FCC RF Test Report

APPLICANT	:	PEGATRON CORPORATION
EQUIPMENT	:	Tablet
BRAND NAME	:	TOSHIBA
MODEL NAME	:	TOSHIBA AT10LE-A TOSHIBA AT15LE-A TOSHIBA AT10PE-A TOSHIBA AT15PE-A
FCC ID	:	VUIPDAPDAAT10LE-A
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

The product was received on Mar. 22, 2013 and completely tested on May 09, 2013. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR332221C	Rev. 01	Initial issue of report	May 15, 2013

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	RSS-210 A8.2(a)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	RSS-Gen 4.6.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	RSS-210 A8.4	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	RSS-210 A8.2(b)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	RSS-210 A8.5	Conducted Band Edges	≤ 30dBc	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	RSS-210 A8.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.77 dB at 2389.470 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 12.75 dB at 0.191 MHz
3.7	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

PEGATRON CORPORATION
No. 76, Ligong St., Beitou District, Taipei City 112

1.2 Manufacturer

Toshiba Corporation
1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Tablet
Brand Name	TOSHIBA
Model Name	TOSHIBA AT10LE-A TOSHIBA AT15LE-A TOSHIBA AT10PE-A TOSHIBA AT15PE-A
FCC ID	VUIPDAPDAAT10LE-A
EUT supports Radios application	WLAN 11a/ac/b/g/n / Bluetooth 2.1 / 4.0 / NFC
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5745~5825MHz.
Maximum Output Power to Antenna	**<2412 MHz ~ 2462 MHz>** 802.11b : 13.73 dBm (0.0236 W) 802.11g : 12.45 dBm (0.0176 W) 802.11n HT20 : 11.12 dBm (0.0129 W) 802.11n HT40 : 10.38 dBm (0.0109 W) **<5745 MHz ~ 5825 MHz>** 802.11a : 11.14 dBm (0.0130 W) 802.11n HT20 : 11.10 dBm (0.0129 W) 802.11n HT40 : 10.87 dBm (0.0122 W) 802.11ac VHT20 : 11.11 dBm (0.0129 W) 802.11ac VHT40 : 10.87 dBm (0.0122 W) 802.11ac VHT80 : 11.13 dBm (0.0130 W)
99% Occupied Bandwidth	**<2412 MHz ~ 2462 MHz>** 802.11b : 11.75MHz 802.11g : 17.95MHz 802.11n HT20 : 18.75MHz 802.11n HT40 : 36.60MHz **<5745 MHz ~ 5825 MHz>** 802.11a : 17.95MHz 802.11n HT20 : 18.80MHz 802.11n HT40 : 36.70MHz 802.11ac VHT20 : 18.92 MHz 802.11ac VHT40 : 36.65 MHz 802.11ac VHT80 : 75.78 MHz
Antenna Type	802.11b/g/n : Chip Antenna type with gain 2.9124 dBi 802.11a/n/ac : Chip Antenna type with gain 1.82 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)

1.5 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH02-HY	CO05-HY	03CH06-HY	722060/4086B-1

Note: The test site complies with ANSI C63.4 2003 requirement.

1.6 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
- ANSI C63.10-2009
- IC RSS-210 Issue 8
- IC RSS-Gen Issue 3
- NOTICE 2012-DRS0126

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. Per the section 2.2.3 of Notice of 2012-DRS0126, " Receivers Excluded from Industry Canada Requirements", only radiocommunication receivers operating in stand-alone mode within the band 30-960 MHz and scanner receivers are subject to Industry Canada requirements.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 KHz to 30 MHz) and radiated emission (9 KHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane for 2.4GHz, Z plane for 5GHz) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4	149	5745	157	5785
	151	5755	159	5795
	153	5765	161	5805
	155	5775	165	5825

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and antenna configurations as following table and the highest power data rates were chosen for full test in the following tables. Final Output Power equals to Measured Output Power adds the duty factor.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Average Power (dBm)	13.73	13.45	13.52	13.59

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Average Power (dBm)	12.45	12.29	12.30	12.24	12.08	12.09	12.33	12.23

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	11.12	11.10	10.99	11.09	11.10	11.09	11.09	10.99

2.4GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	10.38	10.17	10.01	9.91	9.93	9.84	9.83	9.52

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Average Power (dBm)	11.14	11.08	11.01	10.94	11.03	10.98	10.99	10.97

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	11.10	11.04	11.07	11.07	11.01	11.09	11.08	11.03

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	10.87	10.85	10.74	10.56	10.79	10.80	10.75	10.77

5GHz 802.11ac VHT20 mode									
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
Average Power (dBm)	11.11	11.02	10.96	11.04	10.90	10.77	10.42	10.71	10.83

5GHz 802.11ac VHT40 mode									
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
Average Power (dBm)	10.87	10.81	10.44	10.80	10.69	10.86	10.85	10.85	10.82	10.81

5GHz 802.11ac VHT80 mode										
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
Average Power (dBm)	11.13	11.04	11.09	11.13	11.09	11.03	11.10	11.05	11.11	11.10

2.3 Test Mode

Final results of test modes, data rates and test channels are shown as following table.

<2.4GHz>

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	6dB and 99% BW Power Spectral Density	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
		802.11n HT40	MCS0	3/6/9
	Output Power	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
		802.11n HT40	MCS0	3/6/9
	Conducted Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	MCS0	1/11
		802.11n HT40	MCS0	3/9
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
		802.11n HT40	MCS0	3/6/9
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	MCS0	1/11
		802.11n HT40	MCS0	3/9
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
		802.11n HT40	MCS0	3/6/9

<5GHz>

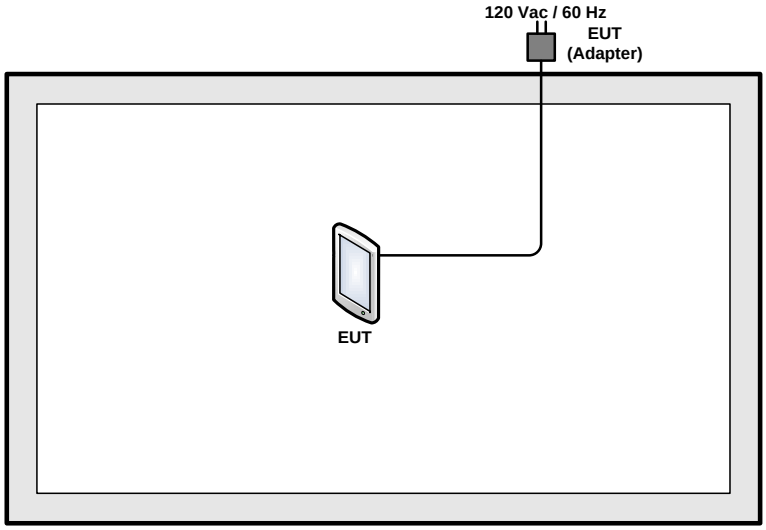
Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	6dB and 99% BW Power Spectral Density	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
		802.11ac VHT20	MCS0	149/157/165
		802.11ac VHT40	MCS0	151/159
		802.11ac VHT80	MCS0	155
	Output Power	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
		802.11ac VHT20	MCS0	149/157/165
		802.11ac VHT40	MCS0	151/159
		802.11ac VHT80	MCS0	155
	Conducted Band Edge	802.11a	6 Mbps	149/165
		802.11n HT20	MCS0	149/165
		802.11n HT40	MCS0	151/159
		802.11ac VHT20	MCS0	149/157/165
		802.11ac VHT40	MCS0	151/159
		802.11ac VHT80	MCS0	155
	Conducted Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
		802.11ac VHT20	MCS0	149/157/165
		802.11ac VHT40	MCS0	151/159
		802.11ac VHT80	MCS0	155

Test Cases				
Radiated TCs	Radiated Band Edge	802.11a	6 Mbps	149/165
		802.11n HT20	MCS0	149/165
		802.11n HT40	MCS0	151/159
		802.11ac VHT80	MCS0	155
	Radiated Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
		802.11ac VHT80	MCS0	155

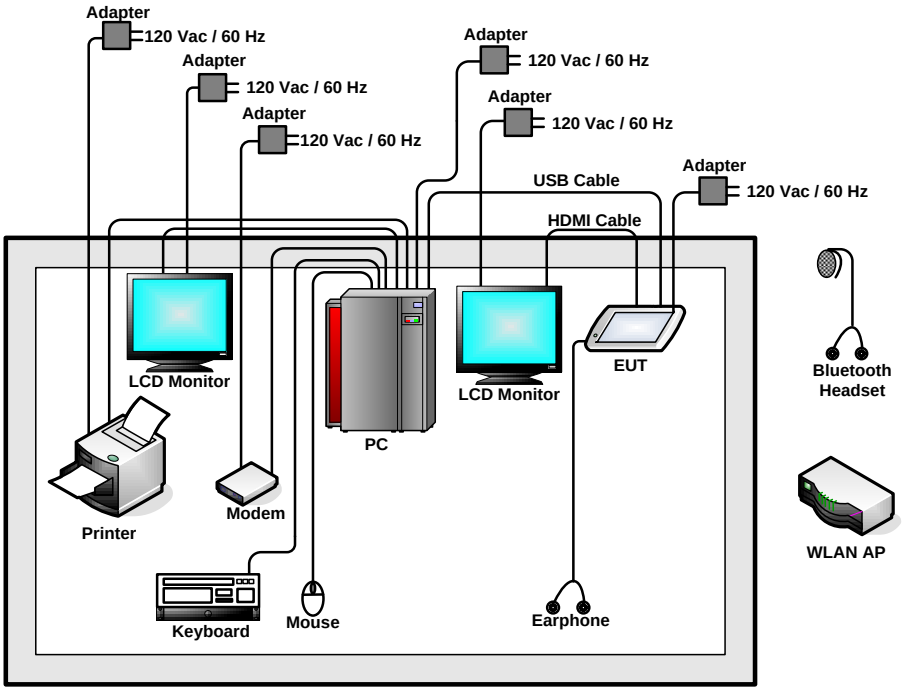
Test Cases	
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN Link + MP3 + SD Card + H Pattern + HDMI Cable + Earphone + USB Cable (Data Link with PC) + Adapter + NFC On

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DNS-G120	N/A	N/A	Unshielded, 1.5 m
2.	Bluetooth Earphone	SONY	Z354	N/A	N/A	N/A
3.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	PC	HP	DC7700	FCC DoC	N/A	Unshielded, 1.8 m
5.	LCD Monitor	DELL	U2410f	FCC DoC	Shielded, 1.5 m	Unshielded, 1.8 m
6.	(USB) Mouse	Microsoft	1113	FCC DoC	Shielded, 1.8 m	N/A
7.	(USB) Keyboard	Microsoft	1366	FCC DoC	Shielded, 2.0 m	N/A
8.	Printer	EPSON	LQ300+	FCC DoC	Shielded, 1.8 m	Unshielded, 1.8 m
9.	Earphone	INTOPIC	JAZZ-368	N/A	Unshielded, 1.7m	N/A
10.	MicroSD Card	Transcend	8G	FCC DoC	N/A	N/A
11.	Modem	ACCEX	DM1414	IFAXDM1414	Shielded, 1 m	Unshielded, 1.8 m

2.6 Description of RF Function Operation Test Setup

For WLAN function, programmed RF utility, “WLAN Tx Command” installed in the notebook make the EUT provides functions like channel selection and power level for continuous transmitting and receiving signals.

2.7 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 KHz.

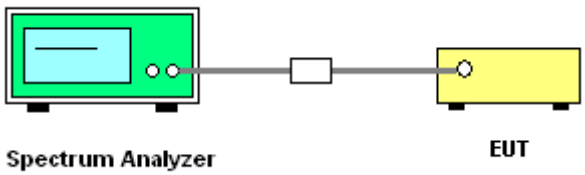
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	8.04	0.5	Pass
06	2437	8.04	0.5	Pass
11	2462	8.00	0.5	Pass

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.32	0.5	Pass
06	2437	16.34	0.5	Pass
11	2462	16.32	0.5	Pass

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	17.60	0.5	Pass
06	2437	17.60	0.5	Pass
11	2462	17.60	0.5	Pass

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
03	2422	36.32	0.5	Pass
06	2437	36.32	0.5	Pass
09	2452	36.32	0.5	Pass

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	16.32	0.5	Pass
157	5785	16.32	0.5	Pass
165	5825	16.32	0.5	Pass

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	17.56	0.5	Pass
157	5785	17.58	0.5	Pass
165	5825	17.58	0.5	Pass

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT40 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
151	5755	36.32	0.5	Pass
159	5795	36.32	0.5	Pass

Test Mode :	802.11ac VHT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11ac VHT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	17.52	0.5	Pass
157	5785	17.52	0.5	Pass
165	5825	17.52	0.5	Pass

Test Mode :	802.11ac VHT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11ac VHT40 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
151	5755	36.24	0.5	Pass
159	5795	36.24	0.5	Pass

Test Mode :	802.11ac VHT80	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11ac VHT80 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
155	5775	74.88	0.5	Pass

3.1.6 Test Result of 99% Occupied Bandwidth

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	11.75	Pass
06	2437	11.75	Pass
11	2462	11.70	Pass

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	17.90	Pass
06	2437	17.95	Pass
11	2462	17.95	Pass

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	18.75	Pass
06	2437	18.70	Pass
11	2462	18.65	Pass

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 99% Occupied Bandwidth (MHz)	Pass/Fail
03	2422	36.60	Pass
06	2437	36.60	Pass
09	2452	36.60	Pass

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a 99% Occupied Bandwidth (MHz)	Pass/Fail
149	5745	17.85	Pass
157	5785	17.95	Pass
165	5825	17.90	Pass

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT20 99% Occupied Bandwidth (MHz)	Pass/Fail
149	5745	18.60	Pass
157	5785	18.80	Pass
165	5825	18.70	Pass

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT40 99% Occupied Bandwidth (MHz)	Pass/Fail
151	5755	36.50	Pass
159	5795	36.70	Pass

Test Mode :	802.11ac VHT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11ac VHT20 99% Occupied Bandwidth (MHz)	Pass/Fail
149	5745	18.91	Pass
157	5785	18.92	Pass
165	5825	18.90	Pass

Test Mode :	802.11ac VHT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

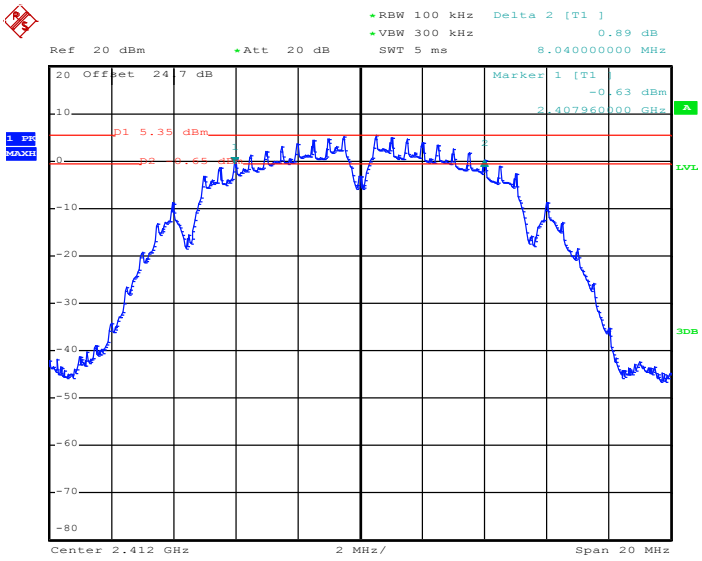
Channel	Frequency (MHz)	5GHz 802.11ac VHT40 99% Occupied Bandwidth (MHz)	Pass/Fail
151	5755	36.60	Pass
159	5795	36.65	Pass

Test Mode :	802.11ac VHT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11ac VHT80 99% Occupied Bandwidth (MHz)	Pass/Fail
155	5795	75.78	Pass

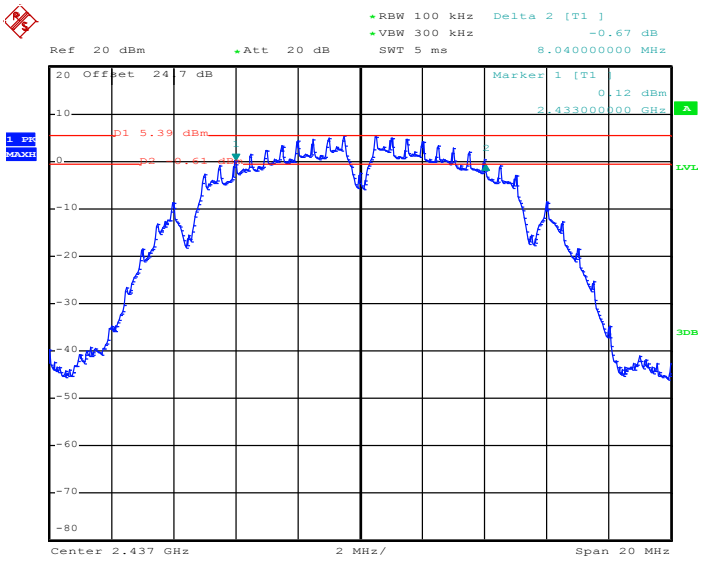
3.1.7 Test Result of 6dB Bandwidth Plots

6 dB Bandwidth Plot on 802.11b Channel 01



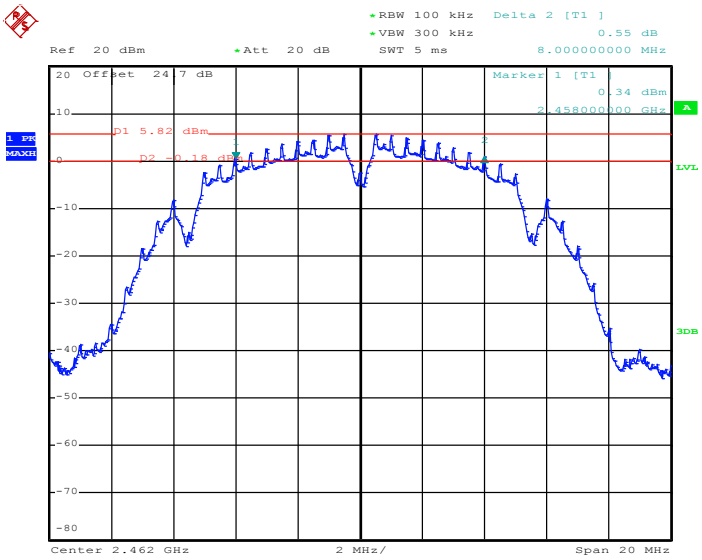
Date: 8.APR.2013 16:16:35

6 dB Bandwidth Plot on 802.11b Channel 06



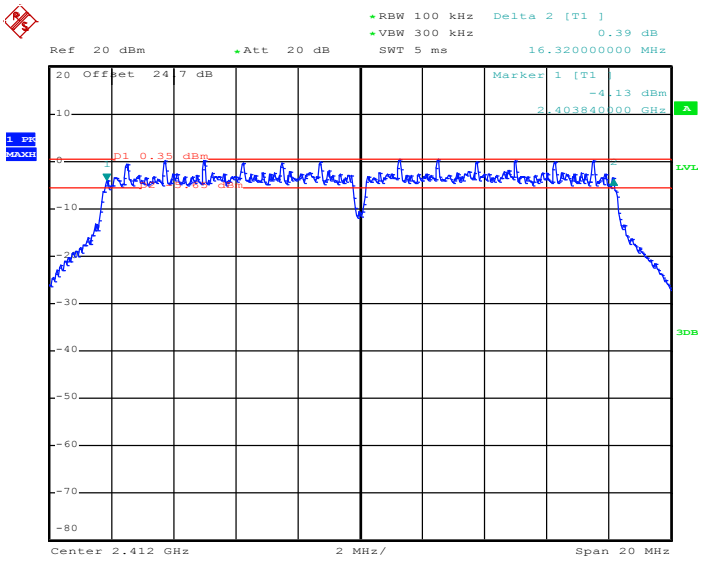
Date: 8.APR.2013 16:22:49

6 dB Bandwidth Plot on 802.11b Channel 11



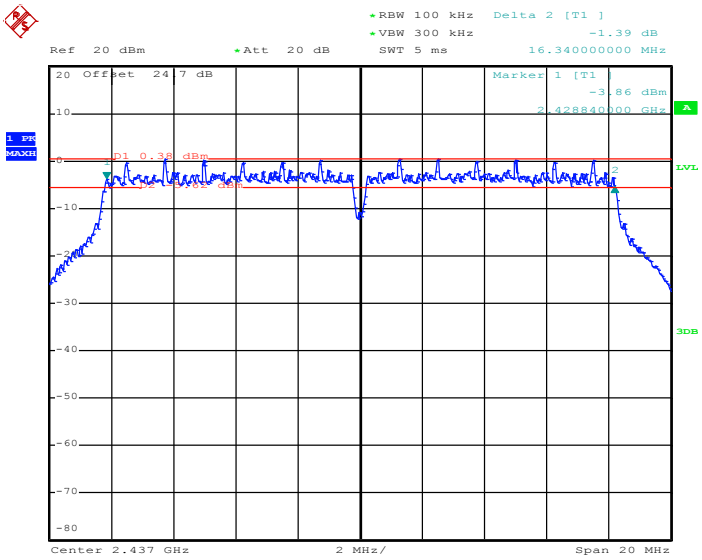
Date: 8.APR.2013 16:25:49

6 dB Bandwidth Plot on 802.11g Channel 01



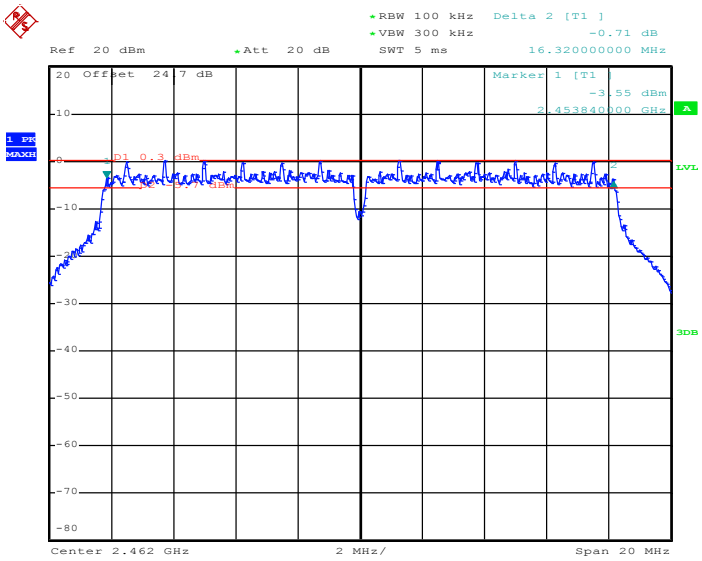
Date: 8.APR.2013 16:38:37

6 dB Bandwidth Plot on 802.11g Channel 06



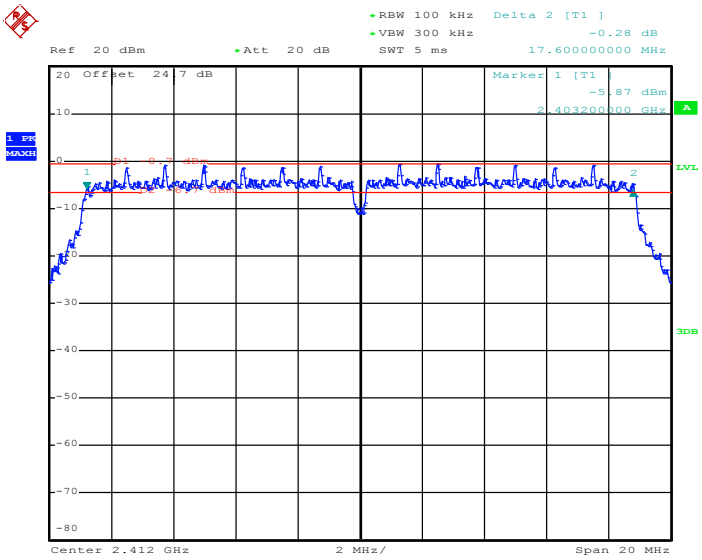
Date: 8.APR.2013 16:32:16

6 dB Bandwidth Plot on 802.11g Channel 11



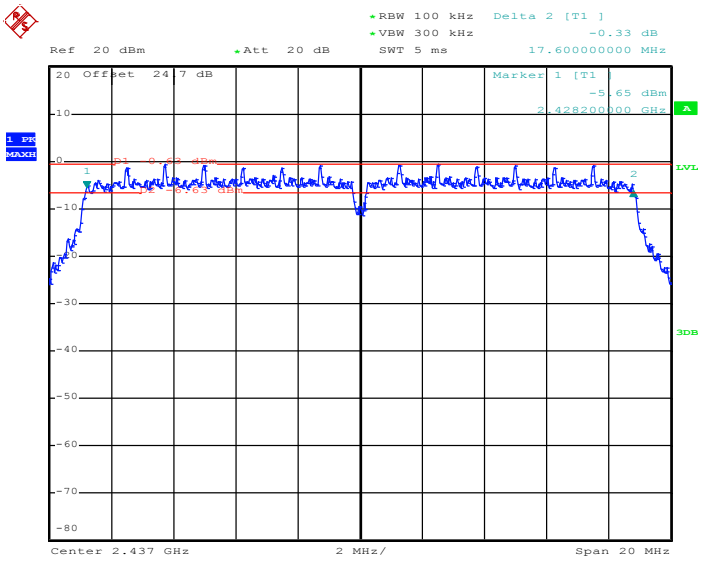
Date: 8.APR.2013 16:29:02

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 01



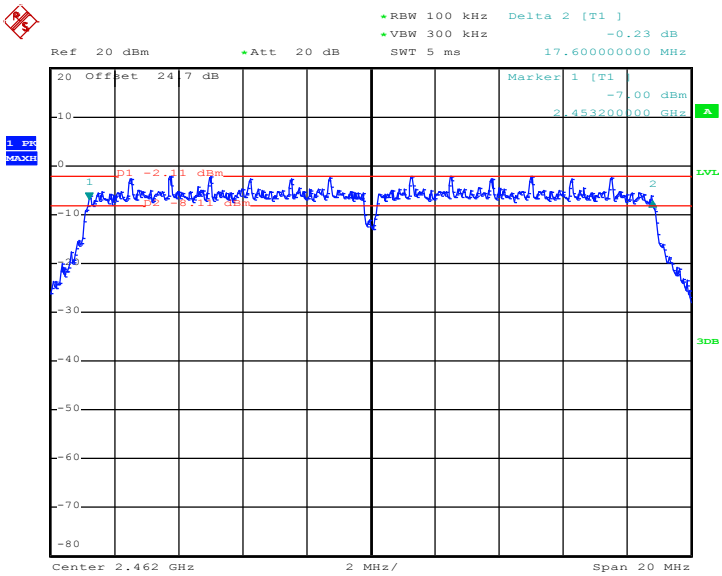
Date: 8.APR.2013 16:41:46

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 06

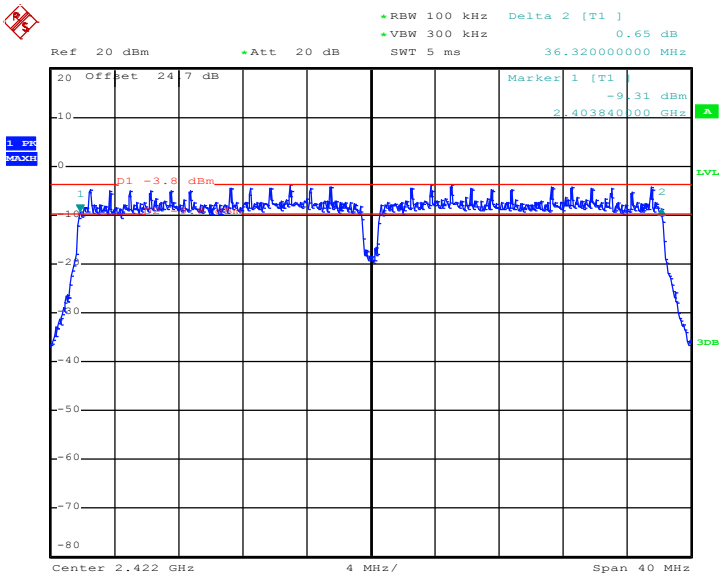


Date: 8.APR.2013 16:44:51

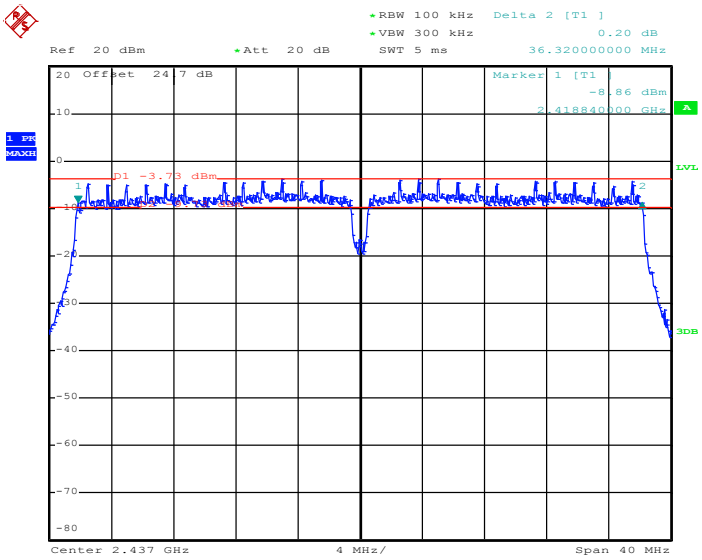
6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 11



6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 03

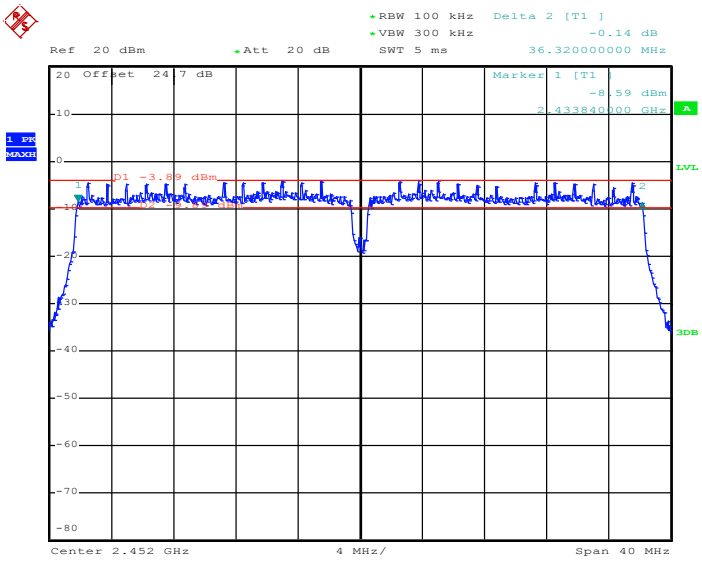


6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 06



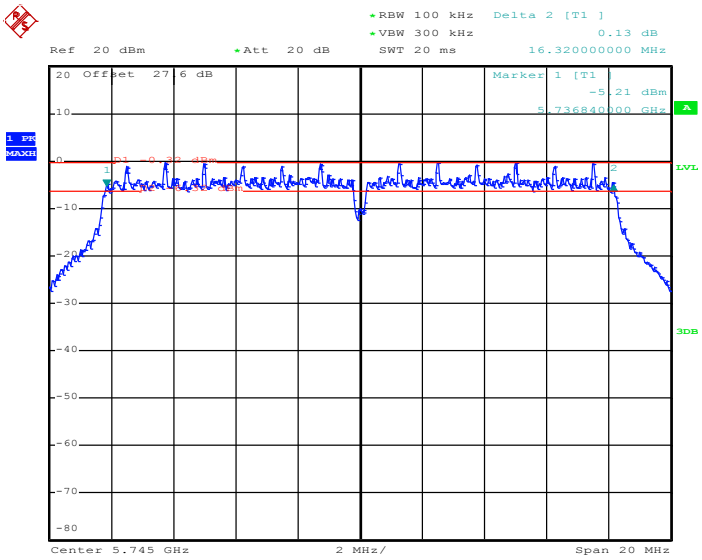
Date: 8.APR.2013 16:59:20

6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 09



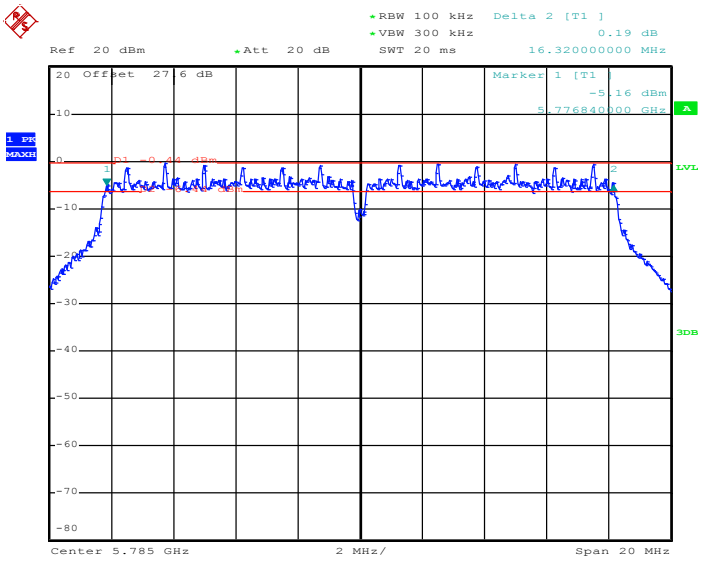
Date: 8.APR.2013 17:05:06

6 dB Bandwidth Plot on 802.11a Channel 149



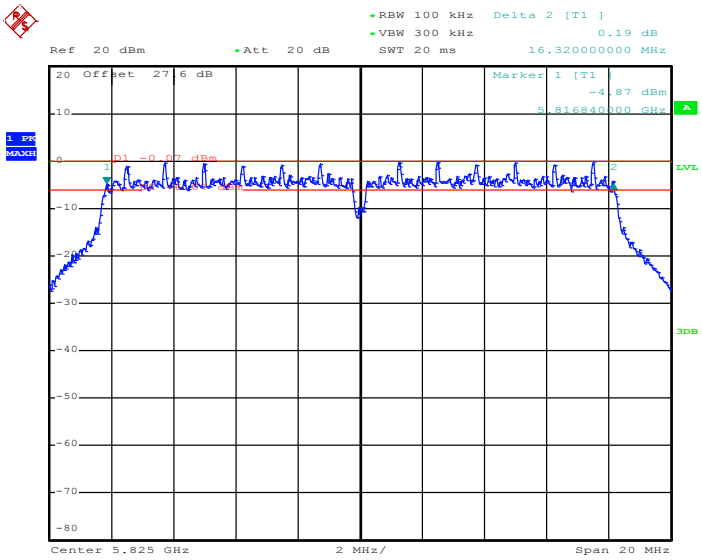
Date: 11.APR.2013 20:27:29

6 dB Bandwidth Plot on 802.11a Channel 157



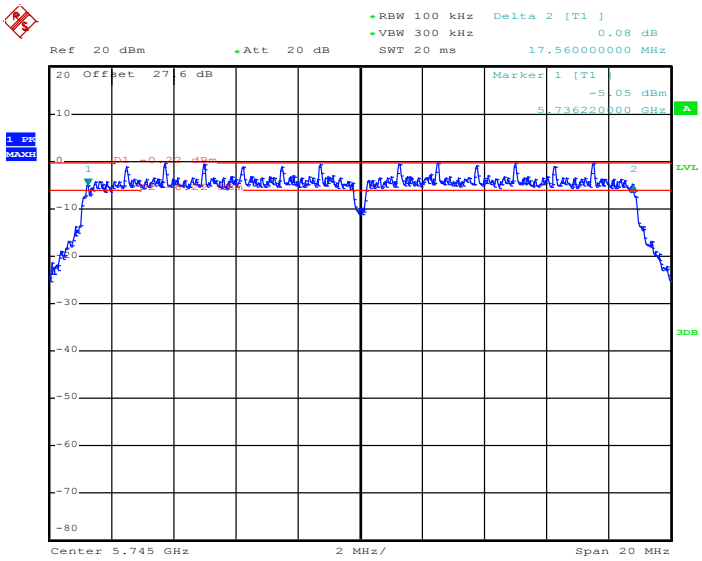
Date: 11.APR.2013 20:32:00

6 dB Bandwidth Plot on 802.11a Channel 165



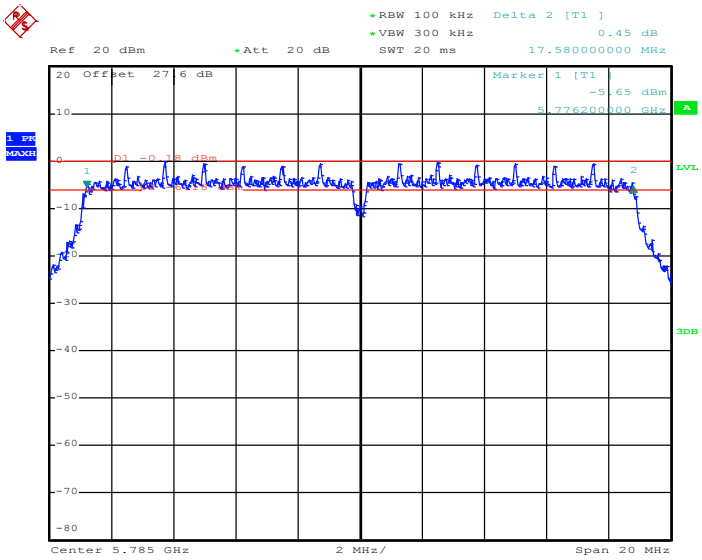
Date: 11.APR.2013 20:35:21

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 149



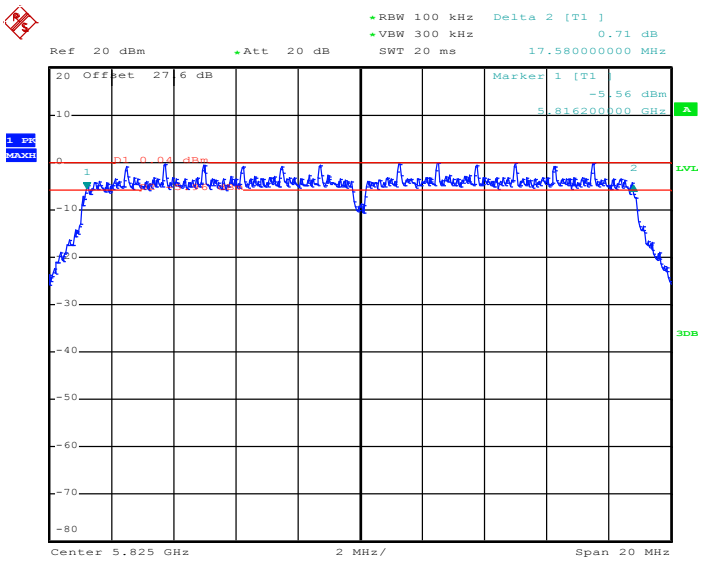
Date: 11.APR.2013 21:22:37

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 157



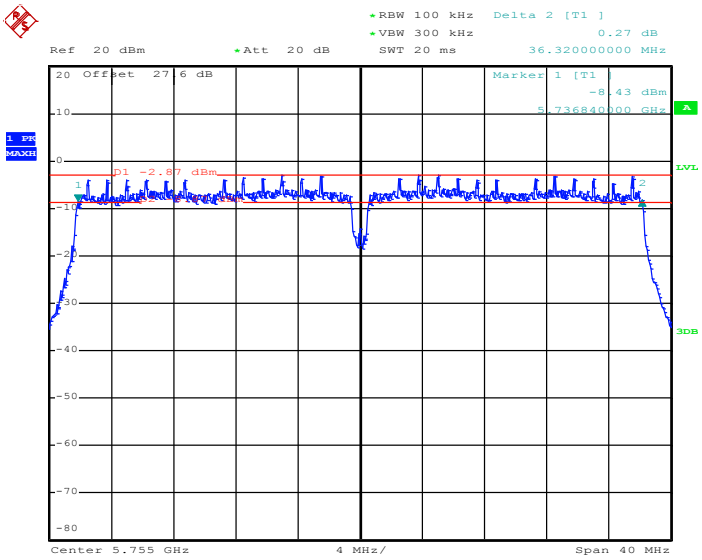
Date: 11.APR.2013 21:18:10

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 165



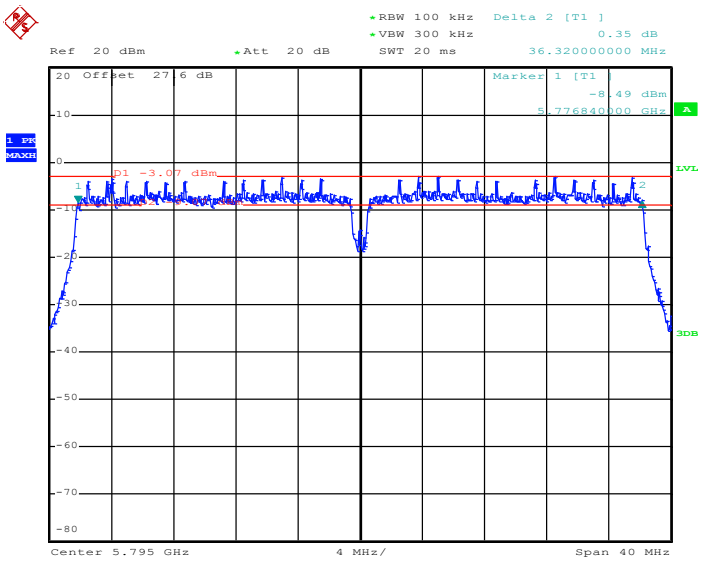
Date: 11.APR.2013 21:12:27

6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 151



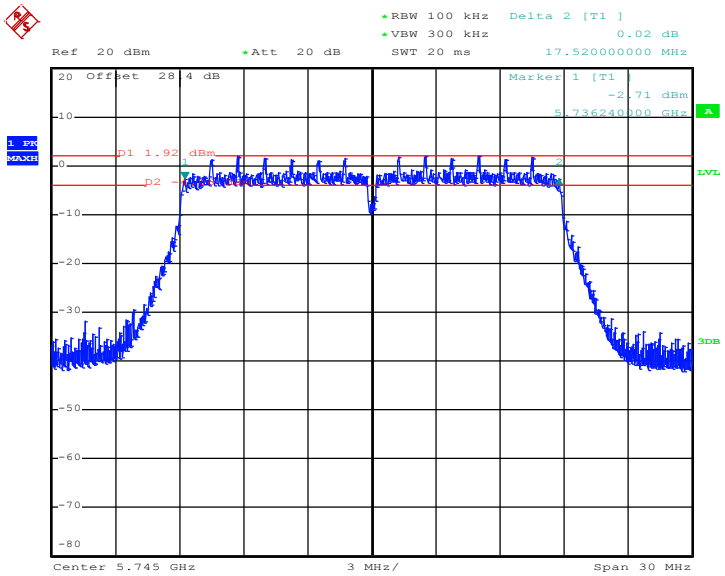
Date: 11.APR.2013 21:28:56

6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 159



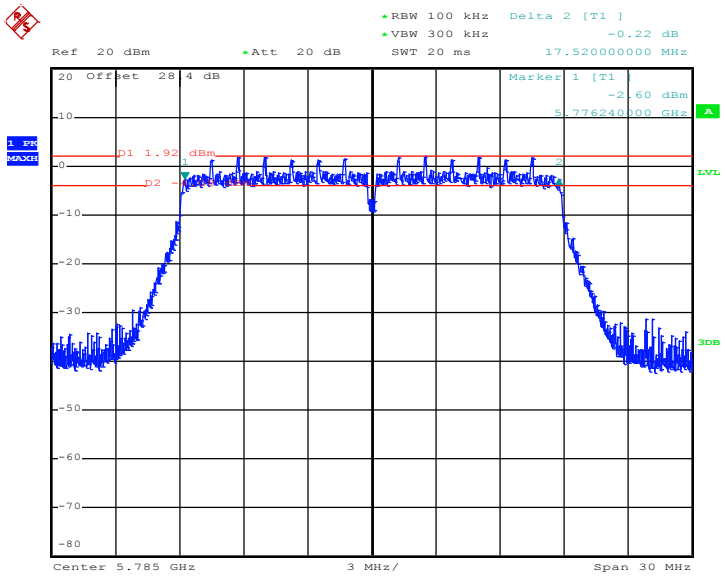
Date: 11.APR.2013 21:33:01

6 dB Bandwidth Plot on 5GHz 802.11ac VHT20 Channel 149



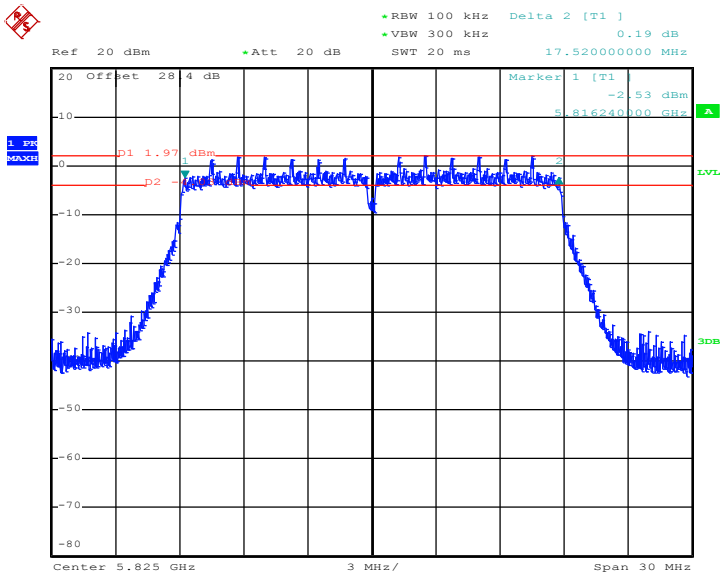
Date: 29.APR.2013 22:07:08

6 dB Bandwidth Plot on 5GHz 802.11ac VHT20 Channel 157



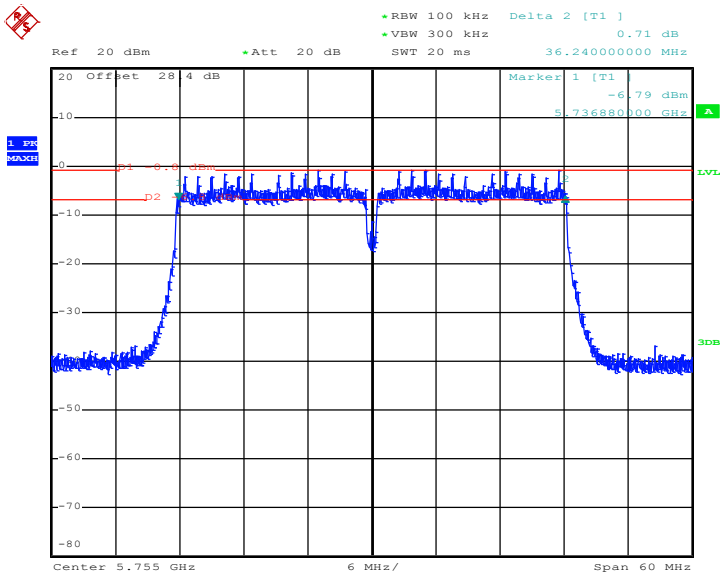
Date: 29.APR.2013 22:12:49

6 dB Bandwidth Plot on 5GHz 802.11ac VHT20 Channel 165



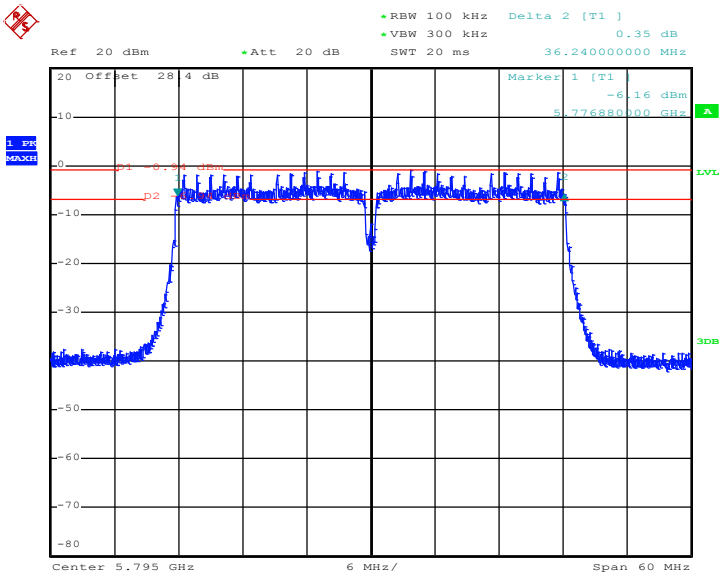
Date: 29.APR.2013 22:16:27

6 dB Bandwidth Plot on 5GHz 802.11ac VHT40 Channel 151



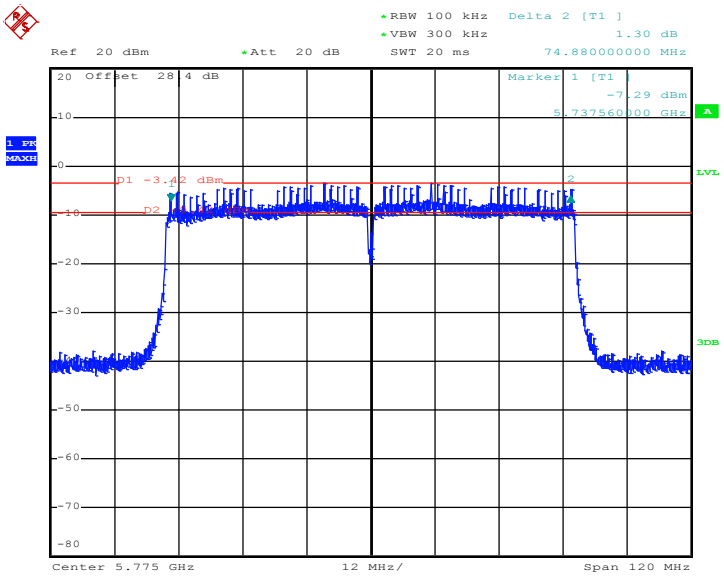
Date: 29.APR.2013 22:24:55

6 dB Bandwidth Plot on 5GHz 802.11ac VHT40 Channel 159



Date: 29.APR.2013 22:35:21

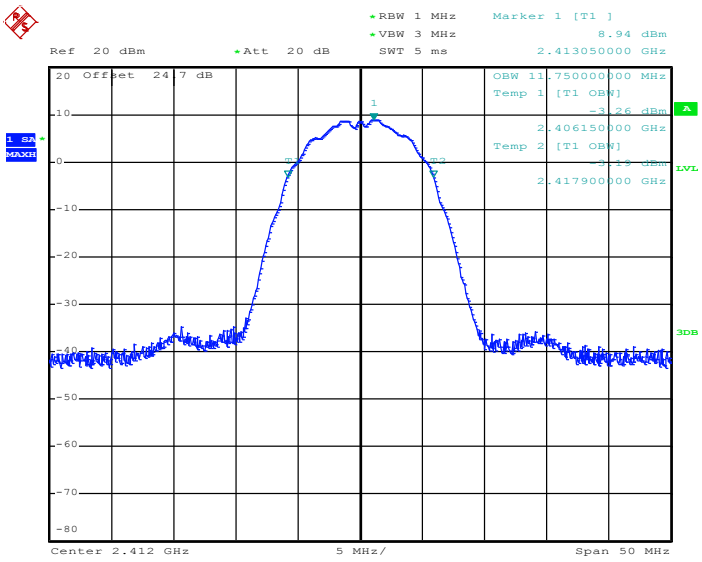
6 dB Bandwidth Plot on 5GHz 802.11ac VHT80 Channel 155



Date: 29.APR.2013 22:54:33

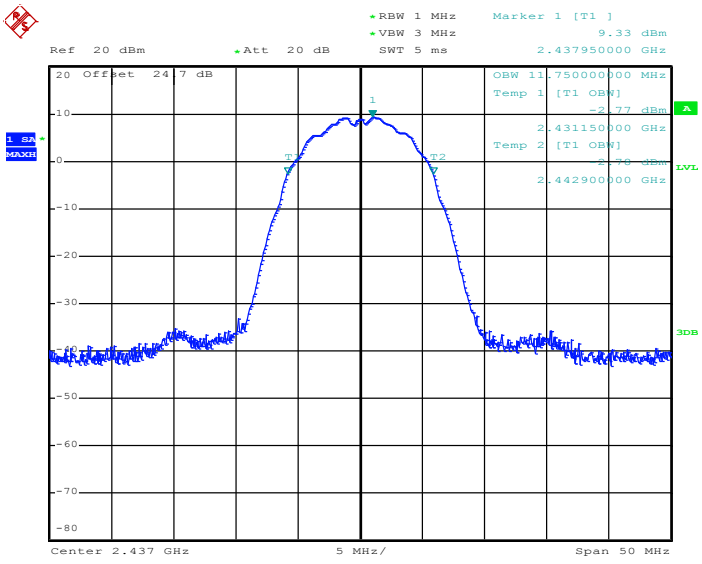
3.1.8 Test Result of 99% Bandwidth Plots

99% Occupied Bandwidth Plot on 802.11b Channel 01



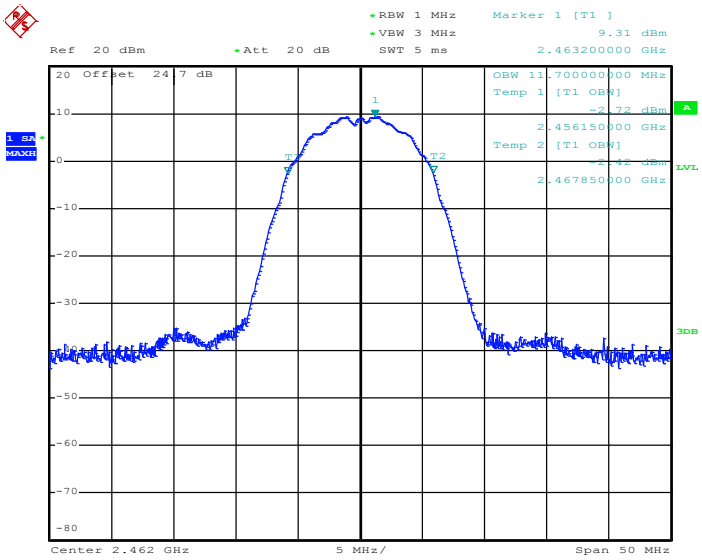
Date: 8.APR.2013 16:19:05

99% Occupied Bandwidth Plot on 802.11b Channel 06



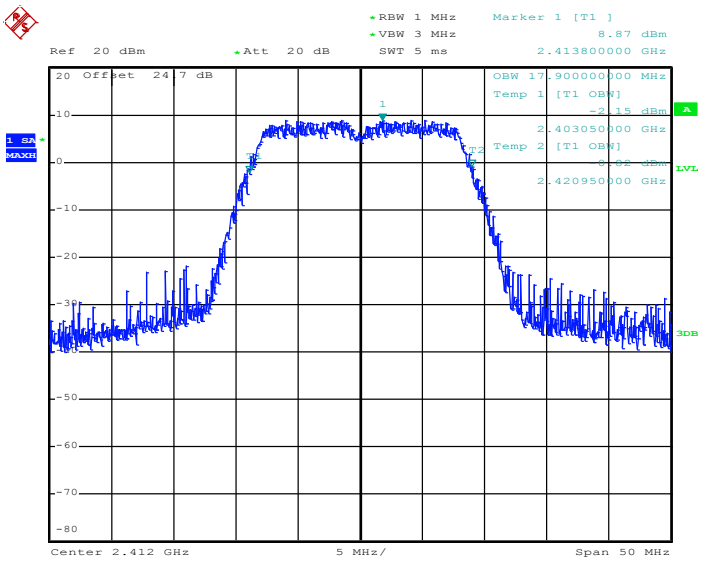
Date: 8.APR.2013 16:24:18

99% Occupied Bandwidth Plot on 802.11b Channel 11



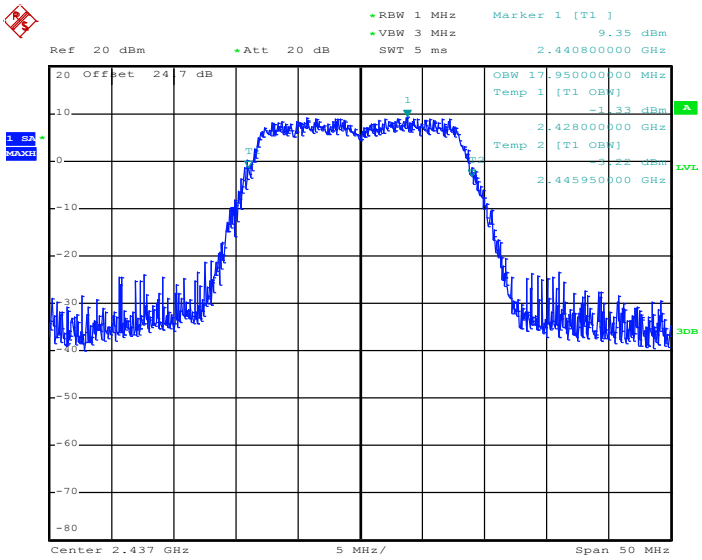
Date: 8.APR.2013 16:27:45

99% Occupied Bandwidth Plot on 802.11g Channel 01



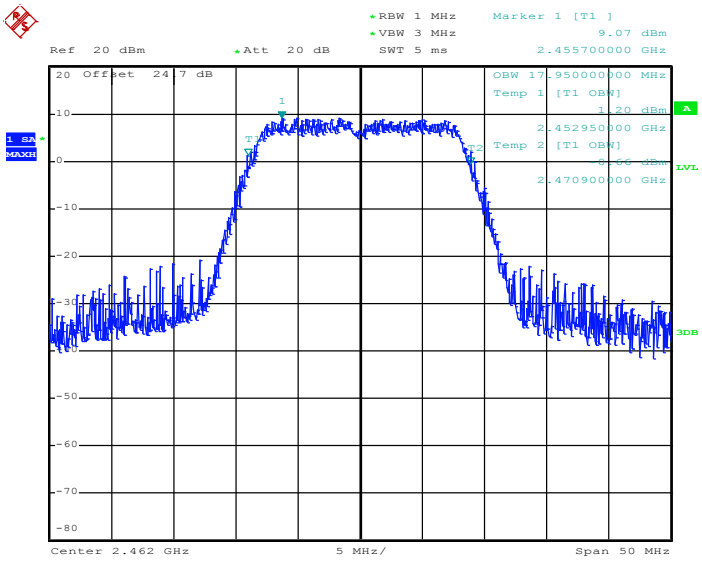
Date: 8.APR.2013 16:40:26

99% Occupied Bandwidth Plot on 802.11g Channel 06



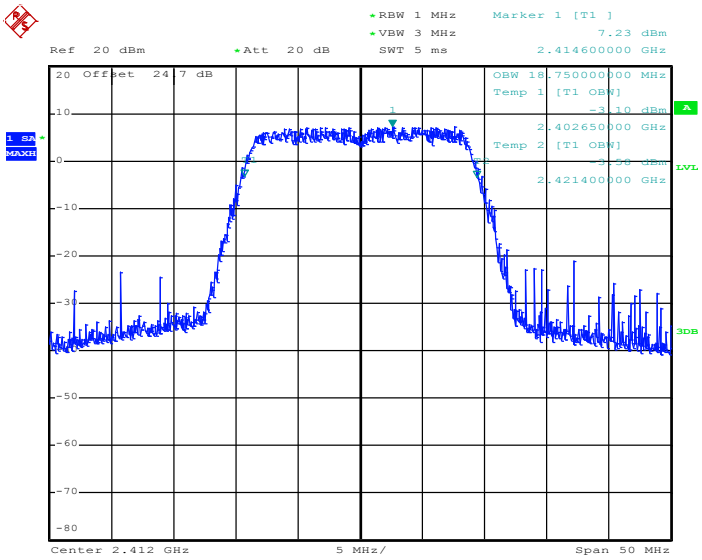
Date: 8.APR.2013 16:34:23

99% Occupied Bandwidth Plot on 802.11g Channel 11



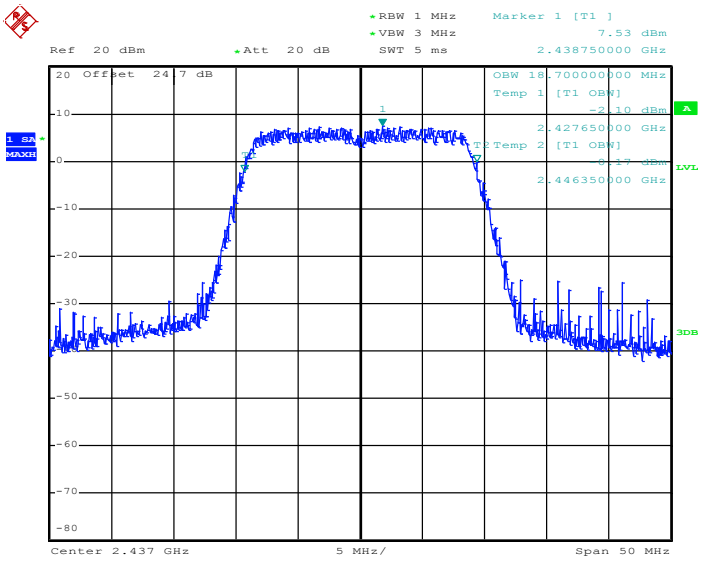
Date: 8.APR.2013 16:30:53

99% Occupied Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 01



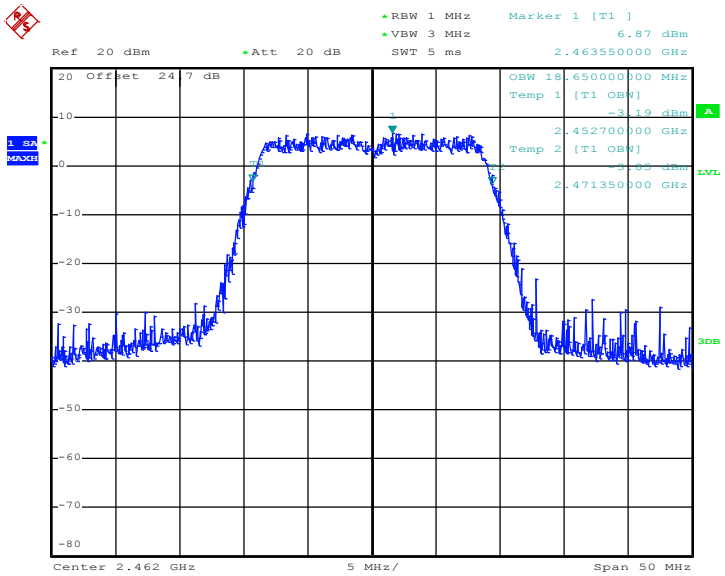
Date: 8.APR.2013 16:43:43

99% Occupied Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 06



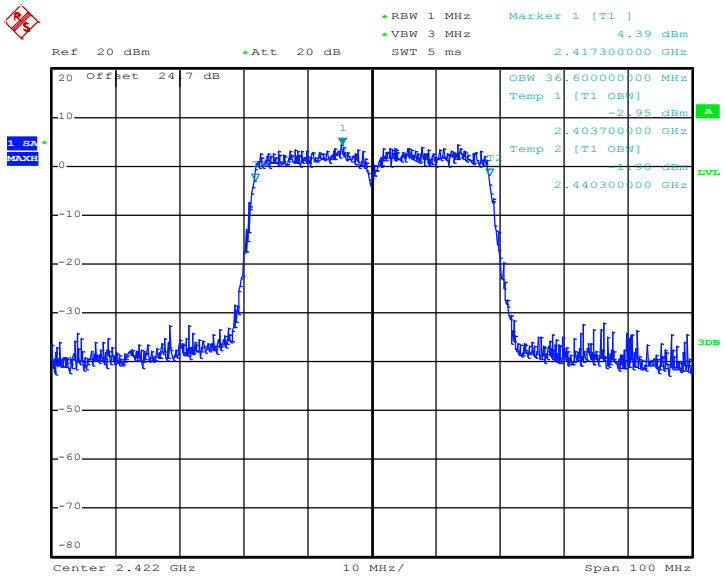
Date: 8.APR.2013 16:47:17

99% Occupied Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 11



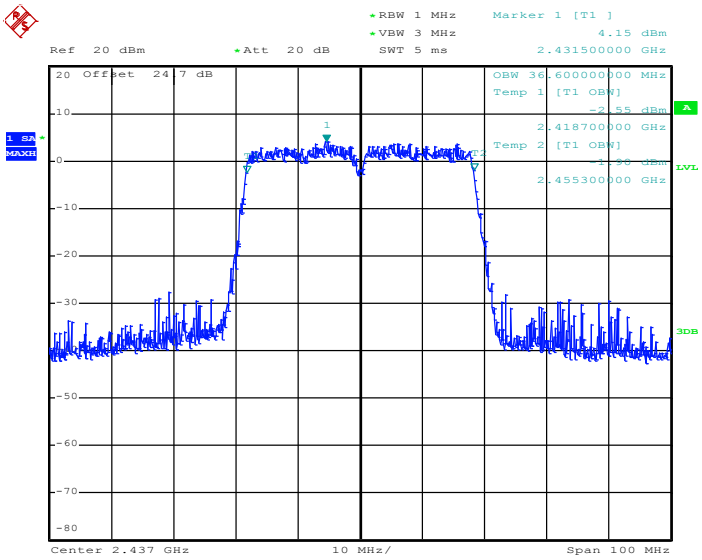
Date: 30.APR.2013 00:10:41

99% Occupied Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 03



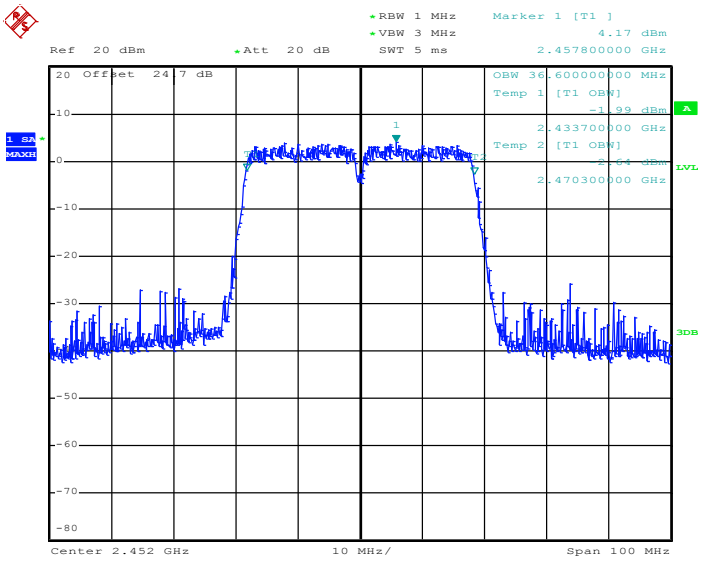
Date: 8.APR.2013 16:58:06

99% Occupied Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 06



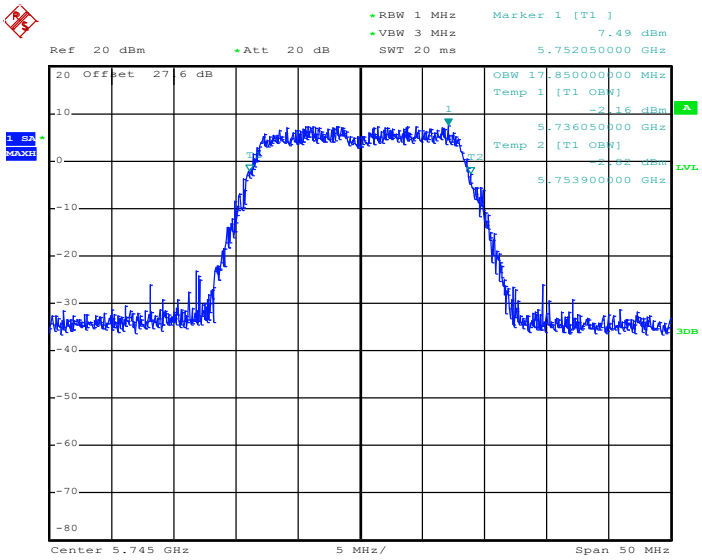
Date: 8.APR.2013 17:01:08

99% Occupied Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 09



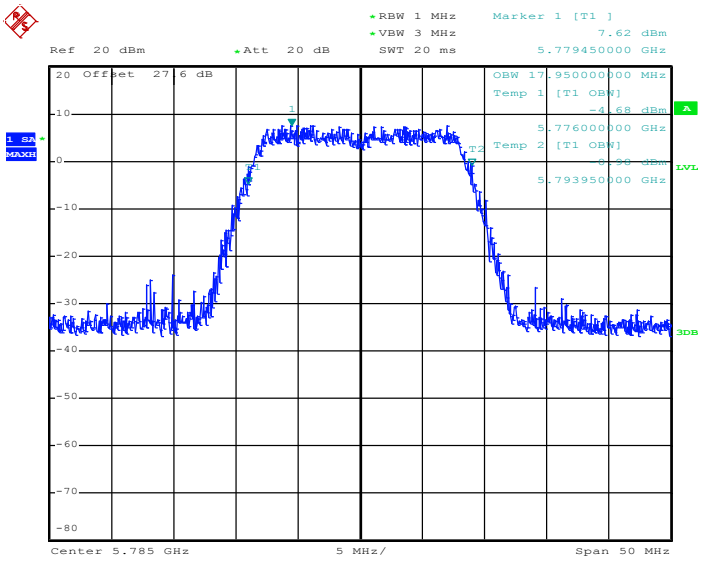
Date: 8.APR.2013 17:08:09

99% Occupied Bandwidth Plot on 802.11a Channel 149



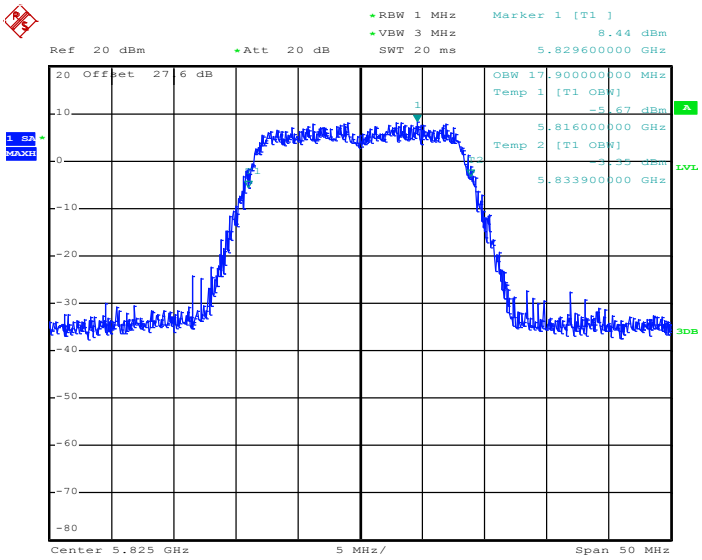
Date: 11.APR.2013 20:29:28

99% Occupied Bandwidth Plot on 802.11a Channel 157



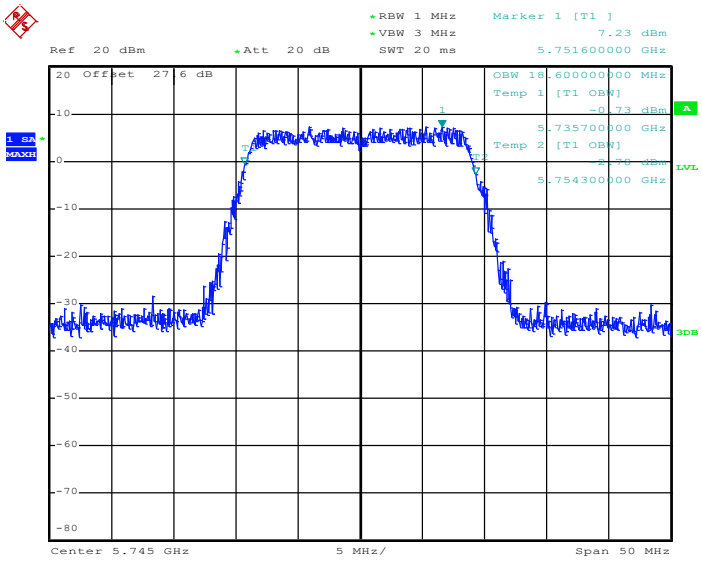
Date: 11.APR.2013 20:33:31

99% Occupied Bandwidth Plot on 802.11a Channel 165



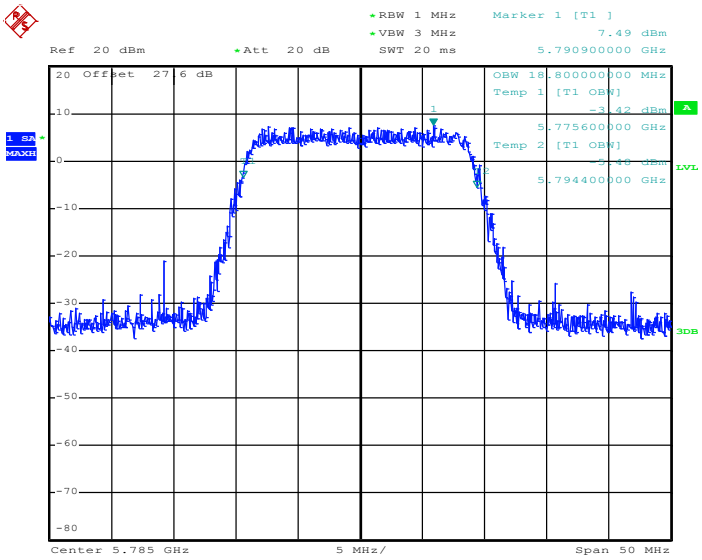
Date: 11.APR.2013 21:08:40

99% Occupied Bandwidth Plot on 5GHz 802.11n HT20 Channel 149



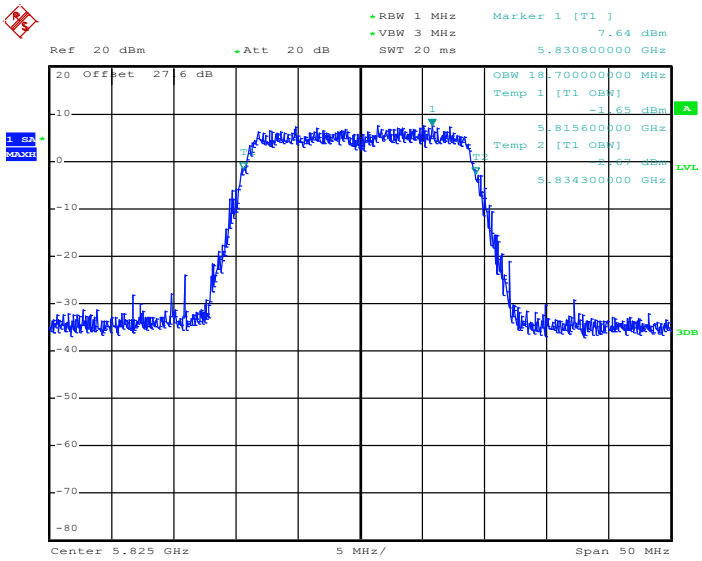
Date: 11.APR.2013 21:24:39

99% Occupied Bandwidth Plot on 5GHz 802.11n HT20 Channel 157



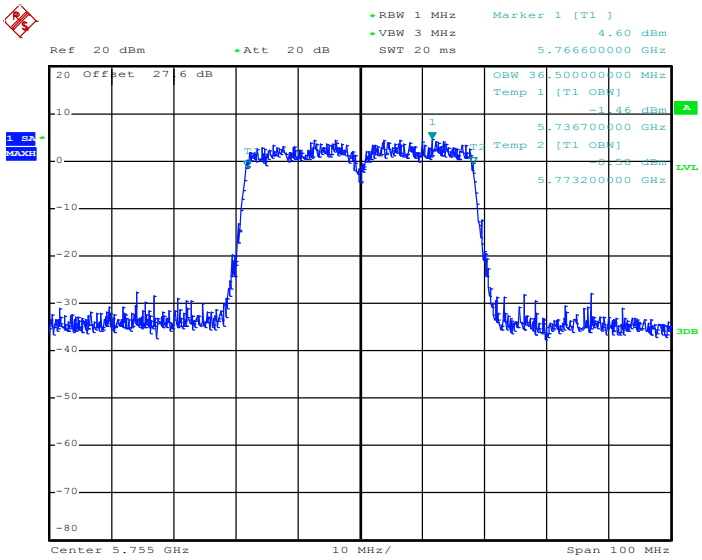
Date: 11.APR.2013 21:20:52

99% Occupied Bandwidth Plot on 5GHz 802.11n HT20 Channel 165



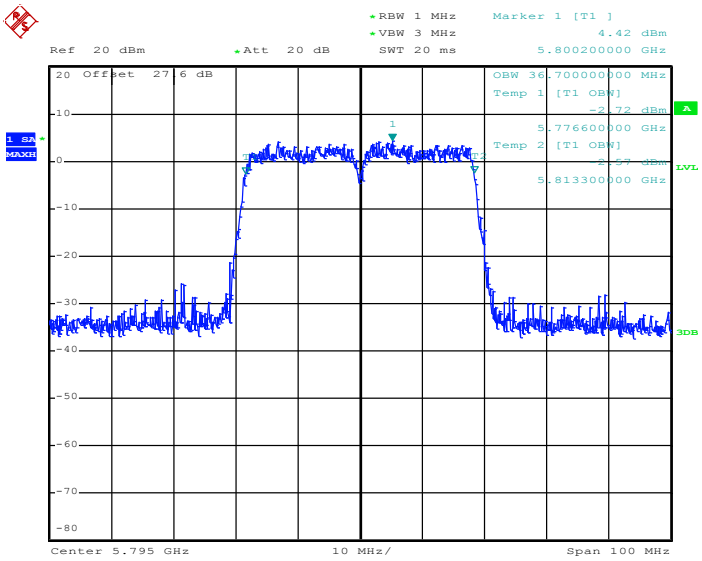
Date: 11.APR.2013 21:15:55

99% Occupied Bandwidth Plot on 5GHz 802.11n HT40 Channel 151



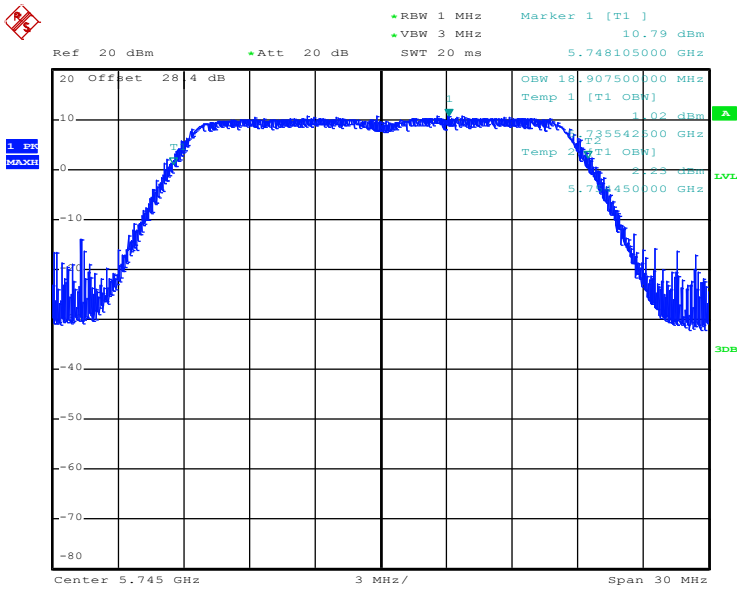
Date: 11.APR.2013 21:30:55

99% Occupied Bandwidth Plot on 5GHz 802.11n HT40 Channel 159



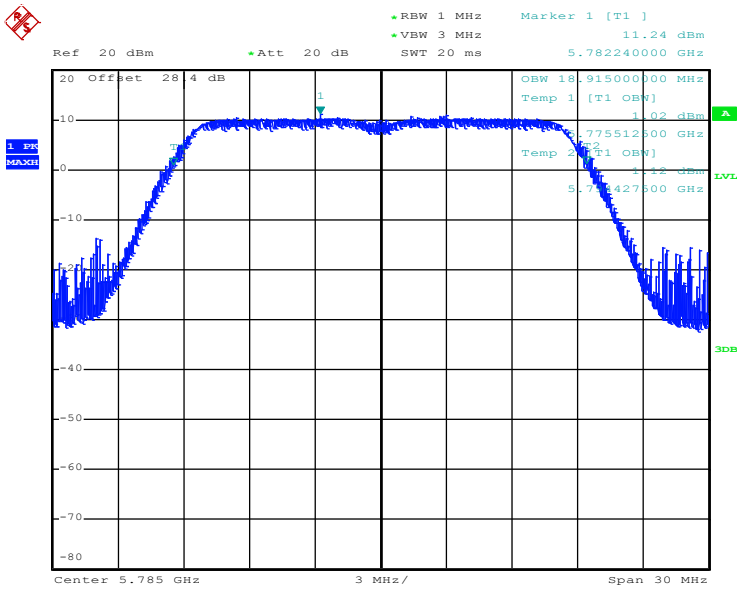
Date: 11.APR.2013 21:35:45

99% Occupied Bandwidth Plot on 5GHz 802.11ac VHT20 Channel 149



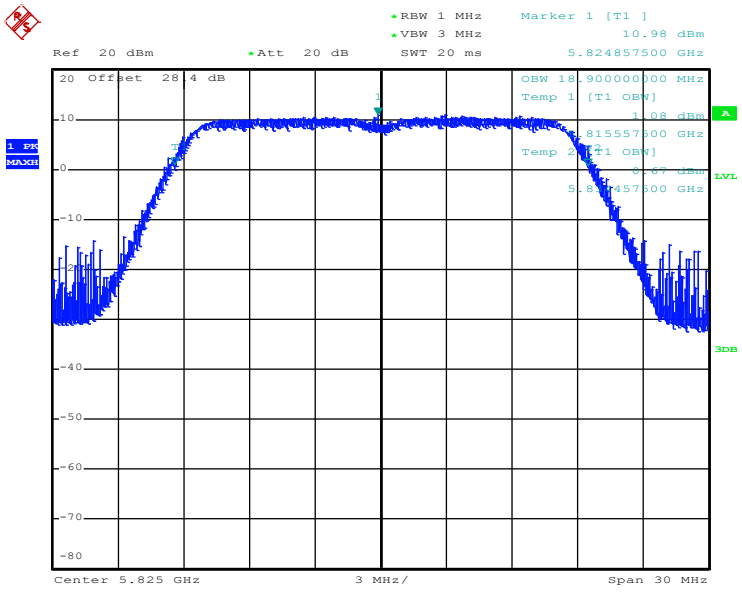
Date: 29.APR.2013 22:10:29

99% Occupied Bandwidth Plot on 5GHz 802.11ac VHT20 Channel 157



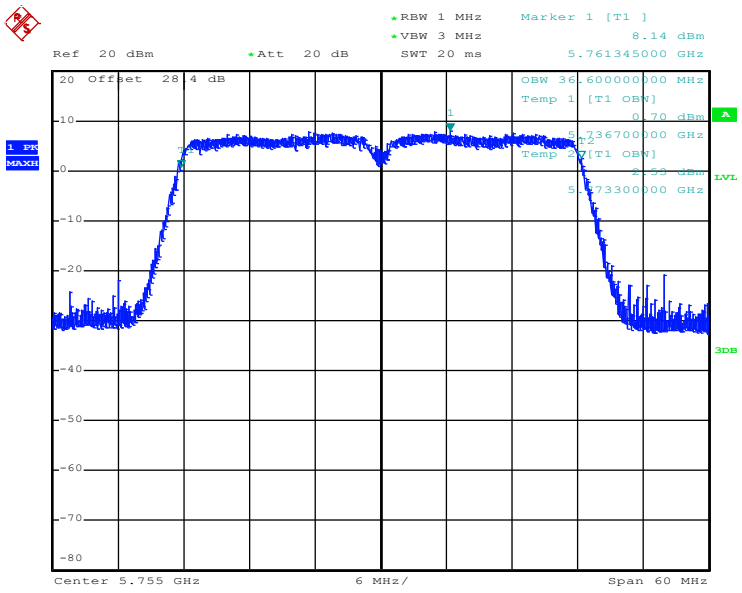
Date: 29.APR.2013 22:14:59

99% Occupied Bandwidth Plot on 5GHz 802.11ac VHT20 Channel 165



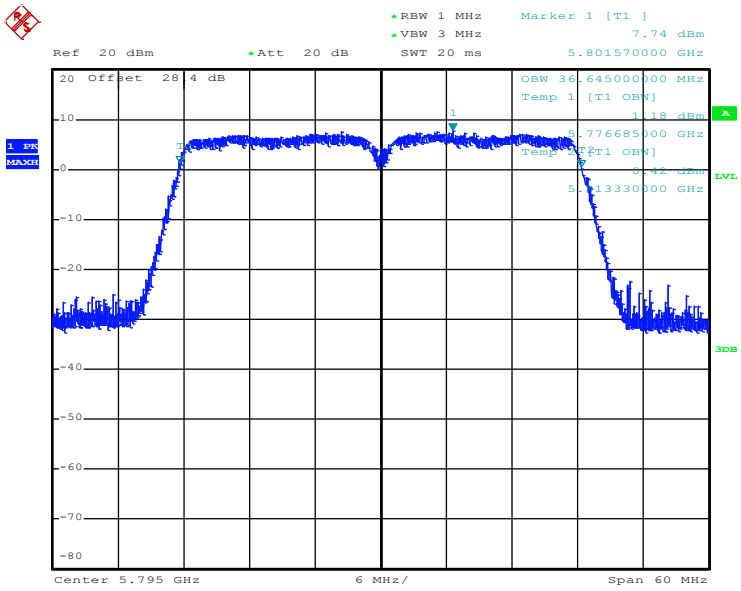
Date: 29.APR.2013 22:19:49

99% Occupied Bandwidth Plot on 5GHz 802.11ac VHT40 Channel 151



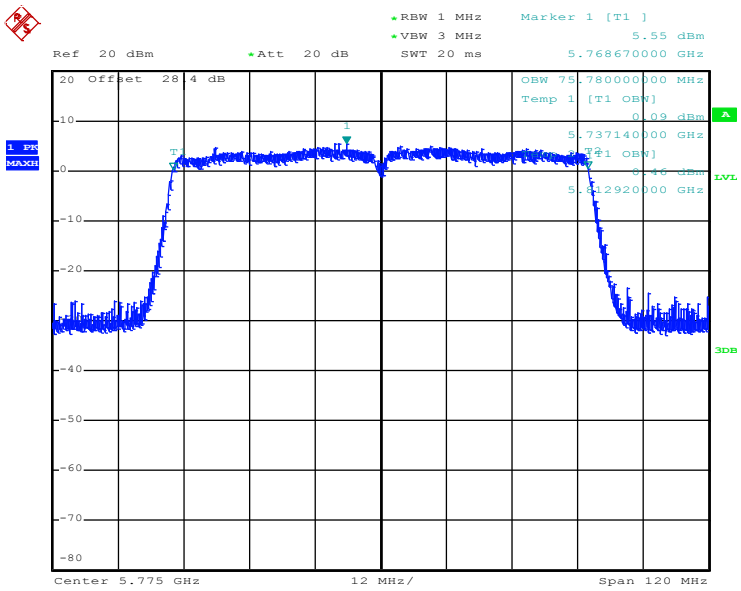
Date: 29.APR.2013 22:28:45

99% Occupied Bandwidth Plot on 5GHz 802.11ac VHT40 Channel 159



Date: 29.APR.2013 22:40:20

99% Occupied Bandwidth Plot on 5GHz 802.11ac VHT80 Channel 155



Date: 29.APR.2013 22:57:58

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz and 5725-5850MHz, the limit for average output power is 30dBm. If transmitting Antenna of directional gain greater than 6dBi are used the average output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the Antenna exceeds 6dBi.

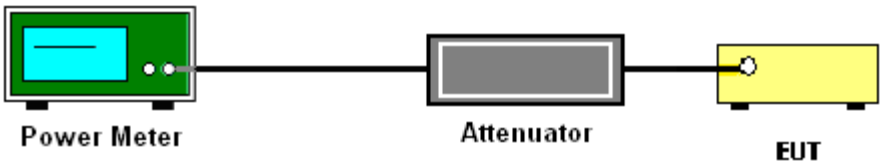
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.6 Test Result of Average Output Power

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	99.08%	Duty Factor:	0.04dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
01	2412	13.27	13.31	30	Pass
06	2437	13.56	13.60	30	Pass
11	2462	13.69	13.73	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	93.42%	Duty Factor:	0.30dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
01	2412	11.71	12.01	30	Pass
06	2437	11.89	12.19	30	Pass
11	2462	12.15	12.45	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	93.06%	Duty Factor:	0.31dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
01	2412	10.62	10.93	30	Pass
06	2437	10.81	11.12	30	Pass
11	2462	10.12	10.43	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	93.06%	Duty Factor:	0.31dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
03	2422	10.05	10.36	30	Pass
06	2437	9.74	10.05	30	Pass
09	2452	10.07	10.38	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	93.46%	Duty Factor:	0.29dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
149	5745	10.26	10.55	30	Pass
157	5785	10.54	10.83	30	Pass
165	5825	10.85	11.14	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	92.36%	Duty Factor:	0.35dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
149	5745	10.48	10.83	30	Pass
157	5785	10.31	10.66	30	Pass
165	5825	10.75	11.10	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	86.72%	Duty Factor:	0.62dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
151	5755	9.95	10.57	30	Pass
159	5795	10.25	10.87	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11ac VHT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	93.10%	Duty Factor:	0.31dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
149	5745	10.65	10.96	30	Pass
157	5785	10.40	10.71	30	Pass
165	5825	10.80	11.11	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11ac VHT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	86.82%	Duty Factor:	0.61dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
151	5755	10.01	10.62	30	Pass
159	5795	10.26	10.87	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

Test Mode :	802.11ac VHT80	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%
Duty Cycle:	77.06%	Duty Factor:	1.13dB

Channel	Frequency (MHz)	Average Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
155	5775	10.00	11.13	30	Pass

Note: Final Output Power equals to Measured Output Power adds the duty factor.

3.2.7 Test Result of Peak Output Power (Reporting Only)

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)
01	2412	16.87
06	2437	17.22
11	2462	17.28

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)
01	2412	21.27
06	2437	21.35
11	2462	21.43

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Peak Output Power (dBm)
01	2412	21.22
06	2437	21.36
11	2462	20.72

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Peak Output Power (dBm)
03	2422	21.02
06	2437	20.84
09	2452	21.03

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Peak Output Power (dBm)
149	5745	19.51
157	5785	19.76
165	5825	20.50

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT20 Peak Output Power (dBm)
149	5745	19.71
157	5785	19.55
165	5825	20.50

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT40 Peak Output Power (dBm)
151	5755	19.23
159	5795	19.88

Test Mode :	802.11ac VHT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11ac VHT20 Peak Output Power (dBm)
149	5745	20.07
157	5785	19.77
165	5825	20.78

Test Mode :	802.11ac VHT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11ac VHT40 Peak Output Power (dBm)
151	5755	19.12
159	5795	19.65

Test Mode :	802.11ac VHT80	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11ac VHT80 Peak Output Power (dBm)
155	5775	19.85

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3KHz band at any time interval of continuous transmission.

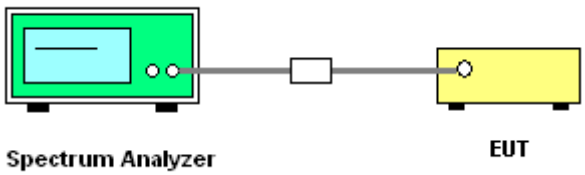
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.7 Method AVGPSD-2 of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Video bandwidth VBW = 300 kHz In order to make an accurate measurement, set the span to 1.5 times OBW.
5. Detector = RMS, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. The Measured power density (dBm)/ 100KHz is a reference level and used as 30dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
01	2412	6.73	5.01	8	Pass
06	2437	6.28	5.29	8	Pass
11	2462	6.42	5.53	8	Pass

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
01	2412	1.62	0.29	8	Pass
06	2437	1.53	0.51	8	Pass
11	2462	1.32	0.11	8	Pass

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
01	2412	0.51	-0.55	8	Pass
06	2437	0.26	-0.50	8	Pass
11	2462	-0.61	-0.87	8	Pass

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
03	2422	-2.28	-4.10	8	Pass
06	2437	-2.83	-3.43	8	Pass
09	2452	-2.53	-3.69	8	Pass

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
149	5745	2.28	-0.03	8	Pass
157	5785	2.61	0.12	8	Pass
165	5825	2.30	-0.11	8	Pass

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT20 Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
149	5745	2.51	-0.15	8	Pass
157	5785	2.68	-0.04	8	Pass
165	5825	2.31	-0.41	8	Pass

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT40 Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
151	5755	-0.35	-2.89	8	Pass
159	5795	0.08	-2.89	8	Pass

Test Mode :	802.11ac VHT20	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT20 Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
149	5745	3.34	0.82	8	Pass
157	5785	3.43	0.55	8	Pass
165	5825	3.35	0.90	8	Pass

Test Mode :	802.11ac VHT40	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT40 Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
151	5755	0.34	-2.69	8	Pass
159	5795	0.20	-2.64	8	Pass

Test Mode :	802.11ac VHT80	Temperature :	24~26℃
Test Engineer :	Reece Li and Coyote Lin	Relative Humidity :	50~53%

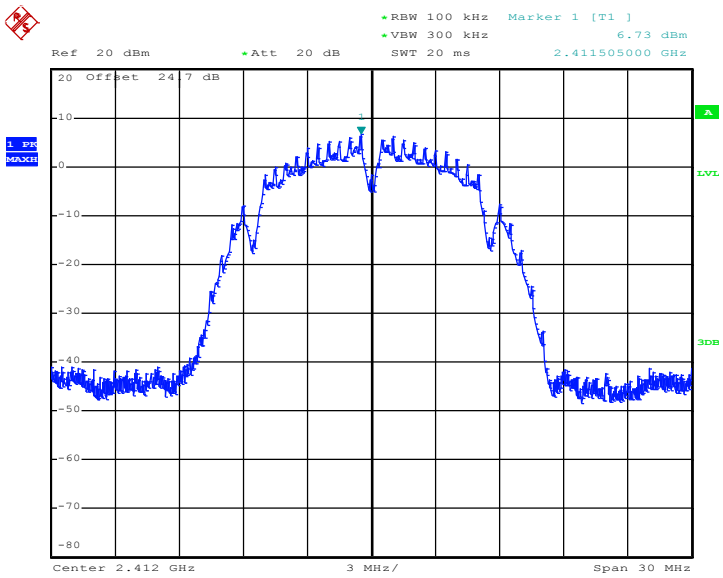
Channel	Frequency (MHz)	5GHz 802.11n HT80 Power Density		Max. Limits (dBm)	Pass/Fail
		100kHz-Peak (dBm)	100kHz-Average (dBm)		
155	5775	-2.02	-4.76	8	Pass

Note:

1. *Measured power density (dBm) has offset with cable loss.*
2. *The Measured power density (dBm)/ 100kHz-Peak is reference level and used as 30dBc down for Conducted Band Edges and Conducted Spurious Emission limit line.*

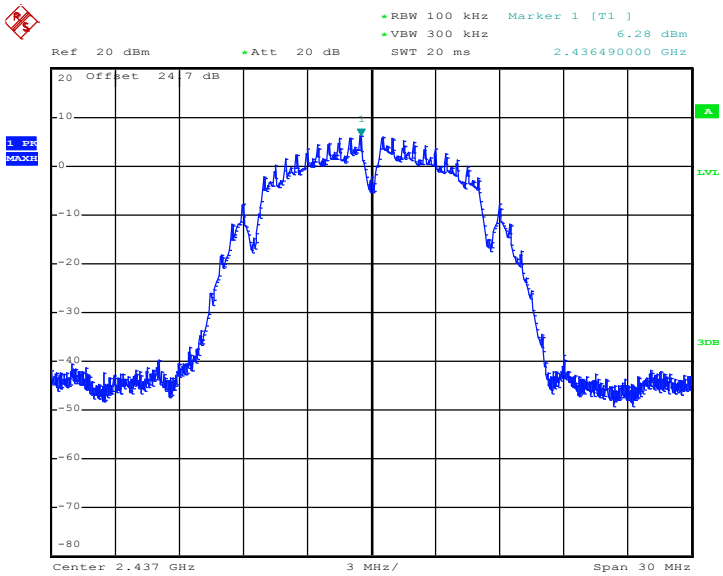
3.3.6 Test Result of Power Spectral Density Plots (100kHz-Peak)

PSD 100kHz-Peak Plot on 802.11b Channel 01



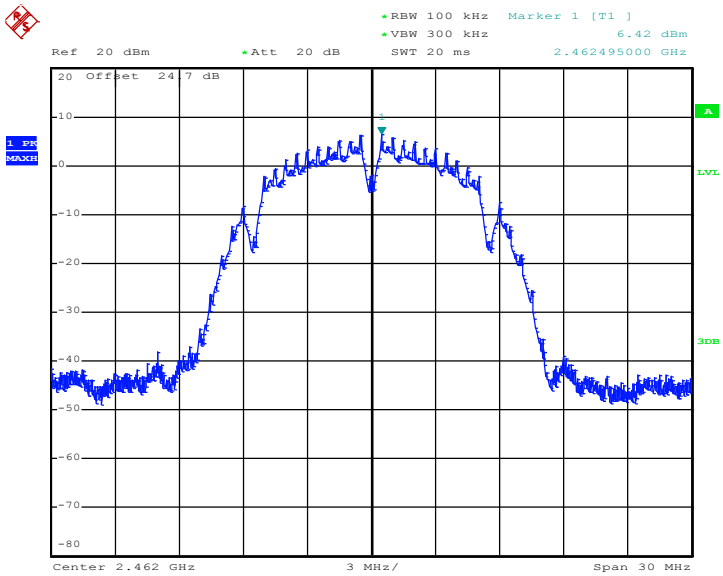
Date: 6.MAY.2013 20:24:43

PSD 100kHz-Peak Plot on 802.11b Channel 06



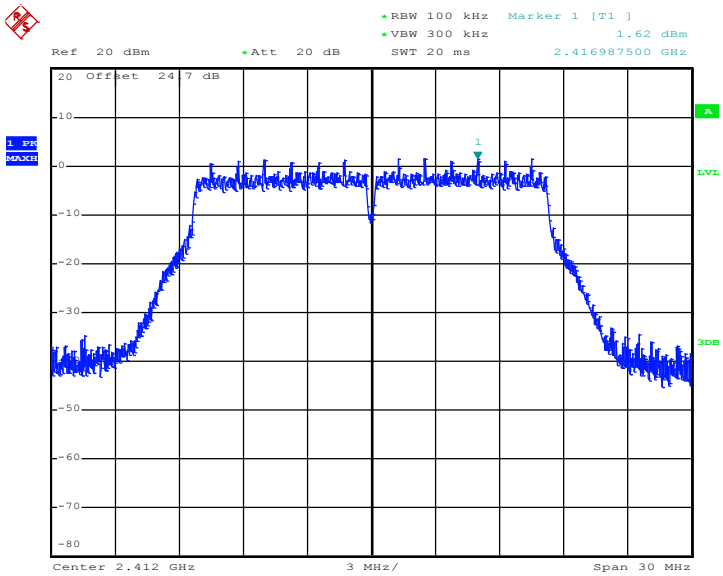
Date: 6.MAY.2013 20:29:56

PSD 100kHz-Peak Plot on 802.11b Channel 11



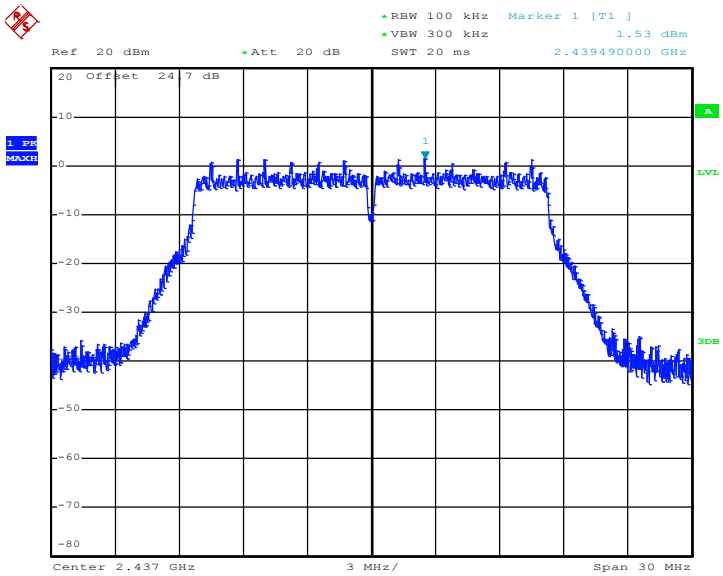
Date: 6.MAY.2013 20:31:02

PSD 100kHz-Peak Plot on 802.11g Channel 01



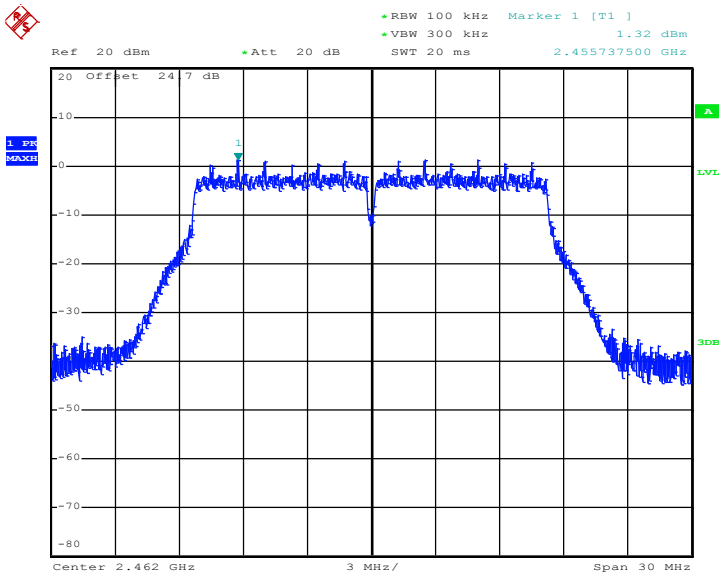
Date: 6.MAY.2013 20:37:57

PSD 100kHz-Peak Plot 802.11g Channel 06



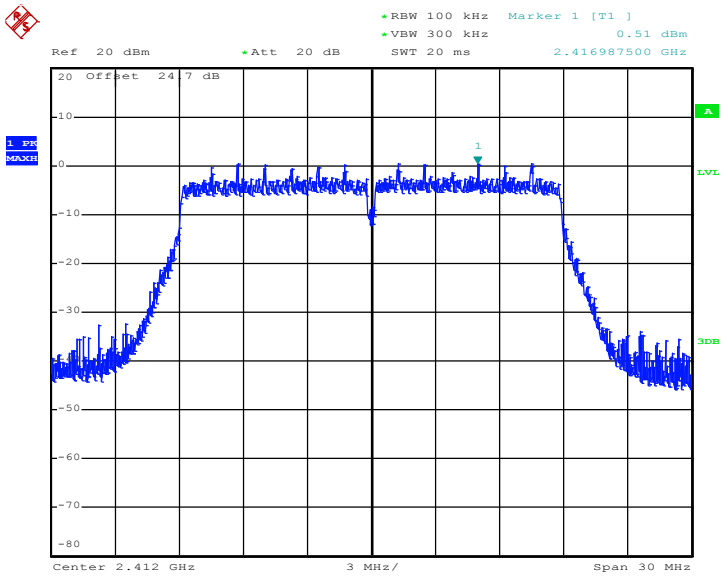
Date: 6.MAY.2013 20:37:12

PSD 100kHz-Peak Plot 802.11g Channel 11



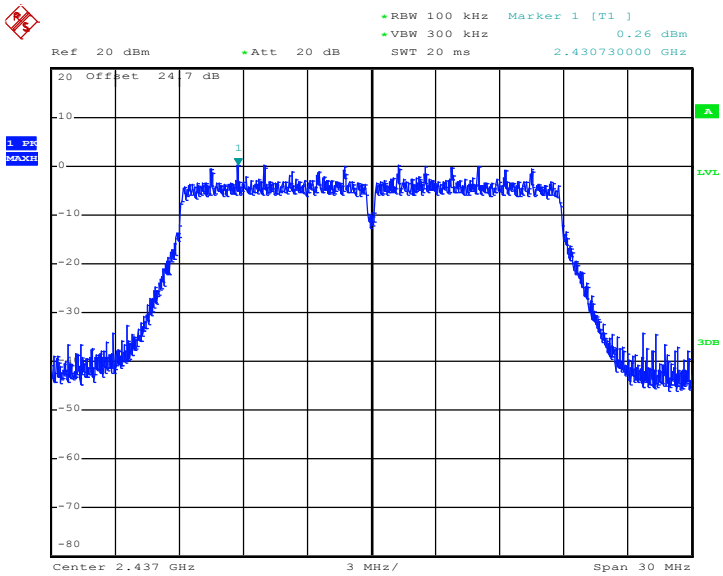
Date: 6.MAY.2013 20:35:43

PSD 100kHz-Peak Plot on 2.4GHz 802.11n HT20 Channel 01



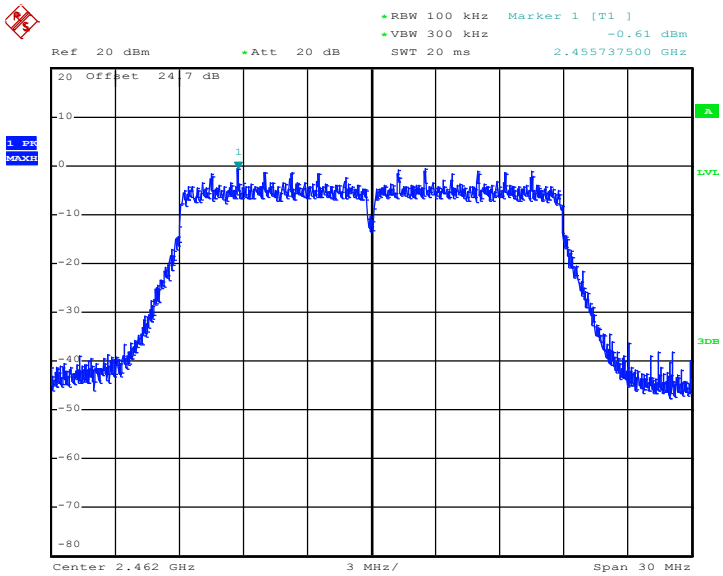
Date: 6.MAY.2013 20:40:10

PSD 100kHz-Peak Plot on 2.4GHz 802.11n HT20 Channel 06



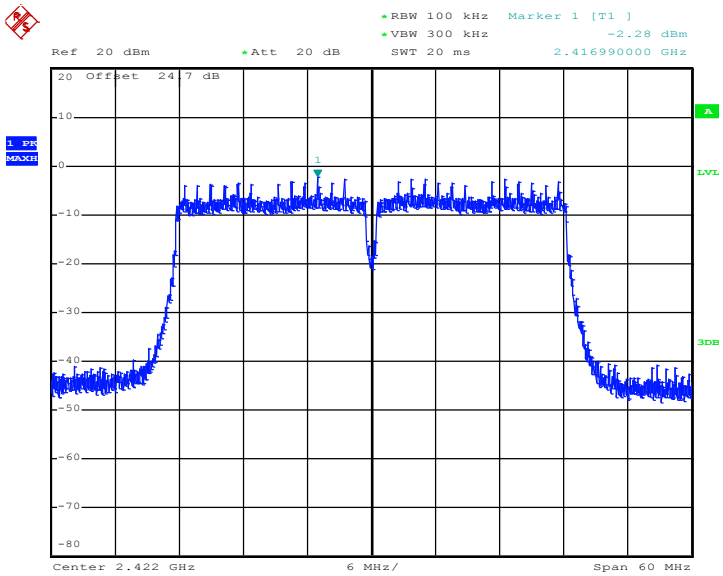
Date: 6.MAY.2013 20:41:02

PSD 100kHz-Peak Plot on 2.4GHz 802.11n HT20 Channel 11



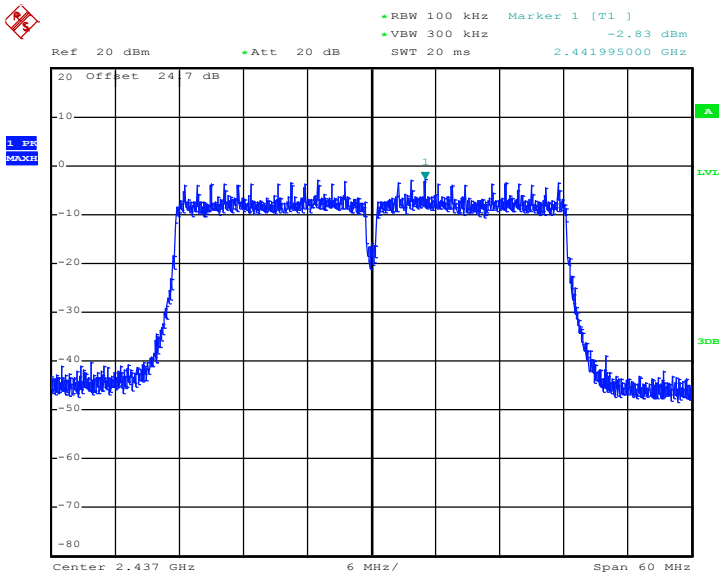
Date: 6.MAY.2013 20:42:29

PSD 100kHz-Peak Plot on 2.4GHz 802.11n HT40 Channel 03



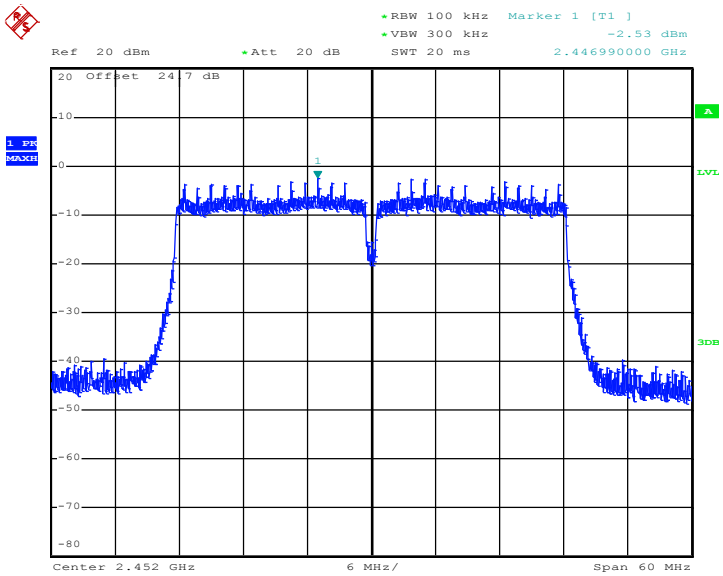
Date: 6.MAY.2013 20:45:43

PSD 100kHz-Peak Plot on 2.4GHz 802.11n HT40 Channel 06



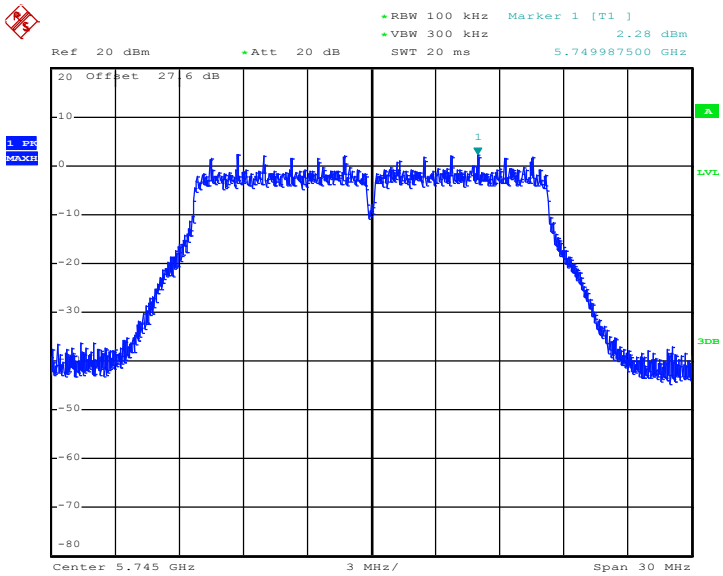
Date: 6.MAY.2013 20:47:27

PSD 100kHz-Peak Plot on 2.4GHz 802.11n HT40 Channel 09



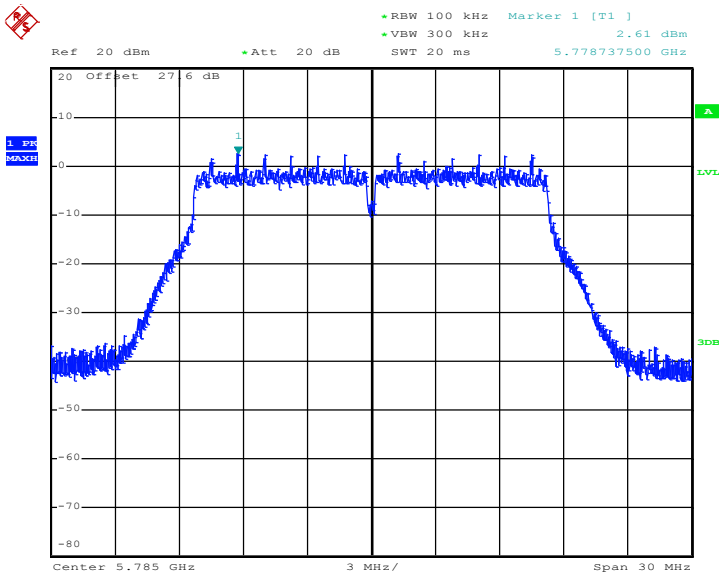
Date: 6.MAY.2013 20:49:39

PSD 100kHz-Peak Plot on 802.11a Channel 149



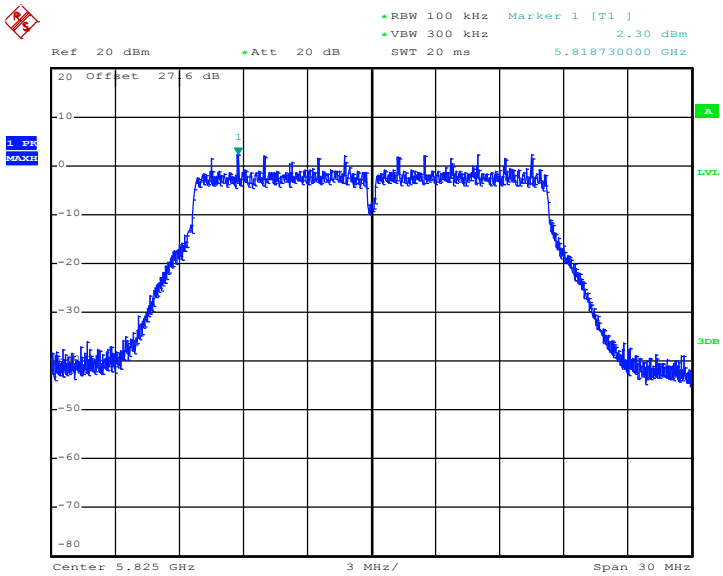
Date: 6.MAY.2013 20:53:57

PSD 100kHz-Peak Plot on 802.11a Channel 157



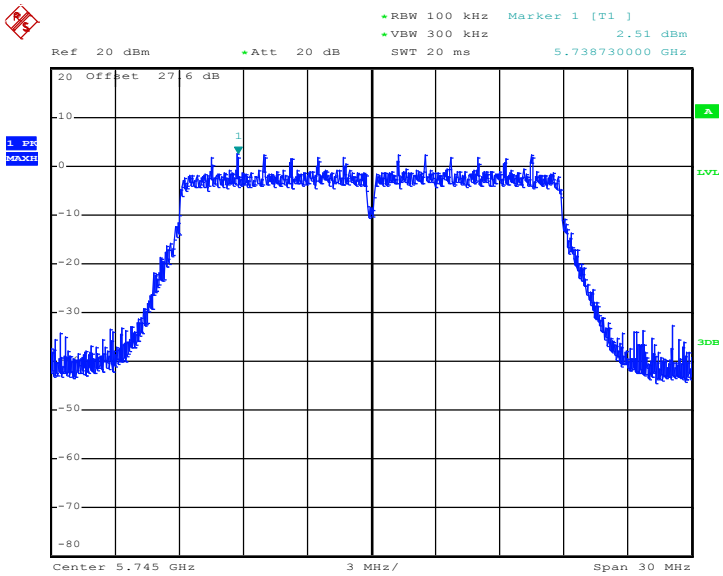
Date: 6.MAY.2013 20:54:48

PSD 100kHz-Peak Plot on 802.11a Channel 165



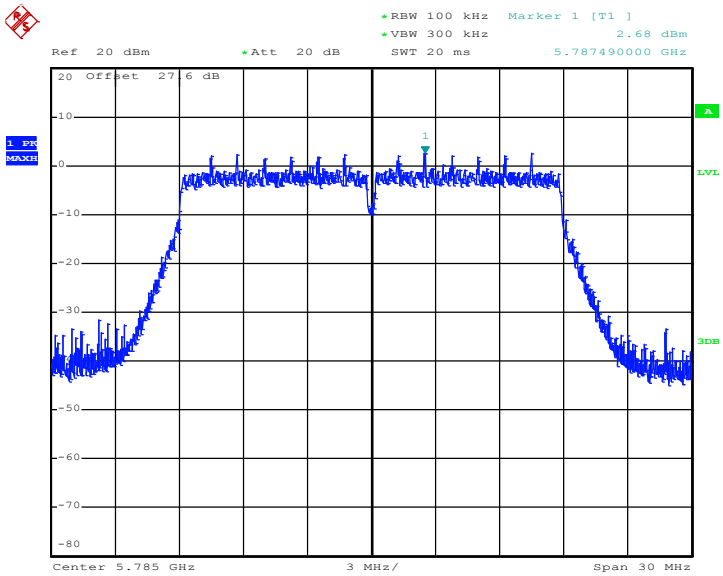
Date: 6.MAY.2013 20:55:29

PSD 100kHz-Peak Plot on 5GHz 802.11n HT20 Channel 149



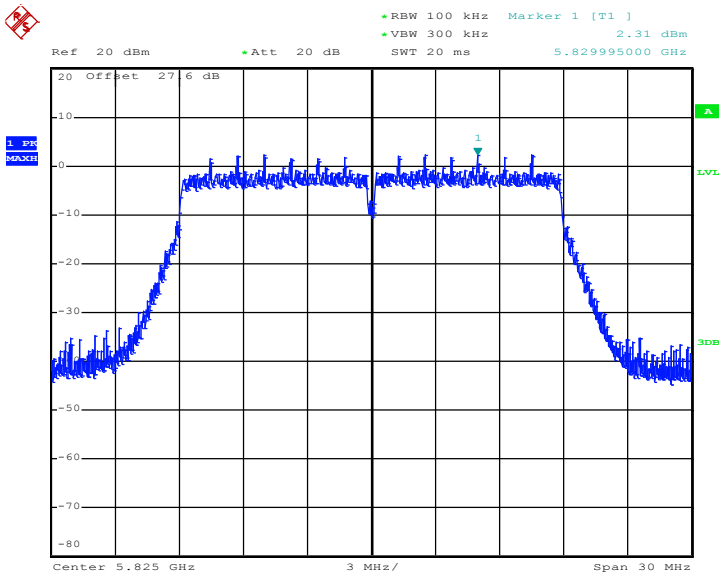
Date: 6.MAY.2013 21:05:37

PSD 100kHz-Peak Plot on 5GHz 802.11n HT20 Channel 157



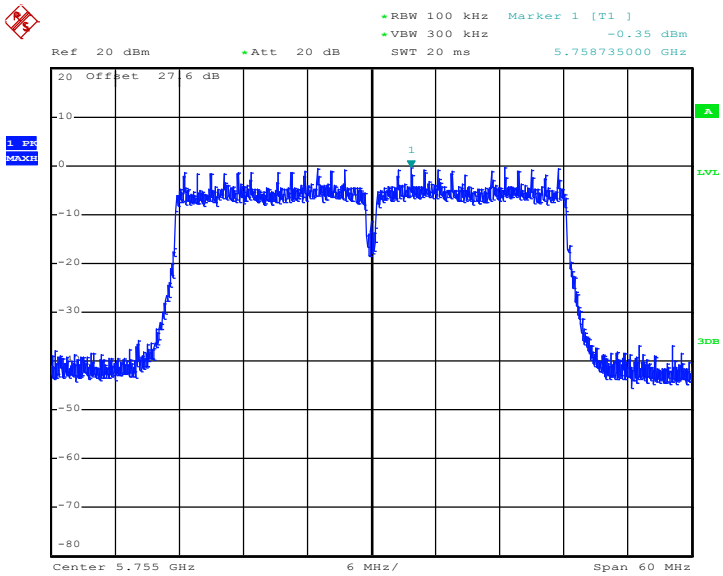
Date: 6.MAY.2013 21:05:03

PSD 100kHz-Peak Plot on 5GHz 802.11n HT20 Channel 165



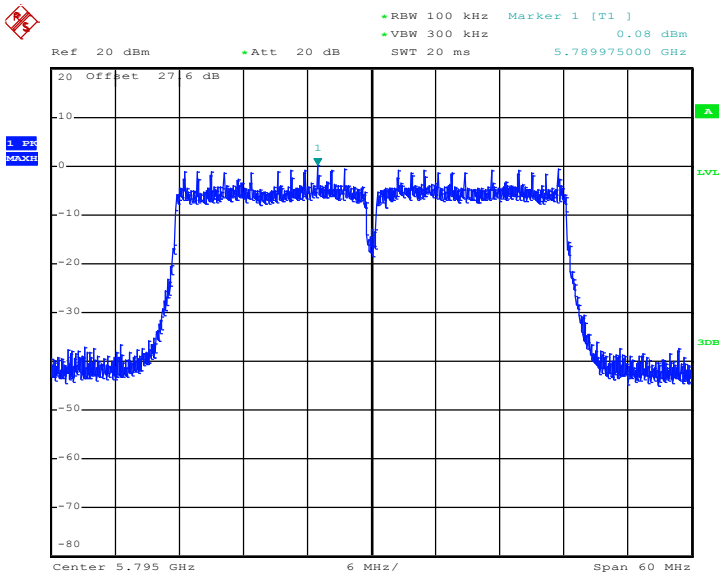
Date: 6.MAY.2013 21:02:27

PSD 100kHz-Peak Plot on 5GHz 802.11n HT40 Channel 151



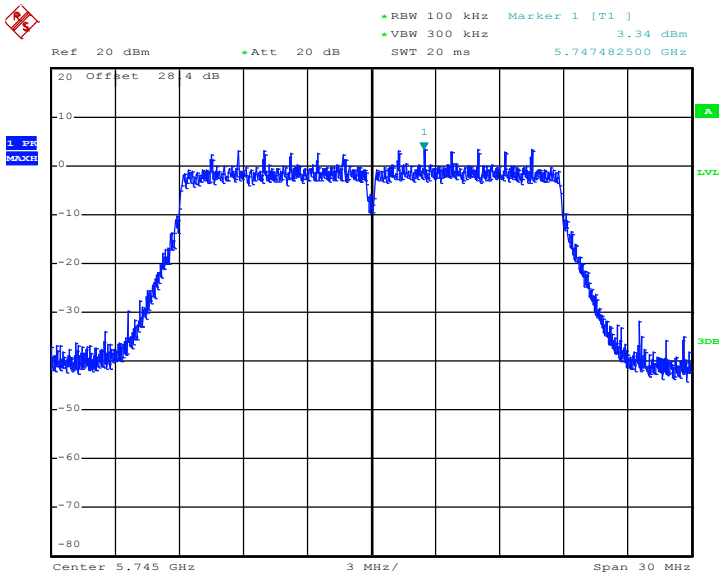
Date: 6.MAY.2013 21:07:42

PSD 100kHz-Peak Plot on 5GHz 802.11n HT40 Channel 159



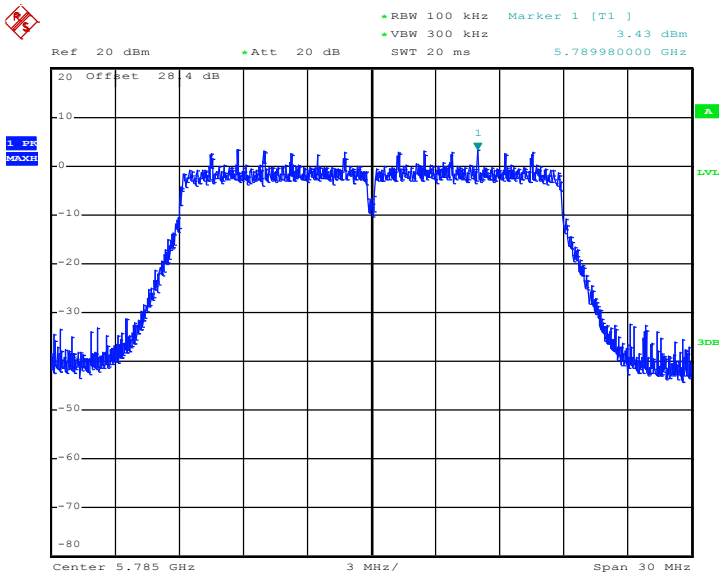
Date: 6.MAY.2013 21:09:16

PSD 100kHz-Peak Plot on 5GHz 802.11ac VHT20 Channel 149



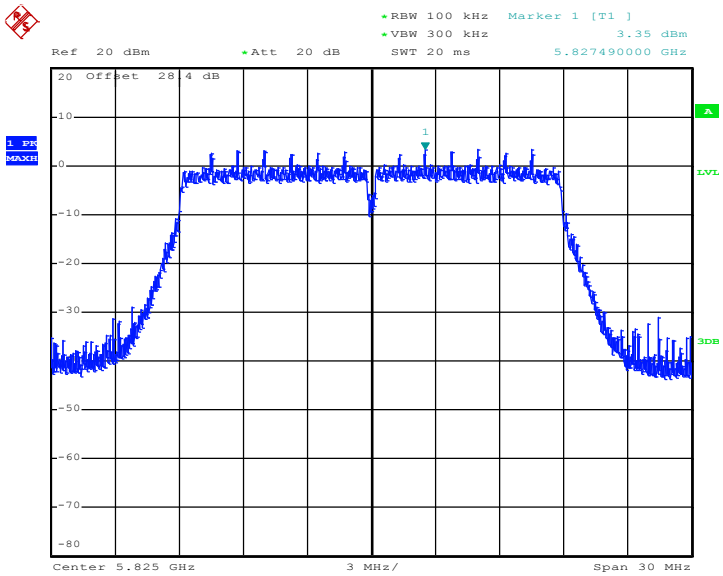
Date: 6.MAY.2013 21:12:28

PSD 100kHz-Peak Plot on 5GHz 802.11ac VHT20 Channel 157



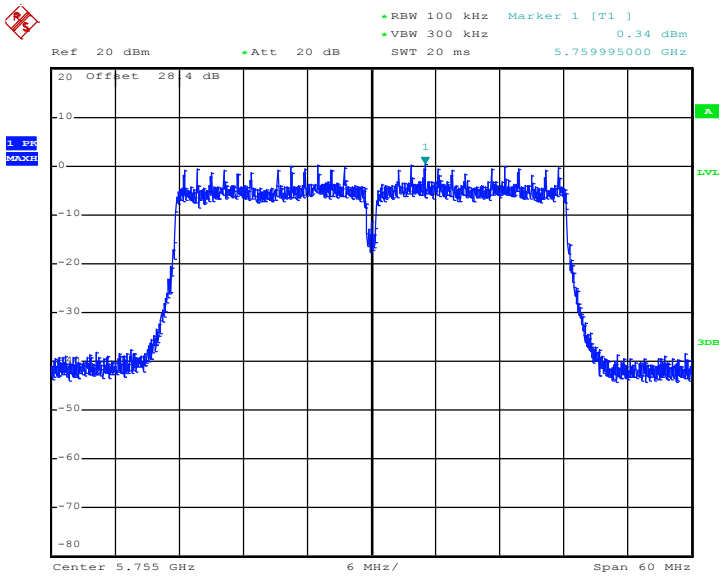
Date: 6.MAY.2013 21:13:18

PSD 100kHz-Peak Plot on 5GHz 802.11ac VHT20 Channel 165



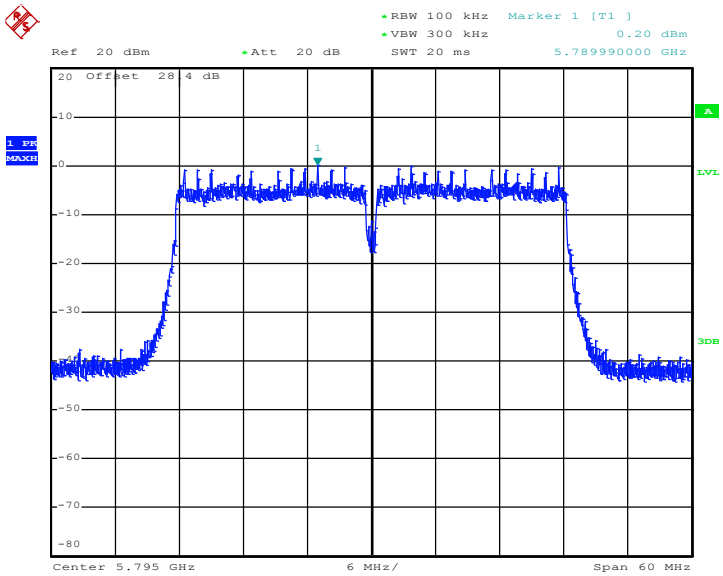
Date: 6.MAY.2013 21:15:12

PSD 100kHz-Peak Plot on 5GHz 802.11ac VHT40 Channel 151



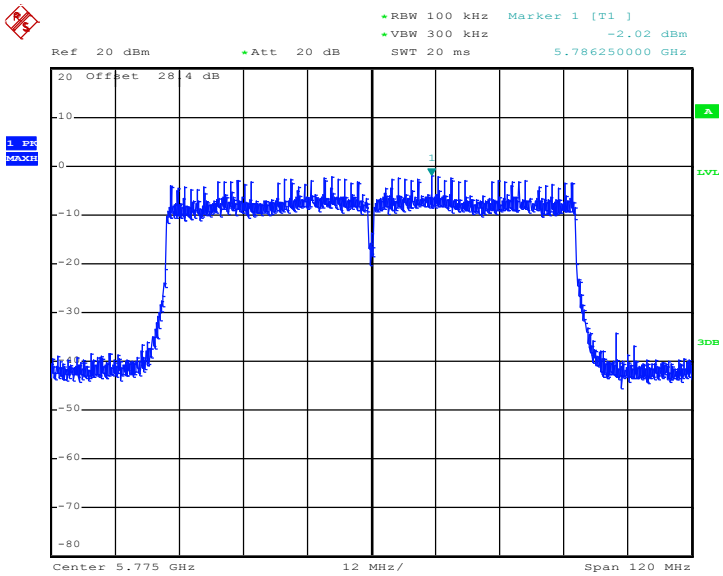
Date: 6.MAY.2013 21:20:32

PSD 100kHz-Peak Plot on 5GHz 802.11ac VHT40 Channel 159



Date: 6.MAY.2013 21:22:01

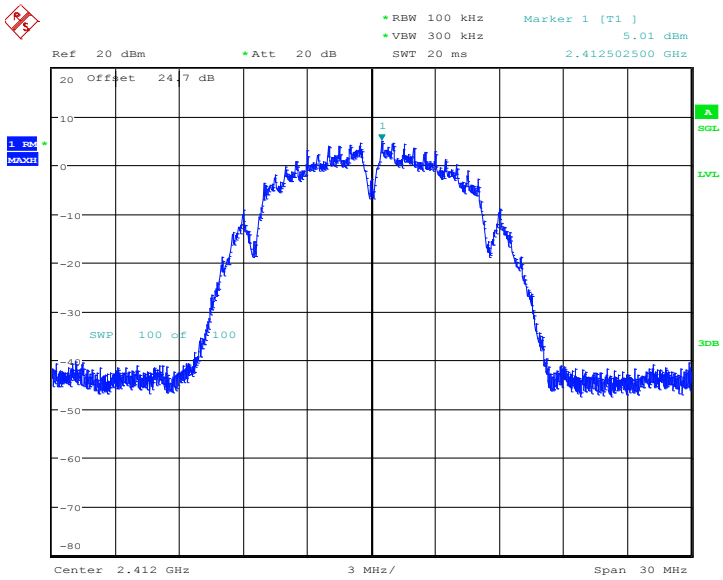
PSD 100kHz-Peak Plot on 5GHz 802.11ac VHT80 Channel 155



Date: 6.MAY.2013 21:32:21

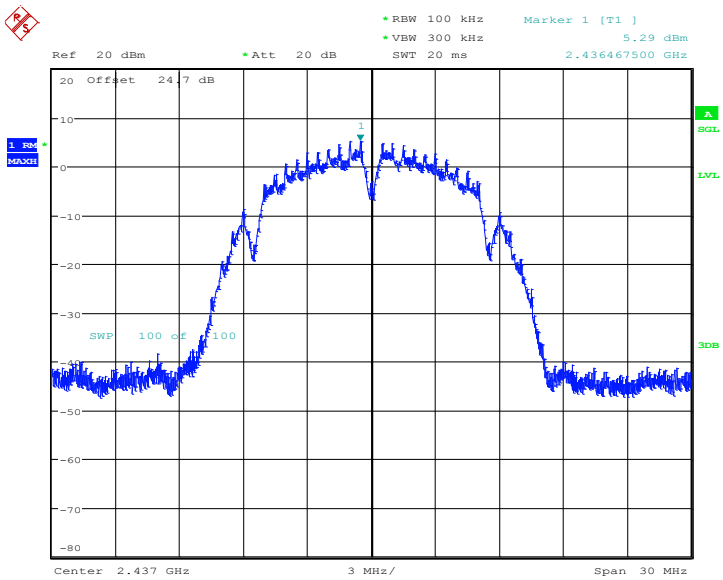
3.3.7 Test Result of Power Spectral Density Plots (100kHz-Average)

PSD 100kHz-Average Plot on 802.11b Channel 01



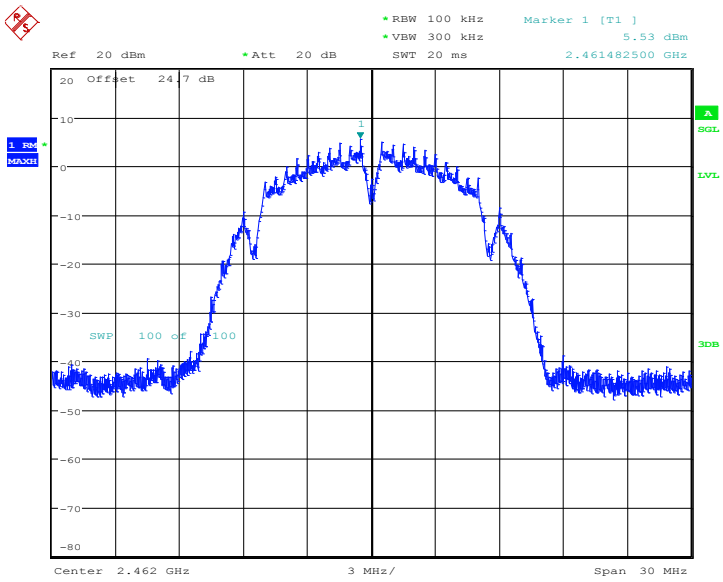
Date: 2.MAY.2013 19:25:39

PSD 100kHz-Average Plot on 802.11b Channel 06



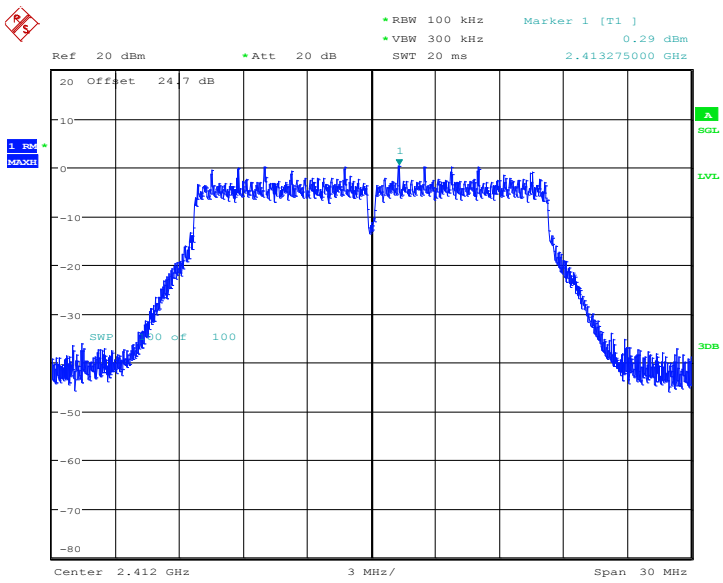
Date: 2.MAY.2013 19:26:10

PSD 100kHz-Average Plot on 802.11b Channel 11



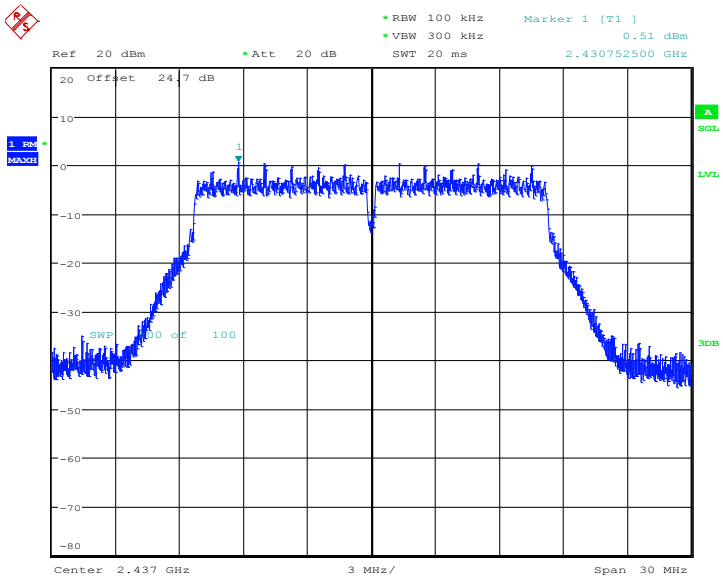
Date: 2.MAY.2013 19:23:56

PSD 100kHz-Average Plot on 802.11g Channel 01



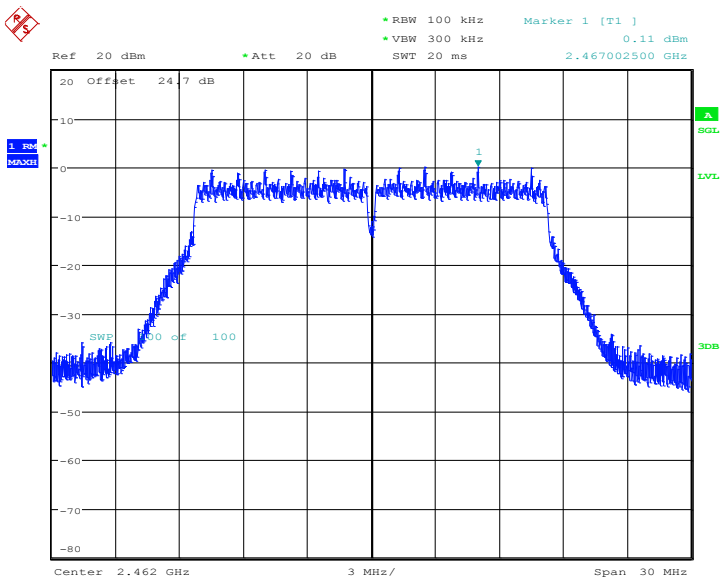
Date: 2.MAY.2013 19:29:05

PSD 100kHz-Average Plot on 802.11g Channel 06



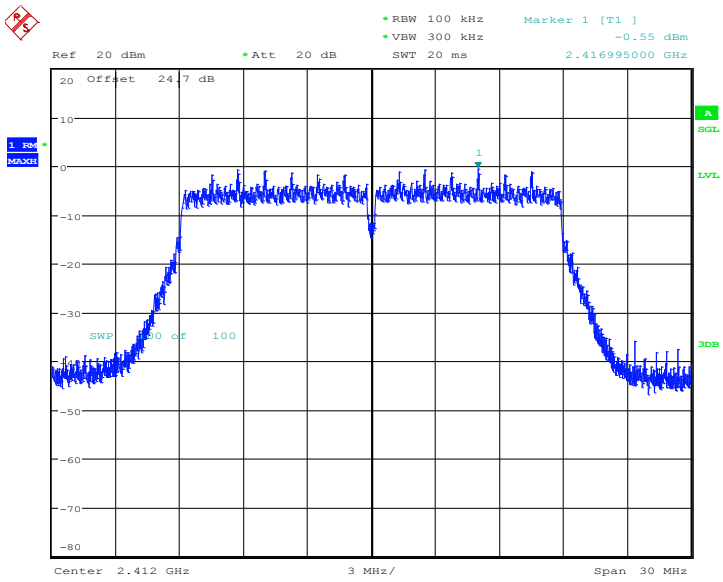
Date: 2.MAY.2013 19:29:45

PSD 100kHz-Average Plot on 802.11g Channel 11



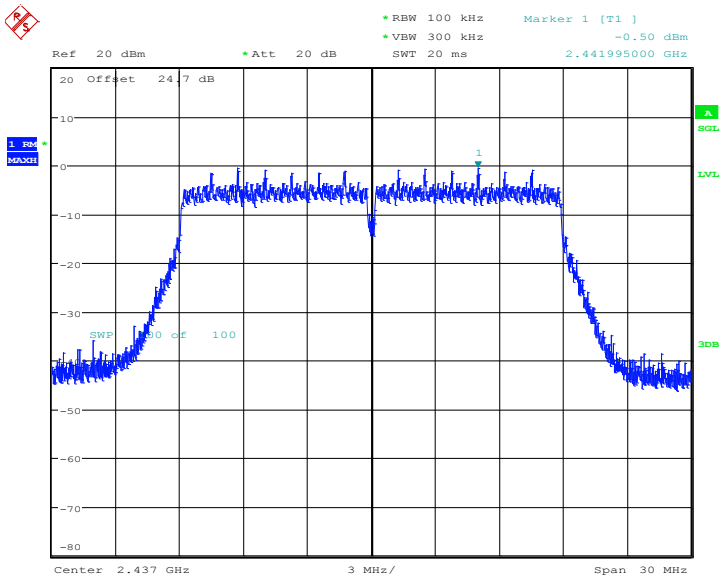
Date: 2.MAY.2013 19:30:15

PSD 100kHz-Average Plot on 2.4GHz 802.11n HT20 Channel 01



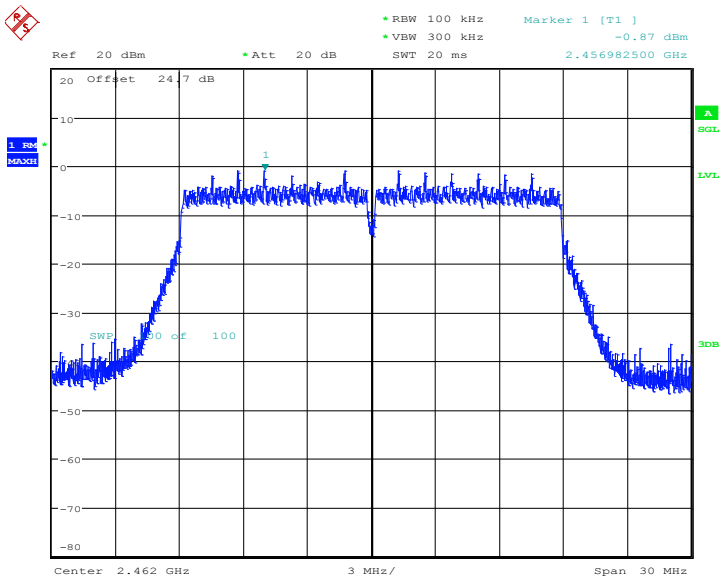
Date: 2.MAY.2013 19:35:47

PSD 100kHz-Average Plot on 2.4GHz 802.11n HT20 Channel 06



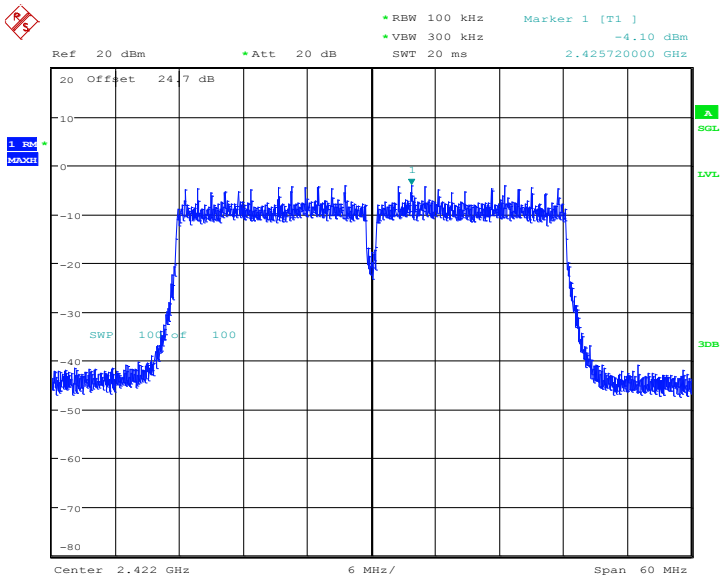
Date: 2.MAY.2013 19:36:29

PSD 100kHz-Average Plot on 2.4GHz 802.11n HT20 Channel 11



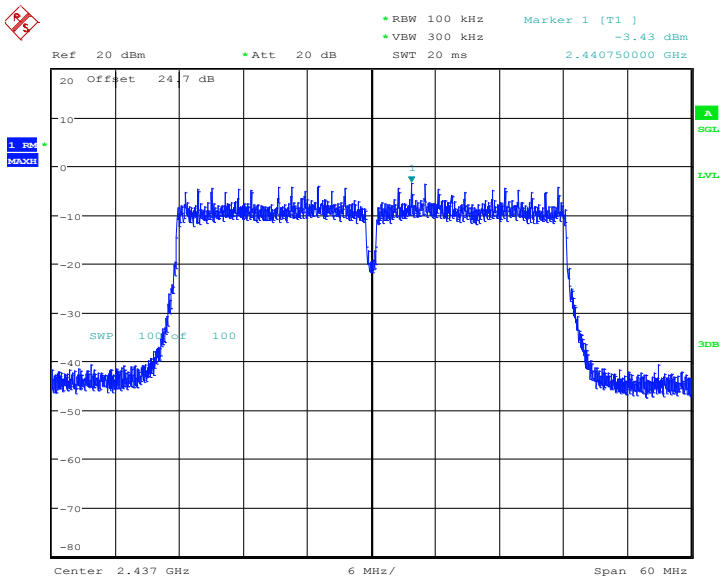
Date: 2.MAY.2013 19:37:01

PSD 100kHz-Average Plot on 2.4GHz 802.11n HT40 Channel 03



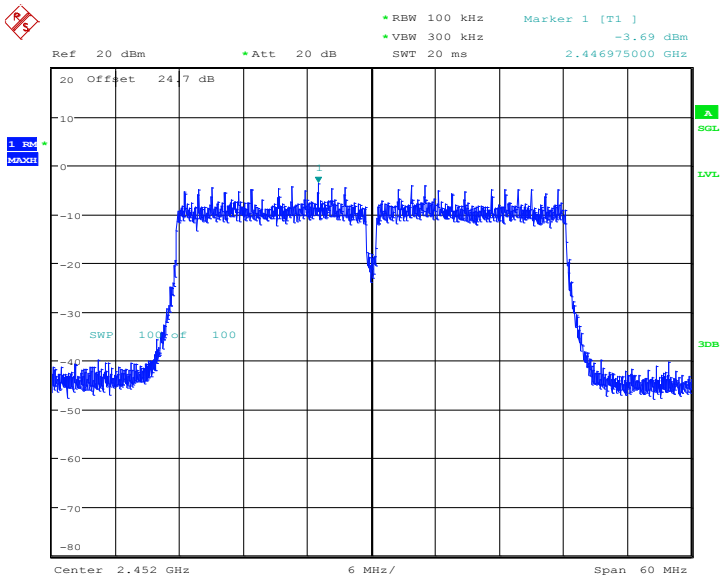
Date: 2.MAY.2013 19:40:24

PSD 100kHz-Average Plot on 2.4GHz 802.11n HT40 Channel 06



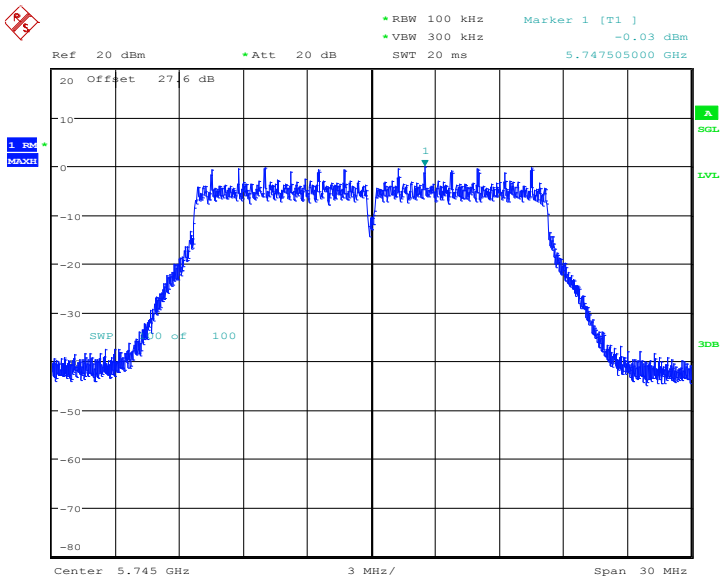
Date: 2.MAY.2013 19:41:00

PSD 100kHz-Average Plot on 2.4GHz 802.11n HT40 Channel 09



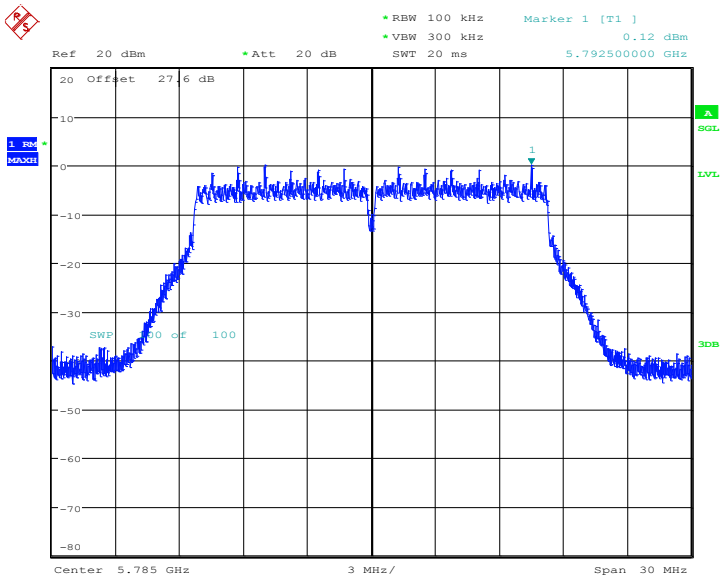
Date: 2.MAY.2013 19:41:32

PSD 100kHz-Average Plot on 802.11a Channel 149



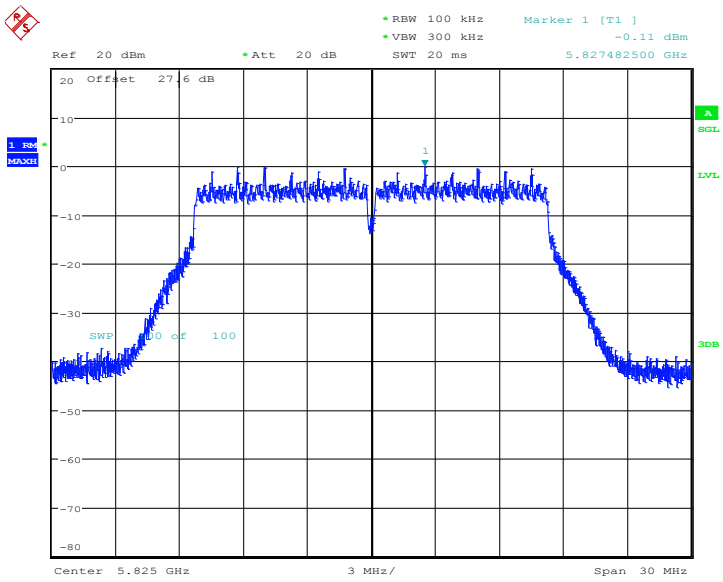
Date: 2.MAY.2013 19:52:42

PSD 100kHz-Average Plot on 802.11a Channel 157



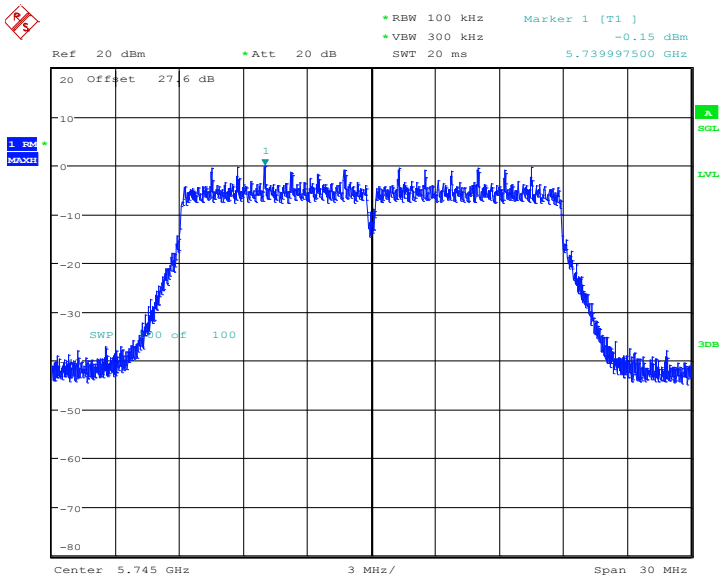
Date: 2.MAY.2013 19:53:21

PSD 100kHz-Average Plot on 802.11a Channel 165



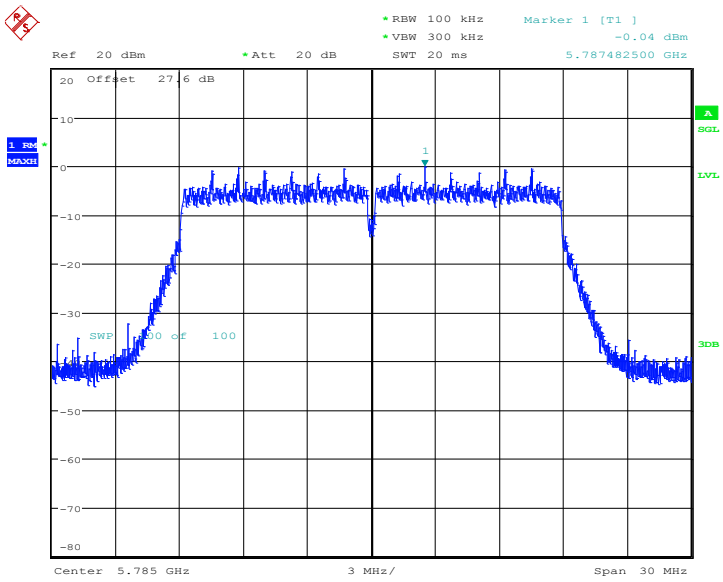
Date: 2.MAY.2013 19:53:47

PSD 100kHz-Average Plot on 5GHz 802.11n HT20 Channel 149



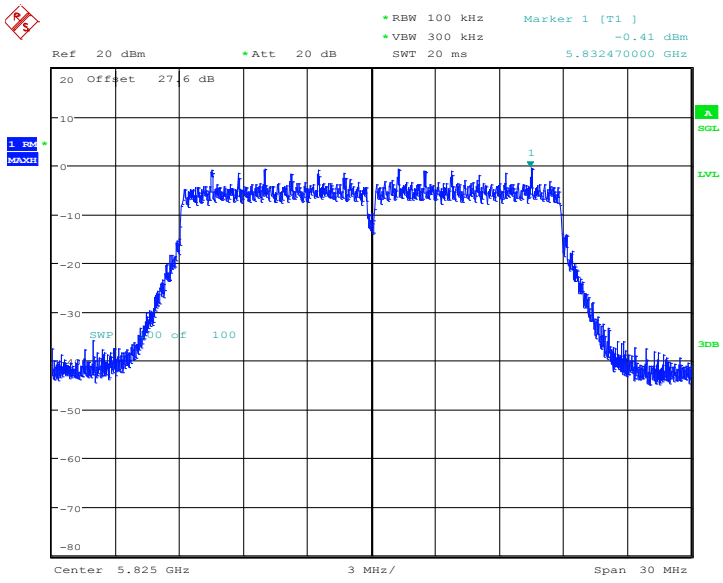
Date: 2.MAY.2013 19:12:26

PSD 100kHz-Average Plot on 5GHz 802.11n HT20 Channel 157



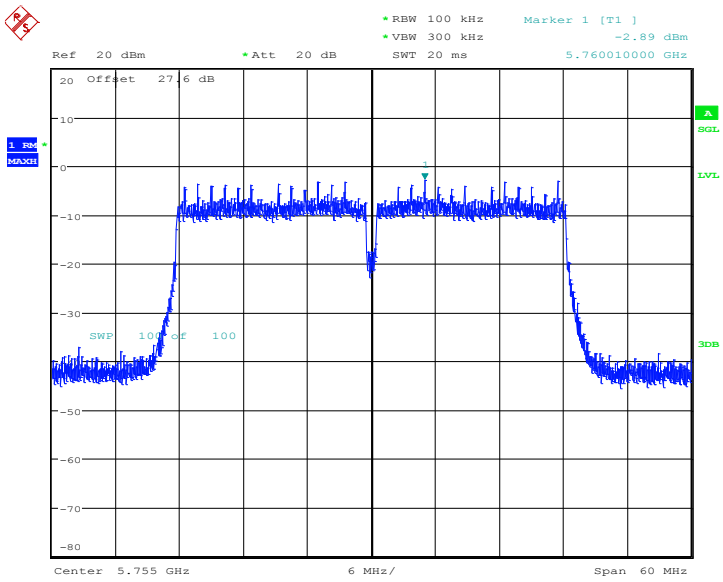
Date: 2.MAY.2013 19:11:14

PSD 100kHz-Average Plot on 5GHz 802.11n HT20 Channel 165



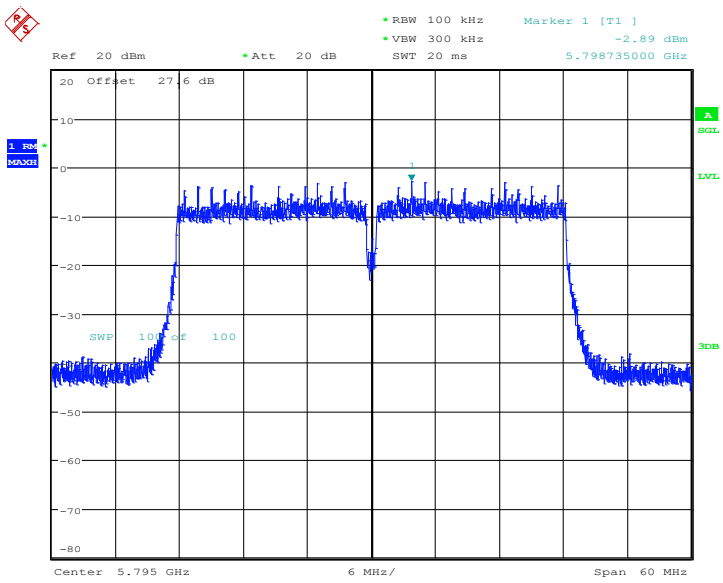
Date: 2.MAY.2013 19:10:17

PSD 100kHz-Average Plot on 5GHz 802.11n HT40 Channel 151



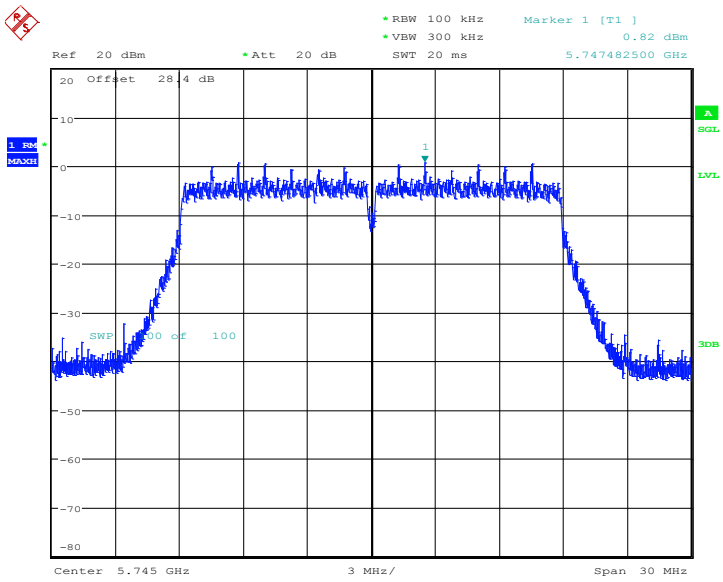
Date: 2.MAY.2013 19:17:51

PSD 100kHz-Average Plot on 5GHz 802.11n HT40 Channel 159

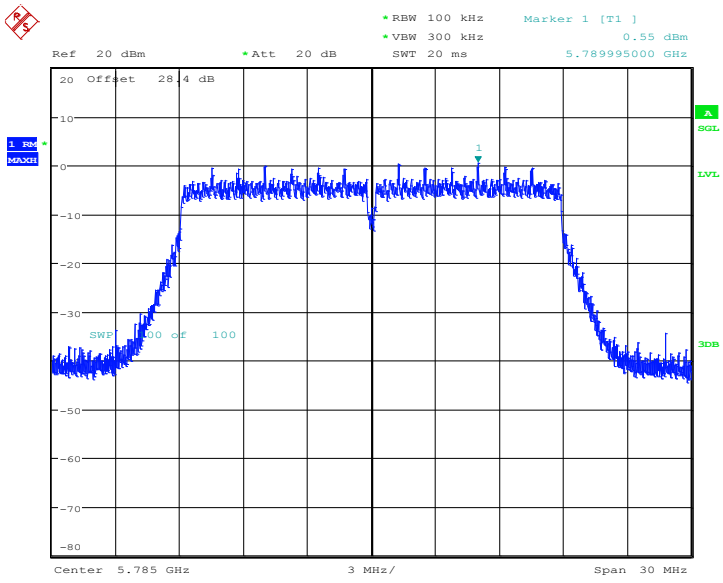


Date: 2.MAY.2013 19:17:11

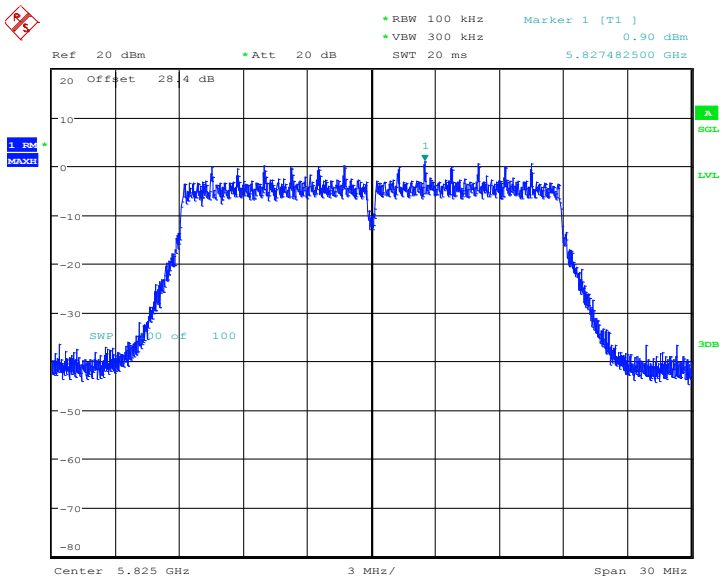
PSD 100kHz-Average Plot on 5GHz 802.11ac VHT20 Channel 149



PSD 100kHz-Average Plot on 5GHz 802.11ac VHT20 Channel 157

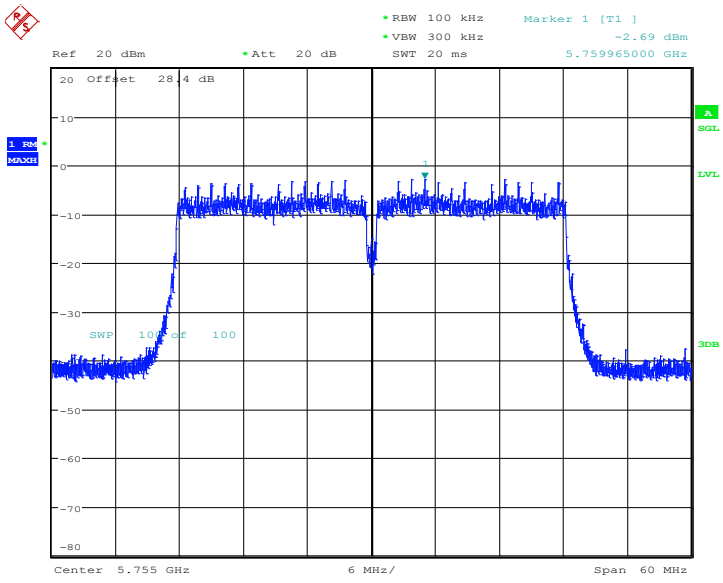


PSD 100kHz-Average Plot on 5GHz 802.11ac VHT20 Channel 165



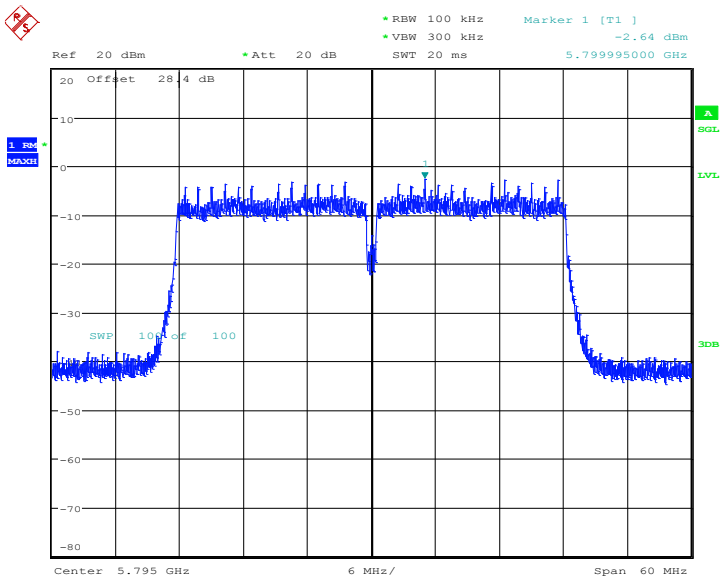
Date: 2.MAY.2013 18:24:28

PSD 100kHz-Average Plot on 5GHz 802.11ac VHT40 Channel 151



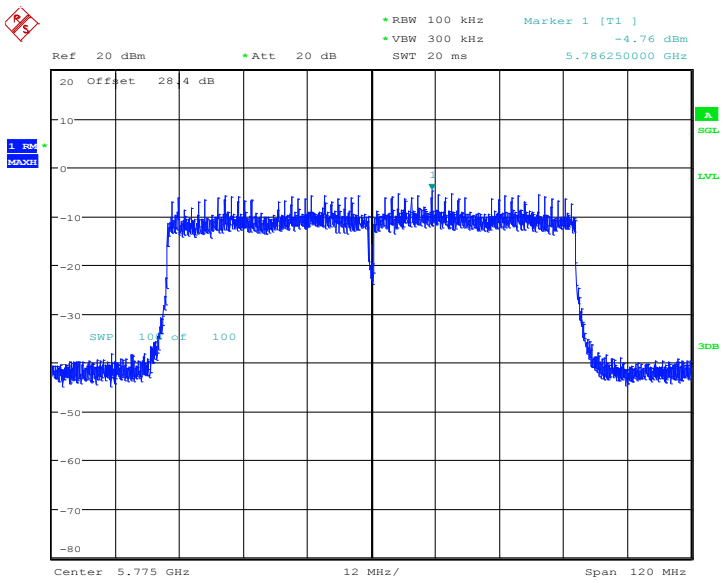
Date: 2.MAY.2013 18:26:23

PSD 100kHz-Average on 5GHz 802.11ac VHT40 Channel 159



Date: 2.MAY.2013 18:27:10

PSD 100kHz-Average on 5GHz 802.11ac VHT80 Channel 155



Date: 2.MAY.2013 18:28:19

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and 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).

3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

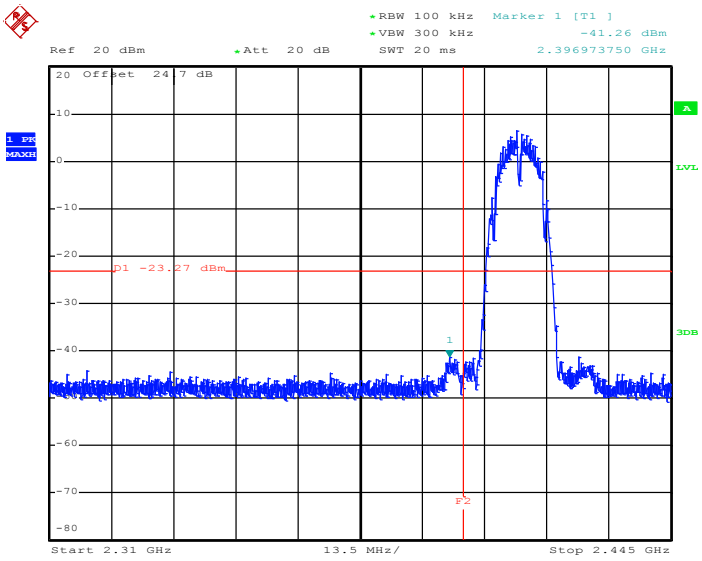
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 KHz, VBW=300 KHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup

3.4.5 Test Result of Conducted Spurious at Band Edges

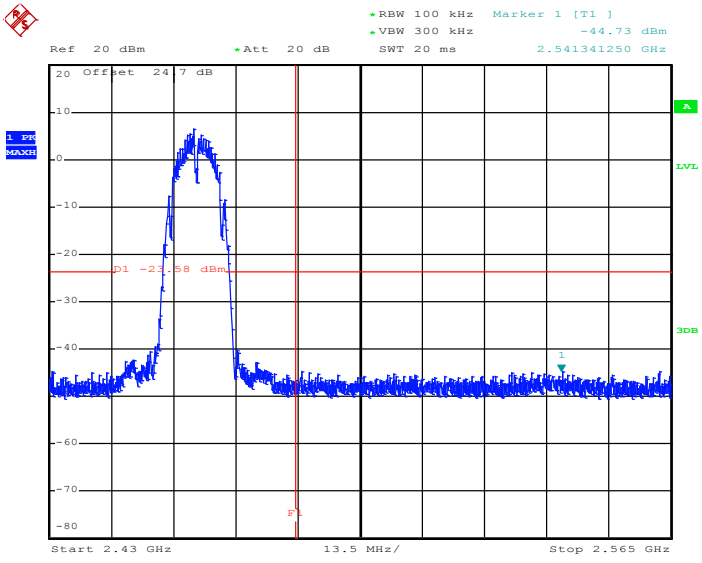
Test Mode :	802.11b	**Temperature :**	24~26℃
Test Band :	Low and High	**Relative Humidity :**	50~53%
Test Channel :	01 and 11	**Test Engineer :**	Reece Li and Coyote Lin

Low Band Edge Plot on 802.11b Channel 01



Date: 6.MAY.2013 20:24:58

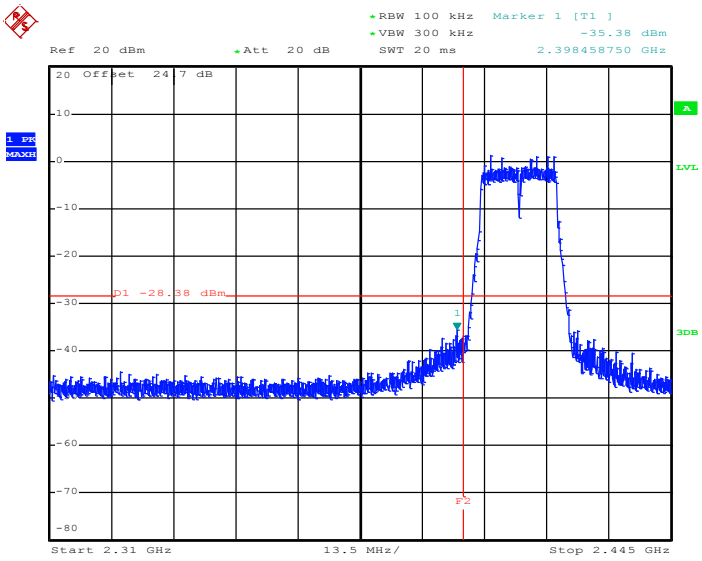
High Band Edge Plot on 802.11b Channel 11



Date: 6.MAY.2013 20:31:16

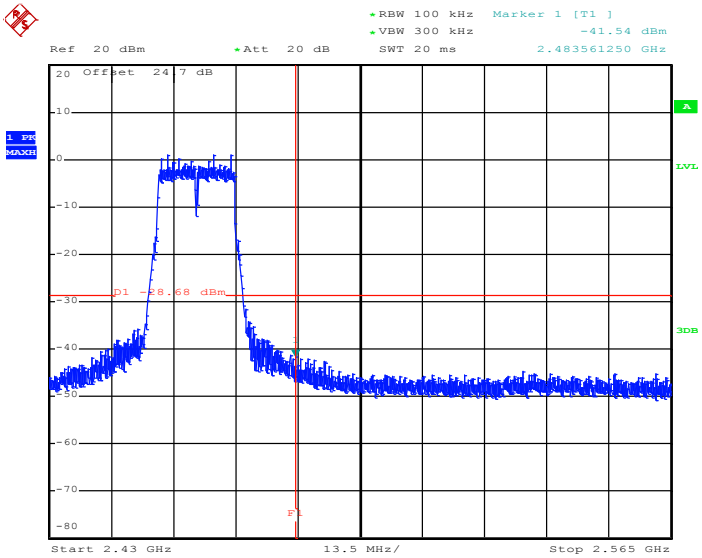
Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Reece Li and Coyote Lin

Low Band Edge Plot on 802.11g Channel 01



Date: 6.MAY.2013 20:38:31

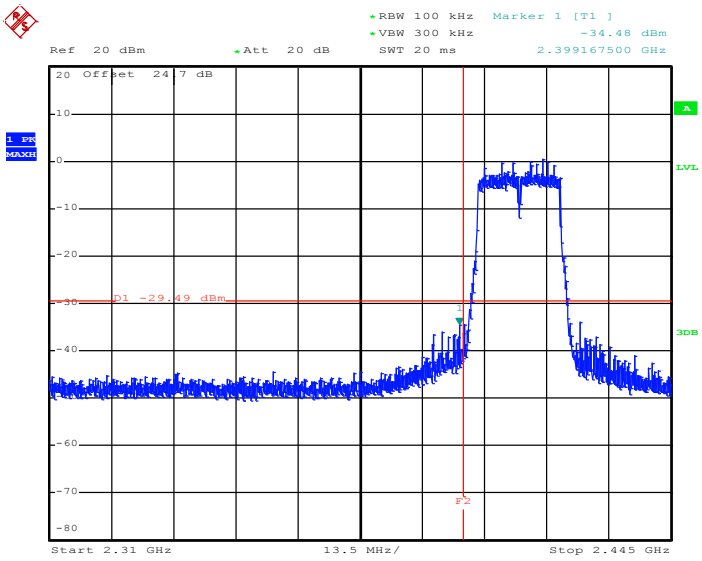
High Band Edge Plot on 802.11g Channel 11



Date: 6.MAY.2013 20:36:20

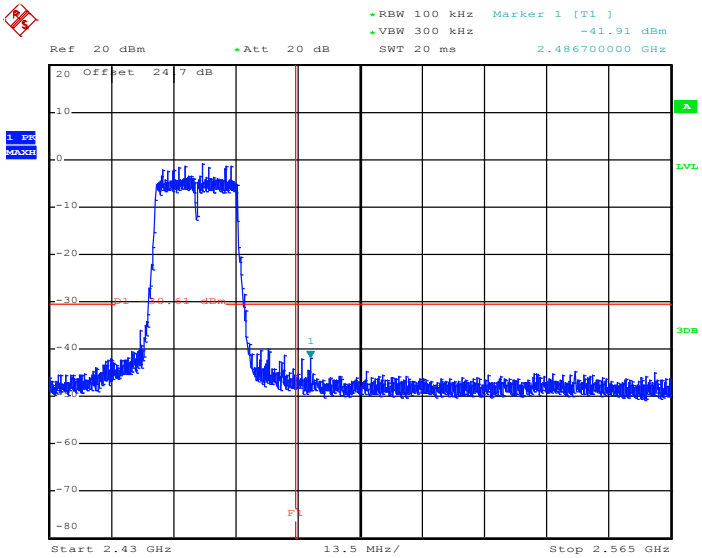
Test Mode :	802.11n HT20	**Temperature :**	24~26℃
Test Band :	Low and High	**Relative Humidity :**	50~53%
Test Channel :	01 and 11	**Test Engineer :**	Reece Li and Coyote Lin

Low Band Edge Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 6.MAY.2013 20:40:24

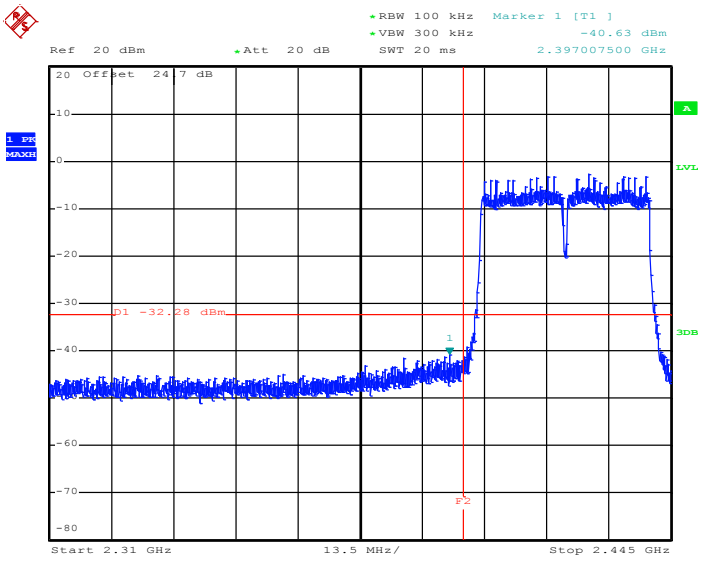
High Band Edge Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 6.MAY.2013 20:42:52

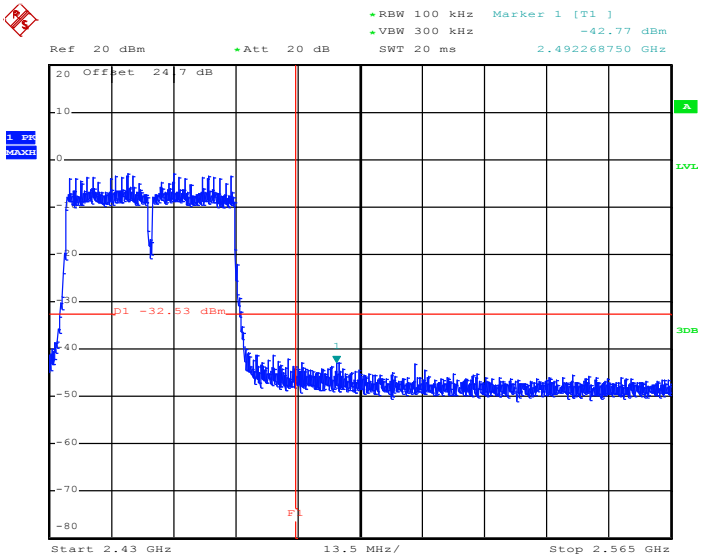
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	03 and 09	Test Engineer :	Reece Li and Coyote Lin

Low Band Edge Plot on 2.4GHz 802.11n HT40 Channel 03



Date: 6.MAY.2013 20:46:35

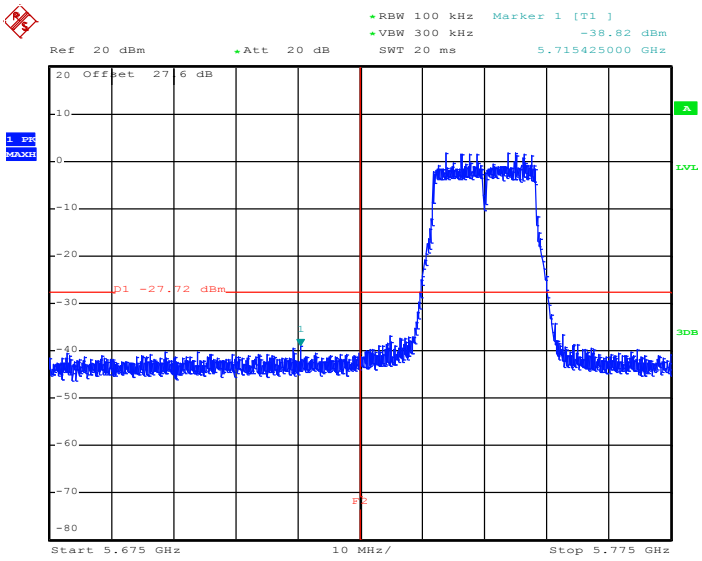
High Band Edge Plot on 2.4GHz 802.11n HT40 Channel 09



Date: 6.MAY.2013 20:50:08

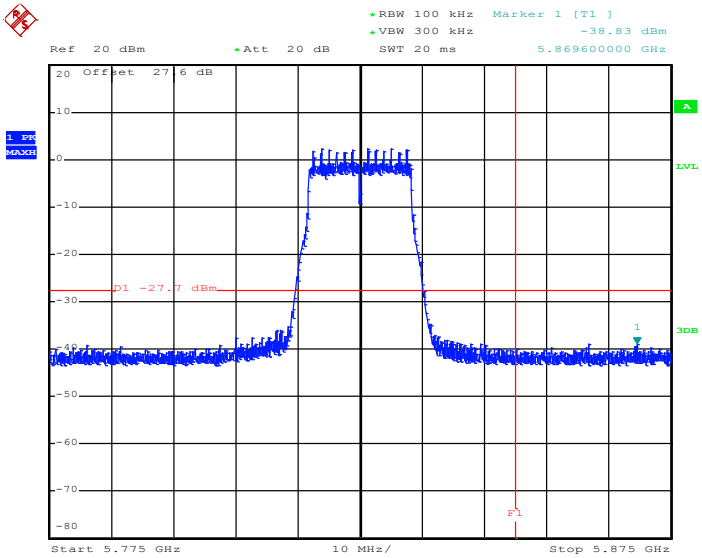
Test Mode :	802.11a	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Reece Li and Coyote Lin

Low Band Edge Plot on 802.11a Channel 149



Date: 6.MAY.2013 20:54:13

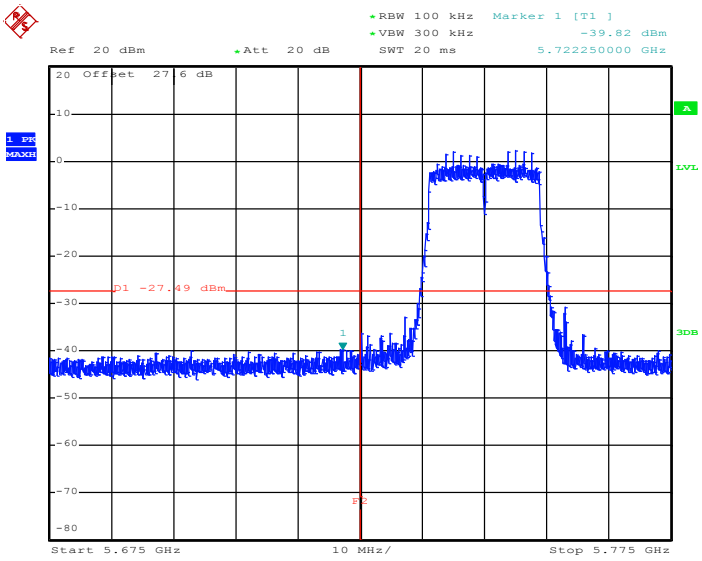
High Band Edge Plot on 802.11a Channel 165



Date: 6.MAY.2013 20:59:14

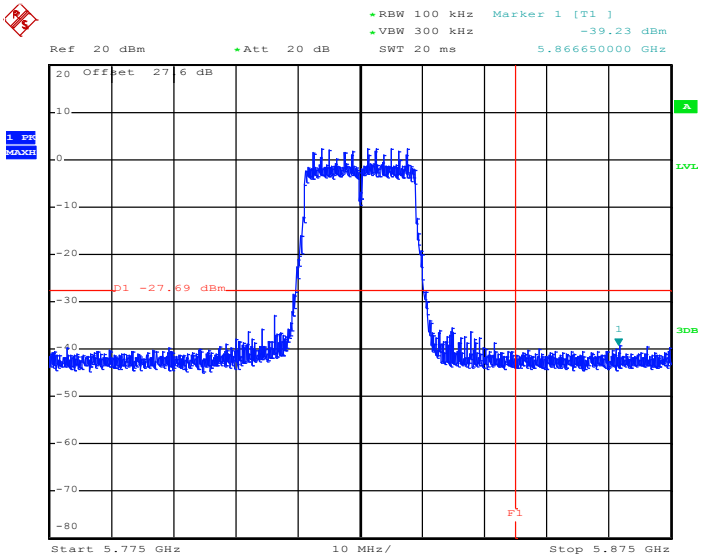
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Reece Li and Coyote Lin

Low Band Edge Plot on 5GHz 802.11n HT20 Channel 149



Date: 6.MAY.2013 21:05:52

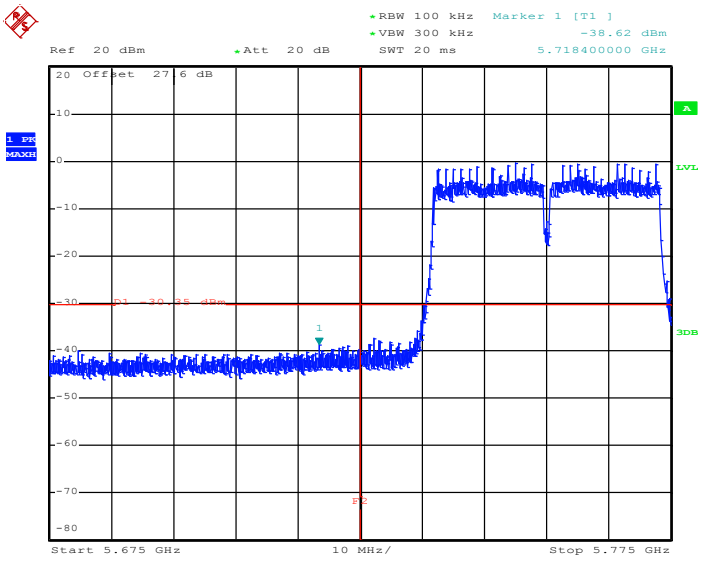
High Band Edge Plot on 5GHz 802.11n HT20 Channel 165



Date: 6.MAY.2013 21:03:40

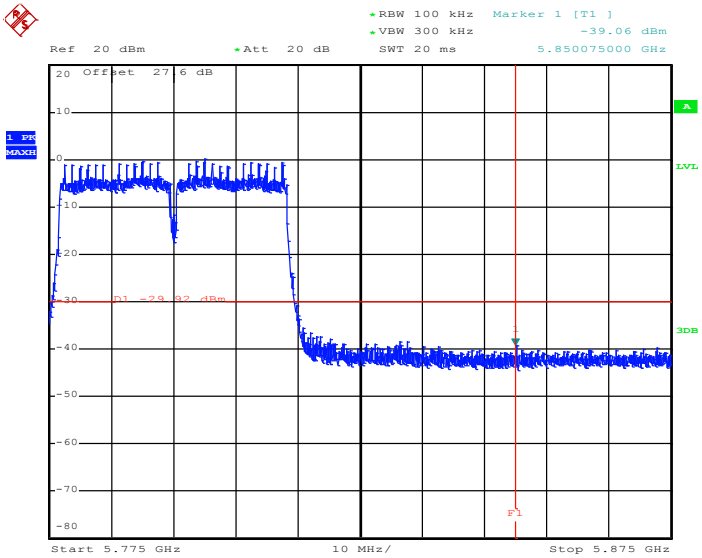
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Reece Li and Coyote Lin

Low Band Edge Plot on 5GHz 802.11n HT40 Channel 151



Date: 6.MAY.2013 21:08:04

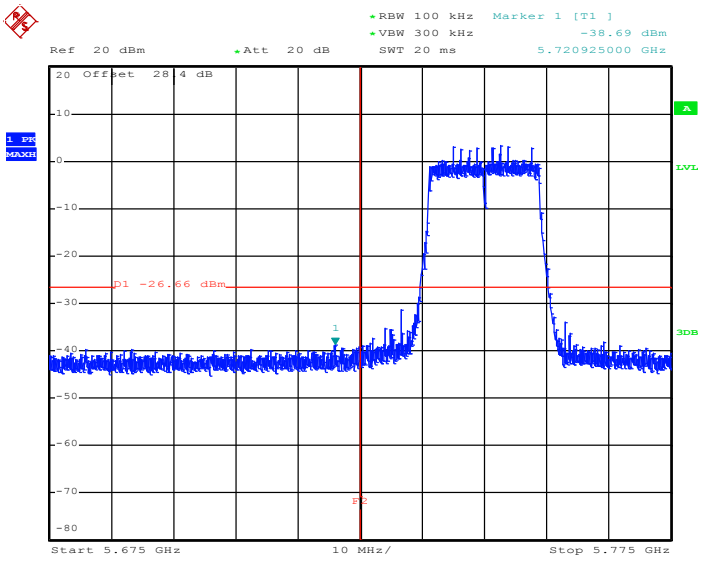
High Band Edge Plot on 5GHz 802.11n HT40 Channel 159



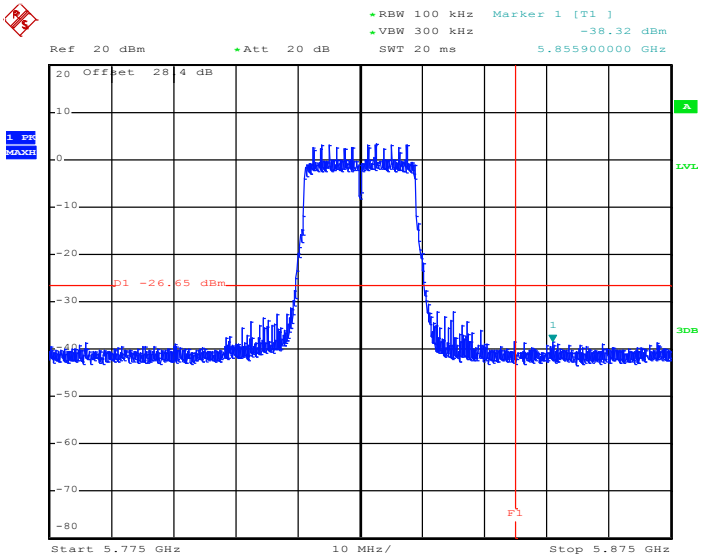
Date: 6.MAY.2013 21:10:19

Test Mode :	802.11ac VHT20	**Temperature :**	24~26℃
Test Band :	Low and High	**Relative Humidity :**	50~53%
Test Channel :	149 and 165	**Test Engineer :**	Reece Li and Coyote Lin

Low Band Edge Plot on 5GHz 802.11ac VHT20 Channel 149

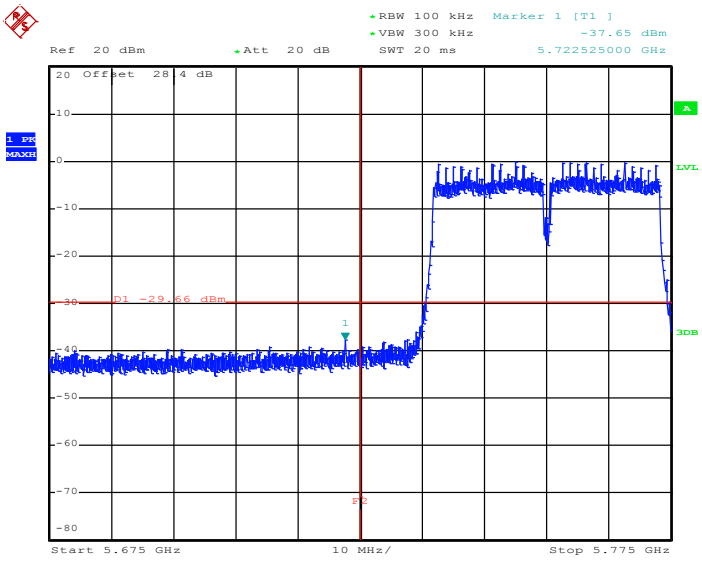


High Band Edge Plot on 5GHz 802.11ac VHT20 Channel 165



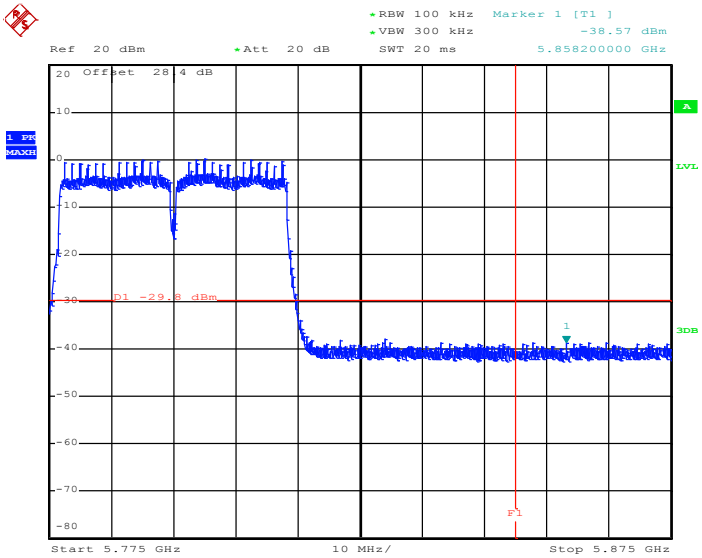
Test Mode :	802.11av VHT40	**Temperature :**	24~26℃
Test Band :	Low and High	**Relative Humidity :**	50~53%
Test Channel :	151 and 159	**Test Engineer :**	Reece Li and Coyote Lin

Low Band Edge Plot on 5GHz 802.11ac VHT40 Channel 151



Date: 6.MAY.2013 21:20:50

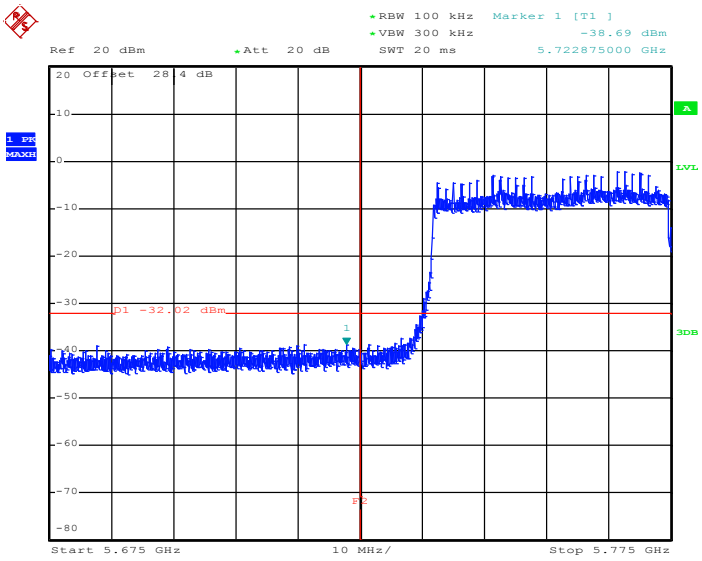
High Band Edge Plot on 5GHz 802.11ac VHT40 Channel 159



Date: 6.MAY.2013 21:24:41

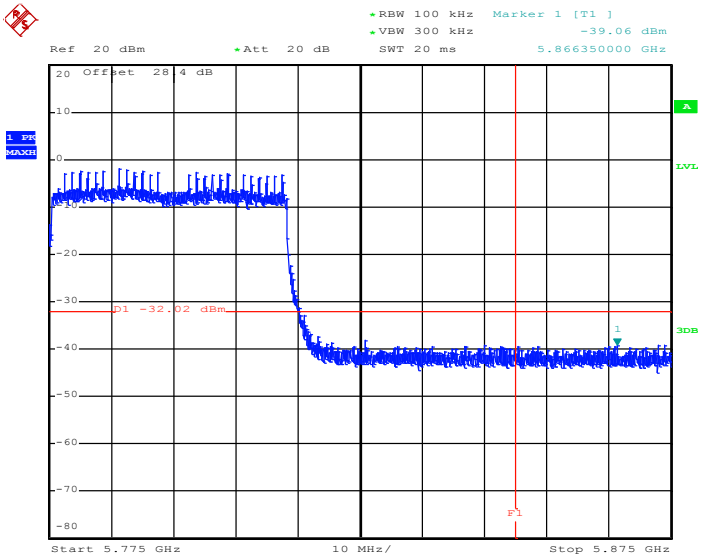
Test Mode :	802.11ac VHT80	Temperature :	24~26℃
Test Band :	Middle	Relative Humidity :	50~53%
Test Channel :	155	Test Engineer :	Reece Li and Coyote Lin

Low Band Edge Plot on 5GHz 802.11ac VHT80 Channel 155



Date: 6.MAY.2013 21:32:55

High Band Edge Plot on 5GHz 802.11ac VHT80 Channel 155



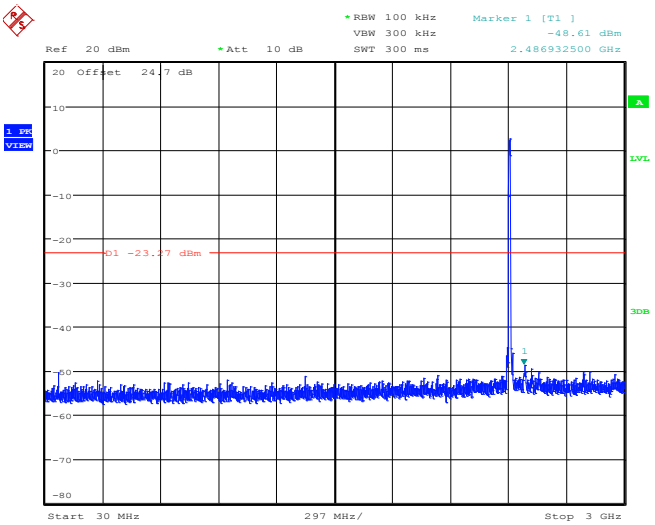
Date: 6.MAY.2013 21:34:01

3.4.5 Test Result of Conducted Spurious Emission

Test Mode :	802.11b	Temperature :	24~26℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Reece Li and Coyote Lin

802.11b 30 MHz~3 GHz

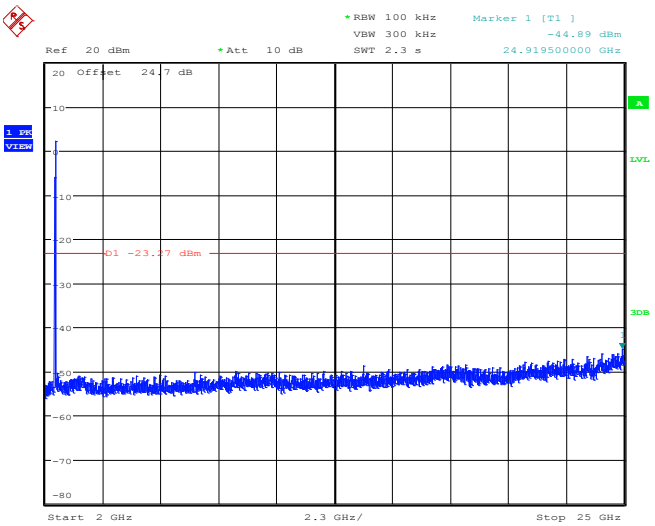
Conducted Spurious Emission Plot on Channel 01



Date: 7.MAY.2013 14:21:35

802.11b 2 GHz~25 GHz

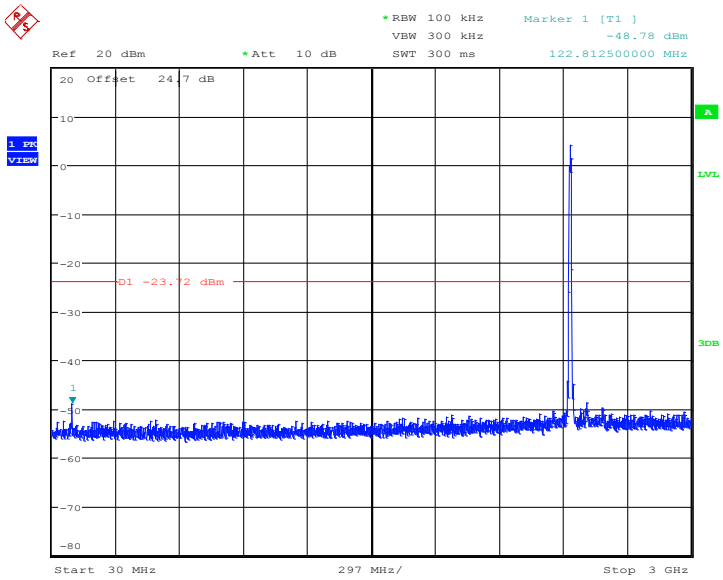
Conducted Spurious Emission Plot on Channel 01



Date: 7.MAY.2013 14:20:45

802.11b 30 MHz~3 GHz

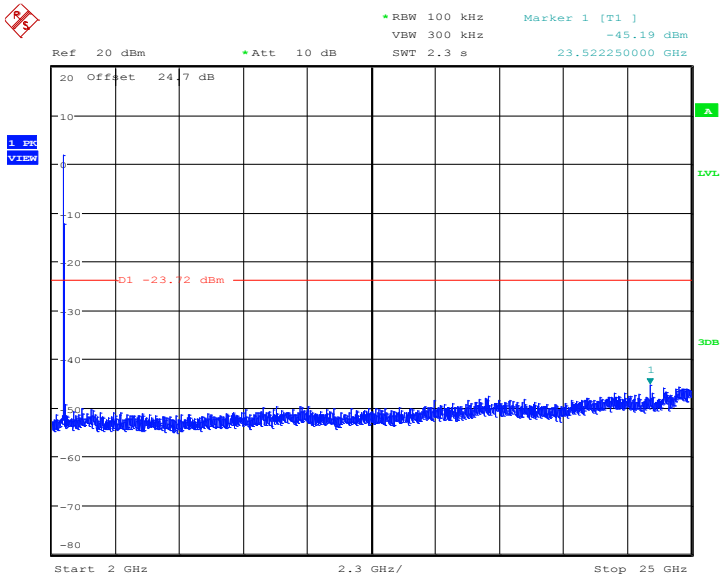
Conducted Spurious Emission Plot on Channel 06



Date: 7.MAY.2013 14:23:10

802.11b 2 GHz~25 GHz

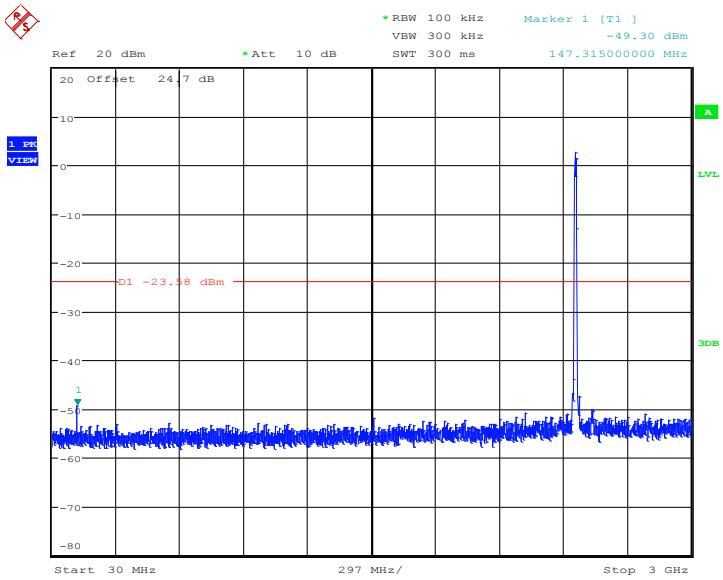
Conducted Spurious Emission Plot on Channel 06



Date: 7.MAY.2013 14:26:31

802.11b 30 MHz~3 GHz

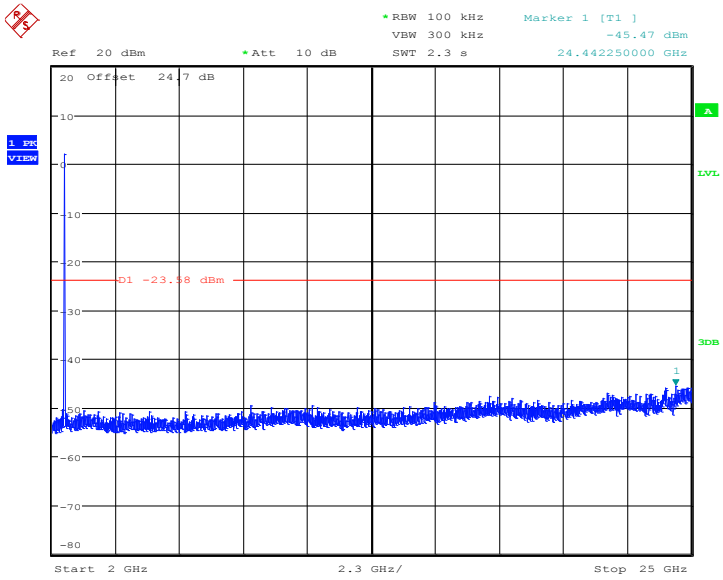
Conducted Spurious Emission Plot on Channel 11



Date: 7.MAY.2013 14:25:28

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11

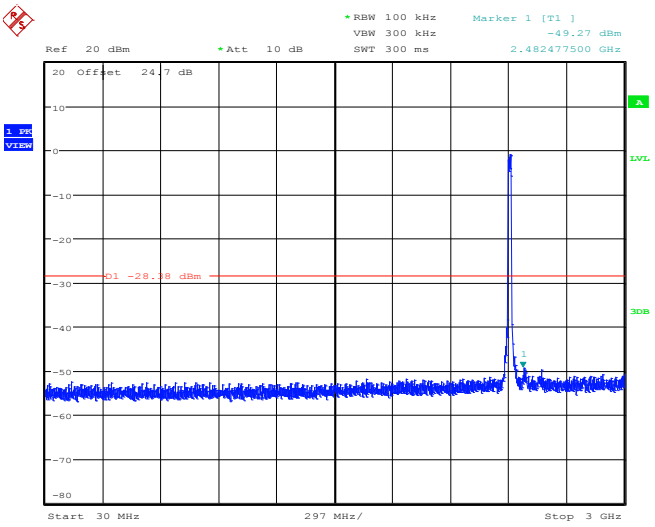


Date: 7.MAY.2013 14:25:08

Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Reece Li and Coyote Lin

802.11g 30 MHz~3 GHz

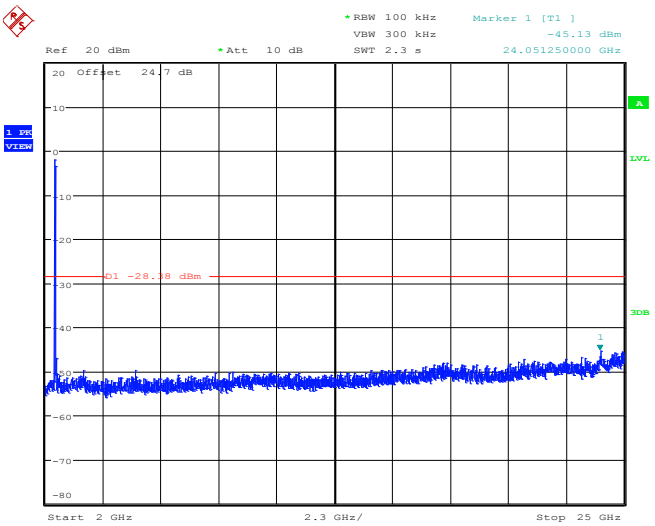
Conducted Spurious Emission Plot on Channel 01



Date: 7.MAY.2013 14:30:17

802.11g 2 GHz~25 GHz

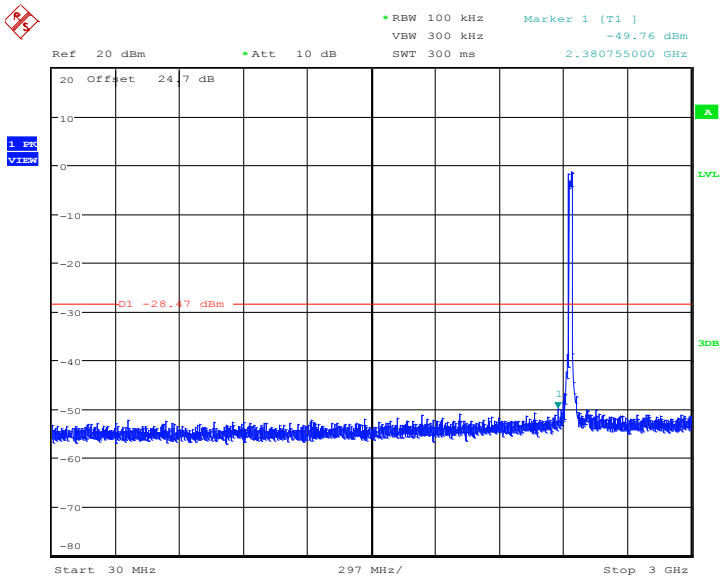
Conducted Spurious Emission Plot on Channel 01



Date: 7.MAY.2013 14:30:47

802.11g 30 MHz~3 GHz

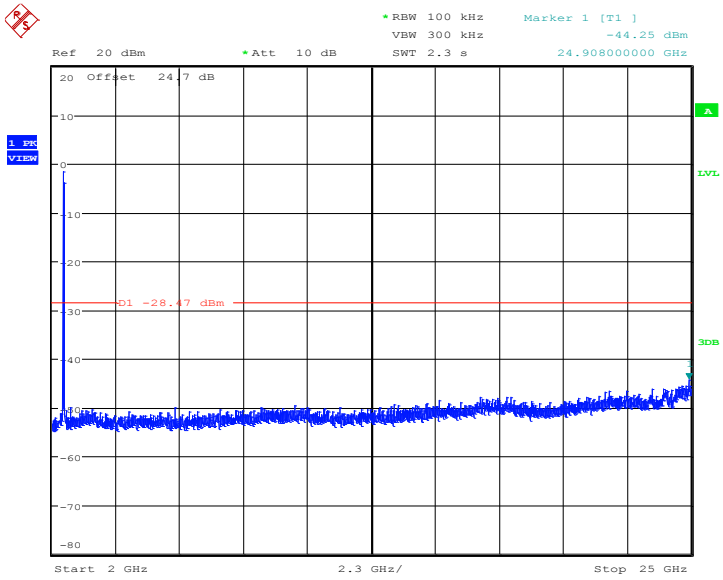
Conducted Spurious Emission Plot on Channel 06



Date: 7.MAY.2013 14:32:25

802.11g 2 GHz~25 GHz

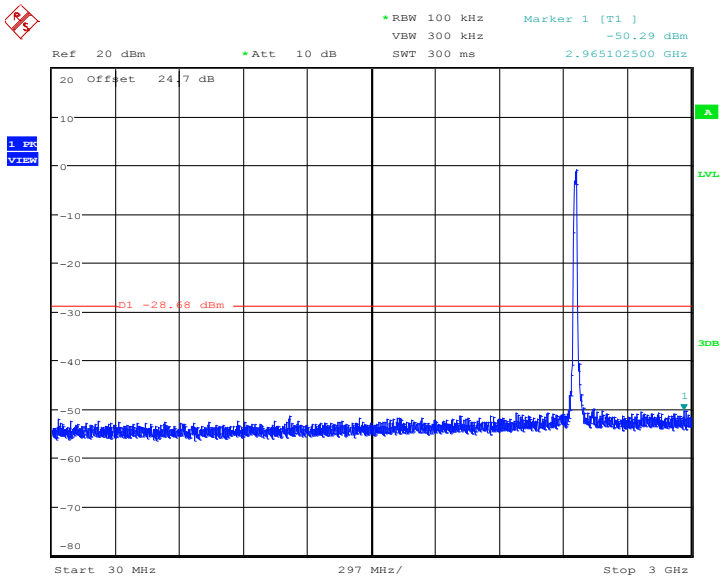
Conducted Spurious Emission Plot on Channel 06



Date: 7.MAY.2013 14:31:49

802.11g 30 MHz~3 GHz

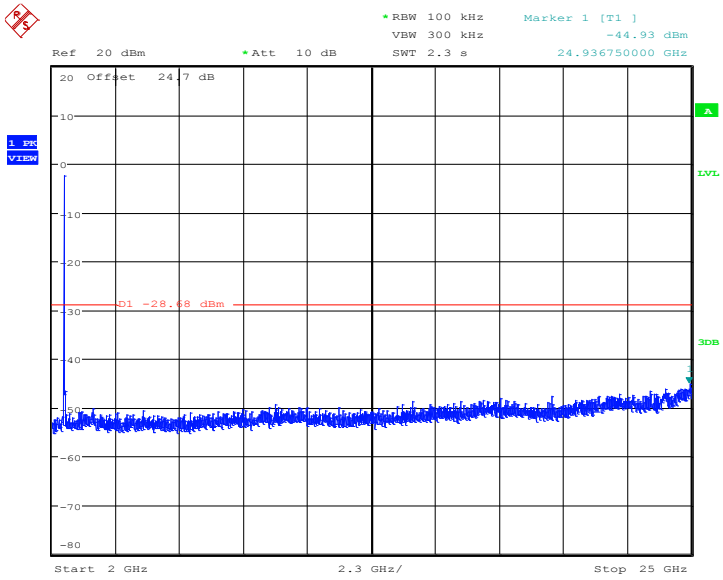
Conducted Spurious Emission Plot on Channel 11



Date: 7.MAY.2013 14:33:16

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11

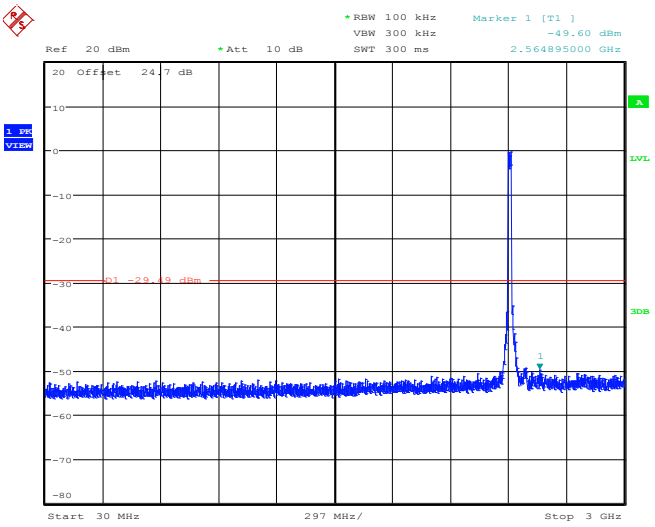


Date: 7.MAY.2013 14:33:49

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Reece Li and Coyote Lin

2.4GHz 802.11n HT20 30 MHz~3 GHz

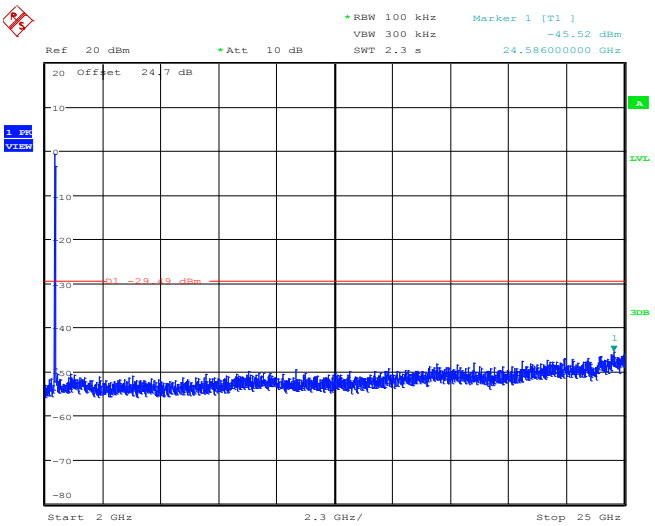
Conducted Spurious Emission Plot on Channel 01



Date: 7.MAY.2013 14:39:09

2.4GHz 802.11n HT20 2 GHz~25 GHz

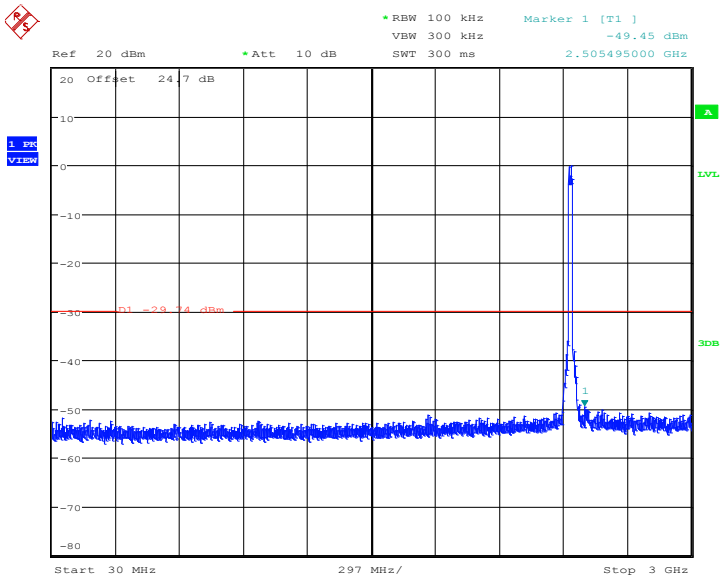
Conducted Spurious Emission Plot on Channel 01



Date: 7.MAY.2013 14:39:30

2.4GHz 802.11n HT20 30 MHz~3 GHz

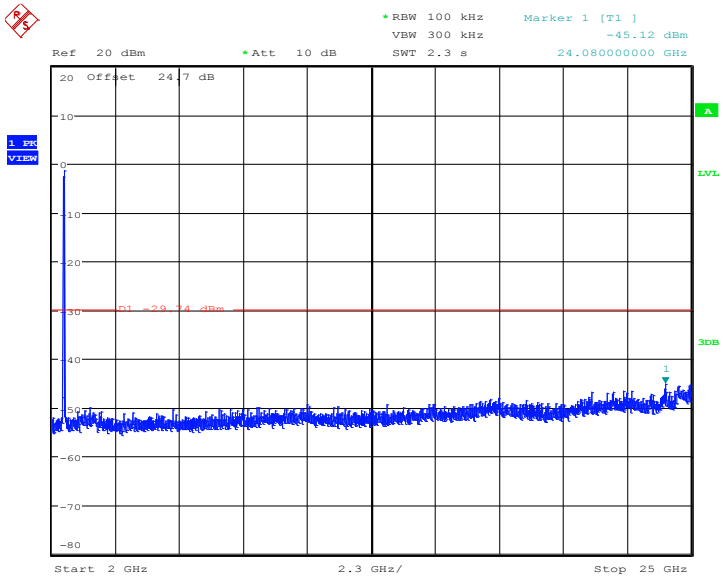
Conducted Spurious Emission Plot on Channel 06



Date: 7.MAY.2013 14:41:17

2.4GHz 802.11n HT20 2 GHz~25 GHz

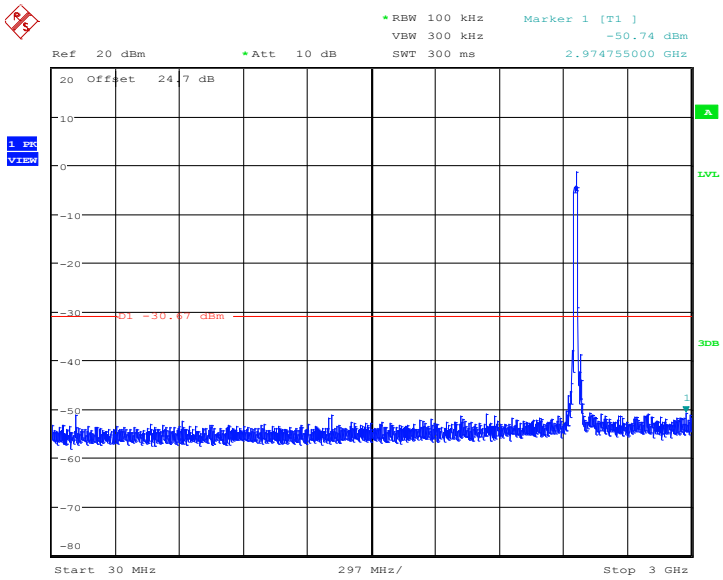
Conducted Spurious Emission Plot on Channel 06



Date: 7.MAY.2013 14:41:43

2.4GHz 802.11n HT20 30 MHz~3 GHz

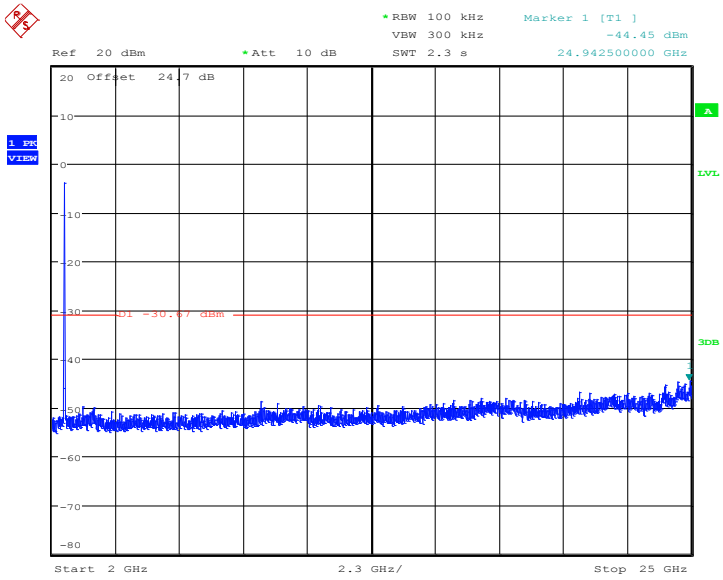
Conducted Spurious Emission Plot on Channel 11



Date: 7.MAY.2013 14:40:34

2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11

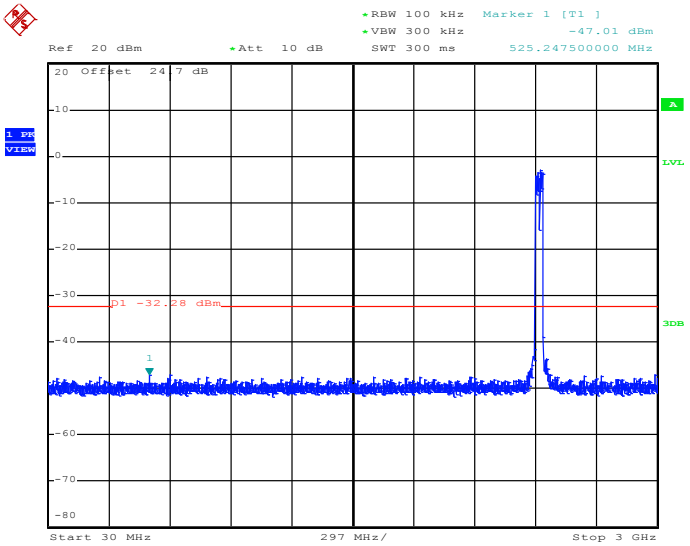


Date: 7.MAY.2013 14:40:12

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	03, 06, 09	Test Engineer :	Reece Li and Coyote Lin

2.4GHz 802.11n HT40 30 MHz~3 GHz

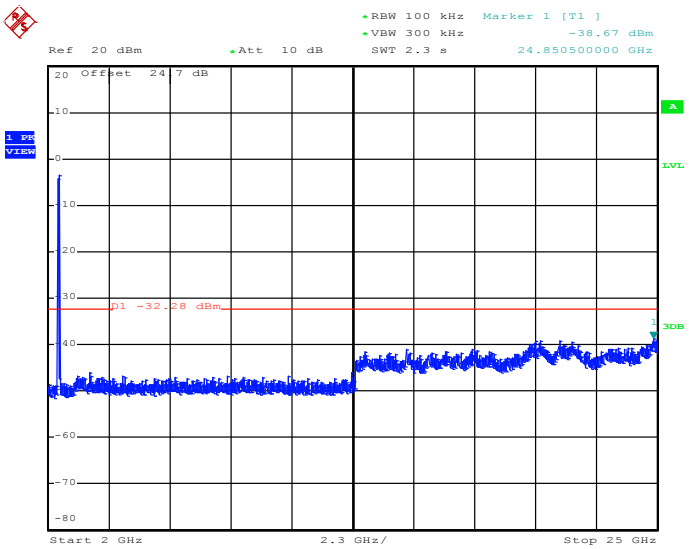
Conducted Spurious Emission Plot on Channel 03



Date: 9.MAY.2013 21:52:24

2.4GHz 802.11n HT40 2 GHz~25 GHz

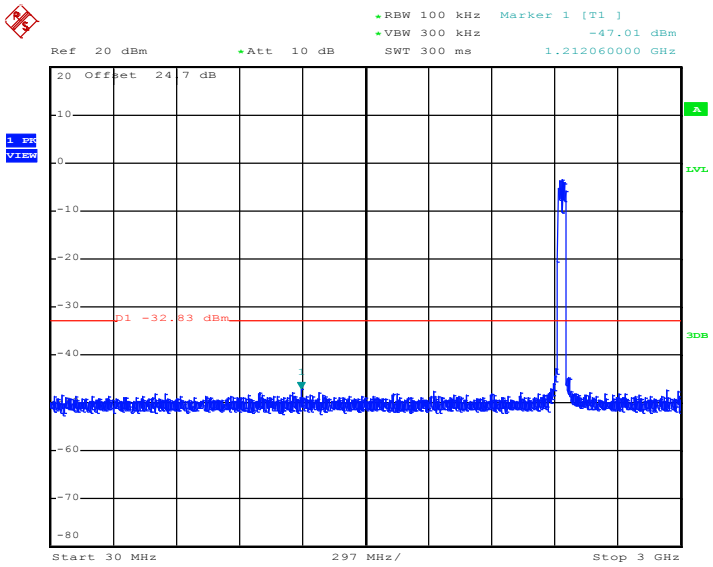
Conducted Spurious Emission Plot on Channel 03



Date: 9.MAY.2013 21:49:17

2.4GHz 802.11n HT40 30 MHz~3 GHz

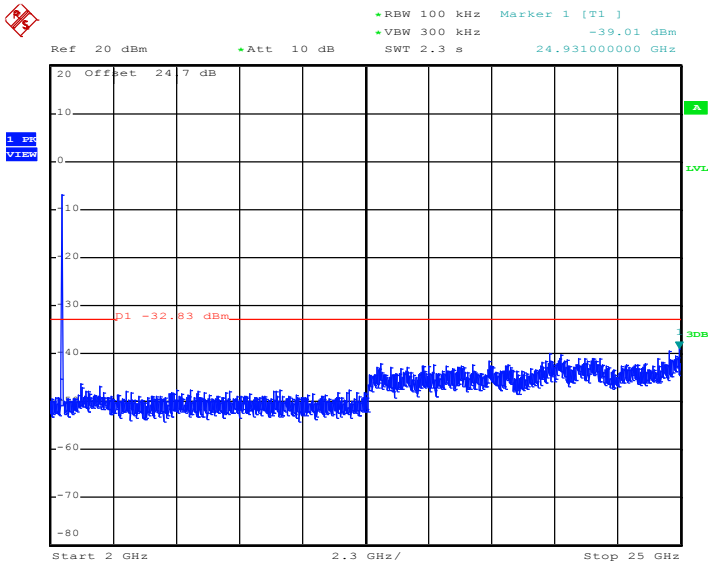
Conducted Spurious Emission Plot on Channel 06



Date: 9.MAY.2013 21:44:50

2.4GHz 802.11n HT40 2 GHz~25 GHz

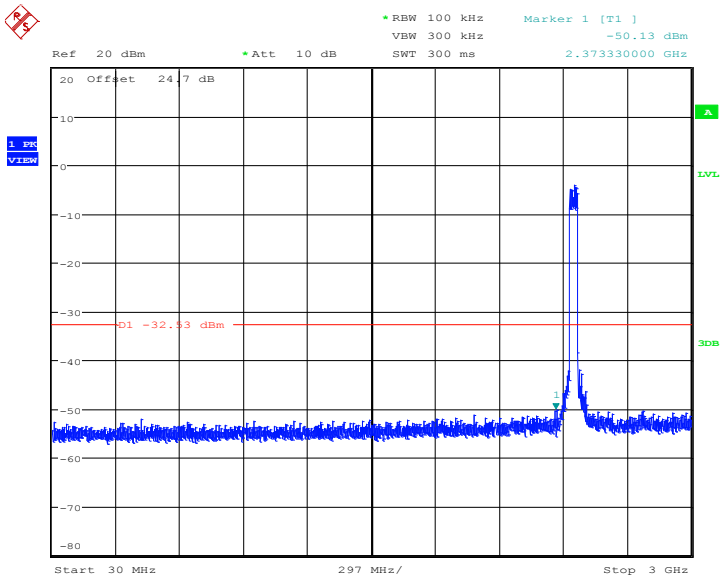
Conducted Spurious Emission Plot on Channel 06



Date: 9.MAY.2013 21:42:03

2.4GHz 802.11n HT40 30 MHz~3 GHz

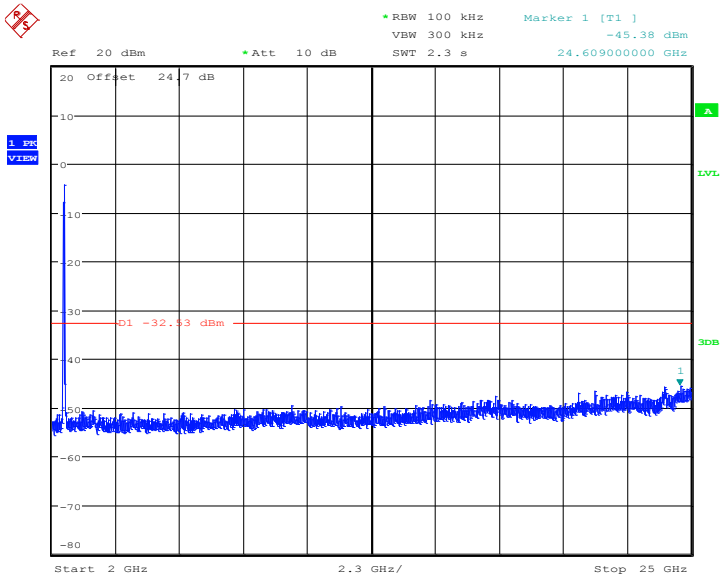
Conducted Spurious Emission Plot on Channel 09



Date: 7.MAY.2013 14:45:54

2.4GHz 802.11n HT40 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 09

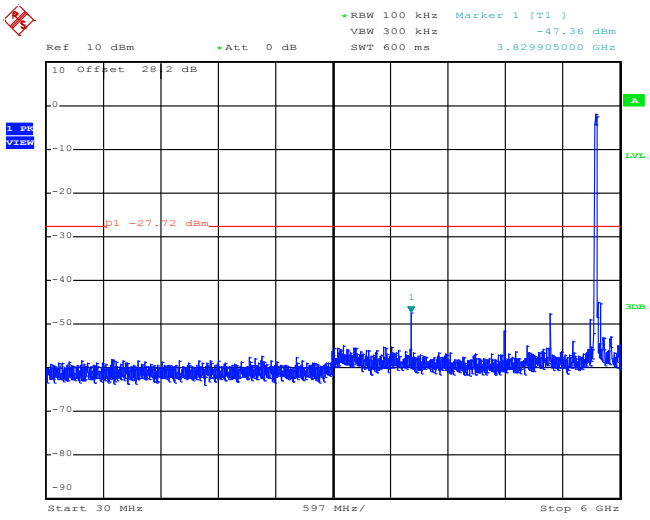


Date: 7.MAY.2013 14:44:09

Test Mode :	802.11a	Temperature :	24~26℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	149, 157, 165	Test Engineer :	Reece Li and Coyote Lin

802.11a 30 MHz~6 GHz

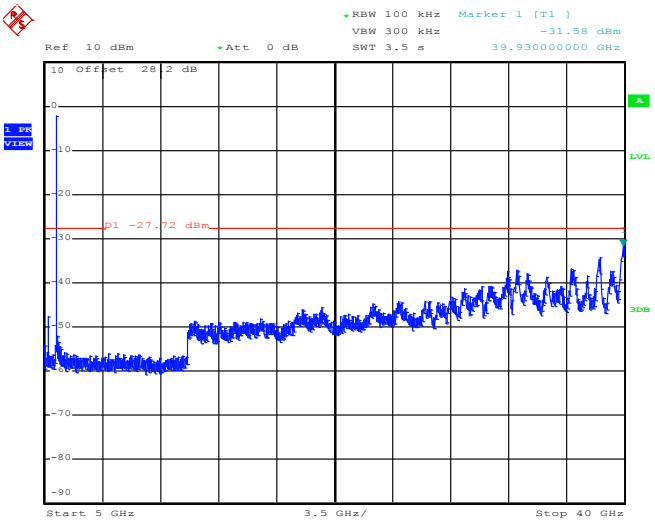
Conducted Spurious Emission Plot on Channel 149



Date: 7.MAY.2013 14:57:43

802.11a 5 GHz~40 GHz

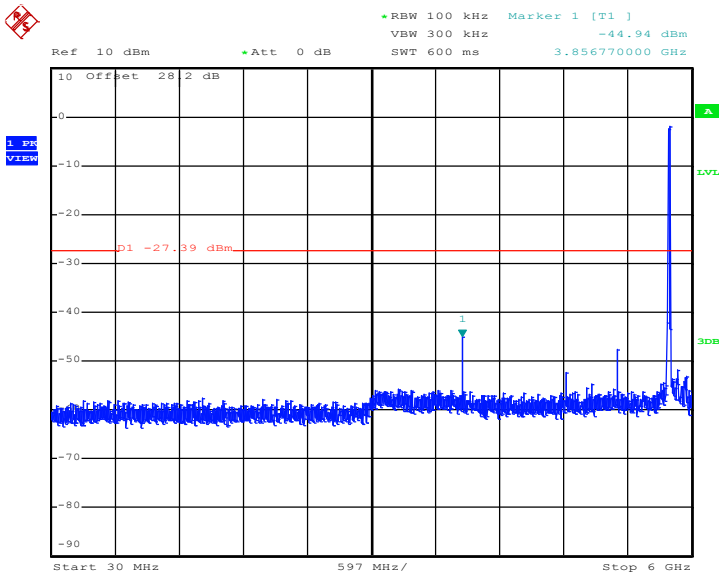
Conducted Spurious Emission Plot on Channel 149



Date: 7.MAY.2013 14:58:21

802.11a 30 MHz~6 GHz

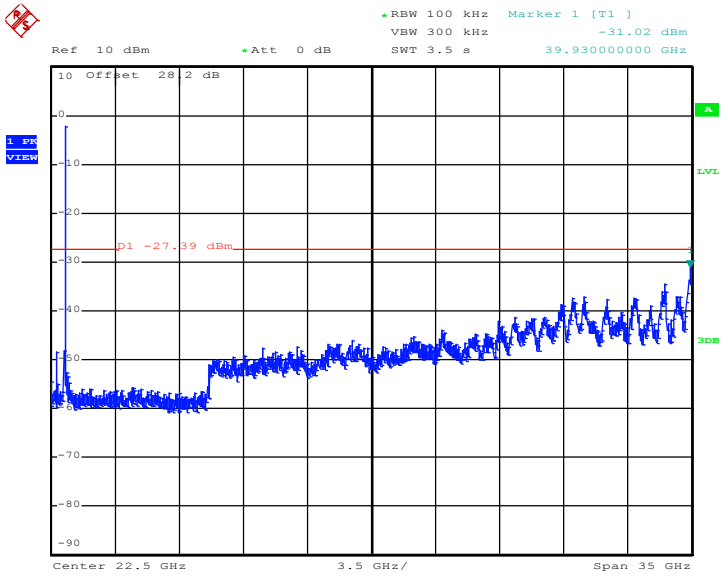
Conducted Spurious Emission Plot on Channel 157



Date: 7.MAY.2013 14:59:57

802.11a 5 GHz~40 GHz

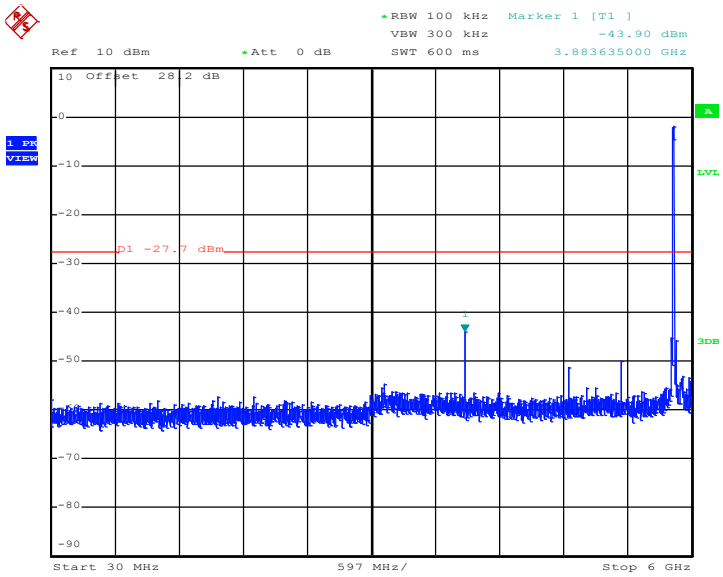
Conducted Spurious Emission Plot on Channel 157



Date: 7.MAY.2013 14:59:33

802.11a 30 MHz~6 GHz

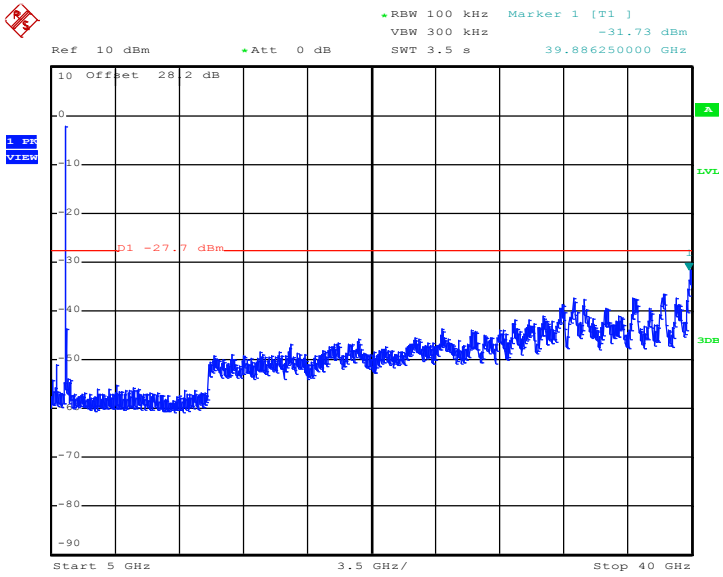
Conducted Spurious Emission Plot on Channel 165



Date: 7.MAY.2013 15:01:15

802.11a 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 165

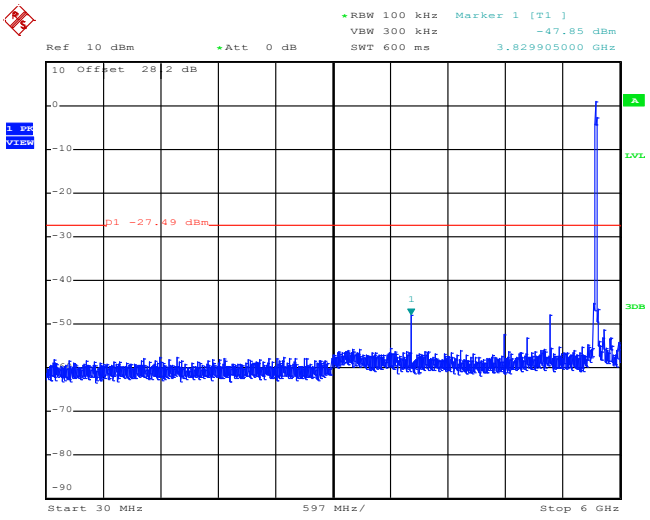


Date: 7.MAY.2013 15:00:58

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	149, 157, 165	Test Engineer :	Reece Li and Coyote Lin

5GHz 802.11n HT20 30 MHz~6 GHz

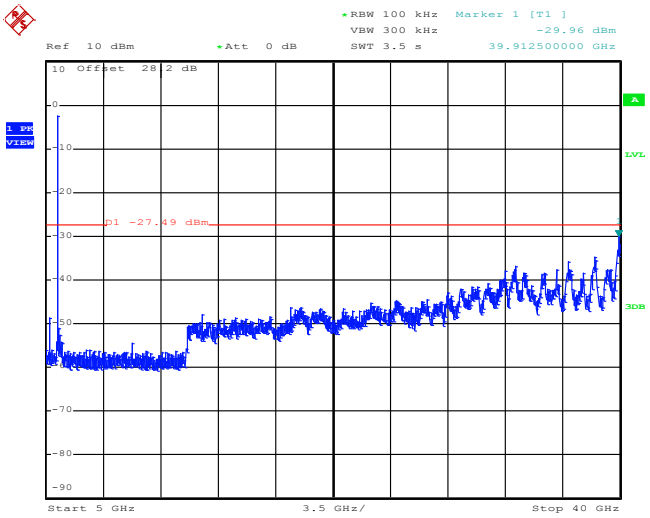
Conducted Spurious Emission Plot on Channel 149



Date: 7.MAY.2013 15:06:54

5GHz 802.11n HT20 5 GHz~40 GHz

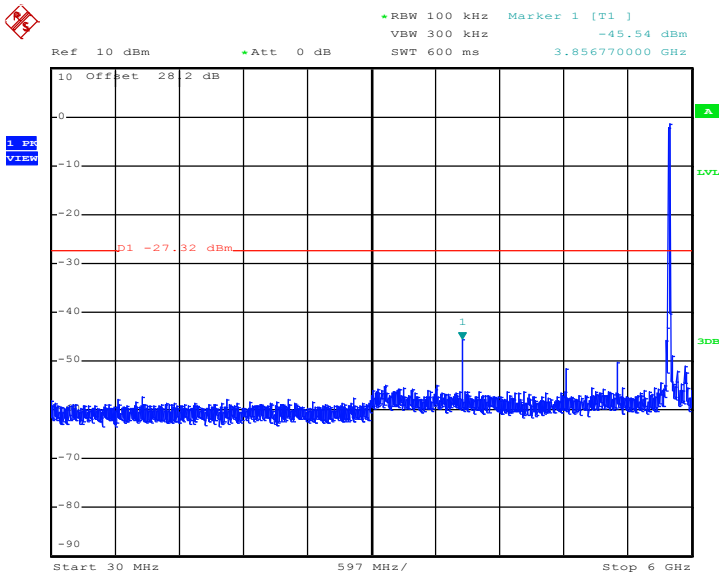
Conducted Spurious Emission Plot on Channel 149



Date: 7.MAY.2013 15:07:21

5GHz 802.11n HT20 30 MHz~6 GHz

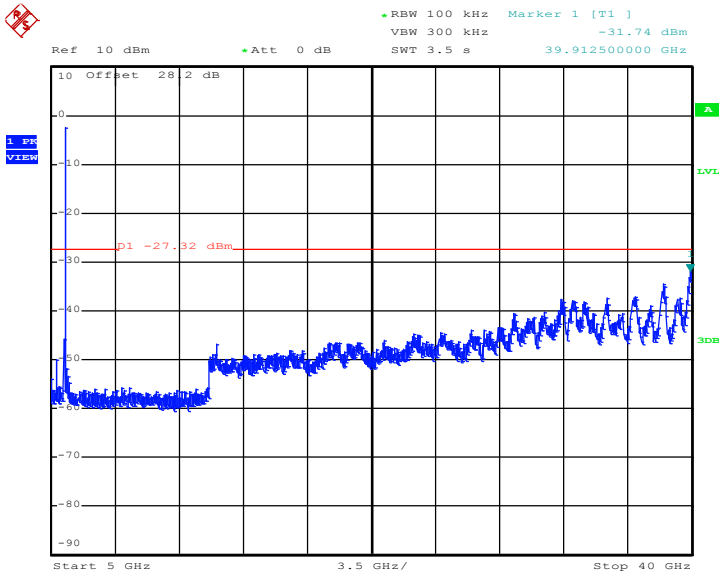
Conducted Spurious Emission Plot on Channel 157



Date: 7.MAY.2013 15:04:59

5GHz 802.11n HT20 5 GHz~40 GHz

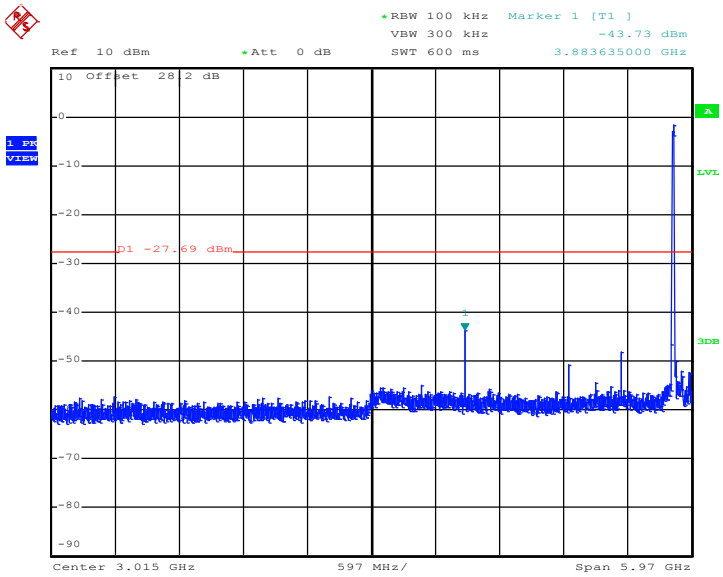
Conducted Spurious Emission Plot on Channel 157



Date: 7.MAY.2013 15:05:33

5GHz 802.11n HT20 30 MHz~6 GHz

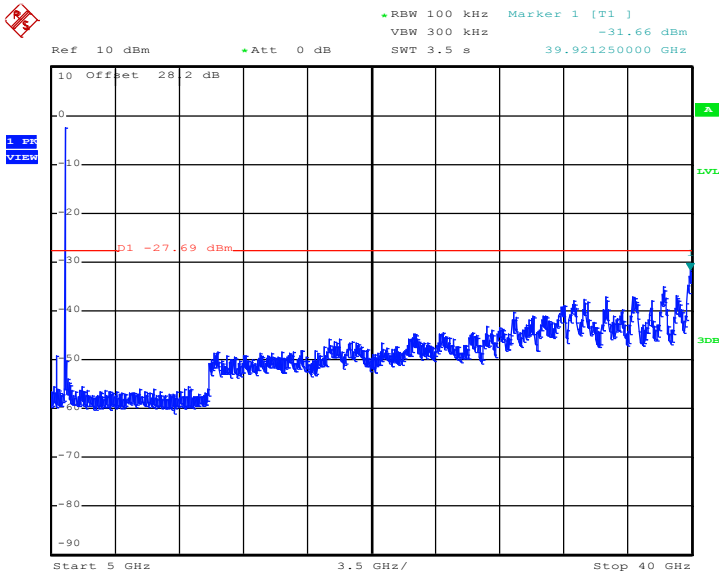
Conducted Spurious Emission Plot on Channel 165



Date: 7.MAY.2013 15:03:02

5GHz 802.11n HT20 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 165

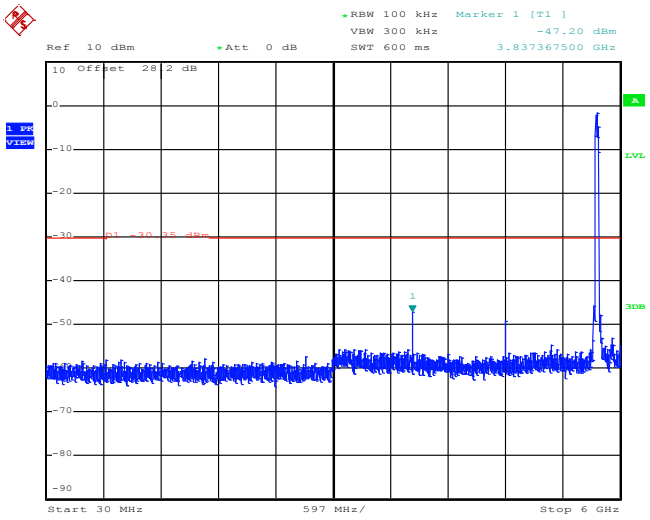


Date: 7.MAY.2013 15:03:41

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Reece Li and Coyote Lin

5GHz 802.11n HT40 30 MHz~6 GHz

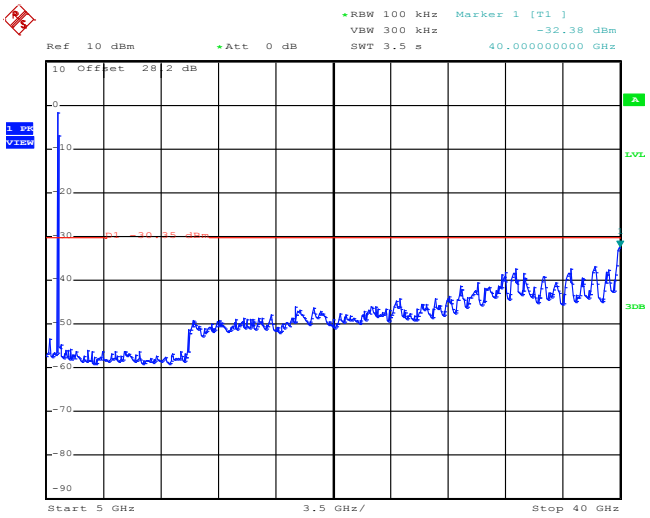
Conducted Spurious Emission Plot on Channel 151



Date: 7.MAY.2013 15:14:32

5GHz 802.11n HT40 5 GHz~40 GHz

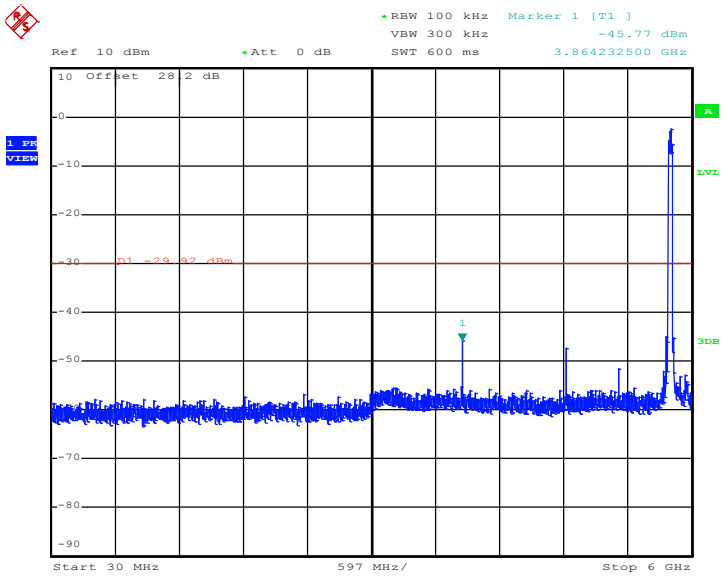
Conducted Spurious Emission Plot on Channel 151



Date: 7.MAY.2013 18:09:41

5GHz 802.11n HT40 30 MHz~6 GHz

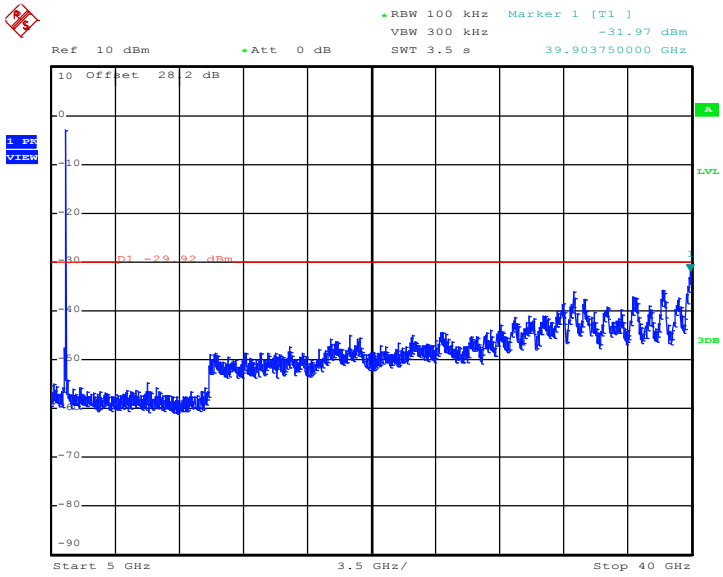
Conducted Spurious Emission Plot on Channel 159



Date: 7.MAY.2013 15:15:32

5GHz 802.11n HT40 5GHz~40 GHz

Conducted Spurious Emission Plot on Channel 159

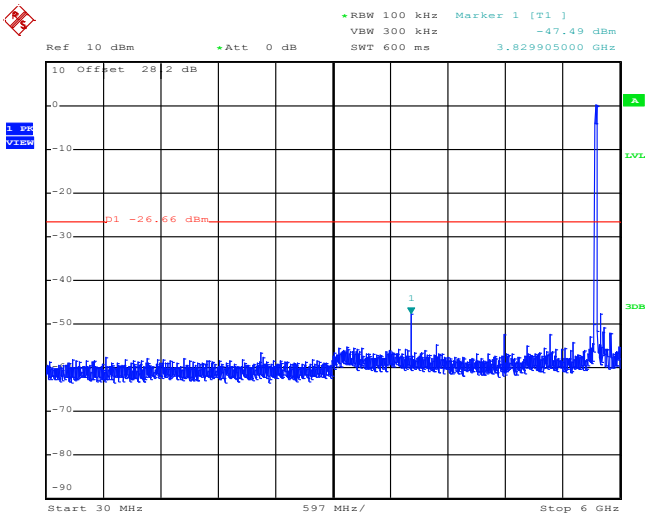


Date: 7.MAY.2013 15:15:57

Test Mode :	802.11ac VHT20	Temperature :	24~26℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	149, 157, 165	Test Engineer :	Reece Li and Coyote Lin

5GHz 802.11ac VHT20 30 MHz~6 GHz

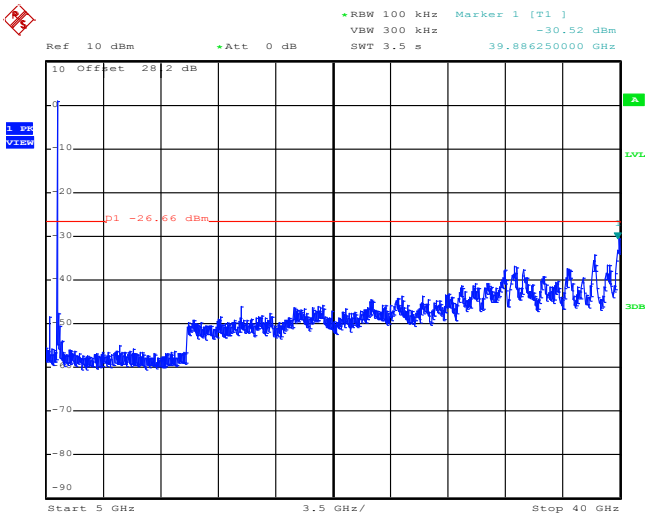
Conducted Spurious Emission Plot on Channel 149



Date: 7.MAY.2013 15:18:31

5GHz 802.11ac VHT20 5 GHz~40 GHz

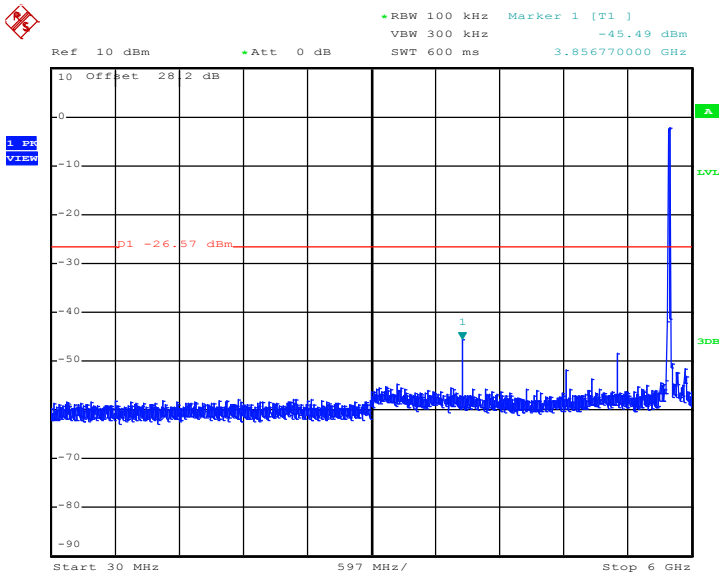
Conducted Spurious Emission Plot on Channel 149



Date: 7.MAY.2013 15:17:57

5GHz 802.11ac VHT20 30 MHz~6 GHz

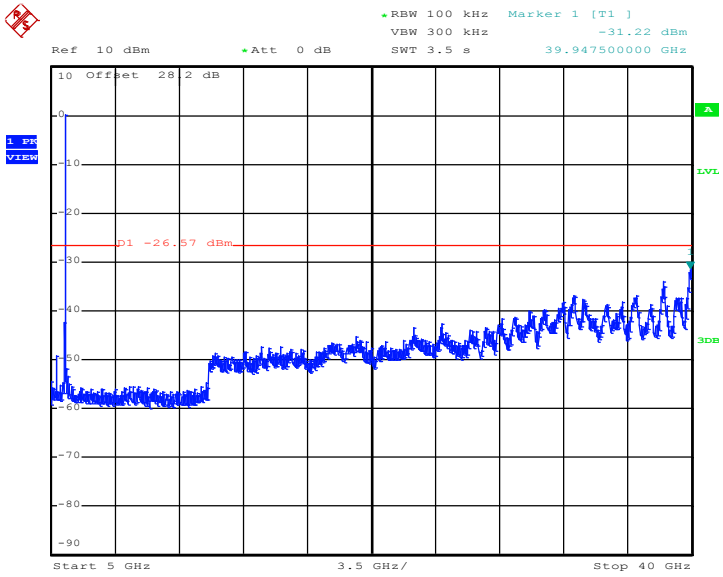
Conducted Spurious Emission Plot on Channel 157



Date: 7.MAY.2013 15:19:56

5GHz 802.11ac VHT20 5 GHz~40 GHz

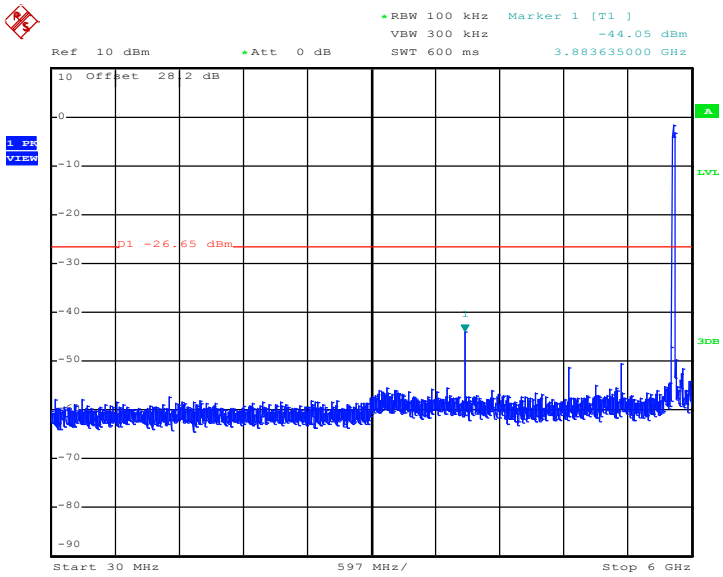
Conducted Spurious Emission Plot on Channel 157



Date: 7.MAY.2013 15:20:43

5GHz 802.11ac VHT20 30 MHz~6 GHz

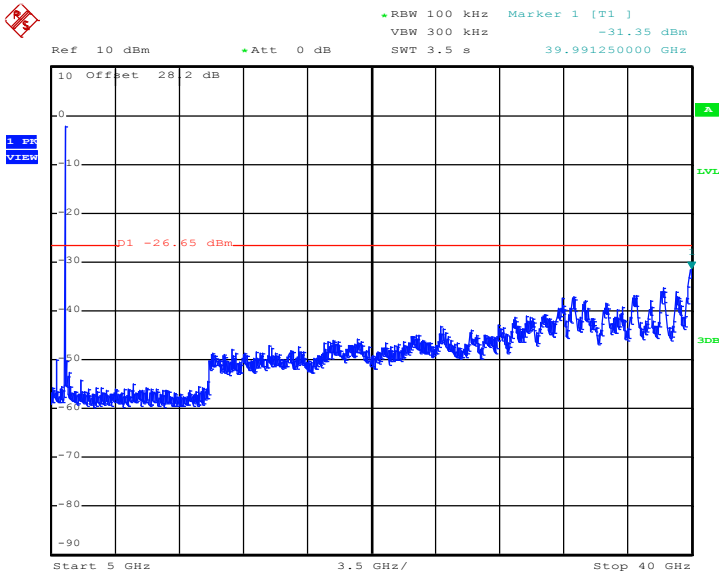
Conducted Spurious Emission Plot on Channel 165



Date: 7.MAY.2013 15:22:23

5GHz 802.11ac VHT20 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 165

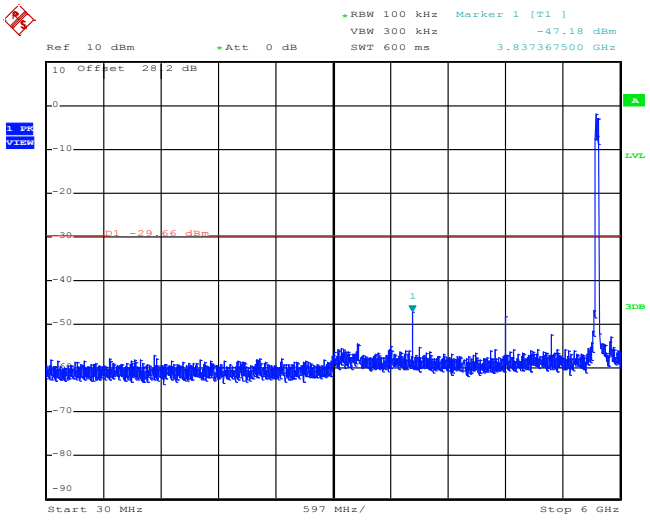


Date: 7.MAY.2013 15:21:45

Test Mode :	802.11ac VHT40	Temperature :	24~26℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Reece Li and Coyote Lin

5GHz 802.11ac VHT40 30 MHz~6 GHz

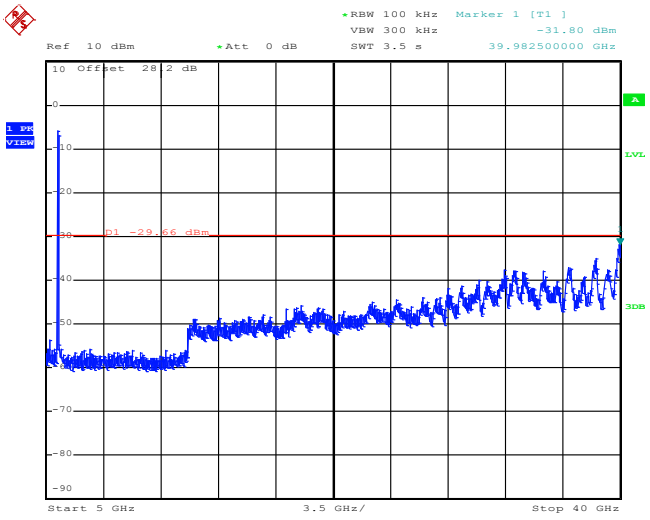
Conducted Spurious Emission Plot on Channel 151



Date: 7.MAY.2013 15:23:45

5GHz 802.11ac VHT40 5 GHz~40 GHz

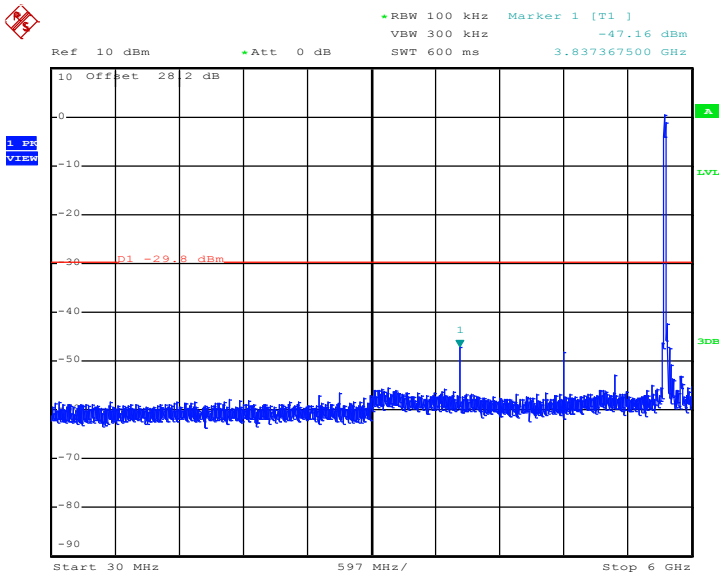
Conducted Spurious Emission Plot on Channel 151



Date: 7.MAY.2013 15:24:11

5GHz 802.11ac VHT40 30 MHz~6 GHz

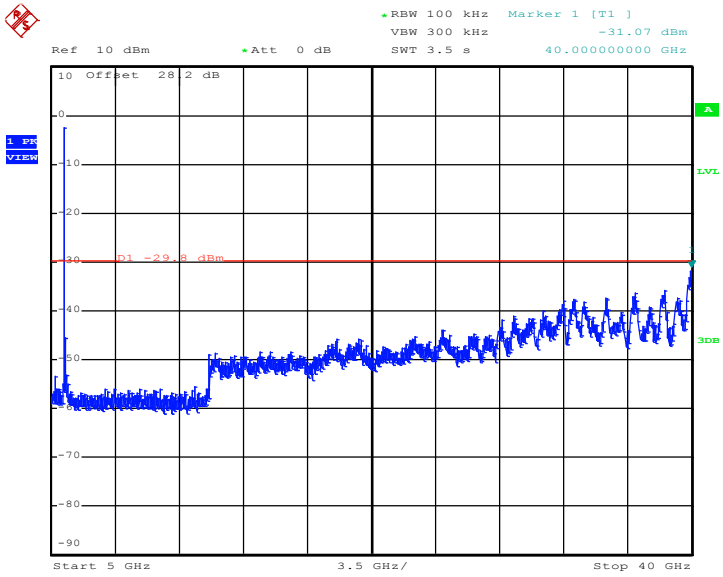
Conducted Spurious Emission Plot on Channel 159



Date: 7.MAY.2013 15:25:24

5GHz 802.11ac VHT40 5GHz~40 GHz

Conducted Spurious Emission Plot on Channel 159

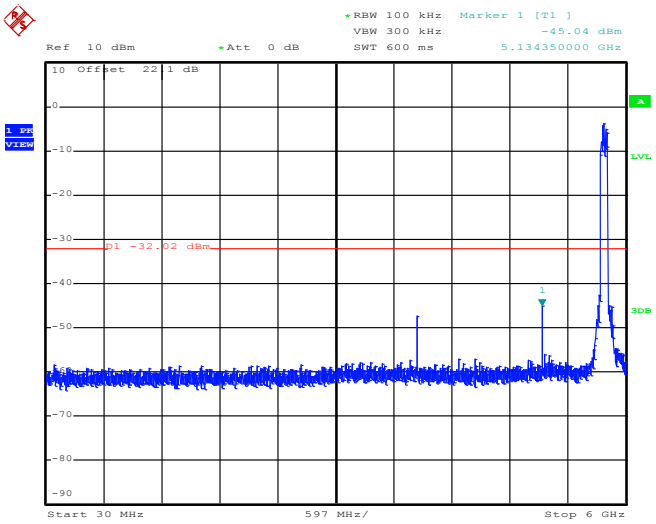


Date: 7.MAY.2013 15:25:02

Test Mode :	802.11ac VHT80	Temperature :	24~26℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	155	Test Engineer :	Reece Li and Coyote Lin

5GHz 802.11ac VHT80 30 MHz~6 GHz

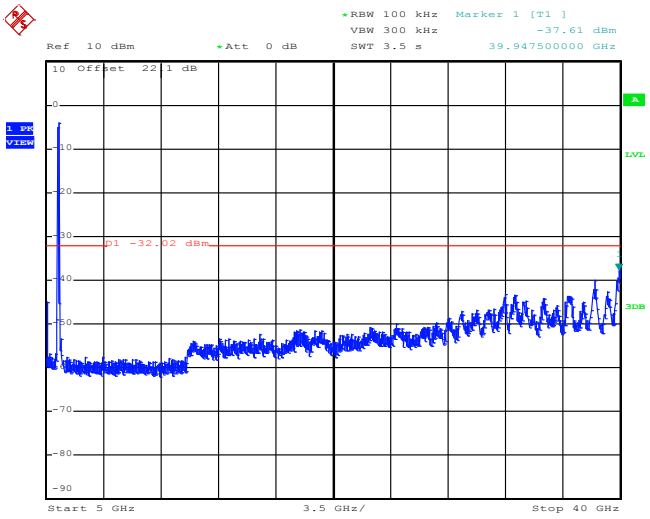
Conducted Spurious Emission Plot on Channel 155



Date: 7.MAY.2013 15:40:35

5GHz 802.11ac VHT80 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 155



Date: 7.MAY.2013 15:39:17

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 KHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(KHz)	300
0.490 – 1.705	24000/F(KHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

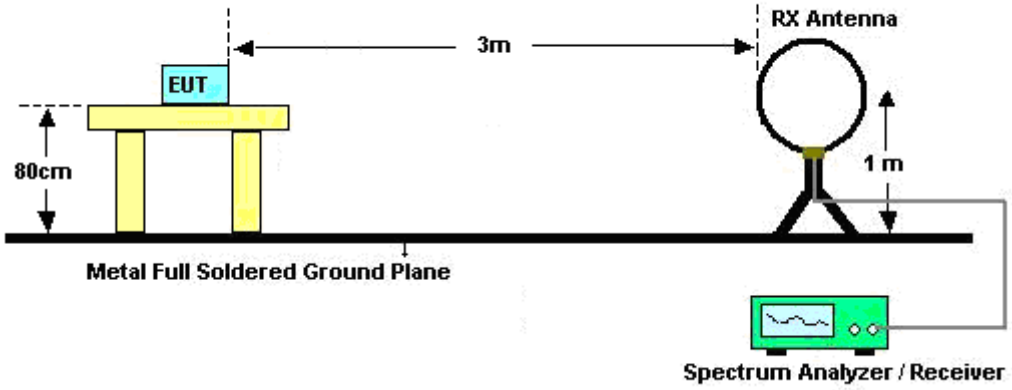
1. The testing follows the guidelines in ANSI C63.10-2009.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(μs)	1/T(kHz)	VBW Setting
802.11b	99.08	-	-	10Hz
802.11g	93.42	1420	0.704	1kHz
2.4GHz 802.11n HT20	93.06	1340	0.746	1kHz
2.4GHz 802.11n HT40	93.06	1340	0.746	1kHz
802.11a	93.46	1430	0.699	1kHz
5GHz 802.11n HT20	92.36	1330	0.752	1kHz
5GHz 802.11n HT40	86.72	666	1.502	3kHz
5GHz 802.11ac VHT80	77.06	336	2.976	3kHz

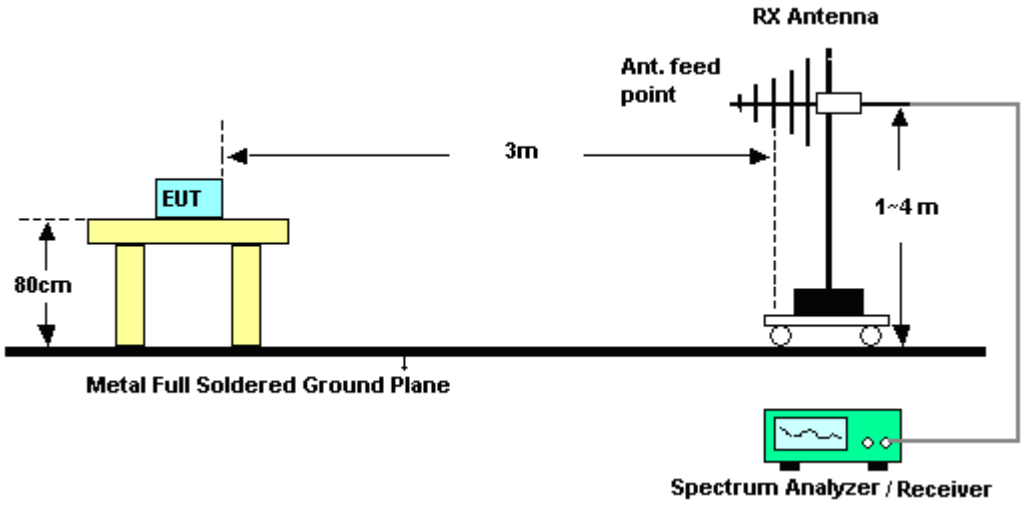
Note: For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

3.5.4 Test Setup

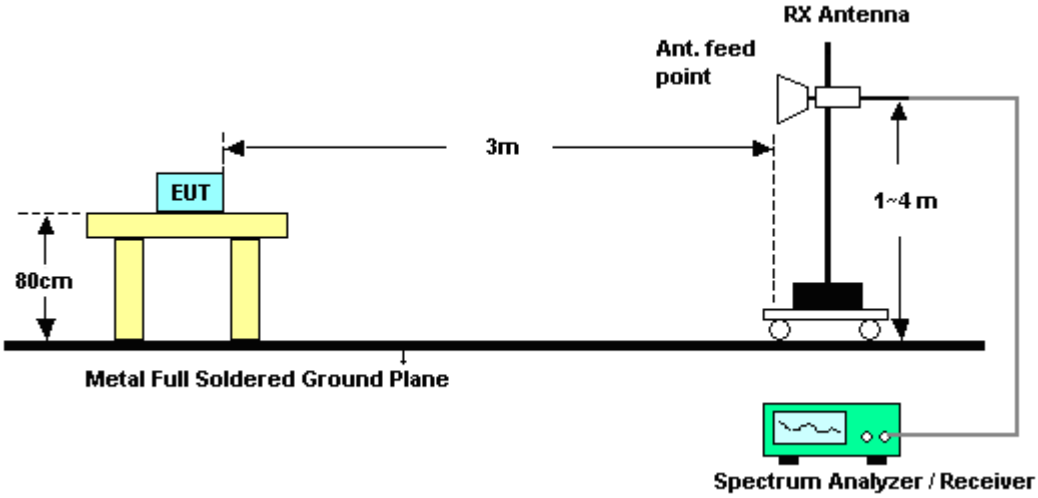
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Emissions (9KHz ~ 30MHz)

The low frequency, which started from 9 KHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.5.6 Test Result of Radiated Band Edges

Test Mode :	802.11b	**Temperature :**	27~28°C
Test Band :	Low	**Relative Humidity :**	45~46%
Test Channel :	01	**Test Engineer :**	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2389.74	53.51	-20.49	74	49.26	32.36	6.45	34.56	200	63	Peak
2390	41.71	-12.29	54	37.46	32.36	6.45	34.56	200	63	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2389.56	52.27	-21.73	74	48.02	32.36	6.45	34.56	200	268	Peak
2390	40.97	-13.03	54	36.72	32.36	6.45	34.56	200	268	Average

Test Mode :	802.11b	**Temperature :**	27~28°C
Test Band :	High	**Relative Humidity :**	45~46%
Test Channel :	11	**Test Engineer :**	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2484.19	53.59	-20.41	74	49.07	32.48	6.59	34.55	200	294	Peak
2483.5	41.37	-12.63	54	36.85	32.48	6.59	34.55	200	294	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
2487.94	51.95	-22.05	74	47.41	32.5	6.59	34.55	200	268	Peak
2483.56	39.17	-14.83	54	34.65	32.48	6.59	34.55	200	268	Average

Test Mode :	802.11g	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	01	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	70.09	-3.91	74	65.84	32.36	6.45	34.56	200	62	Peak
2390	48.42	-5.58	54	44.17	32.36	6.45	34.56	200	62	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.74	66.2	-7.8	74	61.95	32.36	6.45	34.56	200	270	Peak
2390	44.98	-9.02	54	40.73	32.36	6.45	34.56	200	270	Average

Test Mode :	802.11g	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	11	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.11	69.33	-4.67	74	64.81	32.48	6.59	34.55	195	62	Peak
2483.5	46.53	-7.47	54	42.01	32.48	6.59	34.55	195	62	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.02	65.61	-8.39	74	61.09	32.48	6.59	34.55	200	266	Peak
2483.65	43.15	-10.85	54	38.63	32.48	6.59	34.55	200	266	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	01	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.47	73.23	-0.77	74	68.98	32.36	6.45	34.56	200	62	Peak
2389.83	48.96	-5.04	54	44.71	32.36	6.45	34.56	200	62	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.02	69.38	-4.62	74	65.13	32.36	6.45	34.56	200	268	Peak
2390	45.89	-8.11	54	41.64	32.36	6.45	34.56	200	268	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	11	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.61	72.1	-1.9	74	67.58	32.48	6.59	34.55	134	54	Peak
2483.5	45.25	-8.75	54	40.73	32.48	6.59	34.55	134	54	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.59	67.46	-6.54	74	62.94	32.48	6.59	34.55	200	266	Peak
2483.59	41.73	-12.27	54	37.21	32.48	6.59	34.55	200	266	Average

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	03	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.2	71.23	-2.77	74	66.98	32.36	6.45	34.56	200	64	Peak
2389.65	49.63	-4.37	54	45.38	32.36	6.45	34.56	200	64	Average
2485.75	60.43	-13.57	74	55.91	32.48	6.59	34.55	200	64	Peak
2489.71	40.51	-13.49	54	35.97	32.5	6.59	34.55	200	64	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.2	68.68	-5.32	74	64.43	32.36	6.45	34.56	200	266	Peak
2389.92	46.11	-7.89	54	41.86	32.36	6.45	34.56	200	266	Average
2486.26	59.15	-14.85	74	54.63	32.48	6.59	34.55	200	266	Peak
2485.66	39.89	-14.11	54	35.37	32.48	6.59	34.55	200	266	Average

Test Mode :	802.11n HT40	**Temperature :**	27~28°C
Test Band :	High	**Relative Humidity :**	45~46%
Test Channel :	09	**Test Engineer :**	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2385.96	59.73	-14.27	74	55.48	32.36	6.45	34.56	200	60	Peak
2389.65	42.08	-11.92	54	37.83	32.36	6.45	34.56	200	60	Average
2483.53	71.82	-2.18	74	67.3	32.48	6.59	34.55	200	60	Peak
2485.09	45.53	-8.47	54	41.01	32.48	6.59	34.55	200	60	Average

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.2	55.8	-18.2	74	51.55	32.36	6.45	34.56	200	266	Peak
2389.47	40.29	-13.71	54	36.04	32.36	6.45	34.56	200	266	Average
2483.8	67.4	-6.6	74	62.88	32.48	6.59	34.55	200	266	Peak
2483.59	42.71	-11.29	54	38.19	32.48	6.59	34.55	200	266	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	149	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	68.09	-6.68	74.77	55.18	35.41	11.34	33.84	100	120	Peak
5744	94.17	-	-	81.18	35.44	11.39	33.84	100	120	Average
5744	104.77	-	-	91.78	35.44	11.39	33.84	100	120	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	70.21	-6.98	77.19	57.3	35.41	11.34	33.84	101	259	Peak
5748	96.9	-	-	83.91	35.44	11.39	33.84	101	259	Average
5748	107.19	-	-	94.2	35.44	11.39	33.84	101	259	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	165	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5850	63.2	-11.68	74.88	49.9	35.58	11.56	33.84	100	117	Peak
5824	94.49	-	-	81.26	35.56	11.51	33.84	100	117	Average
5824	104.88	-	-	91.65	35.56	11.51	33.84	100	117	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5850	66.09	-11.73	77.82	52.79	35.58	11.56	33.84	100	237	Peak
5825	97.38	-	-	84.15	35.56	11.51	33.84	100	237	Average
5825	107.82	-	-	94.59	35.56	11.51	33.84	100	237	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	149	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	58.37	-15.89	74.26	45.46	35.41	11.34	33.84	100	120	Peak
5746	93.89	-	-	80.9	35.44	11.39	33.84	100	120	Average
5746	104.26	-	-	91.27	35.44	11.39	33.84	100	120	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	67.53	-9.25	76.78	54.62	35.41	11.34	33.84	100	266	Peak
5746	96.39	-	-	83.4	35.44	11.39	33.84	100	266	Average
5746	106.78	-	-	93.79	35.44	11.39	33.84	100	266	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	165	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5850	55.15	-19.56	74.71	41.85	35.58	11.56	33.84	100	120	Peak
5824	94.3	-	-	81.07	35.56	11.51	33.84	100	120	Average
5824	104.71	-	-	91.48	35.56	11.51	33.84	100	120	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5850	62.13	-14.49	76.62	48.83	35.58	11.56	33.84	100	258	Peak
5824	96.29	-	-	83.06	35.56	11.51	33.84	100	258	Average
5824	106.62	-	-	93.39	35.56	11.51	33.84	100	258	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	151	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	66.2	-7.8	74	53.29	35.41	11.34	33.84	100	119	Peak
5753	91.74	-	-	78.73	35.46	11.39	33.84	100	119	Average
5753	101.11	-	-	88.1	35.46	11.39	33.84	100	119	Peak
5850	51.79	-22.21	74	38.49	35.58	11.56	33.84	100	119	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	62.39	-11.75	74.14	49.48	35.41	11.34	33.84	100	260	Peak
5753	94.26	-	-	81.25	35.46	11.39	33.84	100	260	Average
5753	104.14	-	-	91.13	35.46	11.39	33.84	100	260	Peak
5850	54.08	-20.06	74.14	40.78	35.58	11.56	33.84	100	260	Peak

Test Mode :	802.11n HT40	**Temperature :**	27~28°C
Test Band :	High	**Relative Humidity :**	45~46%
Test Channel :	159	**Test Engineer :**	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
5725	51.59	-22.41	74	38.68	35.41	11.34	33.84	100	119	Peak
5793	91.07	-	-	77.93	35.51	11.47	33.84	100	119	Average
5793	100.93	-	-	87.79	35.51	11.47	33.84	100	119	Peak
5850	57.23	-16.77	74	43.93	35.58	11.56	33.84	100	119	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
5725	52.12	-21.88	74	39.21	35.41	11.34	33.84	100	261	Peak
5793	93.85	-	-	80.71	35.51	11.47	33.84	100	261	Average
5793	103.92	-	-	90.78	35.51	11.47	33.84	100	261	Peak
5850	58.39	-15.61	74	45.09	35.58	11.56	33.84	100	261	Peak

Test Mode :	802.11ac VHT80	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	155	Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	59.55	-14.45	74	46.64	35.41	11.34	33.84	100	119	Peak
5777	88.98	-	-	75.9	35.49	11.43	33.84	100	119	Average
5777	98.2	-	-	85.12	35.49	11.43	33.84	100	119	Peak
5850	57.14	-16.86	74	43.84	35.58	11.56	33.84	100	119	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	68.65	-5.35	74	55.74	35.41	11.34	33.84	100	247	Peak
5777	92.62	-	-	79.54	35.49	11.43	33.84	100	247	Average
5777	101.08	-	-	88	35.49	11.43	33.84	100	247	Peak
5850	59.23	-14.77	74	45.93	35.58	11.56	33.84	100	247	Peak

3.5.7 Test Result of Radiated Emission (30MHz ~ 10th Harmonic)

Test Mode :	802.11b	**Temperature :**	27~28°C
Test Channel :	01	**Relative Humidity :**	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	**Polarization :**	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 30dB below the highest emission level. For example, 108.95 dBμV/m - 30dB = 78.95 dBμV/m. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.94	23.37	-16.63	40	40.17	14.46	0.44	31.7	100	226	Peak
134.76	17.45	-26.05	43.5	36.25	11.5	1.4	31.7	-	-	Peak
204.15	18.17	-25.33	43.5	38.79	9.12	1.9	31.64	-	-	Peak
522.6	24.84	-21.16	46	35.93	17.79	2.95	31.83	-	-	Peak
819.4	24.9	-21.1	46	33.13	20.1	3.62	31.95	-	-	Peak
952.4	25.37	-20.63	46	31.71	20.93	3.84	31.11	-	-	Peak
2414	102.87	-	-	98.56	32.38	6.49	34.56	200	63	Average
2414	108.95	-	-	104.64	32.38	6.49	34.56	200	63	Peak
4824	48.71	-25.29	74	59.26	34.87	10.17	55.59	100	0	Peak
7236	49.31	-29.64	78.95	58.62	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 30dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
44.85	30.4	-9.6	40	51.72	9.8	0.58	31.7	100	128	Peak
91.56	19.77	-23.73	43.5	41.3	9.12	1.07	31.72	-	-	Peak
160.14	19.51	-23.99	43.5	39.7	9.9	1.56	31.65	-	-	Peak
522.6	23.76	-22.24	46	34.85	17.79	2.95	31.83	-	-	Peak
833.4	23.66	-22.34	46	31.61	20.23	3.75	31.93	-	-	Peak
893.6	24.87	-21.13	46	32.04	20.7	3.77	31.64	-	-	Peak
2414	101.03	-	-	96.72	32.38	6.49	34.56	200	268	Average
2414	106.11	-	-	101.8	32.38	6.49	34.56	200	268	Peak
4824	49.01	-24.99	74	59.56	34.87	10.17	55.59	100	0	Peak
7236	49.86	-26.25	76.11	59.17	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	102.18	-	-	97.79	32.43	6.52	34.56	200	62	Average
2438	108.38	-	-	103.99	32.43	6.52	34.56	200	62	Peak
4875	46.85	-27.15	74	57.5	34.85	10.18	55.68	100	0	Peak
7311	50.13	-23.87	74	60.33	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	100.72	-	-	96.36	32.4	6.52	34.56	200	266	Average
2436	106.01	-	-	101.65	32.4	6.52	34.56	200	266	Peak
4875	47.53	-26.47	74	58.18	34.85	10.18	55.68	100	0	Peak
7311	49.27	-24.73	74	58.47	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	101.45	-	-	97	32.45	6.56	34.56	200	294	Average
2464	107.55	-	-	103.1	32.45	6.56	34.56	200	294	Peak
4923	47.52	-26.48	74	58.27	34.83	10.2	55.78	100	0	Peak
7386	48.82	-25.18	74	57.89	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	100.34	-	-	95.89	32.45	6.56	34.56	200	268	Average
2464	105.34	-	-	100.89	32.45	6.56	34.56	200	268	Peak
4923	47.89	-26.11	74	58.64	34.83	10.2	55.78	100	0	Peak
7386	50.42	-23.58	74	59.49	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2413 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 30dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.94	21.85	-18.15	40	38.65	14.46	0.44	31.7	100	300	Peak
91.56	20.04	-23.46	43.5	41.57	9.12	1.07	31.72	-	-	Peak
150.96	18.45	-25.05	43.5	38.56	10.08	1.5	31.69	-	-	Peak
403.6	19.35	-26.65	46	32.72	16.05	2.38	31.8	-	-	Peak
492.5	24.51	-21.49	46	35.81	17.6	2.88	31.78	-	-	Peak
800.5	23.3	-22.7	46	31.83	20	3.44	31.97	-	-	Peak
2413	97.7	-	-	93.39	32.38	6.49	34.56	200	62	Average
2413	108.42	-	-	104.11	32.38	6.49	34.56	200	62	Peak
4824	47.96	-26.04	74	58.51	34.87	10.17	55.59	100	0	Peak
7236	50.94	-27.48	78.42	60.25	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2416 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 30dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
42.15	24.41	-15.59	40	44.6	10.96	0.55	31.7	100	201	Peak
96.15	16.41	-27.09	43.5	36.74	10.24	1.1	31.67	-	-	Peak
134.76	17.4	-26.1	43.5	36.2	11.5	1.4	31.7	-	-	Peak
352.5	21.47	-24.53	46	36.28	14.36	2.39	31.56	-	-	Peak
522.6	24.42	-21.58	46	35.51	17.79	2.95	31.83	-	-	Peak
707.4	24.57	-21.43	46	33.98	19.07	3.55	32.03	-	-	Peak
2416	94.28	-	-	89.97	32.38	6.49	34.56	200	270	Average
2416	105.01	-	-	100.7	32.38	6.49	34.56	200	270	Peak
4824	48.41	-25.59	74	58.96	34.87	10.17	55.59	100	0	Peak
7236	50.15	-24.86	75.01	59.46	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	98.44	-	-	94.05	32.43	6.52	34.56	200	63	Average
2439	109.13	-	-	104.74	32.43	6.52	34.56	200	63	Peak
4875	47.79	-26.21	74	58.44	34.85	10.18	55.68	100	0	Peak
7311	50.42	-23.58	74	59.62	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2435 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2435	96.07	-	-	91.71	32.4	6.52	34.56	200	266	Average
2435	106.44	-	-	102.08	32.4	6.52	34.56	200	266	Peak
4875	47.21	-26.79	74	57.86	34.85	10.18	55.68	100	0	Peak
7311	49.68	-24.32	74	58.88	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	97.6	-	-	93.15	32.45	6.56	34.56	195	62	Average
2462	108.26	-	-	103.81	32.45	6.56	34.56	195	62	Peak
4923	47.18	-26.82	74	57.93	34.83	10.2	55.78	100	0	Peak
7386	49.91	-24.09	74	58.98	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2460	94.03	-	-	89.58	32.45	6.56	34.56	200	266	Average
2460	104.74	-	-	100.29	32.45	6.56	34.56	200	266	Peak
4923	46.95	-27.05	74	57.7	34.83	10.2	55.78	100	0	Peak
7386	49.6	-24.4	74	58.67	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 30dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
42.96	20.52	-19.48	40	40.71	10.96	0.55	31.7	100	258	Peak
101.55	17.97	-25.53	43.5	37.27	11.36	1.03	31.69	-	-	Peak
158.25	19.98	-23.52	43.5	40.14	9.94	1.55	31.65	-	-	Peak
352.5	21.19	-24.81	46	36	14.36	2.39	31.56	-	-	Peak
441.4	19.35	-26.65	46	32.04	16.62	2.53	31.84	-	-	Peak
853	25.59	-20.41	46	33.18	20.4	3.9	31.89	-	-	Peak
2410	96.32	-	-	92.01	32.38	6.49	34.56	200	62	Average
2410	107.55	-	-	103.24	32.38	6.49	34.56	200	62	Peak
4824	46.87	-27.13	74	57.42	34.87	10.17	55.59	100	0	Peak
7236	50.61	-26.94	77.55	59.92	36.15	10.96	56.42	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2415 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 30dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.08	16.26	-23.74	40	29.56	18.02	0.4	31.72	-	-	Peak
138	18.4	-25.1	43.5	37.43	11.26	1.41	31.7	-	-	Peak
297.84	22.47	-23.53	46	38.61	13.16	2.36	31.66	-	-	Peak
352.5	21.58	-24.42	46	36.39	14.36	2.39	31.56	-	-	Peak
410.6	20	-26	46	33.1	16.3	2.41	31.81	-	-	Peak
538	25.78	-20.22	46	36.1	18.57	2.97	31.86	100	208	Peak
2415	94.86	-	-	90.55	32.38	6.49	34.56	200	268	Average
2415	105.06	-	-	100.75	32.38	6.49	34.56	200	268	Peak
4824	49.25	-24.75	74	59.8	34.87	10.17	55.59	100	0	Peak
7236	50.71	-24.35	75.06	60.02	36.15	10.96	56.42	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	96.8	-	-	92.41	32.43	6.52	34.56	200	60	Average
2439	107.67	-	-	103.28	32.43	6.52	34.56	200	60	Peak
4875	47.1	-26.9	74	57.75	34.85	10.18	55.68	100	0	Peak
7311	50.18	-23.82	74	59.38	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	95.62	-	-	91.26	32.4	6.52	34.56	200	265	Average
2436	105.95	-	-	101.59	32.4	6.52	34.56	200	265	Peak
4875	48.49	-25.51	74	59.14	34.85	10.18	55.68	100	0	Peak
7311	49.55	-24.45	74	58.75	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2461 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2461	94.83	-	-	90.38	32.45	6.56	34.56	134	54	Average
2461	105.39	-	-	100.94	32.45	6.56	34.56	134	54	Peak
4923	47.44	-26.56	74	58.19	34.83	10.2	55.78	100	0	Peak
7386	50.13	-23.87	74	59.2	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2463 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2463	92.51	-	-	88.06	32.45	6.56	34.56	200	266	Average
2463	102.92	-	-	98.47	32.45	6.56	34.56	200	266	Peak
4923	46.68	-27.32	74	57.43	34.83	10.2	55.78	100	0	Peak
7386	49.96	-24.04	74	59.03	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	03	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2425 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2425	93.01	-	-	88.68	32.4	6.49	34.56	200	64	Average
2425	104.62	-	-	100.31	32.38	6.49	34.56	200	64	Peak
4844	47.17	-26.83	74	57.76	34.86	10.17	55.62	100	0	Peak
7266	49.21	-24.79	74	58.47	36.14	10.95	56.35	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	03	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2427 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2427	91.31	-	-	86.98	32.4	6.49	34.56	200	266	Average
2427	102.73	-	-	98.37	32.4	6.52	34.56	200	266	Peak
4844	47.05	-26.95	74	57.64	34.86	10.17	55.62	100	0	Peak
7266	49.98	-24.02	74	59.24	36.14	10.95	56.35	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2440 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2440	93.81	-	-	89.42	32.43	6.52	34.56	200	65	Average
2440	105	-	-	100.61	32.43	6.52	34.56	200	65	Peak
4874	47.58	-26.42	74	58.23	34.85	10.18	55.68	100	0	Peak
7311	50.93	-23.07	74	60.13	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	91.96	-	-	87.6	32.4	6.52	34.56	200	265	Average
2436	102.84	-	-	98.48	32.4	6.52	34.56	200	265	Peak
4874	47.21	-26.79	74	57.86	34.85	10.18	55.68	100	0	Peak
7311	49.63	-24.37	74	58.83	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	09	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 2453 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.66	20.88	-19.12	40	42.42	9.57	0.59	31.7	100	230	Peak
136.65	18.4	-25.1	43.5	37.36	11.34	1.4	31.7	-	-	Peak
160.14	21.33	-22.17	43.5	41.52	9.9	1.56	31.65	-	-	Peak
538	23.07	-22.93	46	33.39	18.57	2.97	31.86	-	-	Peak
748	22.8	-23.2	46	31.54	19.8	3.57	32.11	-	-	Peak
847.4	24.64	-21.36	46	32.28	20.38	3.89	31.91	-	-	Peak
2453	92.64	-	-	88.21	32.43	6.56	34.56	200	60	Average
2453	104.28	-	-	99.89	32.43	6.52	34.56	200	60	Peak
4905	47.93	-26.07	74	58.64	34.83	10.2	55.74	100	0	Peak
7356	49.62	-24.38	74	58.75	36.13	10.92	56.18	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	09	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 2456 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
42.15	28.41	-11.59	40	48.6	10.96	0.55	31.7	100	154	Peak
134.76	20.4	-23.1	43.5	39.2	11.5	1.4	31.7	-	-	Peak
159.6	19.31	-24.19	43.5	39.5	9.9	1.56	31.65	-	-	Peak
310.5	19.52	-26.48	46	35.3	13.5	2.36	31.64	-	-	Peak
352.5	21.47	-24.53	46	36.28	14.36	2.39	31.56	-	-	Peak
522.6	24.42	-21.58	46	35.51	17.79	2.95	31.83	-	-	Peak
2456	90.6	-	-	86.15	32.45	6.56	34.56	200	266	Average
2456	101.56	-	-	97.17	32.43	6.52	34.56	200	266	Peak
4904	47.01	-26.99	74	57.72	34.83	10.2	55.74	100	0	Peak
7356	49.33	-24.67	74	58.46	36.13	10.92	56.18	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	149	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5744 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.94	23.05	-16.95	40	39.85	14.46	0.44	31.7	-	-	Peak
98.85	16.44	-27.06	43.5	36.13	10.96	1.03	31.68	-	-	Peak
133.95	17.17	-26.33	43.5	35.91	11.56	1.4	31.7	-	-	Peak
522.6	24.03	-21.97	46	35.12	17.79	2.95	31.83	-	-	Peak
671	23.38	-22.62	46	32.8	19.1	3.47	31.99	-	-	Peak
828.5	30.52	-15.48	46	38.57	20.18	3.71	31.94	100	321	Peak
5744	94.17	-	-	81.18	35.44	11.39	33.84	100	120	Average
5744	104.77	-	-	91.78	35.44	11.39	33.84	100	120	Peak
11490	50.54	-23.46	74	54.94	38.39	11.04	53.83	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	149	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5748 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
32.7	25.42	-14.58	40	40.26	16.46	0.41	31.71	101	108	Peak
91.56	20.29	-23.21	43.5	41.82	9.12	1.07	31.72	-	-	Peak
123.96	21.68	-21.82	43.5	40.23	11.82	1.34	31.71	-	-	Peak
352.5	20.78	-25.22	46	35.59	14.36	2.39	31.56	-	-	Peak
522.6	26.41	-19.59	46	37.5	17.79	2.95	31.83	-	-	Peak
826.4	29	-17	46	37.09	20.16	3.69	31.94	-	-	Peak
5748	96.9	-	-	83.91	35.44	11.39	33.84	101	259	Average
5748	107.19	-	-	94.2	35.44	11.39	33.84	101	259	Peak
11490	50.65	-23.35	74	55.05	38.39	11.04	53.83	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	157	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5786 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5786	94.45	-	-	81.35	35.51	11.43	33.84	100	118	Average
5786	104.68	-	-	91.58	35.51	11.43	33.84	100	118	Peak
11570	50.36	-23.64	74	54.52	38.51	11.09	53.76	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	157	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5786 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5786	97.25	-	-	84.15	35.51	11.43	33.84	100	268	Average
5786	107.07	-	-	93.97	35.51	11.43	33.84	100	268	Peak
11570	50.25	-23.75	74	54.41	38.51	11.09	53.76	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	165	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5824 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	94.49	-	-	81.26	35.56	11.51	33.84	100	117	Average
5824	104.88	-	-	91.65	35.56	11.51	33.84	100	117	Peak
11650	50.87	-23.13	74	54.83	38.62	11.14	53.72	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	165	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	97.38	-	-	84.15	35.56	11.51	33.84	100	237	Average
5825	107.82	-	-	94.59	35.56	11.51	33.84	100	237	Peak
11650	50.86	-23.14	74	54.82	38.62	11.14	53.72	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	149	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5746 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
38.1	23.67	-16.33	40	41.32	13.58	0.47	31.7	-	-	Peak
98.85	16.44	-27.06	43.5	36.13	10.96	1.03	31.68	-	-	Peak
160.95	18.98	-24.52	43.5	39.12	9.92	1.59	31.65	-	-	Peak
522.6	24.03	-21.97	46	35.12	17.79	2.95	31.83	-	-	Peak
671	23.38	-22.62	46	32.8	19.1	3.47	31.99	-	-	Peak
828.5	32.52	-13.48	46	40.57	20.18	3.71	31.94	100	229	Peak
5746	93.89	-	-	80.9	35.44	11.39	33.84	100	120	Average
5746	104.26	-	-	91.27	35.44	11.39	33.84	100	120	Peak
11490	50.42	-23.58	74	54.82	38.39	11.04	53.83	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	149	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5746 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.94	22.11	-17.89	40	38.91	14.46	0.44	31.7	-	-	Peak
69.15	18.27	-21.73	40	42.89	6.36	0.72	31.7	-	-	Peak
233.85	21.6	-24.4	46	40.39	10.64	2.19	31.62	-	-	Peak
522.6	26.41	-19.59	46	37.5	17.79	2.95	31.83	-	-	Peak
826.4	31	-15	46	39.09	20.16	3.69	31.94	100	115	Peak
940.5	24.61	-21.39	46	31.19	20.81	3.82	31.21	-	-	Peak
5746	96.39	-	-	83.4	35.44	11.39	33.84	100	266	Average
5746	106.78	-	-	93.79	35.44	11.39	33.84	100	266	Peak
11490	50.14	-23.86	74	54.54	38.39	11.04	53.83	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	157	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5784 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5784	93.59	-	-	80.51	35.49	11.43	33.84	100	119	Average
5784	104.12	-	-	91.04	35.49	11.43	33.84	100	119	Peak
11570	49.15	-24.85	74	53.31	38.51	11.09	53.76	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	157	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5786 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5786	96.55	-	-	83.45	35.51	11.43	33.84	100	263	Average
5786	106.42	-	-	93.32	35.51	11.43	33.84	100	263	Peak
11570	50.68	-23.32	74	54.84	38.51	11.09	53.76	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	165	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5824 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	94.3	-	-	81.07	35.56	11.51	33.84	100	120	Average
5824	104.71	-	-	91.48	35.56	11.51	33.84	100	120	Peak
11650	50.5	-23.5	74	54.46	38.62	11.14	53.72	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	165	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5824 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	96.29	-	-	83.06	35.56	11.51	33.84	100	258	Average
5824	106.62	-	-	93.39	35.56	11.51	33.84	100	258	Peak
11650	50.35	-23.65	74	54.31	38.62	11.14	53.72	100	0	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	151	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5753 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
36.75	20.79	-19.21	40	38.01	14.02	0.46	31.7	100	228	Peak
138	18	-25.5	43.5	37.03	11.26	1.41	31.7	-	-	Peak
203.34	17.53	-25.97	43.5	38.11	9.15	1.91	31.64	-	-	Peak
352.5	21.39	-24.61	46	36.2	14.36	2.39	31.56	-	-	Peak
497.4	23.58	-22.42	46	34.85	17.6	2.91	31.78	-	-	Peak
949.6	25.79	-20.21	46	32.19	20.9	3.83	31.13	-	-	Peak
5753	91.74	-	-	78.73	35.46	11.39	33.84	100	119	Average
5753	101.11	-	-	88.1	35.46	11.39	33.84	100	119	Peak
11510	50.22	-23.78	74	54.56	38.4	11.06	53.8	100	0	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	151	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5753 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	22.86	-17.14	40	35.38	18.8	0.4	31.72	100	301	Peak
91.56	18.55	-24.95	43.5	40.08	9.12	1.07	31.72	-	-	Peak
160.95	20.41	-23.09	43.5	40.55	9.92	1.59	31.65	-	-	Peak
522.6	22.93	-23.07	46	34.02	17.79	2.95	31.83	-	-	Peak
860	24.31	-21.69	46	31.88	20.4	3.88	31.85	-	-	Peak
919.5	24.67	-21.33	46	31.61	20.7	3.78	31.42	-	-	Peak
5753	94.26	-	-	81.25	35.46	11.39	33.84	100	260	Average
5753	104.14	-	-	91.13	35.46	11.39	33.84	100	260	Peak
11510	50.6	-23.4	74	54.94	38.4	11.06	53.8	100	0	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	159	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5793 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5793	91.07	-	-	77.93	35.51	11.47	33.84	100	119	Average
5793	100.93	-	-	87.79	35.51	11.47	33.84	100	119	Peak
11590	50.16	-23.84	74	54.27	38.54	11.1	53.75	100	0	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	159	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5793 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5793	93.85	-	-	80.71	35.51	11.47	33.84	100	261	Average
5793	103.92	-	-	90.78	35.51	11.47	33.84	100	261	Peak
11590	50.44	-23.56	74	54.55	38.54	11.1	53.75	100	0	Peak

Test Mode :	5GHz 802.11ac VHT80	Temperature :	27~28°C
Test Channel :	155	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Horizontal
Remark :	1. 5777 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
38.64	21.62	-18.38	40	39.69	13.14	0.49	31.7	100	247	Peak
116.94	17.46	-26.04	43.5	36.07	11.84	1.26	31.71	-	-	Peak
138	20	-23.5	43.5	39.03	11.26	1.41	31.7	-	-	Peak
310.5	19.71	-26.29	46	35.49	13.5	2.36	31.64	-	-	Peak
447	21.02	-24.98	46	33.58	16.74	2.54	31.84	-	-	Peak
522.6	23.42	-22.58	46	34.51	17.79	2.95	31.83	-	-	Peak
5777	88.98	-	-	75.9	35.49	11.43	33.84	100	119	Average
5777	98.2	-	-	85.12	35.49	11.43	33.84	100	119	Peak
11550	52.39	-21.61	74	56.59	38.48	11.09	53.77	100	0	Peak

Test Mode :	5GHz 802.11ac VHT80	Temperature :	27~28°C
Test Channel :	155	Relative Humidity :	45~46%
Test Engineer :	Kai Wang, Marlboro Hsu, and Hayden Wu	Polarization :	Vertical
Remark :	1. 5777 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.94	21.9	-18.1	40	38.7	14.46	0.44	31.7	100	288	Peak
91.56	20.55	-22.95	43.5	42.08	9.12	1.07	31.72	-	-	Peak
160.95	24.41	-19.09	43.5	44.55	9.92	1.59	31.65	-	-	Peak
403.6	19.59	-26.41	46	32.96	16.05	2.38	31.8	-	-	Peak
522.6	22.93	-23.07	46	34.02	17.79	2.95	31.83	-	-	Peak
860	24.31	-21.69	46	31.88	20.4	3.88	31.85	-	-	Peak
5777	92.62	-	-	79.54	35.49	11.43	33.84	100	247	Average
5777	101.08	-	-	88	35.49	11.43	33.84	100	247	Peak
11550	51.73	-22.27	74	55.93	38.48	11.09	53.77	100	0	Peak

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 KHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

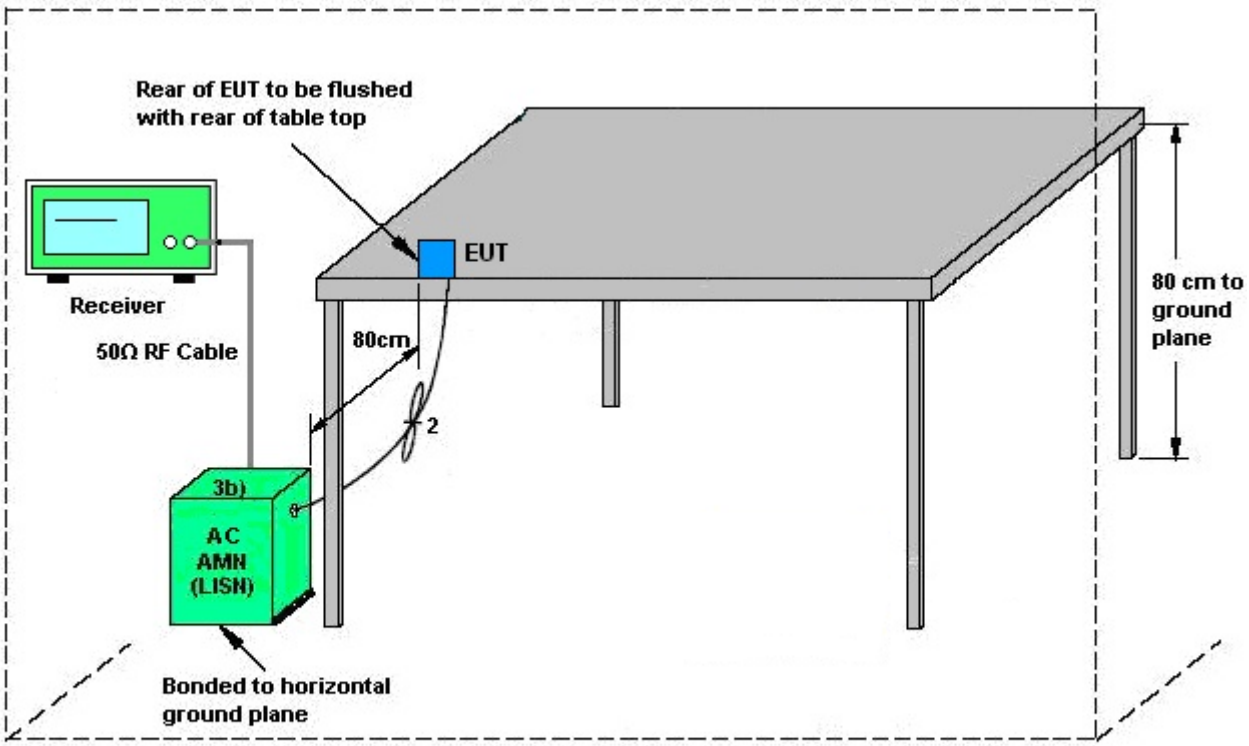
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.10-2009.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 KHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

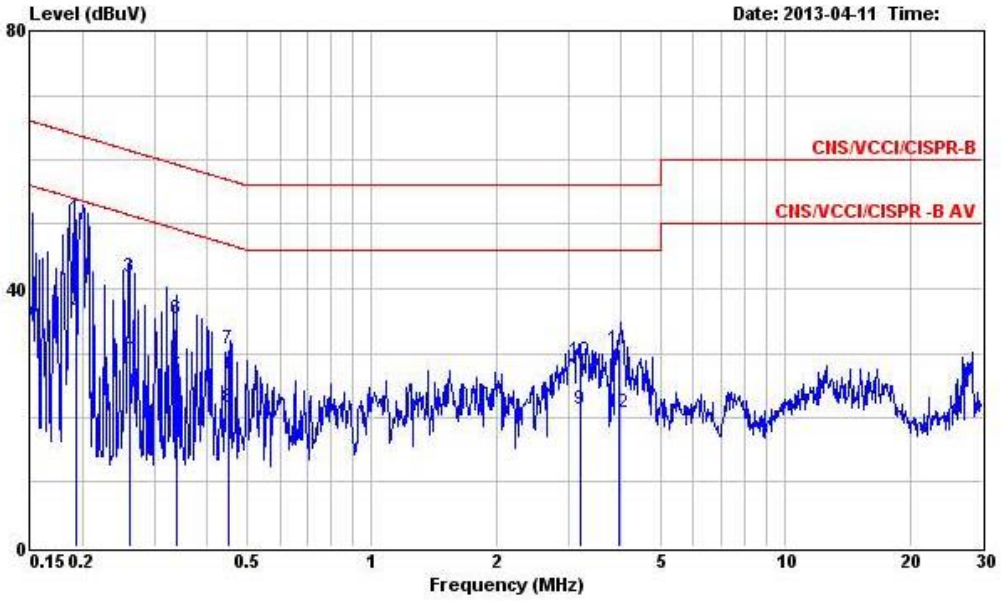
3.6.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

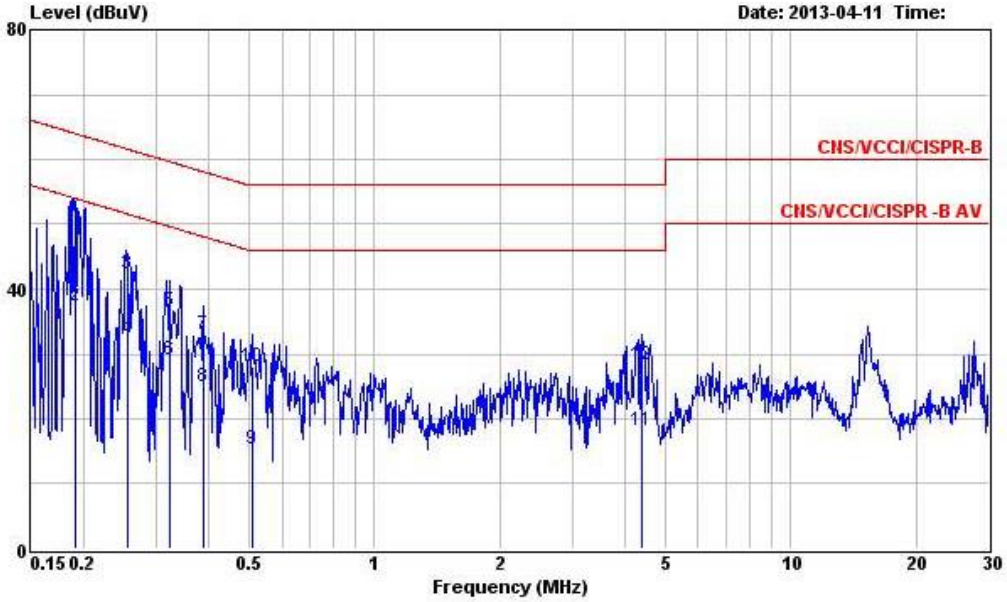
Test Mode :	Mode 1	**Temperature :**	23~24℃
Test Engineer :	David Du	**Relative Humidity :**	55~56%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	Bluetooth Link + WLAN Link + MP3 + SD Card + H Pattern + HDMI Cable + Earphone + USB Cable (Data Link with PC) + Adapter + NFC On		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B LISN 2001/004-121228 LINE

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.193	51.03	-12.88	63.91	50.67	0.14	0.22	QP
2	0.193	36.57	-17.34	53.91	36.21	0.14	0.22	Average
3	0.259	41.82	-19.64	61.46	41.48	0.14	0.20	QP
4	0.259	30.03	-21.43	51.46	29.69	0.14	0.20	Average
5	0.337	26.60	-22.68	49.28	26.25	0.15	0.20	Average
6	0.337	35.21	-24.07	59.28	34.86	0.15	0.20	QP
7	0.452	30.52	-26.32	56.84	30.18	0.15	0.19	QP
8	0.452	21.51	-25.33	46.84	21.17	0.15	0.19	Average
9	3.190	21.34	-24.66	46.00	20.99	0.22	0.13	Average
10	3.190	28.72	-27.28	56.00	28.37	0.22	0.13	QP
11	3.950	30.68	-25.32	56.00	30.35	0.23	0.10	QP
12	3.950	20.73	-25.27	46.00	20.40	0.23	0.10	Average

Test Mode :	Mode 1	Temperature :	23~24℃
Test Engineer :	David Du	Relative Humidity :	55~56%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + WLAN Link + MP3 + SD Card + H Pattern + HDMI Cable + Earphone + USB Cable (Data Link with PC) + Adapter + NFC On		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B LISN 2001/004-121228 NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.191	51.24	-12.75	63.99	50.91	0.10	0.23	QP
2	0.191	37.28	-16.71	53.99	36.95	0.10	0.23	Average
3	0.255	42.39	-19.20	61.59	42.08	0.11	0.20	QP
4	0.255	32.18	-19.41	51.59	31.87	0.11	0.20	Average
5	0.322	36.55	-23.11	59.66	36.24	0.11	0.20	QP
6	0.322	29.00	-20.66	49.66	28.69	0.11	0.20	Average
7	0.387	33.06	-25.07	58.13	32.74	0.12	0.20	QP
8	0.387	24.82	-23.31	48.13	24.50	0.12	0.20	Average
9	0.510	15.22	-30.78	46.00	14.92	0.13	0.17	Average
10	0.510	28.15	-27.85	56.00	27.85	0.13	0.17	QP
11	4.410	18.16	-27.84	46.00	17.82	0.22	0.12	Average
12	4.410	28.28	-27.72	56.00	27.94	0.22	0.12	QP

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. 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 FCC rule.

3.7.2 Antenna Connected Construction

Non-standard connector used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 06, 2012	Apr. 01, 2013 ~ May 09, 2013	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Apr. 01, 2013 ~ May 09, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Apr. 01, 2013 ~ May 09, 2013	Sep. 07, 2013	Conducted (TH02-HY)
EMC Receiver	R&S	ESCS 30	100132	9kHz ~ 2.75GHz	Nov. 14, 2012	Apr. 11, 2013	Nov. 13, 2013	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz – 30MHz	Dec. 28, 2012	Apr. 11, 2013	Dec. 27, 2013	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz ~ 30MHz	Jan. 08, 2013	Apr. 11, 2013	Jan. 07, 2014	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	Apr. 11, 2013	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0~60Hz	N/A	Apr. 11, 2013	N/A	Conduction (CO01-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832010001	9kHz ~ 30MHz	Mar. 01, 2013	Apr. 11, 2013	Feb. 28, 2014	Conduction (CO01-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz~30GHz	Nov. 07, 2012	Apr. 25, 2013 ~ May 01, 2013	Nov. 06, 2013	Radiation (03CH06-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211030	9KHz ~ 26.5GHz	Nov. 26, 2012	Apr. 25, 2013 ~ May 01, 2013	Nov. 25, 2013	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/003	20MHz ~ 1000MHz	May 04, 2012	Apr. 25, 2013 ~ May 01, 2013	May 03, 2013	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz ~ 2GHz	Oct. 06, 2012	Apr. 25, 2013 ~ May 01, 2013	Oct. 05, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Apr. 25, 2013 ~ May 01, 2013	Jul. 31, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	COM-POWER	AH-118	071025	1GHz~18GHz	Aug. 09, 2012	Apr. 25, 2013 ~ May 01, 2013	Aug. 08, 2013	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Sep. 28, 2012	Apr. 25, 2013 ~ May 01, 2013	Sep. 27, 2013	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz ~ 26.5GHz	Apr. 12, 2013	Apr. 25, 2013 ~ May 01, 2013	Apr. 11, 2014	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz ~ 1GHz	Apr. 12, 2013	Apr. 25, 2013 ~ May 01, 2013	Apr. 11, 2014	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 21, 2012	Apr. 25, 2013 ~ May 01, 2013	Jul. 20, 2013	Radiation (03CH06-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	159087	1GHz~18GHz	Feb. 26, 2013	Apr. 25, 2013 ~ May 01, 2013	Feb. 25, 2014	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Apr. 25, 2013 ~ May 01, 2013	Jul. 02, 2013	Radiation (03CH06-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150KHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.54**

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**

Appendix A. Photographs of EUT

Please refer to Sporton report number EP332221 as below.