FCC PART 15.247

TEST REPORT

For

SHENZHEN TENDA TECHNOLOGY CO.,LTD.

Tenda Industrial Park, No. 34-1, Shilong Rd., Shiyan Town, Bao'an District, Shenzhen, P.R.China

FCC ID: V7TW1800R

Report Type:	**Product Type:**
Original Report	Wireless AC1750 Dual-band Gigabit Router

Test Engineer:	Leon Chen
Report Number:	R2DG130130005-00D
Report Date:	2013-03-13
Reviewed By:	Ivan Cao RF Leader
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *SHENZHEN TENDA TECHNOLOGY CO.,LTD.*'s product, model number: W1800R *(FCC ID: V7T W1800R) or* ("EUT") in this report is a Wireless AC1750 Dual-band Gigabit Router, which was measured approximately: 34.5 cm (L) x22.0 cm (W) x3.5 cm (H), rated input voltage: DC 12V from adapter..

Adapter information: Honor
Model: ADS-40FSG-12 12030GPCU
Input: AC 100-240V, 50/60Hz, Max.1.0A
Output: DC 12V, 2.5A

** All measurement and test data in this report was gathered from production sample serial number: 130130005 (Assigned by BACL, Dongguan). The EUT was received on 2013-01-30.*

Objective

This report is prepared on behalf of *SHENZHEN TENDA TECHNOLOGY CO.,LTD.* in accordance with Part 2-Subpart J, Part 15-Subparts A, B and C of the Federal Communication Commissions rules.

The tests were performed in order to determine the compliance of the EUT with FCC Part 15-Subpart C, section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Related Submittal(s)/Grant(s)

FCC Part 15C DTS submissions with FCC ID: *V7TW1800R* for 2412-2462MHz band.
FCC Part 15E NII submissions with FCC ID: *V7TW1800R* for 5180-5240MHz band.
FCC Part 15B JBP submissions with FCC ID: *V7TW1800R.*

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2003, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

The uncertainty of any RF tests which use conducted method measurement is ±3.46 dB, the uncertainty of any radiation on emissions measurement is:
30M~200MHz: 5.0 dB
200M~1GHz: 6.2 dB
1G~6GHz: 4.45 dB
6G~18GHz: 5.23 dB
And the uncertainty will not be taken into consideration for all test data recorded in the report.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industrial Zone, Tangxia, Dongguan, Guangdong, China

Test site at Bay Area Compliance Laboratories Corp. (Dongguan) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 02, 2012. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2003.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 273710. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The EUT was configured for testing in an engineering mode which was provided by the manufacturer.

For 5725~5850MHz band, 8 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	159	5795
151	5755	161	5805
153	5765	165	5825
155	5775	/	/
157	5785	/	/

For 802.11a ,802.11n ht20 and 802.11 ac vht 20 ,Channel 149,153, 157,161 and 165 was used , we choosed the channel 149,157,165 for test, for 802.11n ht40 and 802.11ac vht 40 Channel 151, 159 was tested, for 802.11ac vht80 mode channel 155 was tested.

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all date rates bandwidths, and modulations.

EUT Exercise Software

The software ‘Broadcom MTool 2.0.0.3’ was used for testing, which was provided by manufacturer.

Equipment Modifications

No modification was made to the EUT tested.

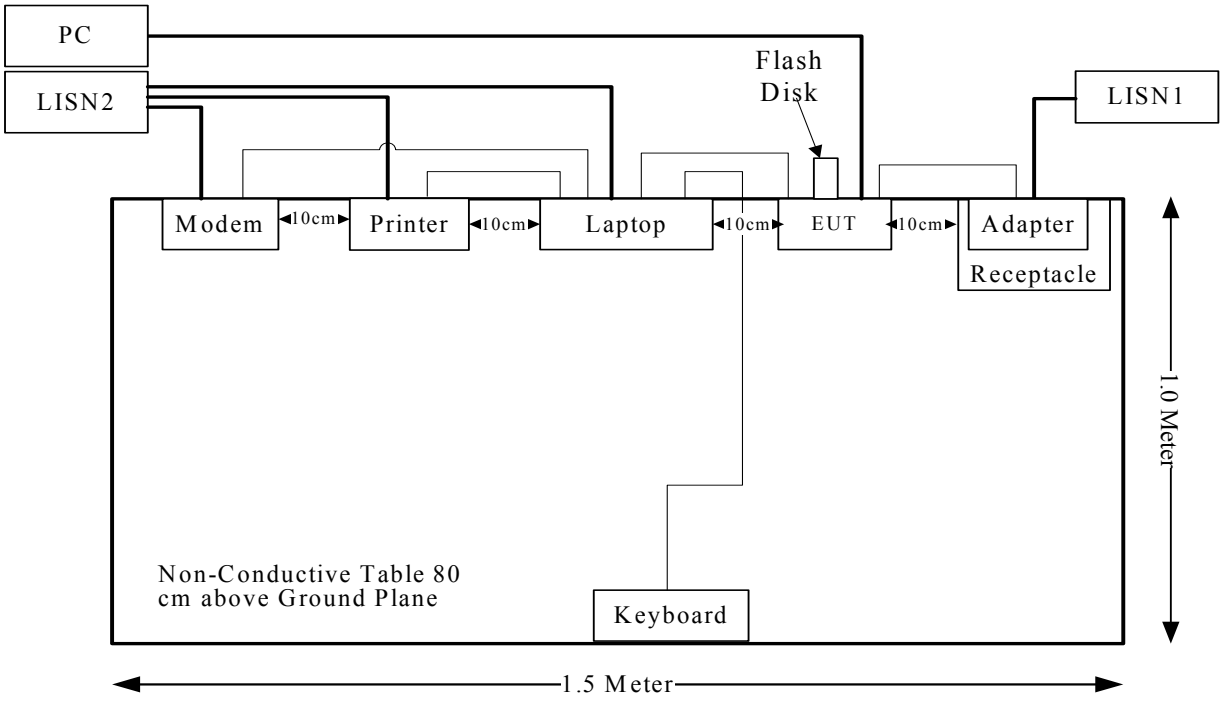
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
HP	Printer	C3941A	JPTVOB2337
SAST	Modem	AEM-2100	0293
DELL	Keyboard	L100	CNORH656658907BL05DC
DELL	Laptop	PP11L	N/A
Kinston	Flash Disk	4G	/
DELL	PC	GX620	/

External Cable

Cable Description	Length (m)	From Port	To
Shielded Detachable Printer Cable	1.2	Parallel Port of Laptop	Printer
Shielded Detachable Serial Cable	1.2	Serial Port of Laptop	Modem
Shielded Detachable Keyboard Cable	1.5	Keyboard Port of Laptop	Keyboard
RJ 45 Cable	1.0	Laptop	EUT
RJ45 Cable*4	10	EUT	PC

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1307 (b) (1) & §2.1091	Maximum Permissible Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum Peak Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

FCC §15.247 (i) & §1.1307 (b) (1) & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247(i)and subpart §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

Calculated Formulary:

Predication of MPE limit at a given distance
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Mode	Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
		(dBi)	(numeric)	(dBm)	(mW)			
802.11a	5745	5	3.16	12.67	18.49	20.00	0.01164	1.0
802.11n ht20	5745	5	3.16	12.02	15.92	20.00	0.01002	1.0
802.11n ht40	5795	5	3.16	11.91	15.52	20.00	0.00977	1.0
802.11ac vht20	5745	5	3.16	13.09	20.37	20.00	0.01282	1.0
802.11ac vht40	5755	5	3.16	11.8	15.14	20.00	0.00953	1.0
802.11 ac80	5775	5	3.16	12.16	16.44	20.00	0.01035	1.0

Result: The device meet FCC MPE at 20 cm distance

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

Antenna Connector Construction

The EUT has 3 dipole antennas, which were using unique type of connector to attach to the EUT, and the maximum gain is 5.0dBi, please refer to the internal photos.

Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

Measurement Uncertainty

Compliance or non- compliance with a disturbance limit shall be determined in the following manner：

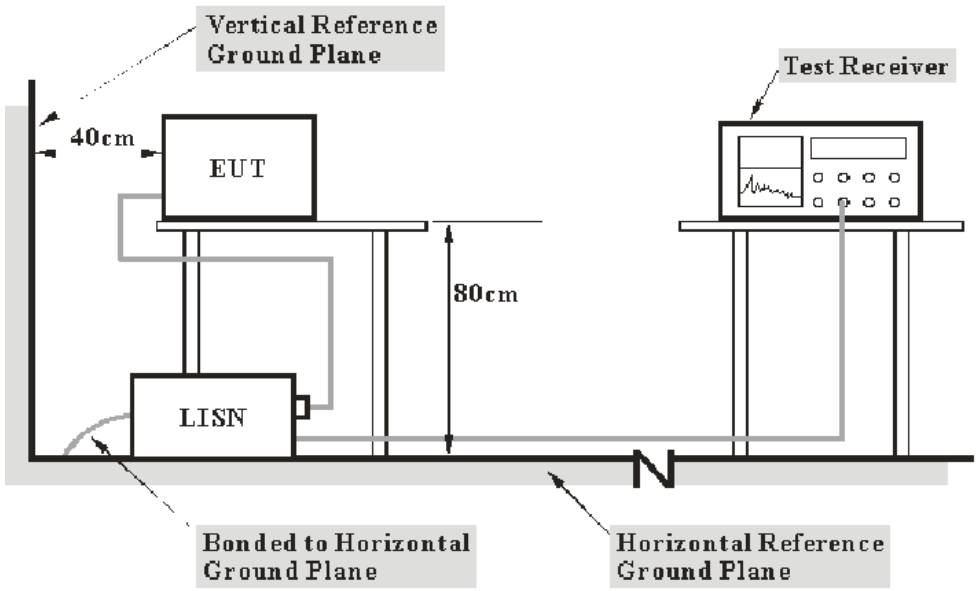
If U_{lab} is less than or equal to U_{cispr} of Table 1, then:
– compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
– non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.
If U_{lab} is greater than U_{cispr} of Table 1, then:
– compliance is deemed to occur if no measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit;
– non - compliance is deemed to occur if any measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

Based on CISPR 16-4-2-2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Dongguan) is 3.46 dB (150 kHz to 30 MHz).

Table 1 – Values of U_{cispr}

Measurement	U_{cispr}
Conducted disturbance at mains port using AMN (150 kHz to 30 MHz)	3.4 dB

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2003 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	***IF B/W***
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$
$C_f = A_C + VDF$

Herein,
V_C (cord. Reading): corrected voltage amplitude
V_R: reading voltage amplitude
A_c: attenuation caused by cable loss
VDF: voltage division factor of AMN
C_f: Correction Factor

The "**Margin**" column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESCS 30	830245/006	2012-11-29	2013-11-28
R&S	LISN1	ESH3-Z5	843331/015	2012-09-17	2013-09-16
R&S	LISN2	ESH3-Z5	100113	2012-11-29	2013-11-28
BACL	Test Software	BACL-EMC	V1.0-2010	N/A	N/A

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, with the worst margin reading of:

16.03 dB at **0.270 MHz** in the **Neutral** conducted mode

Test Data

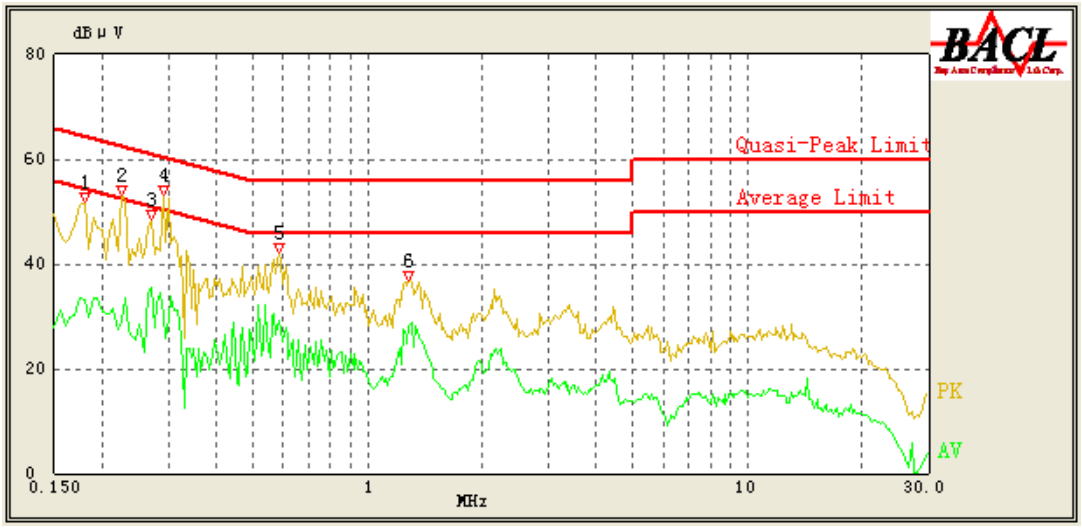
Environmental Conditions

Temperature:	24 ° C
Relative Humidity:	62 %
ATM Pressure:	101.3kPa

The testing was performed by Leon Chen on 2013-02-04.

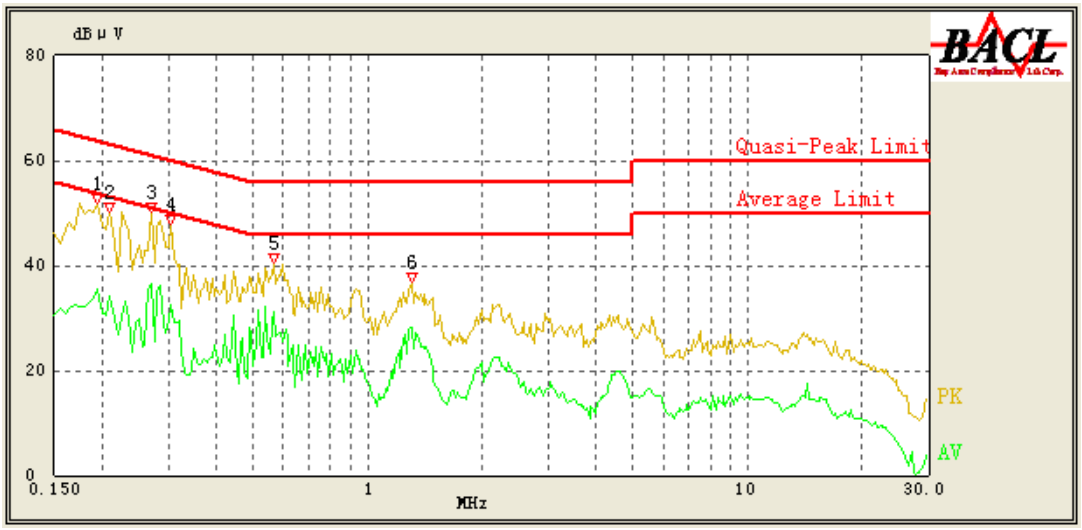
Test Mode: Transmitting

120 V, 60 Hz, Line:



Frequency (MHz)	Cord. Reading (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/AV/QP)
0.180	42.97	1.01	65.14	22.17	QP
0.180	33.04	1.01	55.14	22.10	AV
0.225	41.90	0.93	63.86	21.96	QP
0.225	29.12	0.93	53.86	24.74	AV
0.270	45.04	0.86	62.57	17.53	QP
0.270	35.66	0.86	52.57	16.91	AV
0.290	41.00	0.83	62.00	21.00	QP
0.290	30.48	0.83	52.00	21.52	AV
0.585	35.52	0.49	56.00	20.48	QP
0.585	29.01	0.49	46.00	16.99	AV
1.285	32.97	0.33	56.00	23.03	QP
1.285	28.12	0.33	46.00	17.88	AV

120 V, 60 Hz, Neutral:



Frequency (MHz)	Cord. Reading (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK/AV/QP)
0.195	47.23	1.61	64.71	17.48	QP
0.195	35.55	1.61	54.71	19.16	AV
0.210	44.96	1.53	64.29	19.33	QP
0.210	34.09	1.53	54.29	20.20	AV
0.270	44.97	1.22	62.57	17.60	QP
0.270	36.54	1.22	52.57	16.03	AV
0.305	41.57	1.06	61.57	20.00	QP
0.305	32.38	1.06	51.57	19.19	AV
0.565	36.47	0.51	56.00	19.53	QP
0.565	31.30	0.51	46.00	14.70	AV
1.310	33.71	0.24	56.00	22.29	QP
1.310	28.31	0.24	46.00	17.69	AV

FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

Measurement Uncertainty

Compliance or non- compliance with a disturbance limit shall be determined in the following manner：

If U_{lab} is less than or equal to U_{cispr} of Table 2, then:
- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non - compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

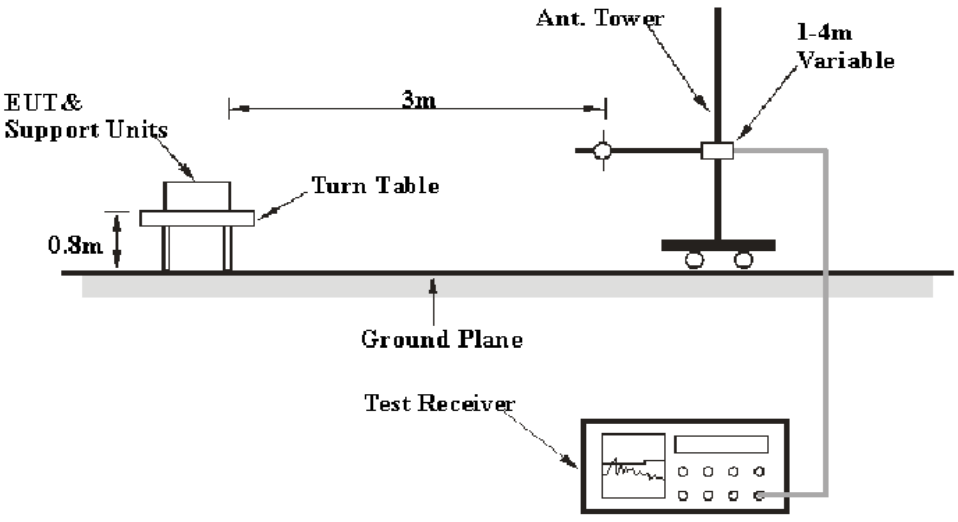
If U_{lab} is greater than U_{cispr} of Table 2, then:
- compliance is deemed to occur if no measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit;
- non - compliance is deemed to occur if any measured disturbance level, increased by ($U_{lab} - U_{cispr}$), exceeds the disturbance limit.

Based on CISPR 16-4-2-2011, measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Dongguan) is:
30MHz~200MHz: 5.0 dB
200MHz~1GHz: 6.2 dB
1GHz~6GHz: 4.45 dB
6GHz~18GHz: 5.23 dB

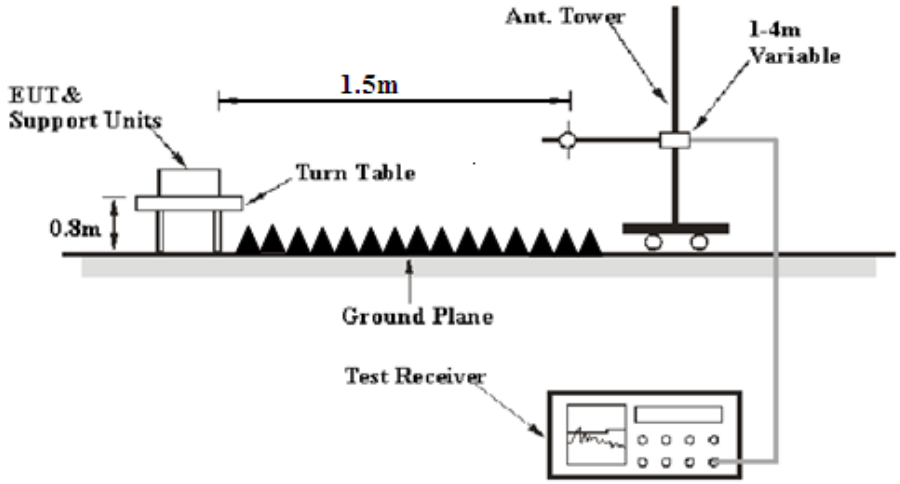
Table 2 – Values of U_{cispr}

Measurement	U_{cispr}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

Below 1 G:



Above 1 G:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209, and FCC 15.247 limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	***RBW***	***Video B/W***	***Detector***
30 MHz – 1000 MHz	100 kHz	300 kHz	QP
1000 MHz – 40 GHz	1 MHz	3 MHz	PK
1000 MHz – 40 GHz	1 MHz	10 Hz	Ave.

Test Procedure

During the radiated emission test, the adapter was connected to the AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m
Distance extrapolation factor =20 log (3m/1.5) dB
Limit line= specific limits (dBμV/m) +6dB

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Loss and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Loss + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2012-05-14	2013-05-13
Sunol Sciences	Hybrid Antennas	JB3	A060611-1	2011-09-06	2013-09-05
HP	Pre-amplifier	8447E	2434A02181	2012-10-08	2013-10-07
R&S	Spectrum Analyzer	FSEM 30	DE31388	2012-03-15	2013-03-14
ETS-LINDGREN	Horn Antenna	3115	000 527 35	2012-09-06	2014-09-05
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	2013-01-30	2014-01-29
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Section 15.205, 15.209 and 15.247, with the worst margin reading of:

6.26 dB at **5850 MHz** in the **Vertical** polarization for 802.11a Mode

Test Data

Environmental Conditions

Temperature:	23.4 ~26.8 ° C
Relative Humidity:	29 ~63 %
ATM Pressure:	100.8 ~101.9kPa

The testing was performed by Leon Chen from 2013-02-25 to 2013-03-13.

Mode: Transmitting

802.11a Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)				Limit (dBμV/m)	Margin (dB)
Low Channel:5745MHz									
5725	15.91	AV	V	32.15	4.83	0.00	52.89	60.00	7.11
17235	19.5	AV	V	40.91	12.63	24.94	48.10	60.00	11.90
5725	29.26	PK	V	32.15	4.83	0.00	66.24	80.00	13.76
11490	24.39	AV	V	37.89	7.85	25.92	44.21	60.00	15.79
17235	32.44	PK	V	40.91	12.63	24.94	61.04	80.00	18.96
357.82	29.88	QP	V	15.51	2.30	21.66	26.03	46.00	19.97
11490	33.49	PK	V	37.89	7.85	25.92	53.31	80.00	26.69
5745	67.58	PK	H	32.15	5.10	0.00	104.83	N/A	N/A
5745	53.63	AV	H	32.15	5.10	0.00	90.88	N/A	N/A
5745	74.21	PK	V	32.15	5.10	0.00	111.46	N/A	N/A
5745	60.77	AV	V	32.15	5.10	0.00	98.02	N/A	N/A
Middle Channel: 5785MHz									
17355	20.13	AV	V	41.63	12.26	24.68	49.34	60.00	10.66
11570	24.45	AV	V	37.90	7.97	25.91	44.41	60.00	15.59
17355	32.67	PK	V	41.63	12.26	24.68	61.88	80.00	18.12
402.11	30.17	QP	V	16.26	2.43	21.78	27.08	46.00	18.92
11570	33.51	PK	V	37.90	7.97	25.91	53.47	80.00	26.53
5785	67.55	PK	H	32.16	5.15	0.00	104.86	N/A	N/A
5785	53.61	AV	H	32.16	5.15	0.00	90.92	N/A	N/A
5785	74.21	PK	V	32.16	5.15	0.00	111.52	N/A	N/A
5785	60.76	AV	V	32.16	5.15	0.00	98.07	N/A	N/A
High Channel: 5825MHz									
17475	20.08	AV	V	42.35	11.89	24.27	50.05	60.00	9.95
11650	24.65	AV	V	37.90	8.14	25.78	44.91	60.00	15.09
17475	32.11	PK	V	42.35	11.89	24.27	62.08	80.00	17.92
379.61	29.63	QP	V	15.77	2.35	21.72	26.03	46.00	19.97
11650	33.17	PK	V	37.90	8.14	25.78	53.43	80.00	26.57
5850	29.33	PK	V	32.17	5.56	0.00	67.06	80.00	12.94
5850	16.01	AV	V	32.17	5.56	0.00	53.74	60.00	6.26
5825	67.62	PK	H	32.17	5.35	0.00	105.14	N/A	N/A
5825	53.71	AV	H	32.17	5.35	0.00	91.23	N/A	N/A
5825	74.29	PK	V	32.17	5.35	0.00	111.81	N/A	N/A
5825	60.81	AV	V	32.17	5.35	0.00	98.33	N/A	N/A

802.11n ht20 Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)				Limit (dBμV/m)	Margin (dB)
Low Channel:5745MHz									
5725	15.25	AV	V	32.15	4.83	0.00	52.23	60.00	7.77
17235	19.56	AV	V	40.91	12.63	24.94	48.16	60.00	11.84
5725	29.51	PK	V	32.15	4.83	0.00	66.49	80.00	13.51
17235	32.51	PK	V	40.91	12.63	24.94	61.11	80.00	18.89
357.82	30.43	QP	V	15.51	2.30	21.66	26.58	46.00	19.42
11490	20.31	AV	V	37.89	7.85	25.92	40.13	60.00	19.87
11490	31.67	PK	V	37.89	7.85	25.92	51.49	80.00	28.51
5745	62.64	PK	H	32.15	5.10	0.00	99.89	N/A	N/A
5745	49.72	AV	H	32.15	5.10	0.00	86.97	N/A	N/A
5745	69.37	PK	V	32.15	5.10	0.00	106.62	N/A	N/A
5745	56.34	AV	V	32.15	5.10	0.00	93.59	N/A	N/A
Middle Channel: 5785MHz									
17355	19.97	AV	V	41.63	12.26	24.68	49.18	60.00	10.82
402.11	31.94	QP	V	16.26	2.43	21.78	28.85	46.00	17.15
17355	32.81	PK	V	41.63	12.26	24.68	62.02	80.00	17.98
11570	21.08	AV	V	37.90	7.97	25.91	41.04	60.00	18.96
11570	33.18	PK	V	37.90	7.97	25.91	53.14	80.00	26.86
5785	62.62	PK	H	32.16	5.15	0.00	99.93	N/A	N/A
5785	49.73	AV	H	32.16	5.15	0.00	87.04	N/A	N/A
5785	69.34	PK	V	32.16	5.15	0.00	106.65	N/A	N/A
5785	56.33	AV	V	32.16	5.15	0.00	93.64	N/A	N/A
High Channel: 5825MHz									
17475	20.09	AV	V	42.35	11.89	24.27	50.06	60.00	9.94
17475	32.88	PK	V	42.35	11.89	24.27	62.85	80.00	17.15
11650	21.45	AV	V	37.90	8.14	25.78	41.71	60.00	18.29
379.61	28.79	QP	V	15.77	2.35	21.72	25.19	46.00	20.81
11650	33.07	PK	V	37.90	8.14	25.78	53.33	80.00	26.67
5850	28.74	PK	V	32.17	5.56	0.00	66.47	80.00	13.53
5850	15.18	AV	V	32.17	5.56	0.00	52.91	60.00	7.09
5825	62.58	PK	H	32.17	5.35	0.00	100.10	N/A	N/A
5825	49.67	AV	H	32.17	5.35	0.00	87.19	N/A	N/A
5825	69.29	PK	V	32.17	5.35	0.00	106.81	N/A	N/A
5825	56.27	AV	V	32.17	5.35	0.00	93.79	N/A	N/A

802.11n ht40 Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)				Limit (dBμV/m)	Margin (dB)
Low Channel:5755MHz									
5725	15.18	AV	V	32.15	4.83	0.00	52.16	60.00	7.84
17265	19.98	AV	V	41.09	12.54	24.88	48.73	60.00	11.27
5725	28.86	PK	V	32.15	4.83	0.00	65.84	80.00	14.16
17265	32.81	PK	V	41.09	12.54	24.88	61.56	80.00	18.44
11510	20.57	AV	V	37.90	7.84	25.92	40.39	60.00	19.61
357.82	30.13	QP	V	15.51	2.30	21.66	26.28	46.00	19.72
11510	33.19	PK	V	37.90	7.84	25.92	53.01	80.00	26.99
5755	62.42	PK	H	32.15	5.17	0.00	99.74	N/A	N/A
5755	49.51	AV	H	32.15	5.17	0.00	86.83	N/A	N/A
5755	69.11	PK	V	32.15	5.17	0.00	106.43	N/A	N/A
5755	56.2	AV	V	32.15	5.17	0.00	93.52	N/A	N/A
High Channel: 5795MHz									
17385	20.41	AV	V	41.81	12.17	24.61	49.78	60.00	10.22
17385	32.88	PK	V	41.81	12.17	24.61	62.25	80.00	17.75
11590	20.48	AV	V	37.90	8.01	25.91	40.48	60.00	19.52
379.61	29.6	QP	V	15.77	2.35	21.72	26.00	46.00	20.00
11590	33.31	PK	V	37.90	8.01	25.91	53.31	80.00	26.69
5850	28.79	PK	V	32.17	5.56	0.00	66.52	80.00	13.48
5850	15.15	AV	V	32.17	5.56	0.00	52.88	60.00	7.12
5795	62.28	PK	H	32.16	5.14	0.00	99.58	N/A	N/A
5795	49.46	AV	H	32.16	5.14	0.00	86.76	N/A	N/A
5795	69.04	PK	V	32.16	5.14	0.00	106.34	N/A	N/A
5795	56.11	AV	V	32.16	5.14	0.00	93.41	N/A	N/A

802.11ac vht20 Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)				Limit (dBμV/m)	Margin (dB)
Low Channel:5745MHz									
5725	15.26	AV	V	32.15	4.83	0.00	52.24	60.00	7.76
17235	20.11	AV	V	40.91	12.63	24.94	48.71	60.00	11.29
5725	28.59	PK	V	32.15	4.83	0.00	65.57	80.00	14.43
17235	31.28	PK	V	40.91	12.63	24.94	59.88	80.00	20.12
357.82	30.48	QP	V	15.51	2.30	21.66	26.63	46.00	19.37
11490	21.02	AV	V	37.89	7.85	25.92	40.84	60.00	19.16
11490	30.59	PK	V	37.89	7.85	25.92	50.41	80.00	29.59
5745	61.26	PK	H	32.15	5.10	0.00	98.51	N/A	N/A
5745	48.77	AV	H	32.15	5.10	0.00	86.02	N/A	N/A
5745	68.98	PK	V	32.15	5.10	0.00	106.23	N/A	N/A
5745	55.75	AV	V	32.15	5.10	0.00	93.00	N/A	N/A
Middle Channel: 5785MHz									
17355.00	20.11	AV	V	41.63	12.26	24.68	49.32	60.00	10.68
402.11	30.26	QP	V	16.26	2.43	21.78	27.17	46.00	18.83
17355.00	31.59	PK	V	41.63	12.26	24.68	60.80	80.00	19.20
11570.00	20.08	AV	V	37.90	7.97	25.91	40.04	60.00	19.96
11570.00	32.26	PK	V	37.90	7.97	25.91	52.22	80.00	27.78
5785.00	61.25	PK	H	32.16	5.15	0.00	98.56	N/A	N/A
5785.00	48.79	AV	H	32.16	5.15	0.00	86.10	N/A	N/A
5785.00	68.47	PK	V	32.16	5.15	0.00	105.78	N/A	N/A
5785.00	55.76	AV	V	32.16	5.15	0.00	93.07	N/A	N/A
High Channel: 5825MHz									
17475.00	19.84	AV	V	42.35	11.89	24.27	49.81	60.00	10.19
17475.00	31.26	PK	V	42.35	11.89	24.27	61.23	80.00	18.77
11650.00	20.97	AV	V	37.90	8.14	25.78	41.23	60.00	18.77
379.61	27.45	QP	V	15.77	2.35	21.72	23.85	46.00	22.15
11650.00	32.69	PK	V	37.90	8.14	25.78	52.95	80.00	27.05
5850.00	27.99	PK	V	32.17	5.56	0.00	65.72	80.00	14.28
5850.00	15.24	AV	V	32.17	5.56	0.00	52.97	60.00	7.03
5825.00	62.18	PK	H	32.17	5.35	0.00	99.70	N/A	N/A
5825.00	49.26	AV	H	32.17	5.35	0.00	86.78	N/A	N/A
5825.00	68.74	PK	V	32.17	5.35	0.00	106.26	N/A	N/A
5825.00	55.67	AV	V	32.17	5.35	0.00	93.19	N/A	N/A

802.11ac vht40 Mode:

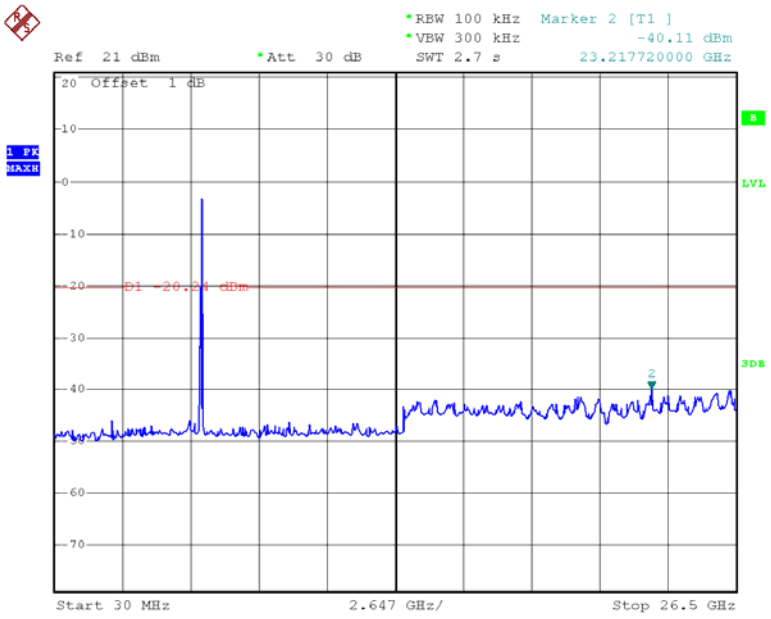
Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)				Limit (dBμV/m)	Margin (dB)
Low Channel:5755MHz									
5725.00	15.26	AV	V	32.15	4.83	0.00	52.24	60.00	7.76
17265.00	18.99	AV	V	41.09	12.54	24.88	47.74	60.00	12.26
5725.00	27.51	PK	V	32.15	4.83	0.00	64.49	80.00	15.51
17265.00	31.64	PK	V	41.09	12.54	24.88	60.39	80.00	19.61
11510.00	19.49	AV	V	37.90	7.84	25.92	39.31	60.00	20.69
357.82	29.77	QP	V	15.51	2.30	21.66	25.92	46.00	20.08
11510.00	32.48	PK	V	37.90	7.84	25.92	52.30	80.00	27.70
5755.00	62.14	PK	H	32.15	5.17	0.00	99.46	N/A	N/A
5755.00	49.46	AV	H	32.15	5.17	0.00	86.78	N/A	N/A
5755.00	69.15	PK	V	32.15	5.17	0.00	106.47	N/A	N/A
5755.00	55.98	AV	V	32.15	5.17	0.00	93.30	N/A	N/A
High Channel: 5795MHz									
17385.00	21.55	AV	V	41.81	12.17	24.61	50.92	60.00	9.08
17385.00	32.89	PK	V	41.81	12.17	24.61	62.26	80.00	17.74
11590.00	20.36	AV	V	37.90	8.01	25.91	40.36	60.00	19.64
379.61	29.77	QP	V	15.77	2.35	21.72	26.17	46.00	19.83
11590.00	32.69	PK	V	37.90	8.01	25.91	52.69	80.00	27.31
5850.00	28.48	PK	V	32.17	5.56	0.00	66.21	80.00	13.79
5850.00	15.20	AV	V	32.17	5.56	0.00	52.93	60.00	7.07
5795.00	62.58	PK	H	32.16	5.14	0.00	99.88	N/A	N/A
5795.00	48.59	AV	H	32.16	5.14	0.00	85.89	N/A	N/A
5795.00	68.94	PK	V	32.16	5.14	0.00	106.24	N/A	N/A
5795.00	55.69	AV	V	32.16	5.14	0.00	92.99	N/A	N/A

802.11 ac80 Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	FCC 15.247	
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)				Limit (dBμV/m)	Margin (dB)
Channel:5775MHz									
17325	20.02	AV	V	41.45	12.35	24.75	49.07	60.00	10.93
5725	29.81	PK	V	32.15	4.83	0.00	66.79	80.00	13.21
17325	32.87	PK	V	41.45	12.35	24.75	61.92	80.00	18.08
11550	21.15	AV	V	37.90	7.93	25.91	41.07	60.00	18.93
357.82	30.11	QP	V	15.51	2.30	21.66	26.26	46.00	19.74
11550	33.51	PK	V	37.90	7.93	25.91	53.43	80.00	26.57
5850	29.74	PK	V	32.17	5.56	0.00	67.47	80.00	12.53
5850	15.42	AV	V	32.17	5.56	0.00	53.15	60.00	6.85
5725	15.64	AV	V	32.15	4.83	0.00	52.62	60.00	7.38
5775	61.95	PK	H	32.16	5.16	0.00	99.27	N/A	N/A
5775	49.18	AV	H	32.16	5.16	0.00	86.50	N/A	N/A
5775	69.58	PK	V	32.16	5.16	0.00	106.90	N/A	N/A
5775	55.76	AV	V	32.16	5.16	0.00	93.08	N/A	N/A

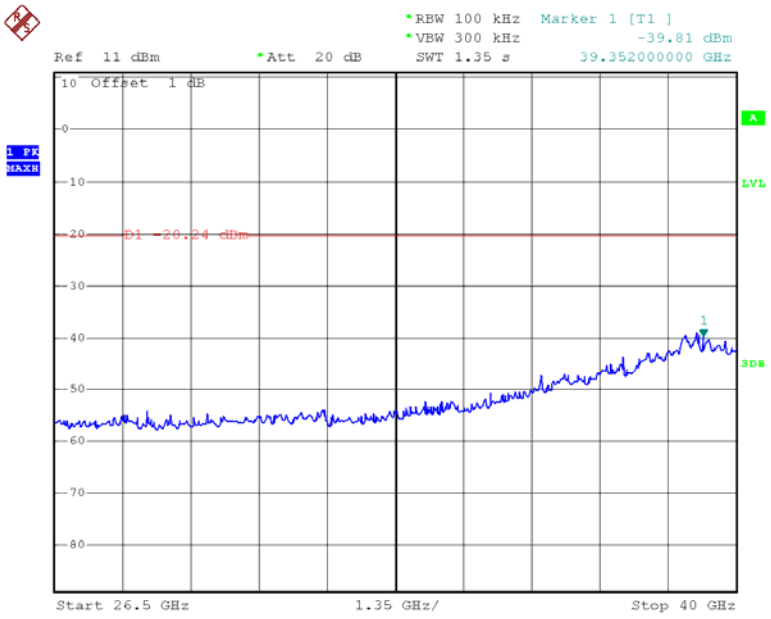
Conducted Spurious Emissions at Antenna Port

802.11a Low Channel 30M-26.5G



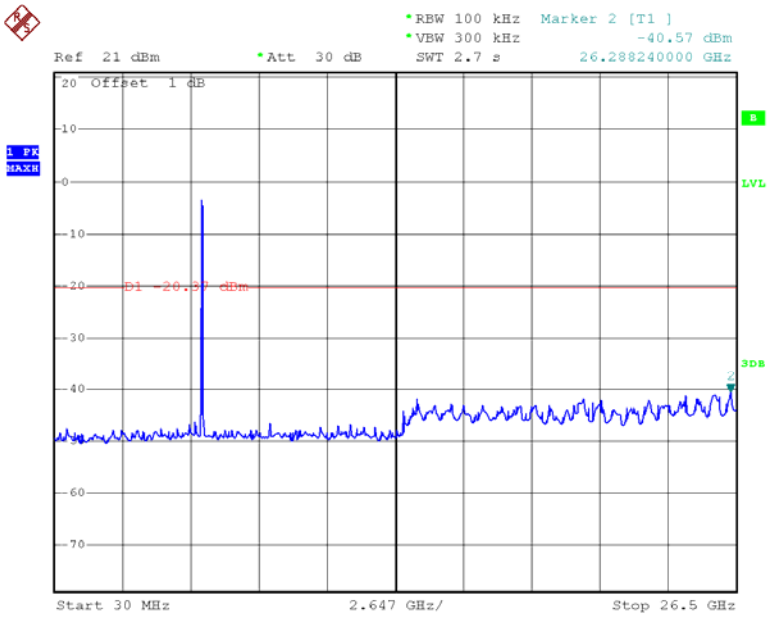
Date: 25.FEB.2013 11:34:10

802.11a Low Channel 26.5-40G



Date: 26.FEB.2013 11:30:04

802.11a Middle Channel 30M-26.5G



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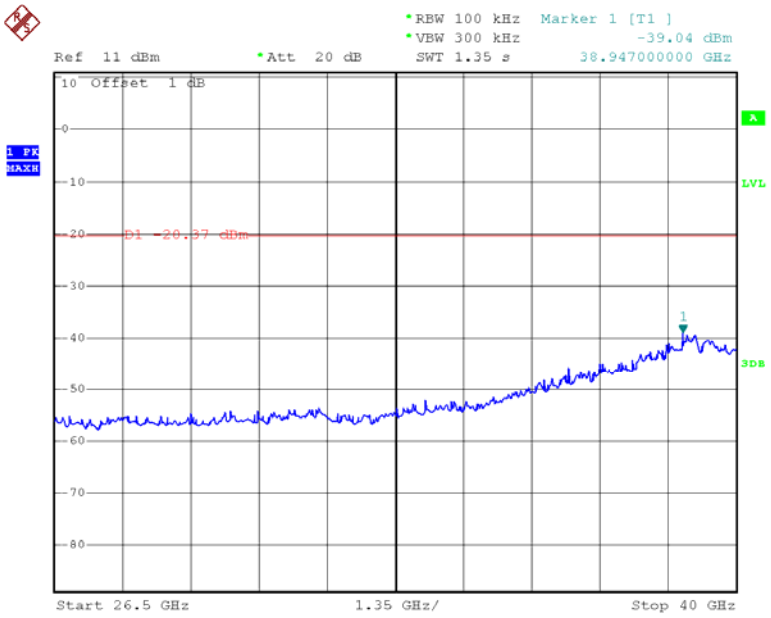
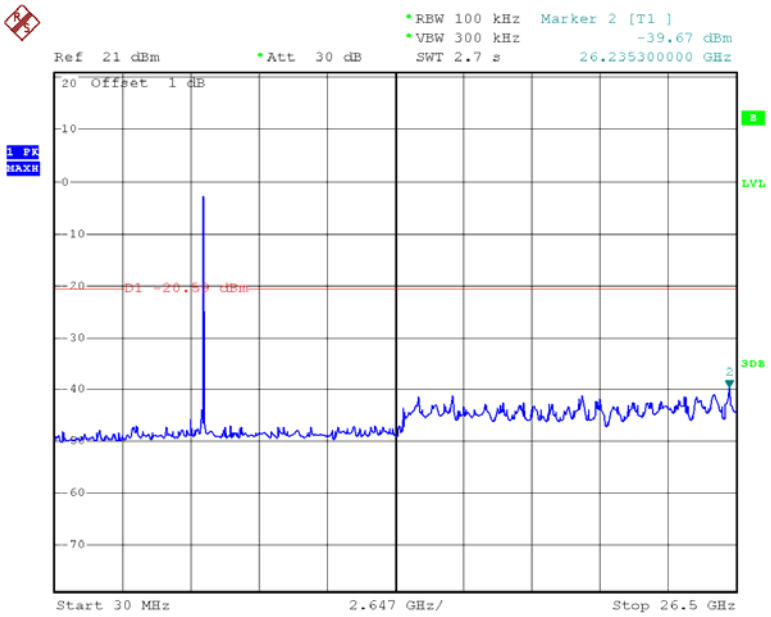
802.11a Middle Channel 26.5-40G



Date: 26.FEB.2013 11:30:34

802.11a High Channel 30M-26.5G



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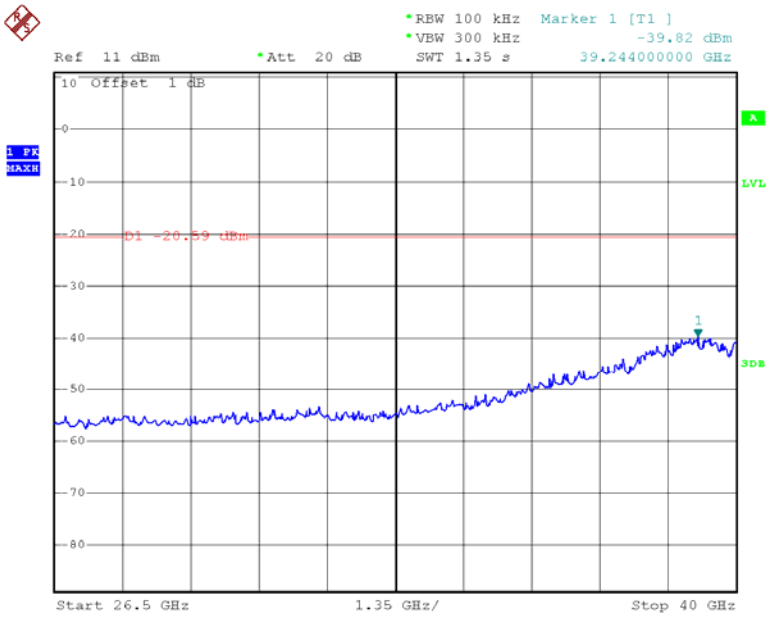
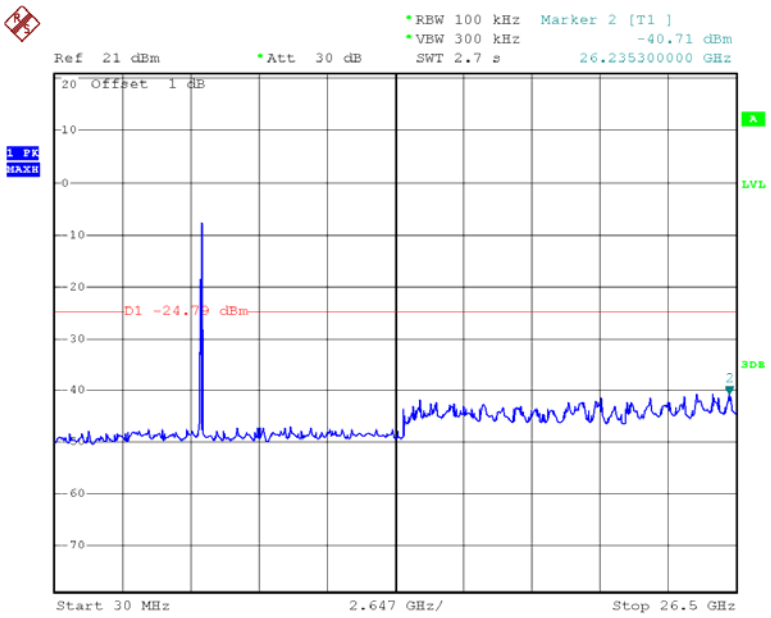
802.11a High Channel 26.5-40G



Date: 26.FEB.2013 11:31:13

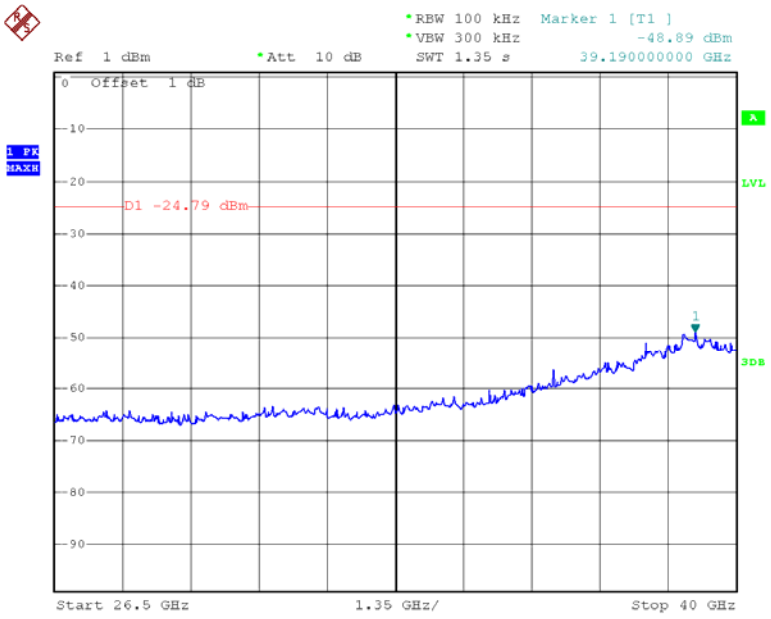
Chain 0:

802.11n20 Low Channel 30M-26.5G

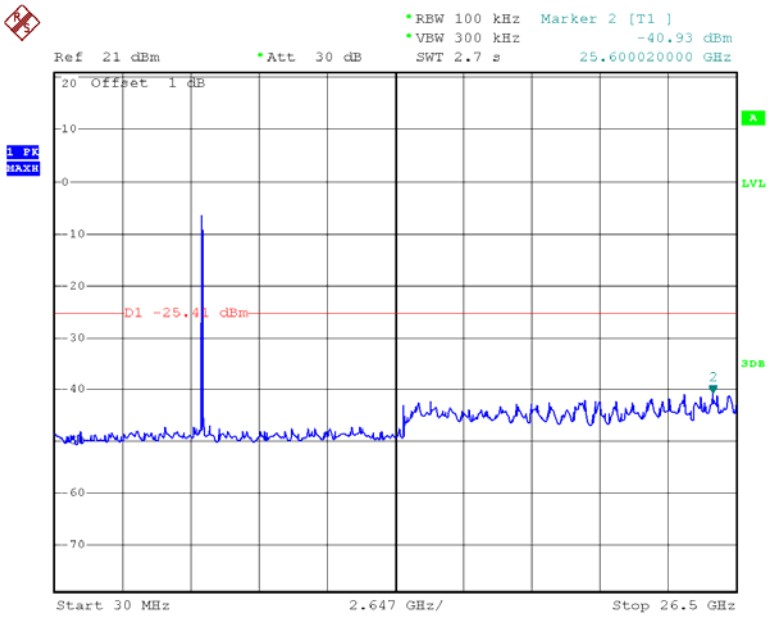


Date: 28.FEB.2013 15:01:42

802.11n20 Low Channel 26.5-40G



802.11n20 Middle Channel 30M-26.5G



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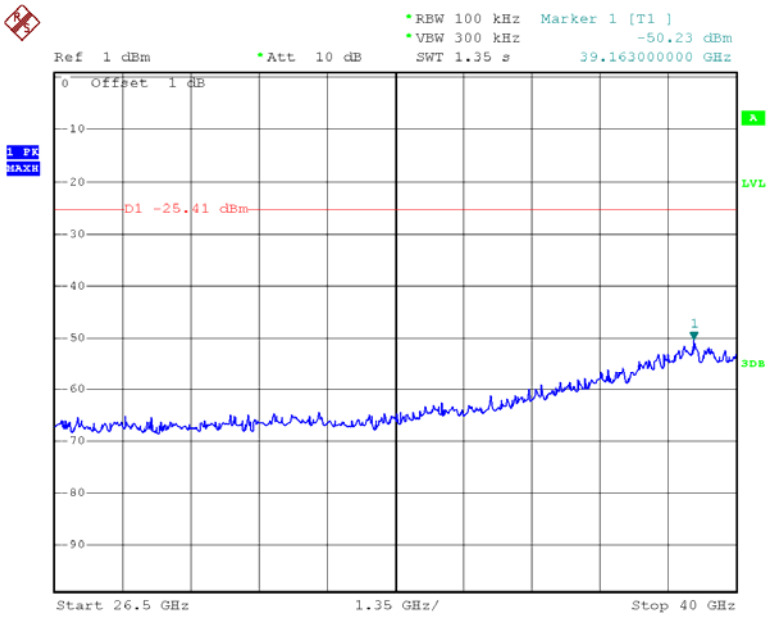
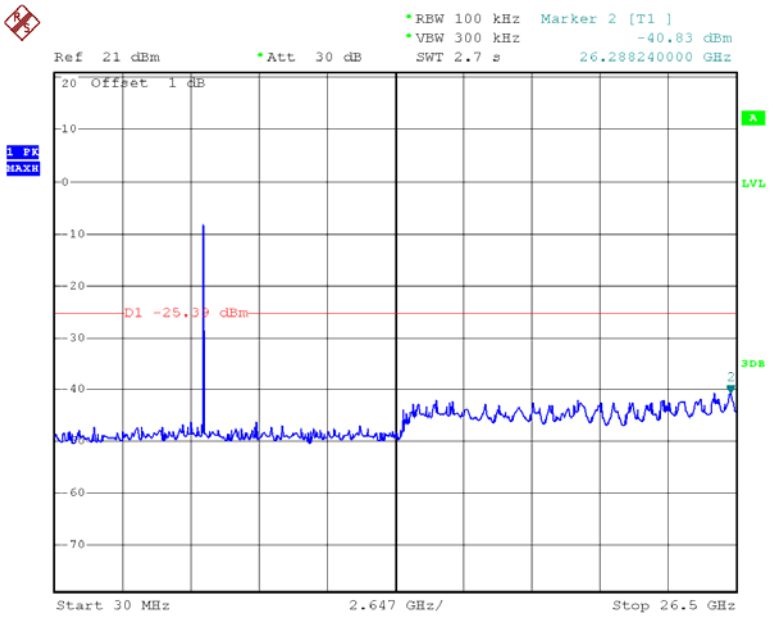
802.11n20 Middle Channel 26.5-40G



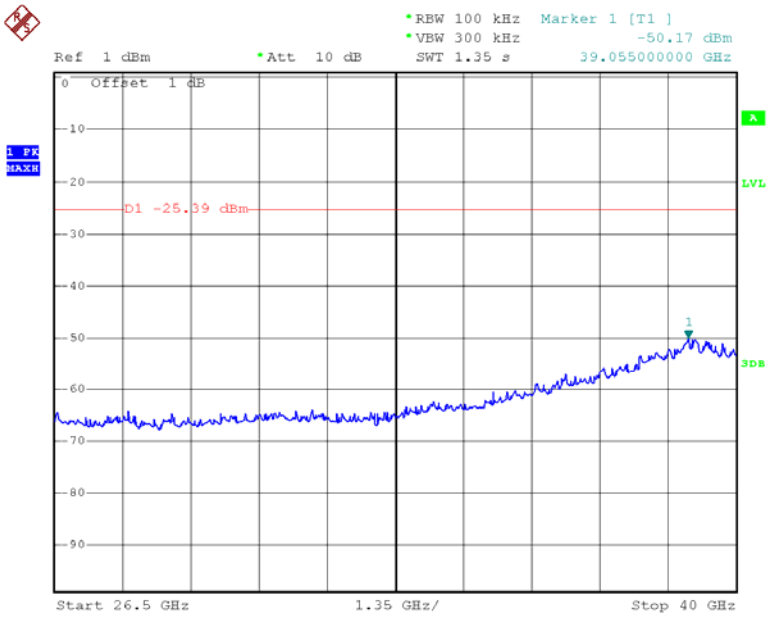
Date: 1.MAR.2013 09:13:28

802.11n20 High Channel 30M-26.5G



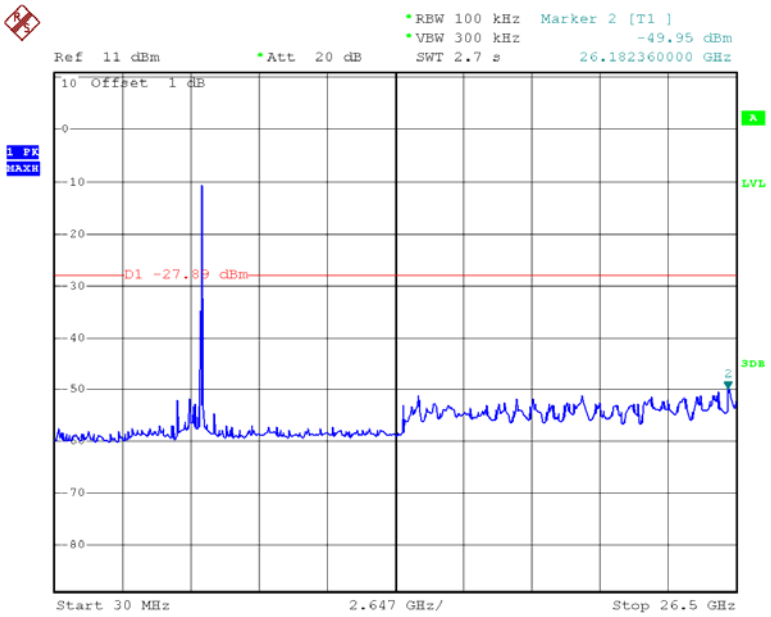
Date: 28.FEB.2013 15:17:52

802.11n20 High Channel 26.5-40G



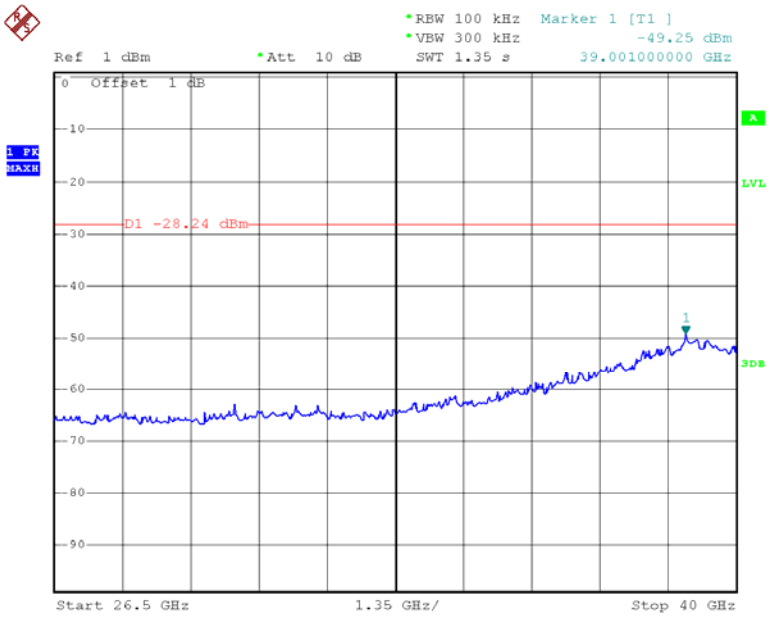
Date: 1.MAR.2013 09:14:35

802.11n40 Low Channel 30M-26.5G



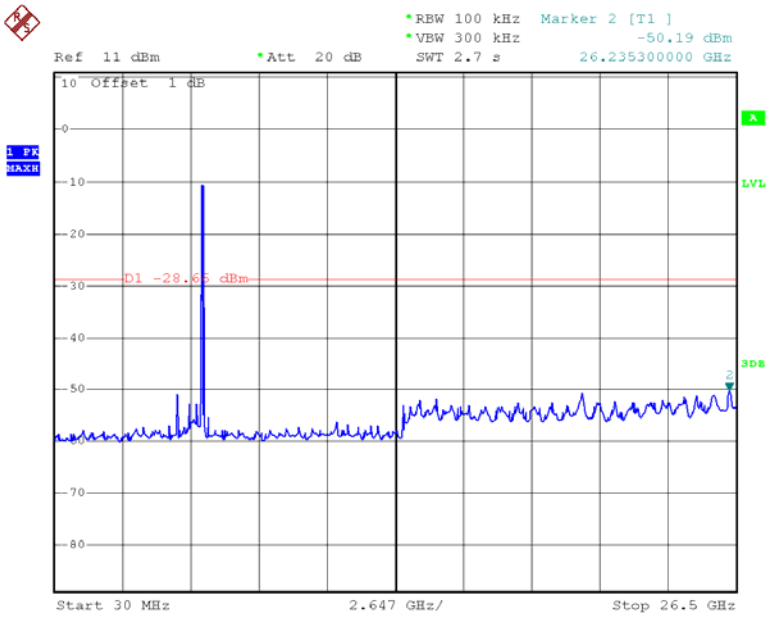
Date: 28.FEB.2013 15:28:18

802.11n40 Low Channel 26.5-40G



Date: 1.MAR.2013 09:09:09

802.11n40 High Channel 30M-26.5G



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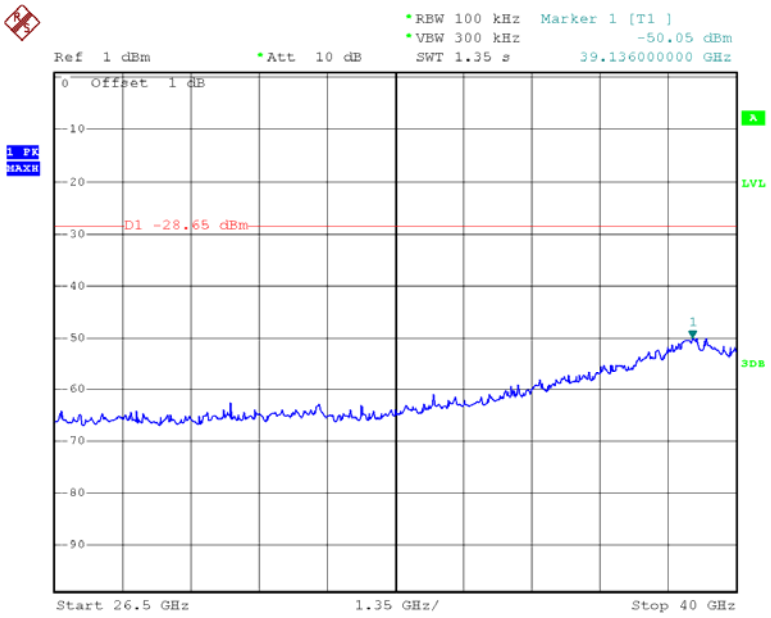
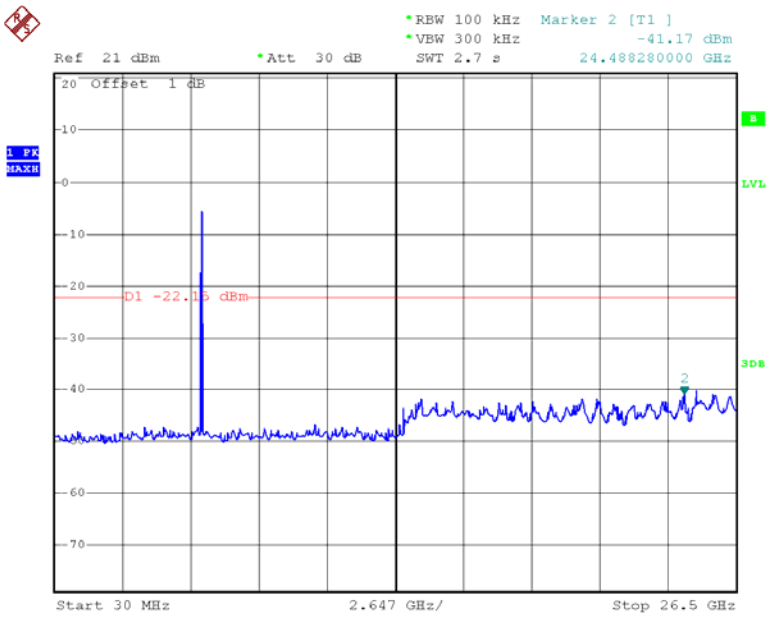
802.11n40 High Channel 26.5-40G



Date: 1.MAR.2013 09:10:41

802.11ac vht20 Low Channel 30M-26.5G



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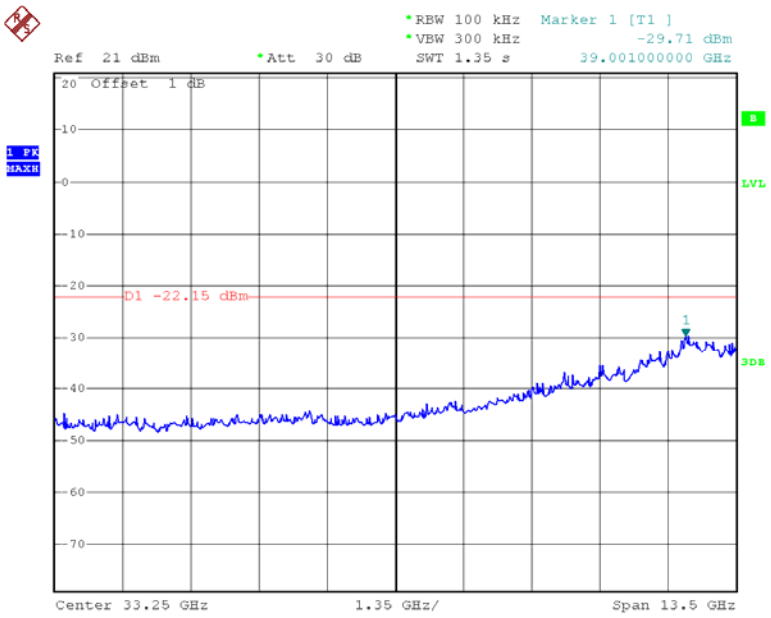
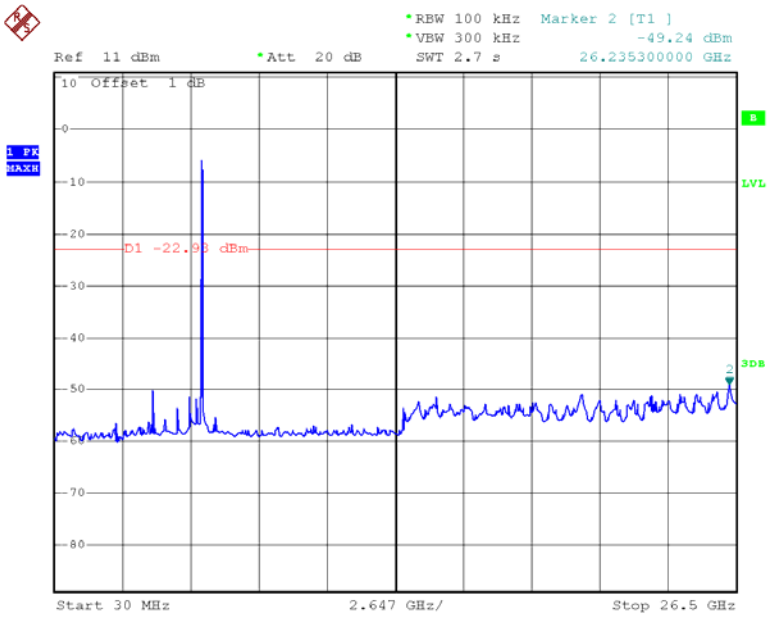
802.11ac vht20 Low Channel 26.5-40G



802.11ac vht20 Middle Channel 30M-26.5G



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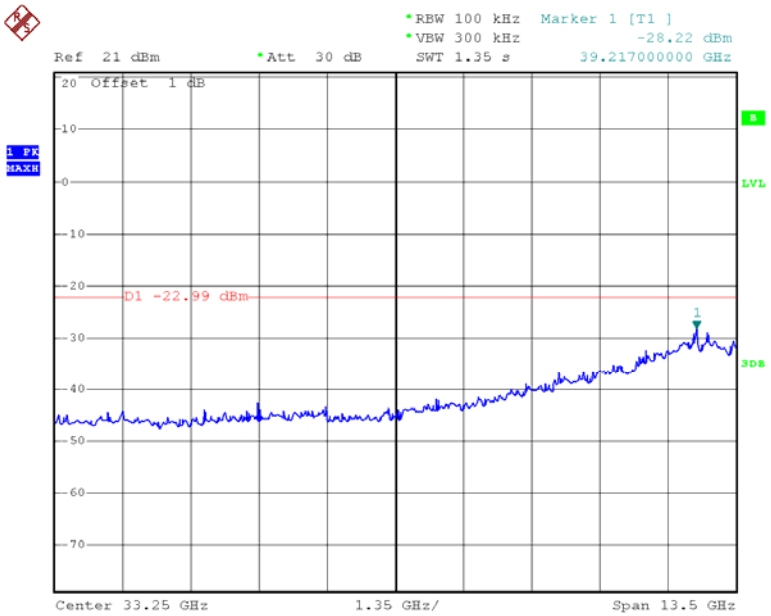
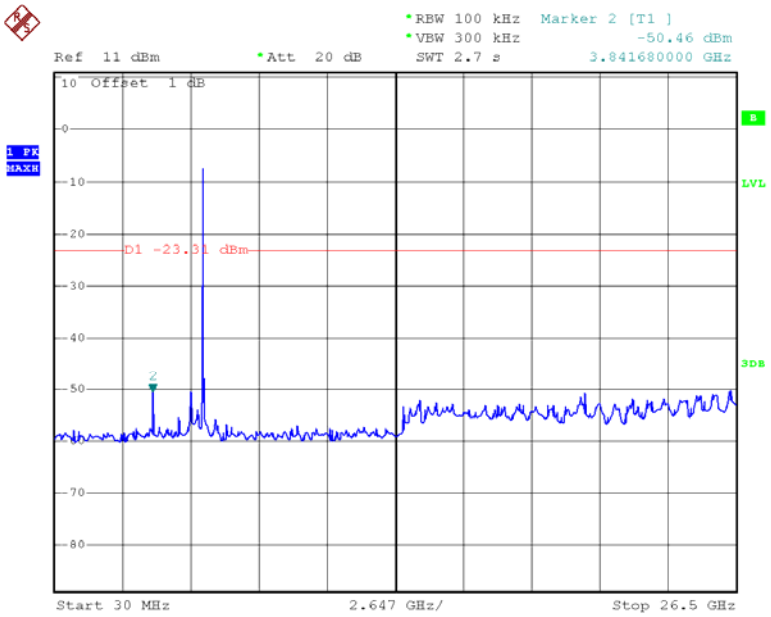
802.11ac vht20 Middle Channel 26.5-40G



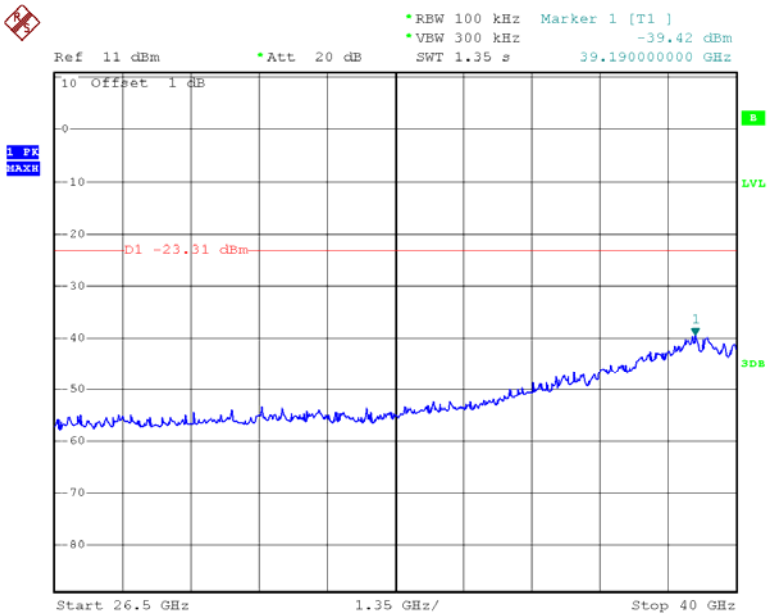
Date: 13.MAR.2013 15:47:24

802.11vht20 High Channel 30M-26.5G



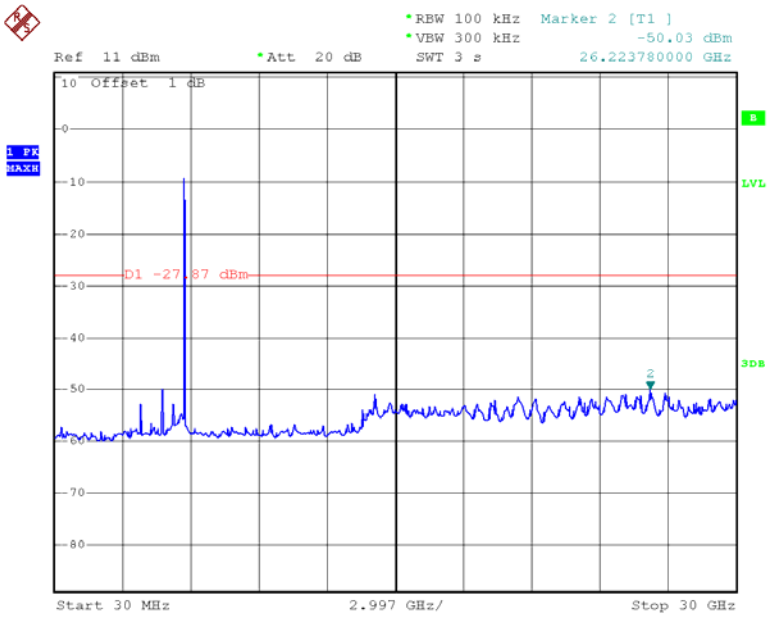
Date: 13.MAR.2013 16:21:16

802.11ac vht20 High Channel 26.5-40G



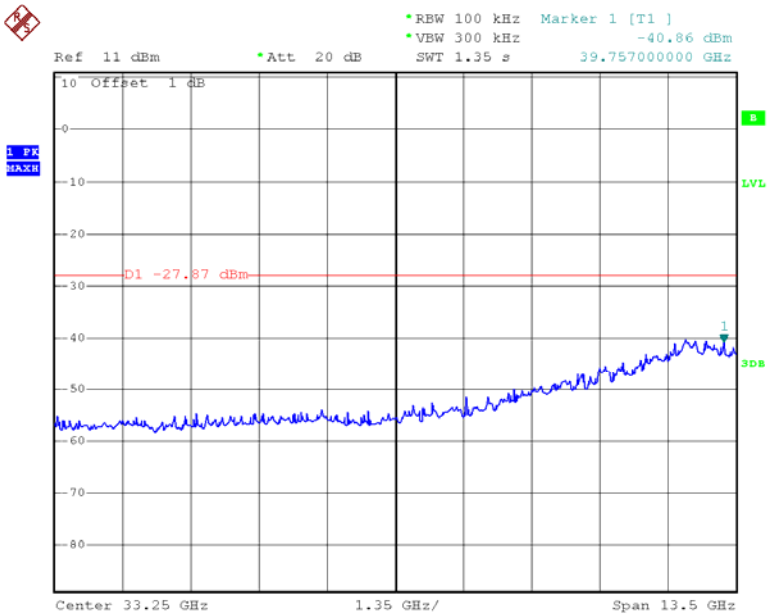
Date: 13.MAR.2013 16:22:35

802.11 ac vht40 Low Channel 30M-26.5G



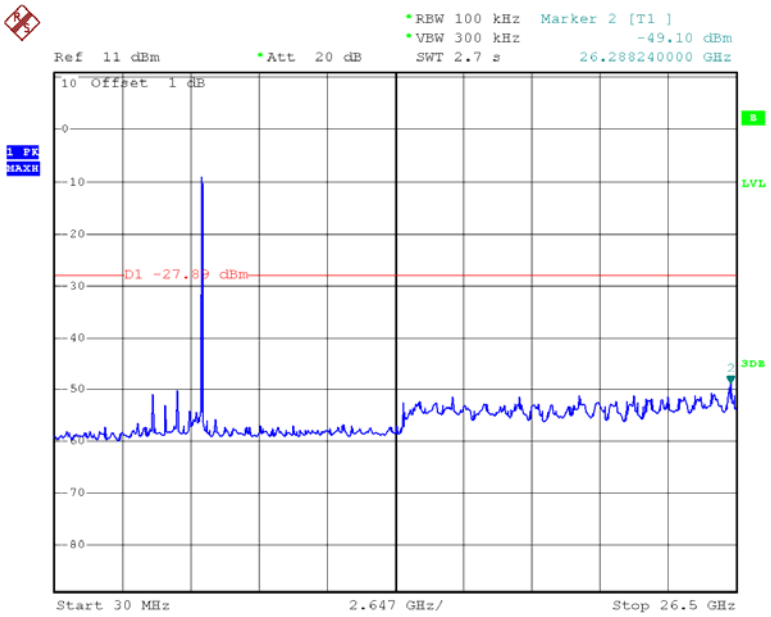
Date: 13.MAR.2013 16:37:29

802.11 ac vht40 Low Channel 26.5-40G



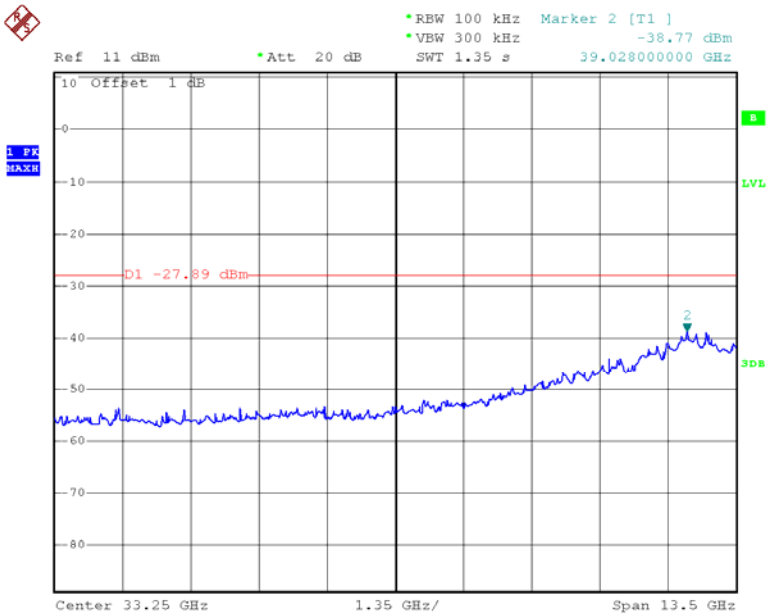
Date: 13.MAR.2013 16:38:25

802.11ac vht40 High Channel 30M-26.5G



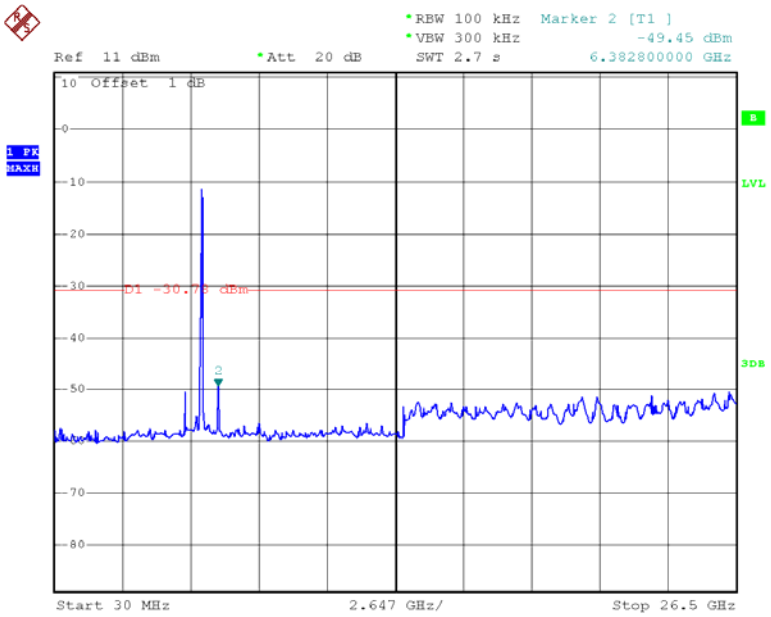
Date: 13.MAR.2013 16:55:30

802.11ac vht40 High Channel 26.5-40G



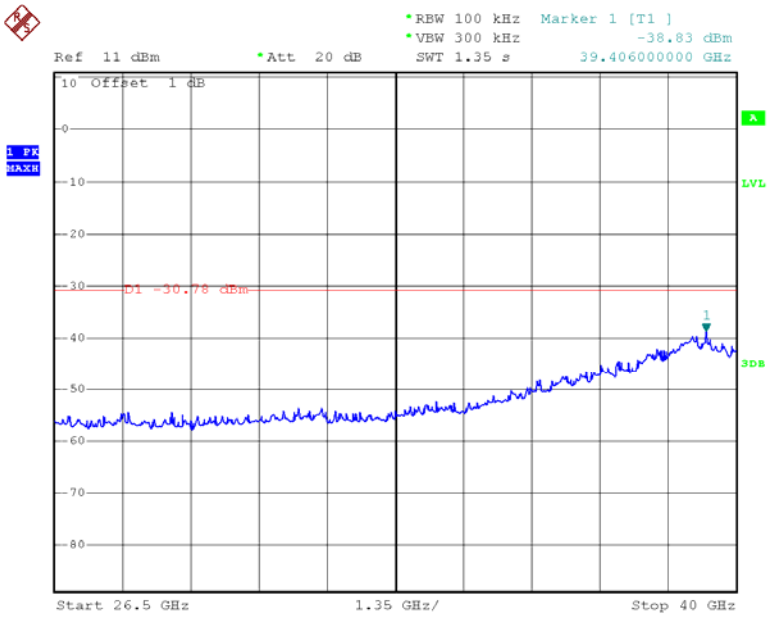
Date: 13.MAR.2013 16:56:45

802.11ac80 Low Channel 30M-26.5G



Date: 25.FEB.2013 13:22:28

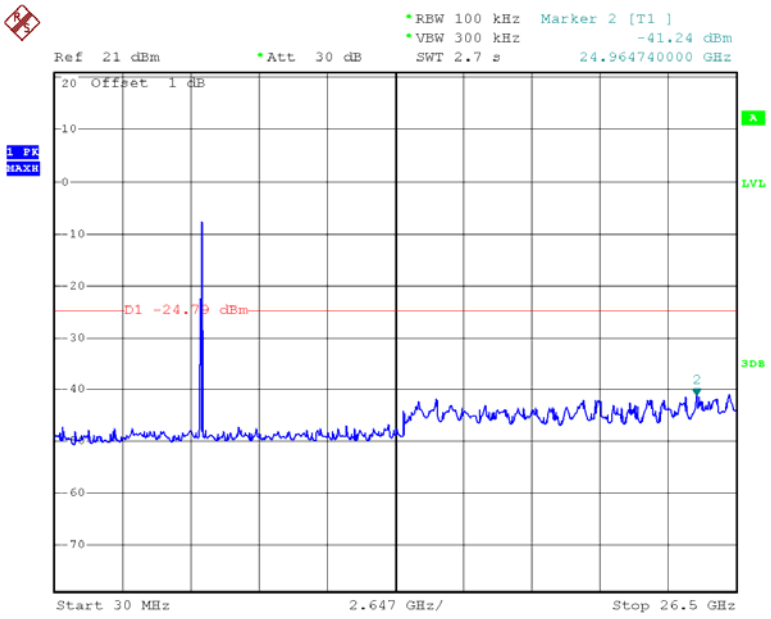
802.11ac80 Low Channel 26.5-40G



Date: 26.FEB.2013 11:32:09

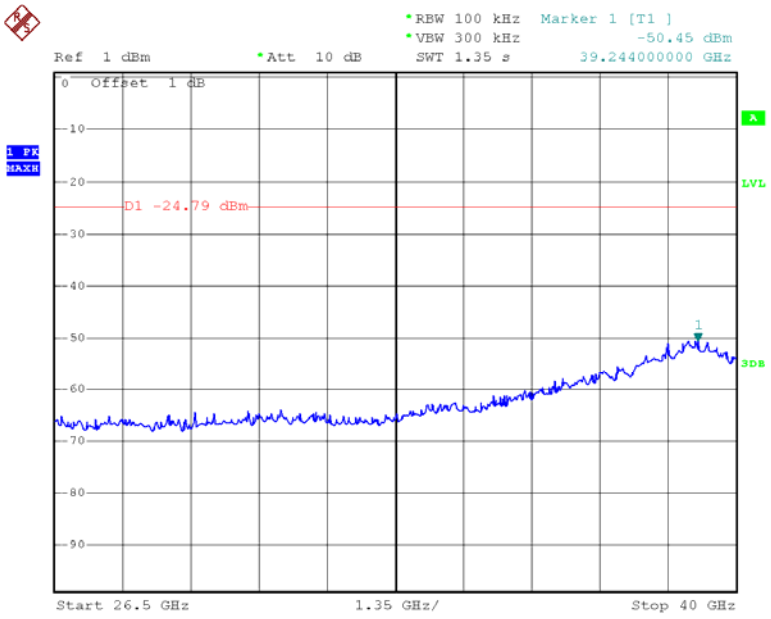
Chain 1:

802.11n20 Low Channel 30M-26.5G



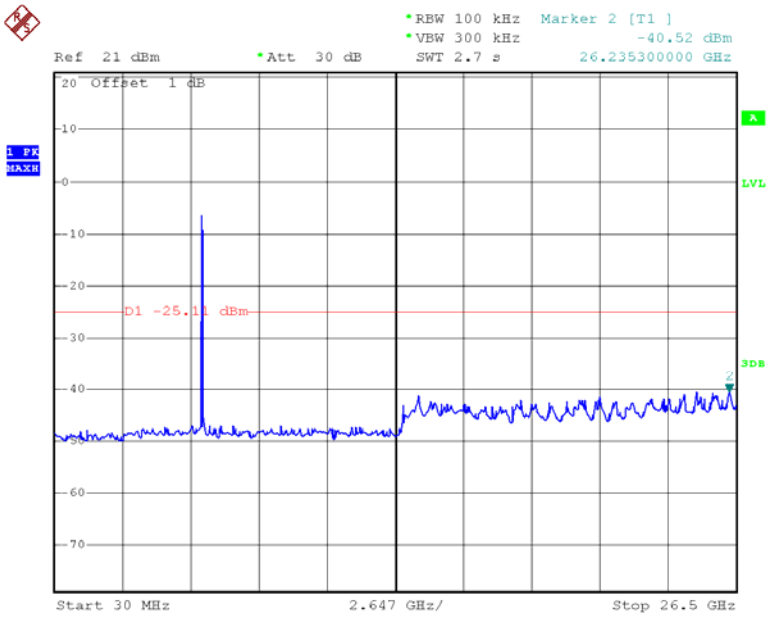
Date: 28.FEB.2013 15:02:02

802.11n20 Low Channel 26.5-40G



Date: 1.MAR.2013 09:12:43

802.11n20 Middle Channel 30M-26.5G



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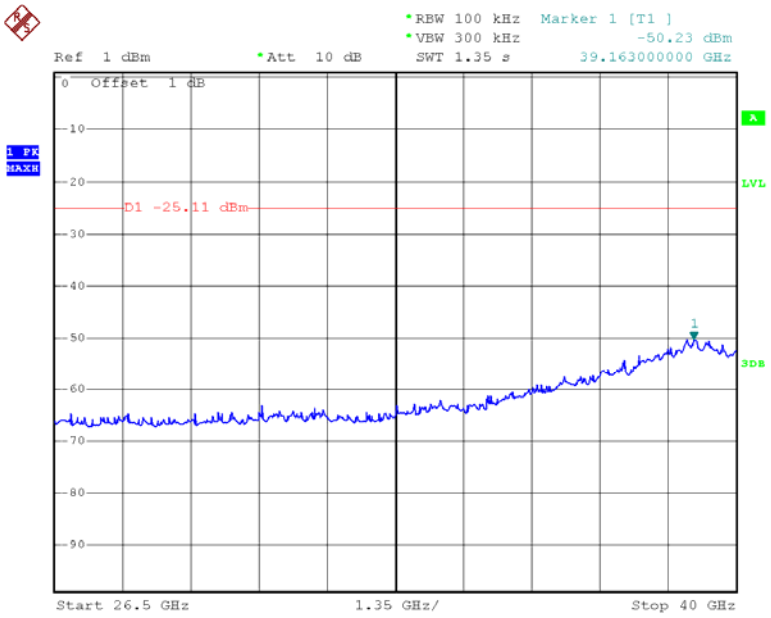
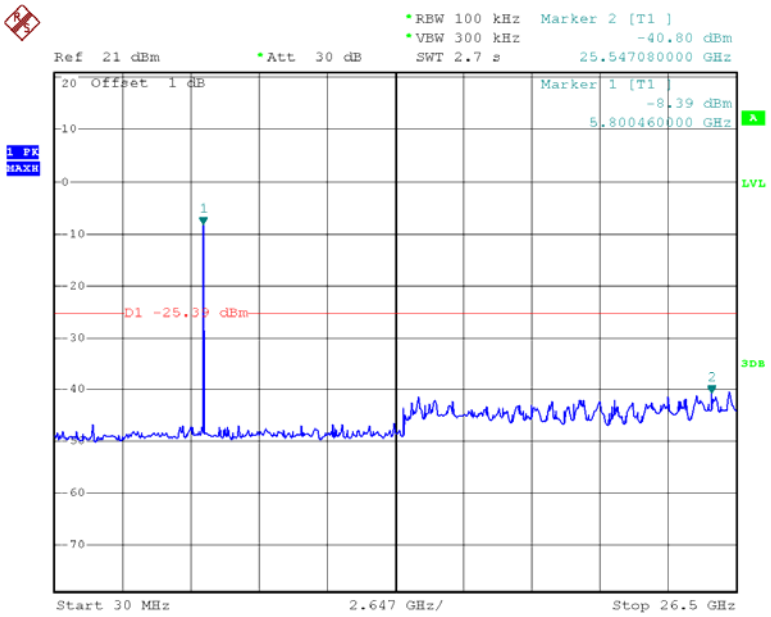
802.11n20 Middle Channel 26.5-40G



Date: 1.MAR.2013 09:13:48

802.11n20 High Channel 30M-26.5G



Date: 28.FEB.2013 15:18:11

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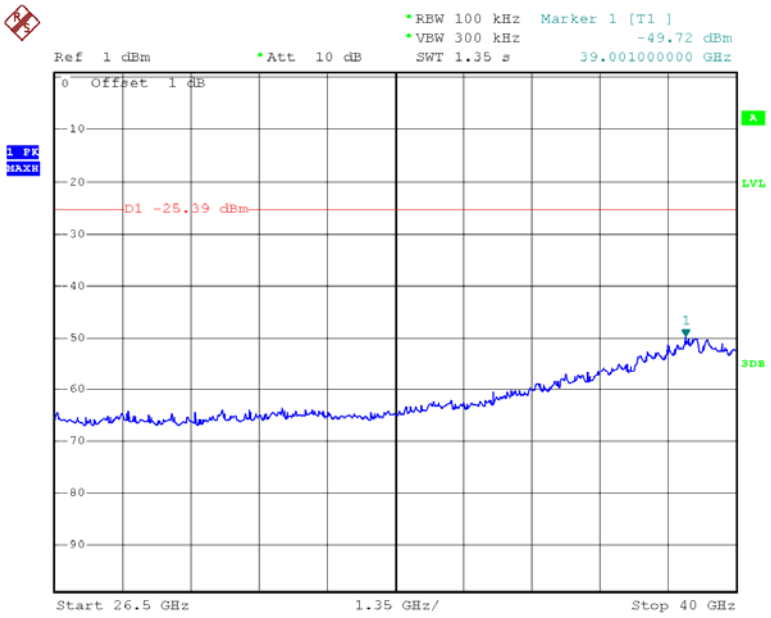
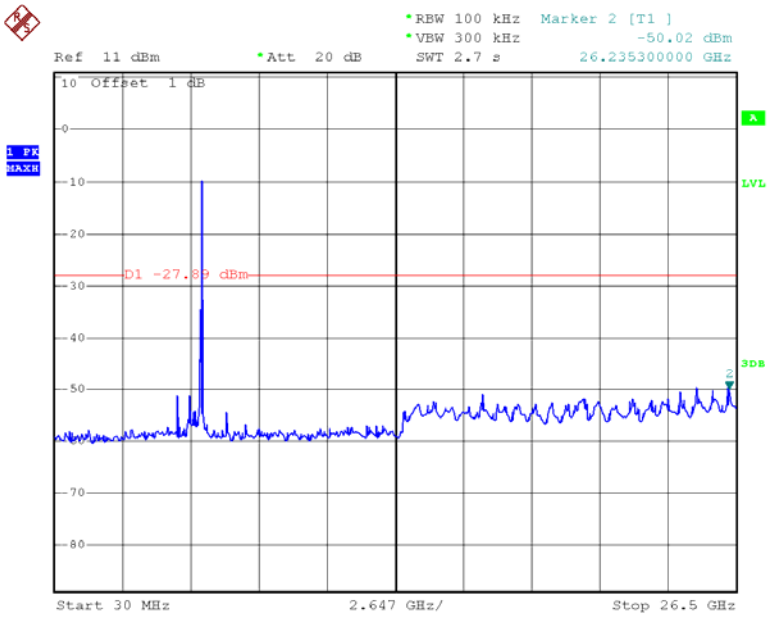


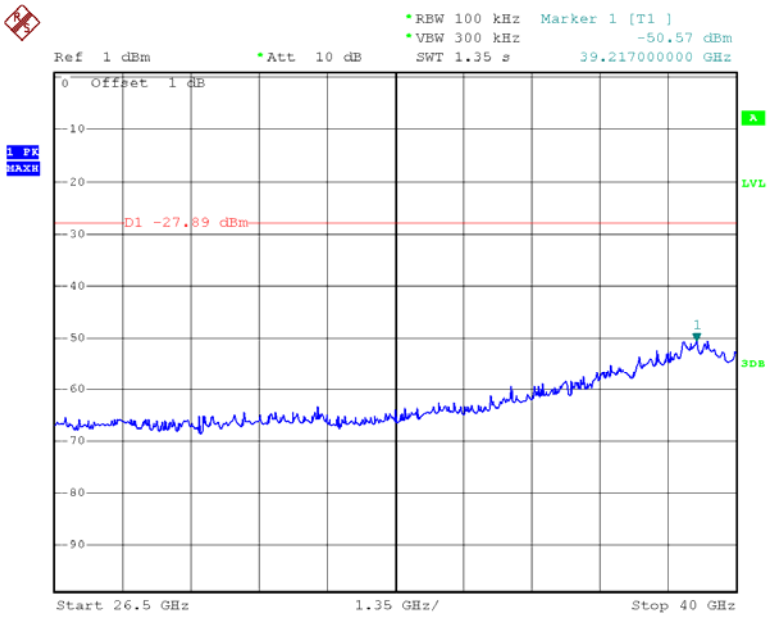
Date: 1.MAR.2013 09:15:11

802.11n40 Low Channel 30M-26.5G



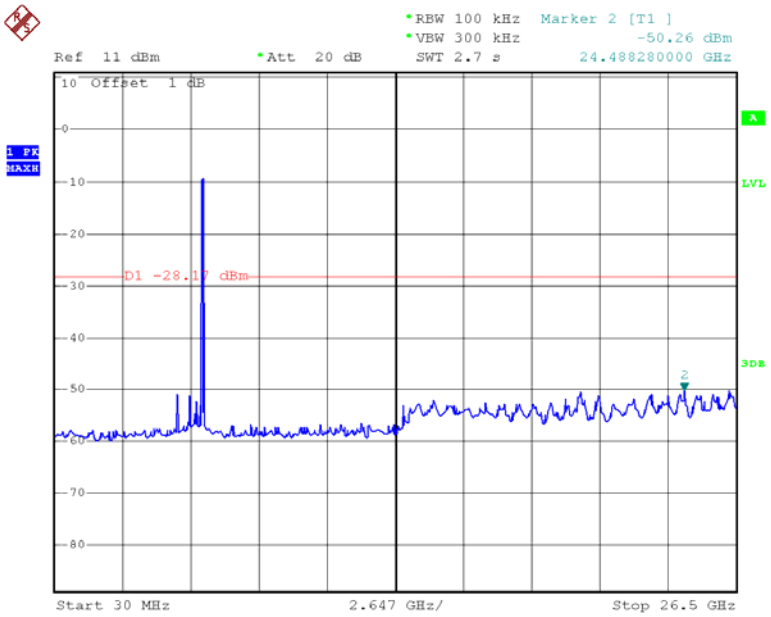
Date: 28.FEB.2013 15:28:42

802.11n40 Low Channel 26.5-40G



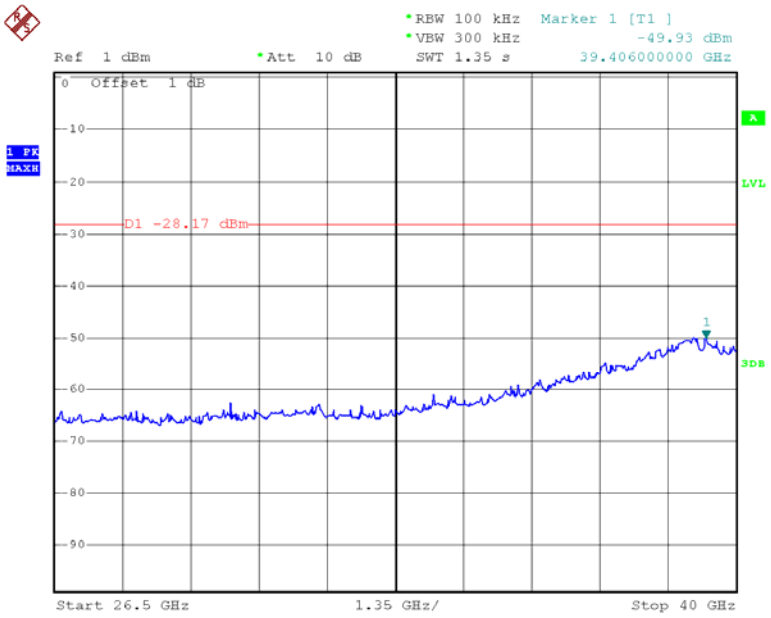
Date: 1.MAR.2013 09:09:37

802.11n40 High Channel 30M-26.5G



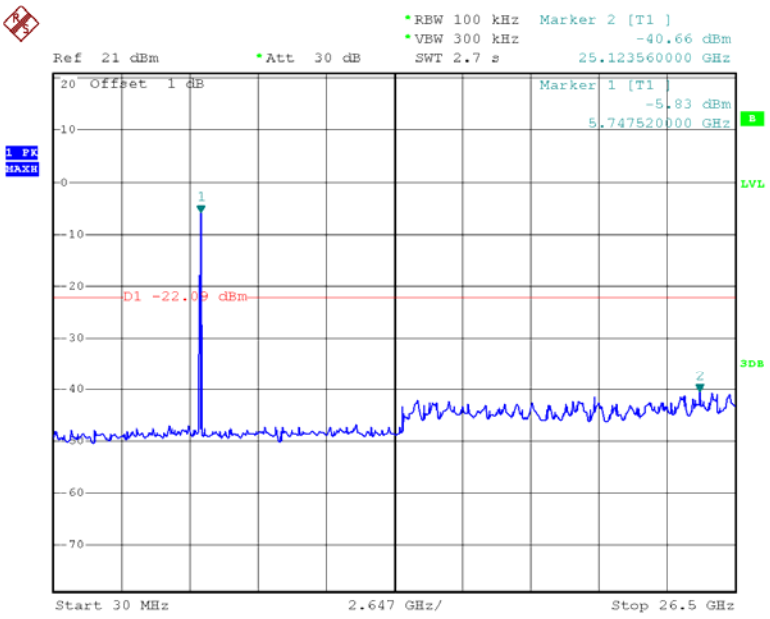
Date: 28.FEB.2013 15:44:24

802.11n40 High Channel 26.5-40G



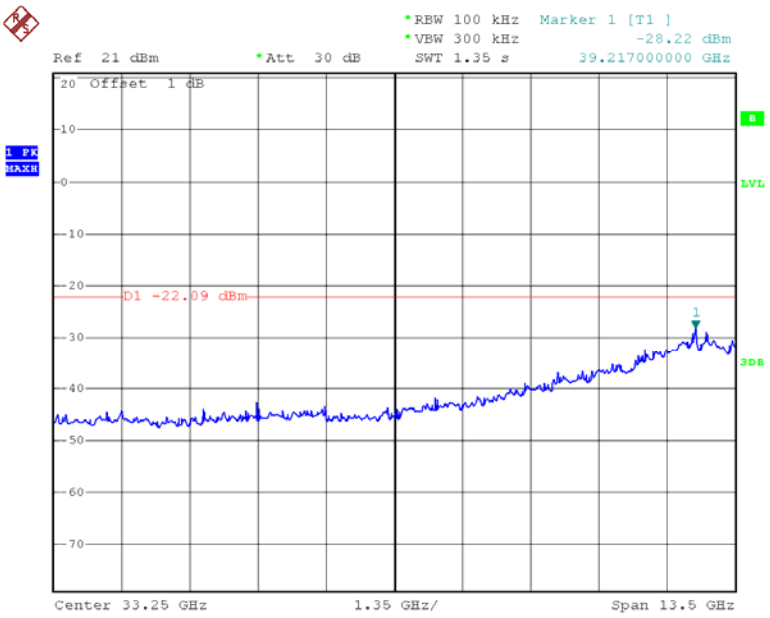
Date: 1.MAR.2013 09:11:03

802.11ac vht20 Low Channel 30M-26.5G

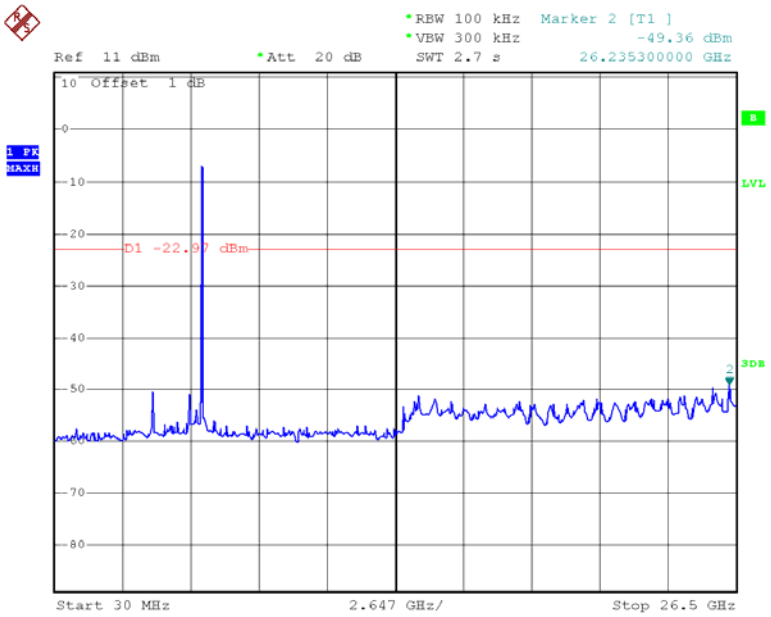


Date: 13.MAR.2013 15:45:19

802.11ac vht20 Low Channel 26.5-40G



802.11ac vht20 Middle Channel 30M-26.5G



Date: 13.MAR.2013 16:00:05

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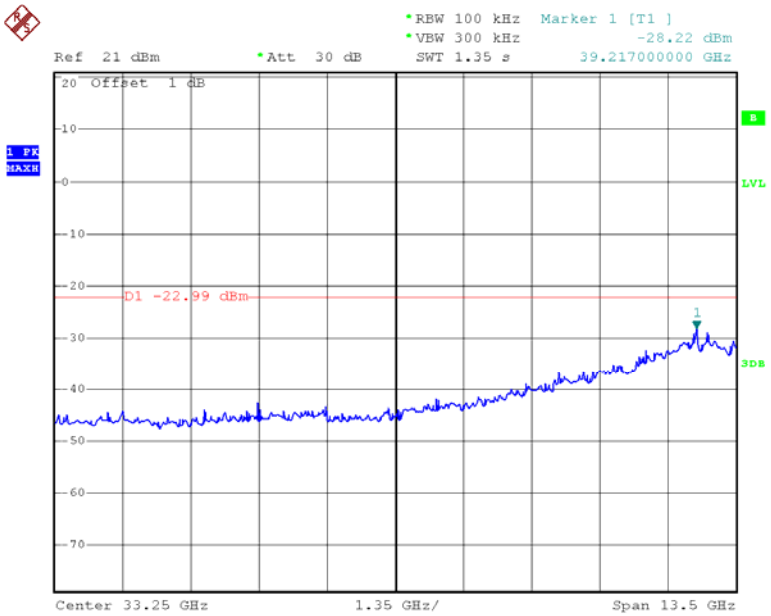
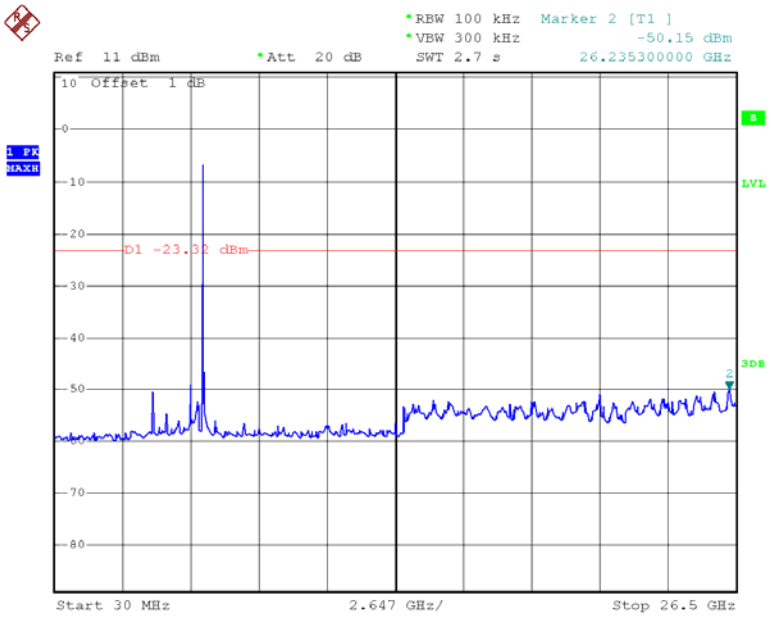


Date: 13.MAR.2013 15:47:24

802.11vht20 High Channel 30M-26.5G



Date: 13.MAR.2013 16:21:40

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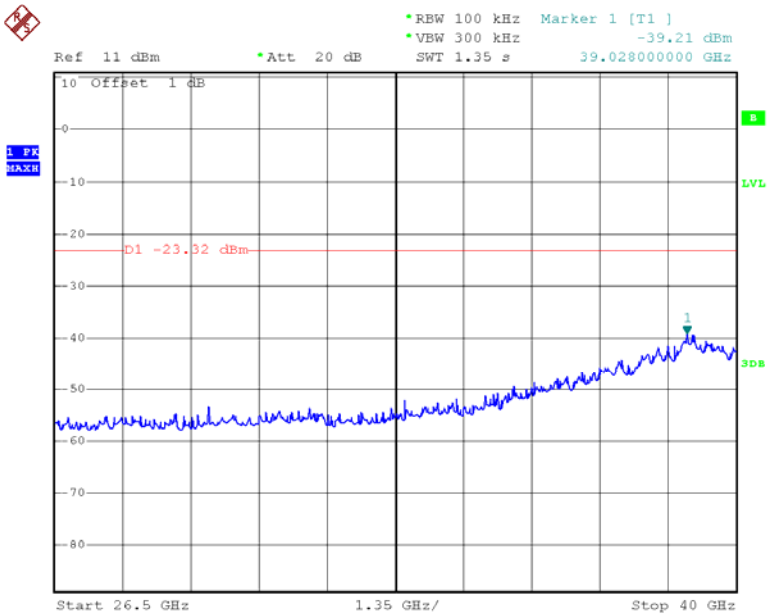
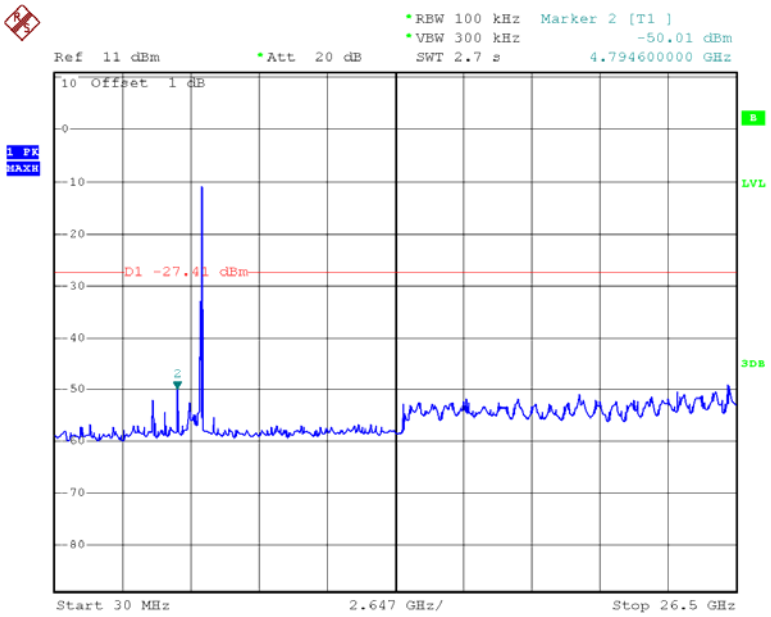


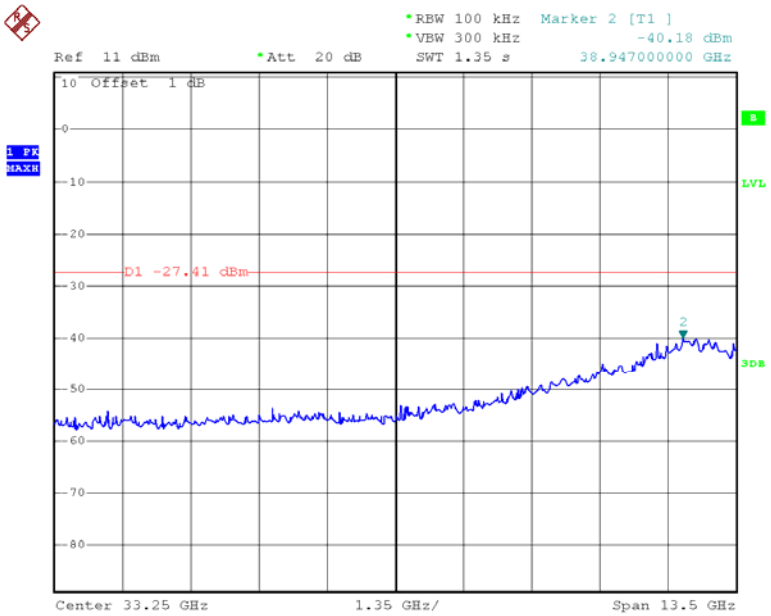
Date: 13.MAR.2013 16:22:54

802.11 ac vht40 Low Channel 30M-26.5G



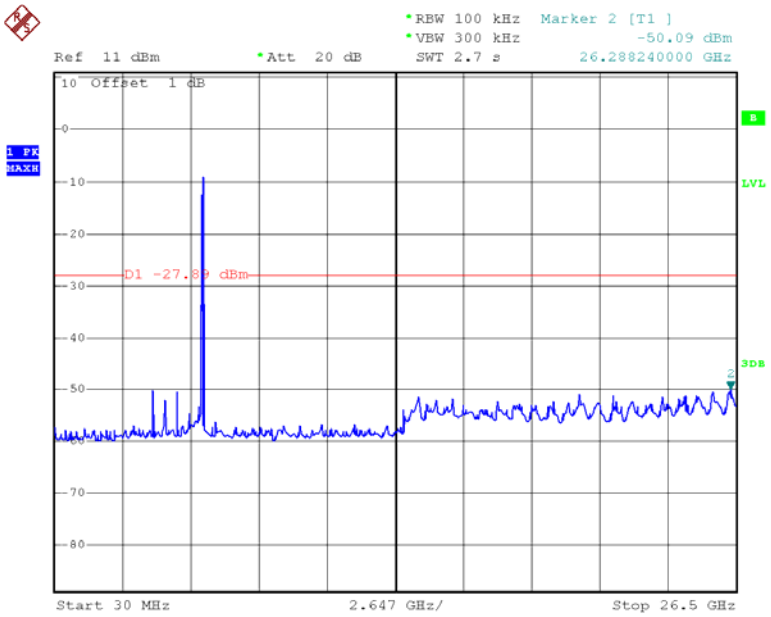
Date: 13.MAR.2013 16:35:37

802.11 ac vht40 Low Channel 26.5-40G



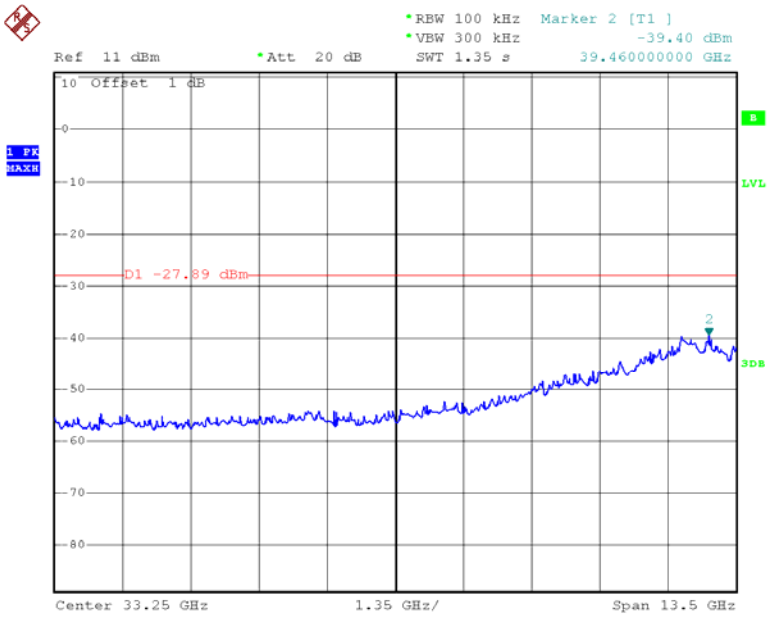
Date: 13.MAR.2013 16:37:59

802.11ac vht40 High Channel 30M-26.5G



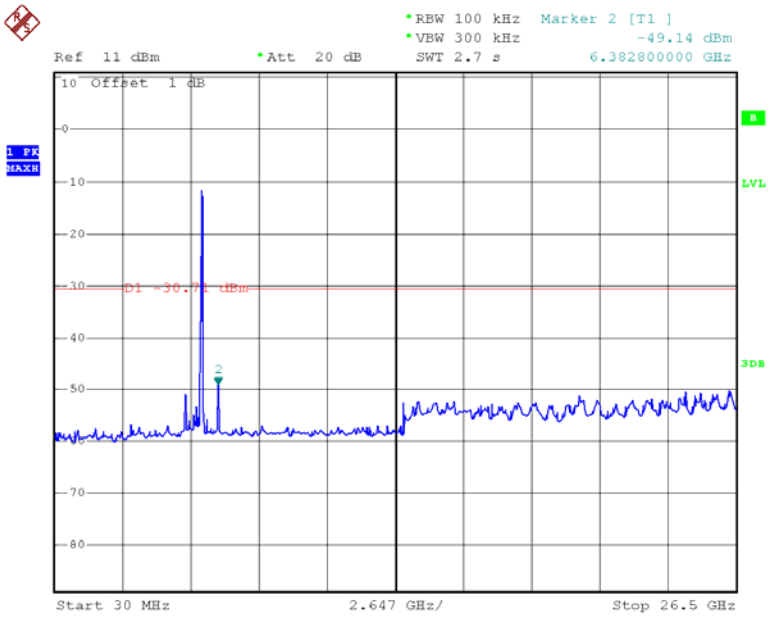
Date: 13.MAR.2013 16:53:55

802.11ac vht40 High Channel 26.5-40G



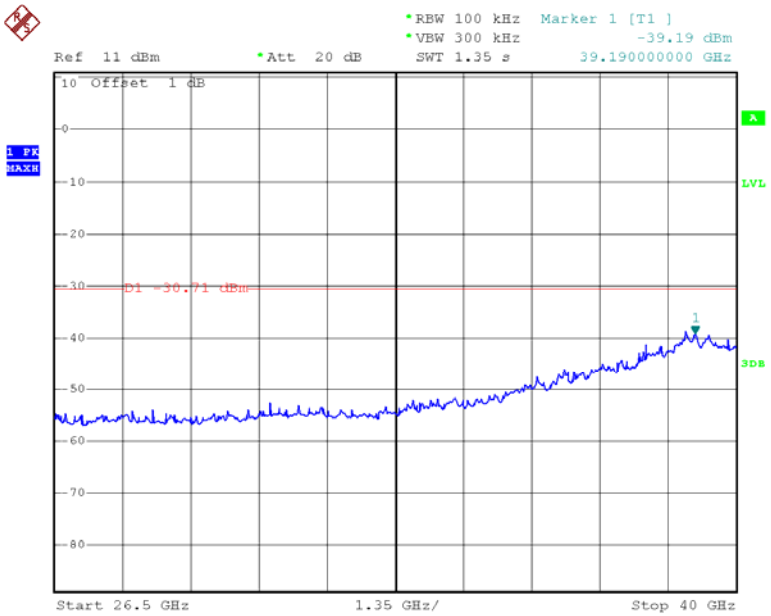
Date: 13.MAR.2013 16:56:13

802.11ac80 Low Channel 30M-26.5G



Date: 25.FEB.2013 13:23:09

802.11ac80 Low Channel 26.5-40G



Date: 26.FEB.2013 11:33:05

Chain 2:

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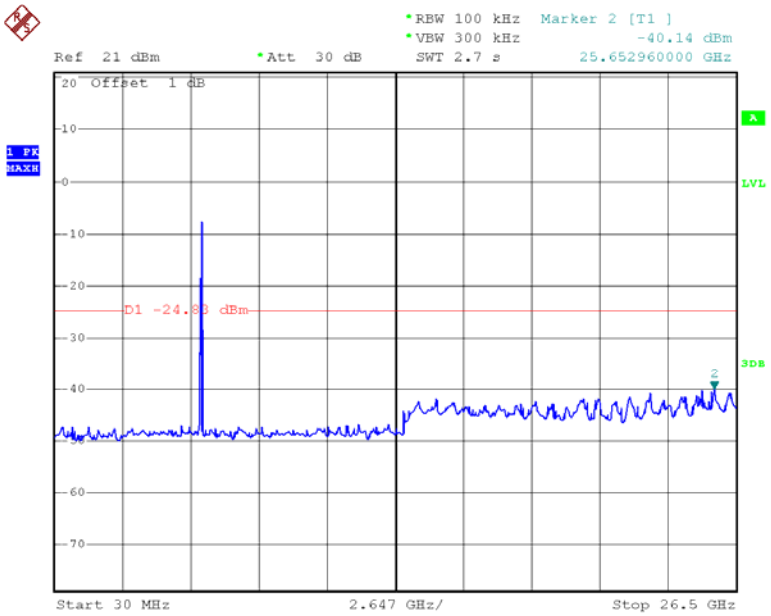
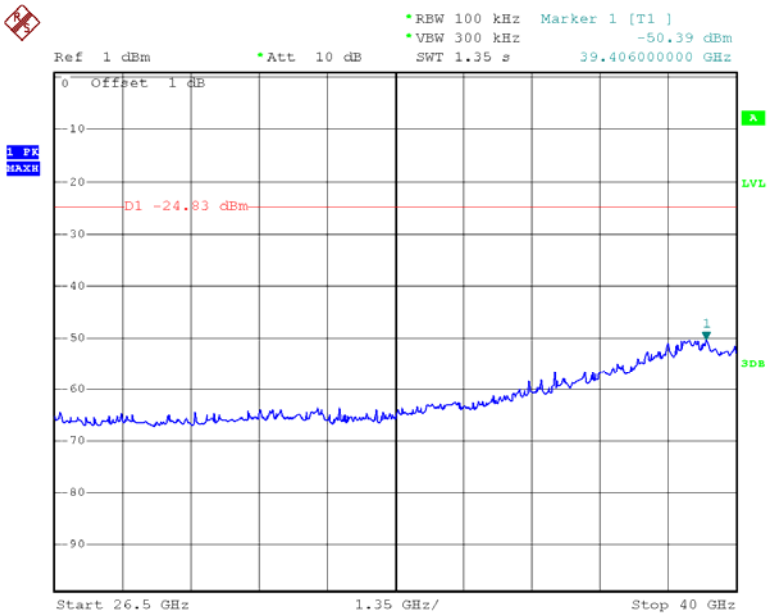


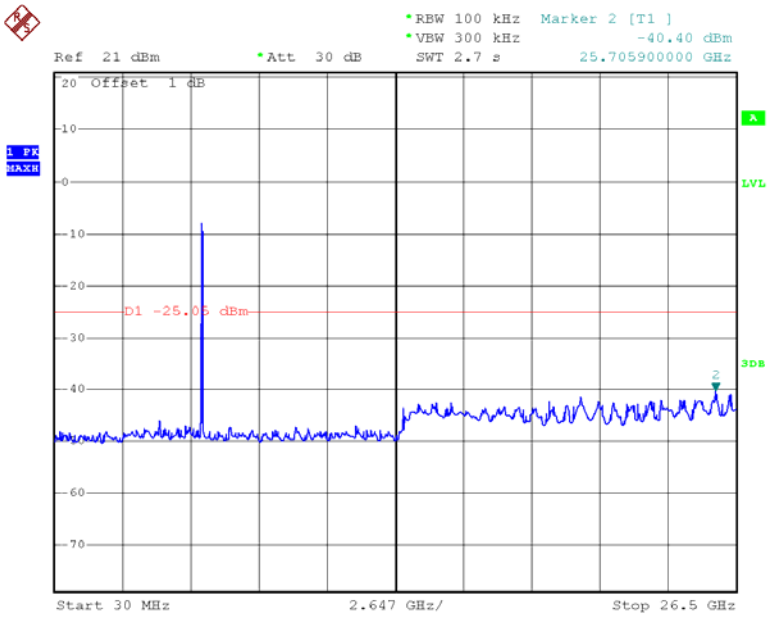
Date: 28.FEB.2013 15:02:20

802.11n20 Low Channel 26.5-40G



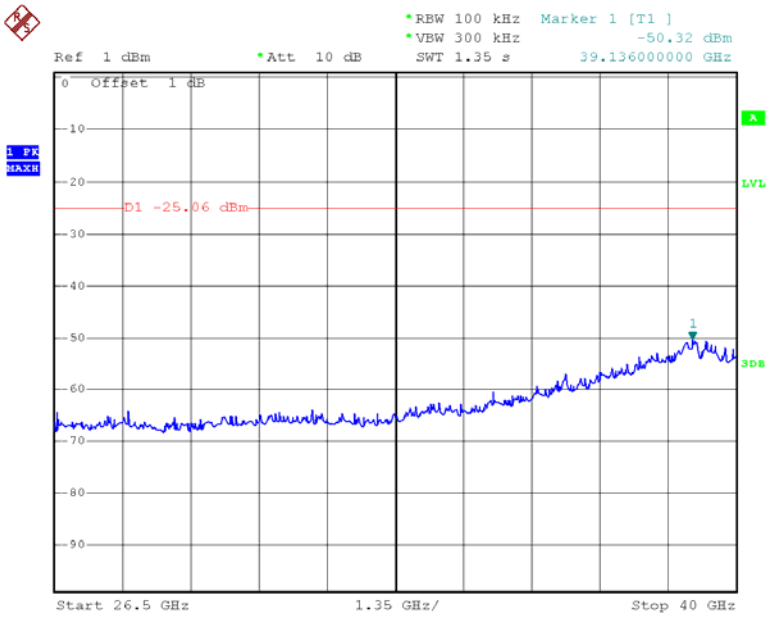
Date: 1.MAR.2013 09:13:04

802.11n20 Middle Channel 30M-26.5G



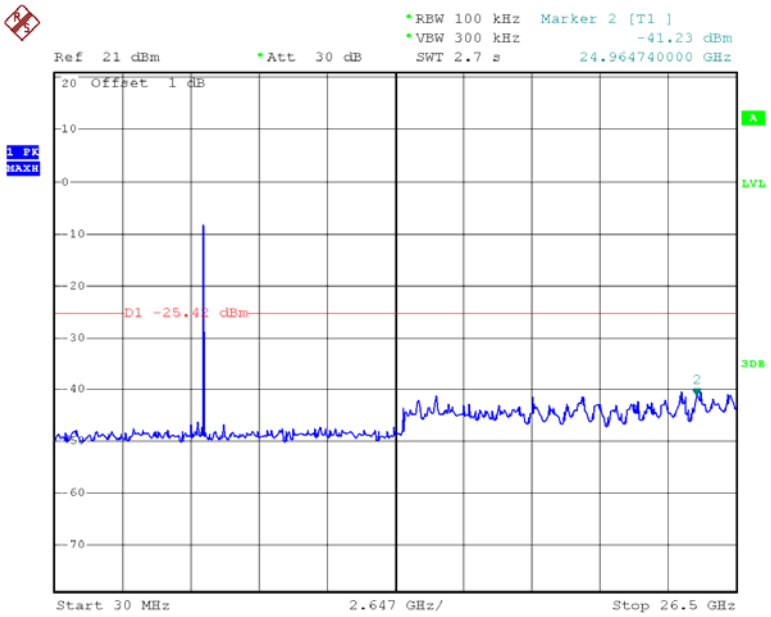
Date: 28.FEB.2013 15:11:38

802.11n20 Middle Channel 26.5-40G



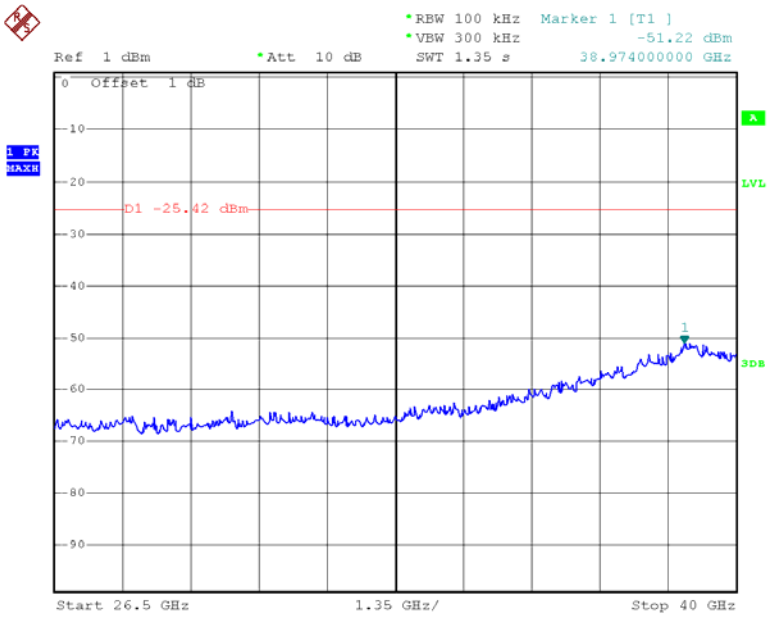
Date: 1.MAR.2013 09:14:19

802.11n20 High Channel 30M-26.5G



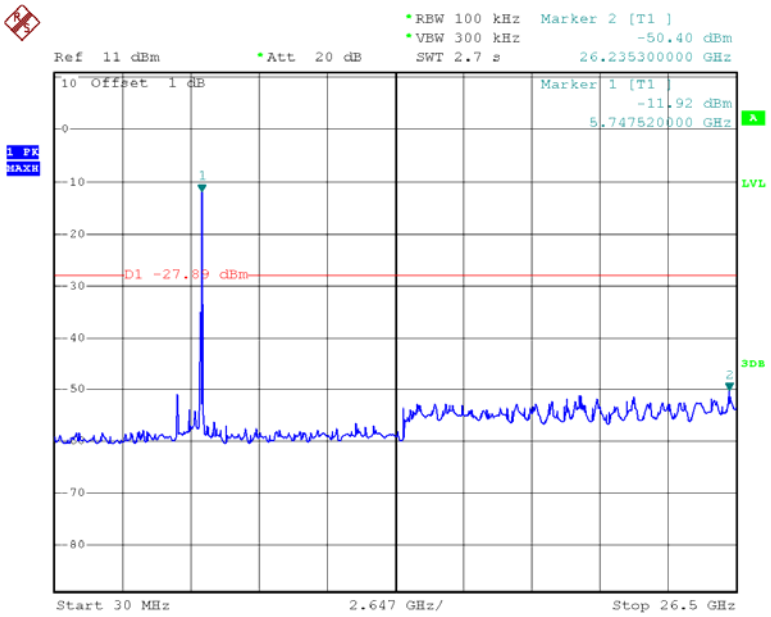
Date: 28.FEB.2013 15:18:30

802.11n20 High Channel 26.5-40G



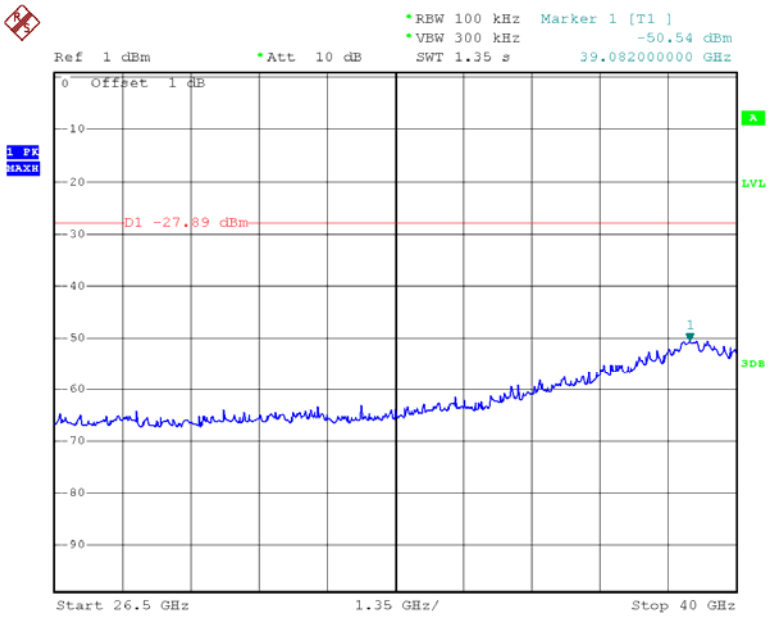
Date: 1.MAR.2013 09:15:47

802.11n40 Low Channel 30M-26.5G



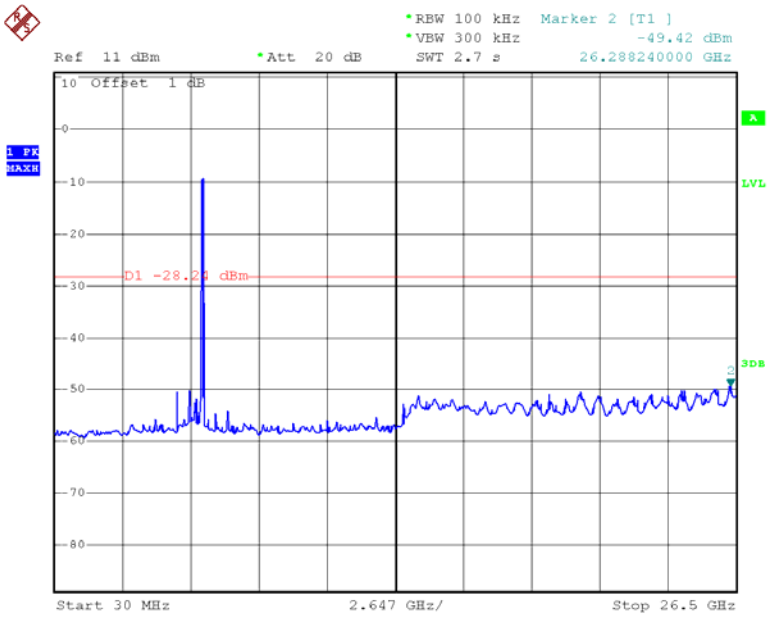
Date: 28.FEB.2013 15:28:55

802.11n40 Low Channel 26.5-40G



Date: 1.MAR.2013 09:09:56

802.11n40 High Channel 30M-26.5G



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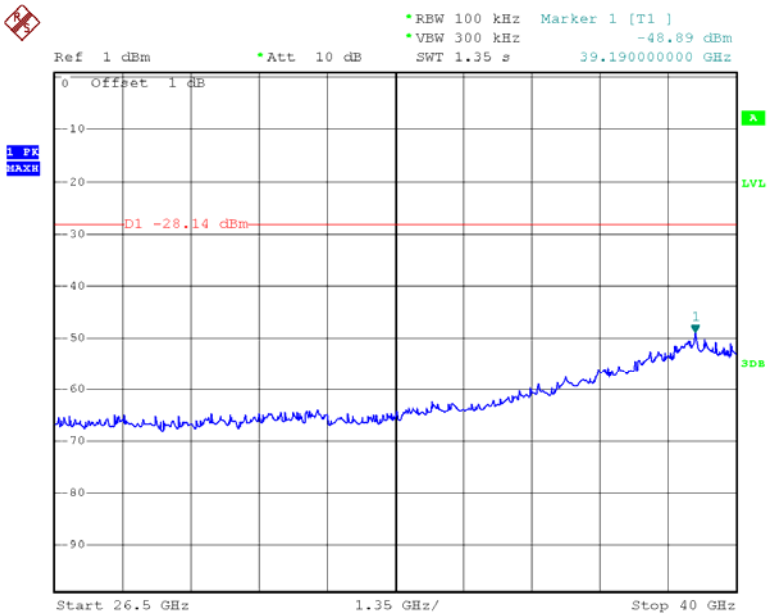
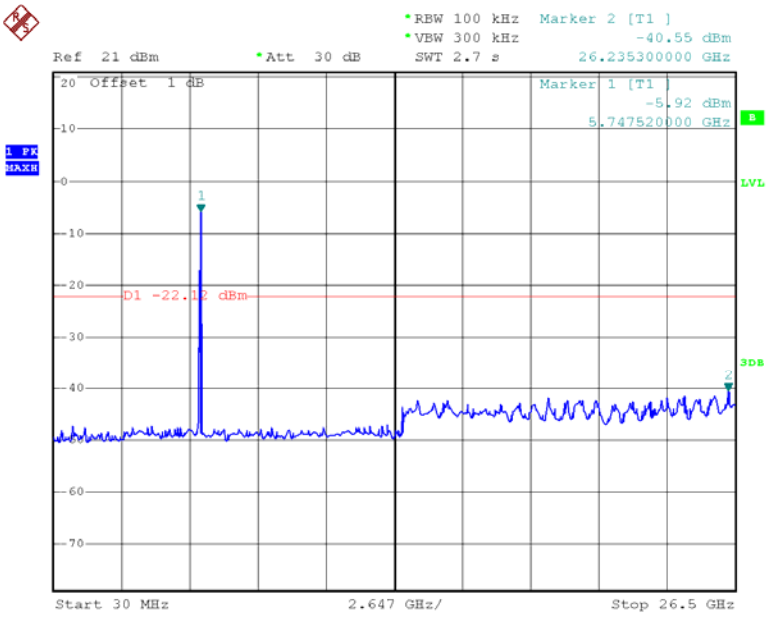
802.11n40 High Channel 26.5-40G



Date: 1.MAR.2013 09:11:25

802.11ac vht20 Low Channel 30M-26.5G



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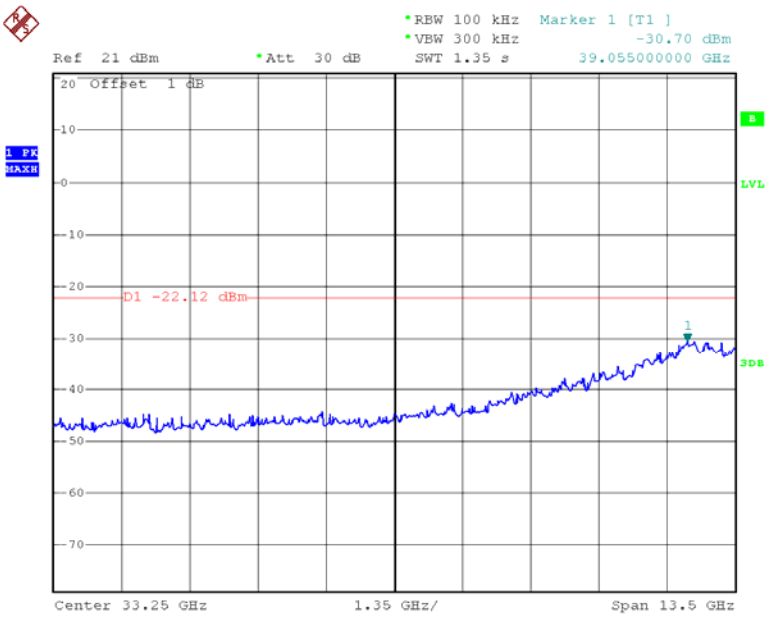
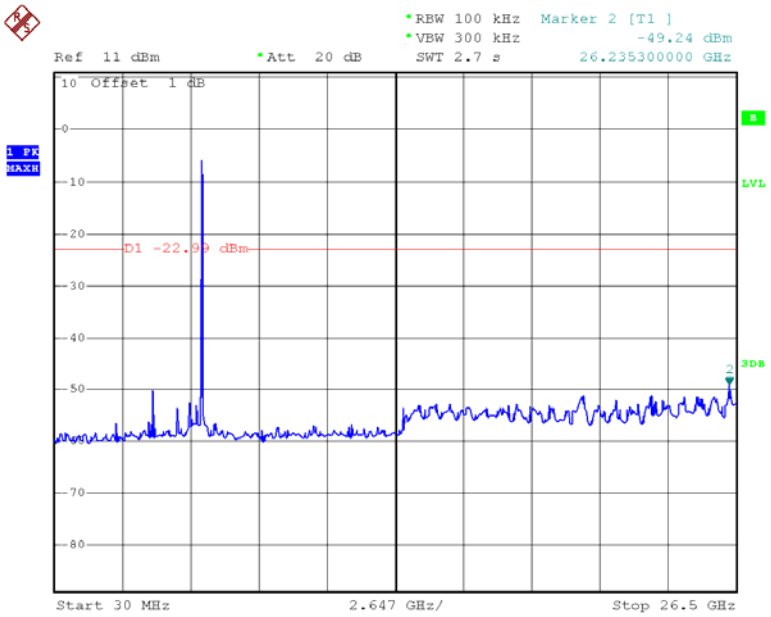
802.11ac vht20 Low Channel 26.5-40G

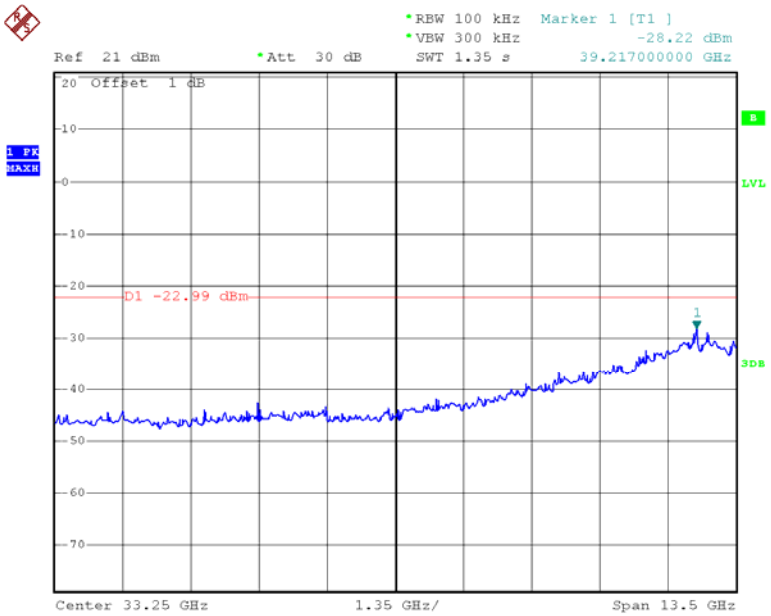


802.11ac vht20 Middle Channel 30M-26.5G



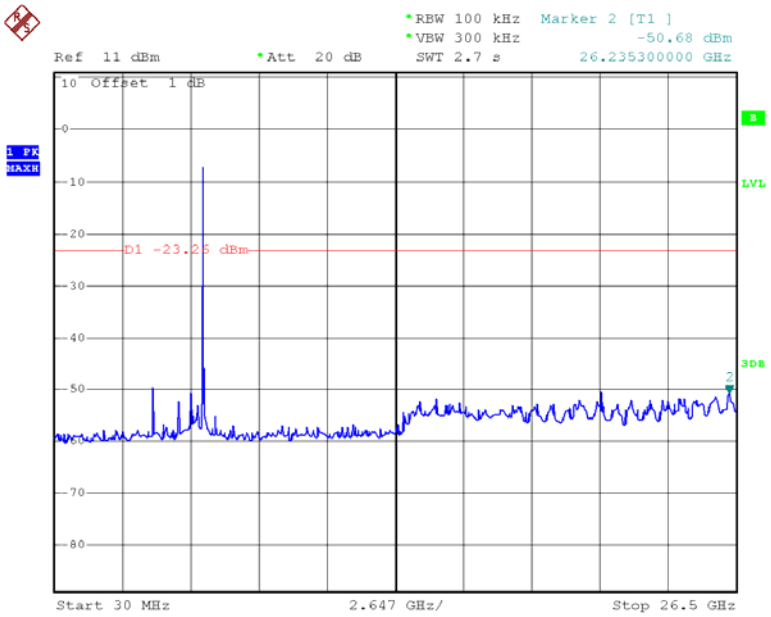
Date: 13.MAR.2013 16:00:28

802.11ac vht20 Middle Channel 26.5-40G



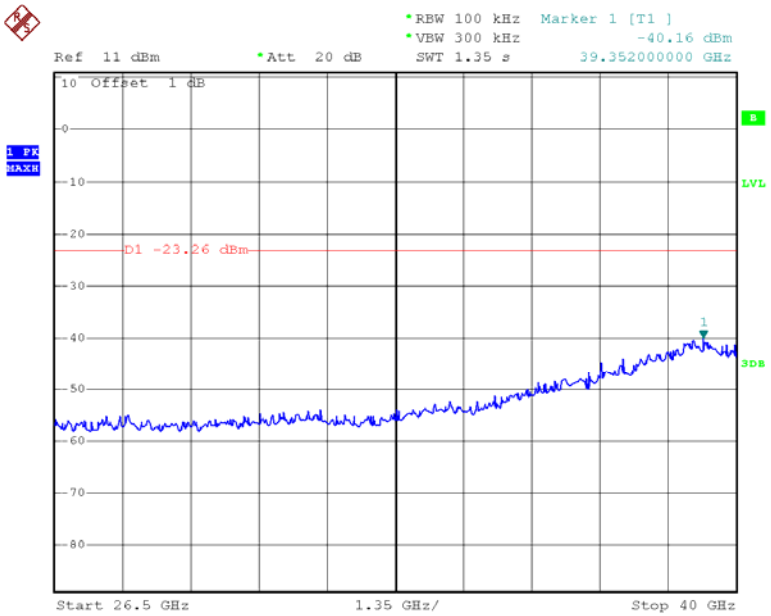
Date: 13.MAR.2013 15:47:24

802.11vht20 High Channel 30M-26.5G



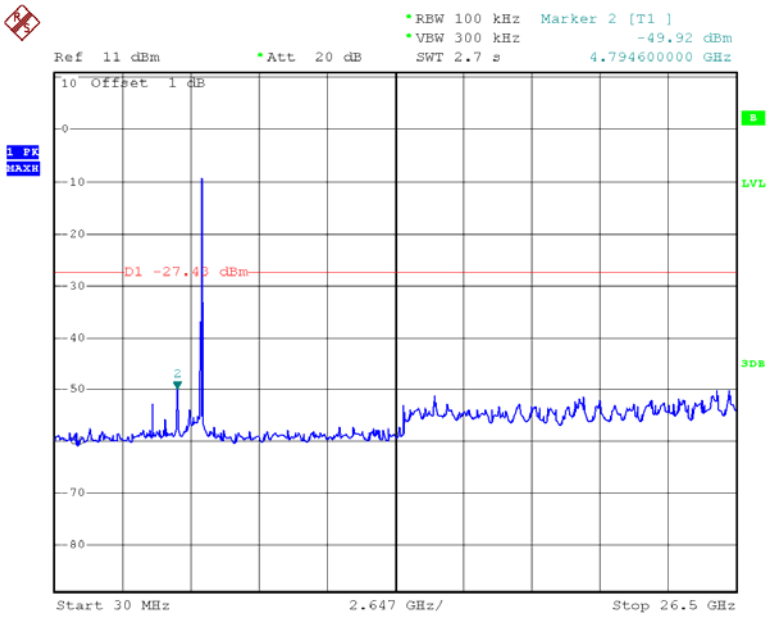
Date: 13.MAR.2013 16:22:03

802.11ac vht20 High Channel 26.5-40G



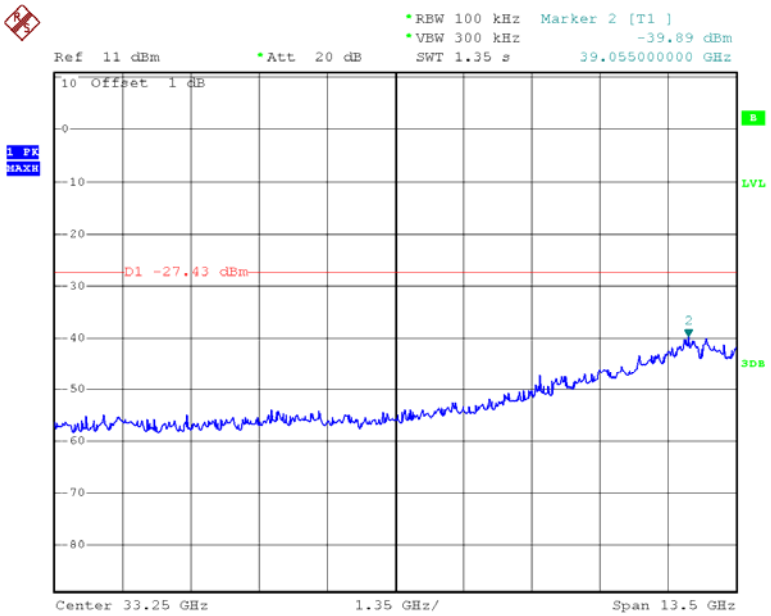
Date: 13.MAR.2013 16:23:10

802.11 ac vht40 Low Channel 30M-26.5G



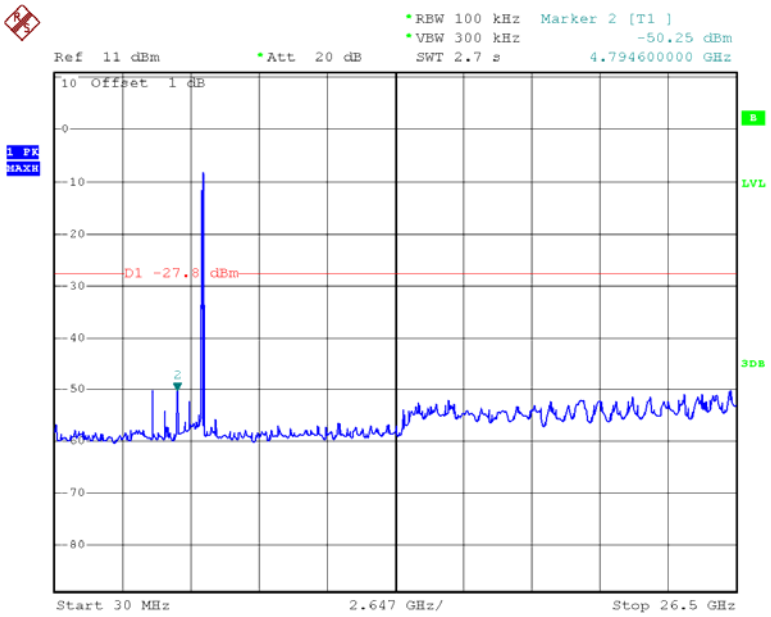
Date: 13.MAR.2013 16:35:56

802.11 ac vht40 Low Channel 26.5-40G



Date: 13.MAR.2013 16:38:11

802.11ac vht40 High Channel 30M-26.5G



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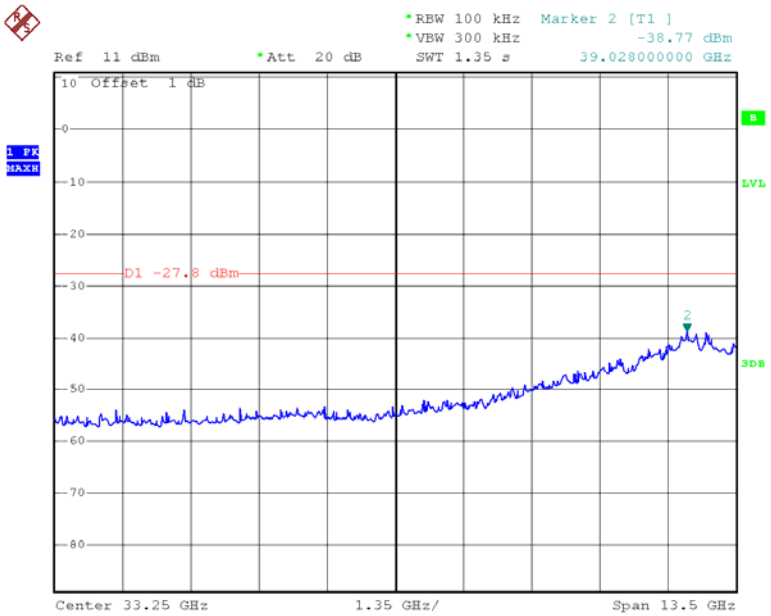
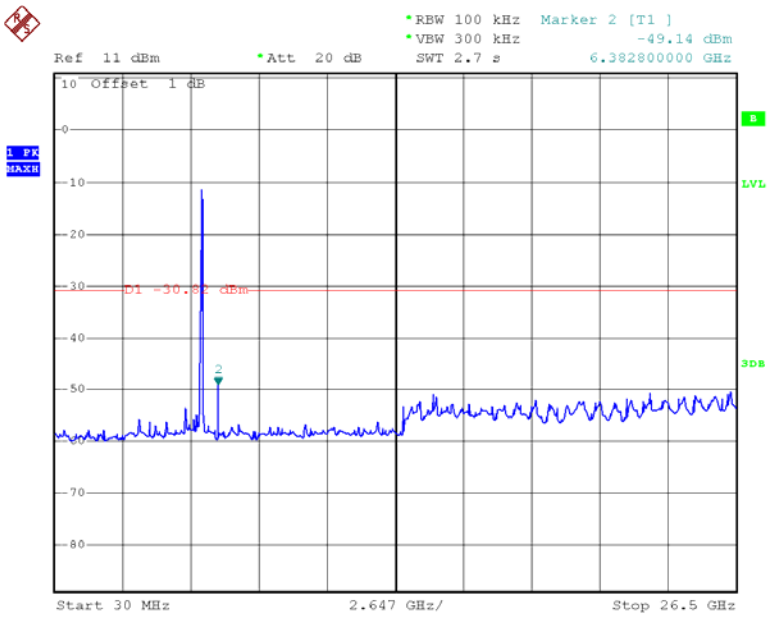
802.11ac vht40 High Channel 26.5-40G



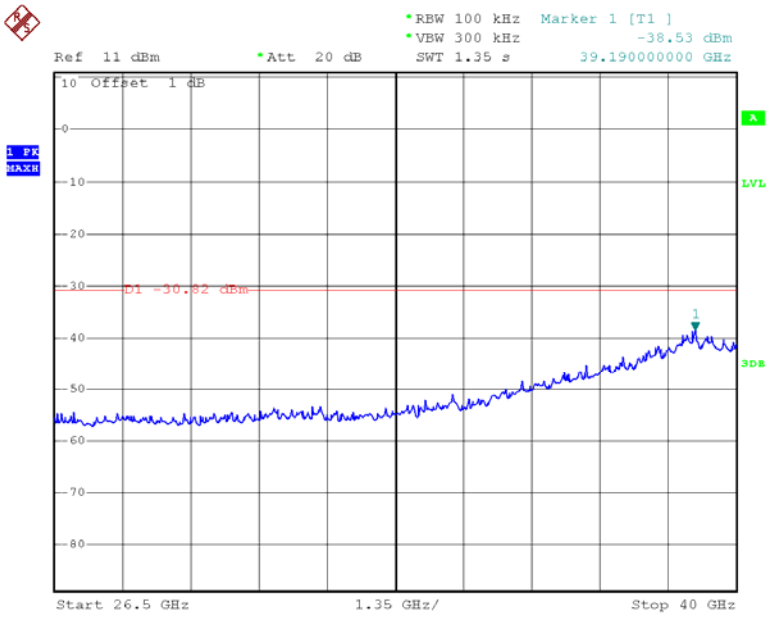
Date: 13.MAR.2013 16:56:32

802.11ac80 Low Channel 30M-26.5G



Date: 25.FEB.2013 13:23:40

802.11ac80 Low Channel 26.5-40G



Date: 26.FEB.2013 11:33:41

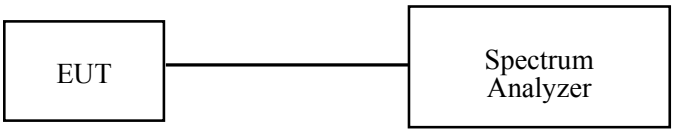
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Data

Environmental Conditions

Temperature:	23.4 ~26.8 ° C
Relative Humidity:	29 ~63 %
ATM Pressure:	100.8 ~101.9kPa

The testing was performed by Leon Chen from 2013-02-25 to 2013-03-13.

Test Result: Pass.

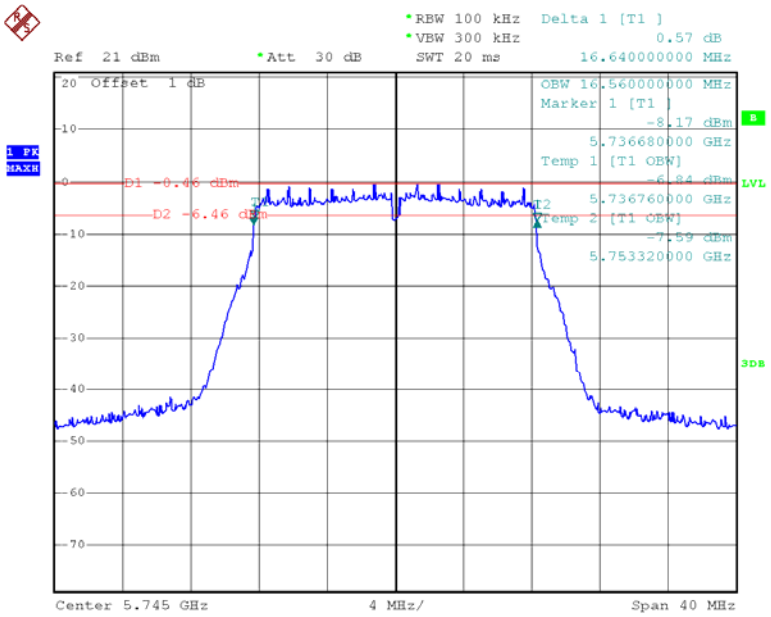
Please refer to the following tables and plots.

Test mode: Transmitting

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limit (kHz)
802.11a mode			
Low	5745	16.64	>500
Middle	5785	16.64	>500
High	5825	16.64	>500
chain 0:802.11n20 mode			
Low	5745	17.84	>500
Middle	5785	17.84	>500
High	5825	17.84	>500
chain 0:802.11n40 mode			
Low	5755	36.8	>500
High	5795	36.8	>500
chain 0:802.11ac vht20 mode			
Low	5745	17.68	>500
Middle	5785	17.84	>500
High	5825	17.84	>500
chain 0:802.11ac vht40 mode			
Low	5755	36.8	>500
High	5795	36.8	>500
chain 0:802.11ac vht80 mode			
Low	5775	76.72	>500
chain 1:802.11n20 mode			
Low	5745	17.84	>500
Middle	5785	17.84	>500
High	5825	17.84	>500
chain 1:802.11n40 mode			
Low	5755	36.8	>500
High	5795	36.8	>500
chain 1:802.11ac vht20 mode			
Low	5745	17.76	>500
Middle	5785	17.84	>500
High	5825	17.84	>500
chain 1:802.11ac vht40 mode			
Low	5755	36.8	>500
High	5795	36.8	>500
chain 1:802.11ac vht80 mode			
Low	5775	76.72	>500
chain 2:802.11n20 mode			
Low	5745	17.84	>500
Middle	5785	17.84	>500
High	5825	17.84	>500

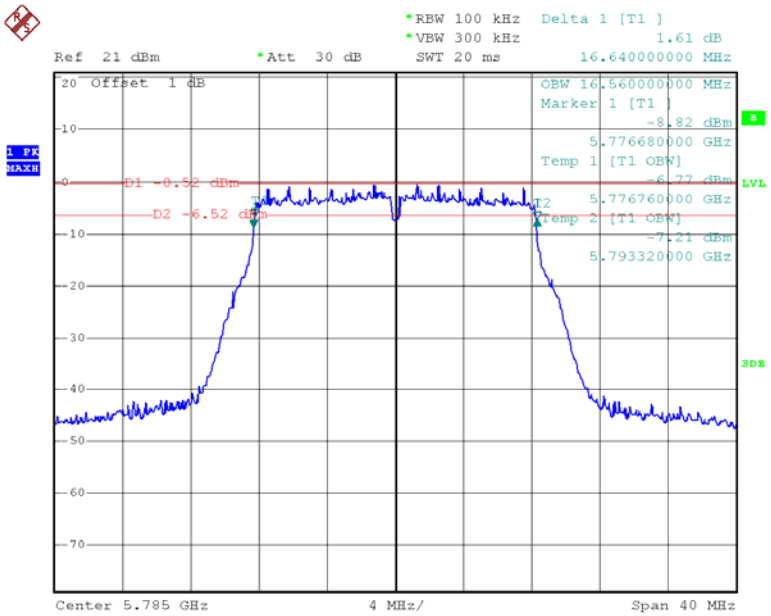
chain 2:802.11n40 mode			
Low	5755	36.8	>500
High	5795	36.8	>500
chain 2:802.11ac vht20 mode			
Low	5745	17.76	>500
Middle	5785	17.84	>500
High	5825	17.76	>500
chain 2:802.11ac vht40 mode			
Low	5755	36.8	>500
High	5795	36.8	>500
chain 2:802.11ac vht80 mode			
Low	5775	76.72	>500

802.11a Low Channel



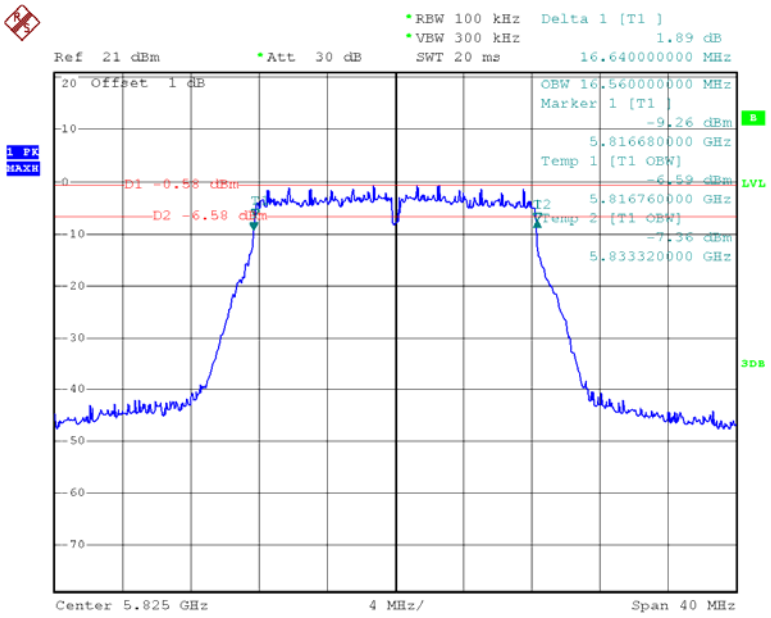
Date: 25.FEB.2013 11:29:25

802.11a Middle Channel



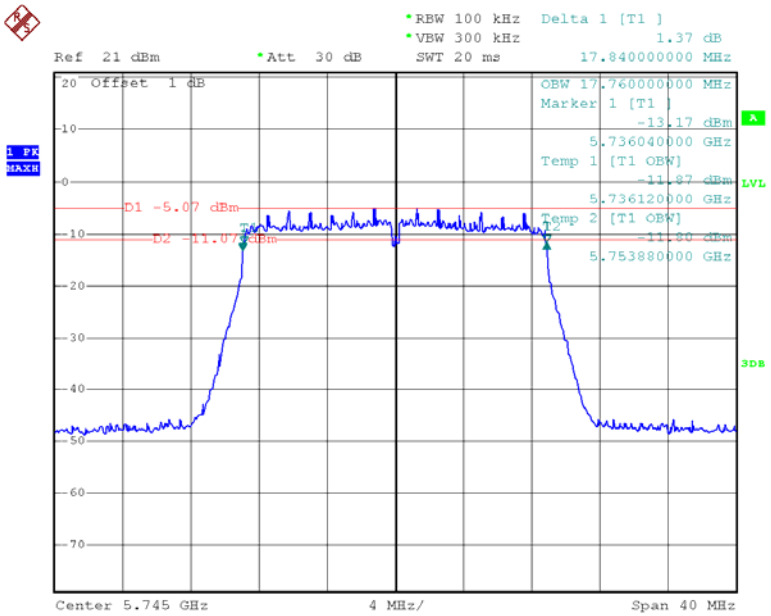
Date: 25.FEB.2013 11:39:09

802.11a High Channel



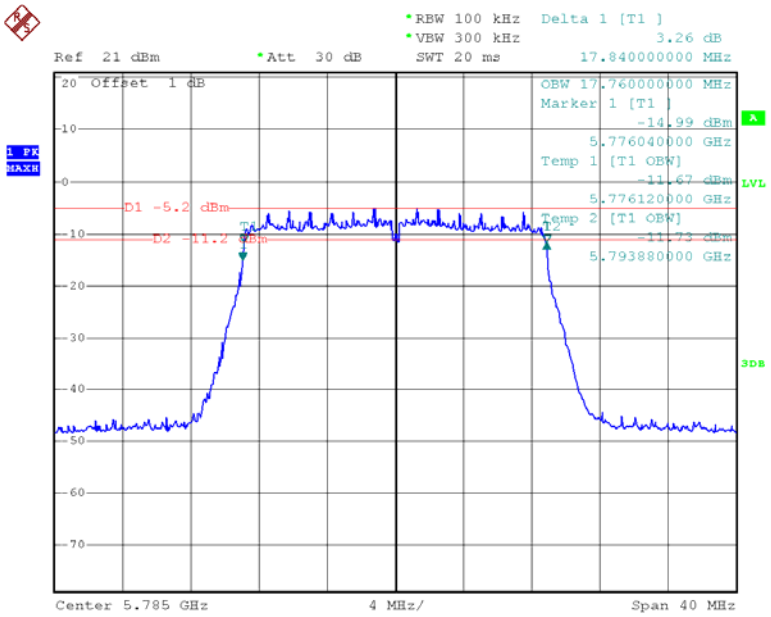
Date: 25.FEB.2013 11:42:56

Chain 0:802.11n20 Low Channel



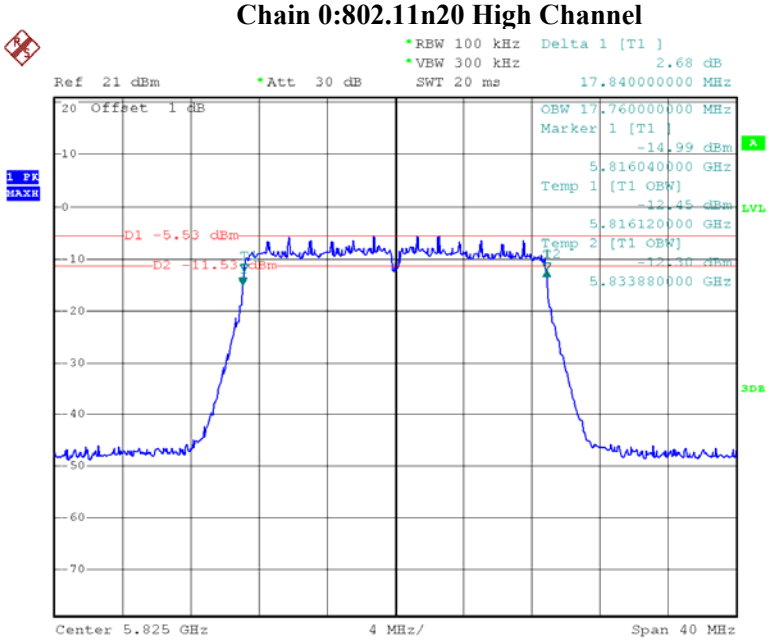
Date: 28.FEB.2013 14:55:28

Chain 0:802.11n20 Middle Channel



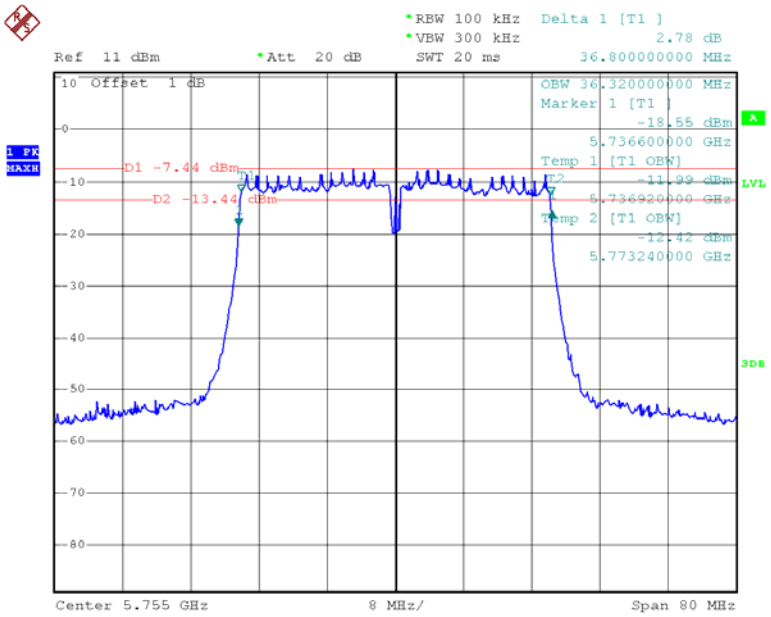
Date: 28.FEB.2013 15:06:37

Chain 0:802.11n20 High Channel



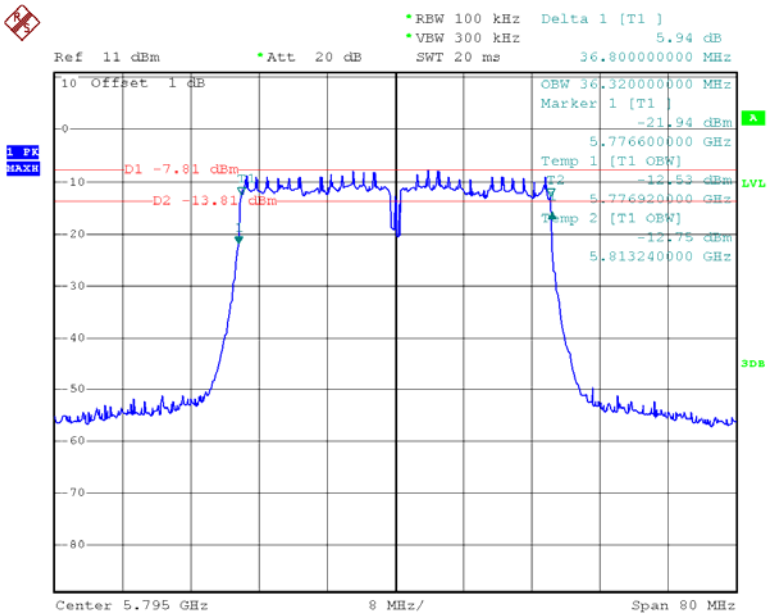
Date: 28.FEB.2013 15:12:43

Chain 0:802.11n40 Low Channel



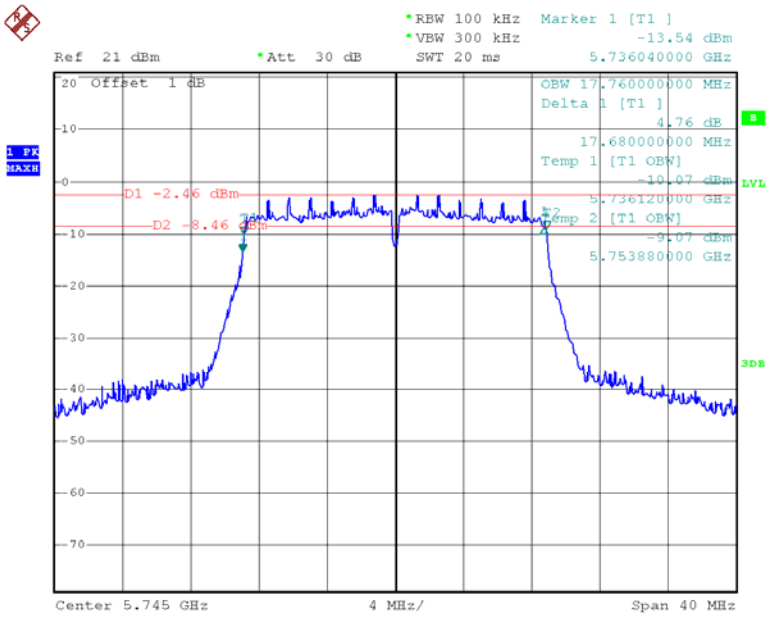
Date: 28.FEB.2013 15:23:16

Chain 0:802.11n40 High Channel



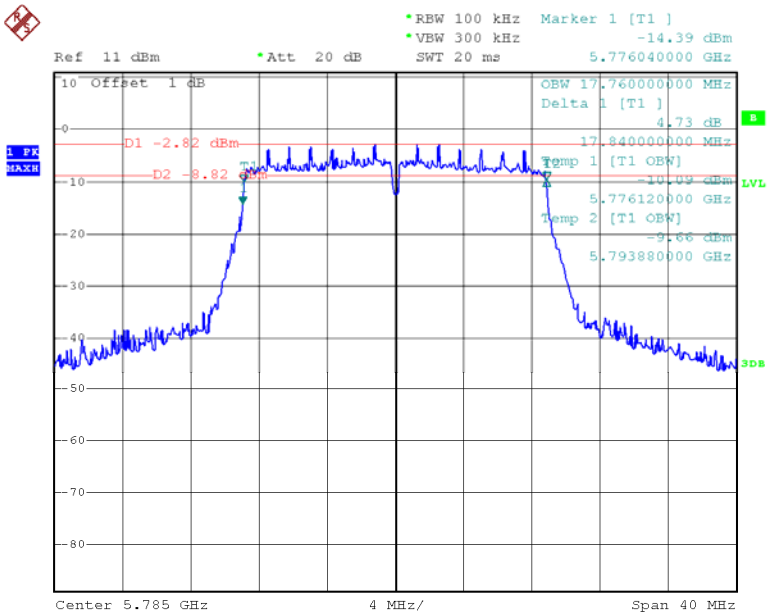
Date: 28.FEB.2013 15:40:09

Chain 0:802.11 ac20 Low Channel



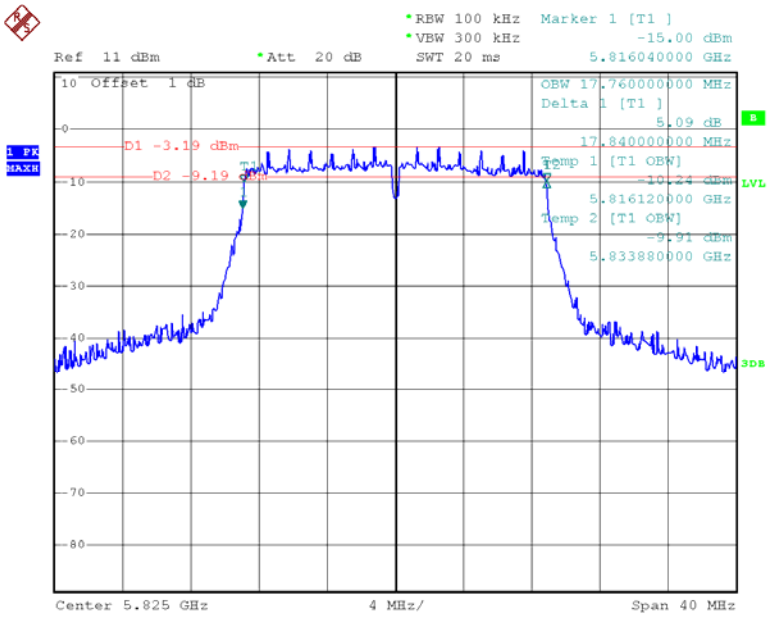
Date: 13.MAR.2013 15:37:35

Chain 0:802.11ac20 Middle Channel



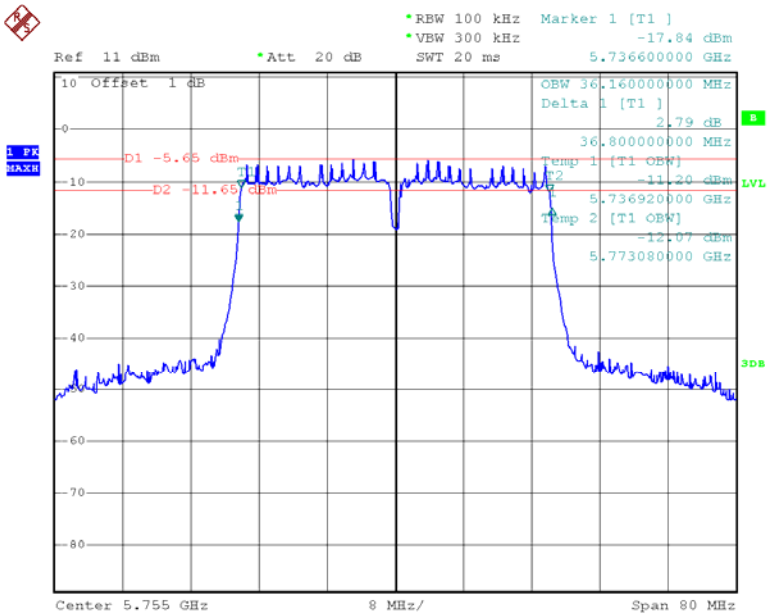
Date: 13.MAR.2013 15:57:07

Chain 0:802.11ac20 High Channel



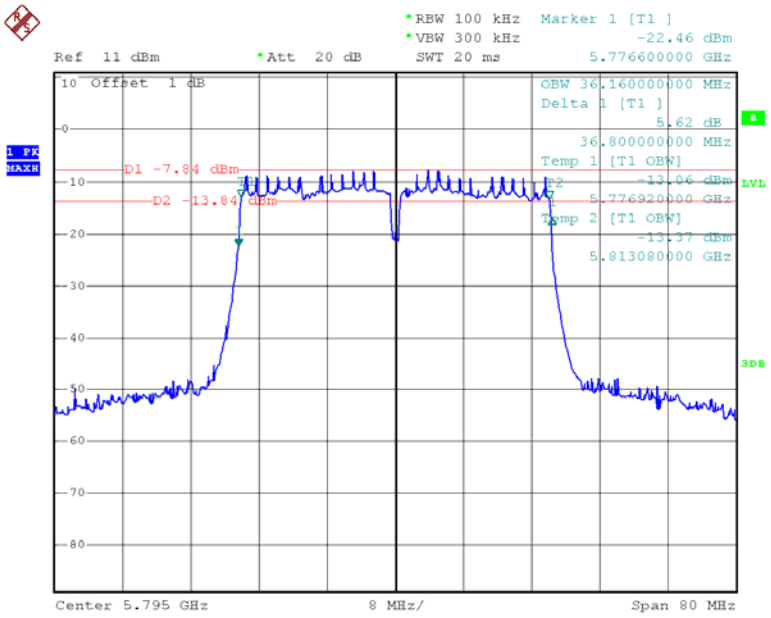
Date: 13.MAR.2013 16:18:51

Chain 0:802.11ac40 Low Channel



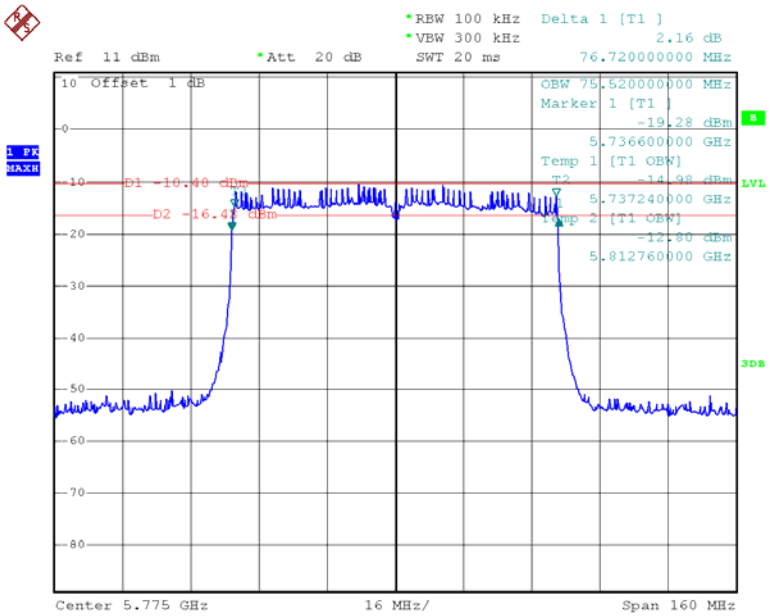
Date: 13.MAR.2013 16:29:35

Chain 0:802.11ac40 High Channel



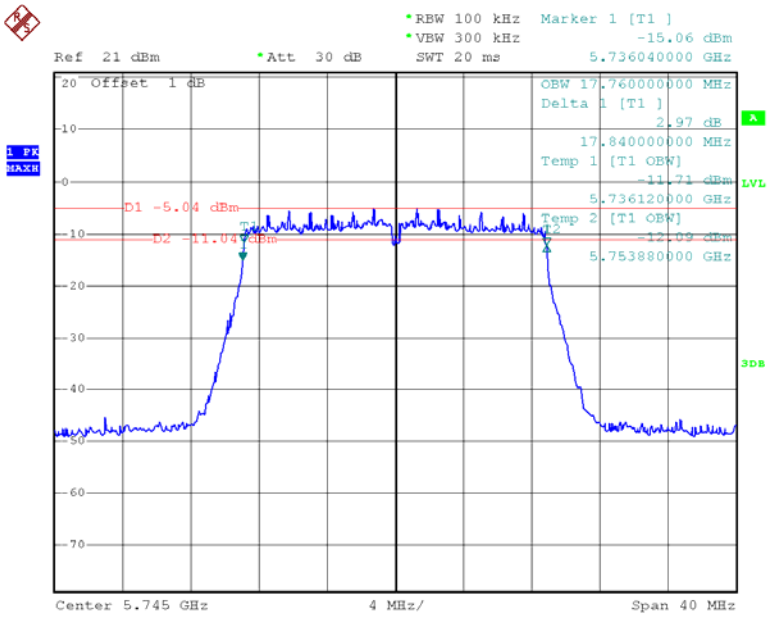
Date: 13.MAR.2013 16:49:55

Chain 0:802.11ac80



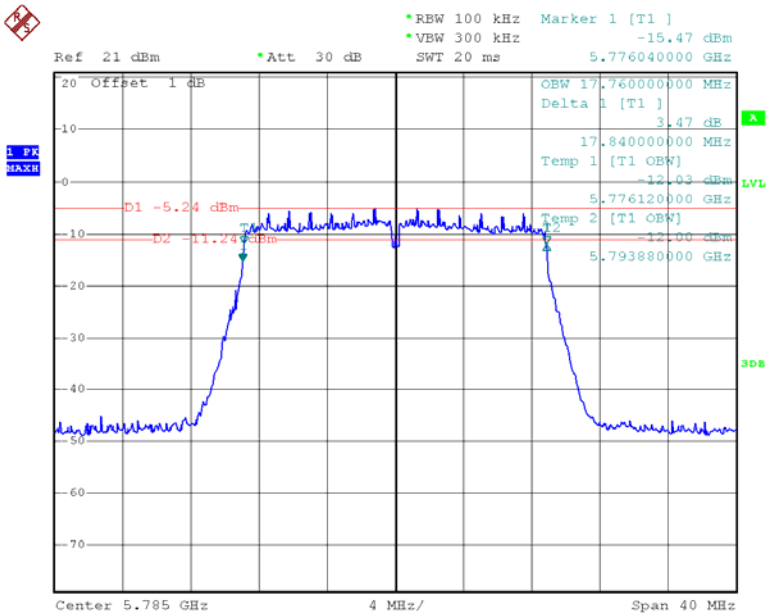
Date: 25.FEB.2013 13:10:05

Chain 1:802.11n20 Low Channel



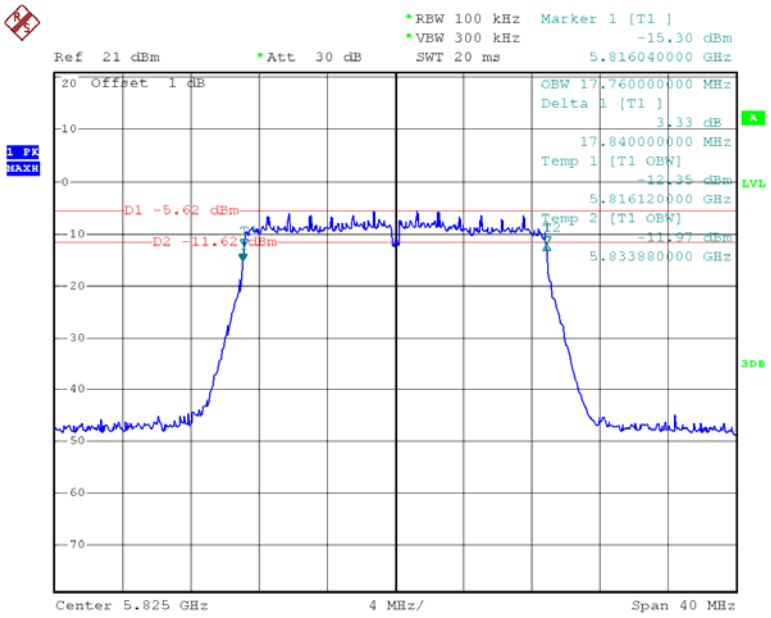
Date: 28.FEB.2013 14:55:59

Chain 1:802.11n20 Middle Channel



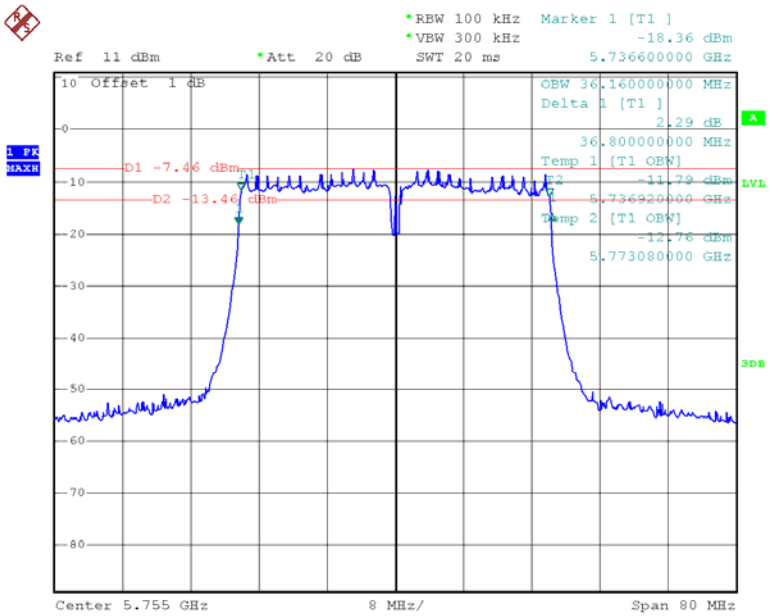
Date: 28.FEB.2013 15:07:09

Chain 1:802.11n20 High Channel



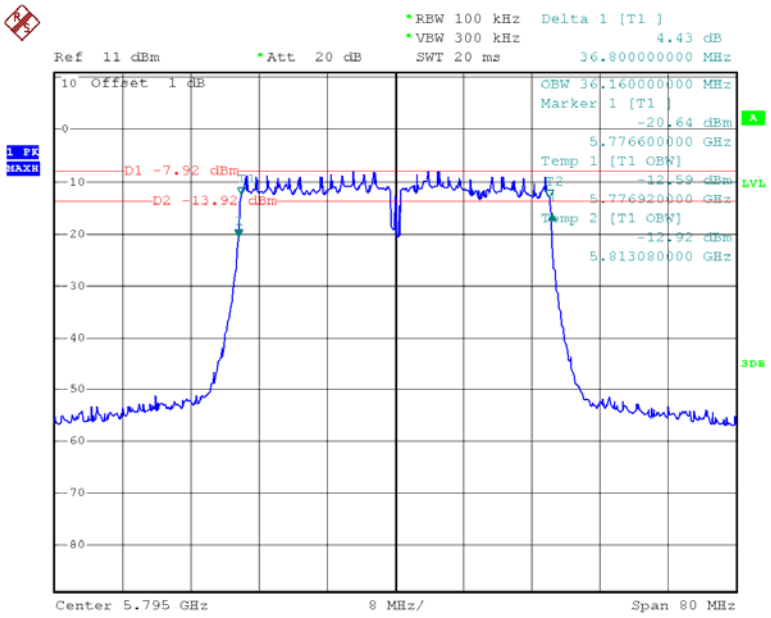
Date: 28.FEB.2013 15:14:02

Chain 1:802.11n40 Low Channel



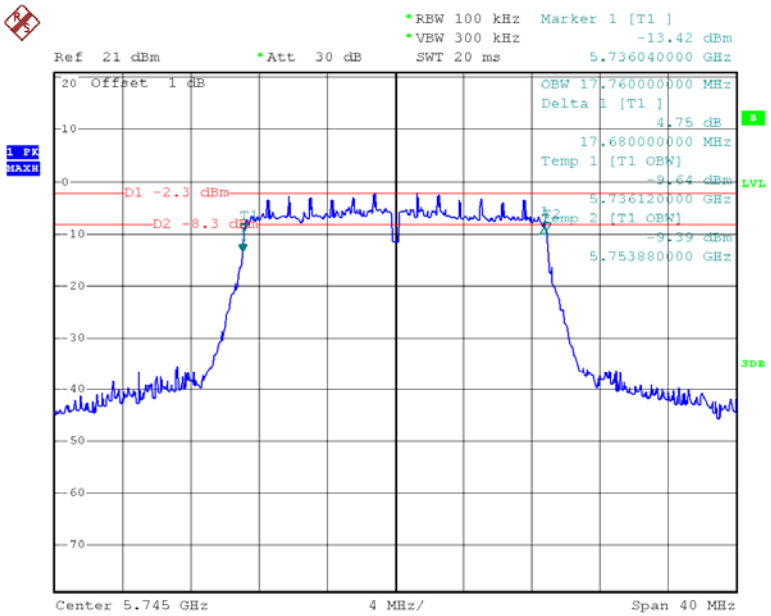
Date: 28.FEB.2013 15:24:10

Chain 1:802.11n40 High Channel



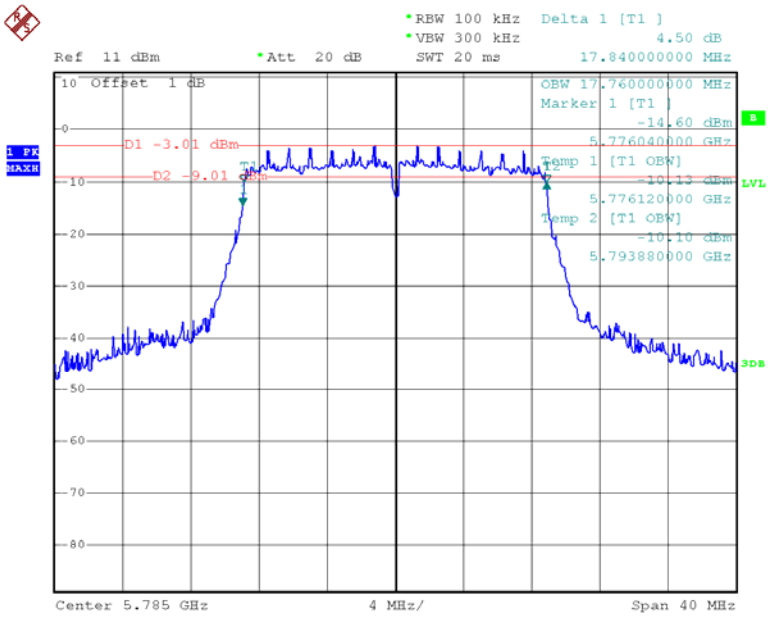
Date: 28.FEB.2013 15:40:46

Chain 1:802.11 ac20 Low Channel



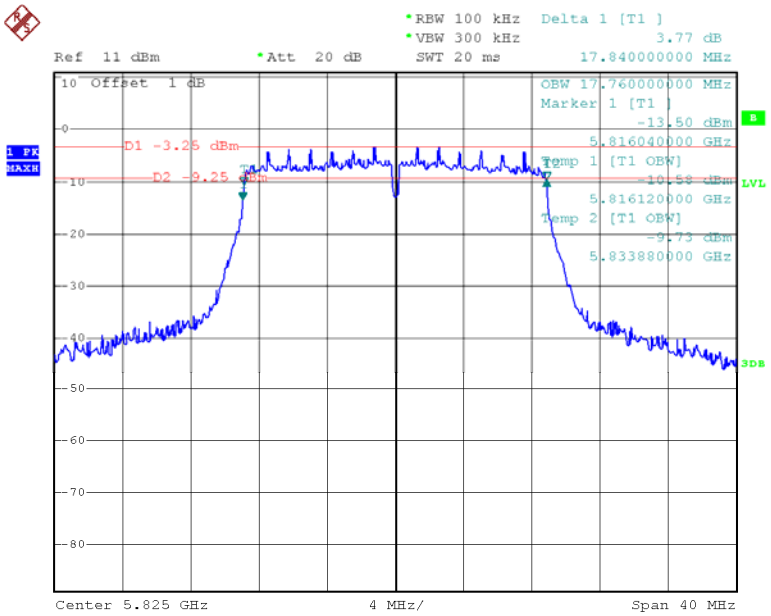
Date: 13.MAR.2013 15:38:33

Chain 1:802.11ac20 Middle Channel



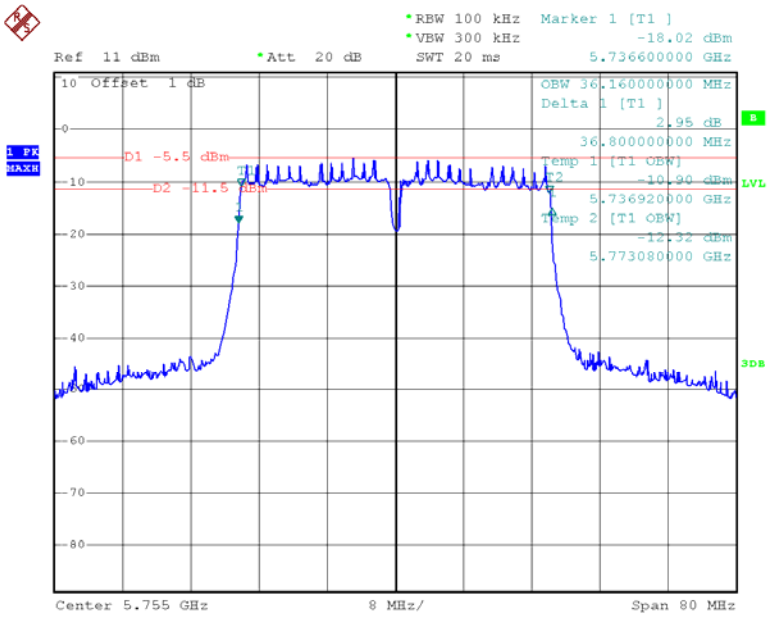
Date: 13.MAR.2013 15:55:28

Chain 1:802.11ac20 High Channel



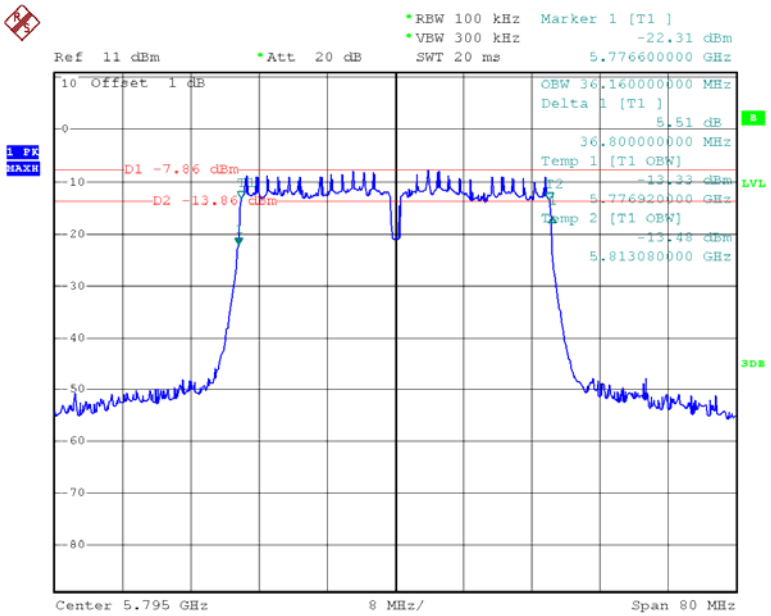
Date: 13.MAR.2013 16:17:48

Chain 1:802.11ac40 Low Channel



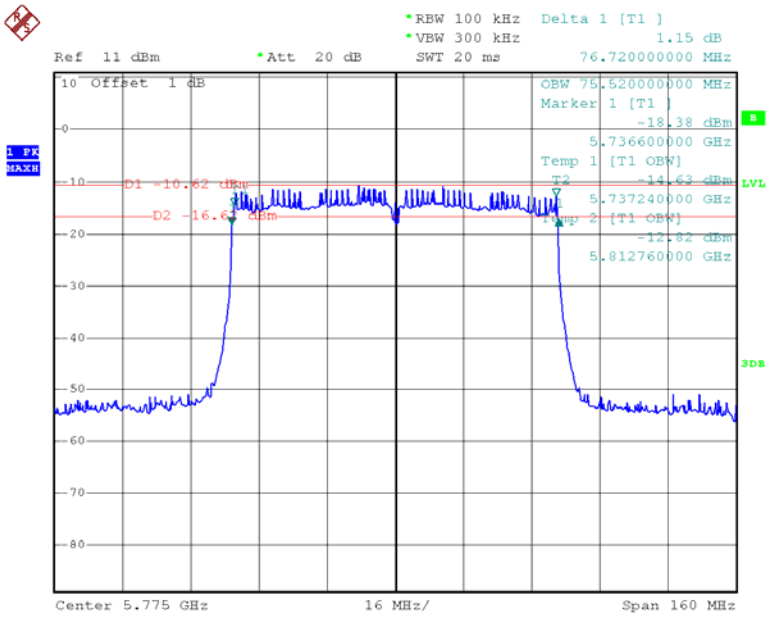
Date: 13.MAR.2013 16:28:17

Chain 1:802.11ac40 High Channel



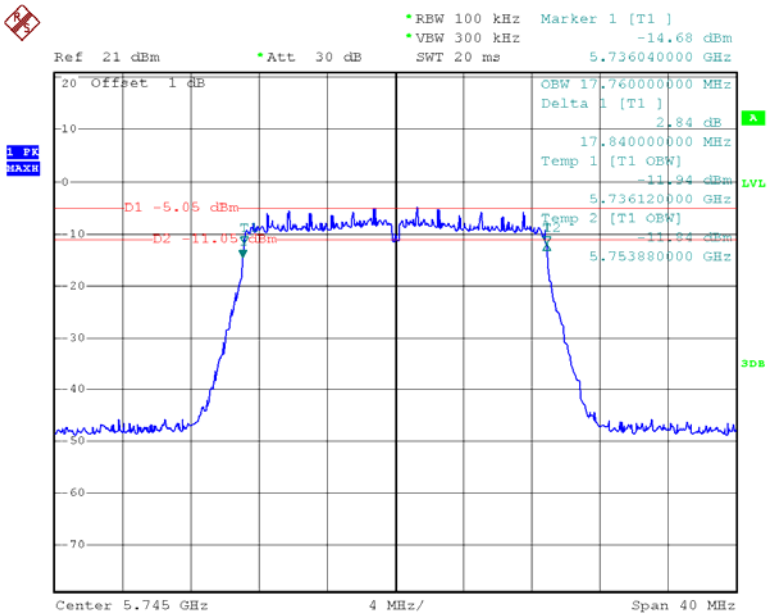
Date: 13.MAR.2013 16:50:31

Chain 1:802.11ac80



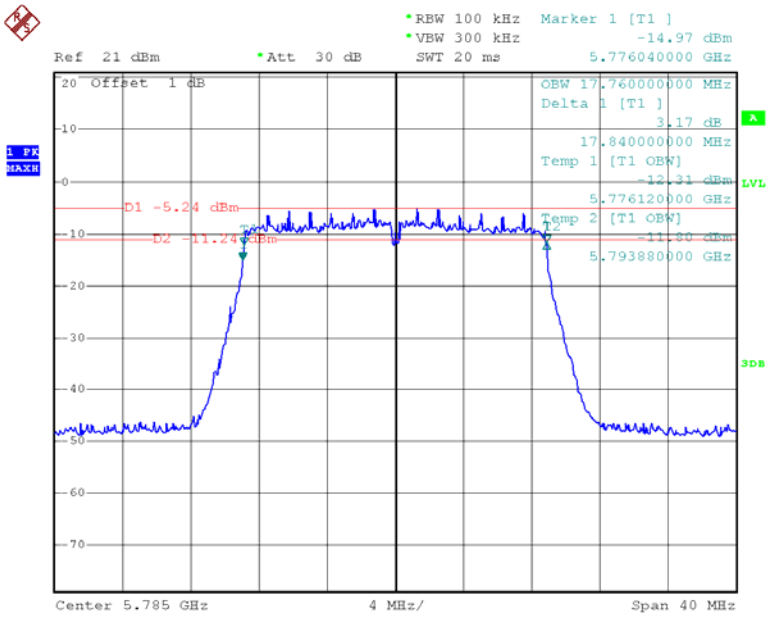
Date: 25.FEB.2013 13:16:15

Chain 2:802.11n20 Low Channel



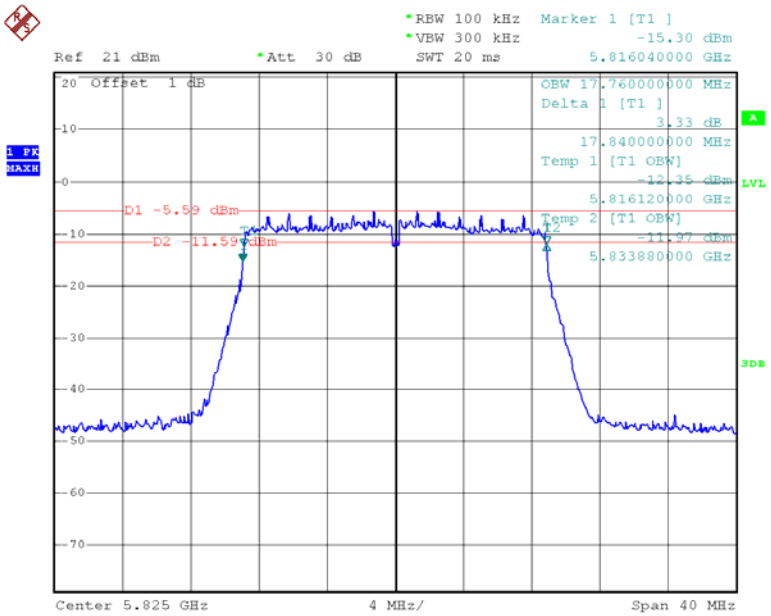
Date: 28.FEB.2013 14:56:37

Chain 2:802.11n20 Middle Channel



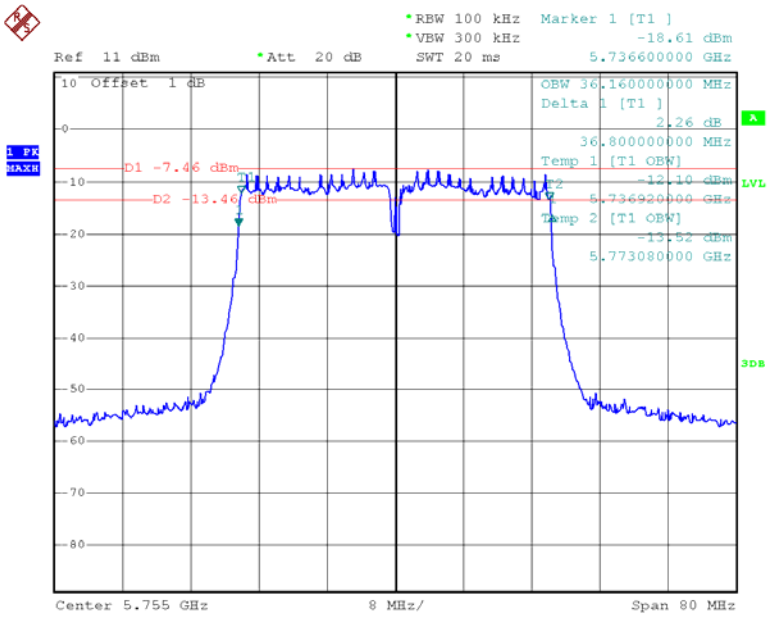
Date: 28.FEB.2013 15:07:32

Chain 2:802.11n20 High Channel



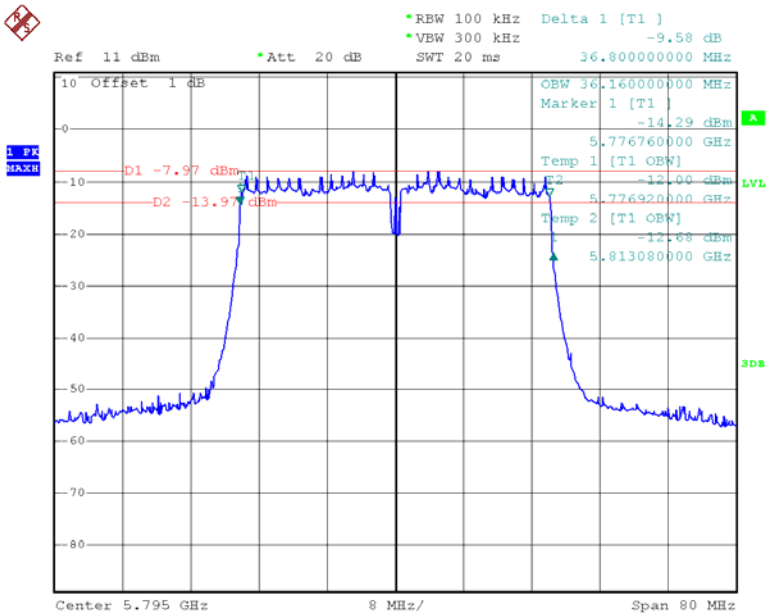
Date: 28.FEB.2013 15:14:26

Chain 2:802.11n40 Low Channel



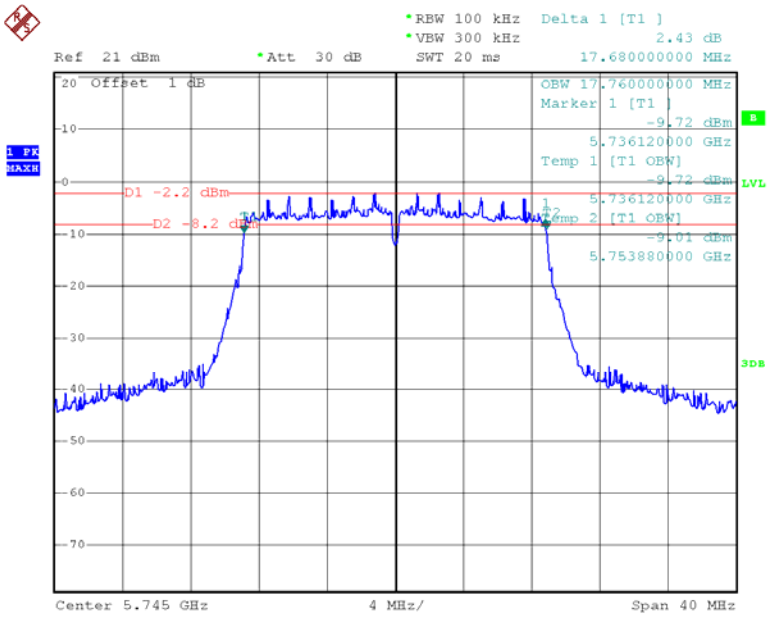
Date: 28.FEB.2013 15:24:31

Chain 2:802.11n40 High Channel



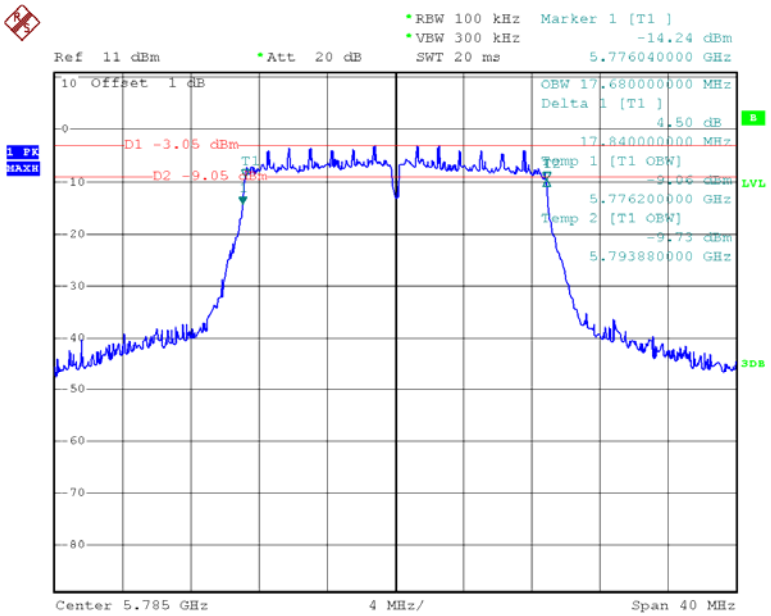
Date: 28.FEB.2013 15:41:22

Chain 2:802.11 ac20 Low Channel



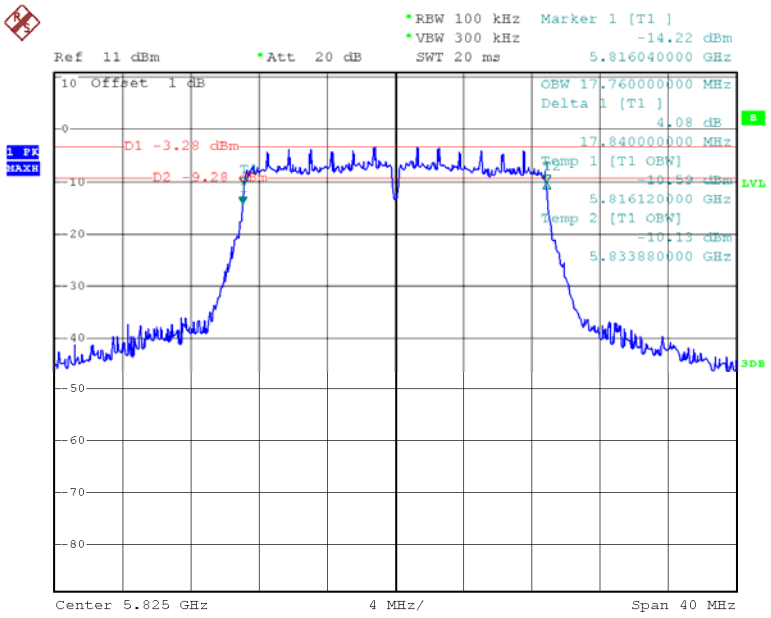
Date: 13.MAR.2013 15:39:23

Chain 2:802.11ac20 Middle Channel



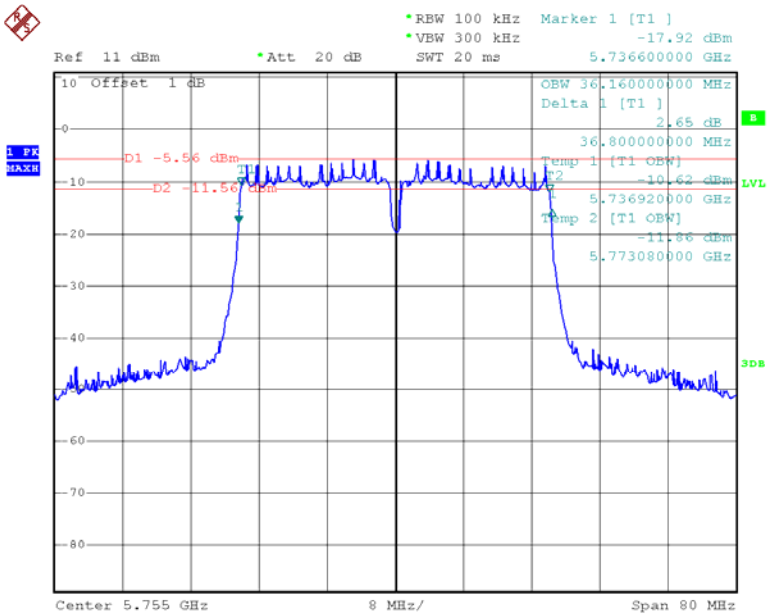
Date: 13.MAR.2013 15:56:23

Chain 2:802.11ac20 High Channel



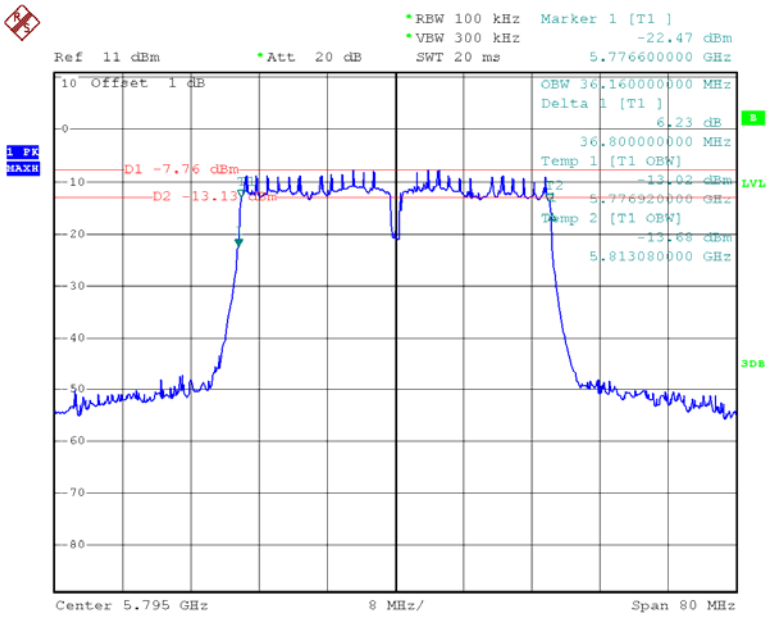
Date: 13.MAR.2013 16:18:20

Chain 2:802.11ac40 Low Channel



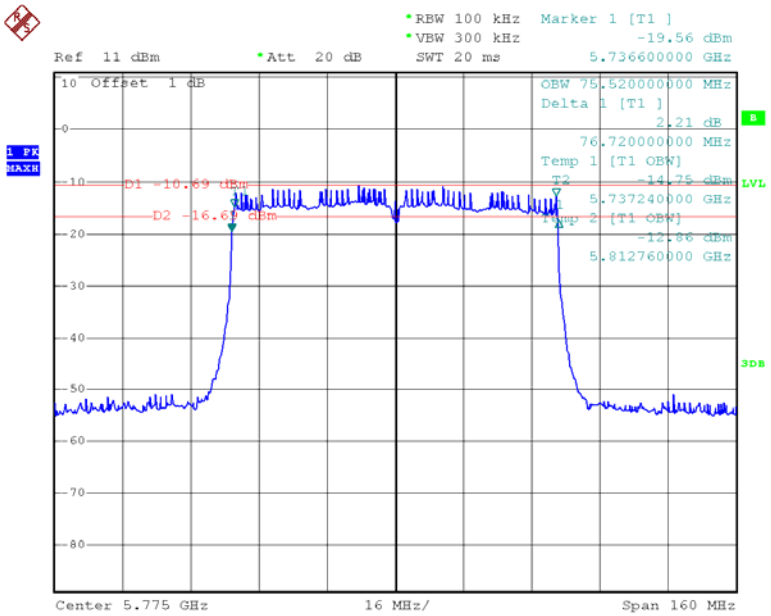
Date: 13.MAR.2013 16:28:59

Chain 2:802.11ac40 High Channel



Date: 13.MAR.2013 16:48:59

Chain 2:802.11ac80



Date: 25.FEB.2013 13:17:08

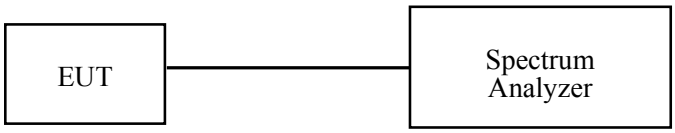
FCC §15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to an EMI Test Receiver.
3. Add a correction factor to the display.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Data

Environmental Conditions

Temperature:	23.4 ° C~26.8 ° C
Relative Humidity:	29%~63%
ATM Pressure:	100.8kPa~101.9kPa

The testing was performed by Leon Chen from 2013-02-25 to 2013-03-13.

Test Mode: Transmitting

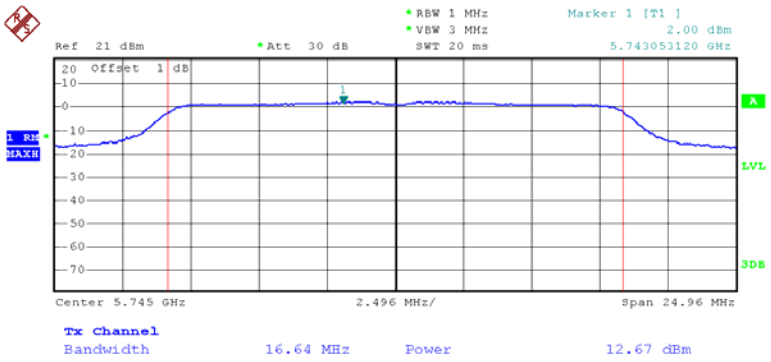
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
802.11a mode				
Low	5745	12.67	30	PASS
Middle	5785	12.14	30	PASS
High	5825	11.93	30	PASS
chain 0:802.11n ht20 mode				
Low	5745	7.41	30	PASS
Middle	5785	7.28	30	PASS
High	5825	7.19	30	PASS
chain 1:802.11n ht20 mode				
Low	5745	7.29	30	PASS
Middle	5785	7.15	30	PASS
High	5825	7.12	30	PASS
chain 2:802.11n ht20 mode				
Low	5745	7.04	30	PASS
Middle	5785	7.12	30	PASS
High	5825	7.10	30	PASS
chain 0:802.11n ht40 mode				
Low	5755	7.21	30	PASS
High	5795	7.19	30	PASS
chain 1:802.11n ht40 mode				
Low	5755	7.13	30	PASS
High	5795	7.14	30	PASS
chain 2:802.11n ht40 mode				
Low	5755	7.05	30	PASS
High	5795	7.08	30	PASS
chain 0:802.11ac vht20 mode				
Low	5745	8.40	30	PASS
Middle	5785	7.91	30	PASS
High	5825	7.67	30	PASS
chain 1:802.11 ac vht20 mode				
Low	5745	8.23	30	PASS
Middle	5785	8.03	30	PASS
High	5825	7.71	30	PASS
chain 2:802.11 ac vht20 mode				
Low	5745	8.33	30	PASS
Middle	5785	7.95	30	PASS
High	5825	7.67	30	PASS
chain 0:802.11 ac vht40 mode				
Low	5755	7.00	30	PASS
High	5795	6.42	30	PASS
chain 1:802.11 ac vht40 mode				
Low	5755	7.04	30	PASS
High	5795	6.41	30	PASS
chain 2:802.11 ac vht40 mode				
Low	5755	7.04	30	PASS
High	5795	6.30	30	PASS

chain 0:802.11ac 80 mode				
Low	5775	7.51	30	PASS
chain 1:802.11ac 80 mode				
Low	5775	7.37	30	PASS
chain 2:802.11ac 80 mode				
Low	5775	7.29	30	PASS

Total power: chain 0+ chain 1+chain2

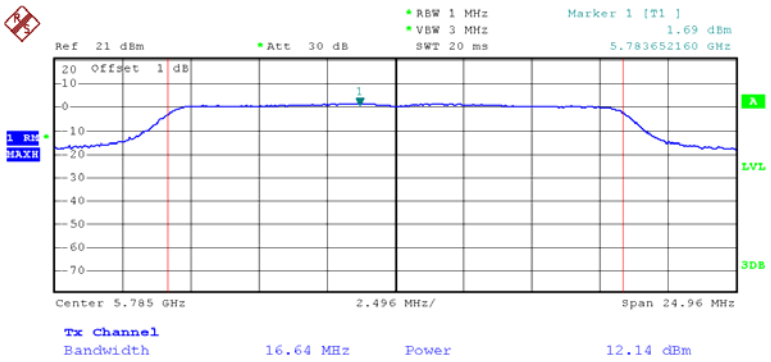
Channel	Frequency (MHz)	Conducted Output Power (dBm)	Limit (dBm)	Result
Total:802.11n ht20 mode				
Low	5745	12.02	30	PASS
Middle	5785	11.96	30	PASS
High	5825	11.91	30	PASS
Total:802.11n ht40 mode				
Low	5755	11.90	30	PASS
High	5795	11.91	30	PASS
Total:802.11ac vht20 mode				
Low	5745	13.09	30	PASS
Middle	5785	12.73	30	PASS
High	5825	12.45	30	PASS
Total:802.11ac vht40 mode				
Low	5755	11.80	30	PASS
High	5795	11.15	30	PASS
Total:802.11ac80 mode				
Low	5775	12.16	30	PASS

802.11a RF Output Power, Low Channel



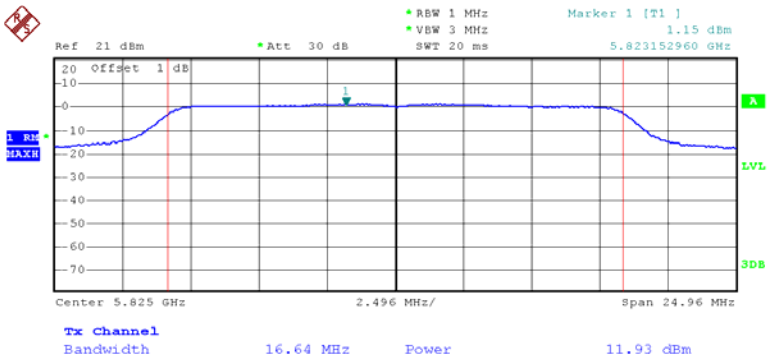
Date: 14.MAR.2013 08:38:34

802.11a RF Output Power, Middle Channel



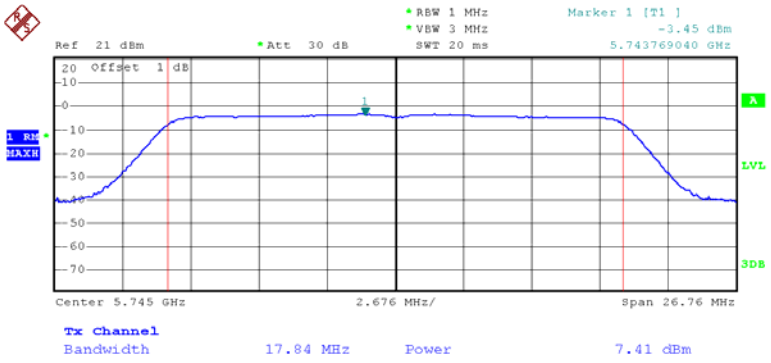
Date: 14.MAR.2013 08:38:03

802.11a RF Output Power, High Channel



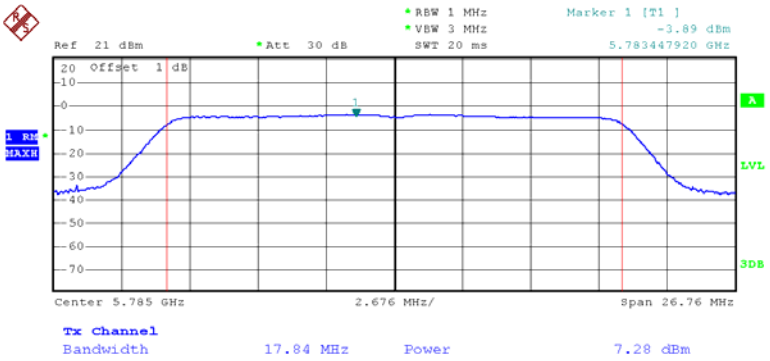
Date: 14.MAR.2013 08:37:40

Chain 0:802.11n20 RF Output Power, Low Channel



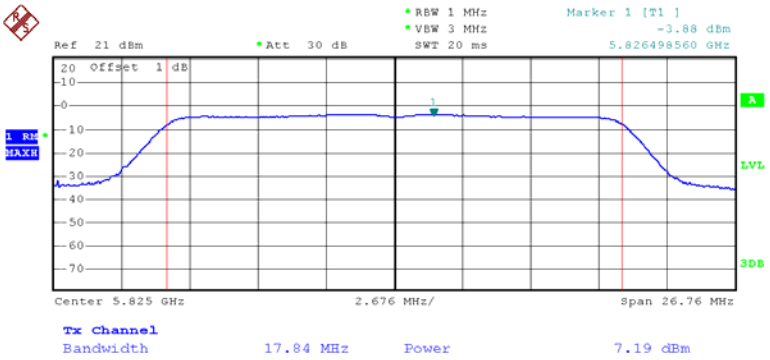
Date: 14.MAR.2013 08:40:39

Chain 0:802.11n20 RF Output Power, Middle Channel



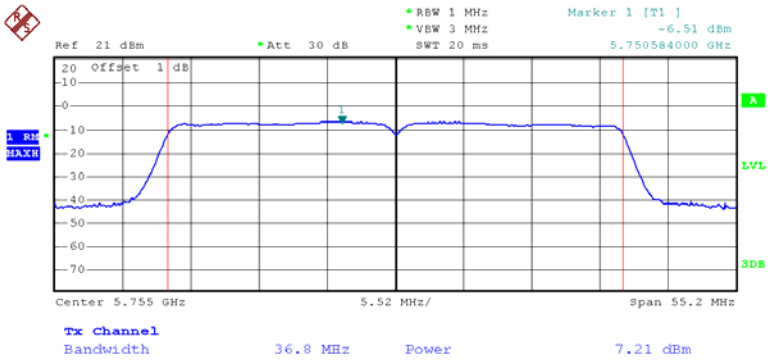
Date: 14.MAR.2013 08:41:52

Chain 0:802.11n20 RF Output Power, High Channel



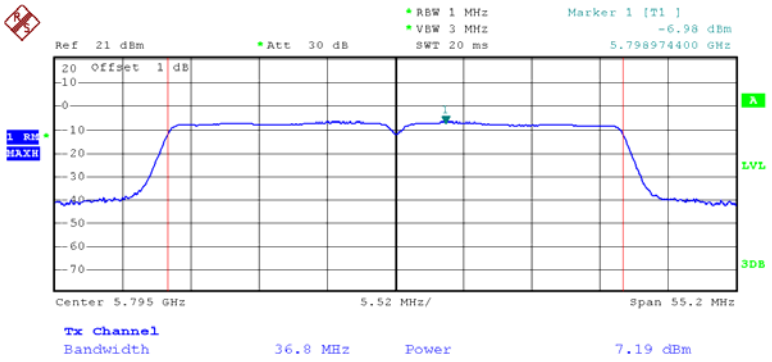
Date: 14.MAR.2013 08:42:29

Chain 0:802.11n40 RF Output Power, Low Channel



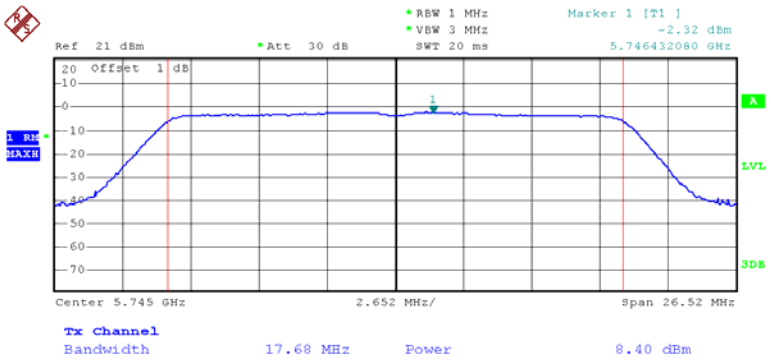
Date: 14.MAR.2013 08:44:54

Chain 0:802.11n40 RF Output Power, High Channel



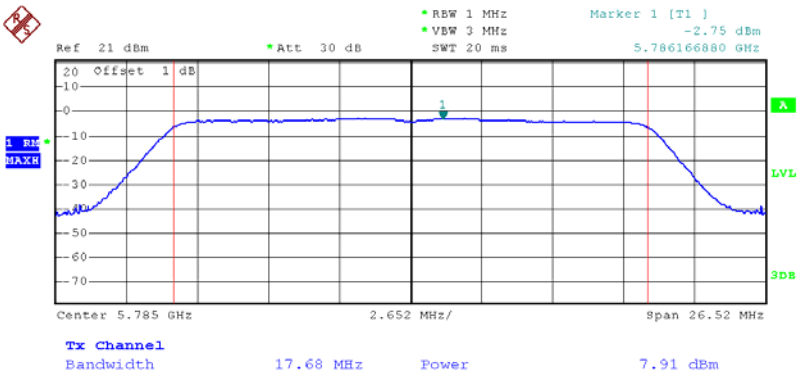
Date: 14.MAR.2013 08:46:08

Chain 0:802.11 ac20 RF Output Power, Low Channel



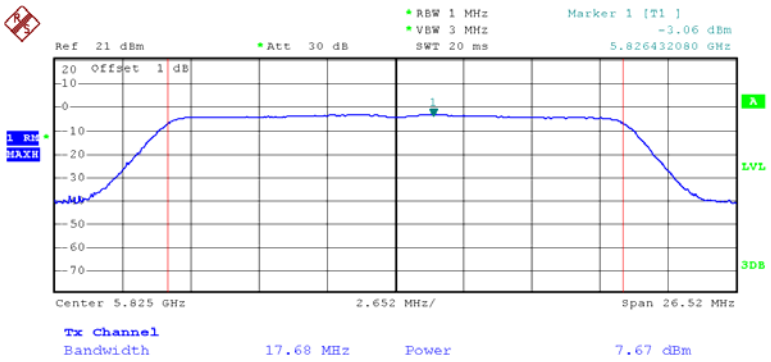
Date: 13.MAR.2013 17:05:35

Chain 0:802.11 ac20 RF Output Power, Middle Channel



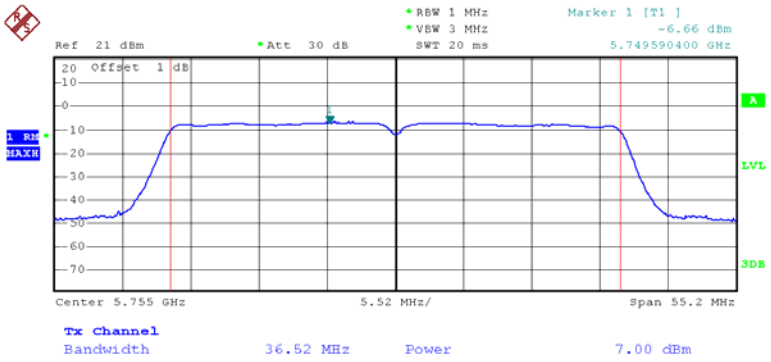
Date: 13.MAR.2013 17:08:19

Chain 0:802.11 ac20 RF Output Power, High Channel



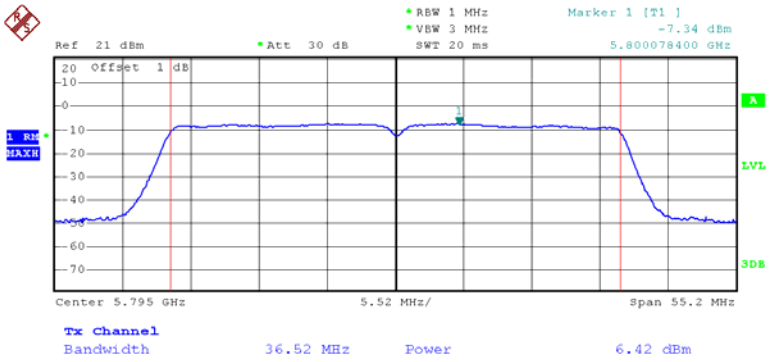
Date: 13.MAR.2013 17:09:52

Chain 0:802.11 ac40 RF Output Power, Low Channel



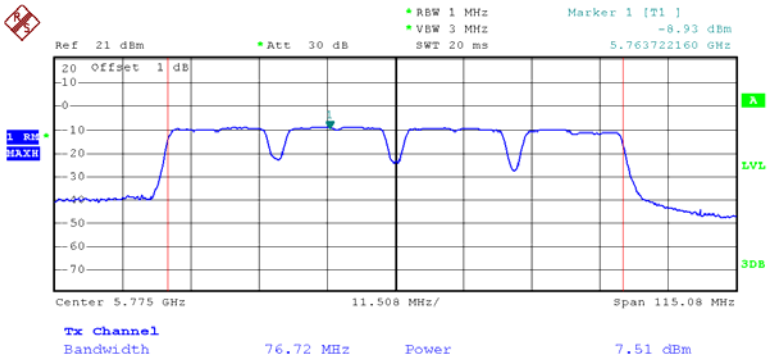
Date: 13.MAR.2013 16:47:01

Chain 0:802.11 ac40 RF Output Power, High Channel



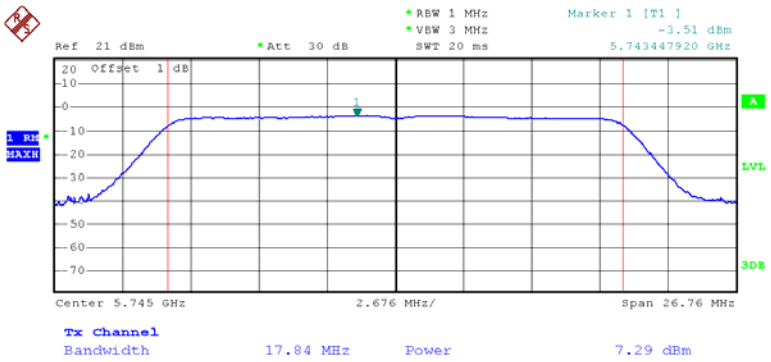
Date: 13.MAR.2013 16:47:50

Chain 0:802.11ac80 RF Output Power



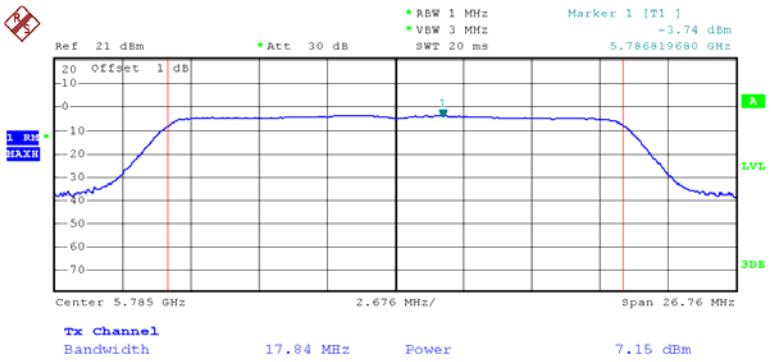
Date: 14.MAR.2013 08:48:12

Chain 1:802.11n20 RF Output Power, Low Channel



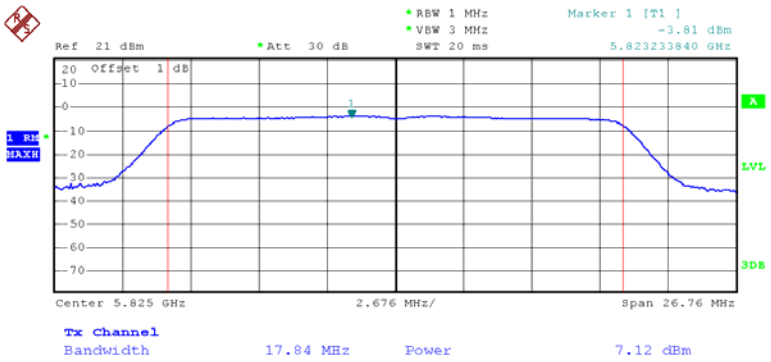
Date: 14.MAR.2013 08:40:54

Chain 1:802.11n20 RF Output Power, Middle Channel



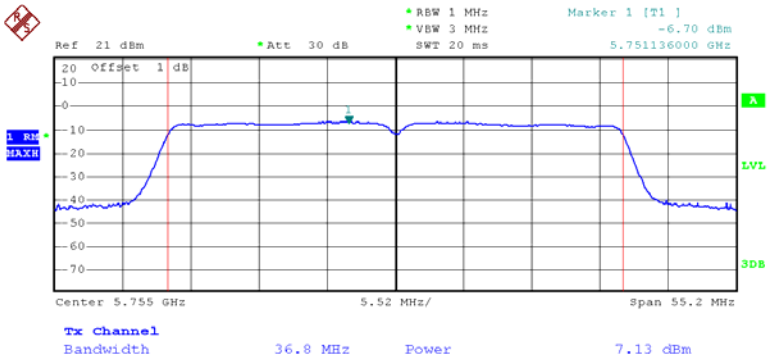
Date: 14.MAR.2013 08:41:57

Chain 1:802.11n20 RF Output Power, High Channel



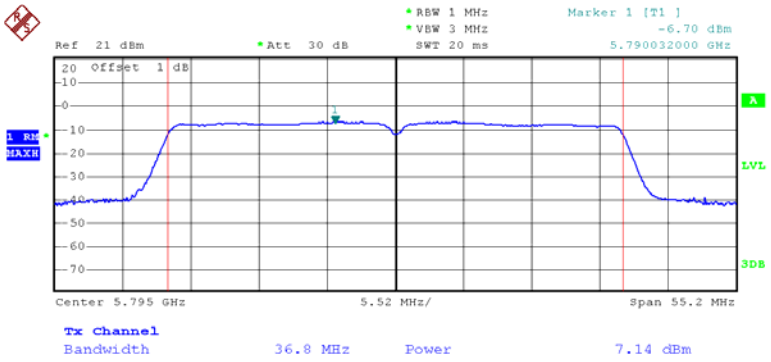
Date: 14.MAR.2013 08:42:33

Chain 1:802.11n40 RF Output Power, Low Channel



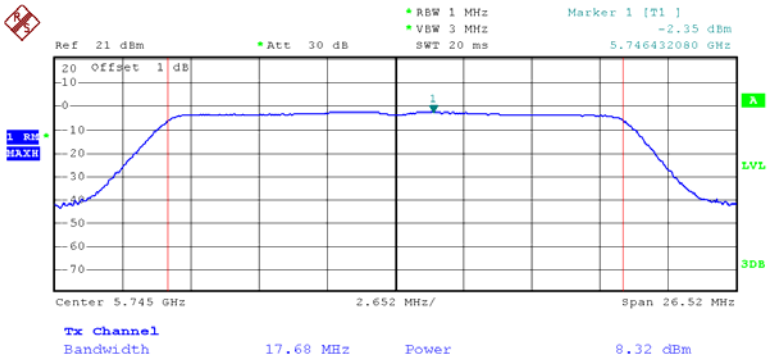
Date: 14.MAR.2013 08:45:01

Chain 1:802.11n40 RF Output Power, High Channel



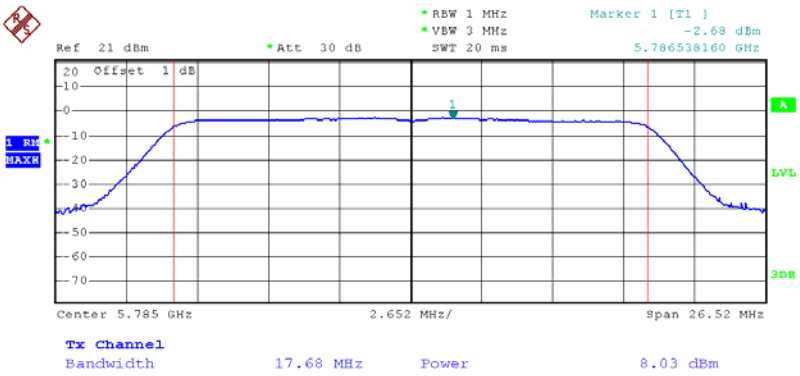
Date: 14.MAR.2013 08:46:19

Chain 1:802.11 ac20 RF Output Power, Low Channel



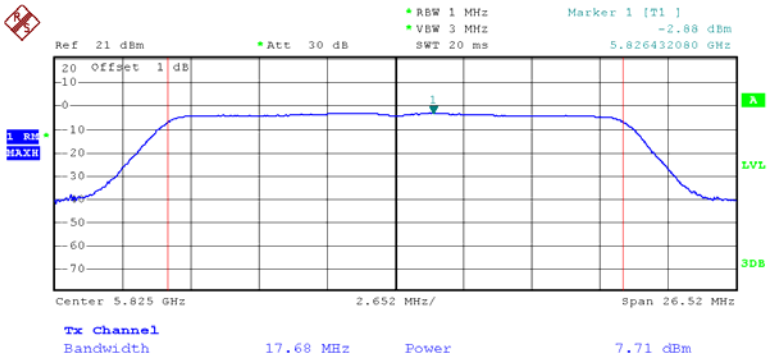
Date: 13.MAR.2013 17:05:44

Chain 1:802.11 ac20 RF Output Power, Middle Channel



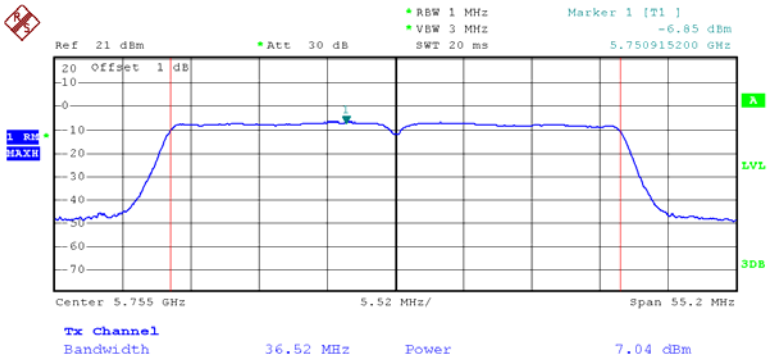
Date: 13.MAR.2013 17:07:56

Chain 1:802.11 ac20 RF Output Power, High Channel



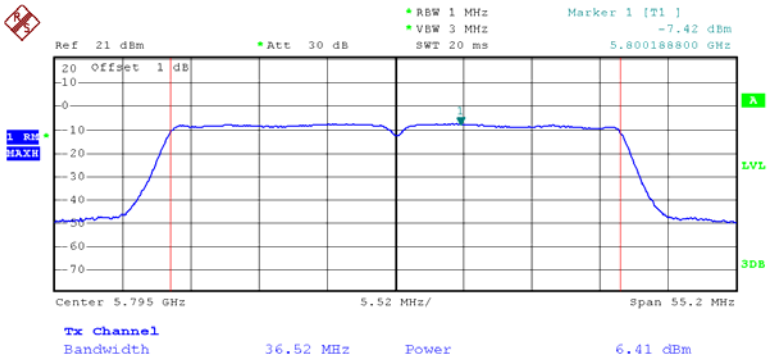
Date: 13.MAR.2013 17:09:31

Chain 1:802.11 ac40 RF Output Power, Low Channel



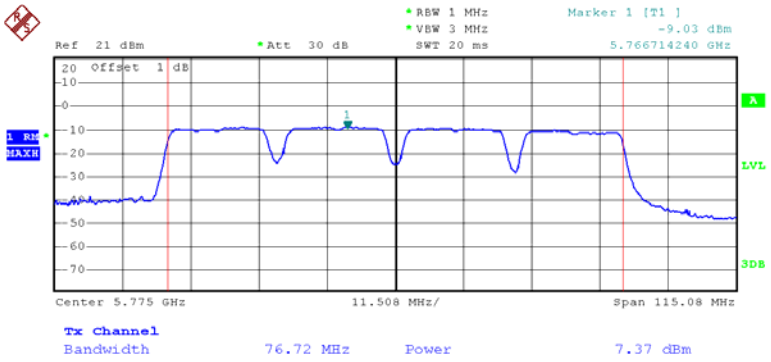
Date: 13.MAR.2013 16:46:40

Chain 1:802.11 ac40 RF Output Power, High Channel



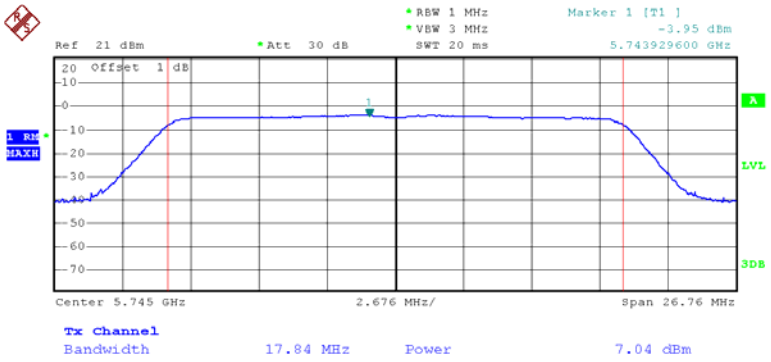
Date: 13.MAR.2013 16:47:27

Chain 1:802.11ac80 RF Output Power



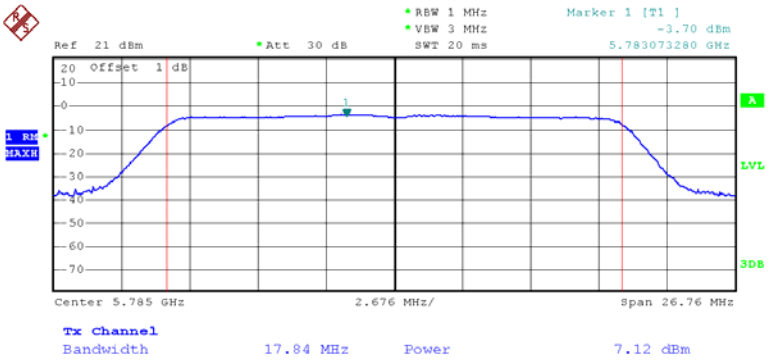
Date: 14.MAR.2013 08:48:17

Chain 2:802.11n20 RF Output Power, Low Channel



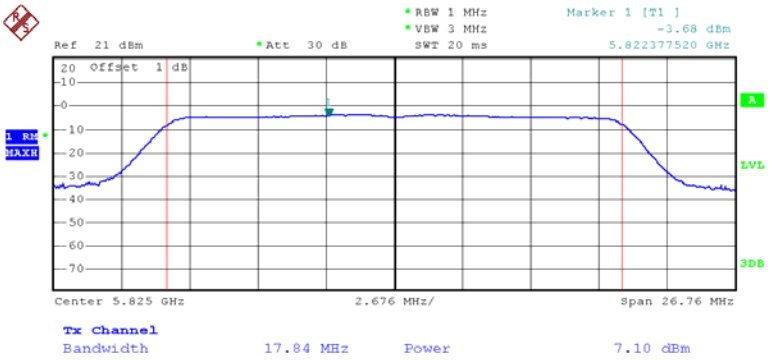
Date: 14.MAR.2013 08:41:15

Chain 2:802.11n20 RF Output Power, Middle Channel



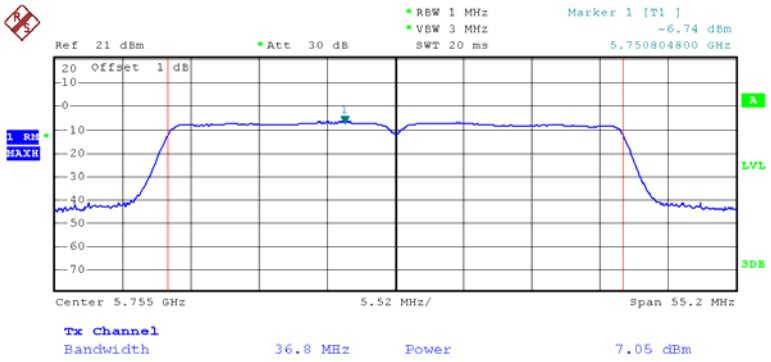
Date: 14.MAR.2013 08:42:02

Chain 2:802.11n20 RF Output Power, High Channel



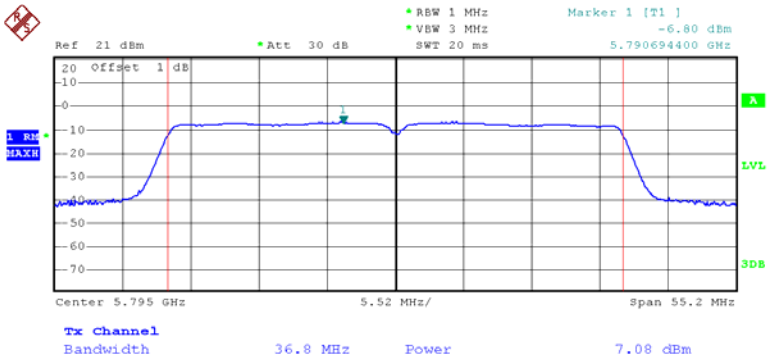
Date: 14.MAR.2013 08:42:38

Chain 2:802.11n40 RF Output Power, Low Channel



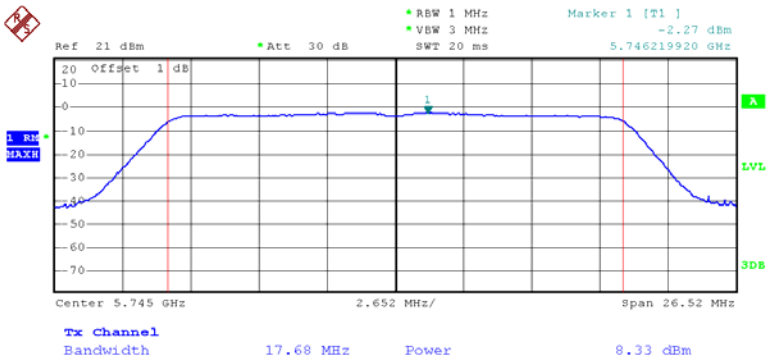
Date: 14.MAR.2013 08:45:07

Chain 2:802.11n40 RF Output Power, High Channel



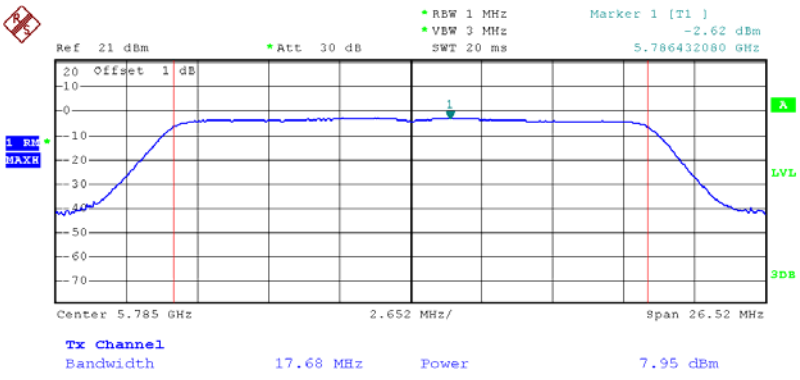
Date: 14.MAR.2013 08:46:32

Chain 2:802.11 ac20 RF Output Power, Low Channel



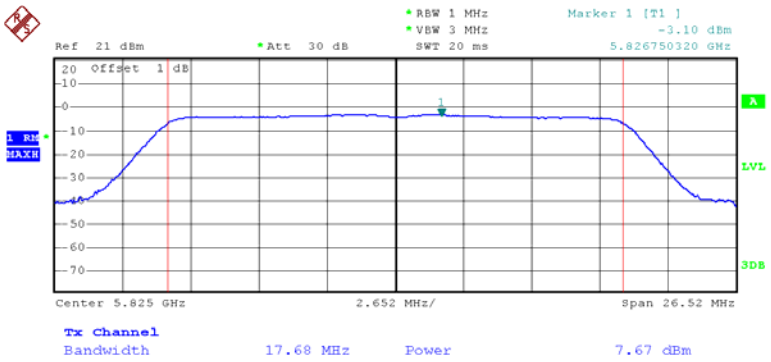
Date: 13.MAR.2013 17:05:57

Chain 2:802.11 ac20 RF Output Power, Middle Channel



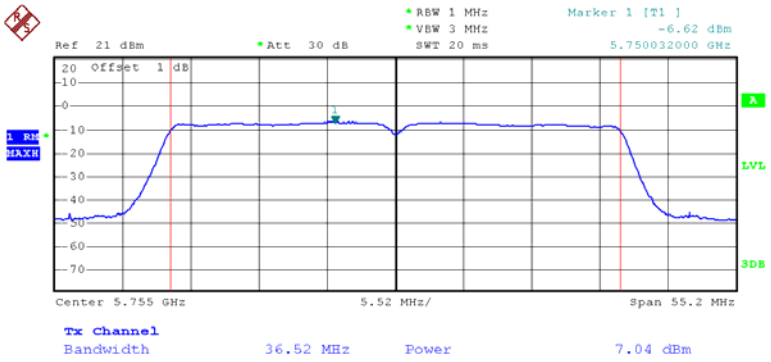
Date: 13.MAR.2013 17:08:04

Chain 2:802.11 ac20 RF Output Power, High Channel



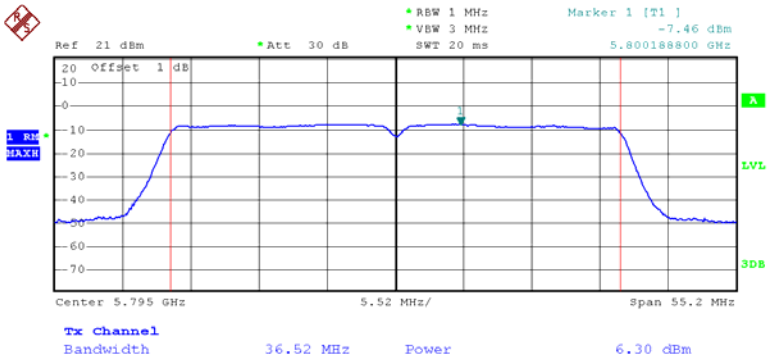
Date: 13.MAR.2013 17:09:41

Chain 2:802.11 ac40 RF Output Power, Low Channel



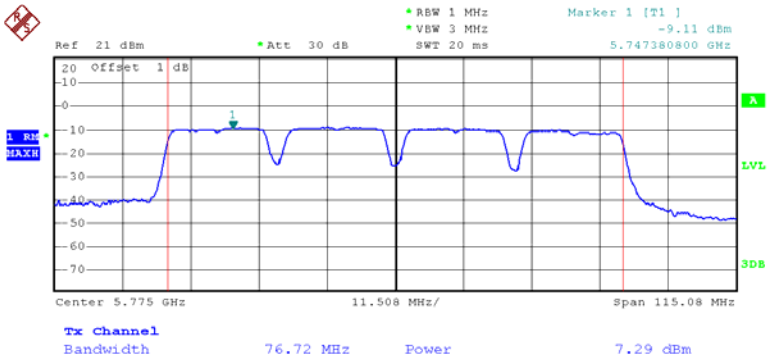
Date: 13.MAR.2013 16:46:51

Chain 2:802.11 ac40 RF Output Power, High Channel



Date: 13.MAR.2013 16:47:40

Chain 2:802.11ac80 RF Output Power



Date: 14.MAR.2013 08:48:22

FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Data

Environmental Conditions

Temperature:	23.4 ° C~26.8 ° C
Relative Humidity:	29 %~63 %
ATM Pressure:	100.8kPa~101.9kPa

The testing was performed by Leon Chen from 2013-02-25 to 2013-03-13.

Test Result: *Compliance*

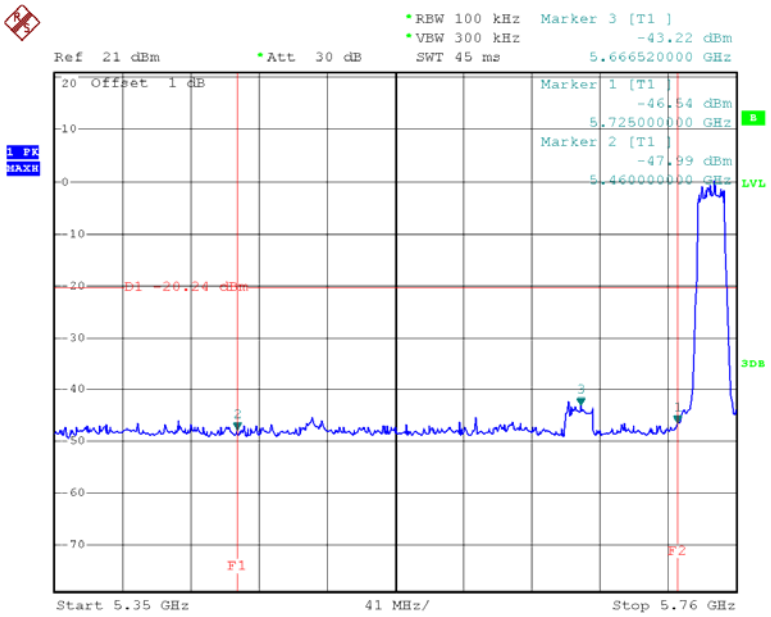
Test mode: Transmitting

Please refer to following table and plots.

Band edge	Delta Peak to Band Emission (dBc)	Limit (dBc)	Result
802.11a			
Left	42.98	20	PASS
Right	44.75	20	PASS
802.11n20 Chain 0			
Left	40.10	20	PASS
Right	40.39	20	PASS
802.11n20 Chain 1			
Left	40.87	20	PASS
Right	41.50	20	PASS
802.11n20 Chain 2			
Left	41.10	20	PASS
Right	41.04	20	PASS
802.11n40 Chain 0			
Left	43.17	20	PASS
Right	45.72	20	PASS
802.11n40 Chain 1			
Left	44.43	20	PASS
Right	45.09	20	PASS
802.11n40 Chain 2			
Left	43.38	20	PASS
Right	45.59	20	PASS
802.11ac20 Chain 0			
Left	43.21	20	PASS
Right	49.66	20	PASS
802.11ac20 Chain 1			
Left	43.80	20	PASS
Right	47.93	20	PASS
802.11ac20 Chain 2			
Left	40.90	20	PASS
Right	50.59	20	PASS
802.11ac40 Chain 0			
Left	44.17	20	PASS
Right	47.74	20	PASS
802.11ac40 Chain 1			
Left	43.71	20	PASS
Right	46.04	20	PASS
802.11ac40 Chain 2			
Left	43.93	20	PASS
Right	47.77	20	PASS
802.11ac80 Chain 0			
Left	42.02	20	PASS
Right	43.38	20	PASS

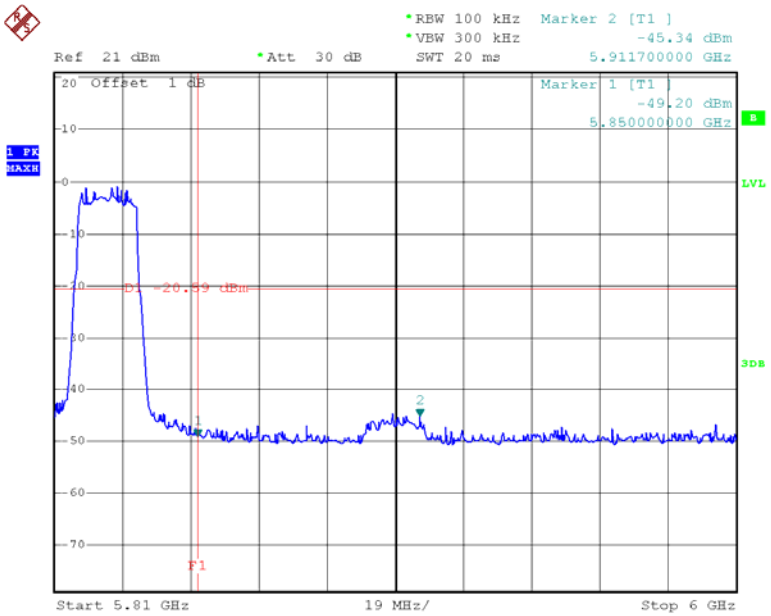
802.11ac80 Chain 1			
Left	41.94	20	PASS
Right	43.73	20	PASS
802.11ac80 Chain 2			
Left	42.05	20	PASS
Right	43.00	20	PASS

Left Band Edge (802.11a mode)



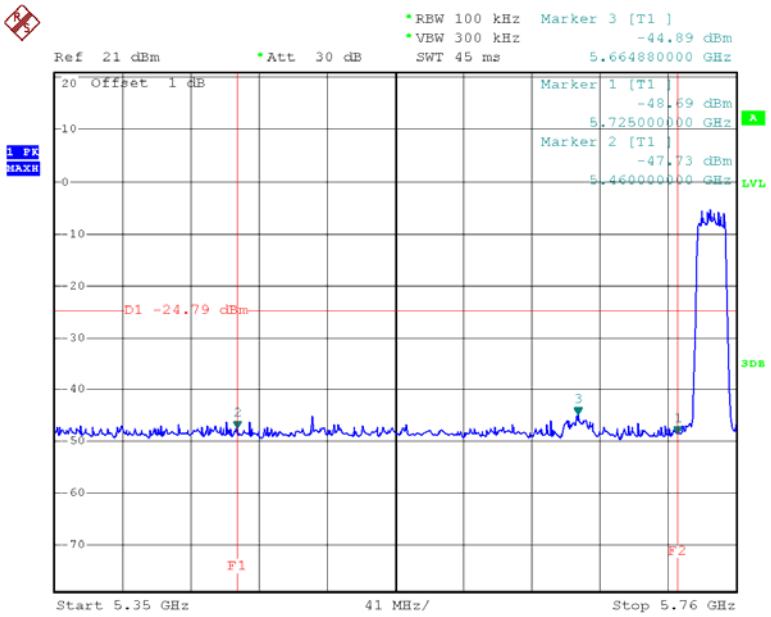
Date: 25.FEB.2013 11:37:20

Right Band Edge (802.11a mode)



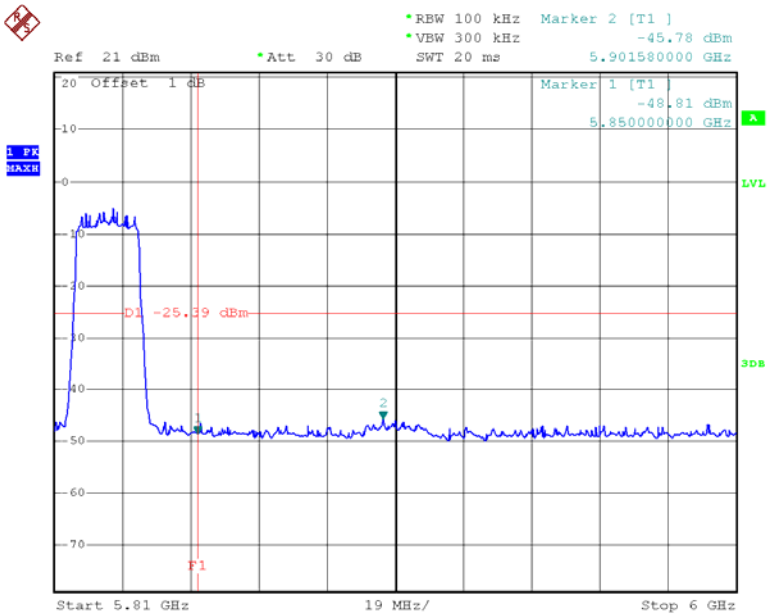
Date: 25.FEB.2013 11:46:32

Chain 0:Left Band Edge (802.11n20 mode)



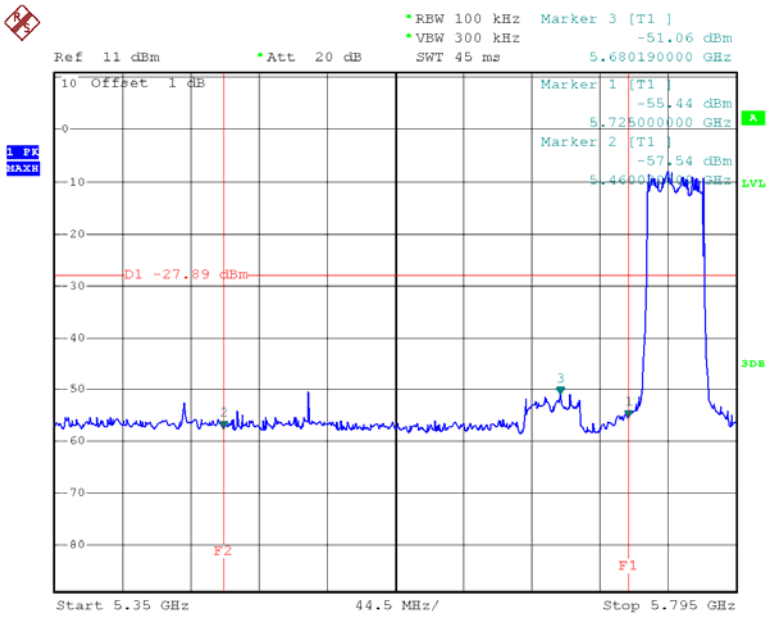
Date: 28.FEB.2013 15:03:33

Chain 0:Right Band Edge (802.11n20 mode)



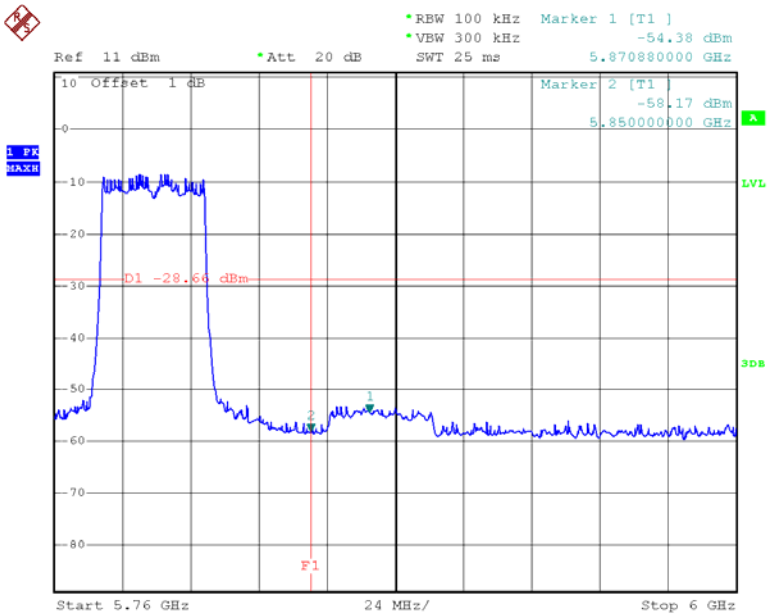
Date: 28.FEB.2013 15:19:45

Chain 0:Left Band Edge (802.11n40 mode)



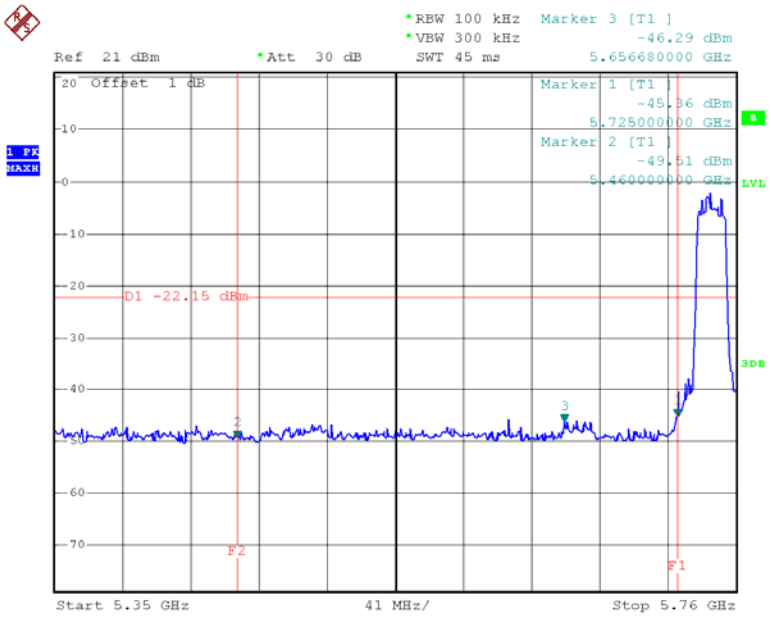
Date: 28.FEB.2013 15:38:18

Chain 0:Right Band Edge (802.11n40 mode)



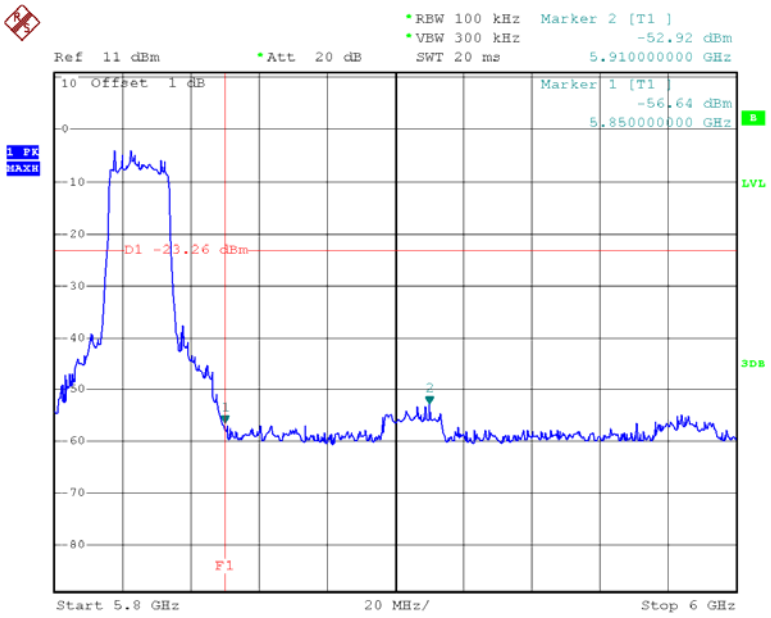
Date: 28.FEB.2013 15:47:12

Chain 0:Left Band Edge (802.11ac20 mode)



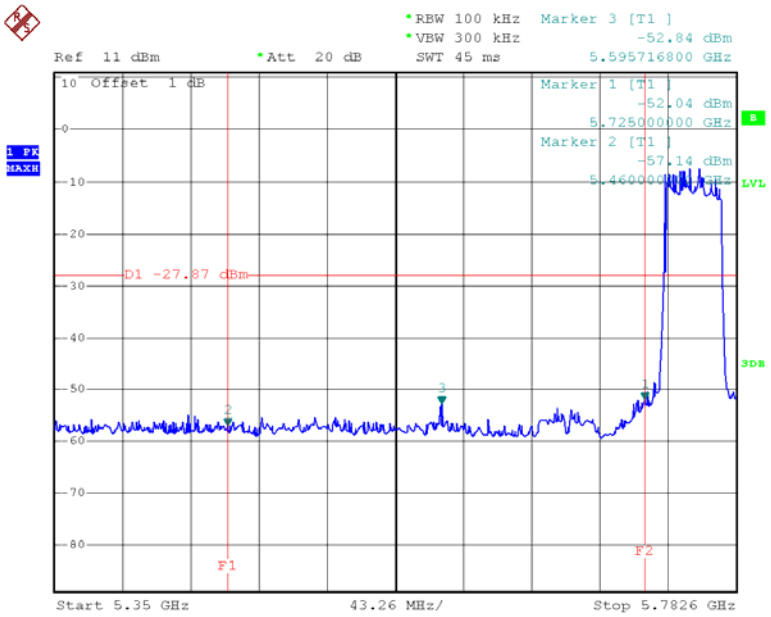
Date: 13.MAR.2013 15:50:27

Chain 0:Right Band Edge (802.11ac20 mode)



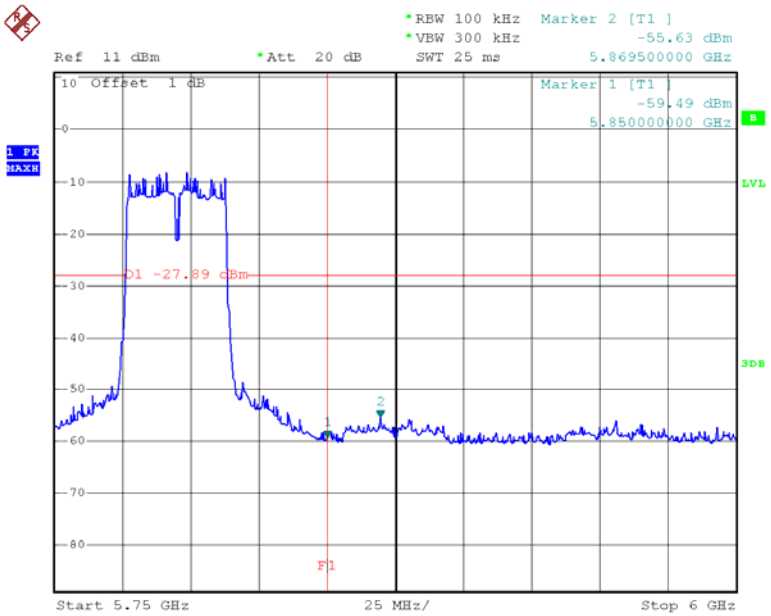
Date: 13.MAR.2013 16:25:22

Chain 0:Left Band Edge (802.11ac40 mode)



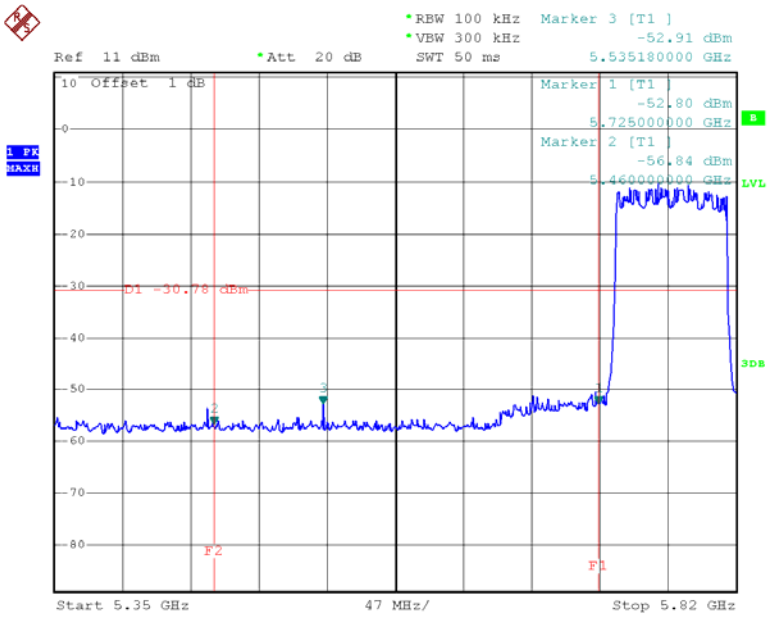
Date: 13.MAR.2013 16:34:52

Chain 0:Right Band Edge (802.11ac40 mode)



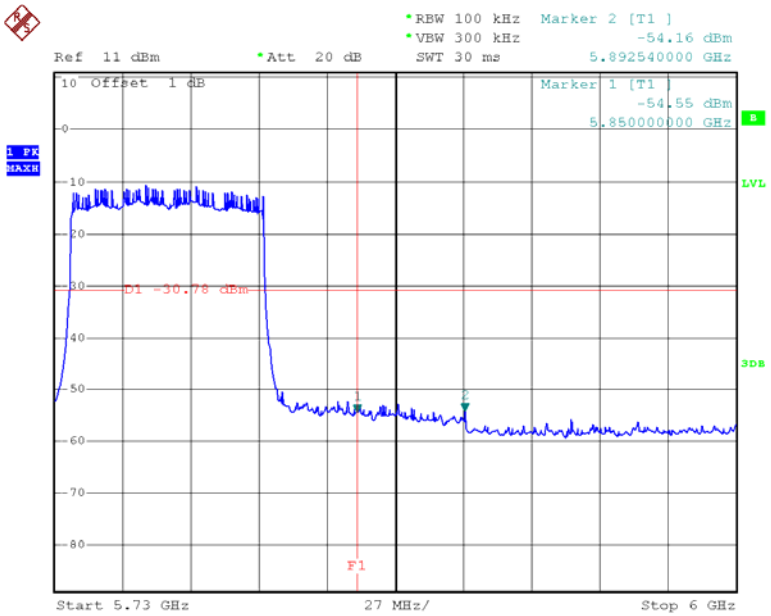
Date: 13.MAR.2013 17:01:38

Chain 0:Left Band Edge (802.11ac80 mode)



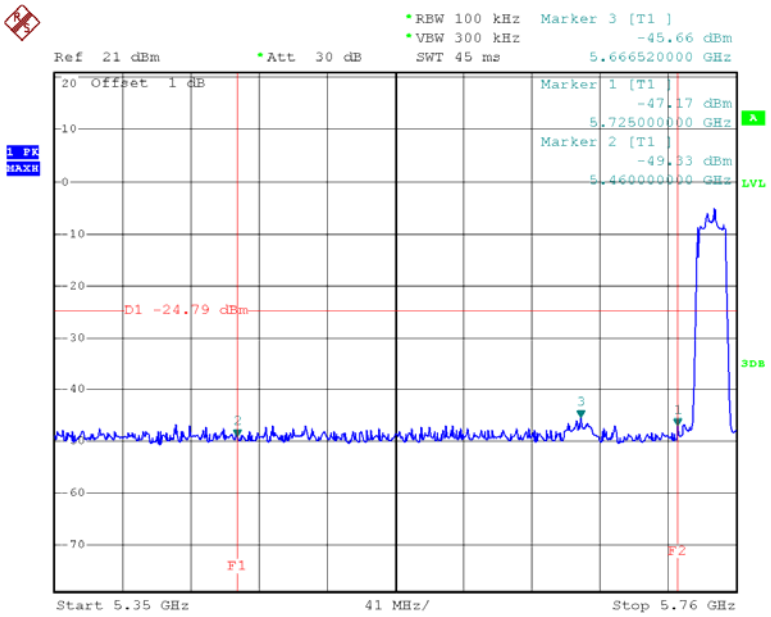
Date: 25.FEB.2013 13:25:34

Chain 0:Right Band Edge (802.11ac80 mode)



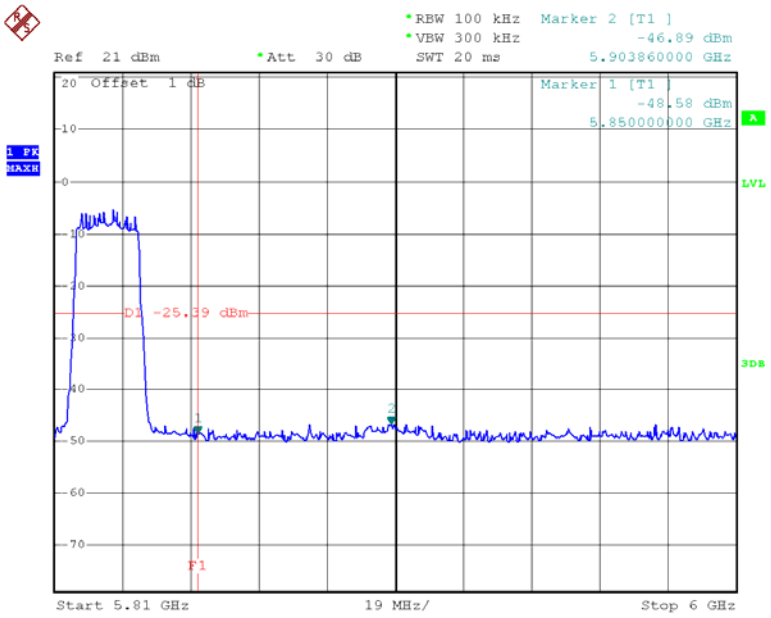
Date: 25.FEB.2013 13:27:49

Chain 1:Left Band Edge (802.11n20 mode)



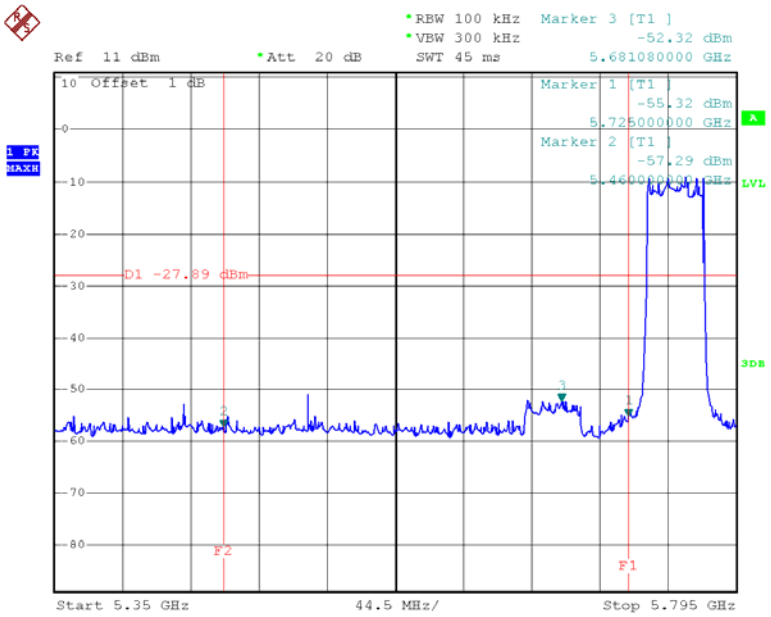
Date: 28.FEB.2013 15:03:51

Chain 1:Right Band Edge (802.11n20 mode)



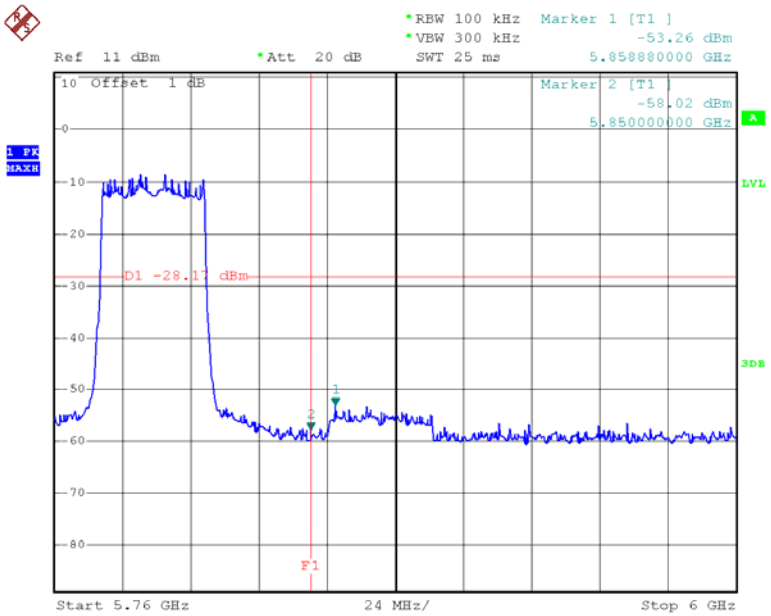
Date: 28.FEB.2013 15:20:12

Chain 1:Left Band Edge (802.11n40 mode)



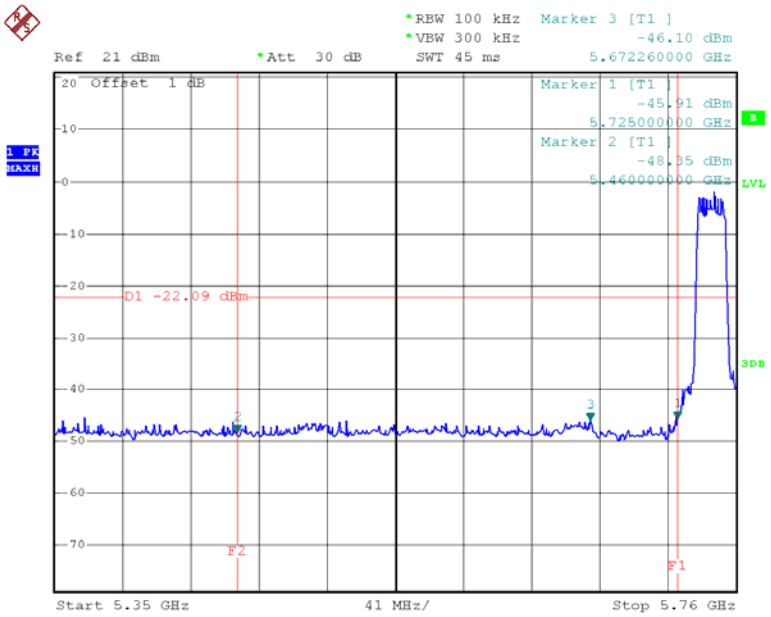
Date: 28.FEB.2013 15:38:34

Chain 1:Right Band Edge (802.11n40 mode)



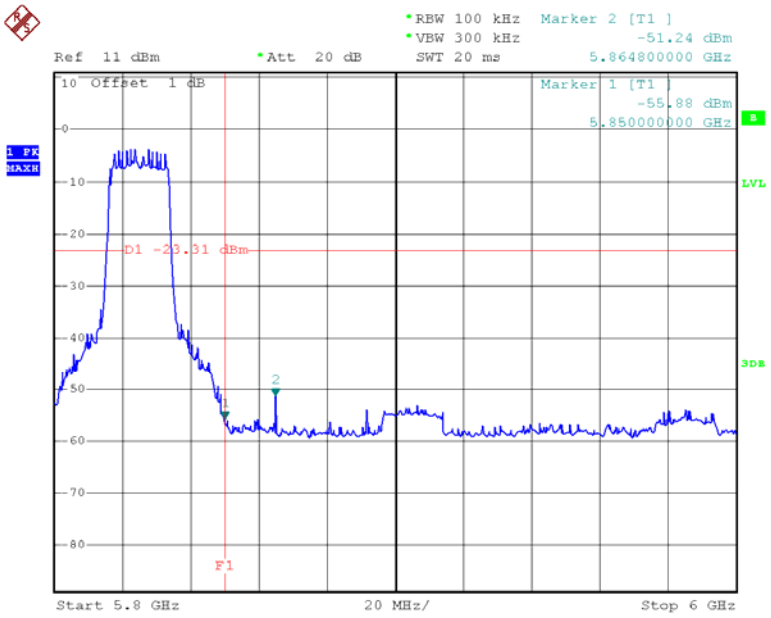
Date: 28.FEB.2013 15:47:28

Chain 1:Left Band Edge (802.11ac20 mode)



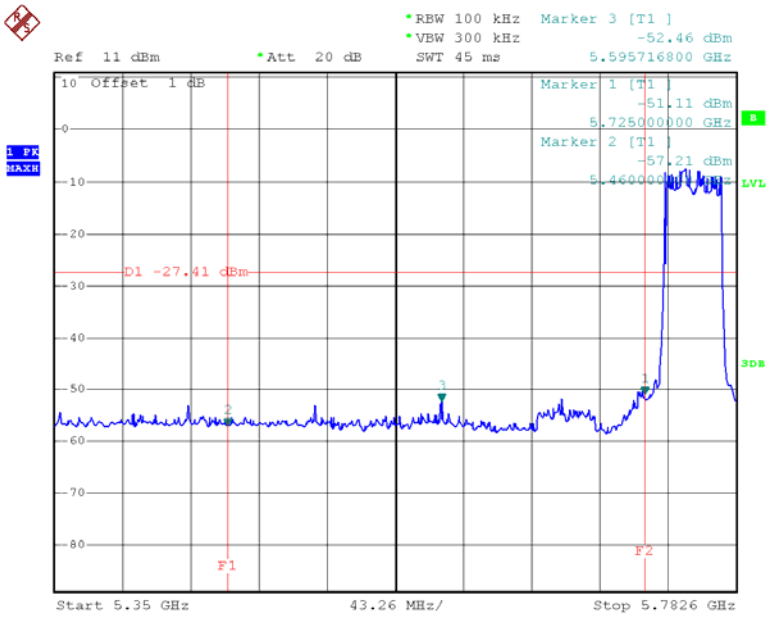
Date: 13.MAR.2013 15:49:04

Chain 1:Right Band Edge (802.11ac20 mode)



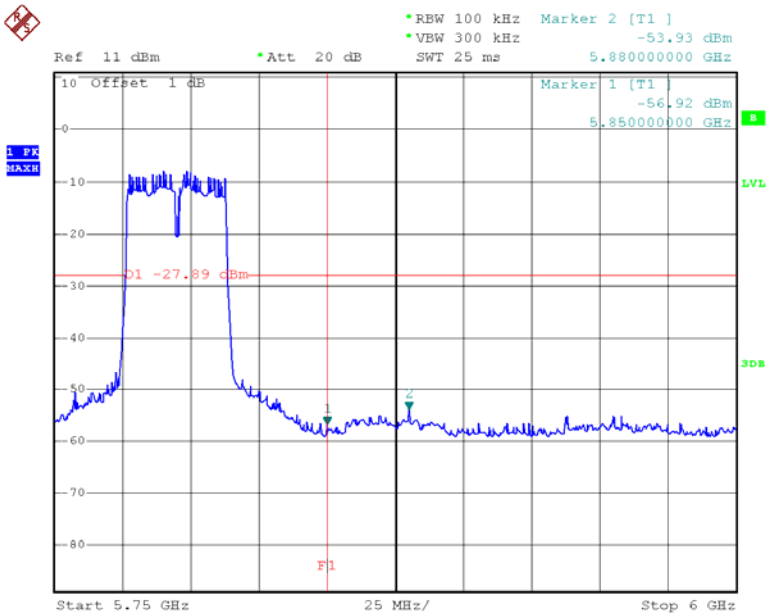
Date: 13.MAR.2013 16:24:38

Chain 1:Left Band Edge (802.11ac40 mode)



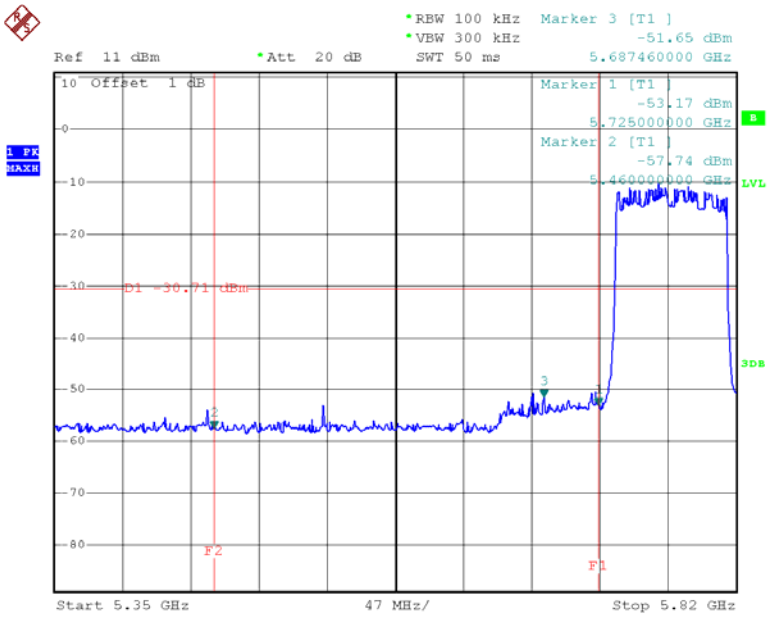
Date: 13.MAR.2013 16:33:28

Chain 1:Right Band Edge (802.11ac40 mode)



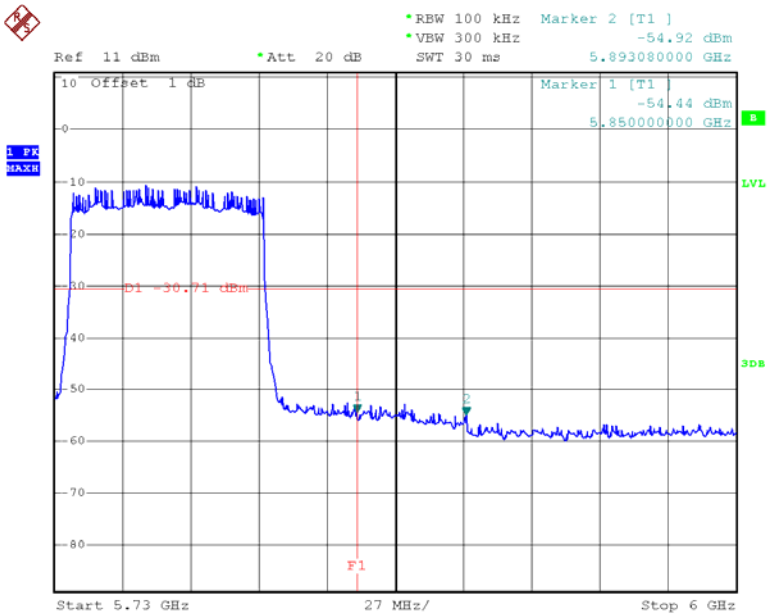
Date: 13.MAR.2013 17:00:29

Chain 1:Left Band Edge (802.11ac80 mode)



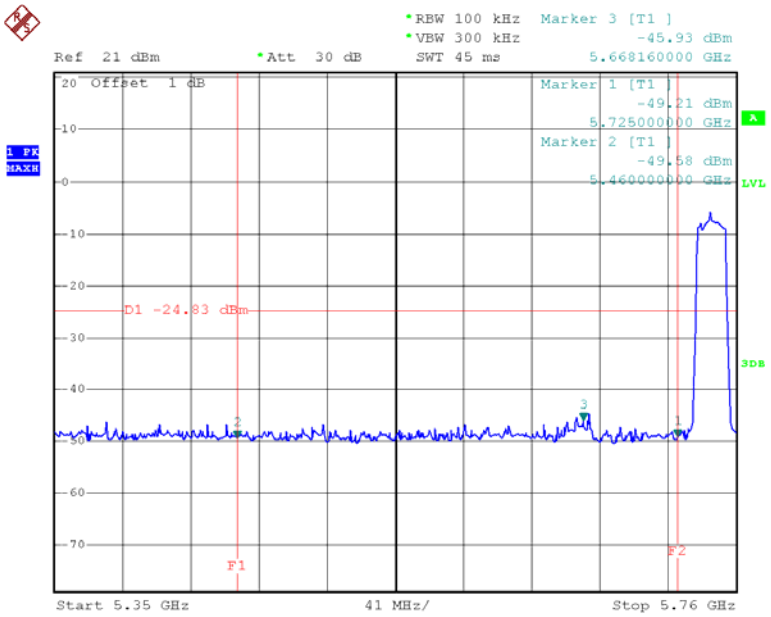
Date: 25.FEB.2013 13:30:53

Chain 1:Right Band Edge (802.11ac80 mode)



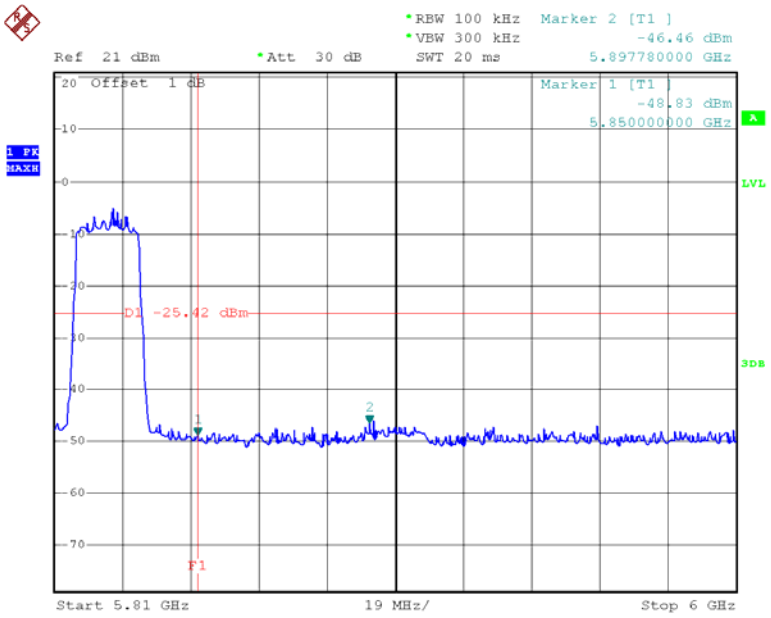
Date: 25.FEB.2013 13:28:36

Chain 2:Left Band Edge (802.11n20 mode)



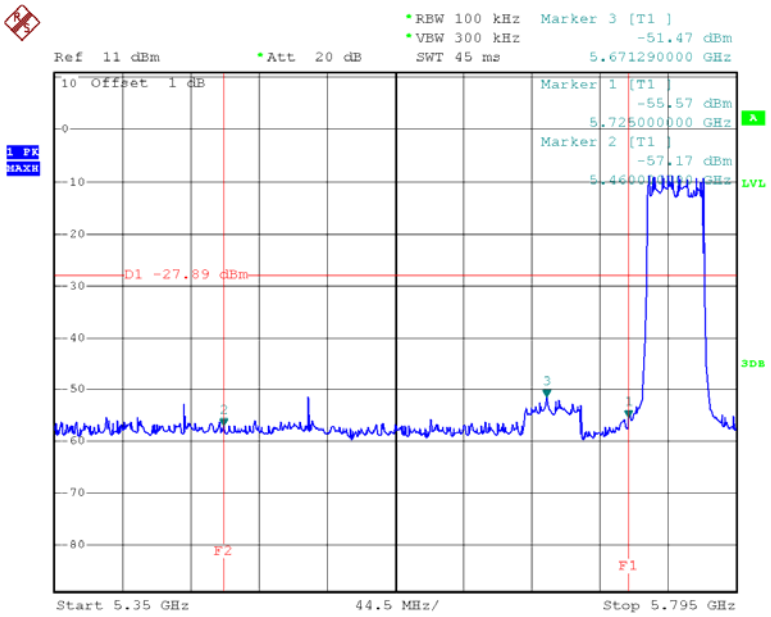
Date: 28.FEB.2013 15:04:12

Chain 2:Right Band Edge (802.11n20 mode)



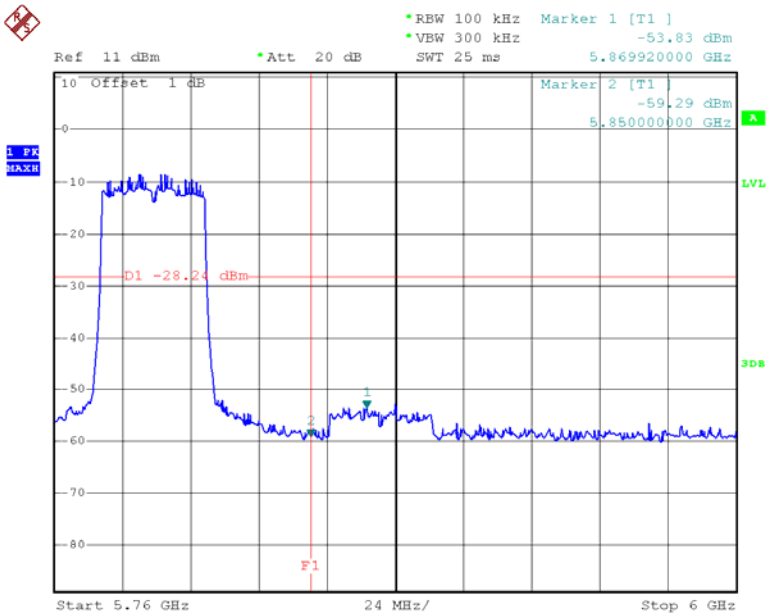
Date: 28.FEB.2013 15:20:35

Chain 2:Left Band Edge (802.11n40 mode)



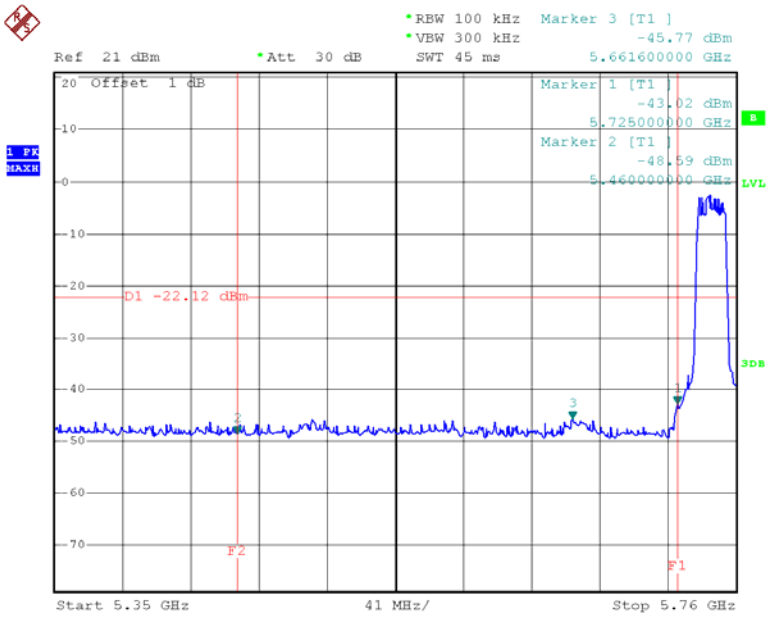
Date: 28.FEB.2013 15:38:46

Chain 2:Right Band Edge (802.11n40 mode)



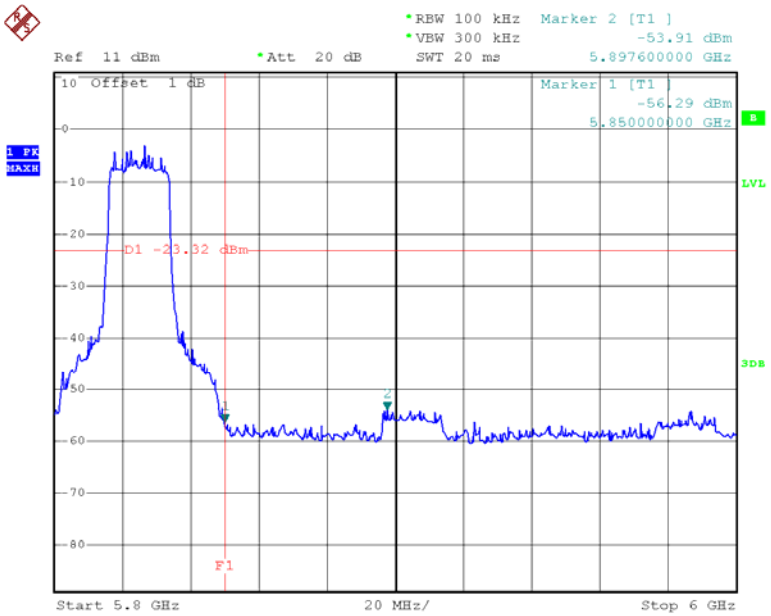
Date: 28.FEB.2013 15:47:46

Chain 2:Left Band Edge (802.11ac20 mode)



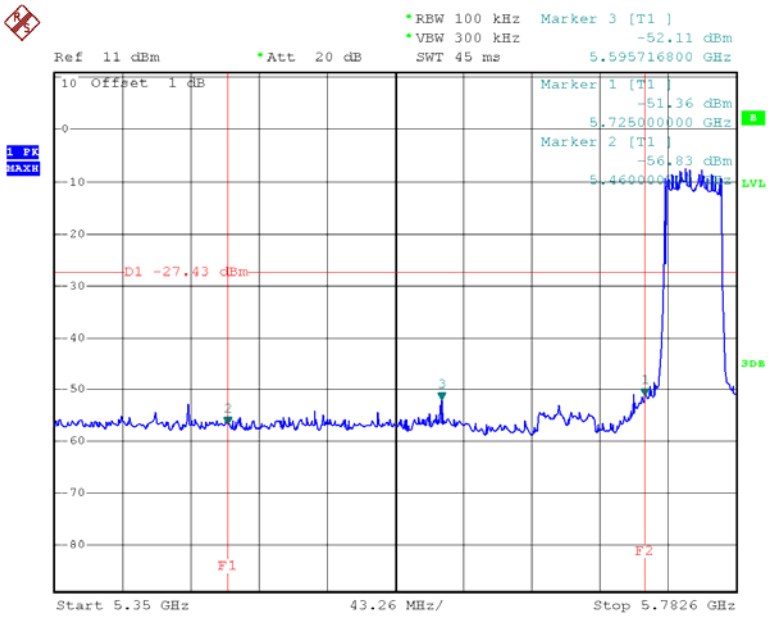
Date: 13.MAR.2013 15:50:09

Chain 2:Right Band Edge (802.11ac20 mode)



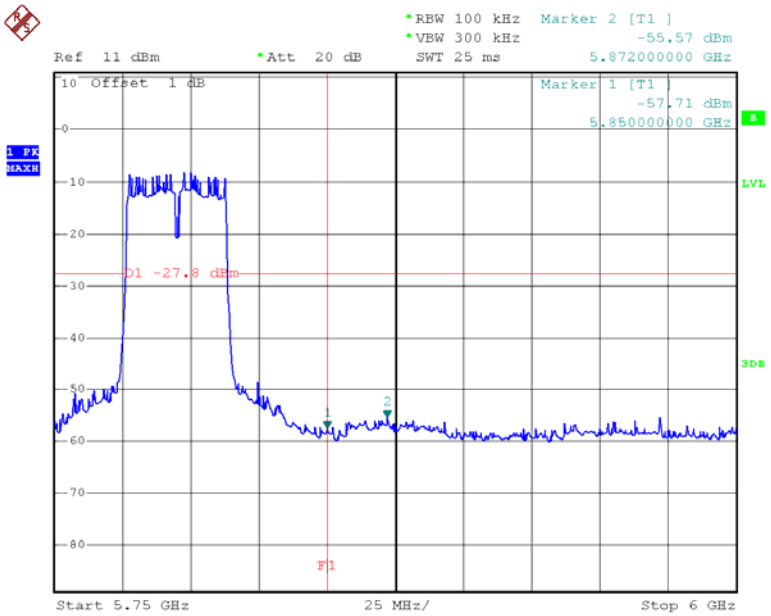
Date: 13.MAR.2013 16:25:01

Chain 2:Left Band Edge (802.11ac40 mode)



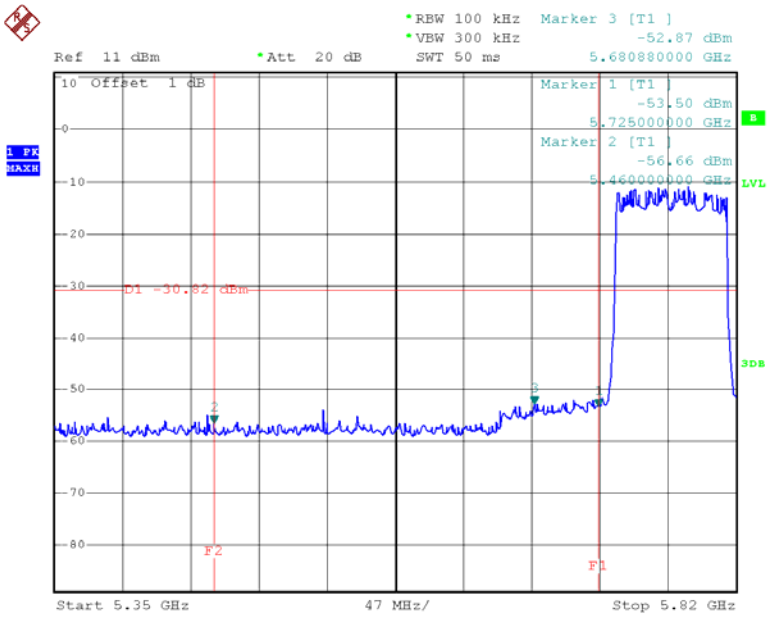
Date: 13.MAR.2013 16:34:27

Chain 2:Right Band Edge (802.11ac40 mode)



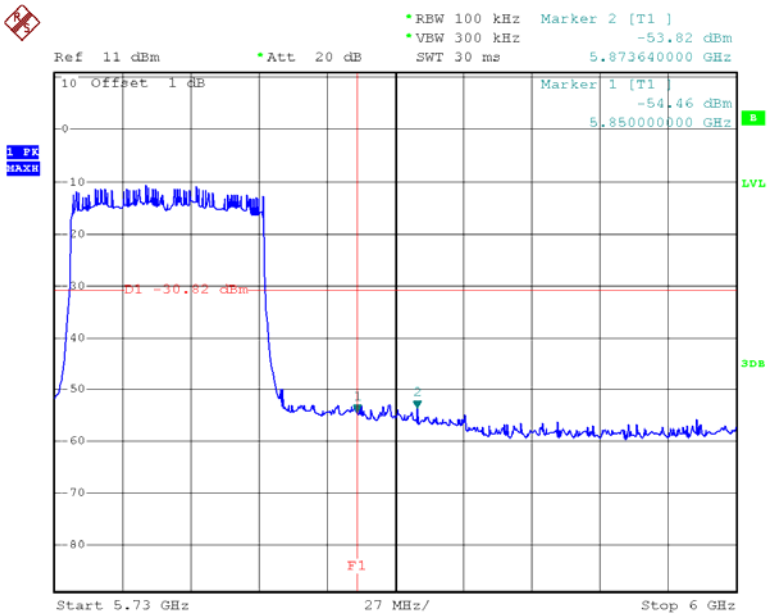
Date: 13.MAR.2013 17:01:12

Chain 2:Left Band Edge (802.11ac80 mode)



Date: 25.FEB.2013 13:31:21

Chain 2:Right Band Edge (802.11ac80 mode)



Date: 25.FEB.2013 13:29:24

FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. According to KDB 558074 D01 DTS Meas Guidance v02, set the RBW = 3 kHz, VBW = 30 kHz, Set the span to 1.5 times the DTS channel bandwidth.
4. Use the peak marker function to determine the maximum power level in any 3 kHz band segment within the fundamental EBW.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	Spectrum Analyzer	FSP38	100478	2012-5-14	2013-5-13

Test Data

Environmental Conditions

Temperature:	23.4° C~26.8 ° C
Relative Humidity:	29%~63%
ATM Pressure:	100.8kPa~101.9kPa

The testing was performed by Leon Chen from 2013-02-25 to 2013-03-13.

Test Mode: Transmitting

Test Result: Pass

Test mode: Transmitting

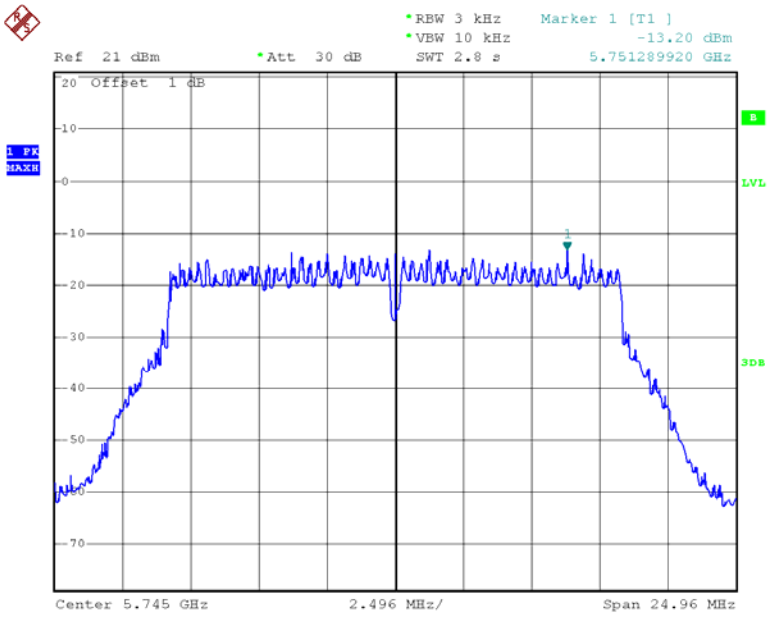
Channel	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
802.11a mode			
Low	-13.20	8	PASS
Middle	-13.90	8	PASS
High	-12.64	8	PASS
Chain 0:802.11n ht20 mode			
Low	-14.68	8	PASS
Middle	-14.46	8	PASS
High	-16.18	8	PASS
Chain 1:802.11n ht20 mode			
Low	-14.84	8	PASS
Middle	-14.76	8	PASS
High	-16.32	8	PASS
Chain 2:802.11n ht20 mode			
Low	-14.47	8	PASS
Middle	-14.51	8	PASS
High	-16.29	8	PASS
Chain 0:802.11n ht40 mode			
Low	-15.61	8	PASS
High	-15.93	8	PASS
Chain 1:802.11n ht40 mode			
Low	-15.68	8	PASS
High	-15.68	8	PASS
Chain 2:802.11n ht40 mode			
Low	-15.74	8	PASS
High	-16.16	8	PASS
Chain 0:802.11 ac20 mode			
Low	-16.40	8	PASS
Middle	-17.21	8	PASS
High	-16.57	8	PASS
Chain 1:802.11 ac20 mode			
Low	-15.07	8	PASS
Middle	-17.16	8	PASS
High	-17.67	8	PASS
Chain 2:802.11 ac20 mode			
Low	-16.25	8	PASS
Middle	-18.33	8	PASS
High	-17.61	8	PASS
Chain 0:802.11 ac40 mode			
Low	-22.57	8	PASS
High	-22.22	8	PASS

Chain 1:802.11ac40 mode			
Low	-22.21	8	PASS
High	-22.71	8	PASS
Chain 2:802.11ac40 mode			
Low	-22.55	8	PASS
High	-22.83	8	PASS
Chain 0:802.11ac80 mode			
Low	-15.72	8	PASS
Chain 1:802.11ac80 mode			
Low	-15.35	8	PASS
Chain 2:802.11ac80 mode			
Low	-15.66	8	PASS

Total power: chain 0+ chain 1+chain 2:

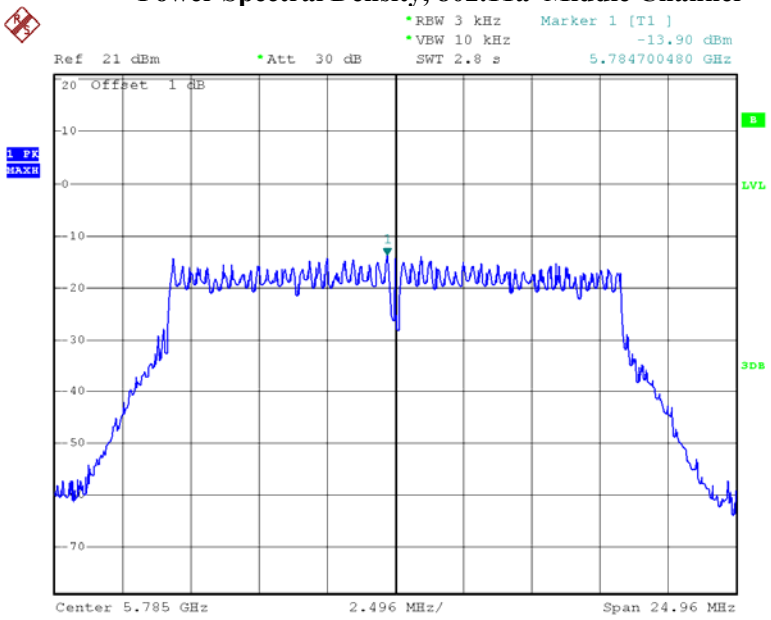
Channel	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
	PSD	Limit	
Total:802.11n ht20 mode			
Low	-9.89	8	PASS
Middle	-9.80	8	PASS
High	-11.49	8	PASS
Total:802.11n ht40 mode			
Low	-10.91	8	PASS
High	-11.15	8	PASS
Total:802.11ac20 mode			
Low	-11.09	8	PASS
Middle	-12.76	8	PASS
High	-12.48	8	PASS
Total:802.11ac40 mode			
Low	-17.67	8	PASS
High	-17.81	8	PASS
Total:802.11ac80 mode			
Low	-10.80	8	PASS

Power Spectral Density, 802.11a Low Channel



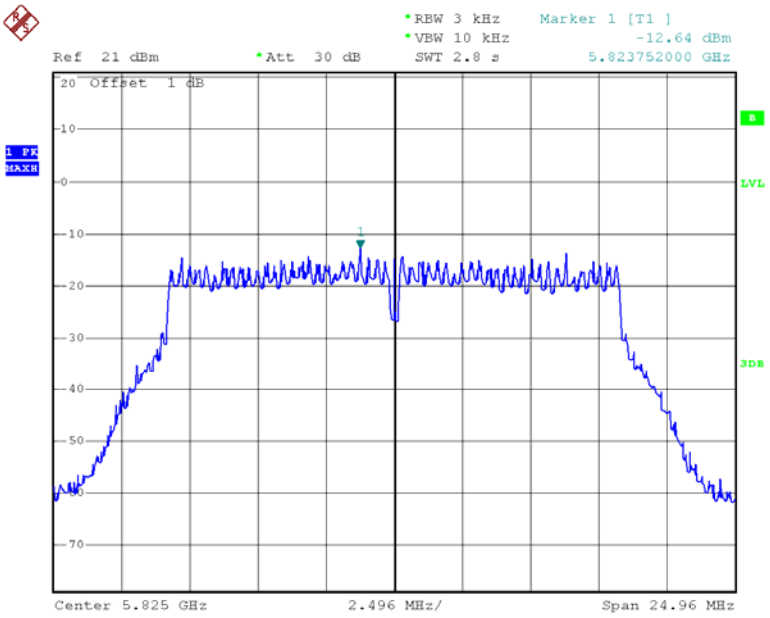
Date: 25.FEB.2013 11:32:43

Power Spectral Density, 802.11a Middle Channel



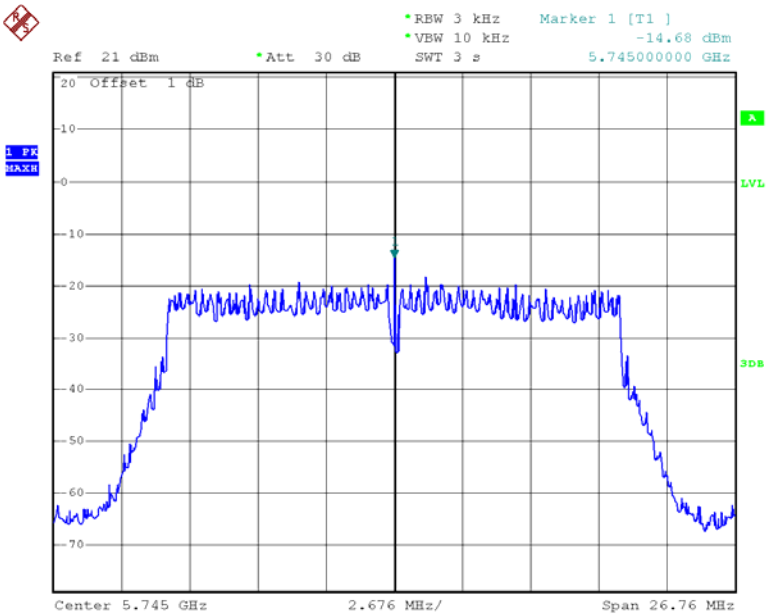
Date: 25.FEB.2013 11:40:16

Power Spectral Density, 802.11a High Channel



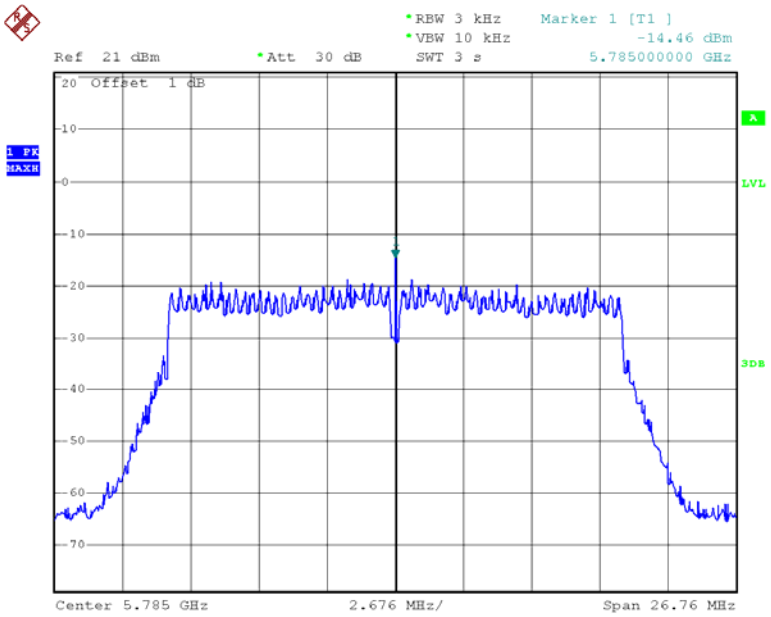
Date: 25.FEB.2013 11:44:13

Chain 0:Power Spectral Density, 802.11 n20 Low Channel



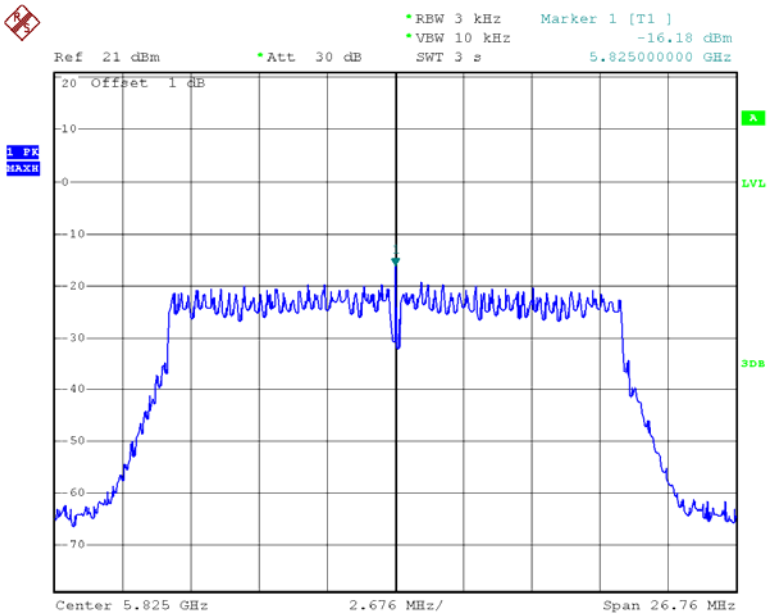
Date: 28.FEB.2013 14:59:51

Chain 0:Power Spectral Density, 802.11n20 Middle Channel



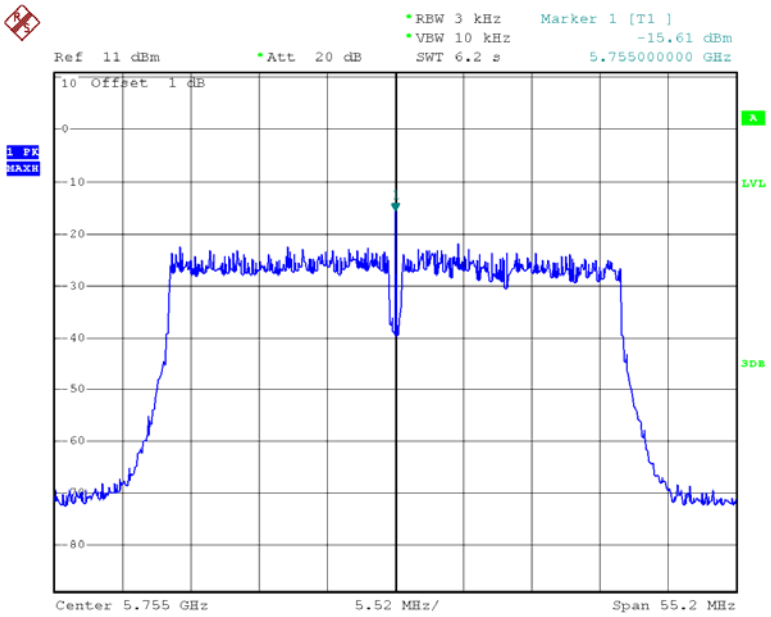
Date: 28.FEB.2013 15:09:07

Chain 0:Power Spectral Density, 802.11n20 High Channel



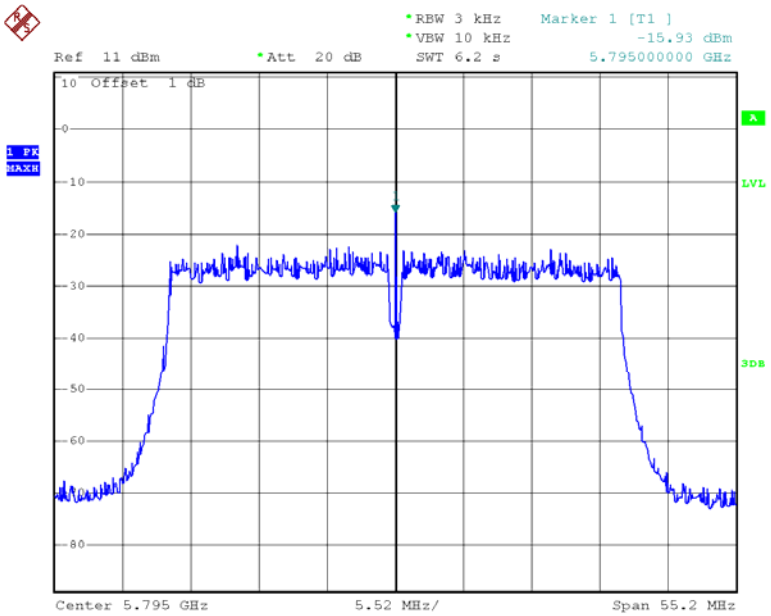
Date: 28.FEB.2013 15:16:29

Chain 0:Power Spectral Density, 802.11n40 Low Channel



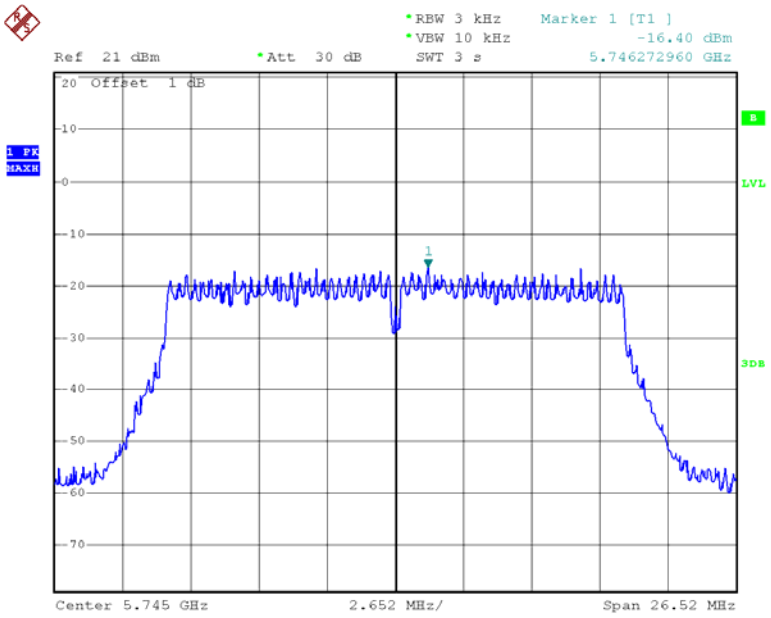
Date: 28.FEB.2013 15:26:54

Chain 0:Power Spectral Density, 802.11n40 High Channel



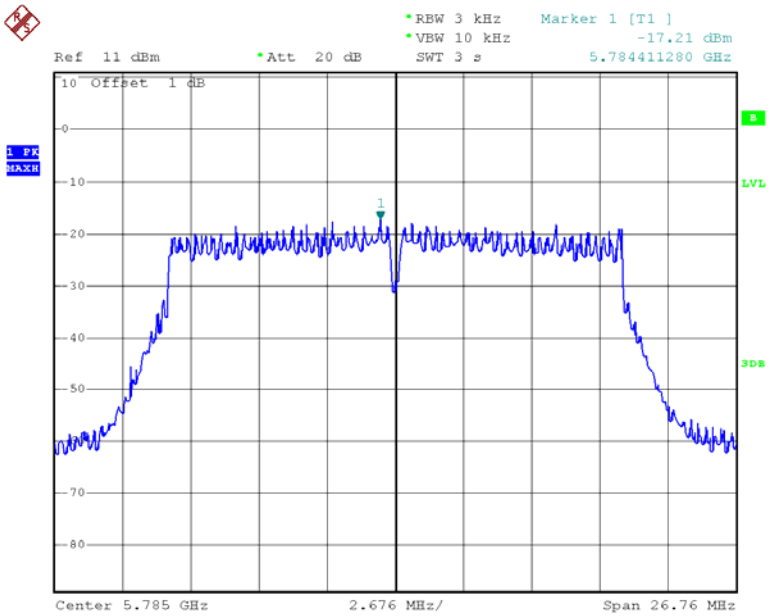
Date: 28.FEB.2013 15:42:56

Chain 0:Power Spectral Density, 802.11 ac20 Low Channel



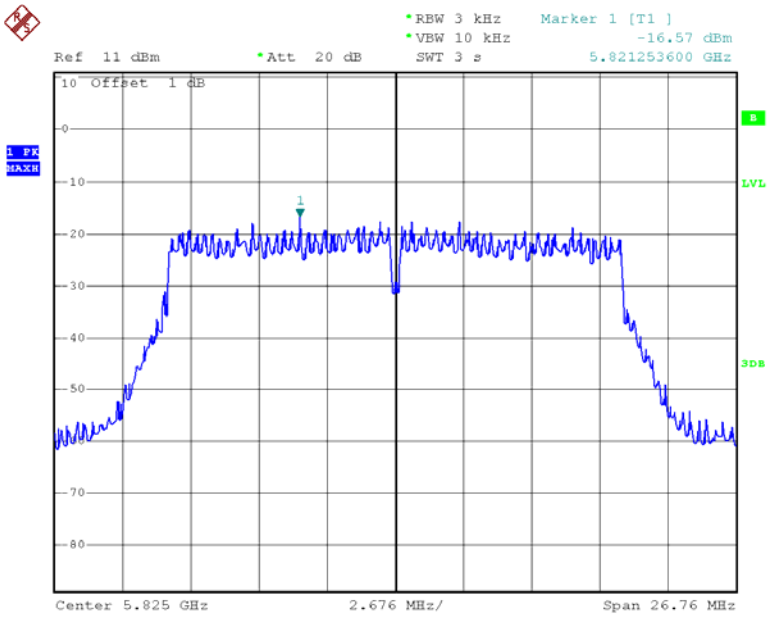
Date: 13.MAR.2013 15:40:33

Chain 0:Power Spectral Density, 802.11ac20 Middle Channel



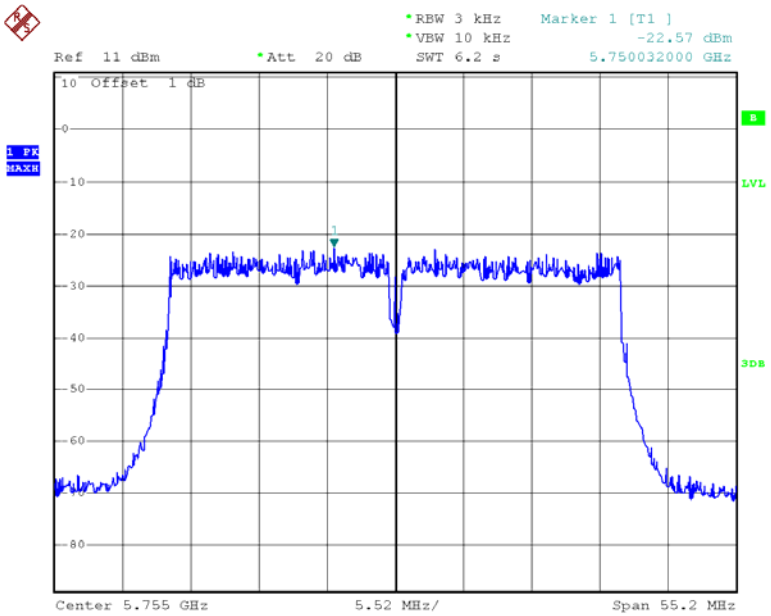
Date: 13.MAR.2013 15:58:36

Chain 0:Power Spectral Density, 802.11ac20 High Channel



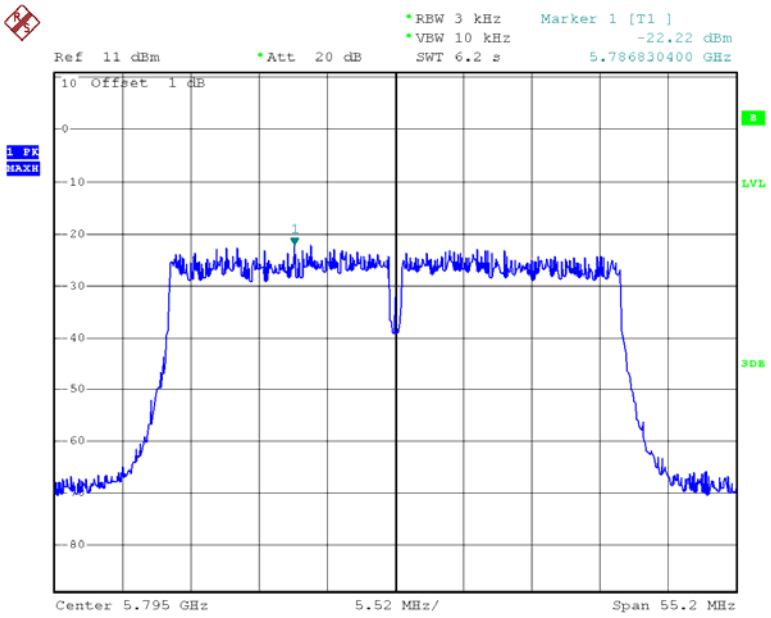
Date: 13.MAR.2013 16:19:51

Chain 0:Power Spectral Density, 802.11ac40 Low Channel



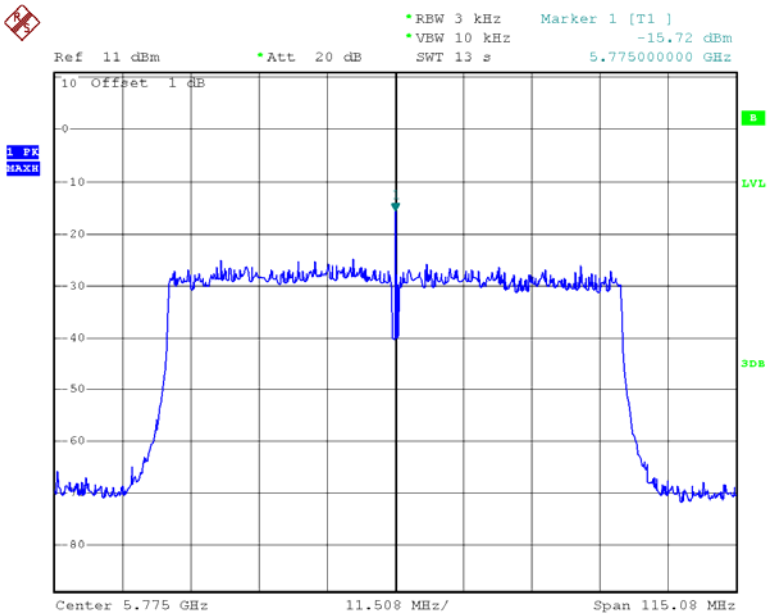
Date: 13.MAR.2013 16:31:32

Chain 0:Power Spectral Density, 802.11ac40 High Channel



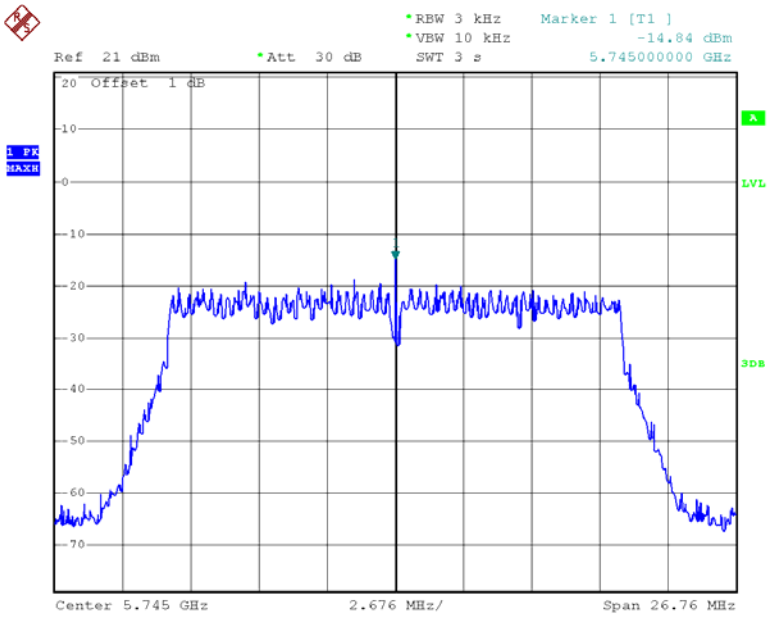
Date: 13.MAR.2013 16:51:28

Chain 0:Power Spectral Density, 802.11ac80 Low Channel



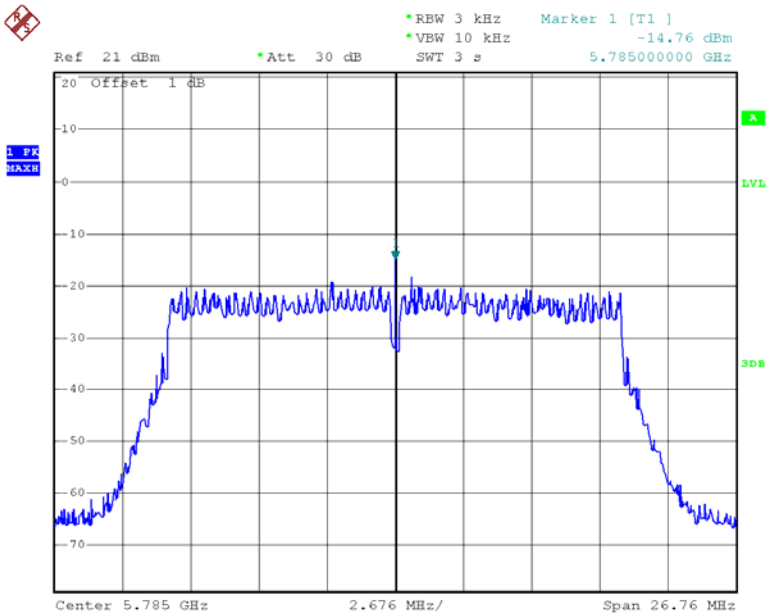
Date: 25.FEB.2013 13:18:16

Chain 1:Power Spectral Density, 802.11 n20 Low Channel



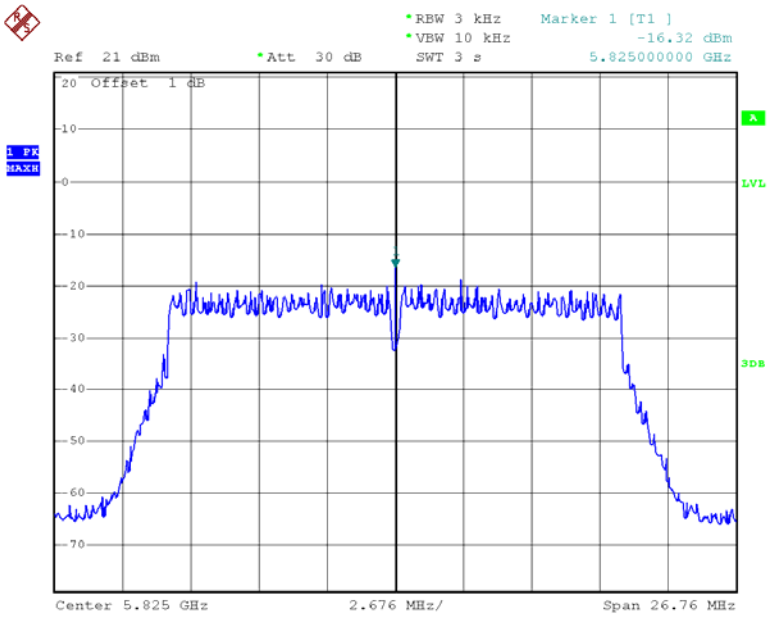
Date: 28.FEB.2013 15:00:03

Chain 1:Power Spectral Density, 802.11n20 Middle Channel



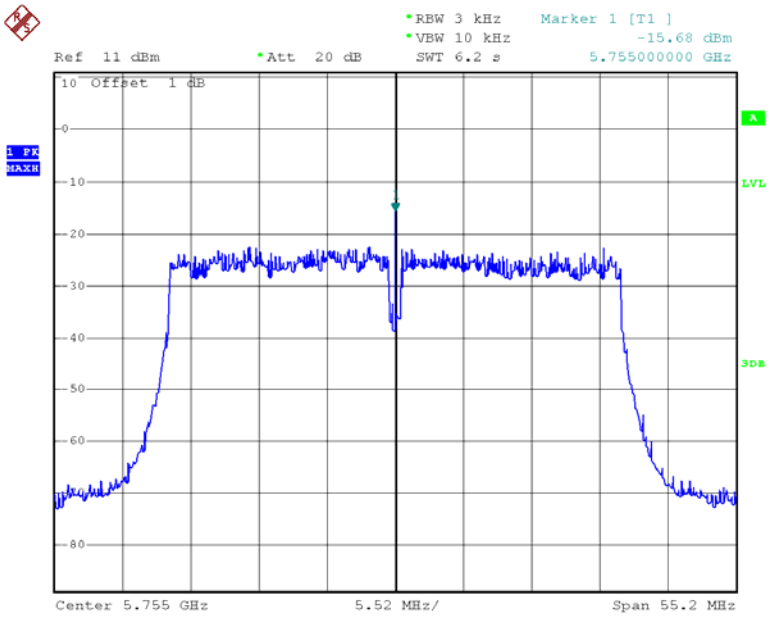
Date: 28.FEB.2013 15:09:19

Chain 1:Power Spectral Density, 802.11n20 High Channel



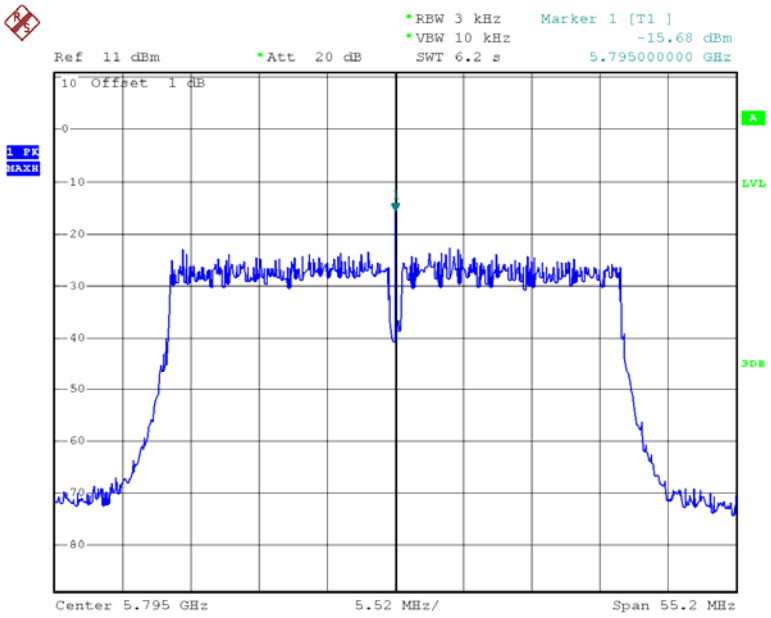
Date: 28.FEB.2013 15:16:46

Chain 1:Power Spectral Density, 802.11n40 Low Channel



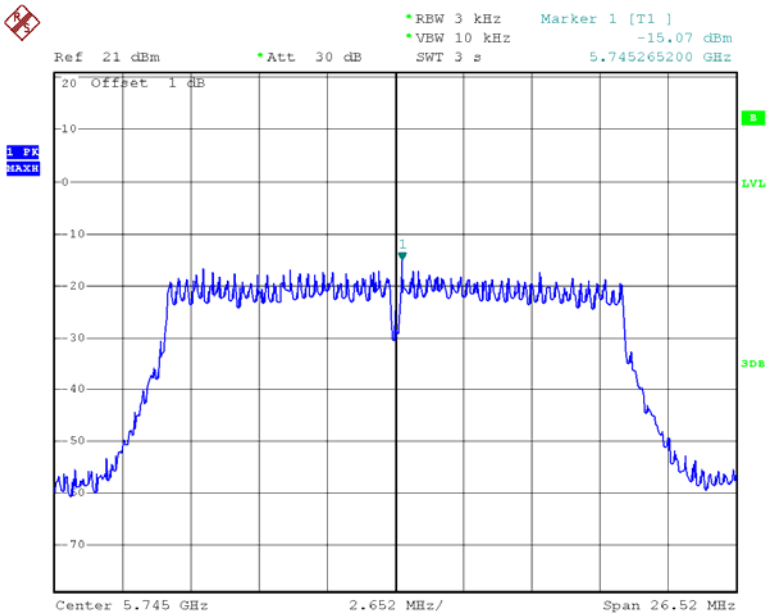
Date: 28.FEB.2013 15:27:27

Chain 1:Power Spectral Density, 802.11n40 High Channel



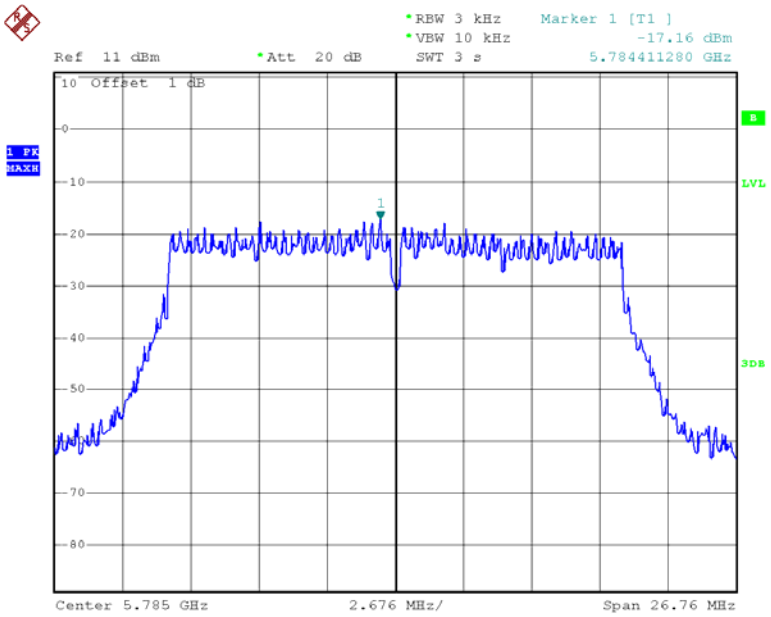
Date: 28.FEB.2013 15:43:08

Chain 1:Power Spectral Density, 802.11 ac20 Low Channel



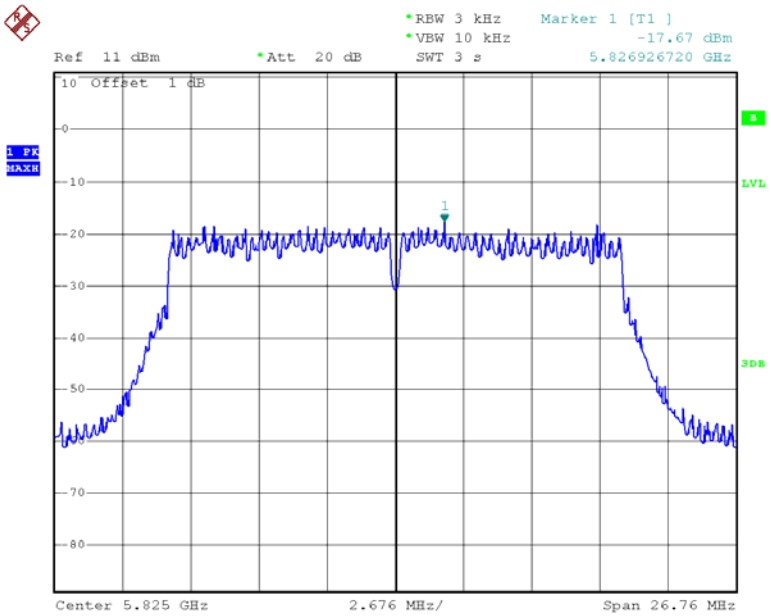
Date: 13.MAR.2013 15:40:58

Chain 1:Power Spectral Density, 802.11ac20 Middle Channel



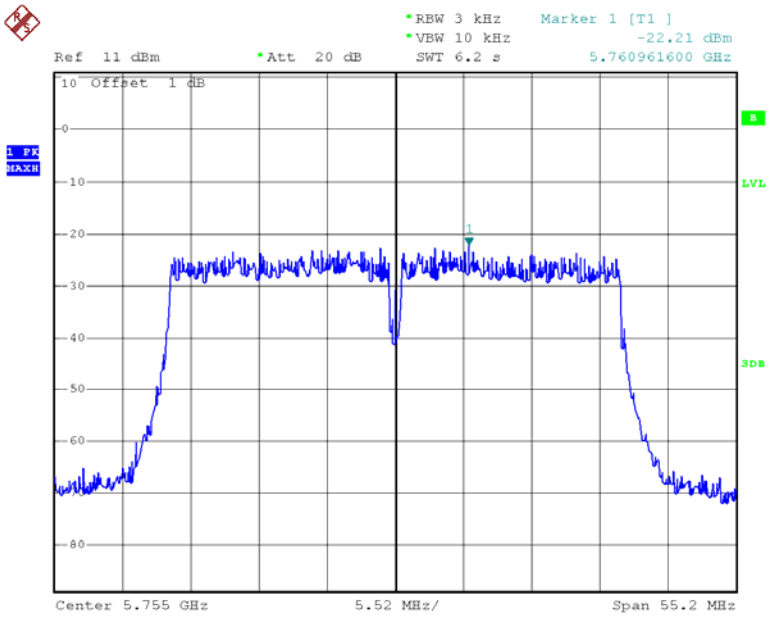
Date: 13.MAR.2013 15:58:05

Chain 1:Power Spectral Density, 802.11ac20 High Channel



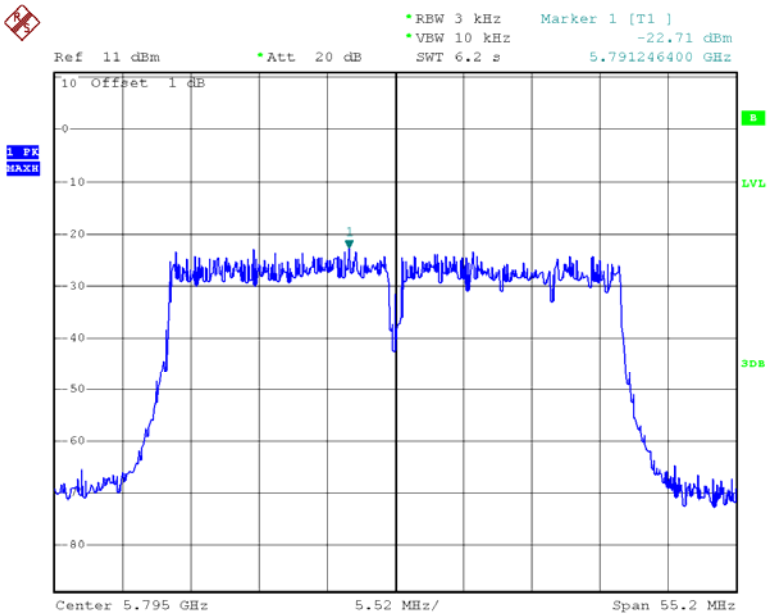
Date: 13.MAR.2013 16:19:29

Chain 1:Power Spectral Density, 802.11ac40 Low Channel



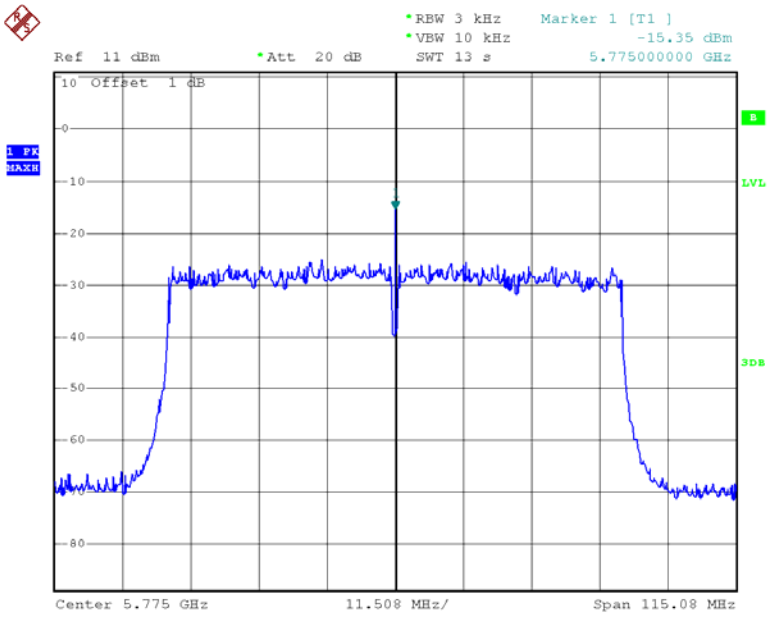
Date: 13.MAR.2013 16:30:52

Chain 1:Power Spectral Density, 802.11ac40 High Channel



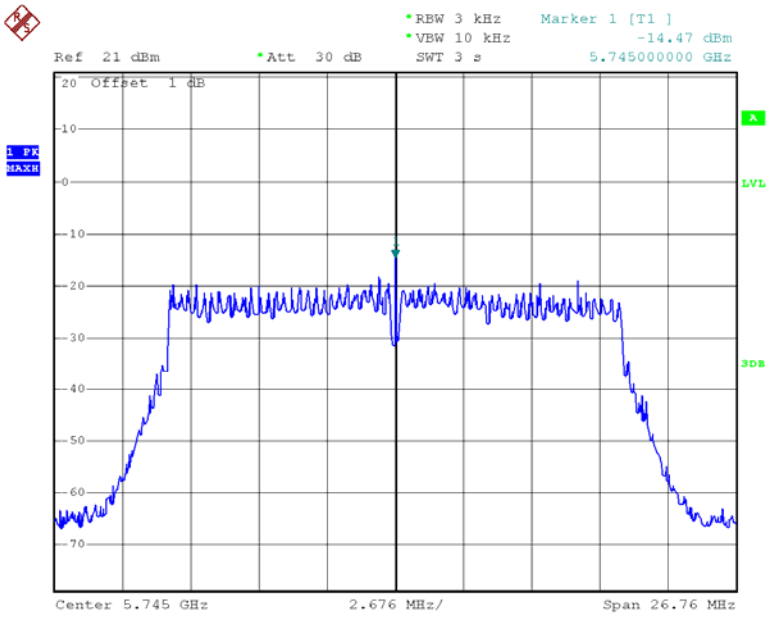
Date: 13.MAR.2013 16:51:46

Chain 1:Power Spectral Density, 802.11ac80 Low Channel



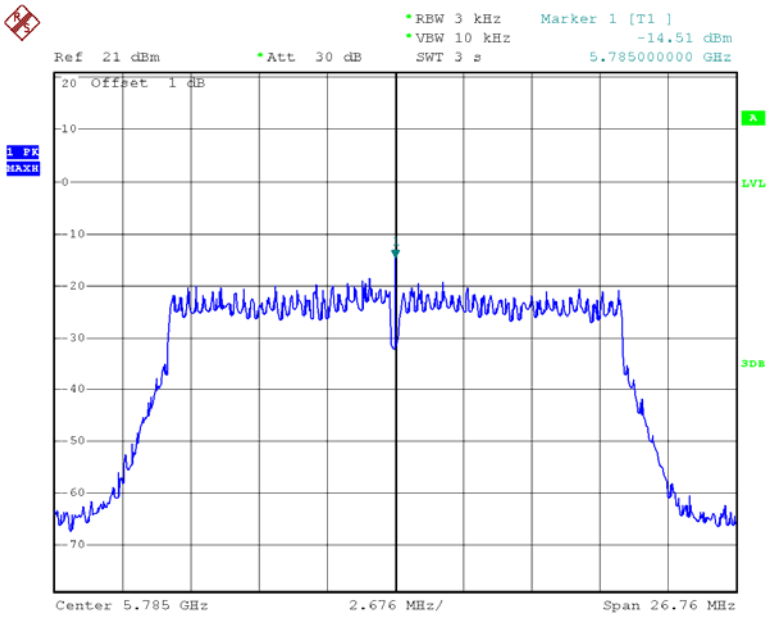
Date: 25.FEB.2013 13:19:01

Chain 2:Power Spectral Density, 802.11 n20 Low Channel



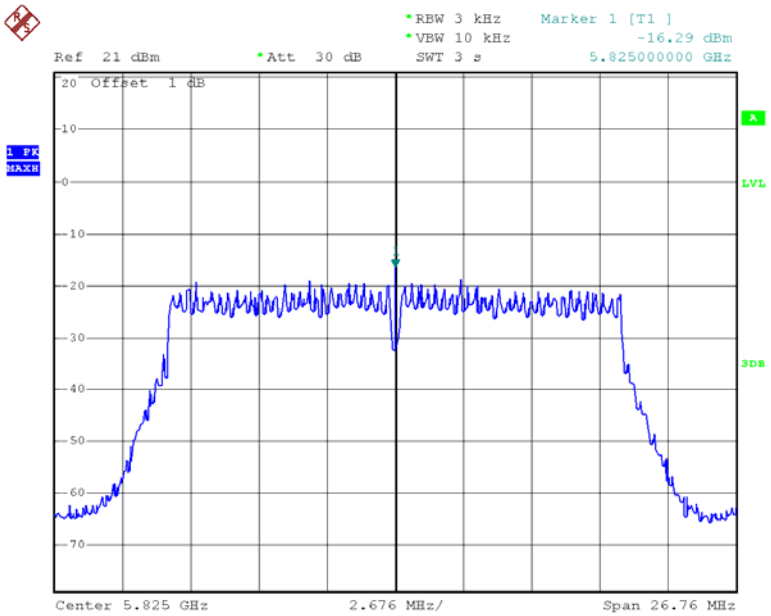
Date: 28.FEB.2013 15:00:16

Chain 2:Power Spectral Density, 802.11n20 Middle Channel



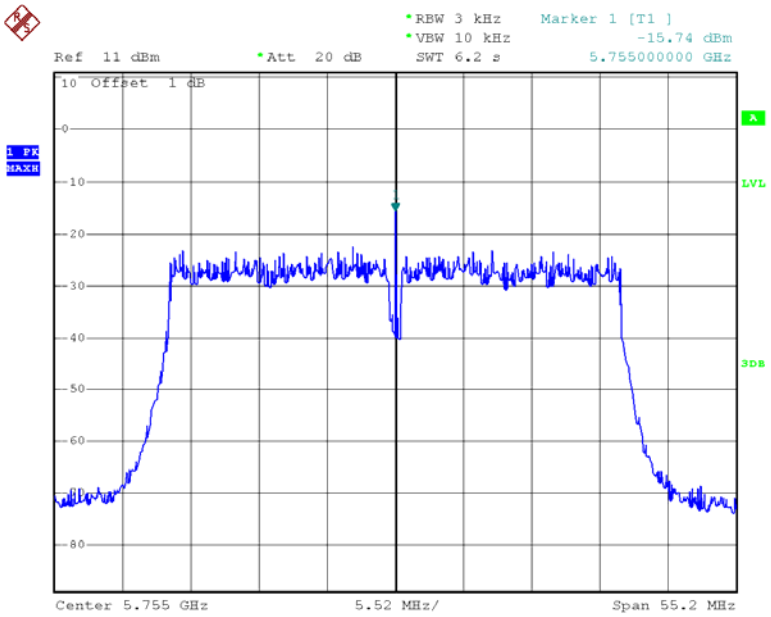
Date: 28.FEB.2013 15:09:31

Chain 2:Power Spectral Density, 802.11n20 High Channel



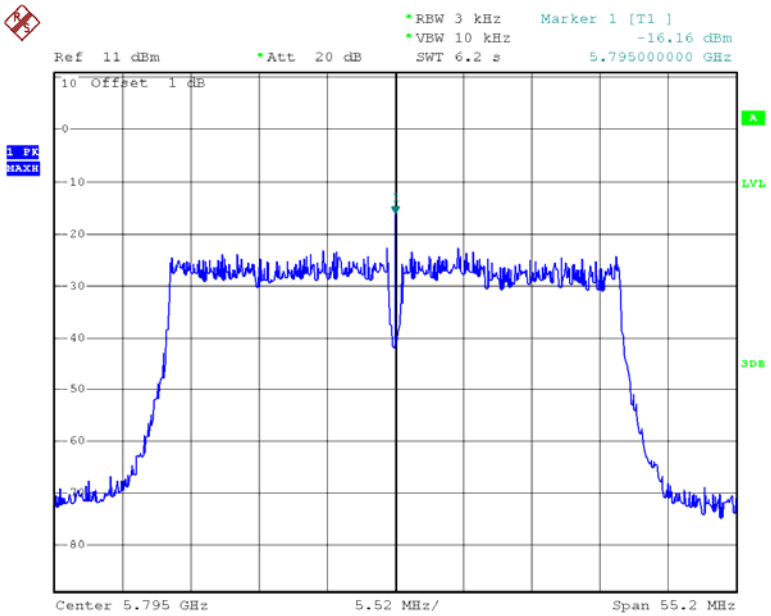
Date: 28.FEB.2013 15:16:52

Chain 2:Power Spectral Density, 802.11n40 Low Channel



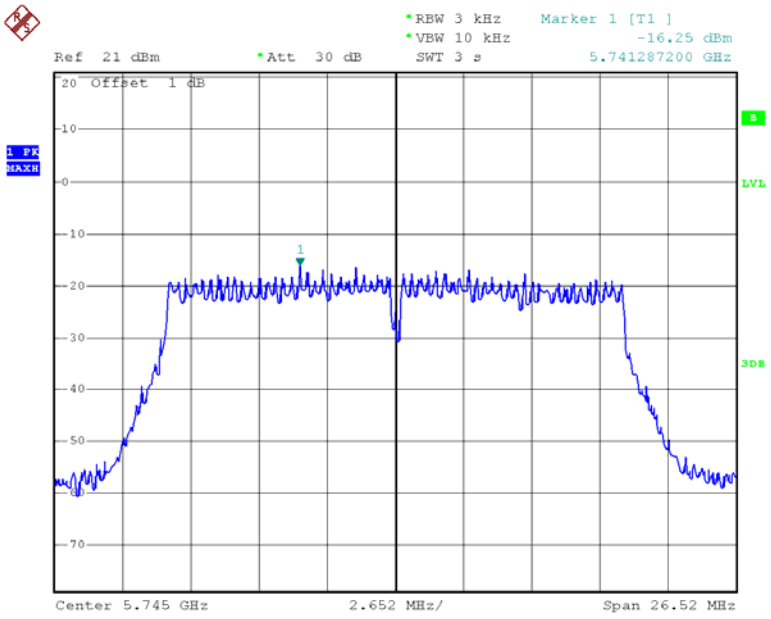
Date: 28.FEB.2013 15:27:41

Chain 2:Power Spectral Density, 802.11n40 High Channel



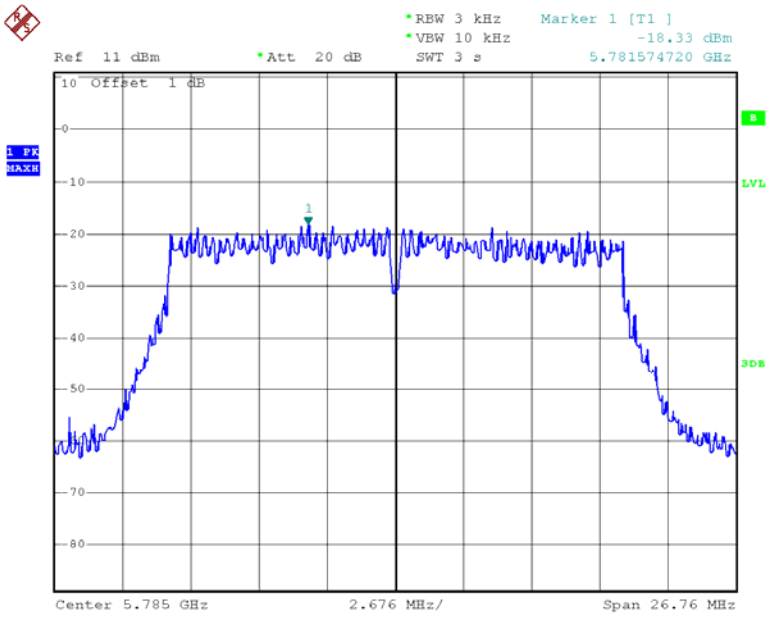
Date: 28.FEB.2013 15:43:20

Chain 2:Power Spectral Density, 802.11 ac20 Low Channel



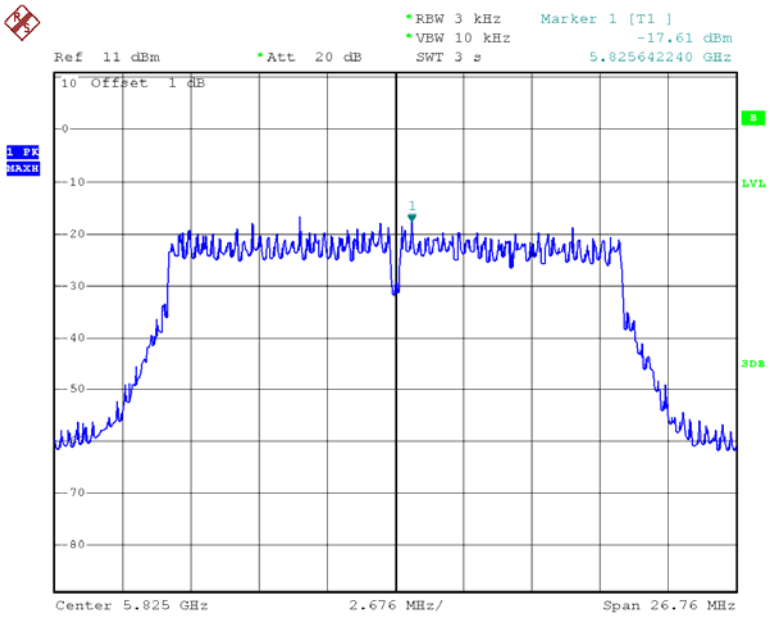
Date: 13.MAR.2013 15:41:23

Chain 2:Power Spectral Density, 802.11ac20 Middle Channel



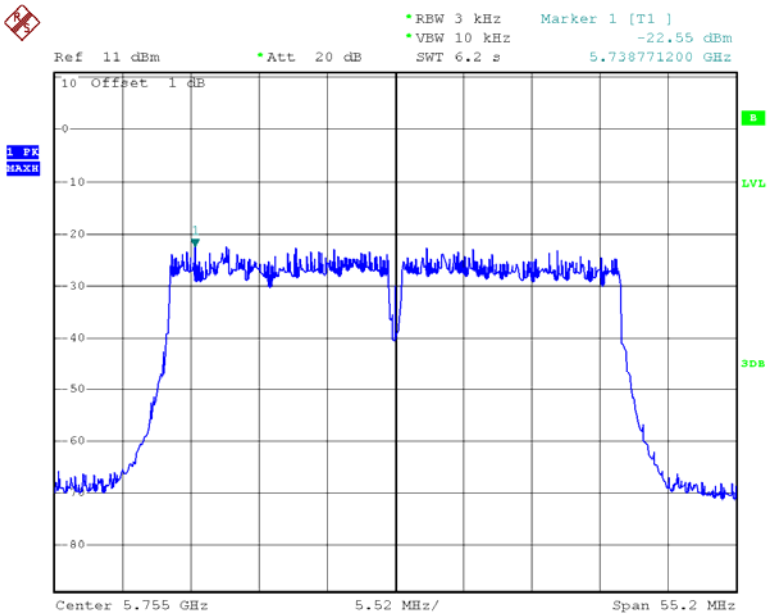
Date: 13.MAR.2013 15:58:17

Chain 2:Power Spectral Density, 802.11ac20 High Channel



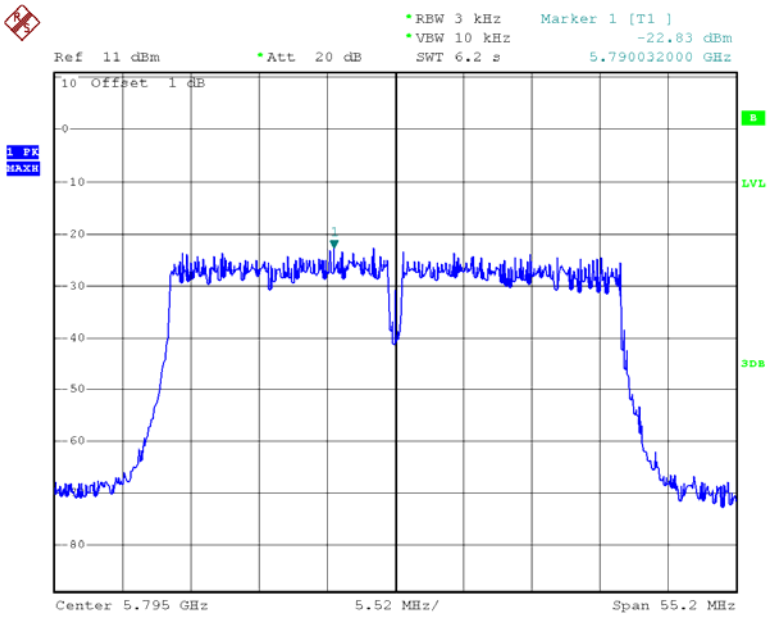
Date: 13.MAR.2013 16:19:42

Chain 2:Power Spectral Density, 802.11ac40 Low Channel



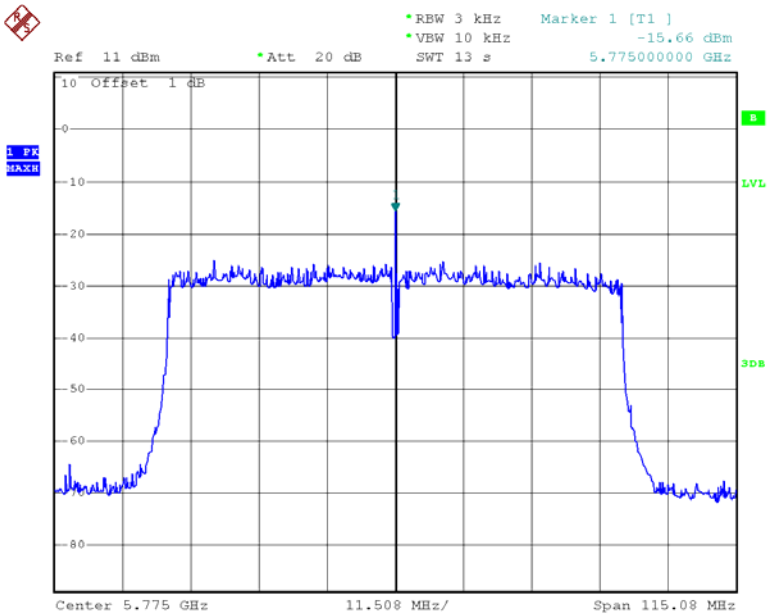
Date: 13.MAR.2013 16:31:11

Chain 2:Power Spectral Density, 802.11ac40 High Channel



Date: 13.MAR.2013 16:52:03

Chain 2:Power Spectral Density, 802.11ac80 Low Channel



Date: 25.FEB.2013 13:19:35

******* END OF REPORT *******