

FCC PART 15C TEST REPORT FOR CERTIFICATION
On Behalf of

Q.E.D.ADVANCED SYSTEMS LIMITED

Room Booking Panel

Model No.: Aura-X

Brand: ResourceXpress

FCC ID: 2AB38-AURAXH

Prepared for : Q.E.D.ADVANCED SYSTEMS LIMITED
19 Brigwater Court Oldmixon Crescent, Weston-super-Mare,
United Kingdom, BS24 9AY

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Kefeng Road, Science & Technology Park,
Nanshan District , Shenzhen, Guangdong, China

Tel: (0755) 26639496

Report Number : ACS-F21075
Date of Test : Dec.30, 2020~Jan.12, 2021
Date of Report : Apr.23, 2021

TABLE OF CONTENTS

Description	Page
1. SUMMARY OF STANDARDS AND RESULTS	4
1.1. Description of Standards and Results	4
2. GENERAL INFORMATION.....	5
2.1. Description of Equipment Under Test	5
2.2. Tested Supporting System Details	6
2.3. Block diagram of connection between the EUT and simulators	6
2.4. Test Facility.....	6
2.5. Measurement Uncertainty (95% confidence levels, k=2).....	7
3. POWER LINE CONDUCTED EMISSION TEST	8
3.1. Test Equipments.....	8
3.2. Block Diagram of Test Setup	8
3.3. Power Line Conducted Emission Test Limits.....	8
3.4. Configuration of EUT on Test	8
3.5. Operating Condition of EUT	9
3.6. Test Procedure.....	9
3.7. Power Line Conducted Emission Test Results	9
4. RADIATED EMISSION TEST	12
4.1. Test Equipment	12
4.2. Block Diagram of Test Setup	13
4.3. Radiated Emission Limit.....	14
4.4. 15.205 Restricted bands of operation.....	14
4.5. EUT Configuration on Test.....	14
4.6. Operating Condition of EUT	15
4.7. Test Procedure.....	15
4.8. Radiated Emission Test Results	15
5. FREQUENCY STABILITY TEST	20
5.1. Test Equipment	20
5.2. Limits	20
5.3. Test Procedure.....	20
5.4. Test result	21
6. 20 DB BANDWIDTH TEST.....	22
6.1. Test Equipment	22
6.2. Limit	22
6.3. Test Results	22
7. DEVIATION TO TEST SPECIFICATIONS	23

Appendix A. Photograph of Test

Appendix B. Photo of the EUT

TEST REPORT CERTIFICATION

Applicant : Q.E.D.ADVANCED SYSTEMS LIMITED

EUT Description : Room Booking Panel

FCC ID : 2AB38-AURAXH

Brand : ResourceXpress

(A) Model No. : Aura-X

(B) Test Voltage : AC 120V/60Hz

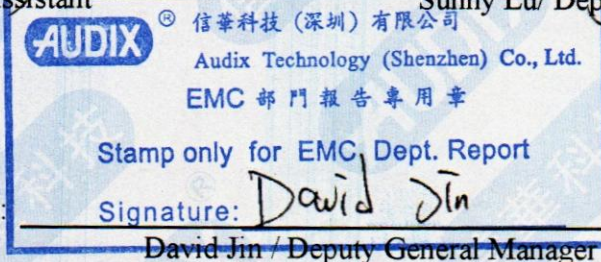
Tested for comply with:
FCC CFR 47 Part 15 Subpart CTest procedure used:
ANSI C63.10:2013

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to confirm comply with all the FCC Part 15 Subpart C requirements.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to single evaluation of one sample of above mentioned product. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

Date of Test : Dec.30, 2020~Jan.12, 2021 Report of date: Apr.23, 2021Prepared by : Kayli He / Assistant Reviewer by : Sunny Lu / Deputy ManagerApproved & Authorized Signer : David Jin / Deputy General Manager

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.10: 2013	PASS
Radiated Emission Test	FCC Part 15: 15.205, 15.209 FCC Part 15: 15.225(a)(b)(c)(d) ANSI C63.10: 2013	PASS
Frequency Stability Test	FCC Part 15: 15.225(e)	PASS
20dB Bandwidth Test	FCC Part 15: 15.215	PASS

2. GENERAL INFORMATION

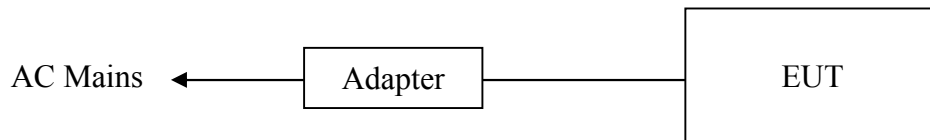
2.1. Description of Equipment Under Test

Applicant	Q.E.D.ADVANCED SYSTEMS LIMITED
Applicant Address	19 Brigwater Court Oldmixon Crescent, Weston-super-Mare, United Kingdom, BS24 9AY
Manufacturer	Q.E.D.ADVANCED SYSTEMS LIMITED
Manufacturer Address	19 Brigwater Court Oldmixon Crescent, Weston-super-Mare, United Kingdom, BS24 9AY
Brand	ResourceXpress
Product	Room Booking Panel
Model No.	Aura-X
FCC ID	2AB38-AURAXH
Radio	NFC
Operation Frequency	13.56MHz
Type of Modulation	ASK
AC Adapter	Manufacturer: Asian Power Devices Inc. Model No.: WB-24J12R Input: 100-240V~50-60Hz, 0.7A Max Output: DC 12V, 2.0A, 24W DC Cable: Unshielded, Undetachable, 1.8m.
Sample Type	Prototype production
Date of Receipt	Nov.23, 2020
Date of Test	Dec.30, 2020~Jan.12, 2021

2.2. Tested Supporting System Details

[None]

2.3. Block diagram of connection between the EUT and simulators



(EUT: Room Booking Panel)

2.4. Test Facility

Site Description

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Kefeng Road, Science & Technology
Park, Nanshan District , Shenzhen, Guangdong,
China

RF Anechoic Chamber : Dimensions are:
[L]10m × [W]5.5m × [H]5m

EMC Lab. : Accredited by NVLAP, USA
NVLAP Code: 200372-0
Valid Date: Mar.31, 2022

: Certificated by FCC, USA
Designation No: CN5022
Valid Date: Mar.31, 2022

2.5. Measurement Uncertainty (95% confidence levels, k=2)

Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 2 Conduction	2.4dB(150KHz to 30MHz)
Uncertainty for Radiation Emission test in 3m chamber	3.6dB(30~200MHz, Polarization: H)
	4.0dB(30~200MHz, Polarization: V)
	3.6dB(200M~1GHz, Polarization: H)
	3.8dB(200M~1GHz, Polarization: V)
Uncertainty for radiated spurious emission at frequency below 30MHz	2.6dB(9kHz~30MHz)
Uncertainty for Frequency range test	7×10^{-8}
Uncertainty for Bandwidth test	83 kHz
Uncertainty for DC power test	1.9%
Uncertainty for test site temperature and humidity	0.6°C
	3%

Note: EMI uncertainty is evaluated by CISPR16-4-2.

The value of measurement uncertainty of EMI is less than U_{CISPR} .

The value is not calculated in the test results.

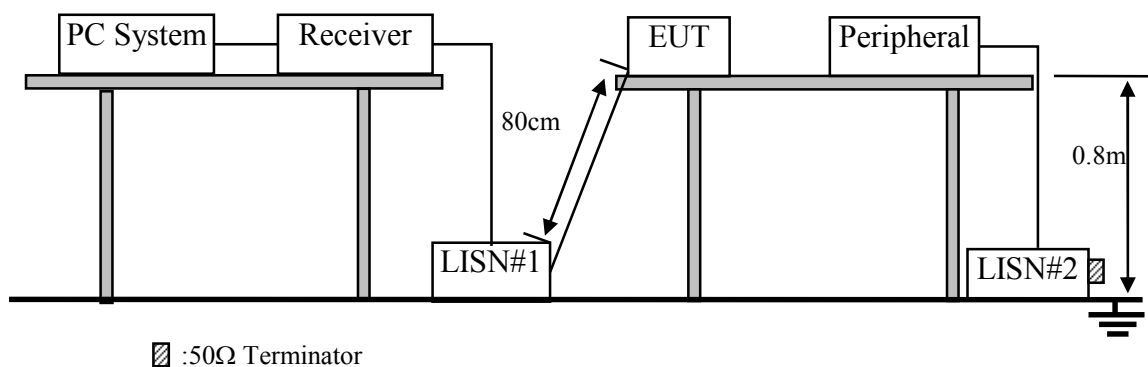
3. POWER LINE CONDUCTED EMISSION TEST

3.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	2# Shielding Room	AUDIX	N/A	N/A	Apr.15,18	3 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100843	Oct.11,20	1 Year
3.	L.I.S.N.#1	Rohde & Schwarz	ENV4200	100041	Apr.12,20	1 Year
4.	L.I.S.N.#2	Kyoritsu	KNW-407	8-1628-5	Apr.12,20	1 Year
5.	Terminator	Hubersuhner	50Ω	No.4	Apr.12,20	1 Year
6.	Terminator	Hubersuhner	50Ω	No.5	Apr.12,20	1 Year
7.	RF Cable	Fujikura	RG55/U	No.2	Apr.12,20	1 Year
8.	Test Software	AUDIX	e3	6.100913a	N/A	N/A

Note: N/A means Not applicable.

3.2. Block Diagram of Test Setup



▣ :50Ω Terminator

3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4. Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4.1. Room Booking Panel (EUT)

Model No. : Aura-X

Serial No. : N/A

3.4.2. Support Equipment: As Tested Supporting System Details, in Section 2.2.

3.5. Operating Condition of EUT

3.5.1. Setup the EUT and simulator as shown as Section 3.2.

3.5.2. Turn on the power of all equipments.

3.5.3. PC run test software to control EUT work in Tx mode.

3.6. Test Procedure

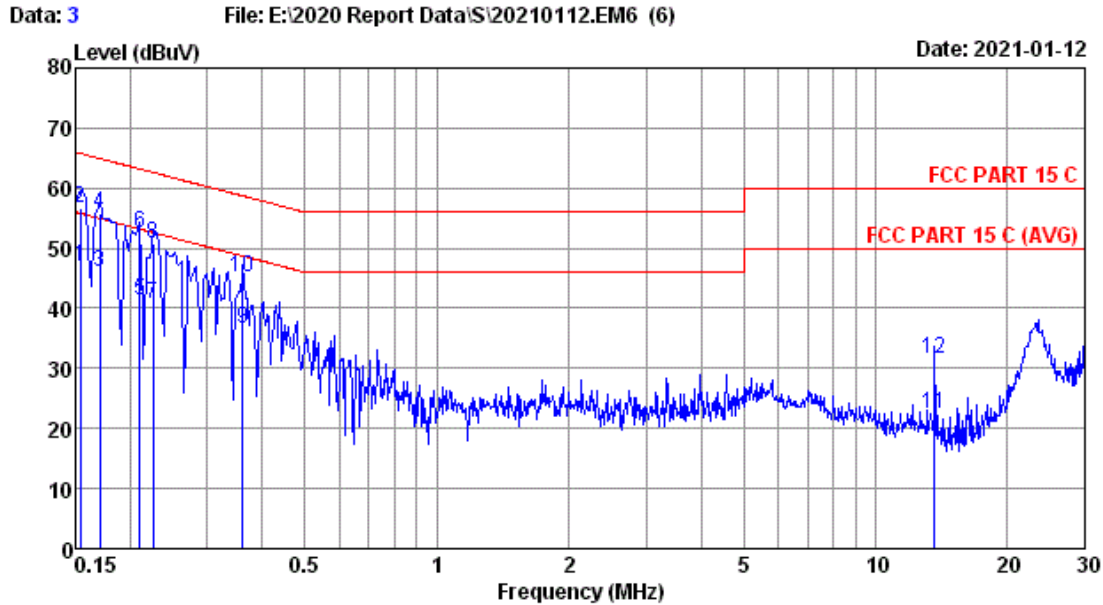
The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power Via PC connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESCI) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

3.7. Power Line Conducted Emission Test Results

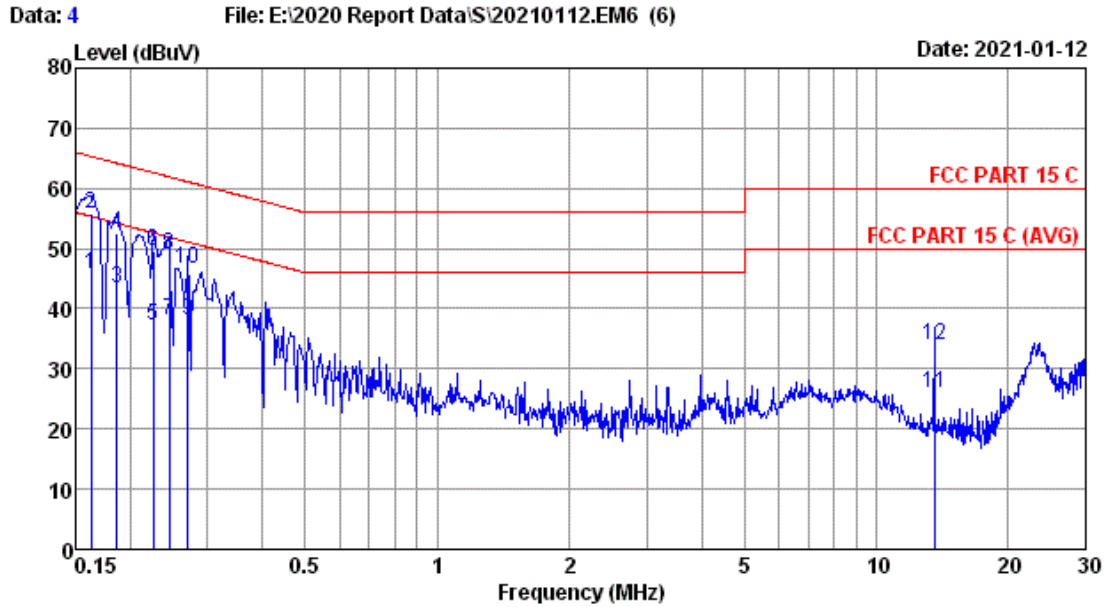
PASS. (All emissions not reported below are too low against the prescribed limits.)



Site no :2# Conduction Data No :3
 Dis./Lisn :2020 ENV4200-L1 LISN phase:LINE
 Limit :FCC PART 15 C
 Env./Ins. :20°C/40% Engineer :Gavin
 Power Rating :AC 120V/60Hz
 Test Mode :NFC TX Mode

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Over limit (dB)	Remark
1	0.15	10.13	0.23	36.50	46.86	55.78	-8.92	Average
2	0.15	10.13	0.23	46.39	56.75	65.78	-9.03	QP
3	0.17	10.30	0.23	35.50	46.03	54.94	-8.91	Average
4	0.17	10.30	0.23	45.40	55.93	64.94	-9.01	QP
5	0.21	10.46	0.23	30.50	41.19	53.18	-11.99	Average
6	0.21	10.46	0.23	41.74	52.43	63.18	-10.75	QP
7	0.23	10.50	0.23	29.90	40.63	52.61	-11.98	Average
8	0.23	10.50	0.23	40.18	50.91	62.61	-11.70	QP
9	0.36	10.65	0.23	25.60	36.48	48.69	-12.21	Average
10	0.36	10.65	0.23	34.37	45.25	58.69	-13.44	QP
11	13.56	10.67	0.32	11.41	22.40	50.00	-27.60	Average
12	13.56	10.67	0.32	20.63	31.62	60.00	-28.38	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
 2.If the average limit is met when using a quasi-peak detector.
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.



Site no :2# Conduction Data No :4
 Dis./Lisn :2020 ENV4200-N LISN phase:NEUTRAL
 Limit :FCC PART 15 C
 Env./Ins. :20°C/40% Engineer :Gavin
 Power Rating :AC 120V/60Hz
 Test Mode :NFC TX Mode

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Over limit (dB)	Remark
1	0.16	10.00	0.23	35.60	45.83	55.34	-9.51	Average
2	0.16	10.00	0.23	45.46	55.69	65.34	-9.65	QP
3	0.19	9.98	0.23	33.20	43.41	54.20	-10.79	Average
4	0.19	9.98	0.23	42.34	52.55	64.20	-11.65	QP
5	0.23	9.95	0.23	26.90	37.08	52.61	-15.53	Average
6	0.23	9.95	0.23	39.54	49.72	62.61	-12.89	QP
7	0.25	9.95	0.23	27.90	38.08	51.91	-13.83	Average
8	0.25	9.95	0.23	38.85	49.03	61.91	-12.88	QP
9	0.27	9.93	0.23	27.80	37.96	51.12	-13.16	Average
10	0.27	9.93	0.23	36.47	46.63	61.12	-14.49	QP
11	13.56	10.12	0.32	15.60	26.04	50.00	-23.96	Average
12	13.56	10.12	0.32	23.52	33.96	60.00	-26.04	QP

Remarks: 1.Emission Level=LISN Factor+Cable Loss+Reading.
 2.If the average limit is met when using a quasi-peak detector.
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary.

4. RADIATED EMISSION TEST

4.1. Test Equipment

Frequency Range: 30-1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber(NSA)	AUDIX	N/A	N/A	May.03,20	1 Year
2.	3#Chamber(SE)	AUDIX	N/A	N/A	May.17,18	3 Year
3.	Signal Analyzer	Rohde & Schwarz	FSV30	104050	Apr.11,20	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR7	101547	Apr.12,20	1 Year
5.	Amplifier	HP	8447D	2648A04738	Apr.11,20	1 Year
6.	Bi log Antenna	TESEQ	CBL6112D	25237	Dec.22,20	1 Year
7.	NSA Cable	HUBER+SUHNER	CFD400NL-LW	No.3	Oct.11,20	1 Year
8.	Coaxial Switch	Anritsu	MP59B	6201397222	Apr.11,20	1 Year
9.	Test Software	AUDIX	e3	6.2009-5-21a(n)	N/A	N/A

Note: N/A means Not applicable.

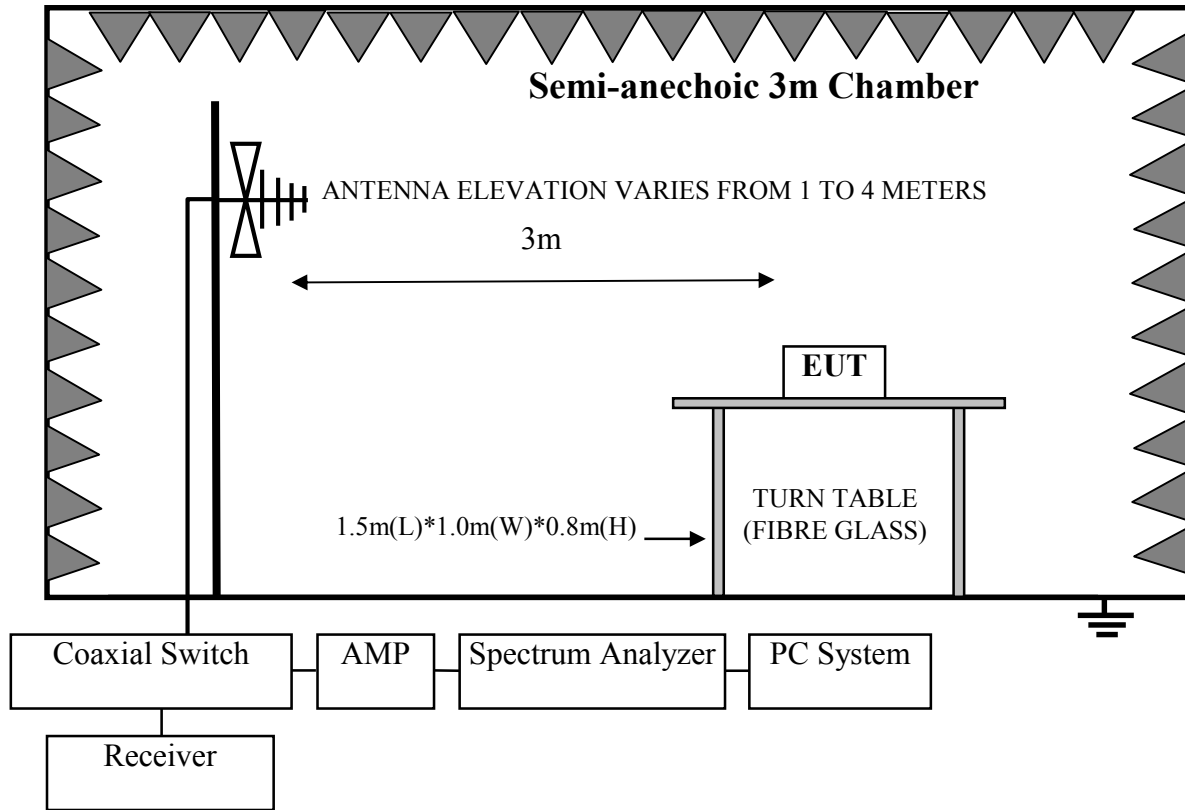
Frequency Range: 1.705-30MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	10m Chamber(NSA)	AUDIX	N/A	N/A	Apr.14,20	1 Year
2.	10m Chamber(SE)	AUDIX	N/A	N/A	Apr.15,18	3 Year
3.	Signal Analyzer	Rohde & Schwarz	FSV30	103670	Oct.11,20	1 Year
4.	EMI Test Receiver	Rohde & Schwarz	ESR3	101931	Apr.12,20	1 Year
5.	Loop Antenna	Chase	HLA6120	1062	Apr.29,20	1 Year
6.	Amplifier	EMCI	EMC9135	980347	Apr.12,20	1 Year
7.	RF Cable	SPUMA	CFD400NL-LW	No.4	Apr.12,20	1 Year
8.	Coaxial Switch	Anritsu	MP59B	6201397221	Apr.12,20	1 Year
9.	Coaxial Switch	Anritsu	MP59B	6201397220	Apr.12,20	1 Year
10.	Test Software	AUDIX	e3	6.100913a	N/A	N/A

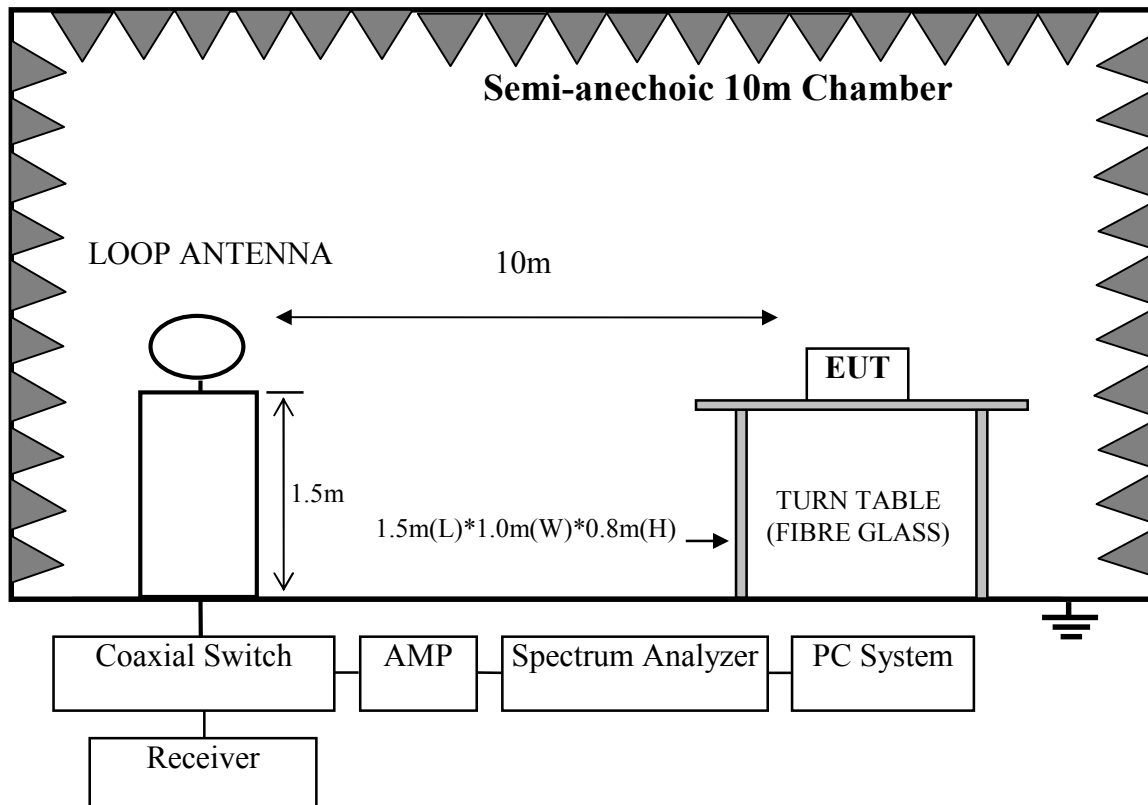
Note: N/A means Not applicable.

4.2. Block Diagram of Test Setup

Frequency Range: 30-1000MHz



Frequency Range: 1.705-30MHz



4.3. Radiated Emission Limit

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) 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.

Remark : (1) Emission level dB μ V = 20 log Emission level μ V/m

(2) The smaller limit shall apply at the cross point between two frequency bands.

(3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.4. 15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

4.5. EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.6. Operating Condition of EUT

4.6.1. Setup the EUT as shown in Section 4.2.

4.6.2. Turn on the power of all equipments.

4.6.3. Let the EUT worked in test mode (Tx Mode) and tested it.

4.7. Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 10 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

For frequency range below 30MHz the Loop antenna was used at 10m measurement distance with antenna heights of 1m and antenna loop front and side faced to the EUT.

The axis of the antenna was rotated to maximize the emission. A CISPR quasi-peak detector is used for measurements below 30MHz and RBW/VBW is 9kHz/30kHz.

The limit 1.705MHz to 30MHz in clause 4.3 are specified at 30 meters, and measurements were made at 10 meters, the limit is translated to 10 meters by using a formula as follows:

$$\text{Limit}_{30\text{m}} = \text{Limit}_{10\text{m}} + 40\log(30\text{m}/10)$$

4.8. Radiated Emission Test Results

PASS.

The frequency range from 30MHz to 1000MHz and 1.705MHz to 30MHz is investigated. Please see the following pages.

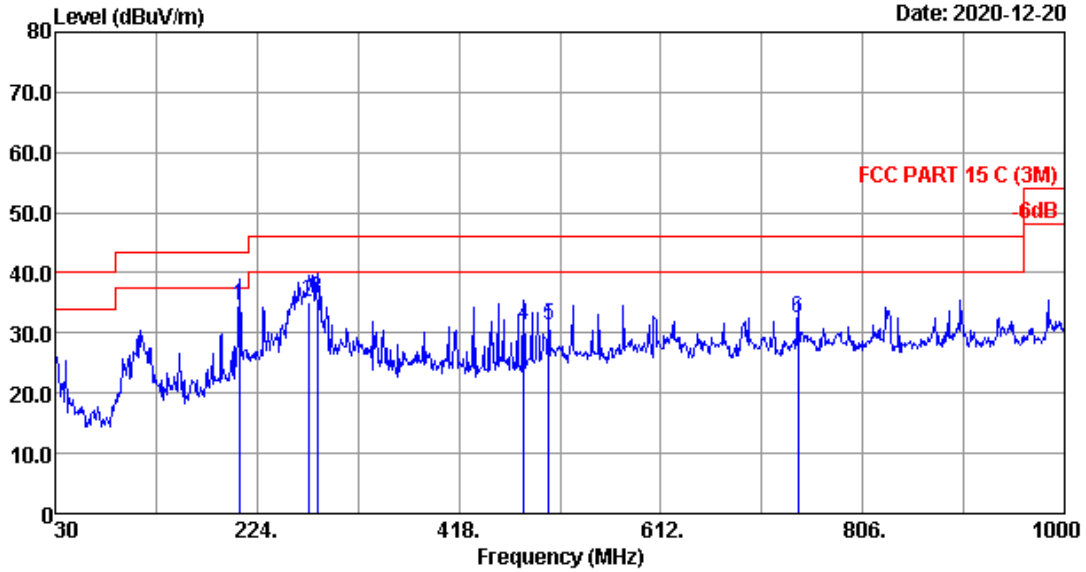
Note: According to exploratory test, 9kHz to 1.705MHz no obvious signal can be detected.

Frequency Range: 30-1000MHz

Data: 10

File: E:\2020 Report Data\RF\20201219.EM6 (12)

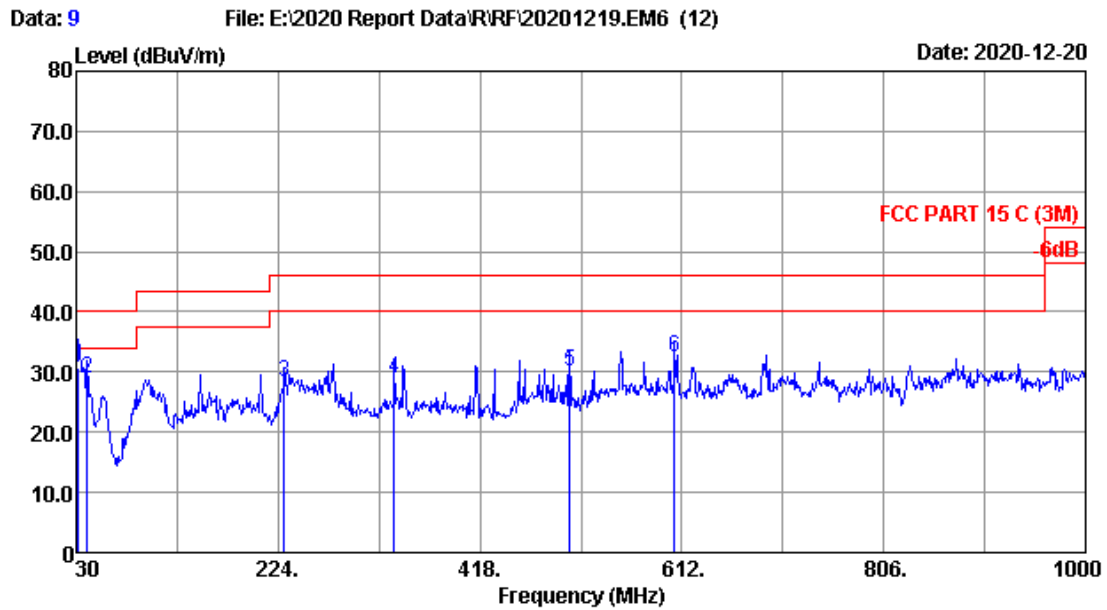
Date: 2020-12-20



Site no. : 3m Chamber Data no. : 10
 Dis. / Ant. : 3m 2020 CBL6112D-25237 Ant. pol. : HORIZONTAL
 Limit : FCC PART 15 C (3M)
 Env. / Ins. : 23.4°C/54% Engineer : Allen
 Power rating : AC 120V/60Hz
 Test Mode : NFC TX Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	206.540	15.44	1.49	17.69	34.62	43.50	8.88	QP
2	273.470	18.58	1.65	15.04	35.27	46.00	10.73	QP
3	282.200	18.69	1.68	15.42	35.79	46.00	10.21	QP
4	480.080	22.90	2.28	6.12	31.30	46.00	14.70	QP
5	504.330	23.23	2.35	5.74	31.32	46.00	14.68	QP
6	743.920	25.58	2.95	4.07	32.60	46.00	13.40	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 9
 Dis. / Ant. : 3m 2020 CBL6112D-25237 Ant. pol. : VERTICAL
 Limit : FCC PART 15 C (3M)
 Env. / Ins. : 23.4°C/54% Engineer : Allen
 Power rating : AC 120V/60Hz
 Test Mode : NFC TX Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	31.940	23.72	0.64	6.48	30.84	40.00	9.16	QP
2	40.670	18.92	0.70	9.42	29.04	40.00	10.96	QP
3	229.820	16.97	1.51	9.77	28.25	46.00	17.75	QP
4	335.550	19.83	1.84	7.37	29.04	46.00	16.96	QP
5	504.330	23.23	2.35	4.42	30.00	46.00	16.00	QP
6	605.210	24.25	2.58	5.53	32.36	46.00	13.64	QP

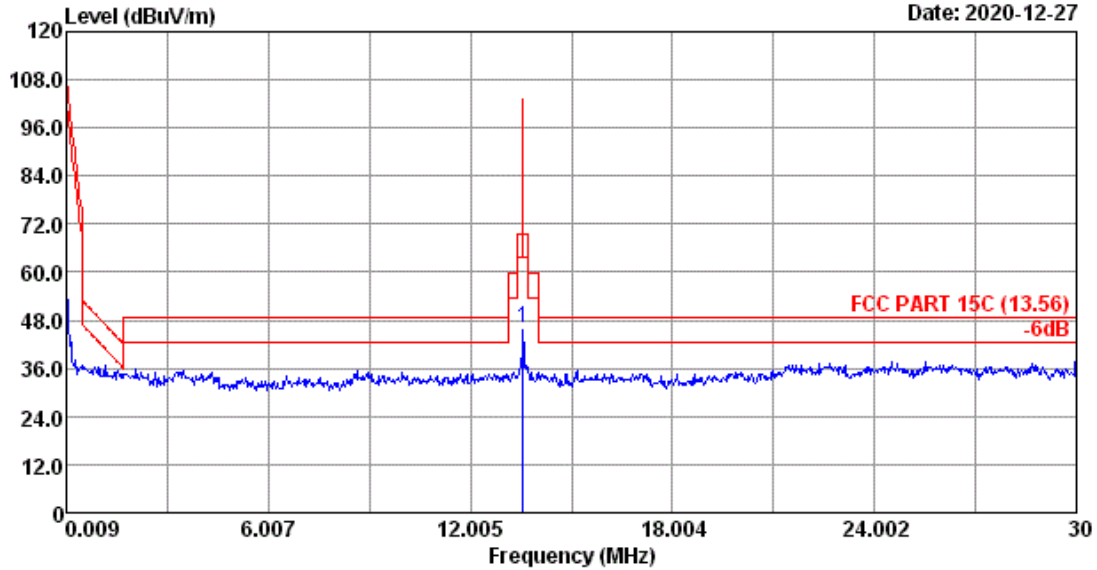
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

Frequency Range: Below 30MHz

Data: 22

File: E:\2020 Report Data\Site\A122011105-FCC.EM6 (23)

Date: 2020-12-27

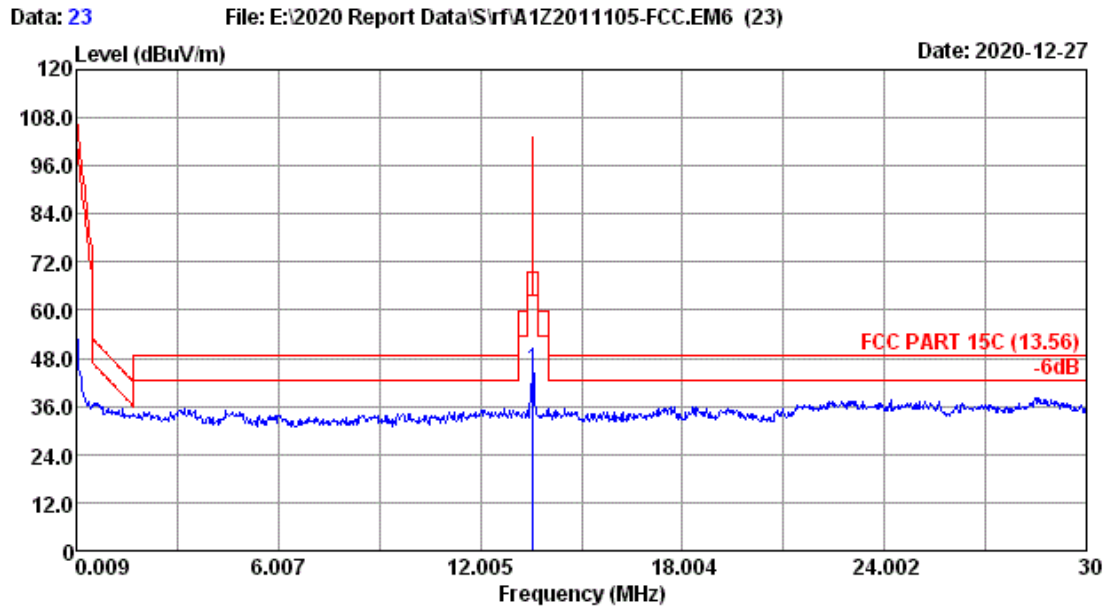


Site no. : 10m Chamber
 Dis. / Ant. : 10m 2020 HLA6120-H
 Limit : FCC PART 15C (13.56)
 Env. / Ins. : 23.2°C/55%
 Power rating : AC 120V/60Hz
 Test Mode : NFC Tx Mode

Data no. : 22
 Ant. pol. : HORIZONTAL
 Engineer : Allen

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	13.560	1.65	0.33	44.24	46.22	103.08	56.86	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



Site no.	: 10m Chamber	Data no.	: 23
Dis. / Ant.	: 10m 2020 HLA6120-H	Ant. pol.	: VERTICAL
Limit	: FCC PART 15C (13.56)	Engineer	: Allen
Env. / Ins.	: 23.2°C/55%		
Power rating	: AC 120V/60Hz		
Test Mode	: NFC Tx Mode		

No.	Freq. (MHz)	Ant.	Cable	Emission		Limits (dBuV/m)	Margin (dB)	Remark
		Factor (dB/m)	Loss (dB)	Reading (dBuV)	Level (dBuV/m)			
1	13.560	1.65	0.33	43.38	45.36	103.08	57.72	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

5. FREQUENCY STABILITY TEST

5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.12,20	1 Year
2.	Amplifier	HP	8449B	3008A00863	Apr.11,20	1 Year
3.	RF Cable	EMCI	EMC102-KM-KM-3500	170702	Apr.12,20	1 Year

5.2. Limits

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. For battery operated equipment, the equipment tests shall be performed using a new battery.

5.3. Test Procedure

The EUT was placed in an environmental test chamber and powered such that control element received normal voltage and the transmitter provided maximum RF output.

5.4. Test result

EUT: Room Booking Panel		
M/N: Aura-X		
Test date: 2021-01-12	Pressure: 102.3±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Allen	Test site: RF site	Temperature: 25.5±0.6℃

Frequency stability VS Voltage (Temperature:25℃)					
Test Voltage	Temperature	Frequency (MHz)	Max. Reading (MHz)	Result (%)	Limit (%)
AC 207V	25℃	13.56	13.56015	0.001	±0.01
AC 230V	25℃	13.56	13.5603	0.002	±0.01
AC 253V	25℃	13.56	13.56012	0.001	±0.01
Frequency stability VS Voltage (Supply voltage AC 230V)					
AC 230V	0℃	13.56	13.56001	0.001	±0.01
AC 230V	10℃	13.56	13.56001	0.001	±0.01
AC 230V	20℃	13.56	13.56002	0.001	±0.01
AC 230V	30℃	13.56	13.56002	0.001	±0.01
AC 230V	40℃	13.56	13.56001	0.001	±0.01
AC 230V	50℃	13.56	13.56001	0.001	±0.01
Conclusion: PASS					

6. 20 DB BANDWIDTH TEST

6.1. Test Equipment

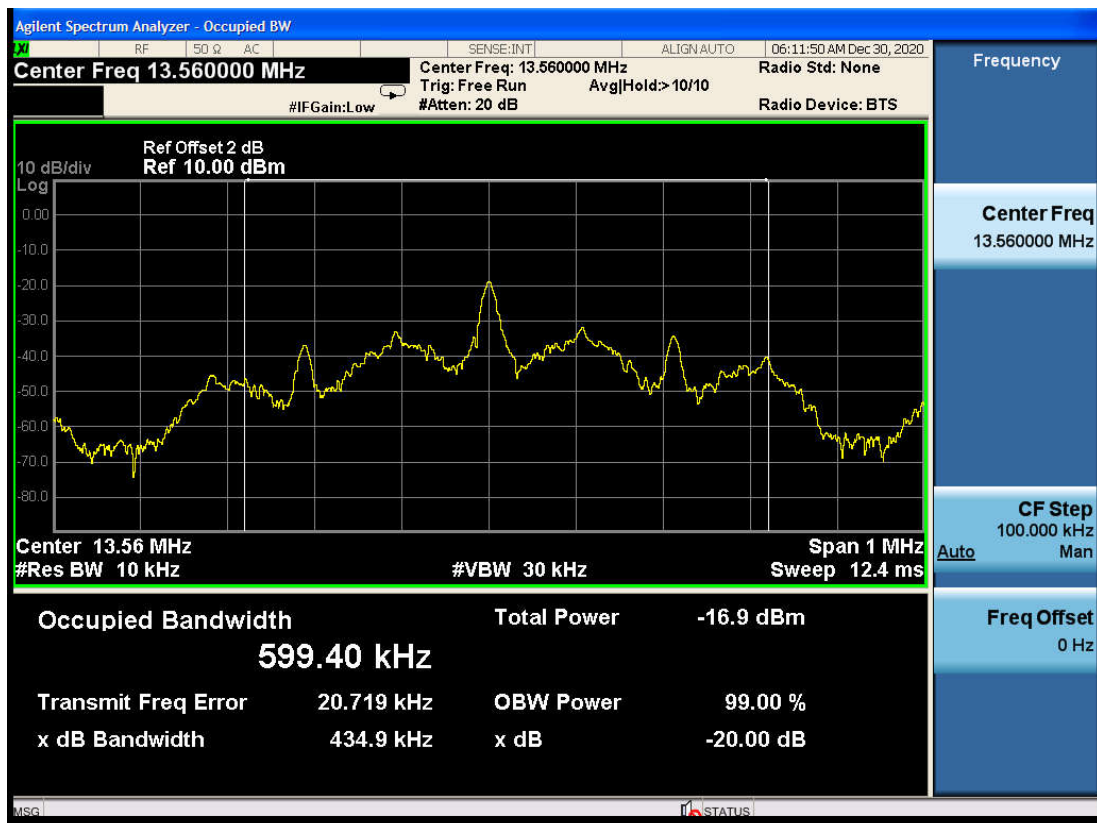
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	PXA Signal Analyzer	Agilent	N9030A	MY51380221	Apr.12,20	1 Year
2.	RF Cable	EMCI	EMC102-KM-K M-3500	170702	Apr.12,20	1 Year

6.2.Limit

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

6.3. Test Results

EUT: Room Booking Panel		
M/N: Aura-X		
Test date: 2020-12-30	Pressure: 102.3±1.0 kpa	Humidity: 53.6±3.0%
Tested by: Allen	Test site: RF site	Temperature: 25.5±0.6℃
Frequency	20dB bandwidth (kHz)	Limit (KHz)
13.56MHz	434.9	N/A
Conclusion : PASS		



7. DEVIATION TO TEST SPECIFICATIONS

[NONE]

..... THE END