TESTING LABORATORY
CERTIFICATE #4820.01

FCC PART 15C
RSS-GEN ISSUE 5, APRIL 2018
RSS-210, ISSUE 9, AUGUST 2016

TEST REPORT

For

Fujian Newland Payment Technology Co.,Ltd.

No. B602, Building #1, Haixia Jingmao Plaza, Fuzhou Bonded Area 350015, Fujian, China

FCC ID: 2AM6U-SP630
IC: 25226-SP630

Report Type:	**Product Type:**
Original Report	POS Terminal

Report Number:	RXM190617054-00B
Report Date:	2019-07-16
Reviewed By:	Jerry Zhang EMC Manager
Test Laboratory:	Bay Area Compliance Laboratories Corp. (Dongguan) No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China Tel: +86-769-86858888 Fax: +86-769-86858891 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

EUT Type:		POS Terminal
EUT Name:		SP630
IC Test Model:		JAG-C872C30100
FCC Test Model:		JAG-C872C30100
FCC Multiple Model:		JAG-C872C3xx00
Operation Frequency:		13.56 MHz
Modulation Type:		ASK
Adapter Information	**Model:**	ADS-12EA-05 05010E
	Input:	AC 100-240V 50/60Hz 0.3A
	Output:	DC 5V 2A
Rated Input Voltage:		3.6Vdc from battery or DC 5V from adapter
External Dimension:		165mm(L)*79mm(W)*55mm(H)
Serial Number:		190617054
EUT Received Date:		2019.6.19

Notes: For FCC, model JAG-C872C30100 was selected for fully testing, the detailed information about the difference among JAG-C872C3xx00 and model JAG-C872C30100 can be referred to the declaration letter which was stated and guaranteed by the manufacturer.

Objective

This type approval report is prepared on behalf of ***Fujian Newland Payment Technology Co.,Ltd.*** in accordance with Part 2, Subpart J, and Part 15, Subparts A and C of the Federal Communications Commission's rules and RSS-210, Issue 9, August 2016 of the Innovation, Science and Economic Development Canada.

The objective is to determine the compliance of the EUT with FCC rules, sec 15.203, 15.205, 15.207, 15.209 and 15.225, and RSS-Gen Issue 5, April 2018, General Requirements for Compliance of Radio Apparatus.

Related Submittal(s)/Grant(s)

FCC Part 15C DTS submissions with FCC ID: 2AM6U-SP630.
RSS-247 submissions with IC: 25226-SP630

Test Methodology

All measurements detailed in this Test Report were performed in accordance with ANSI C63.10-2013 "American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices", and the RSS-210, Issue 9, August 2016. Applicable Standard: Licence-Exempt Radio Apparatus: Category I Equipment. And RSS-Gen Issue 5, April 2018, General Requirements for Compliance of Radio Apparatus.

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

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
radiated Emissions	9kHz~30MHz: 4.12dB 30M~200MHz: 4.55 dB, 200M~1GHz: 5.92 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%
AC Power Lines Conducted Emission	3.12 dB (150 kHz to 30 MHz)

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 Industry Area, Tangxia, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a test mode.

EUT Exercise Software

No software used in test.

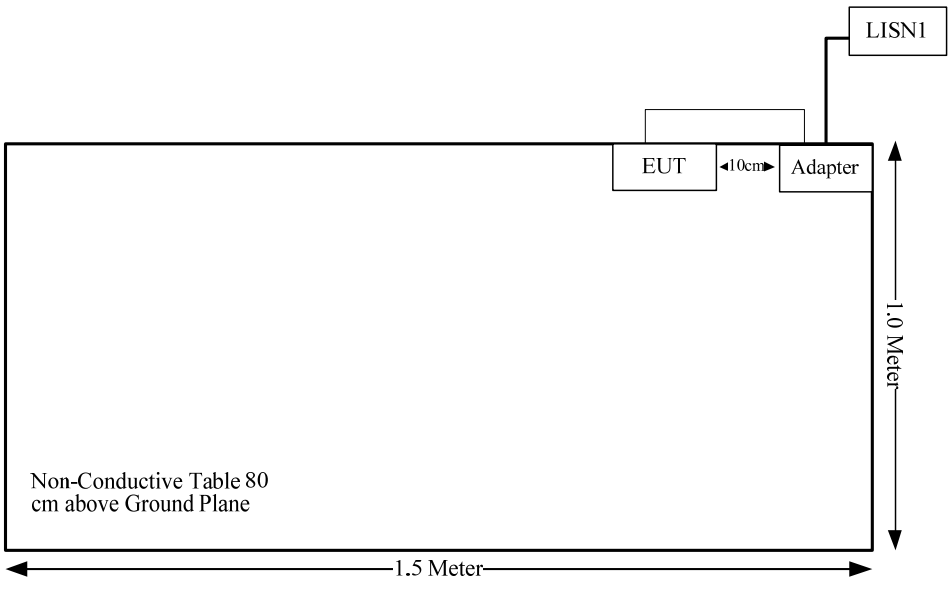
Equipment Modifications

No modification was made to the EUT.

Support Cable List and Details

Cable Description	Shielding Type	Ferrite Core	Length (m)	From	To
USB Cable	no	no	1.2	Adapter	EUT

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203 RSS-GEN Clause 6.8	Antenna Requirement	Compliance
§15.207 RSS-Gen Clause 8.8	AC Line Conducted Emission	Compliance
§15.225 §15.209 §15.205 RSS-210 Clause B.6 RSS-Gen Clause 8.10	Radiated Emission Test	Compliance
§15.225(e) RSS-210 Clause B.6	Frequency Stability	Compliance
§15.215(c) RSS-Gen Clause 6.7	20 dB Bandwidth 99% Occupied Bandwidth	Compliance

FCC §15.203, RSS-GEN CLAUSE 6.8 - 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.
c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

According to RSS-Gen §6.8, The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.
For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).
When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer. The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.
For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:
This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.
Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

Antenna Connected Construction

The EUT has one integral antenna arrangement, which was permanently attached and fulfill the requirement of this section. Please refer to the EUT photos.

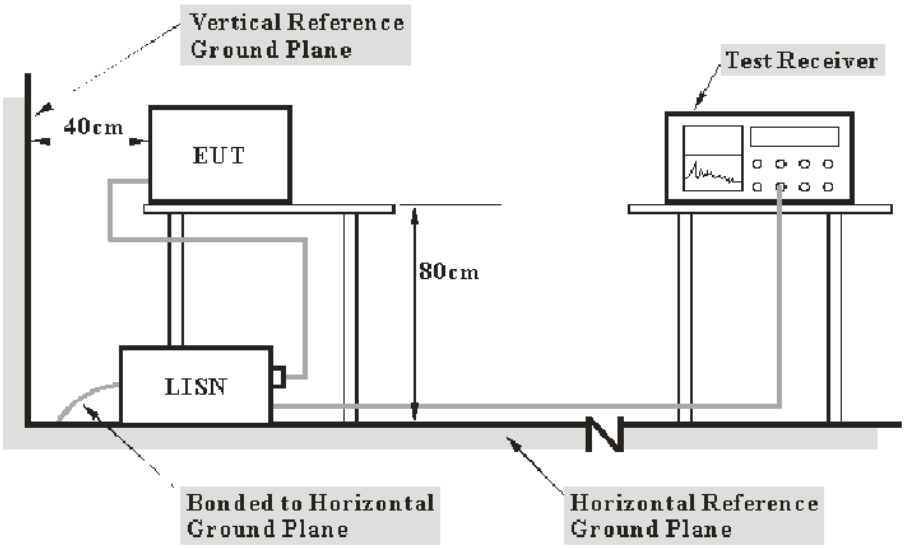
Result: Compliance.

FCC §15.207 (a), RSS-GEN CLAUSE 8.8 – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207(a), RSS-Gen§8.8.

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 C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 and RSS-Gen 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 the main LISN with an AC 120V/60Hz 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 Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-01	2018-09-05	2019-09-05
R&S	Test Software	EMC32	Version8.53.0	N/A	N/A
R&S	Two-line V-network	ENV 216	101614	2018-12-10	2019-12-10
R&S	EMI Test Receiver	ESPI	100120	2019-05-09	2020-05-09

*** 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 Procedure

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

According FCC publication number 174176,for a device with a permanent antenna operating at or below 30 MHz, the measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) perform the AC line conducted tests with the permanent antenna to determine compliance with the Section 15.207 limits outside the transmitter's fundamental emission band; (2) retest with a dummy load in lieu of the permanent antenna to determine compliance with the Section 15.207 limits within the transmitter's fundamental emission band.

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$V_C = V_R + A_C + VDF$

Herein,
V_C: corrected voltage amplitude
V_R: reading voltage amplitude

A_c: attenuation caused by cable loss

VDF: voltage division factor of AMN or ISN

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 limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207.

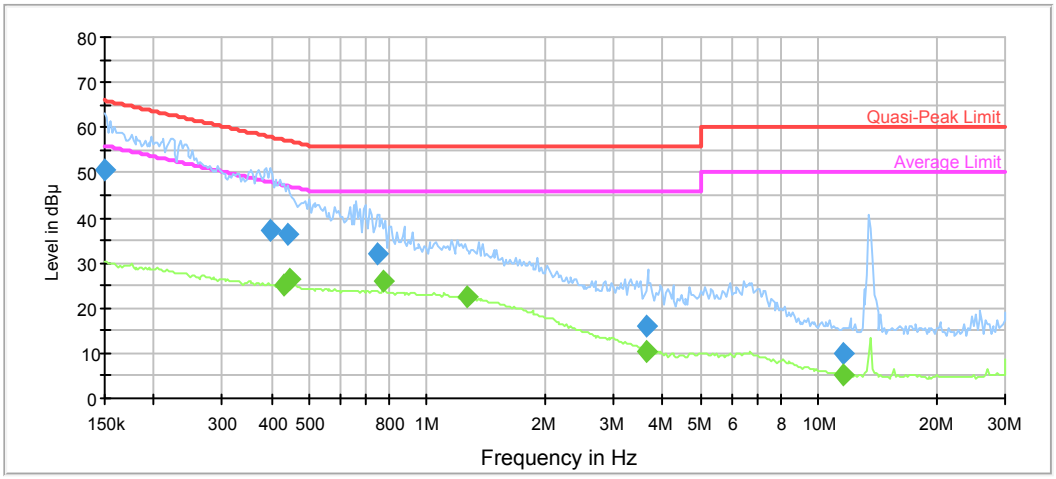
Test Data

Environmental Conditions

Temperature:	28.3℃
Relative Humidity:	57%
ATM Pressure:	100kPa
Tester:	Lily Xie
Test Date:	2019-06-27

Test Mode: Transmitting

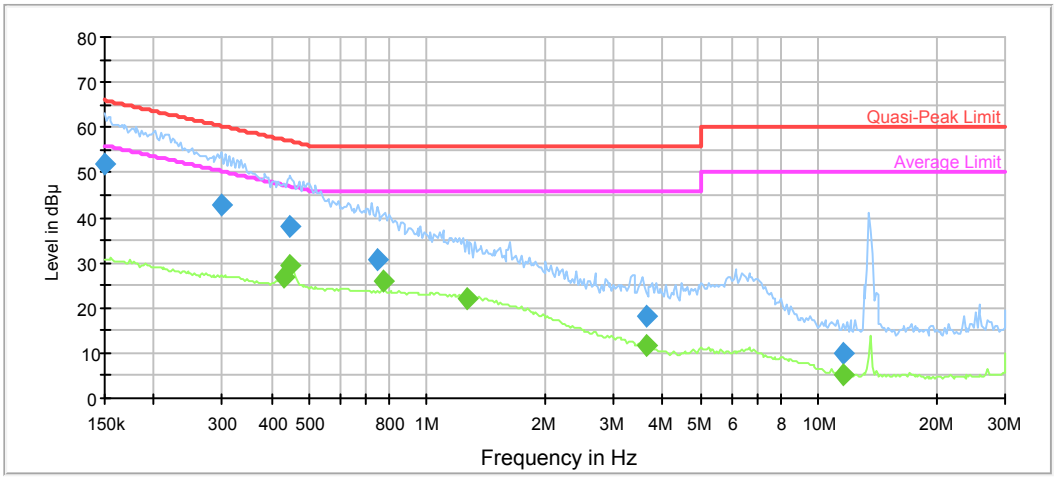
AC120 V, 60 Hz, Line:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	50.6	9.000	L1	11.2	15.4	66.0
0.397728	37.0	9.000	L1	10.0	21.9	57.9
0.439339	36.5	9.000	L1	9.9	20.6	57.1
0.744445	31.9	9.000	L1	9.8	24.1	56.0
3.621856	16.0	9.000	L1	9.8	40.0	56.0
11.601974	9.8	9.000	L1	9.8	50.2	60.0

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.430682	25.1	9.000	L1	9.9	22.1	47.2
0.448170	26.3	9.000	L1	9.9	20.6	46.9
0.774673	26.1	9.000	L1	9.8	19.9	46.0
1.261437	22.3	9.000	L1	9.8	23.7	46.0
3.621856	10.5	9.000	L1	9.8	35.5	46.0
11.601974	5.4	9.000	L1	9.8	44.6	50.0

AC120 V, 60 Hz, Neutral:



Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	51.8	9.000	N	11.2	14.2	66.0
0.298034	42.7	9.000	N	10.1	17.6	60.3
0.448170	37.9	9.000	N	9.9	19.0	56.9
0.744445	30.5	9.000	N	9.8	25.5	56.0
3.621856	18.1	9.000	N	9.8	37.9	56.0
11.601974	9.8	9.000	N	9.8	50.2	60.0

Frequency (MHz)	Average (dBµV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.430682	26.7	9.000	N	9.9	20.5	47.2
0.443733	29.6	9.000	N	9.9	17.4	47.0
0.774673	26.1	9.000	N	9.8	19.9	46.0
1.261437	22.2	9.000	N	9.8	23.8	46.0
3.621856	11.5	9.000	N	9.8	34.5	46.0
11.601974	5.2	9.000	N	9.8	44.8	50.0

FCC§15.225, §15.205 & §15.209&RSS-210§B.6, RSS-Gen§8.10- RADIATED EMISSIONS

Applicable Standard

As per FCC Part 15.225

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

According to RSS-210 §4.1,4.3 & B.6:

B.6 Band 13.110-14.010 MHz

The field strength of any emission shall not exceed the following limits:

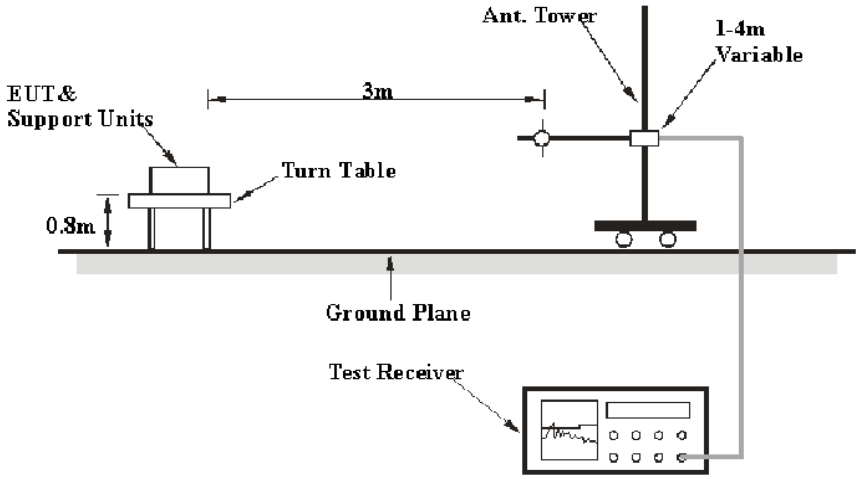
a. 15.848 mV/m (84 dBµV/m) at 30 m, within the band 13.553-13.567 MHz;

b. 334 µV/m (50.5 dBµV/m) at 30 m, within the bands 13.410-13.553 MHz and 13.567-13.710 MHz;

c. 106 µV/m (40.5 dBµV/m) at 30 m, within the bands 13.110-13.410 MHz and 13.710-14.010 MHz; and

d. RSS-Gen general field strength limits for frequencies outside the band 13.110-14.010 MHz.

EUT Setup



The radiated emission tests were performed in the 3-meter chamber test site, using the setup accordance with the ANSI C63.10-2013 and RSS-Gen. The specification used was the FCC Part Subpart C and the RSS-210 and RSS-Gen limits.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 1 GHz.

During the radiated emission test, the EMI test Receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	Detector
9 kHz – 150 kHz	200 Hz	1 kHz	QP
150 kHz – 30 MHz	9 kHz	30 kHz	QP
30 MHz – 1000 MHz	120 kHz	300 kHz	QP

If the maximized peak measured value complies with the limit, then it is unnecessary to perform an QP measurement

Corrected Amplitude & Margin Calculation

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

Corr. Ampl. = 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 - Corr. Ampl.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EMCO	Passive Loop	6512	9706-1206	2017-03-05	2020-03-04
R&S	EMI Test Receiver	ESCI	100224	2018-12-10	2019-12-10
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2018-09-05	2019-09-05
HP	Amplifier	8447D	2727A05902	2018-09-05	2019-09-05

*** 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 Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209&15.225,RSS-210 and RSS-Gen.

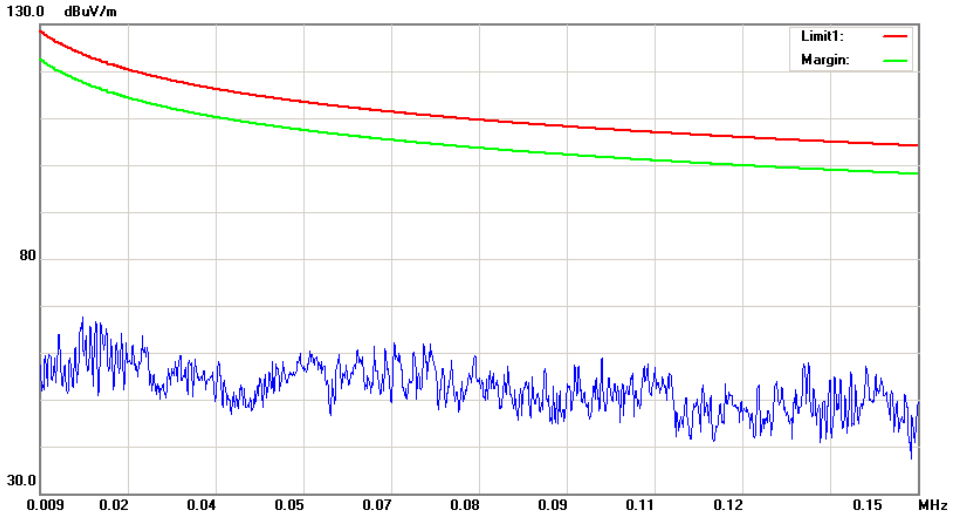
Test Data

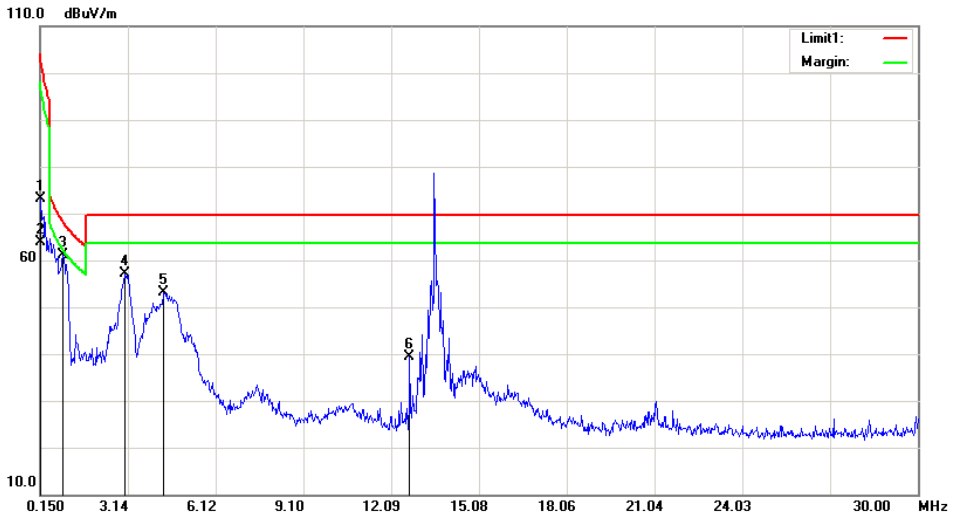
Environmental Conditions

Test Items	Radiation Below 1GHz
Temperature:	27 °C
Relative Humidity:	46%
ATM Pressure:	100.1 kPa
Tester:	Sunny Chen
Test Date:	2019-06-27

Test mode: Transmitting

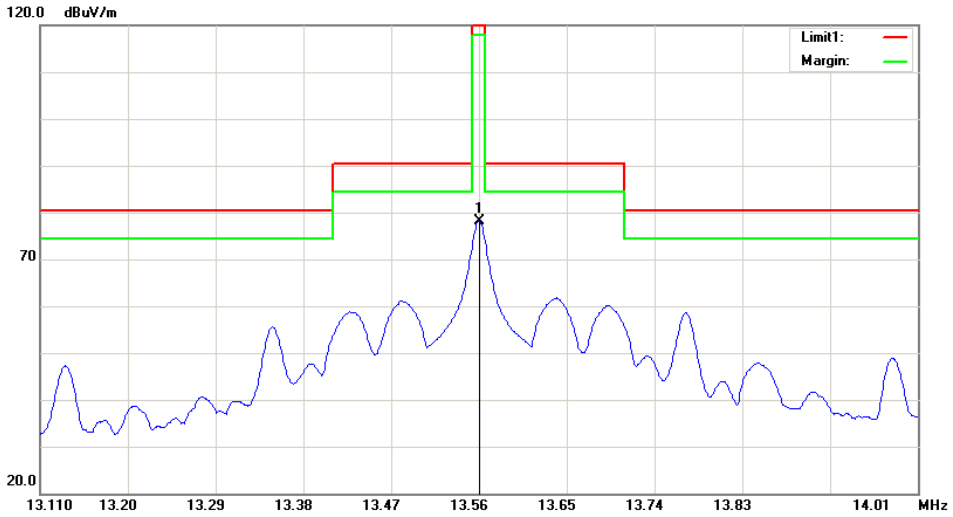
1) 9 kHz~30 MHz:





Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
0.1800	36.83	peak	36.40	73.23	102.50	29.27
0.1800	27.36	AVG	36.40	63.76	102.50	38.74
0.9261	38.62	peak	22.42	61.04	68.27	7.23
3.0156	44.14	peak	13.10	57.24	69.54	12.30
4.3590	42.10	peak	11.14	53.24	69.54	16.30
12.7170	30.37	peak	8.93	39.30	69.54	30.24

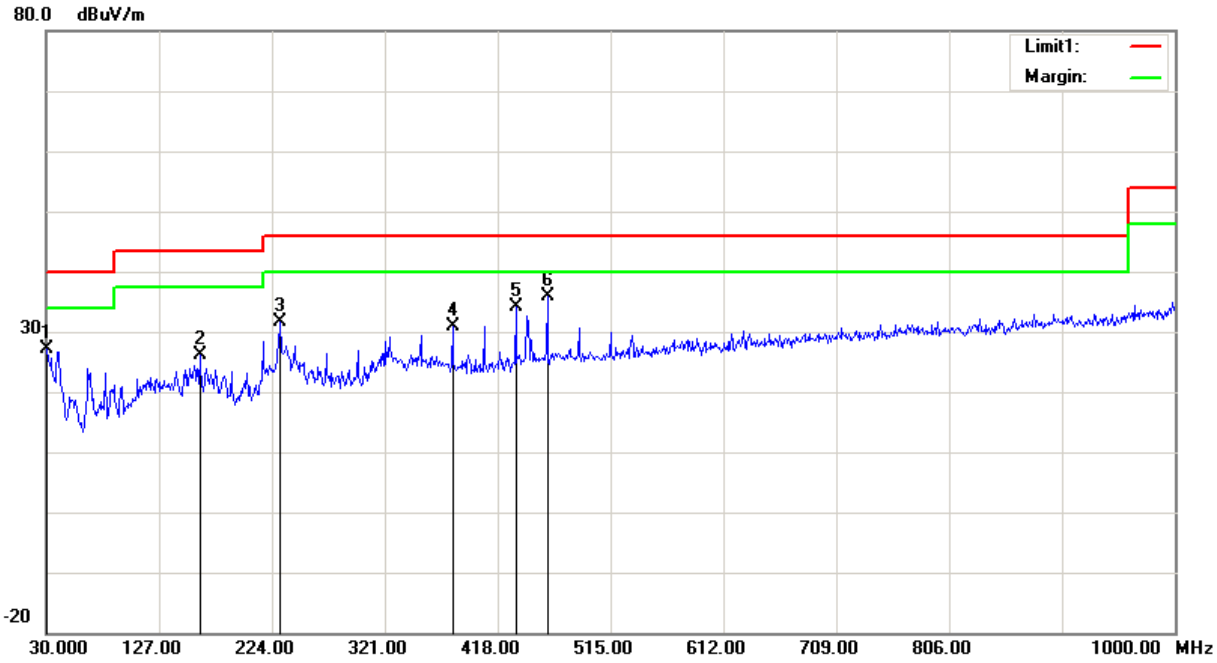
Fundamental:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
13.5600	69.34	peak	8.90	78.24	124.00	45.76

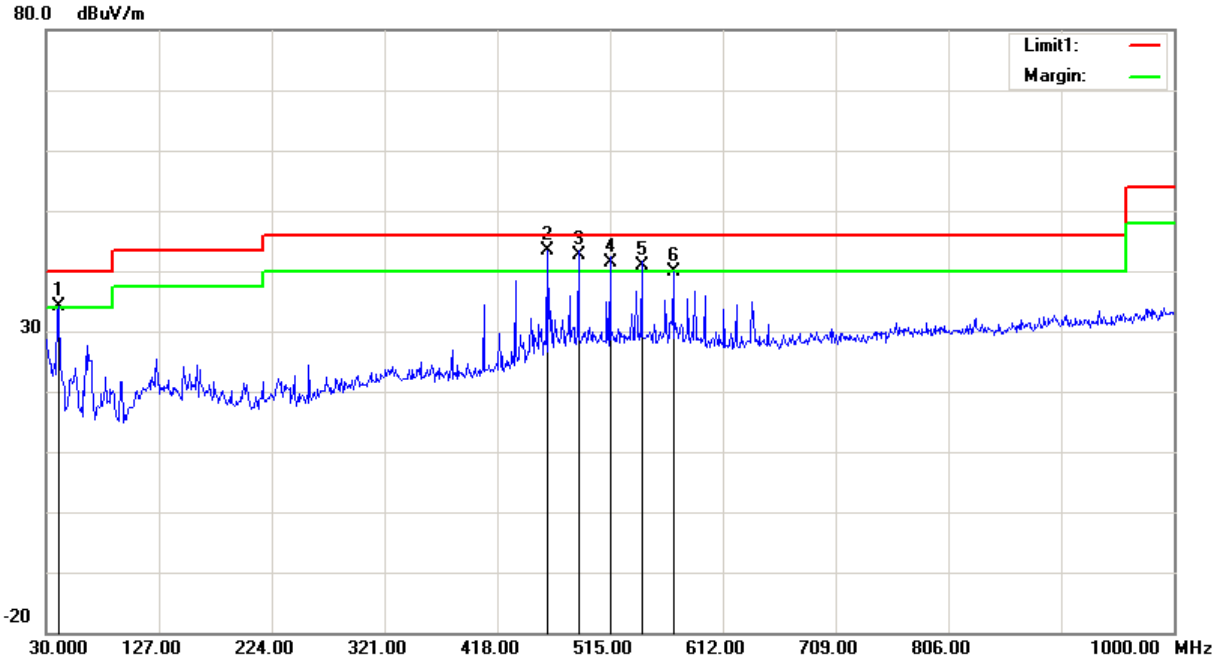
30MHz-1GHz

Horizontal



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
30.9700	26.19	peak	0.91	27.10	40.00	12.90
161.9200	32.26	peak	-6.06	26.20	43.50	17.30
230.7900	37.96	peak	-6.36	31.60	46.00	14.40
379.2000	33.46	peak	-2.58	30.88	46.00	15.12
433.5200	35.27	peak	-1.23	34.04	46.00	11.96
460.6800	36.63	peak	-0.83	35.80	46.00	10.20

Vertical



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
40.6700	40.45	peak	-6.32	34.13	40.00	5.87
460.6800	44.10	QP	-0.83	43.27	46.00	2.73
487.8400	43.05	QP	-0.38	42.67	46.00	3.33
515.0000	41.60	QP	-0.19	41.41	46.00	4.59
542.1600	40.65	QP	0.31	40.96	46.00	5.04
569.3200	38.87	peak	0.99	39.86	46.00	6.14

FCC§15.225(e)&RSS-210 Clause B.6 - FREQUENCY STABILITY

Applicable Standard

As per FCC Part 15.225:

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of −20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

According to RSS-210§B.6:

Carrier frequency stability shall be maintained to ±0.01% (±100 ppm).

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power.

The EUT was placed inside the temperature chamber.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Spectrum Analyzer.

Frequency Stability vs. Voltage: An external variable DC power supply Source. The voltage was set to the end point of the battery. The output frequency was recorded for each voltage.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EMCO	Passive Loop	6512	9706-1206	2017-03-05	2020-03-04
R&S	EMI Test Receiver	ESCI	100224	2018-12-10	2019-12-10
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2018-09-05	2019-09-05
HP	Amplifier	8447D	2727A05902	2018-09-05	2019-09-05
ESPEC	Constant temperature and humidity Tester	ESX-4CA	018 463	2019-03-26	2020-03-26
UNI-T	Multimeter	UT39A	M130199938	2018-07-24	2019-07-24
Pro instrument	DC Power Supply	pps3300	3300012	N/A	N/A

*** 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:	27 °C
Relative Humidity:	46%
ATM Pressure:	100.1 kPa
Tester:	Sunny Chen
Test Date:	2019-06-27

Test Mode: Transmitting

Test Result: Pass

f_o = 13.56 MHz				
Temperature	**Voltage**	**Measured frequency**	**Frequency Error**	**Limit**
℃	**V_{DC}**	**MHz**	**Hz**	**Hz**
-20	3.6	13.560032	32	±1356
-10		13.560029	29	±1356
0		13.560036	36	±1356
10		13.560039	39	±1356
20		13.560027	27	±1356
25		13.560036	36	±1356
30		13.560038	38	±1356
40		13.560031	31	±1356
50		13.560046	46	±1356
25	3.5	13.560030	30	±1356
25	4.2	13.560032	32	±1356

FCC §15.215(c) &RSS-GEN §6.7– 20 dB BANDWIDTH TESTING AND 99% OCCUPIED BANDWIDTH

Applicable Standard

Per FCC §15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §15.217 through § 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of - band operation.

According to RSS-Gen §6.7

The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

In some cases, the "x dB bandwidth" is required, which is defined as the frequency range between two points, one at the lowest frequency below and one at the highest frequency above the carrier frequency, at which the maximum power level of the transmitted emission is attenuated x dB below the maximum in-band power level of the modulated signal, where the two points are on the outskirts of the in-band emission.

The following conditions shall be observed for measuring the occupied bandwidth and x dB bandwidth:

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.
- The detector of the spectrum analyzer shall be set to "Sample". However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or "Max Hold") may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99% emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5% of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99% emission bandwidth).

Test Procedure

Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EMCO	Passive Loop	6512	9706-1206	2017-03-05	2020-03-04
R&S	EMI Test Receiver	ESCI	100224	2018-12-10	2019-12-10
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2018-09-05	2019-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2018-09-05	2019-09-05
HP	Amplifier	8447D	2727A05902	2018-09-05	2019-09-05

*** 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

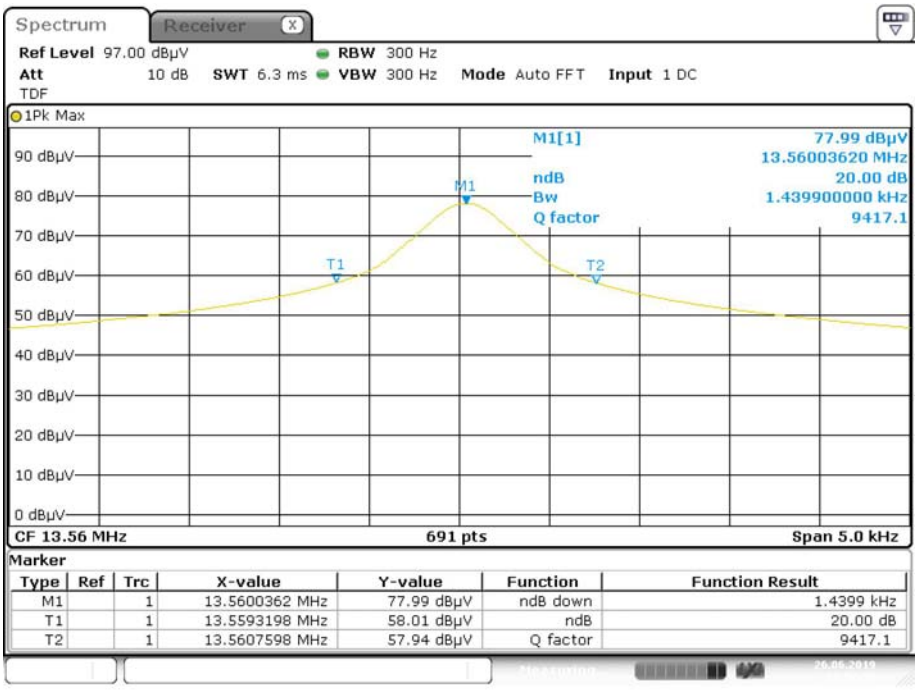
Environmental Conditions

Temperature:	27 °C~28 °C
Relative Humidity:	46%~48%
ATM Pressure:	100.1 kPa~100.2 kPa
Tester:	Sunny Chen
Test Date:	2019-06-27 and 2019-07-15

Test Mode: Transmitting

Frequency (MHz)	20 dB Bandwidth (KHz)	99% Occupied Bandwidth (kHz)
13.56	1.440	2.605

20 dB Bandwidth



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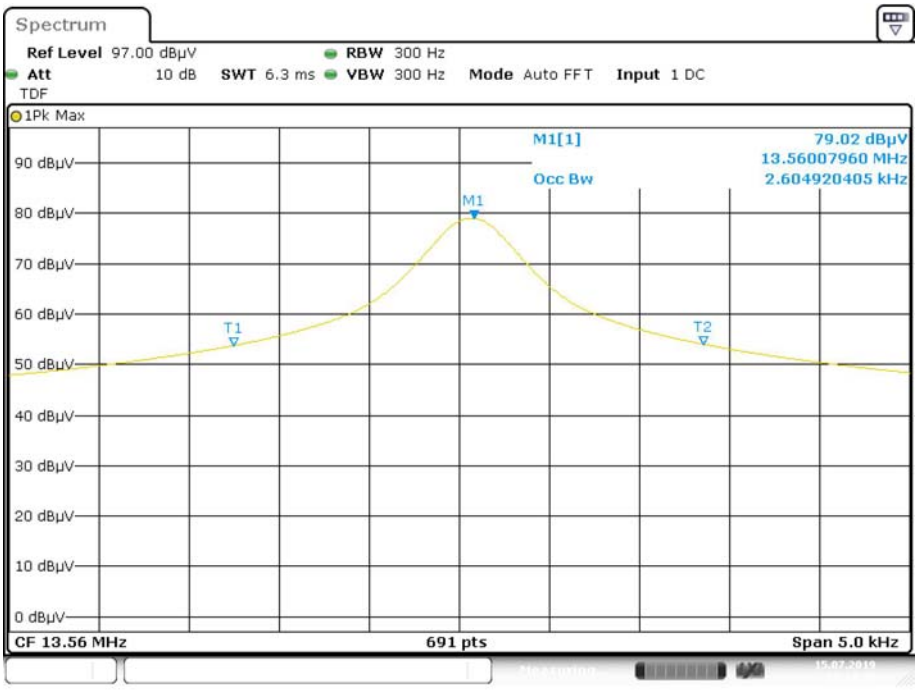
99% Occupied Bandwidth



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