

FCC PART 15.407

TEST REPORT

For

IDX Company, Ltd

6-28-11 Shukugawara, Tama-ku, Kawasaki-shi Kanagawa-ken, Japan

FCC ID: OFJCW-3-130701

Report Type: Original Report	Product Type: Wireless Video Transmission System(TX Unit)
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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *IDX Company, Ltd*'s product, model number: *CW-3 (FCC ID: OFJCW-3-130701)* or ("EUT") in this report is a *Wireless Video Transmission System*, which was measured approximately: 10.6 cm (L) x 7.5cm (W) x0.7 cm (H), rated input voltage: DC 12 V from adapter. The operating frequency is 5250~5350MHz, 5470~5725MHz.

Adapter information: KUANTEN
Model: SSA301F120200JP
Input: 100-240Vac, 50/60Hz, 0.8A
Output: 12Vdc, 2A

** All measurement and test data in this report was gathered from production sample serial number: 130719004 (Assigned by BACL, Dongguan). The EUT was received on 2013-07-31.*

Objective

This type approval report is prepared on behalf of *IDX Company, Ltd* in accordance with Part 2-Subpart J, Part 15-Subparts A, B and E of the Federal Communications Commission rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart E, section 15.203, 15.205, 15.207, 15.209 and 15.407 rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

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

The operating frequency range is 5250~5350 MHz and 5470~5725 MHz, the frequencies are 5270 MHz, 5310 MHz for 5250~5350 MHz band, 5510 MHz, 5550 MHz, 5670 MHz for 5470~5725 MHz band, which was provided by the manufacturer.

EUT Exercise Software

The test was performed under “AppCom_3.0.3.16” which was provided by the manufacturer.

Equipment Modifications

Added the Copper Foil attached better with the two PCB, and covered the chip of convert board, which was made by the manufacturer.

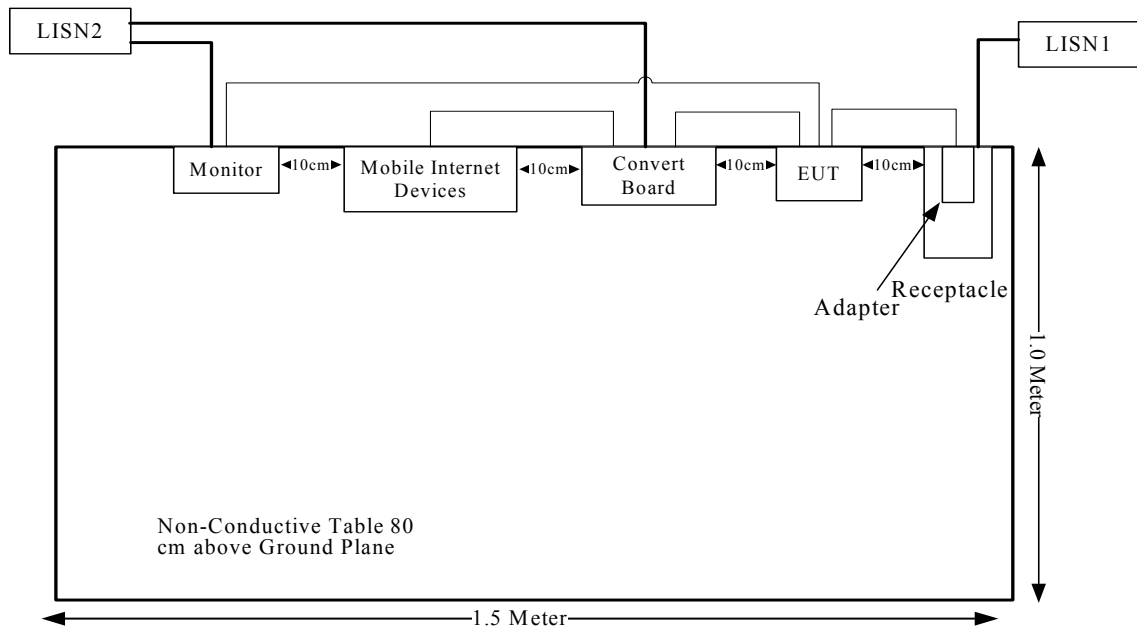
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
SHUOYING	Mobile Internet Devices##	PA1042	/
IDX	Convert Board	/	/
OSEE	LCD Monitor	BCM-170-3HSV	/

External Cable

Cable Description	Length (m)	From Port	To
Shielded Detachable Coaxial Cable	1.5	BNC Port of Convert Board	EUT
Shielded Detachable HDMI Cable	1.0	HDMI Port of Convert Board	MID
Shielded Detachable Coaxial Cable	1.0	BNC Port of EUT	LCD Monitor

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
FCC §15.407 (f) & §1.1310 & §2.1091	Maximum Permissible Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.407(b)(6)& §15.207(a)	Conducted Emissions	Compliance
§15.205& §15.209 & §15.407(b) (1),(6),(7)	Undesirable Emission& Restricted Bands	Compliance
§15.407(b) (1) (2) (3) (4)	OUT Of Band Emissions	Compliance
§15.407(a) (1)	26 dB Bandwidth	Compliance
§15.407(a)(1),	Conducted Transmitter Output Power	Compliance
§15.407 (a)(1),(5)	Power Spectral Density	Compliance
§15.407(a)(6)	Peak Excursion Ratio	Compliance
§15.407(f)	Dynamic Frequency Selection	Compliance*

Compliance*: please refer the DFS test report.

FCC §15.407(f) & §1.1310 & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart 15.407(f) 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:

Frequency (MHz)	Antenna Gain		Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
	(dBi)	(numeric)	(dBm)	(mW)			
5270	2	1.58	14.08	25.59	20.00	0.0081	1.0
5310	2	1.58	14.28	26.79	20.00	0.0085	1.0
5510	2	1.58	14.38	27.42	20.00	0.0069	1.0
5550	2	1.58	14.37	27.35	20.00	0.0069	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 use of a standard antenna jack or electrical connector is prohibited.

And according to FCC 47 CFR section 15.407 (a)(1),if transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

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 2.0 dBi in 5250-5350MHz and 5470-5725MHz band, please refer to the internal photos.

Result: Compliance.

FCC §15.407 (b) (6) §15.207 (a) – CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207, §15.407(b) (6)

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:

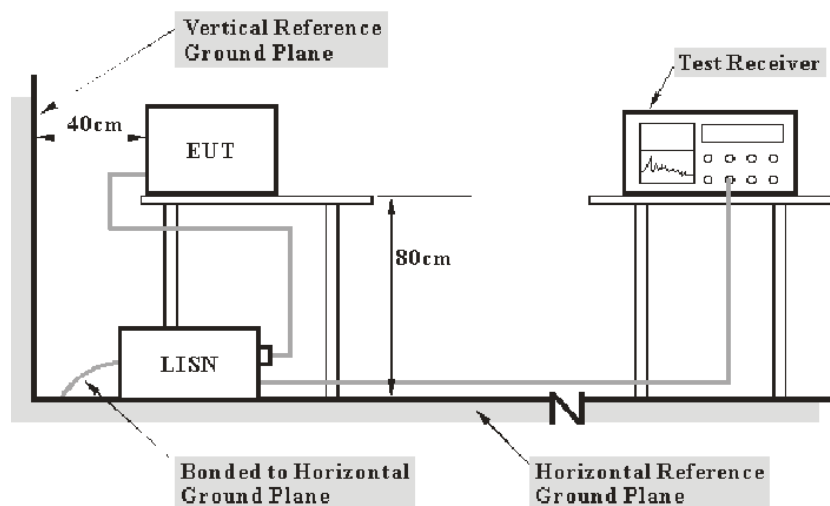
- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cisp})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cisp})$, exceeds the disturbance limit.

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 120VAC/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

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	2013-1-10	2014-1-9
R&S	L.I.S.N	ESH3-Z5	843331/015	2012-9-17	2013-9-16
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 Procedure

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

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:

4.19 dB at 0.310 MHz in the Line conducted mode

Test Data

Environmental Conditions

Temperature:	27.3 ° C
Relative Humidity:	65 %
ATM Pressure:	99 kPa

The testing was performed by Ares Liu on 2013-08-22.

Test Mode: Transmitting

120 V, 60 Hz, Line:



Frequency (MHz)	Cord. Reading (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/AV/QP)
0.160	48.78	1.04	65.46	16.68	QP
0.160	37.00	1.04	55.46	18.46	AV
0.310	45.91	0.80	59.97	14.06	QP
0.310	45.78	0.80	49.97	4.19	AV
0.620	36.55	0.48	56.00	19.45	QP
0.620	35.12	0.48	46.00	10.88	AV
1.410	34.53	0.34	56.00	21.47	QP
1.410	29.38	0.34	46.00	16.62	AV
1.840	37.30	0.35	56.00	18.70	QP
1.840	31.10	0.35	46.00	14.90	AV
20.060	18.61	2.64	60.00	41.39	QP
20.060	18.54	2.64	50.00	31.46	AV

120V, 60 Hz, Neutral:

Frequency (MHz)	Cord. Reading (dBμV)	Correction Factor (dB)	Limit (dBμV)	Margin (dB)	Detector (PK/AV/QP)
0.160	51.04	1.79	65.46	14.42	QP
0.160	36.26	1.79	55.46	19.20	AV
0.190	47.80	1.63	64.04	16.24	QP
0.190	34.13	1.63	54.04	19.91	AV
0.250	44.37	1.33	61.76	17.39	QP
0.250	31.28	1.33	51.76	20.48	AV
0.310	46.49	1.04	59.97	13.48	QP
0.310	45.40	1.04	49.97	4.57	AV
0.350	39.29	0.94	58.96	19.67	QP
0.350	31.59	0.94	48.96	17.37	AV
1.840	39.56	0.26	56.00	16.44	QP
1.840	32.61	0.26	46.00	13.39	AV

FCC §15.209, §15.205 & §15.407(b) (1) (6) (7) – UNDESIRABLE EMISSION & RESTRICTED BANDS

Applicable Standard

FCC §15.407 (b) (1), (6), (7); §15.209; §15.205;

For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band.

For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of –27 dBm/MHz.

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

According to KDB 789033 D01 General UNII Test Procedures v01, emission shall be computed as:
 $E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2$, for $d = 3$ meters.

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 $U_{\text{cisp}} of Table 1, then:$

- 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 $U_{\text{cisp}} of Table 1, then:$

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

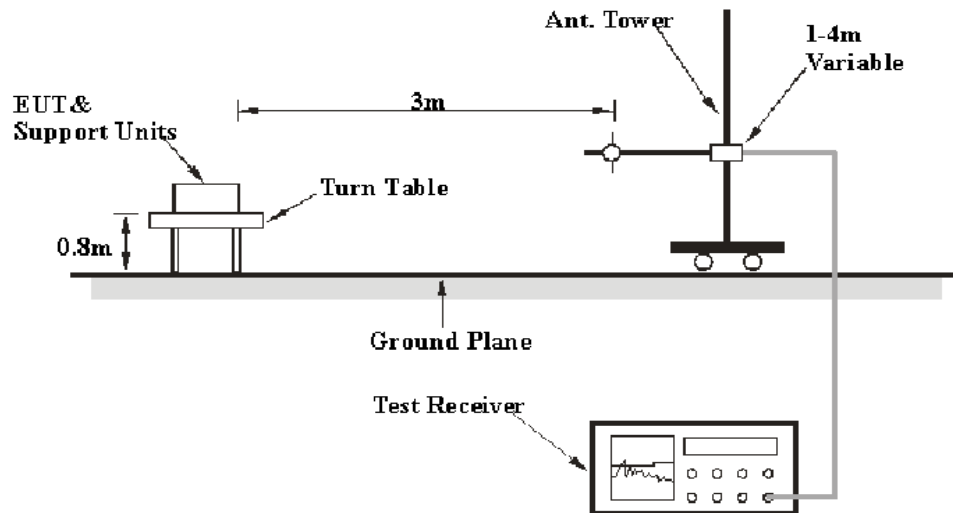
6G~18GHz: 5.23 dB

Table 1 – Values of U_{cisp}

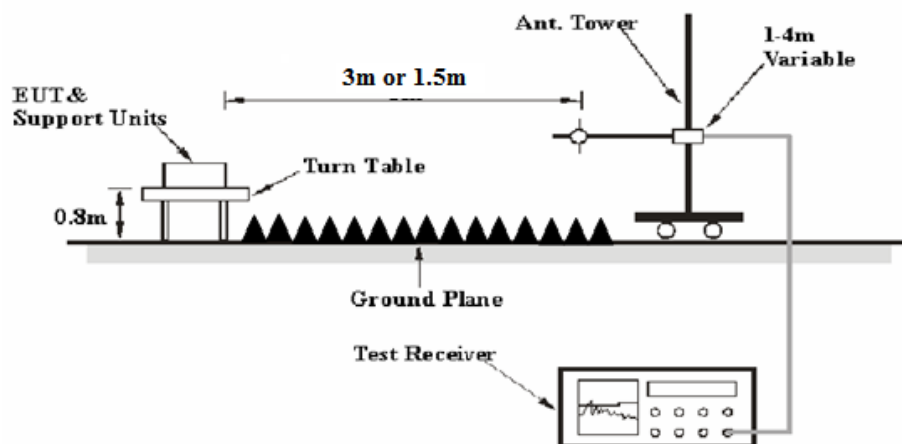
Measurement	U_{cisp}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

EUT Setup

Below 1 G:



Above 1 G:



The radiated emission tests were performed in the 3 meters chamber, using the setup accordance with the ANSI C63.4-2003. The specification used was the FCC 15.209, and FCC 15.407 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-1GHz, peak and Average detection modes for frequencies above 1GHz.

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

Distance extrapolation factor = $20 \log (3\text{m}/1.5\text{m})$ dB

Extrapolation result = Corrected Amplitude (dB μ V/m) -6dB

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	2012-9-6	2015-9-5
HP	HP AMPLIFIER	8447E	2434A02181	N/A	N/A
R&S	Spectrum analyzer	FSEM 30	849016/001	2012-9-4	2013-9-3
ETS LINDGREN	horn antenna	3115	000 527 35	2012-9-6	2015-9-5
Mini-Circuit	Amplifier	ZVA-213-S+	54201245	N/A	N/A
R&S	Spectrum analyzer	FSP 38	100478	2013-6-16	2014-6-15
Rohde&Schwarz	Spectrum analyzer	FSEM	DE31388	2013-5-7	2014-5-6

* 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).

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 Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, Section 15.205, 15.209 and 15.407, with the worst margin reading of:

3.51 dB at 743.32 MHz in the Vertical polarization mode

Test Data

Environmental Conditions

Temperature:	26.9~27.5°C
Relative Humidity:	65~66 %
ATM Pressure:	100.3~100.5 kPa

The testing was performed by Ares Liu from 2013-08-06 to 2013-08-08.

Test Mode: Transmitting

5250-5350 MHz:

Frequency	Receiver		Rx Antenna		Cable loss	Amplifier Gain	Corrected Amplitude	Extrapolation result	Limit	Margin
(MHz)	Reading (dBμV)	Detector (PK/QP/AV)	Polar (H/V)	Factor (dB)	(dB)	(dB)	(dBμV/m)	(dBμV/m)	(dBμV/m)	(dB)
Low Channel:5270 MHz										
5270.00	59.99	PK	H	31.64	4.94	0.00	96.57	90.57	N/A	N/A
5270.00	40.11	AV	H	31.64	4.94	0.00	76.69	70.69	N/A	N/A
5270.00	71.99	PK	V	31.64	4.94	0.00	108.57	102.57	N/A	N/A
5270.00	53.40	AV	V	31.64	4.94	0.00	89.98	83.98	N/A	N/A
5150.00	29.02	PK	V	31.40	5.45	0.00	65.87	59.87	68.20	8.33
5150.00	15.09	AV	V	31.40	5.45	0.00	51.94	45.94	54.00	8.06
10540.00	38.65	PK	V	37.03	8.41	26.10	57.99	51.99	68.20	16.21
15810.00	32.15	PK	V	36.94	11.60	23.20	57.49	51.49	68.20	16.71
15810.00	18.86	AV	V	36.94	11.60	23.20	44.20	38.20	54.00	15.80
3641.00	30.09	PK	V	29.11	4.82	27.44	36.58	30.58	68.20	37.62
3641.00	17.75	AV	V	29.11	4.82	27.44	24.24	18.24	54.00	35.76
4289.00	33.25	PK	V	29.84	6.80	27.11	42.78	36.78	68.20	31.42
4289.00	19.15	AV	V	29.84	6.80	27.11	28.68	22.68	54.00	31.32
742.95	39.20	QP	V	21.31	3.30	22.33	41.48	41.48	46.00	4.52
Middle Channel:5310 MHz										
5310.00	60.23	PK	H	31.72	4.81	0.00	96.76	90.76	N/A	N/A
5310.00	40.38	AV	H	31.72	4.81	0.00	76.91	70.91	N/A	N/A
5310.00	72.15	PK	V	31.72	4.81	0.00	108.68	102.68	N/A	N/A
5310.00	53.66	AV	V	31.72	4.81	0.00	90.19	84.19	N/A	N/A
5350.00	29.09	PK	V	31.80	4.58	27.23	38.24	32.24	68.20	35.96
5350.00	15.23	AV	V	31.80	4.58	27.23	24.38	18.38	54.00	35.62
10620.00	38.70	PK	V	37.10	8.56	26.21	58.15	52.15	68.20	16.05
10620.00	34.59	AV	V	37.10	8.56	26.21	54.04	48.04	54.00	5.96
15930.00	32.18	PK	V	36.73	11.68	24.05	56.54	50.54	68.20	17.66
15930.00	19.08	AV	V	36.73	11.68	24.05	43.44	37.44	54.00	16.56
3641.00	33.35	PK	V	29.11	4.82	27.44	39.84	33.84	68.20	34.36
3641.00	19.33	AV	V	29.11	4.82	27.44	25.82	19.82	54.00	34.18
4290.00	33.25	PK	V	29.84	6.79	27.11	42.77	36.77	68.20	31.43
4290.00	19.37	AV	V	29.84	6.79	27.11	28.89	22.89	54.00	31.11
742.64	40.10	QP	V	21.31	3.30	22.33	42.38	42.38	46.00	3.62

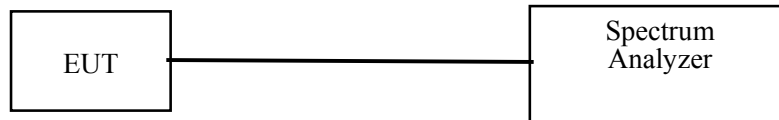
5470-5725 MHz:

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:5510 MHz										
5510.00	60.26	PK	H	32.10	4.60	0.00	96.96	90.96	N/A	N/A
5510.00	40.30	AV	H	32.10	4.60	0.00	77.00	71.00	N/A	N/A
5510.00	72.06	PK	V	32.10	4.60	0.00	108.76	102.76	N/A	N/A
5510.00	53.54	AV	V	32.10	4.60	0.00	90.24	84.24	N/A	N/A
5470.00	29.15	PK	V	32.04	4.47	0.00	65.66	59.66	68.20	8.54
11020.00	38.76	PK	V	37.42	9.18	26.40	58.96	52.96	68.20	15.24
11020.00	34.62	AV	V	37.42	9.18	26.40	54.82	48.82	54.00	5.18
16530.00	32.42	PK	V	37.53	12.35	25.89	56.41	50.41	68.20	17.79
16530.00	18.90	AV	V	37.53	12.35	25.89	42.89	36.89	54.00	17.11
3641.00	30.12	PK	V	29.11	4.82	27.44	36.61	30.61	68.20	37.59
3641.00	17.90	AV	V	29.11	4.82	27.44	24.39	18.39	54.00	35.61
4289.00	33.35	PK	V	29.84	6.80	27.11	42.88	36.88	68.20	31.32
4289.00	19.29	AV	V	29.84	6.80	27.11	28.82	22.82	54.00	31.18
743.51	38.80	QP	V	21.32	3.30	22.33	41.09	41.09	46.00	4.91
Middle Channel:5550 MHz										
5550.00	60.19	PK	H	32.11	4.70	0.00	97.00	91.00	N/A	N/A
5550.00	40.39	AV	H	32.11	4.70	0.00	77.20	71.20	N/A	N/A
5550.00	72.20	PK	V	32.11	4.70	0.00	109.01	103.01	N/A	N/A
5550.00	53.42	AV	V	32.11	4.70	0.00	90.23	84.23	N/A	N/A
11100.00	38.67	PK	V	37.50	8.96	26.25	58.88	52.88	68.20	15.32
11100.00	34.56	AV	V	37.50	8.96	26.25	54.77	48.77	54.00	5.23
16650.00	32.30	PK	V	38.03	12.61	25.76	57.18	51.18	68.20	17.02
2783.00	30.35	PK	V	26.64	4.19	27.36	33.82	27.82	68.20	40.38
2783.00	17.93	AV	V	26.64	4.19	27.36	21.40	15.40	54.00	38.60
3641.00	33.32	PK	V	29.11	4.82	27.44	39.81	33.81	68.20	34.39
3641.00	19.43	AV	V	29.11	4.82	27.44	25.92	19.92	54.00	34.08
4289.00	32.06	PK	V	29.84	6.80	27.11	41.59	35.59	68.20	32.61
4289.00	19.44	AV	V	29.84	6.80	27.11	28.97	22.97	54.00	31.03
743.32	40.20	QP	V	21.32	3.30	22.33	42.49	42.49	46.00	3.51
Middle Channel:5670 MHz										
5670	60.07	PK	H	32.13	4.85	0	97.05	91.05	N/A	N/A
5670	40.23	AV	H	32.13	4.85	0	77.21	71.21	N/A	N/A
5670	72.23	PK	V	32.13	4.85	0	109.21	103.21	N/A	N/A
5670	53.5	AV	V	32.13	4.85	0	90.48	84.48	N/A	N/A
5725	29.21	PK	V	32.15	4.83	0	66.19	60.19	68.20	8.01
11340	38.89	PK	V	37.74	8.27	25.97	58.93	52.93	68.20	15.27
11340	34.63	AV	V	37.74	8.27	25.97	54.67	48.67	54.00	5.33
17010	32.21	PK	V	39.56	13.33	25.39	59.71	53.71	68.20	14.49
3641	30.24	PK	V	29.11	4.82	27.44	36.73	30.73	68.20	37.47
3641	17.91	AV	V	29.11	4.82	27.44	24.4	18.40	54.00	35.60
4289	33.42	PK	V	29.84	6.8	27.11	42.95	36.95	68.20	31.25
4289	19.16	AV	V	29.84	6.8	27.11	28.69	22.69	54.00	31.31
742.95	39.5	QP	V	21.31	3.3	22.33	41.78	41.78	46.00	4.22

Conducted Spurious Emission at Antenna Port

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. The Resolution bandwidth is set to 1MHz, The Video bandwidth is set to ≥ 1 MHz, report the peak value out of the operating band. Offset the antenna gain and cable loss.
3. Repeat above procedures until all frequencies measured were complete.



Test Data

Environmental Conditions

Temperature:	26.9~27.5°C
Relative Humidity:	65~66 %
ATM Pressure:	100.3~100.5 kPa

The testing was performed by Ares Liu from 2013-08-06 to 2013-08-08.

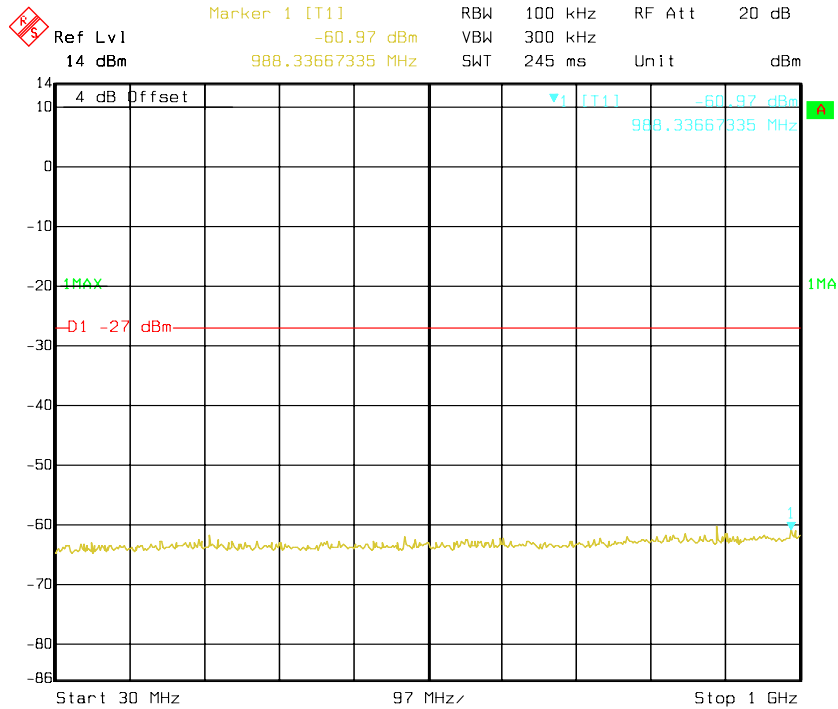
Please refer to the following table and plots.

Frequency (MHz)	Worst Reading Level (dBm)			Limit (dBm)	Result
	Chain 0	Chain 1	Chain0+Chain1		
5270	-36.08	-36.08	-33.07	-27	PASS
5310	-35.82	-35.76	-32.78	-27	PASS
5510	-36.28	-36.39	-33.32	-27	PASS
5550	-36.41	-36.44	-33.41	-27	PASS
5670	-36.60	-35.99	-33.27	-27	PASS

Note: the antenna gain was 2dBi, the cable loss was 2dB.

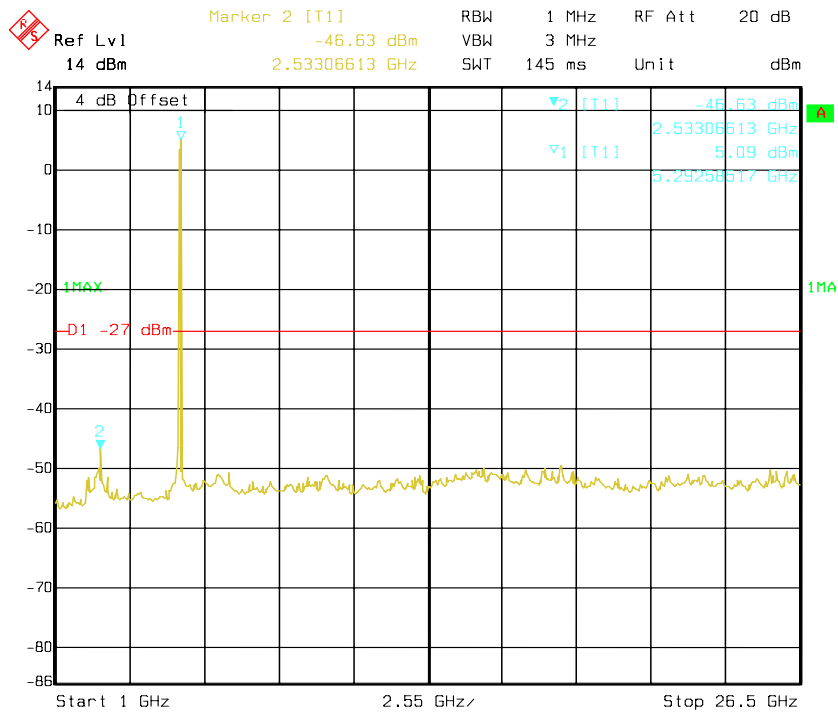
5250-5350 MHz:

Chain 0: 5270 MHz (30MHz-1GHz)



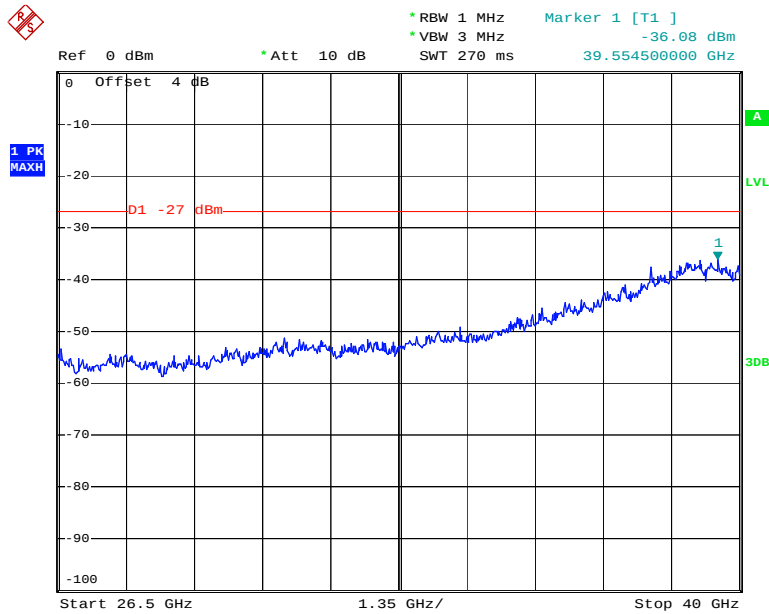
Date: 06.AUG.2013 13:10:06

Chain 0: 5270 MHz (1 GHz-26.5 GHz)



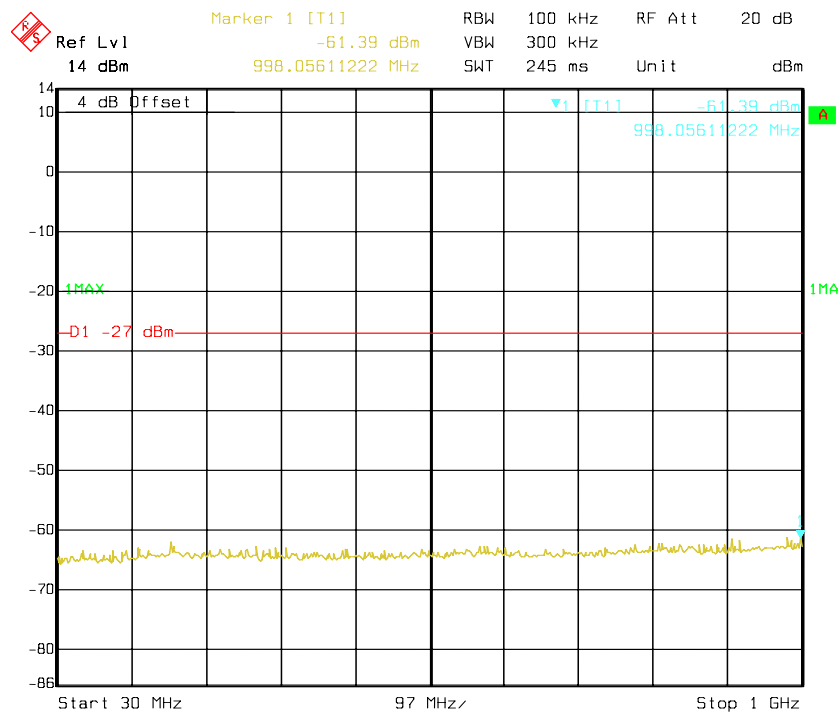
Date: 06.AUG.2013 13:11:02

Chain 0: 5270 MHz (26.5 GHz-40 GHz)



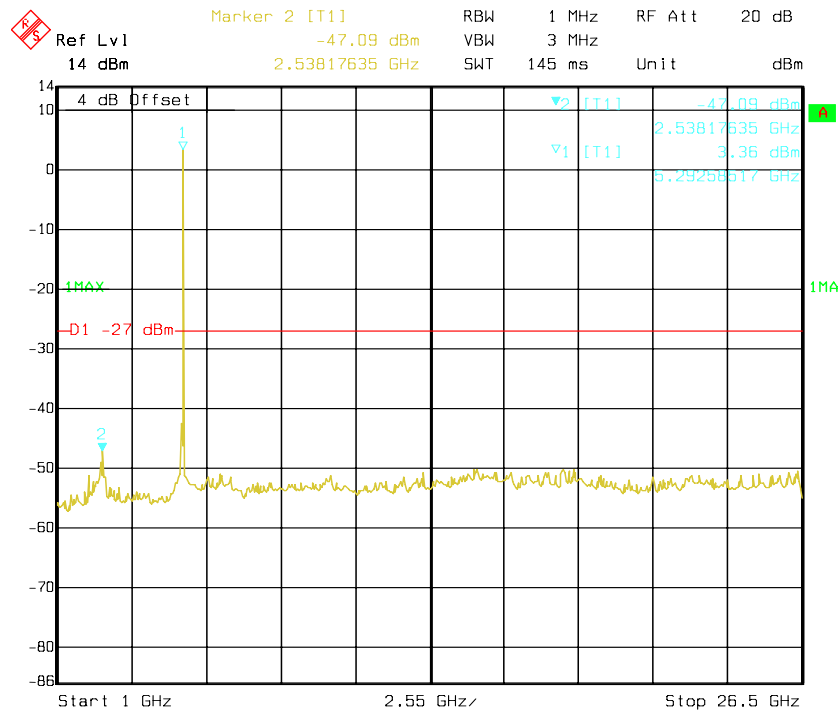
Date: 8.AUG.2013 17:24:08

Chain 0: 5310 MHz (30MHz-1GHz)



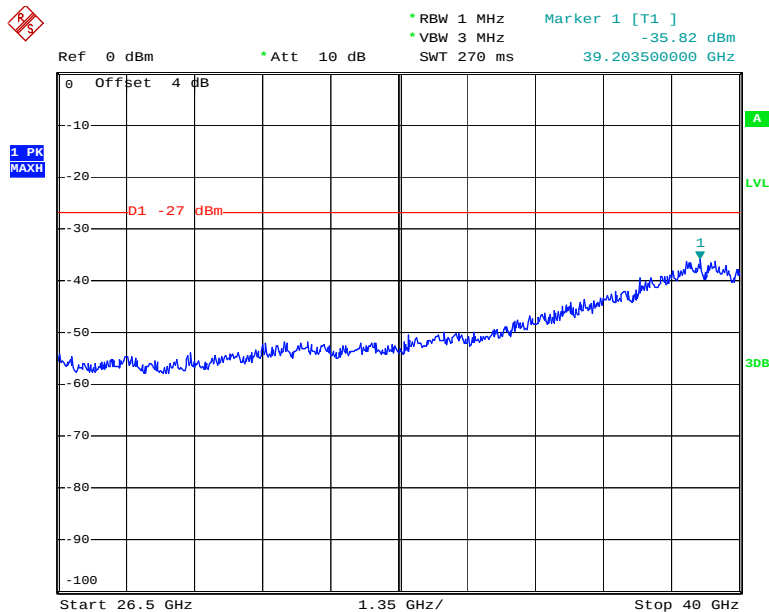
Date: 06.AUG.2013 13:39:36

Chain 0: 5310 MHz (1GHz-26.5 GHz)



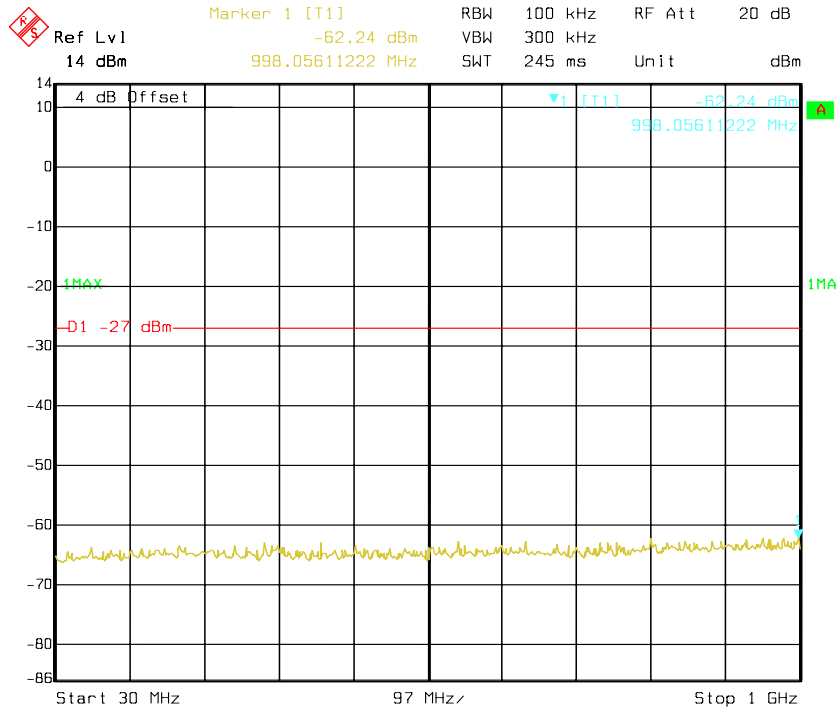
Date: 06.AUG.2013 13:40:22

Chain 0: 5310 MHz (26.5 GHz-40 GHz)



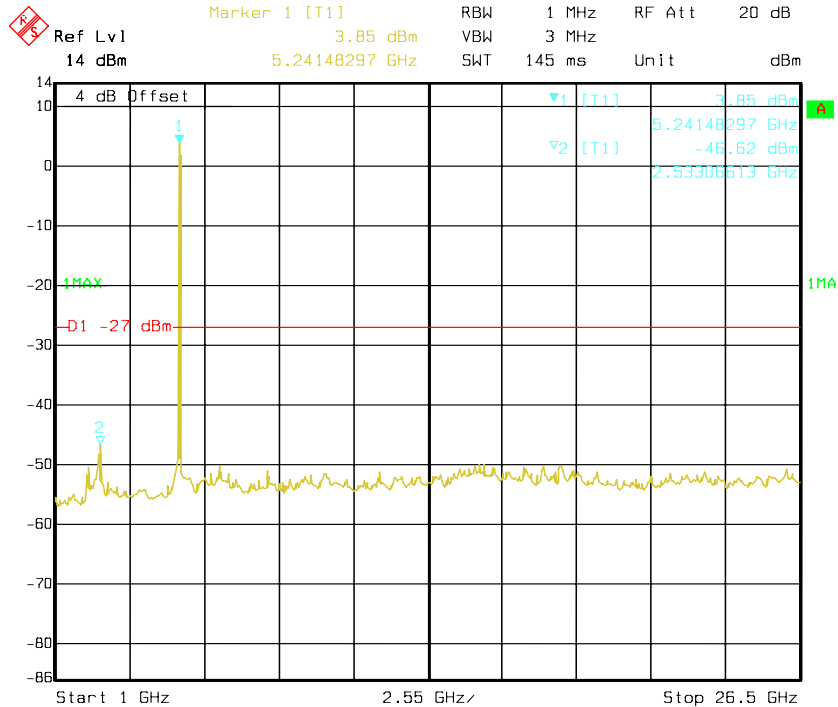
Date: 8.AUG.2013 17:23:44

Chain 1: 5270 MHz (30MHz-1GHz)



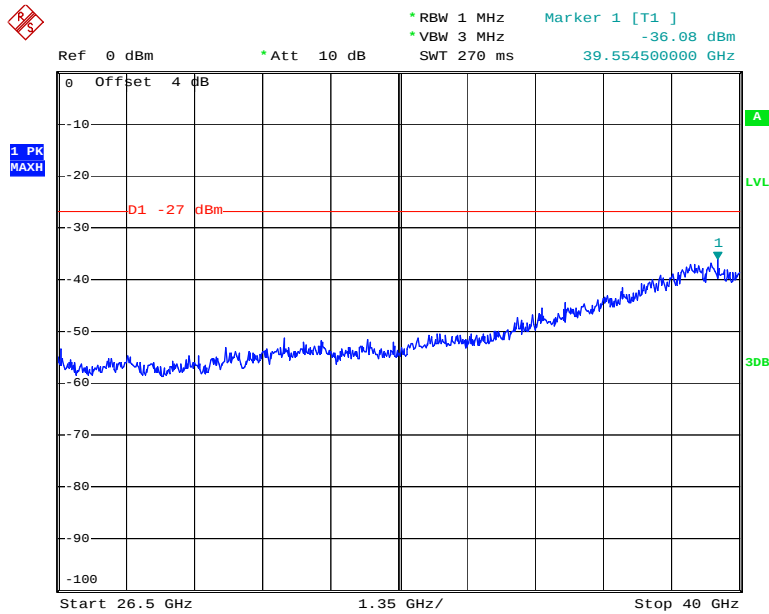
Date: 06.AUG.2013 13:10:23

Chain 1: 5270 MHz (1 GHz-26.5 GHz)



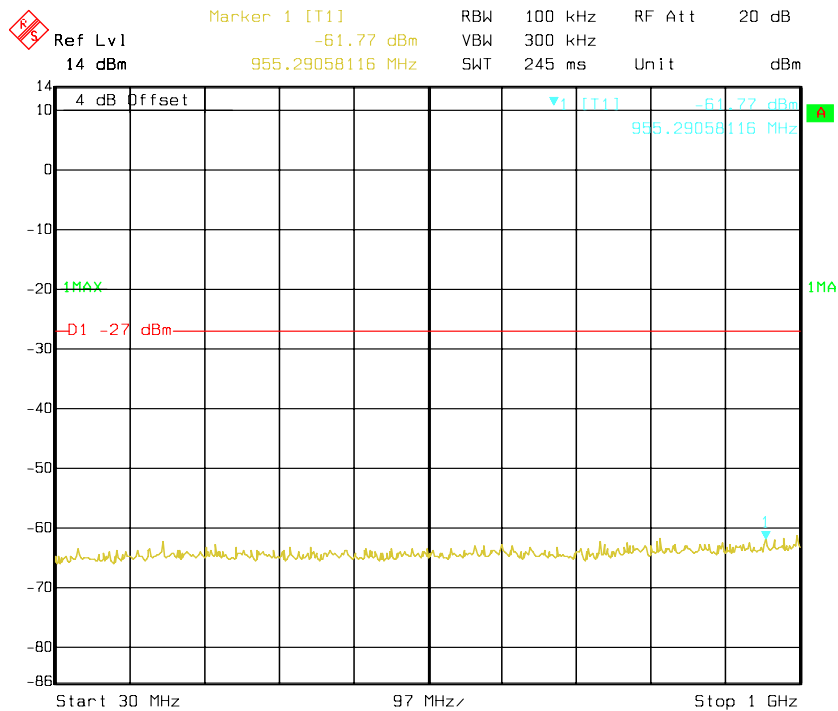
Date: 06.AUG.2013 13:11:24

Chain 1: 5270 MHz (26.5 GHz-40 GHz)



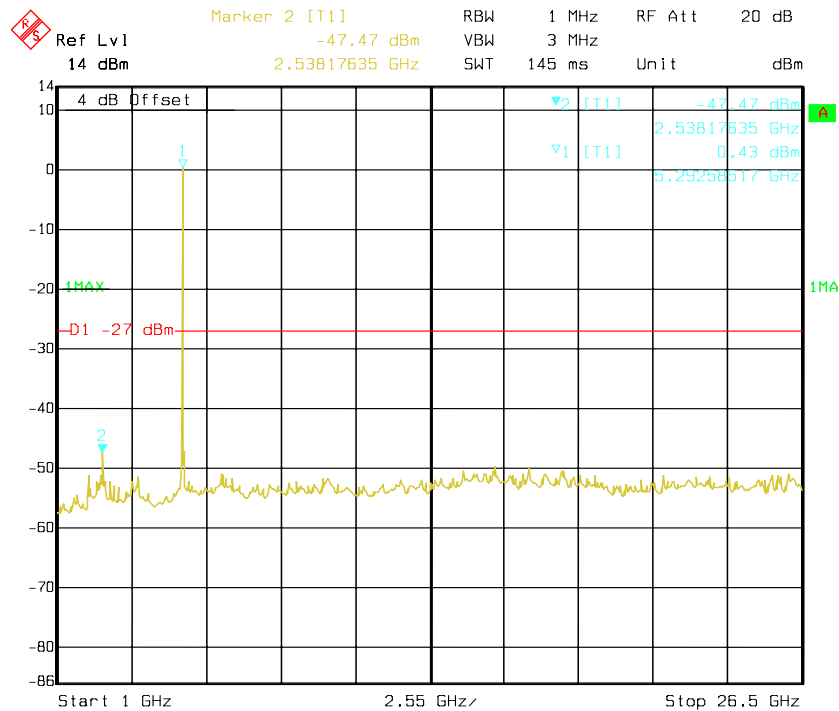
Date: 8.AUG.2013 17:24:03

Chain 1: 5310 MHz (30MHz-1GHz)



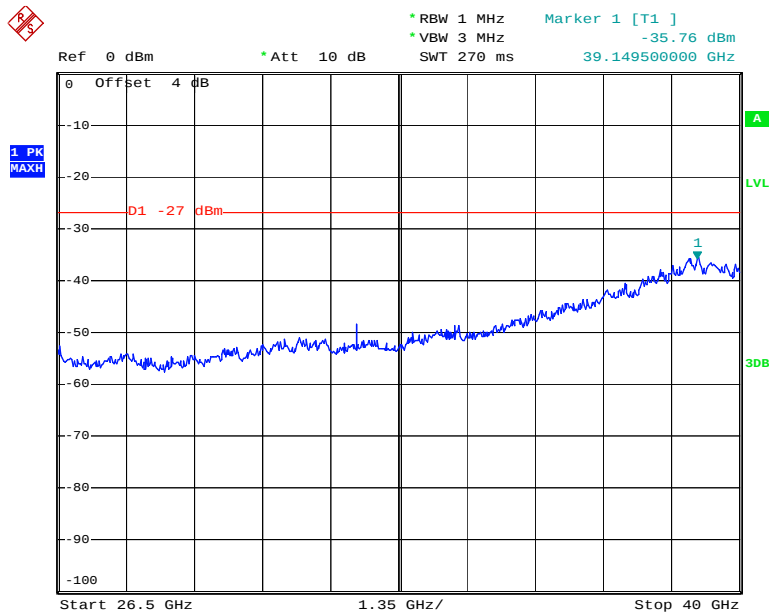
Date: 06.AUG.2013 13:39:52

Chain 1: 5310 MHz (1GHz-26.5 GHz)



Date: 06.AUG.2013 13:40:44

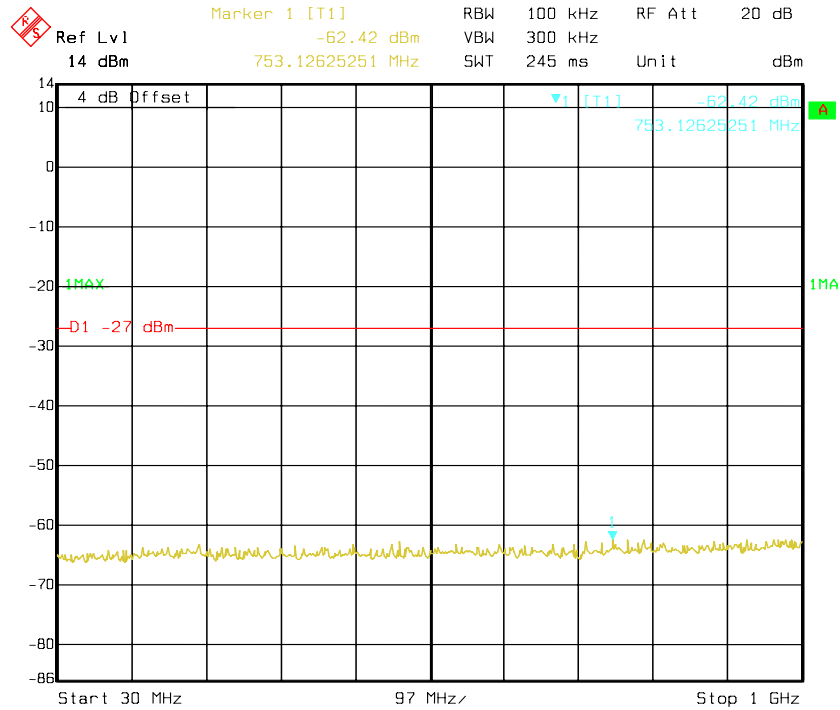
Chain 1: 5310 MHz (26.5 GHz-40 GHz)



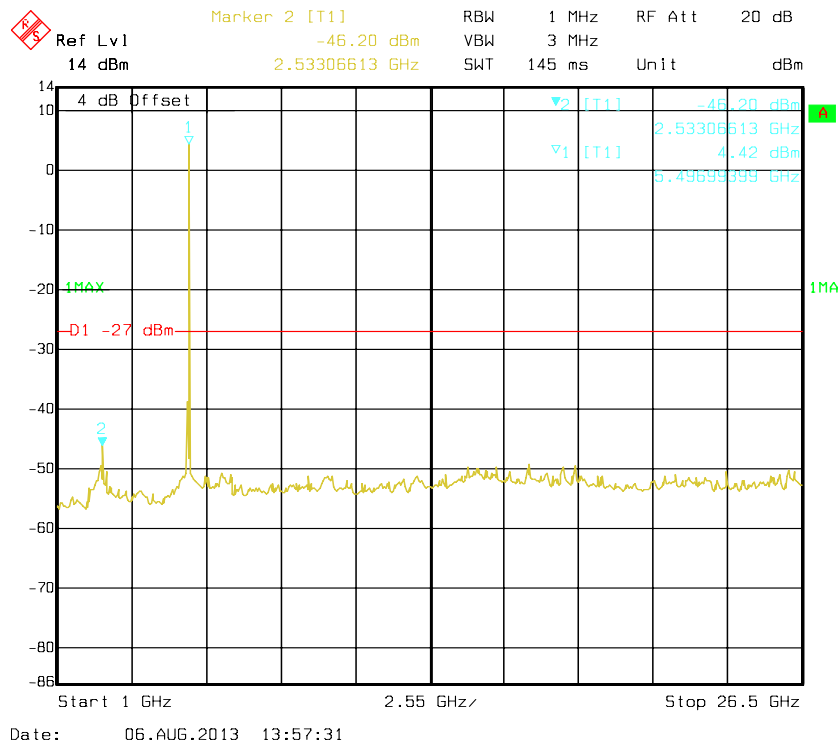
Date: 8.AUG.2013 17:22:18

5470-5725 MHz:

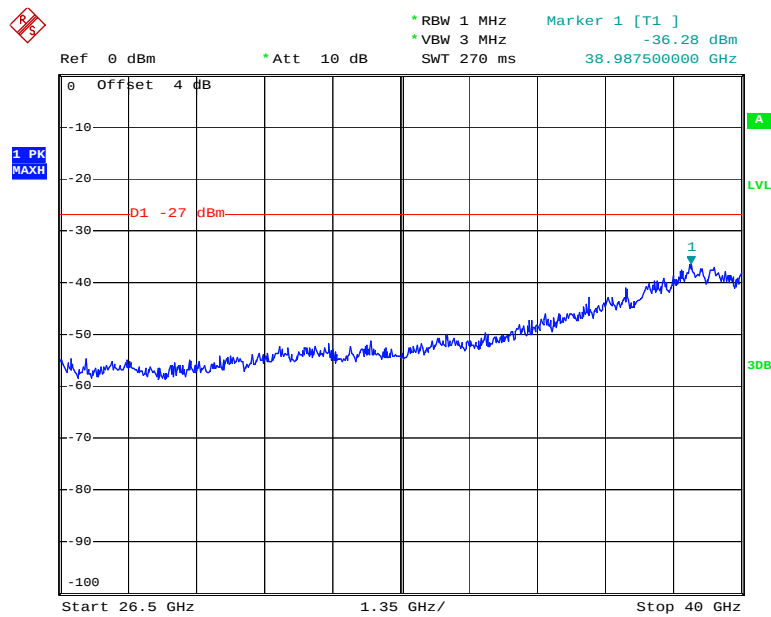
Chain 0: 5510 MHz (30MHz-1GHz)



Chain 0: 5510 MHz (1 GHz-26.5 GHz)

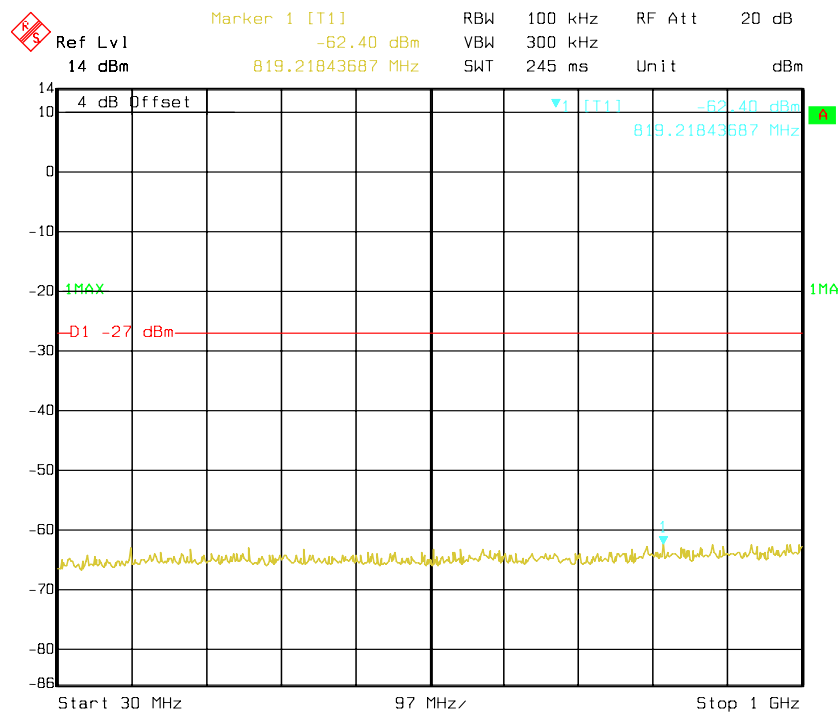


Chain 0: 5510 MHz (26.5 GHz-40 GHz)



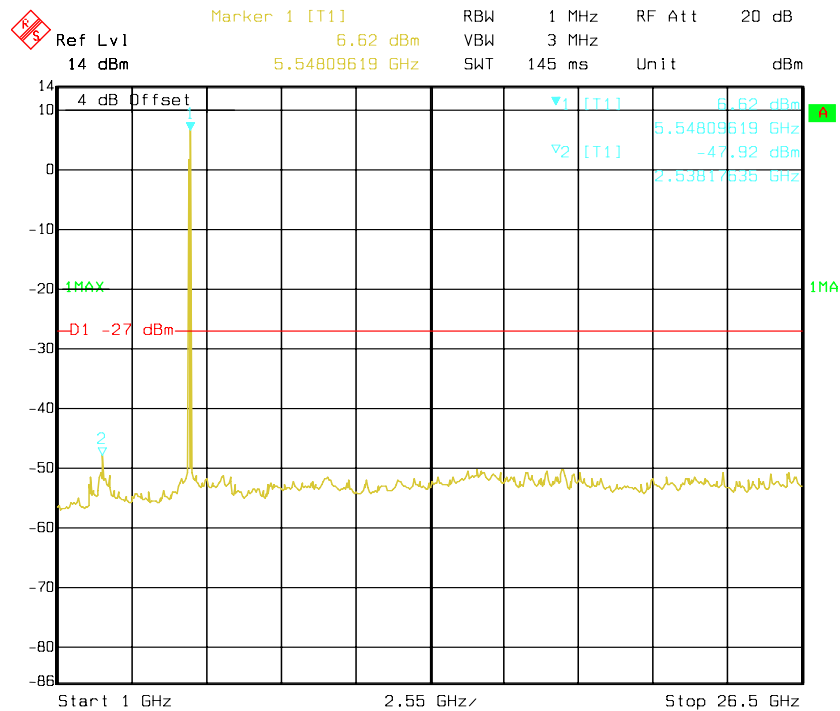
Date: 8.AUG.2013 17:22:30

Chain 0: 5550 MHz (30MHz-1GHz)



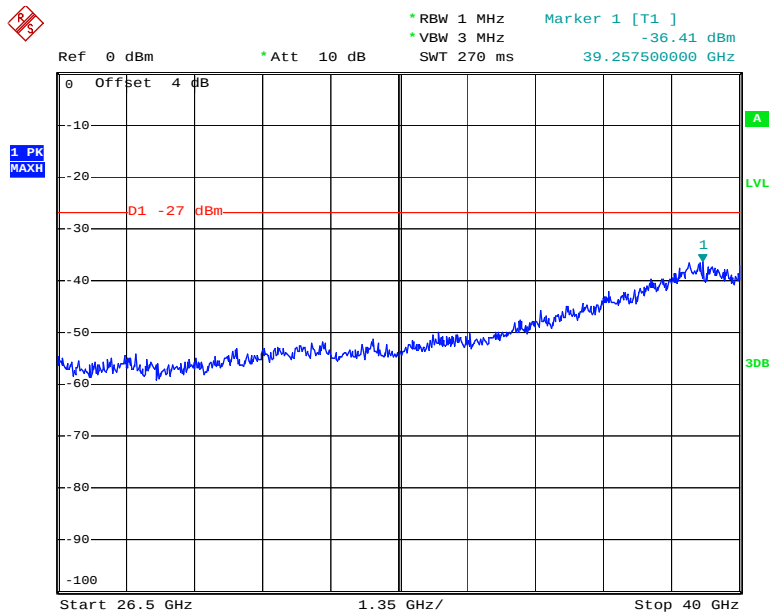
Date: 06.AUG.2013 14:11:02

Chain 0: 5550 MHz (1GHz-26.5 GHz)



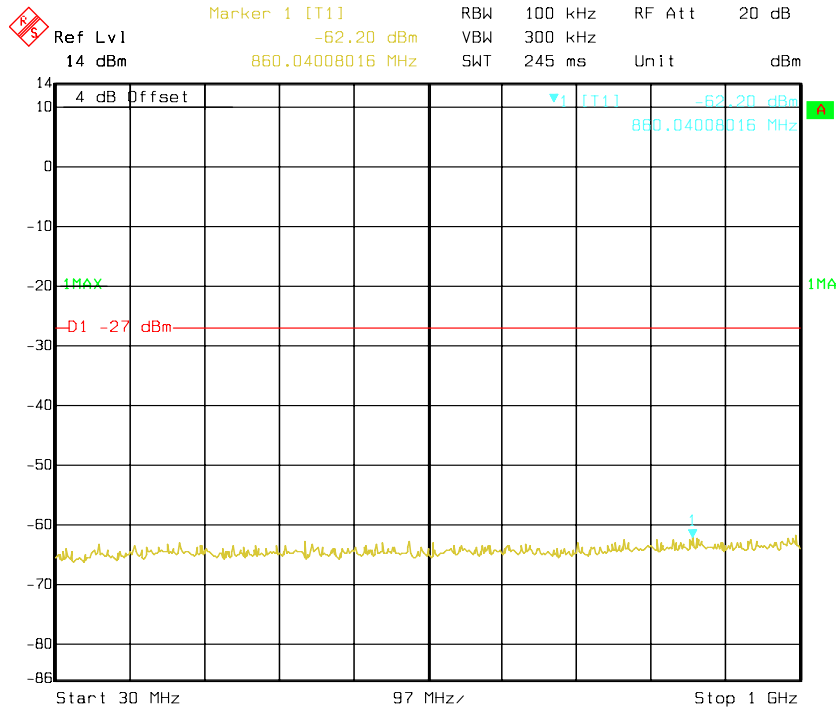
Date: 06.AUG.2013 14:11:53

Chain 0: 5550 MHz (26.5 GHz-40 GHz)



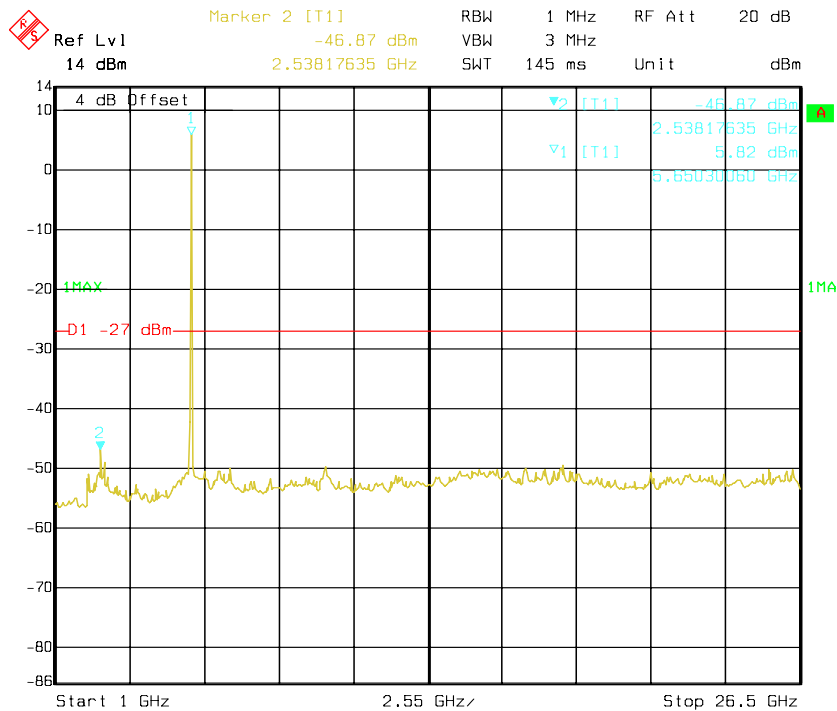
Date: 8.AUG.2013 17:22:37

Chain 0: 5670 MHz (30MHz-1GHz)



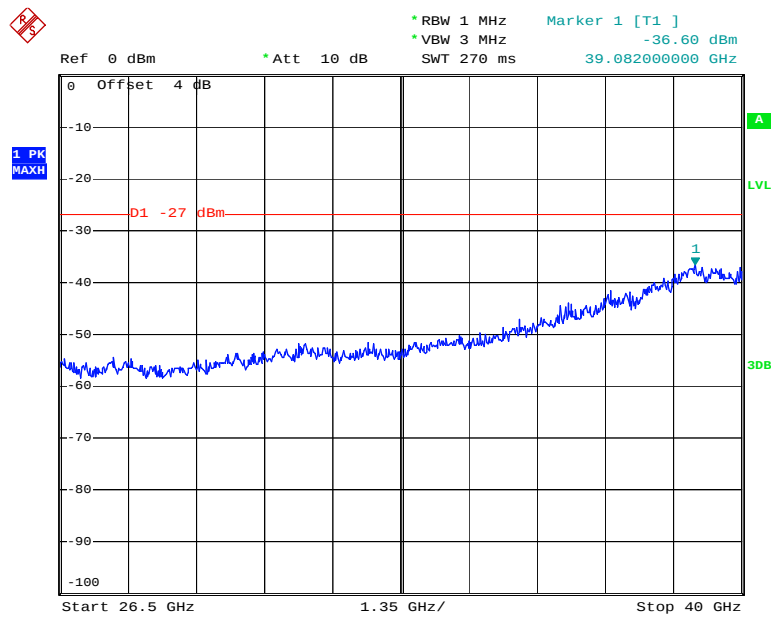
Date: 06.AUG.2013 14:20:36

Chain 0: 5670 MHz (1 GHz-26.5 GHz)



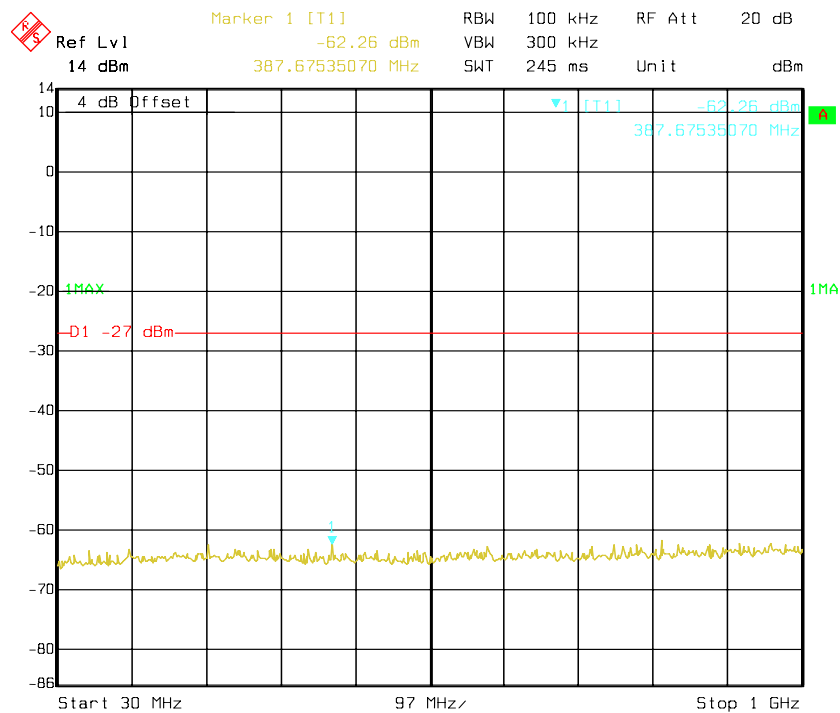
Date: 06.AUG.2013 14:21:47

Chain 0: 5670 MHz (26.5 GHz-40 GHz)



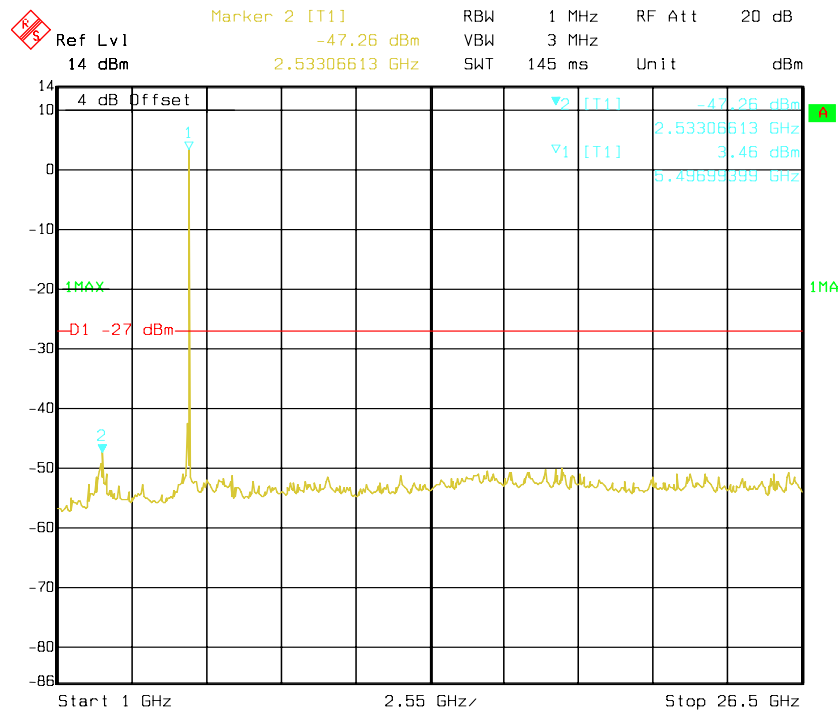
Date: 8.AUG.2013 17:22:49

Chain 1: 5510 MHz (30MHz-1GHz)



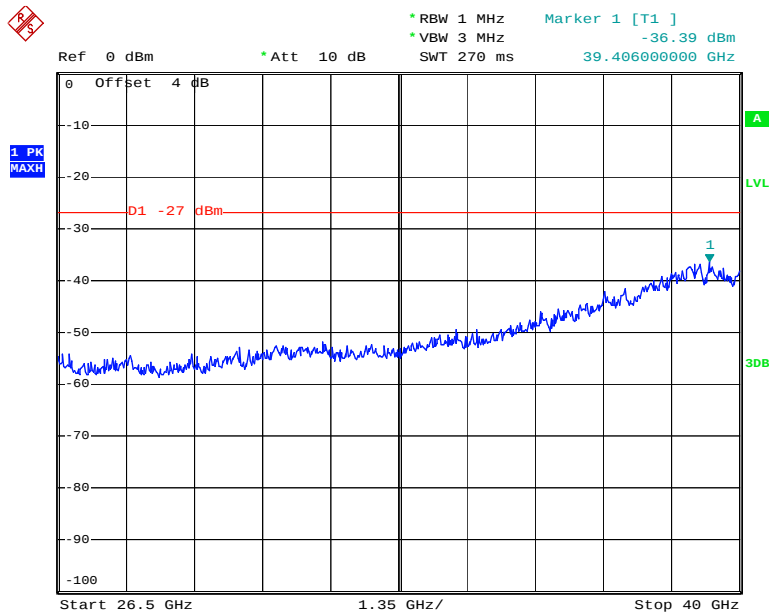
Date: 06.AUG.2013 13:56:58

Chain 1: 5510 MHz (1 GHz-26.5 GHz)



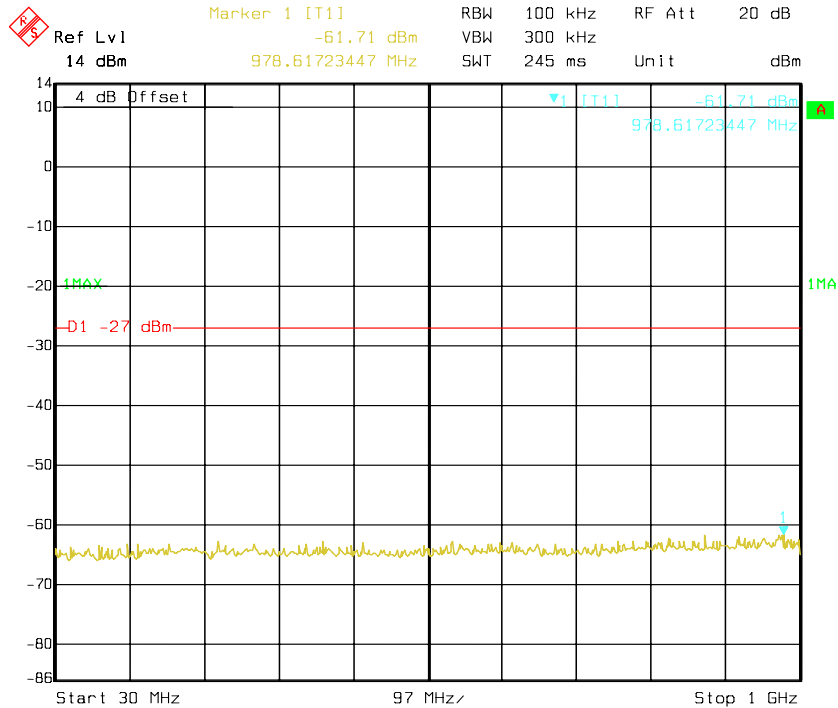
Date: 06.AUG.2013 13:57:46

Chain 1: 5510 MHz (26.5 GHz-40 GHz)

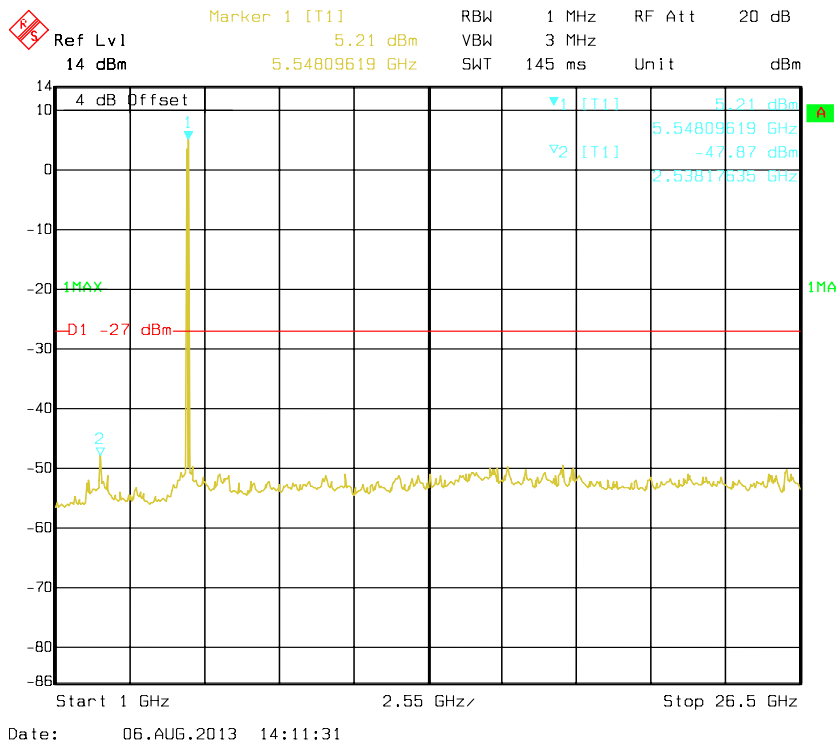


Date: 8.AUG.2013 17:22:24

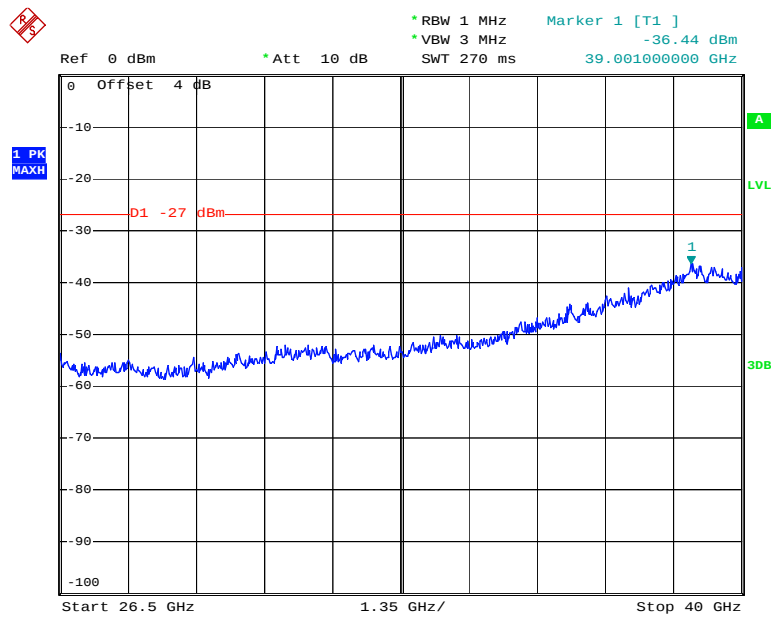
Chain 1: 5550 MHz (30MHz-1GHz)



Chain 1: 5550 MHz (1GHz-26.5 GHz)

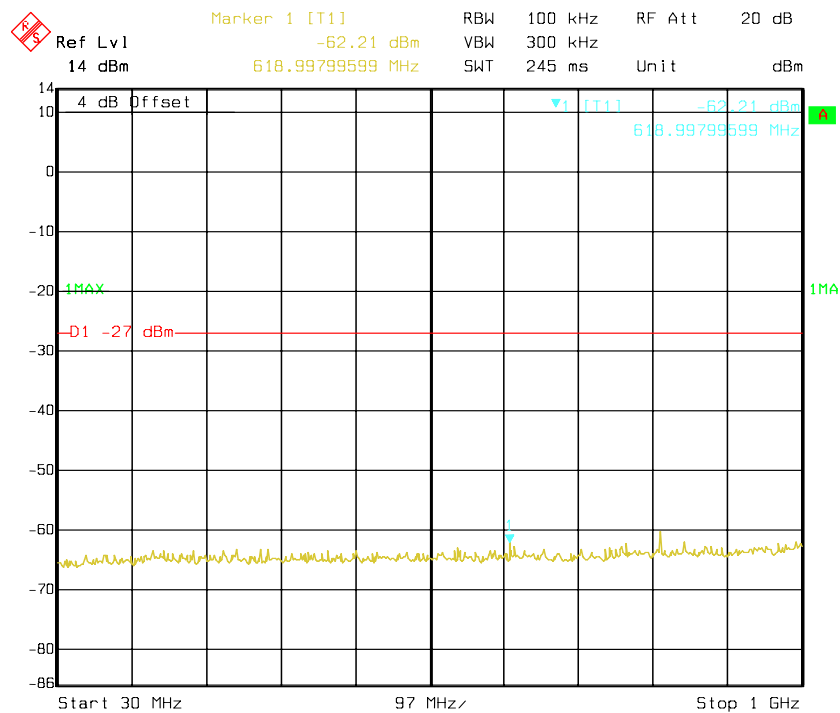


Chain 1: 5550 MHz (26.5 GHz-40 GHz)



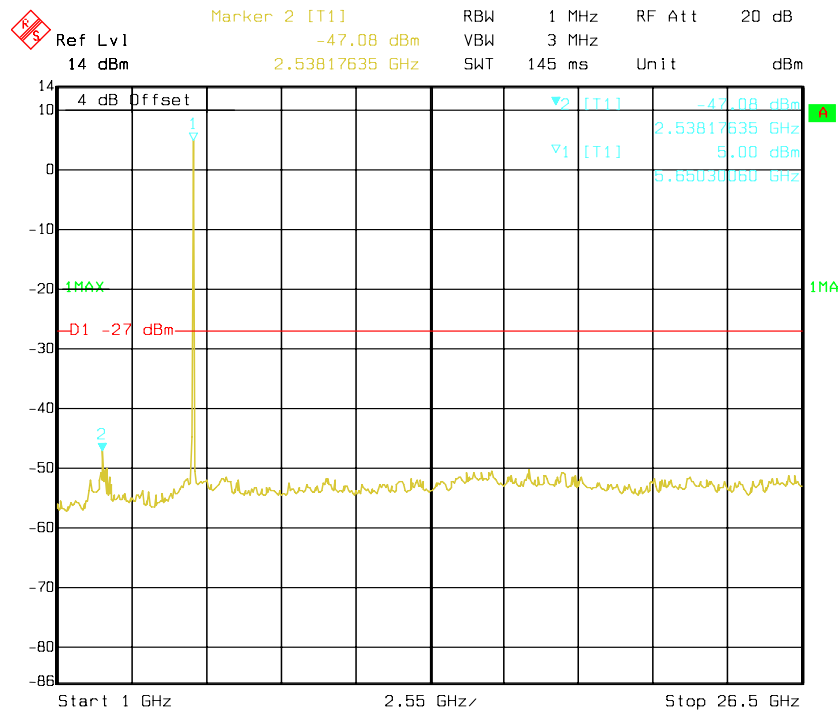
Date: 8.AUG.2013 17:22:42

Chain 1: 5670 MHz (30MHz-1GHz)



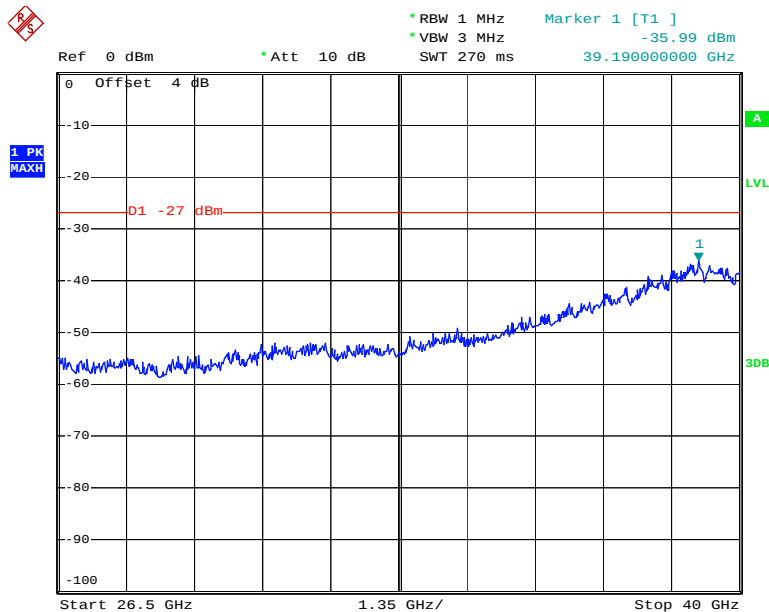
Date: 06.AUG.2013 14:20:53

Chain 1: 5670 MHz (1 GHz-26.5 GHz)



Date: 06.AUG.2013 14:22:02

Chain 1: 5670 MHz (26.5 GHz-40 GHz)



Date: 8.AUG.2013 17:22:55

FCC §15.407(b) (1) (2) (3) (4) – OUT OF BAND EMISSIONS**Applicable Standard**

FCC §15.407 (b) (1), (2), (3), (4),;

For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.

For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band.

For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of –27 dBm/MHz.

For transmitters operating in the 5.725–5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of –27 dBm/MHz.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibration 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 1 MHz and VBW to 3MHz of spectrum analyzer.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde&Schwarz	Spectrum analyzer	FSEM	DE31388	2013-5-7	2014-5-6

* **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:	28.6°C
Relative Humidity:	58 %
ATM Pressure:	100.3 kPa

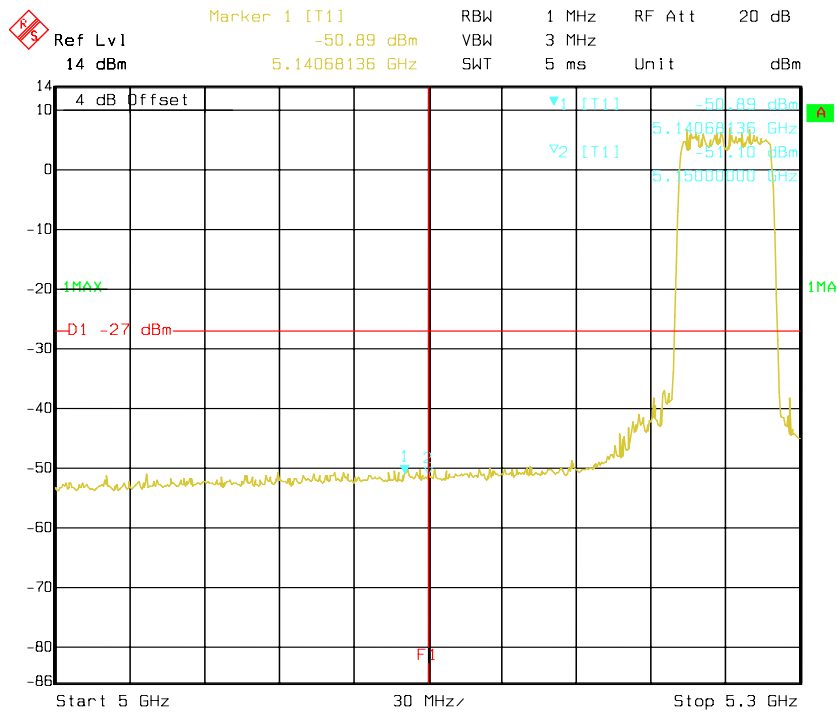
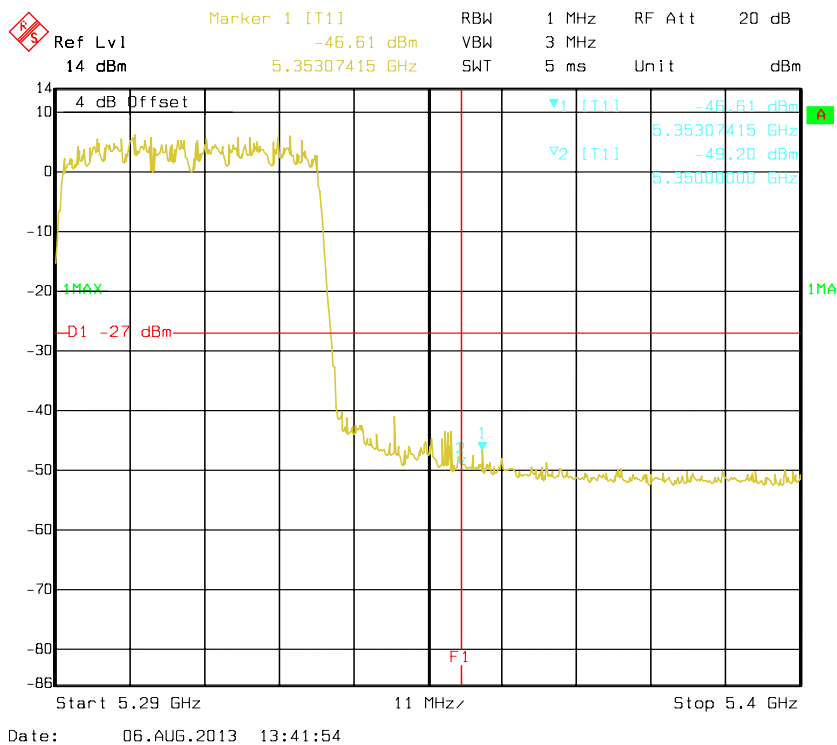
The testing was performed by Ares Liu on 2013-08-06.

Test mode: transmitting

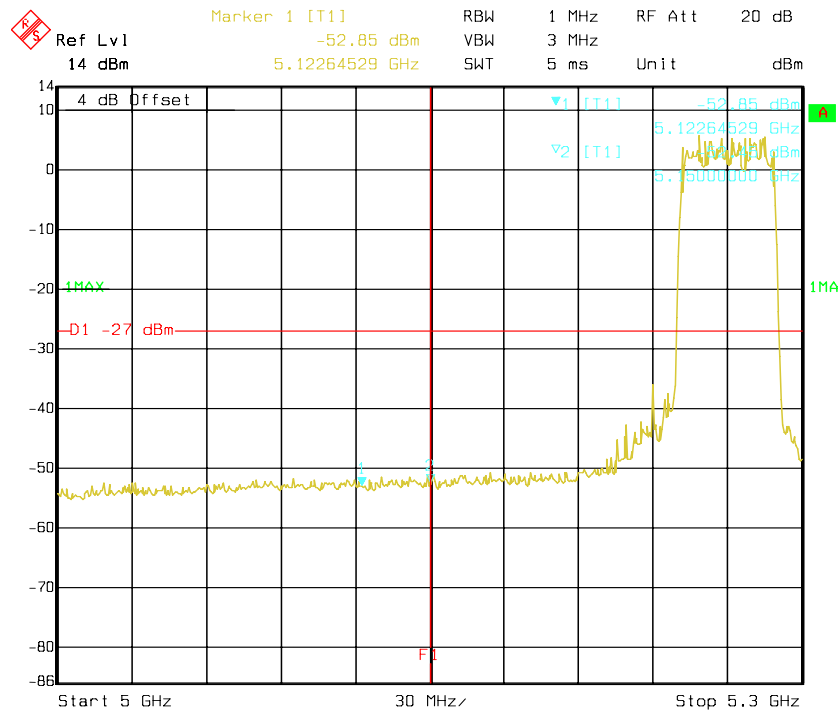
Frequency band	Bandedge	Worst Reading Level (dBm)			Limit (dBm)	Result
		Chain 0	Chain 1	Chain0+Chain1		
5250-5350MHz	Left	-50.89	-52.45	-48.59	-27	PASS
	Right	-46.61	-49.35	-44.76	-27	PASS
5470-5725MHz	Left	-45.13	-49.27	-43.71	-27	PASS
	Right	-49.27	-48.03	-45.60	-27	PASS

Note: the antenna gain was 2dBi, the cable loss was 2dB.

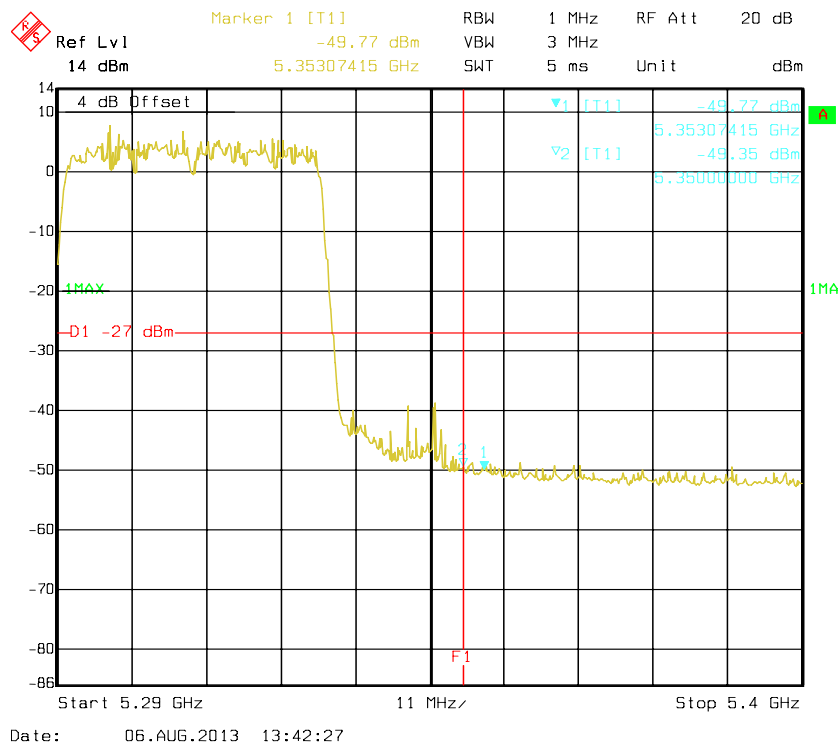
5250-5350 MHz:

Chain 0: Bandedge-5270 MHz**Chain 0: Bandedge-5310 MHz**

Chain 1: Bandedge-5270 MHz

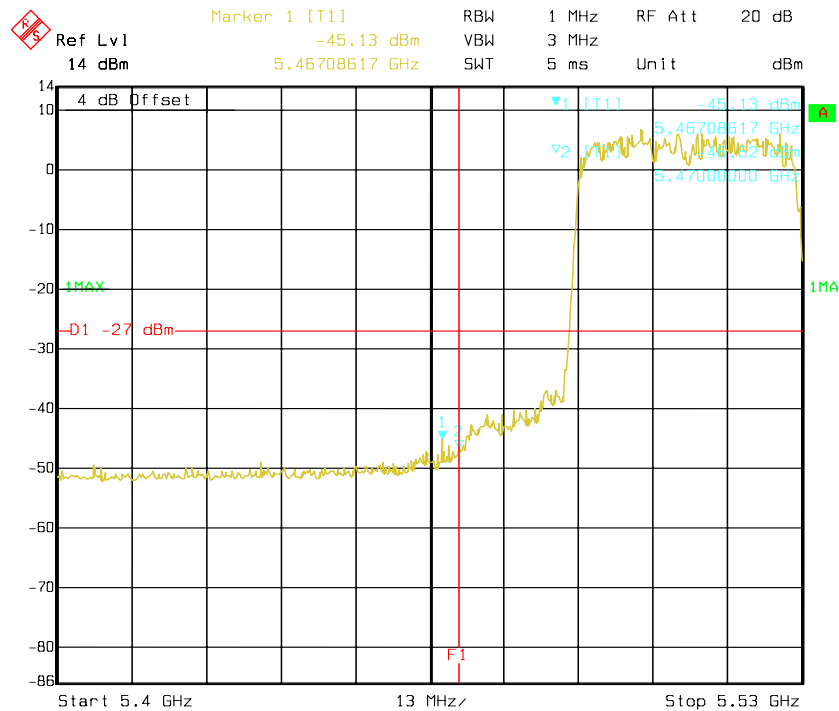


Chain 1: Bandedge-5310 MHz

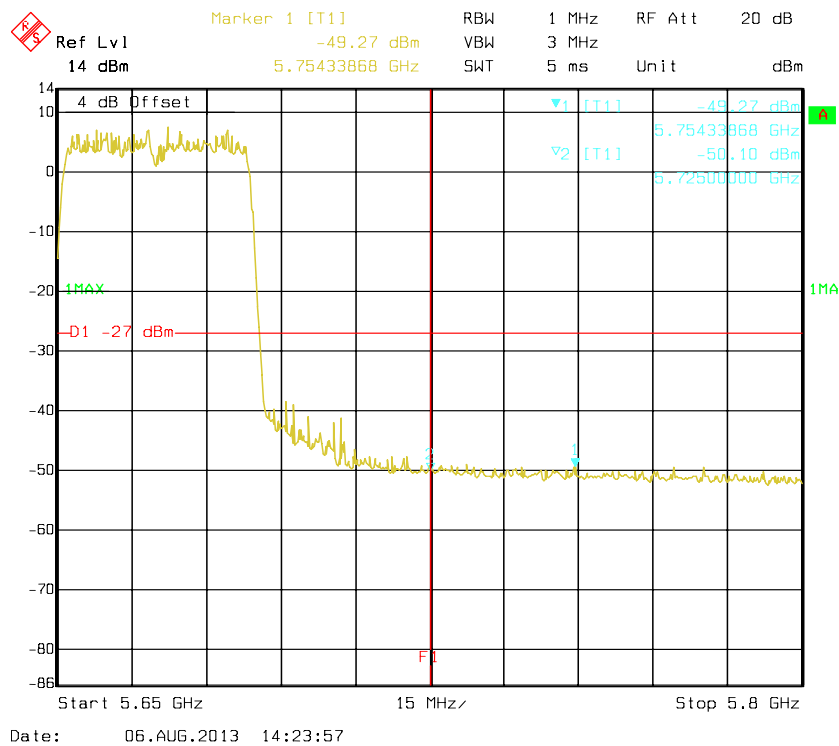


5470-5725 MHz:

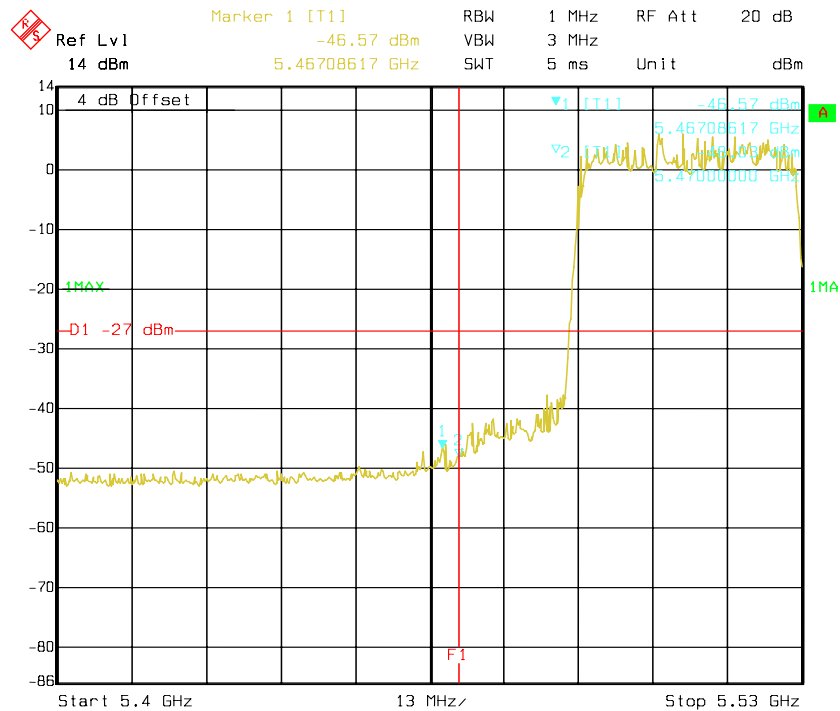
Chain 0: Bandedge-5510 MHz



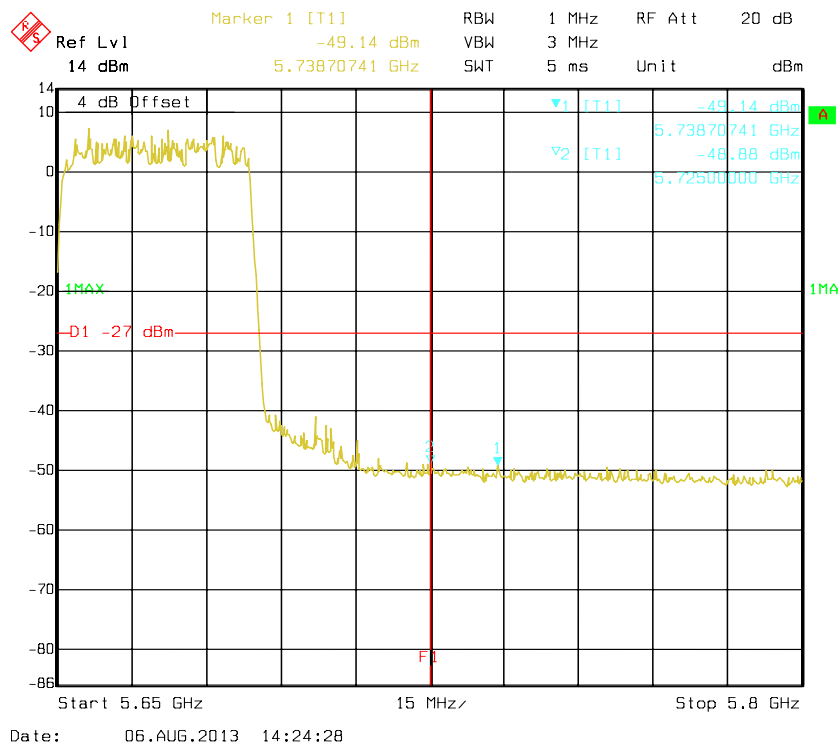
Chain 0: Bandedge-5670MHz



Chain 1: Bandedge-5510 MHz



Chain 1: Bandedge-5670MHz



FCC §15.407(a) (1) – 26 dB OCCUPIED BANDWIDTH

Applicable Standard

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

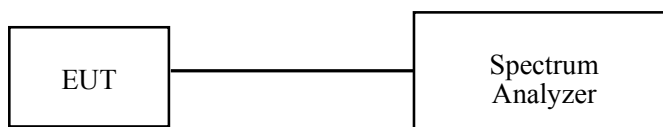
Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde&Schwarz	Spectrum analyzer	FSEM	DE31388	2013-5-7	2014-5-6

* 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 Procedure

- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- 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.
- Use a RBW = approximately 1% of the emission bandwidth. Set the VBW > RBW. Use a peak detector. Do not use the Max Hold function. Rather, use the view button to capture the emission. Measure maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat, measurement as needed until the RBW/EBW ratio is approximately 1%.
- Repeat above procedures until all frequencies measured were complete.



Test Data

Environmental Conditions

Temperature:	28.6°C
Relative Humidity:	58 %
ATM Pressure:	100.3 kPa

The testing was performed by Ares Liu on 2013-08-06.

Test Result: Pass.

Please refer to the following tables and plots.

Test mode: Transmitting

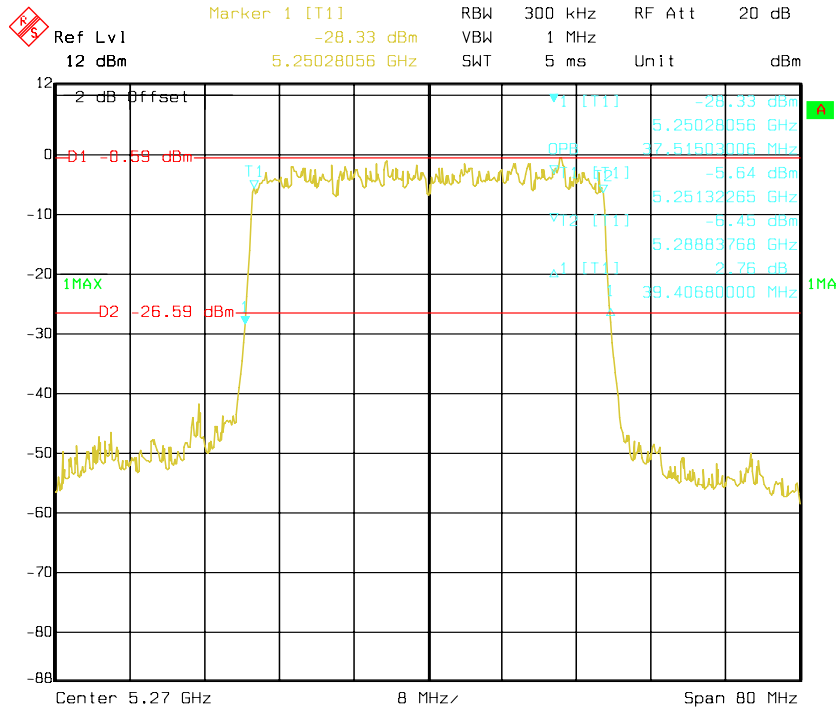
5250-5350 MHz:

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
Low	5270	39.41	39.36
High	5310	39.50	39.36

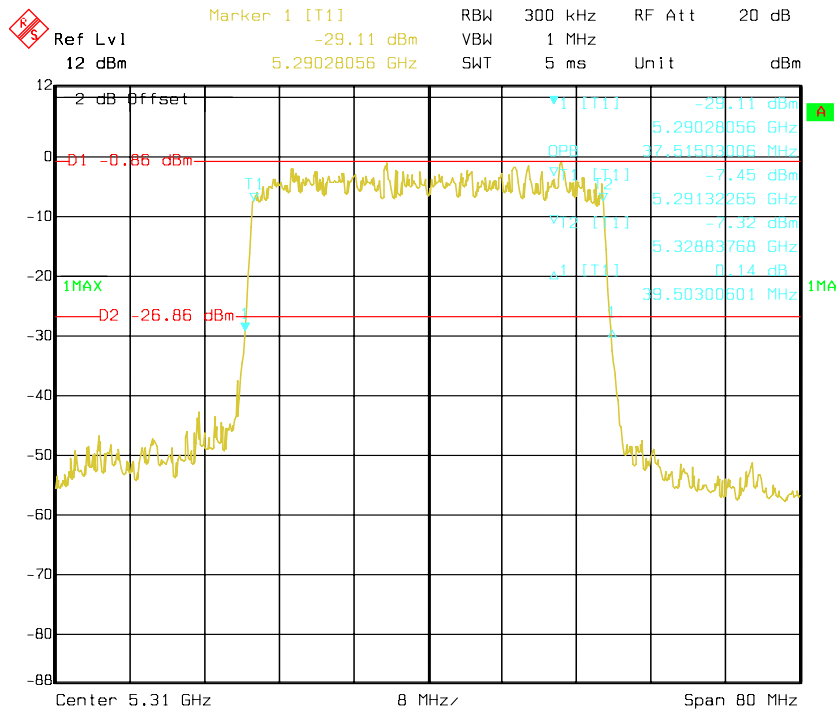
5470-5725 MHz:

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
		Chain 0	Chain 1
Low	5510	39.52	39.52
Middel	5550	39.37	39.52
High	5670	39.36	39.36

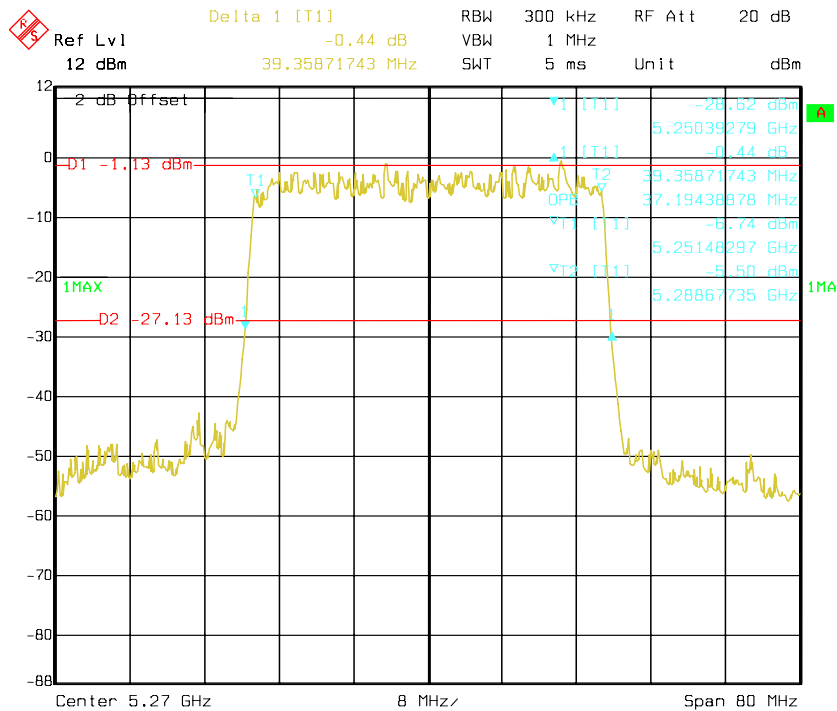
5250-5350 MHz:

Chain 0: 26 dB Bandwidth-5270 MHz

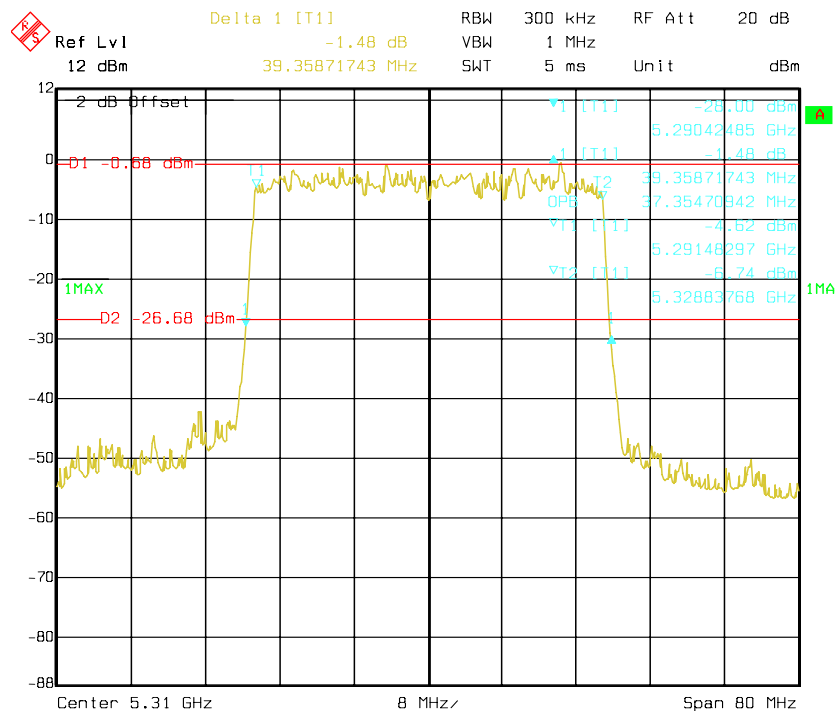
Date: 06.AUG.2013 12:57:47

Chain 0: 26 dB Bandwidth-5310 MHz

Date: 06.AUG.2013 13:30:12

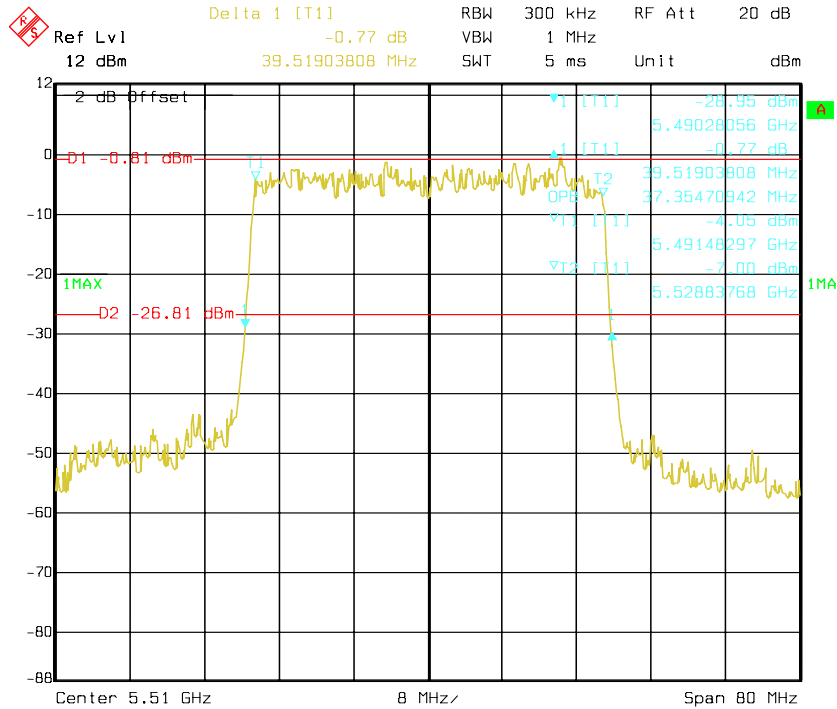
Chain 1: 26 dB Bandwidth-5270 MHz

Date: 06.AUG.2013 12:59:03

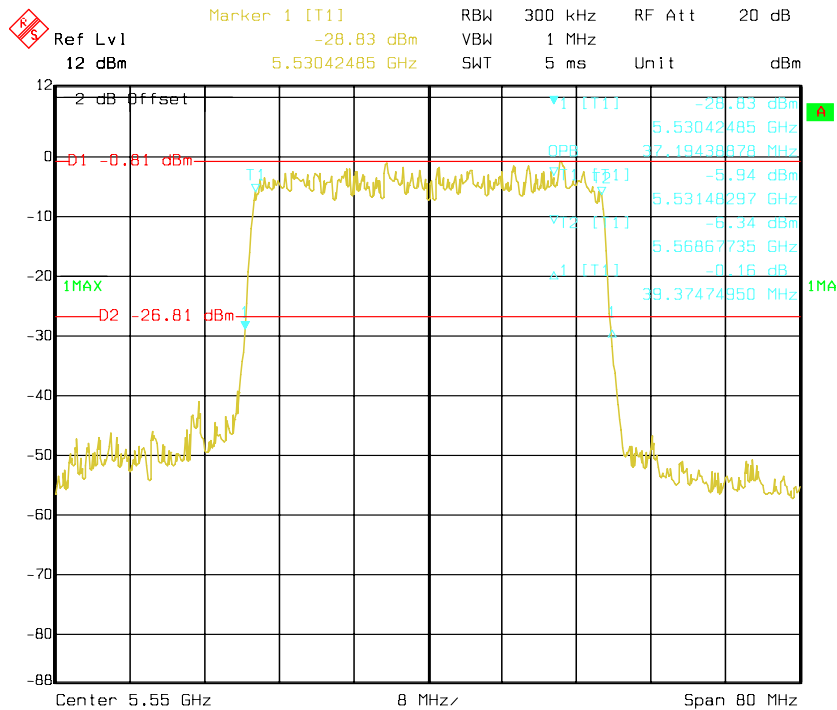
Chain 1: 26 dB Bandwidth-5310 MHz

Date: 06.AUG.2013 13:29:18

5470-5725 MHz:

Chain 0: 26 dB Bandwidth-5510 MHz

Date: 06.AUG.2013 13:50:44

Chain 0: 26 dB Bandwidth-5550 MHz

Date: 06.AUG.2013 14:04:46

Delta 1 [T1] 0.37 dB
 RBW 300 kHz RF Att 20 dB
 Ref Lvl 12 dBm VBW 1 MHz
 39.35871743 MHz SWT 5 ms Unit dBm

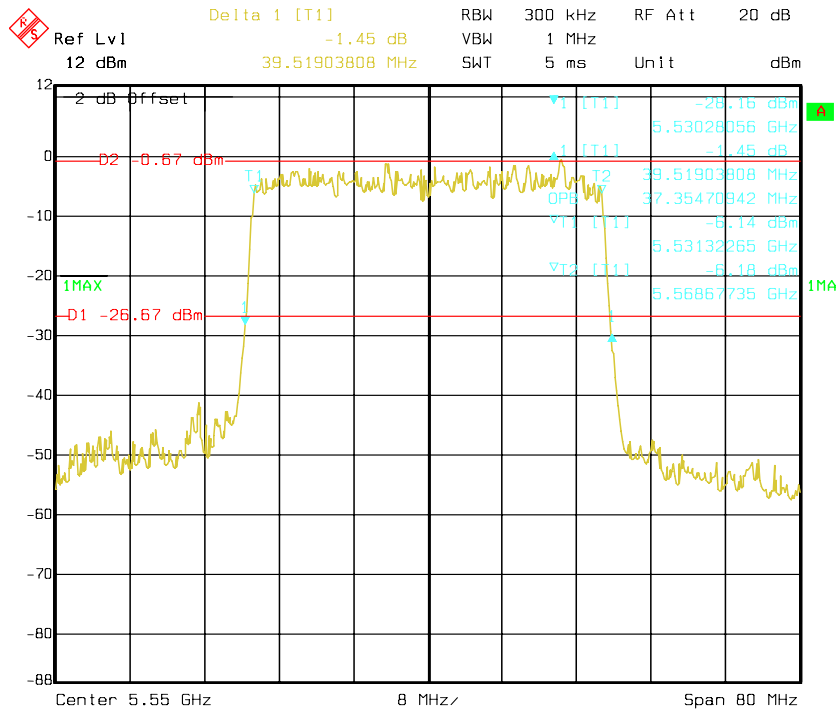
2 dB Offset
 D1 -0.20 dBm
 D2 -26.28 dBm
 1MAX
 1MA

Center 5.67 GHz 8 MHz/ Span 80 MHz

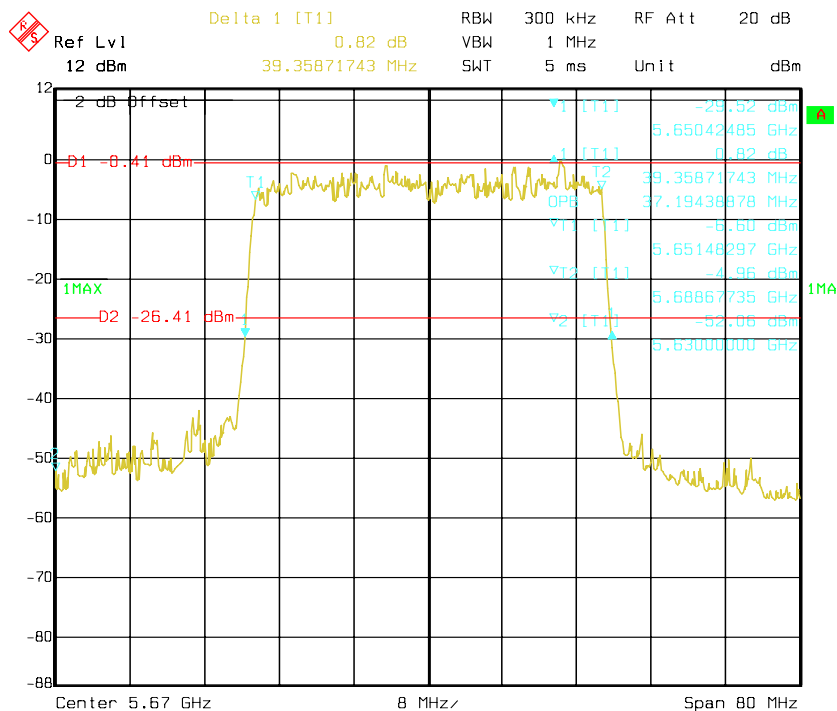
T1 [T1] -28.94 dBm
 T2 [T1] 0.37 dB
 39.35871743 MHz
 37.35470942 MHz
 5.65042485 GHz
 5.65132255 GHz
 5.68857735 GHz
 5.63000000 GHz
 -52.06 dBm

Date: 06.AUG.2013 14:15:56

[illegible]

Chain 1: 26 dB Bandwidth-5550 MHz

Date: 06.AUG.2013 14:06:08

Chain 1: 26 dB Bandwidth-5670MHz

Date: 06.AUG.2013 14:15:08

FCC §15.407(a) (1) – CONDUCTED TRANSMITTER OUTPUT POWER**Applicable Standard**

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde&Schwarz	Spectrum analyzer	FSEM	DE31388	2013-5-7	2014-5-6

* 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 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. Set span to encompass the entire emission bandwidth (EBW) of the signal. Set RBW = 1 MHz. Set VBW ≥ 3 MHz. Use sample detector mode Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to “free run”. Trace average 100 traces in power averaging mode. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer’s band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.
4. Repeat above procedures until all frequencies measured were complete.

Test Data**Environmental Conditions**

Temperature:	28.6°C
Relative Humidity:	58 %
ATM Pressure:	100.3 kPa

The testing was performed by Ares Liu on 2013-08-06.

5250-5350MHz:

Channel	Frequency (MHz)	Output Power (dBm)			Limit (dBm)
		Chain 0	Chain 1	Chain 0+1	
Low	5270	14.08	14.15	17.13	24
High	5310	14.28	14.13	17.22	24

5470-5725MHz:

Channel	Frequency (MHz)	Output Power (dBm)			Limit (dBm)
		Chain 0	Chain 1	Chain 0+1	
Low	5510	14.38	14.25	17.33	24
Middle	5550	14.37	13.96	17.18	24
High	5670	14.07	14.22	17.16	24

Chain 0: RF Output Power, Low Channel



Date: 06.AUG.2013 13:32:31

Ref Lvl 12 dBm

Marker 1 [T1] 2.35 dBm

5.26735471 GHz

RBW 1 MHz

VBW 3 MHz

SWT 5 ms

RF Att 20 dB

Unit dBm

2 dB Offset

1MAX

1SA

Center 5.27 GHz

8 MHz

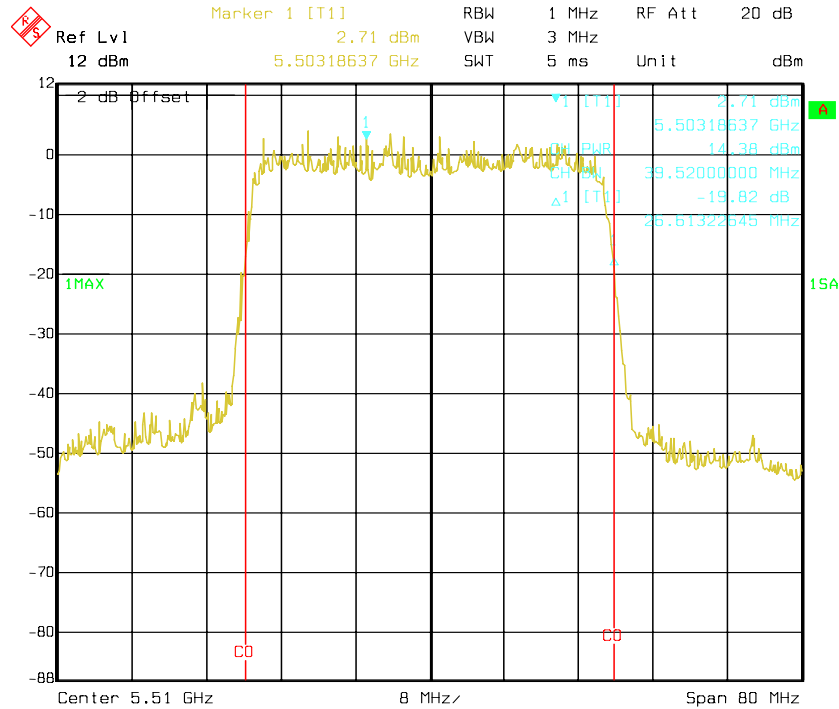
Span 80 MHz

Chain 1: RF Output Power, High Channel



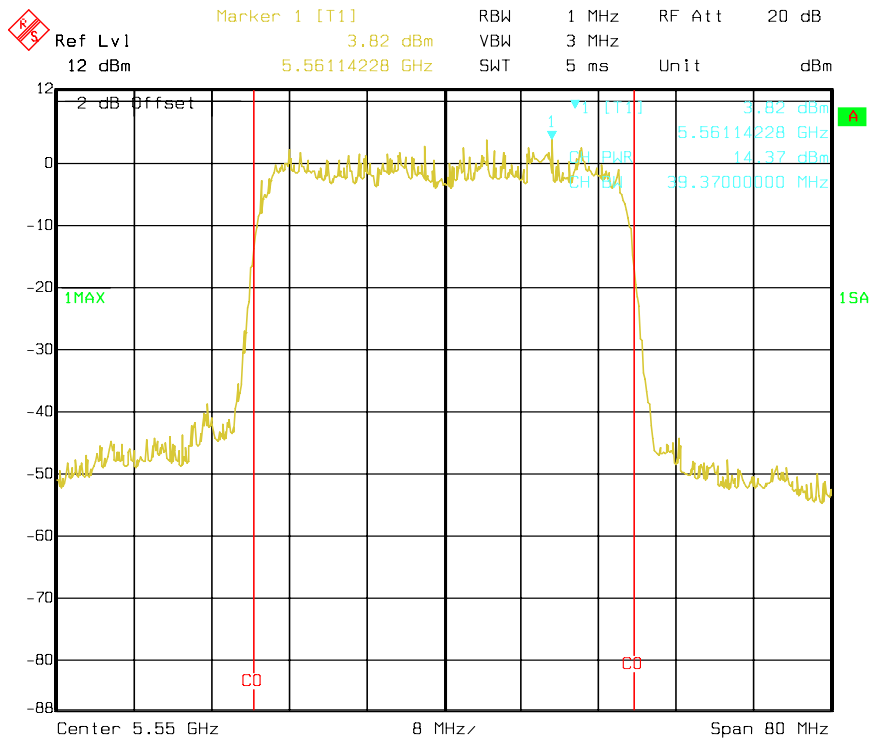
5470-5725MHz:

Chain 0: RF Output Power, Low Channel



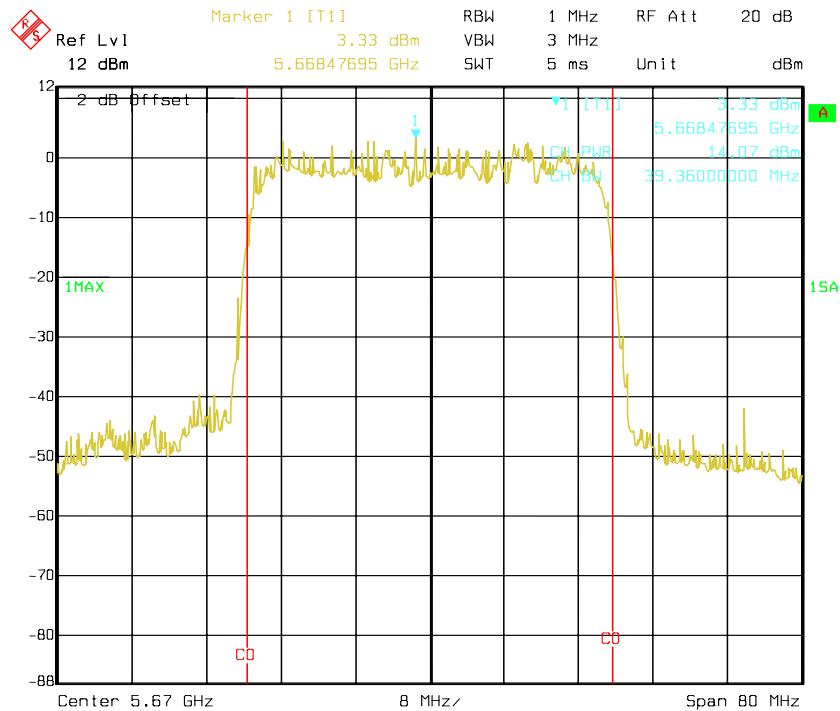
Date: 06.AUG.2013 13:53:11

Chain 0: RF Output Power, Middle Channel

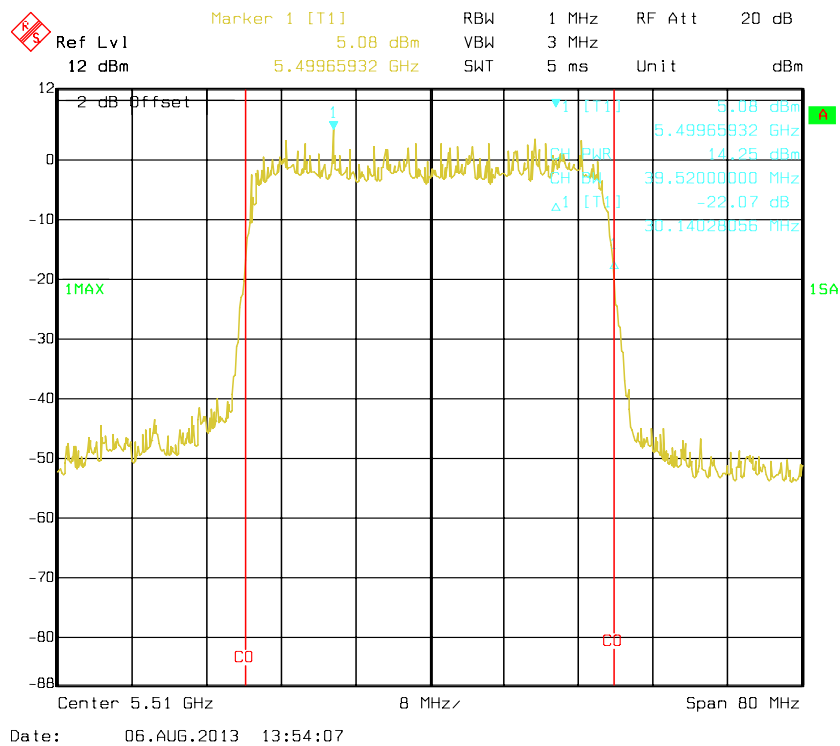


Date: 06.AUG.2013 14:08:14

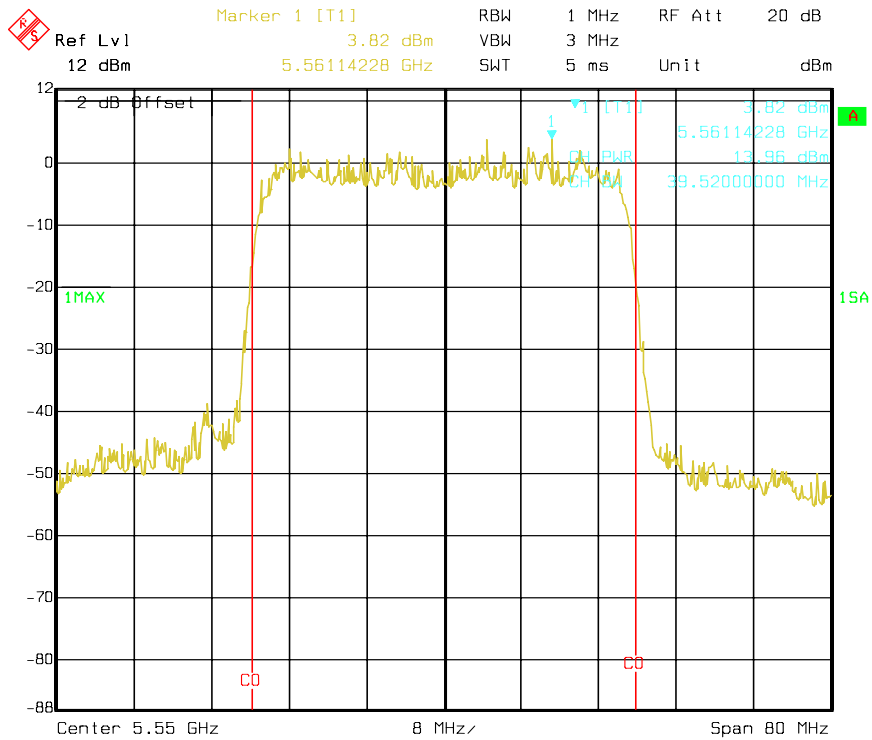
Chain 0: RF Output Power, High Channel



Chain 1: RF Output Power, Low Channel

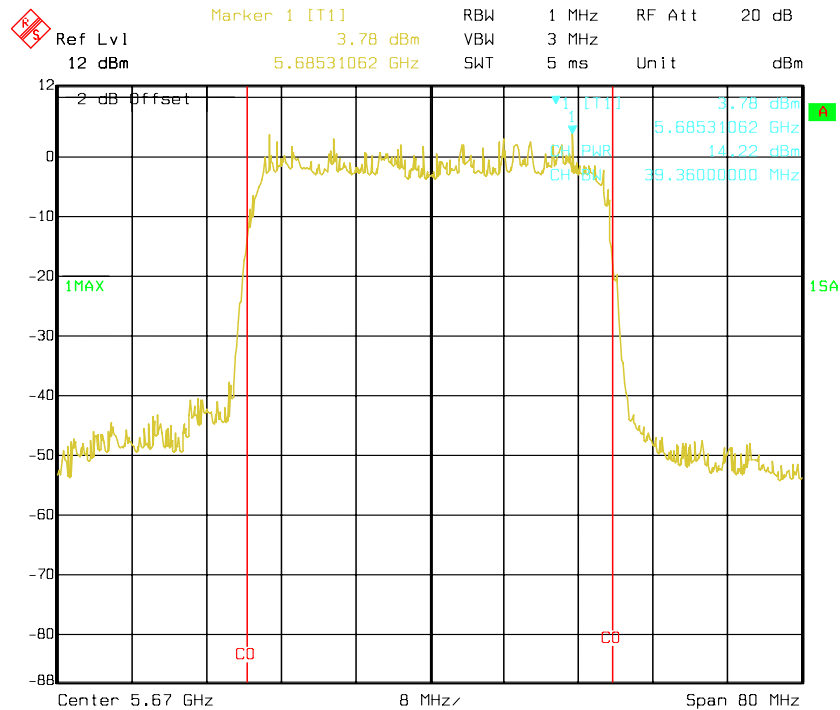


Chain 1: RF Output Power, Middle Channel



Date: 06.AUG.2013 14:07:43

Chain 1: RF Output Power, High Channel



Date: 06.AUG.2013 14:18:00

FCC §15.407(a) (1) (5) - POWER SPECTRAL DENSITY**Applicable Standard**

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The peak power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A resolution bandwidth less than the measurement bandwidth can be used, provided that the measured power is integrated to show total power over the measurement bandwidth. If the resolution bandwidth is approximately equal to the measurement bandwidth, and much less than the emission bandwidth of the equipment under test, the measured results shall be corrected to account for any difference between the resolution bandwidth of the test instrument and its actual noise bandwidth.

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. Use sample detector and power averaging (not video averaging) mode. Set RBW= 1 MHz, VBW > 1 MHz. The PPSD is the highest level found across the emission in any 1-MHz band after 100 sweeps of averaging. This method is permitted only if the transmission pulse or sequence of pulses remains at maximum transmits power throughout each of the 100 sweeps of averaging and that the interval between pulses is not included in any of the sweeps.
4. Repeat above procedures until all frequencies measured were complete.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde&Schwarz	Spectrum analyzer	FSEM	DE31388	2013-5-7	2014-5-6

* 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:	28.6°C
Relative Humidity:	58 %
ATM Pressure:	100.3 kPa

The testing was performed by Ares Liu on 2013-08-06.

Test Mode: Transmitting

Test Result: Pass

Test mode: Transmitting

5250-5350MHz:

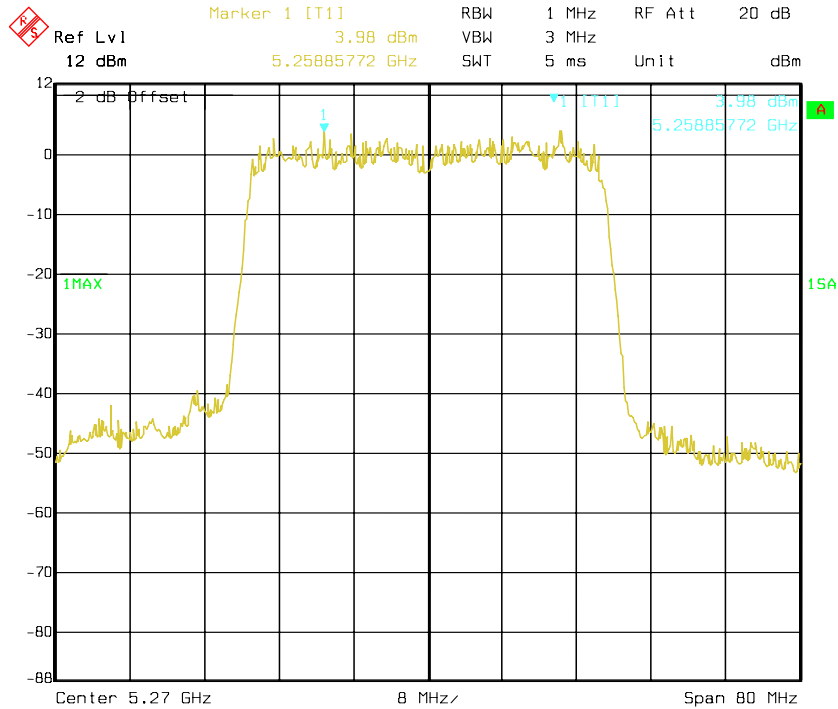
Channel	Frequency (MHz)	Power Spectral Density (dBm/MHz)			Limit (dBm)	Result
		Chain 0	Chain 1	Chain 0+1		
Low	5270	3.98	2.7	6.40	11	Pass
High	5310	2.02	2.96	5.53	11	Pass

5470-5725MHz:

Channel	Frequency (MHz)	Power Spectral Density (dBm/MHz)			Limit (dBm)	Result
		Chain 0	Chain 1	Chain 0+1		
Low	5510	2.93	2.99	5.97	11	Pass
Middle	5550	2.58	2.74	5.67	11	Pass
High	5670	3.9	3.02	6.49	11	Pass

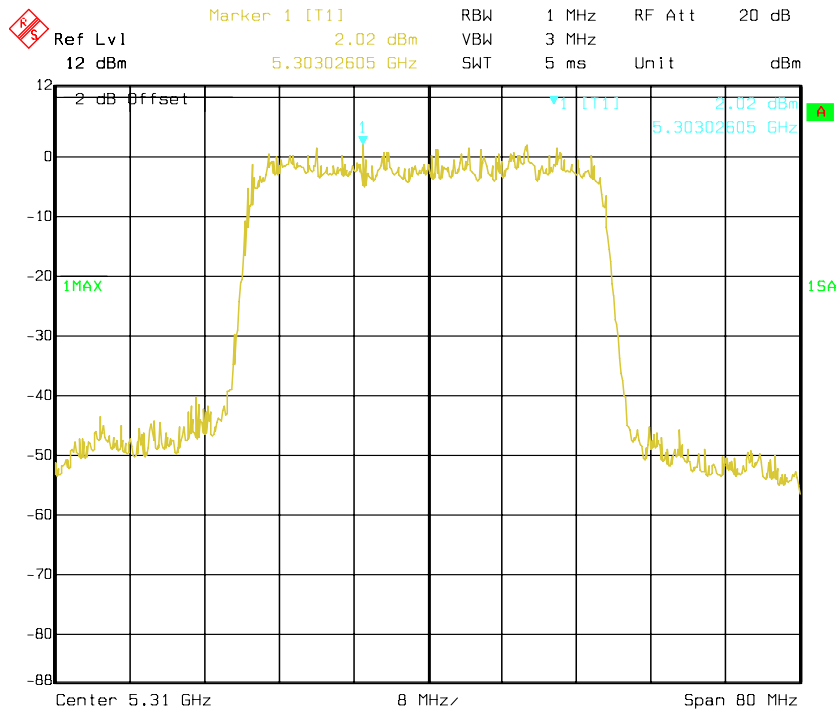
5250-5350MHz:

Chain 0:Power Spectral Density, Low Channel



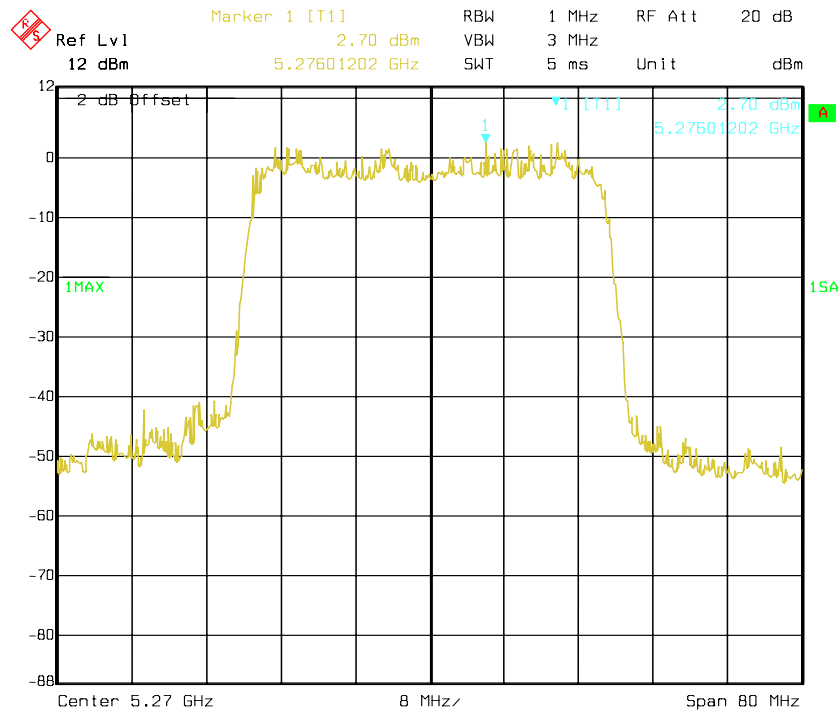
Date: 06.AUG.2013 13:02:11

Chain 0:Power Spectral Density, High Channel



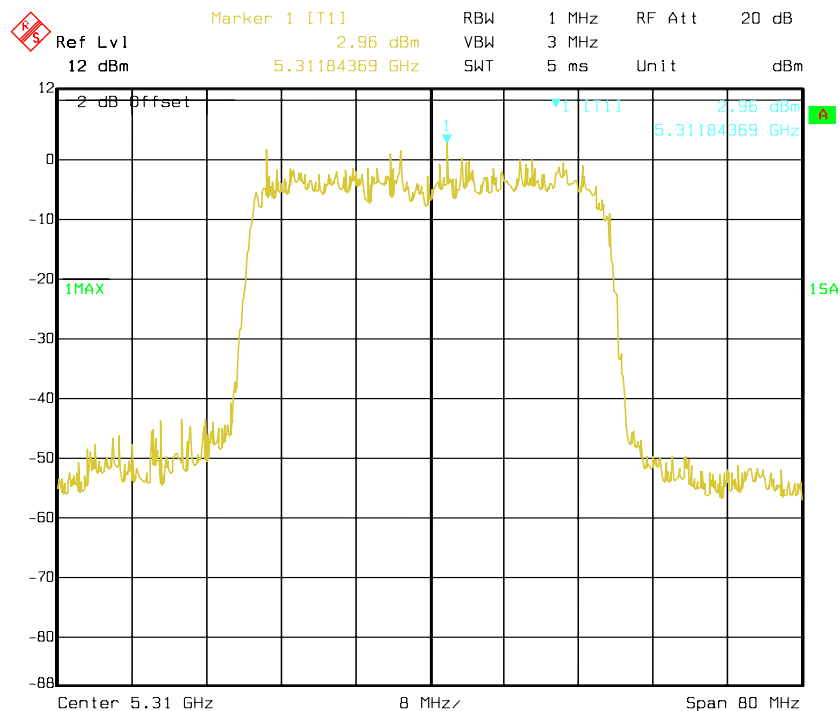
Date: 06.AUG.2013 13:34:37

Chain 1:Power Spectral Density, Low Channel



Date: 06.AUG.2013 13:02:45

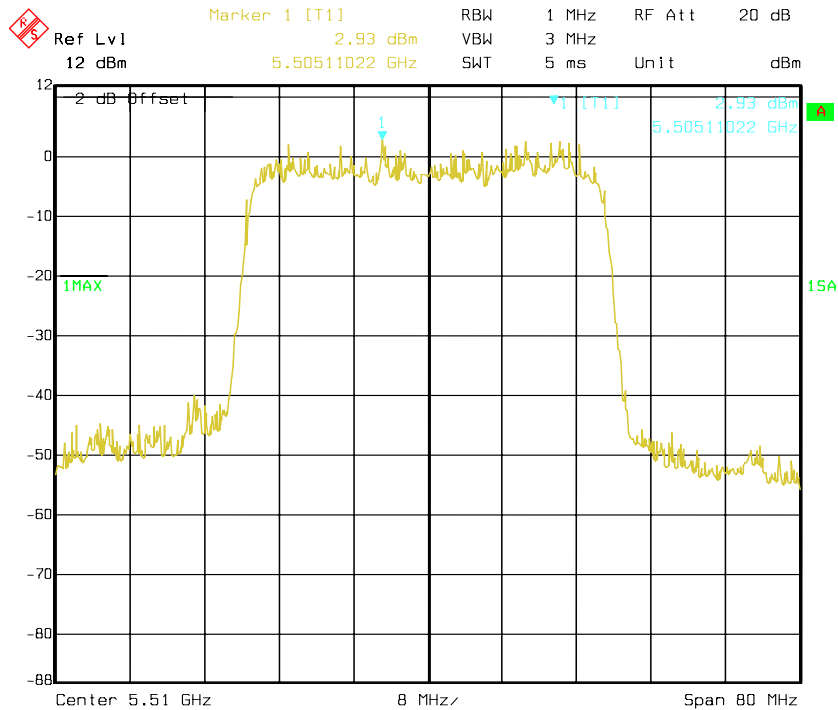
Chain 1:Power Spectral Density, High Channel



Date: 06.AUG.2013 13:36:52

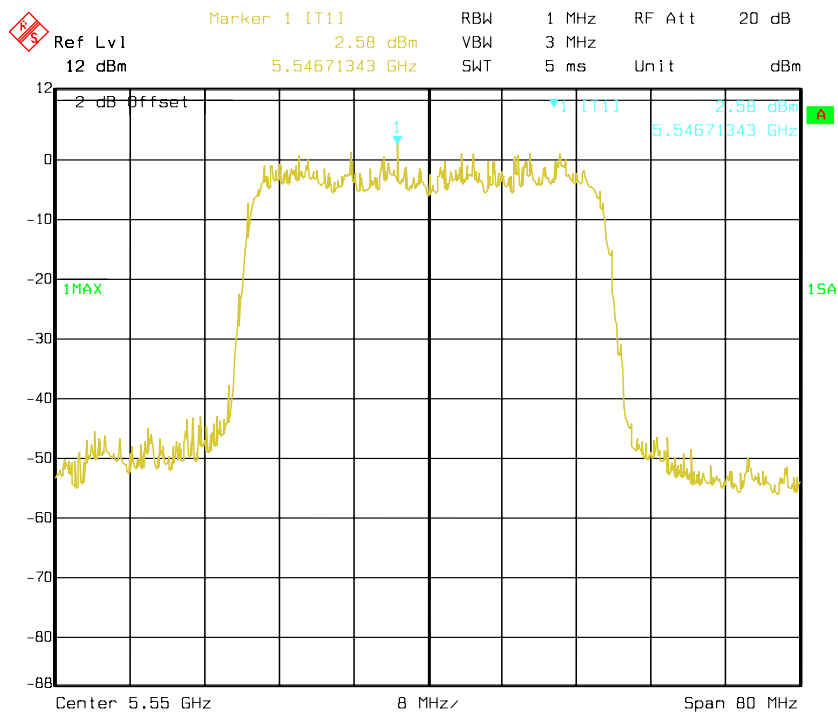
5470-5725MHz:

Chain 0:Power Spectral Density, Low Channel



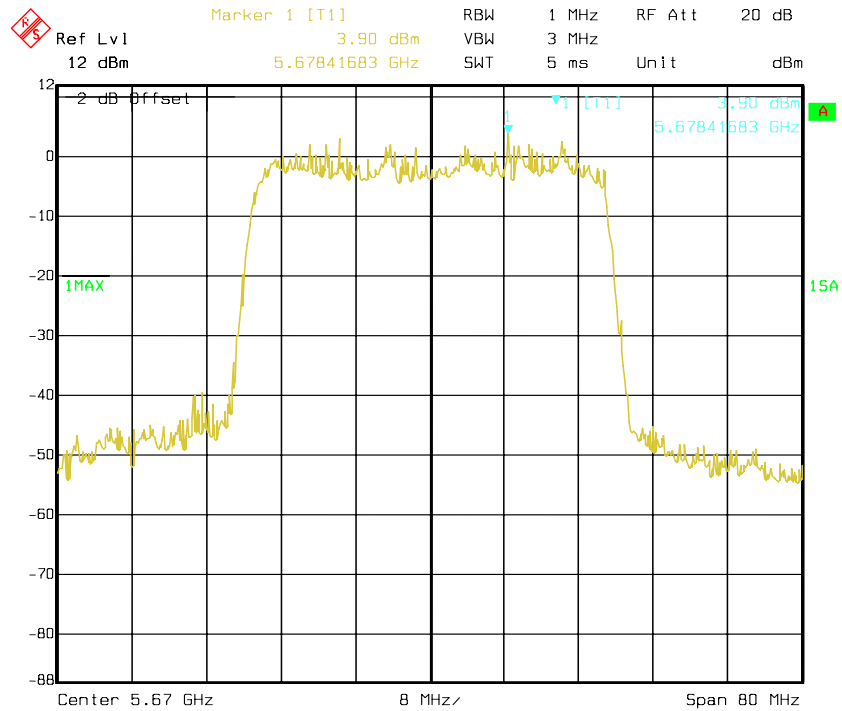
Date: 06.AUG.2013 13:54:37

Chain 0:Power Spectral Density, Middle Channel



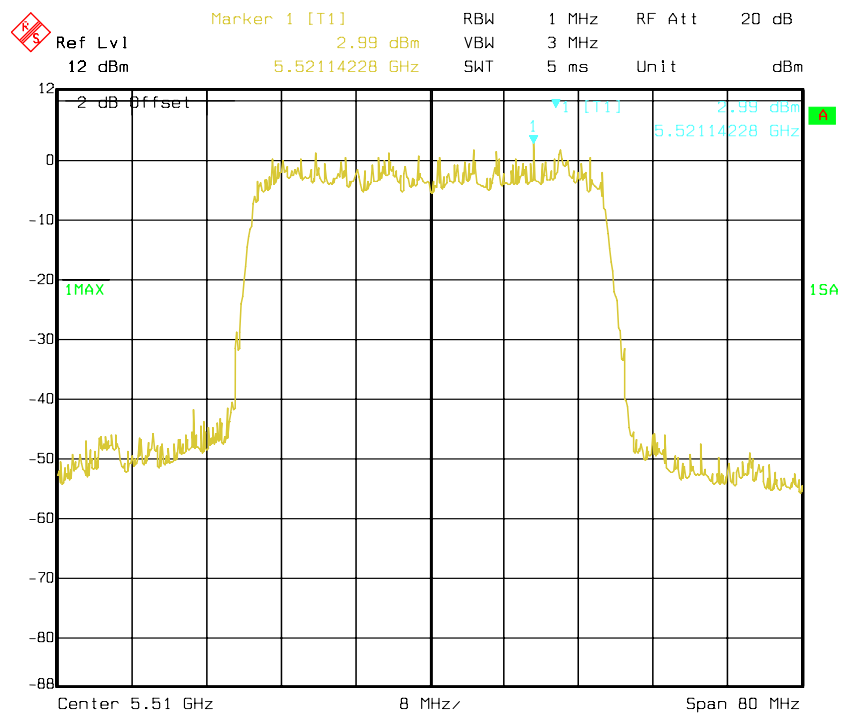
Date: 06.AUG.2013 14:09:07

Chain 0: Power Spectral Density, High Channel



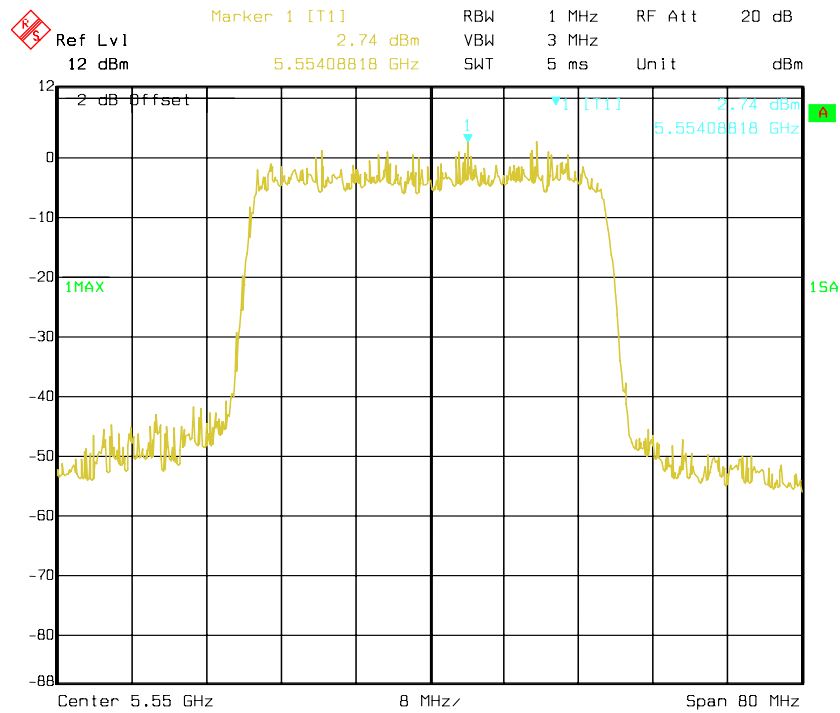
Date: 06.AUG.2013 14:18:30

Chain 1: Power Spectral Density, Low Channel



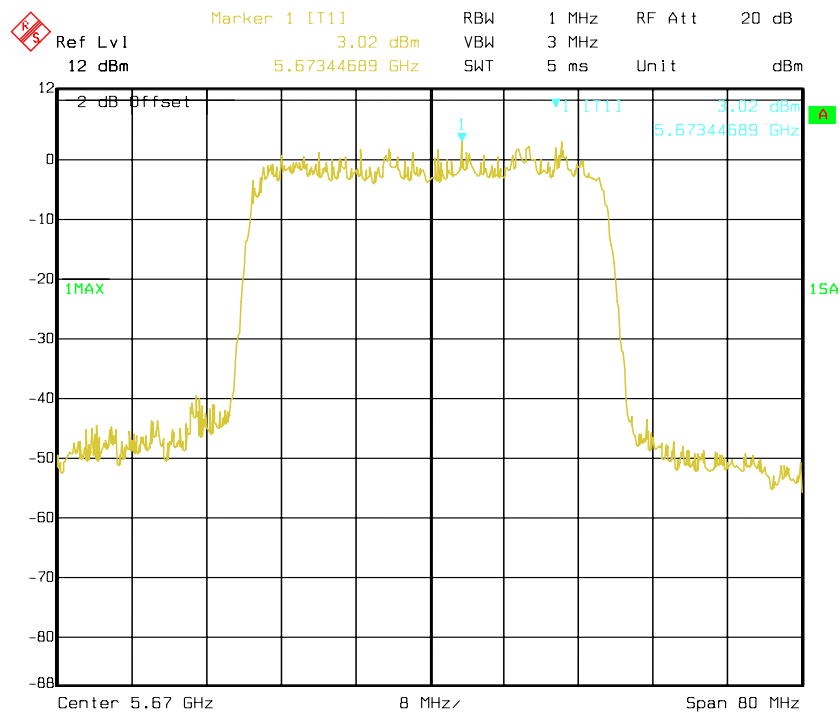
Date: 06.AUG.2013 13:54:58

Chain 1:Power Spectral Density, Middle Channel



Date: 06.AUG.2013 14:08:53

Chain 1:Power Spectral Density, High Channel



Date: 06.AUG.2013 14:19:03

FCC §15.407(a) (6) – PEAK EXCURSION RATIO

Applicable Standard

According to §15.407(a) (6), the ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Test Procedure

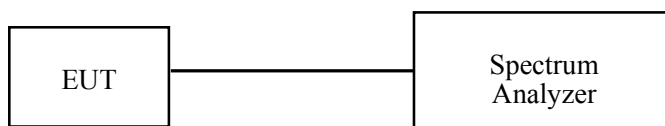
Set the spectrum analyzer span to view the entire emission bandwidth.
The largest difference between the following two traces must be ≤ 13 dB for all frequencies across the emission bandwidth. Submit a plot.

1st Trace:

- Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and maxhold settings.

2nd Trace:

- create the 2nd trace using the settings described in the setion “FCC §15.407(a)(1)(2) – CONDUCTED TRANSMITTER OUTPUT POWER”.



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde&Schwarz	Spectrum analyzer	FSEM	DE31388	2013-5-7	2014-5-6

* 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:	28.6°C
Relative Humidity:	58 %
ATM Pressure:	100.3 kPa

The testing was performed by Ares Liu on 2013-08-06.

Test Mode: Transmitting

5250-5350MHz:

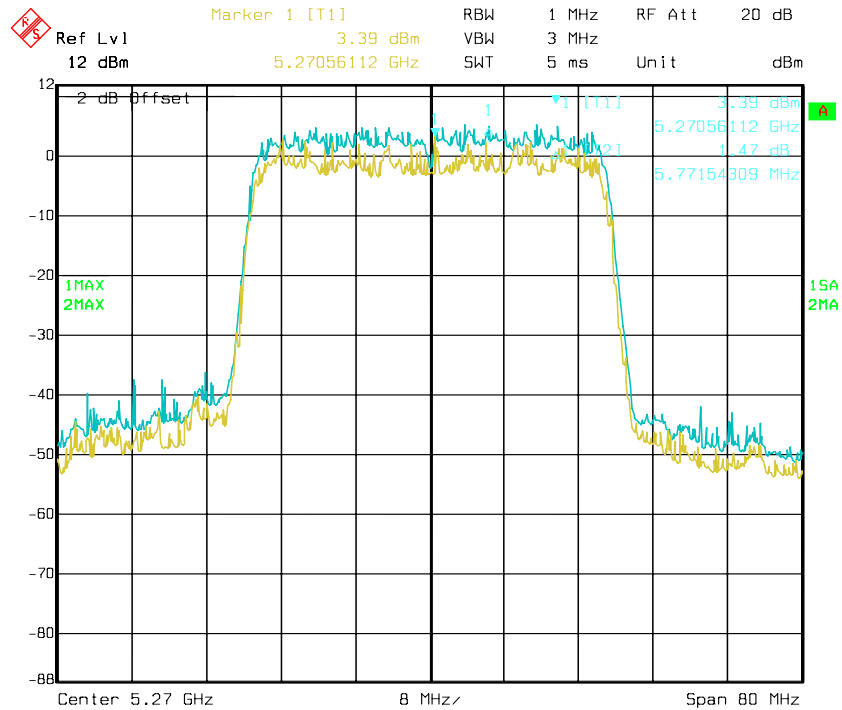
Channel	Frequency (MHz)	Peak Excursion Ratio (dB)		Limit (dB)	Result
		Chain 0	Chain 1		
Low	5270	1.47	3.25	13	Pass
High	5310	2.03	2.25	13	Pass

5470-5725MHz:

Channel	Frequency (MHz)	Peak Excursion Ratio (dB)		Limit (dB)	Result
		Chain 0	Chain 1		
Low	5510	2.92	2.18	13	Pass
Middle	5550	2.50	1.00	13	Pass
High	5670	0.46	2.32	13	Pass

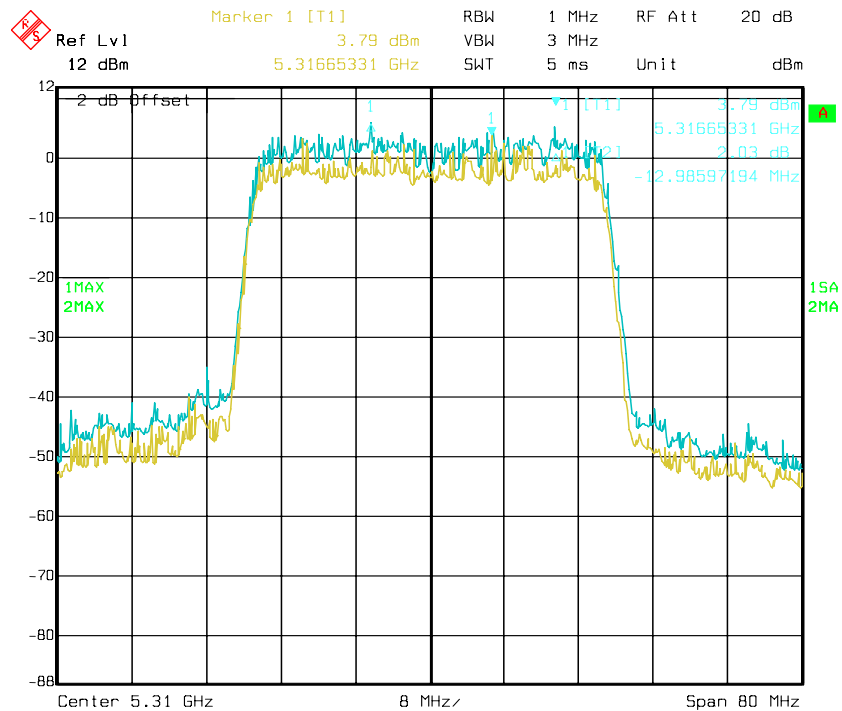
5250-5350MHz:

Chain 0: Peak Excursion, Low Channel



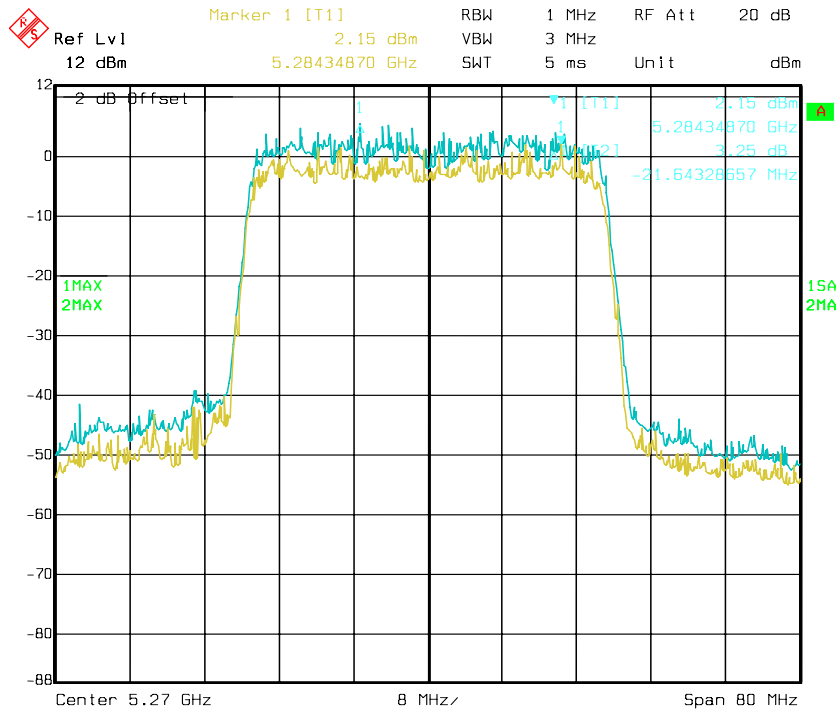
Date: 06.AUG.2013 13:04:33

Chain 0: Peak Excursion, High Channel

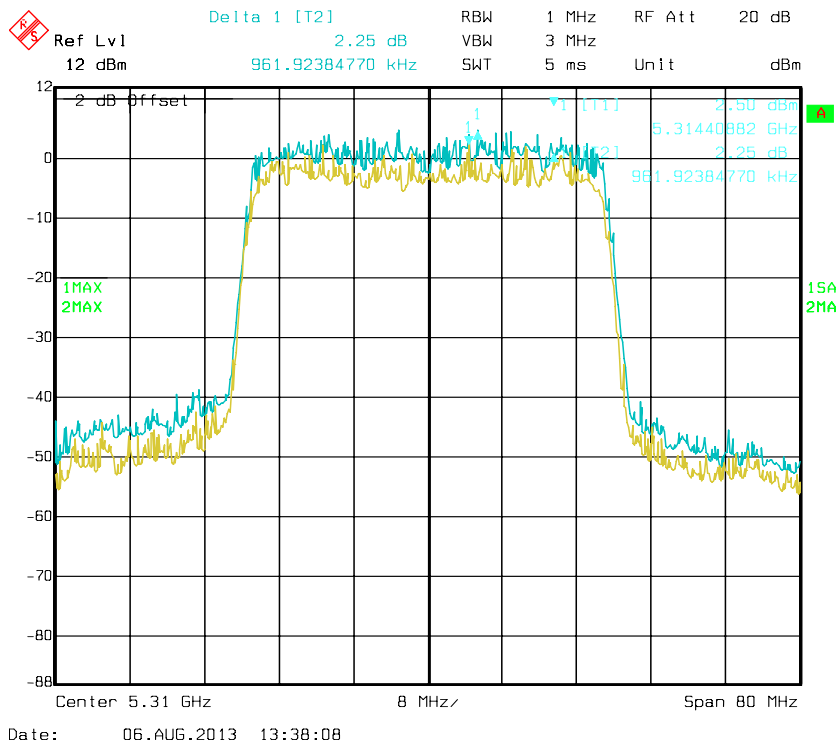


Date: 06.AUG.2013 13:37:39

Chain 1: Peak Excursion, Low Channel

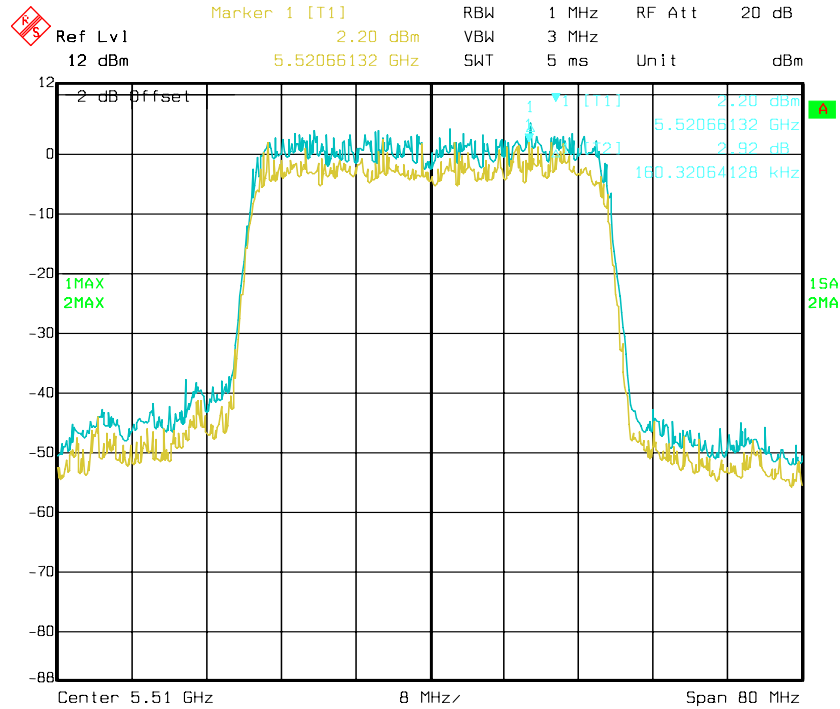


Chain 1: Peak Excursion, High Channel

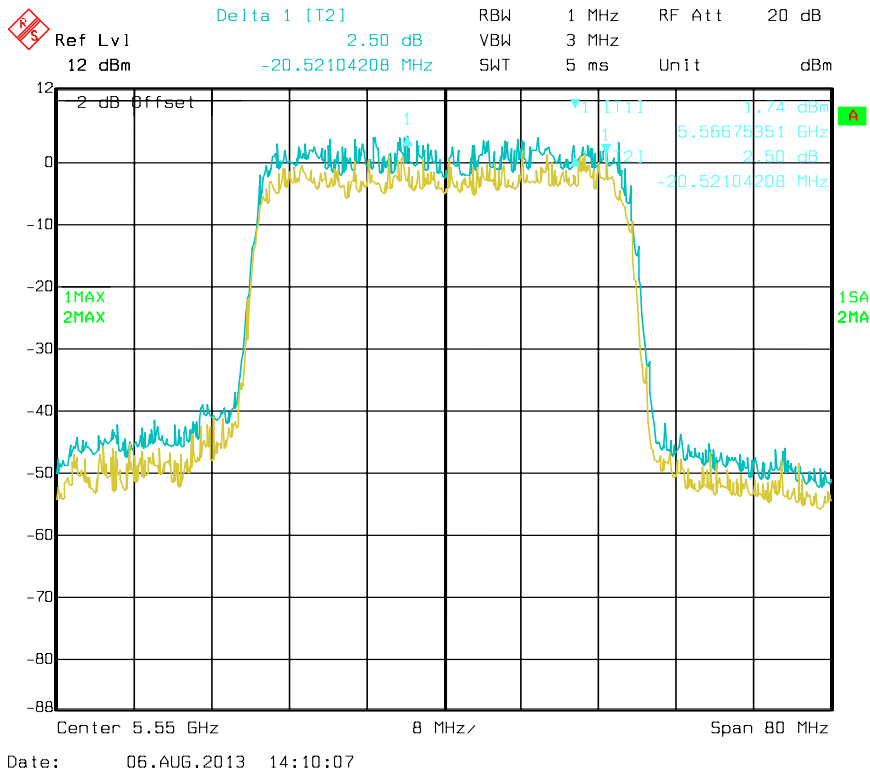


5470-5725MHz:

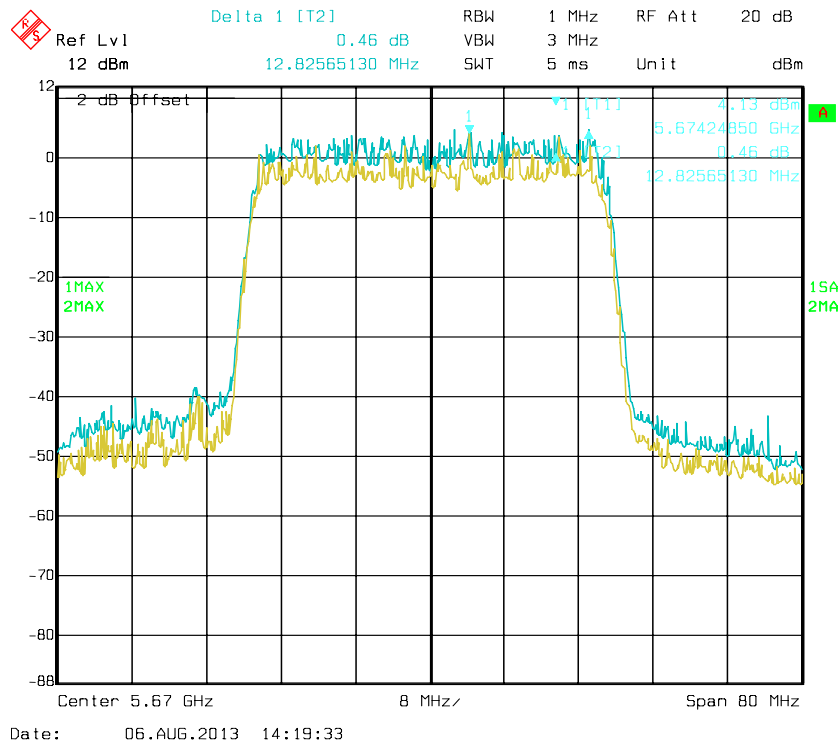
Chain 0: Peak Excursion, Low Channel



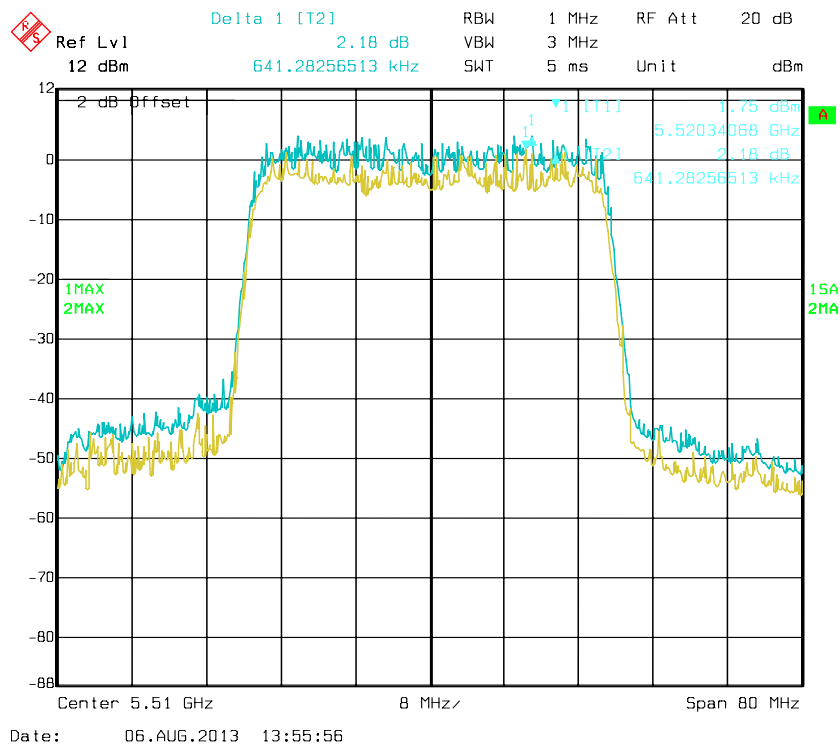
Chain 0: Peak Excursion, Middle Channel



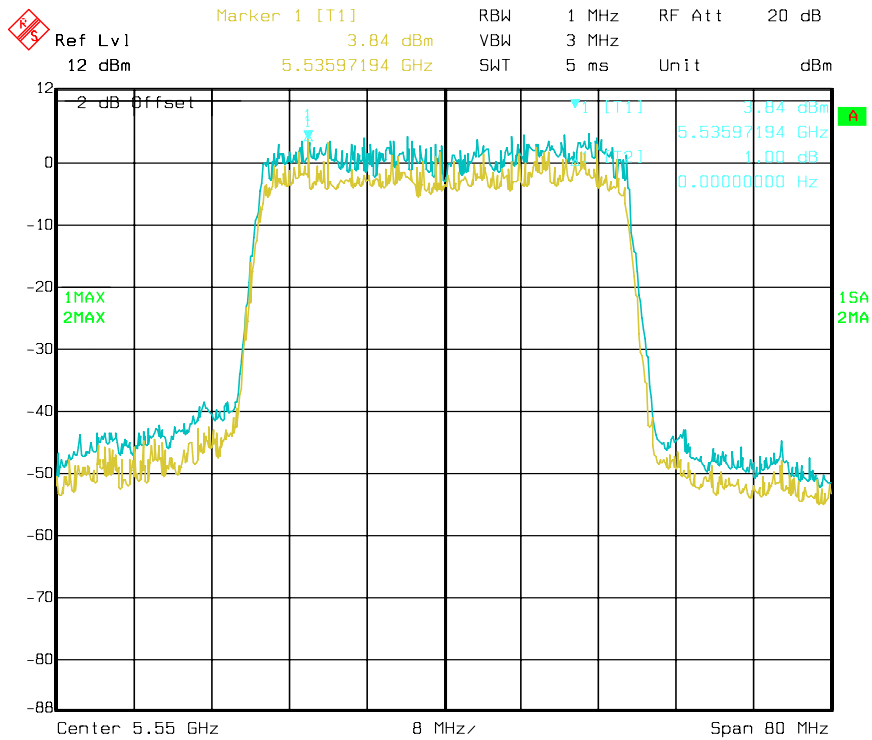
Chain 0: Peak Excursion, High Channel



Chain 1: Peak Excursion, Low Channel

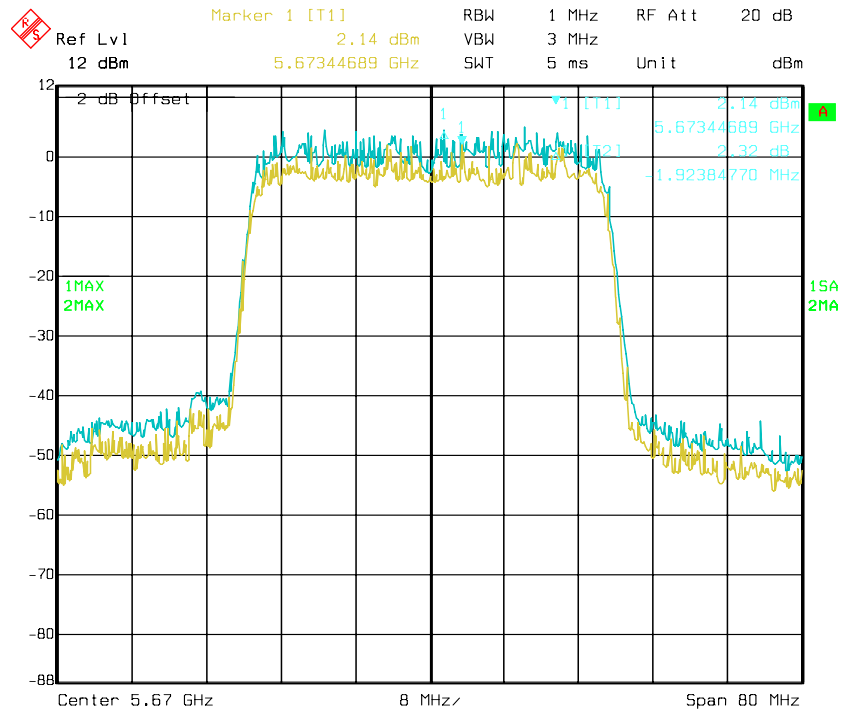


Chain 1: Peak Excursion, Middle Channel



Date: 06.AUG.2013 14:09:40

Chain 1: Peak Excursion, High Channel



Date: 06.AUG.2013 14:19:56

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