Certificate # 2951.01

TEST REPORT

Applicant	Evoko Unlimited AB
Address	Hastholmsvagen 32, 5th floor,Nacka ,Sweden, 131 30

Manufacturer or Supplier	Shenzhen Baiqiancheng Electronic Co., Ltd
Address	Room 609, Huihong Building, Building 18, Nanshan Ruiyuan, Shenzhen
Product	Evoko Naso
Brand Name	N/A
Model	ENX1001
Additional Model & Model Difference	N/A
Date of tests	Feb. 15, 2019 ~ Mar. 18, 2019
the tests have been carried out according to the requirements of the following standards:	
☒ **FCC Part 15, Subpart C, Section 15.225**	
CONCLUSION: The submitted sample was found to COMPLY with the test requirement	

Issued by Evans He Engineer / Mobile Department	Approved by David Huang Manager / Mobile Department
Evans.He	David Huang
Date: Feb. 27, 2019	Date: Mar. 18, 2019

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF190215N004-2	Original release	Mar. 18, 2019

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
STANDARD SECTION	**TEST TYPE AND LIMIT**	**RESULT**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit.
15.225 (a)&(b)&(c)	The field strength of any emissions within the band	PASS	Meet the requirement of limit.
15.225 (d)	The field strength of any emissions appearing outside of the 13.110-14.010 MHz band	PASS	Meet the requirement of limit.
15.225 (e)	Frequency tolerance	PASS	Meet the requirement of limit.
15.215 (c)	20dB Bandwidth	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

NOTE: Test Lab Information:

Lab: Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch

Test Lab Address: Zone A, Floor 1, Building 2 Wan Ye Long Technology Park South Side of Zhoushi Road, Bao'an District Shenzhen, Guangdong, 518108, People's Republic of China

2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	3.11dB
Radiated emissions	9KHz ~ 30MHz	3.11dB
	30MHz ~ 1GMHz	5.12dB
	1GHz ~ 18GHz	5.34dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Evoko Naso
MODEL NO.	ENX1001
FCC ID	2AH64-ENX1001
POWER SUPPLY	DC 5.2V from adapter or DC 48V from PoE
MODULATION TECHNOLOGY	NFC
MODULATION TYPE	ASK
OPERATING FREQUENCY	13.56MHz
NUMBER OF CHANNEL	1
ANTENNA TYPE	Loop antenna
I/O PORTS	Refer to user's manual
CABLE SUPPLIED	DC Cable: Unshielded, Detachable, 2.4m

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

3.2 DESCRIPTION OF TEST MODES

The EUT only have one channel.

CHANNEL	FREQUENCY (MHz)
1	13.56

3.2.1. CONFIGURATION OF SYSTEM UNDER TEST

Please see section 5 photograph of the test configuration for reference.

3.2.2. TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports The worst case was found when positioned on X axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE	FT	PLC	BW	
A	√	√	√	√	Power by Adapter with NFC

Where **RE:** Radiated Emission **FT:** Frequency tolerance
PLC: Power Line Conducted Emission **BW:** 20dB Bandwidth

RADIATED EMISSION TEST:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis, antenna ports (if EUT with antenna diversity architecture) and packet type.
☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	TESTED FREQUENCY (MHZ)	MODULATION TYPE	AXIS
A	1	13.56	ASK	X

FREQUENCY TOLERANCE:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and packet types.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	TESTED FREQUENCY (MHZ)	MODULATION TYPE	AXIS
A	1	13.56	ASK	X

POWER LINE CONDUCTED EMISSION TEST:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and packet types.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	TESTED FREQUENCY (MHZ)	MODULATION TYPE	AXIS
A	1	13.56	ASK	X

20dB BANDWIDTH:

☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, antenna ports (if EUT with antenna diversity architecture), and packet types.

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	TESTED CHANNEL	TESTED FREQUENCY (MHZ)	MODULATION TYPE	AXIS
A	1	13.56	ASK	X

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	TEST VOLTAGE (SYSTEM)	TESTED BY
RE	24deg. C, 62%RH	DC 5.2V From Adapter	Evans He
FT	26deg. C, 60%RH	DC 5.2V From Adapter	Evans He
PLC	26deg. C, 57%RH	DC 5.2V From Adapter	Evans He
BW	26deg. C, 58%RH	DC 5.2V From Adapter	Aaron Liang

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C. Section 15.225
ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

NOTE: 1. All test items have been performed and recorded as per the above standards.

2. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B. The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as a dependent 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.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
-					

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	-

4 TEST TYPES AND RESULTS

4.1. CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1.The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCS30	8471241027	Jan. 04, 2019	Jan. 03, 2020
Artificial Mains Network	SCHWARZBECK	8127	8127713	Jan. 04, 2019	Jan. 03, 2020
ISN	Com-Power	ISN T800	34373	Jan. 04, 2019	Jan. 03, 2020
Test software	EZ-EMC	ICP-03A1	N/A	N/A	N/A

NOTE:

1. The test was performed in CE shielded room.
2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

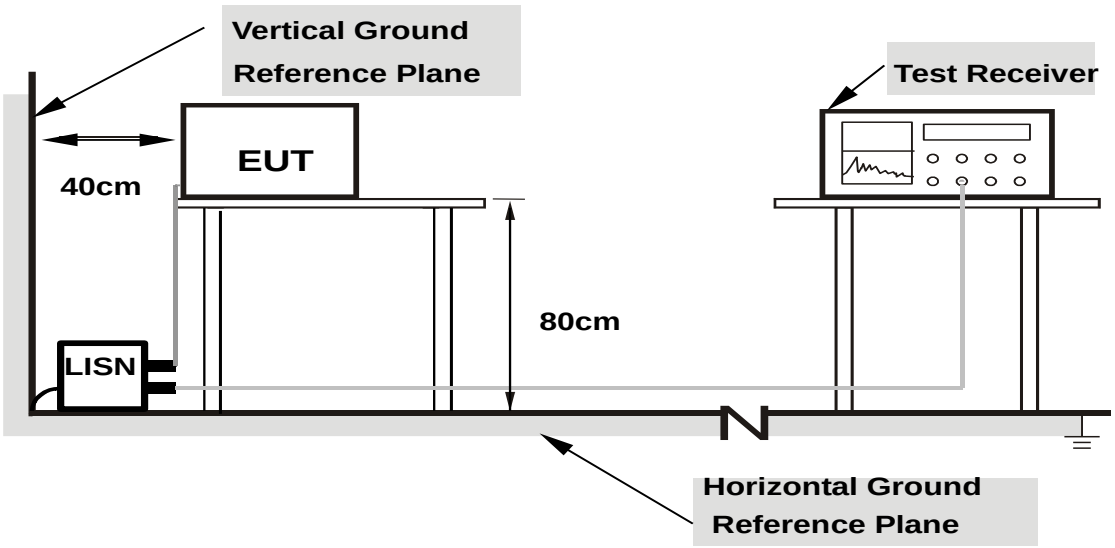
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.

4.1.5 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

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT OPERATING CONDITIONS

a. Turned on the power and connected of all equipment.
b. EUT was operated according to the type used was description in manufacturer's specifications or the User's Manual.

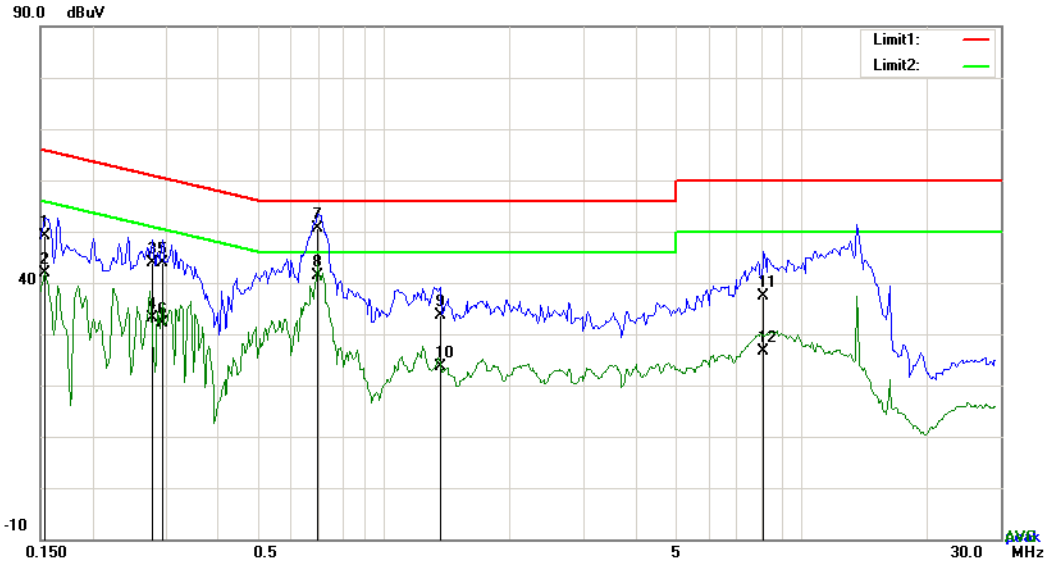
4.1.7 TEST RESULTS

CONDUCTED WORST-CASE DATA:

PHASE	Line	6dB BANDWIDTH	9kHz

No.	P/L	Frequency (MHz)	Reading (dBuV)	Detector	Corrected (dB}	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	L1	0.1539	39.12	QP	10.03	49.15	65.79	-16.64
2	L1	0.1539	31.86	AVG	10.03	41.89	55.79	-13.90
3	L1	0.2787	33.93	QP	10.03	43.96	60.85	-16.89
4	L1	0.2787	23.18	AVG	10.03	33.21	50.85	-17.64
5	L1	0.2943	33.91	QP	10.03	43.94	60.40	-16.46
6	L1	0.2943	21.98	AVG	10.03	32.01	50.40	-18.39
7	L1	0.6921	40.48	QP	10.03	50.51	56.00	-5.49
8	**L1**	**0.6921**	**31.40**	**AVG**	**10.03**	**41.43**	**46.00**	**-4.57**
9	L1	1.3629	23.57	QP	10.03	33.60	56.00	-22.40
10	L1	1.3629	13.59	AVG	10.03	23.62	46.00	-22.38
11	L1	8.1363	27.24	QP	10.12	37.36	60.00	-22.64
12	L1	8.1363	16.52	AVG	10.12	26.64	50.00	-23.36

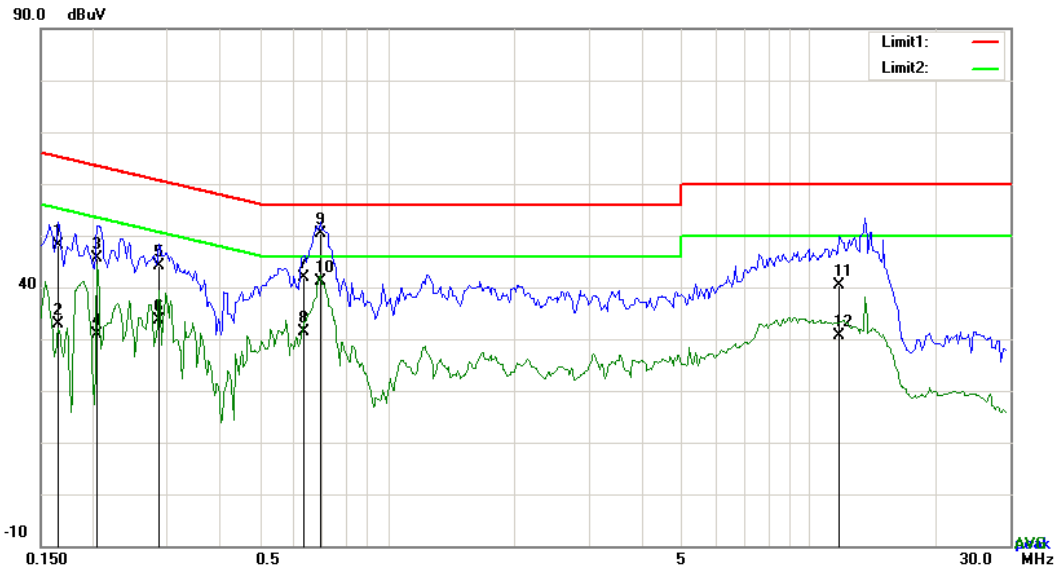
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Result level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Result Level = Correction Factor + Reading Value.



PHASE	Neutral	6dB BANDWIDTH	9kHz

No.	P/L	Frequency	Reading	Detector	Corrected	Result	Limit	Margin
		(MHz)	(dBuV)		(dB}	(dBuV)	(dBuV)	(dB)
1	N	0.1656	38.20	QP	10.02	48.22	65.18	-16.96
2	N	0.1656	22.81	AVG	10.02	32.83	55.18	-22.35
3	N	0.2046	35.61	QP	10.02	45.63	63.42	-17.79
4	N	0.2046	20.75	AVG	10.02	30.77	53.42	-22.65
5	N	0.2865	34.18	QP	10.02	44.20	60.63	-16.43
6	N	0.2865	23.58	AVG	10.02	33.60	50.63	-17.03
7	N	0.6336	31.77	QP	10.02	41.79	56.00	-14.21
8	N	0.6336	21.35	AVG	10.02	31.37	46.00	-14.63
9	N	0.6921	40.41	QP	10.02	50.43	56.00	-5.57
10	N	0.6921	31.17	AVG	10.02	41.19	46.00	-4.81
11	N	11.7711	30.27	QP	10.16	40.43	60.00	-19.57
12	N	11.7711	20.52	AVG	10.16	30.68	50.00	-19.32

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Result level - Limit value
5. Correction factor = Insertion loss + Cable loss
6. Result Level = Correction Factor + Reading Value.



4.2. RADIATED EMISSION AND BANDEDGE MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION AND BANDEDGE MEASUREMENT

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

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

(b)334uV/m(50.5dBuV/m) at 30m, within the band 13.410-13.553 MHz and 13.567-13.710MHz;

(c)106uV/m(40.5dBuV/m) at 30m, within the band 13.110-13.410 MHz and 13.710-14.010MHz;

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

FREQUENCIES (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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
4. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

Example:

13.56MHz = 15848uV/m 30m
= 84dBuV/m 30m
= $84+20\log(30/3)^2$ 3m
= 124dBuV/m

4.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESL6	1300.5001K06-100 262-eQ	Jan. 04, 2019	Jan. 03, 2020
Bilog Antenna	Sunol Sciences	JB6	A110712	Feb. 07, 2019	Feb. 06, 2020
Active Antenna	CMO-POWER	AL-130	121031	Feb. 07, 2019	Feb. 06, 2020
Signal Amplifier	HP	8447E	443008	Jan. 24, 2019	Jan. 23, 2020
3m Semi-anechoic Chamber	SAEMC	9m*6m*6m	N/A	Oct. 18, 2018	Oct. 17, 2019
Test Software	EZ-EMC	ICP-03A1	N/A	N/A	N/A

NOTE:

1. The test was performed in 966 Chamber (a 3m Semi-anechoic chamber).
2. The calibration interval of the above test instruments are 12 months(Except 3m Semi-anechoic Chamber) and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
3. The horn antenna is used only for the measurement of emission frequency above1GHz if tested.
4. The FCC Site Registration No. is 749762.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3&10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, For battery operated equipment, the equipment tests shall be perform using fresh batteries. The turntable was rotated to maximize the emission level.

g. For below 30MHz, a loop antenna with its vertical plane is place 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1m above the ground.

NOTE:

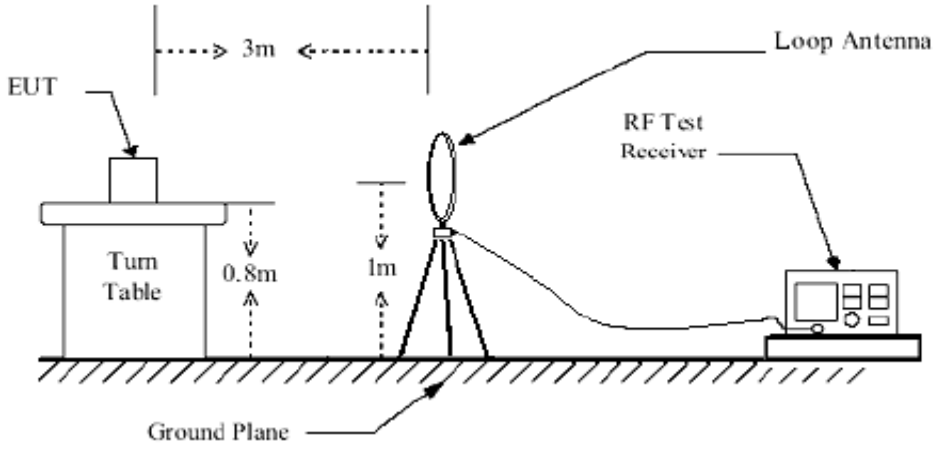
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
3. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

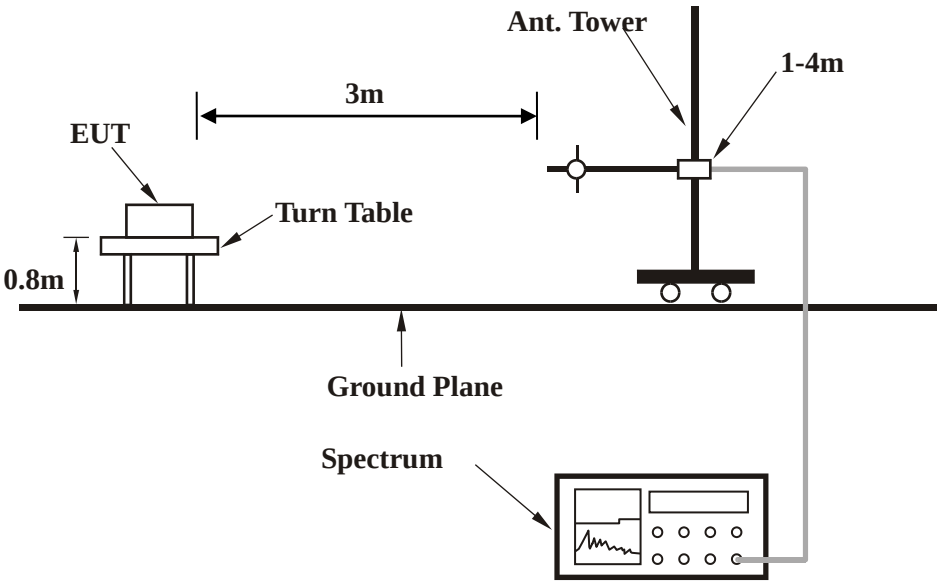
No deviation.

4.2.5 TEST SETUP

Below 30MHz test setup



Below 1GHz test setup



Note: For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT OPERATING CONDITIONS

Set the EUT under transmission condition continuously at specific channel frequency.

4.2.7 TEST RESULTS

FIELD STRENGTH (BELOW 30MHZ AT 3M)

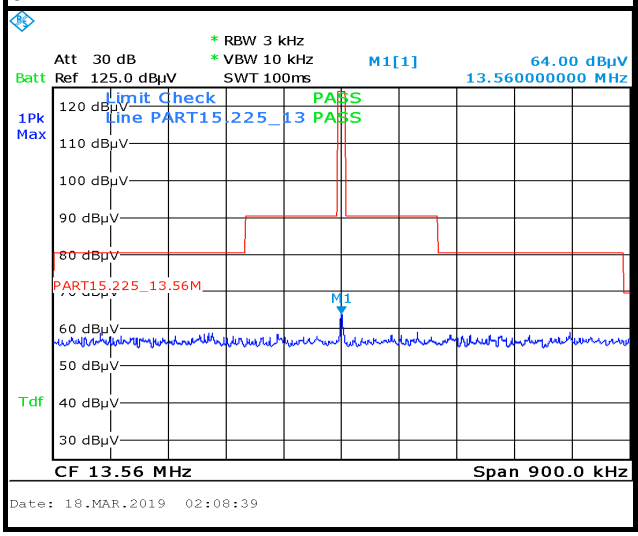
No.	Freq. (MHz)	Correction Factor (dB/m)	Raw Value (dBuV)	Emission Level (dBuV/m)	Polarity (0° / 90°)	Limit (dBuV/m)	Margin (dB)
1	*13.56(QP)	16.2	47.8	64	0°	124	-60
2	27.12(QP)	16.54	33.59	50.13	0°	69.5	-19.37
3	*13.56(QP)	16.2	43.26	59.46	90°	124	-64.54
4	27.12(QP)	16.54	33	49.54	90°	69.5	-19.96

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

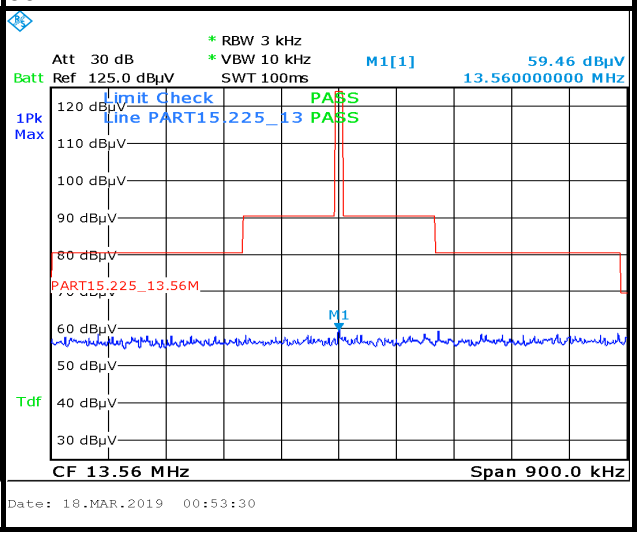
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. For the test results, both 0° and 90° polarizations of the antenna are set to make the measurement, but only the worst case was shown in test report.

TEST PLOT

0°



90°



BELOW 1GHz WORST-CASE DATA:

CHANNEL	Channel 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9KHz ~ 1GHz		

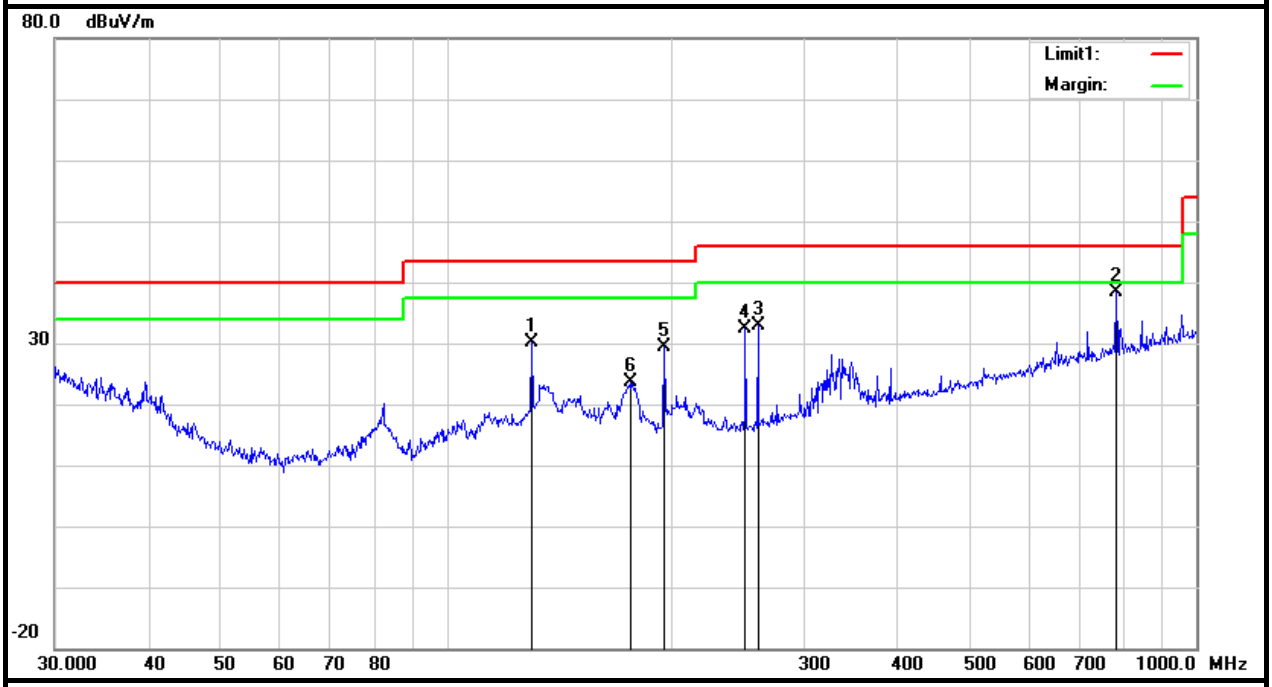
NO.	Frequency	Reading	Ant_F	PA_G	Cab_L	Result	Limit	Margin
	(MHz)	(dBuV/m)	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
1	129.9226	38.06	13.26	22.38	1.20	30.14	43.50	-13.36
2	782.3453	35.46	21.19	21.19	2.93	38.39	46.00	-7.61
3	260.1444	41.55	11.85	22.29	1.72	32.83	46.00	-13.17
4	250.3012	41.46	11.41	22.29	1.70	32.28	46.00	-13.72
5	195.1365	38.32	11.83	22.35	1.54	29.34	43.50	-14.16
6	175.6516	33.20	11.35	22.25	1.36	23.66	43.50	-19.84
NO.	Frequency	Reading	Ant_F	PA_G	Cab_L	Result	Limit	Margin
	(MHz)	(dBuV/m)	(dB/m)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)
1	129.9226	42.31	13.26	22.38	1.20	34.39	43.50	-9.11
2	40.5591	38.53	13.53	22.28	0.79	30.57	40.00	-9.43
3	260.1444	42.50	11.85	22.29	1.72	33.78	46.00	-12.22
4	782.3453	33.32	21.19	21.19	2.93	36.25	46.00	-9.75
5	520.8882	38.85	17.99	21.76	2.45	37.53	46.00	-8.47
6	250.3012	39.77	11.41	22.29	1.70	30.59	46.00	-15.41

REMARKS:

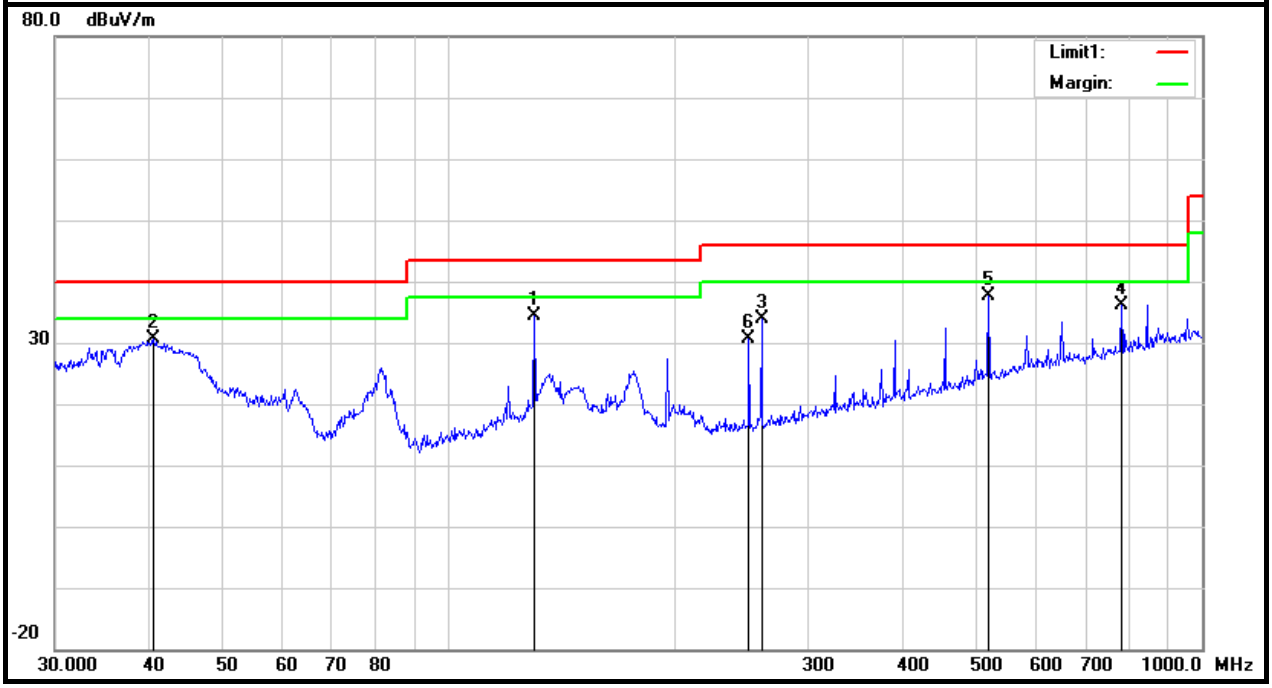
1. Result level (dBuV/m) = Reading Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Ant_F (dB/m) + Cab_L (dB) - PA_G(dB).
3. The emission levels of other frequencies were less than 20dB margin against the limit.
4. Margin value = Result level – Limit value.

TEST PLOT

Horizontal



Vertical



4.3. FREQUENCY TOLERANCE

4.3.1. LIMIT OF FREQUENCY TOLERANCE

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of –20 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.3.2. TEST INSTRUMENTS

Instrument	Model	Serial #	Cal Date	Cal Due
DC Power Supply	E3640A	MY40004013	Jan. 04, 2019	Jan. 03, 2020
MXA Signal Analyzer	N9020A	MY49100060	Jan. 04, 2019	Jan. 03, 2020
MXG Vector Signal Generator	N5182A	MY50140530	Jan. 04, 2019	Jan. 03, 2020
Series Signal Generator	E4421B	US40051152	May 12, 2018	May 11, 2019
RF control unit	JS0806-0806-2	188060112	Apr. 25, 2018	Apr. 24, 2019
Wireless Connectivity Tester	CMW270	1201.0002K75-101601-PE	Apr. 25, 2018	Apr. 24, 2019
Test Software	EZ-EMC	ver.Icp-03A1	N/A	N/A

NOTE:

1. The test was performed in RF Oven room.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

4.3.3. TEST PROCEDURES

a) The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.

b) Turn the EUT on and couple its output to a spectrum analyzer.

c) Turn the EUT off and set the chamber to the highest temperature specified.

d) Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.

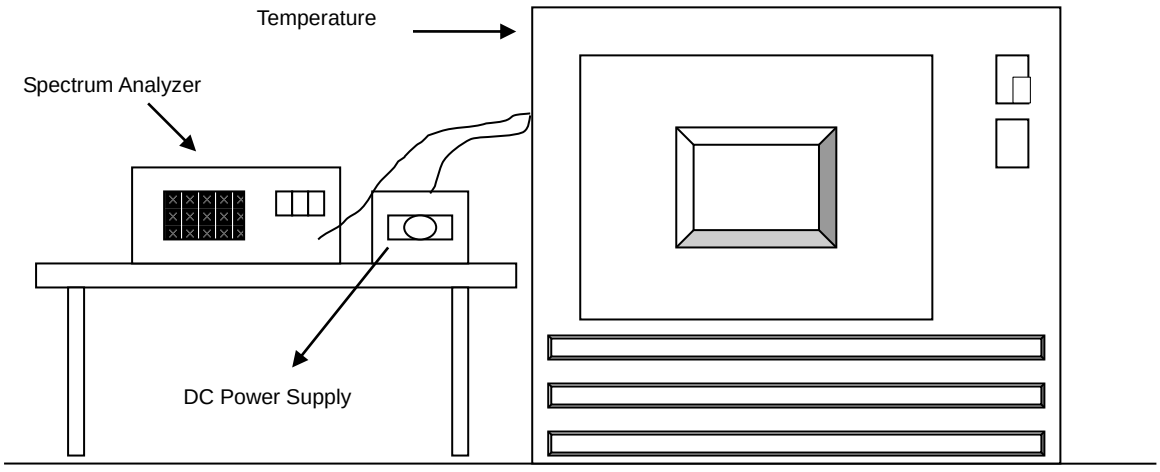
e) Repeat step c) and d) with the temperature chamber set to the lowest temperature.

f) The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.3.4. DEVIATION FROM TEST STANDARD

No deviation.

4.3.5. TEST SETUP



4.3.6. EUT OPERATING CONDITIONS

Set the EUT under transmission condition continuously at specific channel frequency.

4.3.7. TEST RESULTS

FREQUEMCY STABILITY VERSUS TEMP.									
TEMP. (℃)	POWER SUPPLY (V)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
50	120V/60Hz	13.5596	-0.00295	13.5597	-0.00221	13.5596	-0.00295	13.5596	-0.00295
40	120V/60Hz	13.5606	0.004425	13.5606	0.004425	13.5607	0.005162	13.5607	0.005162
30	120V/60Hz	13.5601	0.000737	13.5609	0.006637	13.5608	0.0059	13.5609	0.006637
20	120V/60Hz	13.5605	0.003687	13.5605	0.003687	13.5605	0.003687	13.5601	0.000737
10	120V/60Hz	13.5606	0.004425	13.5605	0.003687	13.5606	0.004425	13.5606	0.004425
0	120V/60Hz	13.5606	0.004425	13.5606	0.004425	13.5606	0.004425	13.5606	0.004425
-10	120V/60Hz	13.5603	0.002212	13.5602	0.001475	13.5603	0.002212	13.5603	0.002212
-20	120V/60Hz	13.5605	0.003687	13.5605	0.003687	13.5605	0.003687	13.5605	0.003687

FREQUEMCY STABILITY VERSUS VOLTAGE									
TEMP. (℃)	POWER SUPPLY (V)	0 MINUTE		2 MINUTE		5 MINUTE		10 MINUTE	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	102V/60Hz	13.5605	0.003687	13.5605	0.003687	13.5605	0.003687	13.5604	0.00295
	120V/60Hz	13.5605	0.003687	13.5605	0.003687	13.5605	0.003687	13.5604	0.00295
	138V/60Hz	13.5605	0.003687	13.5605	0.003687	13.5605	0.003687	13.5604	0.00295

4.4. 20dB BANDWIDTH

4.4.1 LIMITS OF 20dB BANDWIDTH

The 20dB bandwidth shall be specified in operating frequency band.(13.11MHz – 14.01MHz)

4.4.2 TEST INSTRUMENTS

Instrument	Model	Serial #	Cal Date	Cal Due
DC Power Supply	E3640A	MY40004013	Jan. 04, 2019	Jan. 03, 2020
MXA Signal Analyzer	N9020A	MY49100060	Jan. 04, 2019	Jan. 03, 2020
MXG Vector Signal Generator	N5182A	MY50140530	Jan. 04, 2019	Jan. 03, 2020
Series Signal Generator	E4421B	US40051152	May 12, 2018	May 11, 2019
RF control unit	JS0806-0806-2	188060112	Apr. 25, 2018	Apr. 24, 2019
Wireless Connectivity Tester	CMW270	1201.0002K75-101601-PE	Apr. 25, 2018	Apr. 24, 2019
Test Software	EZ-EMC	ver.Icp-03A1	N/A	N/A

NOTE:

1. The test was performed in RF Oven room.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

4.4.3 TEST PROCEDURE

a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

b. 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.

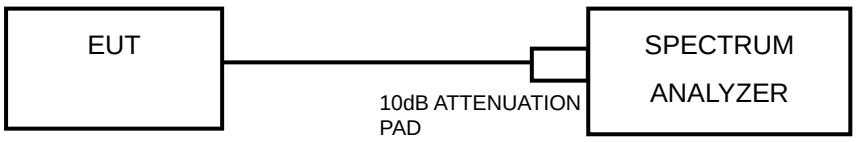
c. Measure the frequency difference of two frequencies that were attenuated 20dB from the reference level. Record the frequency difference as the emission bandwidth.

d. Repeat above procedures until all frequencies measured were complete.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



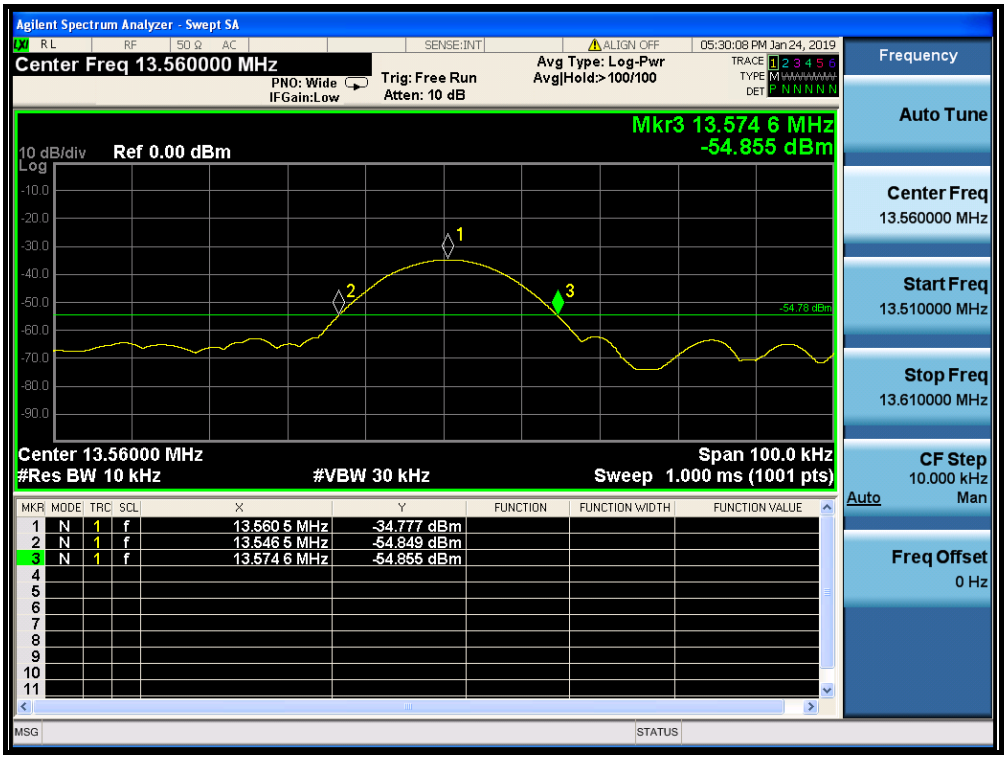
4.4.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously.

4.4.7 TEST RESULTS

CHANNEL	CHANNEL FREQUENCY (MHz)	20dB BANDWIDTH (KHz)
1	13.56	28.1

Lower & Upper Test Frequency Point (MHz)	Test Frequency (MHz)	P/F
Lower	13.5465	PASS
Upper	13.5746	PASS



5. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

6. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---