



## FCC PART 15.247 TEST REPORT

For

## GDU-Tech Co., Ltd

11th floor, Tower 1, Novel Park, 4078 Dong Bin Road, Nanshan District, Shenzhen, China

FCC ID: 2AKIE-PD-SAGA-0302

Report Type: Product Type: Original Report GDU SAGA **Report Number:** RSZ181016810-00B **Report Date:** 2018-11-26 Rocky Kang Rocky Kang **Reviewed By:** RF Engineer Bay Area Compliance Laboratories Corp. (Shenzhen) Prepared By: 6/F., West Wing, Third 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

**Note:** This report must not be used by the customer to claim product certification, approval, or endorsement by A2LA\* or any agency of the Federal Government. \* This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "\*"

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## **GENERAL INFORMATION**

### **Product Description for Equipment under Test (EUT)**

The *GDU-Tech Co.*, *Ltd's* product, model number: *MGP01-SAGA* (FC*C ID: 2AKIE-PD-SAGA-0302*) or the "EUT" in this report was a *GDU SAGA*, which was measured approximately: 720 mm (L)  $\times$  545 mm (W)  $\times$  108 mm (H), rated with input voltage: DC 14.8 V from battery or DC 17.4 V from adapter.

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Adapter Information: Model: CPD-BC01

Input: AC 100-240V, 50/60Hz, 1.5A Output: DC 17.4V, 4A or DC 17.4V, 1A

\*All measurement and test data in this report was gathered from production sample serial number: 181016810. (Assigned by BACL, Shenzhen). The EUT supplied by the applicant was received on 2018-10-16.

### **Objective**

This report is prepared on behalf of *GDU-Tech Co.*, *Ltd* in accordance with Part 2-Subpart J, Part 15-Subparts A and C of the Federal Communication Commission's rules.

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

## Related Submittal(s)/Grant(s)

Submissions with the remote control unit of a system with FCC ID: 2AKIE-PD-RC01-0302 and FCC Part 15.407 NII submissions with FCC ID: 2AKIE-PD-SAGA-0302.

#### **Test Methodology**

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

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

#### **Measurement Uncertainty**

Parai	meter	uncertainty
Occupied Channel Bandwidth		±5%
RF output pov	ver, conducted	±1.5dB
Unwanted Emission, conducted		±1.5dB
Emissions,	Below 1GHz	±4.75dB
Radiated	Above 1GHz	±4.88dB
Tempe	erature	±3°C
Humidity		±6%
Supply	voltages	±0.4%

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## **Test Facility**

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 6/F., West Wing, Third Phase of Wanli Industrial Building, Shihua Road, Futian Free Trade Zone, Shenzhen, Guangdong, China.

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The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 342867, the FCC Designation No.: CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

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## **SYSTEM TEST CONFIGURATION**

## **Description of Test Configuration**

For 2.4GHz: 10MHz, mode, 7 channels are provided to testing

Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2406	5	2446
2	2416	6	2456
3	2426	7	2466
4	2436	/	/

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CH1, CH4, CH7 was tested.

## **Equipment Modifications**

No modification was made to the EUT tested.

#### **EUT Exercise Software**

"ADB" command was used during test.

For 2.4GHz band:

Antenna 0:

Power level			
Low channel Middle channel High channel			
18	18	18	

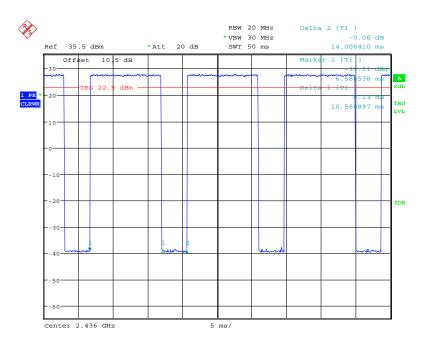
Antenna 1:

Power level			
Low channel Middle channel High channel			
18	18	18	

## **Duty cycle**

Duty Cycle (%)	T(ms)	1/T(kHz)	VBW Setting	10log(1/ Duty Cycle)
75.43	10.56	0.09	100Hz	1.19

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Date: 19.NOV.2018 22:08:22

## **Support Equipment List and Details**

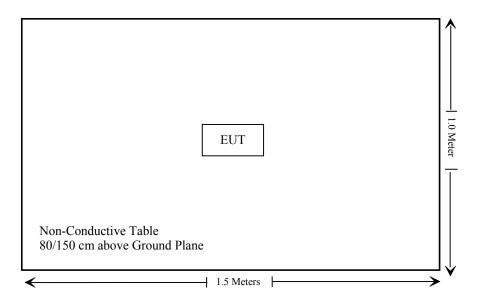
Manufacturer	Description	Model	Serial Number
/	/	/	/

## **External I/O Cable**

Cable Description	Length (m)	From Port	То
/	/	/	/

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## **Block Diagram of Test Setup**



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## SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307 (b) (1)& §2.1091	Maximum Permissible Exposure (MPE)	Compliance
§15.203	Antenna Requirement	Compliance
§15.207 (a)	AC Line Conducted Emissions	Not Applicable
\$15.205, \$15.209, \$15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance
§15.247(b)(3)	Maximum Conducted Output Power	Compliance
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance
§15.247(e)	Power Spectral Density	Compliance

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Not Applicable: The battery need be pulled out from EUT while it's been charging.

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## TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date	
	Radiated Emission Test					
A.H. System	Horn Antenna	SAS-200/571	135	2018-09-01	2021-08-31	
Rohde & Schwarz	Signal Analyzer	FSEM	845987/005	2018-06-23	2019-06-23	
Sunol Sciences	Broadband Antenna	JB1	A040904-1	2017-12-22	2020-12-21	
COM-POWER	Pre-amplifier	PA-122	181919	2018-05-22	2018-11-22	
Sonoma instrument	Amplifier	310N	186238	2017-11-12	2018-11-12	
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2018-01-11	2019-01-11	
Ducommun technologies	RF Cable	UFA147A- 2362-100100	MFR64639 231029-003	2018-08-01	2019-02-01	
Ducommun technologies	RF Cable	104PEA	218124002	2018-05-21	2018-11-21	
Ducommun technologies	RF Cable	RG-214	1	2018-05-21	2018-11-19	
Ducommun technologies	RF Cable	RG-214	2	2018-05-22	2018-11-22	
Ducommun Technologies	Horn Antenna	ARH-4223- 02	1007726-04	2017-12-29	2020-12-28	
Heatsink Required	Amplifier	QLW- 18405536-J0	15964001002	2018-08-01	2019-02-01	
Sinoscite	Band Reject Filter	BSF2402- 2480MN- 0898-001	99632	2018-05-21	2018-11-21	
Rohde & Schwarz	Auto test software	EMC 32	V9.10	NCR	NCR	
	RF	<b>Conducted Tes</b>	t			
Rohde & Schwarz	Spectrum Analyzer	FSU26	200120	2017-12-24	2018-12-24	
Agilent	USB wideband power meter	U2021XA	MY54250003	2018-06-23	2019-06-23	
Ducommun technologies	RF Cable	RG-214	3	Each	Time	
WEINSCHEL	10dB Attenuator	5324	AU 3842	Each	Time	

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<sup>\*</sup> Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

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

## **Applicable Standard**

According to subpart 15.247 (i) and subpart 1.1307 (b)(1), 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for General Population/Uncontrolled Exposure

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Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	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

#### Result

#### **Calculated Formulary:**

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)

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)

Frequency	Ante	Antenna Gain		Max Tune-up Conducted Power		Power Density	MPE Limit
(MHz)	(dBi)	(numeric)	(dBm)	(mW)	(cm)	$(mW/cm^2)$	(mW/cm <sup>2</sup> )
2406-2466	2	1.58	29.5	891.25	20	0.28	1.0

Note: 2.4GHz or 5GHz Radio can't transmit simultaneously for this device.

Note: To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

**Result: Compliance** 

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<sup>\* =</sup> Plane-wave equivalent power density

## FCC §15.203 - ANTENNA REQUIREMENT

### **Applicable Standard**

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

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- 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 internal antenna arrangements, which was permanently attached and the antenna gain is 2.0 dBi, fulfill the requirement of this section. Please refer to the EUT photos.

**Result:** Compliance.

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

## **Applicable Standard**

FCC §15.247 (d); §15.209; §15.205;

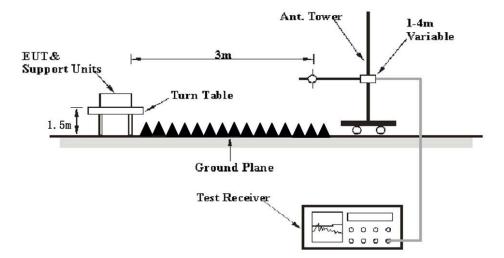
#### **EUT Setup**

#### **Below 1 GHz:**



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#### **Above 1GHz:**



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

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## **EMI Test Receiver & Spectrum Analyzer Setup**

The system was investigated from 30 MHz to 25 GHz.

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

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Frequency Range	RBW	Video B/W	IF B/W	Measurement
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
	1MHz	3 MHz	/	PK
Above 1 GHz	1MHz	10 Hz Note 1	/	Ave.
	1MHz	>1/T Note 2	/	Ave.

Note 1: when duty cycle is no less than 98% Note 2: when duty cycle is less than 98%

#### **Test Procedure**

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

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## **Test Results Summary**

According to the recorded data in following table, the EUT complied with the <u>FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247</u>.

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies with the limit if

$$L_{\rm m} + U_{(L{\rm m})} \leq L_{\rm lim} + U_{\rm cispr}$$

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In BACL,  $U_{(Lm)}$  is less than  $U_{cispr}$ , if  $L_m$  is less than  $L_{lim}$ , it implies that the EUT complies with the limit.

#### **Test Data**

#### **Environmental Conditions**

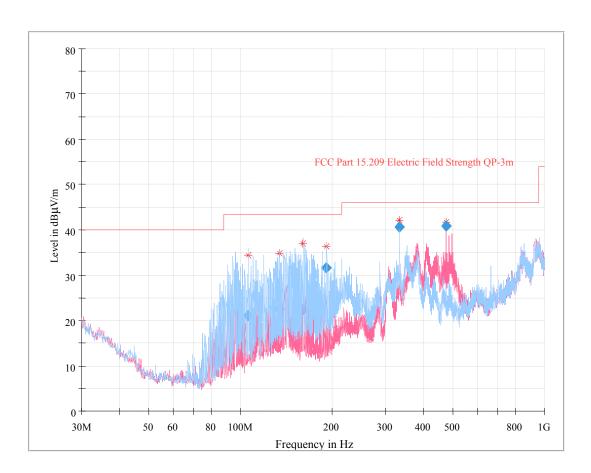
Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Shawn Xiao on 2018-10-23.

EUT operation mode: Transmitting with two antennas simultaneously

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## 30 MHz~1 GHz:



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Frequency (MHz)	Corrected Amplitude (dBµV/m)	Antenna height (cm)	Antenna Polarity	Turntable position (degree)	Correction Factor (dB/m)	Limit (dBµV/m)	Margin (dB)
106.170250	21.07	274.0	Н	15.0	-16.1	43.50	22.43
133.873500	22.58	171.0	Н	18.0	-13.9	43.50	20.92
160.757125	22.31	142.0	Н	90.0	-14.5	43.50	21.19
192.000625	31.61	114.0	Н	264.0	-14.9	43.50	11.89
331.997750	40.74	108.0	Н	217.0	-10.8	46.00	5.26
475.196500	41.45	100.0	V	310.0	-7.7	46.00	4.55

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## 1 GHz-25 GHz:

Frequency	Re	eceiver	Turntable	Rx Aı	ntenna		Corrected		C Part 7/205/209
(MHz)	Reading (dBµV)	PK/QP/Ave.		Height (m)	Polar (H/V)	Factor (dB/m)	Amplitude (dBµV/m)	Limit (dBµV/m)	Margin (dB)
			Low Ch	annel (2	2406 MI	Hz)			
2406.00	76.07	PK	191	2.3	Н	33.00	109.07	/	/
2406.00	63.04	Ave.	191	2.3	Н	33.00	96.04	/	/
2406.00	75.28	PK	142	2.5	V	33.00	108.28	/	/
2406.00	62.89	Ave.	142	2.5	V	33.00	95.89	/	/
2399.00	36.95	PK	173	1.4	Н	33.00	69.95	89.07	19.12
2399.00	18.12	Ave.	173	1.4	Н	33.00	51.12	76.04	24.92
4812.00	52.68	PK	94	2.5	Н	7.88	60.56	74	13.44
4812.00	37.68	Ave.	94	2.5	Н	7.88	45.56	54	8.44
7218.00	46.29	PK	273	1.4	Н	15.88	62.17	74	11.83
7218.00	32.50	Ave.	273	1.4	Н	15.88	48.38	54	5.62
Middle Channel (2436MHz)									
2436.00	74.79	PK	166	1.8	Н	33.10	107.89	/	/
2436.00	61.94	Ave.	166	1.8	Н	33.10	95.04	/	/
2436.00	74.08	PK	118	1.0	V	33.10	107.18	/	/
2436.00	61.32	Ave.	118	1.0	V	33.10	94.42	/	/
4872.00	49.47	PK	354	1.4	Н	9.21	58.68	74	15.32
4872.00	35.92	Ave.	354	1.4	Н	9.21	45.13	54	8.87
7308.00	47.42	PK	325	1.4	Н	14.61	62.03	74	11.97
7308.00	33.57	Ave.	325	1.4	Н	14.61	48.18	54	5.82
			High Ch	annel (2	2466 MI	Hz)			
2466.00	72.59	PK	157	1.7	Н	33.10	105.69	/	/
2466.00	60.17	Ave.	157	1.7	Н	33.10	92.27	/	/
2466.00	71.53	PK	58	2.2	V	33.10	104.63	/	/
2466.00	58.05	Ave.	58	2.2	V	33.10	91.15	/	/
2483.94	3403	PK	100	1.2	Н	33.20	67.23	74	6.77
2483.94	14.71	Ave.	100	1.2	Н	33.20	47.91	54	6.09
4932.00	48.05	PK	1	1.1	Н	9.21	57.26	74	16.74
4932.00	34.63	Ave.	1	1.1	Н	9.21	43.84	54	10.16
7398.00	45.38	PK	114	1.8	Н	14.79	60.17	74	13.83
7398.00	29.29	Ave.	114	1.8	Н	14.79	44.08	54	9.92

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#### Note:

 $Corrected\ Factor = Antenna\ factor\ (RX) + Cable\ Loss - Amplifier\ Factor$ 

Corrected Amplitude = Corrected Factor + Reading

Margin = Limit - Corrected. Amplitude

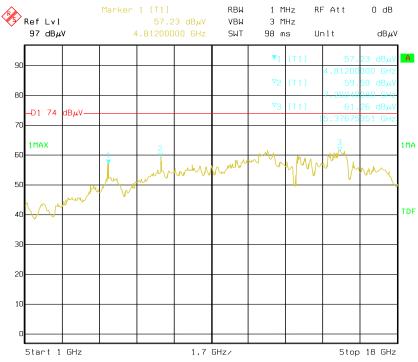
The other spurious emission which is 20dB to the limit was not recorded.

And for the pre-scan is performed with the 2400-2483.5MHz band filter.

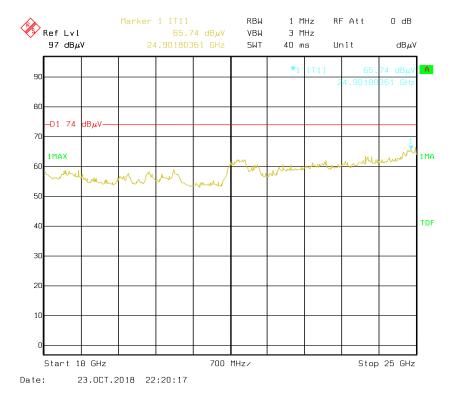
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## Pre-scan with Low channel, for Peak

#### Horizontal

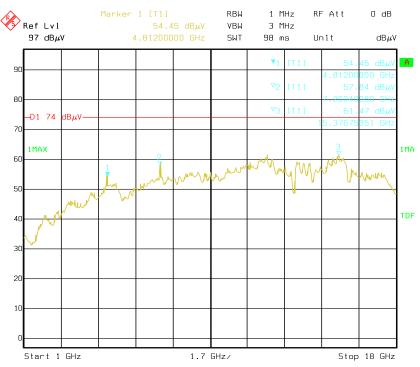




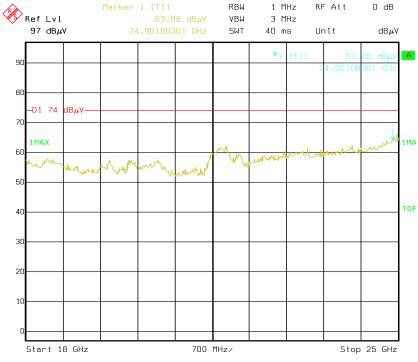


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#### Vertical



Date: 23.0CT.2018 21:27:08

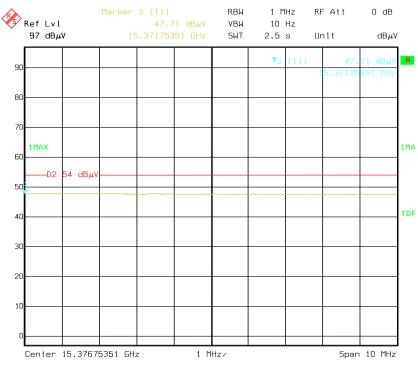


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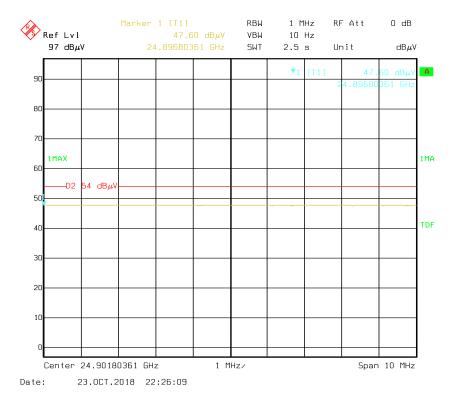
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#### For Average

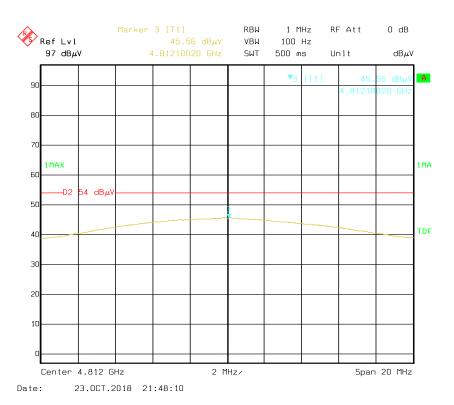
#### Horizontal

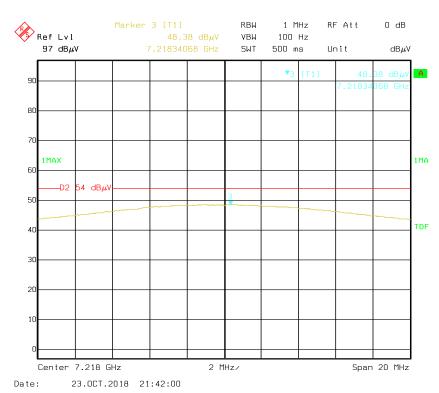






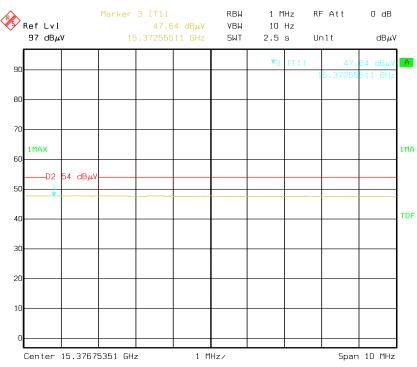
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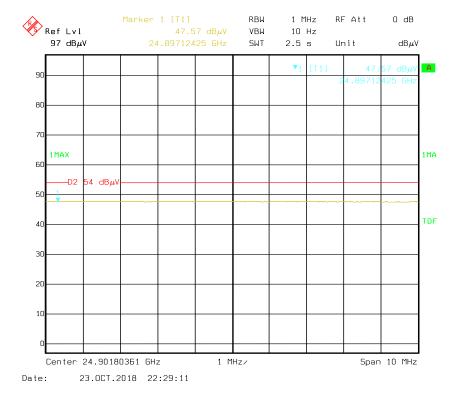


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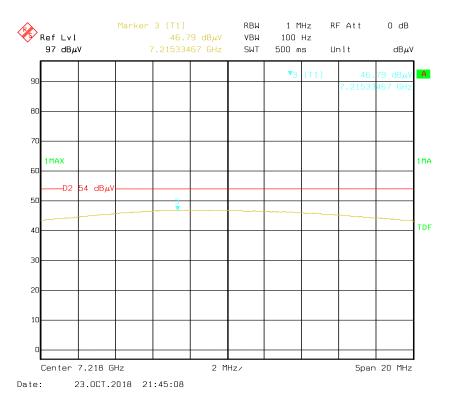
#### Vertical



Date: 23.0CT.2018 21:31:10



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## FCC $\S15.247(a)$ (2) – 6 dB EMISSION BANDWIDTH

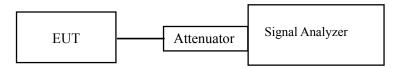
### **Applicable Standard**

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.

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#### **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 Data**

#### **Environmental Conditions**

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Shawn Xiao on 2018-11-19.

Test Result: Pass.

Please refer to the following table and plots.

EUT operation mode: Transmitting

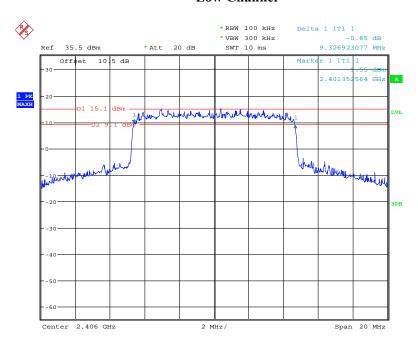
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## For Antenna 0:

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (kHz)
Low	2406	9.327	≥500
Middle	2436	9.359	≥500
High	2466	9.327	≥500

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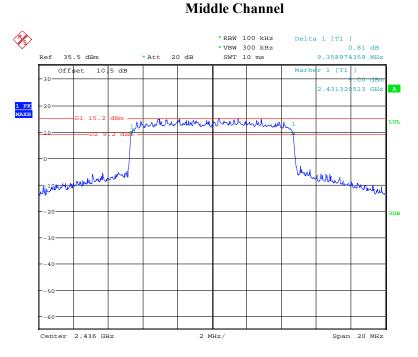
#### **Low Channel**



Date: 19.NOV.2018 21:52:13

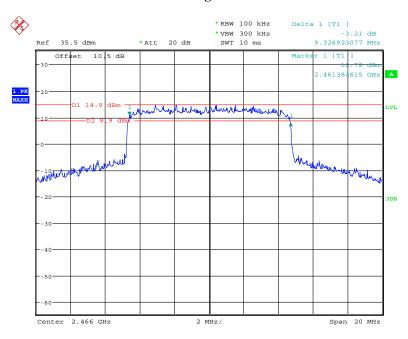
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Date: 19.NOV.2018 21:50:47

## **High Channel**



Date: 19.NOV.2018 21:47:43

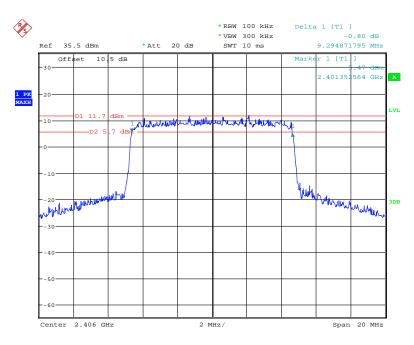
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#### For Antenna 1:

Channel	Frequency (MHz)	6 dB Emission Bandwidth (MHz)	Limit (kHz)
Low	2406	9.295	≥500
Middle	2436	9.263	≥500
High	2466	9.295	≥500

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#### **Low Channel**

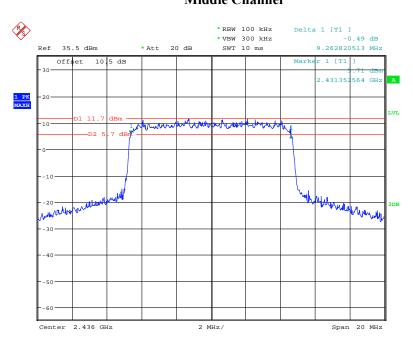


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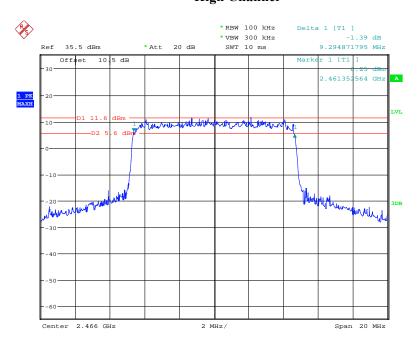
## **Middle Channel**

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Date: 19.NOV.2018 23:13:26

## **High Channel**



Date: 19.NOV.2018 23:12:00

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

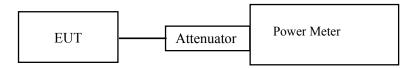
## Applicable Standard

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

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#### **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 one test equipment.
- 3. Add a correction factor to the display.



#### **Test Data**

#### **Environmental Conditions**

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Shawn Xiao on 2018-11-22.

EUT operation mode: Transmitting

Channel	Frequency (MHz)	Antenna 0 (dBm)	Antenna 1 (dBm)	Total Conducted Peak Output Power (dBm)	Limit (dBm)
Low	2406	26.70	25.64	29.21	30
Middle	2436	26.77	25.90	29.37	30
High	2466	26.64	25.87	29.28	30

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

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#### **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 Data**

#### **Environmental Conditions**

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Shawn Xiao on 2018-11-19.

EUT operation mode: Transmitting (Testing with combined two antennas transmitting simultaneously)

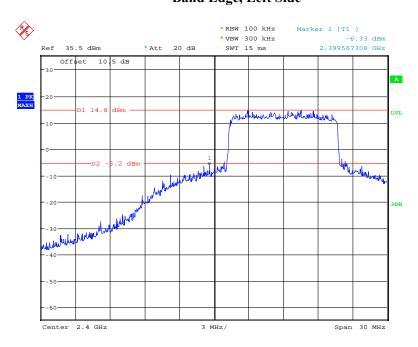
Test Result: Compliance

Please refer to the following plots.

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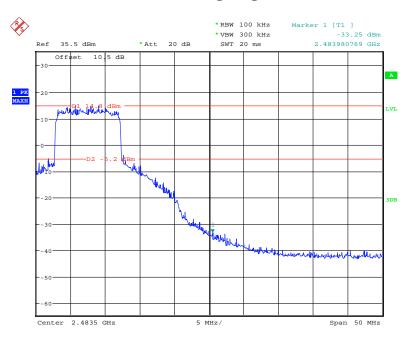
## Band Edge, Left Side

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Date: 19.NOV.2018 21:58:18

## Band Edge, Right Side



Date: 19.NOV.2018 21:57:01

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## 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.

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#### **Test Procedure**

- 1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
- 2. Set the RBW to:  $3kHz \le RBW \le 100 \text{ kHz}$ .
- 3. Set the VBW  $> 3 \times RBW$ .
- 4. Set the span to 1.5 times the DTS bandwidth.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



#### **Test Data**

#### **Environmental Conditions**

Temperature:	25 ℃
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Shawn Xiao on 2018-11-19.

EUT operation mode: Transmitting

**Test Result:** Pass

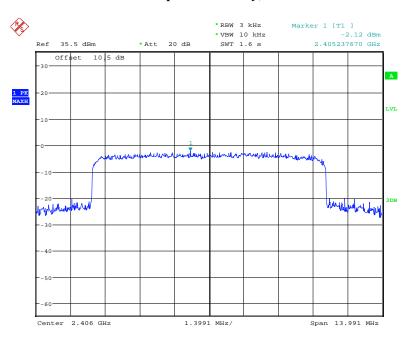
Channel	Frequency (MHz)	Antenna 0 (dBm/3kHz)	Antenna 1 (dBm/3kHz)	Total PSD (dBm/3kHz)	Limit (dBm/3kHz)
Low	2406	-2.12	-6.23	-0.70	≤8
Middle	2436	-2.77	-5.97	-1.07	≤8
High	2466	-2.58	-6.83	-1.19	≤8

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#### Antenna 0

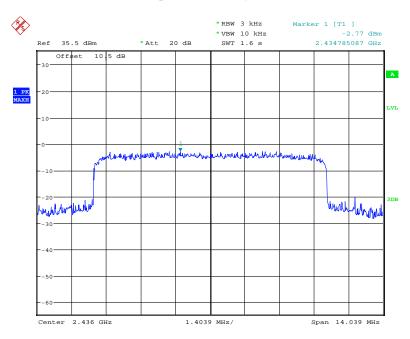
## **Power Spectral Density, Low Channel**

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Date: 19.NOV.2018 22:02:19

## **Power Spectral Density, Middle Channel**

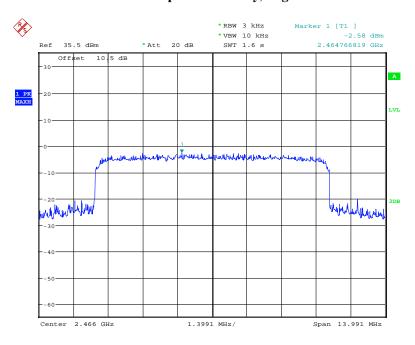


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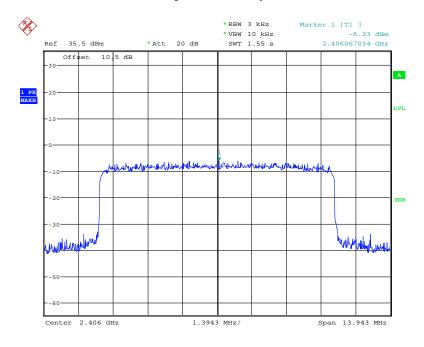
## **Power Spectral Density, High Channel**



Date: 19.NOV.2018 22:06:02

#### Antenna 1

### **Power Spectral Density, Low Channel**

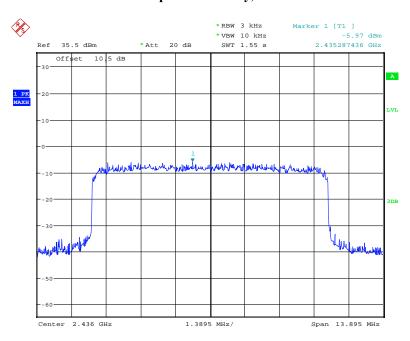


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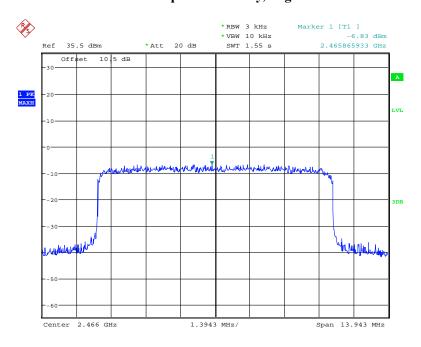
## **Power Spectral Density, Middle Channel**

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Date: 19.NOV.2018 23:21:48

## **Power Spectral Density, High Channel**



Date: 19.NOV.2018 23:20:41

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

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