



FCC PART 15.247

TEST REPORT

For

BearExtender

1406 Henry Street, Berkeley, California, 94709, USA

FCC ID: AMB-BE0272

Report Type: Original Report	Product Type: 1200Mbps 11AC Wireless Dual Band USB Adapter
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *BearExtender*'s product, model number: *BearExtender Turbo* (FCC ID: *AMB-BE0272*) or ("EUT") in this report is a *1200Mbps 11AC Wireless Dual Band USB Adapter*, which was measured approximately: 9.0 cm (L) x 5.5 cm (W) x 1.7 cm (H), rated input voltage: DC 5V.

* All measurement and test data in this report was gathered from production sample serial number: 130930001 (Assigned by BACL, Dongguan). The EUT was received on 2013-09-30.

Antenna information

Chain	manufacturer	Model Name	Antenna Type	Max. Antenna Gain
0	huaDeChang	124041950	Dipole	2400-2500MHz:2.17dBi 5150-5350MHz:1.5dBi 5725-5850MHz:2.20dBi
1	huaDeChang	124041950	Dipole	2400-2500MHz:2.17dBi 5150-5350MHz:1.5dBi 5725-5850MHz:2.20dBi

Objective

This report is prepared on behalf of *BearExtender* accordance with Part 2-Subpart J, Part 15-Subparts A, B and C of the Federal Communications Commission 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 15E NII submissions with FCC ID: *AMB-BE0272*.
FCC Part 15B JBP submissions with FCC ID: *AMB-BE0272*.

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).

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 Communications 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.

Additionally, Bay Area Compliance Laboratories Corp. (Dongguan) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 500069-0).



The current scope of accreditations can be found at <http://ts.nist.gov/standards/scopes/5000690.htm>

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in testing mode, which was provided by manufacturer.
For 2.4G band, 11 channels are provided to testing:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437	/	/

For 802.11b, 802.11g, and 802.11n20 modes were tested with Channel 1, 6 and 11. For 802.11n40 mode were tested with Channel 3, 6 and 9.

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 802.11ac20, Channel 149, 157 and 165 was tested, for 802.11n ht40 and 802.11ac40, Channel 151, 159 was tested, for 802.11ac80, 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 data rates bandwidths, and modulations.

For 802.11a, 802.11b and 802.11g, the EUT can transmit with chain 0 or chain 1, therefore investigated worst case to representative chain 0 in test report.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

The software “MP-TOOL” was used for testing, which was provided by manufacturer. The worst condition (maximum power) was setting by the software as following table:

For 2.4GHz:

Test Mode	Test Software Version	MP-TOOL		
802.11b	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	1Mbps	1Mbps	1Mbps
	Power Level Setting	34	34	35
802.11g	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting	38	38	38
2.4G band-802.11n ht20	Test Frequency	2412MHz	2437MHz	2462MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting (Ant 1)	32	32	32
	Power Level Setting (Ant 2)	33	33	33
2.4G band-802.11n ht40	Test Frequency	2422MHz	2437MHz	2452MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting (Ant 1)	35	35	35
	Power Level Setting (Ant 2)	36	36	36

For 5GHz:

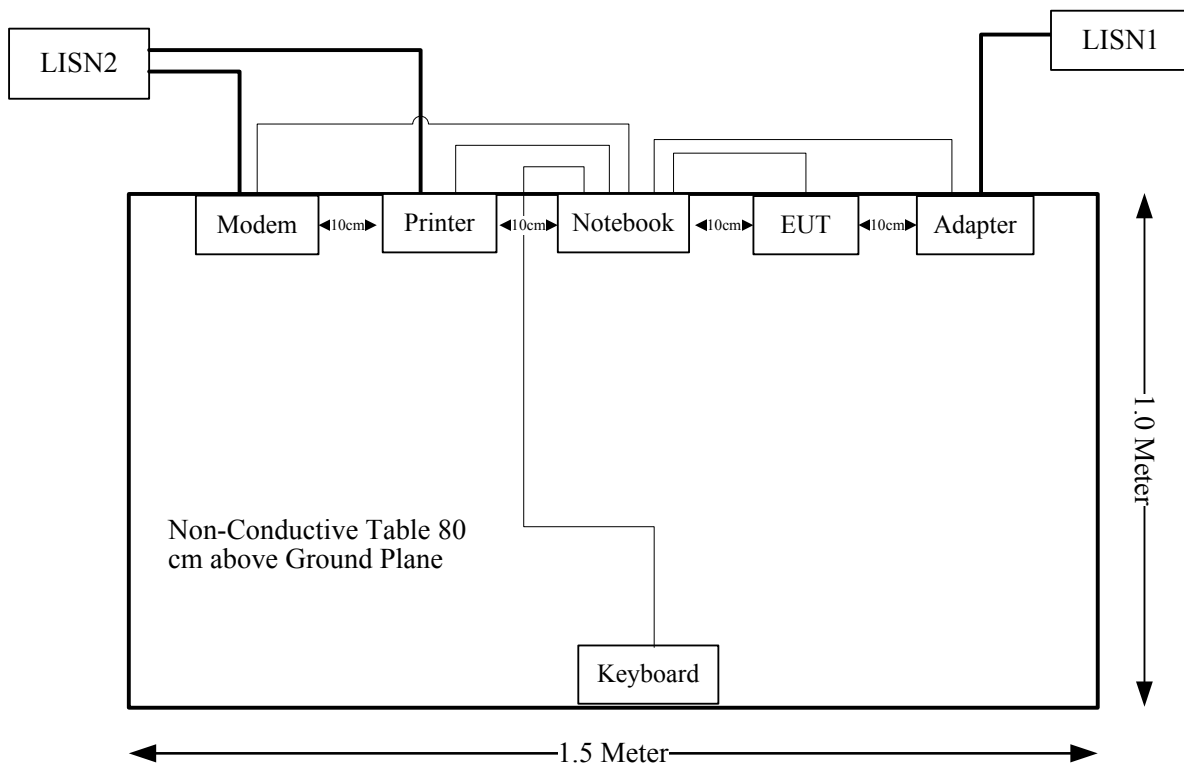
Test Mode	Test Software Version	MP-TOOL		
5G band 802.11a	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	6Mbps	6Mbps	6Mbps
	Power Level Setting	37	38	38
5G band 802.11n ht20	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting (Ant 1)	32	32	32
	Power Level Setting (Ant 2)	30	30	31
5G band 802.11n ht40	Test Frequency	5755MHz	/	5795MHz
	Data Rate	MCS0	MCS0	MCS0
	Power Level Setting (Ant 1)	35	/	35
	Power Level Setting (Ant 2)	35	/	35
5G band 802.11 ac20	Test Frequency	5745MHz	5785MHz	5825MHz
	Data Rate	NSS MCS0	NSS MCS0	NSS MCS0
	Power Level Setting (Ant 1)	32	32	32
	Power Level Setting (Ant 2)	31	31	31
5G band 802.11 ac40	Test Frequency	5755MHz	/	5795MHz
	Data Rate	NSS MCS0	/	NSS MCS0
	Power Level Setting (Ant 1)	35	/	35
	Power Level Setting (Ant 2)	35	/	35
5G band 802.11 ac80	Test Frequency	5775MHz	/	/
	Data Rate	NSS MCS0	/	/
	Power Level Setting (Ant 1)	31	/	/
	Power Level Setting (Ant 2)	31	/	/

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
HP	Printer	C3941A	JPTVOB2337
DELL	Keyboard	L100	CNORH656658907BL05DC
SAST	Modem	AEM-2100	0293
DELL	Notebook	PP11L	QDS-BRCM1017

External Cable

Cable Description	Shielding Type	Ferrite Core	Length (m)	From Port	To
Detachable Printer Cable	yes	No	1.2	Notebook	Printer
Detachable Serial Cable	yes	No	1.2	Notebook	Modem
Detachable Keyboard Cable	yes	No	1.5	Notebook	Keyboard
Detachable USB Cable	Yes	No	1.5	Notebook	EUT

Block Diagram of Test Setup

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.247 (i) & §1.1310 & §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 conducted 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) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.247(i) and subpart §1.1310, 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/f ²)	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/cm²);

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)			
2.4G-802.11b	2412	2.17	1.65	17.87	61.24	20.00	0.02009	1.0
2.4G-802.11g	2437	2.17	1.65	13.78	23.88	20.00	0.00783	1.0
2.4G-802.11n20	2437	2.17	1.65	14.36	27.29	20.00	0.00895	1.0
2.4G-802.11n40	2422	2.17	1.65	13.08	20.32	20.00	0.00667	1.0
802.11a	5825	2.20	1.66	12.92	19.59	20.00	0.00647	1.0
5G-802.11n20	5825	2.20	1.66	13.55	22.65	20.00	0.00748	1.0
5G-802.11n40	5755	2.20	1.66	13.24	21.09	20.00	0.00697	1.0
5G-802.11ac20	5745	2.20	1.66	13.2	20.89	20.00	0.00690	1.0
5G-802.11ac40	5755	2.20	1.66	13.49	22.34	20.00	0.00738	1.0
5G-802.11ac80	5775	2.20	1.66	11.36	13.68	20.00	0.00452	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 two dipole antennas, which was used a unique type of connector to attach to the EUT, and complied with 15.203, the maximum gain is 2.17 dBi in 2400-2483.5MHz and 2.20dBi in 5725-5850MHz, 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_{cisp} 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_{cisp} of Table 1, then:

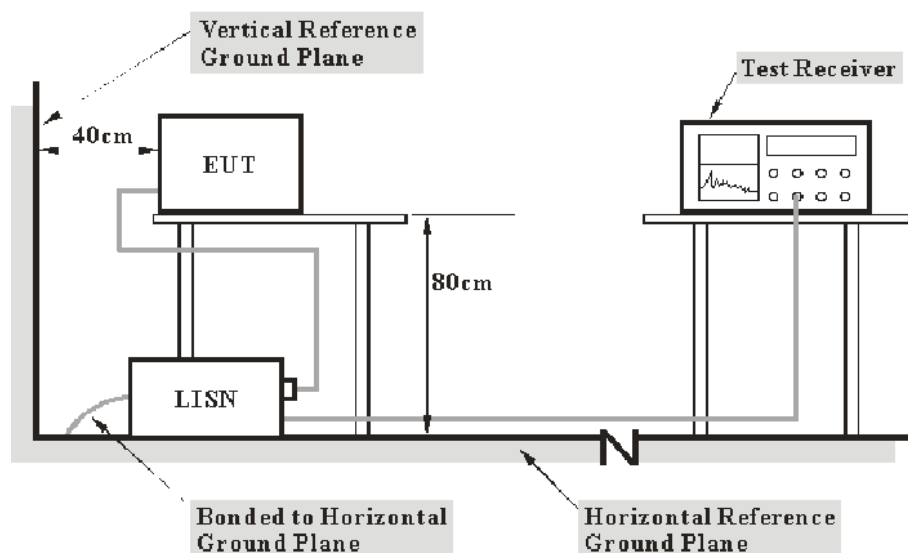
- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cisp})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cisp})$, exceeds the disturbance limit.

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_{cisp}

Measurement	U_{cisp}
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 first LISN and the other support equipments were connected to the outlet of the second 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:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

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	Two-line V-network	ENV216	3560.6550.12	2013-2-18	2014-2-17
R&S	L.I.S.N	ESH3-Z5	100113	2012-11-29	2013-11-28
BACL	Test Software	BACL-EMC	V1.0-2010	N/A	N/A

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

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:

10.07 dB at 0.440 MHz in the **Line** conducted mode

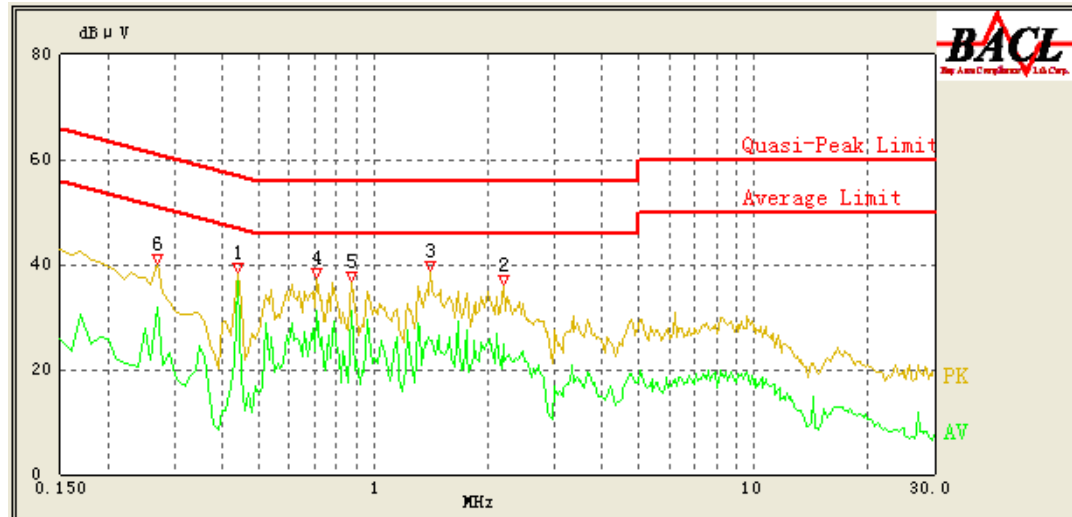
Test Data**Environmental Conditions**

Temperature:	27.1 ° C
Relative Humidity:	50 %
ATM Pressure:	100.3 kPa

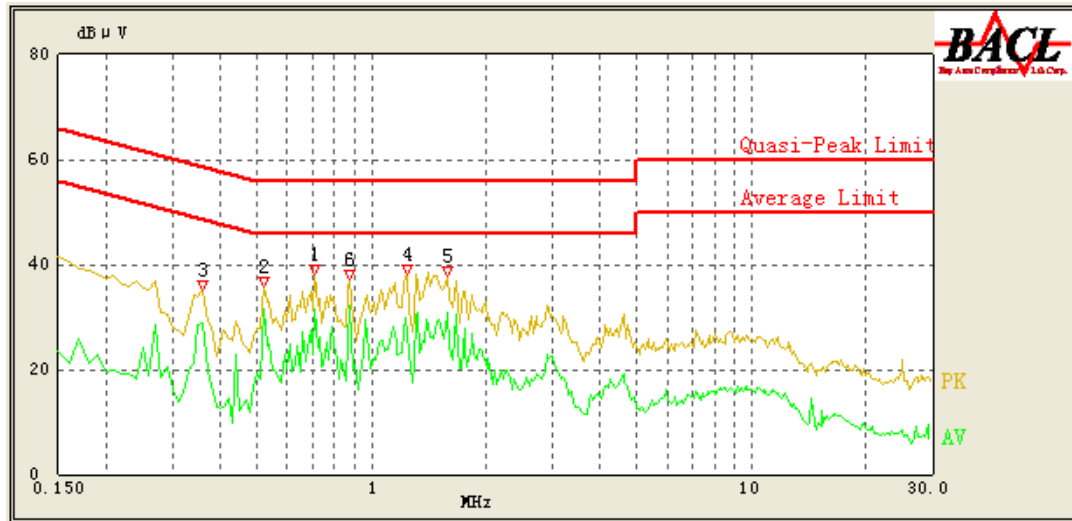
The testing was performed by Leon Chen on 2013-10-08.

Test Mode: Transmitting

120 V, 60 Hz, Line:



Frequency (MHz)	Cord. Reading (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/AV/QP)
0.440	37.21	0.32	57.06	19.85	QP
0.440	36.99	0.32	47.06	10.07	AV
2.200	30.34	0.37	56.00	25.66	QP
2.200	24.99	0.37	46.00	21.01	AV
1.410	32.22	0.34	56.00	23.78	QP
1.410	25.65	0.34	46.00	20.35	AV
0.710	35.81	0.31	56.00	20.19	QP
0.710	31.27	0.31	46.00	14.73	AV
0.880	34.05	0.32	56.00	21.95	QP
0.880	31.02	0.32	46.00	14.98	AV
0.270	35.71	0.37	61.12	25.41	QP
0.270	31.59	0.37	51.12	19.53	AV

120 V, 60 Hz, Neutral:

Frequency (MHz)	Cord. Reading (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/AV/QP)
0.710	35.05	0.22	56.00	20.95	QP
0.710	31.64	0.22	46.00	14.36	AV
0.520	33.34	0.21	56.00	22.66	QP
0.520	31.49	0.21	46.00	14.51	AV
0.360	31.75	0.22	60.00	28.25	QP
0.360	28.69	0.22	50.00	21.31	AV
1.240	34.40	0.24	56.00	21.60	QP
1.240	26.83	0.24	46.00	19.17	AV
1.590	34.28	0.25	56.00	21.72	QP
1.590	30.91	0.25	46.00	15.09	AV
0.880	34.64	0.23	56.00	21.36	QP
0.880	32.18	0.23	46.00	13.82	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_{cisp} 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_{cisp} of Table 2, then:

- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cisp})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cisp})$, 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:

30M~200MHz: 5.0 dB

200M~1GHz: 6.2 dB

1G~6GHz: 4.45 dB

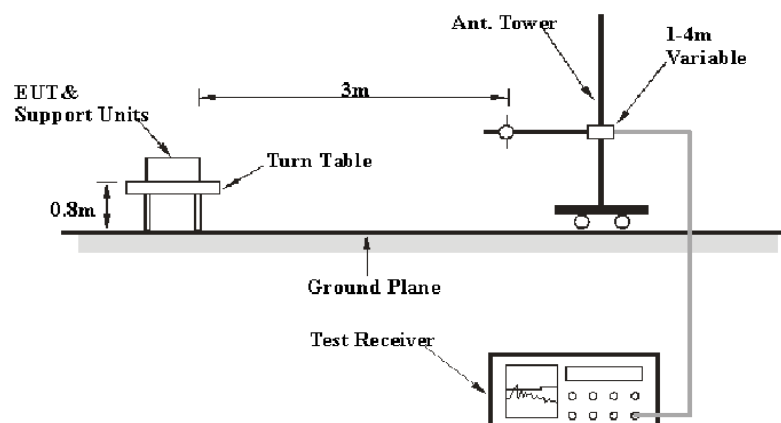
6G~18GHz: 5.23 dB

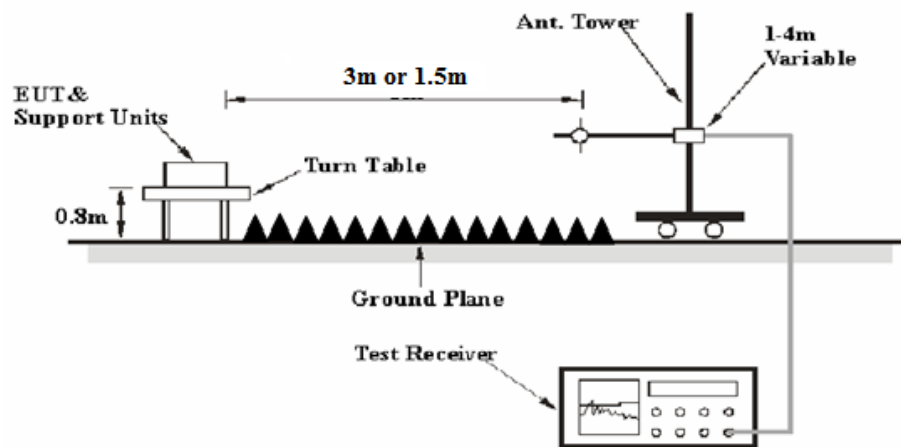
Table 2 – Values of U_{cisp}

Measurement	U_{cisp}
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

EUT Setup

Below 1GHz:



Above 1GHz:

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	IF B/W	Detector
30MHz – 1000 MHz	120 kHz	300 kHz	120kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

Test Procedure

During the radiated emission test, the adapter was connected to the first AC floor outlet and the other support equipments were connected to the second 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.

According to C63.4, the above 1G test result shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade from 3m to 1.5m for the fundamental above 5GHz,
 Distance extrapolation factor = $20 \log(3\text{m}/1.5\text{m})$ dB
 Extrapolation result = Corrected Amplitude (dB μ V/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:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Loss} + \text{Cable Loss} - \text{Amplifier Gain}$$

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:

$$\text{Margin} = \text{Limit} - \text{Extrapolation result}$$

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI TEST RECEIVER	ESCI	100224	2013-5-6	2014-5-5
Sunol Sciences	Antenna	JB3	A060611-1	2011-9-6	2014-9-5
HP	HP AMPLIFIER	8447E	2434A02181	N/A	N/A
R&S	Spectrum analyzer	FSEM 30	849016/001	2012-12-7	2013-12-6
ETS LINDGREN	horn antenna	3115	000 527 35	2012-9-6	2015-9-5
Mini-Circuit	Amplifier	ZVA-213-S+	054201245	N/A	N/A
R&S	Spectrum analyzer	FSP 38	100478	2013-6-16	2014-6-15
Ducommun Technologies	Horn antenna	ARH-4223-02	1007726-02-1304	2013-6-16	2014-6-15
Ducommun Technologies	Horn antenna	ARH-2823-02	1007726-02-1302	2013-6-16	2014-6-15
QUINSTAR	Amplifier	QLW-18045536-JO	15964001001	N/A	N/A

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

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:

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

Test Data**Environmental Conditions**

Temperature:	24.3~25.9 °C
Relative Humidity:	56~62 %
ATM Pressure:	100.5~100.8 kPa

The testing was performed by Leon Chen from 2013-10-10 to 2013-10-12

Mode: Transmitting

2.4G band (test at 3m):
802.11b Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2412 MHz									
2412	70.65	PK	H	25.67	3.93	0.00	100.25	N/A	N/A
2412	66.09	AV	H	25.67	3.93	0.00	95.69	N/A	N/A
2412	71.57	PK	V	25.67	3.93	0.00	101.17	N/A	N/A
2412	67.32	AV	V	25.67	3.93	0.00	96.92	N/A	N/A
2390	26.95	PK	V	25.61	3.84	0.00	56.40	74.00	17.60
2390	14.33	AV	V	25.61	3.84	0.00	43.78	54.00	10.22
4824	35.62	PK	V	30.64	4.73	27.26	43.73	74.00	30.27
4824	30.21	AV	V	30.64	4.73	27.26	38.32	54.00	15.68
7236	33.24	PK	V	34.17	6.56	26.36	47.61	74.00	26.39
7236	18.62	AV	V	34.17	6.56	26.36	32.99	54.00	21.01
9648	32.24	PK	V	36.06	8.70	26.06	50.94	74.00	23.06
9648	18.13	AV	V	36.06	8.70	26.06	36.83	54.00	17.17
1456.36	32.28	PK	V	23.49	2.89	27.07	31.59	74.00	42.41
1456.36	18.12	AV	V	23.49	2.89	27.07	17.43	54.00	36.57
53.28	49.9	QP	V	7.87	0.94	21.41	37.30	40.00	2.70*
Middle Channel: 2437 MHz									
2437	70.46	PK	H	25.74	3.98	0.00	100.18	N/A	N/A
2437	66.02	AV	H	25.74	3.98	0.00	95.74	N/A	N/A
2437	71.68	PK	V	25.74	3.98	0.00	101.40	N/A	N/A
2437	67.42	AV	V	25.74	3.98	0.00	97.14	N/A	N/A
4874	36.25	PK	V	30.77	4.76	27.26	44.52	74.00	29.48
4874	31.33	AV	V	30.77	4.76	27.26	39.60	54.00	14.40
7311	33.25	PK	V	34.35	6.70	26.51	47.79	74.00	26.21
7311	18.57	AV	V	34.35	6.70	26.51	33.11	54.00	20.89
9748	32.47	PK	V	36.30	8.60	25.68	51.69	74.00	22.31
9748	18.3	AV	V	36.30	8.60	25.68	37.52	54.00	16.48
1432.52	32.28	PK	V	23.42	2.85	27.10	31.45	74.00	42.55
1432.52	18.06	AV	V	23.42	2.85	27.10	17.23	54.00	36.77
1625.36	32.52	AV	V	23.85	3.17	26.91	32.63	54.00	21.37
1625.36	18.24	AV	V	23.85	3.17	26.91	18.35	54.00	35.65
53.31	49.8	QP	V	7.87	0.94	21.41	37.20	40.00	2.80*
High Channel: 2462 MHz									
2462	70.32	PK	H	25.80	3.93	0.00	100.05	N/A	N/A
2462	65.89	AV	H	25.80	3.93	0.00	95.62	N/A	N/A
2462	71.62	PK	V	25.80	3.93	0.00	101.35	N/A	N/A
2462	67.57	AV	V	25.80	3.93	0.00	97.30	N/A	N/A
2483.5	27.11	PK	V	25.86	3.80	0.00	56.77	74.00	17.23
2483.5	13.69	AV	V	25.86	3.80	0.00	43.35	54.00	10.65
4924	37.56	PK	V	30.90	4.70	27.27	45.89	74.00	28.11
4924	32.84	AV	V	30.90	4.70	27.27	41.17	54.00	12.83
7386	33.25	PK	V	34.53	6.84	26.66	47.96	74.00	26.04
7386	18.69	AV	V	34.53	6.84	26.66	33.40	54.00	20.60
9848	32.58	PK	V	36.54	8.49	25.49	52.12	74.00	21.88
9848	18.12	AV	V	36.54	8.49	25.49	37.66	54.00	16.34
1625.36	33.54	PK	V	23.85	3.17	26.91	33.65	74.00	40.35
1625.36	18.24	AV	V	23.85	3.17	26.91	18.35	54.00	35.65
53.28	49.9	QP	V	7.87	0.94	21.41	37.30	40.00	2.70*

*Within measurement uncertainty!

802.11g Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2412 MHz									
2412	66.32	PK	H	25.67	3.93	0.00	95.92	N/A	N/A
2412	55.14	AV	H	25.67	3.93	0.00	84.74	N/A	N/A
2412	67.24	PK	V	25.67	3.93	0.00	96.84	N/A	N/A
2412	56.21	AV	V	25.67	3.93	0.00	85.81	N/A	N/A
2390	26.37	PK	V	25.61	3.84	0.00	55.82	74.00	18.18
2390	13.48	AV	V	25.61	3.84	0.00	42.93	54.00	11.07
4824	33.24	PK	V	30.64	4.73	27.26	41.35	74.00	32.65
4824	18.67	AV	V	30.64	4.73	27.26	26.78	54.00	27.22
7236	32.83	PK	V	34.17	6.56	26.36	47.20	74.00	26.80
7236	18.32	AV	V	34.17	6.56	26.36	32.69	54.00	21.31
9648	32.68	PK	V	36.06	8.70	26.06	51.38	74.00	22.62
9648	18.12	AV	V	36.06	8.70	26.06	36.82	54.00	17.18
1325.65	32.58	PK	V	23.15	2.74	27.18	31.29	74.00	42.71
1325.65	18.14	AV	V	23.15	2.74	27.18	16.85	54.00	37.15
53.25	49.7	QP	V	7.88	0.94	21.41	37.11	40.00	2.89*
Middle Channel: 2437 MHz									
2437	65.43	PK	H	25.74	3.98	0.00	95.15	N/A	N/A
2437	54.12	AV	H	25.74	3.98	0.00	83.84	N/A	N/A
2437	66.98	PK	V	25.74	3.98	0.00	96.70	N/A	N/A
2437	55.56	AV	V	25.74	3.98	0.00	85.28	N/A	N/A
4874	33.52	PK	V	30.77	4.76	27.26	41.79	74.00	32.21
4874	18.54	AV	V	30.77	4.76	27.26	26.81	54.00	27.19
7311	32.74	PK	V	34.35	6.70	26.51	47.28	74.00	26.72
7311	18.2	AV	V	34.35	6.70	26.51	32.74	54.00	21.26
9748	32.33	PK	V	36.30	8.60	25.68	51.55	74.00	22.45
9748	18.28	AV	V	36.30	8.60	25.68	37.50	54.00	16.50
1365.25	32.75	PK	V	23.25	2.89	27.16	31.73	74.00	42.27
1365.25	18.12	AV	V	23.25	2.89	27.16	17.10	54.00	36.90
1587.28	32.25	PK	V	23.77	3.14	26.91	32.25	74.00	41.75
1587.28	18.11	AV	V	23.77	3.14	26.91	18.11	54.00	35.89
53.26	49.8	QP	V	7.88	0.94	21.41	37.21	40.00	2.79*
High Channel: 2462 MHz									
2462	65.87	PK	H	25.80	3.93	0.00	95.60	N/A	N/A
2462	54.32	AV	H	25.80	3.93	0.00	84.05	N/A	N/A
2462	66.82	PK	V	25.80	3.93	0.00	96.55	N/A	N/A
2462	55.43	AV	V	25.80	3.93	0.00	85.16	N/A	N/A
2483.5	26.35	PK	V	25.86	3.80	0.00	56.01	74.00	17.99
2483.5	13.57	AV	V	25.86	3.80	0.00	43.23	54.00	10.77
4924	33.42	PK	V	30.90	4.70	27.27	41.75	74.00	32.25
4924	18.47	AV	V	30.90	4.70	27.27	26.80	54.00	27.20
7386	32.57	PK	V	34.53	6.84	26.66	47.28	74.00	26.72
7386	18.26	AV	V	34.53	6.84	26.66	32.97	54.00	21.03
9848	32.32	PK	V	36.54	8.49	25.49	51.86	74.00	22.14
9848	18.11	AV	V	36.54	8.49	25.49	37.65	54.00	16.35
1462.53	33.75	PK	V	23.50	2.92	27.06	33.11	74.00	40.89
1462.53	18.26	AV	V	23.50	2.92	27.06	17.62	54.00	36.38
53.28	49.8	QP	V	7.87	0.94	21.41	37.20	40.00	2.80*

*Within measurement uncertainty!

802.11 n20 Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2412 MHz									
2412	65.93	PK	H	25.67	3.93	0.00	95.53	N/A	N/A
2412	53.87	AV	H	25.67	3.93	0.00	83.47	N/A	N/A
2412	68.12	PK	V	25.67	3.93	0.00	97.72	N/A	N/A
2412	56.32	AV	V	25.67	3.93	0.00	85.92	N/A	N/A
2390	29.23	PK	V	25.61	3.84	0.00	58.68	74.00	15.32
2390	14.3	AV	V	25.61	3.84	0.00	43.75	54.00	10.25
4824	33.52	PK	V	30.64	4.73	27.26	41.63	74.00	32.37
4824	18.46	AV	V	30.64	4.73	27.26	26.57	54.00	27.43
7236	32.68	PK	V	34.17	6.56	26.36	47.05	74.00	26.95
7236	18.21	AV	V	34.17	6.56	26.36	32.58	54.00	21.42
9648	32.45	PK	V	36.06	8.70	26.06	51.15	74.00	22.85
9648	18.21	AV	V	36.06	8.70	26.06	36.91	54.00	17.09
1635.25	35.26	PK	V	23.87	3.17	26.92	35.38	74.00	38.62
1635.25	19.12	AV	V	23.87	3.17	26.92	19.24	54.00	34.76
53.35	49.8	QP	V	7.86	0.94	21.41	37.19	40.00	2.81*
Middle Channel: 2437 MHz									
2437	66.12	PK	H	25.74	3.98	0.00	95.84	N/A	N/A
2437	54.06	AV	H	25.74	3.98	0.00	83.78	N/A	N/A
2437	68.87	PK	V	25.74	3.98	0.00	98.59	N/A	N/A
2437	56.74	AV	V	25.74	3.98	0.00	86.46	N/A	N/A
4874	33.14	PK	V	30.77	4.76	27.26	41.41	74.00	32.59
4874	18.52	AV	V	30.77	4.76	27.26	26.79	54.00	27.21
7311	32.47	PK	V	34.35	6.70	26.51	47.01	74.00	26.99
7311	18.23	AV	V	34.35	6.70	26.51	32.77	54.00	21.23
9748	32.46	PK	V	36.30	8.60	25.68	51.68	74.00	22.32
9748	18.27	AV	V	36.30	8.60	25.68	37.49	54.00	16.51
1632.58	34.26	PK	V	23.87	3.17	26.92	34.38	74.00	39.62
1632.58	18.57	AV	V	23.87	3.17	26.92	18.69	54.00	35.31
2136.25	32.87	PK	V	24.95	3.58	27.22	34.18	74.00	39.82
2136.25	18.67	AV	V	24.95	3.58	27.22	19.98	54.00	34.02
53.22	49.6	QP	V	7.89	0.94	21.41	37.02	40.00	2.98*
High Channel: 2462 MHz									
2462	65.57	PK	H	25.80	3.93	0.00	95.30	N/A	N/A
2462	53.63	AV	H	25.80	3.93	0.00	83.36	N/A	N/A
2462	68.32	PK	V	25.80	3.93	0.00	98.05	N/A	N/A
2462	56.47	AV	V	25.80	3.93	0.00	86.20	N/A	N/A
2483.5	28.65	PK	V	25.86	3.80	0.00	58.31	74.00	15.69
2483.5	13.57	AV	V	25.86	3.80	0.00	43.23	54.00	10.77
4924	33.85	PK	V	30.90	4.70	27.27	42.18	74.00	31.82
4924	18.57	AV	V	30.90	4.70	27.27	26.90	54.00	27.10
7386	32.86	PK	V	34.53	6.84	26.66	47.57	74.00	26.43
7386	18.24	AV	V	34.53	6.84	26.66	32.95	54.00	21.05
9848	32.68	PK	V	36.54	8.49	25.49	52.22	74.00	21.78
9848	18.06	AV	V	36.54	8.49	25.49	37.60	54.00	16.40
1625.69	34.25	PK	V	23.85	3.17	26.91	34.36	74.00	39.64
1625.69	18.46	AV	V	23.85	3.17	26.91	18.57	54.00	35.43
53.29	49.8	QP	V	7.87	0.94	21.41	37.20	40.00	2.80*

*Within measurement uncertainty!

802.11 n40 Mode

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)					
Low Channel: 2422 MHz									
2422	62.35	PK	H	25.70	3.95	0.00	92.00	N/A	N/A
2422	50.44	AV	H	25.70	3.95	0.00	80.09	N/A	N/A
2422	64.77	PK	V	25.70	3.95	0.00	94.42	N/A	N/A
2422	52.73	AV	V	25.70	3.95	0.00	82.38	N/A	N/A
2390	26.88	PK	V	25.61	3.84	0.00	56.33	74.00	17.67
2390	14.35	AV	V	25.61	3.84	0.00	43.80	54.00	10.20
4844	33.86	PK	V	30.69	4.78	27.26	42.07	74.00	31.93
4844	18.57	AV	V	30.69	4.78	27.26	26.78	54.00	27.22
7266	32.74	PK	V	34.24	6.62	26.42	47.18	74.00	26.82
7266	18.24	AV	V	34.24	6.62	26.42	32.68	54.00	21.32
9688	32.42	PK	V	36.15	8.66	25.91	51.32	74.00	22.68
9688	18.11	AV	V	36.15	8.66	25.91	37.01	54.00	16.99
1426.68	33.68	PK	V	23.41	2.84	27.10	32.83	74.00	41.17
1426.68	18.36	AV	V	23.41	2.84	27.10	17.51	54.00	36.49
53.35	49.8	QP	V	7.86	0.94	21.41	37.19	40.00	2.81*
Middle Channel: 2437 MHz									
2437	62.68	PK	H	25.74	3.98	0.00	92.40	N/A	N/A
2437	50.37	AV	H	25.74	3.98	0.00	80.09	N/A	N/A
2437	64.35	PK	V	25.74	3.98	0.00	94.07	N/A	N/A
2437	52.47	AV	V	25.74	3.98	0.00	82.19	N/A	N/A
4874	33.68	PK	V	30.77	4.76	27.26	41.95	74.00	32.05
4874	18.45	AV	V	30.77	4.76	27.26	26.72	54.00	27.28
7311	32.74	PK	V	34.35	6.70	26.51	47.28	74.00	26.72
7311	18.32	AV	V	34.35	6.70	26.51	32.86	54.00	21.14
9748	32.24	PK	V	36.30	8.60	25.68	51.46	74.00	22.54
9748	18.15	AV	V	36.30	8.60	25.68	37.37	54.00	16.63
1625.32	35.24	PK	V	23.85	3.17	26.91	35.35	74.00	38.65
1625.32	18.62	AV	V	23.85	3.17	26.91	18.73	54.00	35.27
2546.68	32.54	PK	V	26.02	3.88	27.30	35.14	74.00	38.86
2546.68	18.21	AV	V	26.02	3.88	27.30	20.81	54.00	33.19
53.28	49.8	QP	V	7.87	0.94	21.41	37.20	40.00	2.80*
High Channel: 2452 MHz									
2452	62.09	PK	H	25.78	4.00	0.00	91.86	N/A	N/A
2452	50.12	AV	H	25.78	4.00	0.00	79.89	N/A	N/A
2452	64.58	PK	V	25.78	4.00	0.00	94.35	N/A	N/A
2452	52.86	AV	V	25.78	4.00	0.00	82.63	N/A	N/A
2483.5	26.15	PK	V	25.86	3.80	0.00	55.81	74.00	18.19
2483.5	13.64	AV	V	25.86	3.80	0.00	43.30	54.00	10.70
4904	33.86	PK	V	30.85	4.72	27.27	42.16	74.00	31.84
4904	18.57	AV	V	30.85	4.72	27.27	26.87	54.00	27.13
7356	32.68	PK	V	34.45	6.79	26.60	47.32	74.00	26.68
7356	18.23	AV	V	34.45	6.79	26.60	32.87	54.00	21.13
9808	32.74	PK	V	36.44	8.53	25.48	52.23	74.00	21.77
9808	18.15	AV	V	36.44	8.53	25.48	37.64	54.00	16.36
1628.65	35.26	PK	V	23.86	3.17	26.91	35.38	74.00	38.62
1628.65	18.67	AV	V	23.86	3.17	26.91	18.79	54.00	35.21
53.29	49.7	QP	V	7.87	0.94	21.41	37.10	40.00	2.90*

*Within measurement uncertainty!

5725-5850MHz band (test at 1.5m):
802.11a Mode:

Frequency	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Low Channel:5745 MHz										
5745	64.43	PK	H	32.15	5.10	0.00	101.68	95.68	N/A	N/A
5745	53.24	AV	H	32.15	5.10	0.00	90.49	84.49	N/A	N/A
5745	76.33	PK	V	32.15	5.10	0.00	113.58	107.58	N/A	N/A
5745	66.12	AV	V	32.15	5.10	0.00	103.37	97.37	N/A	N/A
5725	34.56	PK	V	32.15	4.83	0.00	71.54	65.54	74.00	8.46
5725	18.68	AV	V	32.15	4.83	0.00	55.66	49.66	54.00	4.34*
11490	34.62	PK	V	37.89	7.85	25.92	54.44	48.44	74.00	25.56
11490	25.72	AV	V	37.89	7.85	25.92	45.54	39.54	54.00	14.46
17235	33.25	PK	V	40.91	12.63	24.94	61.85	55.85	74.00	18.15
17235	18.32	AV	V	40.91	12.63	24.94	46.92	40.92	54.00	13.08
1896.35	32.69	PK	V	24.39	3.37	27.07	33.38	27.38	74.00	46.62
1896.35	17.98	AV	V	24.39	3.37	27.07	18.67	12.67	54.00	41.33
2436.25	33.25	PK	V	25.73	3.98	27.17	35.79	29.79	74.00	44.21
2436.25	18.26	AV	V	25.73	3.98	27.17	20.80	14.80	54.00	39.20
53.28	49.8	QP	V	7.87	0.94	21.41	37.20	37.20	40.00	2.80*
Middle Channel:5785 MHz										
5785	66.75	PK	H	32.16	5.15	0.00	104.06	98.06	N/A	N/A
5785	55.63	AV	H	32.16	5.15	0.00	92.94	86.94	N/A	N/A
5785	78.74	PK	V	32.16	5.15	0.00	116.05	110.05	N/A	N/A
5785	68.08	AV	V	32.16	5.15	0.00	105.39	99.39	N/A	N/A
11570	34.25	PK	V	37.90	7.97	25.91	54.21	48.21	74.00	25.79
11570	26.34	AV	V	37.90	7.97	25.91	46.30	40.30	54.00	13.70
17355	33.24	PK	V	41.63	12.26	24.68	62.45	56.45	74.00	17.55
17355	18.35	AV	V	41.63	12.26	24.68	47.56	41.56	54.00	12.44
1625.36	32.26	PK	V	23.85	3.17	26.91	32.37	26.37	74.00	47.63
1625.36	18.32	AV	V	23.85	3.17	26.91	18.43	12.43	54.00	41.57
2125.36	33.18	PK	V	24.93	3.66	27.21	34.56	28.56	74.00	45.44
2125.36	18.06	AV	V	24.93	3.66	27.21	19.44	13.44	51.00	37.56
3058.68	33.45	PK	V	27.39	6.01	27.48	39.37	33.37	74.00	40.63
3058.68	18.32	AV	V	27.39	6.01	27.48	24.24	18.24	54.00	35.76
53.25	49.8	QP	V	7.88	0.94	21.41	37.21	37.21	40.00	2.79*

High Channel:5825 MHz										
5825	68.04	PK	H	32.17	5.35	0.00	105.56	99.56	N/A	N/A
5825	56.85	AV	H	32.17	5.35	0.00	94.37	88.37	N/A	N/A
5825	80.27	PK	V	32.17	5.35	0.00	117.79	111.79	N/A	N/A
5825	68.55	AV	V	32.17	5.35	0.00	106.07	100.07	N/A	N/A
5850	38.92	PK	V	32.17	5.56	0.00	76.65	70.65	74.00	3.35*
5850	21.96	AV	V	32.17	5.56	0.00	59.69	53.69	54.00	0.31*
11650	34.01	PK	V	37.90	8.14	25.78	54.27	48.27	74.00	25.73
11650	26.27	AV	V	37.90	8.14	25.78	46.53	40.53	54.00	13.47
17475	33.25	PK	V	42.35	11.89	24.27	63.22	57.22	74.00	16.78
17475	18.36	AV	V	42.35	11.89	24.27	48.33	42.33	54.00	11.67
1626.32	33.24	PK	V	23.85	3.17	26.91	33.35	27.35	74.00	46.65
1626.32	18.14	AV	V	23.85	3.17	26.91	18.25	12.25	51.00	38.75
2126.58	32.28	PK	V	24.93	3.65	27.21	33.65	27.65	74.00	46.35
2126.58	17.86	AV	V	24.93	3.65	27.21	19.23	13.23	54.00	40.77
53.26	49.7	QP	V	7.88	0.94	21.41	37.11	37.11	40.00	2.89*

*Within measurement uncertainty!

802.11n ht20 Mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)							
Low Channel:5745 MHz										
5745	63.03	PK	H	32.15	5.10	0.00	100.28	94.28	N/A	N/A
5745	53.17	AV	H	32.15	5.10	0.00	90.42	84.42	N/A	N/A
5745	74.22	PK	V	32.15	5.10	0.00	111.47	105.47	N/A	N/A
5745	62.62	AV	V	32.15	5.10	0.00	99.87	93.87	N/A	N/A
5725	32.07	PK	V	32.15	4.83	0.00	69.05	63.05	74.00	10.95
5725	16.76	AV	V	32.15	4.83	0.00	53.74	47.74	54.00	6.26
11490	35.26	PK	V	37.89	7.85	25.92	55.08	49.08	74.00	24.92
11490	26.03	AV	V	37.89	7.85	25.92	45.85	39.85	54.00	14.15
17235	33.24	PK	V	40.91	12.63	24.94	61.84	55.84	74.00	18.16
17235	18.42	AV	V	40.91	12.63	24.94	47.02	41.02	54.00	12.98
1853.62	33.24	PK	V	24.31	3.64	27.05	34.14	28.14	74.00	45.86
1853.62	18.12	AV	V	24.31	3.64	27.05	19.02	13.02	54.00	40.98
2416.32	33.46	PK	V	25.68	3.94	27.15	35.93	29.93	74.00	44.07
2416.32	18.24	AV	V	25.68	3.94	27.15	20.71	14.71	54.00	39.29
53.25	49.7	QP	V	7.88	0.94	21.41	37.11	37.11	40.00	2.89*
Middle Channel:5785 MHz										
5785	65.32	PK	H	32.16	5.15	0.00	102.63	96.63	N/A	N/A
5785	55.28	AV	H	32.16	5.15	0.00	92.59	86.59	N/A	N/A
5785	76.48	PK	V	32.16	5.15	0.00	113.79	107.79	N/A	N/A
5785	64.36	AV	V	32.16	5.15	0.00	101.67	95.67	N/A	N/A
11570	35.62	PK	V	37.90	7.97	25.91	55.58	49.58	74.00	24.42
11570	26.53	AV	V	37.90	7.97	25.91	46.49	40.49	54.00	13.51
17355	33.28	PK	V	41.63	12.26	24.68	62.49	56.49	74.00	17.51
17355	18.12	AV	V	41.63	12.26	24.68	47.33	41.33	54.00	12.67
1636.52	32.58	PK	V	23.87	3.17	26.92	32.70	26.70	74.00	47.30
1636.52	17.86	AV	V	23.87	3.17	26.92	17.98	11.98	54.00	42.02
1958.62	33.58	PK	V	24.52	3.53	27.10	34.53	28.53	74.00	45.47
1958.62	18.26	AV	V	24.52	3.53	27.10	19.21	13.21	51.00	37.79
2635.62	33.47	PK	V	26.25	4.24	27.37	36.59	30.59	74.00	43.41
2635.62	18.06	AV	V	26.25	4.24	27.37	21.18	15.18	54.00	38.82
53.28	49.8	QP	V	7.87	0.94	21.41	37.20	37.20	40.00	2.80*

High Channel:5825 MHz										
5825	65.81	PK	H	32.17	5.35	0.00	103.33	97.33	N/A	N/A
5825	54.74	AV	H	32.17	5.35	0.00	92.26	86.26	N/A	N/A
5825	78.39	PK	V	32.17	5.35	0.00	115.91	109.91	N/A	N/A
5825	67.08	AV	V	32.17	5.35	0.00	104.60	98.60	N/A	N/A
5850	36.03	PK	V	32.17	5.56	0.00	73.76	67.76	74.00	6.24
5850	19.99	AV	V	32.17	5.56	0.00	57.72	51.72	54.00	2.28*
11650	35.62	PK	V	37.90	8.14	25.78	55.88	49.88	74.00	24.12
11650	26.21	AV	V	37.90	8.14	25.78	46.47	40.47	54.00	13.53
17475	33.25	PK	V	42.35	11.89	24.27	63.22	57.22	74.00	16.78
17475	18.24	AV	V	42.35	11.89	24.27	48.21	42.21	54.00	11.79
1859.63	32.68	PK	V	24.32	3.60	27.05	33.55	27.55	74.00	46.45
1859.63	17.45	AV	V	24.32	3.60	27.05	18.32	12.32	51.00	38.68
2145.32	33.69	PK	V	24.98	3.51	27.22	34.96	28.96	74.00	45.04
2145.32	18.21	AV	V	24.98	3.51	27.22	19.48	13.48	54.00	40.52
53.52	49.9	QP	V	7.83	0.95	21.41	37.27	37.27	40.00	2.73*

*Within measurement uncertainty!

802.11n ht40 Mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)							
Low Channel:5755 MHz										
5755	59.89	PK	H	32.15	5.17	0.00	97.21	91.21	N/A	N/A
5755	48.67	AV	H	32.15	5.17	0.00	85.99	79.99	N/A	N/A
5755	72.04	PK	V	32.15	5.17	0.00	109.36	103.36	N/A	N/A
5755	61.16	AV	V	32.15	5.17	0.00	98.48	92.48	N/A	N/A
5725	32.51	PK	V	32.15	4.83	0.00	69.49	63.49	74.00	10.51
5725	19.25	AV	V	32.15	4.83	0.00	56.23	50.23	54.00	3.77*
11510	35.62	PK	V	37.90	7.84	25.92	55.44	49.44	74.00	24.56
11510	26.41	AV	V	37.90	7.84	25.92	46.23	40.23	54.00	13.77
17265	33.62	PK	V	41.09	12.54	24.88	62.37	56.37	74.00	17.63
17265	18.52	AV	V	41.09	12.54	24.88	47.27	41.27	54.00	12.73
1625.36	33.48	PK	V	23.85	3.17	26.91	33.59	27.59	74.00	46.41
1625.36	18.23	AV	V	23.85	3.17	26.91	18.34	12.34	54.00	41.66
2145.52	32.69	PK	V	24.98	3.51	27.22	33.96	27.96	74.00	46.04
2145.52	17.86	AV	V	24.98	3.51	27.22	19.13	13.13	54.00	40.87
53.26	49.8	QP	V	7.88	0.94	21.41	37.21	37.21	40.00	2.79*
Middle Channel:5795 MHz										
5795	62.26	PK	H	32.16	5.14	0.00	99.56	93.56	N/A	N/A
5795	51.17	AV	H	32.16	5.14	0.00	88.47	82.47	N/A	N/A
5795	74.35	PK	V	32.16	5.14	0.00	111.65	105.65	N/A	N/A
5795	63.15	AV	V	32.16	5.14	0.00	100.45	94.45	N/A	N/A
5850	32.26	PK	V	32.17	5.56	0.00	69.99	63.99	74.00	10.01
5850	17.32	AV	V	32.17	5.56	0.00	55.05	49.05	54.00	4.95
11590	35.26	PK	V	37.90	8.01	25.91	55.26	49.26	74.00	24.74
11590	26.43	AV	V	37.90	8.01	25.91	46.43	40.43	54.00	13.57
17385	33.24	PK	V	41.81	12.17	24.61	62.61	56.61	74.00	17.39
17385	18.36	AV	V	41.81	12.17	24.61	47.73	41.73	54.00	12.27
1326.68	33.47	PK	V	23.15	2.75	27.18	32.19	26.19	74.00	47.81
1326.68	18.12	AV	V	23.15	2.75	27.18	16.84	10.84	51.00	40.16
2026.32	33.24	PK	V	24.67	3.63	27.14	34.40	28.40	74.00	45.60
2026.32	18.06	AV	V	24.67	3.63	27.14	19.22	13.22	54.00	40.78
53.28	49.8	QP	V	7.87	0.94	21.41	37.20	37.20	40.00	2.80*

*Within measurement uncertainty!

802.11ac20 Mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)							
Low Channel:5745 MHz										
5745	63.43	PK	H	32.15	5.10	0.00	100.68	94.68	N/A	N/A
5745	52.62	AV	H	32.15	5.10	0.00	89.87	83.87	N/A	N/A
5745	74.69	PK	V	32.15	5.10	0.00	111.94	105.94	N/A	N/A
5745	63.47	AV	V	32.15	5.10	0.00	100.72	94.72	N/A	N/A
5725	32.15	PK	V	32.15	4.83	0.00	69.13	63.13	74.00	10.87
5725	17.63	AV	V	32.15	4.83	0.00	54.61	48.61	54.00	5.39
11490	34.68	PK	V	37.89	7.85	25.92	54.50	48.50	74.00	25.50
11490	26.34	AV	V	37.89	7.85	25.92	46.16	40.16	54.00	13.84
17235	33.28	PK	V	40.91	12.63	24.94	61.88	55.88	74.00	18.12
17235	18.32	AV	V	40.91	12.63	24.94	46.92	40.92	54.00	13.08
1635.62	33.68	PK	V	23.87	3.17	26.92	33.80	27.80	74.00	46.20
1635.62	18.24	AV	V	23.87	3.17	26.92	18.36	12.36	54.00	41.64
2145.36	32.68	PK	V	24.98	3.51	27.22	33.95	27.95	74.00	46.05
2145.36	17.63	AV	V	24.98	3.51	27.22	18.90	12.90	54.00	41.10
53.28	49.6	QP	V	7.87	0.94	21.41	37.00	37.00	40.00	3.00*
Middle Channel:5785 MHz										
5785	64.63	PK	H	32.16	5.15	0.00	101.94	95.94	N/A	N/A
5785	53.81	AV	H	32.16	5.15	0.00	91.12	85.12	N/A	N/A
5785	76.87	PK	V	32.16	5.15	0.00	114.18	108.18	N/A	N/A
5785	65.27	AV	V	32.16	5.15	0.00	102.58	96.58	N/A	N/A
11570	34.26	PK	V	37.90	7.97	25.91	54.22	48.22	74.00	25.78
11570	26.17	AV	V	37.90	7.97	25.91	46.13	40.13	54.00	13.87
17355	33.48	PK	V	41.63	12.26	24.68	62.69	56.69	74.00	17.31
17355	18.36	AV	V	41.63	12.26	24.68	47.57	41.57	54.00	12.43
1635.62	33.61	PK	V	23.87	3.17	26.92	33.73	27.73	74.00	46.27
1635.62	18.24	AV	V	23.87	3.17	26.92	18.36	12.36	54.00	41.64
2536.21	32.86	PK	V	25.99	3.83	27.29	35.39	29.39	74.00	44.61
2536.21	17.68	AV	V	25.99	3.83	27.29	20.21	14.21	51.00	36.79
3748	33.69	PK	V	29.35	4.66	27.44	40.26	34.26	74.00	39.74
3748	18.14	AV	V	29.35	4.66	27.44	24.71	18.71	54.00	35.29
53.28	49.8	QP	V	7.87	0.94	21.41	37.20	37.20	40.00	2.80*

High Channel:5825 MHz										
5825	65.42	PK	H	32.17	5.35	0.00	102.94	96.94	N/A	N/A
5825	54.23	AV	H	32.17	5.35	0.00	91.75	85.75	N/A	N/A
5825	78.96	PK	V	32.17	5.35	0.00	116.48	110.48	N/A	N/A
5825	67.53	AV	V	32.17	5.35	0.00	105.05	99.05	N/A	N/A
5850	36.36	PK	V	32.17	5.56	0.00	74.09	68.09	74.00	5.91
5850	18.67	AV	V	32.17	5.56	0.00	56.40	50.40	54.00	3.60*
11650	34.68	PK	V	37.90	8.14	25.78	54.94	48.94	74.00	25.06
11650	26.21	AV	V	37.90	8.14	25.78	46.47	40.47	54.00	13.53
1953.97	33.59	PK	V	24.51	3.53	27.10	34.53	28.53	74.00	45.47
1953.97	18.76	AV	V	24.51	3.53	27.10	19.70	13.70	54.00	40.30
2135.62	33.35	PK	V	24.95	3.59	27.22	34.67	28.67	74.00	45.33
2135.62	18.42	AV	V	24.95	3.59	27.22	19.74	13.74	51.00	37.26
2658.39	32.68	PK	V	26.31	4.31	27.36	35.94	29.94	74.00	44.06
2658.39	18.17	AV	V	26.31	4.31	27.36	21.43	15.43	54.00	38.57
53.25	49.8	QP	V	7.88	0.94	21.41	37.21	37.21	40.00	2.79*

*Within measurement uncertainty!

802.11ac40 Mode:

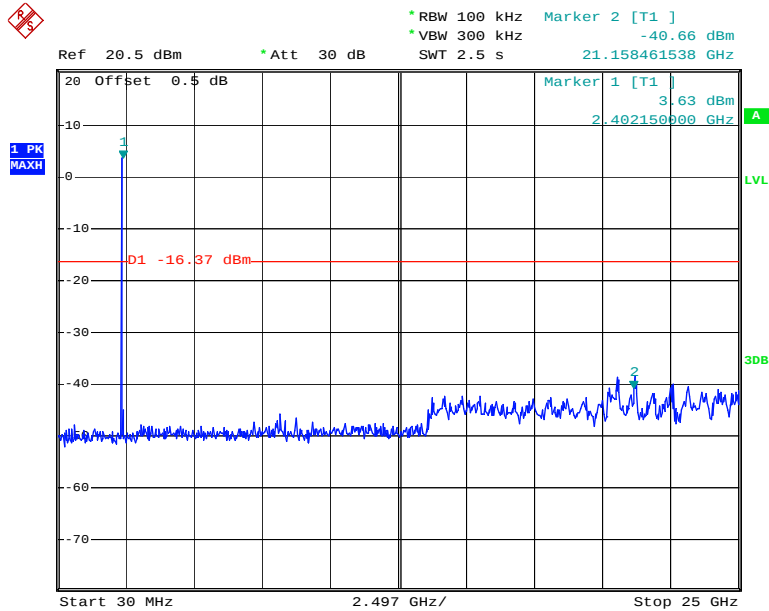
Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)							
Low Channel:5755 MHz										
5755	59.96	PK	H	32.15	5.17	0.00	97.28	91.28	N/A	N/A
5755	48.72	AV	H	32.15	5.17	0.00	86.04	80.04	N/A	N/A
5755	72.32	PK	V	32.15	5.17	0.00	109.64	103.64	N/A	N/A
5755	61.23	AV	V	32.15	5.17	0.00	98.55	92.55	N/A	N/A
5725	32.42	PK	V	32.15	4.83	0.00	69.40	63.40	74.00	10.60
5725	19.24	AV	V	32.15	4.83	0.00	56.22	50.22	54.00	3.78*
11510	36.25	PK	V	37.90	7.84	25.92	56.07	50.07	74.00	23.93
11510	26.52	AV	V	37.90	7.84	25.92	46.34	40.34	54.00	13.66
17265	33.68	PK	V	41.09	12.54	24.88	62.43	56.43	74.00	17.57
17265	18.53	AV	V	41.09	12.54	24.88	47.28	41.28	54.00	12.72
1658.63	33.24	PK	V	23.92	3.17	26.93	33.40	27.40	74.00	46.60
1658.63	18.24	AV	V	23.92	3.17	26.93	18.40	12.40	54.00	41.60
2145.63	32.69	PK	V	24.98	3.51	27.22	33.96	27.96	74.00	46.04
2145.63	17.89	AV	V	24.98	3.51	27.22	19.16	13.16	54.00	40.84
53.28	49.8	QP	V	7.87	0.94	21.41	37.20	37.20	40.00	2.80*
High Channel Channel:5795 MHz										
5795	62.42	PK	H	32.16	5.14	0.00	99.72	93.72	N/A	N/A
5795	51.38	AV	H	32.16	5.14	0.00	88.68	82.68	N/A	N/A
5795	74.69	PK	V	32.16	5.14	0.00	111.99	105.99	N/A	N/A
5795	63.01	AV	V	32.16	5.14	0.00	100.31	94.31	N/A	N/A
5850	30.58	PK	V	32.17	5.56	0.00	68.31	62.31	74.00	11.69
5850	16.98	AV	V	32.17	5.56	0.00	54.71	48.71	54.00	5.29
11590	35.25	PK	V	37.90	8.01	25.91	55.25	49.25	74.00	24.75
11590	26.18	AV	V	37.90	8.01	25.91	46.18	40.18	54.00	13.82
17385	33.58	PK	V	41.81	12.17	24.61	62.95	56.95	74.00	17.05
17385	18.42	AV	V	41.81	12.17	24.61	47.79	41.79	54.00	12.21
1658.36	33.42	PK	V	23.92	3.17	26.93	33.58	27.58	74.00	46.42
1658.36	18.16	AV	V	23.92	3.17	26.93	18.32	12.32	51.00	38.68
2154.36	32.98	PK	V	25.00	3.48	27.23	34.23	28.23	74.00	45.77
2154.36	17.68	AV	V	25.00	3.48	27.23	18.93	12.93	54.00	41.07
53.53	49.8	QP	V	7.82	0.95	21.41	37.16	37.16	40.00	2.84*

*Within measurement uncertainty!

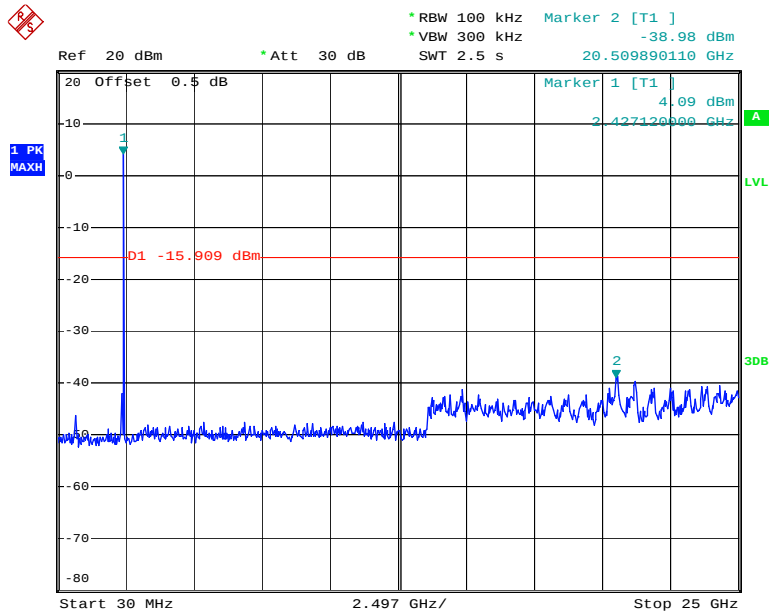
802.11ac80 Mode:

Frequency (MHz)	Receiver		Rx Antenna		Cable loss (dB)	Amplifier Gain (dB)	Corrected Amplitude (dBμV/m)	Extrapolation result (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)						
Low Channel:5775 MHz										
5775	57.61	PK	H	32.16	5.16	0.00	94.93	88.93	N/A	N/A
5775	46.47	AV	H	32.16	5.16	0.00	83.79	77.79	N/A	N/A
5775	70.36	PK	V	32.16	5.16	0.00	107.68	101.68	N/A	N/A
5775	59.32	AV	V	32.16	5.16	0.00	96.64	90.64	N/A	N/A
5725	30.97	PK	V	32.15	4.83	0.00	67.95	61.95	74.00	12.05
5725	17.84	AV	V	32.15	4.83	0.00	54.82	48.82	54.00	5.18
5850	33.38	PK	V	32.17	5.56	0.00	71.11	65.11	74.00	8.89
5850	19.72	AV	V	32.17	5.56	0.00	57.45	51.45	54.00	2.55*
11550	39.77	PK	V	37.90	7.93	25.91	59.69	53.69	74.00	20.31
11550	28.32	AV	V	37.90	7.93	25.91	48.24	42.24	54.00	11.76
17325	33.34	PK	V	41.45	12.35	24.75	62.39	56.39	74.00	17.61
17325	18.35	AV	V	41.45	12.35	24.75	47.40	41.40	54.00	12.60
1635.26	32.68	PK	V	23.87	3.17	26.92	32.80	26.80	74.00	47.20
1635.26	18.32	AV	V	23.87	3.17	26.92	18.44	12.44	54.00	41.56
2435.14	32.87	PK	V	25.73	3.98	27.17	35.41	29.41	74.00	44.59
2435.14	18.41	AV	V	25.73	3.98	27.17	20.95	14.95	54.00	39.05
53.26	49.7	QP	V	7.88	0.94	21.41	37.11	37.11	40.00	2.89*

*Within measurement uncertainty!

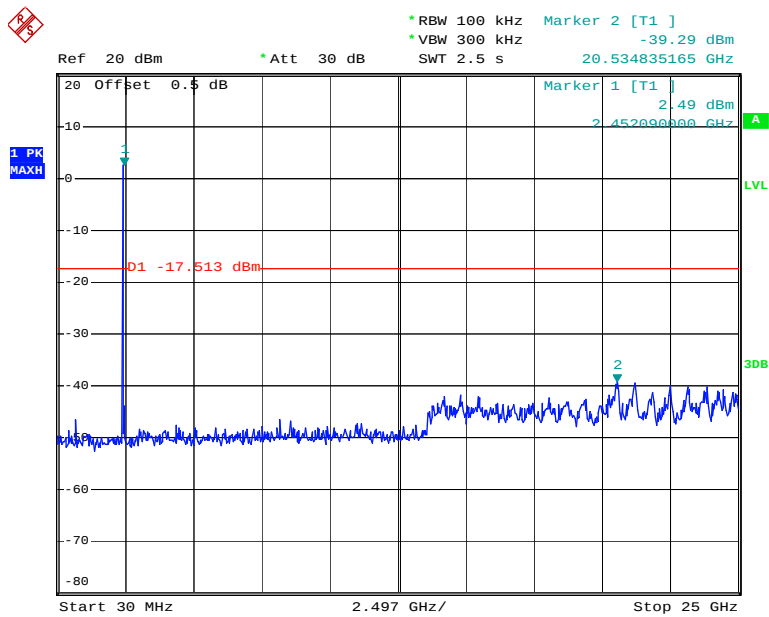
Conducted Spurious Emissions at Antenna Port**2.4G band:****802.11b Low Channel**

Date: 10.OCT.2013 20:53:51

802.11b Middle Channel

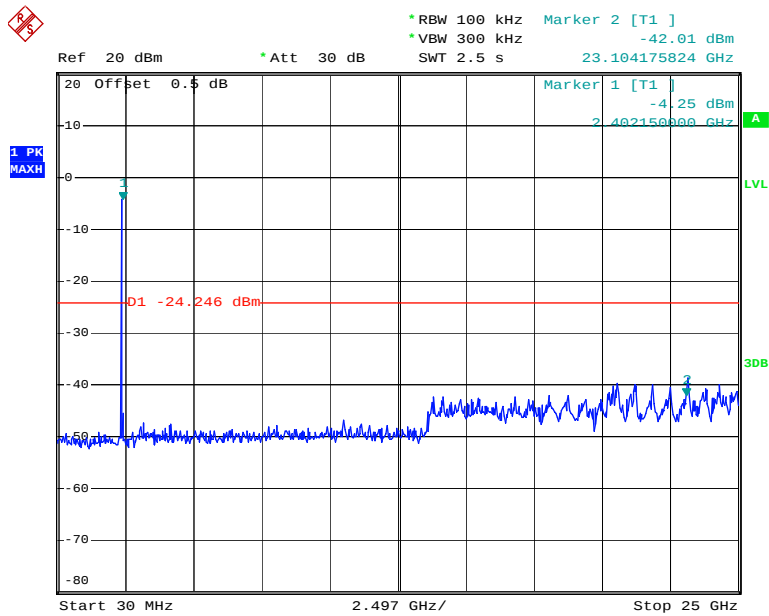
Date: 10.OCT.2013 21:00:43

802.11b High Channel



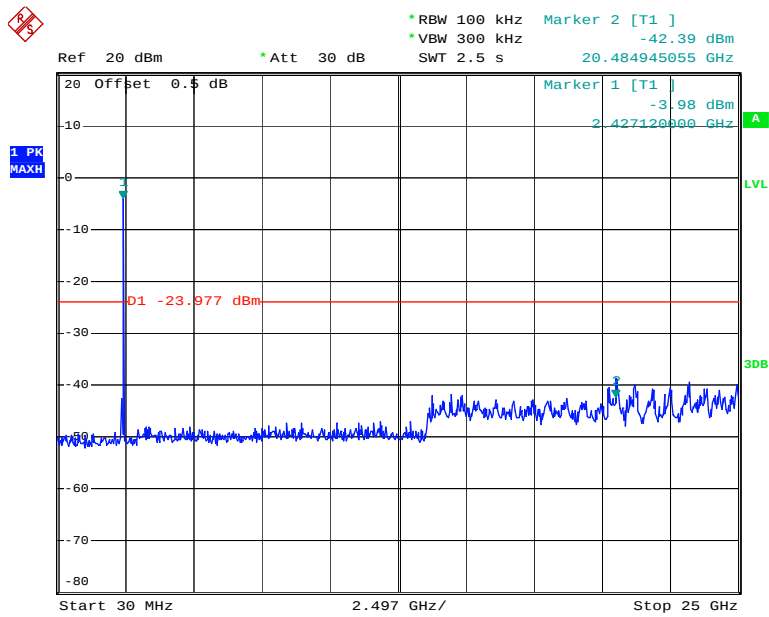
Date: 10.OCT.2013 21:02:16

802.11g Low Channel



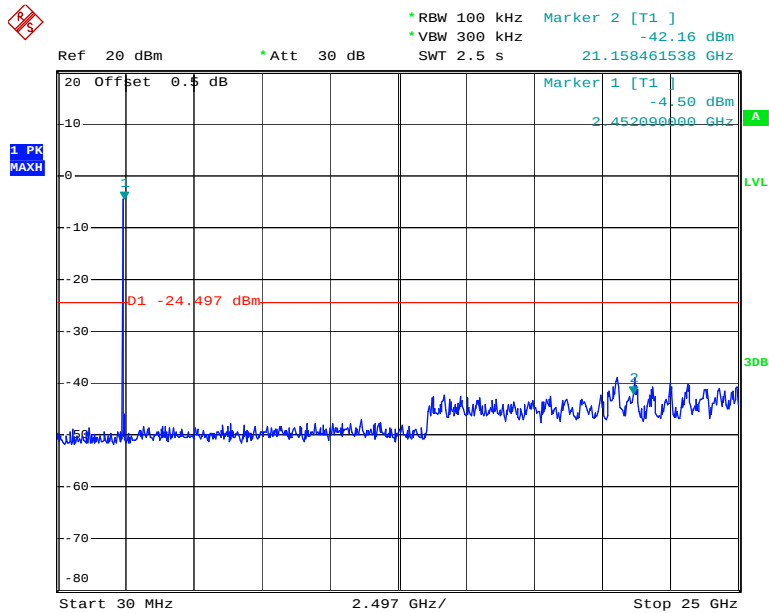
Date: 10.OCT.2013 21:06:56

802.11g Middle Channel



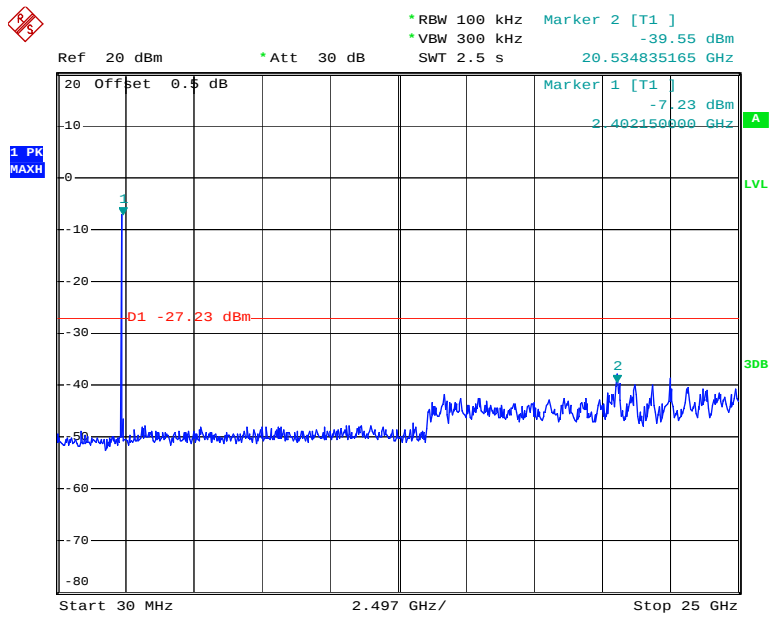
Date: 10.OCT.2013 21:08:32

802.11g High Channel



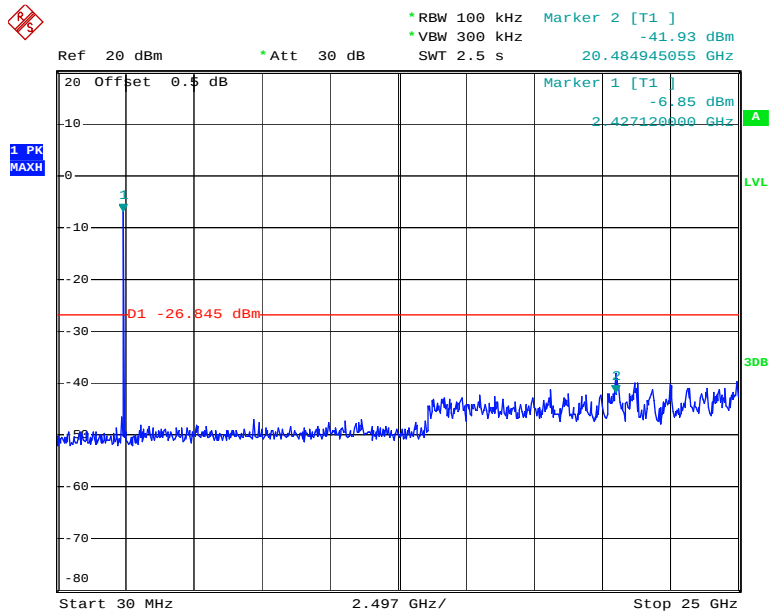
Date: 10.OCT.2013 21:09:54

Chain 0: 802.11n20 Low Channel



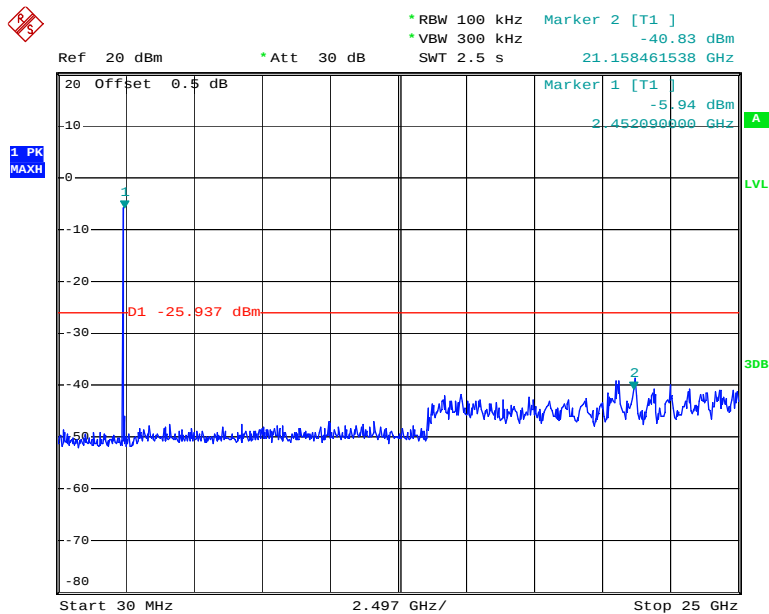
Date: 10.OCT.2013 21:11:42

Chain 0: 802.11n20 Middle Channel



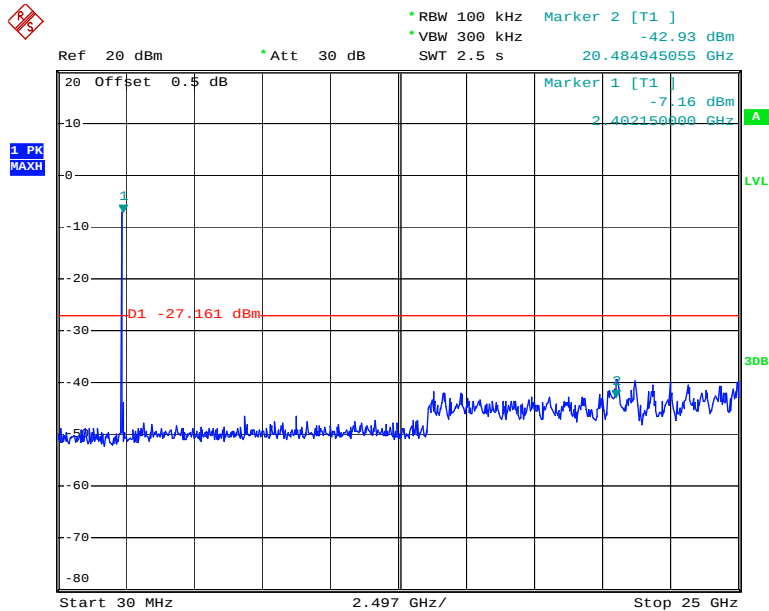
Date: 10.OCT.2013 21:13:30

Chain 0: 802.11n20 High Channel



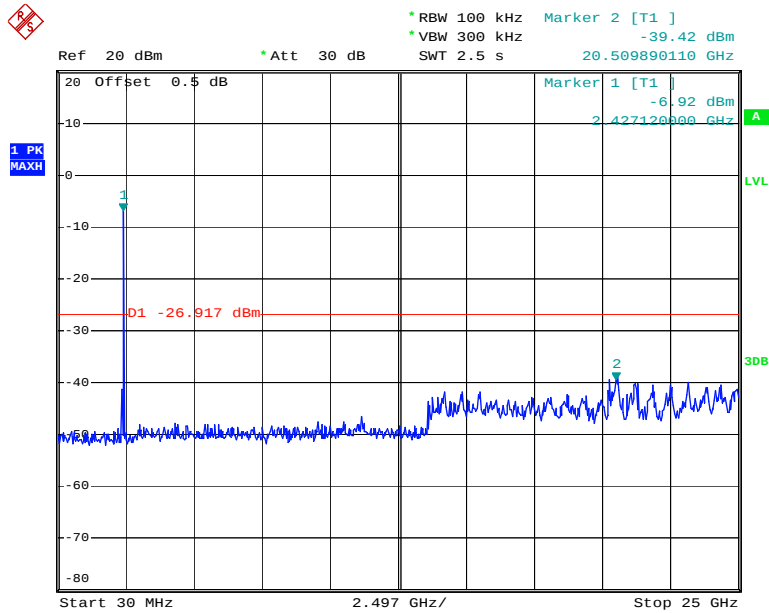
Date: 10.OCT.2013 21:15:02

Chain 1: 802.11n20 Low Channel



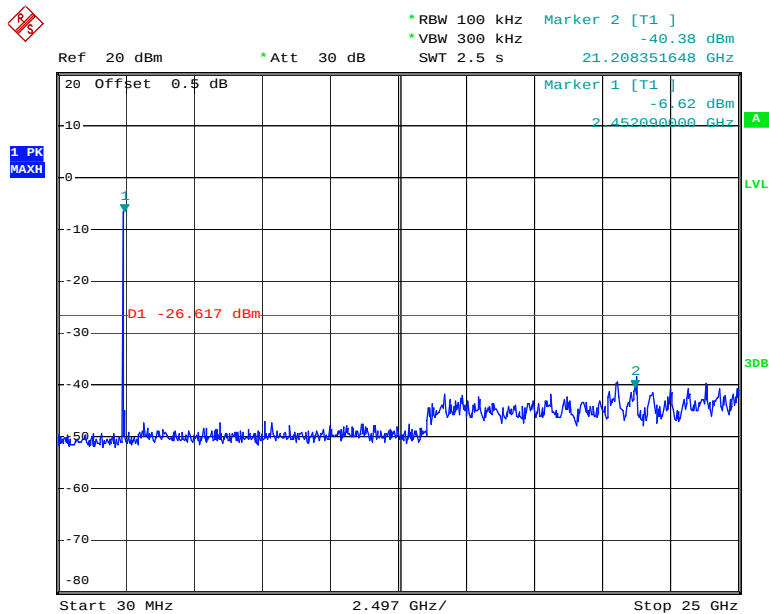
Date: 10.OCT.2013 21:25:50

Chain 1: 802.11n20 Middle Channel



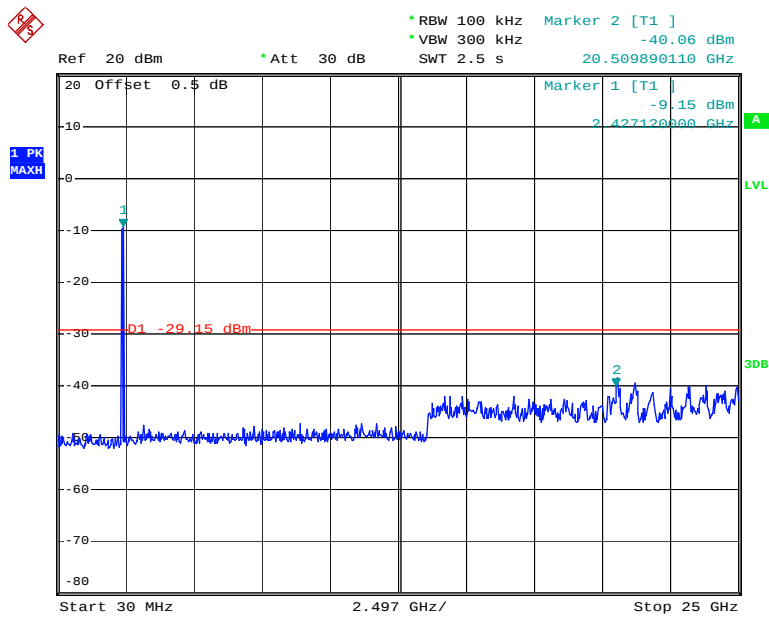
Date: 10.OCT.2013 21:27:26

Chain 1: 802.11n20 High Channel



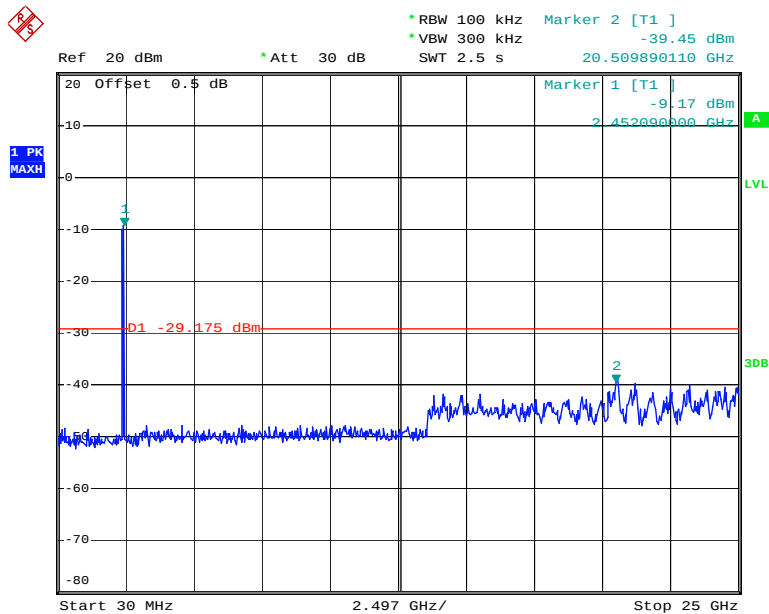
Date: 10.OCT.2013 21:29:29

Chain 0: 802.11n40 Low Channel



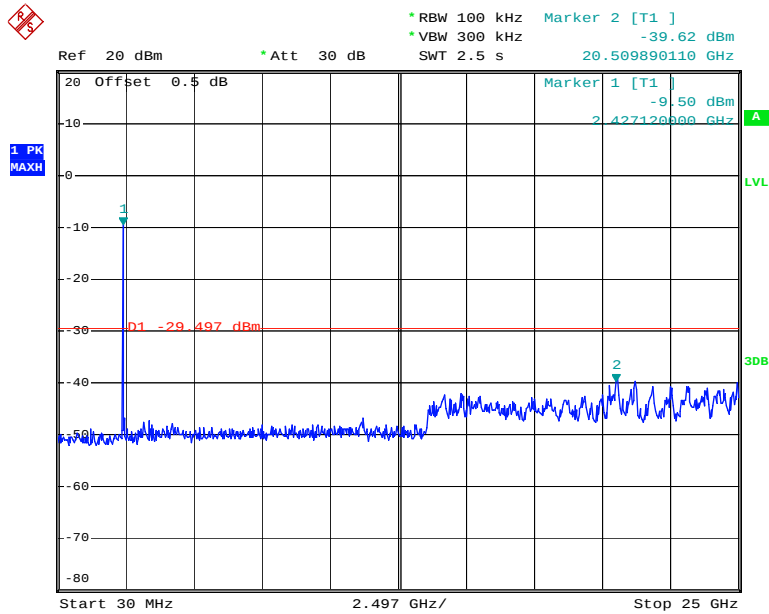
Date: 10.OCT.2013 21:17:30

Chain 0: 802.11n40 Middle Channel



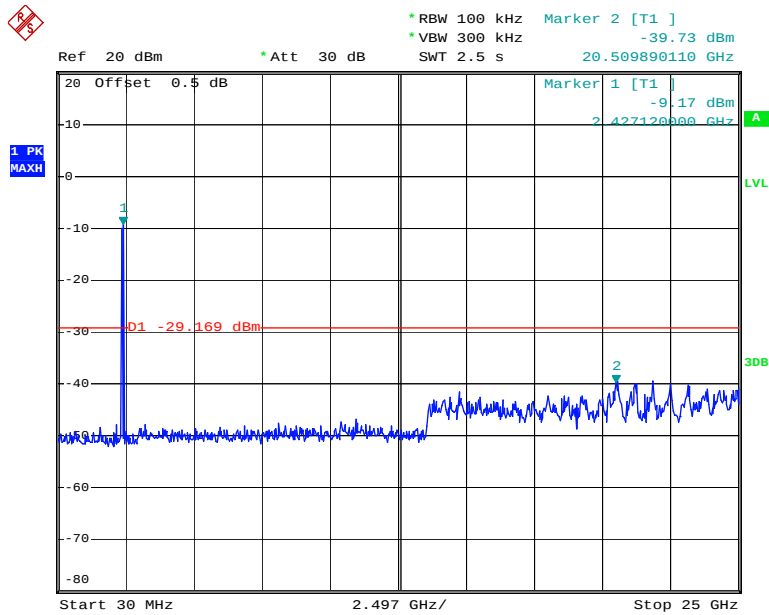
Date: 10.OCT.2013 21:19:27

Chain 0: 802.11n40 High Channel



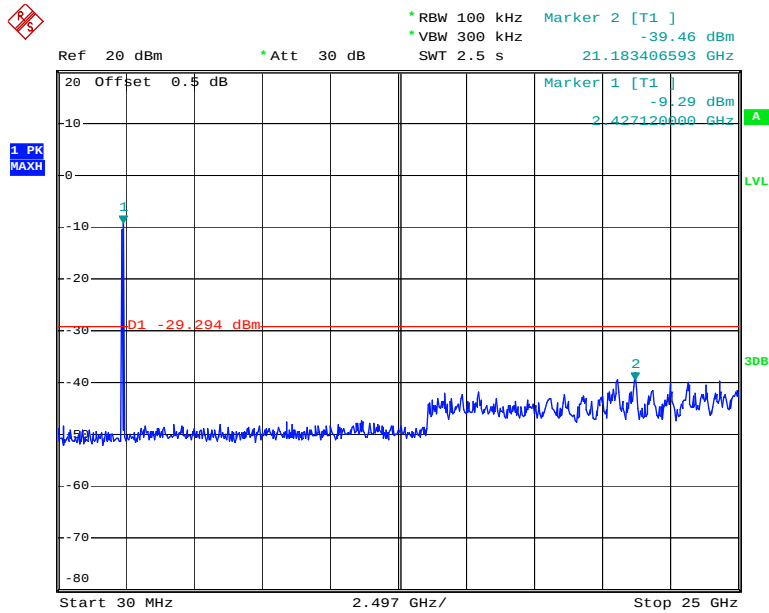
Date: 10.OCT.2013 21:20:58

Chain 1: 802.11n40 Low Channel



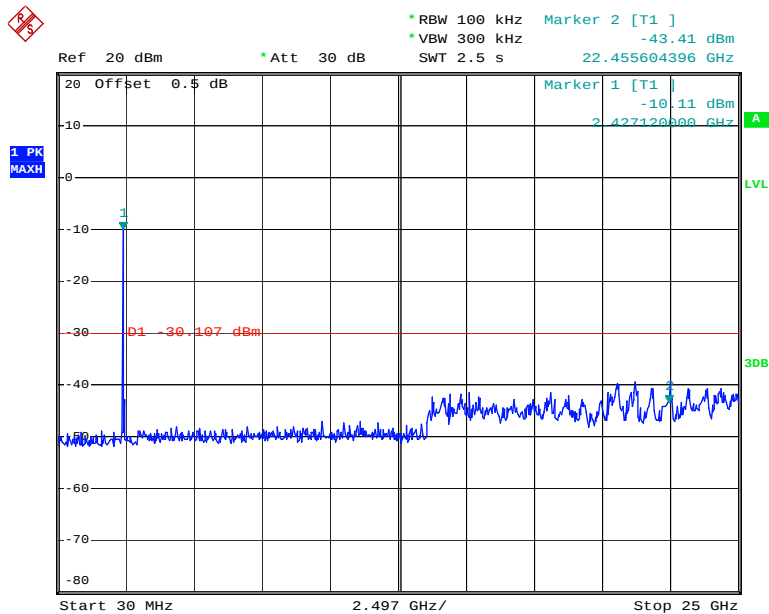
Date: 10.OCT.2013 21:32:04

Chain 1: 802.11n40 Middle Channel



Date: 10.OCT.2013 21:34:06

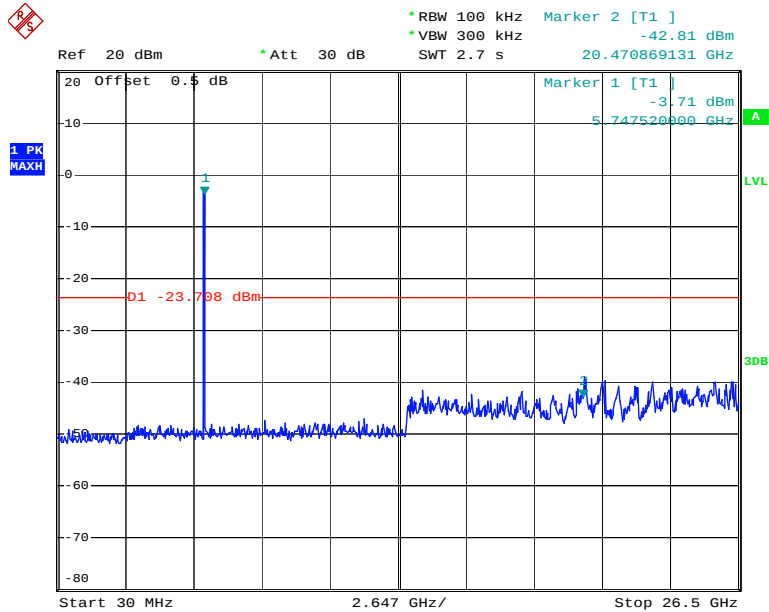
Chain 1: 802.11n40 High Channel



Date: 10.OCT.2013 21:35:40

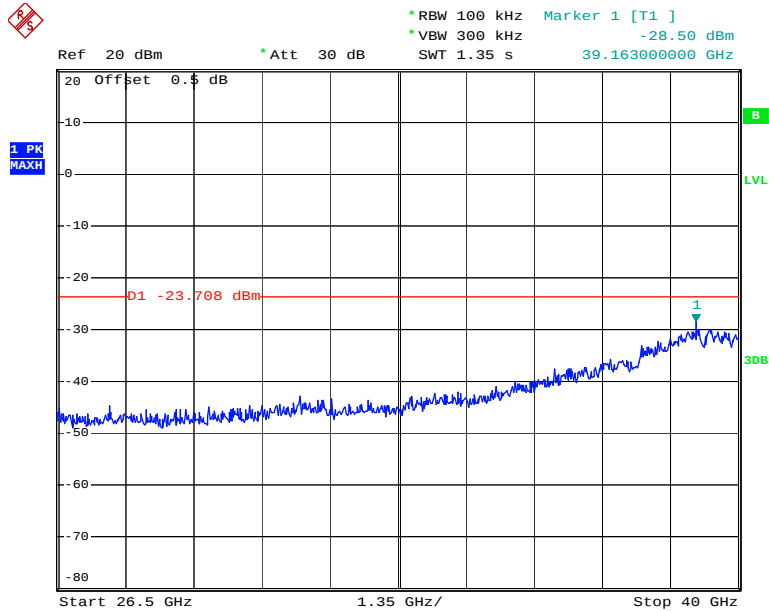
5725-5850MHz band:

802.11a Low Channel 30M-26.5G



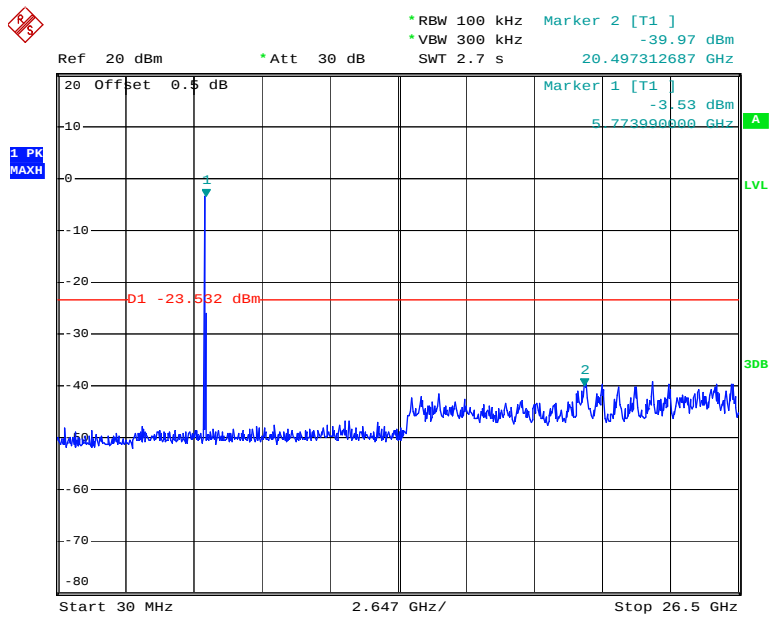
Date: 12.OCT.2013 13:32:45

802.11a Low Channel 26.5-40G



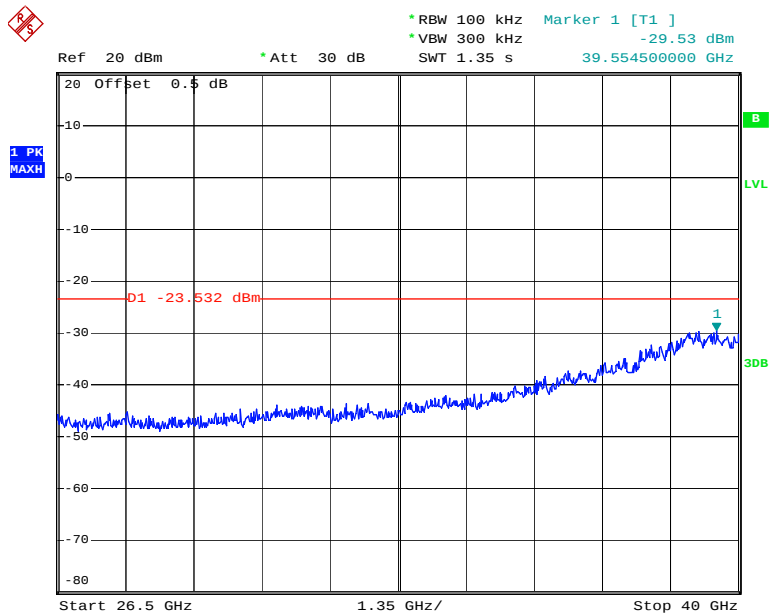
Date: 12.OCT.2013 13:33:55

802.11a Middle Channel 30M-26.5G



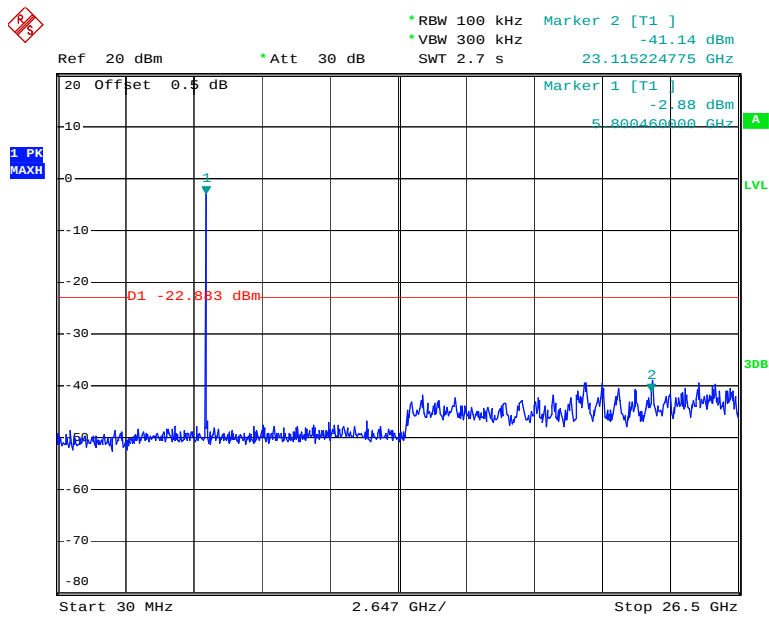
Date: 12.OCT.2013 13:38:00

802.11a Middle Channel 26.5-40G



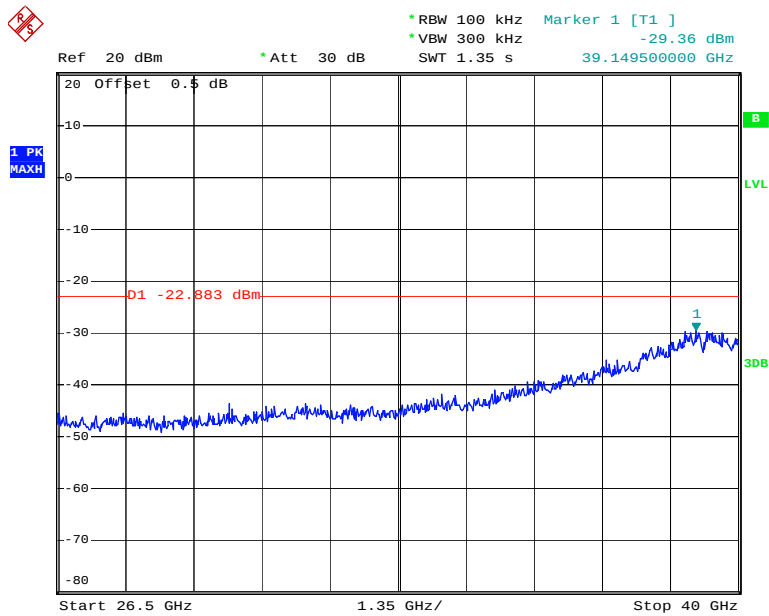
Date: 12.OCT.2013 13:38:30

802.11a High Channel 30M-26.5G



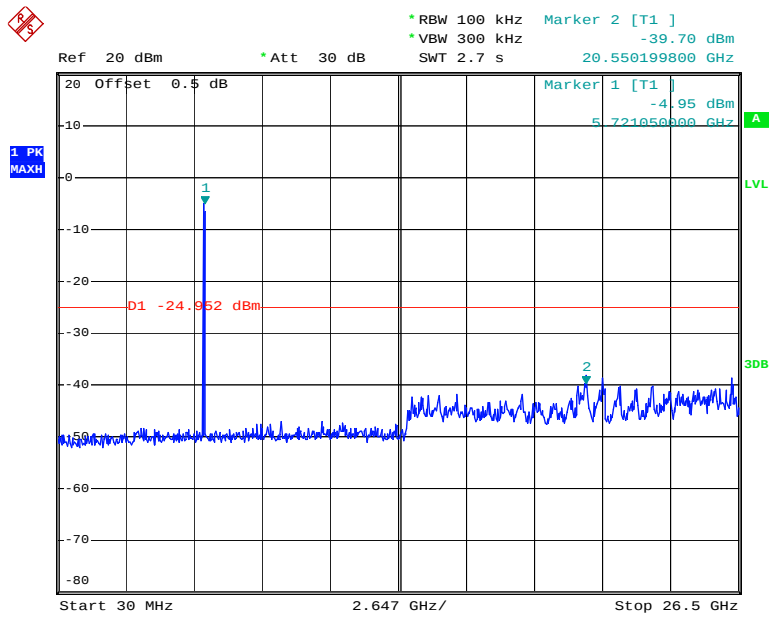
Date: 12.OCT.2013 13:41:20

802.11a High Channel 26.5-40G



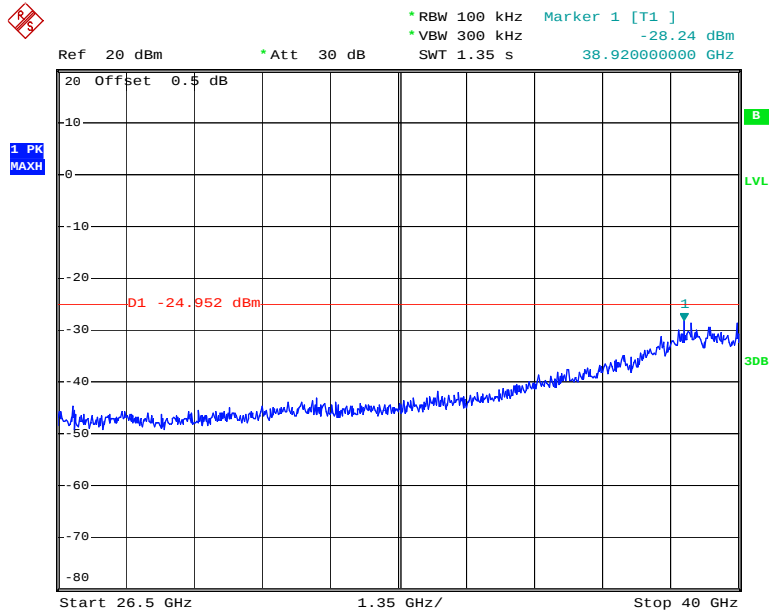
Date: 12.OCT.2013 13:41:49

Chain 0: 802.11n ht20 Low Channel 30M-26.5G



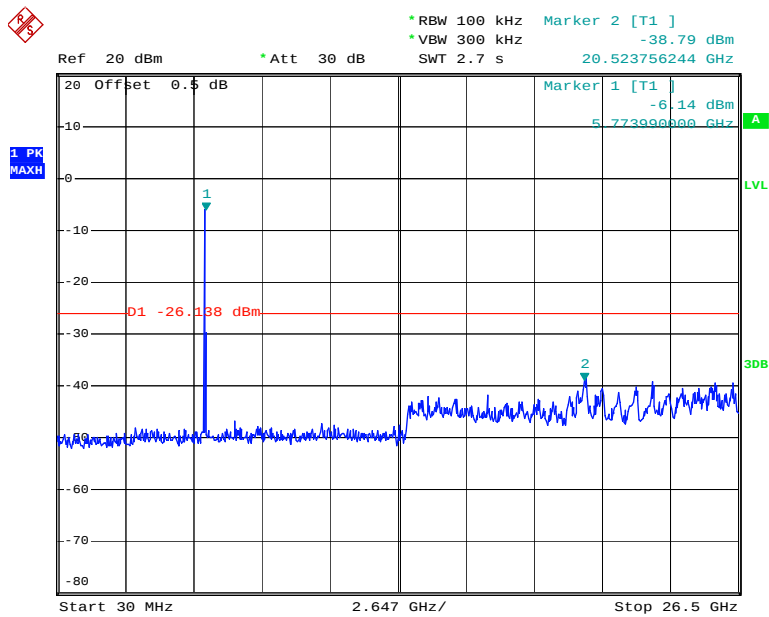
Date: 12.OCT.2013 13:47:53

Chain 0: 802.11n ht20 Low Channel 26.5-40G



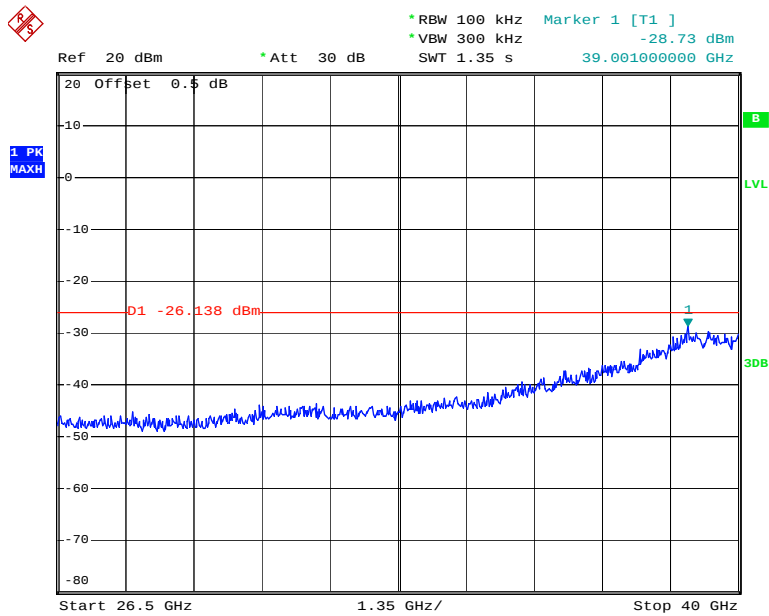
Date: 12.OCT.2013 13:48:21

Chain 0: 802.11n ht20 Middle Channel 30M-26.5G



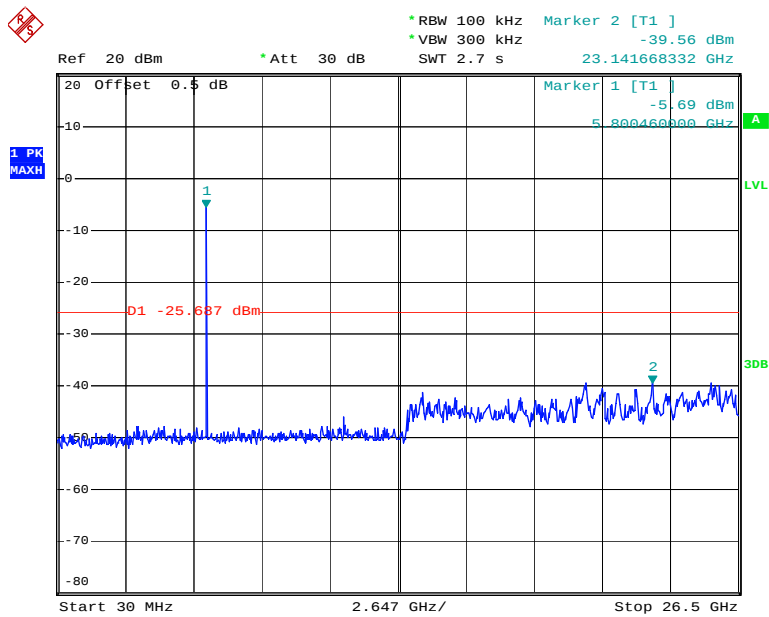
Date: 12.OCT.2013 13:50:10

Chain 0: 802.11n ht20 Middle Channel 26.5-40G



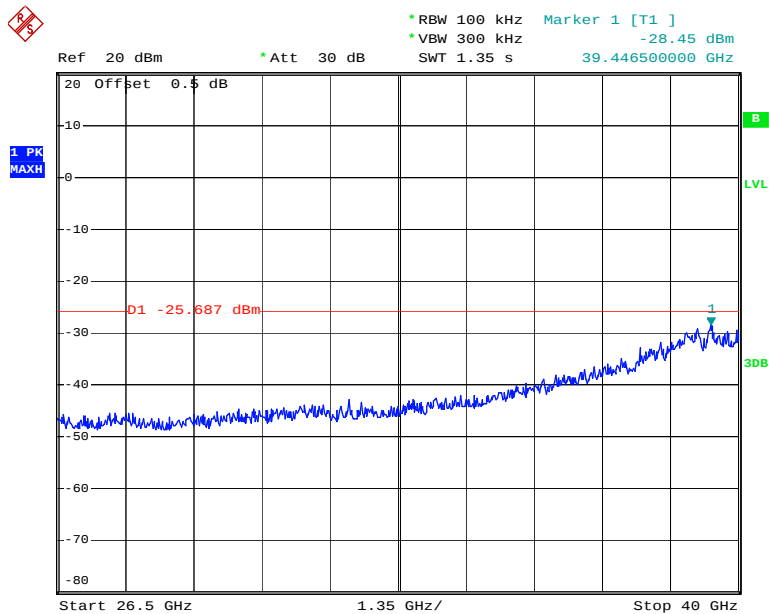
Date: 12.OCT.2013 13:50:37

Chain 0: 802.11n ht20 High Channel 30M-26.5G



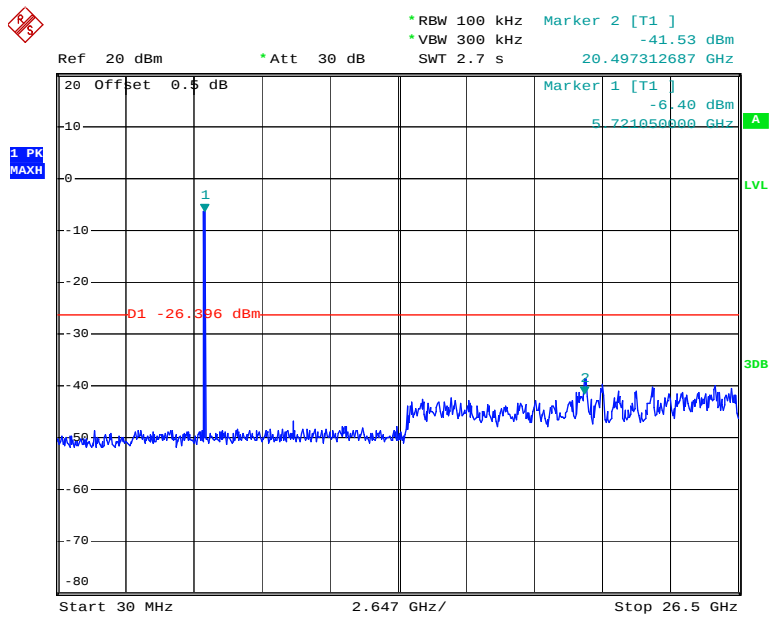
Date: 12.OCT.2013 13:52:19

Chain 0: 802.11n ht20 High Channel 26.5-40G



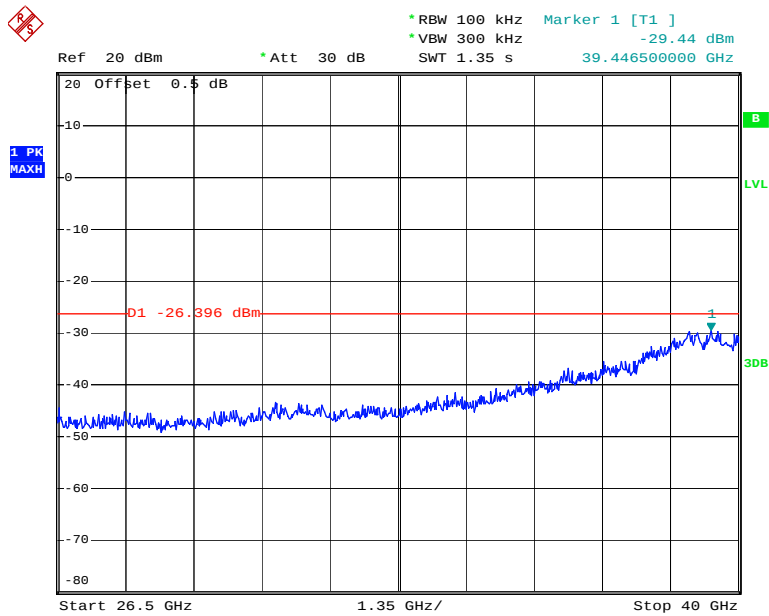
Date: 12.OCT.2013 13:52:46

Chain 1: 802.11n ht20 Low Channel 30M-26.5G



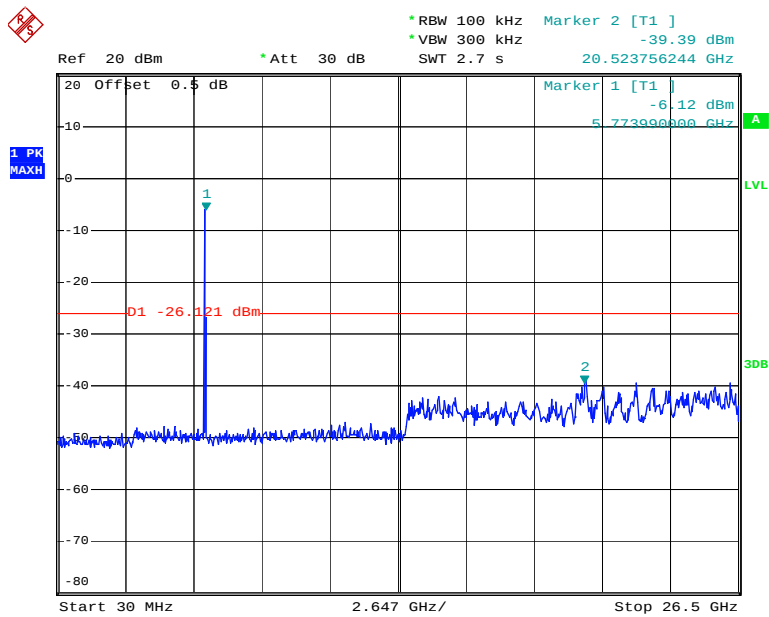
Date: 12.OCT.2013 14:24:02

Chain 1: 802.11n ht20 Low Channel 26.5-40G



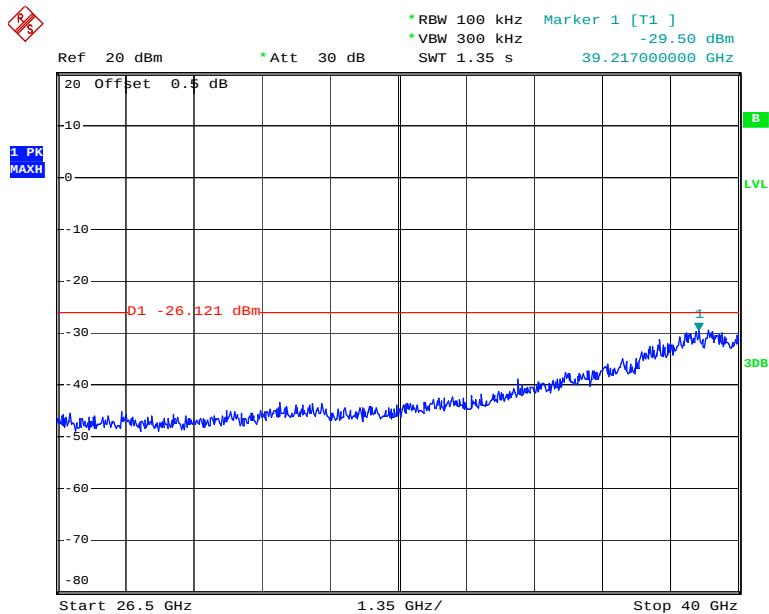
Date: 12.OCT.2013 14:24:35

Chain 1: 802.11n ht20 Middle Channel 30M-26.5G



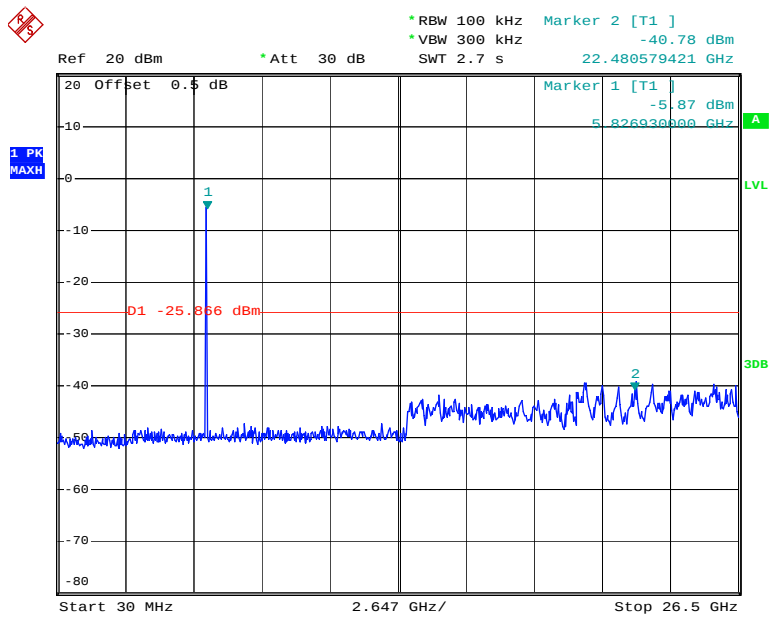
Date: 12.OCT.2013 14:26:25

Chain 1: 802.11n ht20 Middle Channel 26.5-40G



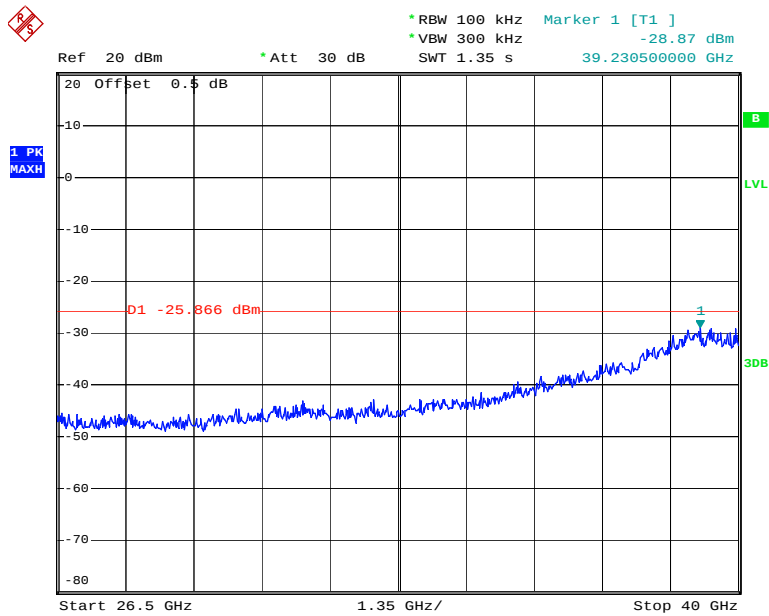
Date: 12.OCT.2013 14:26:49

Chain 1: 802.11n ht20 High Channel 30M-26.5G



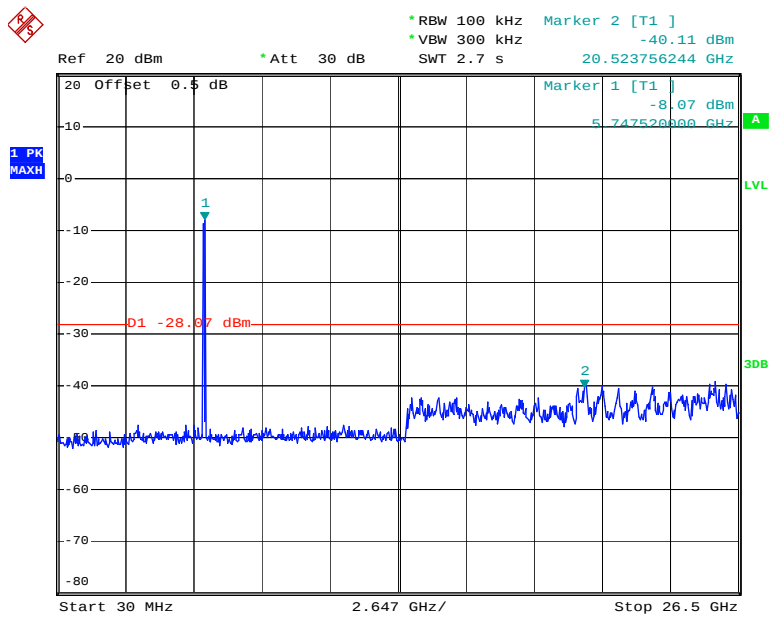
Date: 12.OCT.2013 14:28:42

Chain 1: 802.11n ht20 High Channel 26.5-40G



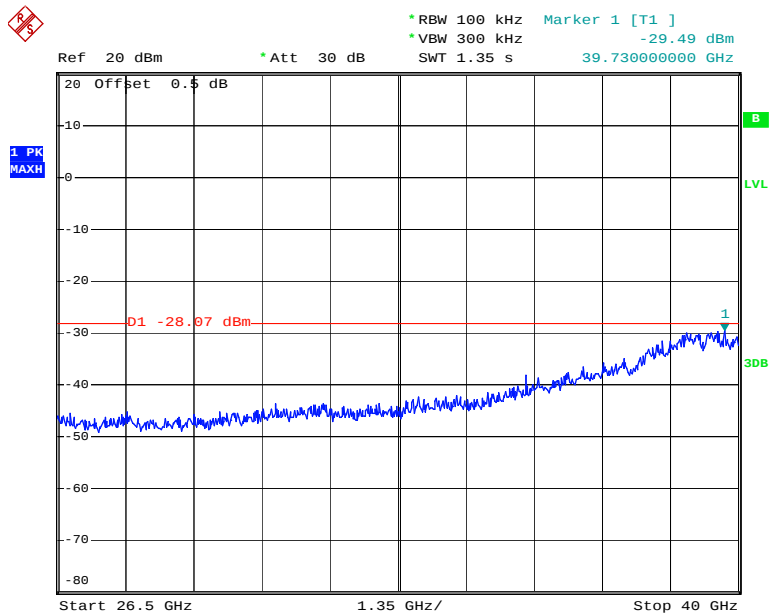
Date: 12.OCT.2013 14:29:06

Chain 0: 802.11n ht40 Low Channel 30M-26.5G



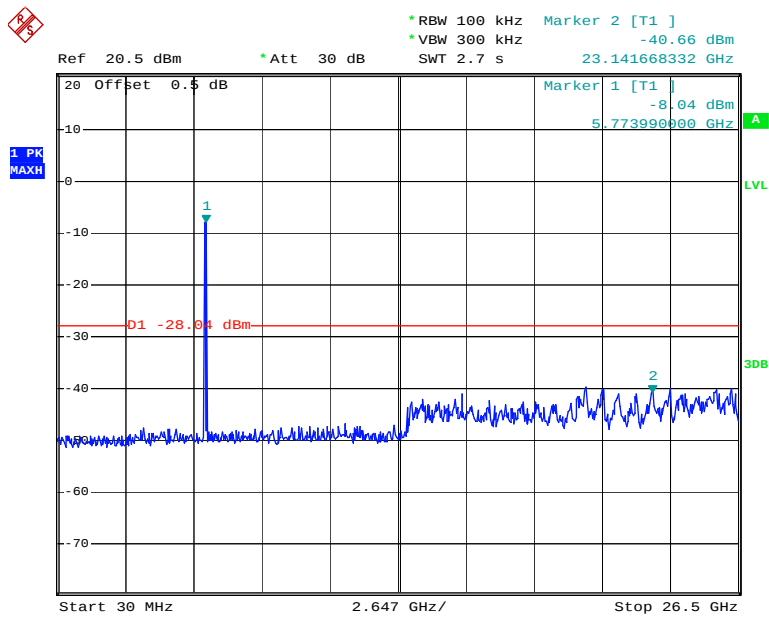
Date: 12.OCT.2013 13:58:25

Chain 0: 802.11n ht40 Low Channel 26.5-40G



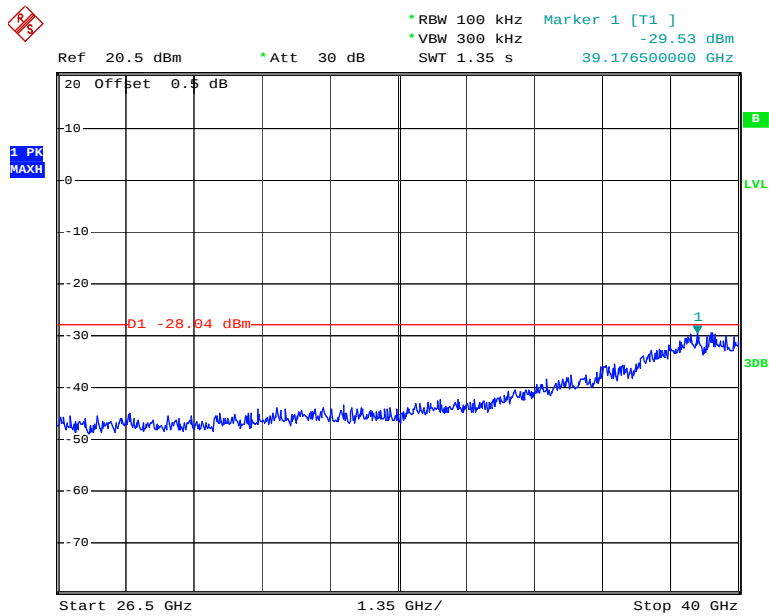
Date: 12.OCT.2013 13:58:52

Chain 0: 802.11n ht40 High Channel 30M-26.5G



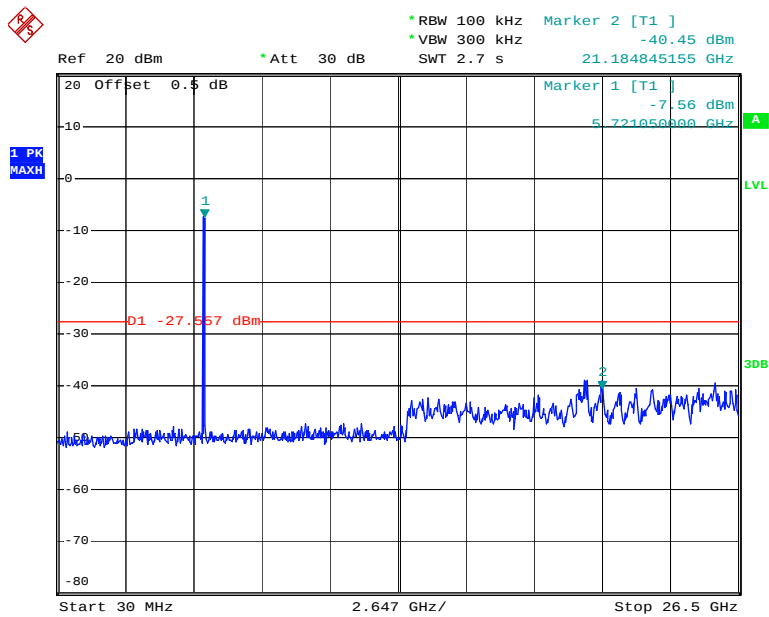
Date: 12.OCT.2013 14:16:42

Chain 0: 802.11n ht40 High Channel 26.5-40G



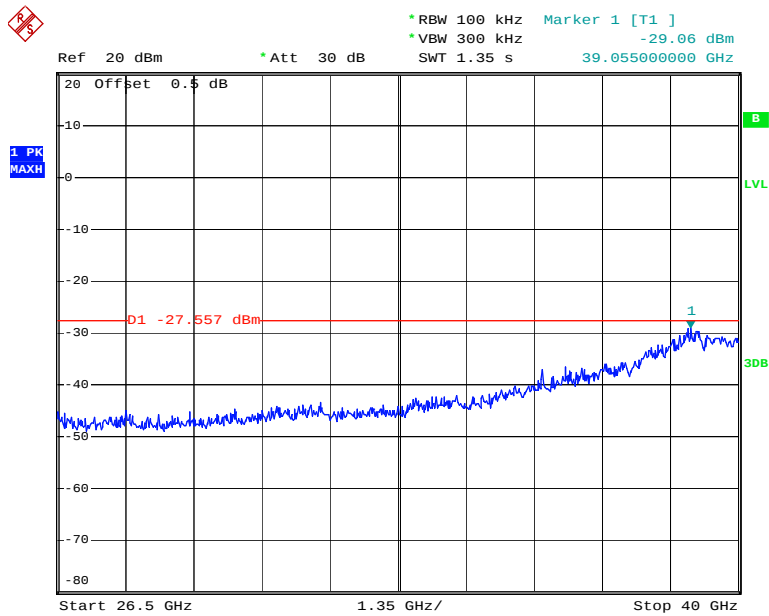
Date: 12.OCT.2013 14:17:24

Chain 1: 802.11n ht40 Low Channel 30M-26.5G



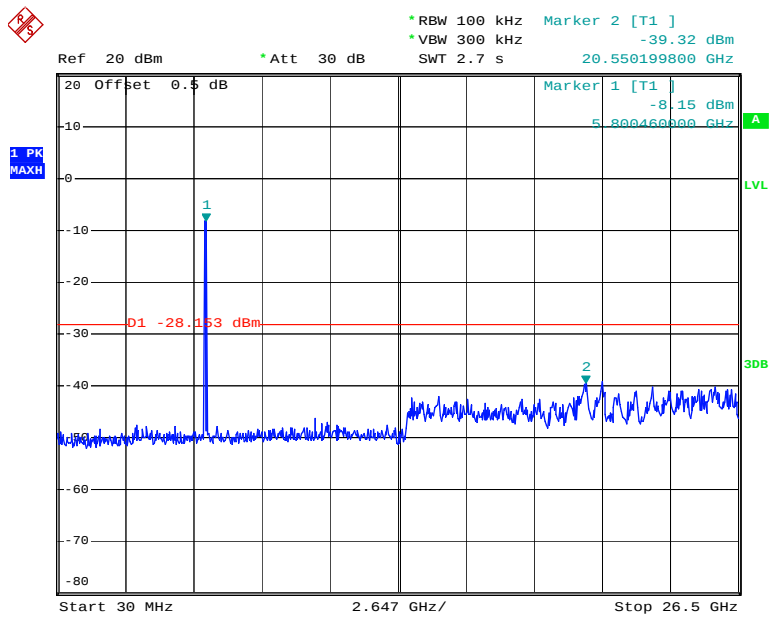
Date: 12.OCT.2013 14:32:13

Chain 1: 802.11n ht40 Low Channel 26.5-40G



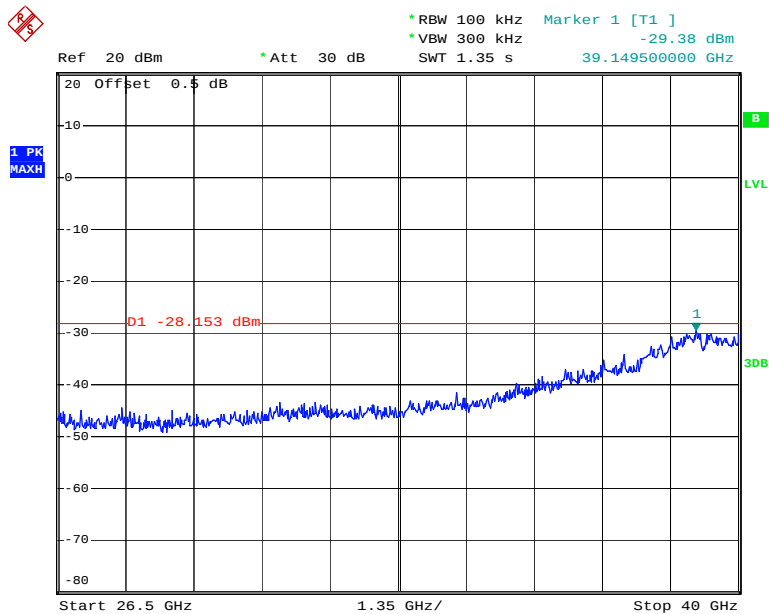
Date: 12.OCT.2013 14:32:40

Chain 1: 802.11n ht40 High Channel 30M-26.5G



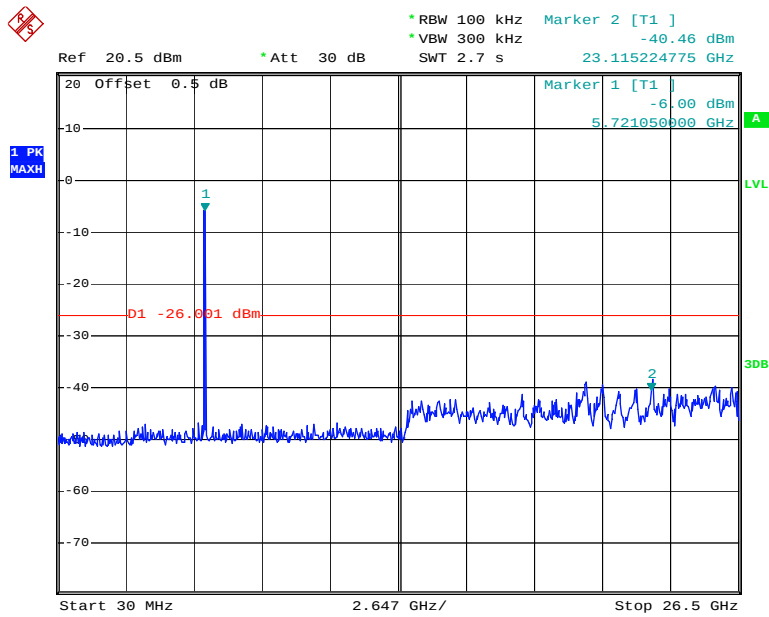
Date: 12.OCT.2013 14:34:37

Chain 1: 802.11n ht40 High Channel 26.5-40G



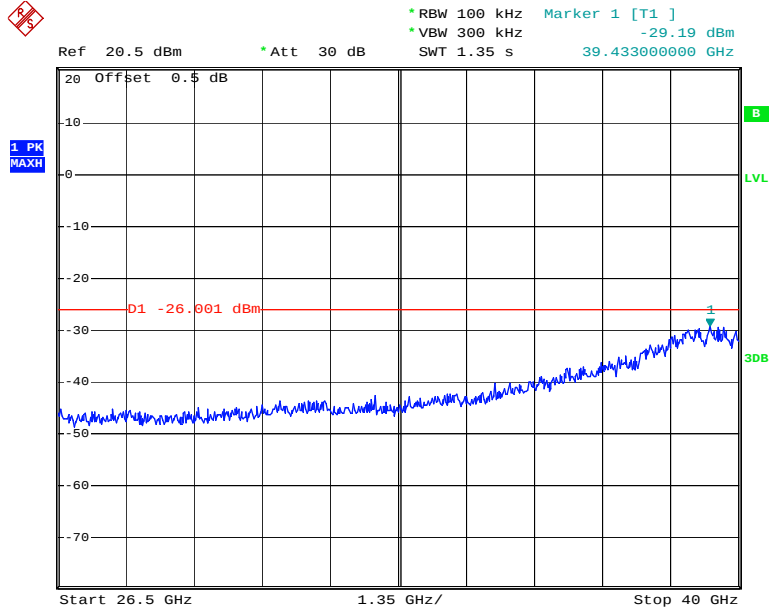
Date: 12.OCT.2013 14:35:01

Chain 0: 802.11ac20 Low Channel 30M-26.5G



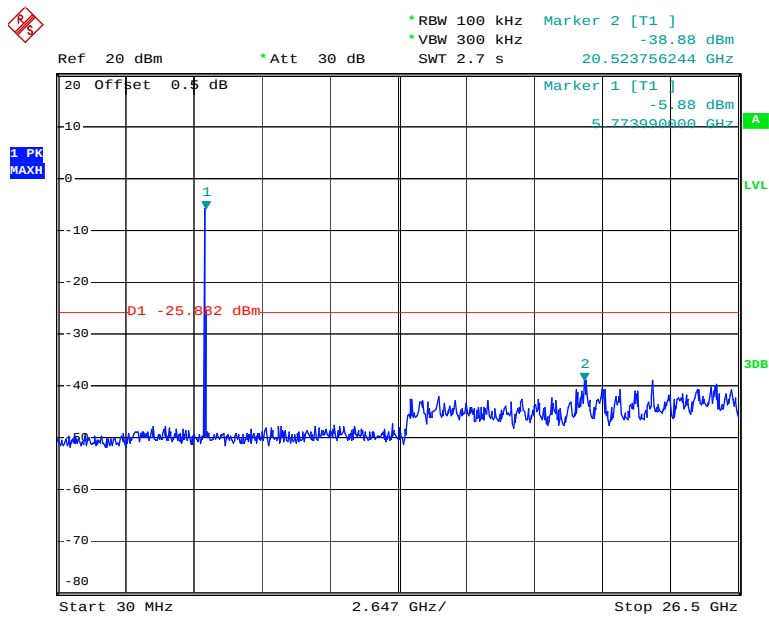
Date: 12.OCT.2013 15:14:52

Chain 0: 802.11ac20 Low Channel 26.5-40G



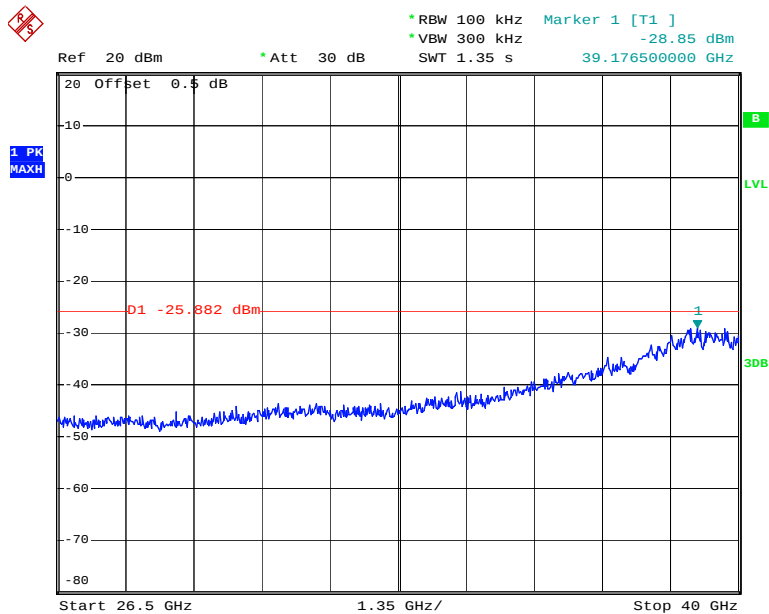
Date: 12.OCT.2013 15:15:32

Chain 0: 802.11ac20 Middle Channel 30M-26.5G



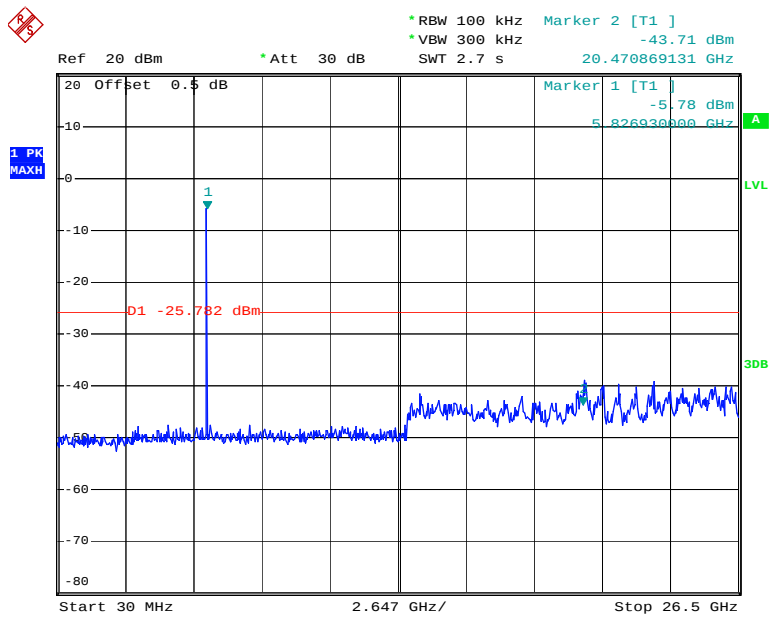
Date: 12.OCT.2013 15:17:24

Chain 0: 802.11ac20 Middle Channel 26.5-40G



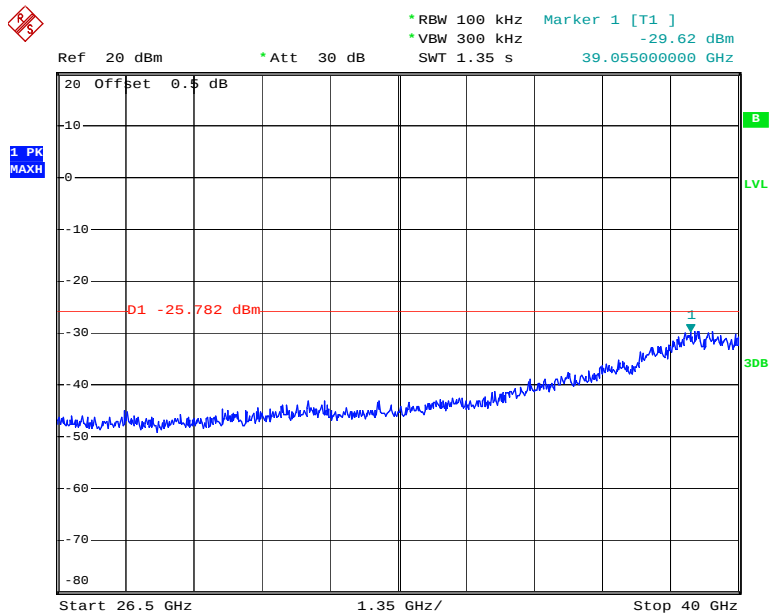
Date: 12.OCT.2013 15:17:56

Chain 0: 802.11ac20 High Channel 30M-26.5G



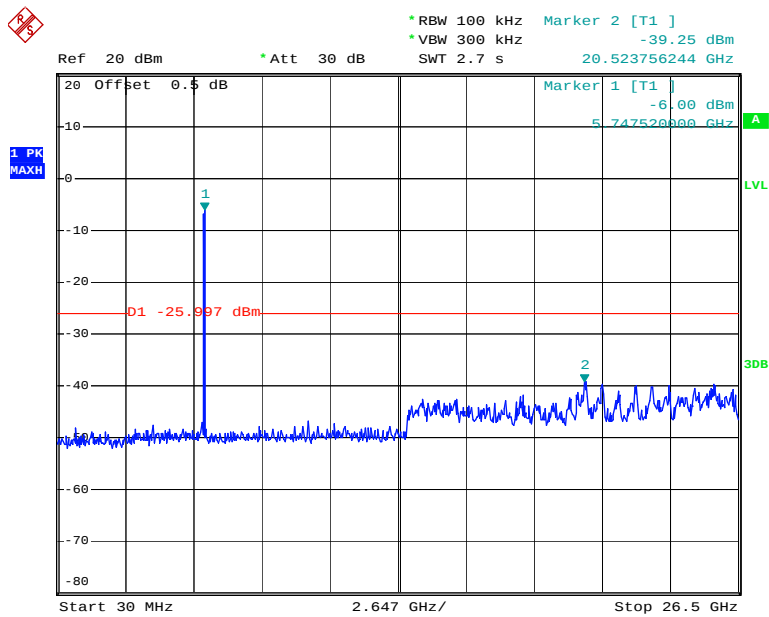
Date: 12.OCT.2013 15:19:27

Chain 0: 802.11ac20 High Channel 26.5-40G



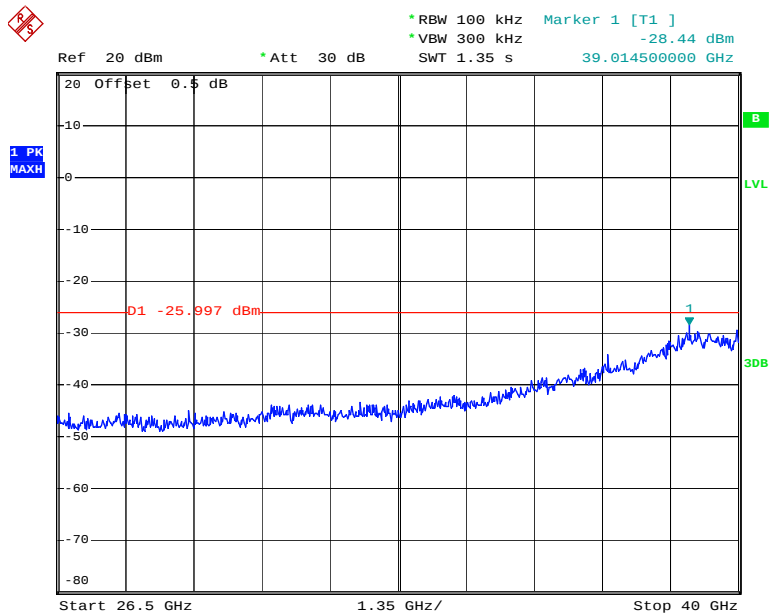
Date: 12.OCT.2013 15:19:59

Chain 1: 802.11ac20 Low Channel 30M-26.5G



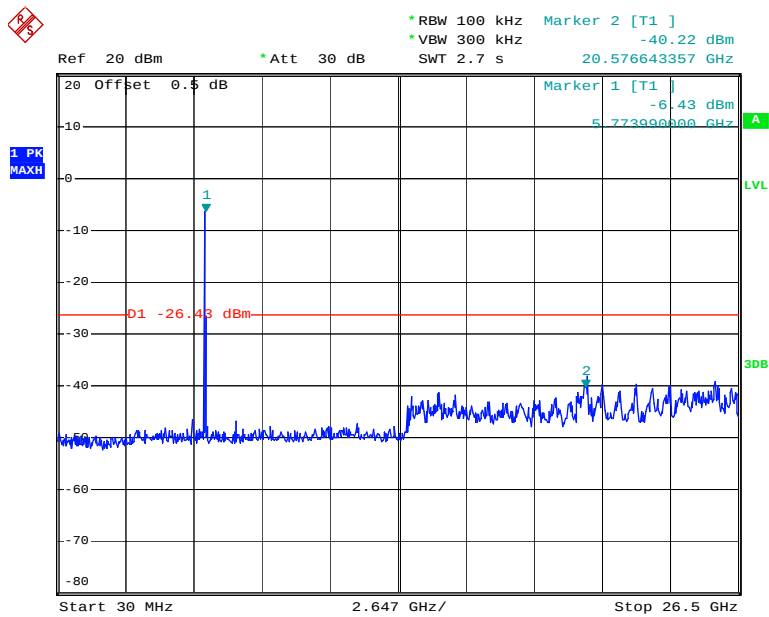
Date: 12.OCT.2013 14:44:50

Chain 1: 802.11ac20 Low Channel 26.5-40G



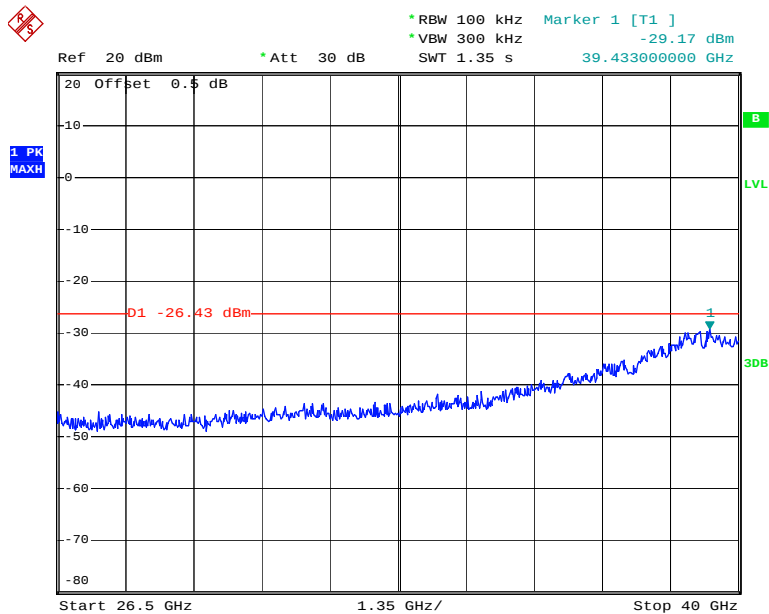
Date: 12.OCT.2013 14:45:12

Chain 1: 802.11ac20 Middle Channel 30M-26.5G



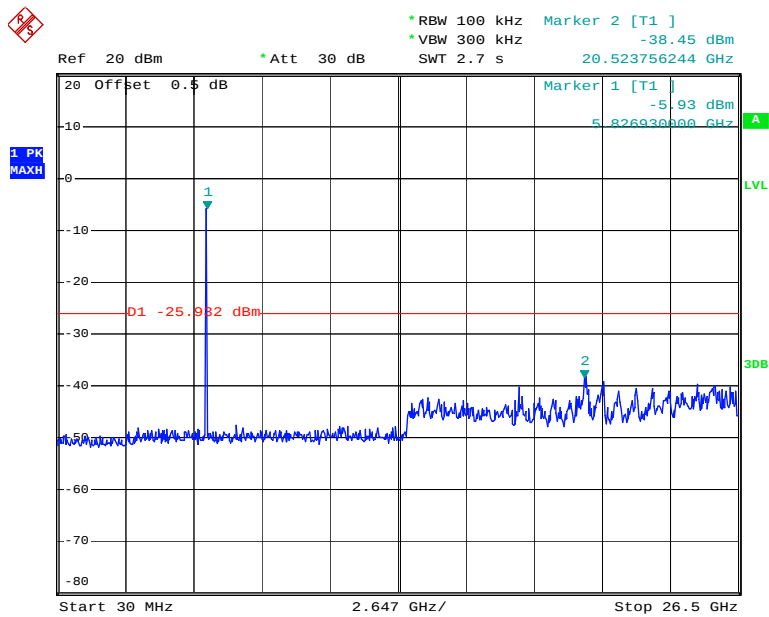
Date: 12.OCT.2013 14:47:03

Chain 1: 802.11ac20 Middle Channel 26.5-40G



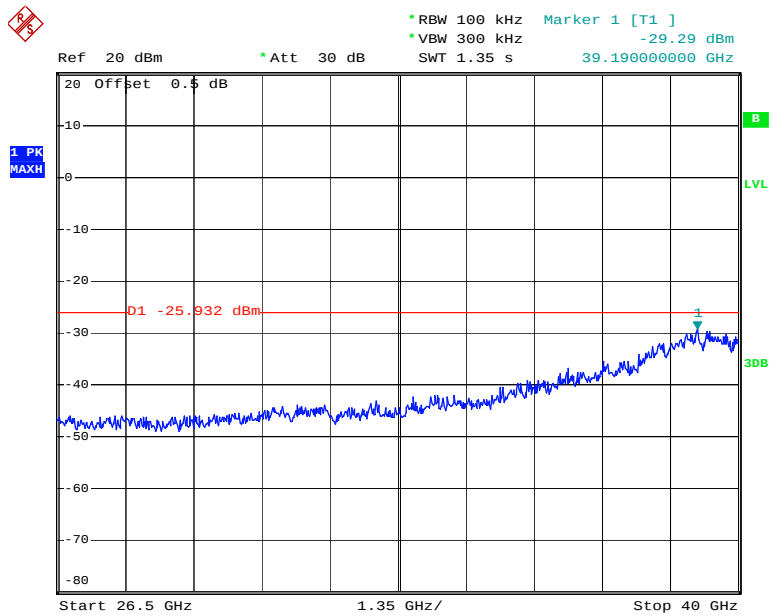
Date: 12.OCT.2013 14:47:28

Chain 1: 802.11ac20 High Channel 30M-26.5G



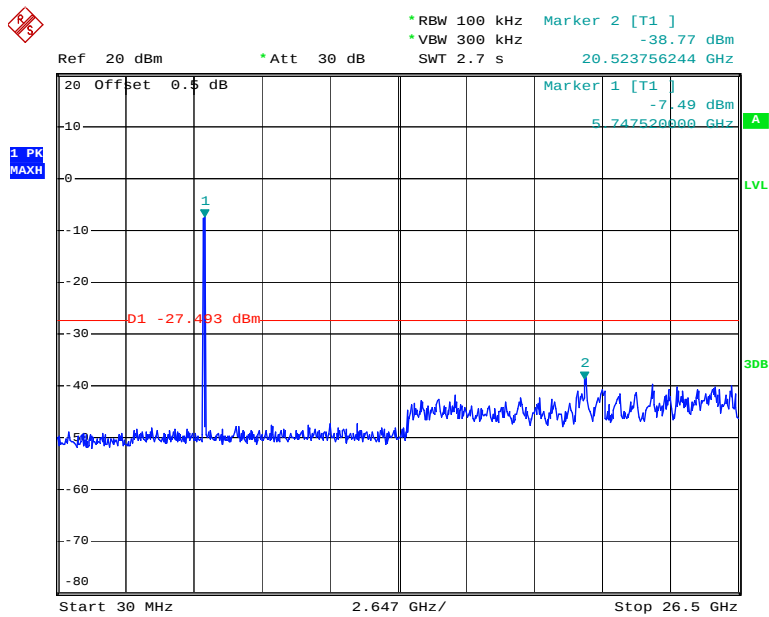
Date: 12.OCT.2013 14:49:03

Chain 1: 802.11ac20 High Channel 26.5-40G



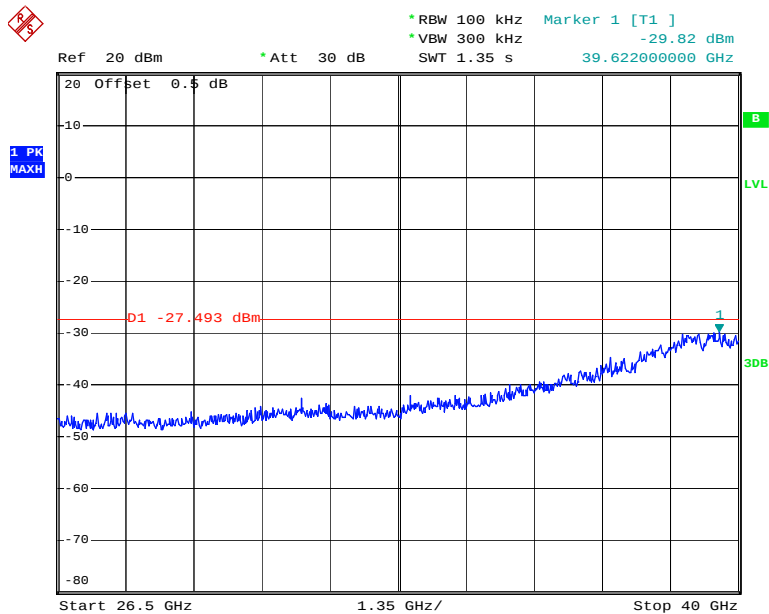
Date: 12.OCT.2013 14:49:32

Chain 0: 802.11ac40 Low Channel 30M-26.5G



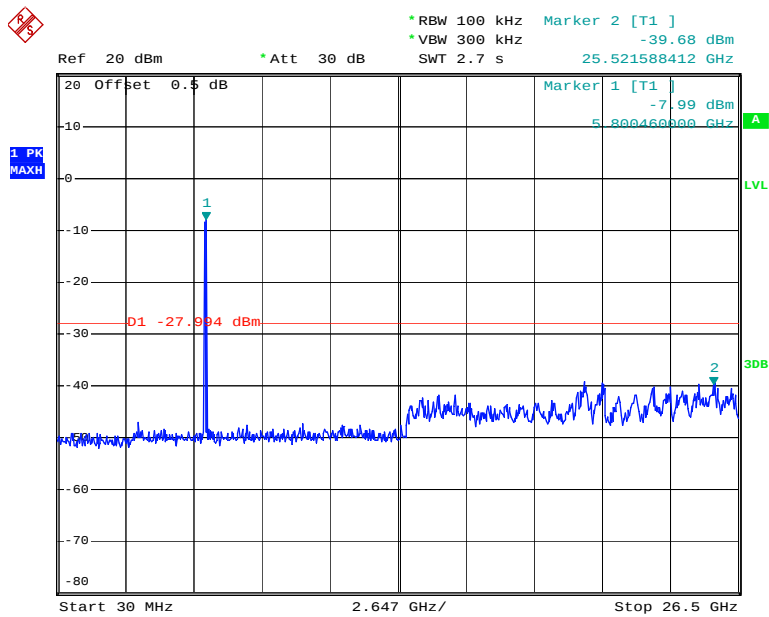
Date: 12.OCT.2013 15:22:23

Chain 0: 802.11ac40 Low Channel 26.5-40G



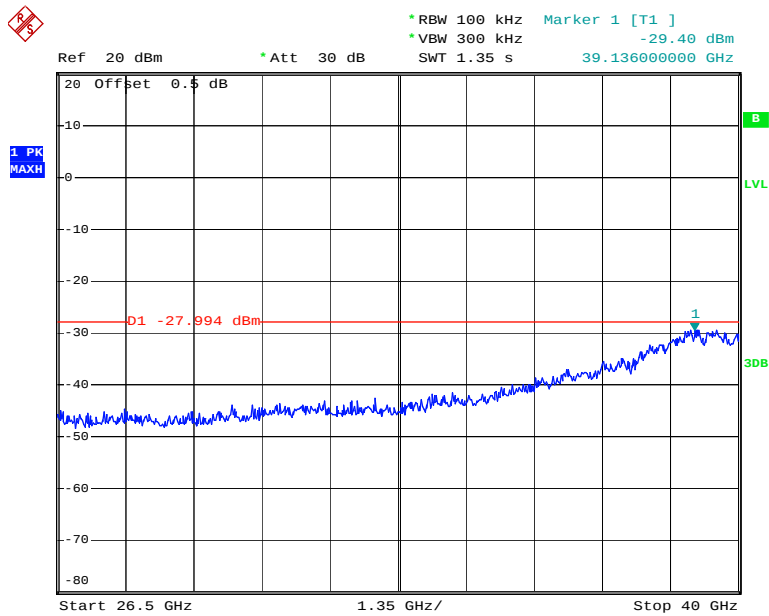
Date: 12.OCT.2013 15:22:49

Chain 0: 802.11ac40 High Channel 30M-26.5G



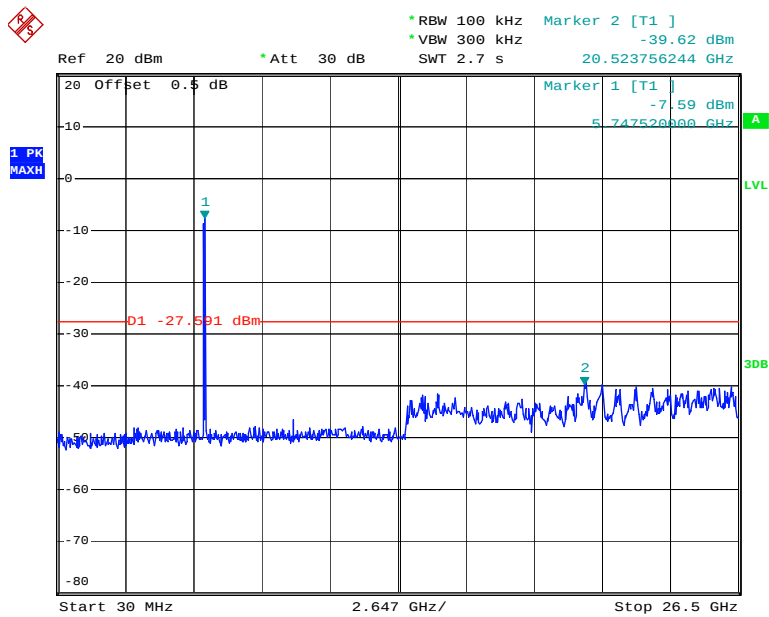
Date: 12.OCT.2013 15:24:50

Chain 0: 802.11ac40 High Channel 26.5-40G



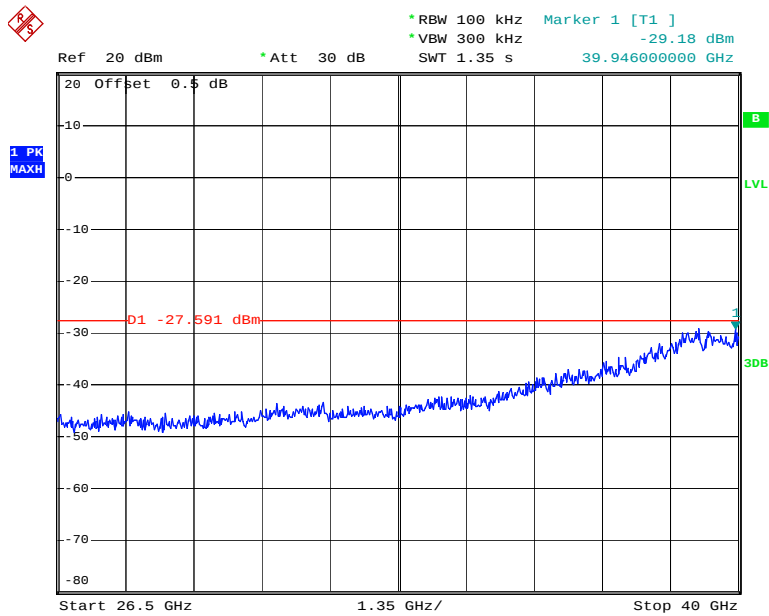
Date: 12.OCT.2013 15:25:44

Chain 1: 802.11ac40 Low Channel 30M-26.5G



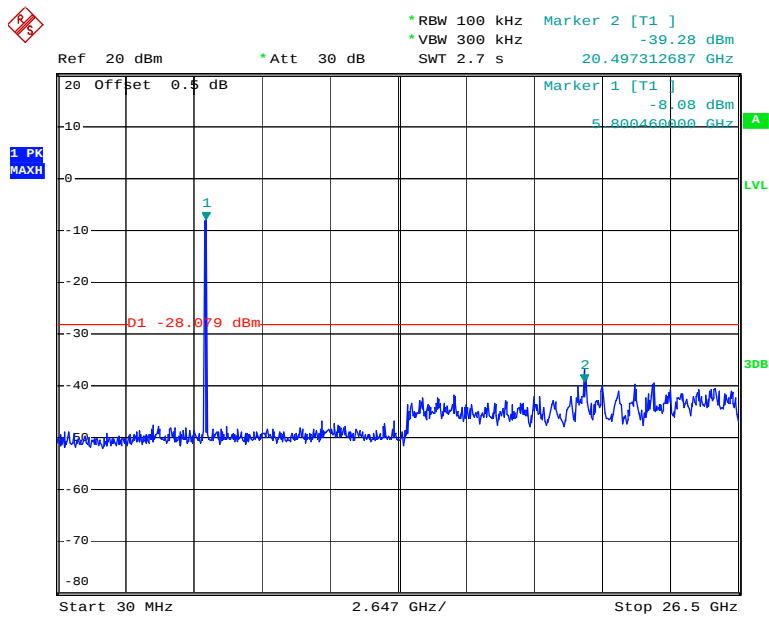
Date: 12.OCT.2013 14:52:35

Chain 1: 802.11ac40 Low Channel 26.5-40G



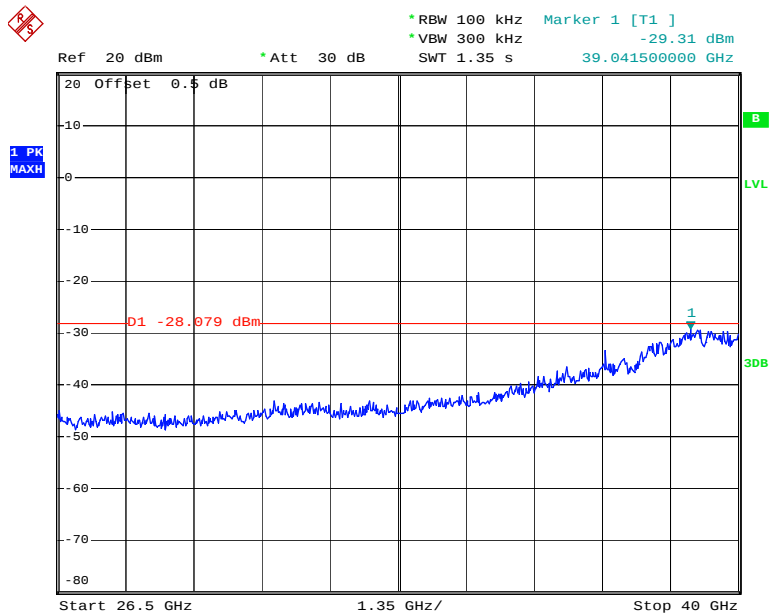
Date: 12.OCT.2013 14:53:01

Chain 1: 802.11ac40 High Channel 30M-26.5G



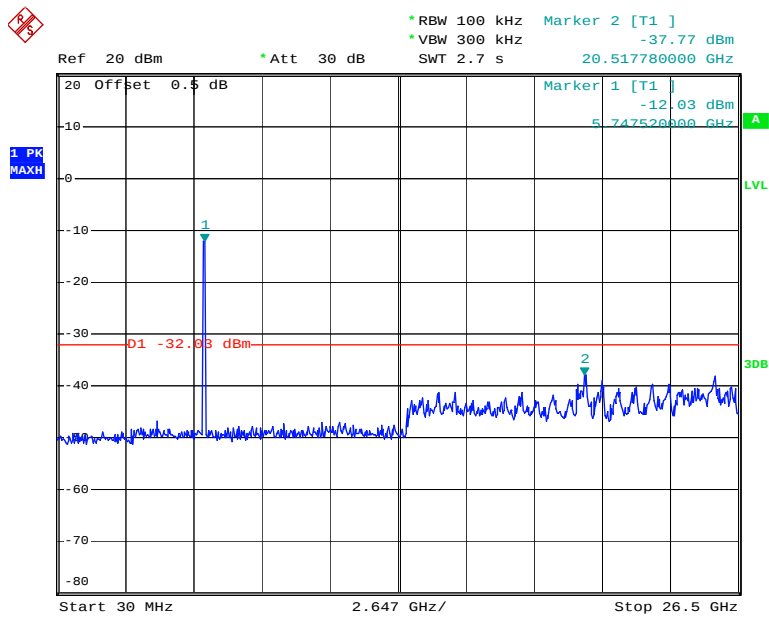
Date: 12.OCT.2013 14:55:01

Chain 1: 802.11ac40 High Channel 26.5-40G



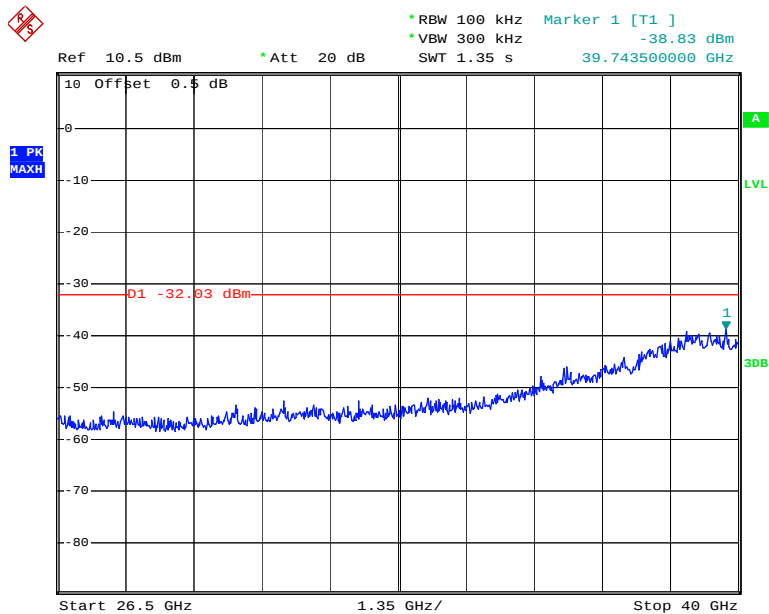
Date: 12.OCT.2013 14:56:16

Chain 0: 802.11ac80 Low Channel 30M-26.5G



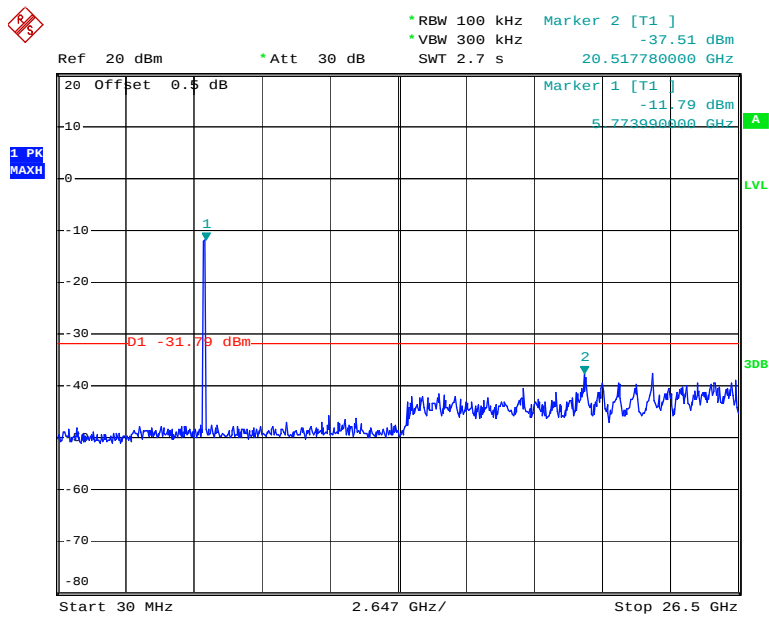
Date: 11.OCT.2013 15:54:42

Chain 0: 802.11ac80 Low Channel 26.5-40G



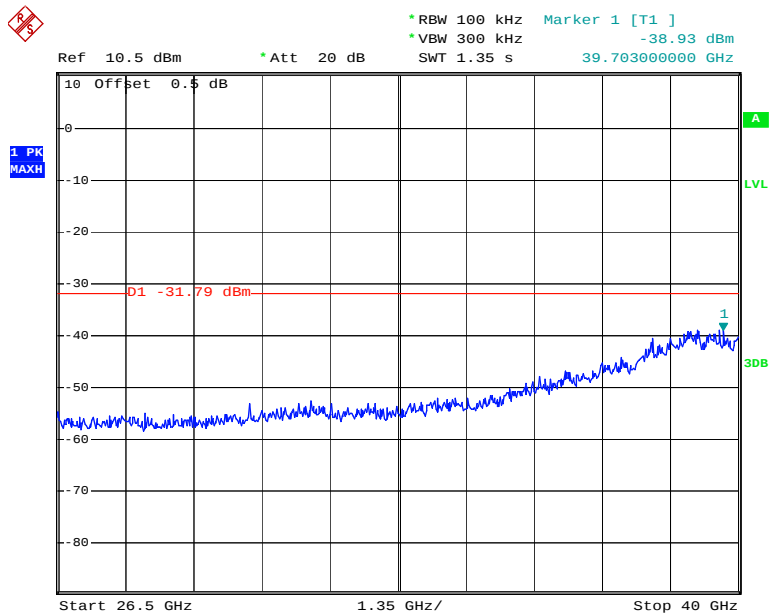
Date: 11.OCT.2013 15:55:40

Chain 1: 802.11ac80 Low Channel 30M-26.5G



Date: 11.OCT.2013 16:05:59

Chain 1: 802.11ac80 Low Channel 26.5-40G



Date: 11.OCT.2013 16:06:36

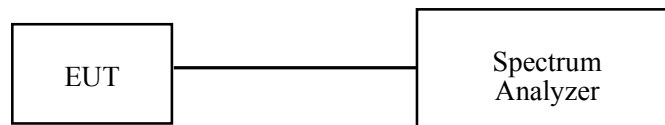
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

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
R&S	Spectrum analyzer	FSP 38	100478	2013-6-16	2014-6-15

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	27.8~28.6 °C
Relative Humidity:	58~61 %
ATM Pressure:	100.5~100.8 kPa

The testing was performed by Leon Chen from 2013-10-10 to 2013-10-12.

Test Result: Pass.

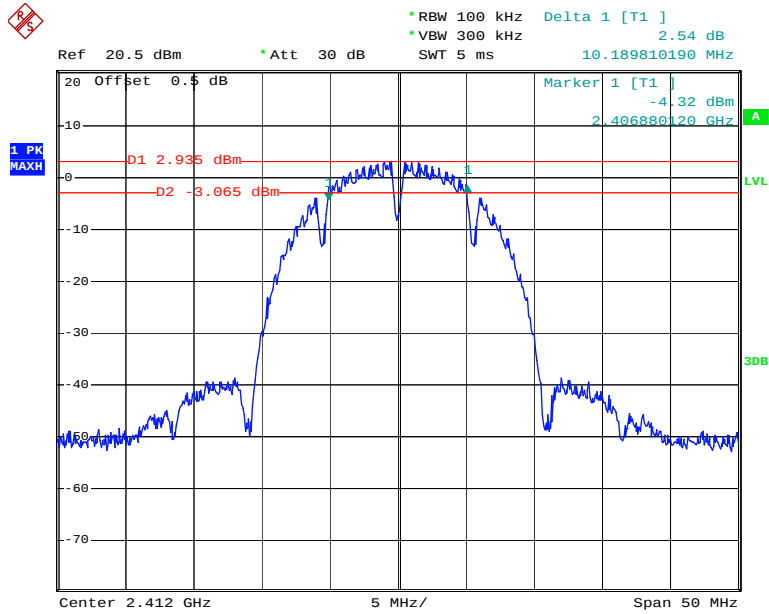
Please refer to the following tables and plots.

2.4G band:

Test mode	Channel	Frequency	6 dB Bandwidth (MHz)		Limit
		(MHz)	Chain0	Chain1	(kHz)
2.4G band-802.11b	Low	2412	10.19	/	>500
	Middle	2437	10.19	/	>500
	High	2462	10.19	/	>500
2.4G band-802.11g	Low	2412	16.63	/	>500
	Middle	2437	16.63	/	>500
	High	2462	16.68	/	>500
2.4G band-802.11n20	Low	2412	17.78	17.83	>500
	Middle	2437	17.83	17.88	>500
	High	2462	17.78	17.88	>500
2.4G band-802.11n40	Low	2422	36.66	36.76	>500
	Middle	2437	36.66	36.76	>500
	High	2452	36.66	36.66	>500
5725-5850MHz band-802.11a	Low	5745	16.63	/	>500
	Middle	5785	16.63	/	>500
	High	5825	16.63	/	>500
5725-5850MHz band-802.11n ht20	Low	5745	17.80	17.88	>500
	Middle	5785	17.73	17.88	>500
	High	5825	17.88	17.88	>500
5725-5850MHz band-802.11n ht40	Low	5755	36.66	36.66	>500
	High	5795	36.76	36.56	>500
5725-5850MHz band-802.11ac20	Low	5745	17.73	17.83	>500
	Middle	5785	17.83	17.88	>500
	High	5825	17.88	17.88	>500
5725-5850MHz band-802.11ac40	Low	5755	36.66	36.66	>500
	High	5795	36.56	36.66	>500
5725-5850MHz band-802.11ac80	Low	5775	76.68	76.86	>500

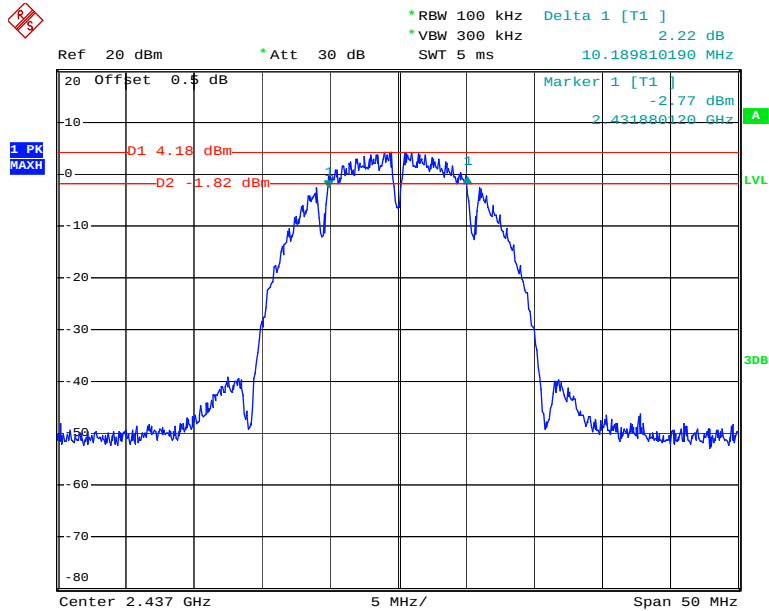
2.4G band:

802.11b Low Channel



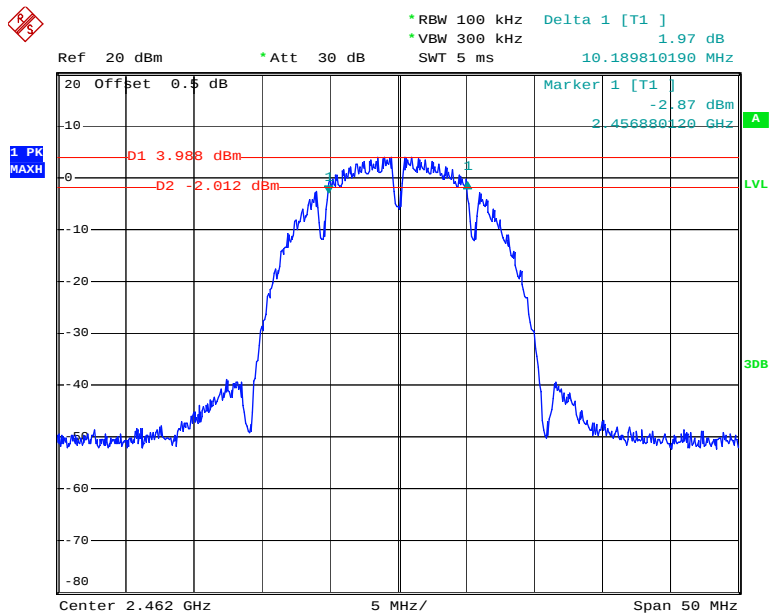
Date: 10.OCT.2013 20:51:57

802.11b Middle Channel



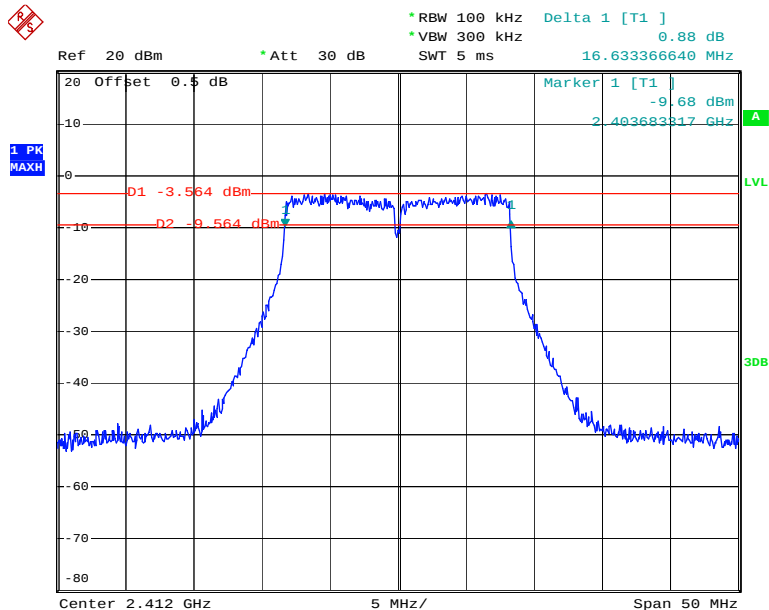
Date: 10.OCT.2013 21:00:00

802.11b High Channel



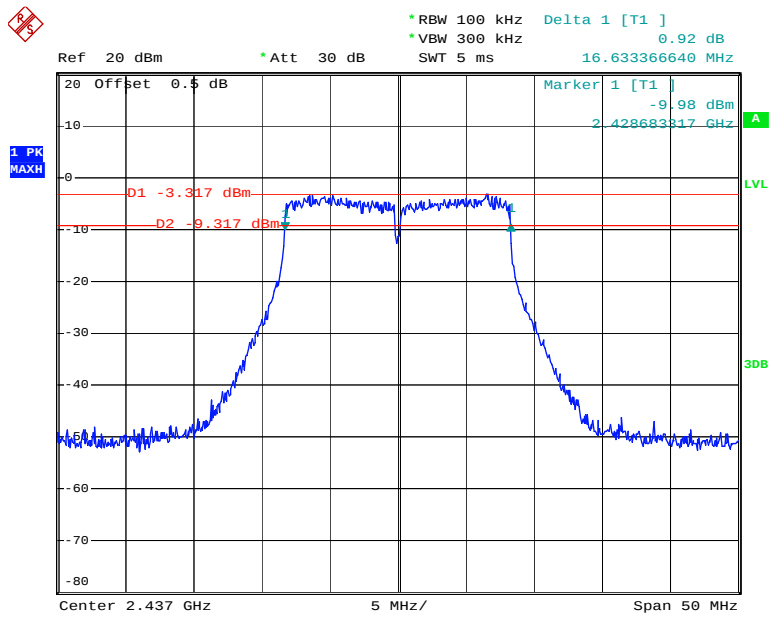
Date: 10.OCT.2013 21:01:18

802.11g Low Channel



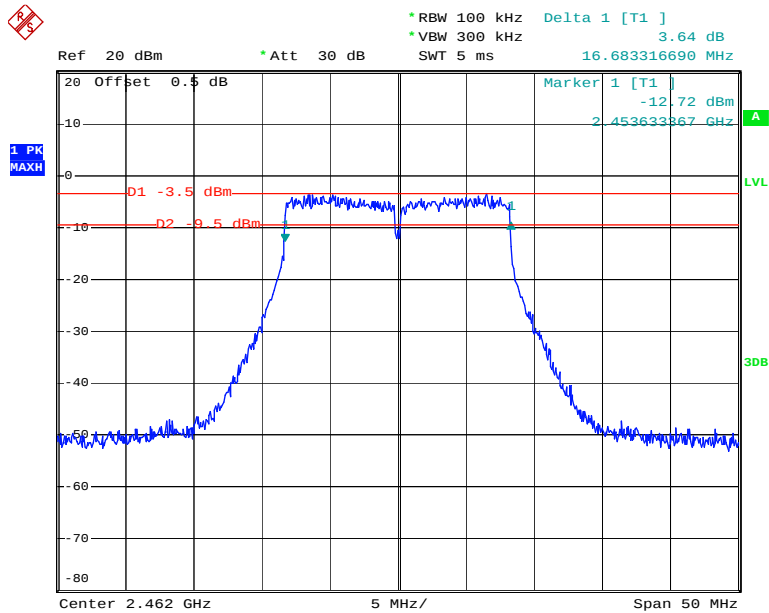
Date: 10.OCT.2013 21:06:11

802.11g Middle Channel



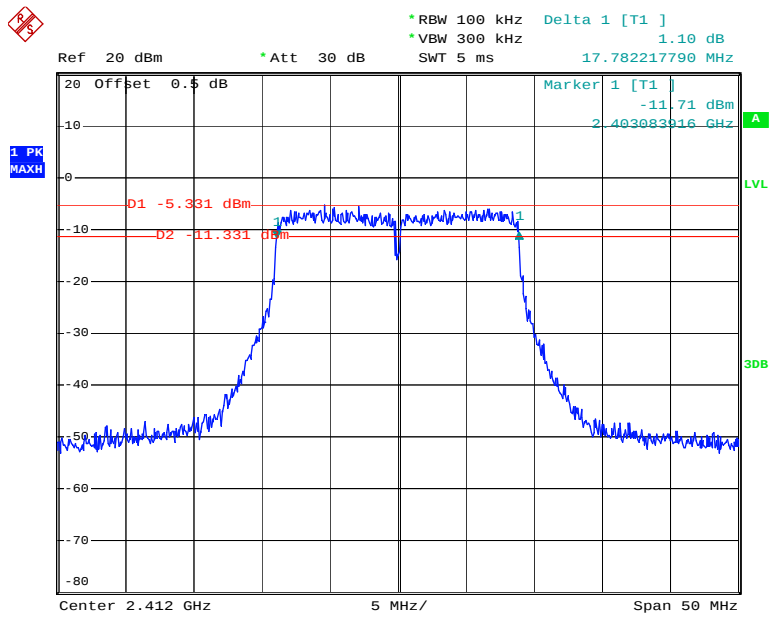
Date: 10.OCT.2013 21:07:40

802.11g High Channel



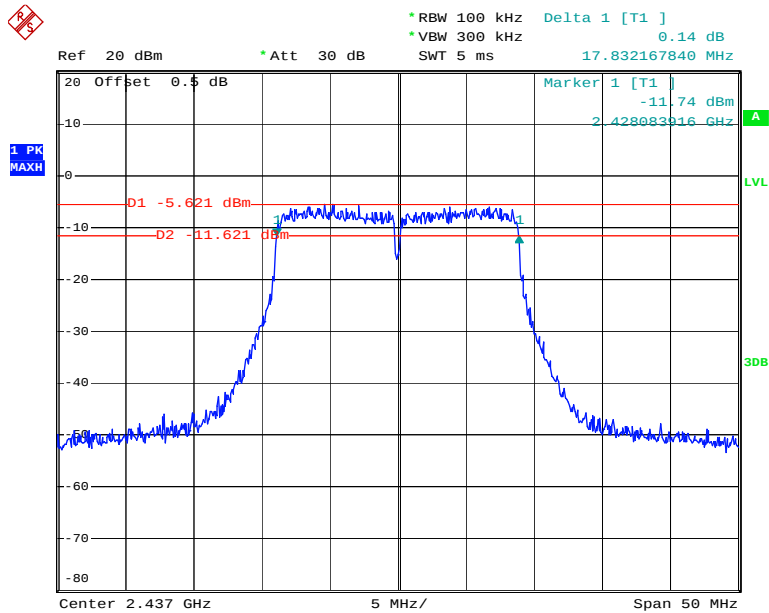
Date: 10.OCT.2013 21:09:02

Chain 0: 802.11n20 Low Channel



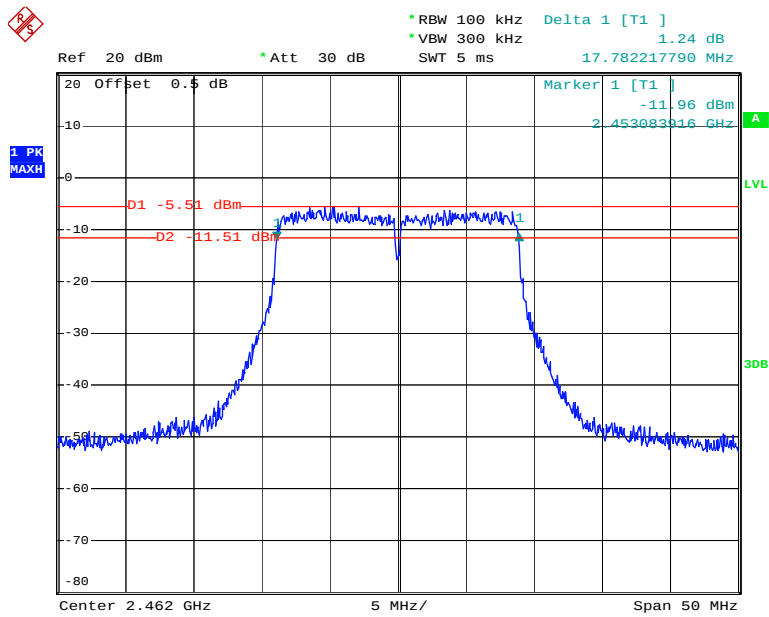
Date: 10.OCT.2013 21:10:47

Chain 0: 802.11n20 Middle Channel



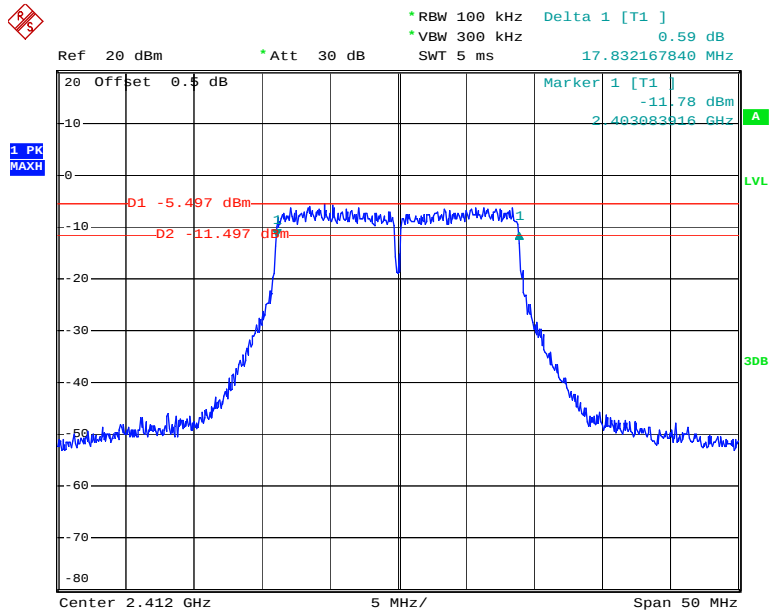
Date: 10.OCT.2013 21:12:37

Chain 0: 802.11n20 High Channel



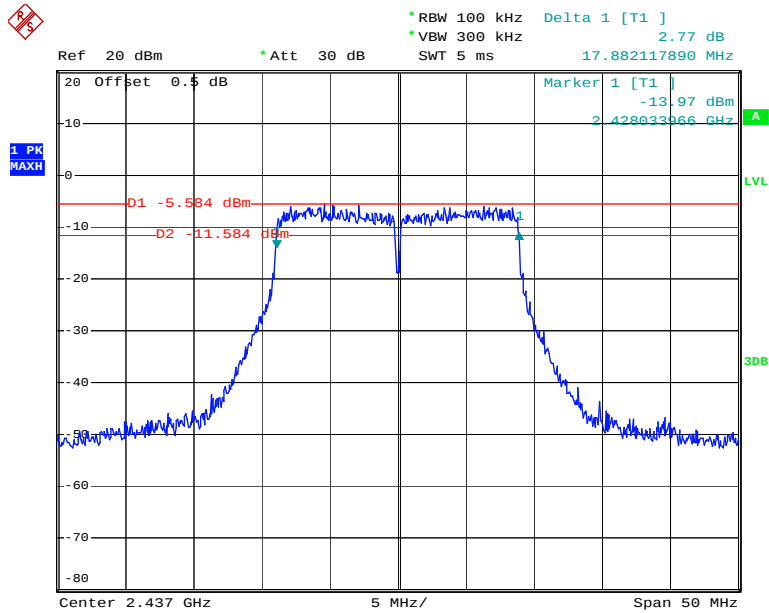
Date: 10.OCT.2013 21:14:09

Chain 1: 802.11n20 Low Channel



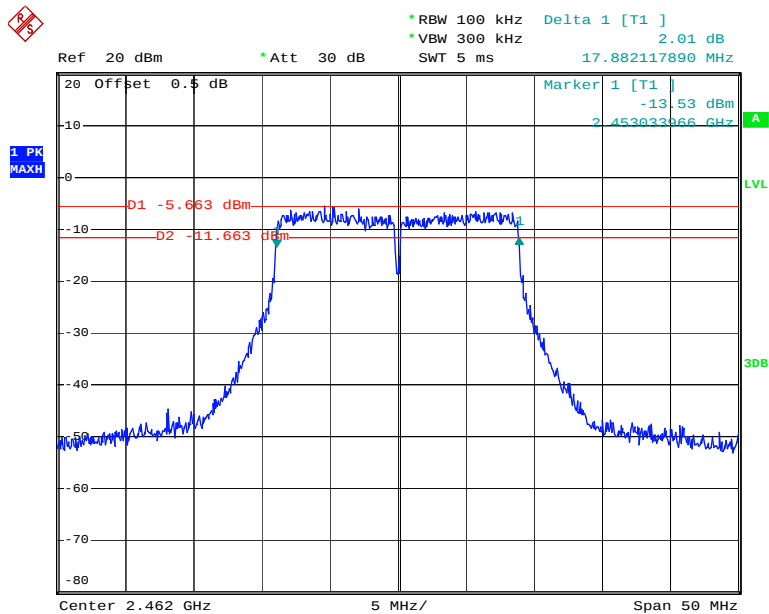
Date: 10.OCT.2013 21:24:53

Chain 1: 802.11n20 Middle Channel



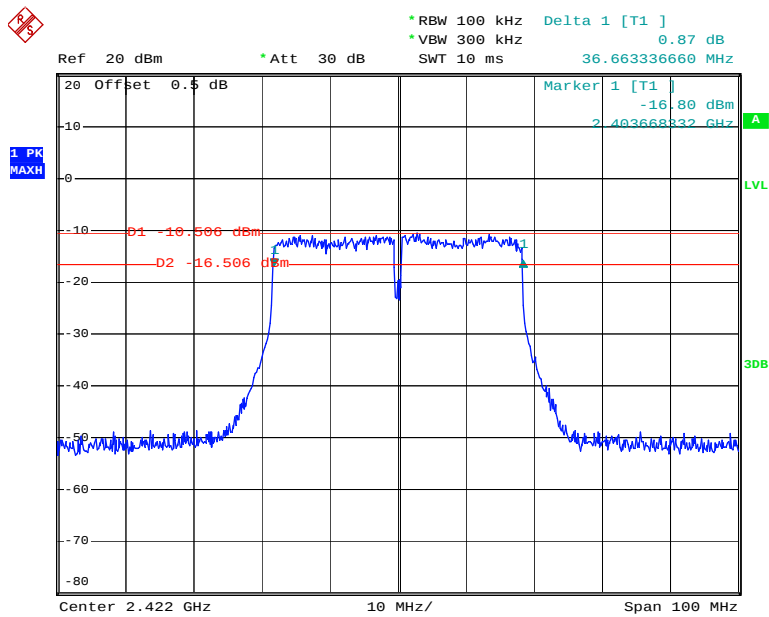
Date: 10.OCT.2013 21:26:33

Chain 1: 802.11n20 High Channel



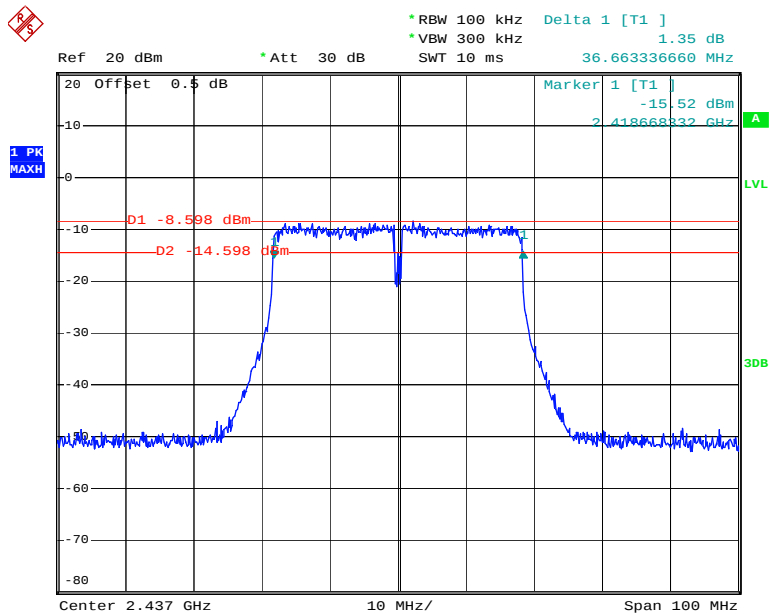
Date: 10.OCT.2013 21:28:34

Chain 0: 802.11n40 Low Channel



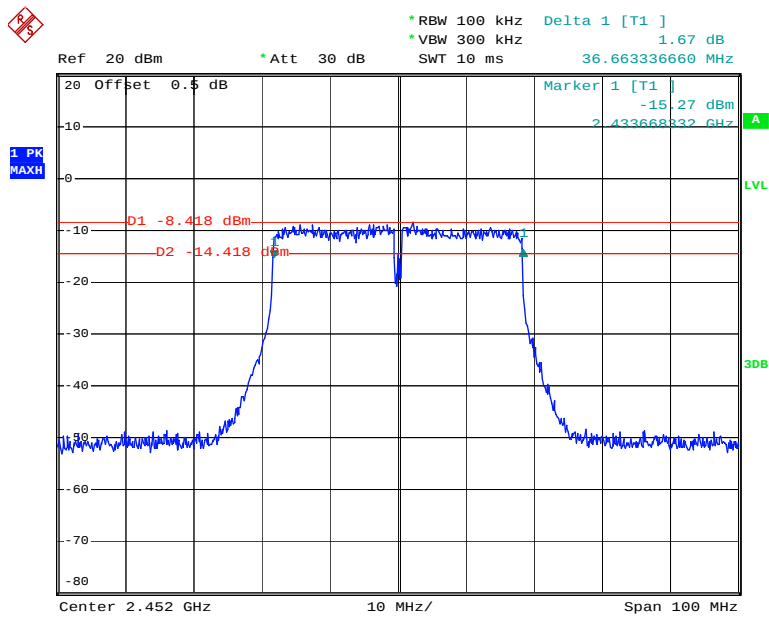
Date: 10.OCT.2013 21:16:02

Chain 0: 802.11n40 Middle Channel



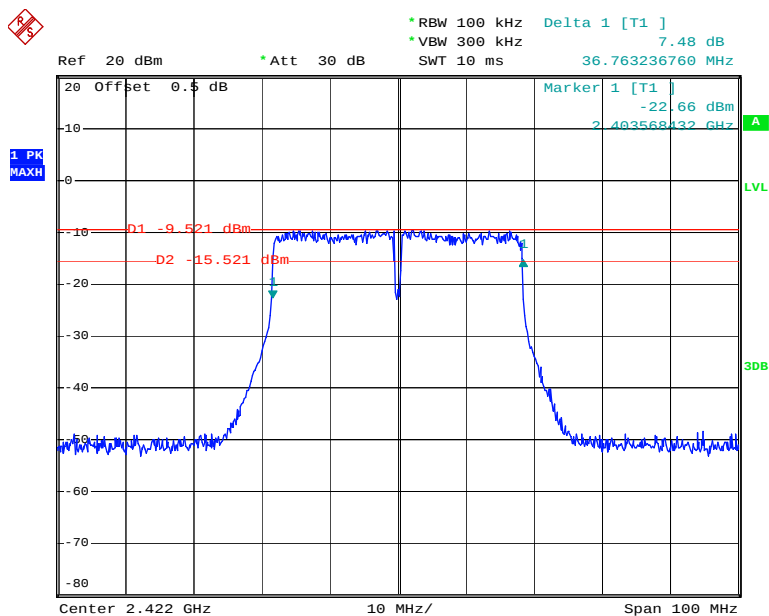
Date: 10.OCT.2013 21:18:16

Chain 0: 802.11n40 High Channel



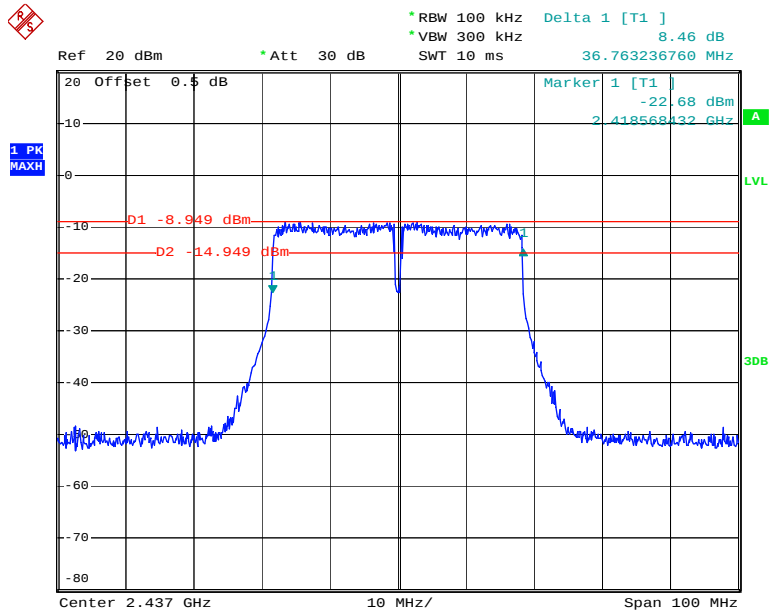
Date: 10.OCT.2013 21:19:54

Chain 1: 802.11n40 Low Channel



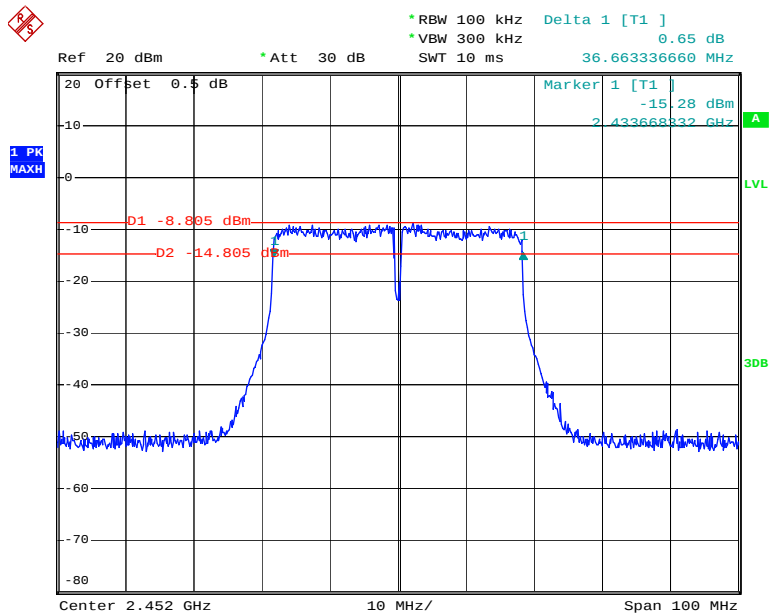
Date: 10.OCT.2013 21:30:27

Chain 1: 802.11n40 Middle Channel



Date: 10.OCT.2013 21:33:00

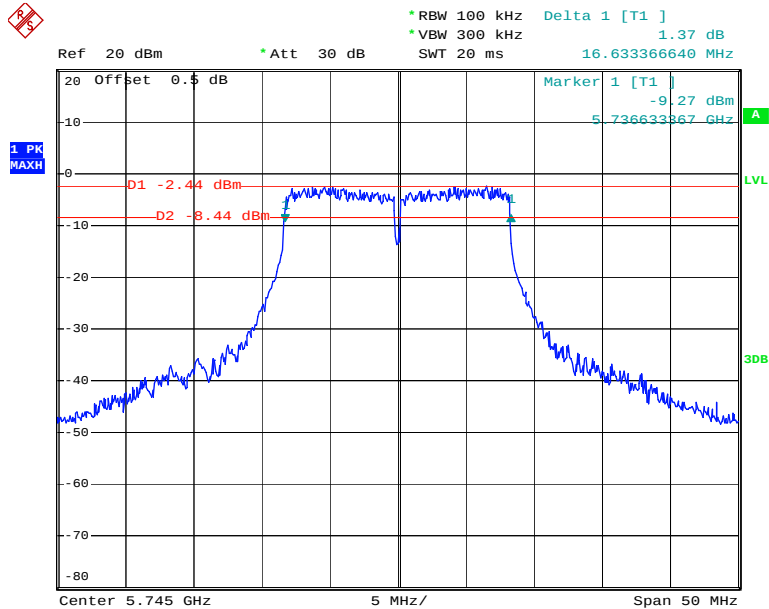
Chain 1: 802.11n40 High Channel



Date: 10.OCT.2013 21:34:33

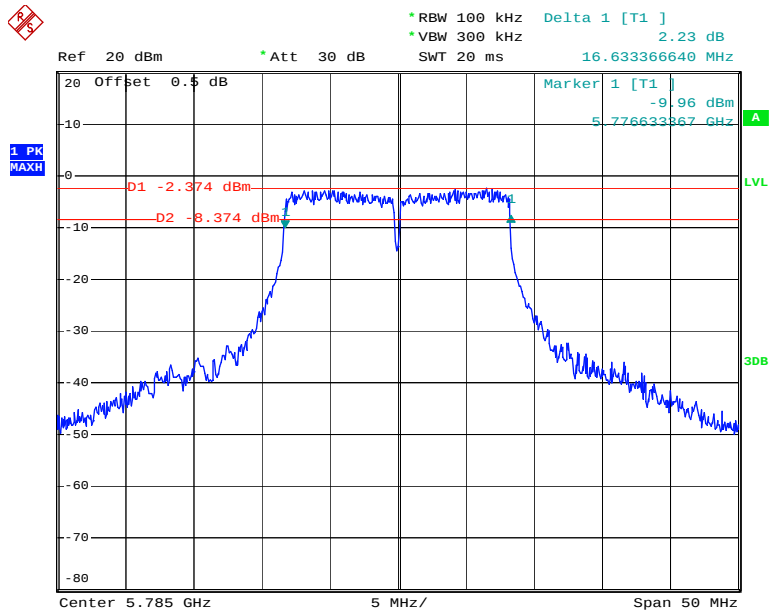
5725-5850MHz band:

802.11a Low Channel



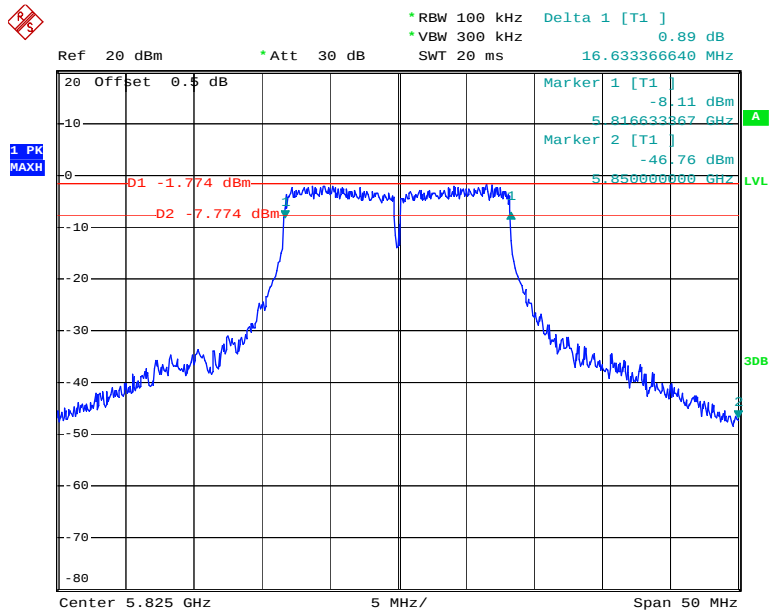
Date: 12.OCT.2013 13:31:57

802.11a Middle Channel



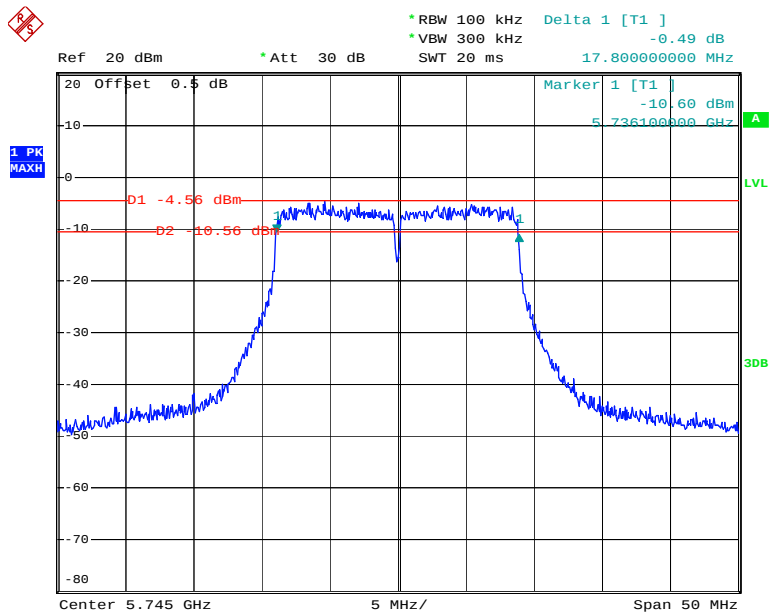
Date: 12.OCT.2013 13:37:06

802.11a High Channel



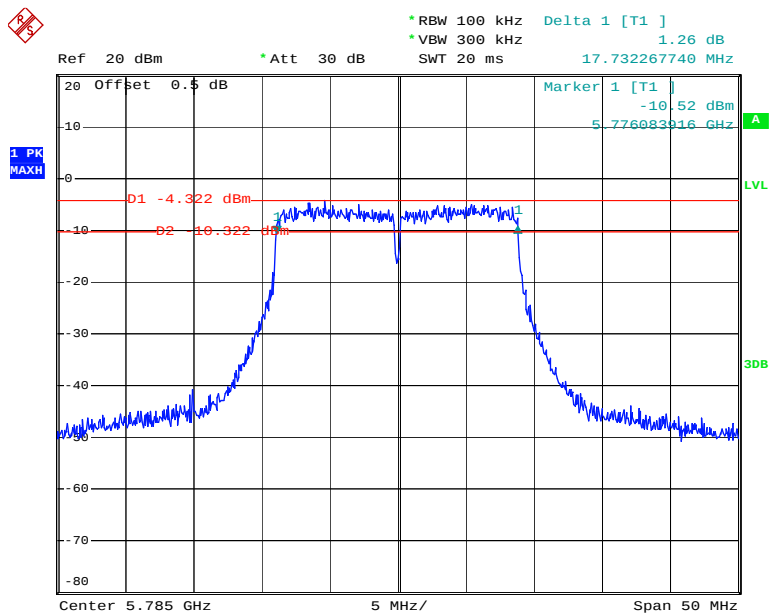
Date: 12.OCT.2013 13:40:32

Chain 0:802.11n ht20 Low Channel



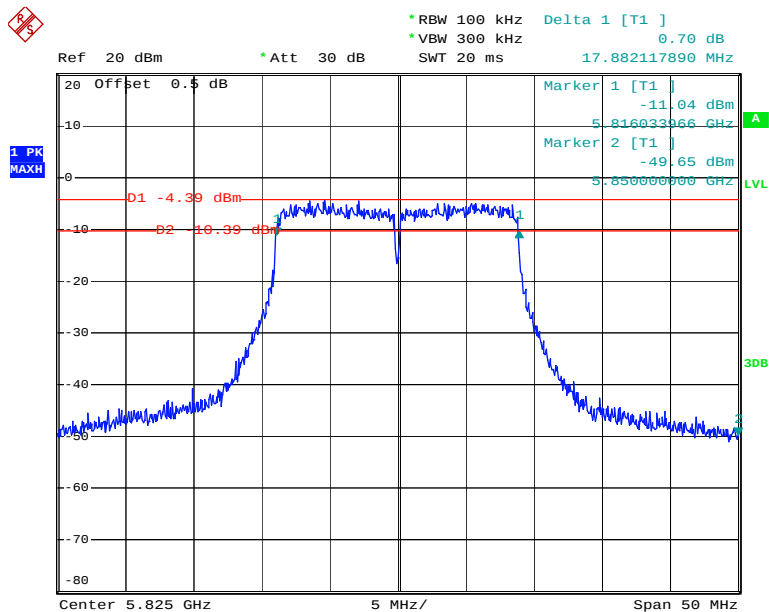
Date: 12.OCT.2013 15:16:36

Chain 0:802.11n ht20 Middle Channel



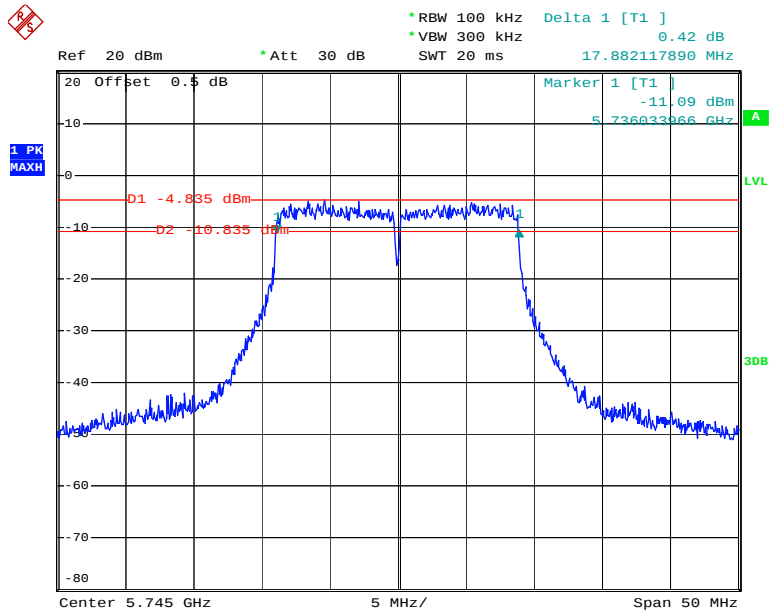
Date: 12.OCT.2013 13:49:16

Chain 0:802.11n ht20 High Channel



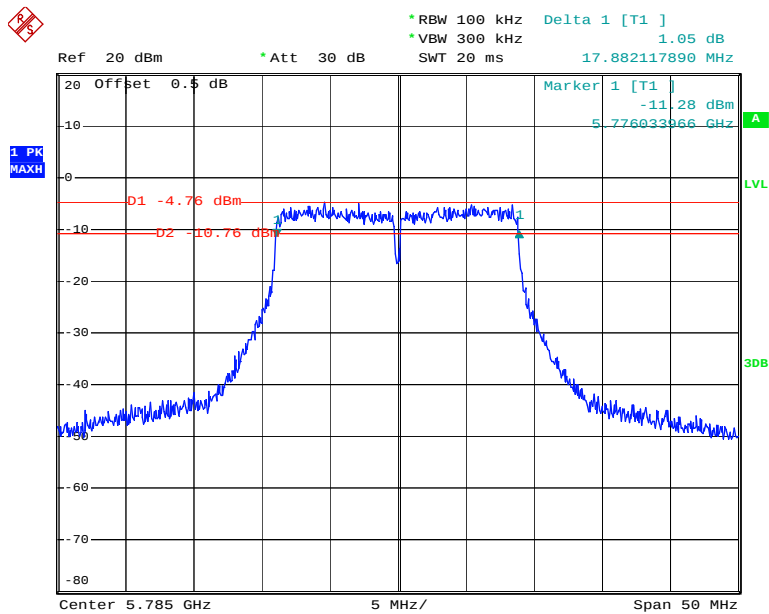
Date: 12.OCT.2013 13:51:22

Chain 1:802.11n ht20 Low Channel



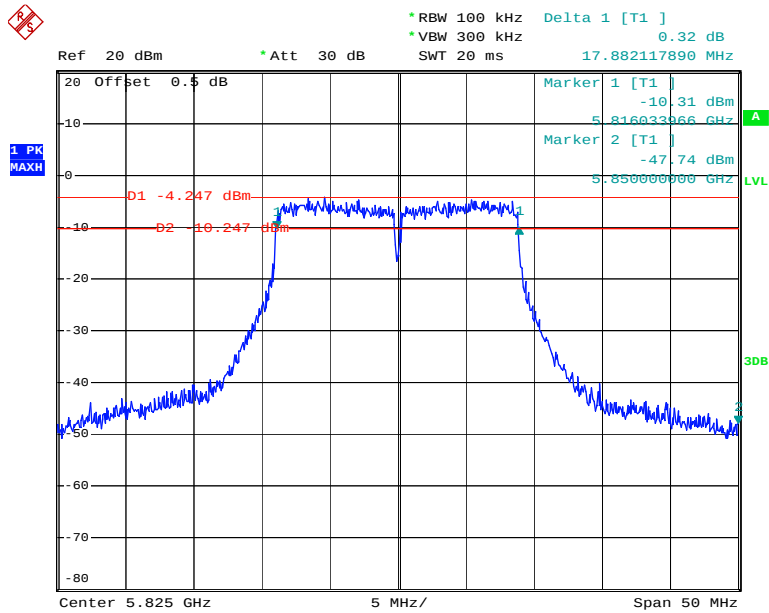
Date: 12.OCT.2013 14:23:06

Chain 1:802.11n ht20 Middle Channel



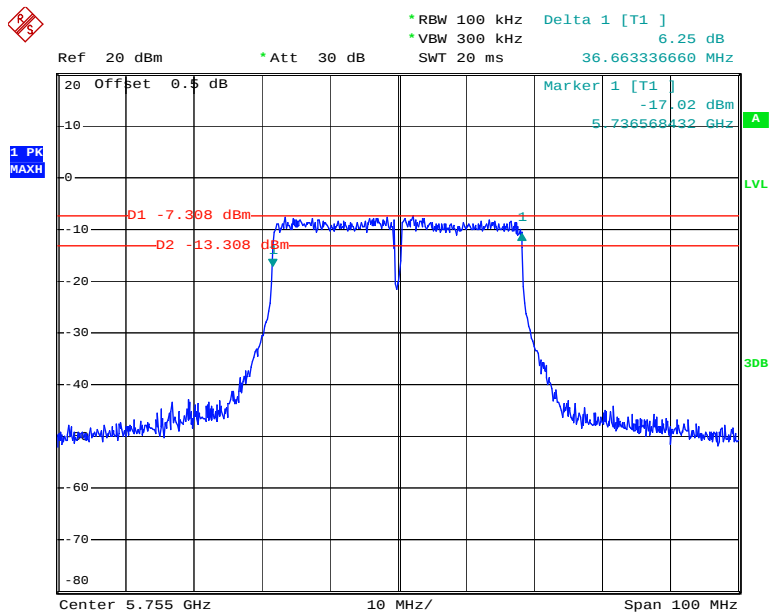
Date: 12.OCT.2013 14:25:36

Chain 1:802.11n ht20 High Channel



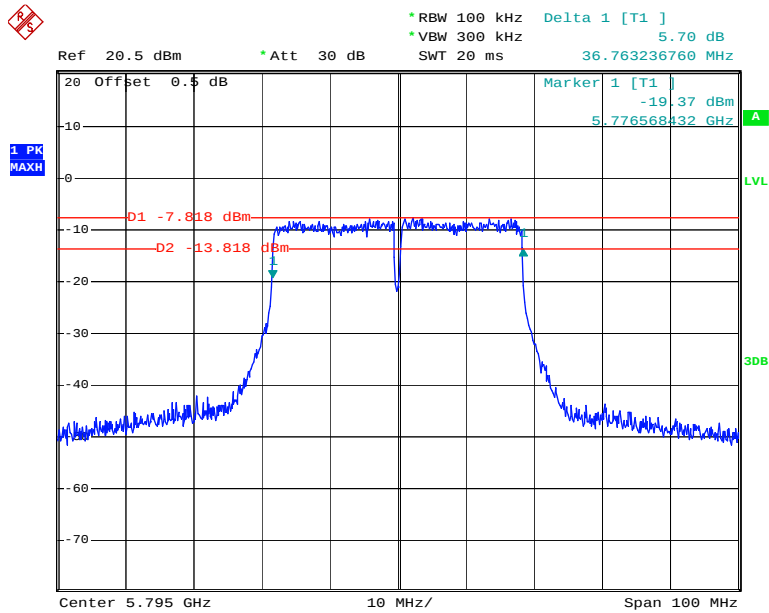
Date: 12.OCT.2013 14:27:50

Chain 0:802.11n ht40 Low Channel



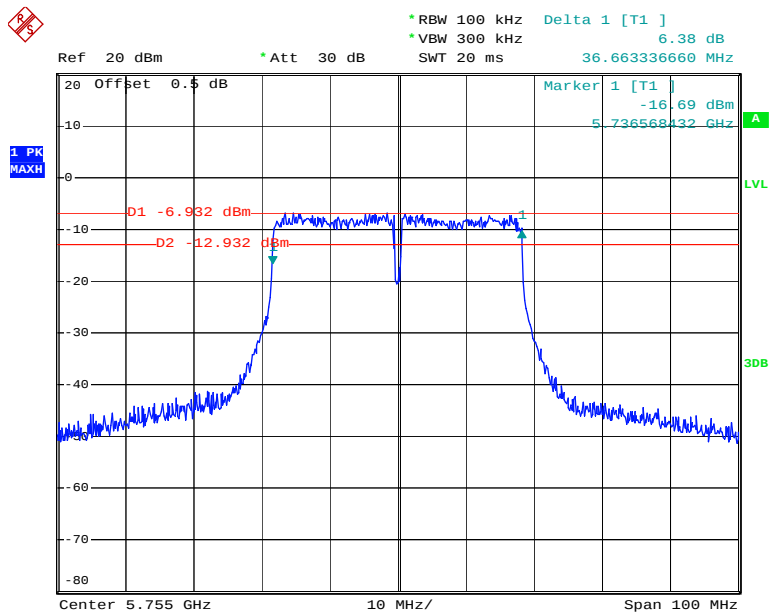
Date: 12.OCT.2013 13:57:21

Chain 0:802.11n ht40 High Channel



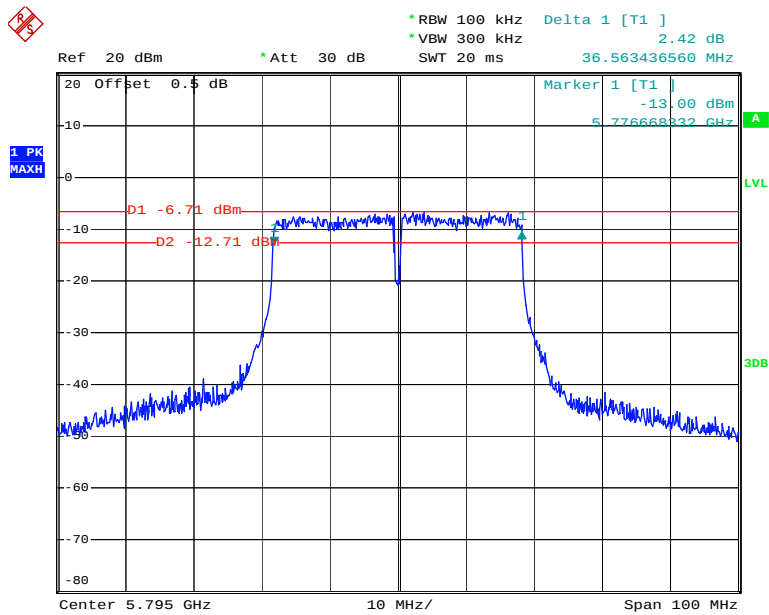
Date: 12.OCT.2013 14:15:41

Chain 1:802.11n ht40 Low Channel



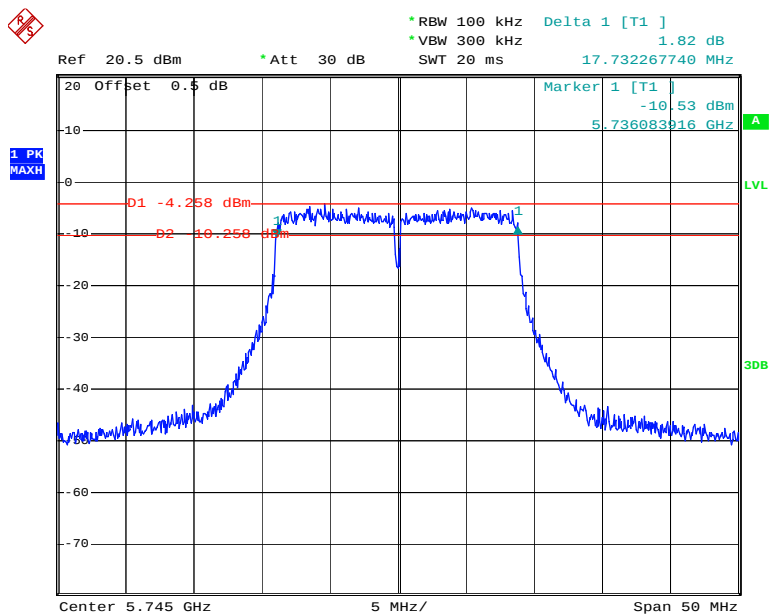
Date: 12.OCT.2013 14:31:11

Chain 1:802.11n ht40 High Channel



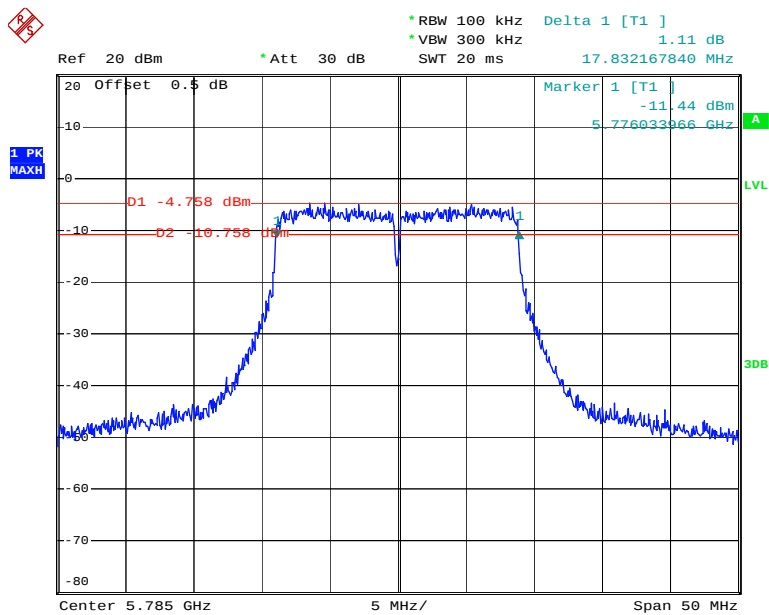
Date: 12.OCT.2013 14:33:37

Chain 0:802.11ac20 Low Channel



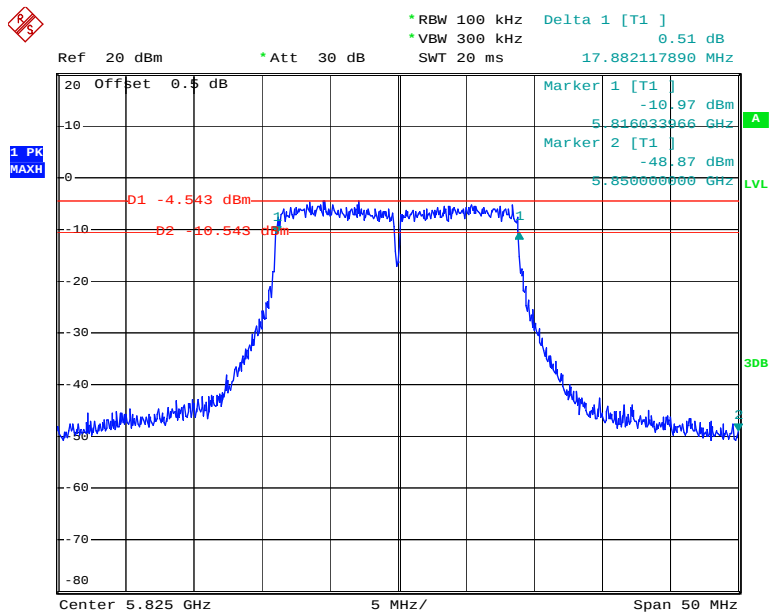
Date: 12.OCT.2013 15:14:02

Chain 0:802.11ac20 Middle Channel



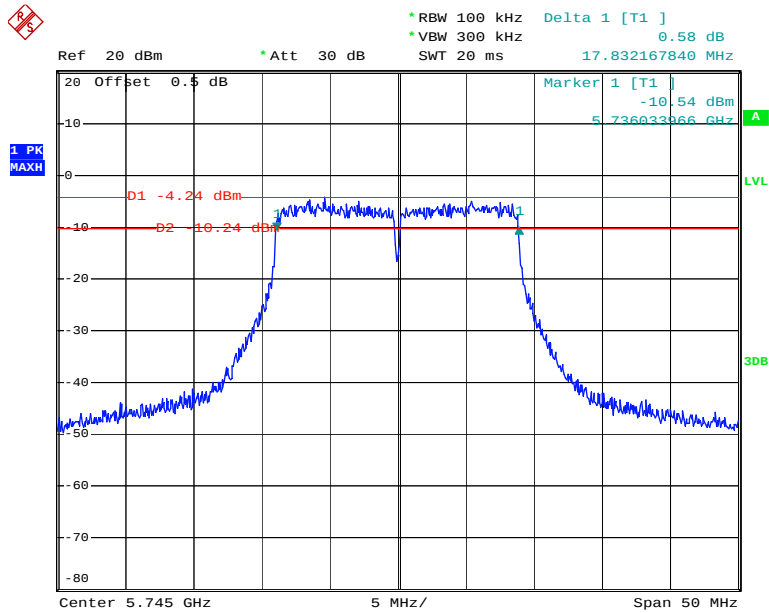
Date: 12.OCT.2013 15:16:33

Chain 0:802.11ac20 High Channel



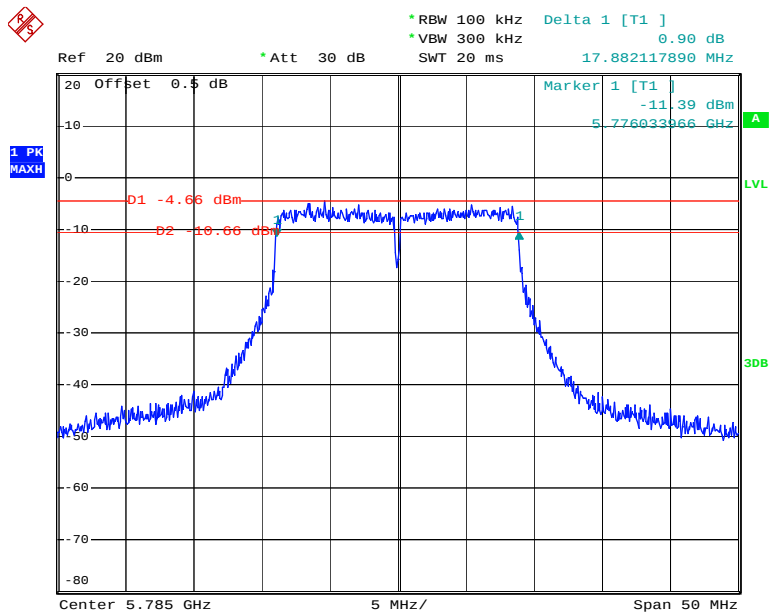
Date: 12.OCT.2013 15:18:37

Chain 1:802.11ac20 Low Channel



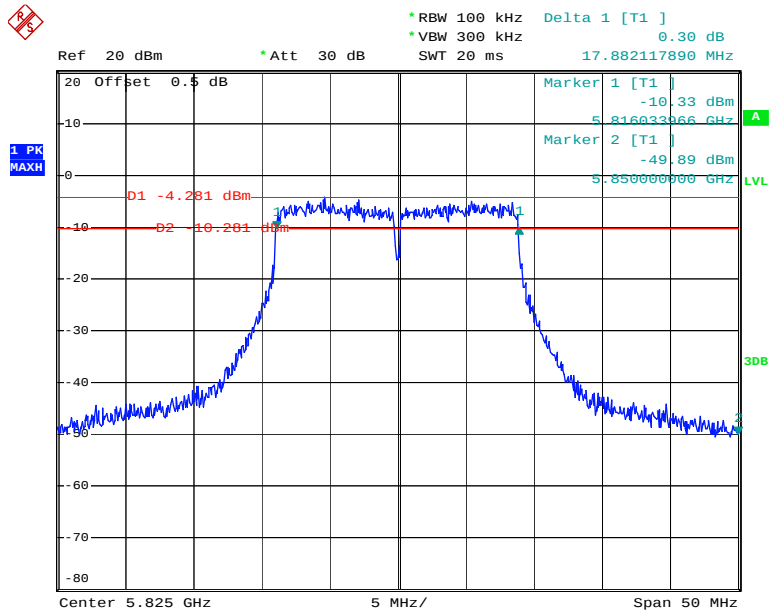
Date: 12.OCT.2013 14:43:56

Chain 1:802.11ac20 Middle Channel



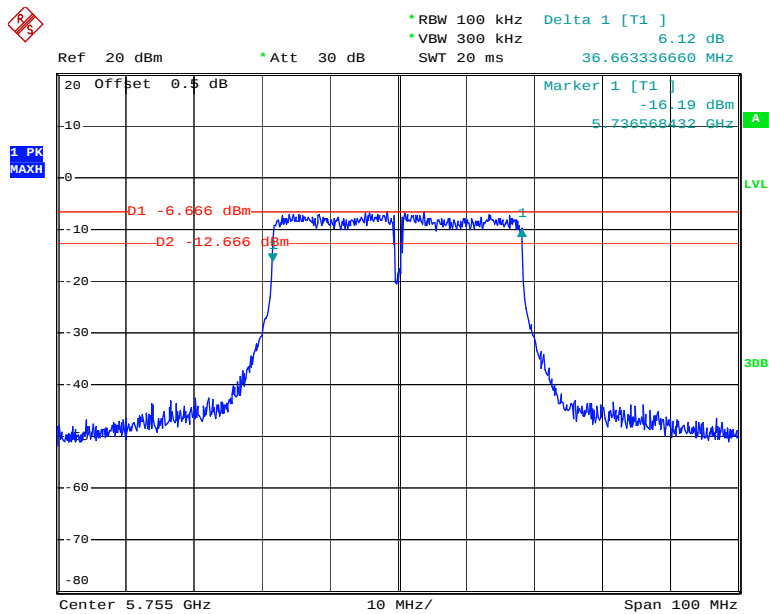
Date: 12.OCT.2013 14:46:10

Chain 1:802.11ac20 High Channel



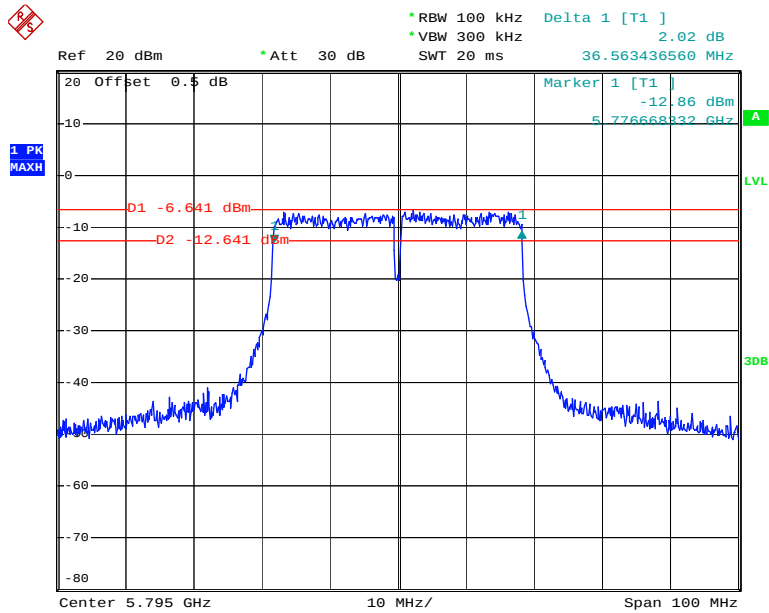
Date: 12.OCT.2013 14:48:13

Chain 0:802.11ac40 Low Channel



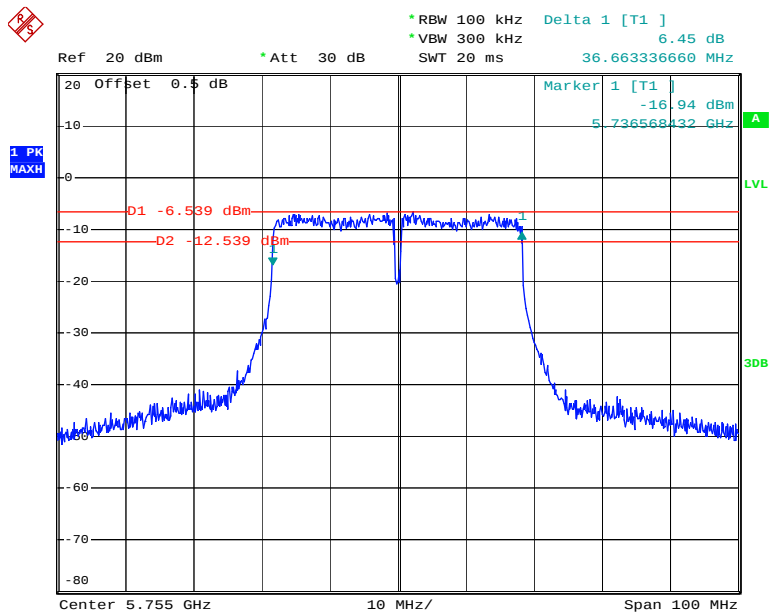
Date: 12.OCT.2013 15:21:19

Chain 0:802.11ac40 High Channel



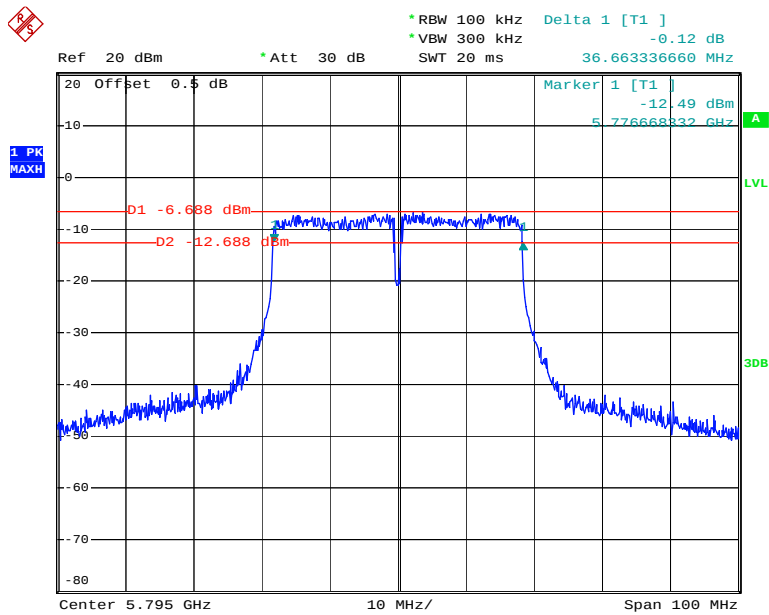
Date: 12.OCT.2013 15:23:44

Chain 1:802.11ac40 Low Channel



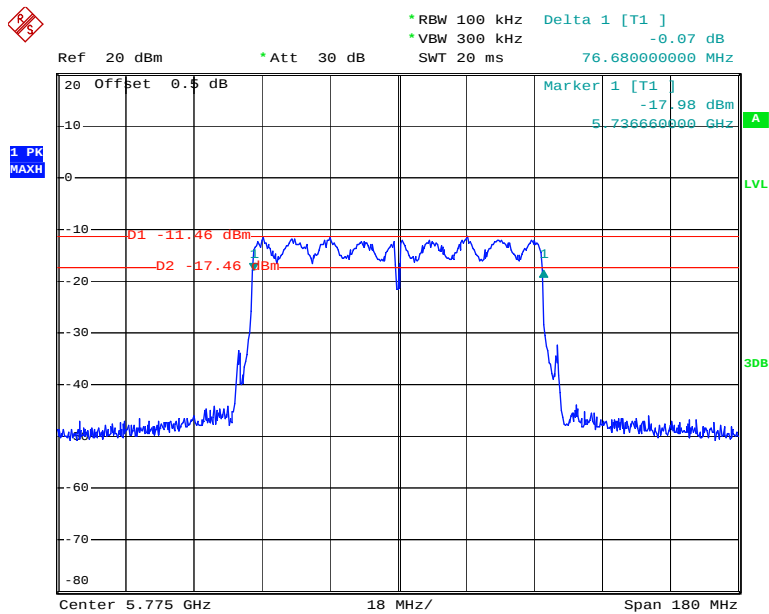
Date: 12.OCT.2013 14:51:30

Chain 1:802.11ac40 High Channel



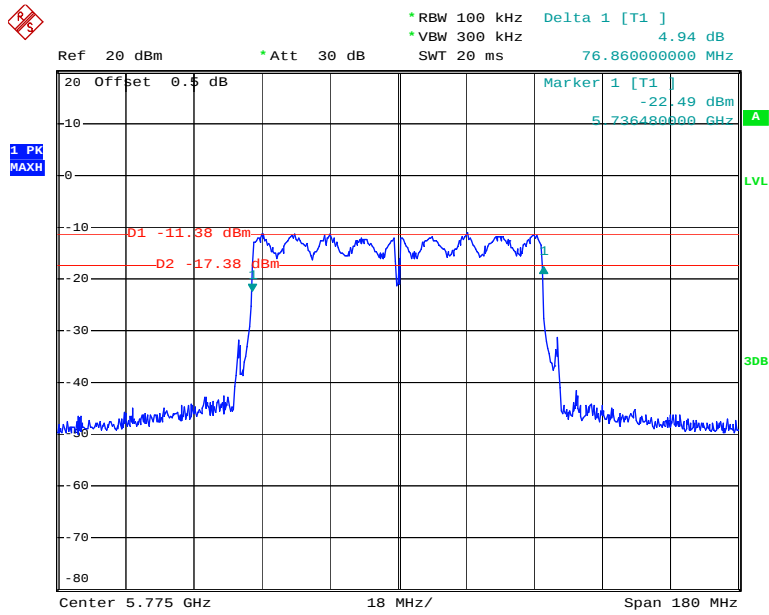
Date: 12.OCT.2013 14:53:59

Chain 0:802.11ac80 Low Channel



Date: 11.OCT.2013 15:39:43

Chain 1:802.11ac80 Low Channel



Date: 11.OCT.2013 16:01:04

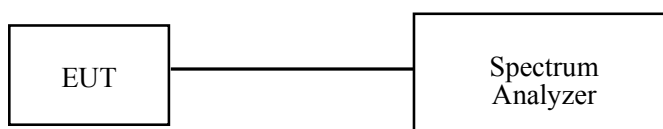
FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

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. According to KDB 558074 D01 DTS Meas Guidance v03r01, 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 the spectrum analyzer.
3. Add a correction factor to the display.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum analyzer	FSP 38	100478	2013-6-16	2014-6-15

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

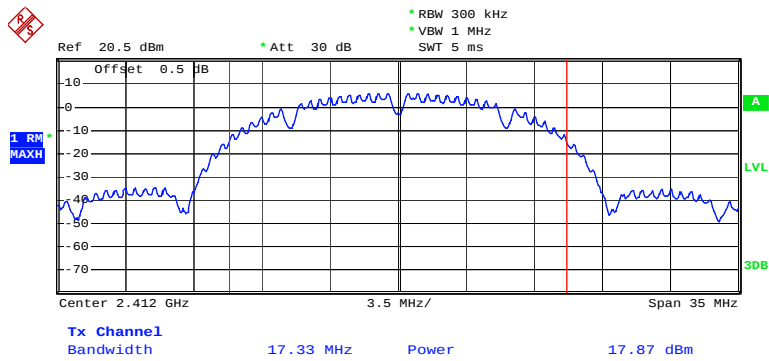
Temperature:	27.8~28.6 °C
Relative Humidity:	58~61 %
ATM Pressure:	100.5~100.8 kPa

The testing was performed by Leon Chen from 2013-10-10 to 2013-10-12.

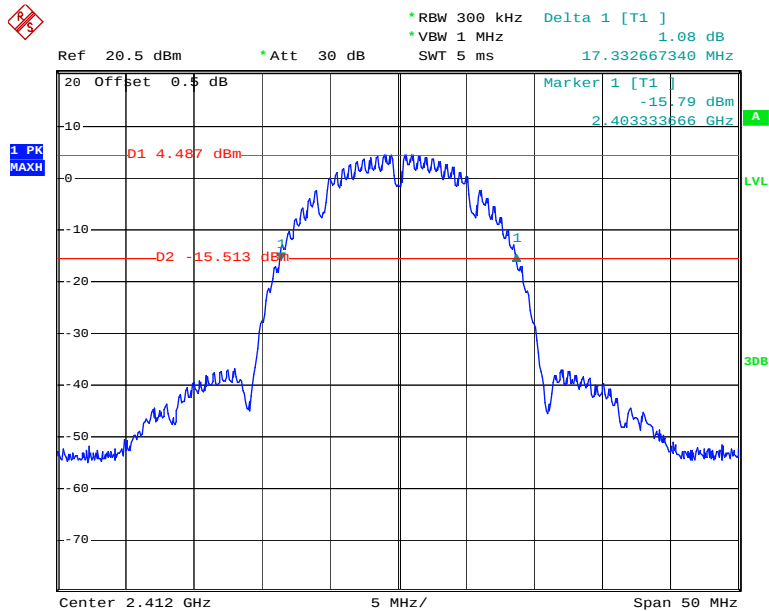
Test Mode: Transmitting

Test mode	Channel	Frequency	Conducted Output Power (dBm)			Limit	Result
		(MHz)	Chain0	Chain1	Chain0+1	(dBm)	
2.4G band-802.11b	Low	2412	17.87	/	17.87	30	PASS
	Middle	2437	17.45	/	17.45	30	PASS
	High	2462	17.82	/	17.82	30	PASS
2.4G band-802.11g	Low	2412	13.66	/	13.66	30	PASS
	Middle	2437	13.78	/	13.78	30	PASS
	High	2462	13.60	/	13.60	30	PASS
2.4G band-802.11n20	Low	2412	11.37	11.26	14.33	30	PASS
	Middle	2437	11.43	11.26	14.36	30	PASS
	High	2462	11.34	11.15	14.26	30	PASS
2.4G band-802.11n40	Low	2422	10.1	10.04	13.08	30	PASS
	Middle	2437	9.97	9.73	12.86	30	PASS
	High	2452	9.79	9.64	12.73	30	PASS
5725-5850MHz band-802.11a	Low	5745	12.63	/	12.63	30	PASS
	Middle	5785	12.77	/	12.77	30	PASS
	High	5825	12.92	/	12.92	30	PASS
5725-5850MHz band-802.11n ht20	Low	5745	10.03	10.1	13.24	30	PASS
	Middle	5785	10.26	9.88	13.12	30	PASS
	High	5825	10.48	10.6	13.55	30	PASS
5725-5850MHz band-802.11n ht40	Low	5755	9.90	10.54	13.24	30	PASS
	High	5795	9.71	10.47	13.12	30	PASS
5725-5850MHz band-802.11ac20	Low	5745	10.39	9.99	13.2	30	PASS
	Middle	5785	10.12	9.82	12.98	30	PASS
	High	5825	10.31	10.04	13.19	30	PASS
5725-5850MHz band-802.11ac40	Low	5755	10.55	10.41	13.49	30	PASS
	High	5795	10.41	10.41	13.42	30	PASS
5725-5850MHz band-802.11ac80	Low	5775	8.22	8.48	11.36	30	PASS

Please refer to the following plots

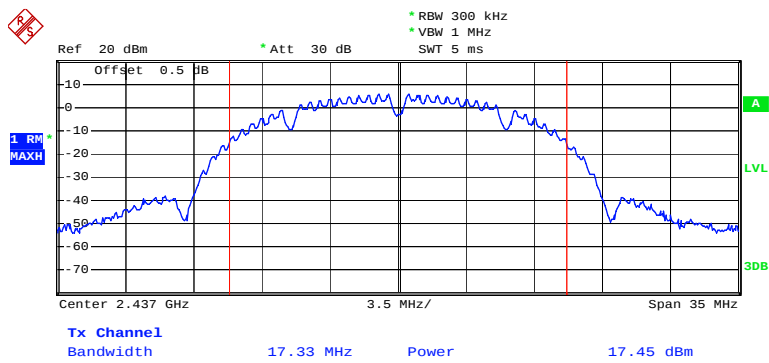
2.4G band:**802.11b RF Output Power, Low Channel**

Date: 10.OCT.2013 20:53:28

802.11b OBW, Low Channel

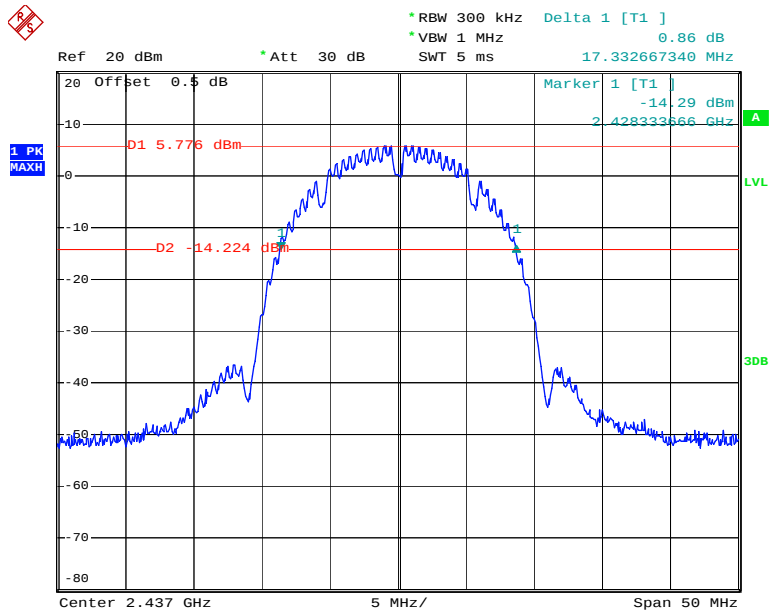
Date: 10.OCT.2013 20:52:11

802.11b RF Output Power, Middle Channel



Date: 10.OCT.2013 21:00:21

802.11b OBW, Middle Channel



Date: 10.OCT.2013 21:00:14

Ref 20 dBm * Att 30 dB * RBW 300 kHz * VBW 1 MHz
SWT 5 ms

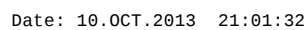
Offset 0.5 dB

1. RM MAXH

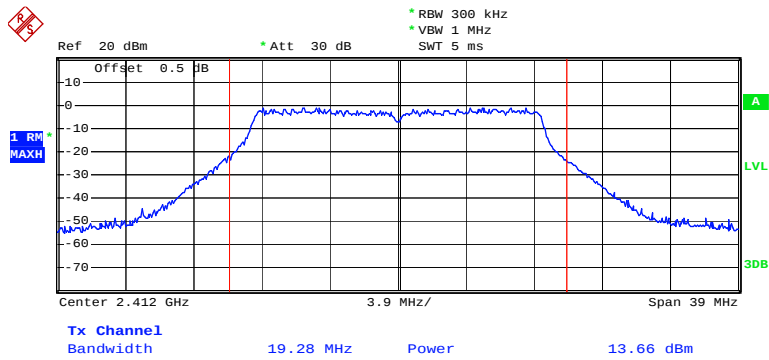
Center 2.462 GHz 3.5 MHz/ Span 35 MHz

Tx Channel Bandwidth 17.33 MHz Power 17.82 dBm

802.11b OBW, High Channel

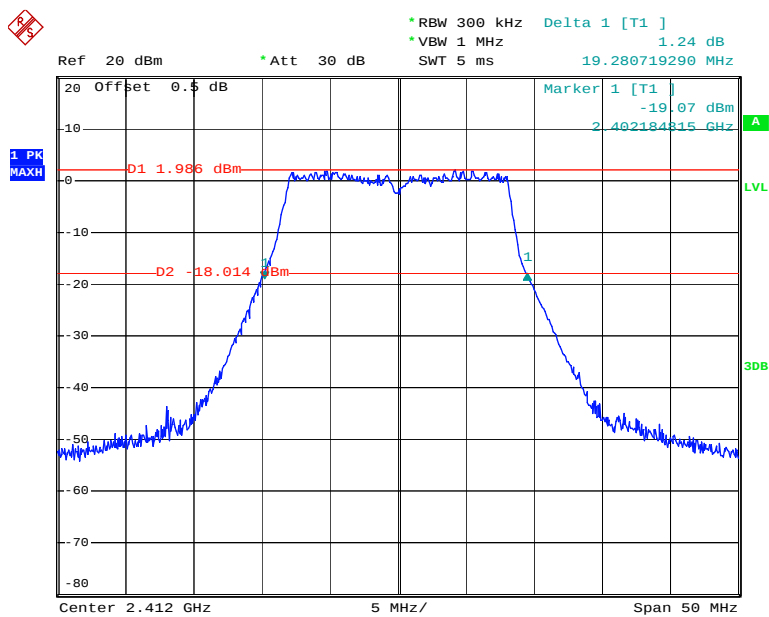


802.11g RF Output Power, Low Channel



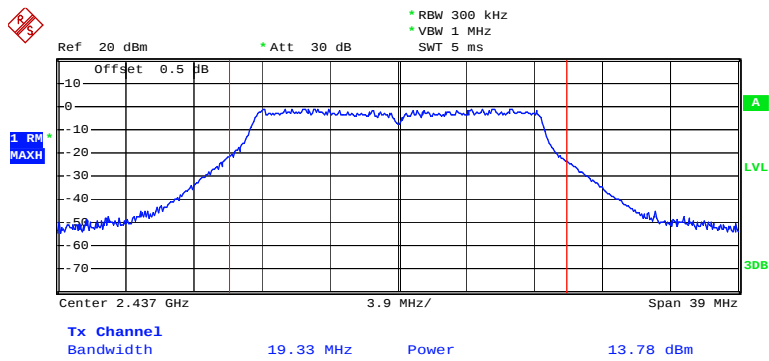
Date: 10.OCT.2013 21:06:31

802.11g OBW, Low Channel



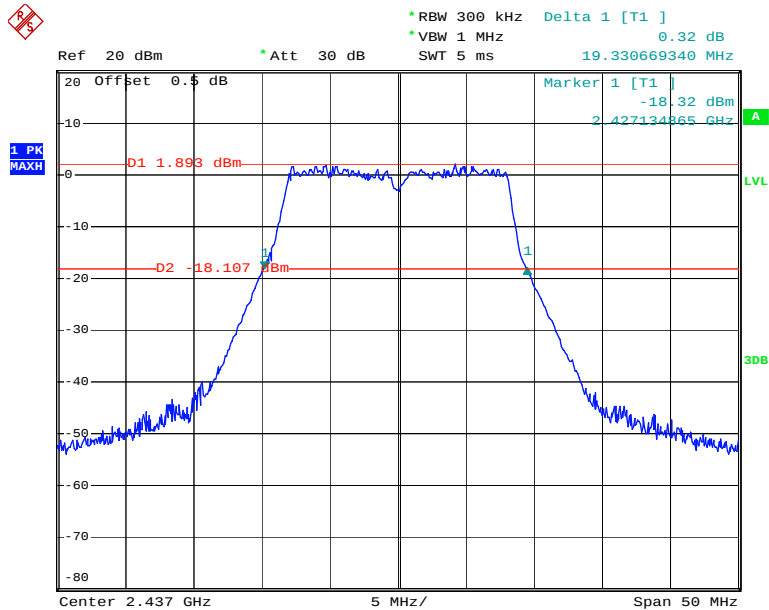
Date: 10.OCT.2013 21:06:24

802.11g RF Output Power, Middle Channel



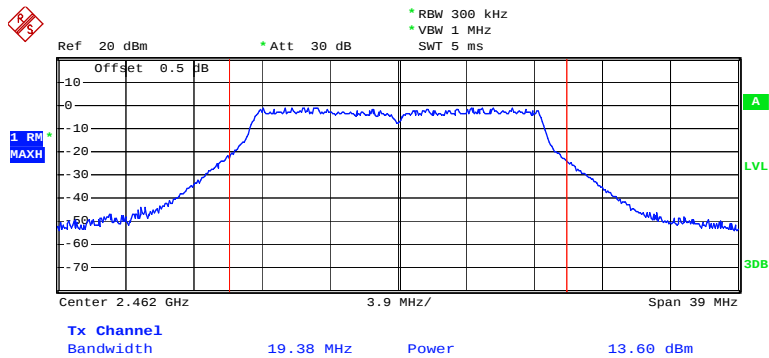
Date: 10.OCT.2013 21:08:06

802.11g OBW, Middle Channel



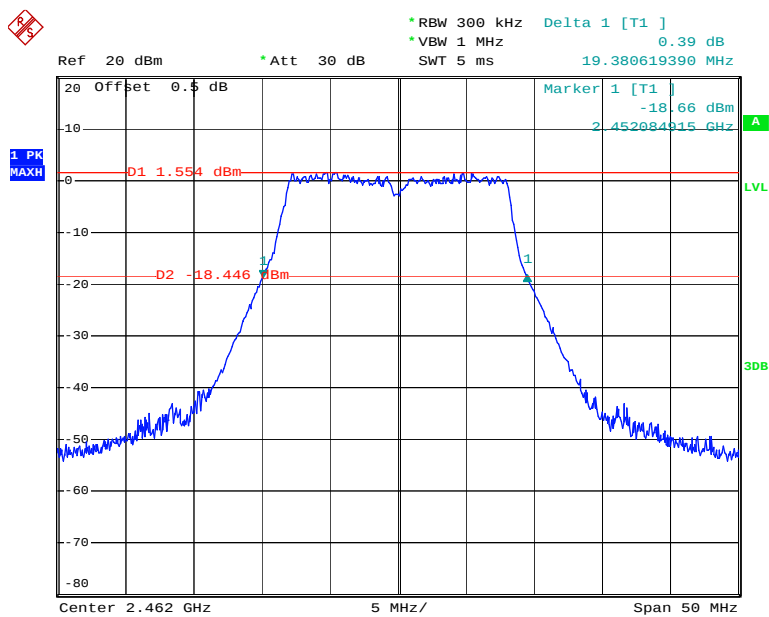
Date: 10.OCT.2013 21:07:54

802.11g RF Output Power, High Channel



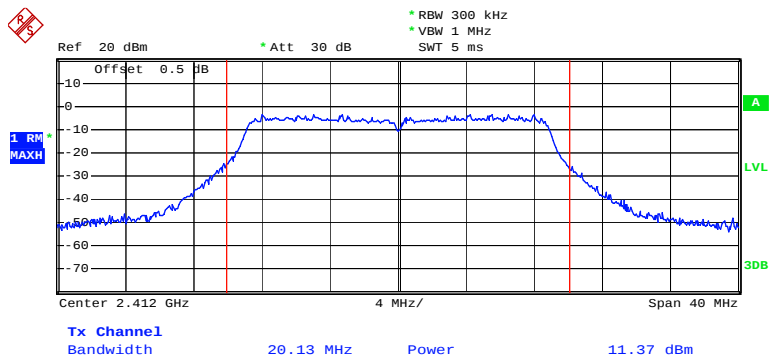
Date: 10.OCT.2013 21:09:28

802.11g OBW, High Channel



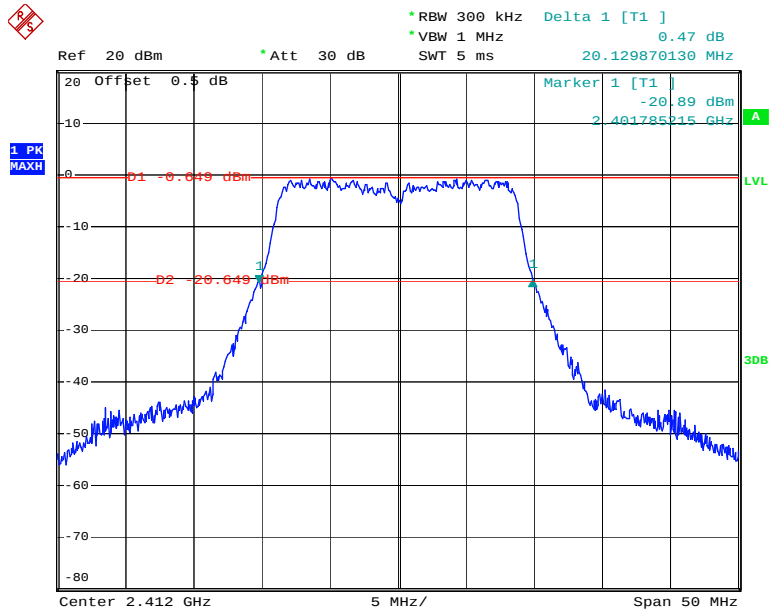
Date: 10.OCT.2013 21:09:16

Chain 0: 802.11n20 RF Output Power, Low Channel



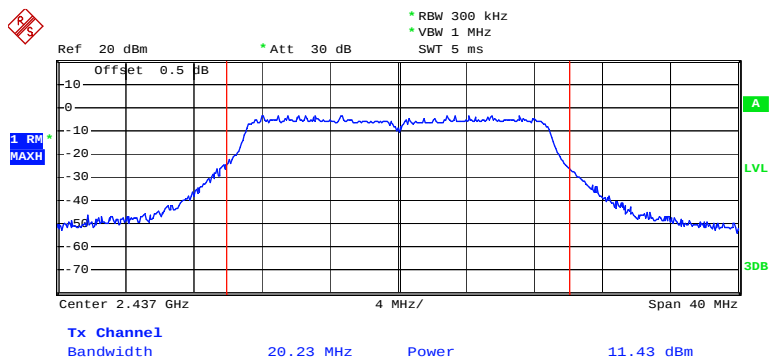
Date: 10.OCT.2013 21:11:15

Chain 0: 802.11n20 OBW, Low Channel



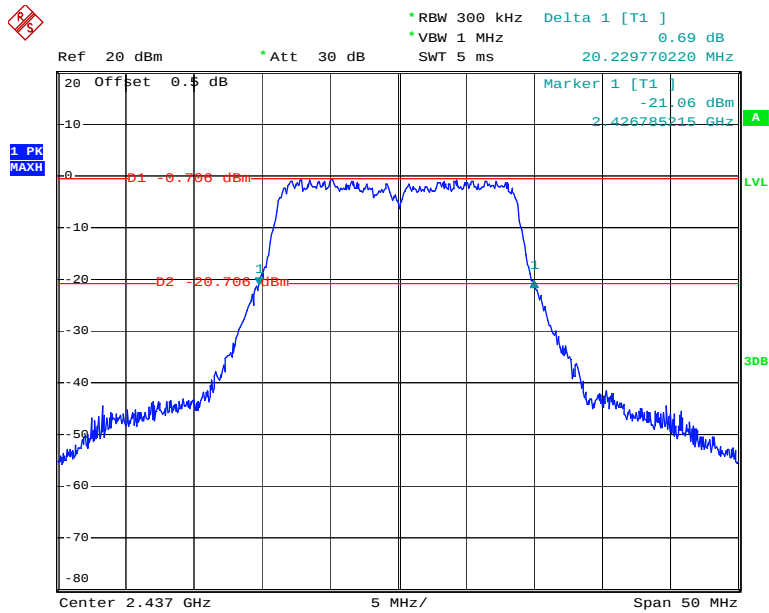
Date: 10.OCT.2013 21:11:01

Chain 0: 802.11n20 RF Output Power, Middle Channel



Date: 10.OCT.2013 21:13:03

Chain 0: 802.11n20 OBW, Middle Channel



Date: 10.OCT.2013 21:12:51

Ref 20 dBm * RBW 300 kHz
 Att 30 dB * VBW 1 MHz
 SWT 5 ms

Offset 0.5 dB

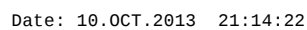
1.0 MHz MAXH

Center 2.462 GHz 4.1 MHz/ Span 41 MHz

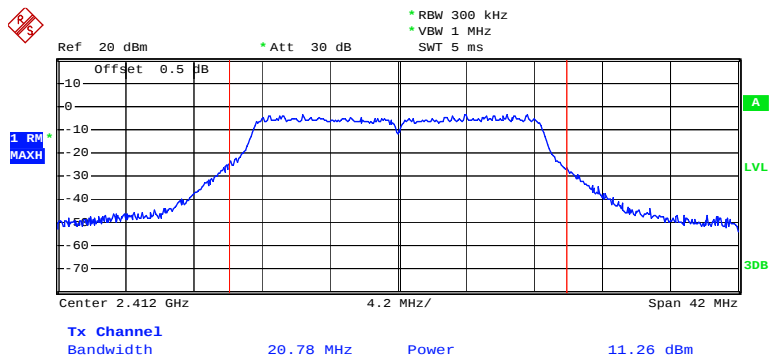
Tx Channel
 Bandwidth 20.28 MHz Power 11.34 dBm

30dB

Chain 0: 802.11n20 OBW, High Channel

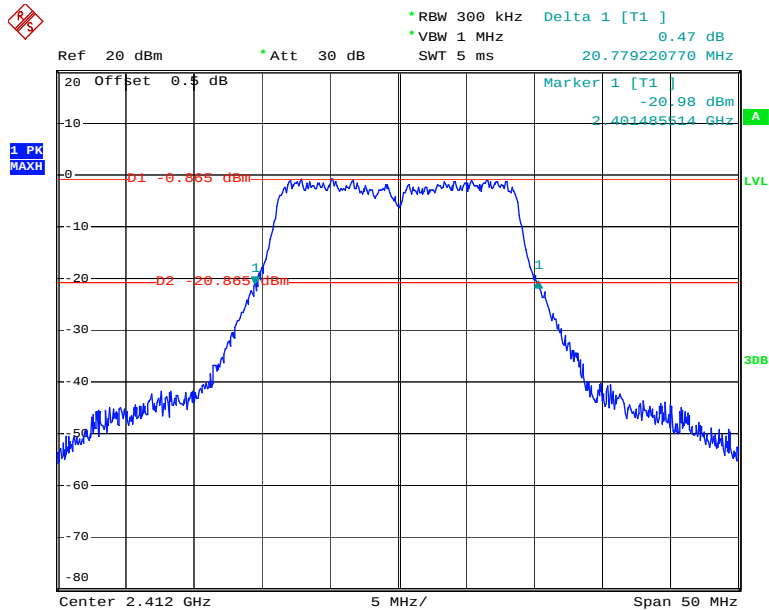


Chain 1: 802.11n20 RF Output Power, Low Channel



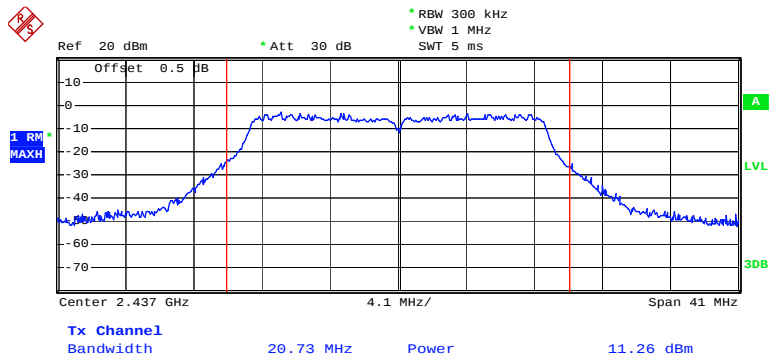
Date: 10.OCT.2013 21:25:24

Chain 1: 802.11n20 OBW, Low Channel



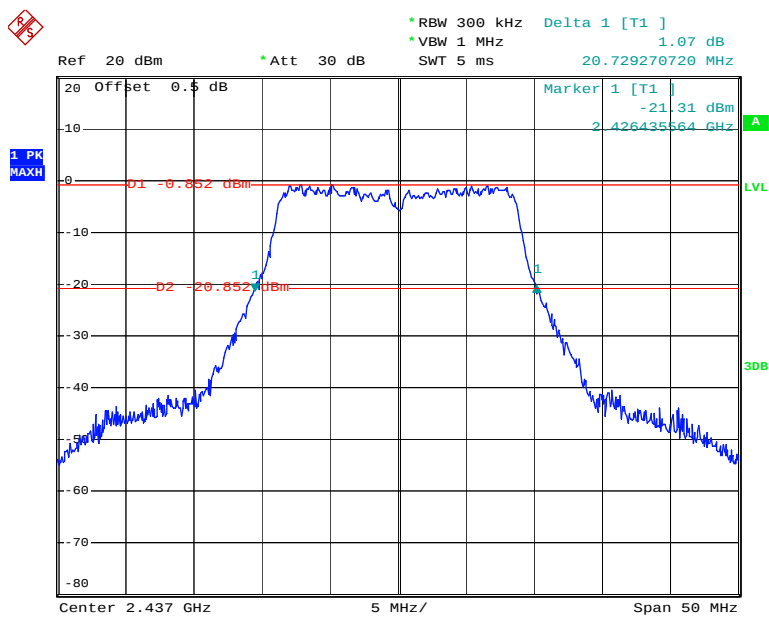
Date: 10.OCT.2013 21:25:07

Chain 1: 802.11n20 RF Output Power, Middle Channel

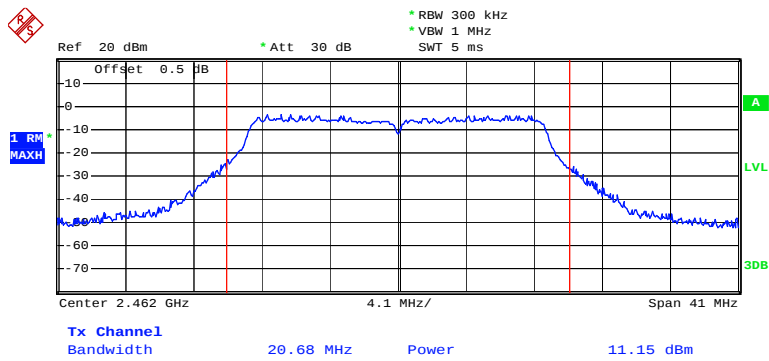


Date: 10.OCT.2013 21:26:59

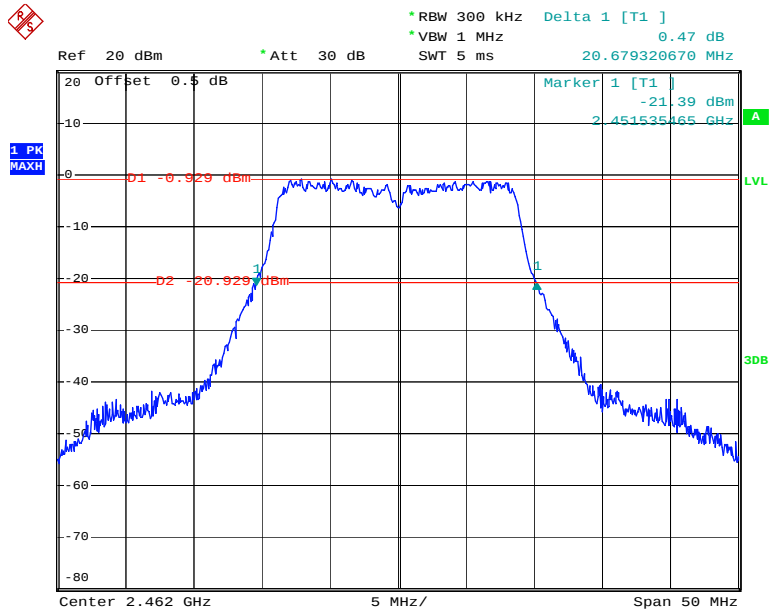
Chain 1: 802.11n20 OBW, Middle Channel



Date: 10.OCT.2013 21:26:46

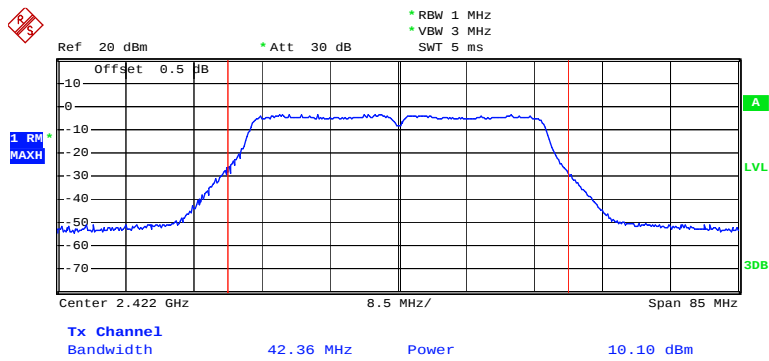
Chain 1: 802.11n20 RF Output Power, High Channel

Date: 10.OCT.2013 21:29:03

Chain 1: 802.11n20 OBW, High Channel

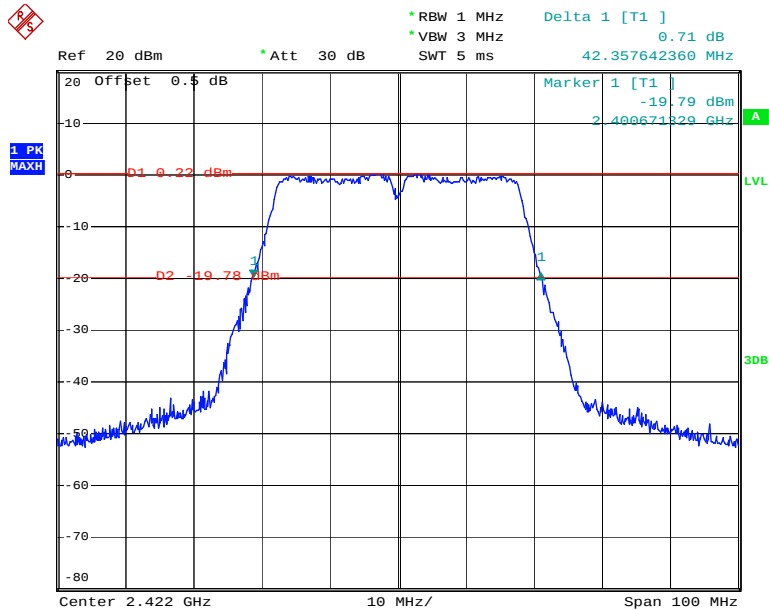
Date: 10.OCT.2013 21:28:48

Chain 0: 802.11n40 RF Output Power, Low Channel



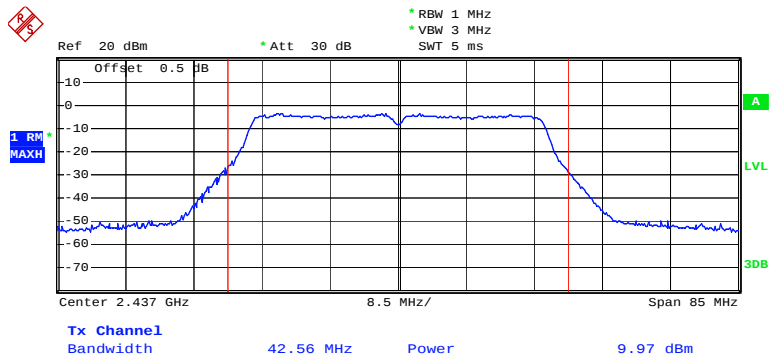
Date: 10.OCT.2013 21:16:51

Chain 0: 802.11n40 OBW, Low Channel



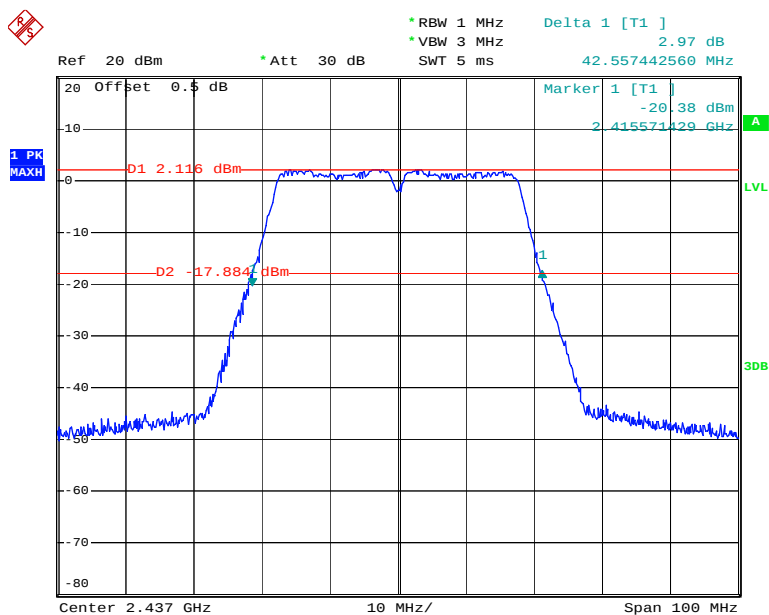
Date: 10.OCT.2013 21:16:16

Chain 0: 802.11n40 RF Output Power, Middle Channel



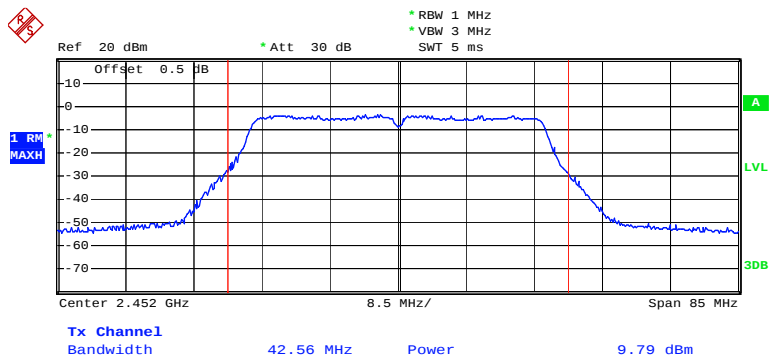
Date: 10.OCT.2013 21:18:48

Chain 0: 802.11n40 OBW, Middle Channel



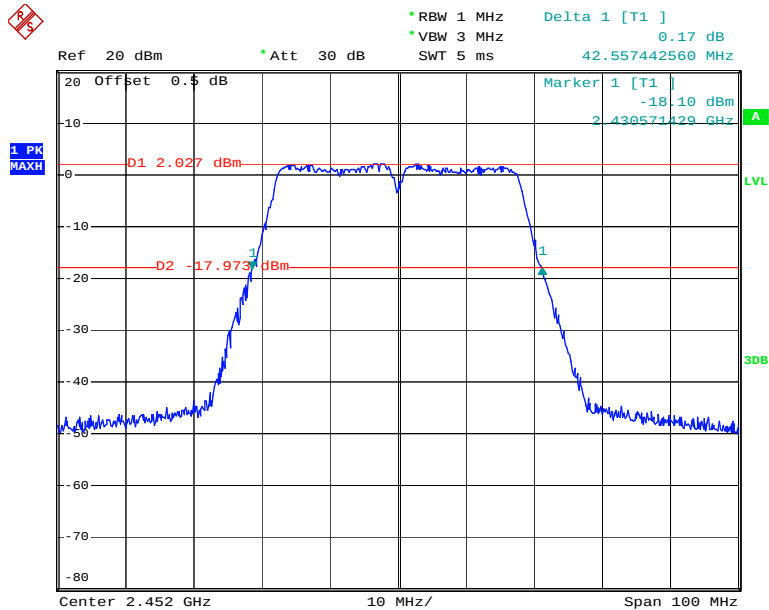
Date: 10.OCT.2013 21:18:30

Chain 0: 802.11n40 RF Output Power, High Channel



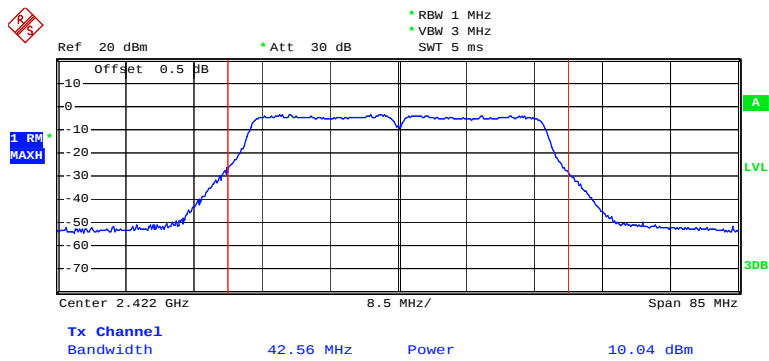
Date: 10.OCT.2013 21:20:19

Chain 0: 802.11n40 OBW, High Channel



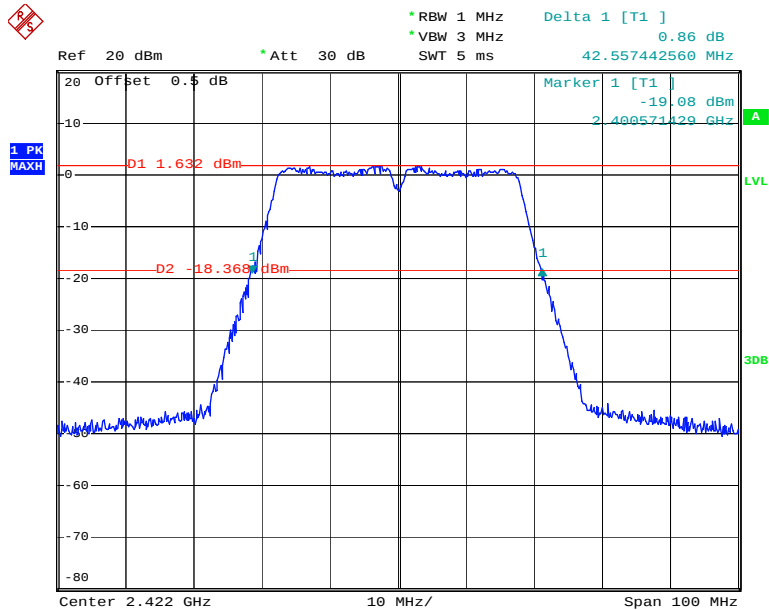
Date: 10.OCT.2013 21:20:07

Chain 1: 802.11n40 RF Output Power, Low Channel



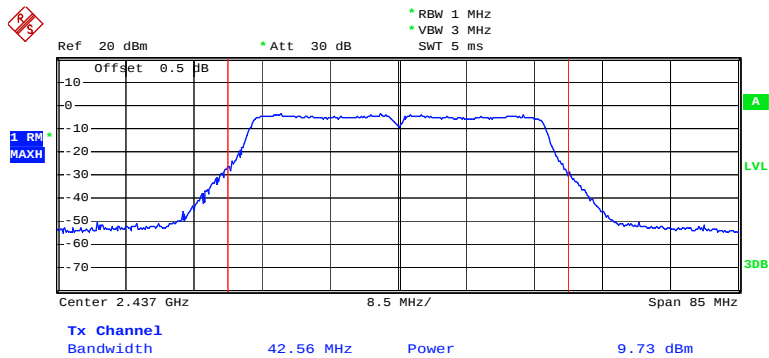
Date: 10.OCT.2013 21:31:24

Chain 1: 802.11n40 OBW, Low Channel



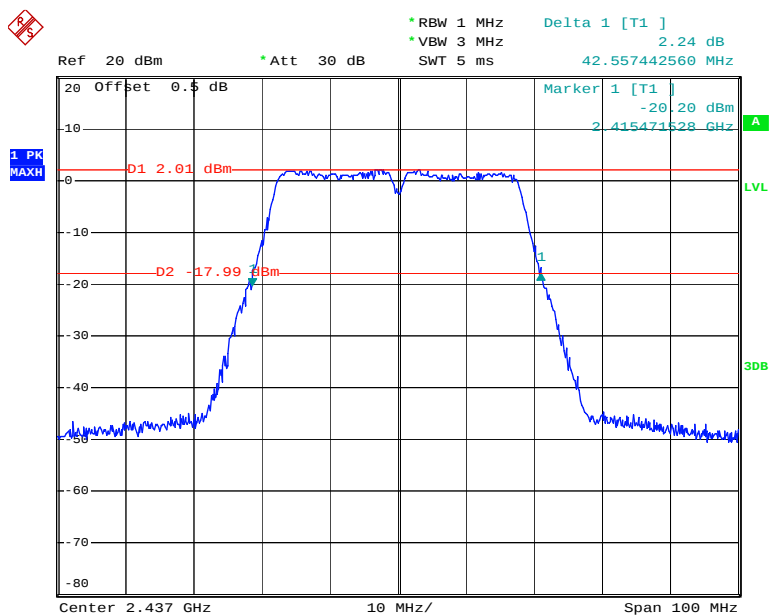
Date: 10.OCT.2013 21:30:41

Chain 1: 802.11n40 RF Output Power, Middle Channel



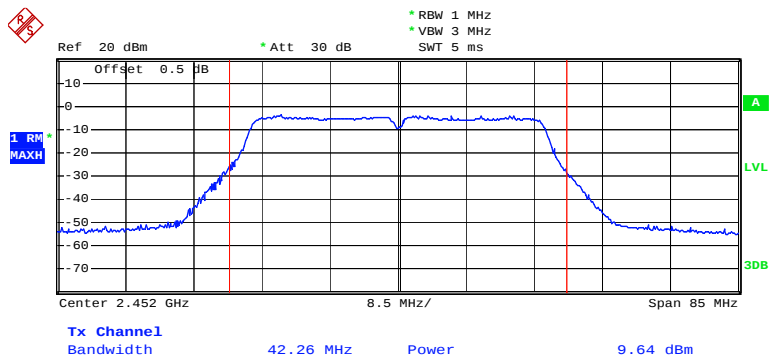
Date: 10.OCT.2013 21:33:27

Chain 1: 802.11n40 OBW, Middle Channel



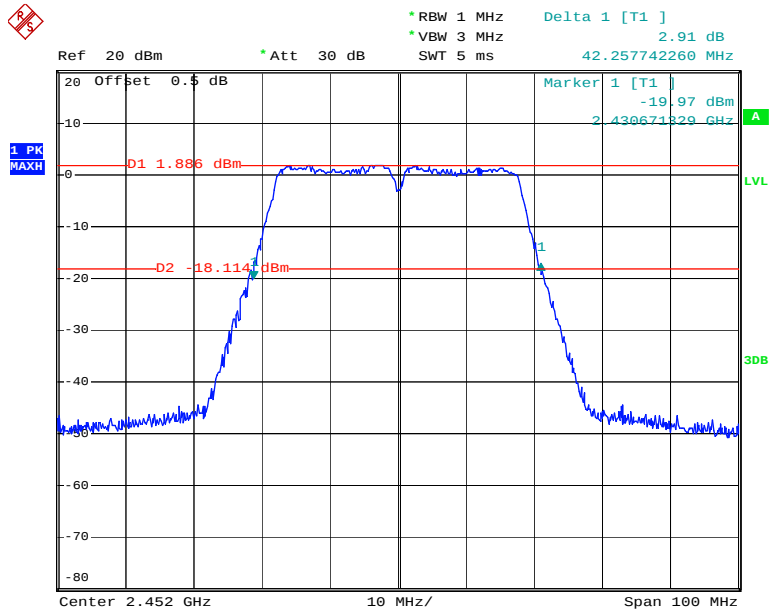
Date: 10.OCT.2013 21:33:14

Chain 1: 802.11n40 RF Output Power, High Channel



Date: 10.OCT.2013 21:35:01

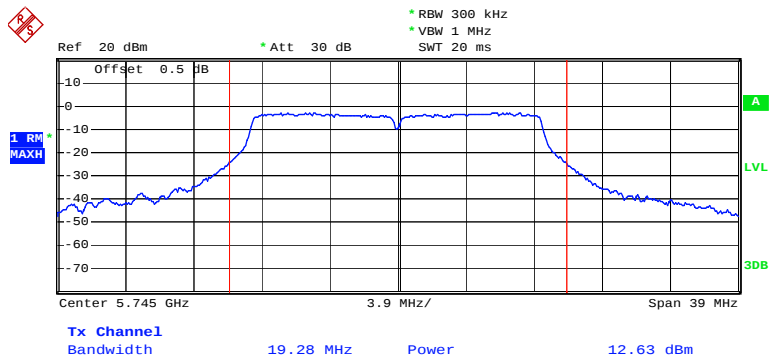
Chain 1: 802.11n40 OBW, High Channel



Date: 10.OCT.2013 21:34:46

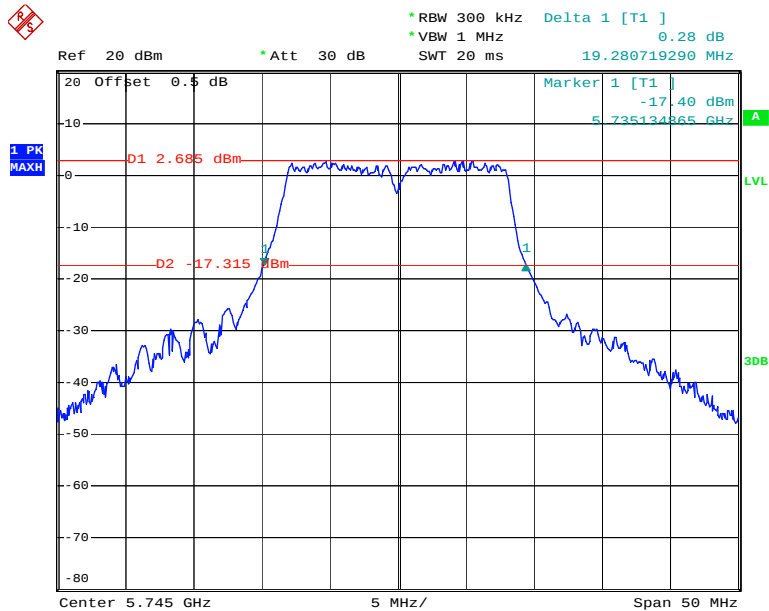
5725-5850MHz:

802.11a RF Output Power, Low Channel



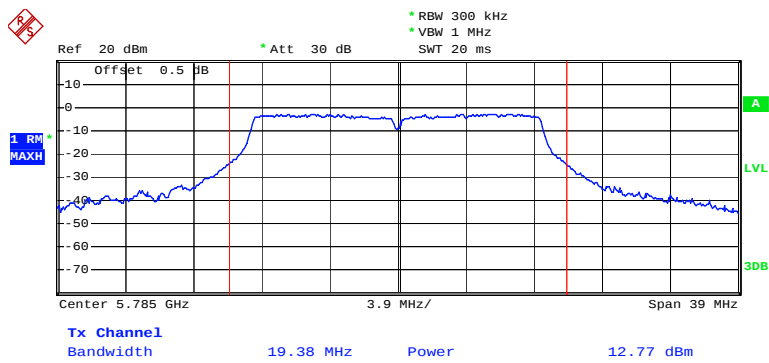
Date: 12.OCT.2013 13:32:19

802.11a OBW, Low Channel



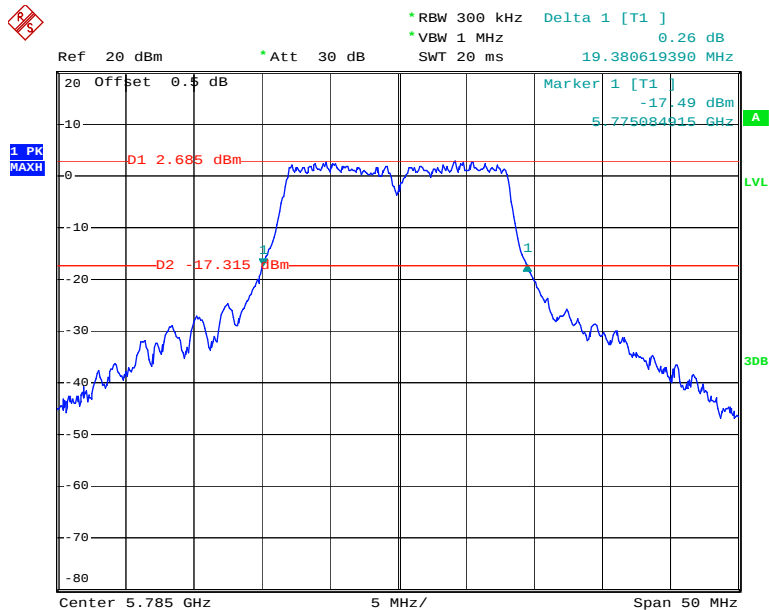
Date: 12.OCT.2013 13:32:11

802.11a RF Output Power, Middle Channel



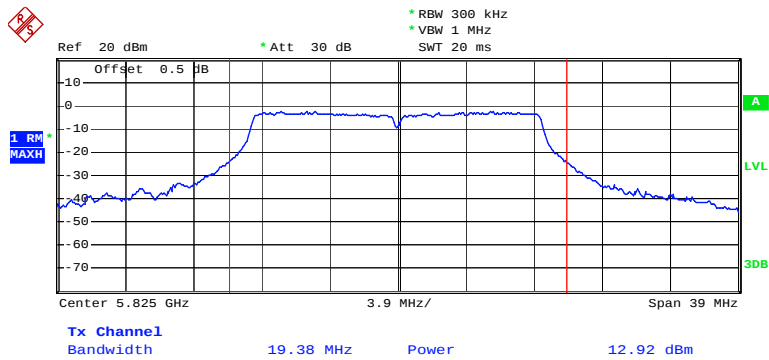
Date: 12.OCT.2013 13:37:34

802.11a OBW, Middle Channel



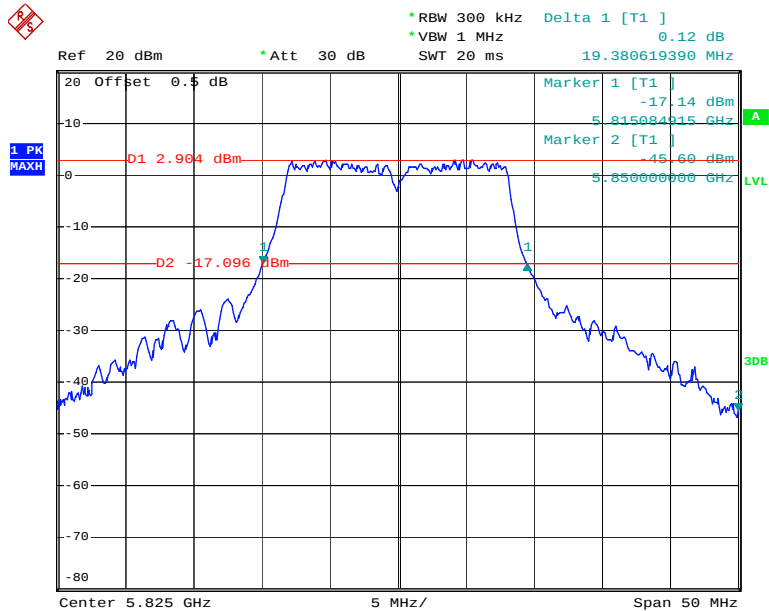
Date: 12.OCT.2013 13:37:20

802.11a RF Output Power, High Channel



Date: 12.OCT.2013 13:40:54

802.11a OBW, High Channel



Date: 12.OCT.2013 13:40:46

Ref 20 dBm
 Offset 0.5 dB
 Att 30 dB
 RBW 300 kHz
 VBW 1 MHz
 SWT 20 ms

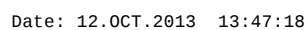
1. RM
 MAXH

A
 LVL
 30dB

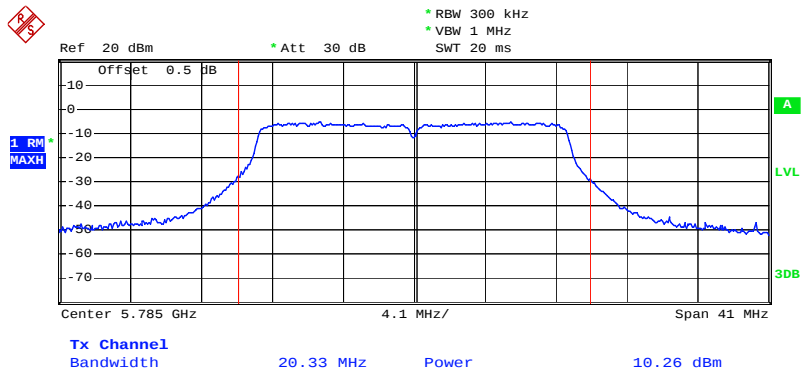
Center 5.745 GHz
 4 MHz/
 Span 40 MHz

Tx Channel
 Bandwidth 20.23 MHz
 Power 10.03 dBm

Chain 0:802.11n ht20 OBW, Low Channel

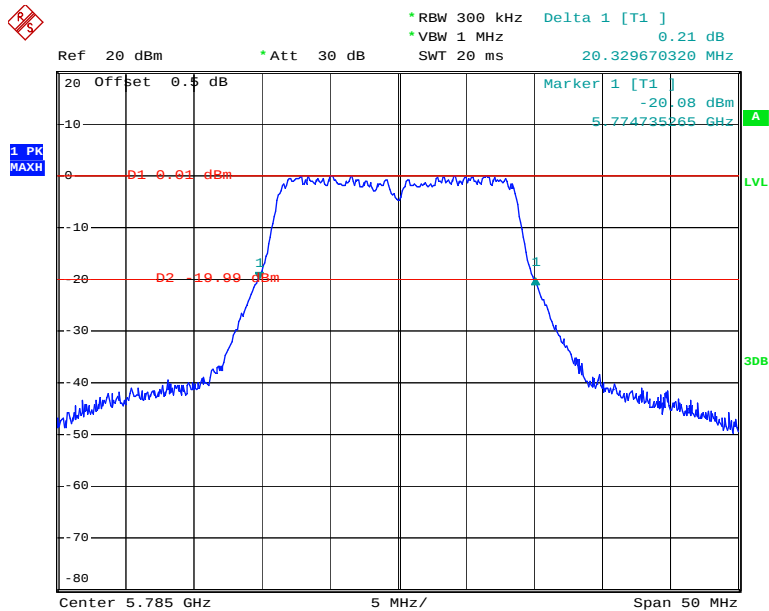


Chain 0:802.11n ht20 RF Output Power, Middle Channel



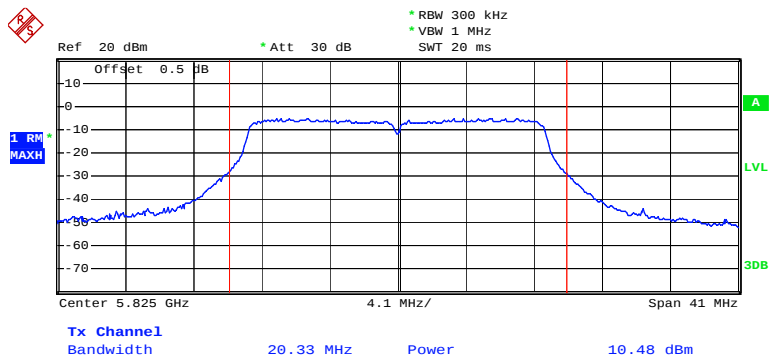
Date: 12.OCT.2013 13:49:44

Chain 0:802.11n ht20 OBW, Middle Channel



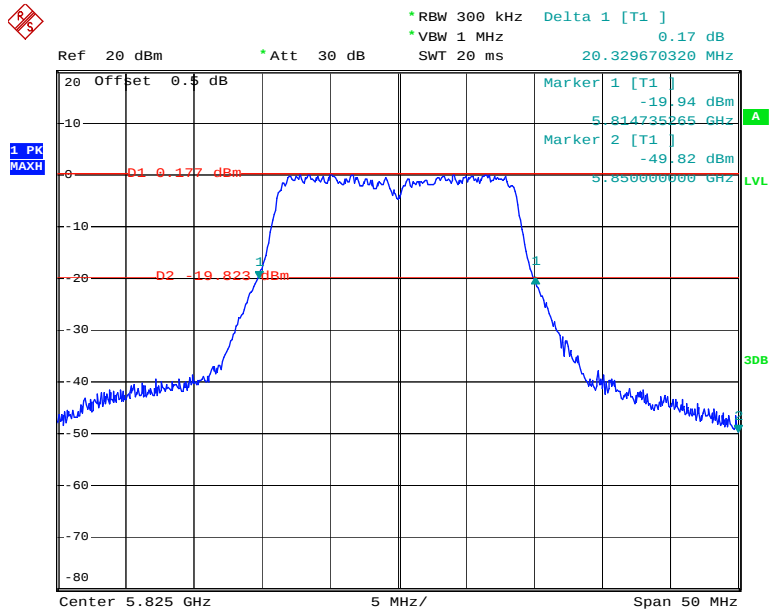
Date: 12.OCT.2013 13:49:30

Chain 0:802.11n ht20 RF Output Power, High Channel



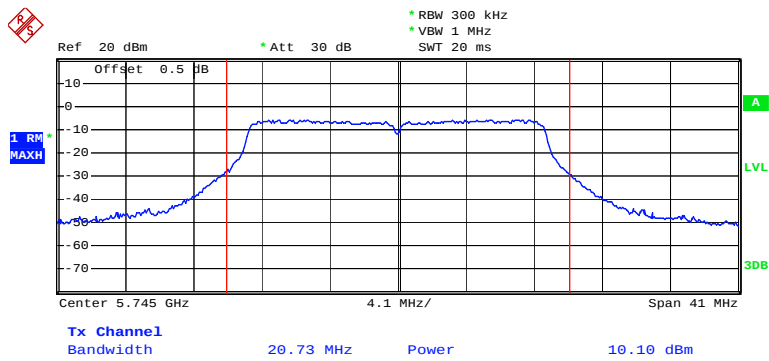
Date: 12.OCT.2013 13:51:53

Chain 0:802.11n ht20 OBW, High Channel



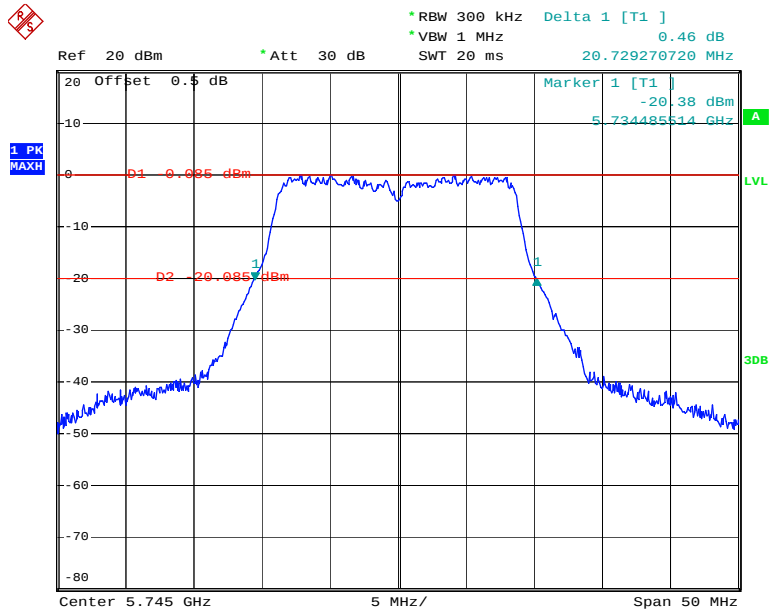
Date: 12.OCT.2013 13:51:36

Chain 1:802.11n ht20 RF Output Power, Low Channel

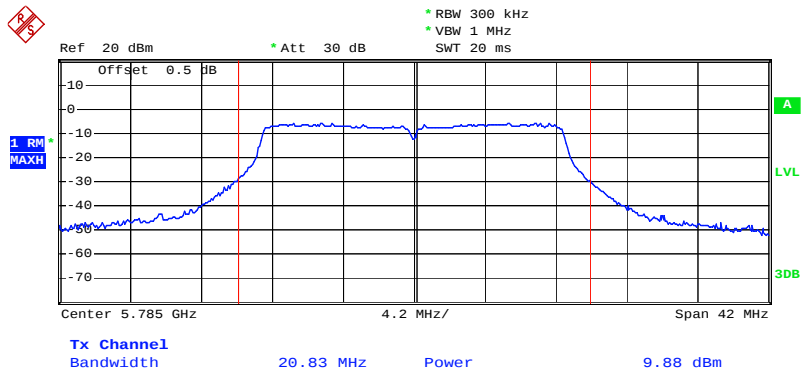


Date: 12.OCT.2013 14:23:36

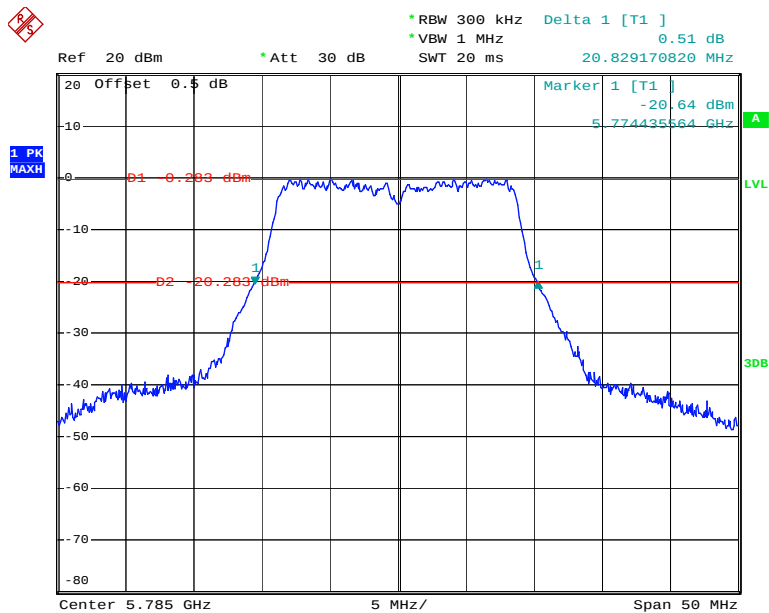
Chain 1:802.11n ht20 OBW, Low Channel



Date: 12.OCT.2013 14:23:20

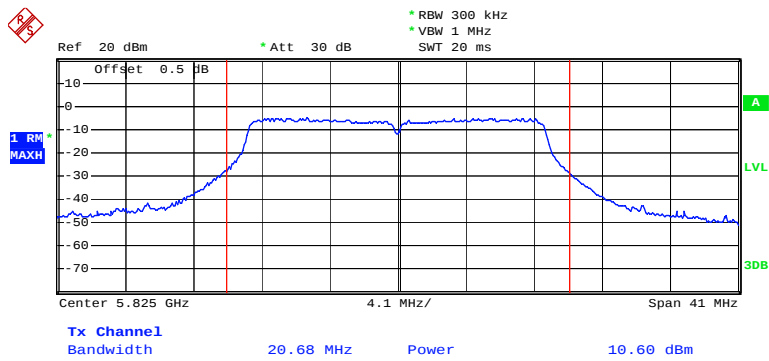
Chain 1:802.11n ht20 RF Output Power, Middle Channel

Date: 12.OCT.2013 14:25:59

Chain 1:802.11n ht20 OBW, Middle Channel

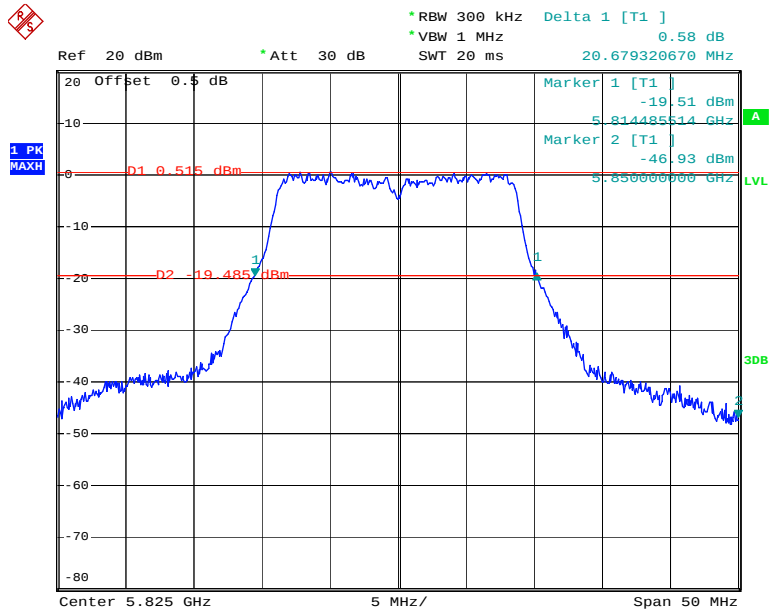
Date: 12.OCT.2013 14:25:50

Chain 1:802.11n ht20 RF Output Power, High Channel



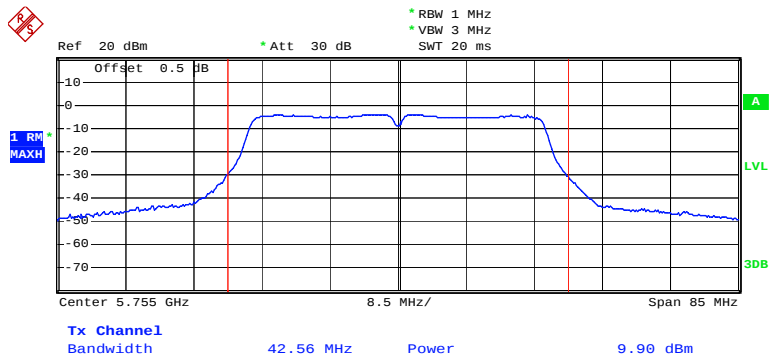
Date: 12.OCT.2013 14:28:15

Chain 1:802.11n ht20 OBW, High Channel



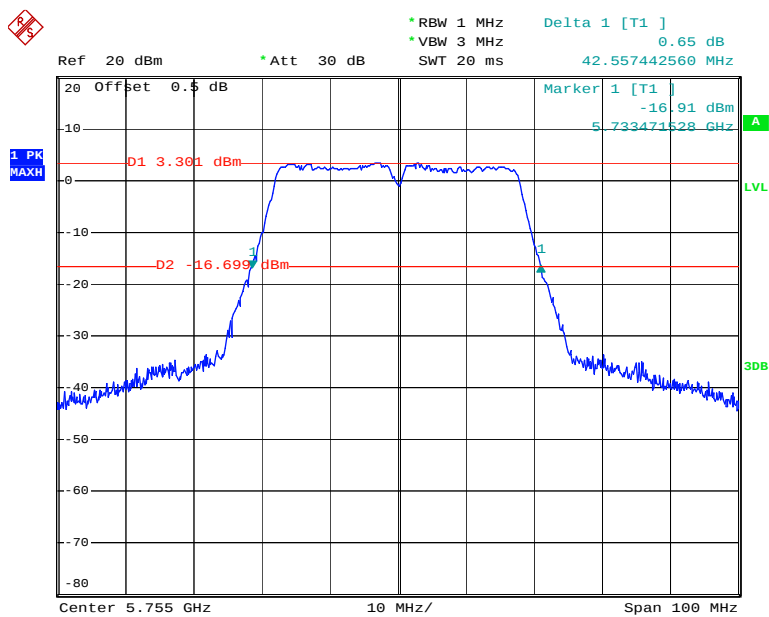
Date: 12.OCT.2013 14:28:04

Chain 0:802.11n ht40 RF Output Power, Low Channel



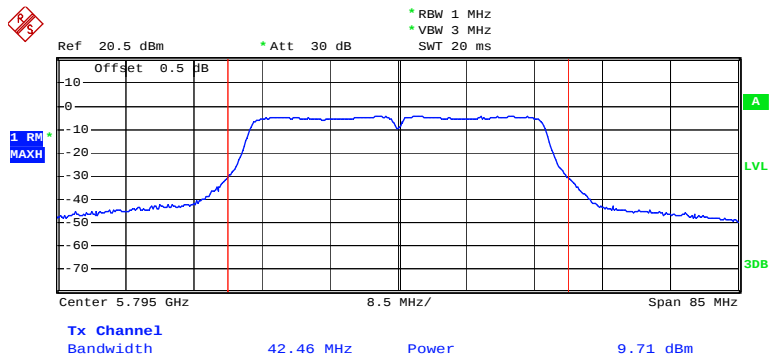
Date: 12.OCT.2013 13:57:46

Chain 0:802.11n ht40 OBW, Low Channel



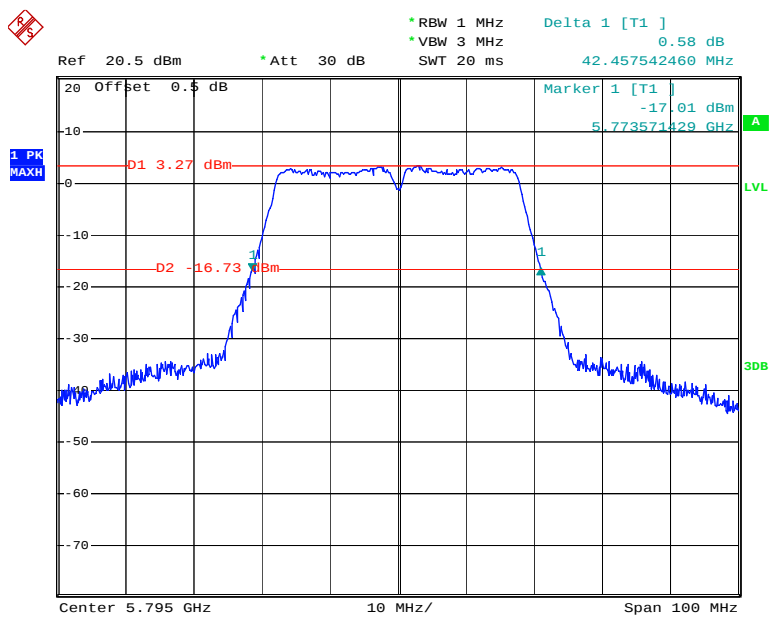
Date: 12.OCT.2013 13:57:35

Chain 0:802.11n ht40 RF Output Power, High Channel



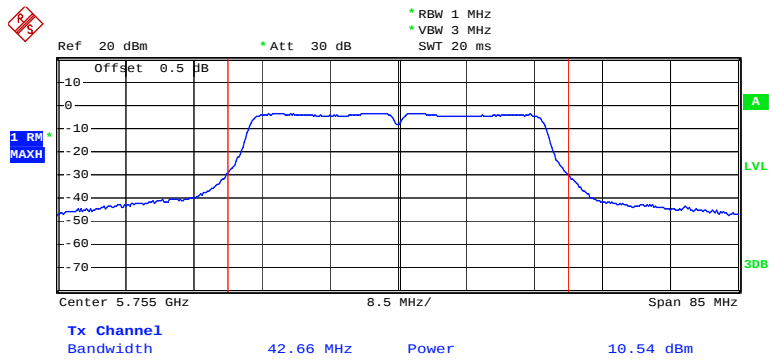
Date: 12.OCT.2013 14:16:02

Chain 0:802.11n ht40 OBW, High Channel



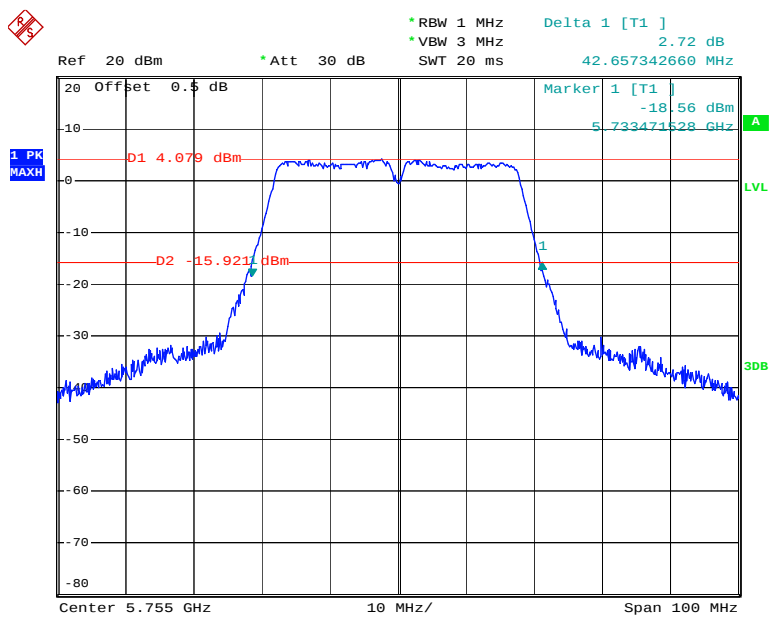
Date: 12.OCT.2013 14:15:54

Chain 1:802.11n ht40 RF Output Power, Low Channel



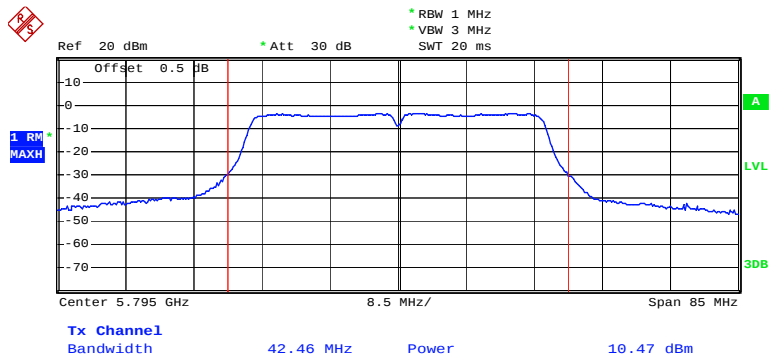
Date: 12.OCT.2013 14:31:34

Chain 1:802.11n ht40 OBW, Low Channel



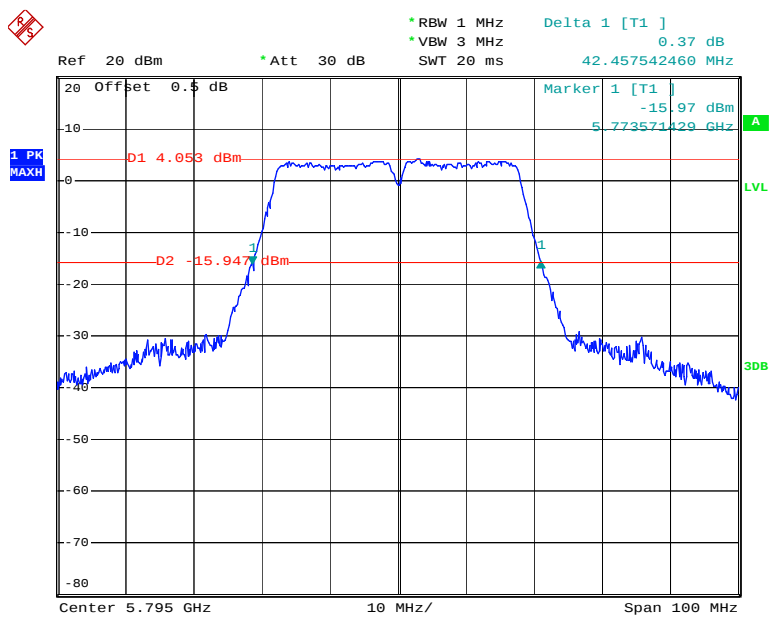
Date: 12.OCT.2013 14:31:25

Chain 1:802.11n ht40 RF Output Power, High Channel



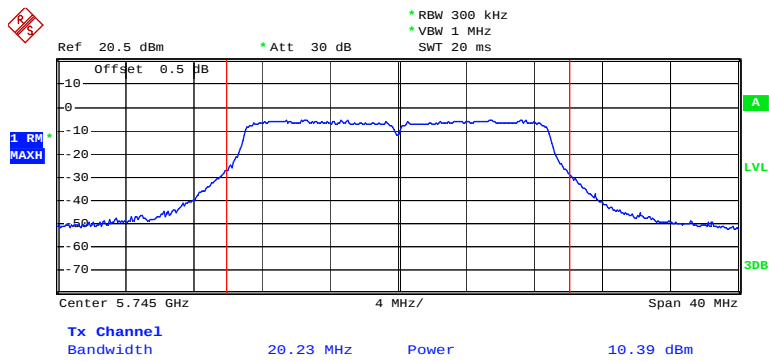
Date: 12.OCT.2013 14:33:58

Chain 1:802.11n ht40 OBW, High Channel



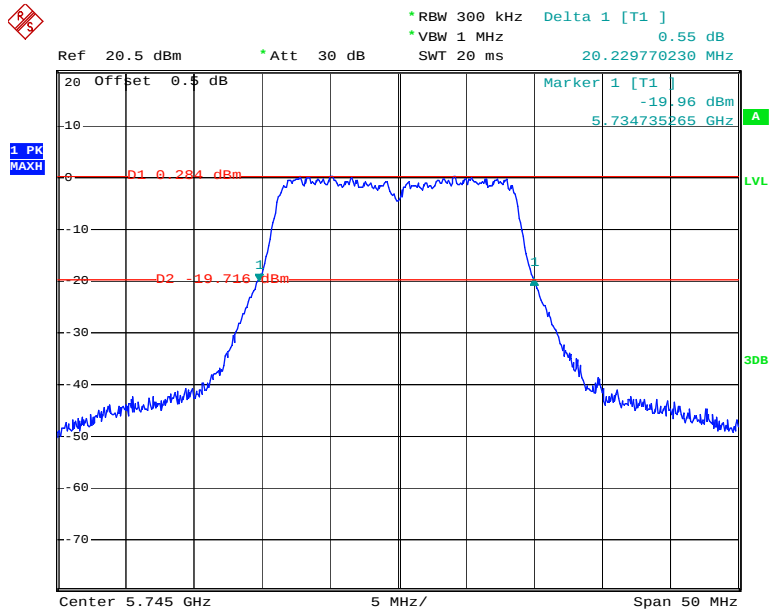
Date: 12.OCT.2013 14:33:50

Chain 0:802.11ac20 RF Output Power, Low Channel



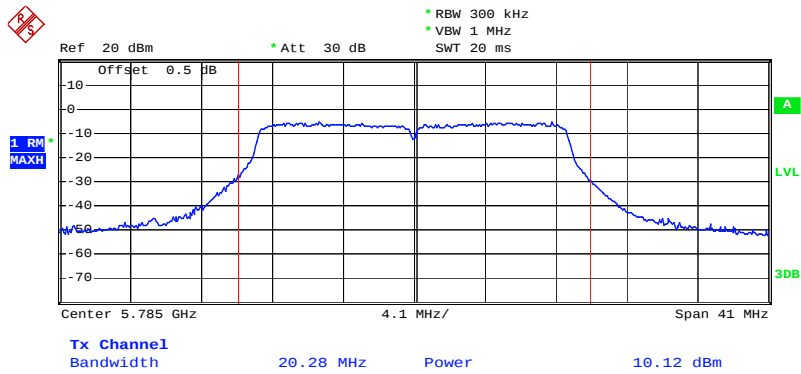
Date: 12.OCT.2013 15:14:26

Chain 0:802.11ac20 OBW, Low Channel



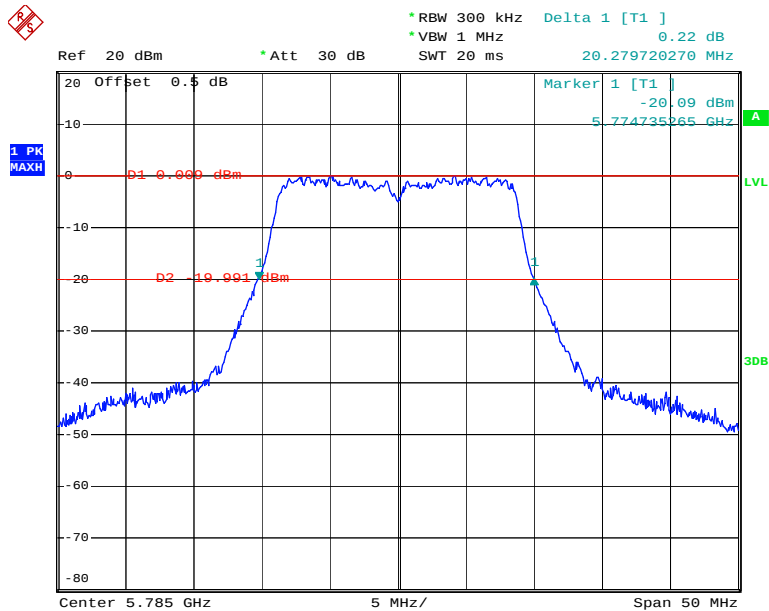
Date: 12.OCT.2013 15:14:16

Chain 0:802.11ac20 RF Output Power, Middle Channel



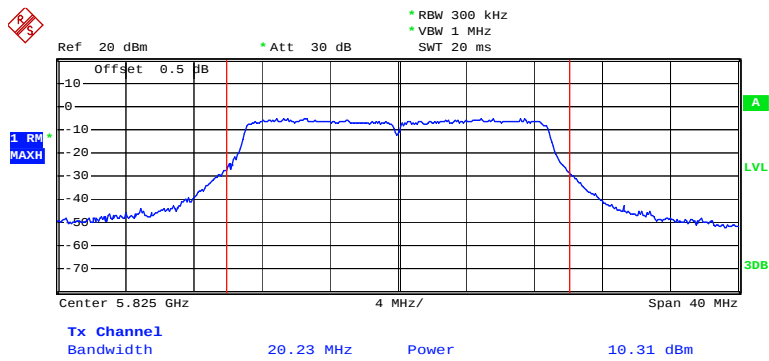
Date: 12.OCT.2013 15:16:58

Chain 0:802.11ac20 OBW, Middle Channel



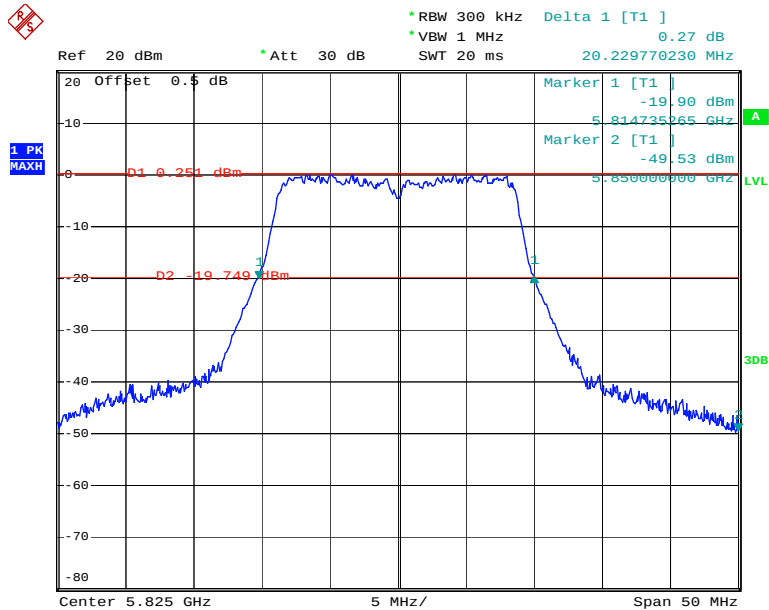
Date: 12.OCT.2013 15:16:47

Chain 0:802.11ac20 RF Output Power, High Channel



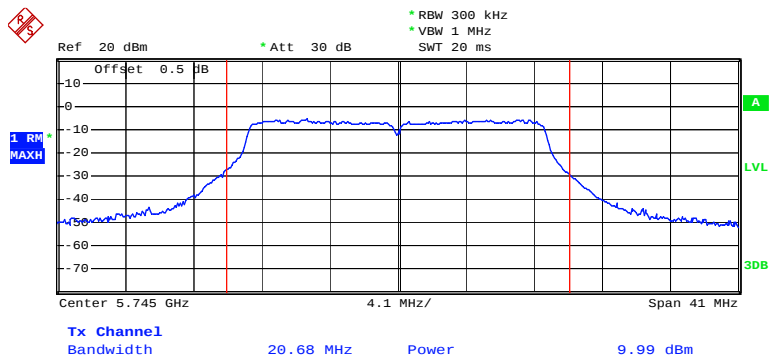
Date: 12.OCT.2013 15:19:01

Chain 0:802.11ac20 OBW, High Channel



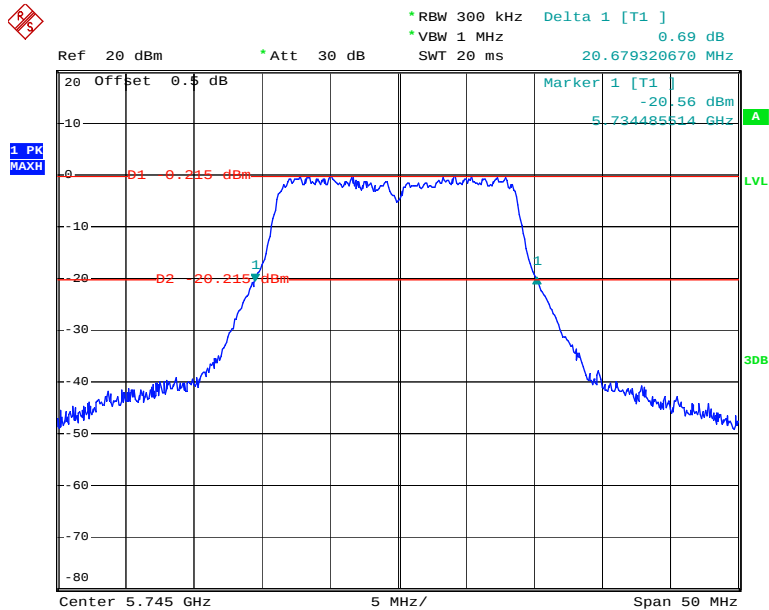
Date: 12.OCT.2013 15:18:51

Chain 1:802.11ac20 RF Output Power, Low Channel



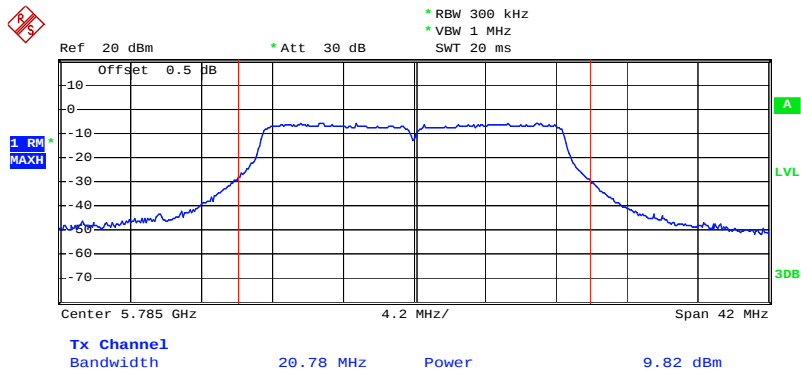
Date: 12.OCT.2013 14:44:24

Chain 1:802.11ac20 OBW, Low Channel



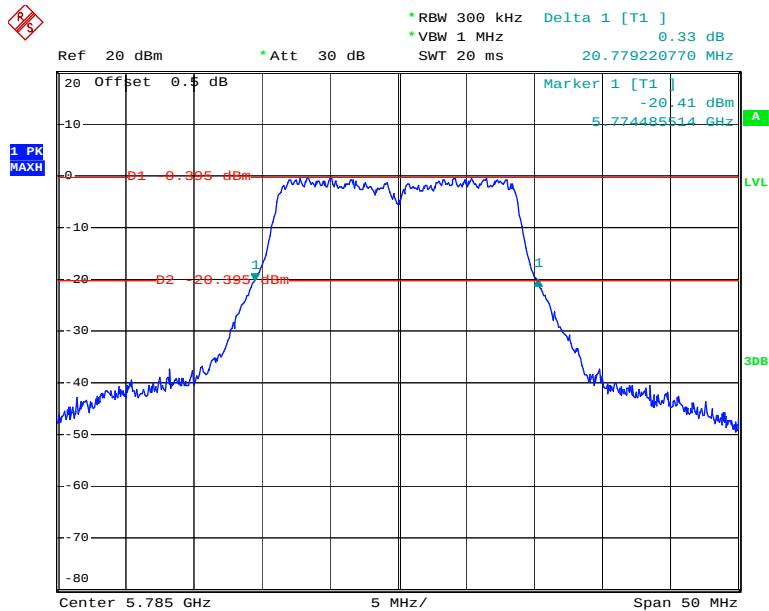
Date: 12.OCT.2013 14:44:10

Chain 1:802.11ac20 RF Output Power, Middle Channel



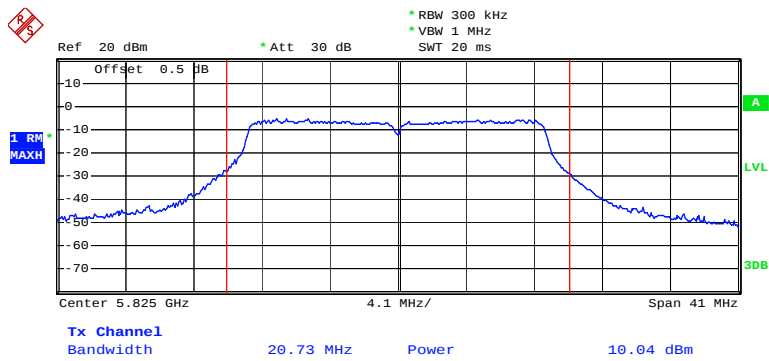
Date: 12.OCT.2013 14:46:37

Chain 1:802.11ac20 OBW, Middle Channel



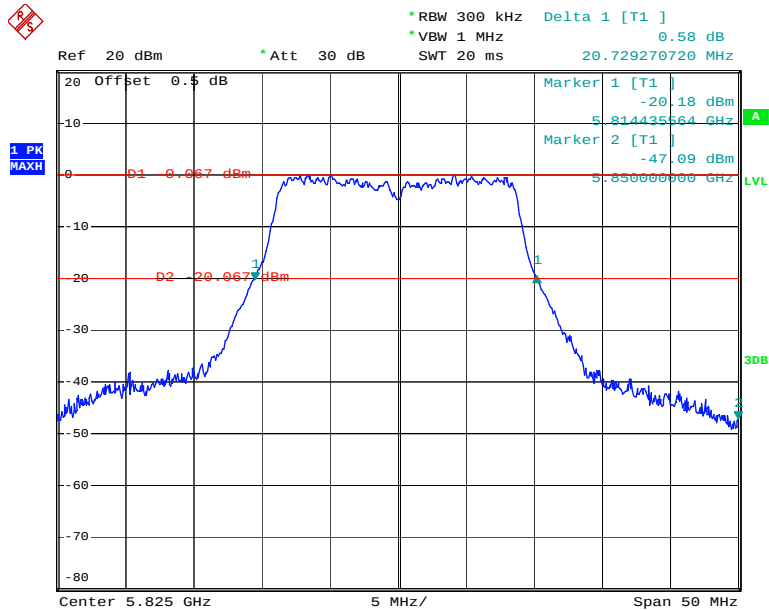
Date: 12.OCT.2013 14:46:24

Chain 1:802.11ac20 RF Output Power, High Channel



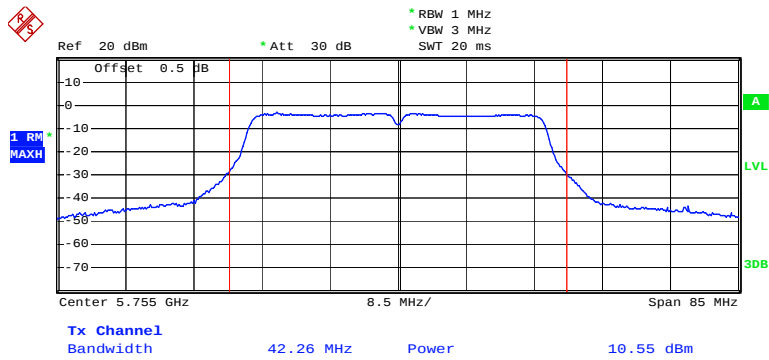
Date: 12.OCT.2013 14:48:36

Chain 1:802.11ac20 OBW, High Channel



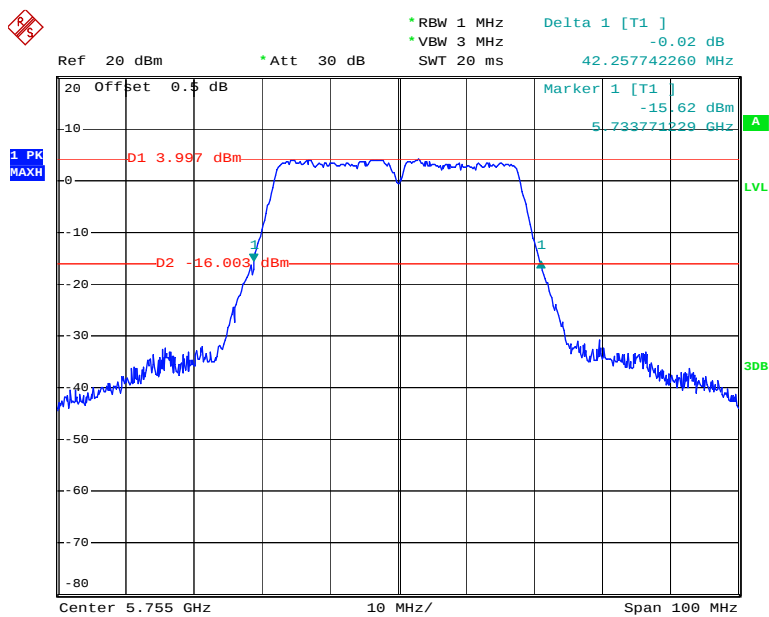
Date: 12.OCT.2013 14:48:27

Chain 0:802.11ac40 RF Output Power, Low Channel

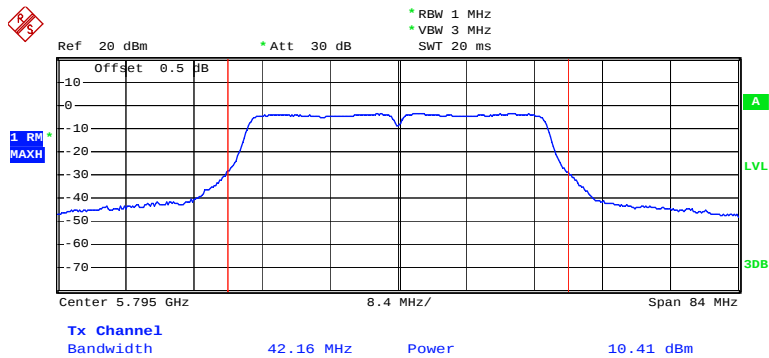


Date: 12.OCT.2013 15:21:44

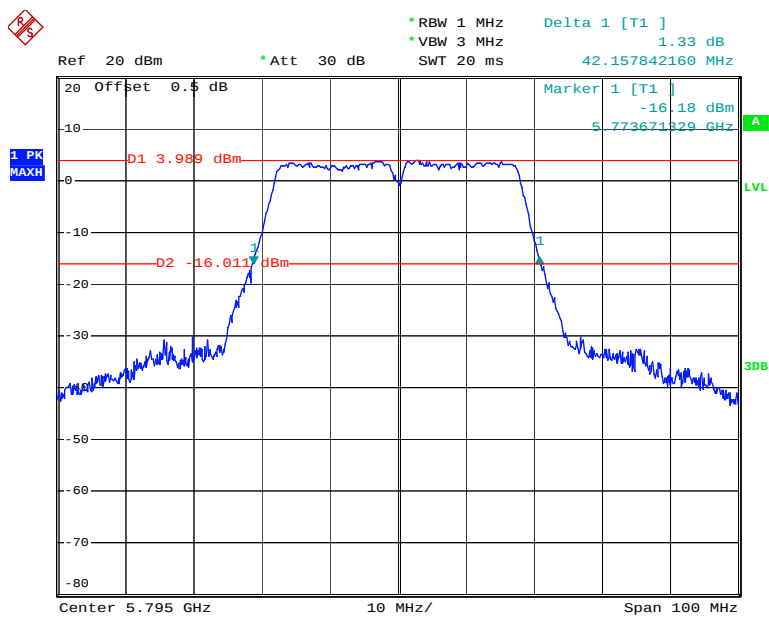
Chain 0:802.11ac40 OBW, Low Channel



Date: 12.OCT.2013 15:21:32

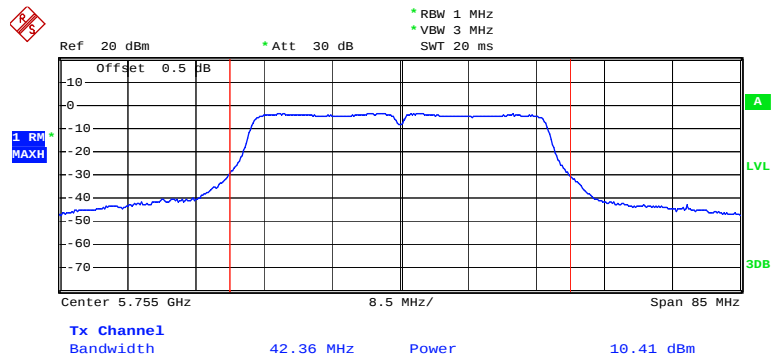
Chain 0:802.11ac40 RF Output Power, High Channel

Date: 12.OCT.2013 15:24:11

Chain 0:802.11ac40 OBW, High Channel

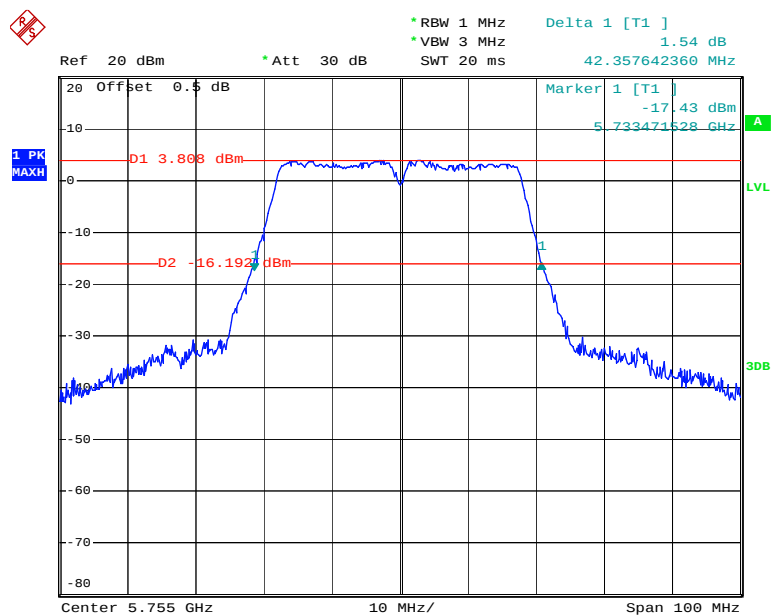
Date: 12.OCT.2013 15:23:58

Chain 1:802.11ac40 RF Output Power, Low Channel



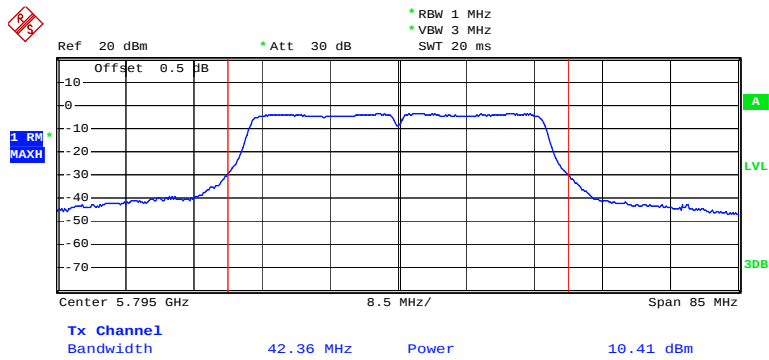
Date: 12.OCT.2013 14:51:56

Chain 1:802.11ac40 OBW, Low Channel



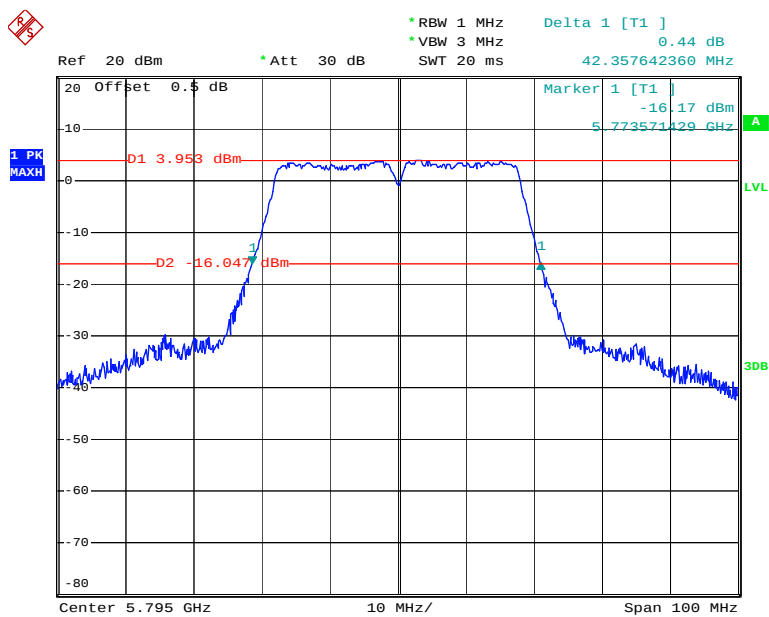
Date: 12.OCT.2013 14:51:44

Chain 1:802.11ac40 RF Output Power, High Channel



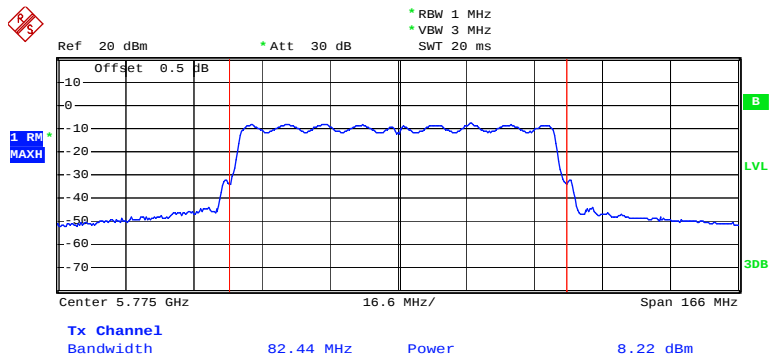
Date: 12.OCT.2013 14:54:22

Chain 1:802.11ac40 OBW, High Channel



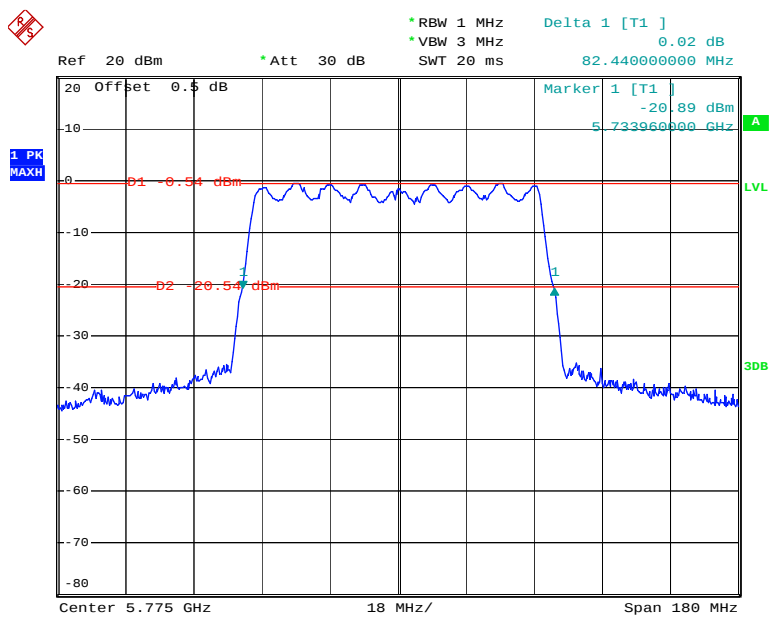
Date: 12.OCT.2013 14:54:13

Chain 0:802.11ac80 RF Output Power, Low Channel



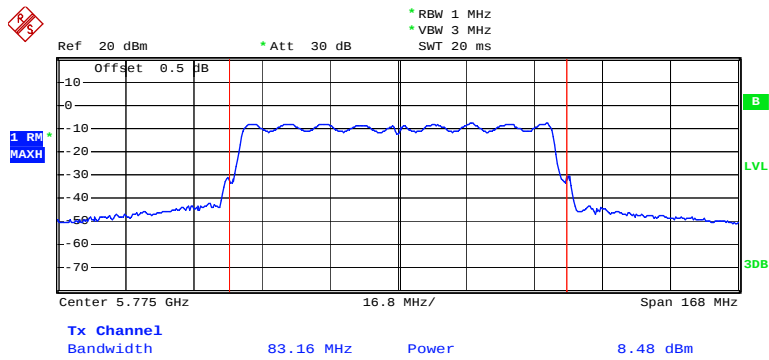
Date: 11.OCT.2013 15:38:37

Chain 0:802.11ac80 OBW, Low Channel



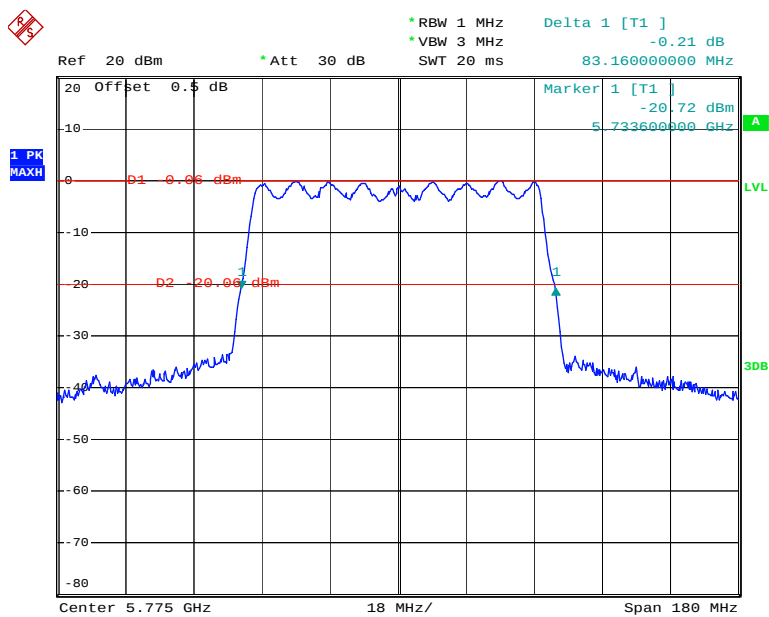
Date: 11.OCT.2013 15:37:21

Chain 1:802.11ac80 RF Output Power, Low Channel



Date: 11.OCT.2013 15:59:36

Chain 1:802.11ac80 OBW, Low Channel



Date: 11.OCT.2013 15:58:51

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
R&S	Spectrum analyzer	FSP 38	100478	2013-6-16	2014-6-15

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	24.3~25.9 °C
Relative Humidity:	56~62 %
ATM Pressure:	100.5~100.8 kPa

The testing was performed by Leon Chen from 2013-10-10 to 2013-10-12

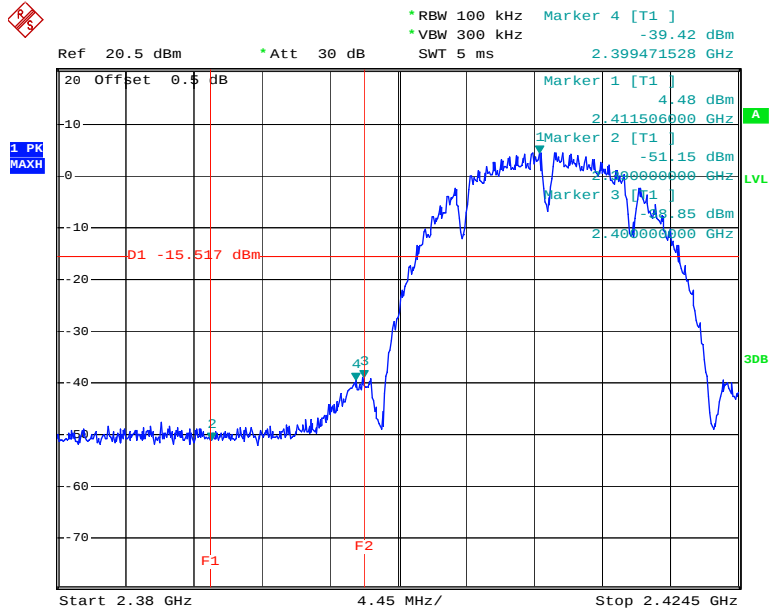
Test Result: Compliance

Test mode: Transmitting

Please refer to following table and plots.

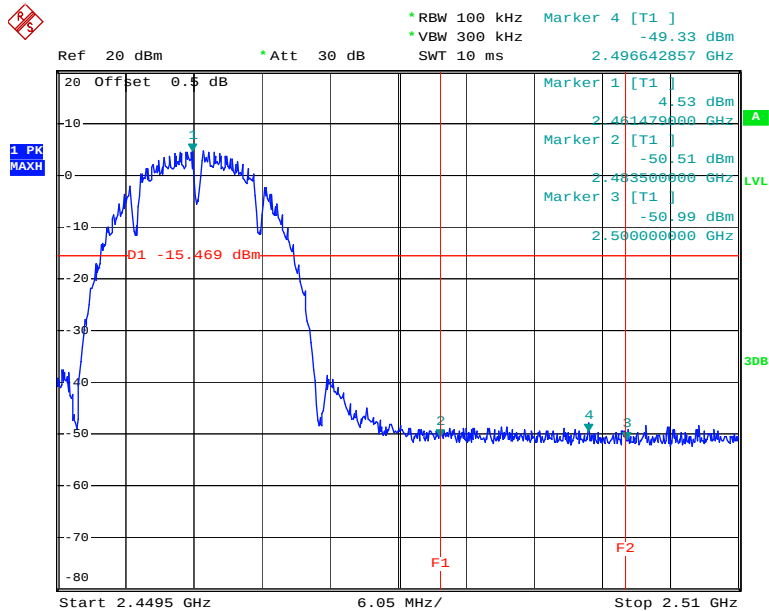
2.4G band:

802.11b: Band Edge, Left Side



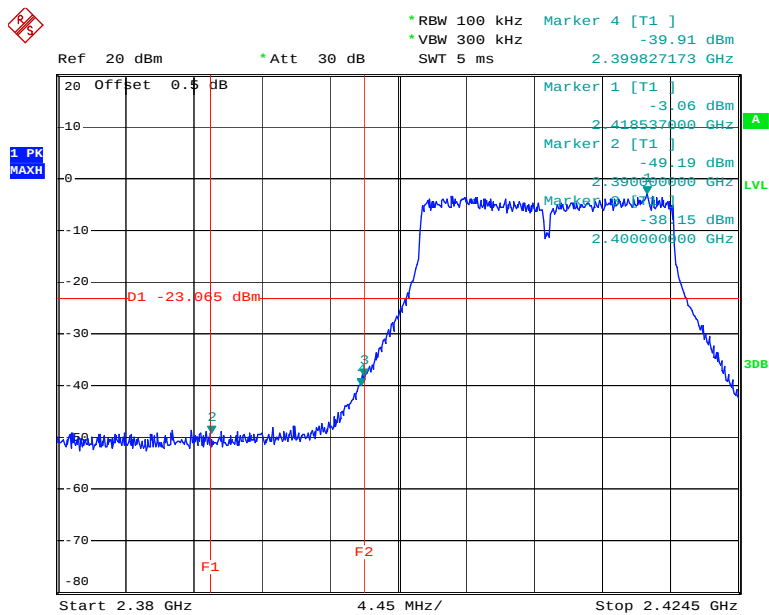
Date: 10.OCT.2013 20:54:03

802.11b: Band Edge, Right Side



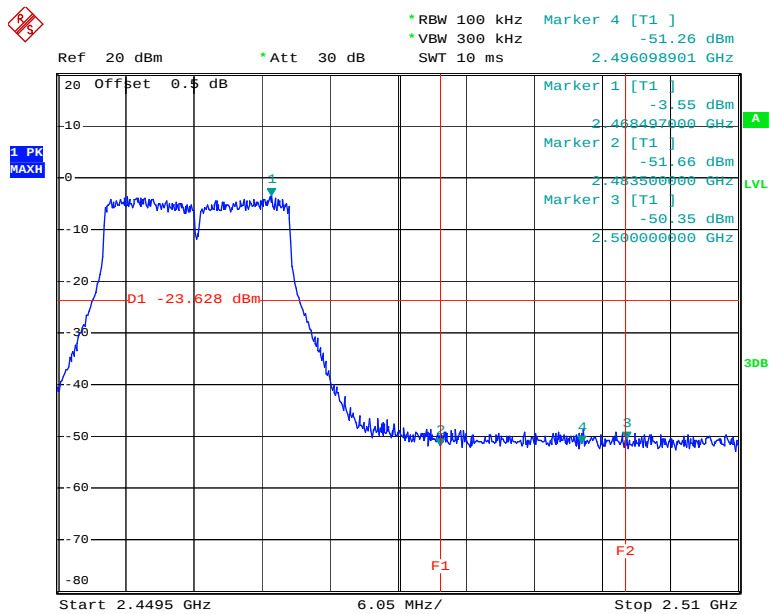
Date: 10.OCT.2013 21:02:28

802.11g: Band Edge, Left Side



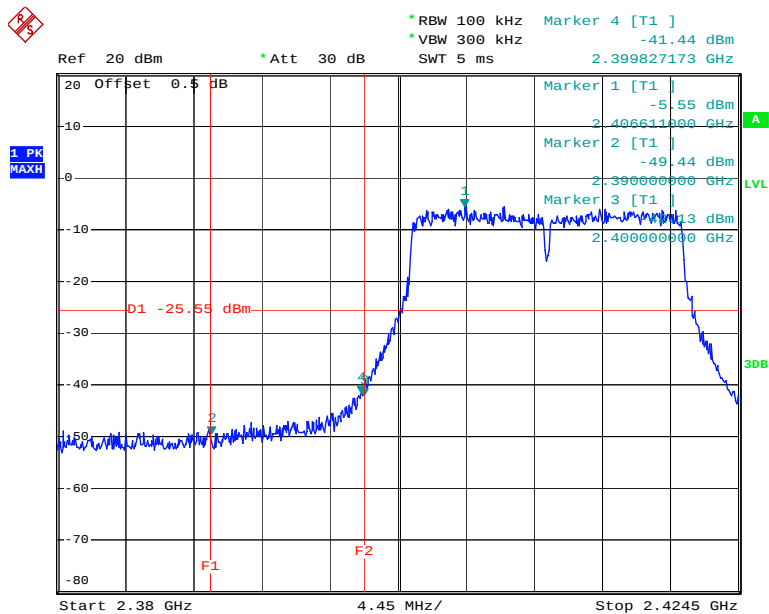
Date: 10.OCT.2013 21:07:08

802.11g: Band Edge, Right Side



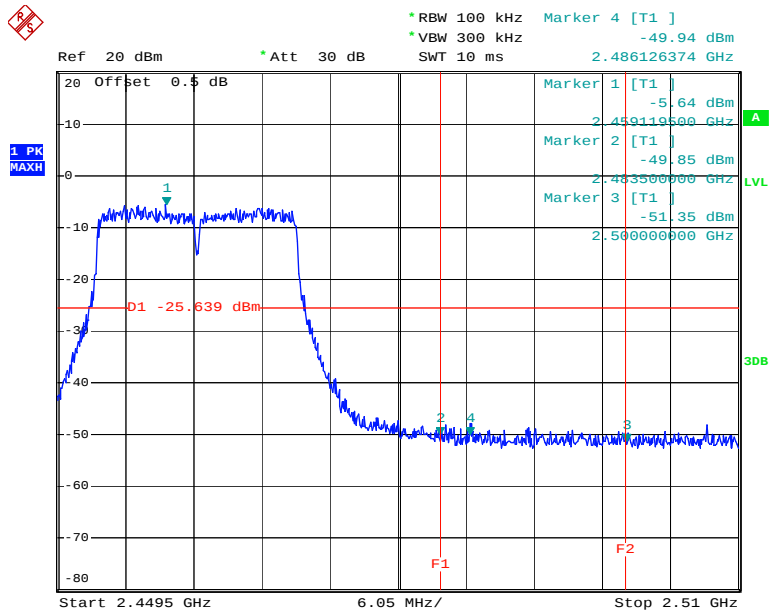
Date: 10.OCT.2013 21:10:06

Chain 0: 802.11n20 Band Edge, Left Side



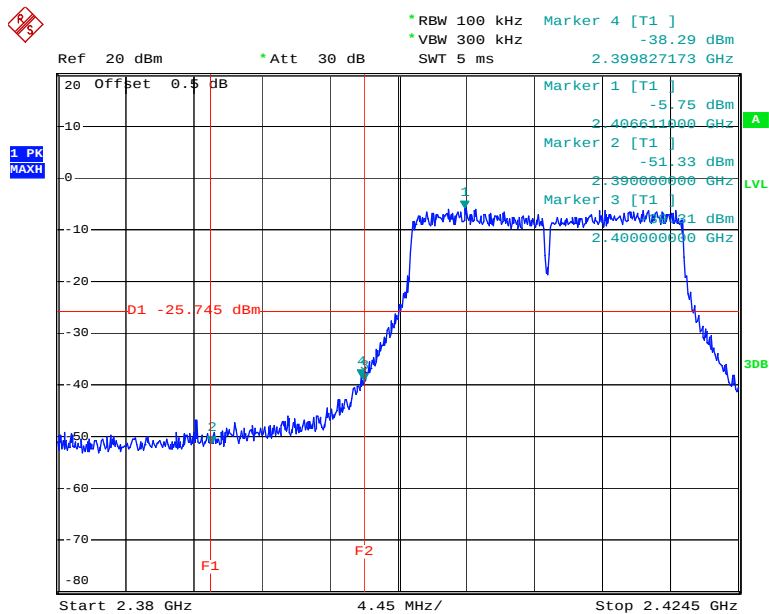
Date: 10.OCT.2013 21:11:54

Chain 0: 802.11n20 Band Edge, Right Side



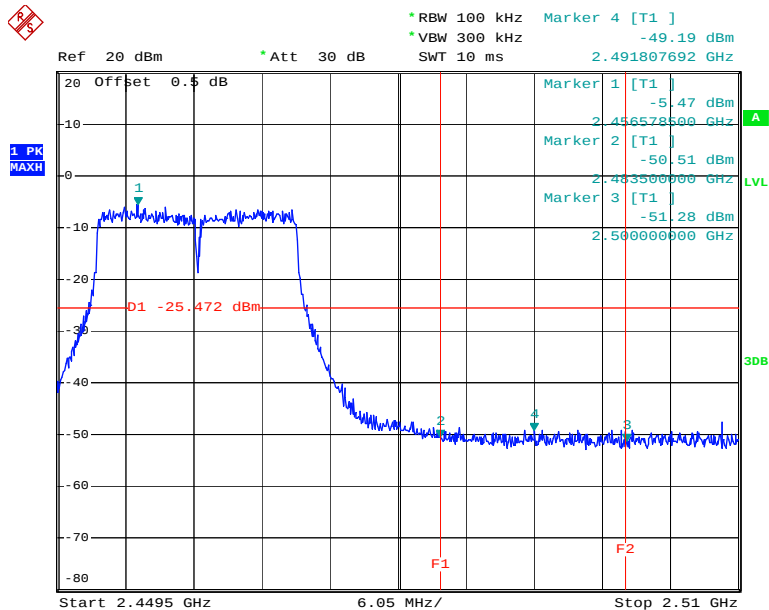
Date: 10.OCT.2013 21:15:14

Chain 1: 802.11n20 Band Edge, Left Side



Date: 10.OCT.2013 21:26:02

Chain 1: 802.11n20 Band Edge, Right Side



Date: 10.OCT.2013 21:29:41

1 PK MAXH

Ref 20 dBm Att 30 dB RBW 100 kHz VBW 300 kHz SWT 10 ms

2.399745255 GHz

Marker 1 [T1] -8.54 dBm 2.424153000 GHz

Marker 2 [T1] -51.24 dBm 2.390000000 GHz

Marker 3 [T1] -39.62 dBm 2.400000000 GHz

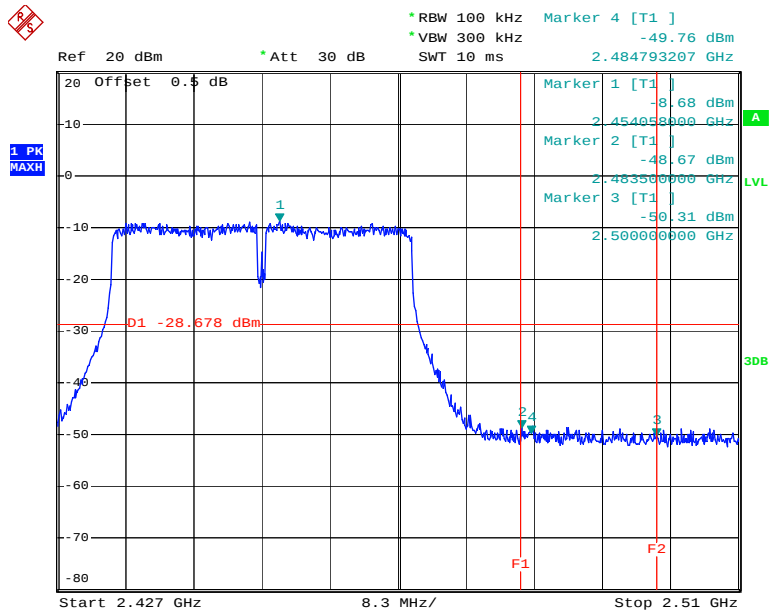
Marker 4 [T1] -40.34 dBm 2.399745255 GHz

D1 28.536 dBm

F1 F2

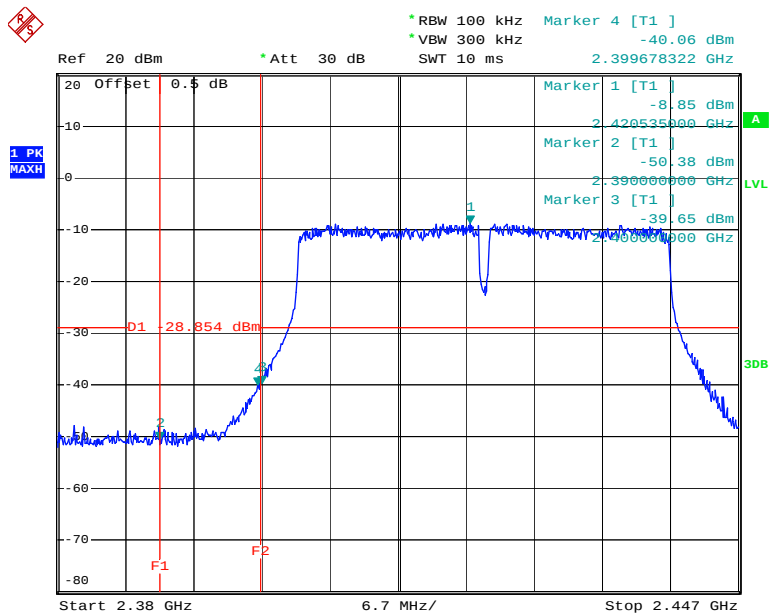
Start 2.38 GHz 6.7 MHz/ Stop 2.447 GHz

Chain 0: 802.11n40 Band Edge, Right Side



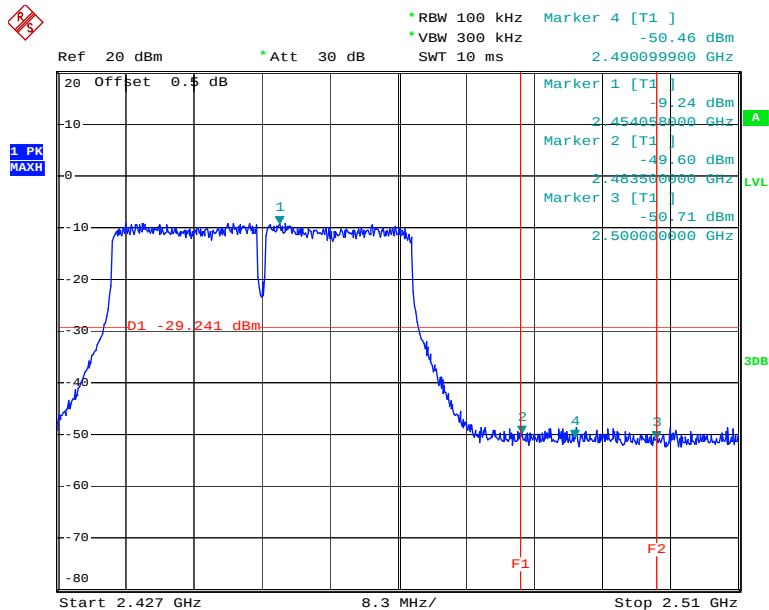
Page 143 of 179

Chain 1: 802.11n40 Band Edge, Left Side



Date: 10.OCT.2013 21:32:16

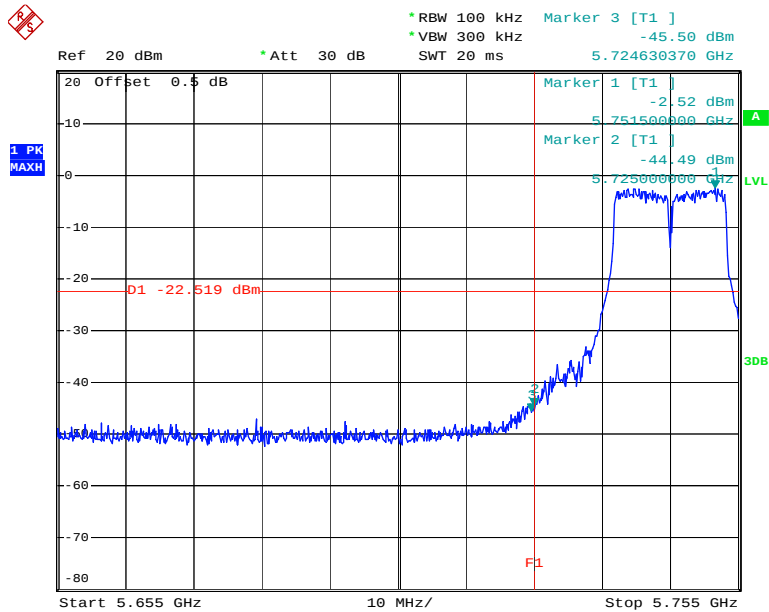
Chain 1: 802.11n40 Band Edge, Right Side



Date: 10.OCT.2013 21:35:52

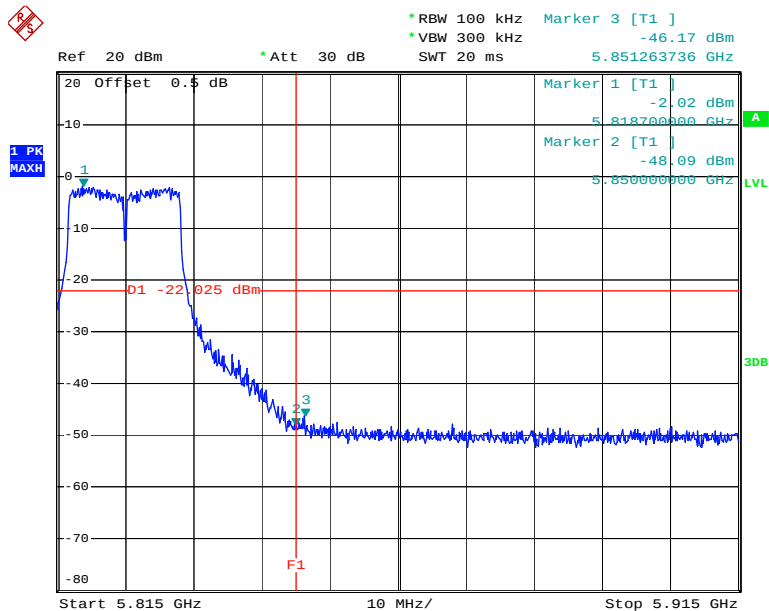
5725-5850MHz band:

802.11a Band Edge, Left Side



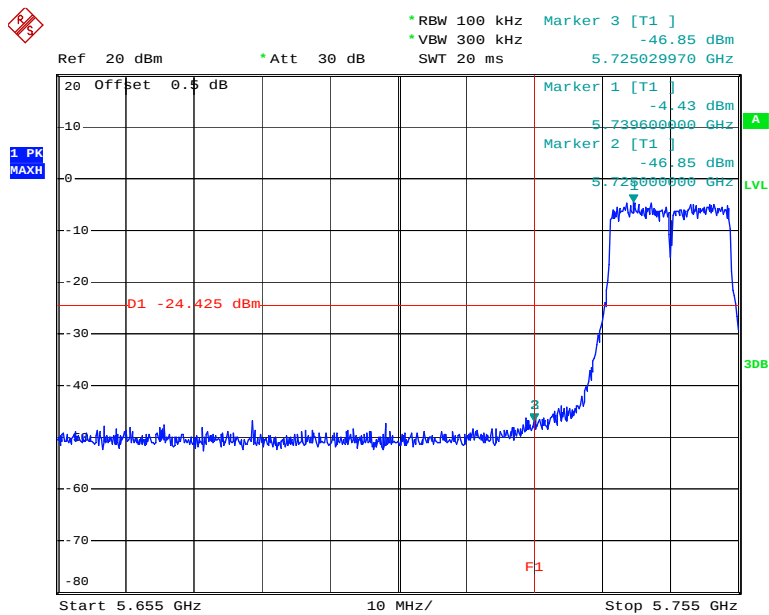
Date: 12.OCT.2013 13:34:20

802.11a Band Edge, Right Side



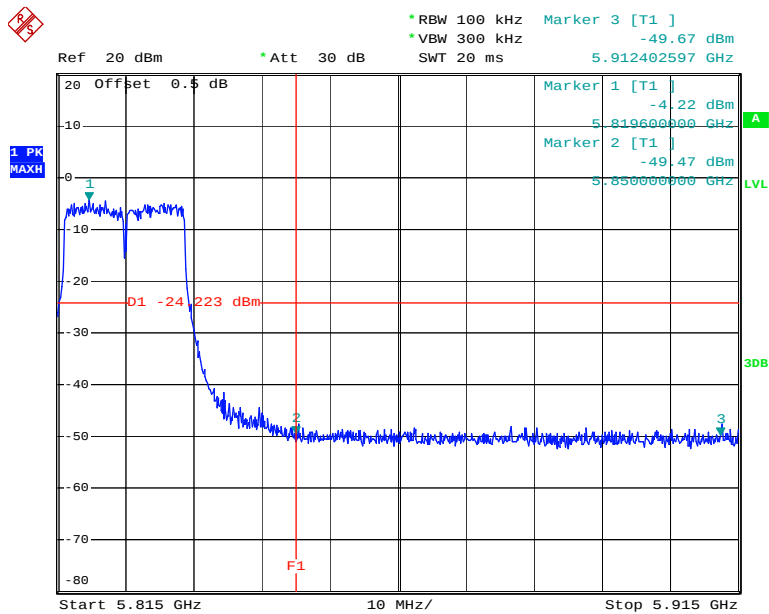
Date: 12.OCT.2013 13:42:12

Chain 0: 802.11n ht20 Band Edge, Left Side



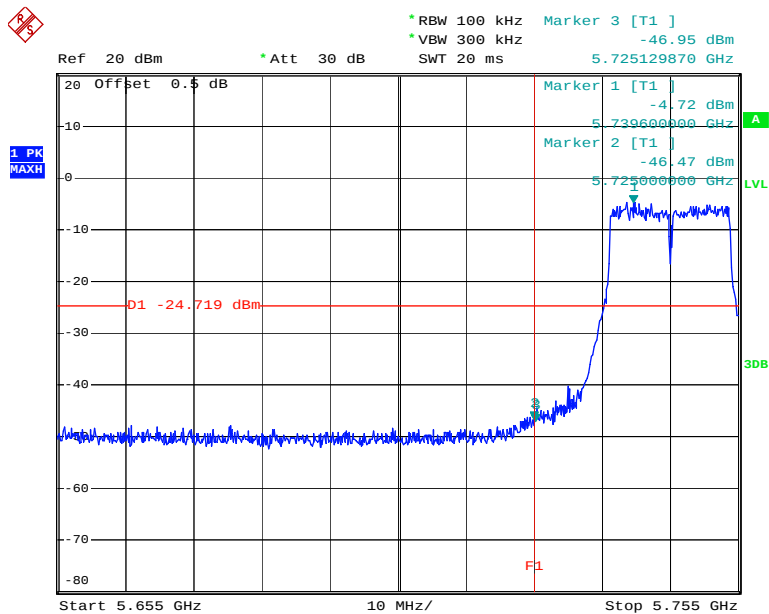
Date: 12.OCT.2013 13:48:47

Chain 0: 802.11n ht20 Band Edge, Right Side



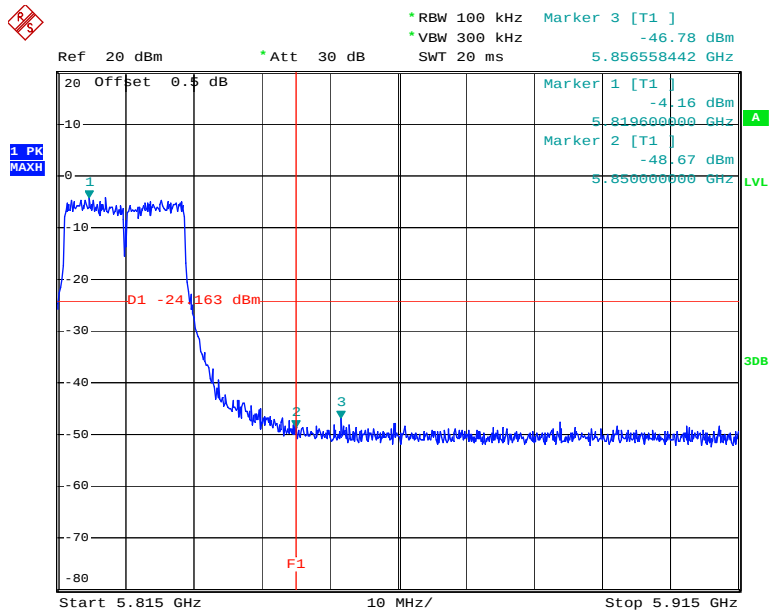
Date: 12.OCT.2013 13:53:10

Chain 1: 802.11n ht20 Band Edge, Left Side



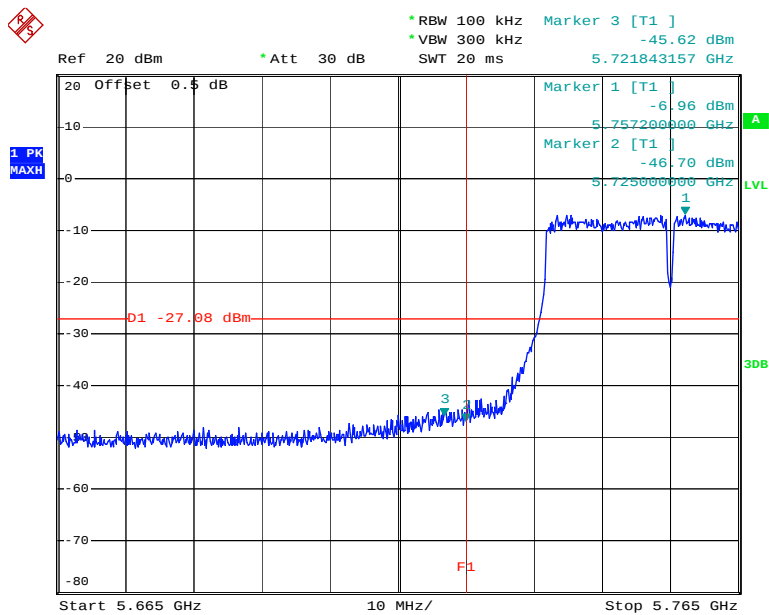
Date: 12.OCT.2013 14:25:01

Chain 1: 802.11n ht20 Band Edge, Right Side



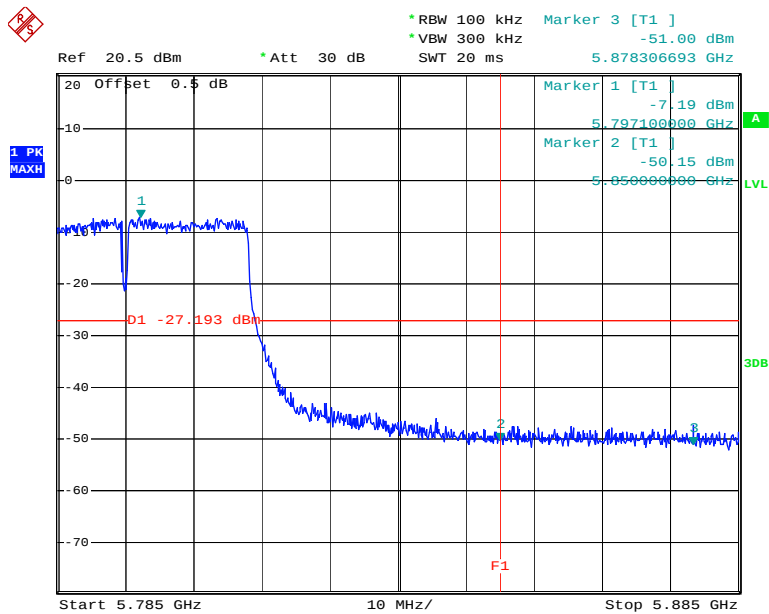
Date: 12.OCT.2013 14:29:29

Chain 0: 802.11n ht40 Band Edge, Left Side



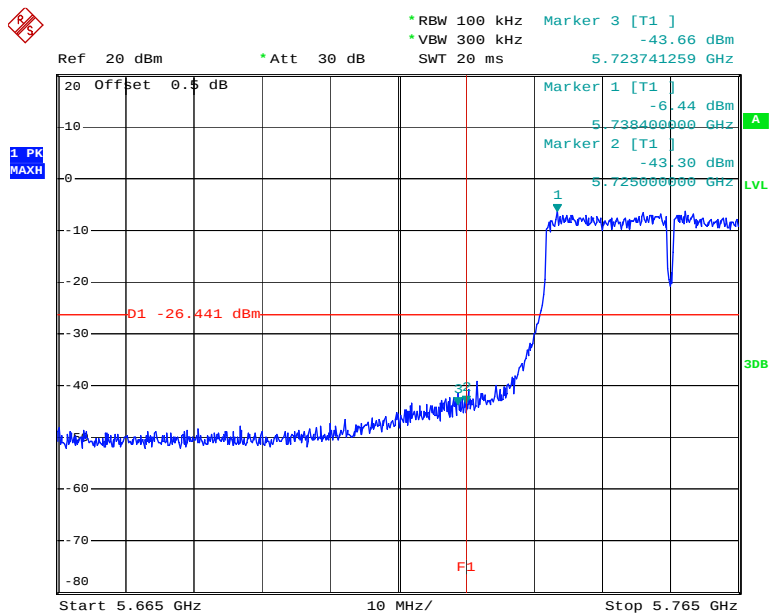
Date: 12.OCT.2013 13:59:17

Chain 0: 802.11n ht40 Band Edge, Right Side



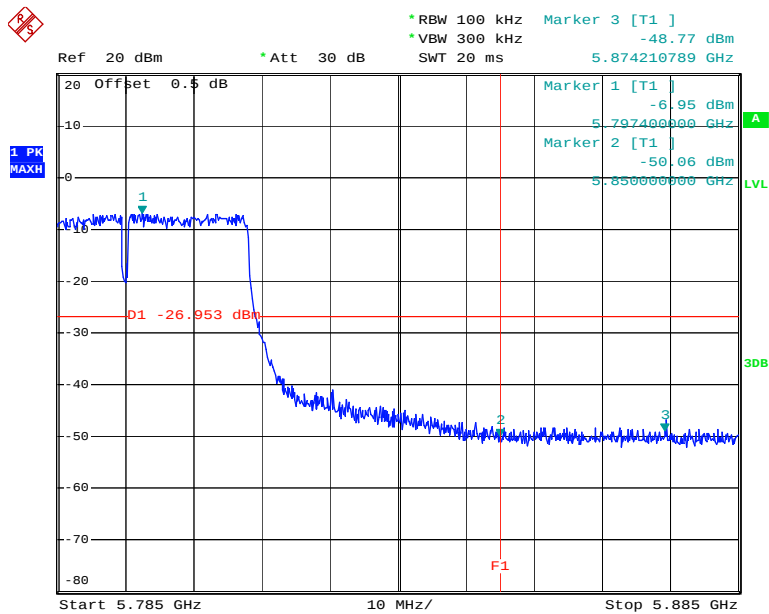
Date: 12.OCT.2013 14:17:49

Chain 1: 802.11n ht40 Band Edge, Left Side



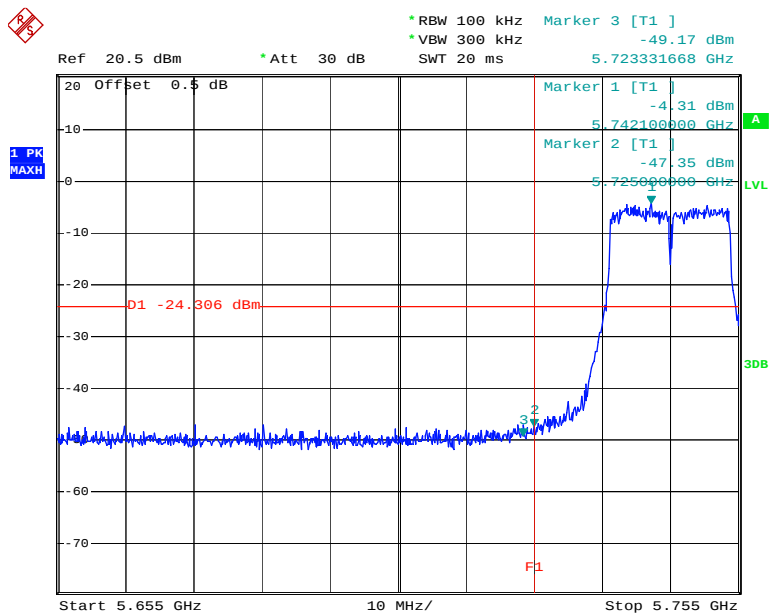
Date: 12.OCT.2013 14:33:03

Chain 1: 802.11n ht40 Band Edge, Right Side



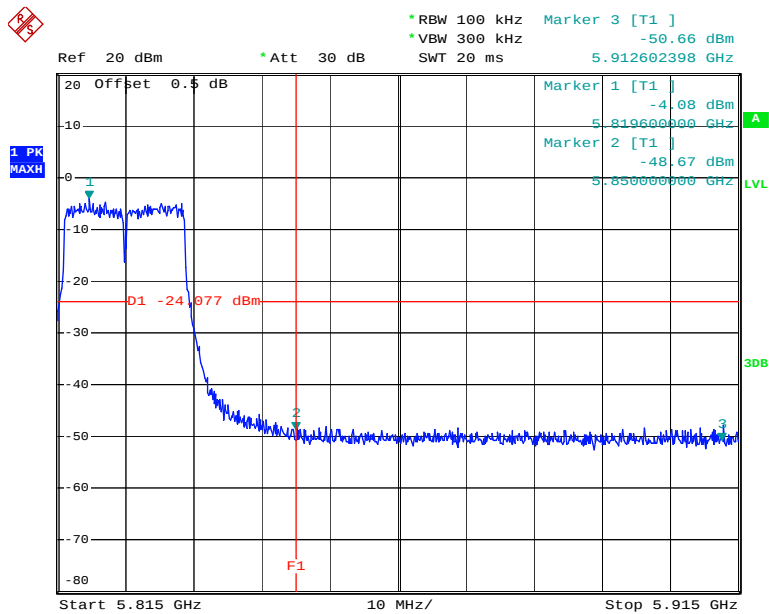
Date: 12.OCT.2013 14:35:23

Chain 0: 802.11ac20 Band Edge, Left Side



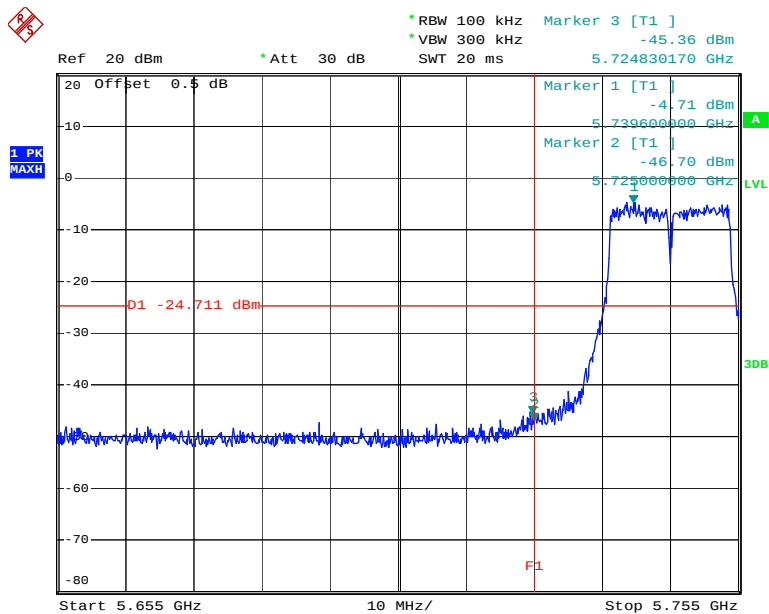
Date: 12.OCT.2013 15:15:56

Chain 0: 802.11ac20 Band Edge, Right Side



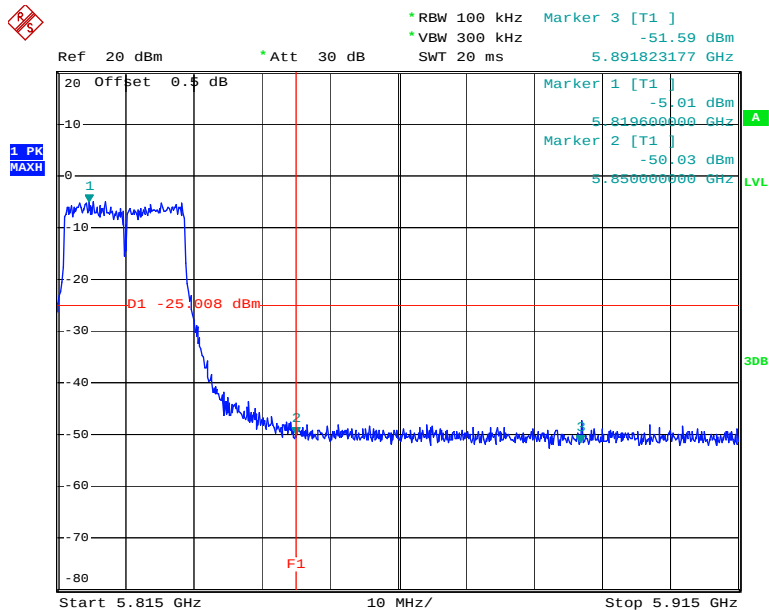
Date: 12.OCT.2013 15:20:24

Chain 1: 802.11ac20 Band Edge, Left Side



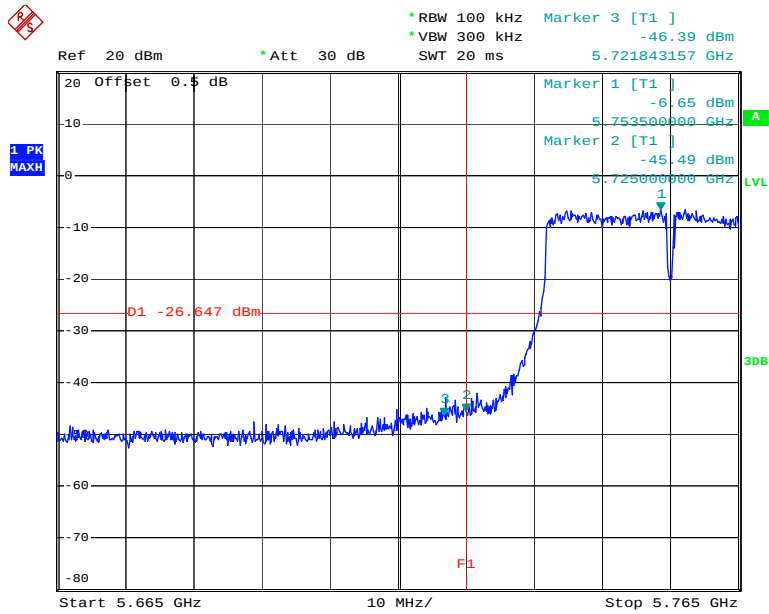
Date: 12.OCT.2013 14:45:37

Chain 1: 802.11ac20 Band Edge, Right Side



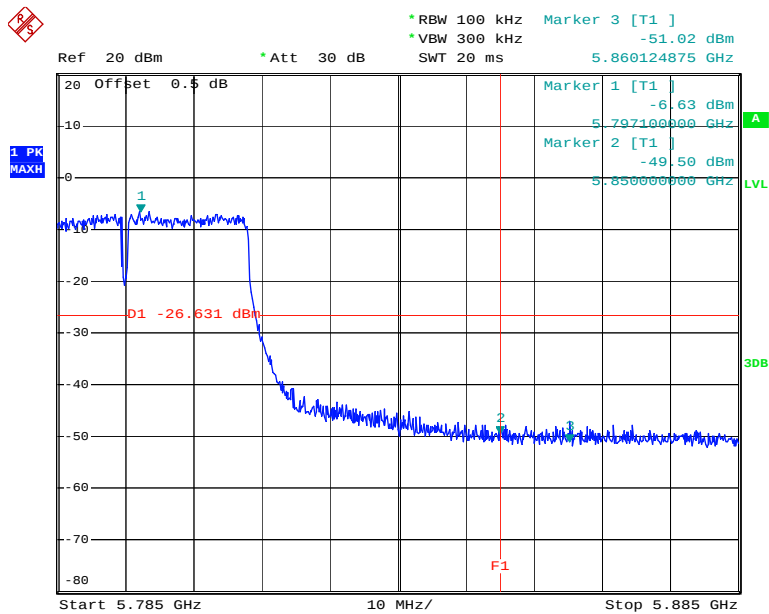
Date: 12.OCT.2013 14:49:56

Chain 0: 802.11ac40 Band Edge, Left Side



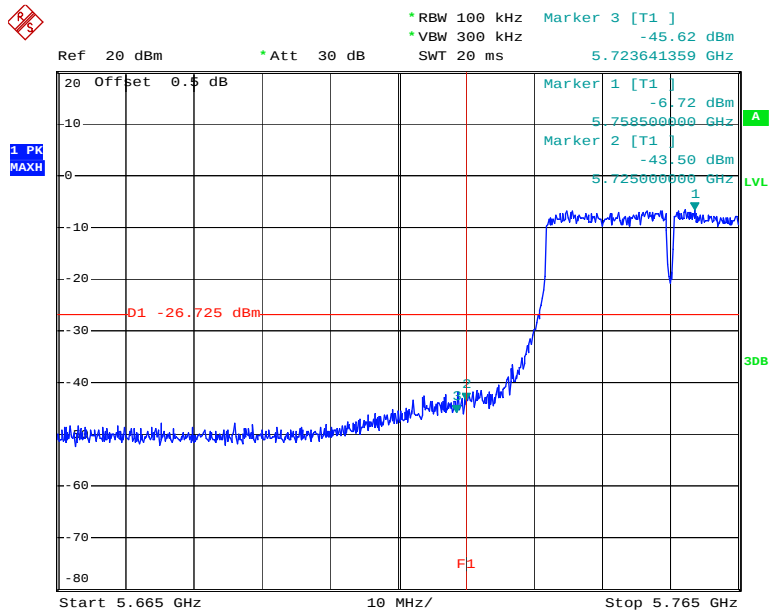
Date: 12.OCT.2013 15:23:16

Chain 0: 802.11ac40 Band Edge, Right Side



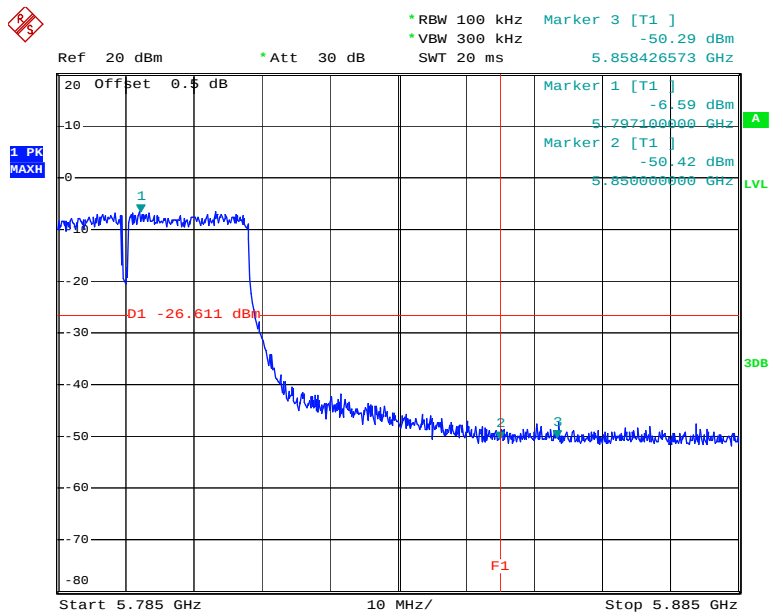
Date: 12.OCT.2013 15:26:17

Chain 1: 802.11ac40 Band Edge, Left Side



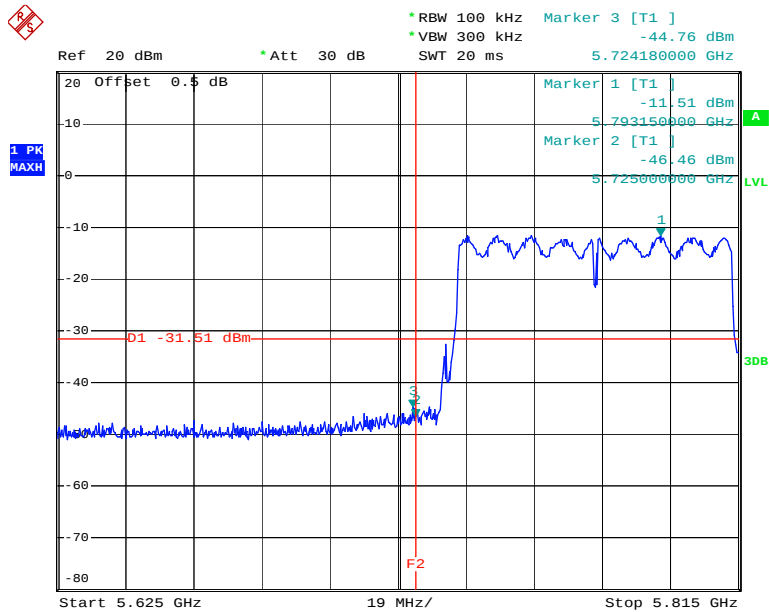
Date: 12.OCT.2013 14:53:25

Chain 1: 802.11ac40 Band Edge, Right Side



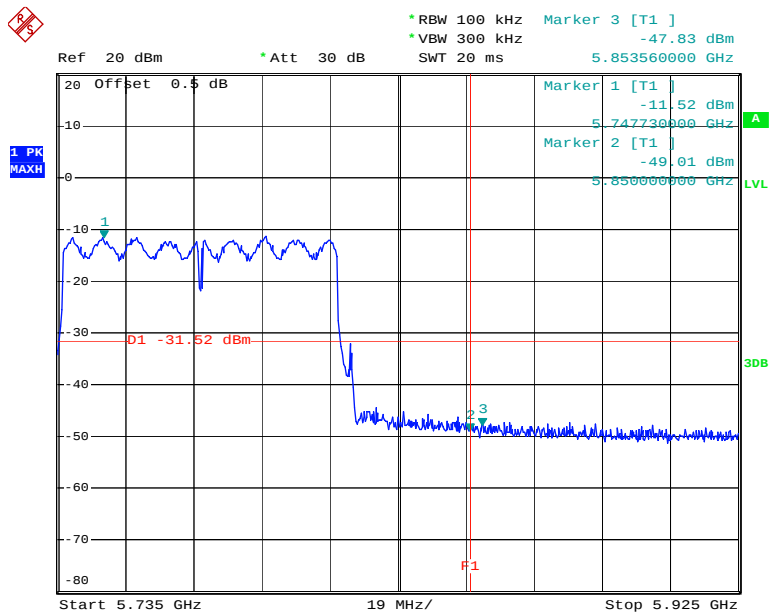
Date: 12.OCT.2013 14:56:41

Chain 0: 802.11ac80 Band Edge, Left Side



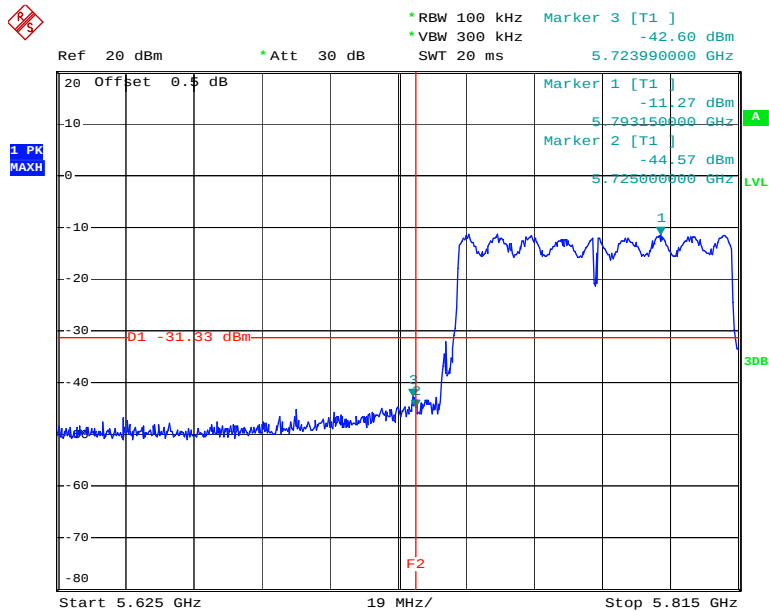
Date: 11.OCT.2013 15:50:36

Chain 0: 802.11ac80 Band Edge, Right Side



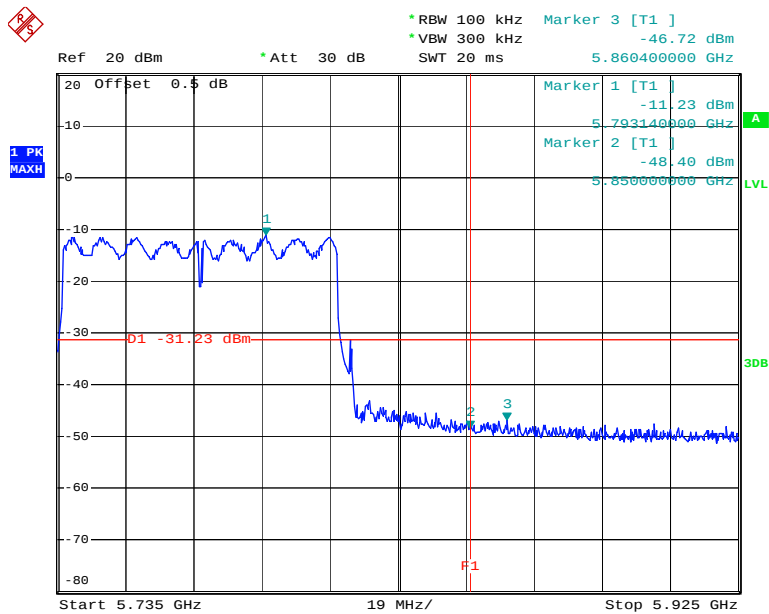
Date: 11.OCT.2013 15:53:46

Chain 1: 802.11ac80 Band Edge, Left Side



Date: 11.OCT.2013 16:03:38

Chain 1: 802.11ac80 Band Edge, Right Side



Date: 11.OCT.2013 16:04:46

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 v03r01, set the RBW = 3 kHz, VBW = 10 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
R&S	Spectrum analyzer	FSP 38	100478	2013-6-16	2014-6-15

* Statement of Traceability: Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to National Primary Standards and International System of Units (SI).

Test Data**Environmental Conditions**

Temperature:	24.3~25.9 °C
Relative Humidity:	56~62 %
ATM Pressure:	100.5~100.8 kPa

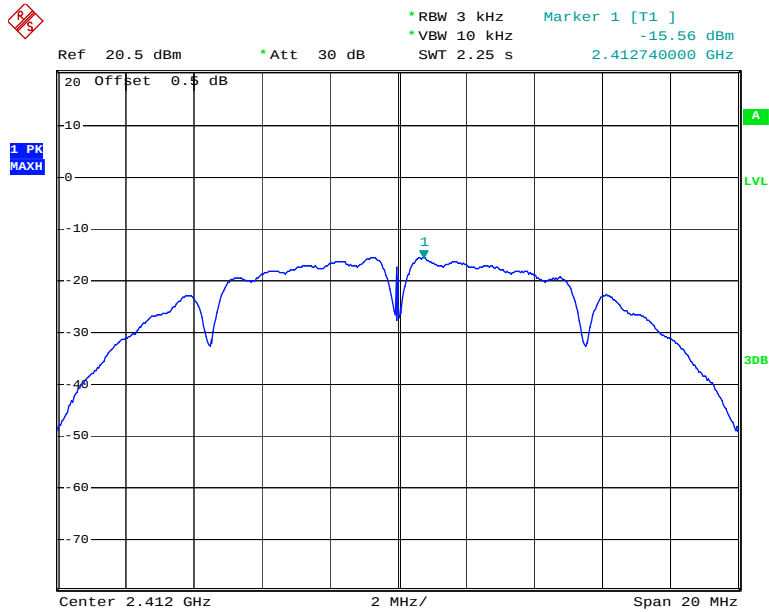
The testing was performed by Leon Chen from 2013-10-10 to 2013-10-12.

Test Mode: Transmitting

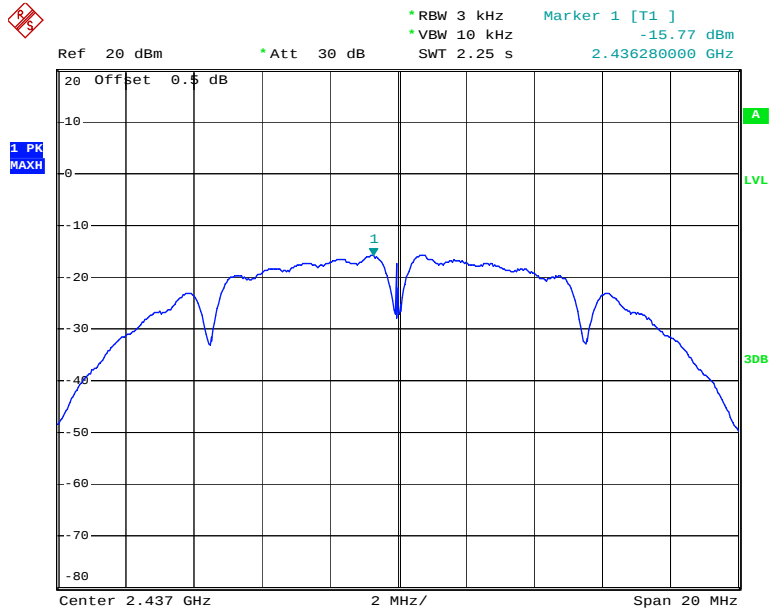
Test Result: Pass

Test mode	Channel	PSD (dBm/3kHz)			Limit (dBm/3kHz)	Result
		Chain0	Chain1	Chain0+1		
2.4G band-802.11b	Low	-15.56	/	-15.56	8	PASS
	Middle	-15.77	/	-15.77	8	PASS
	High	-15.49	/	-15.49	8	PASS
2.4G band-802.11g	Low	-15.56	/	-15.56	8	PASS
	Middle	-17.34	/	-17.34	8	PASS
	High	-15.93	/	-15.93	8	PASS
2.4G band-802.11n20	Low	-19.34	-19.00	-16.16	8	PASS
	Middle	-18.78	-20.00	-16.34	8	PASS
	High	-19.02	-19.65	-16.31	8	PASS
2.4G band-802.11n40	Low	-17.39	-20.73	-15.74	8	PASS
	Middle	-17.56	-21.22	-16.01	8	PASS
	High	-17.81	-22.29	-16.49	8	PASS
5725-5850MHz band-802.11a	Low	-16.81	/	-16.81	8	PASS
	Middle	-16.62	/	-16.62	8	PASS
	High	-16.22	/	-16.22	8	PASS
5725-5850MHz band-802.11n ht20	Low	-18.23	-18.76	-15.48	8	PASS
	Middle	-18.58	-18.09	-15.32	8	PASS
	High	-17.87	-18.37	-15.1	8	PASS
5725-5850MHz band-802.11n ht40	Low	-19.34	-18.07	-15.65	8	PASS
	High	-19.66	-19.83	-16.73	8	PASS
5725-5850MHz band-802.11ac20	Low	-18.61	-18.64	-15.61	8	PASS
	Middle	-18.88	-19.07	-15.96	8	PASS
	High	-18.73	-18.86	-15.78	8	PASS
5725-5850MHz band-802.11ac40	Low	-19.18	-19.79	-16.46	8	PASS
	High	-19.69	-19.37	-16.52	8	PASS
5725-5850MHz band-802.11ac80	Low	-25.23	-24.46	-21.82	8	PASS

Please refer to the following plots

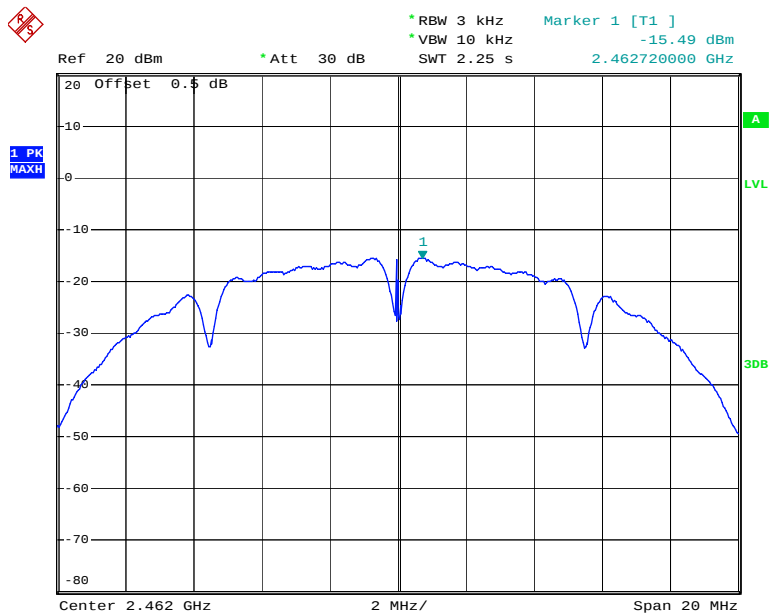
2.4G band:**Power Spectral Density, 802.11b Low Channel**

Date: 10.OCT.2013 20:53:39

Power Spectral Density, 802.11b Middle Channel

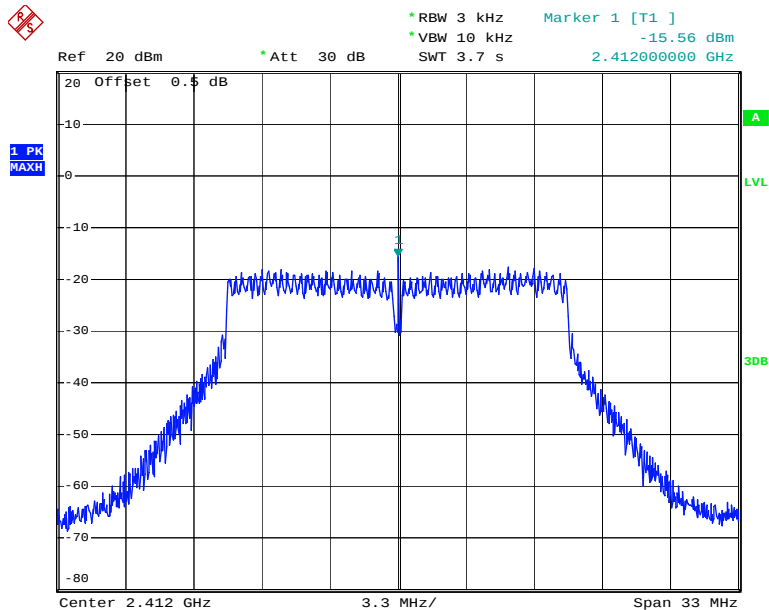
Date: 10.OCT.2013 21:00:30

Power Spectral Density, 802.11b High Channel

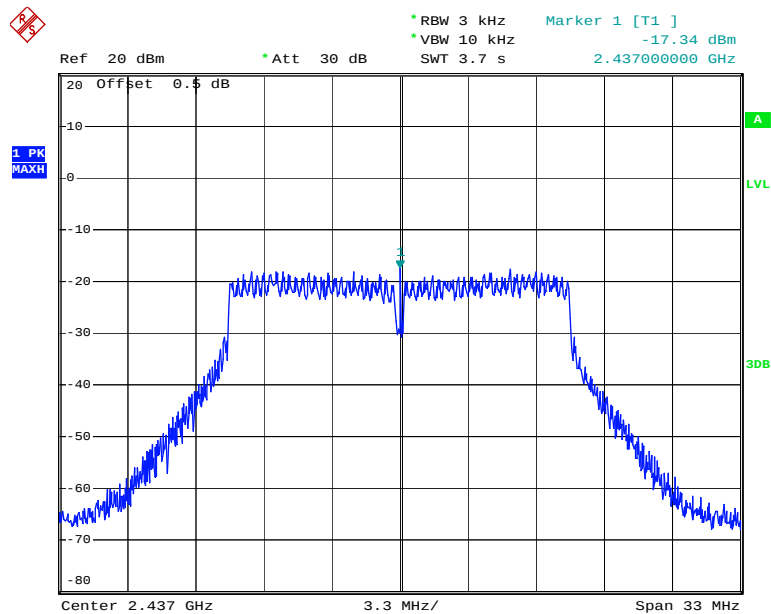


Date: 10.OCT.2013 21:02:04

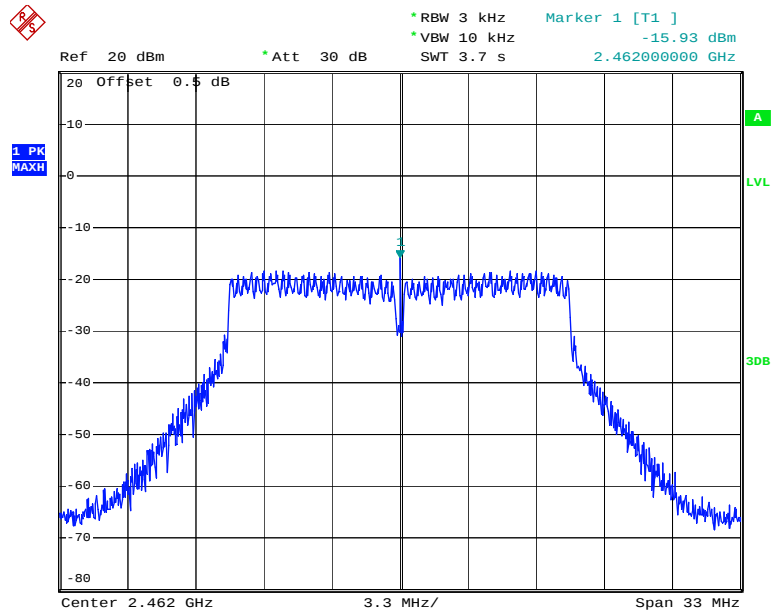
Power Spectral Density, 802.11g Low Channel



Date: 10.OCT.2013 21:06:44

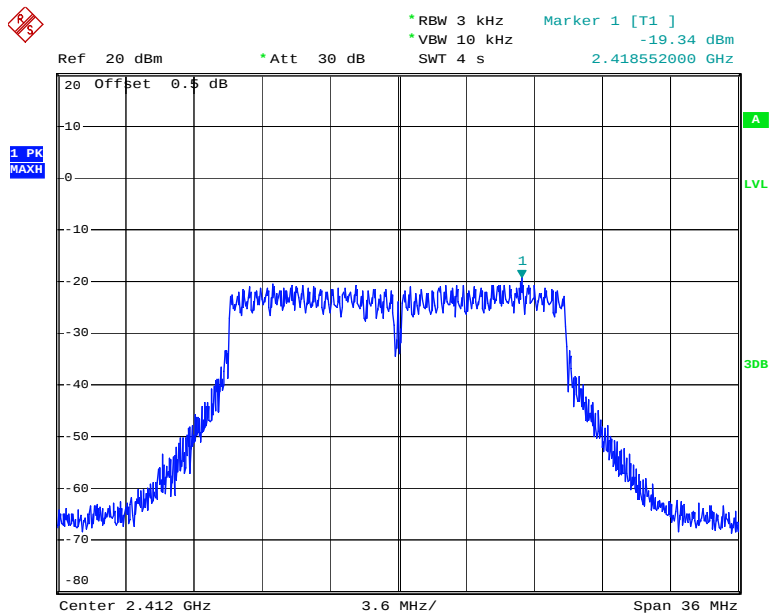
Power Spectral Density, 802.11g Middle Channel

Date: 10.OCT.2013 21:08:19

Power Spectral Density, 802.11g High Channel

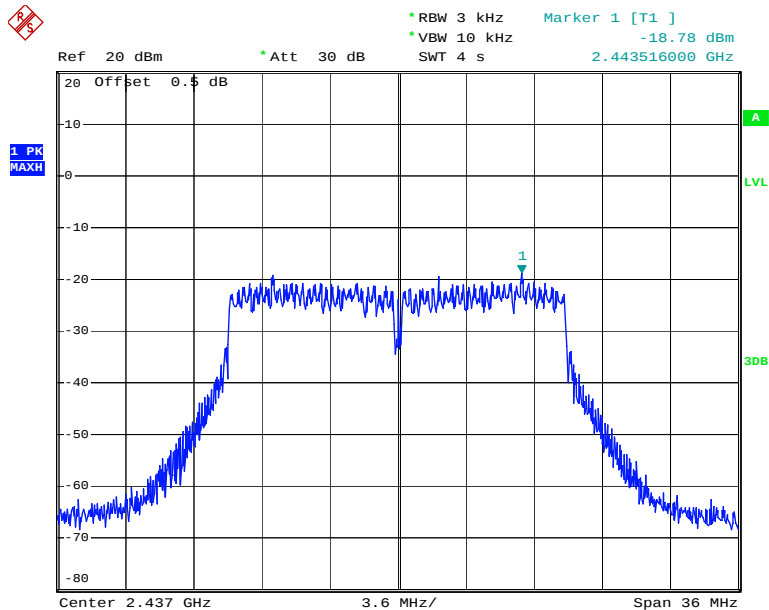
Date: 10.OCT.2013 21:09:41

Chain 0: Power Spectral Density, 802.11n20 Low Channel



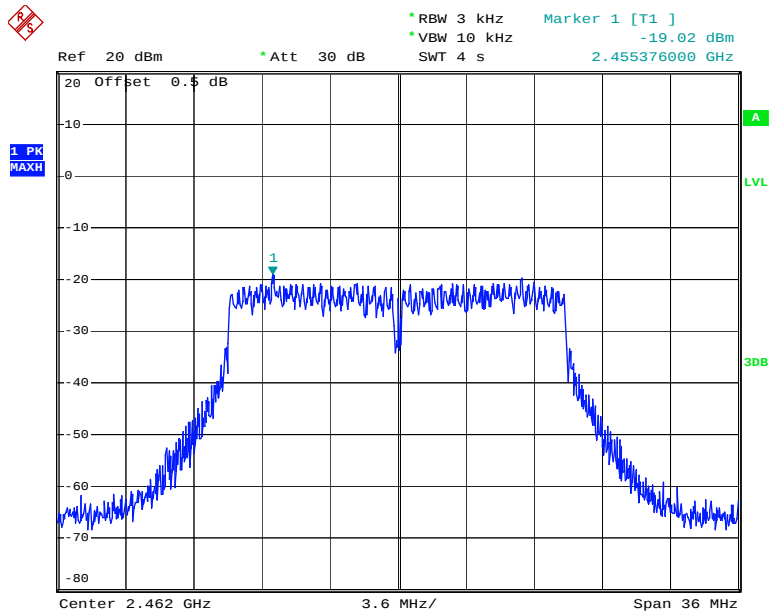
Date: 10.OCT.2013 21:11:29

Chain 0: Power Spectral Density, 802.11n20 Middle Channel



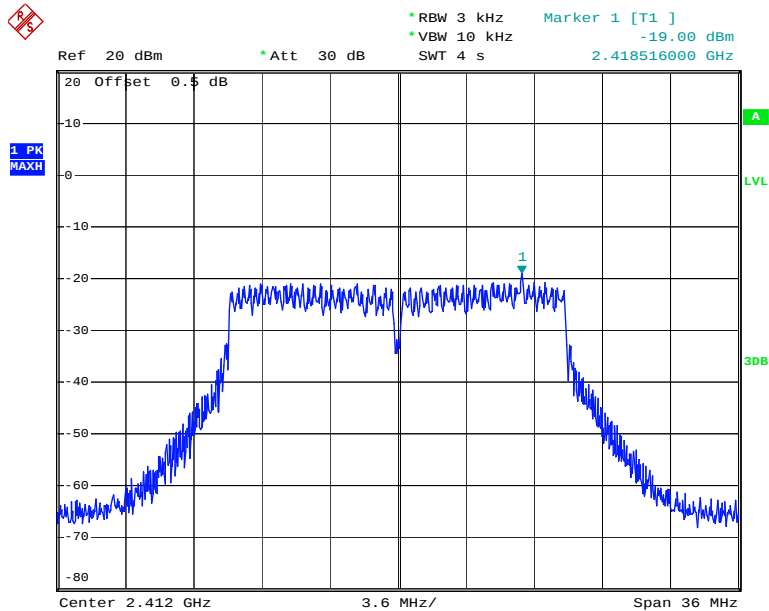
Date: 10.OCT.2013 21:13:17

Chain 0: Power Spectral Density, 802.11n20 High Channel



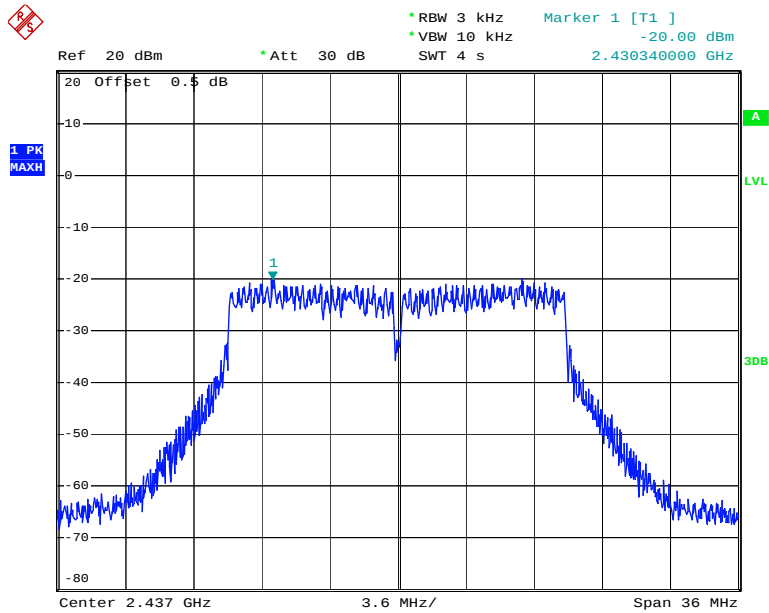
Date: 10.OCT.2013 21:14:49

Chain 1: Power Spectral Density, 802.11n20 Low Channel



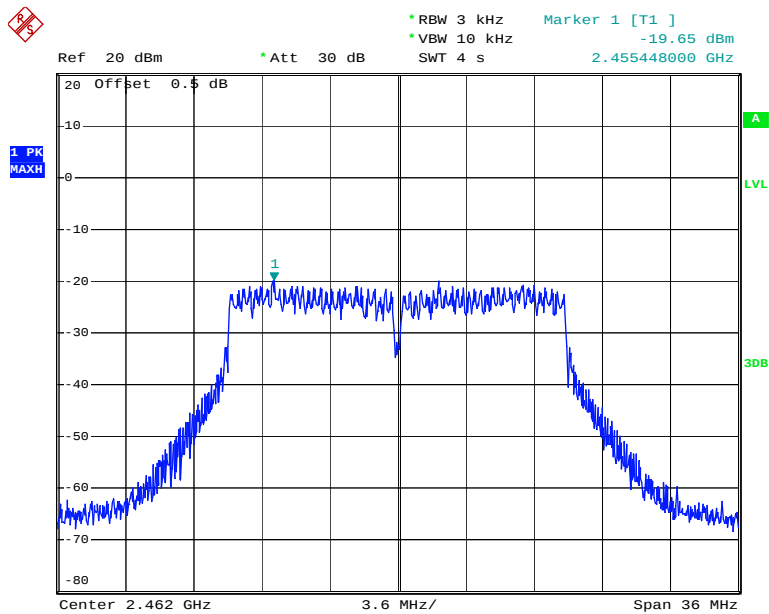
Date: 10.OCT.2013 21:25:37

Chain 1: Power Spectral Density, 802.11n20 Middle Channel

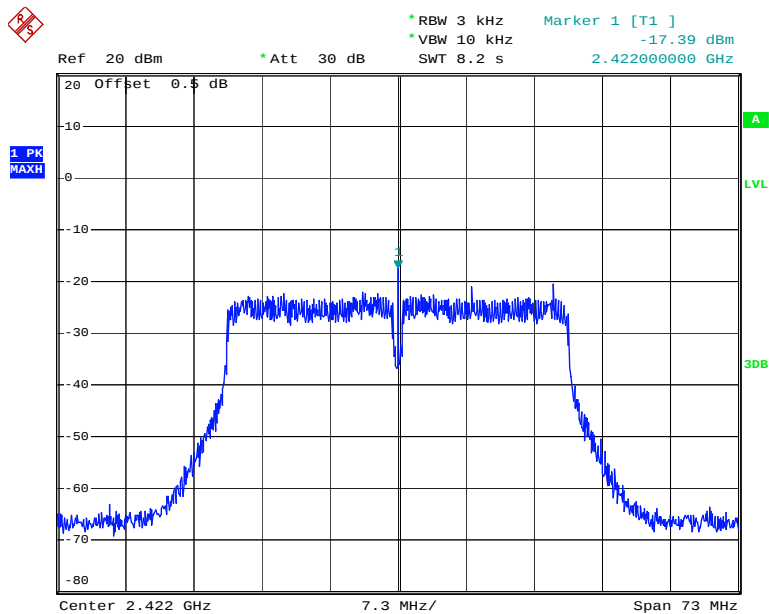


Date: 10.OCT.2013 21:27:13

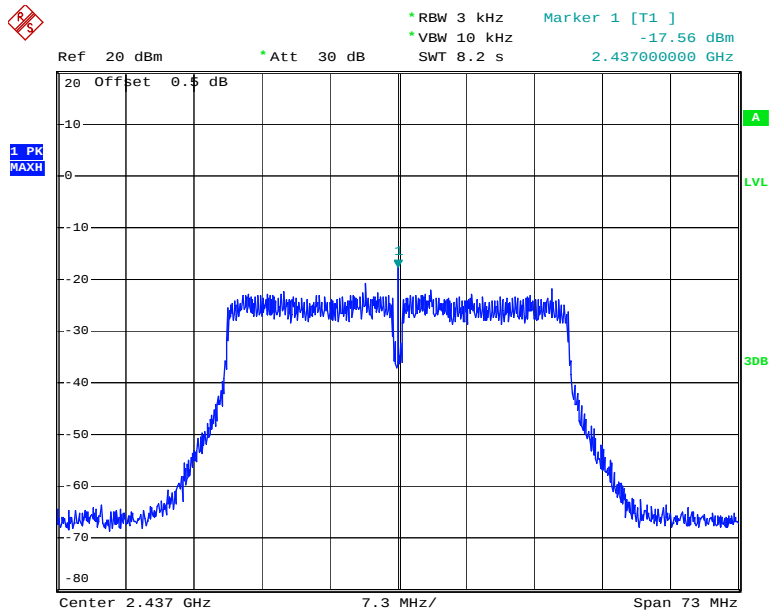
Chain 1: Power Spectral Density, 802.11n20 High Channel



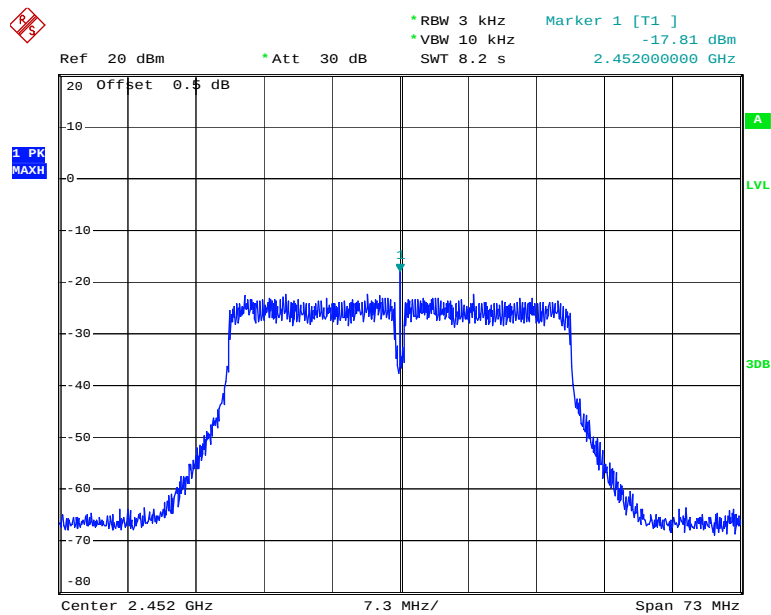
Date: 10.OCT.2013 21:29:17

Chain 0: Power Spectral Density, 802.11n40 Low Channel

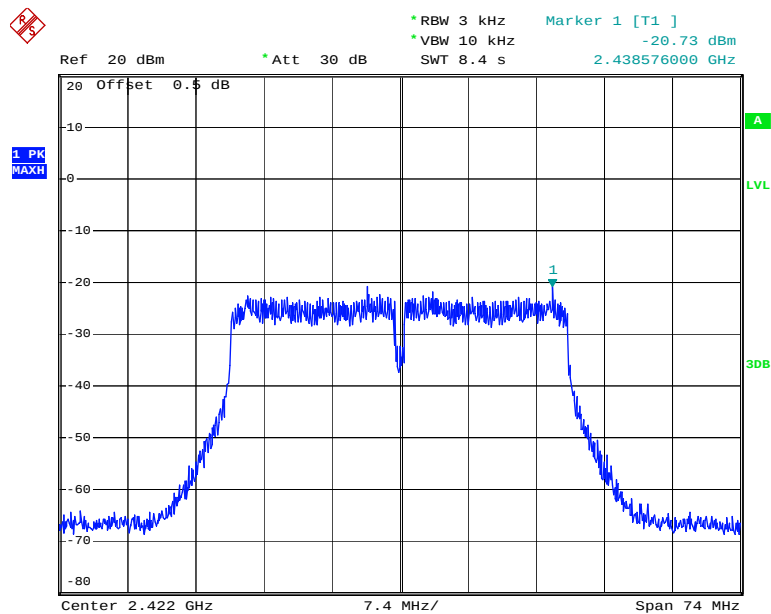
Date: 10.OCT.2013 21:17:18

Chain 0: Power Spectral Density, 802.11n40 Middle Channel

Date: 10.OCT.2013 21:19:15

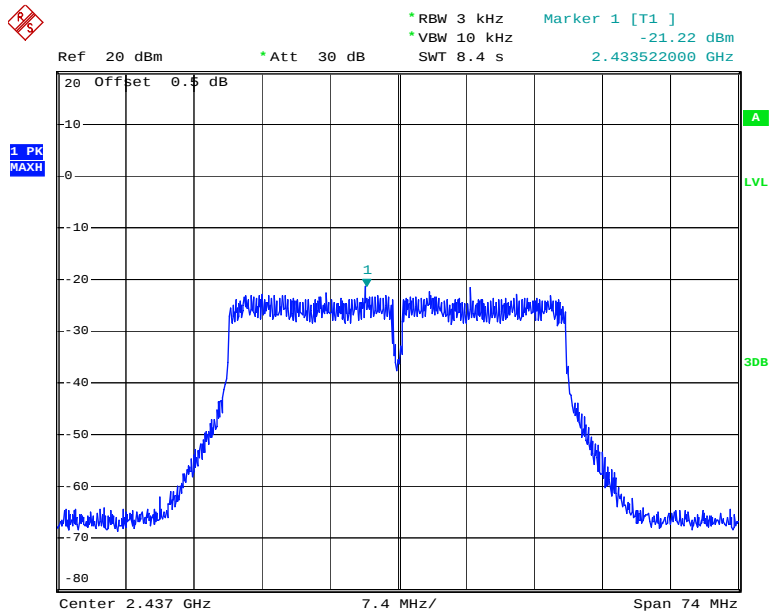
Chain 0: Power Spectral Density, 802.11n40 High Channel

Date: 10.OCT.2013 21:20:45

Chain 1: Power Spectral Density, 802.11n40 Low Channel

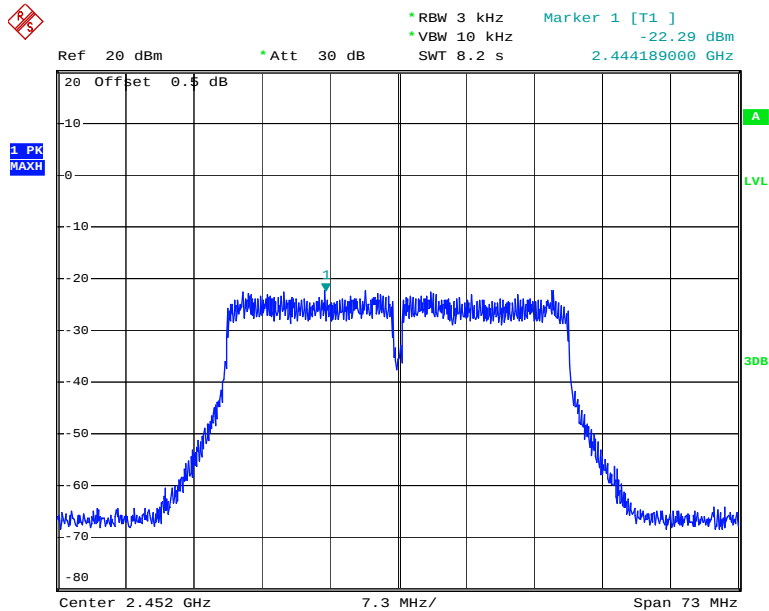
Date: 10.OCT.2013 21:31:51

Chain 1: Power Spectral Density, 802.11n40 Middle Channel

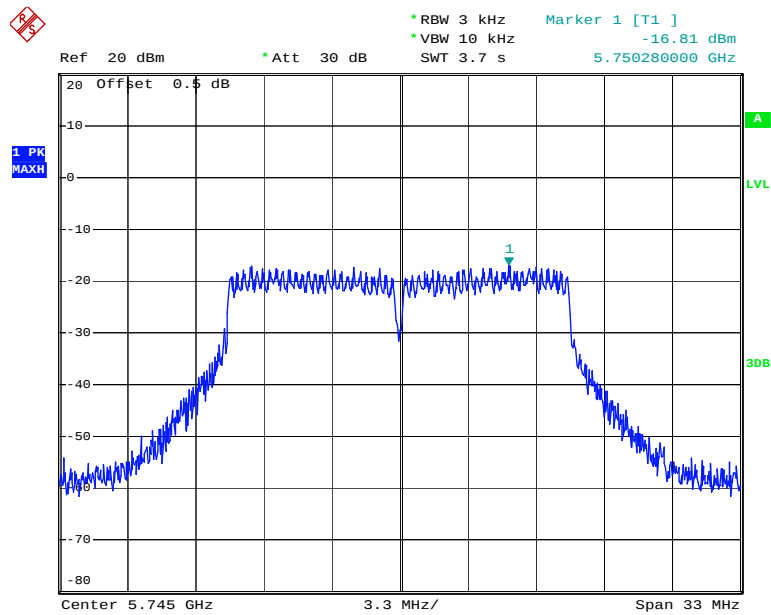


Date: 10.OCT.2013 21:33:54

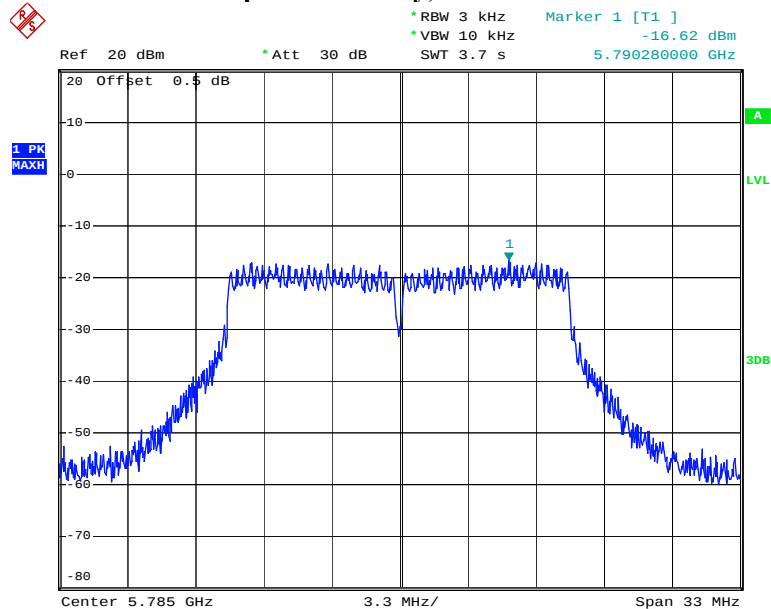
Chain 1: Power Spectral Density, 802.11n40 High Channel



Date: 10.OCT.2013 21:35:27

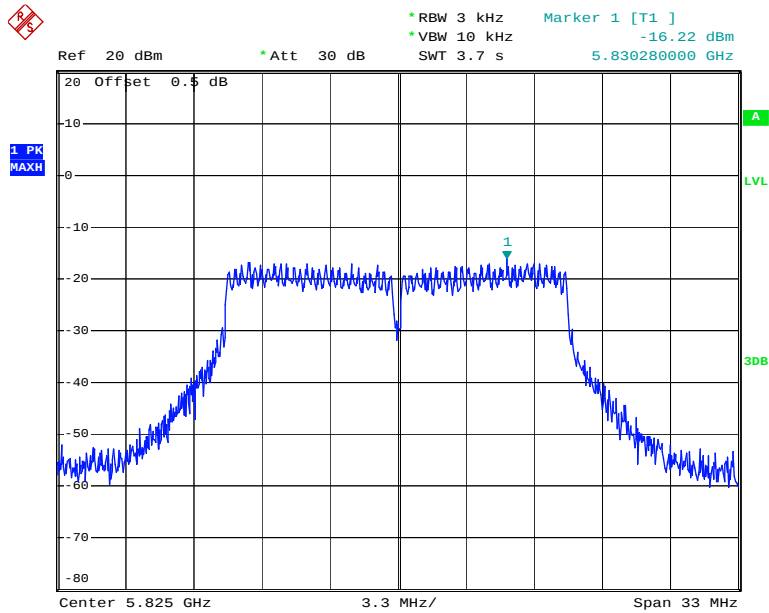
5725-5850MHz band:**Power Spectral Density, 802.11a Low Channel**

Date: 12.OCT.2013 13:32:32

Power Spectral Density, 802.11a Middle Channel

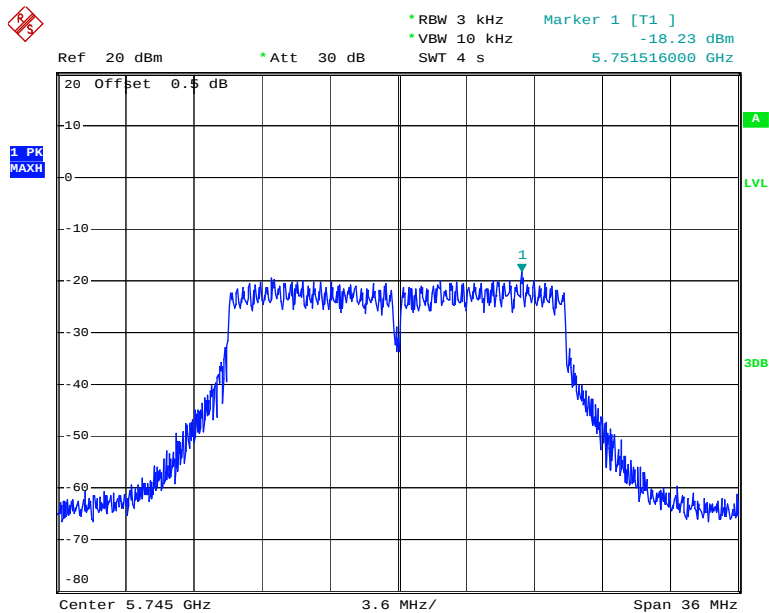
Date: 12.OCT.2013 13:37:47

Power Spectral Density, 802.11a High Channel



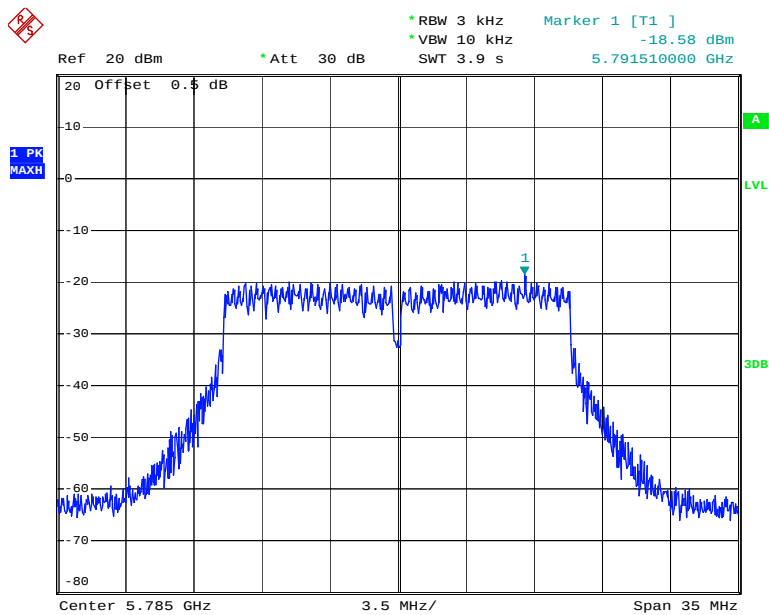
Date: 12.OCT.2013 13:41:07

Chain 0:Power Spectral Density, 802.11 n ht20 Low Channel



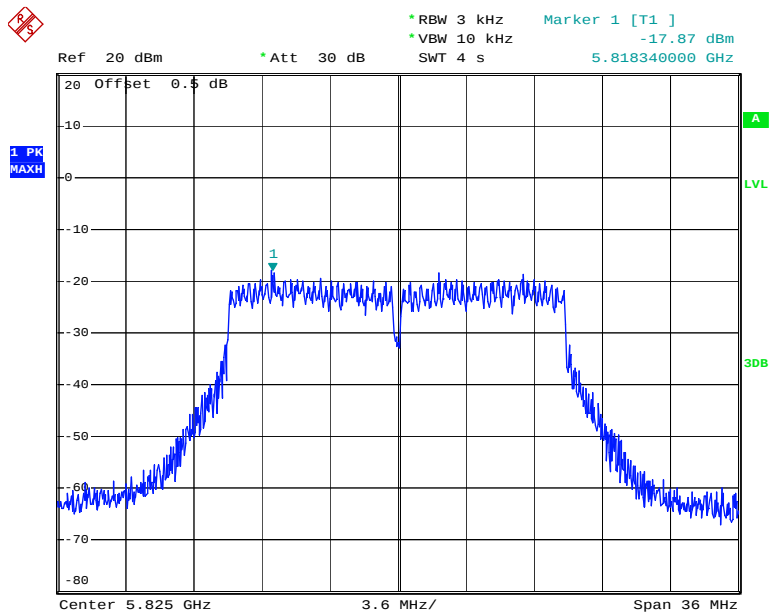
Date: 12.OCT.2013 13:47:41

Chain 0:Power Spectral Density, 802.11n ht20 Middle Channel

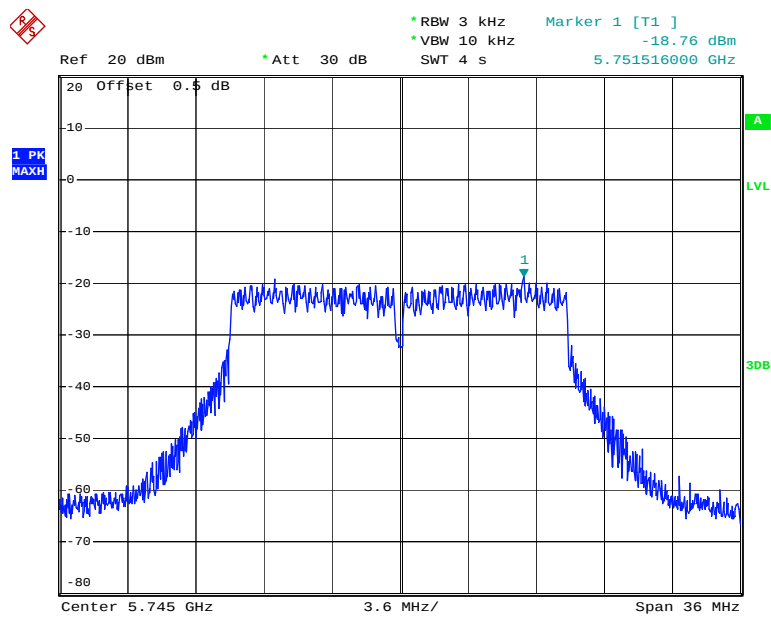


Date: 12.OCT.2013 13:49:57

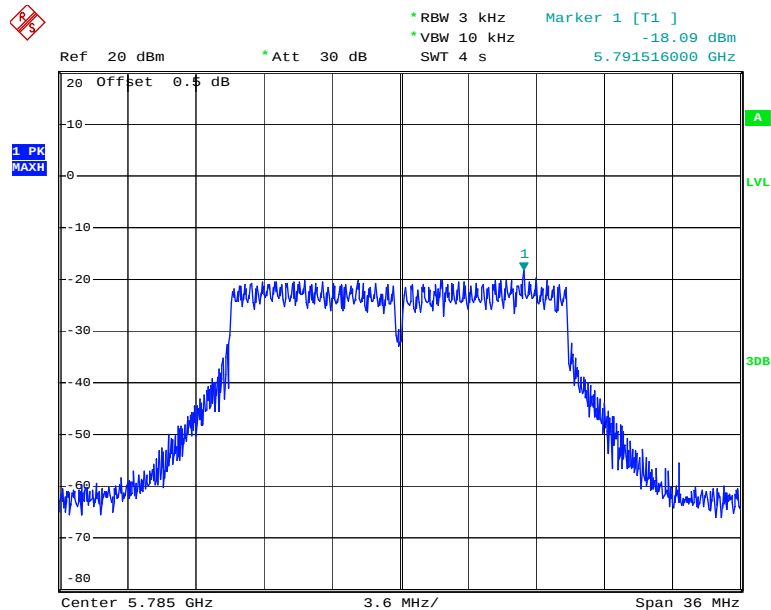
Chain 0:Power Spectral Density, 802.11n ht20 High Channel



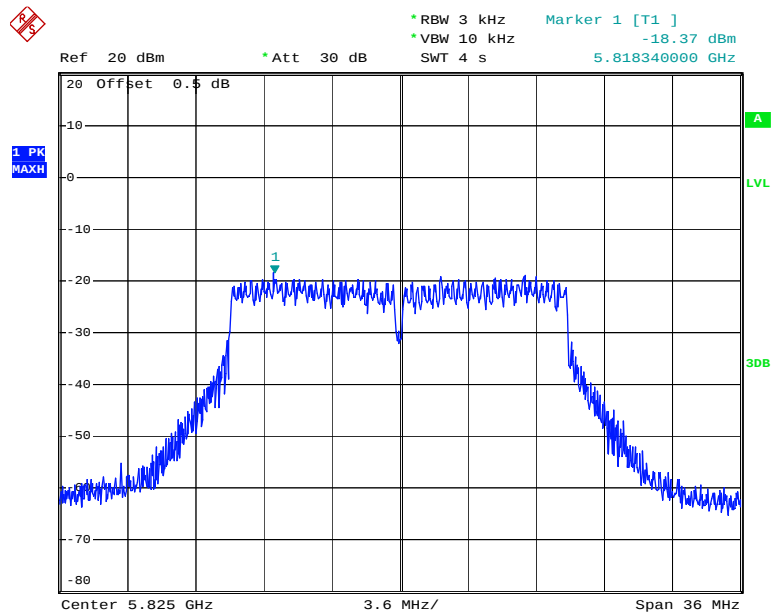
Date: 12.OCT.2013 13:52:07

Chain 1:Power Spectral Density, 802.11 n ht20 Low Channel

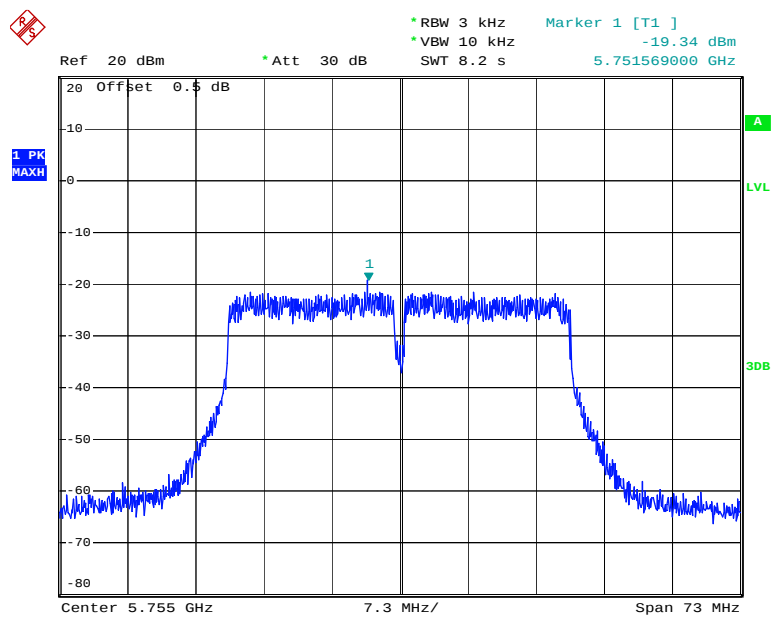
Date: 12.OCT.2013 14:23:50

Chain 1:Power Spectral Density, 802.11n ht20 Middle Channel

Date: 12.OCT.2013 14:26:12

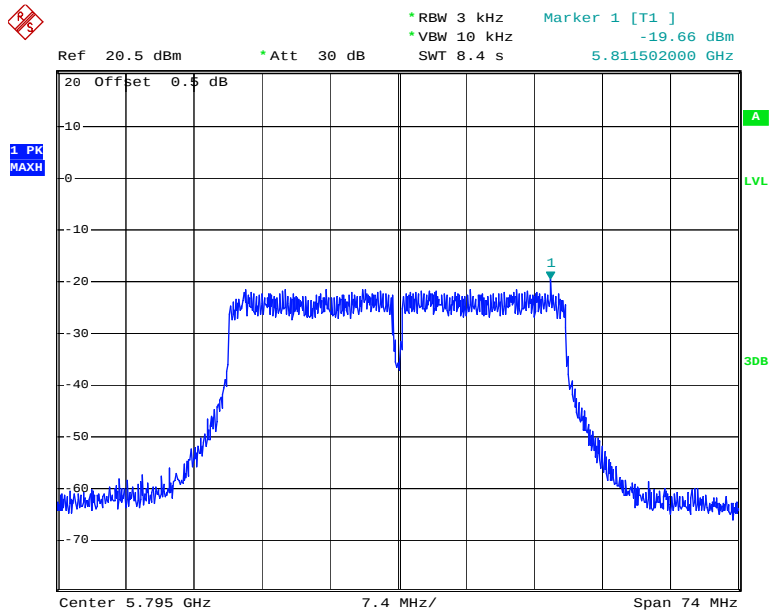
Chain 1: Power Spectral Density, 802.11n ht20 High Channel

Date: 12.OCT.2013 14:28:29

Chain 0: Power Spectral Density, 802.11n ht40 Low Channel

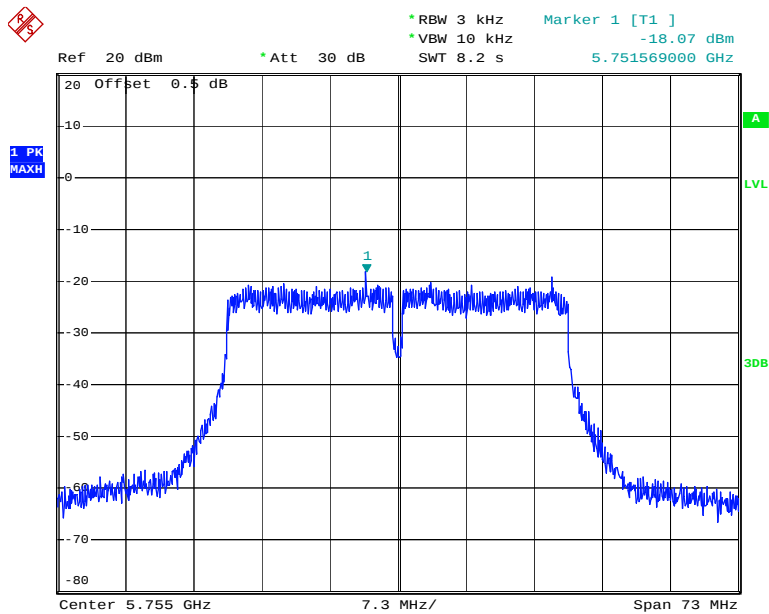
Date: 12.OCT.2013 13:58:12

Chain 0:Power Spectral Density, 802.11n ht40 High Channel

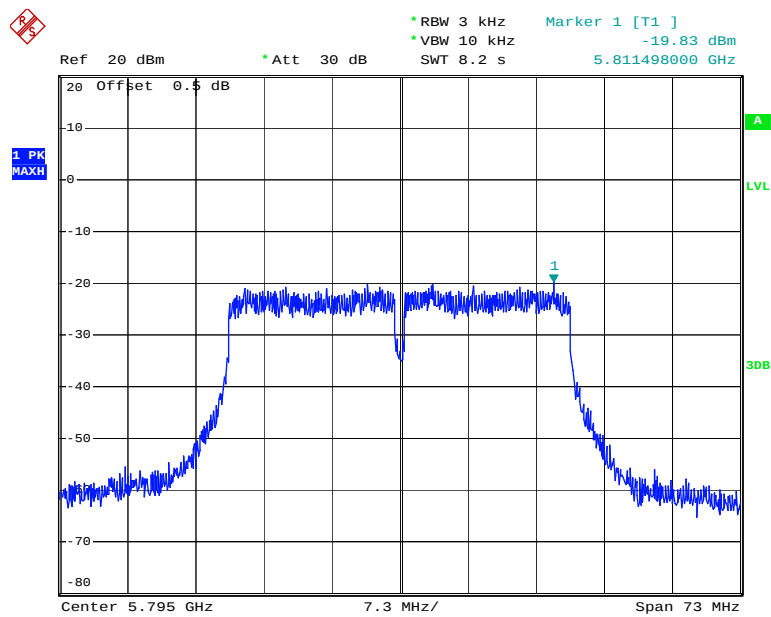


Date: 12.OCT.2013 14:16:29

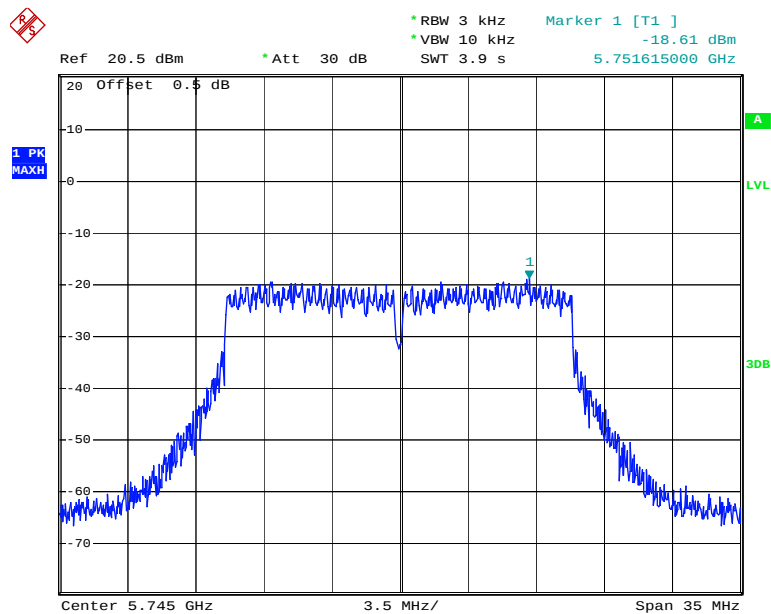
Chain 1:Power Spectral Density, 802.11n ht40 Low Channel



Date: 12.OCT.2013 14:32:01

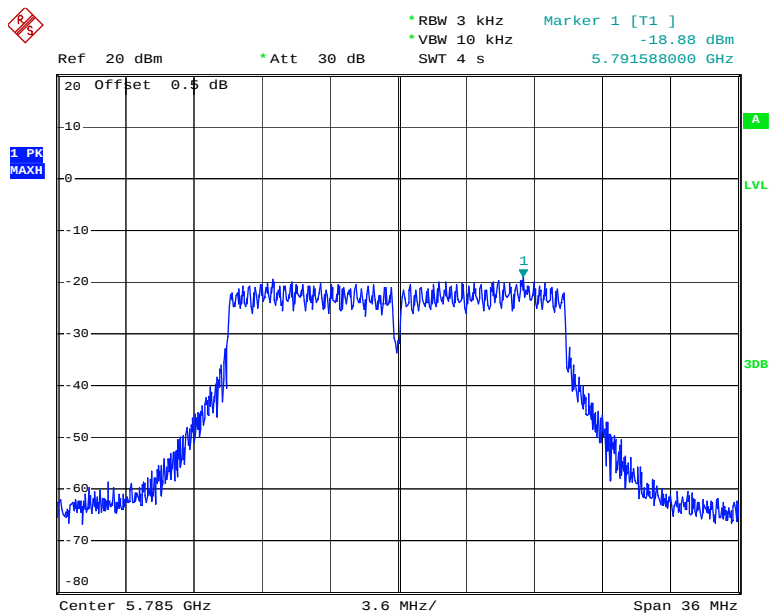
Chain 1:Power Spectral Density, 802.11n ht40 High Channel

Date: 12.OCT.2013 14:34:24

Chain 0:Power Spectral Density, 802.11 ac20 Low Channel

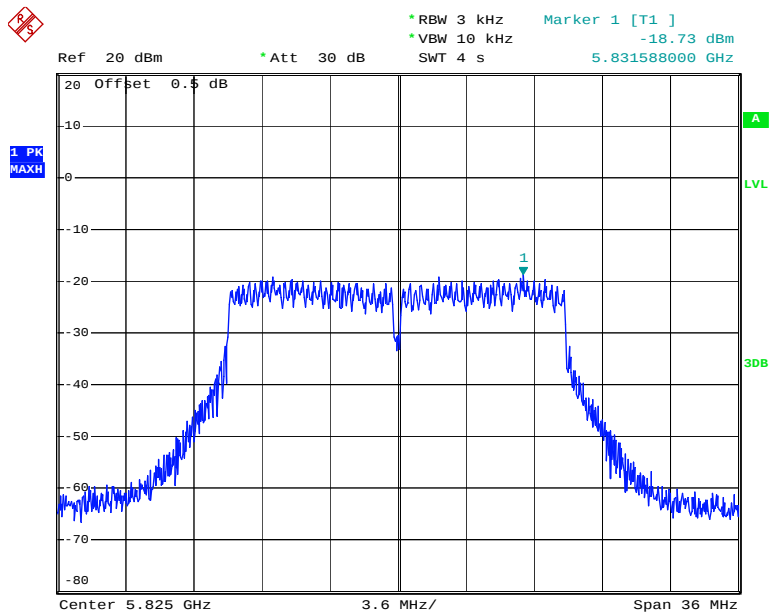
Date: 12.OCT.2013 15:14:39

Chain 0:Power Spectral Density, 802.11ac20 Middle Channel

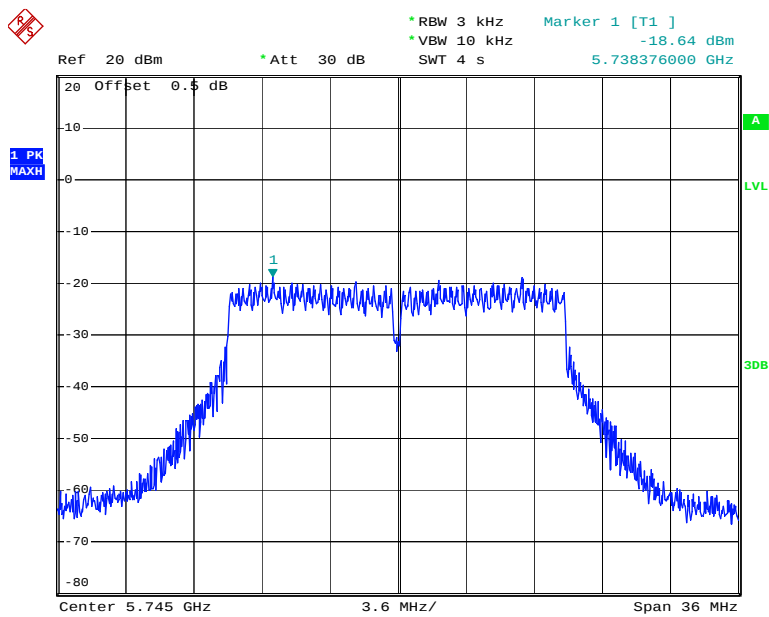


Date: 12.OCT.2013 15:17:11

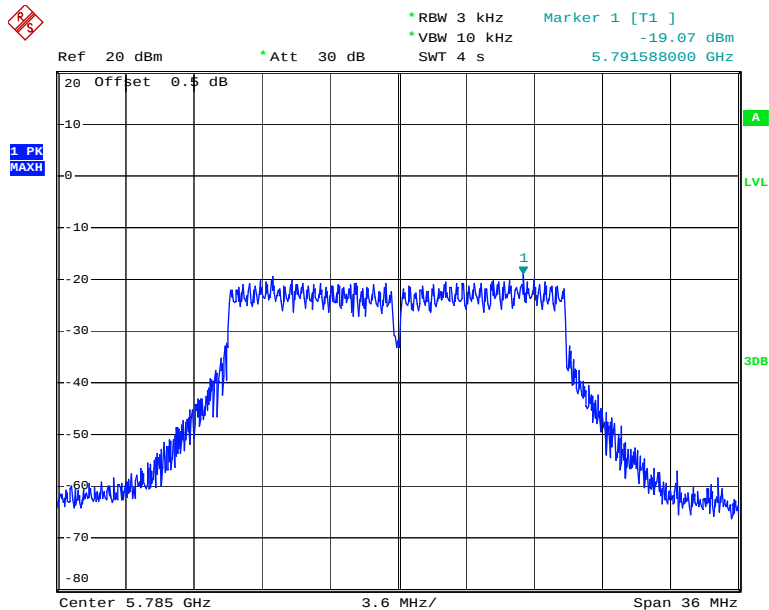
Chain 0:Power Spectral Density, 802.11ac20 High Channel



Date: 12.OCT.2013 15:19:14

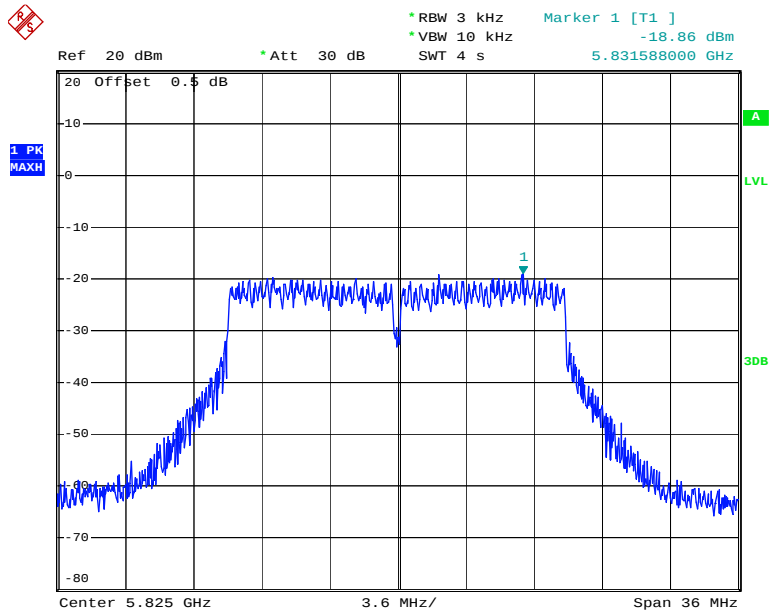
Chain 1:Power Spectral Density, 802.11 ac20 Low Channel

Date: 12.OCT.2013 14:44:37

Chain 1:Power Spectral Density, 802.11ac20 Middle Channel

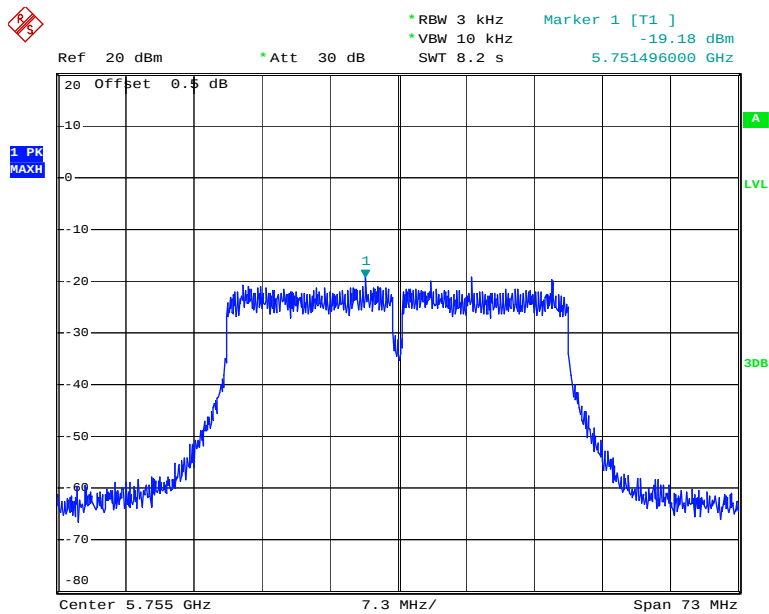
Date: 12.OCT.2013 14:46:50

Chain 1:Power Spectral Density, 802.11ac20 High Channel

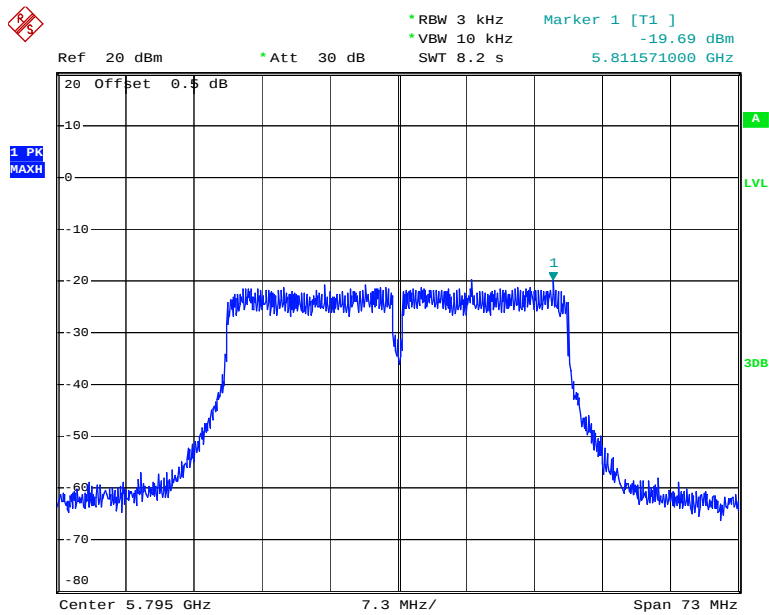


Date: 12.OCT.2013 14:48:50

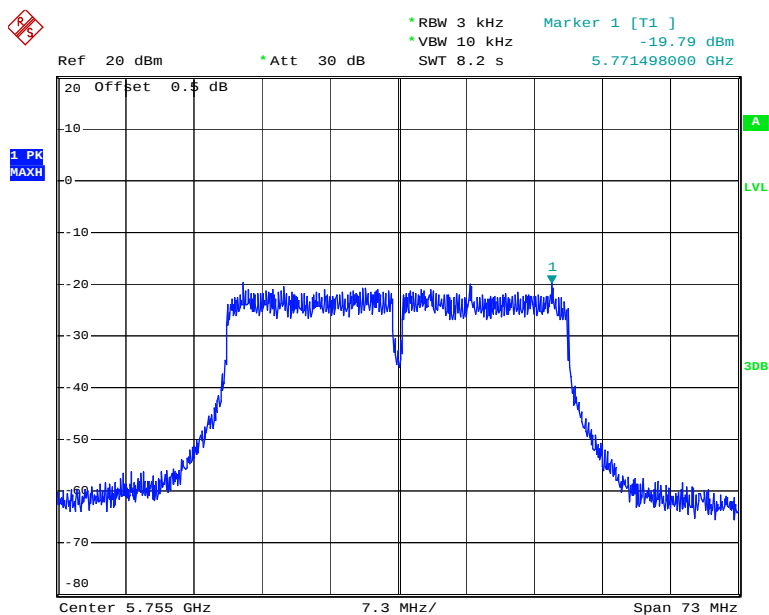
Chain 0:Power Spectral Density, 802.11ac40 Low Channel



Date: 12.OCT.2013 15:22:10

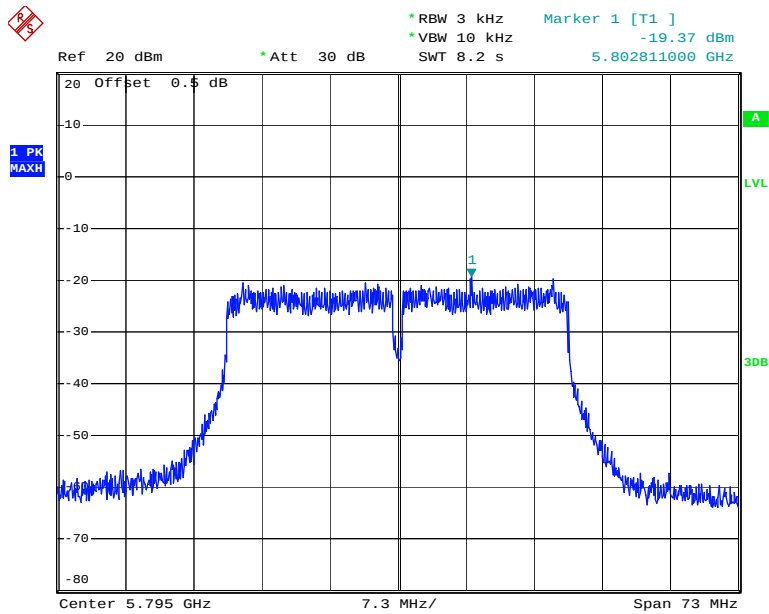
Chain 0:Power Spectral Density, 802.11ac40 High Channel

Date: 12.OCT.2013 15:24:37

Chain 1:Power Spectral Density, 802.11ac40 Low Channel

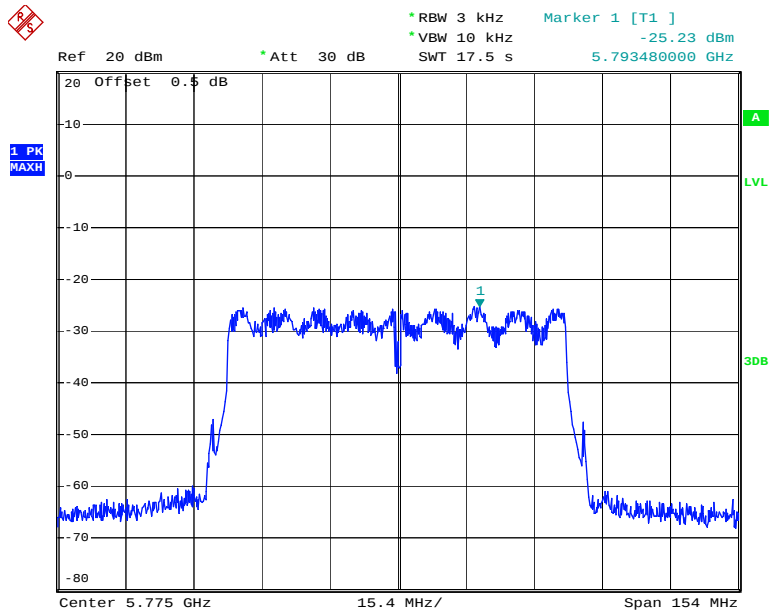
Date: 12.OCT.2013 14:52:22

Chain 1:Power Spectral Density, 802.11ac40 High Channel



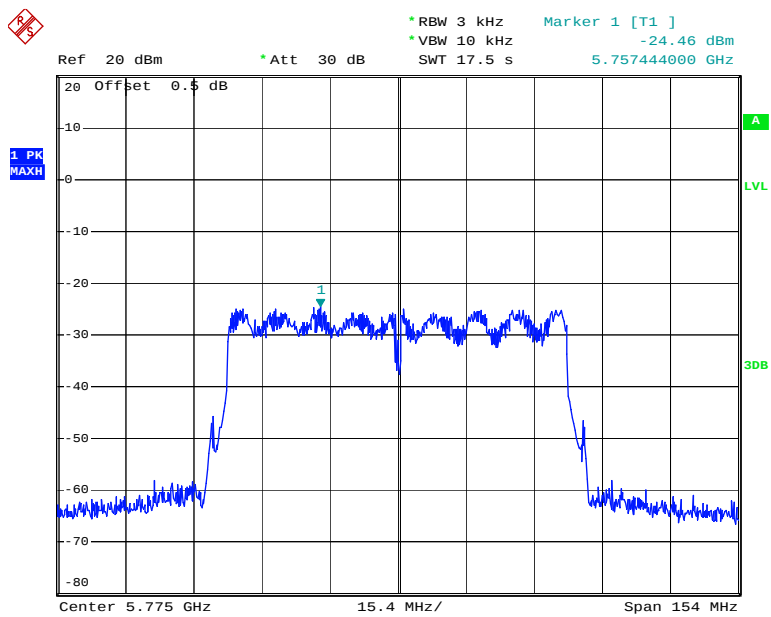
Date: 12.OCT.2013 14:54:48

Chain 0:Power Spectral Density, 802.11ac80 Low Channel



Date: 11.OCT.2013 15:45:22

Chain 1:Power Spectral Density, 802.11ac80 Low Channel



Date: 11.OCT.2013 16:02:22

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