TESTING LABORATORY
CERTIFICATE #4820.01

FCC PART 95

MEASUREMENT AND TEST REPORT

For

Oculii Corp.

829 Space Dr, Beavercreek Ohio 45434, United States

FCC ID: 2AXVNFALCON

Report Type:	**Product Type:**
Original Report	FALCON

Report Number:	RTZ200827001-00
Report Date:	2020-10-15
Reviewed By:	Ivan Cao Assistant 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 Name:	FALCON
EUT Model:	FALCON
Operation Frequency:	76.50 GHz
Modulation Mode:	FMCW
Maximum Output Power: (EIRP)	18.1 dBm/MHz(Peak) 9.2 dBm(Average)
Rated Input Voltage:	DC 12 V from system
Serial Number:	RDG200821001-RF-s1
EUT Received Date:	2020.8.28
EUT Received Status:	Good

Objective

This report is prepared on behalf of ***Oculii Corp.*** in accordance with Part 2 and Part 95, Subpart M of the Federal Communication Commissions rules.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All tests and measurements indicated in this document were performed in accordance with Part 95 Subpart M of the Federal Communication Commissions rules and KDB 653005 76-81 GHz Radars v01. And ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

All emissions measurement was performed and Bay Area Compliance Laboratories Corp. (Dongguan).

Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
Radiated Emissions	30MHz ~ 1GHz:5.85 dB 1G~40 GHz: 5.23 dB
Temperature	±1℃
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%

Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "△ ". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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FAR Field Boundary Calculations

The far-field boundary is given in ANSI C63.10-2013:

$Rm = 2D^2/\lambda$

Where:

D is the largest dimension of the antenna aperture in m and

λ is the free-space wavelength in m at the frequency of measurement.

The minimum test distance for the frequency range 40 GHz-231 GHz determine as below:

Model	Frequency Range (GHz)	Largest Dimension of the Horn Antenna (mm)	Minimum Test Distance R_m (m)
M19RH	40-60	46.3	0.57
M12RH	60-90	30.02	0.36
M08RH	90-140	19.7	0.23
M05RH	140-220	12.5	0.15
M03RH	220-325	8.36	0.10

Note: the test distances used were 1.0 m from 40 GHz to 90 GHz, and 0.5 m from 90 GHz to 231GHz, it can be seen that the EUT was always in the Far-field of the Receive Antenna during all Radiated Emissions Tests.

Test Equipment List

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB3	A060611-2	2020-08-25	2023-08-25
R&S	EMI Test Receiver	ESCI	100224	2020-09-12	2021-09-12
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-02	2020-09-05	2021-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0530-01	2020-09-24	2021-09-24
Sonoma	Amplifier	310N	185914	2020-10-13	2021-10-13
Farad	Test Software	EZ-EMC	V1.1.4.2	N/A	N/A
TDK RF	Horn Antenna	HRN-0118	130 084	2018-10-12	2021-10-12
Ducommun Technolagies	Horn Antenna	ARH-4223-02	1007726-01 1304	2017-12-06	2020-12-05
Ducommun Technolagies	Horn Antenna	ARH-2823-02	1007726-01 1302	2017-12-06	2020-12-05
OML	Harmonic Mixer	WR19/M19HWD	U60313-1	2019-10-14	2022-10-14
OML	Horn Antenna	M19RH	11648-01	2019-10-14	2022-10-14
OML	Harmonic Mixer	WR12/M12HWD	E60120-1	2019-10-19	2022-10-19
OML	Horn Antenna	M12RH	E60120-2	2019-10-19	2022-10-19
OML	Harmonic Mixer	WR08/M08HWD	F60313-1	2019-10-24	2022-10-24
OML	Horn Antenna	M08RH	F60313-2	2019-10-24	2022-10-24
OML	Harmonic Mixer	WR05/M05HWD	G60106-1	2019-10-27	2022-10-27
OML	Horn Antenna	M05RH	G60106-2	2019-10-27	2022-10-27
OML	Harmonic Mixer	WR03/M03HWD	H60120-1	2019-11-01	2022-11-01
OML	Horn Antenna	M03RH	H60120-2	2019-11-01	2022-11-01
R&S	Spectrum Analyzer	FSV40	101474	2020-07-07	2021-07-07
Agilent	Spectrum Analyzer	E4440A	SG43360054	2020-07-07	2021-07-07
HUBER+SUHNER	Coaxial Cable	SUCOFLEX 126EA	MY369/26/26EA	2020-09-25	2021-09-25
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2020-09-05	2021-09-05
Quinstar	Amplifier	QLW-18405536-JO	15964001001	2020-06-27	2021-06-27
Farad	Test Software	EZ-EMC	V1.1.4.2	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).

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing in Engineering Mode, which was provided by the manufacturer.

Equipment Modifications

No modification was made to the EUT tested.

EUT Exercise Software

The software "Radar View Lite.exe" was used to monitor the operating status during the test.

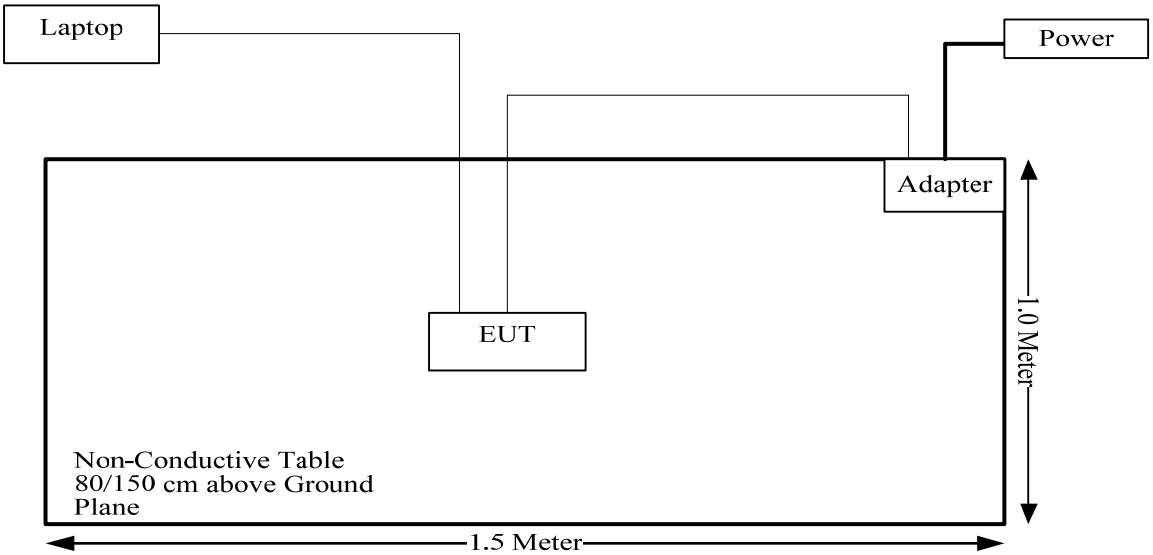
Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
NETGEA	Adapter	2AA-J012F	2AA-J012F

Support Cable List and Details

Cable Description	Shielding Cable	Ferrite Core	Length (m)	From Port	To
DC Cable	No	No	2	Adapter	EUT
Wiring Harness	No	No	2.5	EUT	Laptop

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§1.1310,§2.1091, §95.3385	Maximum Permissible Exposure	Compliance
§2.1046, §95.3367	Radiated power	Compliance
§2.1053, §95.3379	Unwanted emissions	Compliance
§2.1055(d), §95.3379	Frequency Stability	Compliance
§2.1049	Occupied Bandwidth	Compliance

FCC§1.1310 & §2.1091&§95.3385- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (V/m)**	**Magnetic Field Strength (A/m)**	**Power Density (mW/cm^2)**	**Averaging Time (minutes)**
0.3–1.34	614	1.63	*(100)	30
1.34–30	824/f	2.19/f	*(180/f²)	30
30–300	27.5	0.073	0.2	30
300–1500	/	/	f/1500	30
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

According to §1.1310 and §2.1091 RF exposure is calculated.

According to §95.3385
Regardless of the power density levels permitted under this subpart, devices operating under the provisions of this subpart are subject to the radiofrequency radiation exposure requirements specified in §§1.1307(b), 2.1091, and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

Calculation Formula:

Prediction of Power Density at the distance of the applicable MPE Limit

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Calculated Data:

Frequency (GHz)	**Average E.I.R.P**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
	(dBm)	**(mW)**			
76.5	10	10	20	0.002	1.0

Result: The device complied with the applicable MPE Limit at the 20 cm distance.

FCC §2.1046, §95.3367 – RADIATED POWER

Applicable Standard

Acorrding to FCC §95.3367

The fundamental radiated emission limits within the 76-81 GHz band are expressed in terms of Equivalent Isotropically Radiated Power (EIRP) and are as follows:

(a) The maximum power (EIRP) within the 76-81 GHz band shall not exceed 50 dBm based on measurements employing a power averaging detector with a 1 MHz Resolution Bandwidth (RBW).

(b) The maximum peak power (EIRP) within the 76-81 GHz band shall not exceed 55 dBm based on measurements employing a peak detector with a 1 MHz RBW.

Test Procedure

Refer to ANSI C63.10-2013 Clause 9.10

Connect the test antenna for the fundamental frequency band to a spectrum analyzer via an external mixer.

Set spectrum analyzer RBW, VBW, detector, span, and so on, to the proper values.

Maximize the fundamental emission, noting that multiple peaks may be found at different beam orientations and/or polarizations

Calculate the EIRP from the measured field strength using Equation

$$\mathrm{EIRP} = E_{\mathrm{Meas}} + 20\log\left(d_{\mathrm{Meas}}\right) - 104.7$$

Test Data

Environmental Conditions

Temperature:	26.9 °C
Relative Humidity:	47%
ATM Pressure:	100.7kPa
Test by:	Hanson Li, Felix Wang
Test Date:	2020.09.15

Test Result: Compliance. Please refer to the below table.

Test Mode: Transmitting

Peak EIRP:

Frequency	Receiver		Rx Antenna		Corrected Amplitude	EIPR Power	Limit	Margin
	Reading	Detector	Polar	Factor				
GHz	dBµV	PK/AV	H/V	dB(1/m)	dBµV/m	dBm/MHz	dBm/MHz	dB
76.50	79.39	PK	V	43.41	122.8	18.1	55	36.9

Average EIRP :

Frequency	Receiver		Rx Antenna		Corrected Amplitude	EIPR Power	Limit	Margin
	Reading	Detector	Polar	Factor				
GHz	dBµV	PK/AV	H/V	dB(1/m)	dBµV/m	dBm	dBm	dB
76.50	70.49	AV	V	43.41	113.9	9.2	50	40.8

Note 1:The test distance is 1 m.
Note 2:Corrected Amplitude = Meter Reading + Antenna Factor
Note 3: The Mixers and it`s RF cables is compose a system for calibration, the conversion factor was added into the test Spectrum Analyzer in testing.
Note 4: per KDB 653005 76-81 GHz Radars v01, peak power test used 1 MHz RBW, average power test used 1 MHz RBW and integrated over the full OBW.

FCC §2.1053 & §95.3379 - UNWANTED EMISSIONS

Applicable Standard

FCC §2.1053 and §95.3379

(a) The power density of any emissions outside the 76-81 GHz band shall consist solely of spurious emissions and shall not exceed the following:

(1) Radiated emissions below 40 GHz shall not exceed the field strength as shown in the following emissions table.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

(i) In the emissions table in paragraph (a)(1) of this section, the tighter limit applies at the band edges.

(ii) The limits in the table in paragraph (a)(1) of this section are based on the frequency of the unwanted emissions and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

(iii) The emissions limits shown in the table in paragraph (a)(1) of this section are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9.0-90.0 kHz, 110.0-490.0 kHz, and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector with a 1 MHz RBW.

(2) The power density of radiated emissions outside the 76-81 GHz band above 40.0 GHz shall not exceed the following, based on measurements employing an average detector with a 1 MHz RBW:

(i) For radiated emissions outside the 76-81 GHz band between 40 GHz and 200 GHz from field disturbance sensors and radar systems operating in the 76-81 GHz band: 600 pW/cm^2 at a distance of 3 meters from the exterior surface of the radiating structure.

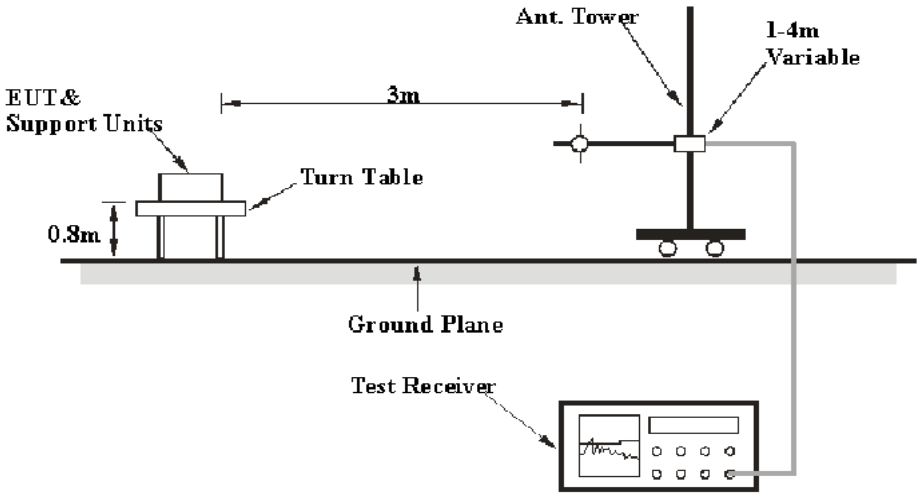
(ii) For radiated emissions above 200 GHz from field disturbance sensors and radar systems operating in the 76-81 GHz band: 1000 pW/cm^2 at a distance of 3 meters from the exterior surface of the radiating structure.

(3) For field disturbance sensors and radar systems operating in the 76-81 GHz band, the spectrum shall be investigated up to 231.0 GHz.

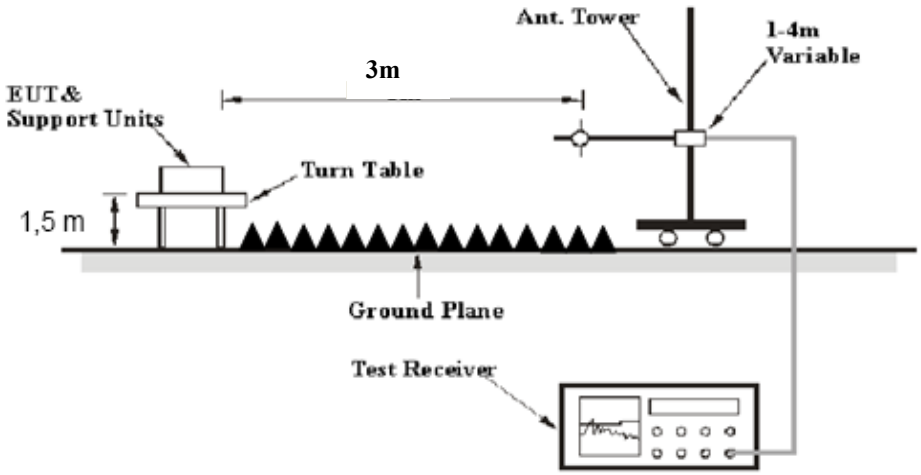
(b) Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation. Equipment is presumed to operate over the temperature range −20 to +50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

EUT Setup

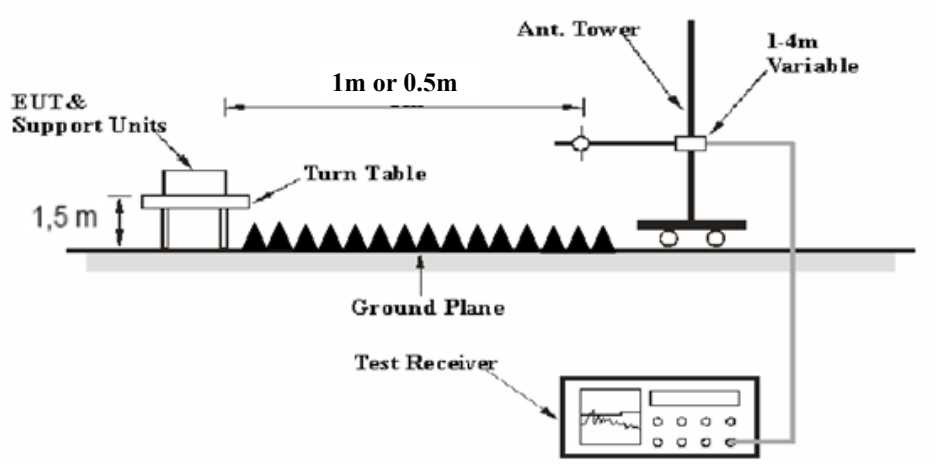
Below 1 GHz:



1-40 GHz:



40-231GHz:



The antenna is scanned around the entire perimeter surface of the EUT, in both horizontal and vertical polarizations, at the distance of 1.0 m from 40 GHz to 90 GHz, and 0.5 m for above 90 GHz.

The radiated emission and out of band emission tests were performed in the 3 meters chamber test site A, using the setup accordance with the ANSI C63.10-2013 The specification used was the FCC 95. 3379 limits.

Test Equipment Setup

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

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	120 kHz	300 kHz	120 kHz	QP
1-40 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave
40 GHz – 231 GHz	1MHz	3 MHz	/	PK

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

Test Procedure

Refer to ANSI C63.10-2013 Clauses 9.9, 9.12, and 9.13.

A Maximizing procedure was performed to ensure that the highest emissions from the EUT were actually measured in all of the Test Arrangements of the EUT and Local Support Equipment.

All emissions under the average limit and under the noise floor have not recorded in the report.

Corrected Amplitude & Margin Calculation

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

Corrected = Antenna Loss + 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:

Result = Reading + Corrected

Margin = Limit - Result

Test Data

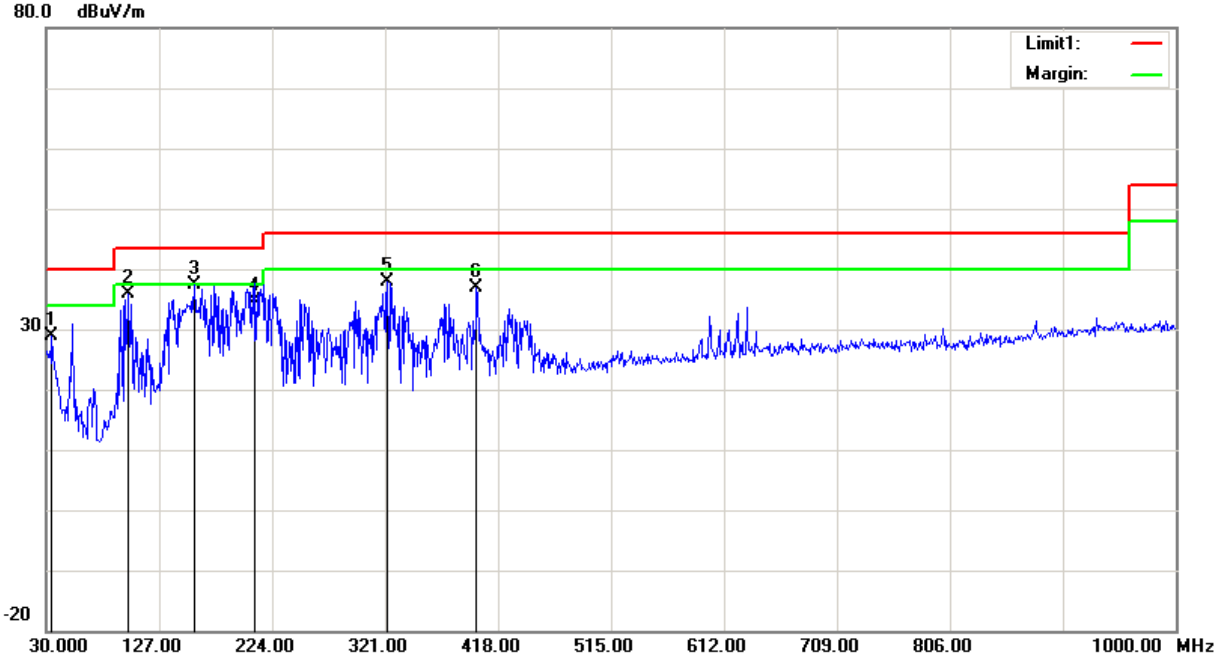
Environmental Conditions

Temperature:	26.9 °C
Relative Humidity:	47%
ATM Pressure:	100.7kPa
Test by:	Hanson Li, Felix Wang
Test Date:	2020.09.15

Test Result: Compliance. Please refer to the below table and plots.

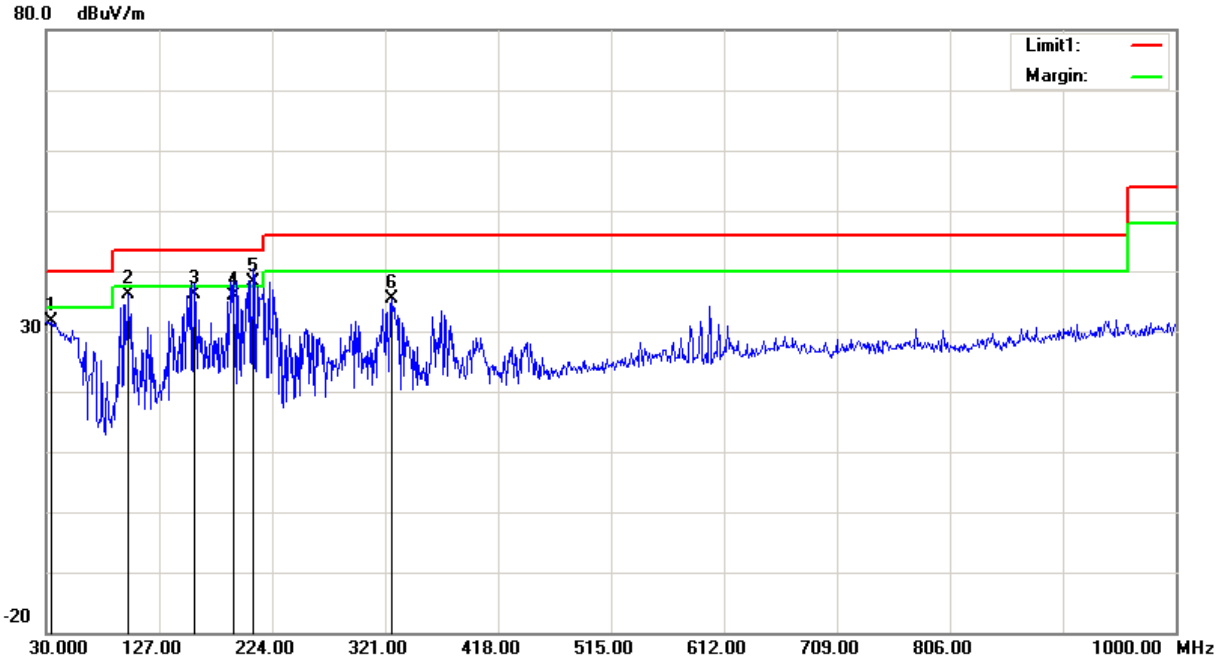
1) 30MHz-1 GHz

Horizontal:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
34.8500	35.61	peak	-6.63	28.98	40.00	11.02
100.8100	49.81	peak	-13.91	35.90	43.50	7.60
157.0700	46.75	peak	-9.37	37.38	43.50	6.12
209.4500	45.70	QP	-11.16	34.54	43.50	8.96
322.9400	44.80	peak	-7.02	37.78	46.00	8.22
399.5700	42.21	peak	-5.27	36.94	46.00	9.06

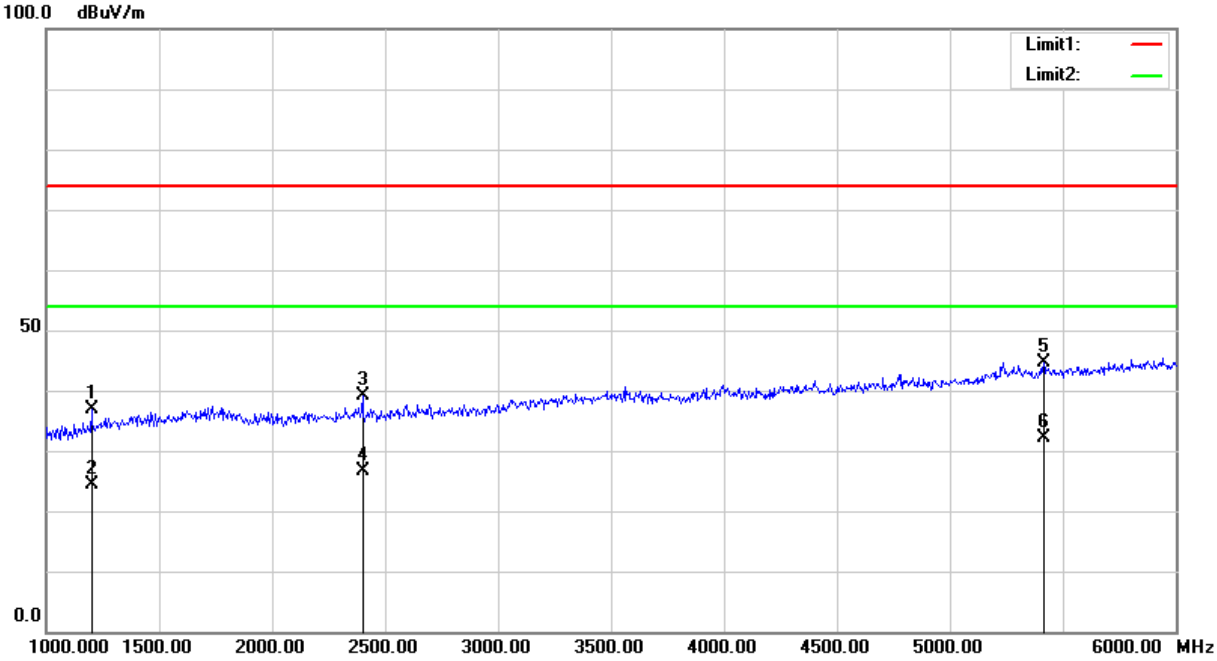
Vertical:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
33.8800	37.76	peak	-6.11	31.65	40.00	8.35
100.8100	50.04	peak	-13.91	36.13	43.50	7.37
157.0700	45.40	QP	-9.37	36.03	43.50	7.47
191.0200	46.40	QP	-10.49	35.91	43.50	7.59
207.5100	48.87	QP	-10.81	38.06	43.50	5.44
326.8200	42.34	peak	-7.04	35.30	46.00	10.70

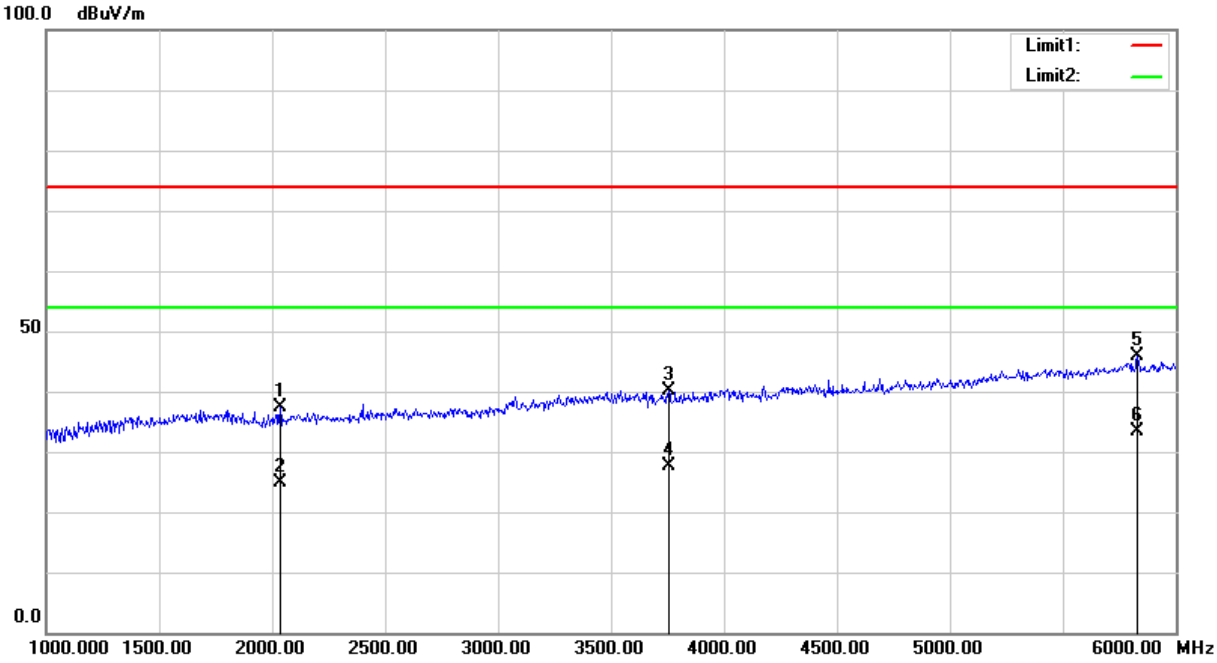
1 GHz-40 GHz:

Horizontal:



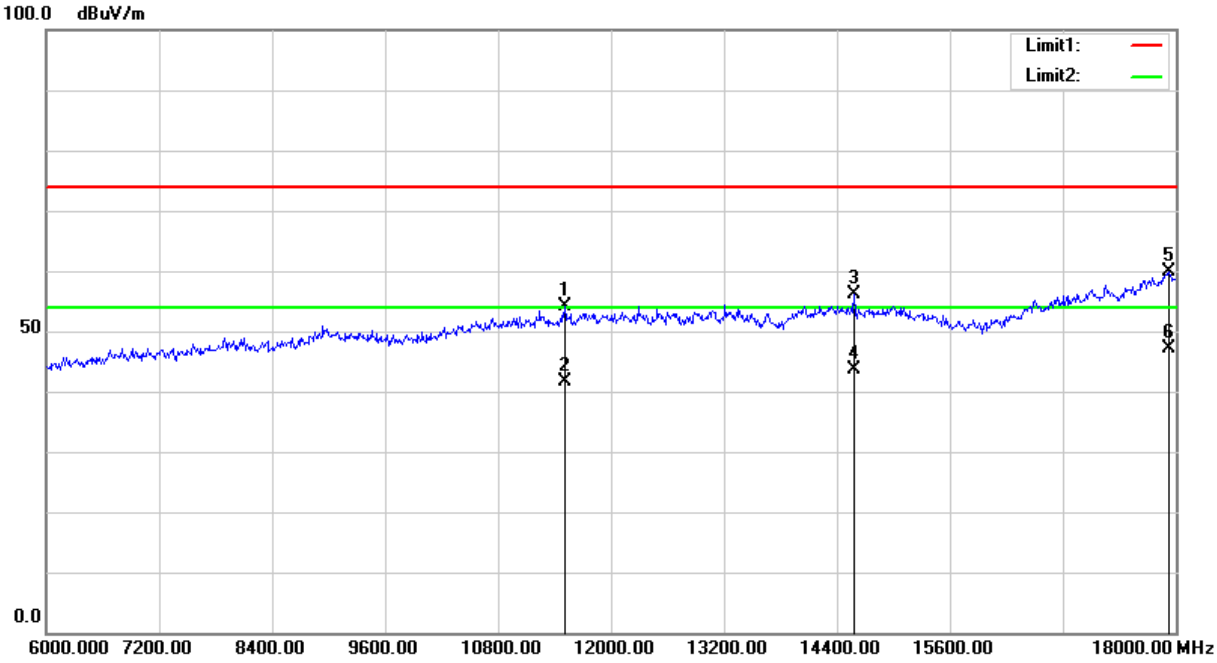
Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1200.000	40.01	peak	-3.06	36.95	74.00	37.05
1200.000	27.47	AVG	-3.06	24.41	54.00	29.59
2400.000	39.69	peak	-0.49	39.20	74.00	34.80
2400.000	27.06	AVG	-0.49	26.57	54.00	27.43
5415.000	36.51	peak	8.11	44.62	74.00	29.38
5415.000	24.12	AVG	8.11	32.23	54.00	21.77

Vertical:



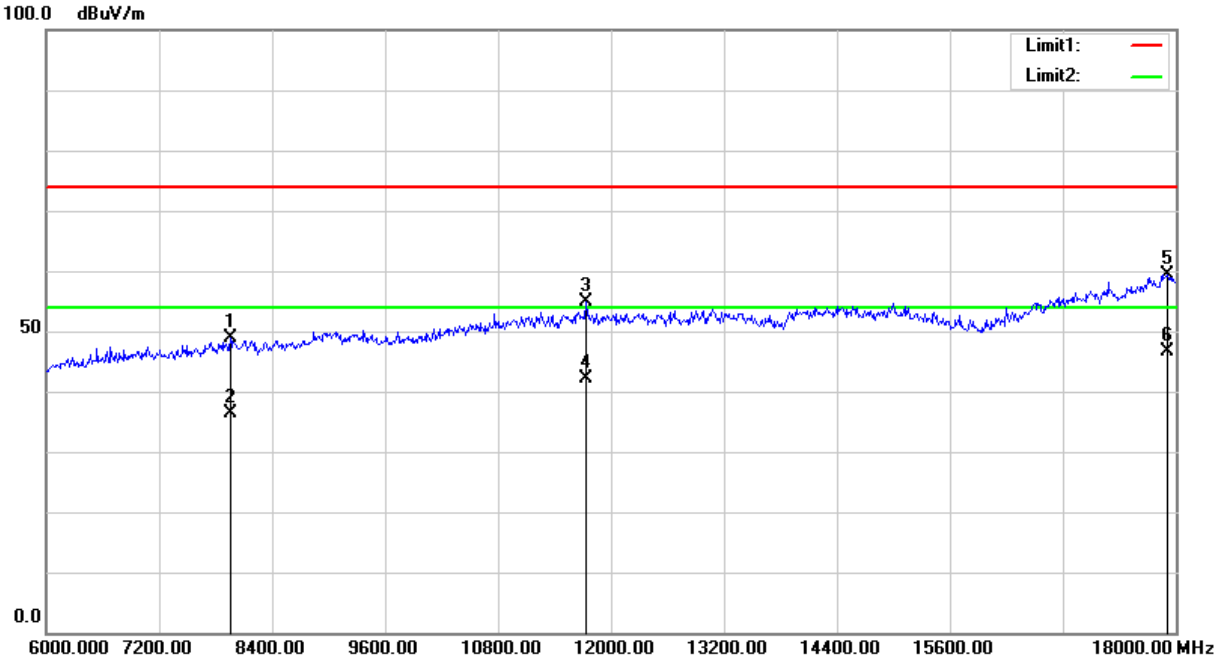
Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
2035.000	38.79	peak	-1.42	37.37	74.00	36.63
2035.000	26.31	AVG	-1.42	24.89	54.00	29.11
3755.000	36.14	peak	4.08	40.22	74.00	33.78
3755.000	23.67	AVG	4.08	27.75	54.00	26.25
5832.500	36.67	peak	9.33	46.00	74.00	28.00
5832.500	24.15	AVG	9.33	33.48	54.00	20.52

Horizontal:



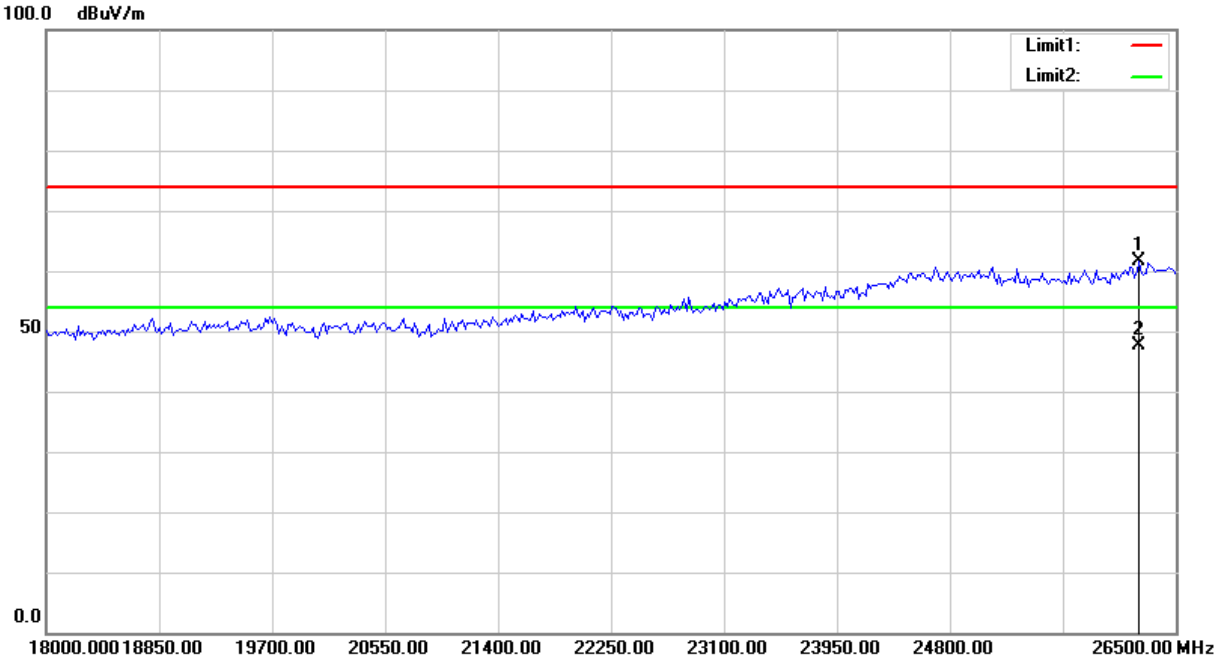
Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
11508.000	36.53	peak	17.52	54.05	74.00	19.95
11508.000	24.07	AVG	17.52	41.59	54.00	12.41
14580.000	35.78	peak	20.34	56.12	74.00	17.88
14580.000	23.29	AVG	20.34	43.63	54.00	10.37
17928.000	33.32	peak	26.49	59.81	74.00	14.19
17928.000	20.69	AVG	26.49	47.18	54.00	6.82

Vertical:



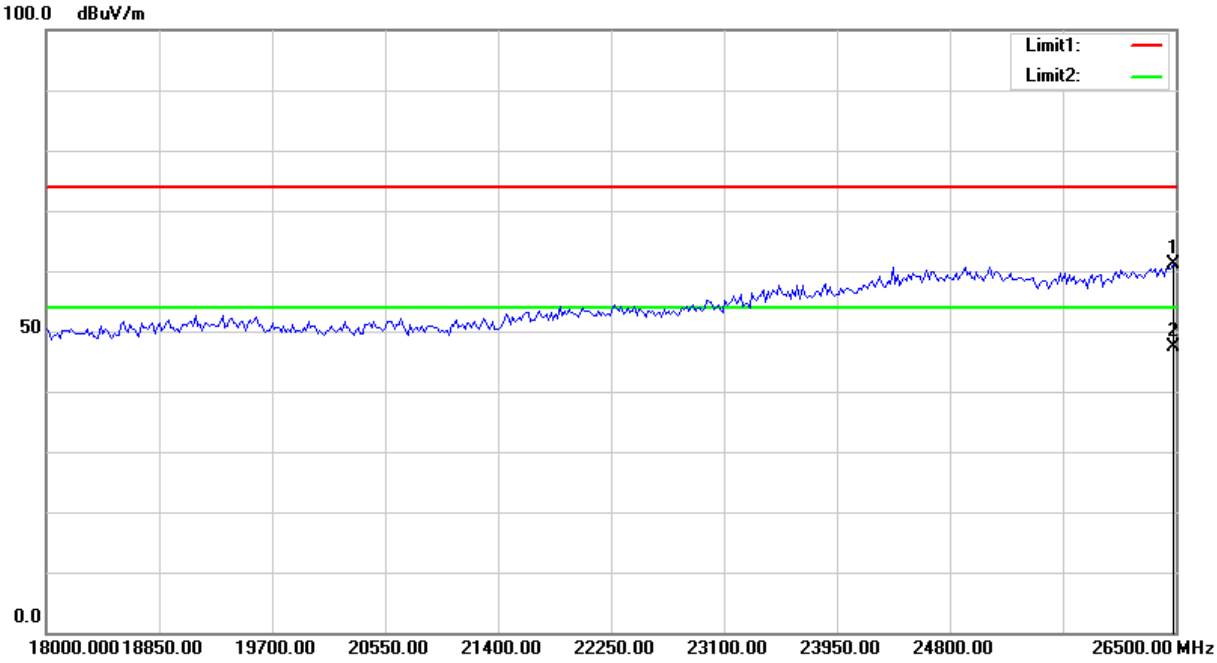
Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
7956.000	36.05	peak	12.80	48.85	74.00	25.15
7956.000	23.59	AVG	12.80	36.39	54.00	17.61
11736.000	37.19	peak	17.57	54.76	74.00	19.24
11736.000	24.51	AVG	17.57	42.08	54.00	11.92
17922.000	32.97	peak	26.50	59.47	74.00	14.53
17922.000	20.25	AVG	26.50	46.75	54.00	7.25

Horizontal:



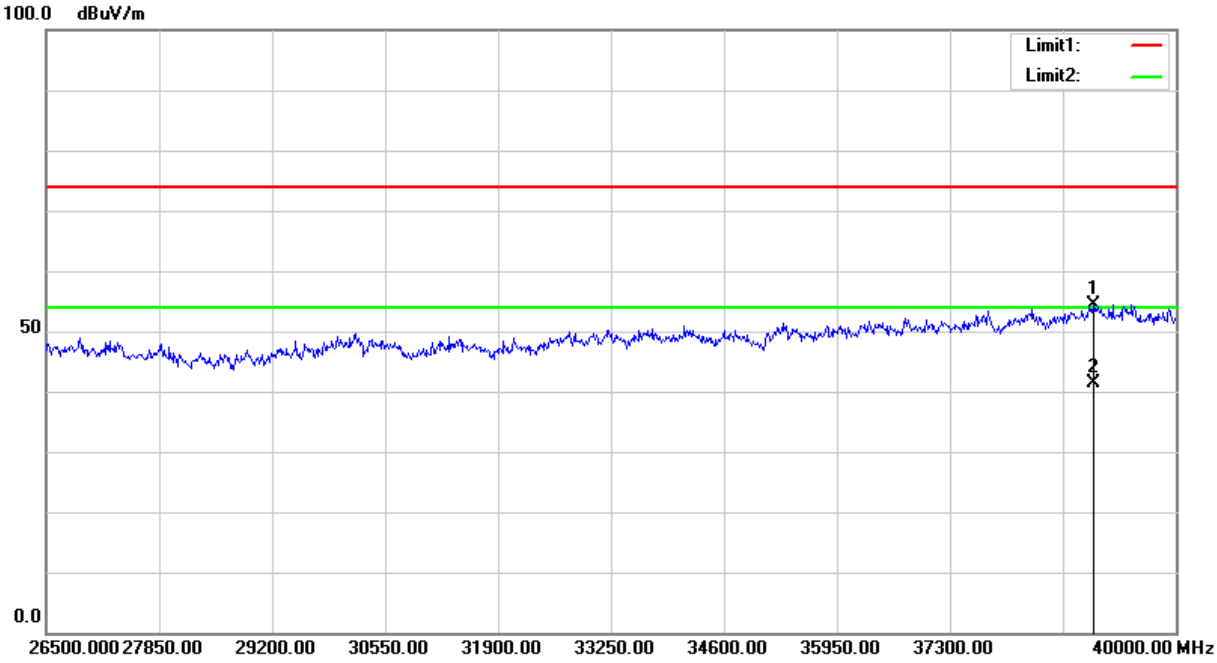
Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
26227.455	41.03	peak	20.64	61.67	74.00	12.33
26227.455	27.05	AVG	20.64	47.69	54.00	6.31

Vertical:



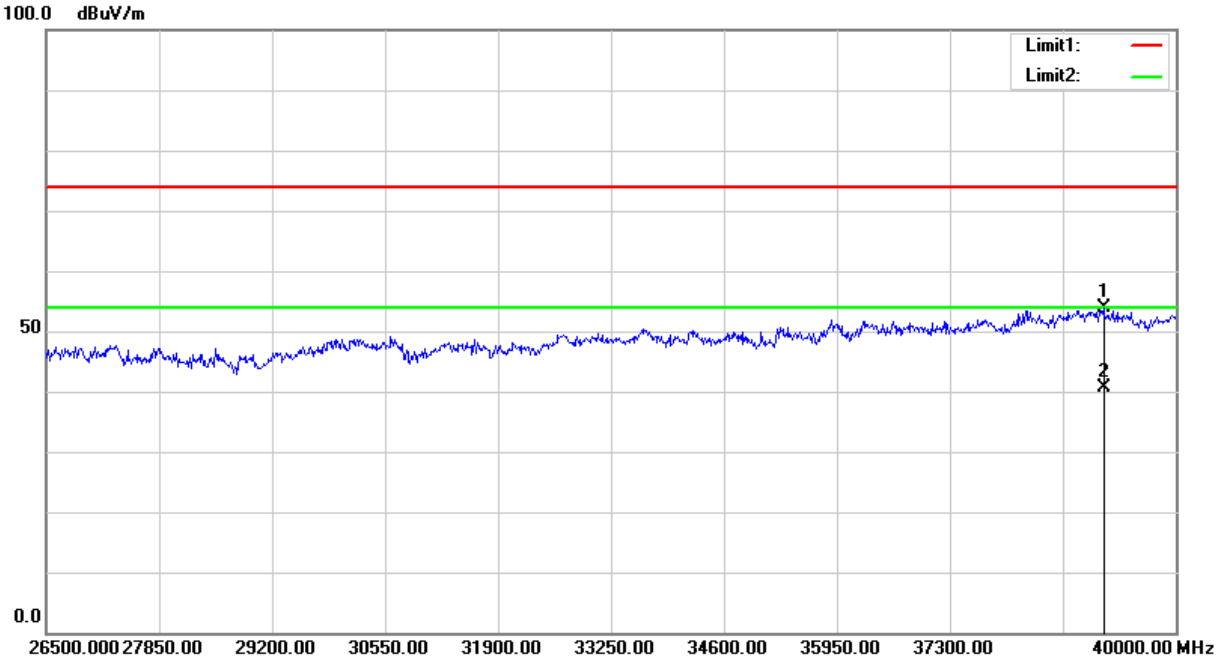
Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
26482.966	39.45	peak	21.76	61.21	74.00	12.79
26482.966	25.74	AVG	21.76	47.50	54.00	6.50

Horizontal:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
39014.500	38.35	peak	16.14	54.49	74.00	19.51
39014.500	25.14	AVG	16.14	41.28	54.00	12.72

Vertical:



Frequency (MHz)	Receiver Reading (dBµV)	Detector	Correction Factor (dB/m)	Cord. Amp. (dBµV/m)	Limit (dBµV/m)	Margin (dB)
39136.000	37.68	peak	16.15	53.83	74.00	20.17
39136.000	24.36	AVG	16.15	40.51	54.00	13.49

40 GHz-231 GHz:

Frequency	Receiver		Rx Antenna		Corrected Amplitude	EIPR Power	Power Density	Limit
	Reading	Detector	Polar	Factor				
GHz	dBµV	PK/AV	H/V	dB(1/m)	dBµV/m	dBm	pW/cm^2	pW/cm^2
49.03	48.53	AV	H	40.2	88.73	-15.97	22.38	600
55.47	48.57	AV	V	41.2	89.77	-14.93	28.43	600
90	55.44	AV	H	45.11	100.55	-4.15	340.23	600
83	54.66	AV	V	44.24	98.9	-5.8	232.68	600
92.92	56.79	AV	H	45.47	102.26	-8.46	504.39	600
92.25	55.07	AV	V	45.38	100.45	-10.27	332.48	600
218.64	46.75	AV	H	52.33	99.08	-11.64	242.53	600
218.72	46.94	AV	V	52.34	99.28	-11.44	253.96	600
229.58	42.43	AV	H	52.81	95.24	-15.48	100.18	600
229.275	42.62	AV	V	52.8	95.42	-15.30	104.42	600

Note 1:

EIRP = E-meas +20log(d-meas)-104.7

where:

EIRP : is the equivalent isotopically radiated power, in dBm

E-meas. : is the field strength of the emission at the measurement distance, in dBµV/m

d-meas. : is the measurement distance, in m

Note 2:The test distance is 1 m. for 40-90 GHz, and 0.5m for 90-231 GHz
Note 3:Corrected Amplitude = Meter Reading + Antenna Factor

Note 4: The Mixers and it`s RF cables is compose a system for calibration, the conversion factor was added into the test Spectrum Analyzer in testing.
Note 5:

$$PD = \frac{EIRP_{Linear}}{4\pi d^2}$$

where

PD is the power density at the distance specified by the limit, in W/m^2
$EIRP_{Linear}$ is the equivalent isotropically radiated power, in watts
d is the distance at which the power density limit is specified, in m

The Specified distance is 3m.

FCC§2.1055 (d), §95.3379- FREQUENCY STABILITY

Applicable Standard

According to FCC §95.3379

(b) Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation. Equipment is presumed to operate over the temperature range −20 to +50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external power supply and the RF output was connected to Test equipment via feed-through attenuators. The EUT was placed inside the temperature chamber. The power leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the Frequency Counter.

Frequency Stability vs. Voltage:

1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.

The output frequency was recorded for each voltage.

Test Data

Environmental Conditions

Temperature:	26.9 °C
Relative Humidity:	47%
ATM Pressure:	100.7kPa
Test by:	Hanson Li, Felix Wang
Test Date:	2020.09.15

Test Result: Compliance. Please refer to the below table.

Test Mode: Transmitting

Temperature	Voltage	Frequency (MHz)			
℃	V_{DC}	f_L	f_H	f_L Limit	f_H Limit
-20	12	76.2941	76.721	76000	81000
-10	12	76.2922	76.7207	76000	81000
0	12	76.2913	76.7209	76000	81000
10	12	76.2918	76.7213	76000	81000
20	12	76.295	76.7225	76000	81000
30	12	76.2945	76.7221	76000	81000
40	12	76.2938	76.7216	76000	81000
50	12	76.2934	76.7208	76000	81000
20	9.6	76.2925	76.7206	76000	81000
20	13.6	76.2952	76.723	76000	81000

Note: The extreme voltage was declared by applicant.

FCC§2.1049- OCCUPIED BANDWIDTH

Applicable Standard

According to FCC §2.1049

Test Procedure

Use the 99% OBW function to measure the Occupied Bandwidth.

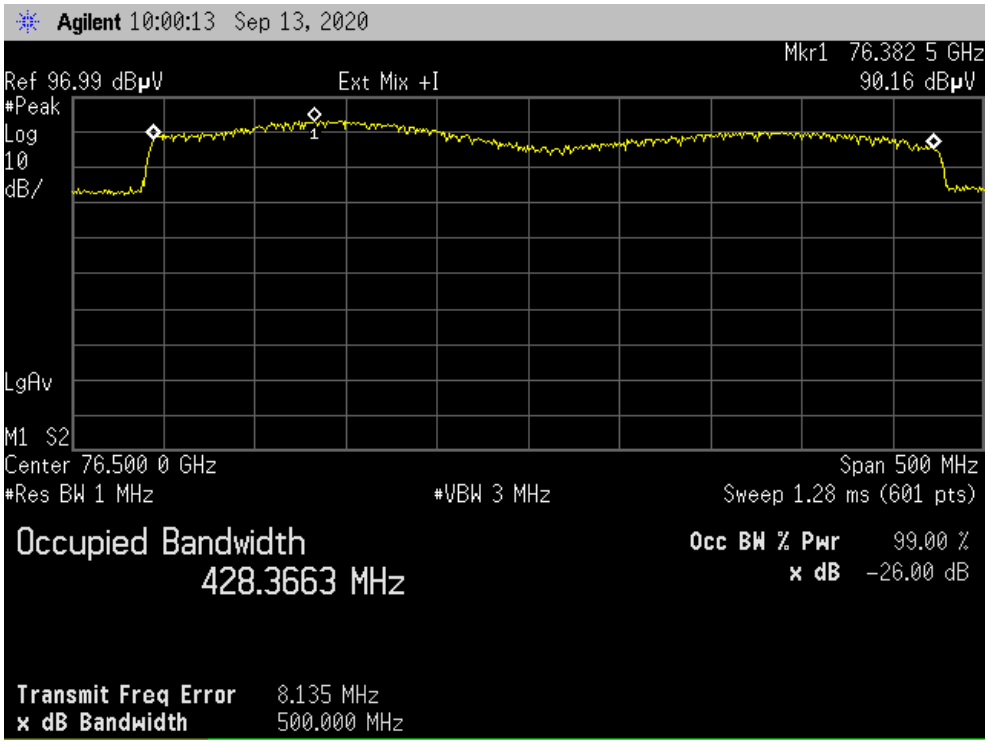
Environmental Conditions

Temperature:	26.9 °C
Relative Humidity:	47%
ATM Pressure:	100.7kPa
Test by:	Felix Wang
Test Date:	2020.09.13

Test Result: Compliance. Please refer to the following tables and plots:

Test Mode: Transmitting

Frequency	99% Bandwidth
(GHz)	(MHz)
76.5	428



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