Lab Code: 200707-0

FCC PART 15.247

TEST REPORT

For

JUPITER TECHNOLOGY (WUXI) CO., LTD.

No.13 Minjiang Road, Wuxi State High & New Technology Industry Development Zone,

Wuxi, Jiangsu, China

FCC ID: WIOWS3003

Report Type:	**Product Type:**
Original Report	WHDI 5.8GHz WIRELESS PROJECTOR

Test Engineer:	Felix Li
Report Number:	RSZ110728001-00A
Report Date:	2011-09-14
Reviewed By:	Merry Zhao EMC Engineer
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

The *JUPITER TECHNOLOGY (WUXI) CO., LTD*'s product, model number: *WS3003 (FCC ID: WIOWS3003)* ("EUT") in this report is a transmitter of *WHDI 5.8GHz WIRELESS PROJECTOR*, which was measured approximately: 8.0 cm (L) x 3.0 cm (W) x 1.6 cm (H), rated input voltage: DC 5V from USB port.

** All measurement and test data in this report was gathered from production sample serial number: WV1212 (Assigned by the applicant). The EUT was received on 2011-07-28.*

Objective

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

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

Related Submittal(s)/Grant(s)

FCC Part 15.407 NII submission with ID: WIOWS3003
Receiver part submission with FCC ID: WIOWS3002

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2009, 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. (Shenzhen). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

The uncertainty of any RF tests which use conducted method measurement is ±0.96 dB, the uncertainty of any radiation on emissions measurement is ±4.0 dB

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China.

Test site at Bay Area Compliance Laboratories Corp. (Shenzhen) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on December 06, 2010. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2009.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.: 382179. 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. (Shenzhen) is an ISO/IEC 17025 accredited laboratory, and is accredited by National Voluntary Laboratory Accredited Program (Lab Code 200707-0).

The current scope of accreditations can be found at http://ts.nist.gov/Standards/scopes/2007070.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 band is 5725-5850 MHz; the test frequency is 5755 MHz and 5795 MHz.

EUT Exercise Software

Test software: APPcom&Debug View

Equipment Modifications

No modification was made to the EUT tested.

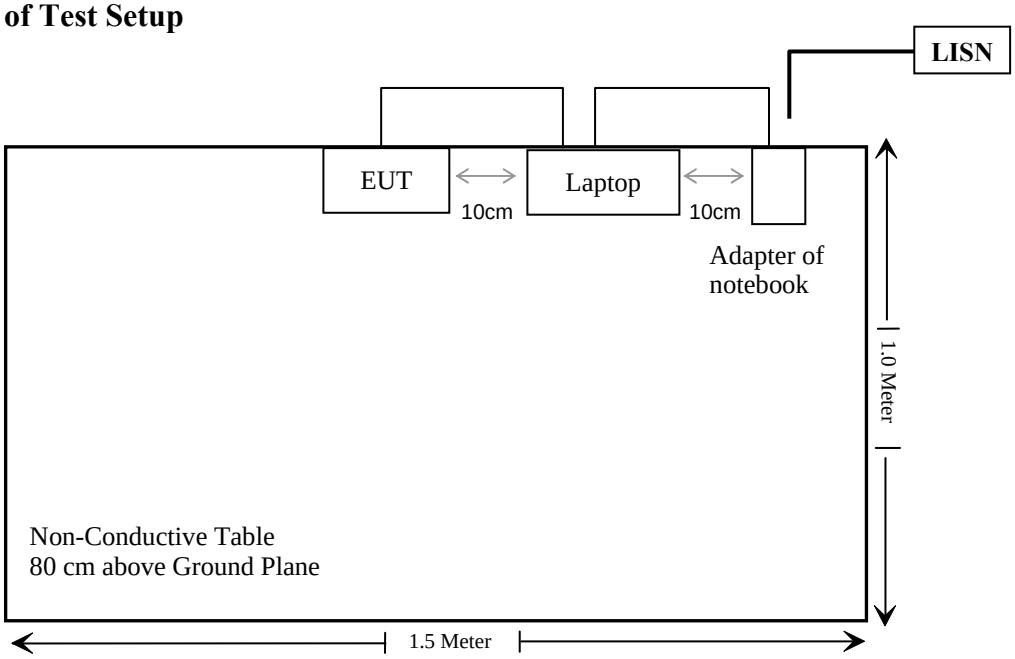
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
IBM	Laptop	T40	N/A

External I/O Cable

Cable Description	Length (m)	From Port	To
Unshielded Undetachable USB Cable	0.5	Laptop	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §2.1093	RF Exposure Evaluation	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.247(d)	Spurious Emissions at Antenna Port	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum Peak Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

FCC §15.247 (I) & §2.1093 - RF EXPOSURE EVALUATION

Applicable Standard

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

According to KDB 447498, 1) c), unless excluded by specific FCC test procedures, portable device with output power > 60/ $f_{(GHz)}$ mW shall include SAR data for equipment approval.

Result

Max conducted Peak output power: 7.76 dBm, Antenna Gain: 2.0 dBi

EIRP = 7.76 dBm + 2 dBi = 9.76 dBm = 9.46 mW

$60/f_{(GHz)} = 60/5.795 = 10.35$ mW

Peak EIRP < $60/f_{(GHz)}$

SAR evaluation can be exempted.

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to FCC §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.
And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power 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 ceramic patch antennas on the PCB, which in accordance to section 15.203, the maximum gain is 2 dBi; please refer to the internal photos.

Result: Compliance.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

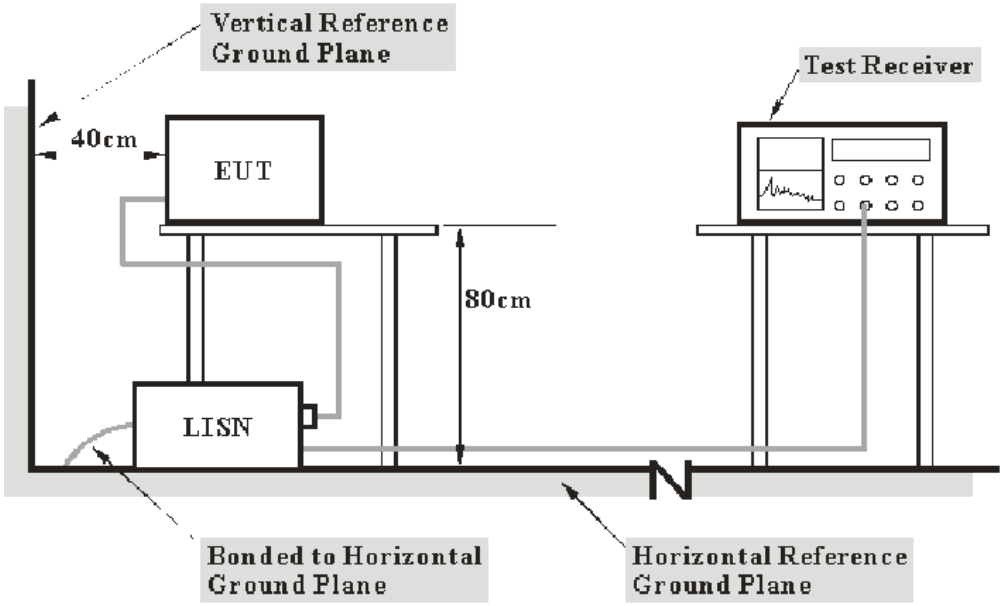
FCC§15.207

Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, and LISN.

Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement at Bay Area Compliance Laboratory Corp. (Shenzhen) is ±2.4 dB (k=2, 95% level of confidence).

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 C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The spacing between the peripherals was 10 cm.

The adapter of laptop 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 of laptop was connected to the LISN.

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

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

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	830245	2011-03-03	2012-03-02
Rohde & Schwarz	L.I.S.N.	ESH2-Z5	892107/021	2011-03-09	2012-03-08

*** Statement of Traceability:** Bay Area Compliance Laboratory Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

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:

14.55 dB at **1.380 MHz** in the **Line** conducted mode

Test Data

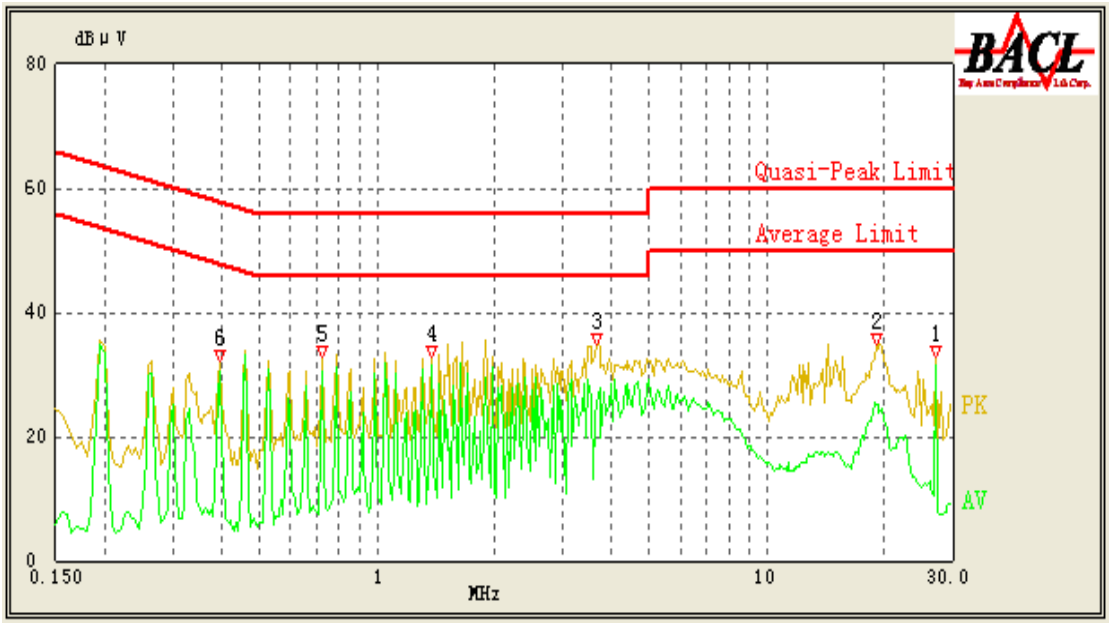
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Felix Li on 2011-08-25.

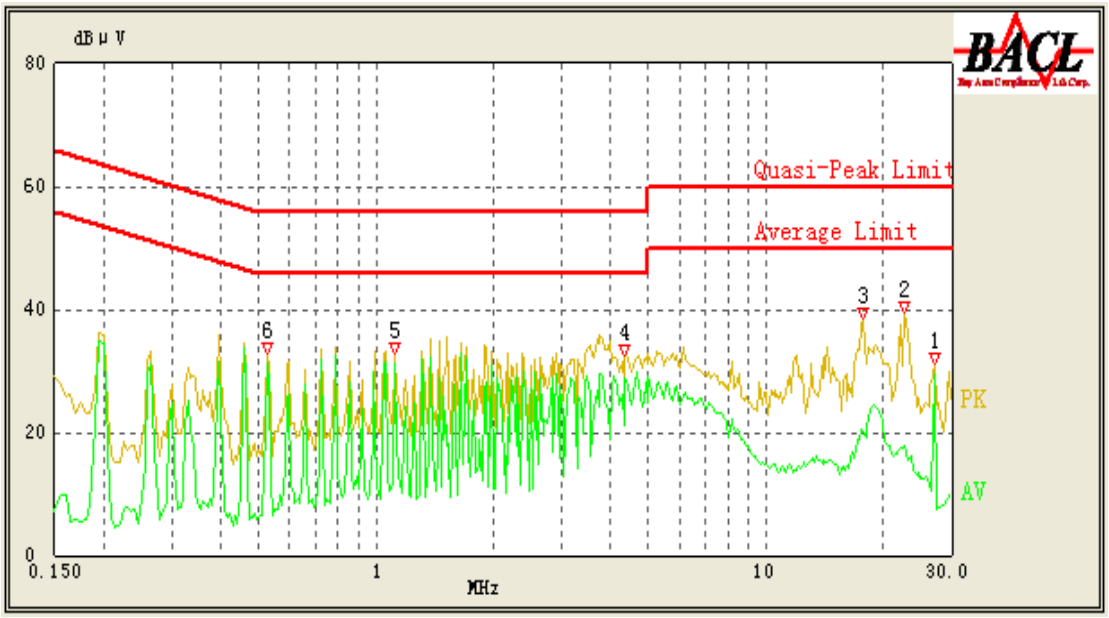
Test Mode: Transmitting

120 V, 60 Hz, Line:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK /QP/Ave.)
1.380	31.45	10.10	46.00	14.55	Ave.
0.720	30.62	10.10	46.00	15.38	Ave.
0.395	30.50	10.10	49.00	18.50	Ave.
27.120	31.45	10.10	50.00	18.55	Ave.
3.675	25.55	10.10	46.00	20.45	Ave.
0.720	31.38	10.10	56.00	24.62	QP
19.070	25.16	10.10	50.00	24.84	Ave.
1.380	30.38	10.10	56.00	25.62	QP
0.395	30.25	10.10	59.00	28.75	QP
19.070	29.43	10.10	60.00	30.57	QP
27.120	27.85	10.10	60.00	32.15	QP
3.680	23.13	10.10	56.00	32.87	QP

120V, 60 Hz, Neutral:



Frequency (MHz)	Corrected Amplitude (dBµV)	Correction Factor (dB)	Limit (dBµV)	Margin (dB)	Detector (PK /QP/Ave.)
0.525	31.10	10.10	46.00	14.90	Ave.
1.120	31.08	10.10	46.00	14.92	Ave.
4.340	28.85	10.10	46.00	17.15	Ave.
27.120	29.46	10.10	50.00	20.54	Ave.
0.525	31.33	10.10	56.00	24.67	QP
1.120	29.02	10.10	56.00	26.98	QP
17.805	20.25	10.10	50.00	29.75	Ave.
4.340	26.15	10.10	56.00	29.85	QP
27.120	30.02	10.10	60.00	29.98	QP
22.745	17.70	10.10	50.00	32.30	Ave.
17.720	20.61	10.10	60.00	39.39	QP
22.755	15.53	10.10	60.00	44.47	QP

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

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

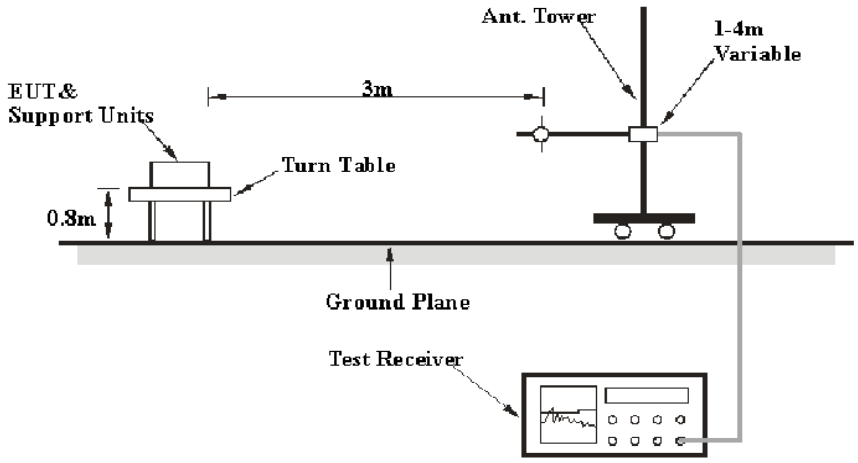
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

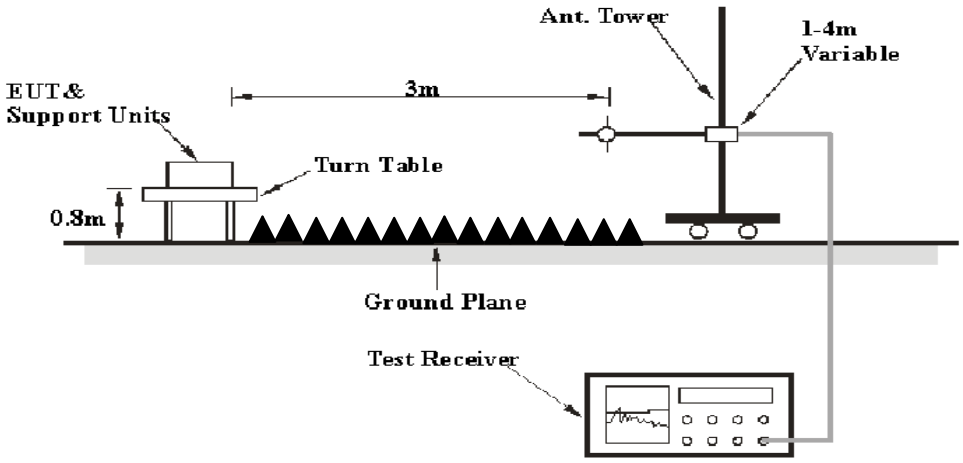
Based on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of a radiation emissions measurement at Bay Area Compliance Laboratories Corp. (Shenzhen) is ±4.0 dB(k=2, 95% level of confidence) .

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 C63.4-2009. 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 of laptop was connected to a 120 VAC/60 Hz power source,

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz.

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

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

Test Procedure

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

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

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

Corrected Amplitude & Margin Calculation

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

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

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

Margin = Limit – Corrected Amplitude

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Amplifier	HP8447D	2944A09795	2011-08-02	2012-08-01
Rohde & Schwarz	EMI Test Receiver	ESCI	100035	2010-11-11	2011-11-10
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2011-07-05	2012-07-04
Mini-circuits	Amplifier	ZVA-213+	T-E27H	2011-03-08	2012-03-07
Sunol Sciences	Horn Antenna	DRH-118	A052604	2011-05-05	2012-05-04
HP	Spectrum Analyzer	8593A	51475684	2011-07-08	2012-07-07
Rohde & Schwarz	Spectrum Analyzer	FSEM30	849720/019	2011-07-08	2012-07-07

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

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 15.247, with the worst margin reading of:

3.2 dB at **72.005500 MHz** in the **Horizontal** polarization

Test Data

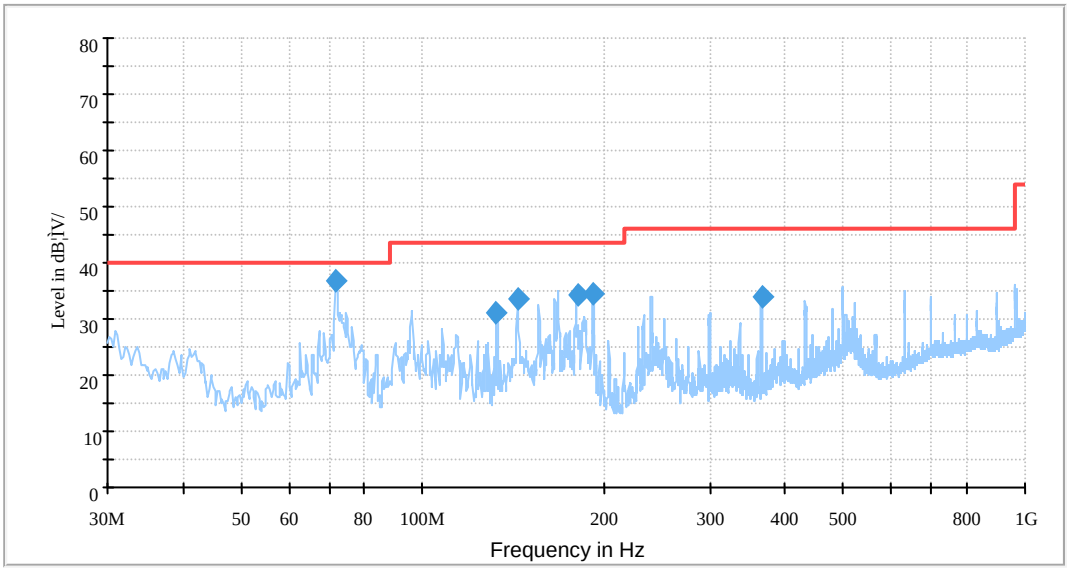
Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Felix Li on 2011-08-11.

Test Mode: Transmitting

1) Below 1 GHz (worse case):



Frequency (MHz)	Corrected Amplitude (dBµV/m)	Ant. Height (cm)	Ant. Polarity (H/V)	Turntable Position (degree)	Correction Factor (dB)	Limit (dBµV/m)	Margin (dB)
72.005500	36.8	400.0	H	254.0	-18.2	40.0	3.2*
118.003054	31.7	325.0	H	25.0	-13.7	40.0	8.3
192.008500	34.9	132.0	H	5.0	-14.7	43.5	8.6
173.004540	34.3	154.0	H	356.0	-14.8	43.5	9.2
144.006500	33.8	204.0	H	3.0	-13.5	43.5	9.7
365.625000	34.6	143.0	H	11.0	-10.7	46.0	11.4

*Within measurement uncertainty!

2) Above 1 GHz

Indicated		Detector (PK/Ave.)	Table Angle Degree	Test Antenna		Correction Factor			FCC Part 15.247/15.205/15.209			
Frequency (MHz)	S.A. Reading (dBμV)			Height (m)	Polar (H/V)	Ant. Factor (dB/m)	Cable Loss (dB)	Pre-Amp. (dB)	Cord. Amp. (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Comment
Low Channel (5755 MHz)												
23020	15.18	Ave.	32	1.1	V	45.6	10.35	24.7	46.43	54	7.57	Harmonic
23020	13.24	Ave.	145	1.1	H	45.9	10.35	24.7	44.79	54	9.21	Harmonic
17265	16.95	Ave.	125	1.0	V	43.5	8.22	25.90	42.77	54	11.23	Harmonic
17265	16.34	Ave.	234	1.1	H	43.7	8.22	25.90	42.36	54	11.64	Harmonic
23020	30.45	PK	32	1.1	V	45.6	10.35	24.7	61.7	74	12.3	Harmonic
23020	28.24	PK	145	1.1	H	45.9	10.35	24.7	59.79	74	14.21	Harmonic
5058.35	45.34	PK	263	1.1	H	36.6	4.43	26.75	59.62	74	14.38	Spurious
4932.56	45.24	PK	135	1.1	V	35.4	4.40	26.75	58.29	74	15.71	Spurious
17265	31.64	PK	125	1.0	V	43.5	8.22	25.90	57.46	74	16.54	Harmonic
17265	31.32	PK	234	1.1	H	43.7	8.22	25.90	57.34	74	16.66	Harmonic
5058.35	22.16	Ave.	263	1.1	H	36.6	4.43	26.75	36.44	54	17.56	Spurious
11510	13.31	Ave.	324	1.0	H	41.4	6.69	26.2	35.2	54	18.8	Harmonic
4932.56	22.05	Ave.	135	1.1	V	35.4	4.40	26.75	35.1	54	18.9	Spurious
11510	13.34	Ave.	121	1.1	V	40.4	6.69	26.2	34.23	54	19.77	Harmonic
11510	27.25	PK	324	1.0	H	41.4	6.69	26.2	49.14	74	24.86	Harmonic
11510	26.35	PK	121	1.1	V	40.4	6.69	26.2	47.24	74	26.76	Harmonic
High Channel (5795 MHz)												
23180	15.21	Ave.	26	1.1	V	45.6	10.35	24.7	46.46	54	7.54	Harmonic
23180	13.16	Ave.	103	1.1	H	45.9	10.35	24.7	44.71	54	9.29	Harmonic
17385	16.64	Ave.	227	1.1	H	43.7	8.22	25.90	42.66	54	11.34	Harmonic
23180	31.38	PK	26	1.1	V	45.6	10.35	24.7	62.63	74	11.37	Harmonic
17385	16.31	Ave.	135	1.1	V	43.5	8.22	25.90	42.13	54	11.87	Harmonic
23180	28.23	PK	103	1.1	H	45.9	10.35	24.7	59.78	74	14.22	Harmonic
11590	16.37	Ave.	342	1.1	H	41.4	6.71	26.2	38.28	54	15.72	Harmonic
11590	16.31	Ave.	232	1.1	V	40.4	6.71	26.2	37.22	54	16.78	Harmonic
17385	29.64	PK	227	1.1	H	43.7	8.22	25.90	55.66	74	18.34	Harmonic
17385	29.64	PK	135	1.1	V	43.5	8.22	25.90	55.46	74	18.54	Harmonic
11590	31.24	PK	342	1.1	H	41.4	6.71	26.2	53.15	74	20.85	Harmonic
11590	31.22	PK	232	1.1	V	40.4	6.71	26.2	52.13	74	21.87	Harmonic
5443.24	14.32	Ave.	258	1.3	H	36.7	4.49	26.70	28.81	54	25.19	Spurious
5362.35	14.34	Ave.	136	1.2	V	35.5	4.51	26.70	27.65	54	26.35	Spurious
5443.24	29.45	PK	258	1.3	H	36.7	4.49	26.70	43.94	74	30.06	Spurious
5462.35	29.12	PK	136	1.2	V	35.5	4.51	26.70	42.43	74	31.57	Spurious

Antenna Port Conducted Spurious Emissions:

Channel Frequency (MHz)	Antenna Port	Refer to plot	Limit (dBc)	Result
5755	Chain 0	Figure-5755-chain0	20	Pass
	Chain 1	Figure-5755-chain1	20	Pass
5795	Chain 0	Figure-5795-chain0	20	Pass
	Chain 1	Figure-5795-chain1	20	Pass

Figure-5755-chain 0

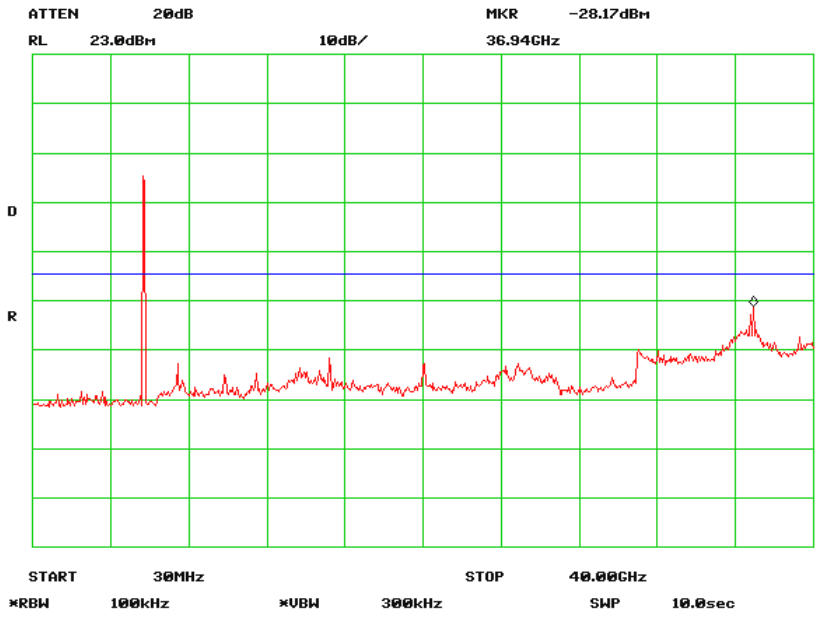


Figure-5755-chain 1

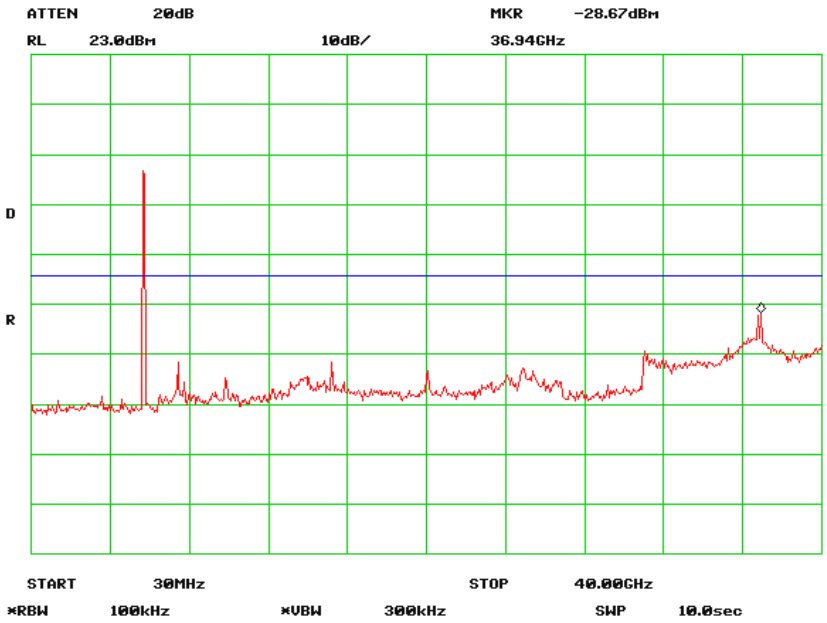


Figure-5795-chain 0

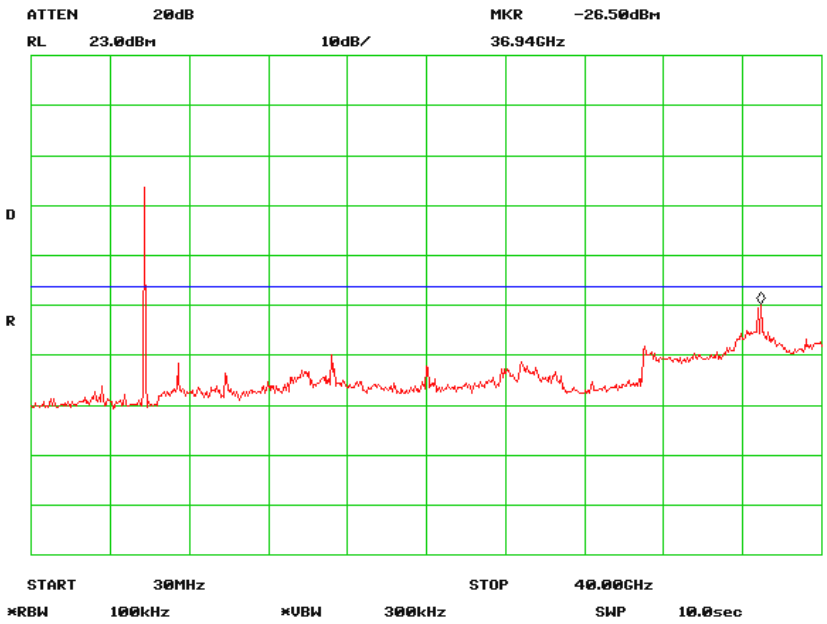
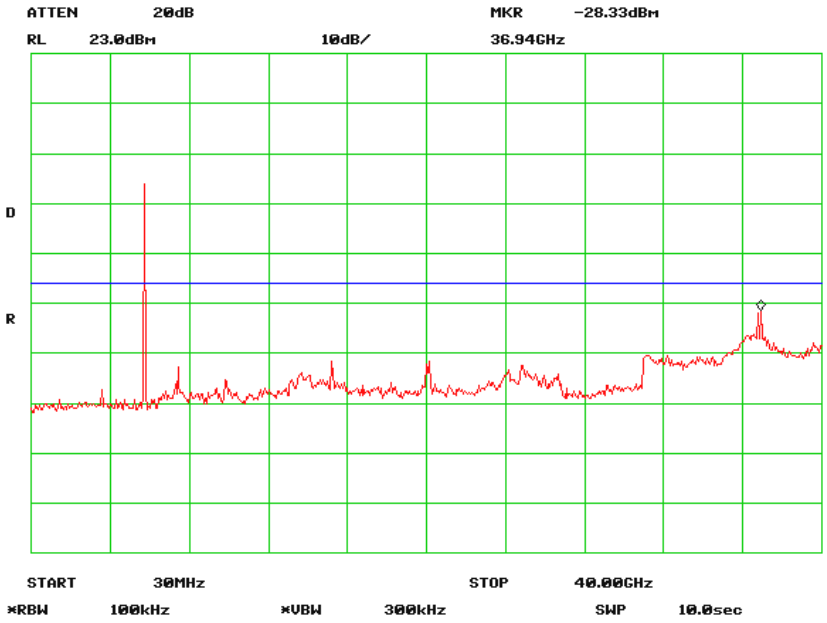


Figure-5795-chain 1



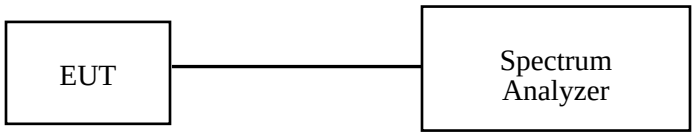
FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

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
Aglient	Spectrum Analyzer	8564E	3943A01781	2011-04-12	2012-04-11

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 °C
Relative Humidity:	56%
ATM Pressure:	100.0kPa

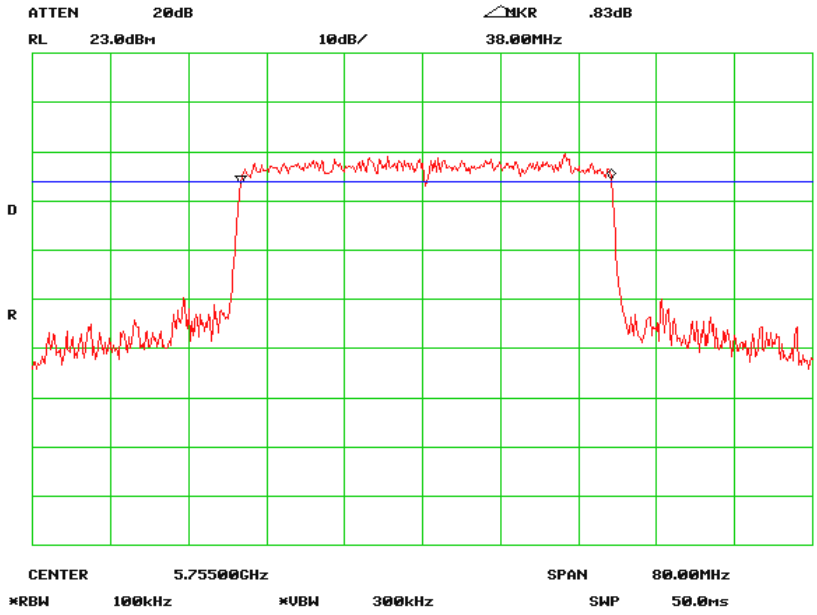
The testing was performed by Felix Li on 2011-08-09.

Test Result: Pass.

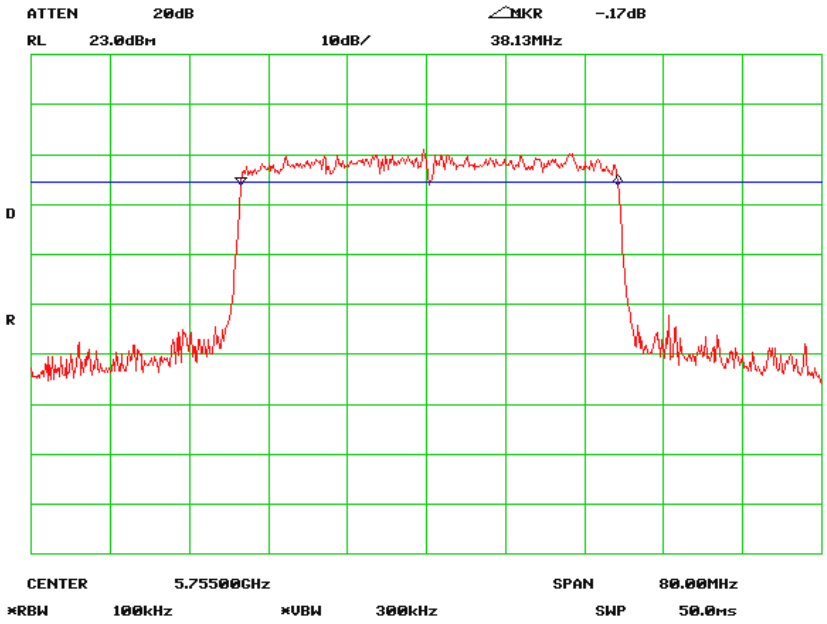
Please refer to the following tables and plots.

Frequency (MHz)	Antenna Port	6dB Bandwidth (MHz)	Limit (kHz)	Result
5755	Chain 0	38.00	>500	Pass
	Chain 1	38.13	>500	Pass
5795	Chain 0	38.00	>500	Pass
	Chain 1	38.13	>500	Pass

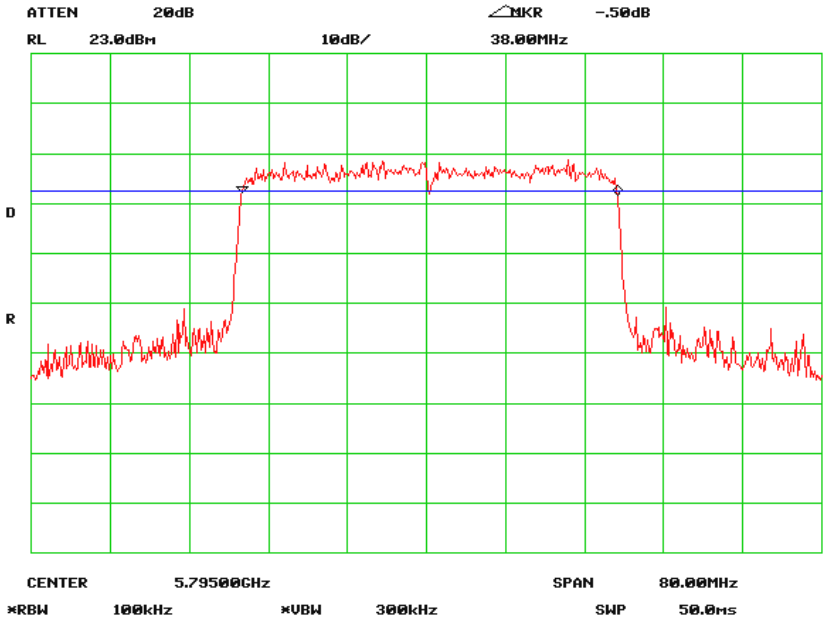
6 dB Bandwidth -5755-chain 0



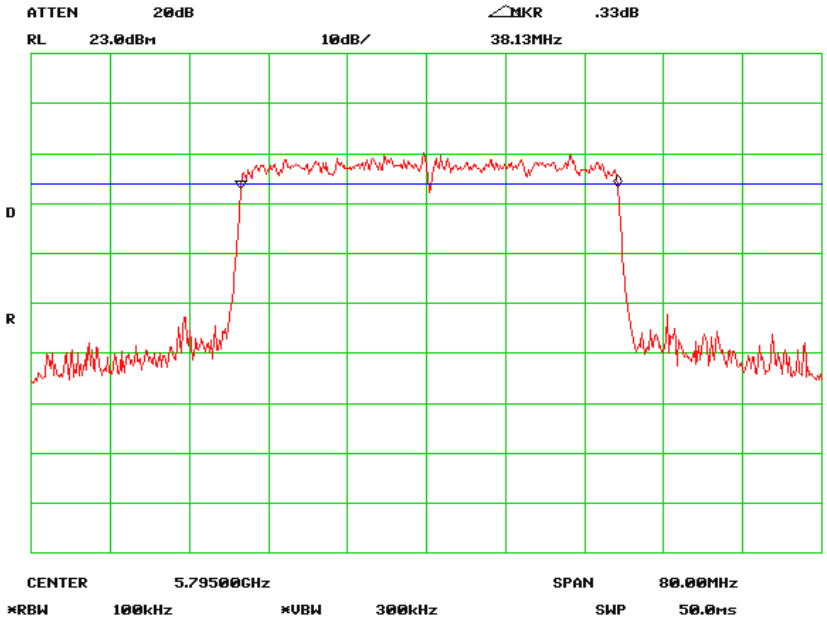
6 dB Bandwidth -5755 -chain 1



6 dB Bandwidth -5795-chain 0



6 dB Bandwidth -5795-chain 1



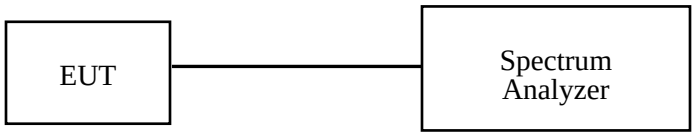
FCC §15.247(b) (3) - MAXIMUM PEAK OUTPUT POWER

Applicable Standard

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

Test Procedure

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



Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Aglient	Spectrum Analyzer	8564E	3943A01781	2011-04-12	2012-04-11

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

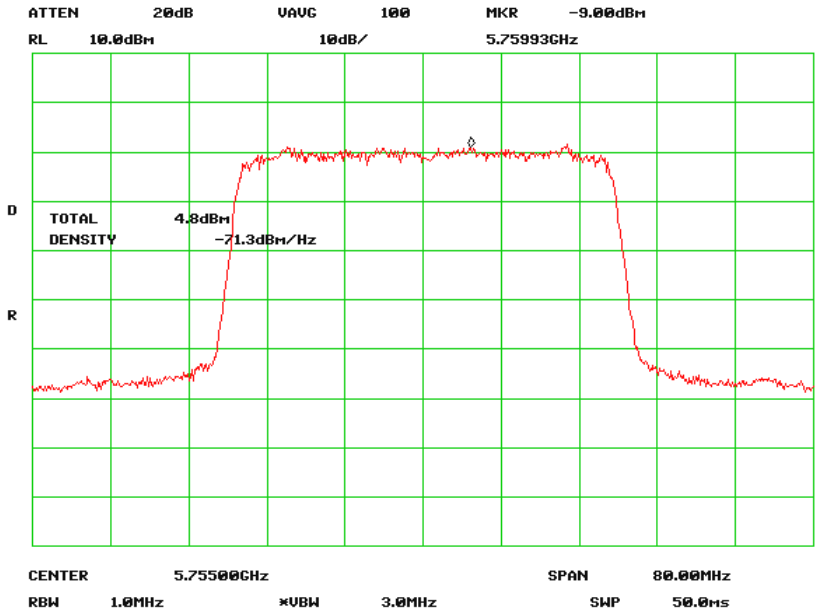
Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

The testing was performed by Felix Li on 2011-08-09.

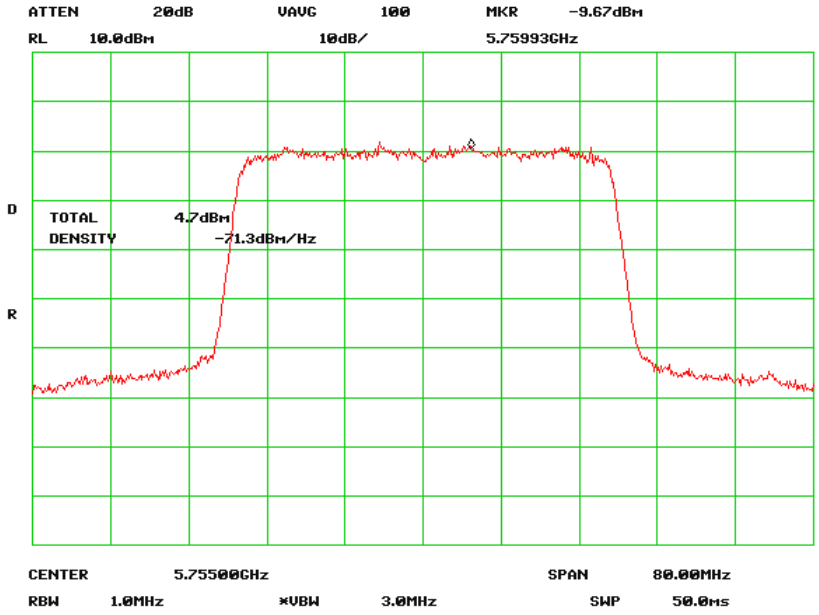
Test Mode: Transmitting

Frequency (MHz)	Antenna Port	Output Power (dBm)	Total Power (dBm)	Limit (dBm)	Result
5755	Chain 0	4.8	7.76	30	pass
	Chain 1	4.7			pass
5795	Chain 0	4.7	7.71	30	pass
	Chain 1	4.7			pass

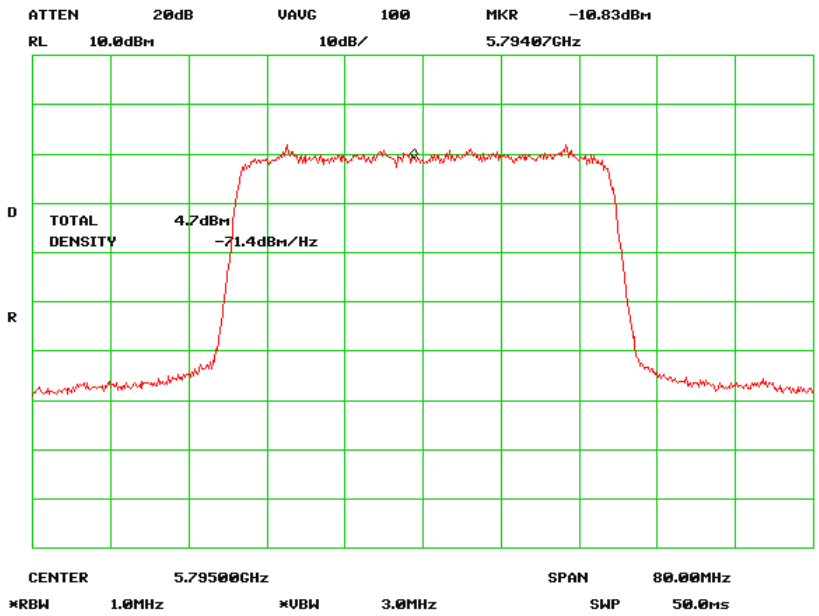
Output Power -5755 MHz-chain 0



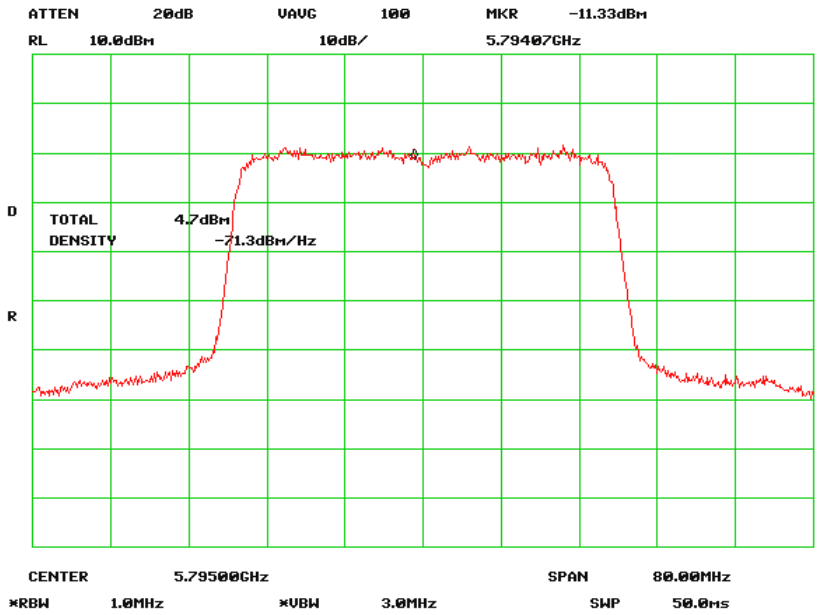
Output Power -5755 MHz -chain 1



Output Power -5795 MHz -chain 0



Output Power -5795 MHz -chain 1



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
Aglient	Spectrum Analyzer	8564E	3943A01781	2011-04-12	2012-04-11

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

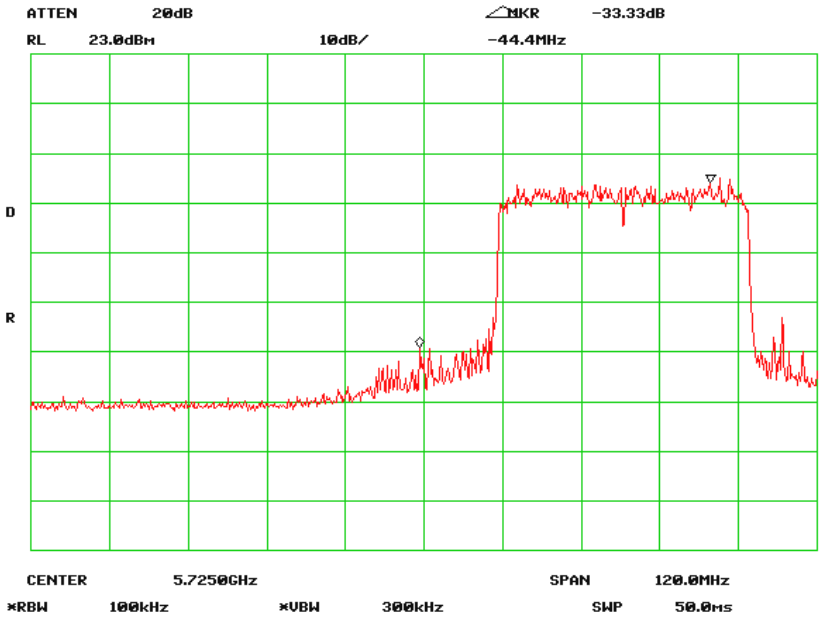
The testing was performed by Felix Li on 2011-08-10

Test Result: *Compliance*

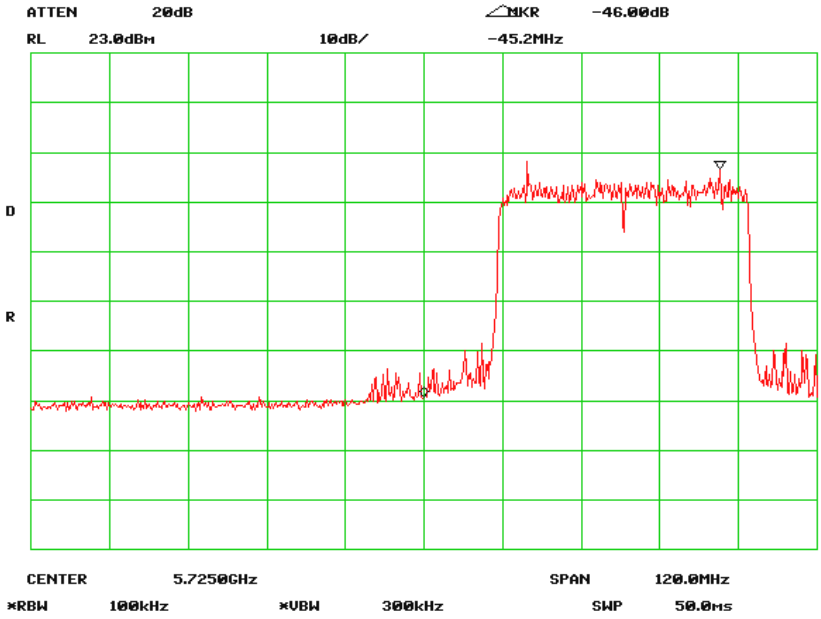
Frequency Band (MHz)	Antenna Port	Delta Peak to Band Emission (dBc)	Limit (dBc)	Result
Left-band	Chain 0	33.33	20	Pass
	Chain 1	46.00	20	Pass
Right-band	Chain 0	45.50	20	Pass
	Chain 1	46.67	20	Pass

Please refer to following plots.

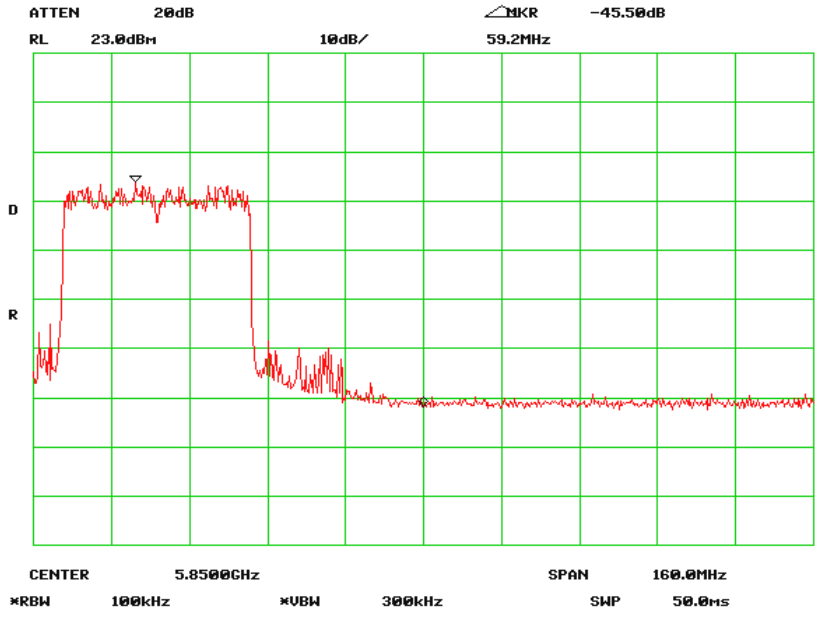
Left Band Edge, Chain 0



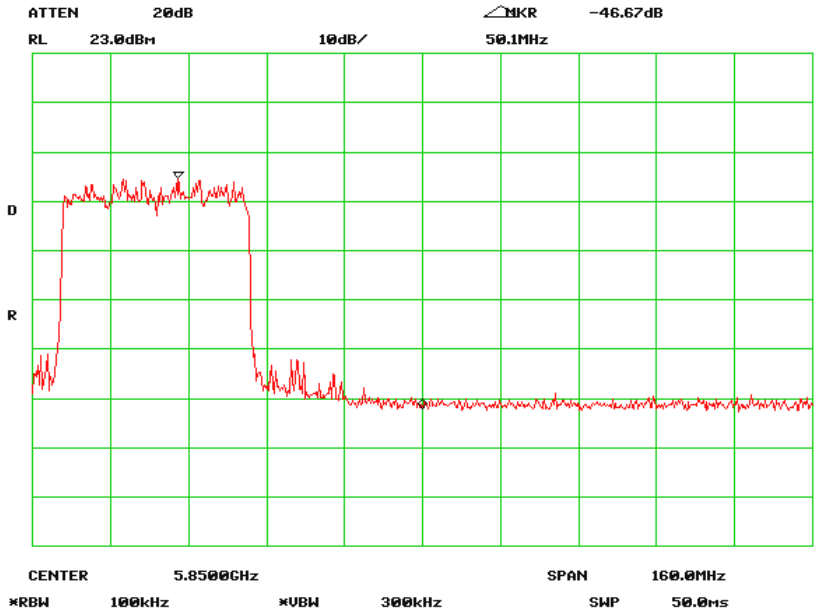
Left Band Edge, Chain 1



Right Band Edge, Chain 0



Right Band Edge, Chain 1



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. Adjust the center frequency of SA on any frequency be measured and set SA to 1.5MHz span mode. And then, set RBW and VBW of spectrum analyzer to proper value. (DTS)
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
Aglient	Spectrum Analyzer	8564E	3943A01781	2011-04-12	2012-04-11

*** Statement of Traceability:** Bay Area Compliance Lab Corp. (ShenZhen) attests that all calibrations have been performed in accordance to NVLAP requirements, traceable to the NIST.

Test Data

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	56 %
ATM Pressure:	100.0 kPa

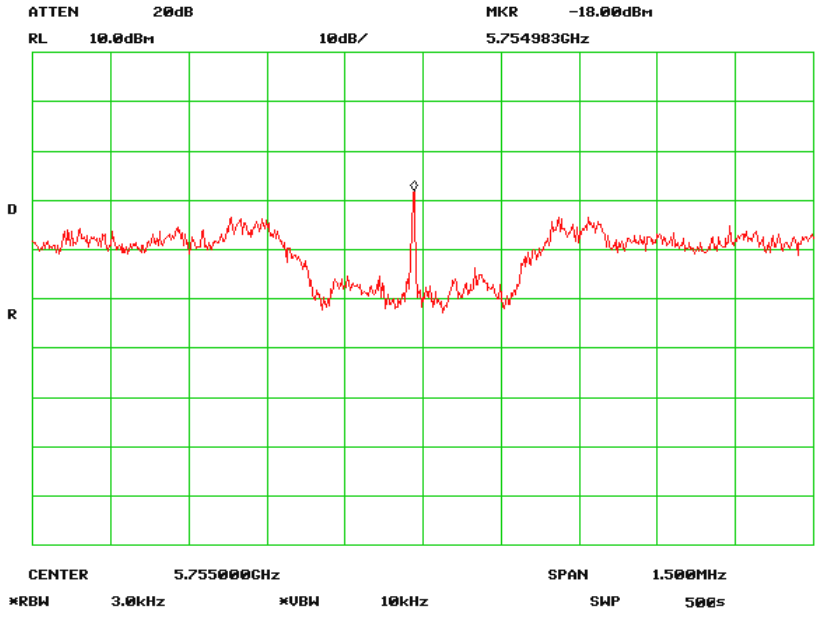
The testing was performed by Felix Li on 2011-08-08.

Test Mode: Transmitting

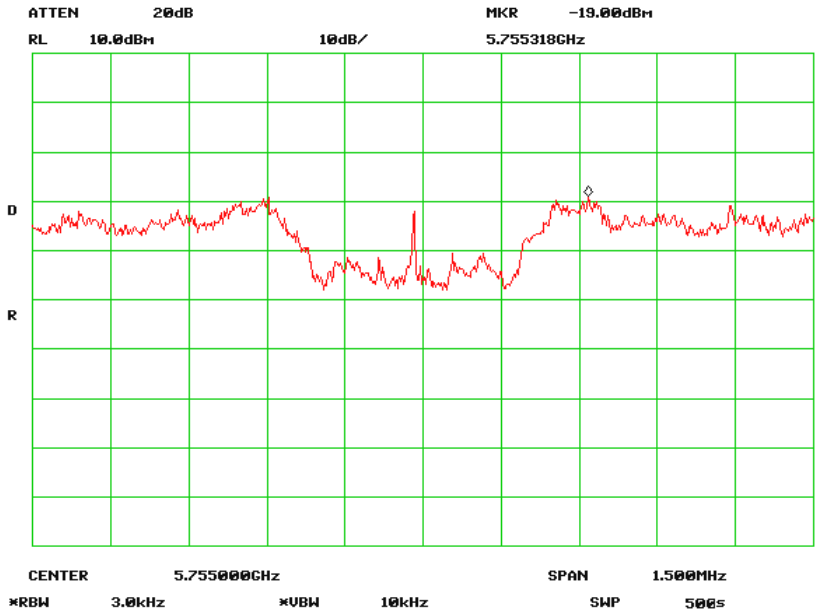
Test Result: Pass

Frequency (MHz)	Antenna Port	Power Spectral Density (dBm)	Total Power Spectral Density (dBm)	Limit (dBm)	Result
5755	Chain 0	-18.00	-15.46	8	pass
	Chain 1	-19.00			pass
5795	Chain 0	-17.33	-14.79	8	pass
	Chain 1	-18.33			pass

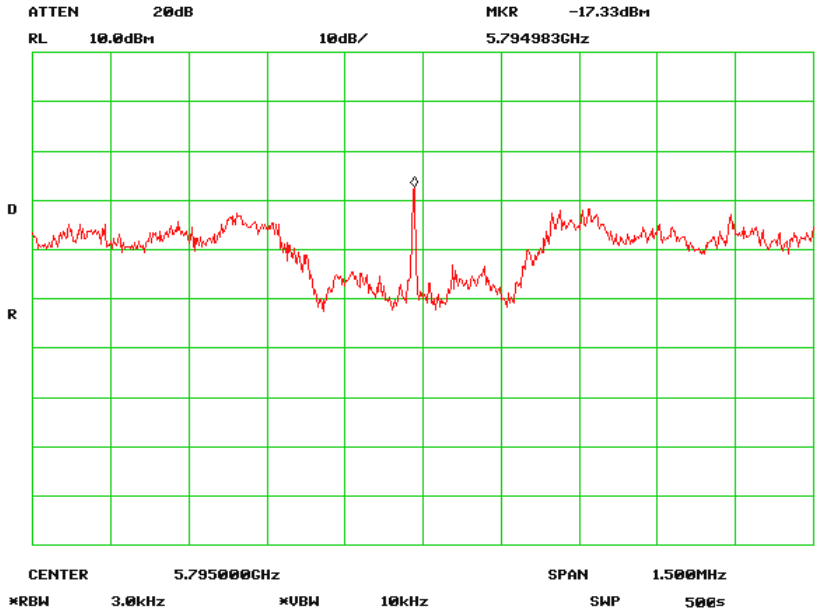
PSD-5755 MHz-chain 0



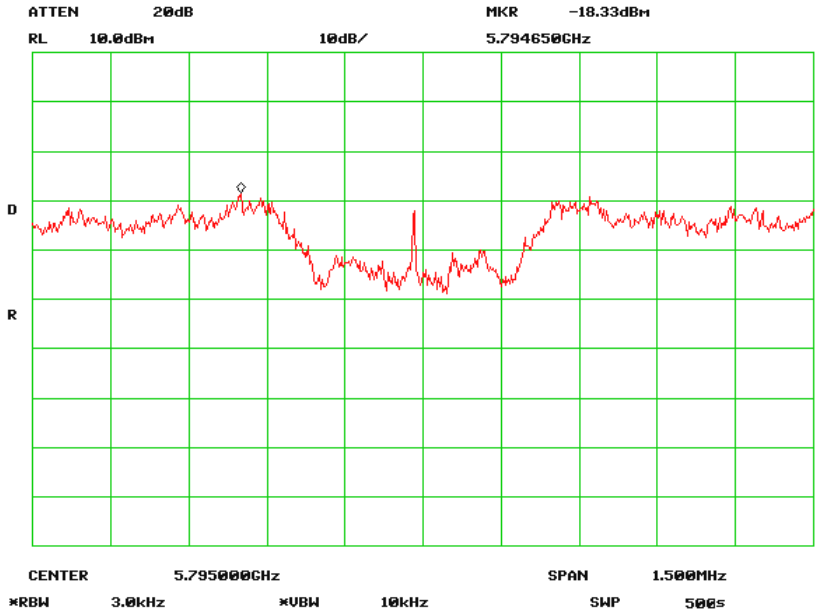
PSD-5755 MHz-chain 1



PSD -5795 MHz -chain 0



PSD -5795MHz -chain 1



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