



RADIO TEST REPORT

Report No.:STS2201154W06

Issued for

SICHUAN AEE AVIATION TECHNOLOGY CO.,LTD.

No. 17, section 3, west section of Changjiang North
Road,Lingang Economic Development Zone,
YibinCity ,SICHUAN,PR.C

Product Name:	MACH6
Brand Name:	AEE
Model Name:	X100
Series Model:	N/A
FCC ID:	2AWQGX10001
Test Standard:	FCC Part 15.249

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from STS. All Test Data Presented in this report is only applicable to presented Test sample.

Shenzhen STS Test Services Co., Ltd.
A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ
Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com



**TEST RESULT CERTIFICATION**

Applicant's Name: SICHUAN AEE AVIATION TECHNOLOGY CO.,LTD.
Address: No. 17, section 3, west section of Changjiang North Road,Lingang Economic Development Zone, YibinCity ,SICHUAN,PR.C
Manufacture's Name: SICHUAN AEE AVIATION TECHNOLOGY CO.,LTD.
Address: No. 17, section 3, west section of Changjiang North Road,Lingang Economic Development Zone, YibinCity ,SICHUAN,PR.C

Product Description

Product Name: MACH6
Brand Name: AEE
Model Name: X100
Series Model: N/A

Test Standards: FCC Part15.249

Test Procedure: ANSI C63.10-2013

This device described above has been tested by STS, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of STS, this document only be altered or revised by STS, personal only, and shall be noted in the revision of the document.

Date of Test:

Date of receipt of test item: 19 Jan. 2022

Date of performance of tests: 19 Jan. 2022 ~ 09 Apr. 2022

Date of Issue: 09 Apr. 2022

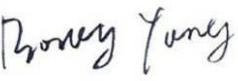
Test Result: **Pass**

Testing Engineer : 

(Chris Chen)

Technical Manager : 

(Sean she)

Authorized Signatory : 

(Bovey Yang)





Table of Contents	Page
1. SUMMARY OF TEST RESULTS	5
1.1 TEST FACTORY	6
1.2 MEASUREMENT UNCERTAINTY	6
2. GENERAL INFORMATION	7
2.1 GENERAL DESCRIPTION OF THE EUT	7
2.2 DESCRIPTION OF THE TEST MODES	9
2.3 TEST SOFTWARE AND POWER LEVEL	9
2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	9
2.5 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS	10
2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS	11
3. EMC EMISSION TEST	12
3.1 CONDUCTED EMISSION MEASUREMENT	12
3.2 RADIATED EMISSION MEASUREMENT	14
4. BANDWIDTH TEST	29
4.1 TEST PROCEDURE	29
4.2 TEST SETUP	29
4.3 EUT OPERATION CONDITIONS	29
4.4 TEST RESULTS	30
5. ANTENNA REQUIREMENT	32
5.1 STANDARD REQUIREMENT	32
5.2 EUT ANTENNA	32
APPENDIX- PHOTOS OF TEST SETUP	33



Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	09 Apr. 2022	STS2201154W06	ALL	Initial Issue





1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part 15.249 , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	
15.203	Antenna Requirement	Pass	
15.249	Radiated Spurious Emission	Pass	
15.249	Radiated Band Edge Emission	Pass	
15.249	Field Strength of fundamental	Pass	
15.215(c)	20dB Bandwidth	Pass	

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report.
- (2) All tests are according to ANSI C63.10-2013.



1.1 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95 %**.

No.	Item	Uncertainty
1	RF output power, conducted	$\pm 0.87\text{dB}$
2	Unwanted Emissions, conducted	$\pm 2.895\text{dB}$
3	All emissions, radiated 9K-30MHz	$\pm 3.80\text{dB}$
4	All emissions, radiated 30M-1GHz	$\pm 4.09\text{dB}$
5	All emissions, radiated 1G-6GHz	$\pm 4.92\text{dB}$
6	All emissions, radiated>6G	$\pm 5.49\text{dB}$
7	Conducted Emission (9KHz-30MHz)	$\pm 2.73\text{dB}$



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	MACH6									
Trade Name	AEE									
Model Name	X100									
Series Model	N/A									
Model Difference	N/A									
Product Description	<p>The EUT is a MACH6</p> <table border="1"><tr><td>Operation Frequency:</td><td>5740-5830 MHz</td></tr><tr><td>Modulation Type:</td><td>QPSK</td></tr><tr><td>Antenna Designation:</td><td>Please refer to the Note 3.</td></tr><tr><td>Antenna Gain(Peak):</td><td>ANT A: 2.5dBi, ANT B: 2.5dBi MIMO: 5.51dBi</td></tr></table> <p>Based on the application, features, or specification exhibited in User Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User Manual.</p>		Operation Frequency:	5740-5830 MHz	Modulation Type:	QPSK	Antenna Designation:	Please refer to the Note 3.	Antenna Gain(Peak):	ANT A: 2.5dBi, ANT B: 2.5dBi MIMO: 5.51dBi
Operation Frequency:	5740-5830 MHz									
Modulation Type:	QPSK									
Antenna Designation:	Please refer to the Note 3.									
Antenna Gain(Peak):	ANT A: 2.5dBi, ANT B: 2.5dBi MIMO: 5.51dBi									
Channel List	Please refer to the Note 2.									
Adapter	Input: AC 100V~240V Output: 25.2V ~26.1V									
Battery	Rated Voltage: 25.2V Capacity: 22000mAh									
Hardware version number	V1.4									
Software version number	X100_FC_V1.3.8_20211231									
Connecting I/O Port(s)	Please refer to the Note 1.									

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User Manual.
- 2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	5740	02	5750	03	5760
04	5770	05	5780	06	5790
07	5800	08	5810	09	5820
10	5830				



3. KDB 662911 D01 Multiple Transmitter Output v02r01

2) Directional Gain Calculations for In-Band Measurements

a) Basic methodology with NANT transmit antennas, each with the same directional gain GANT dBi, being driven by NANT transmitter outputs of equal power. Directional gain is to be computed as follows:

(i) If any transmit signals are correlated with each other,

Directional gain = GANT + 10 log(NANT) dBi

(ii) If all transmit signals are completely uncorrelated with each other,

Directional gain = GANT

ANT A: 2.5dBi, ANT B: 2.5dBi

GANT + 10 log(NANT) dBi

Directional gain= 2.5+10log2=5.51 dBi

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	AEE	X100	External	N/A	ANT A: 2.5dBi, ANT B: 2.5dBi MIMO: 5.51dBi	ANT

Note: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report. Due to the incorrect antenna information, a series of problems such as the accuracy of the test results will be borne by the customer.



2.2 DESCRIPTION OF THE TEST MODES

For conducted test items and radiated spurious emissions

Each of these EUT operation mode(s) or test configuration mode(s) mentioned below was evaluated respectively.

Pretest Mode	Description	Data/Modulation
Mode 1	TX CH01(5740MHz)	QPSK
Mode 2	TX CH06(5790MHz)	QPSK
Mode 3	TX CH10(5830MHz)	QPSK

Note:

(1) The battery is fully-charged during the radiated and RF conducted test.

(2) Both ANT A and B all has been tested, Only show the worst data of ANT B.

2.3 TEST SOFTWARE AND POWER LEVEL

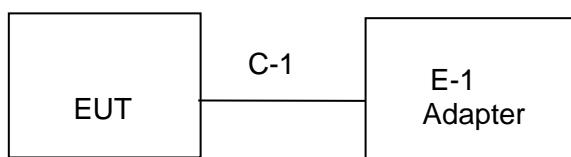
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

RF Function	Mode Or Modulation type	ANT Gain(dBi)	Power Class	Software For Testing
5G	QPSK	ANT A: 2.5dBi, ANT B: 2.5dBi MIMO: 5.51dBi	Default	Artosyn8020PCTool-v4.4.6

2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters.

Radiated Spurious Emission Test





2.5 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
N/A	N/A	N/A	N/A	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Length	Note
E-1	Notebook	DELL	VOSTRO.3800	N/A	N/A
C-1	USB Cable	N/A	N/A	120cm	N/A

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2021.09.30	2022.09.29
Signal Analyzer	R&S	FSV 40-N	101823	2021.09.30	2022.09.29
Active loop Antenna	ZHINAN	ZN30900C	16035	2021.04.11	2023.04.10
Bilog Antenna	TESEQ	CBL6111D	34678	2020.10.12	2022.10.11
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2021.10.11	2023.10.10
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	J211020657	2020.10.12	2022.10.11
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2021.10.08	2022.10.07
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2021.09.30	2022.09.29
Pre-Amplifier (18G-40GHz)	SKET	LNPA-1840-50	SK2018101801	2021.09.28	2022.09.27
Temperature & Humidity	HH660	Mieo	N/A	2021.10.09	2022.10.08
Turn table	EM	SC100_1	60531	N/A	N/A
Antenna mast	EM	SC100	N/A	N/A	N/A
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)			

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Power Sensor	Keysight	U2021XA	MY55520005	2021.09.30	2022.09.29
			MY55520006	2021.09.30	2022.09.29
			MY56120038	2021.09.30	2022.09.29
			MY56280002	2021.09.30	2022.09.29
Signal Analyzer	Agilent	N9020A	MY51110105	2022.03.01	2023.02.28
Temperature & Humidity	HH660	Mieo	N/A	2021.10.09	2022.10.08
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)			



3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 15.249 limit in the table below has to be followed.

FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of “ * ” marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

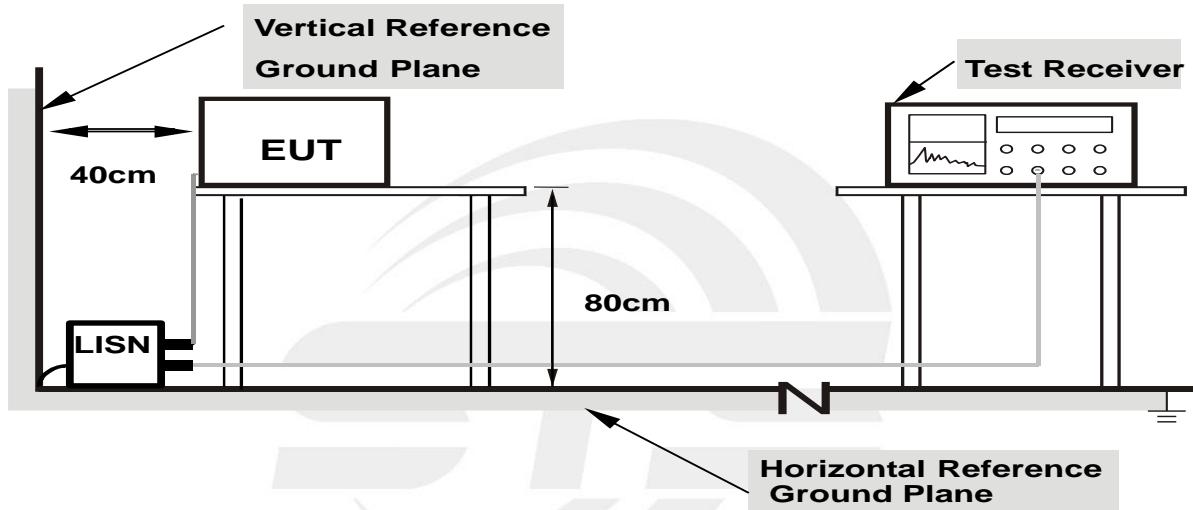
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

- a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

3.1.5 TEST RESULT

Temperature:	N/A	Relative Humidity:	N/A
Test Voltage:	N/A	Phase:	L/N
Test Mode:	N/A		

Note: The BT function will be disabled (not transmitting) when the EUT is charging, the test is not available.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on Part 15.249 and the Part 15.209(a) limit in the table below has to be followed.

Standard FCC 15.209

Frequencies (MHz)	Field Strength (micorvolts/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
960~1000	500	3
Above 1000	Other:74.0 dB(μ V)/m (Peak) 54.0 dB(μ V)/m (Average)	3

Standard FCC 15.249

Frequency of Emission (MHz)	Field Strength of fundamental (millivolts /meter)	Field Strength of Harmonics (microvolts/meter)
900~928	50	500
2400~2483.5	50	500
5725~5875	50	500
24000~242500	250	2500

Notes:

- (1) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

Spectrum Parameter	Setting
Detector	Peak/AV
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB (emission in restricted band)	>20BW
VB (emission in restricted band)	=3xRB



Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~90kHz / RB 200Hz for PK & AV
	90kHz~110kHz / RB 200Hz for QP
	110kHz~490kHz / RB 200Hz for PK & AV
	490kHz~30MHz / RB 9kHz for QP
	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

- a. The measuring distance of 3m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation(Below 1GHz)
- b. The measuring distance of 3m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation(Above 1GHz)
- c. The height of the test antenna shall vary between 1m to 4m. Both horizontal and vertical polarization of the antenna are set to make the measurement.
- d. The initial step in collecting radiated emission data is a receive peak detector mode. Pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. All readings are peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP limits and then QP Mode measurement didn't perform (Below 1GHz)
- f. All readings are Peak mode value unless otherwise stated AVG in column of Note. If the Peak mode measured value compliance with the Peak limits and lower than AVG Limits, the EUT shall be deemed to meet Peak & AVG limits and then only Peak mode was measured, but AVG mode didn't perform.(Above 1GHz)
- g. For the actual test configuration, please refer to the related Item –EUT Test Photos.

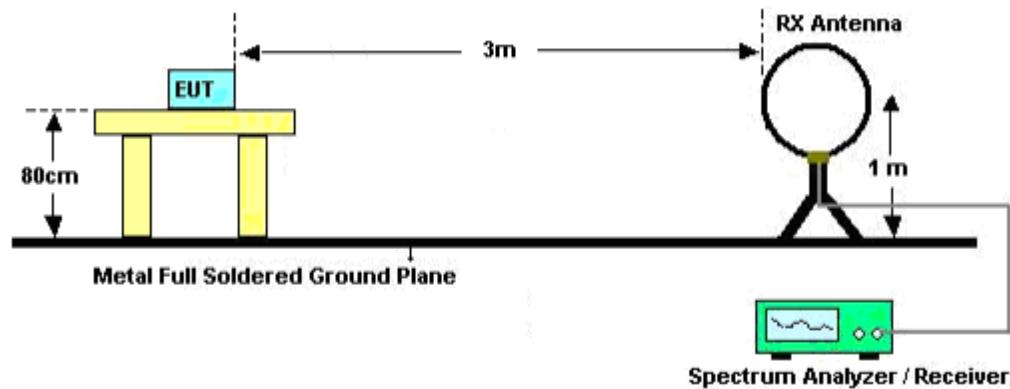
Note: Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

3.2.3 DEVIATION FROM TEST STANDARD

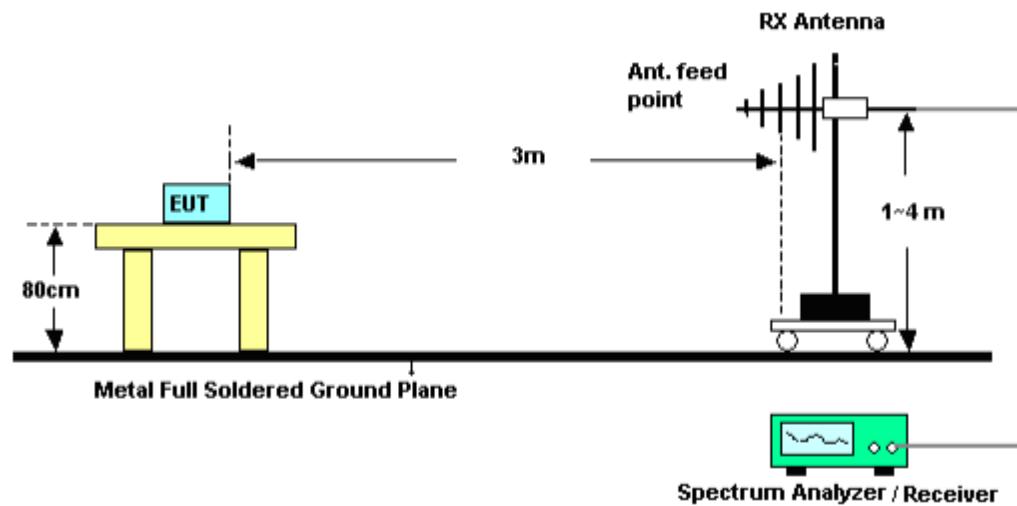
No deviation

3.2.4 TEST SETUP

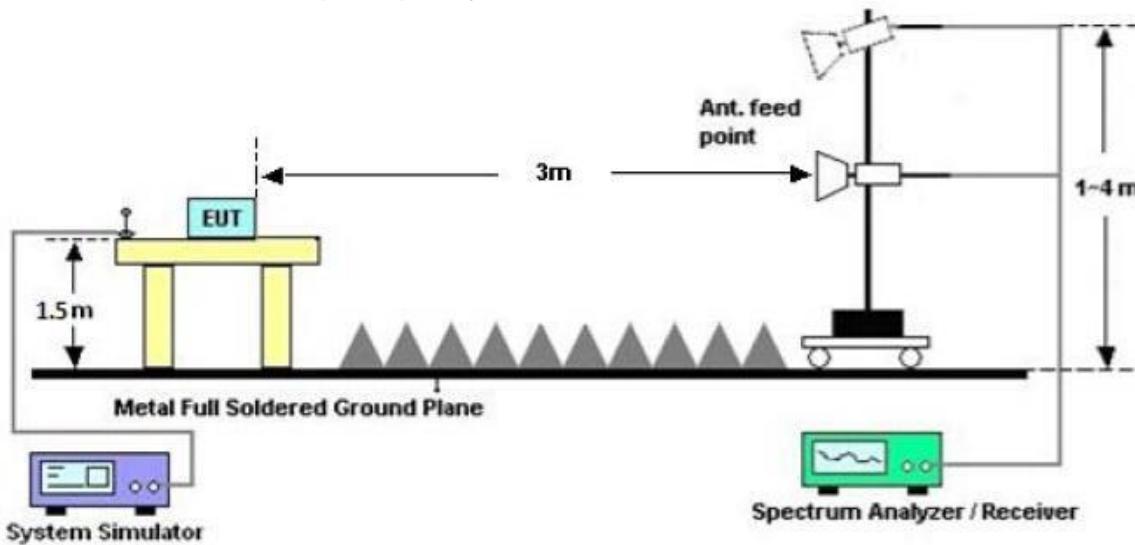
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz





3.2.5 FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

Margin=PL-PK L or AL- AV L; Margin only shown the worst case.

Where

PR = Peak Reading

AR = Average Reading

PL = Peak Level

AL = Average Level

AF = Antenna Factor

PK L = Peak Limit

AV L = AV Limit

For example

Frequency (MHz)	PR (dB μ V/m)	AR (dB μ V/m)	AF (dB)	PL (dB μ V/m)	AL (dB μ V/m)	PK L (dB μ V/m)	AV L (dB μ V/m)	Margin (dB)
2178	40.23	30.31	9.83	50.06	40.14	74.00	54.00	-13.86



3.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

Below 30 MHz

Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 25.2V	Polarization:	--
Test Mode:	TX Mode		

Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State
--	--	--	--	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log(\text{specific distance}/\text{test distance})$ (dB);
Limit line = specific limits(dBuV) + distance extrapolation factor.

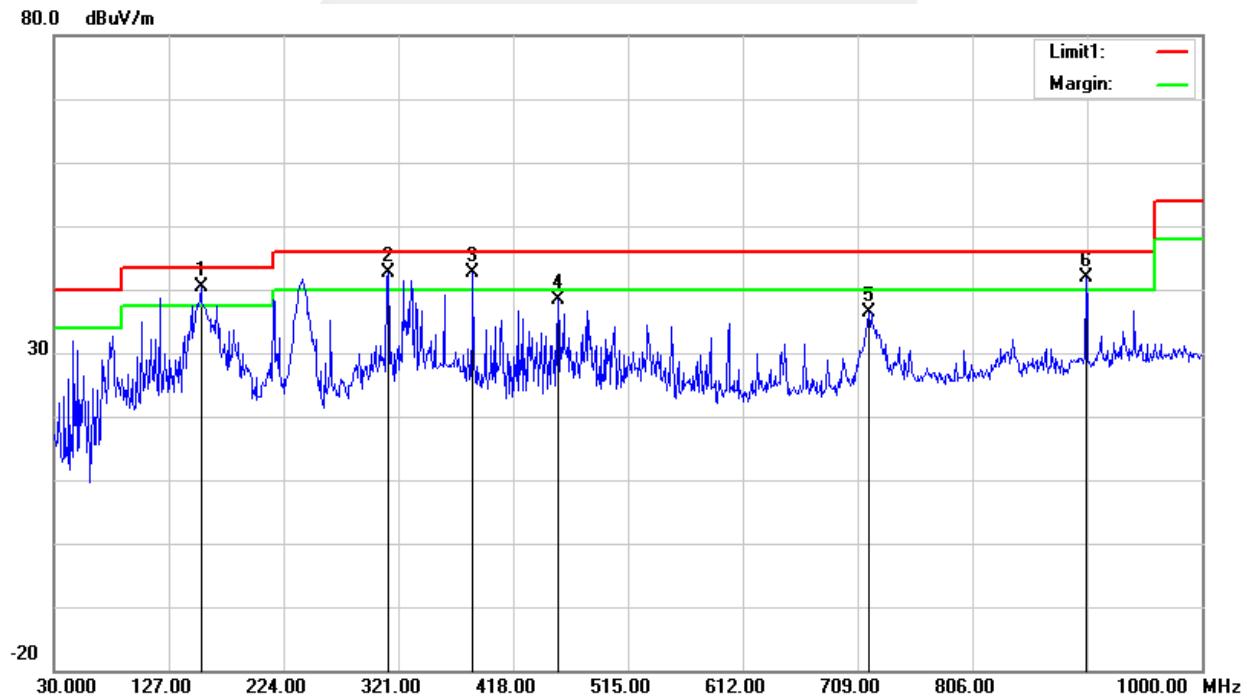
Between 30MHz – 1000 MHz Radiation Spurious

Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 25.2V	Phase:	Horizontal
Test Mode:	Mode 1/2/3 (Mode 2 worst mode)		

No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	154.1600	59.05	-18.60	40.45	43.50	-3.05	peak
2	312.2700	57.08	-14.36	42.72	46.00	-3.28	peak
3	384.0500	54.64	-11.99	42.65	46.00	-3.35	peak
4	455.8300	47.99	-9.55	38.44	46.00	-7.56	peak
5	718.7000	39.72	-3.33	36.39	46.00	-9.61	peak
6	902.0300	42.21	-0.40	41.81	46.00	-4.19	peak

Remark:

- Margin = Result (Result =Reading + Factor)–Limit
- Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain



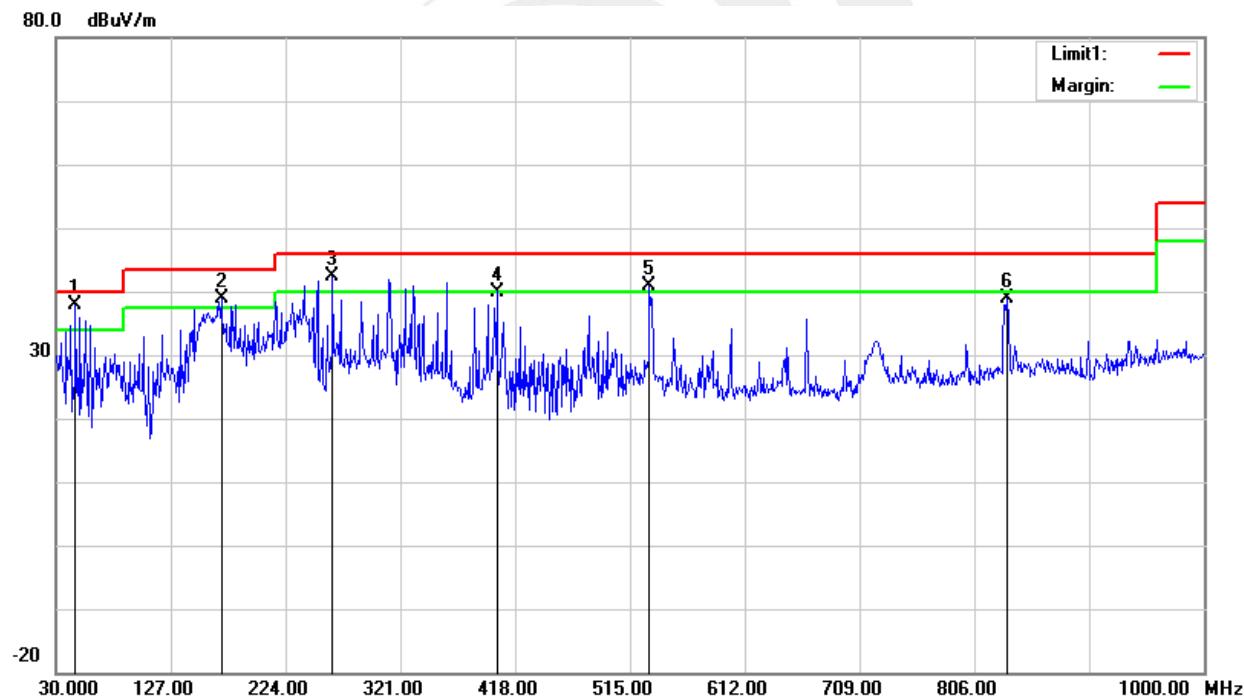


Temperature:	23.1(C)	Relative Humidity:	60%RH
Test Voltage:	DC 25.2V	Phase:	Vertical
Test Mode:	Mode 1/2/3 (Mode 2 worst mode)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
							Margin
1	46.4900	59.35	-21.41	37.94	40.00	-2.06	peak
2	169.6800	58.60	-19.76	38.84	43.50	-4.66	peak
3	263.7700	57.12	-14.75	42.37	46.00	-3.63	peak
4	402.4800	51.00	-11.00	40.00	46.00	-6.00	peak
5	531.4900	48.31	-7.37	40.94	46.00	-5.06	peak
6	833.1600	39.53	-0.62	38.91	46.00	-7.09	peak

Remark:

1. Margin = Result (Result =Reading + Factor)-Limit
2. Factor= Antenna factor+Cable attenuation factor(cable loss)-Amplifier gain





Above 1G Radiation Spurious

Low channel

Frequency	Meter Reading	Detector	Amplifier	Loss	Antenna Factor	Orrected Factor	Corrected Amplitude	FCC Part 15.249/15.209/205		RX Antenna
								Limit	Margin	
(MHz)	(dB μ V/m)	(PK/QP/AV)	(dB)	(dB)	(dB/m)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	(H/V)
11479.87	66.65	PK	45.10	4.91	25.00	-15.19	51.46	74	-22.54	H
11479.87	67.01	PK	45.10	4.91	25.00	-15.19	51.82	74	-22.18	V
17220.15	67.22	PK	44.10	5.03	25.80	-13.27	53.95	74	-20.05	H
17220.15	66.77	PK	44.10	5.03	25.80	-13.27	53.50	74	-20.50	V
22959.88	50.98	PK	43.80	6.72	33.40	-3.68	47.30	74	-26.70	H
22959.88	50.84	PK	43.80	6.72	33.40	-3.68	47.16	74	-26.84	V

Mid channel

Frequency	Meter Reading	Detector	Amplifier	Loss	Antenna Factor	Orrected Factor	Corrected Amplitude	FCC Part 15.249/15.209/205		RX Antenna
								Limit	Margin	
(MHz)	(dB μ V/m)	(PK/QP/AV)	(dB)	(dB)	(dB/m)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	(H/V)
11580.06	67.83	PK	45.10	4.91	25.00	-15.19	52.64	74	-21.36	H
11580.06	67.25	PK	45.10	4.91	25.00	-15.19	52.06	74	-21.94	V
17369.91	67.14	PK	44.10	5.03	25.80	-13.27	53.87	74	-20.13	H
17369.91	66.69	PK	44.10	5.03	25.80	-13.27	53.42	74	-20.58	V
23160.08	50.72	PK	43.80	6.72	33.40	-3.68	47.04	74	-26.96	H
23160.08	50.86	PK	43.80	6.72	33.40	-3.68	47.18	74	-26.82	V

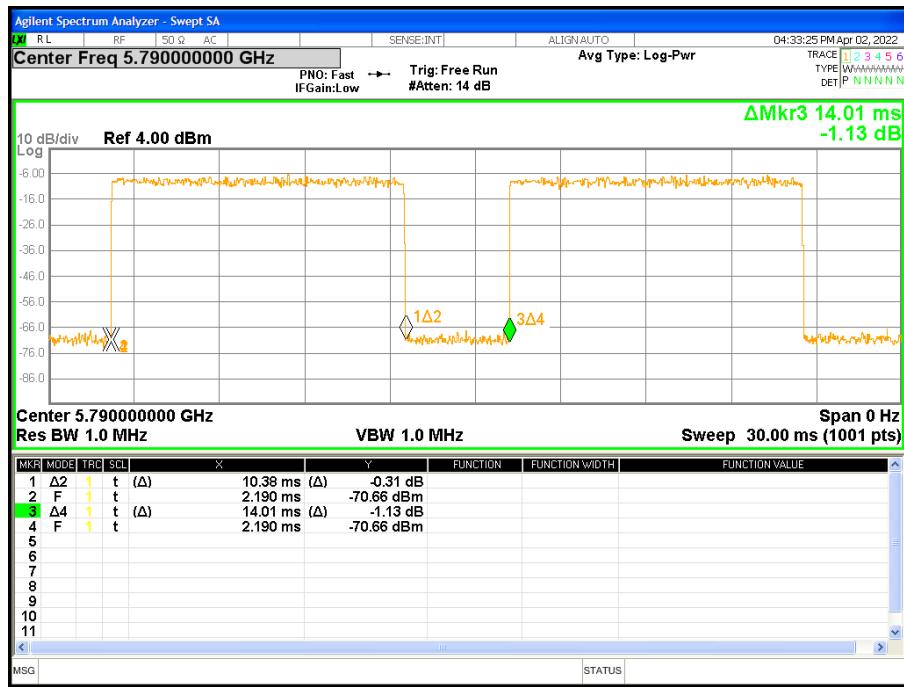
High channel

Frequency	Meter Reading	Detector	Amplifier	Loss	Antenna Factor	Orrected Factor	Corrected Amplitude	FCC Part 15.249/15.209/205		RX Antenna
								Limit	Margin	
(MHz)	(dB μ V/m)	(PK/QP/AV)	(dB)	(dB)	(dB/m)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	(H/V)
11660.11	66.37	PK	45.10	4.91	25.00	-15.19	51.18	74	-22.82	H
11660.11	67.52	PK	45.10	4.91	25.00	-15.19	52.33	74	-21.67	V
17490.12	67.19	PK	44.10	5.03	25.80	-13.27	53.92	74	-20.08	H
17490.12	66.79	PK	44.10	5.03	25.80	-13.27	53.52	74	-20.48	V
23320.28	50.54	PK	43.80	6.72	33.40	-3.68	46.86	74	-27.14	H
23320.28	50.72	PK	43.80	6.72	33.40	-3.68	47.04	74	-26.96	V

Note: PK value is below AV limit, AV data is not required.



Duty cycle



Ton	Tp	Duty cycle(%)	Duty factor(dB)
10.380	14.010	74.09%	2.60

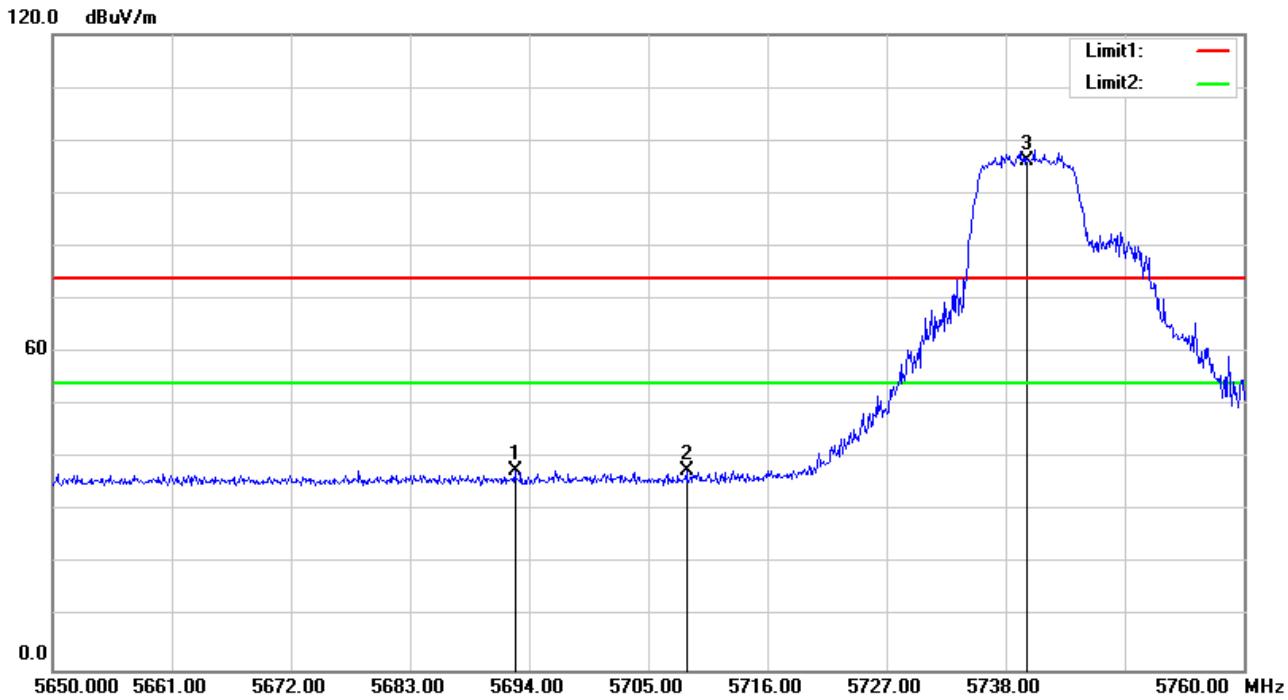
Note: Duty Factor=20*LOG10(1/(Ton/Tp))



(Radiation Band edge)

Low channel

Horizontal



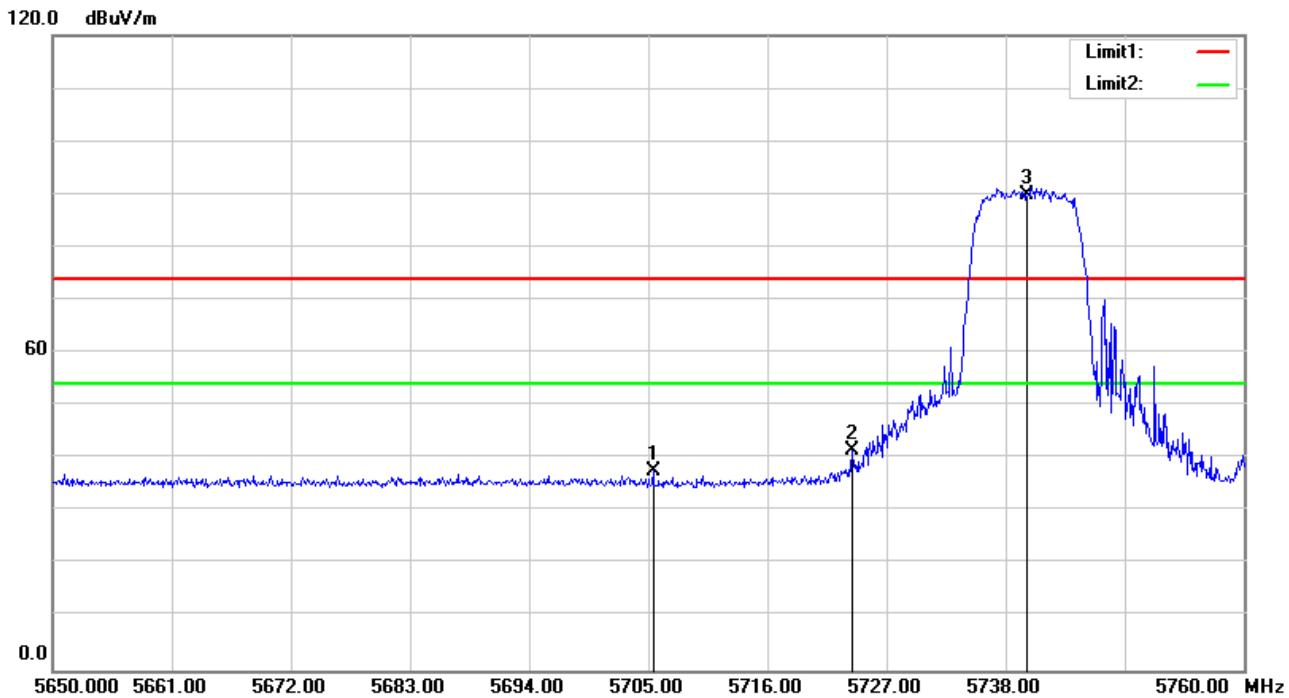
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5692.680	42.31	-4.66	37.65	74.00	-36.35	peak
2	5708.520	42.39	-4.63	37.76	74.00	-36.24	peak

Fundamental Frequency

No.	Frequency	Reading	Correct	Duty cycle	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
3	5740.000	99.74	-4.53	-	95.21	114.00	-17.78	peak
4	5740.000	99.74	-4.53	2.6	92.61	94	-1.39	AV



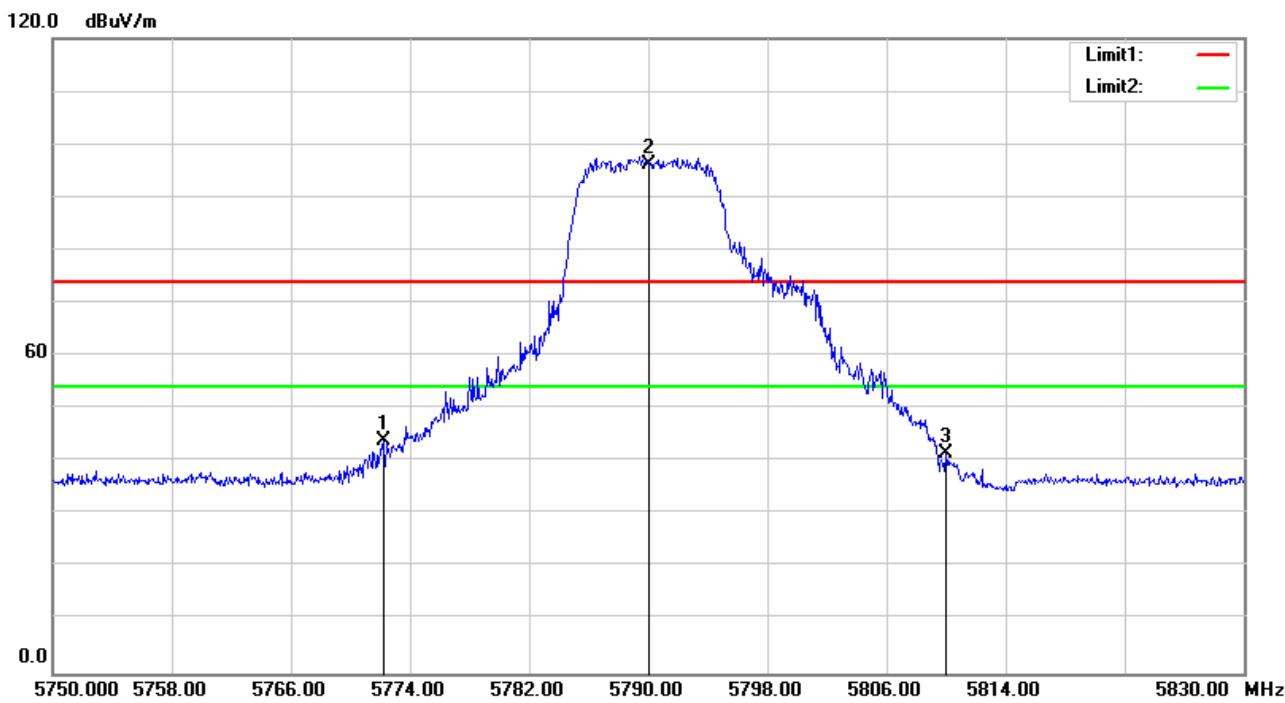
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5705.440	42.15	-4.64	37.51	74.00	-36.49	peak
2	5723.810	46.24	-4.58	41.66	74.00	-32.34	peak

Fundamental Frequency

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Duty cycle Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
3	5740.000	94.41	-4.53	-	89.88	114.00	-24.12	peak
4	5740.000	94.41	-4.53	2.6	87.28	94	-6.72	AV

**Mid channel**
Horizontal

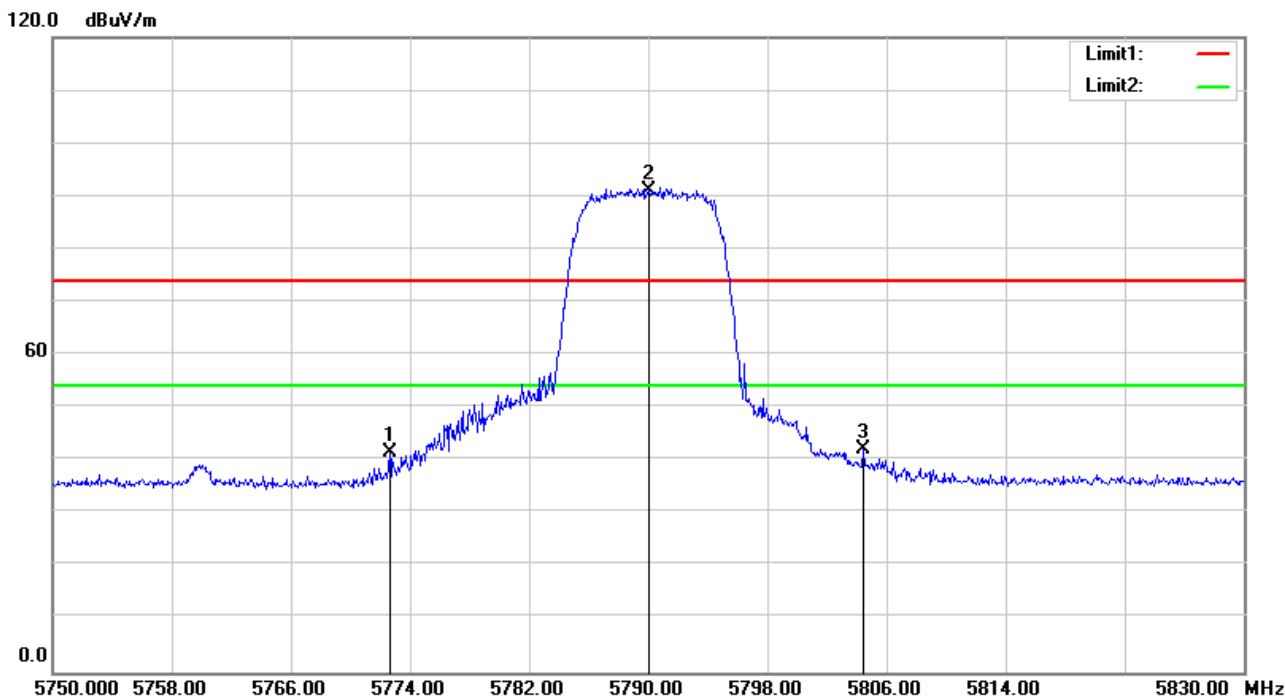
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5772.240	48.47	-4.41	44.06	74.00	-29.94	peak
3	5810.000	45.75	-4.27	41.48	74.00	-32.52	peak

Fundamental Frequency

No.	Frequency	Reading	Correct	Duty cycle	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
2	5790.000	98.53	-4.36	-	94.17	114.00	-17.83	peak
4	5790.000	98.53	-4.36	2.6	91.57	94	-2.43	AV



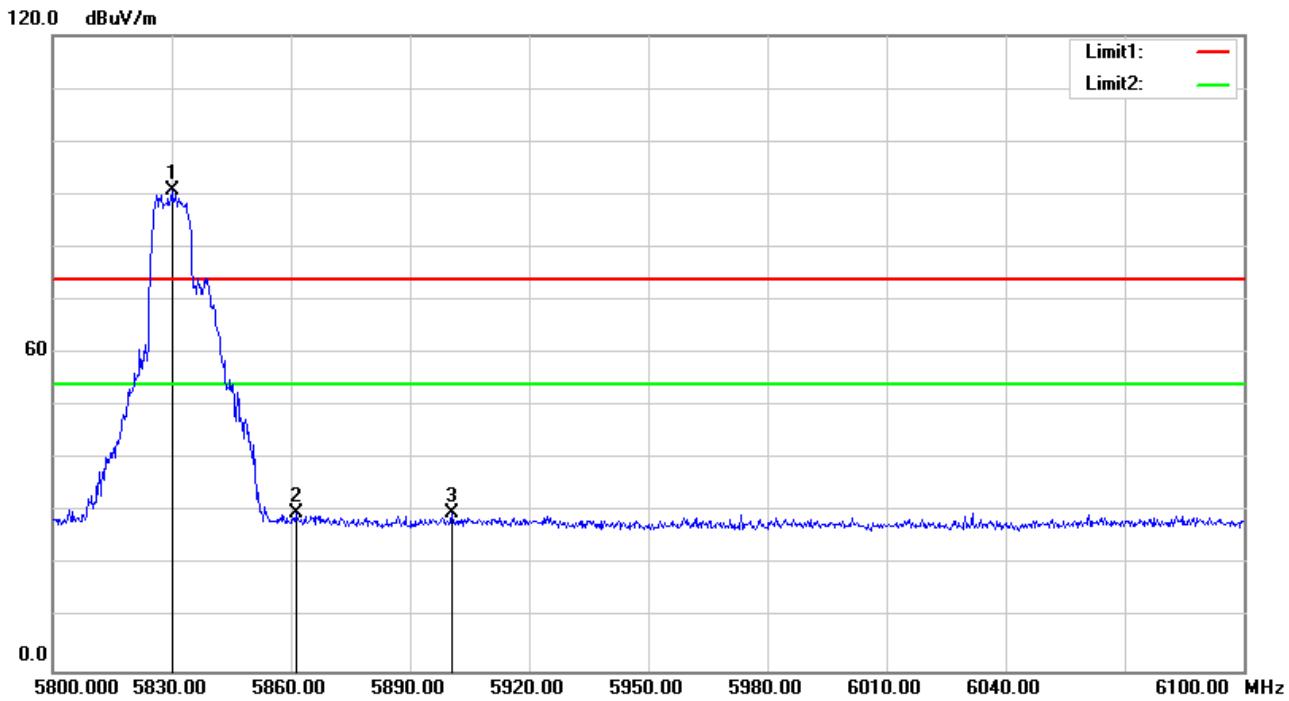
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5772.640	45.93	-4.41	41.52	74.00	-32.48	peak
3	5804.480	46.37	-4.30	42.07	74.00	-31.93	peak

Fundamental Frequency

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Duty cycle	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2	5790.000	95.55	-4.36	-	91.19	114.00	-22.81	peak
4	5790.000	95.55	-4.36	2.6	88.59	94	-5.41	AV

**High channel**
Horizontal

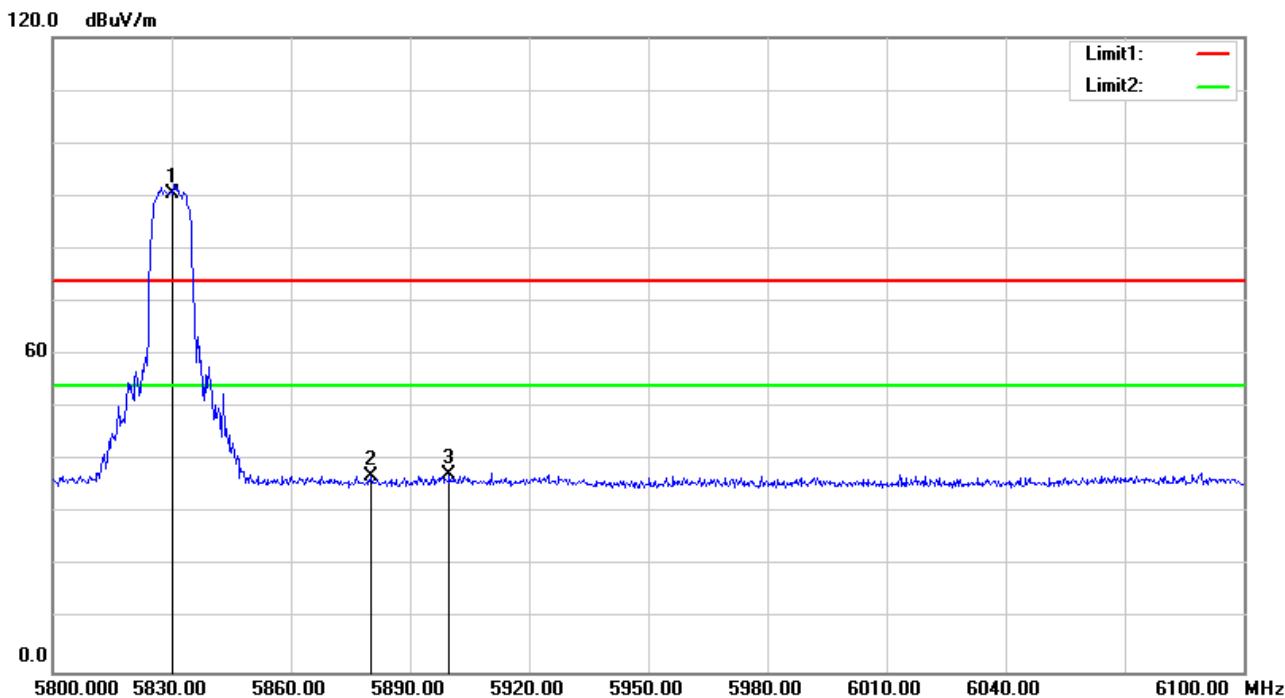
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
2	5861.200	33.91	-4.05	29.86	74.00	-44.14	peak
3	5900.500	33.81	-3.88	29.93	74.00	-44.07	peak

Fundamental Frequency

No.	Frequency	Reading	Correct	Duty cycle	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5830.000	94.94	-4.19	-	90.75	114.00	-23.25	peak
4	5830.000	94.94	-4.19	1.3	88.15	94	-5.85	AV



Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2	5880.100	41.09	-3.97	37.12	74.00	-36.88	peak
3	5899.900	41.24	-3.88	37.36	74.00	-36.64	peak

Fundamental Frequency

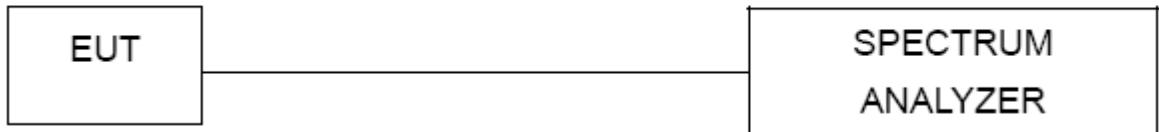
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Duty cycle	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5830.000	94.74	-4.19	-	90.55	114.00	-23.45	peak
4	5830.000	94.74	-4.19	1.3	87.95	94	-6.05	AV

4. BANDWIDTH TEST

4.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting : RBW= 1% to 5% OBW, $VBW \geq RBW$, Sweep time = Auto.

4.2 TEST SETUP



4.3 EUT OPERATION CONDITIONS

TX mode.





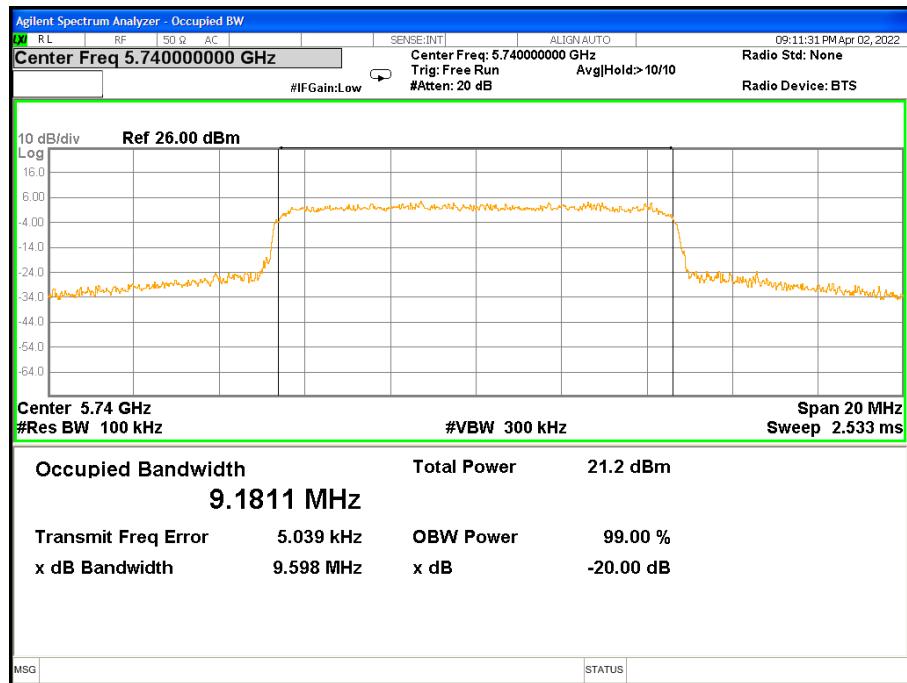
4.4 TEST RESULTS

Temperature:	25 °C	Relative Humidity:	50%
Test Voltage:	DC 25.2V		

ANT B

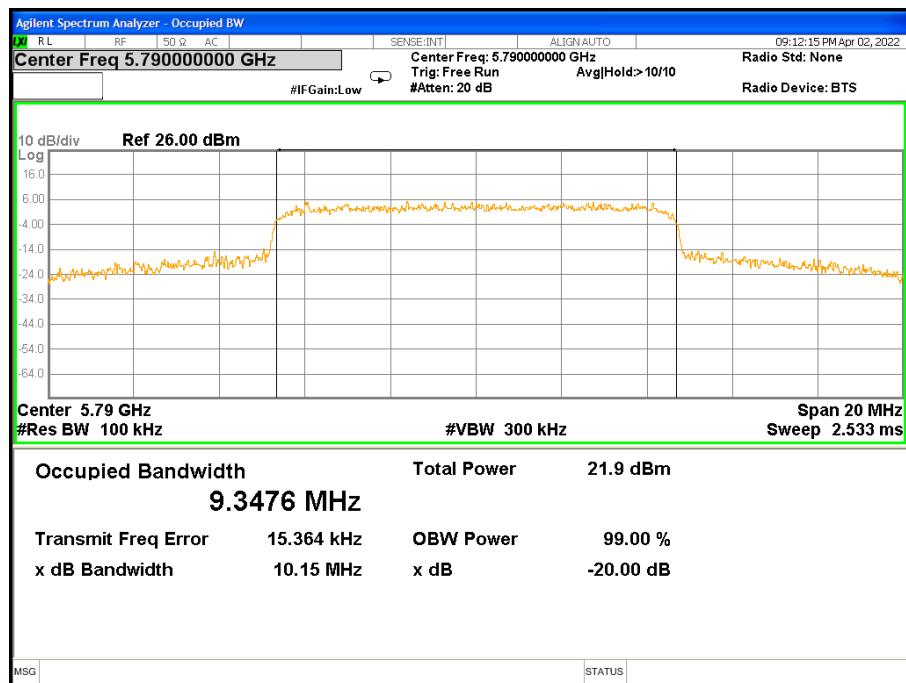
Modulation	Frequency (MHz)	20 dB Bandwidth (MHz)	Result
QPSK	5740	9.598	PASS
	5790	10.15	PASS
	5830	9.636	PASS

Low Channel

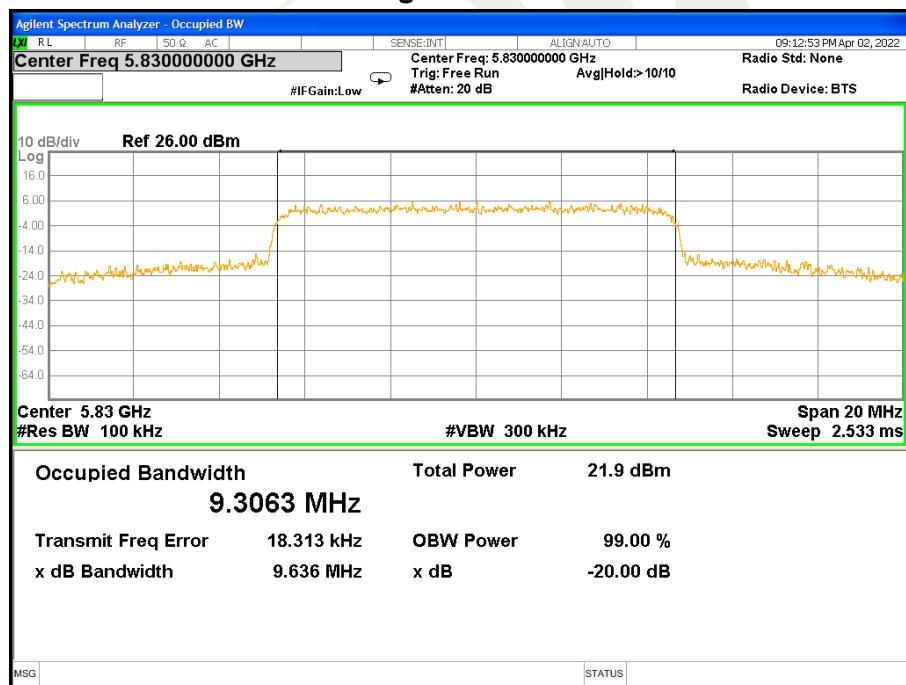




Mid Channel



High Channel





5. ANTENNA REQUIREMENT

5.1 STANDARD REQUIREMENT

According to the FCC Part 15 Paragraph 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.

5.2 EUT ANTENNA

The EUT antenna is External Antenna. It conforms to the standard requirements.





APPENDIX- PHOTOS OF TEST SETUP

Note: See test photos in setup photo document for the actual connections between Product and support equipment.

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

