FCC TEST REPORT

Report No: STS1906134W09

Issued for

Shenzhen AEE Aviation Technology Co.,Ltd.

AEE Hi-Tech Park,Tangtou Crossroads,Songbai Road,Shiyan Town,Bao′ an District Shenzhen,P.R.C.

Product Name:	MACH4 Y12
Brand Name:	AEE
Model Name:	Y12
Series Model:	N/A
FCC ID:	2AGZGY12001
Test Standard:	FCC Part 15.249

Shenzhen STS Test Services Co., Ltd.
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TEST RESULT CERTIFICATION

Applicant's Name ..... :	Shenzhen AEE Aviation Technology Co.,Ltd.
Address ..... :	AEE Hi-Tech Park,Tangtou Crossroads,Songbai Road,Shiyan Town,Bao′ an District Shenzhen,P.R.C.
Manufacture's Name ..... :	Shenzhen AEE Aviation Technology Co.,Ltd.
Address ..... :	AEE Hi-Tech Park,Tangtou Crossroads,Songbai Road,Shiyan Town,Bao′ an District Shenzhen,P.R.C.

Product Description

Product Name ..... :	MACH4 Y12
Brand Name ..... :	AEE
Model Name ..... :	Y12
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.
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Date of Test ..... :	
Date of performance of tests .. :	11 June 2019 ~ 30 Oct. 2019
Date of Issue ..... :	07 Nov. 2019
Test Result..... :	**Pass**

Testing Engineer : (Chris Chen)

Technical Manager : (Sunday Hu)

Authorized Signatory : (Vita Li)

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	07 Nov. 2019	STS1906134W09	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	Pass	
15.203	Antenna Requirement	Pass	
15.249	Radiated Spurious Emission	Pass	
15.205	Radiated Band Edge Emission	Pass	
15.249	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** ± **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	±0.71dB
2	Unwanted Emissions,conducted	±0.63dB
3	All emissions,radiated 30-200MHz	±3.43dB
4	All emissions,radiated 200MHz-1GHz	±3.57dB
5	All emissions,radiated>1G	±4.13dB
6	Conducted Emission(9KHz-150KHz)	±3.18dB
7	Conducted Emission(150KHz-30MHz)	±2.70dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	MACH4 Y12
Trade Name	AEE
Model Name	Y12
Series Model	N/A
Model Difference	N/A
Product Description	The EUT is a MACH4 Y12 Operation Frequency: 5725MHz-5850MHz Modulation Type: 64QAM, 16QAM, QPSK, BPSK Antenna Designation: Dipole Antenna Antenna Gain(Peak): 3 dBi Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.
Channel List	Please refer to the Note 2.
Adapter	Input: 100V~240VAC Output: 15V
Battery	Rated Voltage: 11.1V Charge Limit: 12.6V Capacity: 5600mah
Hardware version number	V1.7
Software version number	1.0

Note:

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

2.

Channel List							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	5731	06	5741	11	5753	16	5765
02	5733	07	5743	12	5755	17	5769
03	5735	08	5745	13	5757	18	5783
04	5737	09	5747	14	5759		
05	5739	10	5751	15	5761		

3. Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	AEE	Y12	Dipole	NA	3	Antenna

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
Mode 1	TX CH01	3Mbps
Mode 2	TX CH10	3Mbps
Mode 3	TX CH18	3Mbps

Note:

(1) All above mode have been measurement, only worst data was reported.

(2) We have be tested for all avaiable U.S. voltage and frequencies(For 120V,50/60Hz and 240V, 50/60Hz) for which the device is capable of operation, and the worst case of 120V,50/60Hz is shown in the report

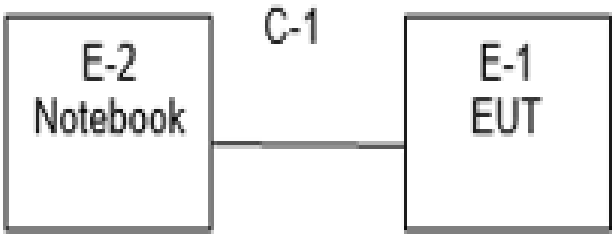
For AC Conducted Emission

Test Case	
AC Conducted Emission	Mode 4 : Keeping TX

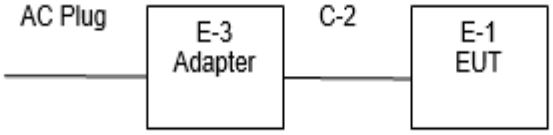
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

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



Conducted Emission Test



2.4 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.	Serial No.	Note
E-3	Adapter	N/A	KZ1503000	N/A	N/A
C-2	DC Cable	N/A	110cm	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
E-2	Notebook	DELL	VOSTRO.3800	N/A	N/A
C-1	USB Cable	N/A	100cm	N/A	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.

2.5 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	2018.10.13, 2019.7.29	2019.10.12, 2020.7.28
Signal Analyzer	Agilent	N9020A	MY51110105	2019.03.02	2020.03.01
Active loop Antenna	ZHINAN	ZN30900C	16035	2018.03.11	2021.03.10
Bilog Antenna	TESEQ	CBL6111D	34678	2017.11.02	2020.11.1
Horn Antenna	SCHWARZBECK	BBHA 9120D(1201)	9120D-1343	2018.10.19	2021.10.18
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	J211020657	2018.03.11	2021.03.10
Pre-Amplifier(0.1M-3GHz)	EM	EM330	060665	2018.10.13, 2019.10.9	2019.10.12, 2020.10.8
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2018.10.13, 2019.10.12	2019.10.12, 2020.10.11
Temperature & Humidity	HH660	Mieo	N/A	2018.10.11, 2019.10.09	2019.10.10, 2020.10.08
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)			

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2018.10.13, 2019.7.29	2019.10.12, 2020.7.28
LISN	R&S	ENV216	101242	2018.10.11, 2019.10.09	2019.10.10, 2020.10.08
LISN	EMCO	3810/2NM	23625	2018.10.11, 2019.10.09	2019.10.10, 2020.10.08
Temperature & Humidity	HH660	Mieo	N/A	2018.10.11, 2019.10.09	2019.10.10, 2020.10.08
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 CE)			

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
USB RF power sensor	DARE	RPR3006W	15I00041SNO03	2018.10.13, 2019.10.9	2019.10.12, 2020.10.8
Signal Analyzer	Agilent	N9020A	MY49100060	2018.10.13, 2019.10.9	2019.10.12, 2020.10.8
Temperature & Humidity	HH660	Mieo	N/A	2018.10.11, 2019.10.09	2019.10.10, 2020.10.08
Test SW	FARAD	LZ-RF /LzRf-3A3			

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.

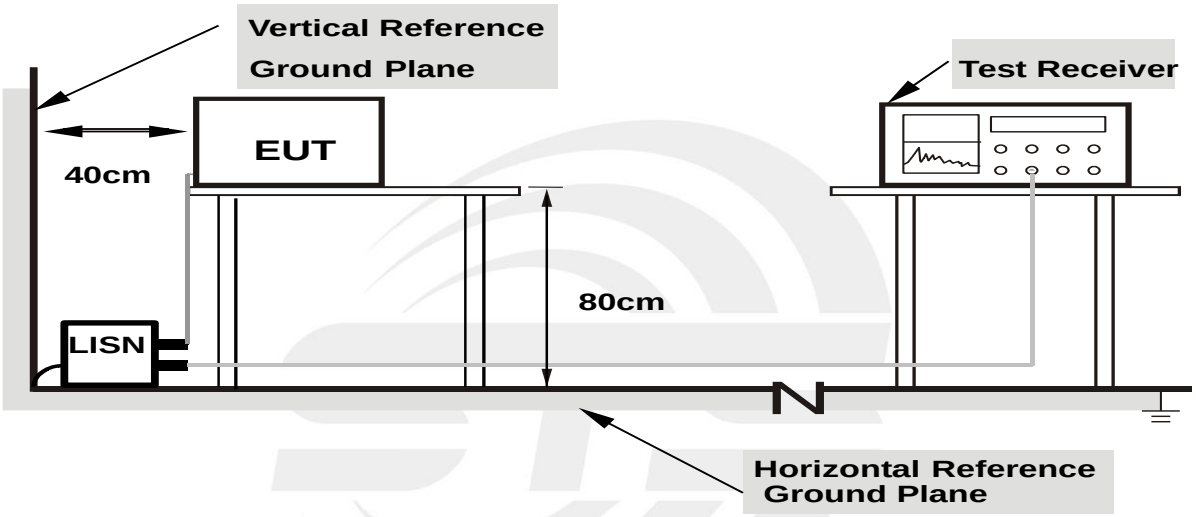
The following table is the setting of the receiver

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 from other units and other metal planes

3.1.4 EUT OPERATING CONDITIONS

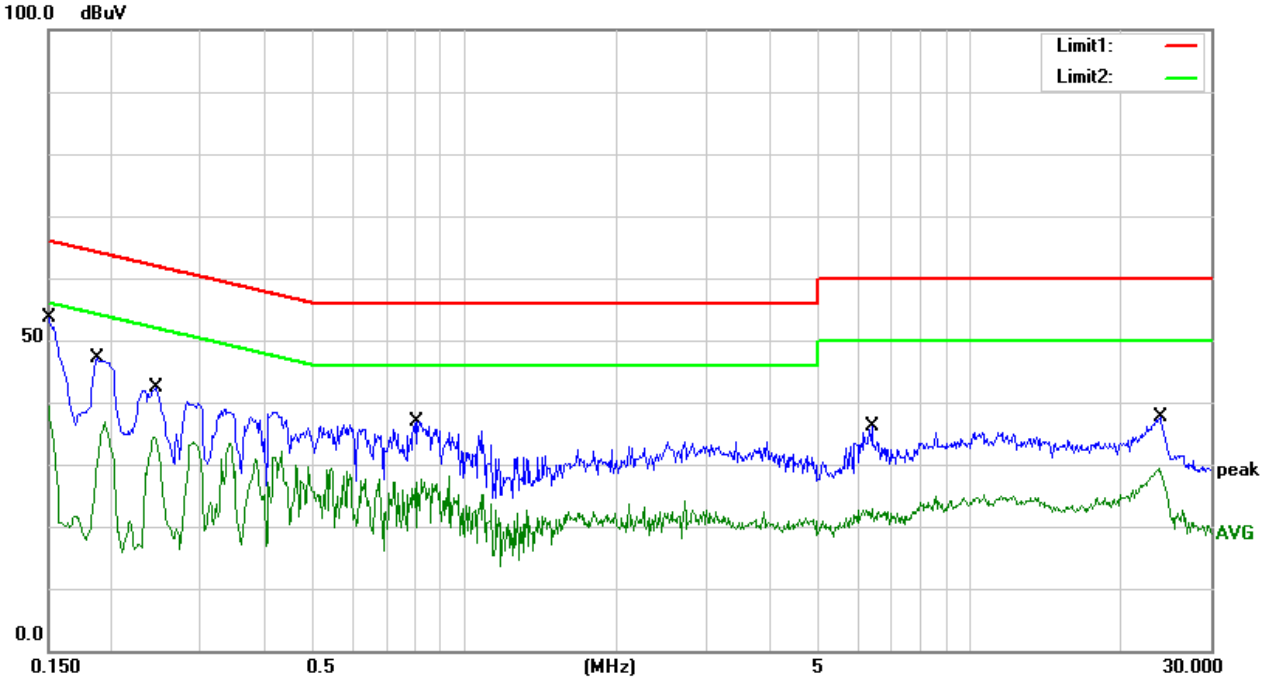
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.5 TEST RESULTS

Temperature:	26(C)	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Phase:	L
Test Mode:	Mode 4		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1500	33.94	19.66	53.60	66.00	-12.40	QP
0.1500	2.09	19.66	21.75	56.00	-34.25	AVG
0.1874	27.39	19.65	47.04	64.15	-17.11	QP
0.1874	1.76	19.65	21.41	54.15	-32.74	AVG
0.2460	22.83	19.60	42.43	61.89	-19.46	QP
0.2460	10.17	19.60	29.77	51.89	-22.12	AVG
0.8060	17.21	19.59	36.80	56.00	-19.20	QP
0.8060	2.10	19.59	21.69	46.00	-24.31	AVG
6.4140	16.91	19.32	36.23	60.00	-23.77	QP
6.4140	4.47	19.32	23.79	50.00	-26.21	AVG
23.8500	17.33	20.27	37.60	60.00	-22.40	QP
23.8500	-0.11	20.27	20.16	50.00	-29.84	AVG

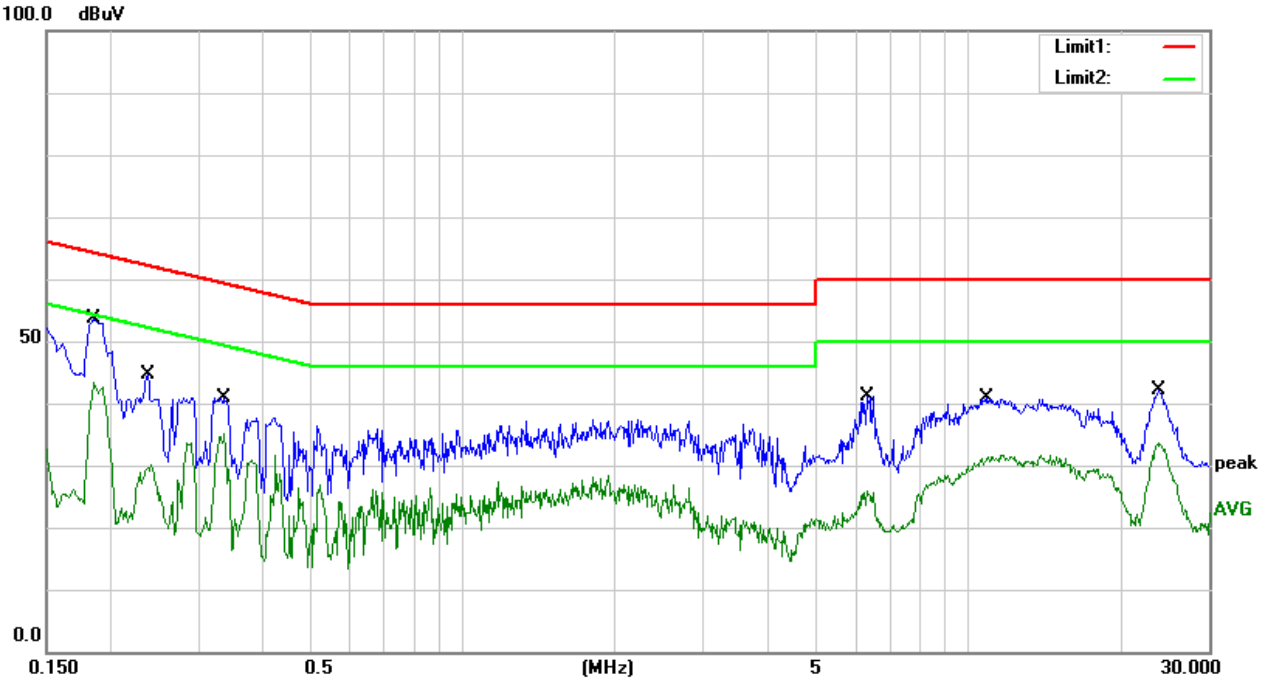
Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit



Temperature:	26(C)	Relative Humidity:	60%RH
Test Voltage:	AC 120V/60Hz	Phase:	N
Test Mode:	Mode 4		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
0.1860	34.01	19.64	53.65	64.21	-10.56	QP
0.1860	1.26	19.64	20.90	54.21	-33.31	AVG
0.2380	25.16	19.59	44.75	62.17	-17.42	QP
0.2380	7.48	19.59	27.07	52.17	-25.10	AVG
0.3380	21.27	19.62	40.89	59.25	-18.36	QP
0.3380	7.30	19.62	26.92	49.25	-22.33	AVG
6.3260	21.82	19.31	41.13	60.00	-18.87	QP
6.3260	5.27	19.31	24.58	50.00	-25.42	AVG
10.9020	21.43	19.40	40.83	60.00	-19.17	QP
10.9020	11.07	19.40	30.47	50.00	-19.53	AVG
23.8180	21.92	20.27	42.19	60.00	-17.81	QP
23.8180	1.83	20.27	22.10	50.00	-27.90	AVG

Remark:
1. All readings are Quasi-Peak and Average values.
2. Margin = Result (Result =Reading + Factor)–Limit



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 RADIATED EMISSION LIMITS

20dBc 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(μV)/m (Peak) 54.0 dB(μV)/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 arotating 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 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 denoted 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)

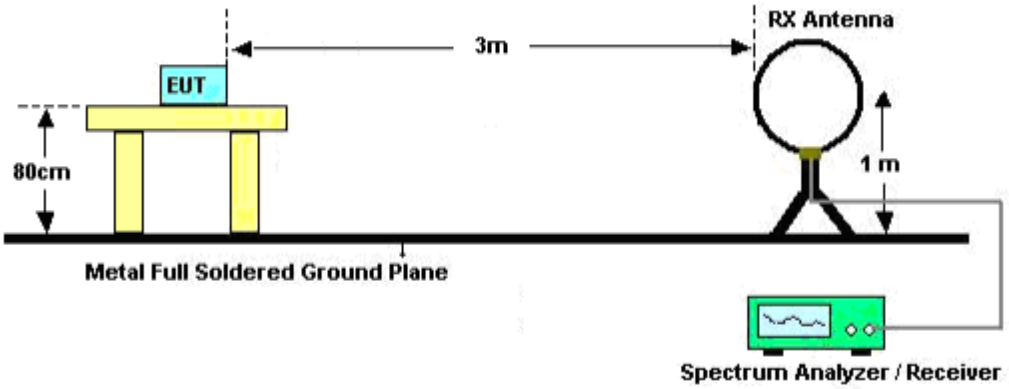
g. For the actual test configuration, please refer to the related Item –EUT Test Photos.
Note: Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

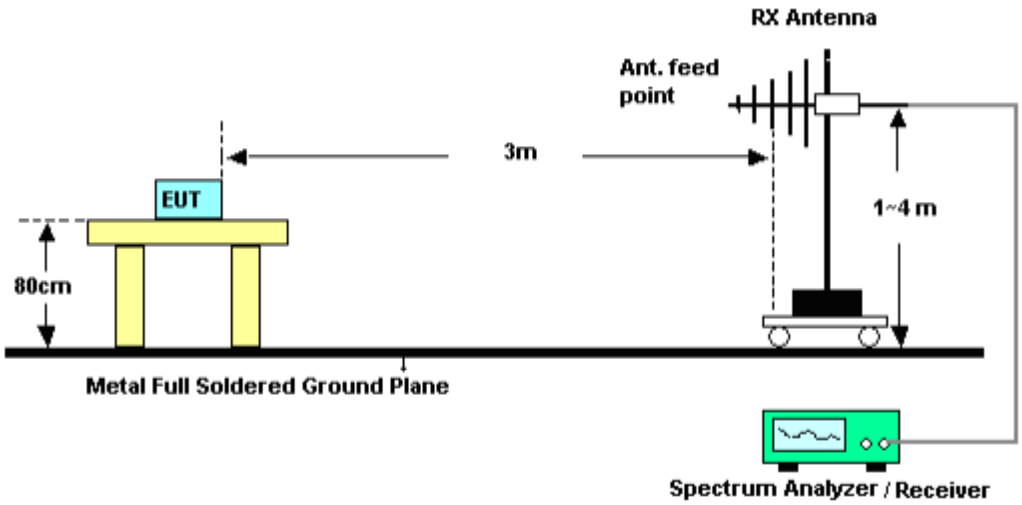
No deviation

3.2.4 TEST SETUP

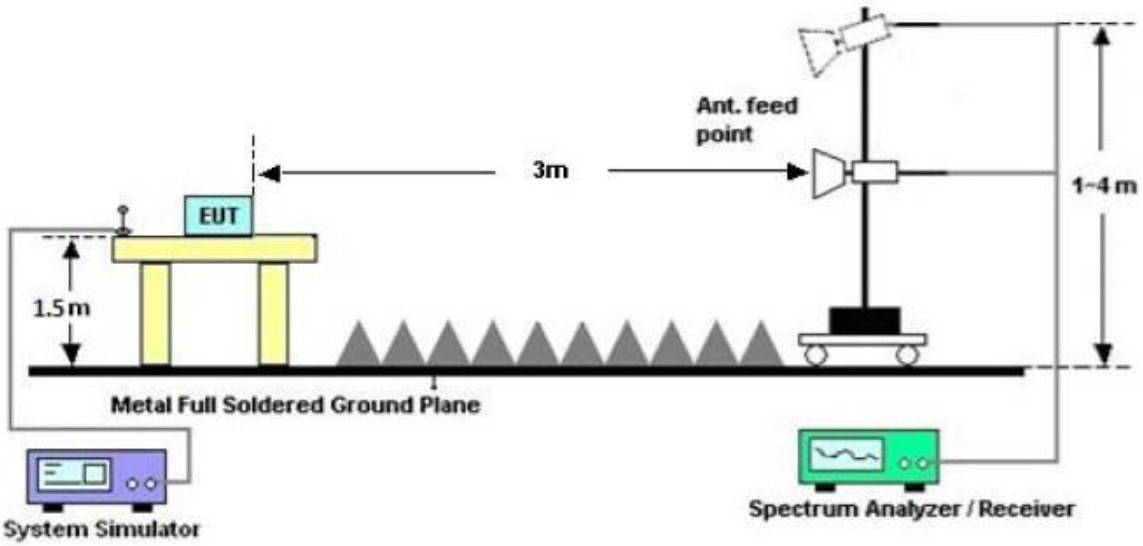
（A）Radiated Emission Test-Up Frequency Below 30MHz



（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	PR	AR	AF	PL	AL	PK L	AV L	Margin
(MHz)	(dBμV/m)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV/m)	(dBμV/m)	(dBμV/m)	(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:	26 ℃	Relative Humidity:	54%
Test Voltage:	DC 11.1V from batery	Polarization:	---
Test Mode:	TX Mode		

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	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 (specific distance/test distance)(dB);

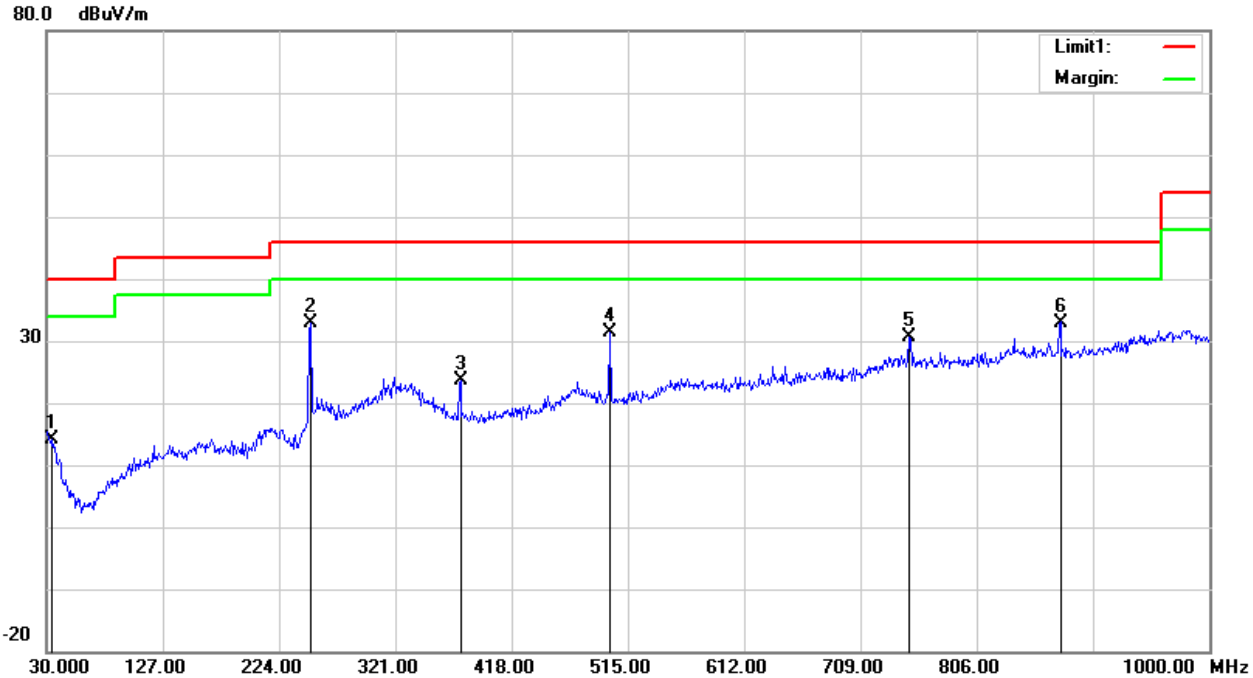
Limit line = specific limits(dBuv) + distance extrapolation factor.

Between 30MHz – 1000 MHz Radiation Spurious

Temperature:	23.4(C)	Relative Humidity:	56%RH
Test Voltage:	DC 11.1V from batery	Phase:	Horizontal
Test Mode:	Mode 1/2/3(Model 1 worst)		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
34.8500	29.35	-15.34	14.01	40.00	-25.99	QP
250.1900	48.94	-16.10	32.84	46.00	-13.16	QP
375.3200	36.12	-12.37	23.75	46.00	-22.25	QP
500.4500	39.39	-8.01	31.38	46.00	-14.62	QP
749.7400	32.71	-2.16	30.55	46.00	-15.45	QP
875.8400	33.61	-0.61	33.00	46.00	-13.00	QP

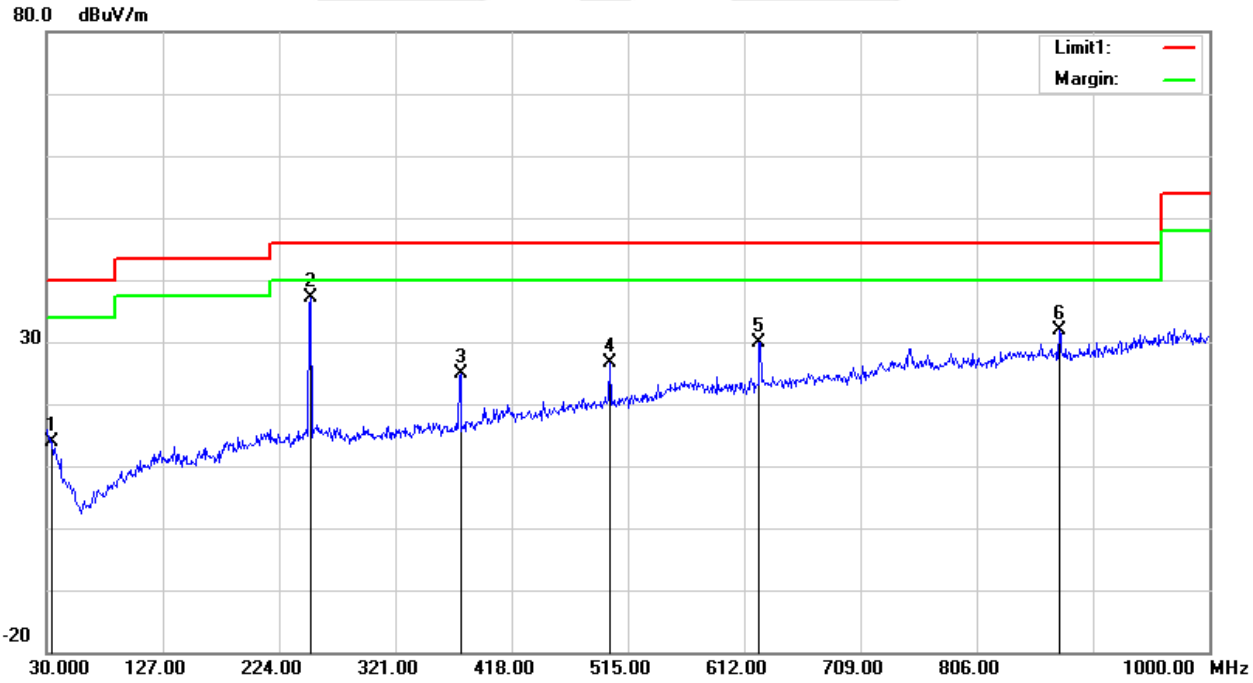
Remark:
1. All readings are Quasi-Peak .
2. Margin = Result (Result =Reading + Factor)–Limit



Temperature:	23.4(C)	Relative Humidity:	56%RH
Test Voltage:	DC 11.1V from batery	Phase:	Vertical
Test Mode:	Mode 1/2/3(Model 1 worst)		

Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
34.8500	29.12	-15.34	13.78	40.00	-26.22	QP
250.1900	53.13	-16.10	37.03	46.00	-8.97	QP
375.3200	37.18	-12.37	24.81	46.00	-21.19	QP
500.4500	34.62	-8.01	26.61	46.00	-19.39	QP
624.6100	35.27	-5.29	29.98	46.00	-16.02	QP
874.8700	32.47	-0.59	31.88	46.00	-14.12	QP

Remark:
1. All readings are Quasi-Peak.
2. Margin = Result (Result =Reading + Factor)–Limit



Above 1G Radiation Spurious

Frequency (MHz)	Meter Reading (dBμV)	Amplifier （dB）	Loss （dB）	Antenna Factor （dB/m）	Orrected Factor （dB）	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
Low Channel (5731 MHz)										
3267.01	48.87	44.70	6.70	28.20	-9.80	39.07	74.00	-34.93	PK	Vertical
3267.01	38.88	44.70	6.70	28.20	-9.80	29.08	54.00	-24.92	AV	Vertical
3267.03	47.99	44.70	6.70	28.20	-9.80	38.19	74.00	-35.81	PK	Horizontal
3267.03	38.58	44.70	6.70	28.20	-9.80	28.78	54.00	-25.22	AV	Horizontal
7228.94	51.87	43.50	11.40	35.50	3.40	55.27	74.00	-18.73	PK	Vertical
7228.94	33.76	43.50	11.40	35.50	3.40	37.16	54.00	-16.84	AV	Vertical
7228.82	50.85	43.50	11.40	35.50	3.40	54.25	74.00	-19.75	PK	Horizontal
7228.82	33.41	43.50	11.40	35.50	3.40	36.81	54.00	-17.19	AV	Horizontal
11462.06	45.82	43.80	13.28	39.50	8.98	54.80	74.00	-19.20	PK	Vertical
11462.06	37.71	43.80	13.28	39.50	8.98	46.69	54.00	-7.31	AV	Vertical
11462.49	45.58	43.80	13.28	39.50	8.98	54.56	74.00	-19.44	PK	Horizontal
11462.49	38.46	43.80	13.28	39.50	8.98	47.44	54.00	-6.56	AV	Horizontal
Middle Channel (5751 MHz)										
3270.48	49.23	44.70	6.70	28.20	-9.80	39.43	74.00	-34.57	PK	Vertical
3270.48	38.93	44.70	6.70	28.20	-9.80	29.13	54.00	-24.87	AV	Vertical
3270.28	48.75	44.70	6.70	28.20	-9.80	38.95	74.00	-35.05	PK	Horizontal
3270.28	39.06	44.70	6.70	28.20	-9.80	29.26	54.00	-24.74	AV	Horizontal
7333.53	50.62	43.50	11.40	35.50	3.40	54.02	74.00	-19.98	PK	Vertical
7333.53	33.07	43.50	11.40	35.50	3.40	36.47	54.00	-17.53	AV	Vertical
7333.66	51.57	43.50	11.40	35.50	3.40	54.97	74.00	-19.03	PK	Horizontal
7333.66	33.16	43.50	11.40	35.50	3.40	36.56	54.00	-17.44	AV	Horizontal
11501.96	45.81	43.80	13.28	39.50	8.98	54.79	74.00	-19.21	PK	Vertical
11501.96	38.03	43.80	13.28	39.50	8.98	47.01	54.00	-6.99	AV	Vertical
11502.22	45.23	43.80	13.28	39.50	8.98	54.21	74.00	-19.79	PK	Horizontal
11502.22	37.07	43.80	13.28	39.50	8.98	46.05	54.00	-7.95	AV	Horizontal

High Channel (5783 MHz)										
3281.09	48.37	44.70	6.70	28.20	-9.80	38.57	74.00	-35.43	PK	Vertical
3281.09	38.81	44.70	6.70	28.20	-9.80	29.01	54.00	-24.99	AV	Vertical
3281.18	49.22	44.70	6.70	28.20	-9.80	39.42	74.00	-34.58	PK	Horizontal
3281.18	39.03	44.70	6.70	28.20	-9.80	29.23	54.00	-24.77	AV	Horizontal
7459.14	51.69	43.50	11.40	35.50	3.40	55.09	74.00	-18.91	PK	Vertical
7459.14	32.78	43.50	11.40	35.50	3.40	36.18	54.00	-17.82	AV	Vertical
7459.31	51.94	43.50	11.40	35.50	3.40	55.34	74.00	-18.66	PK	Horizontal
7459.31	33.77	43.50	11.40	35.50	3.40	37.17	54.00	-16.83	AV	Horizontal
11562.93	45.78	43.80	13.28	39.50	8.98	54.76	74.00	-19.24	PK	Vertical
11562.93	37.90	43.80	13.28	39.50	8.98	46.88	54.00	-7.12	AV	Vertical
11566.33	45.83	43.80	13.28	39.50	8.98	54.81	74.00	-19.19	PK	Horizontal
11566.33	38.00	43.80	13.28	39.50	8.98	46.98	54.00	-7.02	AV	Horizontal

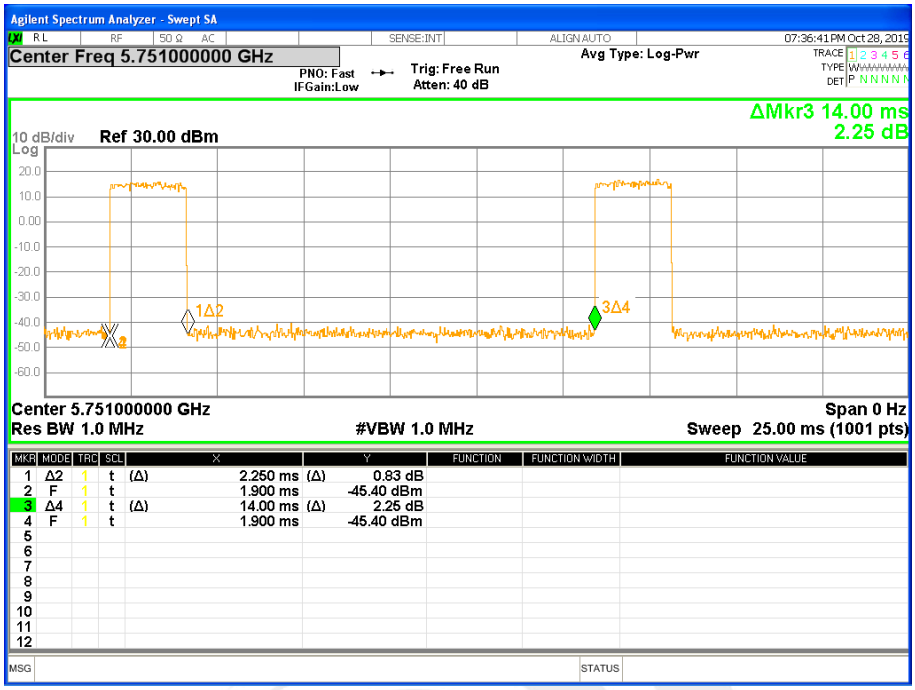
Note:

1) Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Emission Level = Reading + Factor

2) The frequency emission of peak points that did not show above the forms are at least 20dB below the limit, the frequency emission is mainly from the environment noise.

Duty cycle



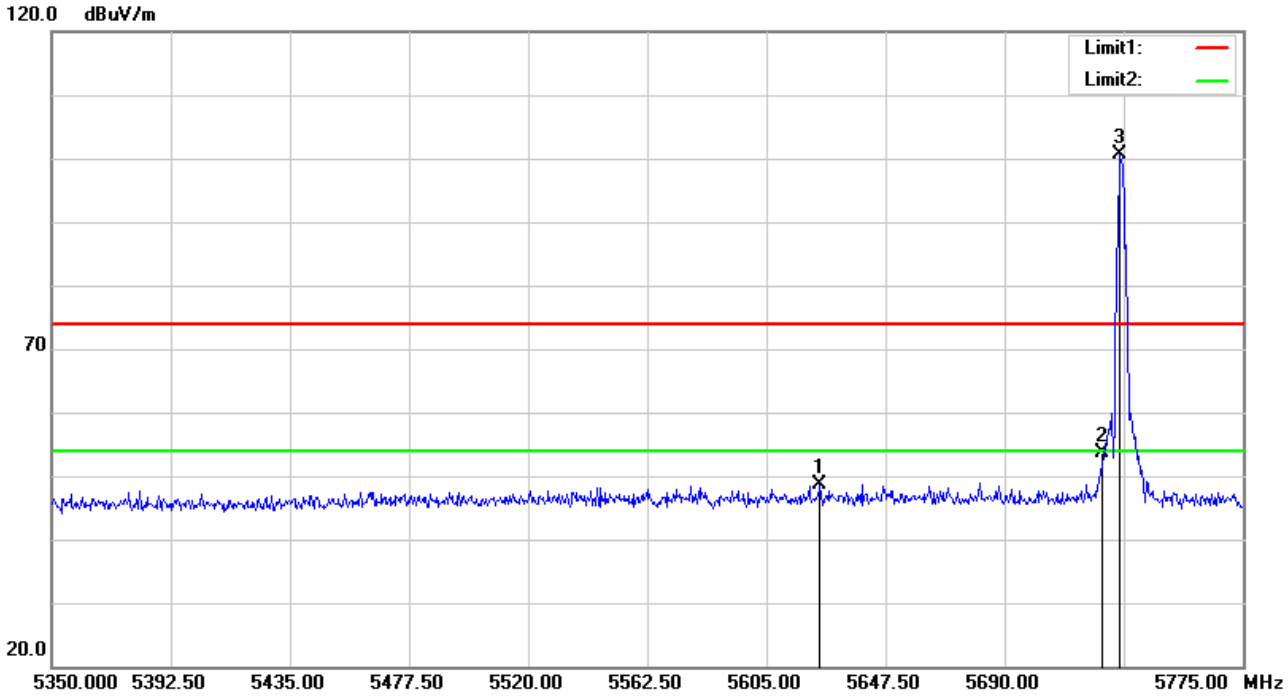
Ton (μs)	Tp (μs)	Duty cycle(%)	Duty factor(dB)
2.250	14.000	16.07%	7.94

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

(Radiation Band edge)

Low channel

Horizontal

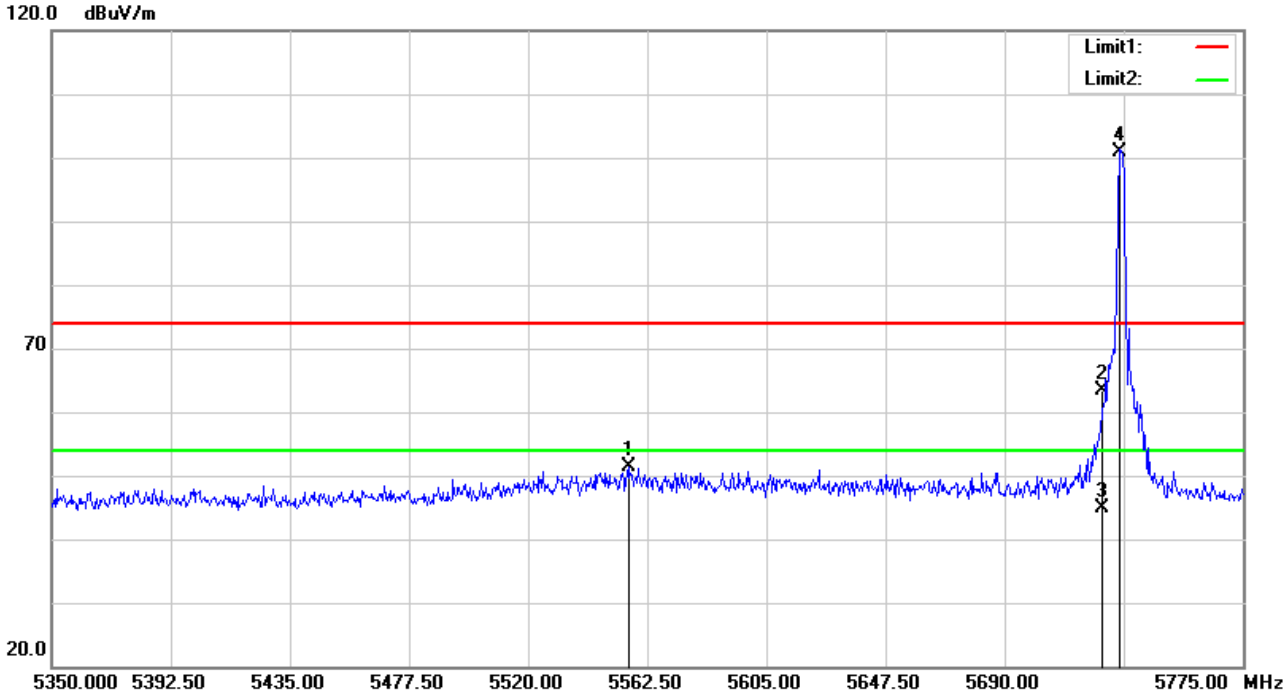


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5624.125	53.42	-4.69	48.73	74.00	-25.27	peak
2	5725.000	58.16	-4.57	53.59	74.00	-20.41	peak

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	5731.000	105.11	-4.55	-	100.56	114.00	-13.44	peak
4	5731.000	105.11	-4.55	7.94	92.62	94.00	-1.38	AV

Vertical



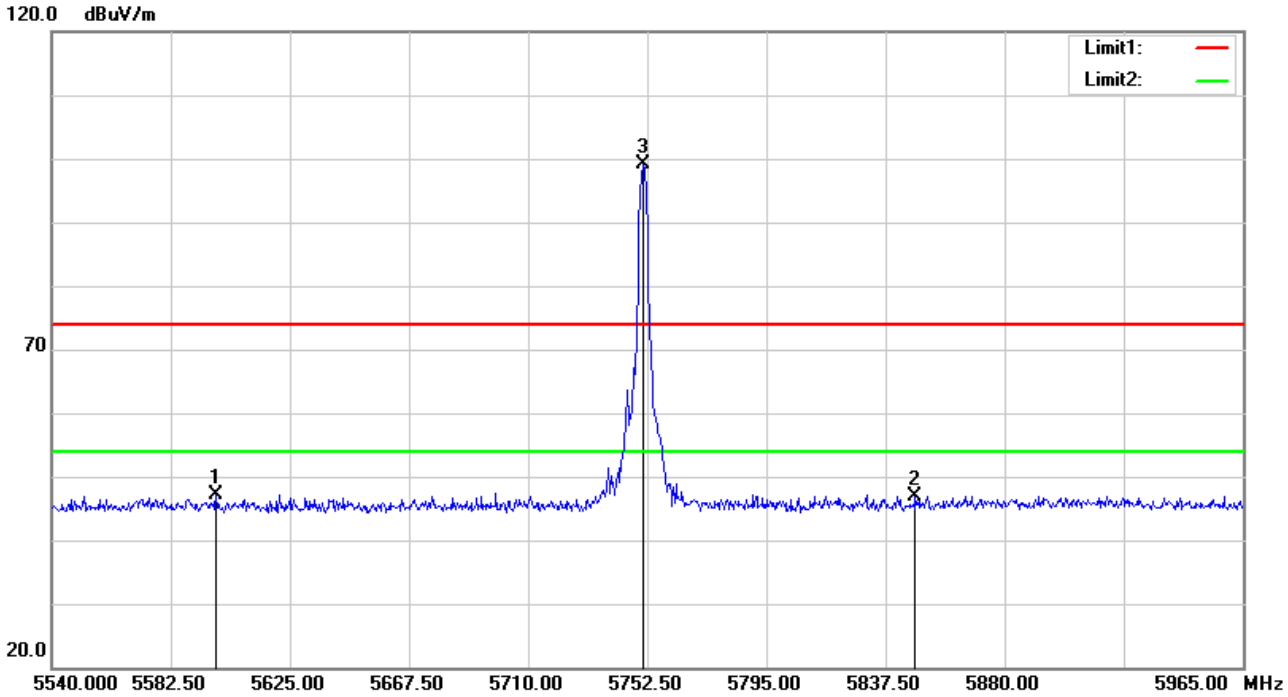
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5555.700	56.22	-4.84	51.38	74.00	-22.62	peak
2	5725.000	68.01	-4.57	63.44	74.00	-10.56	peak
3	5725.000	49.38	-4.57	44.81	54.00	-9.19	AVG

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)	
4	5731.000	105.36	-4.55	-	100.81	114.00	-13.19	peak
5	5731.000	105.36	-4.55	7.94	92.87	94.00	-1.13	AV

GFSK-Mid

Horizontal

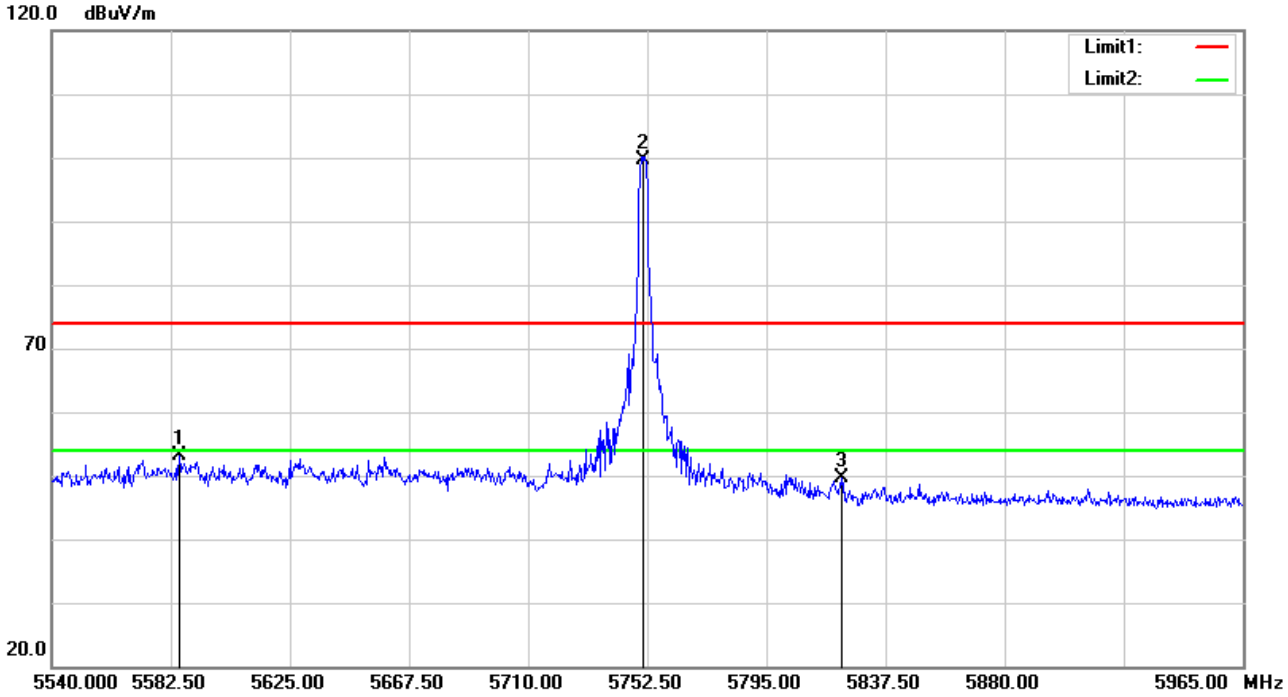


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	5598.650	51.83	-4.70	47.13	74.00	-26.87	peak
2	5848.125	51.07	-4.11	46.96	74.00	-27.04	peak

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	5751.000	103.69	-4.49	-	99.20	114.00	-14.80	peak
4	5751.000	103.69	-4.49	7.94	91.26	94.00	-2.74	AV

Vertical



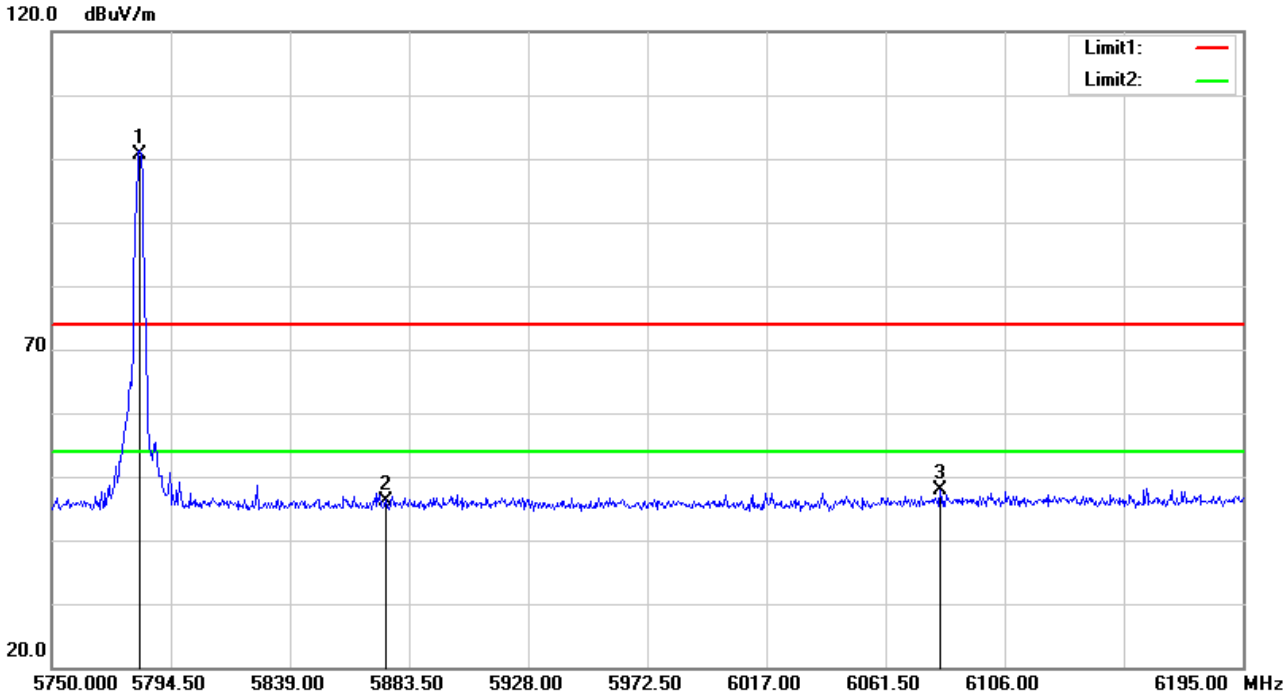
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	5585.475	57.87	-4.74	53.13	74.00	-20.87	peak
3	5821.775	53.83	-4.23	49.60	74.00	-24.40	peak

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
2	5751.000	104.17	-4.49	-	99.68	114.00	-14.32	peak
4	5751.000	104.17	-4.49	7.94	91.74	94.00	-2.26	AV

GFSK-High

Horizontal

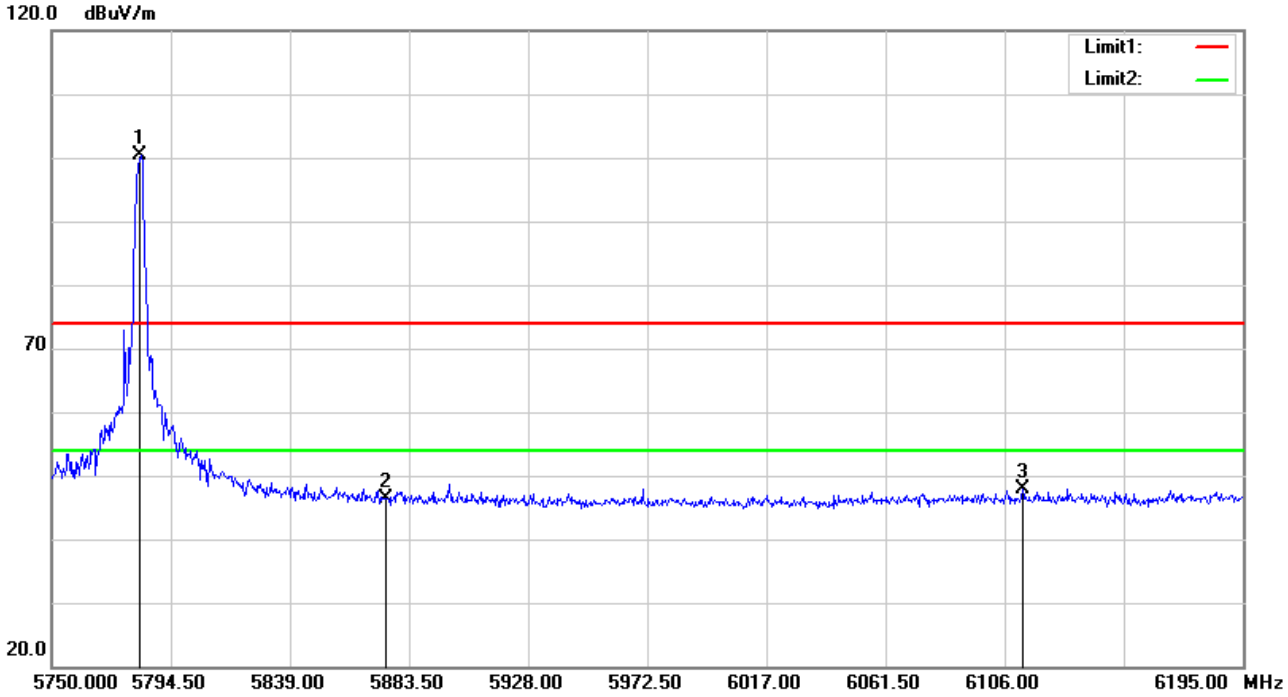


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
2	5875.000	50.12	-3.99	46.13	74.00	-27.87	peak
3	6081.970	51.46	-3.48	47.98	74.00	-26.02	peak

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	5783.000	105.00	-4.38	-	100.62	114.00	-13.38	peak
4	5783.000	105.00	-4.38	7.94	92.68	94.00	-1.32	AV

Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
2	5875.000	50.25	-3.99	46.26	74.00	-27.74	peak
3	6112.675	51.25	-3.34	47.91	74.00	-26.09	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	5783.000	104.73	-4.38	-	100.35	114.00	-13.65	peak
4	5783.000	104.73	-4.38	7.94	92.41	94.00	-1.59	AV

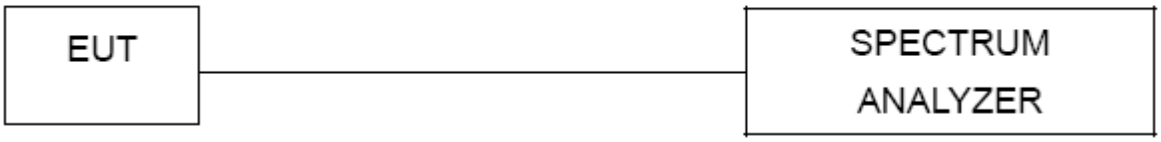
4. BANDWIDTH TEST

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= 30KHz, VBW≧RBW, Sweep time = Auto.

4.2 TEST SETUP



4.3 EUT OPERATION CONDITIONS

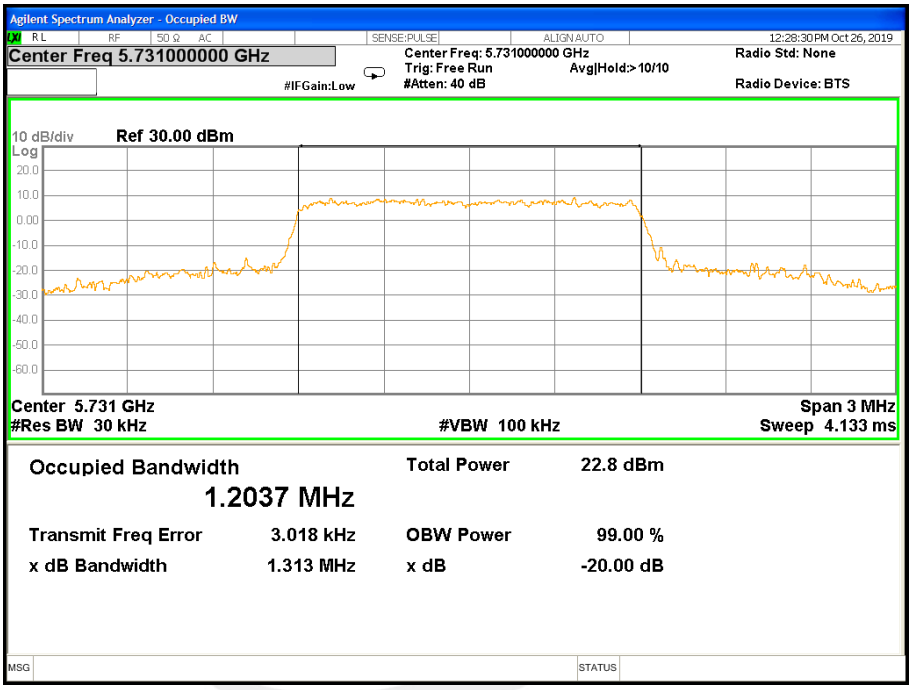
TX mode.

4.4 TEST RESULTS

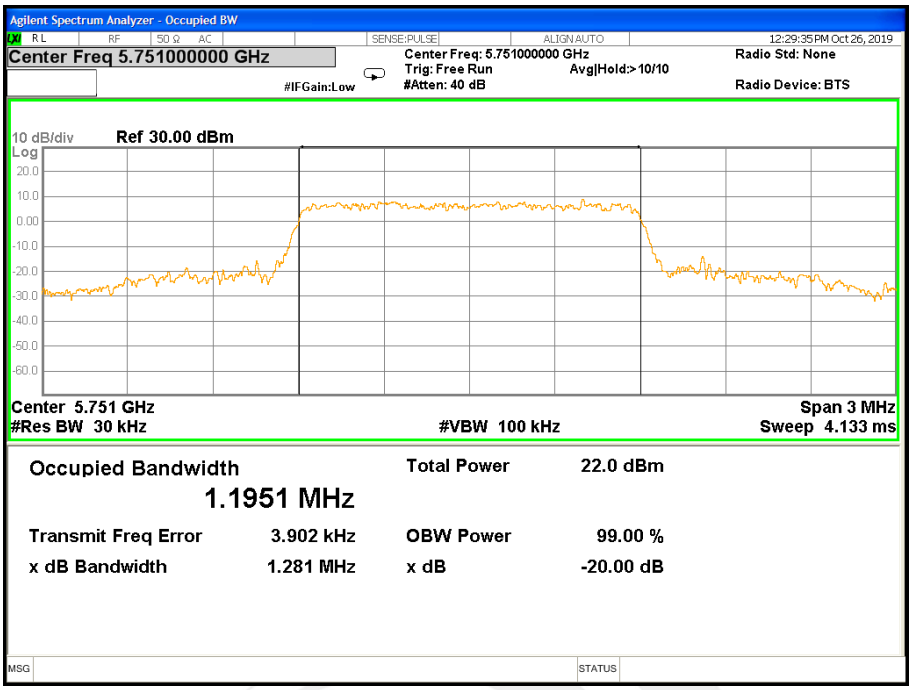
Temperature:	25 ℃	Relative Humidity:	50%
Test Voltage:	DC 11.1V from batery		

Test Channel	Frequency (MHz)	20 dBc Bandwidth (MHz)	99% Bandwidth (MHz)
CH01	5731	1.313	1.2037
CH10	5751	1.281	1.1951
CH18	5783	1.278	1.1931

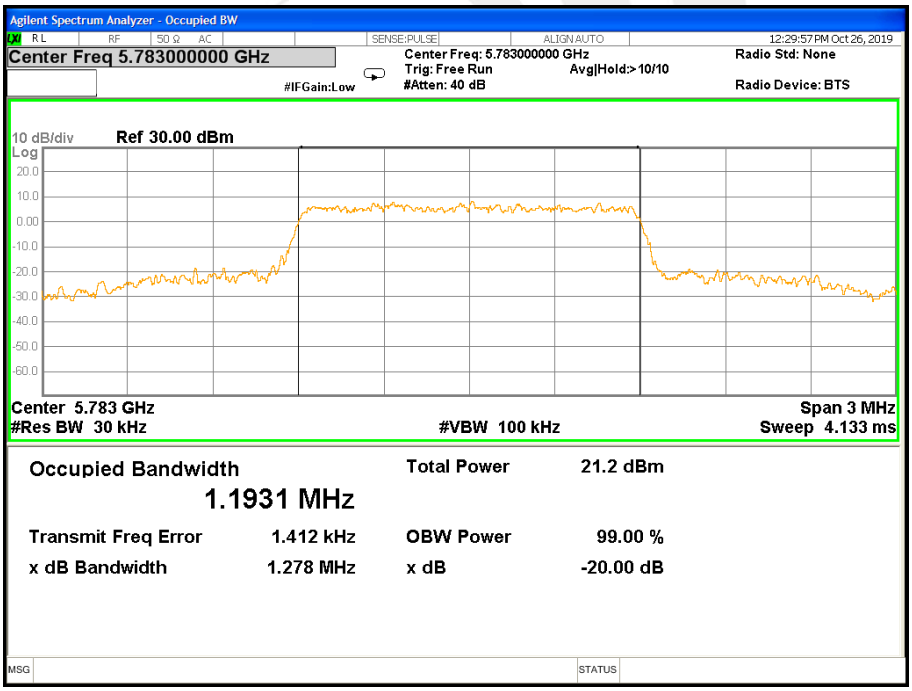
The Lowest Channel



The Middle Channel



The 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 Dipole 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※※※※※