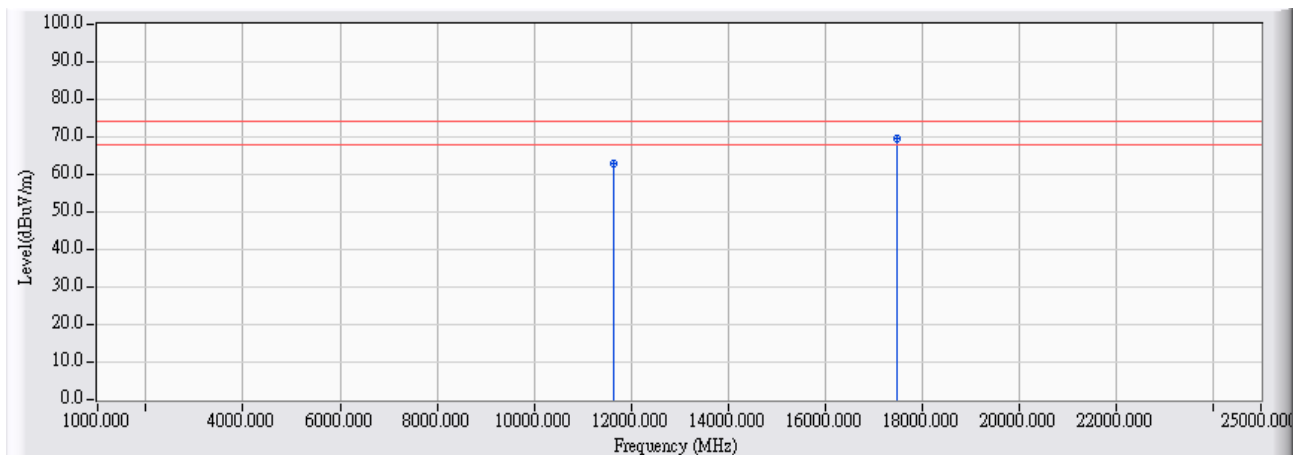


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11570.750	9.246	38.750	47.996	-6.004	54.000	AVERAGE
2	* 17361.750	24.485	27.340	51.826	-2.174	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:18
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5825_802.11n(20MHz)

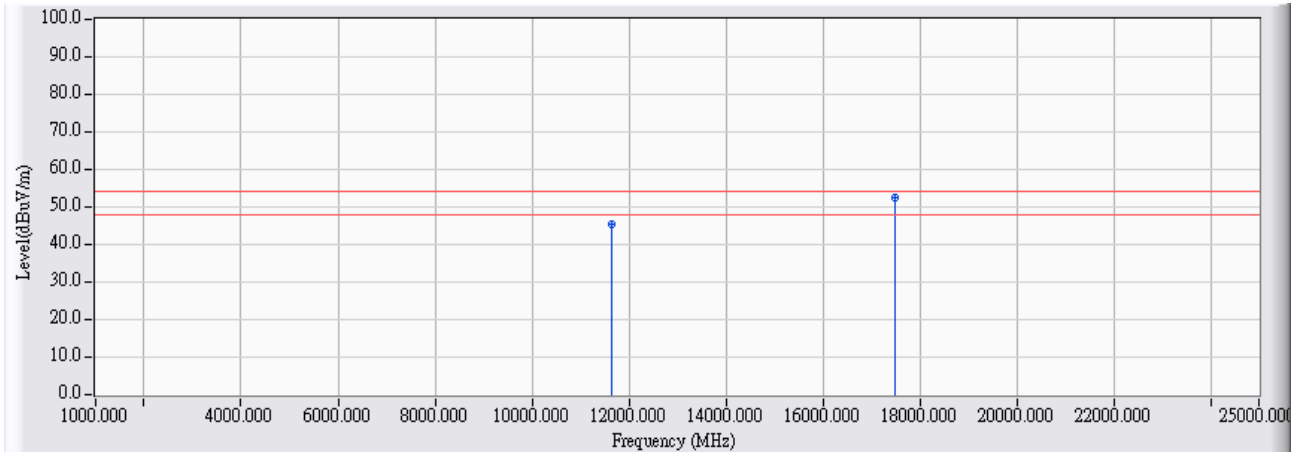


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11645.420	10.364	52.750	63.114	-10.886	74.000	PEAK
2	* 17482.080	25.632	44.060	69.692	-4.308	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:19
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5825_802.11n(20MHz)

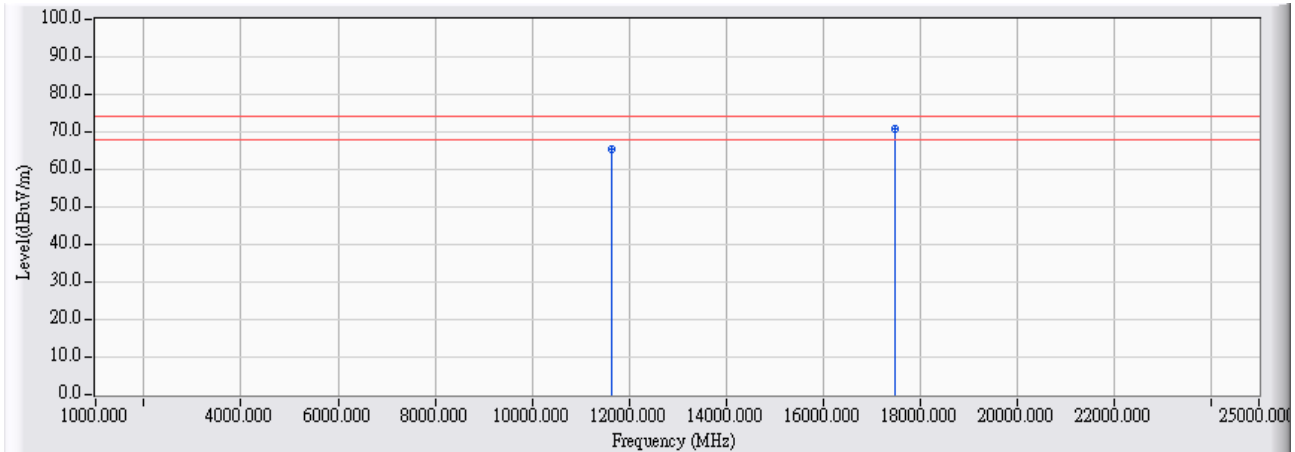


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11645.580	10.365	35.060	45.424	-8.576	54.000	AVERAGE
2	* 17479.250	25.623	26.830	52.453	-1.547	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:23
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5825_802.11n(20MHz)

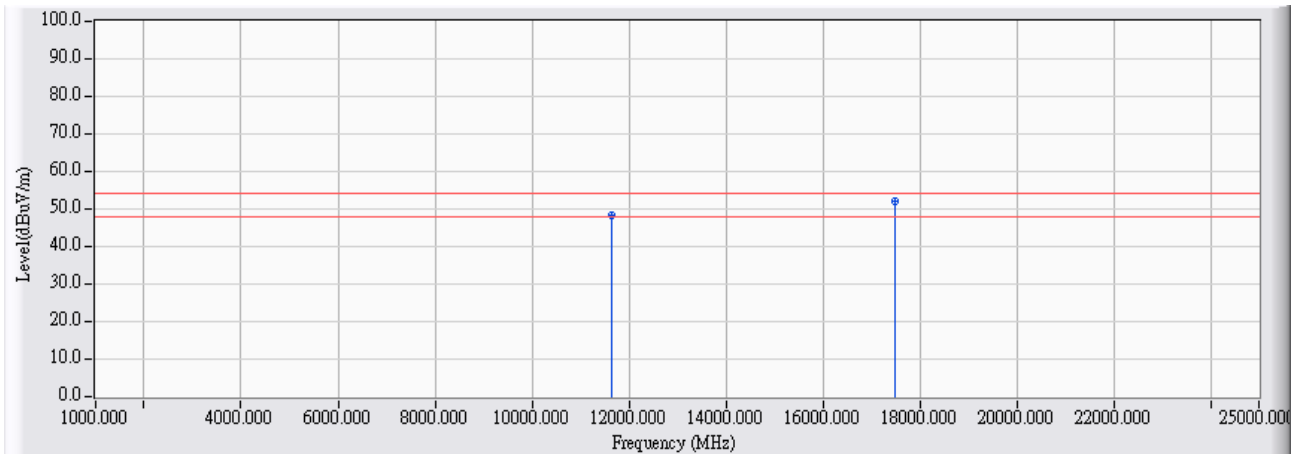


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11645.580	8.703	56.900	65.603	-8.397	74.000	PEAK
2	* 17482.920	25.621	45.250	70.871	-3.129	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:24
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5825_802.11n(20MHz)

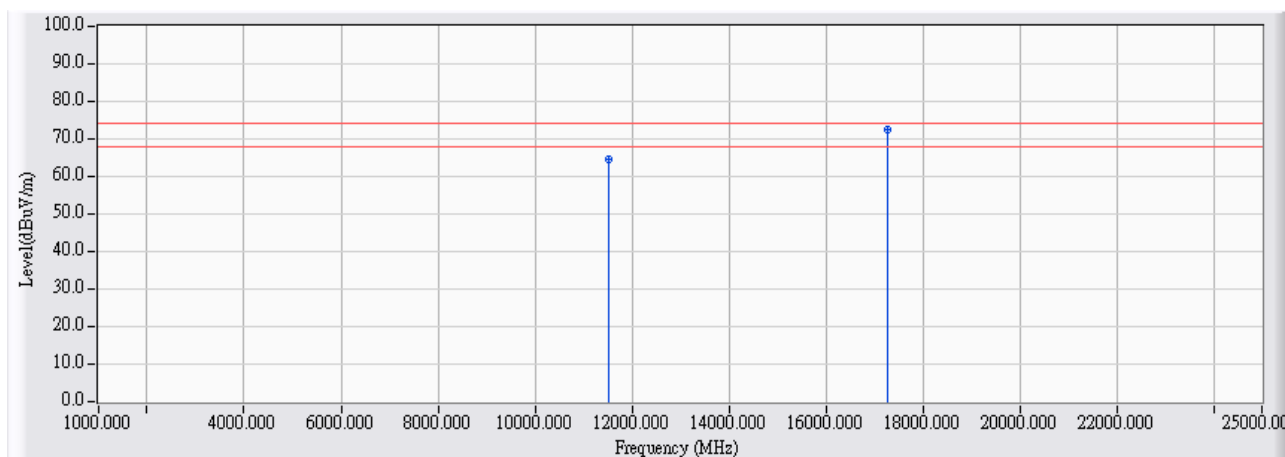


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11648.830	8.718	39.740	48.459	-5.541	54.000	AVERAGE
2	* 17479.920	25.611	26.410	52.022	-1.978	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:35
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5755_802.11n(40MHz)

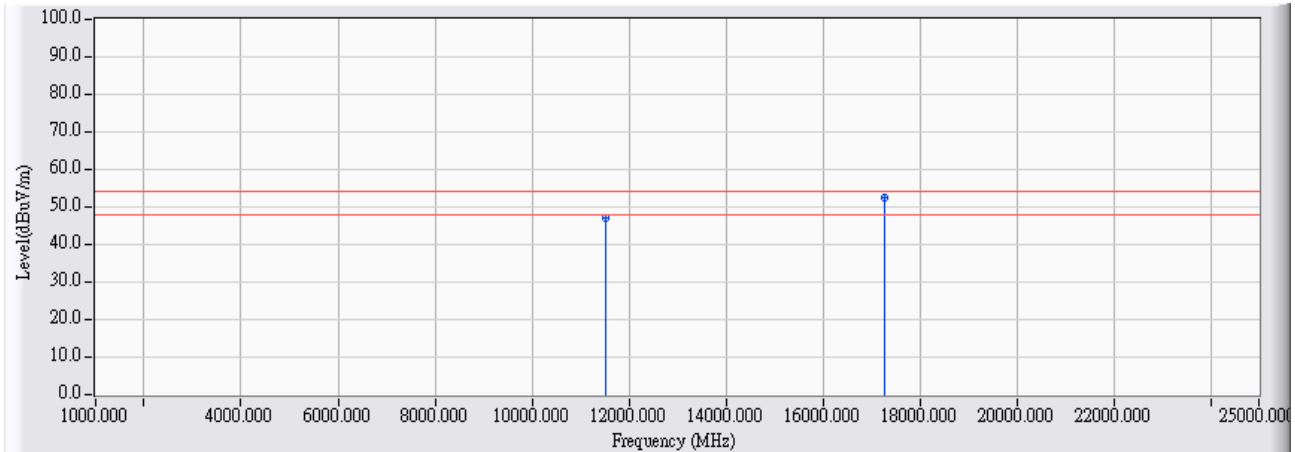


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11510.000	10.837	53.620	64.457	-9.543	74.000	PEAK
2	* 17264.330	24.526	48.080	72.606	-1.394	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:35
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5755_802.11n(40MHz)

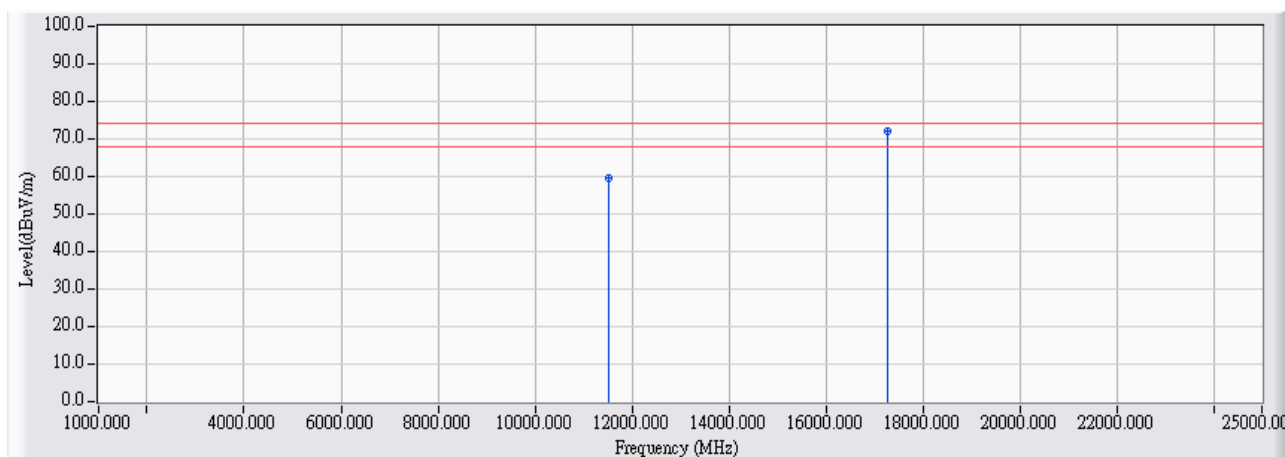


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11510.170	10.836	36.190	47.026	-6.974	54.000	AVERAGE
2	* 17268.000	24.600	27.760	52.361	-1.639	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:43
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5755_802.11n(40MHz)

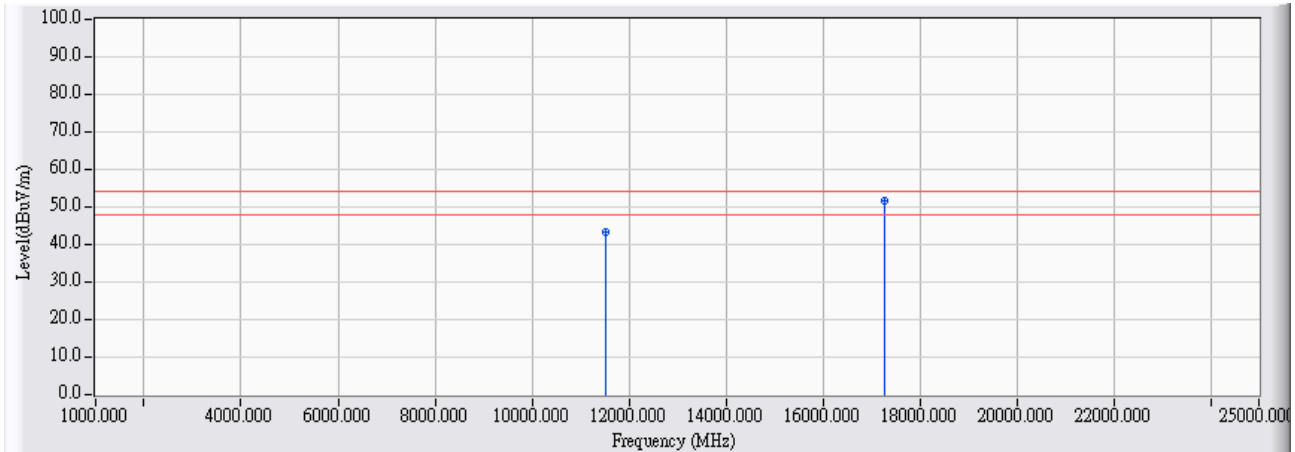


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11510.670	8.969	50.790	59.758	-14.242	74.000	PEAK
2	* 17264.330	24.485	47.480	71.965	-2.035	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:44
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5755_802.11n(40MHz)

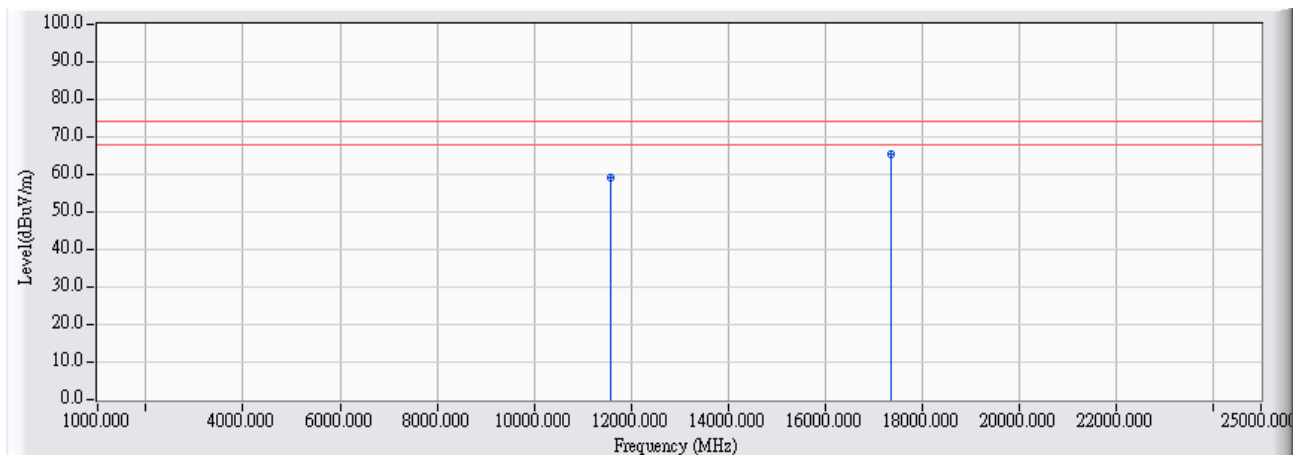


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11516.500	8.944	34.200	43.143	-10.857	54.000	AVERAGE
2	* 17267.500	24.549	27.010	51.559	-2.441	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:51
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5795_802.11n(40MHz)

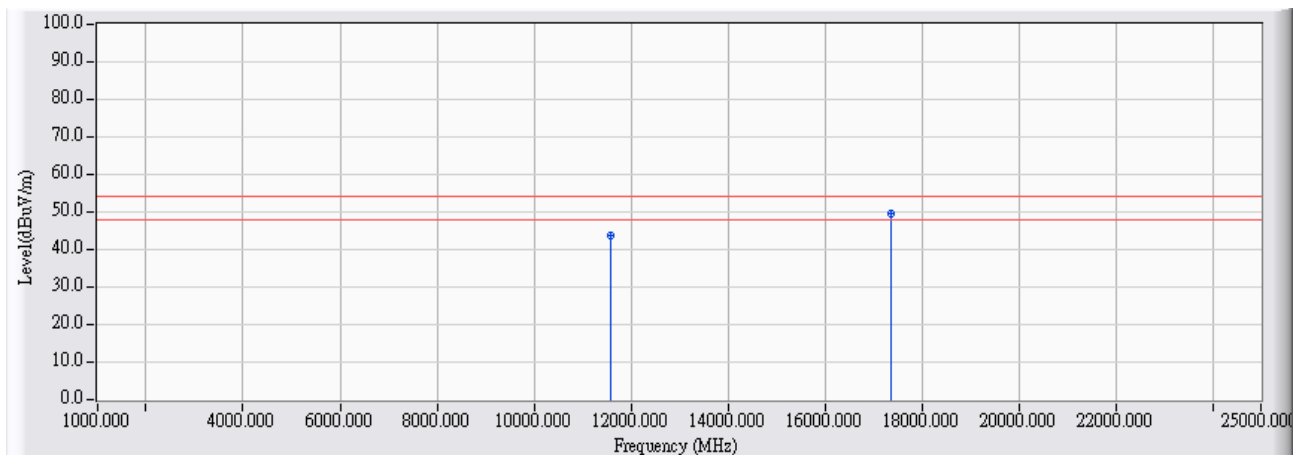


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11579.670	11.046	47.920	58.966	-15.034	74.000	PEAK
2	* 17384.330	24.811	40.460	65.271	-8.729	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:52
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - HORIZONTAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5795_802.11n(40MHz)

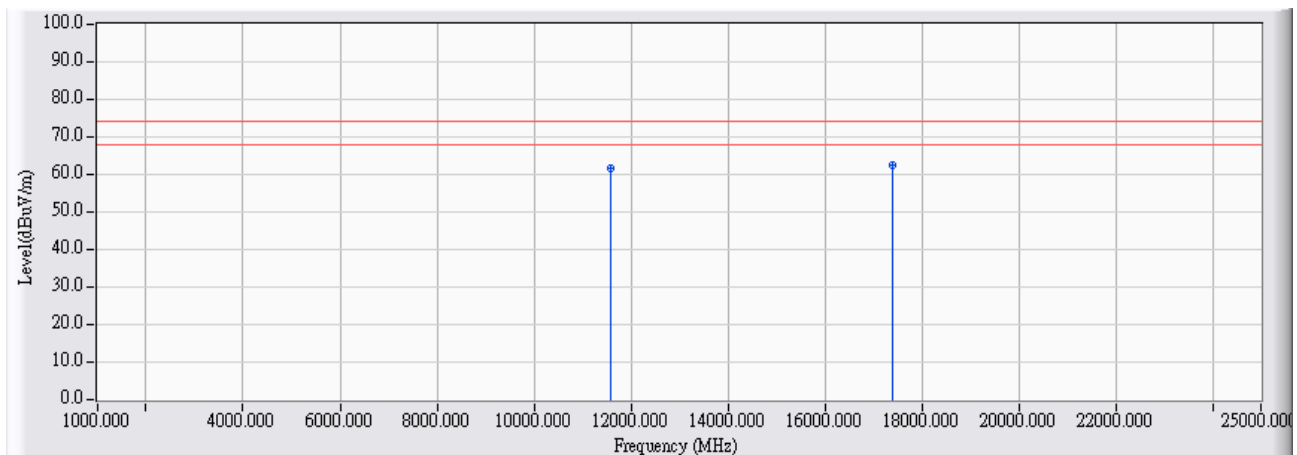


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11579.170	11.045	32.790	43.835	-10.165	54.000	AVERAGE
2	* 17377.830	24.740	24.820	49.561	-4.439	54.000	AVERAGE

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. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:56
Limit : FCC_SpartC_15.247_H_03M_PK	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5795_802.11n(40MHz)

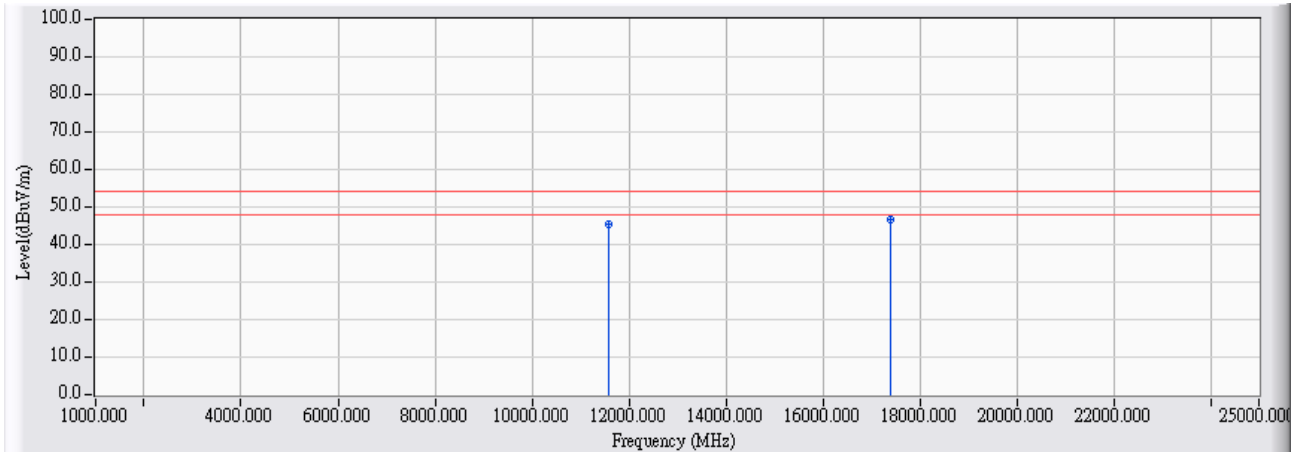


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11593.170	9.279	52.350	61.629	-12.371	74.000	PEAK
2	* 17395.000	24.883	37.580	62.463	-11.537	74.000	PEAK

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.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : CB1	Time : 2010/08/12 - 22:58
Limit : FCC_SpartC_15.247_H_03M_AV	Margin : 6
Probe : CB1_FCC_EFS_1-18G(2009-11) - VERTICAL	Power : AC 120V/60Hz
EUT : Wireless Extender	Note : Mode 1: Transmit-5795_802.11n(40MHz)



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	11590.000	9.306	36.180	45.487	-8.513	54.000	AVERAGE
2	* 17395.330	24.885	21.600	46.486	-7.514	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. 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 equipments are used during the test:

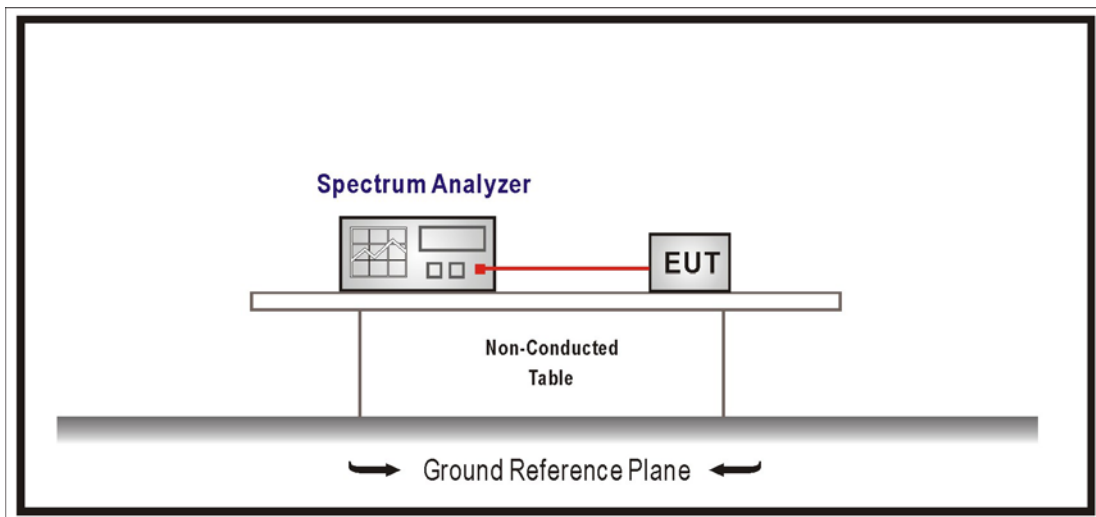
RF antenna conducted test / SR7

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: 2003 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

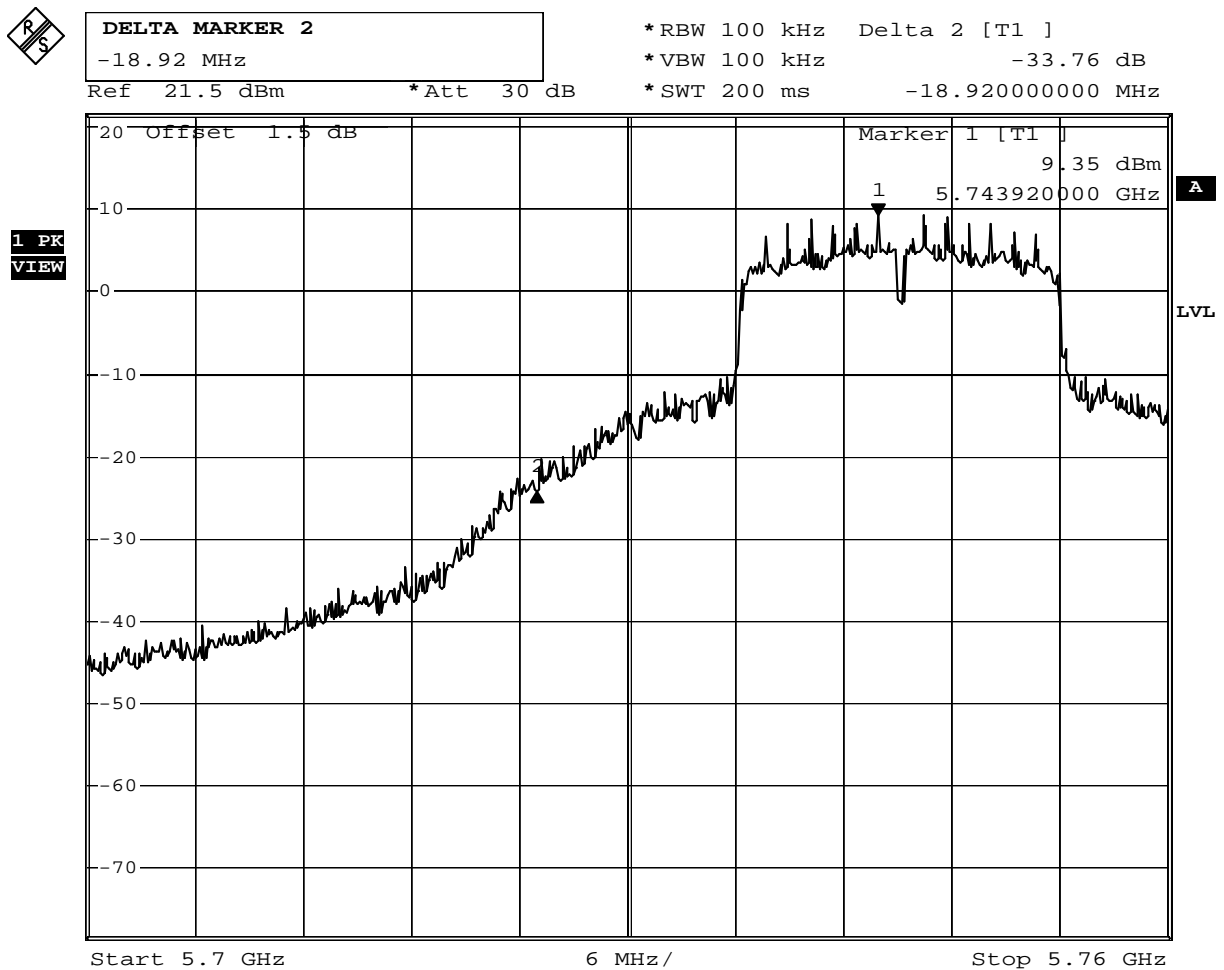
Conducted is defined as $\pm 1.27\text{dB}$

5.7. Test Result

Product	Wireless Extender		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2010/08/13	Test Site	No.1 OATS

IEEE 802.11n (20MHz), Antenna Gain: 2dBi Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
149	5745	33.76	≥20	Pass
165	5825	36.98	≥20	Pass

Channel 149 (5745MHz)



Date: 13.AUG.2010 17:53:45

Channel 165 (5825MHz)

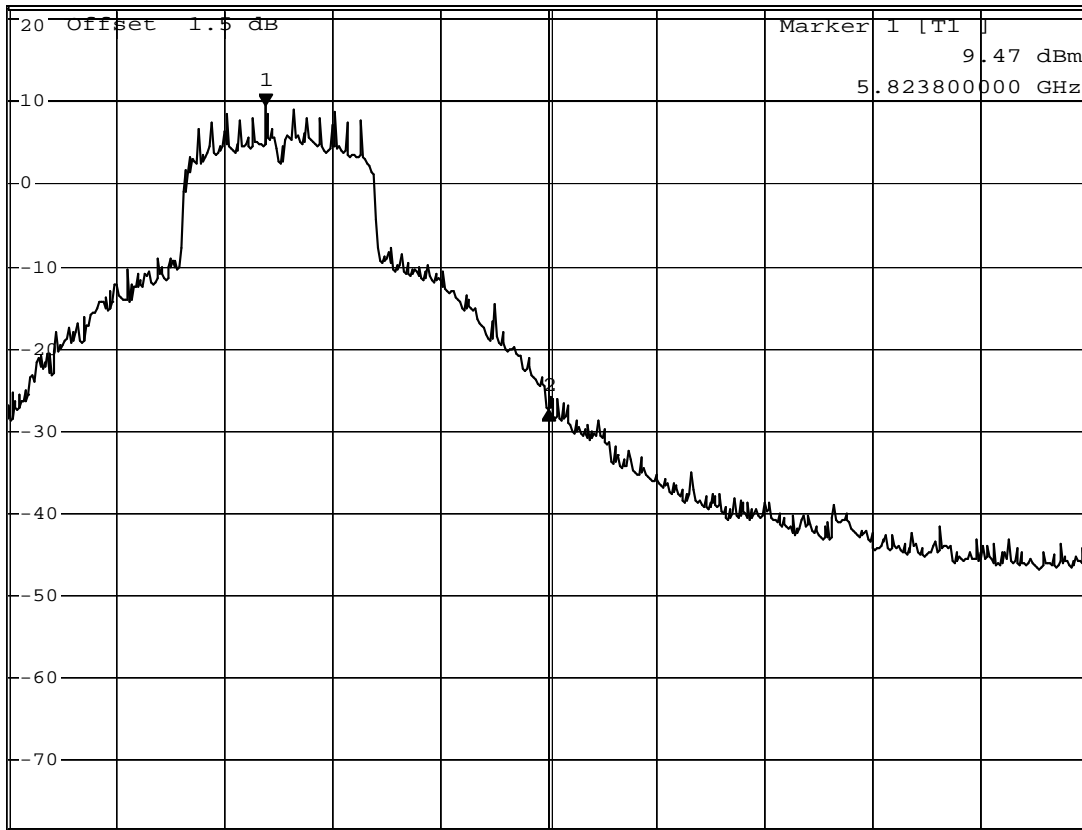


DELTA MARKER 2
26.2 MHz

*RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz -36.98 dB
*SWT 200 ms 26.20000000 MHz

Ref 21.5 dBm *Att 30 dB

1 PK
VIEW



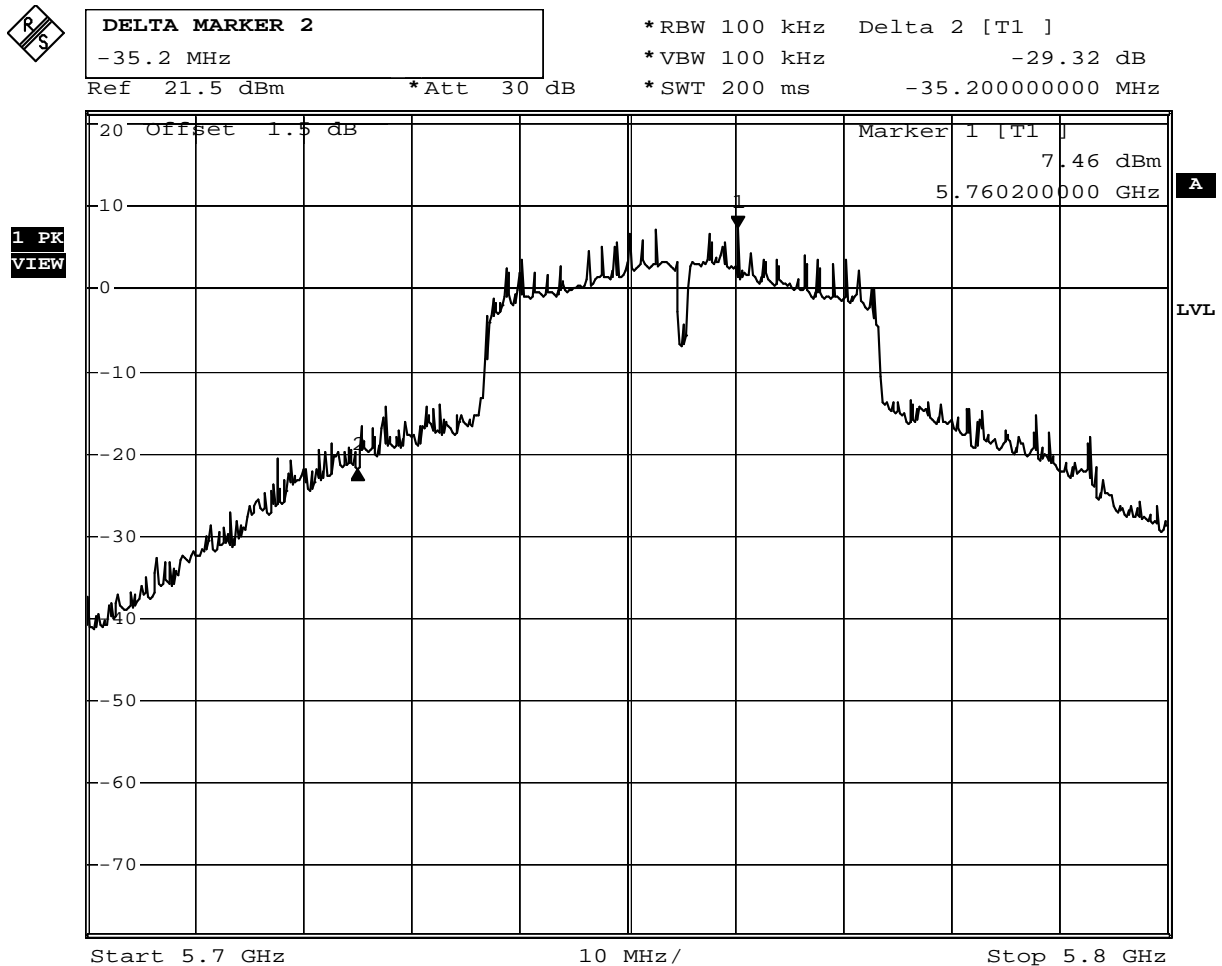
Start 5.8 GHz 10 MHz/ Stop 5.9 GHz

Date: 13.AUG.2010 17:57:09

Product	Wireless Extender		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2010/08/13	Test Site	No.1 OATS

IEEE 802.11n (40MHz), Antenna Gain: 2dBi Duty Cycle: 1				
Channel No.	Frequency (MHz)	Measure Level (dBc)	Limit (dBc)	Result
151	5755	29.32	≥20	Pass
159	5795	40.52	≥20	Pass

Channel 151 (5755MHz)



Date: 13.AUG.2010 18:01:22

Channel 159 (5795MHz)

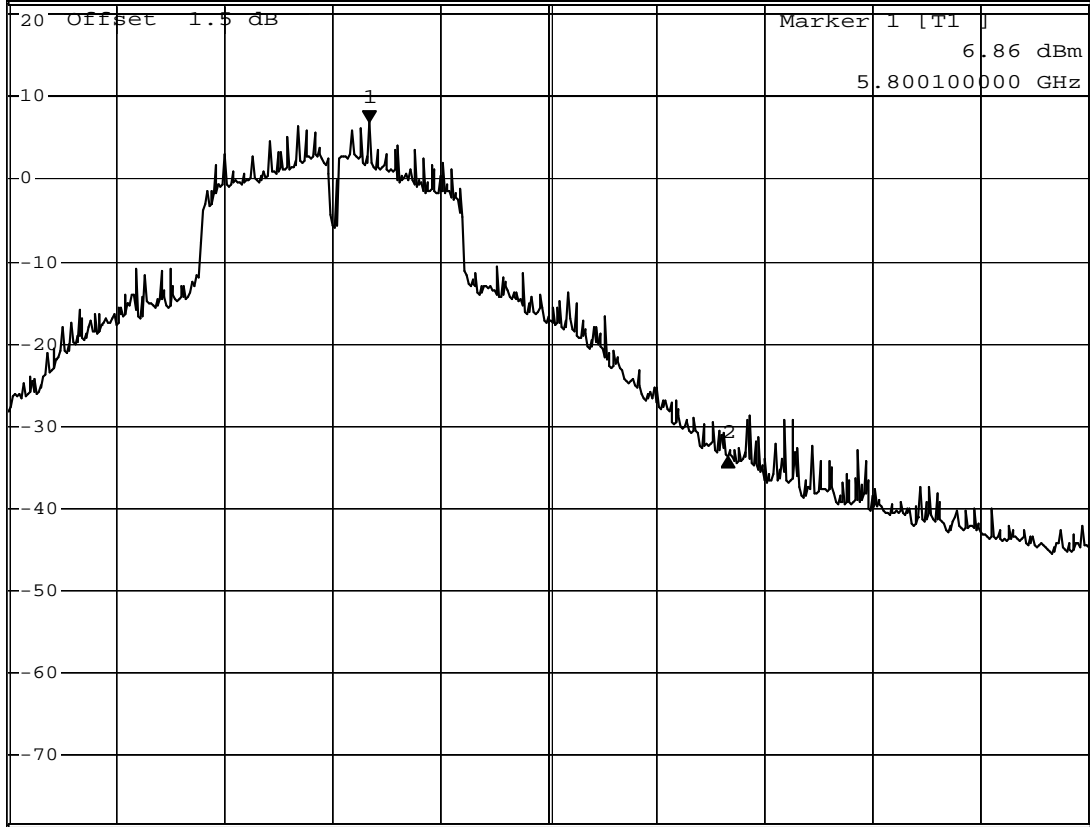


DELTA MARKER 2
49.9 MHz

*RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz -40.52 dB
*SWT 200 ms 49.900000000 MHz

Ref 21.5 dBm *Att 30 dB

1 PK
VIEW

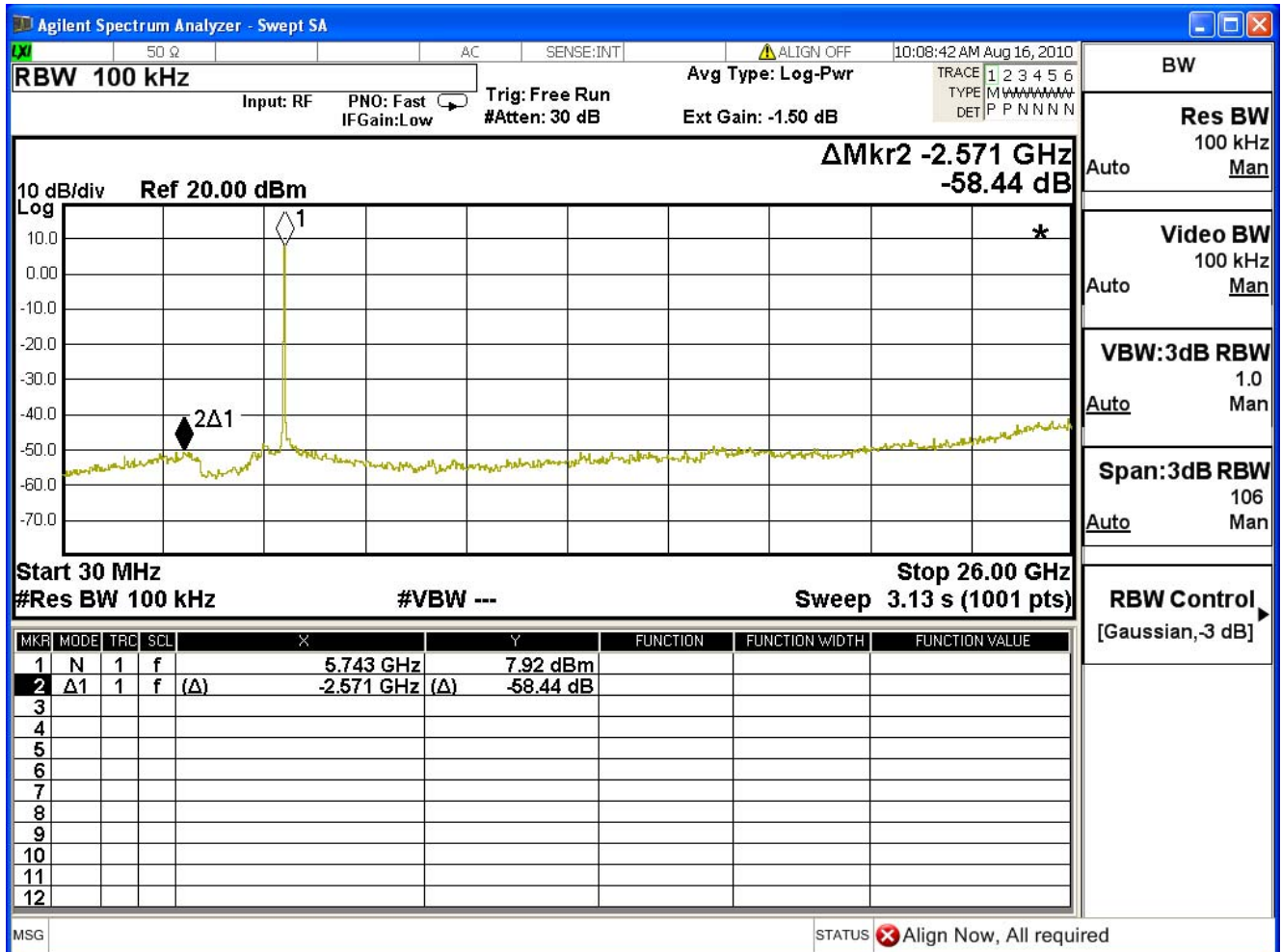


Start 5.75 GHz 15 MHz/ Stop 5.9 GHz

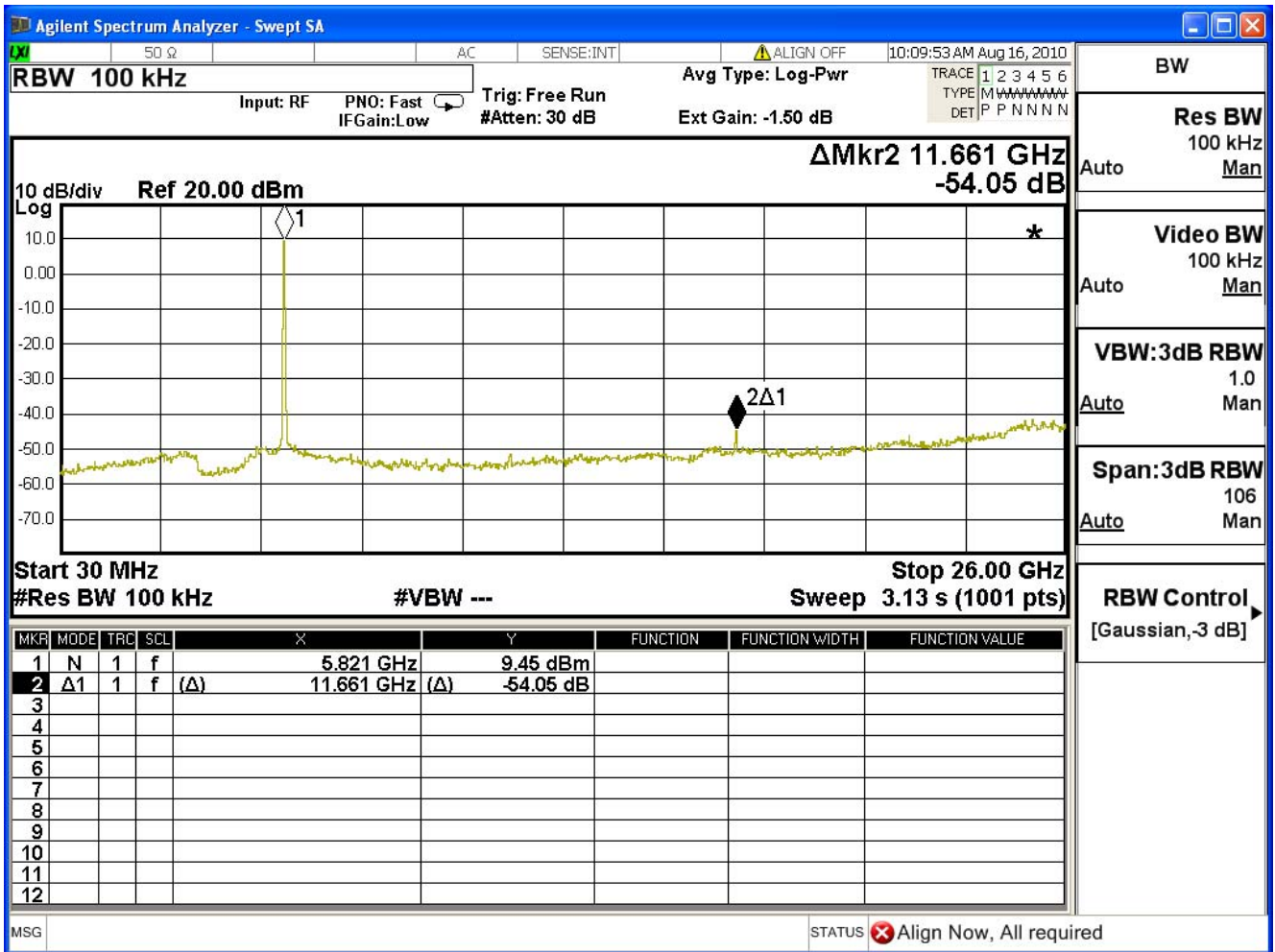
Date: 13.AUG.2010 18:03:50

Product	Wireless Extender		
Test Item	RF antenna conducted test		
Test Mode	Mode 1: Transmit		
Date of Test	2010/08/16	Test Site	No.1 OATS

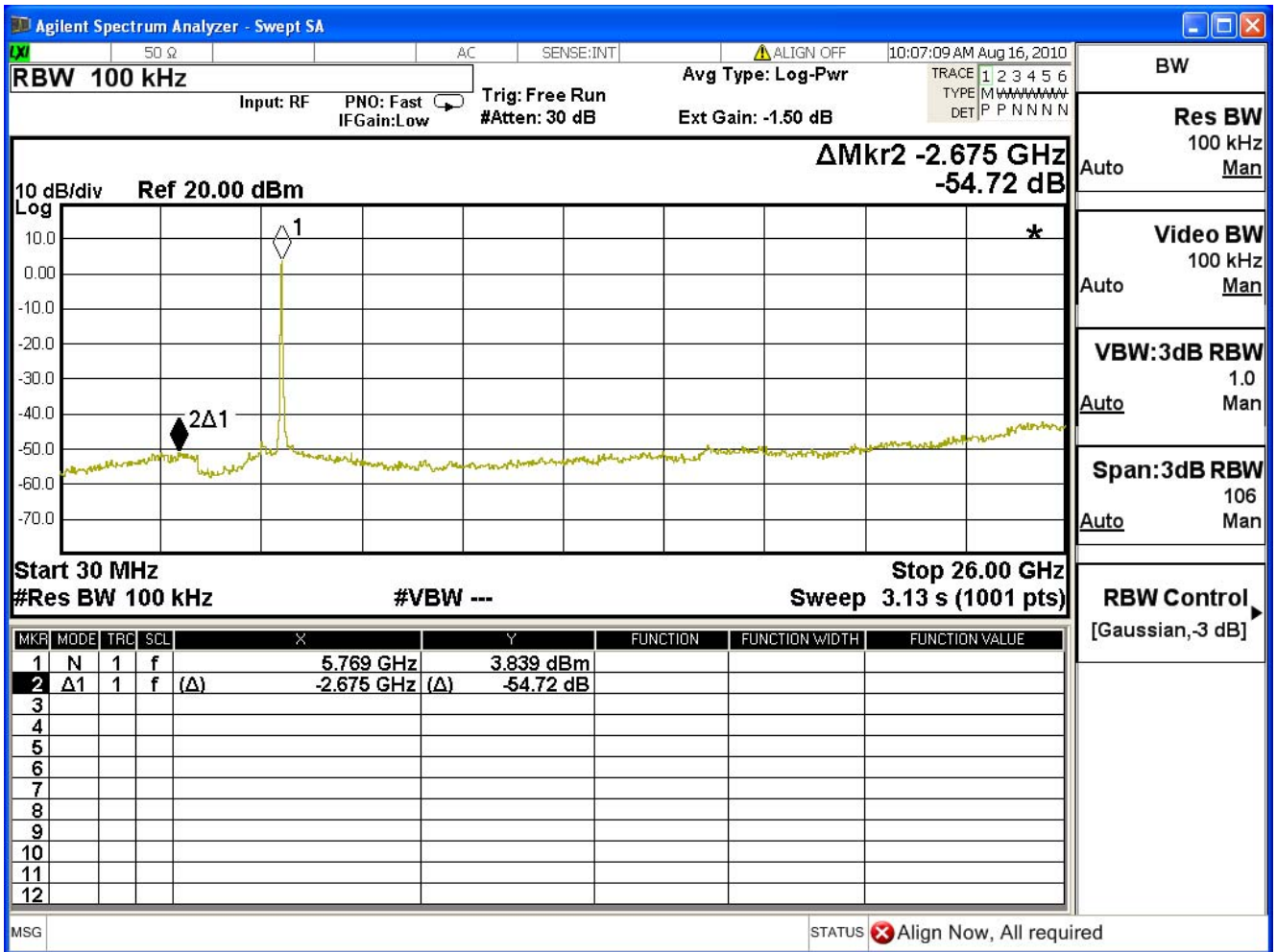
5745MHz (30MHz-25GHz)-N (20M)



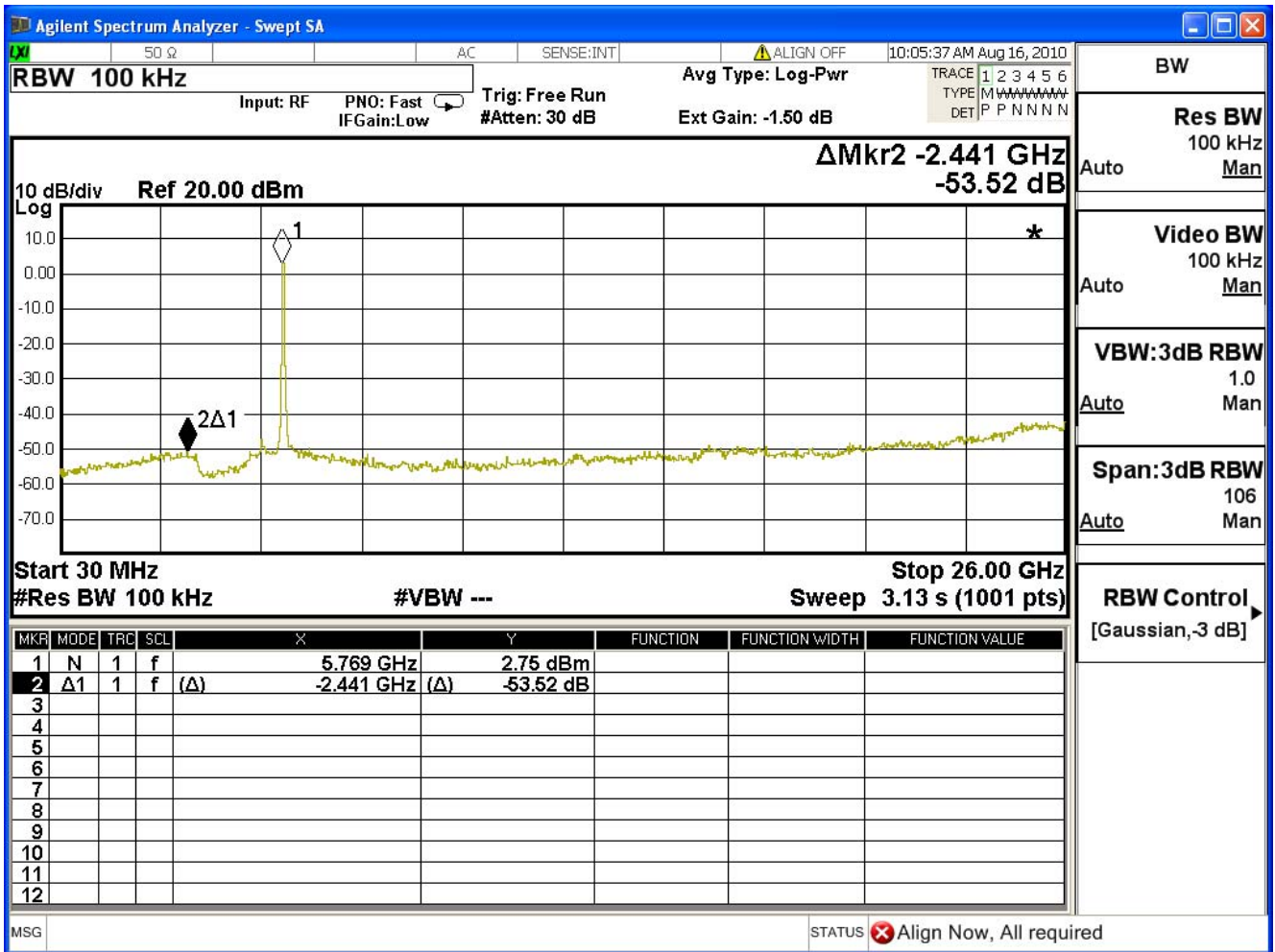
5825MHz (30MHz-25GHz)-N (20M)



5755MHz (30MHz-25GHz)-N (40M)



5795MHz (30MHz-25GHz)-N (40M)



6. Occupied Bandwidth

6.1. Test Equipment

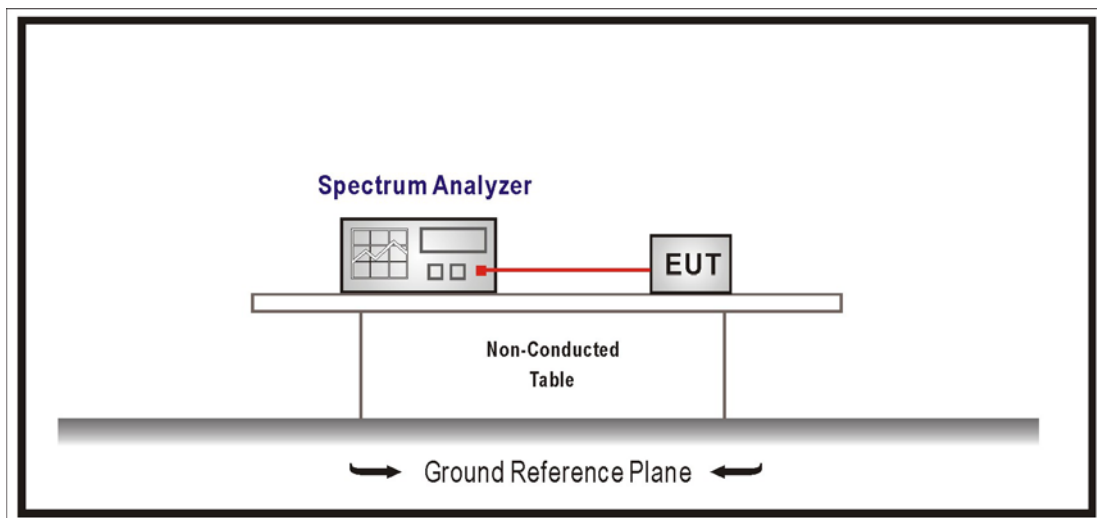
The following test equipments are used during the test:

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.

6.2. Test Setup



6.3. Test Procedures

The EUT was setup according to ANSI C63.4: 2003; 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.

6.4. Limits

The 6 dB bandwidth must be greater than 500 kHz.

6.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2009

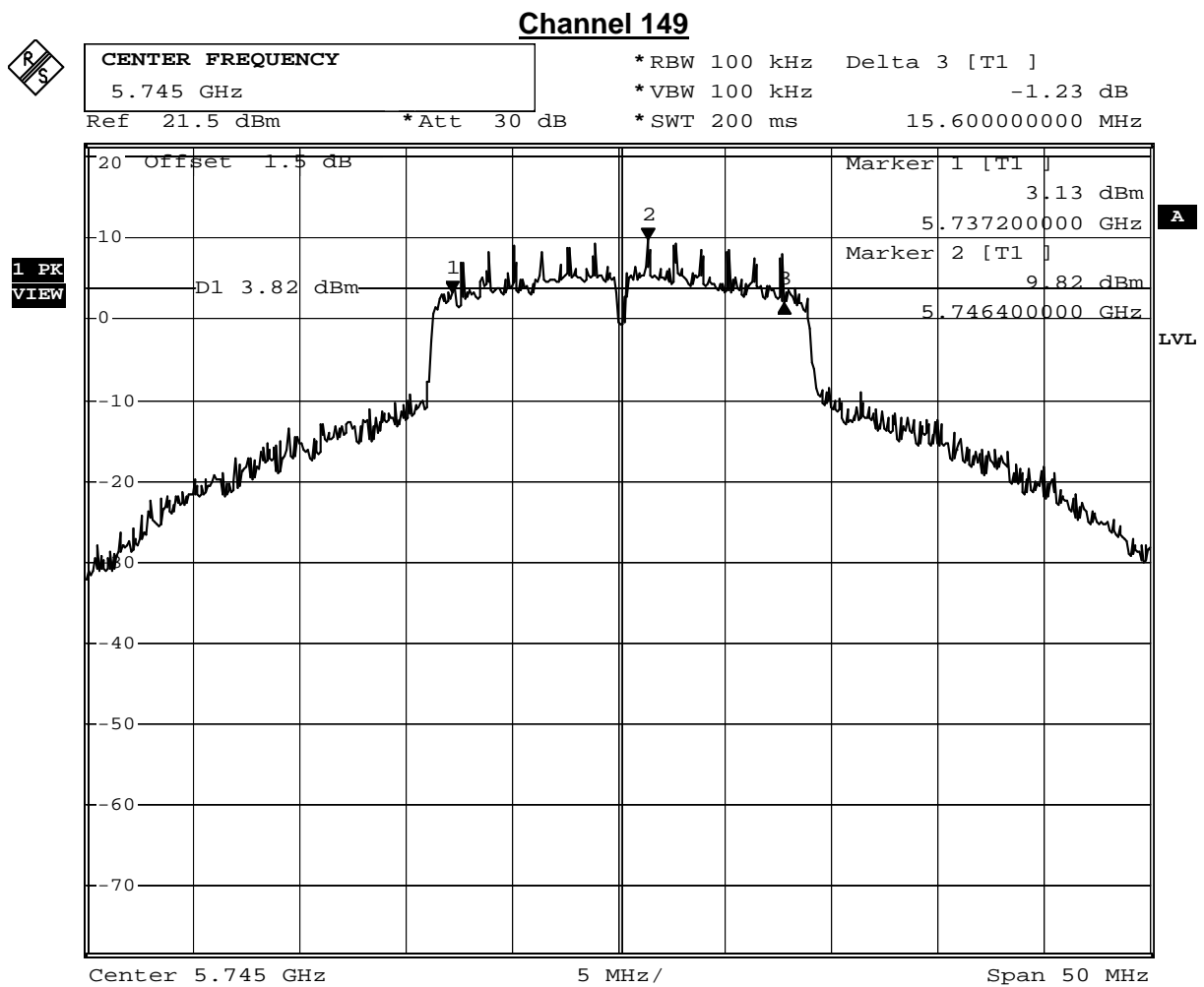
6.6. Uncertainty

The measurement uncertainty is defined as $\pm 150\text{Hz}$

6.7. Test Result

Product	Wireless Extender		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2010/08/13	Test Site	No.1 OATS

IEEE 802.11n (20MHz)				
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
149	5745	15600	≥500	Pass
157	5785	16200	≥500	Pass
165	5825	15900	≥500	Pass

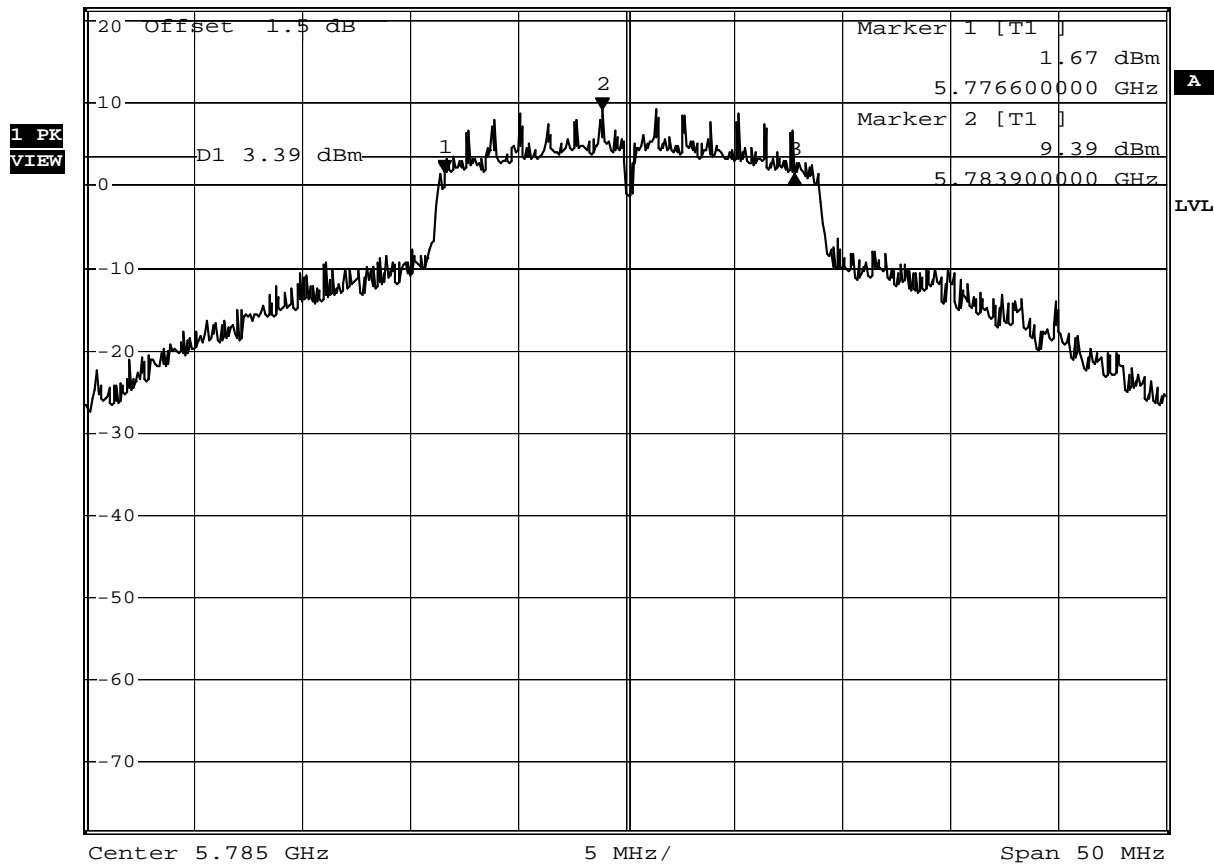


Date: 13.AUG.2010 17:21:44

Channel 157



DELTA MARKER 3		*RBW 100 kHz	Delta 3 [T1]
16.2 MHz		*VBW 100 kHz	-0.16 dB
Ref 21.5 dBm	*Att 30 dB	*SWT 200 ms	16.20000000 MHz



Date: 13.AUG.2010 17:24:30

Channel 165

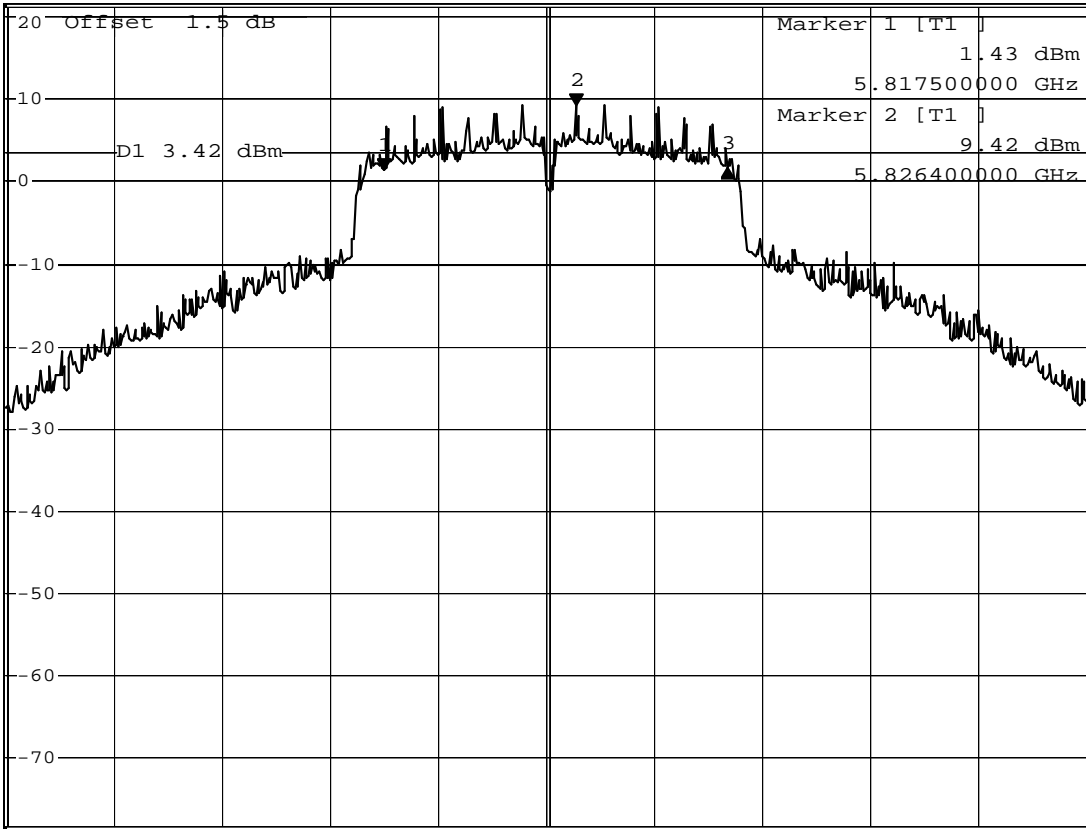


DELTA MARKER 3
15.9 MHz

*RBW 100 kHz Delta 3 [T1]
*VBW 100 kHz 0.30 dB
*SWT 200 ms 15.90000000 MHz

Ref 21.5 dBm *Att 30 dB

1 PK
VIEW



Center 5.825 GHz 5 MHz/ Span 50 MHz

Date: 13.AUG.2010 17:27:24

Product	Wireless Extender		
Test Item	Occupied Bandwidth		
Test Mode	Transmit		
Date of Test	2010/08/13	Test Site	No.1 OATS

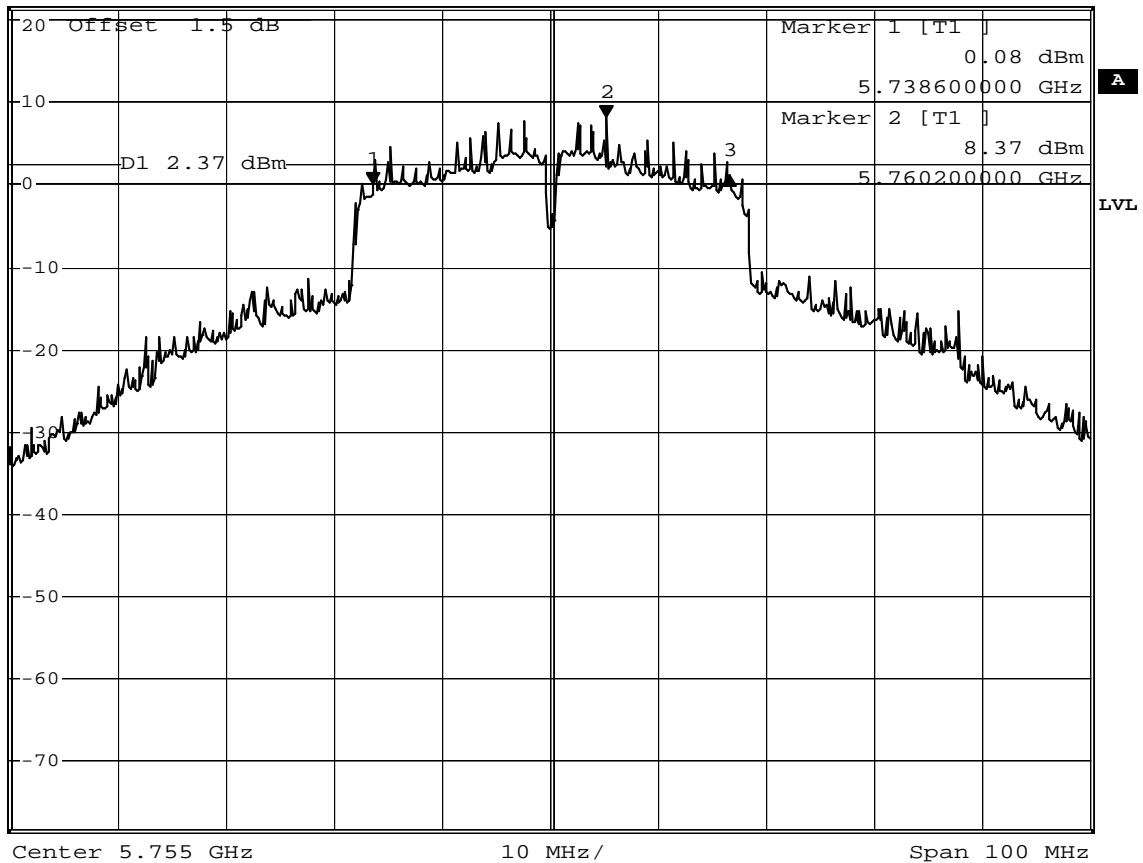
IEEE 802.11n (40MHz)				
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
151	5755	33000	≥500	Pass
159	5795	30600	≥500	Pass

Channel 151



DELTA MARKER 3
 33 MHz
 Ref 21.5 dBm *Att 30 dB *RBW 100 kHz Delta 3 [T1]
 *VBW 100 kHz 1.08 dB
 *SWT 200 ms 33.00000000 MHz

1 PK
VIEW



Date: 13.AUG.2010 17:39:51

Channel 159

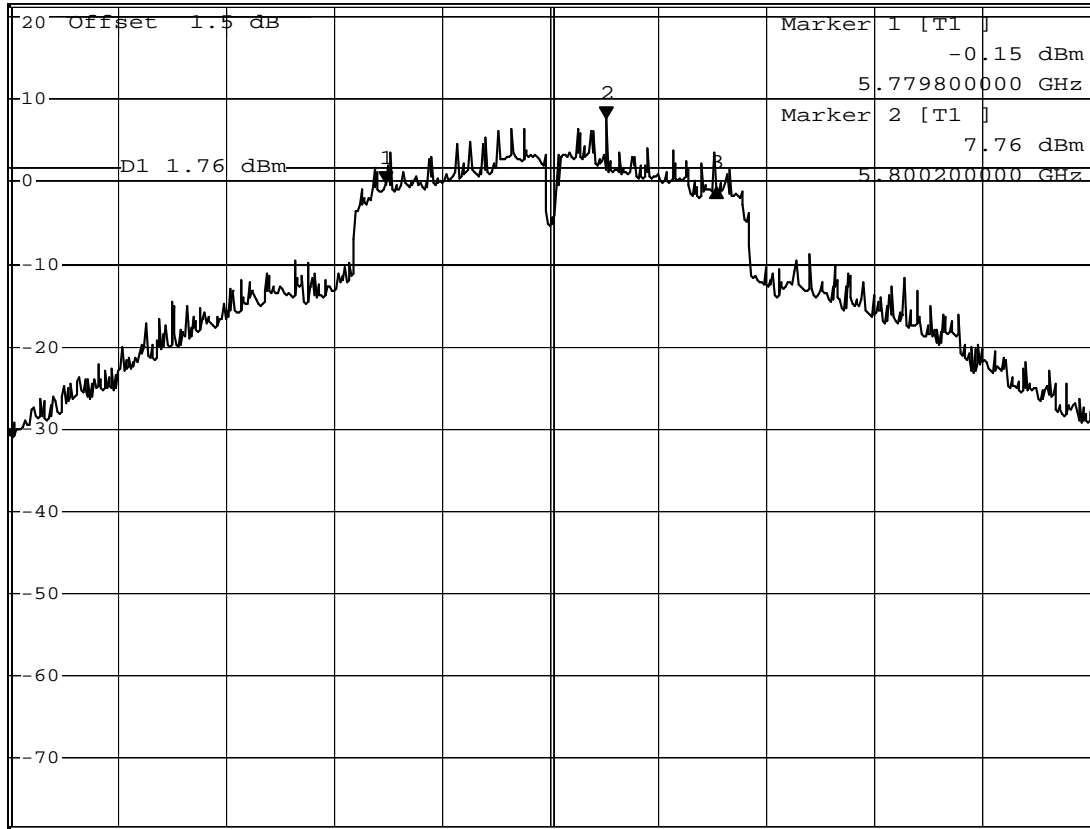


DELTA MARKER 3
30.6 MHz

*RBW 100 kHz Delta 3 [T1]
*VBW 100 kHz -0.56 dB
*SWT 200 ms 30.60000000 MHz

Ref 21.5 dBm *Att 30 dB

1 PK
VIEW



Center 5.795 GHz 10 MHz/ Span 100 MHz

Date: 13.AUG.2010 17:44:18

7. Power Density

7.1. Test Equipment

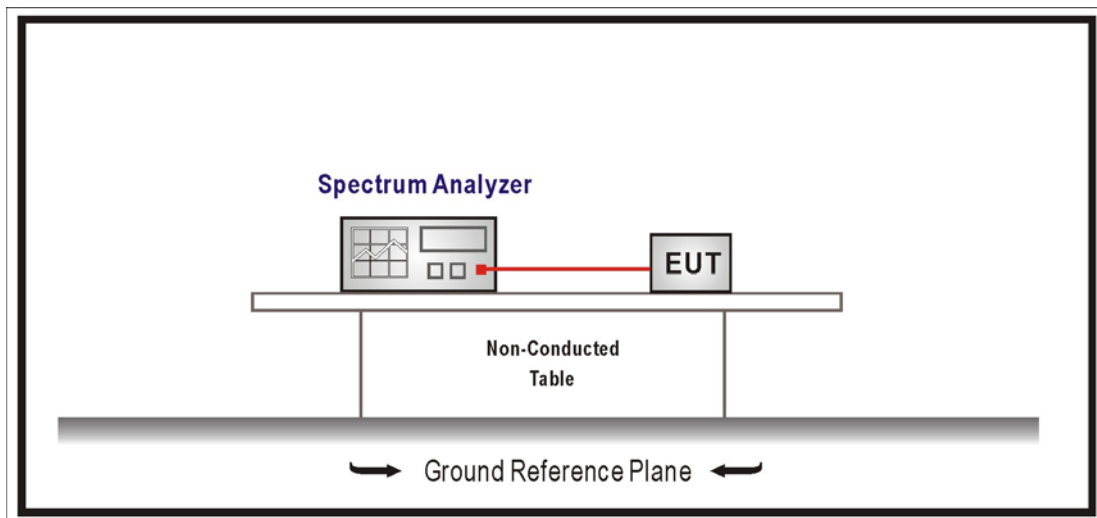
The following test equipments are used during the test:

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.

7.2. Test Setup



7.3. 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.

7.4. Test Procedures

The EUT was setup according to ANSI C63.4: 2003; tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.247 requirements. Set RBW= 3 kHz, Set VBW \geq 9 kHz, Sweep time=Auto, Set detector=Peak detector

7.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.247: 2009

7.6. Uncertainty

The measurement uncertainty is defined as ± 1.27 dB.

7.7. Test Result

Product	Wireless Extender		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2010/08/10	Test Site	No.1 OATS

IEEE802.11n (20MHz)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
149	5745	-6.15	≤8	Pass
157	5785	-5.22	≤8	Pass
165	5825	-5.58	≤8	Pass

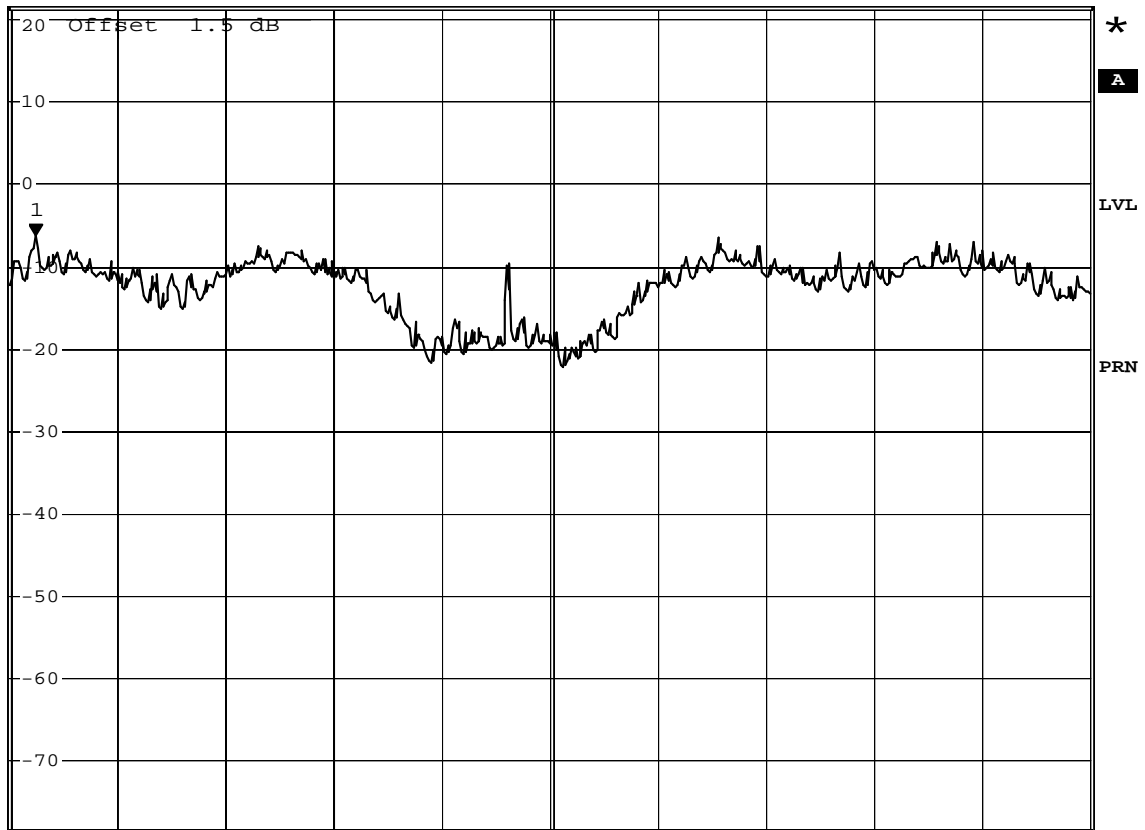
Channel 149



*RBW 3 kHz Marker 1 [T1]
 *VBW 10 kHz -6.15 dBm
 *SWT 500 s 5.744286000 GHz

Ref 21.5 dBm

*Att 30 dB



Center 5.745 GHz

150 kHz/

Span 1.5 MHz

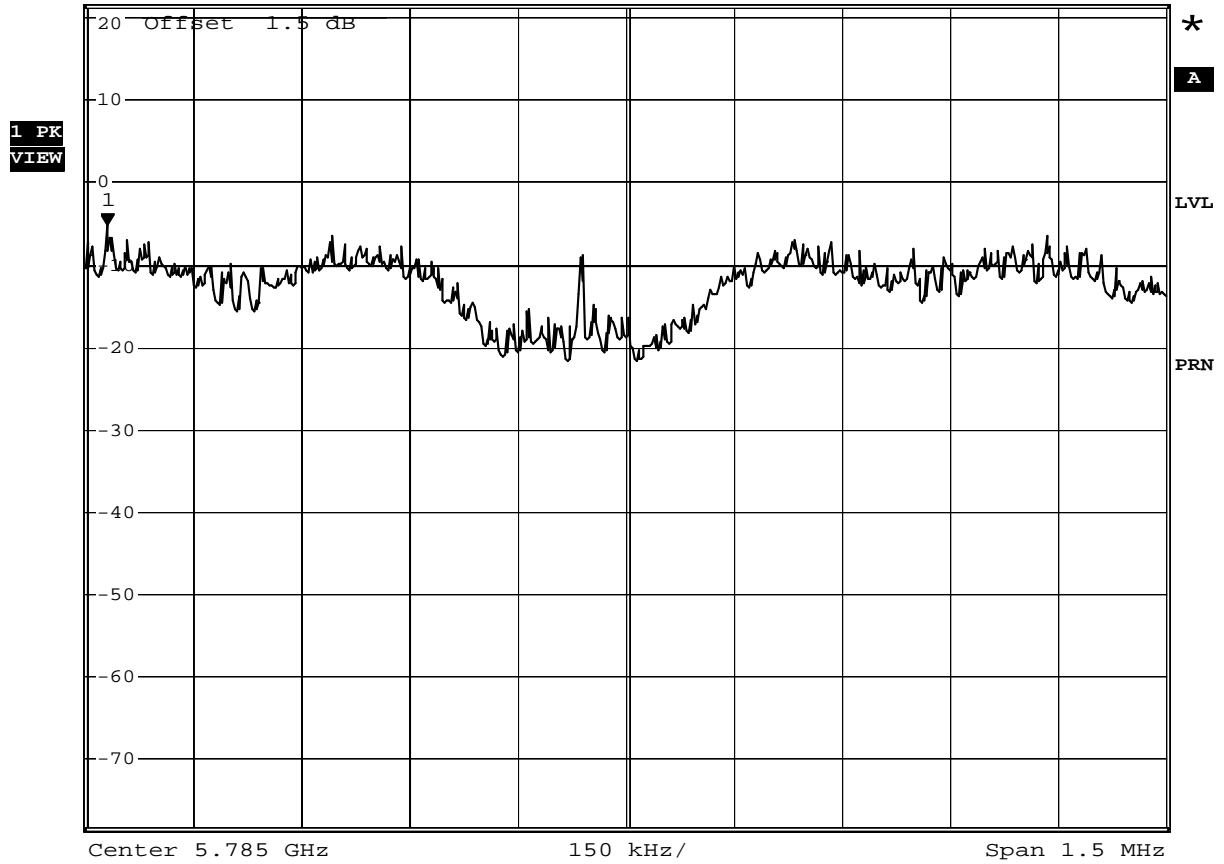
Date: 10.AUG.2010 17:49:11

Channel 157



*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -5.22 dBm
*SWT 500 s 5.784280000 GHz

Ref 21.5 dBm *Att 30 dB



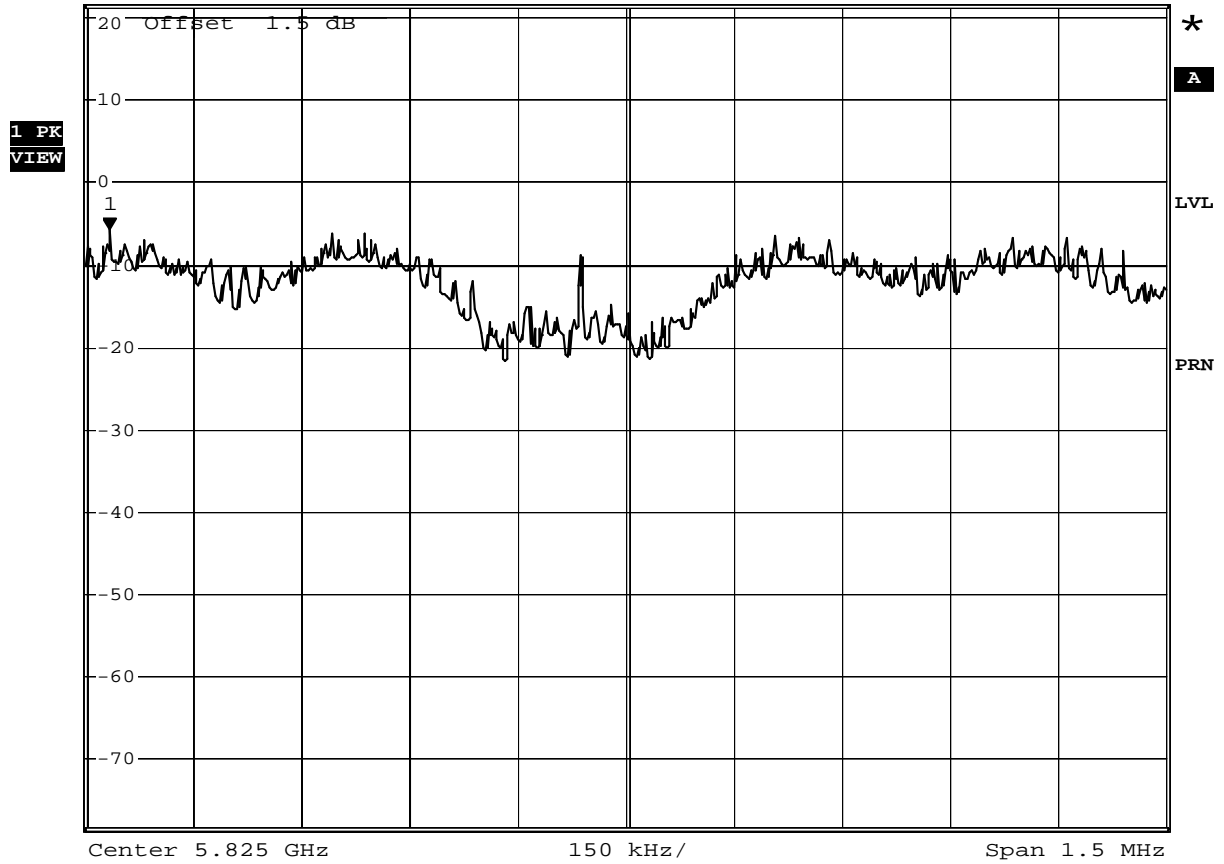
Date: 10.AUG.2010 17:51:50

Channel 165



*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -5.58 dBm

Ref 21.5 dBm *Att 30 dB *SWT 500 s 5.824283000 GHz



Date: 10.AUG.2010 17:54:16

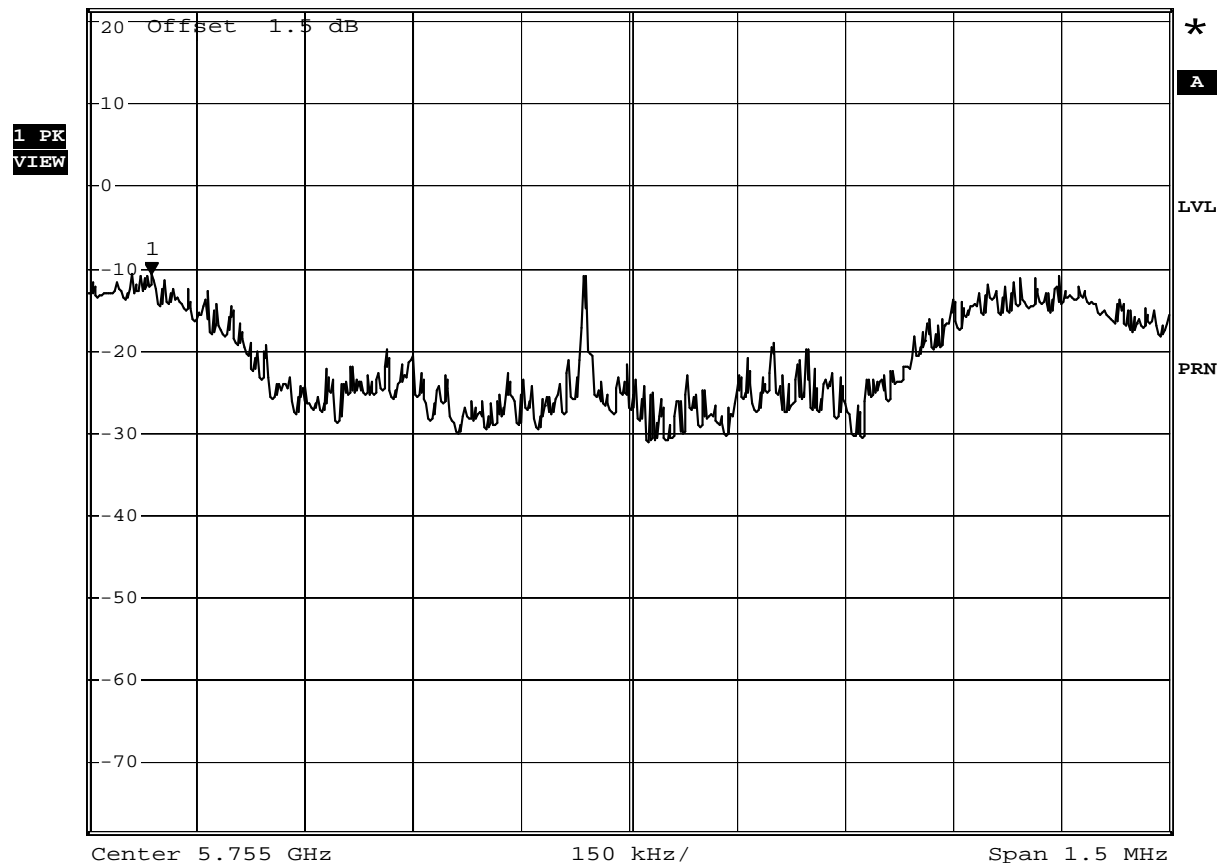
Product	Wireless Extender		
Test Item	Power Density		
Test Mode	Mode 1: Transmit		
Date of Test	2010/08/10	Test Site	No.1 OATS

IEEE 802.11n(40MHz)				
Channel No.	Frequency (MHz)	Measure Level (dBm)	Limit (dBm)	Result
151	5755	-10.71	≤ 8	Pass
159	5795	-9.53	≤ 8	Pass

Channel 151



*RBW 3 kHz Marker 1 [T1]
 *VBW 10 kHz -10.71 dBm
 Ref 21.5 dBm *Att 30 dB *SWT 500 s 5.754337000 GHz



Date: 10.AUG.2010 17:57:01

Channel 159

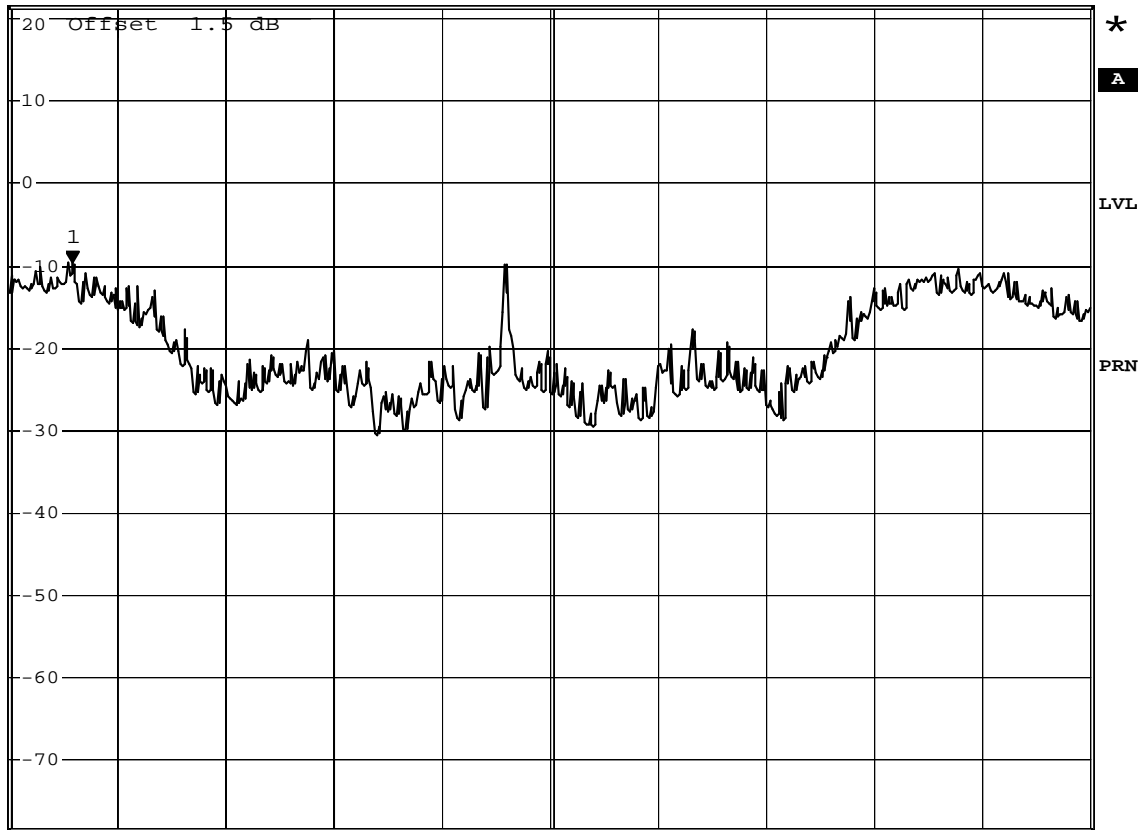


*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz -9.53 dBm
*SWT 500 s 5.794337000 GHz

Ref 21.5 dBm

*Att 30 dB

1 PK
VIEW



Center 5.795 GHz

150 kHz/

Span 1.5 MHz

Date: 10.AUG.2010 17:58:47