FCC Radio Test Report

FCC ID: 2AJZR-T602C00

This report concerns (check one): ☒Original Grant ☐Class II Change

Project No.	:	1611128
Equipment	:	Mobile Jacket
Test Model	:	iSAPPOS Scanner Jacket
Series Model	:	N/A
Applicant	:	iSAPPOS Systems Company Limited
Address	:	Room 04, 6/F., Block A, Tonic Industrial Centre, 26 Kai Cheung Road, Kowloon Bay, Hong Kong

Date of Receipt	:	Dec. 14, 2016
Date of Test	:	Dec. 14, 2016 ~ Dec. 23, 2016
Issued Date	:	Jan. 12, 2017
Tested by	:	BTL Inc.

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Declaration

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For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Issue No.	Description	Issued Date
BTL-FCCP-2-1611128	Original Issue.	Jan. 11, 2017

1 CERTIFICATION

Equipment	:	Mobile Jacket
Brand Name	:	N/A
Test Model	:	iSAPPOS Scanner Jacket
Series Model	:	N/A
Applicant	:	iSAPPOS Systems Company Limited
Manufacturer	:	iSAPPOS Systems Company Limited
Address	:	Room 04, 6/F., Block A, Tonic Industrial Centre, 26 Kai Cheung Road, Kowloon Bay, Hong Kong
Factory	:	FLYTECH TECHNOLOGY CO., LTD.
Address	:	No.36 Huaya 3rd Rd., Guishan Township, Taoyuan Country 33383,Taiwan
Date of Test	:	Dec. 14, 2016 ~ Dec. 23, 2016
Test Sample	:	Engineering Sample
Standard(s)	:	FCC Part 15, Subpart C (15.225) ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-2-1611128) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

Test results included in this report is only for the RFID 13.56MHz part.

2 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Standard Section	Test Item	Result
15.207	Conducted emission	PASS
15.35 / 15.205 / 15.209 / 15.225	Radiated emission	PASS
15.225(e)	Frequency Stability	PASS
15.203	Antenna Requirement	PASS

NOTE:

(1) N/A denotes test is not applicable in this test report

2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

Conducted emission Test:

C05: (VCCI RN: C-4742; FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emission Test:

CB15: (FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty is not specified by FCC rules and for reference only.

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

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

A. Conducted emission test:

Test Site	Method	Measurement Frequency Range	U, (dB)
C05	CISPR	150 kHz ~ 30MHz	3.06

B. Radiated emission test:

Test Site	Method	Measurement Frequency Range	U, (dB)
CB15 (3m)	CISPR	9kHz ~ 150kHz	2.96
		150kHz ~ 30MHz	2.74

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
CB15 (3m)	CISPR	30MHz ~ 200MHz	V	4.76
		30MHz ~ 200MHz	H	4.28
		200MHz ~ 1,000MHz	V	5.08
		200MHz ~ 1,000MHz	H	4.50

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our U_{lab} values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called U_{CISPR}, as follows:

Conducted Disturbance (mains port) - 150 kHz - 30 MHz: 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz - 1000 MHz: 5.2 dB

It can be seen that our U_{lab} values are smaller than U_{CISPR}.

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Mobile Jacket	
Brand Name	N/A	
Test Model	iSAPPOS Scanner Jacket	
Series Model	N/A	
Model Difference	EUT includes two without circuit covers: T602-6 and T603-6 which only differ in size.	
Product Description	Operation Frequency	13.56 MHz
	Antenna Designation	LOOP Antenna
Power Source	#1 DC voltage supplied from external power supply. EDAC/EA1012AVRS-050 #2 Bettery supplied. BA110000	
Power Rating	#1 I/P: 100-240Vac, 1.0A 50-60Hz O/P: 5V⎓ 2.4A #2 3.7V⎓ 1100mAh 4.07Wh	
Products Covered	1 * POWER: EDAC/EA1012AVRS-050	

Note:

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

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	13.56MHz Transmit

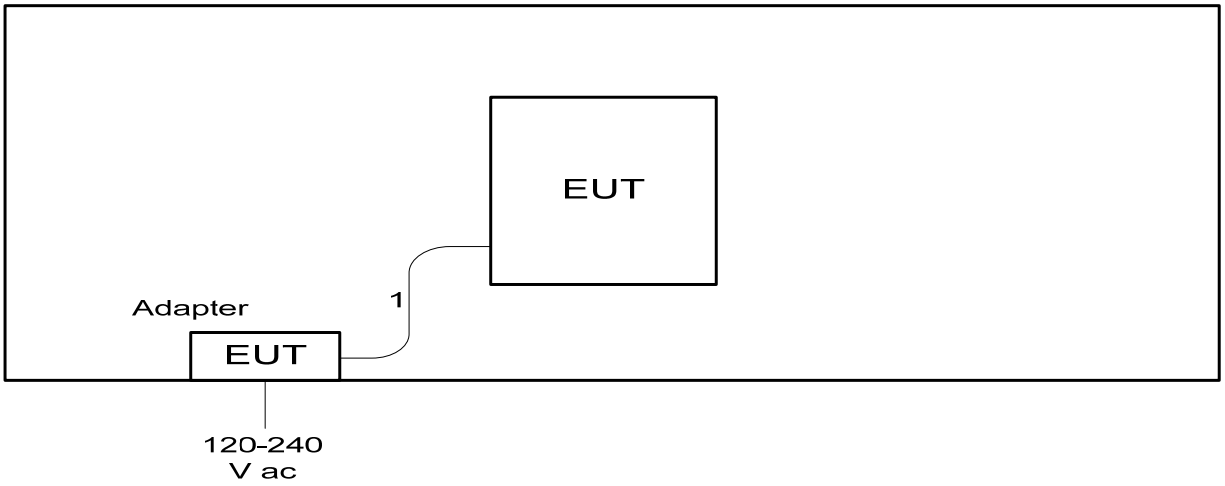
Conducted emission test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

Radiated emission test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

Frequency Stability test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

Antenna Requirement test	
Final Test Mode	Description
Mode 1	13.56MHz Transmit

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.4 DESCRIPTION OF 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.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.5m	Power Cable

Note:
(1) The support equipment was authorized by Declaration of Conformity (DOC).

4 CONDUCTED EMISSION

4.1 LIMITS

FREQUENCY (MHz)	(dBuV)	
	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.
3. The test result calculated as following:
   Measurement Value = Reading Level + Correct Factor
   Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
   Margin Level = Measurement Value – Limit Value

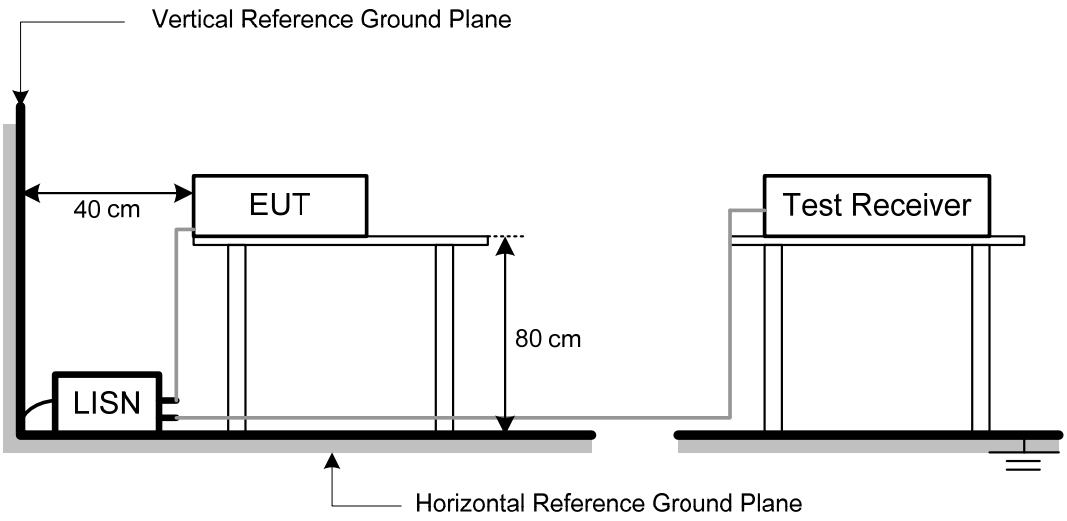
4.2 TEST PROCEDURES

a. The EUT was placed 0.8 meters from the horizontal 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.

NOTE:

a. Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz (6 dB Bandwidth).
b. All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn‘t perform.

4.3 TEST SETUP LAYOUT



4.4 DEVIATION FROM TEST STANDARD

No deviation

4.5 EUT OPERATING CONDITIONS

The EUT used during radiated and/or conducted emission measurement was designed to exercise in a manner similar to a typical use.

4.6 EUT TEST CONDITIONS

Temperature: 25°C
Relative Humidity: 55%
Test Voltage: AC 120V/60Hz

4.7 TEST RESULTS

Please refer to the Attachment A.

Remark:

(1) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform in this case, a "*" marked in AVG Mode column of Interference Voltage Measured.

(2) Measuring frequency range from 150KHz to 30MHz.

5 RADIATED EMISSION

5.1 LIMITS

FCC Part 15.209				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
0.009 – 0.490	2400 / F(KHz)	300m	10000 * 2400/F(KHz)	20log 2400/F(KHz) + 80
0.490 – 1.705	24000 / F(KHz)	30m	100 * 24000/F(KHz)	20log 24000/F(KHz) + 40
1.705 – 30.00	30	30m	100* 30	20log 30 + 40
30.0 – 88.0	100	3m	100	20log 100
88.0 – 216.0	150	3m	150	20log 150
216.0 – 960.0	200	3m	200	20log 200
Above 960.0	500	3m	500	20log 500
FCC Part 15.225(a)/(b)/(c)				
Frequency (MHz)	Field Strength Limitation		Field Strength Limitation at 3m Measurement Dist	
	(uV/m)	Dist	(uV/m)	(dBuV/m)
13.553 – 13.567	15,848	30 m	15,848*100	124
13.567 – 13.710	334	30 m	334*100	90.5
13.110 – 13.410 13.710 – 14.010	106	30 m	106*100	80.5

NOTE:

(1) The tighter limit shall apply at the boundary between two frequency range.

(2) Limitation expressed in dBuV/m is calculated by 20log Emission Level (uV/m).

(3) If measurement is made at 3m distance, then F.S Limitation at 3m distance is adjusted by using the formula of $L_{d1} = L_{d2} * (d_2/d_1)^2$.
Example:
F.S Limit at 30m distance is 30uV/m , then F.S Limitation at 3m distance is adjusted as $L_{d1} = L_1 = 30uV/m * (10)^2 = 100 * 30$ uV/m

(4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
Margin Level = Measurement Value – Limit Value

5.2 TEST PROCEDURE

a. The measuring distance of 3 m 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 height of the equipment or of the substitution antenna shall be 0.8 m or 1.5m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
c. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
d. 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)
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

NOTE: (FCC PART 15.209)

a. Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz.
b. 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.

NOTE: (FCC PART 15.225)

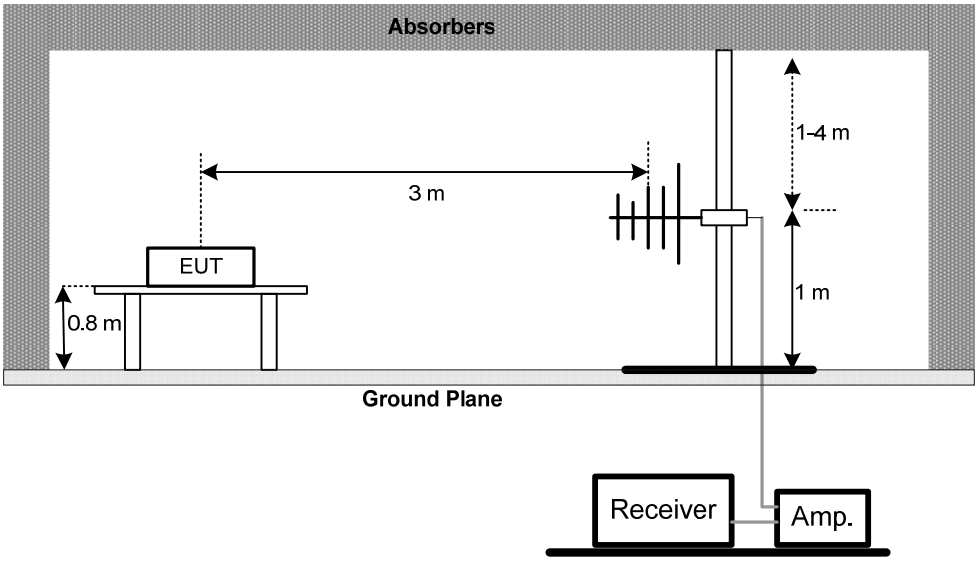
a. Spectrum Setting:
   9 KHz – 150 KHz, RBW= 200Hz, VBW=200Hz, Sweep time = 200 ms.
   150 K Hz – 30 MHz, RBW= 10 KHz, VBW=10 KHz, Sweep time = 200 ms.
   30 MHz – 1000 MHz, RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms.
b. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform.
c. The Log-Bicon Antenna will use to test frequency range from 30MHz to 1000MHz and the Loop Antenna will use to test frequency below 30MHz.

5.3 DEVIATION FROM TEST STANDARD

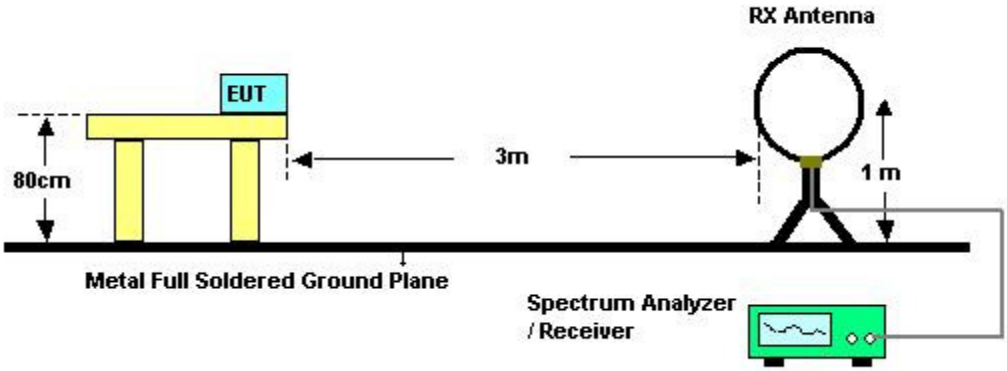
No deviation

5.4 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) For radiated emissions below 30MHz



5.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.5** unless otherwise a special operating condition is specified in the follows during the testing.

5.6 EUT TEST CONDITIONS

Temperature: 23°C
Relative Humidity: 70%
Test Voltage: AC 120V/60Hz

5.7 TEST RESULTS (BELOW 30MHZ) - FCC PART 15.209

Please refer to the Attachment B.

5.8 TEST RESULTS - (30-1000MHZ) - FCC PART 15.209

Please refer to the Attachment C.

5.9 TEST RESULTS- FCC PART 15.225

Please refer to the Attachment D.

6 FREQUENCY STABILITY

6.1 LIMITS

FCC Part 15.225(e)
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.

6.2 TEST PROCEDURE

a. The equipment under test was connected to an external AC power supply and the RF output was connected to a frequency counter via feed through attenuators. The EUT was placed inside the temperature chamber.
After the temperature stabilized for approximately 20 minutes, the frequency of the output signal was recorded from the counter.
b. At room temperature (25±5°C), an external variable AC power supply was connected to the EUT. The frequency of the transmitter was measured for 115%, 100% and 85% of the nominal operating input voltage.

6.3 DEVIATION FROM TEST STANDARD

No deviation

6.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.5.** unless otherwise a special operating condition is specified in the follows during the testing.

6.5 EUT TEST CONDITIONS

Temperature: 22°C
Relative Humidity: 66%
Test Voltage: AC 120V/60Hz

6.6 TEST RESULTS

Please refer to the Attachment E.

7. MEASUREMENT INSTRUMENTS LIST

Conducted Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Jan. 25, 2017
2	Test Cable	TIMES	CFD300-NL	C05	Jun. 14, 2017
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 08, 2017
4	Measurement Software	Farad	EZ_EMC (Version NB-03A)	N/A	N/A

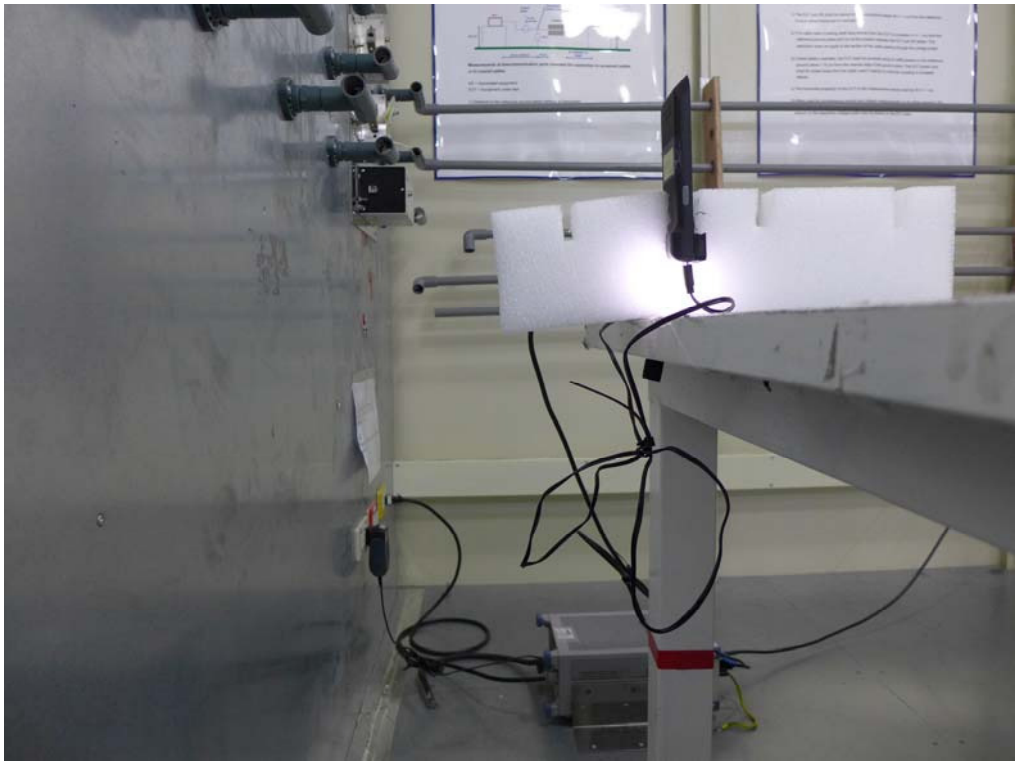
Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMCI	012645B	980267	Mar. 01, 2017
2	Preamplifier	EMCI	EMC02325	980217	Dec. 30, 2017
3	Test Cable	EMCI	EMC104-SM-SM-8000	8m	Jan. 05, 2017
4	Test Cable	EMCI	EMC104-SM-SM-800	150207	Jan. 05, 2017
5	Test Cable	EMCI	EEMC104-SM-SM-3000	151205	Jan. 05, 2017
6	MXE EMI Receiver	Agilent	N9038A	MY55420127	Jan. 08, 2017
7	Signal Analyzer	Agilent	N9010A	MY52220990	Feb. 23, 2017
8	Loop Ant	EMCO	6502	42960	Nov. 24, 2017
9	Horm Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	Mar. 01, 2017
10	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-548	Jan. 17, 2017
11	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0623	Jan. 17, 2017

Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	MXE EMI Receiver	Agilent	N9038A	MY55420127	Jan. 08, 2017

Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

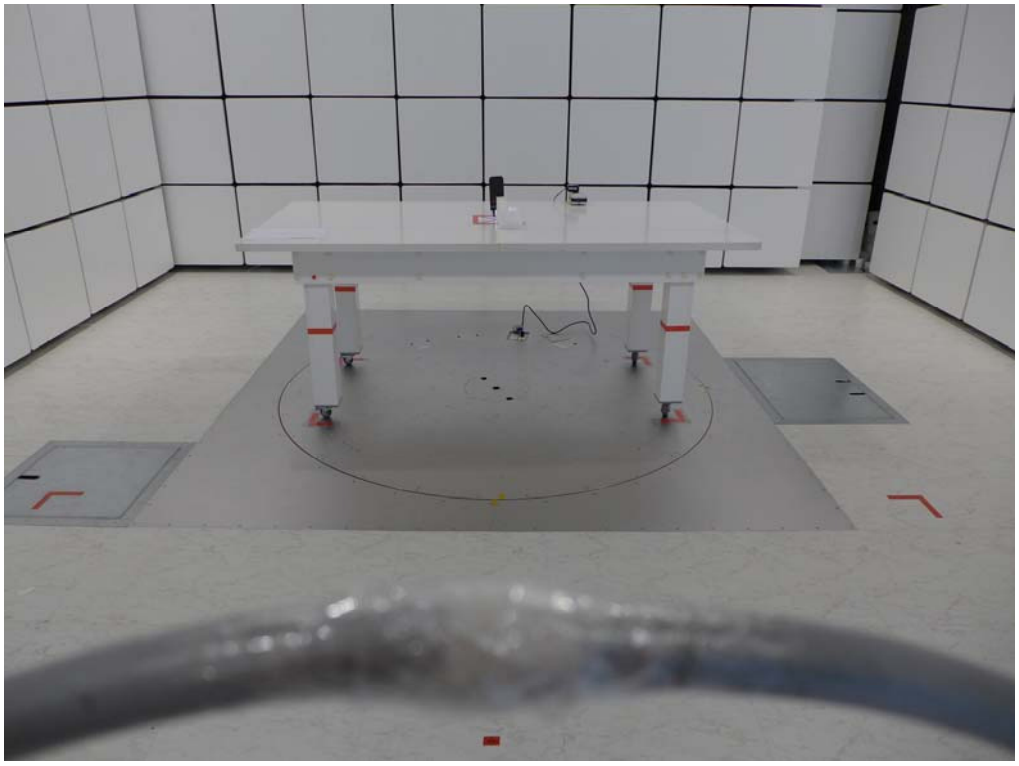
8 EUT TEST PHOTO

Conducted emission test photos



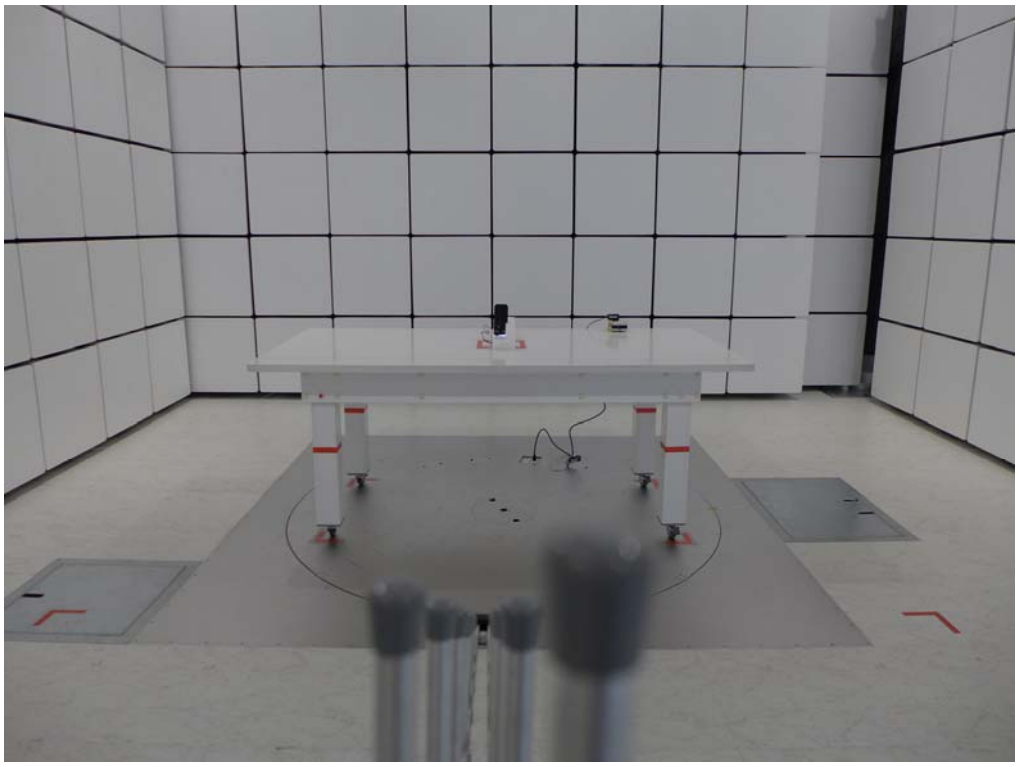
Radiated emission test photos

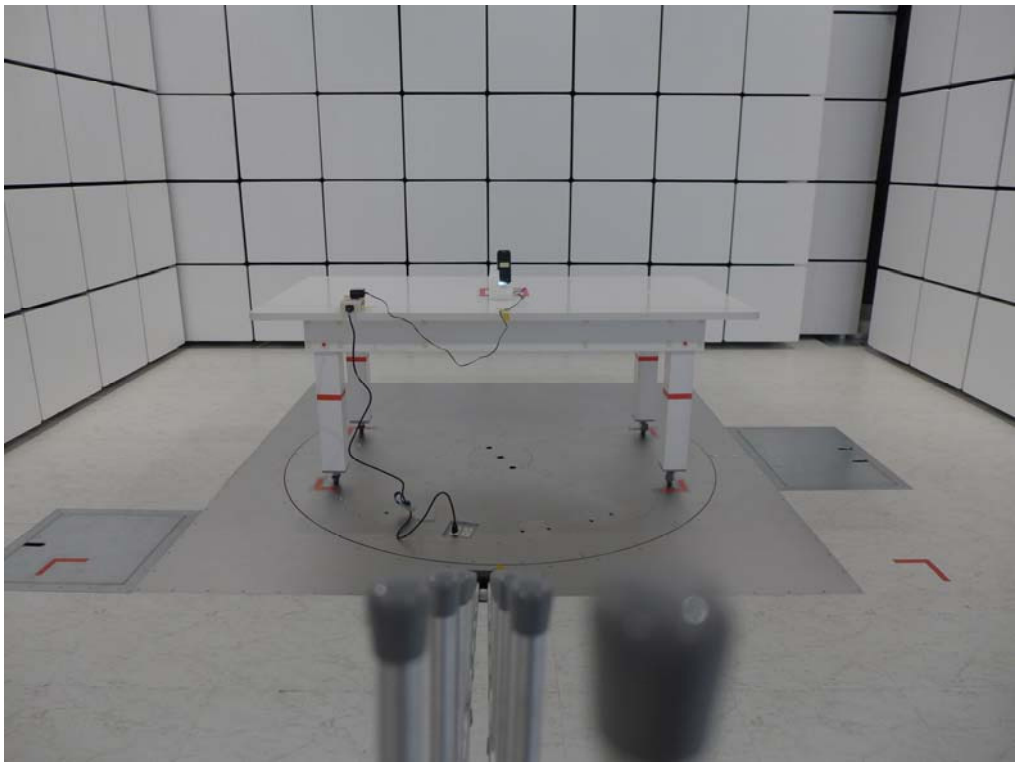
9KHz to 30MHz



Radiated emission test photos

30MHz to 1000MHz

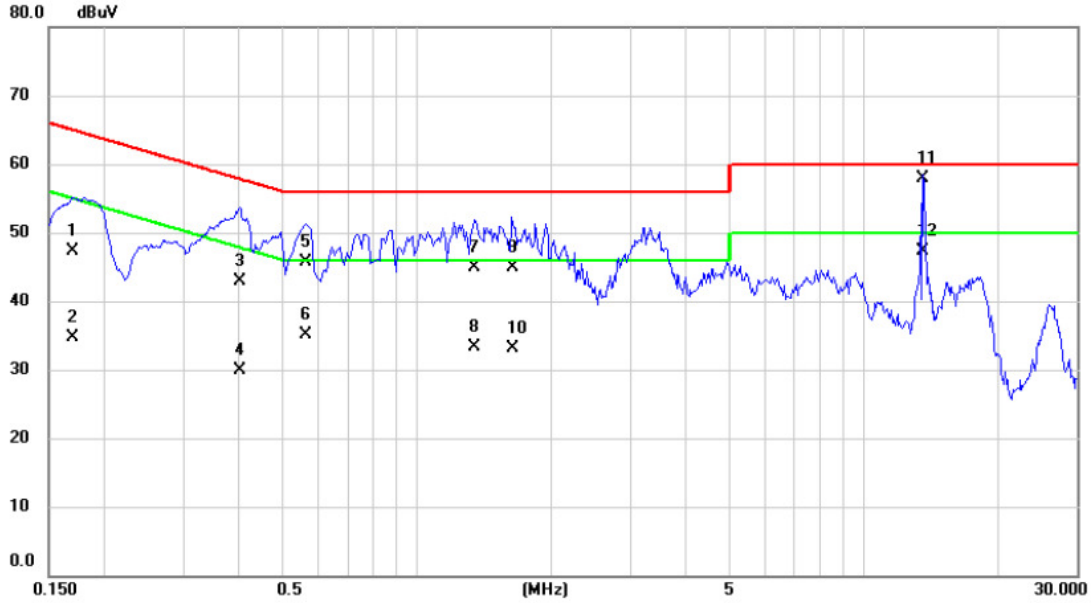




ATTACHMENT A - CONDUCTED EMISSION

Test Mode :	13.56MHz Transmit

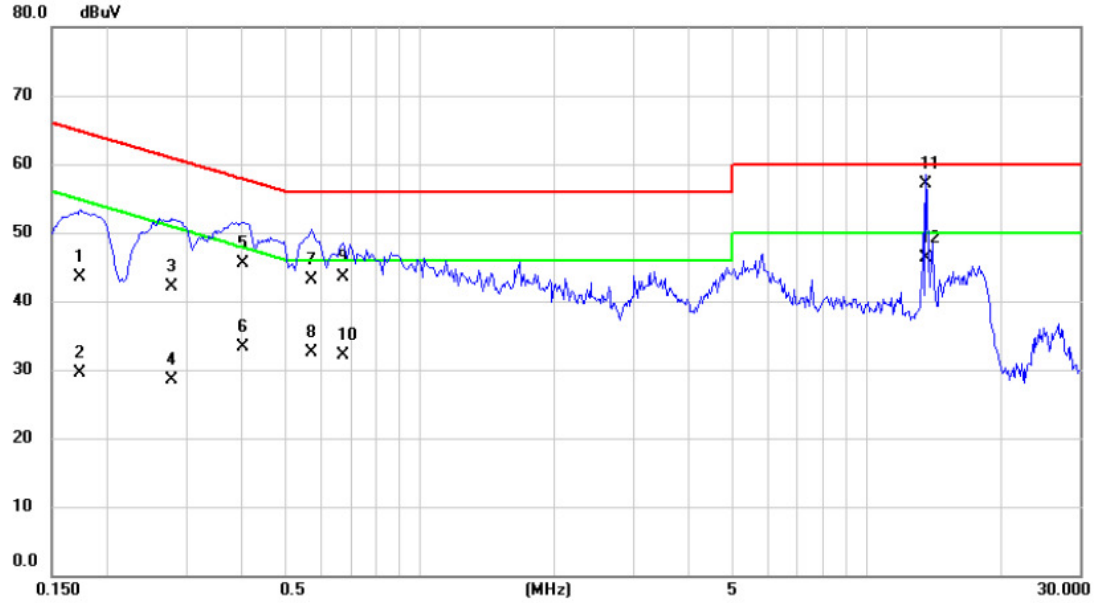
Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1696	37.60	9.64	47.24	64.98	-17.74	QP	
2		0.1696	25.10	9.64	34.74	54.98	-20.24	AVG	
3		0.4020	33.20	9.63	42.83	57.81	-14.98	QP	
4		0.4020	20.30	9.63	29.93	47.81	-17.88	AVG	
5		0.5630	36.10	9.63	45.73	56.00	-10.27	QP	
6		0.5630	25.50	9.63	35.13	46.00	-10.87	AVG	
7		1.3460	35.20	9.63	44.83	56.00	-11.17	QP	
8		1.3460	23.70	9.63	33.33	46.00	-12.67	AVG	
9		1.6340	35.30	9.64	44.94	56.00	-11.06	QP	
10		1.6340	23.50	9.64	33.14	46.00	-12.86	AVG	
11	*	13.5500	48.20	9.72	57.92	60.00	-2.08	QP	
12		13.5500	37.60	9.72	47.32	50.00	-2.68	AVG	

Test Mode :	13.56MHz Transmit

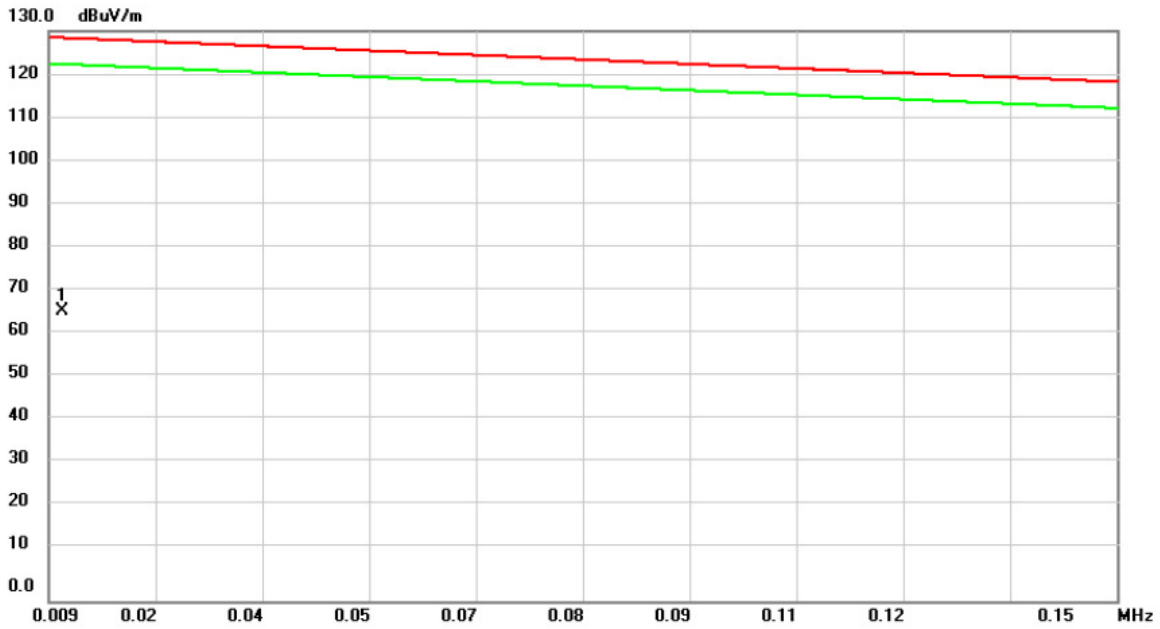
Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1737	33.80	9.65	43.45	64.78	-21.33	QP	
2		0.1737	19.90	9.65	29.55	54.78	-25.23	AVG	
3		0.2788	32.40	9.64	42.04	60.85	-18.81	QP	
4		0.2788	18.90	9.64	28.54	50.85	-22.31	AVG	
5		0.4020	35.90	9.63	45.53	57.81	-12.28	QP	
6		0.4020	23.60	9.63	33.23	47.81	-14.58	AVG	
7		0.5720	33.50	9.63	43.13	56.00	-12.87	QP	
8		0.5720	22.90	9.63	32.53	46.00	-13.47	AVG	
9		0.6710	33.90	9.63	43.53	56.00	-12.47	QP	
10		0.6710	22.40	9.63	32.03	46.00	-13.97	AVG	
11	*	13.5500	47.30	9.72	57.02	60.00	-2.98	QP	
12		13.5500	36.50	9.72	46.22	50.00	-3.78	AVG	

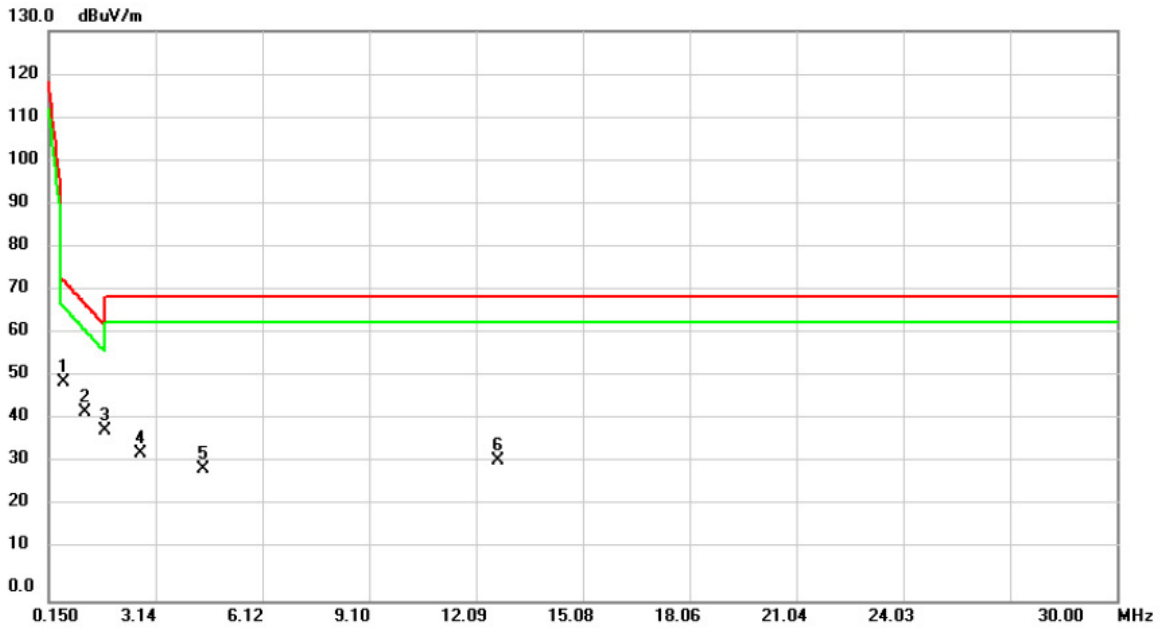
ATTACHMENT B - RADIATED EMISSION (9KHZ-30MHZ)

Test Mode:	13.56MHz Transmit - Open



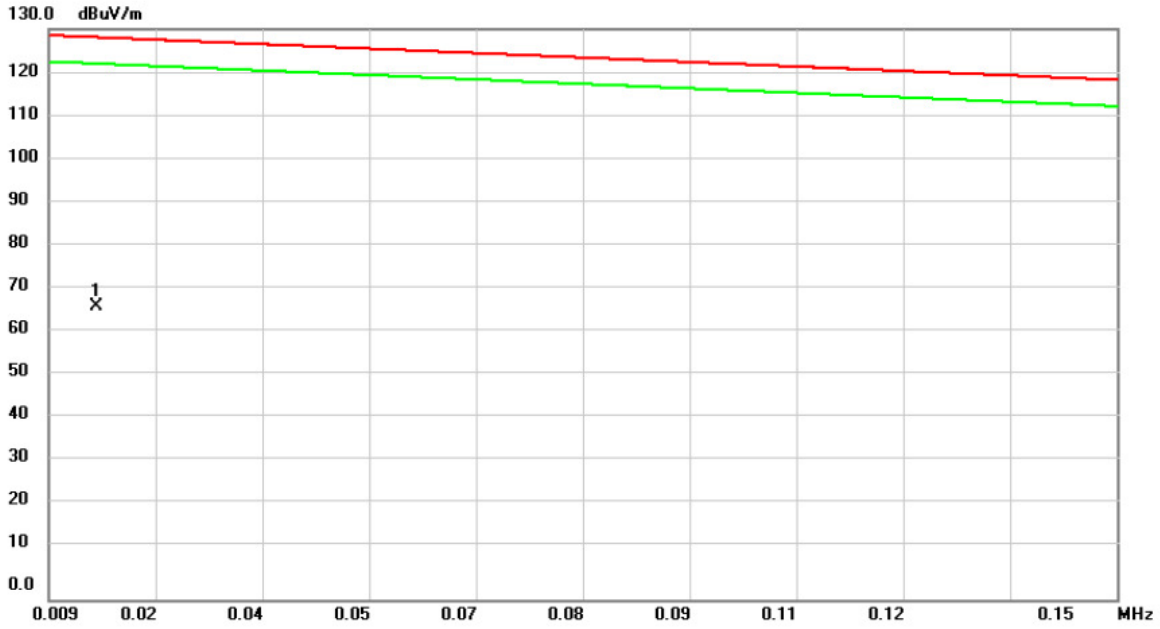
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0108	46.01	20.28	66.29	128.39	-62.10	peak	

Test Mode:	13.56MHz Transmit - Open



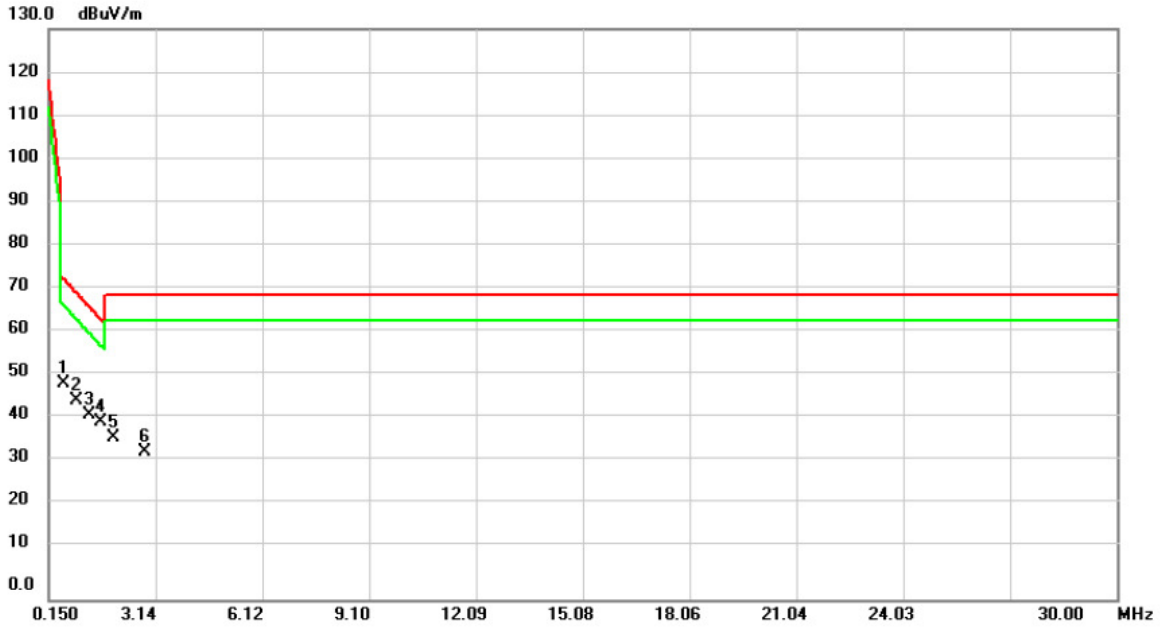
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.5680	37.97	11.83	49.80	73.10	-23.30	peak	
2		1.1650	31.03	11.93	42.96	67.78	-24.82	peak	
3		1.7022	27.15	11.68	38.83	62.99	-24.16	peak	
4		2.7171	22.50	11.23	33.73	69.54	-35.81	peak	
5		4.4484	18.76	11.32	30.08	69.54	-39.46	peak	
6		12.7170	20.66	11.22	31.88	69.54	-37.66	peak	

Test Mode:	13.56MHz Transmit - Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0153	47.62	19.04	66.66	128.07	-61.41	peak	

Test Mode:	13.56MHz Transmit - Close

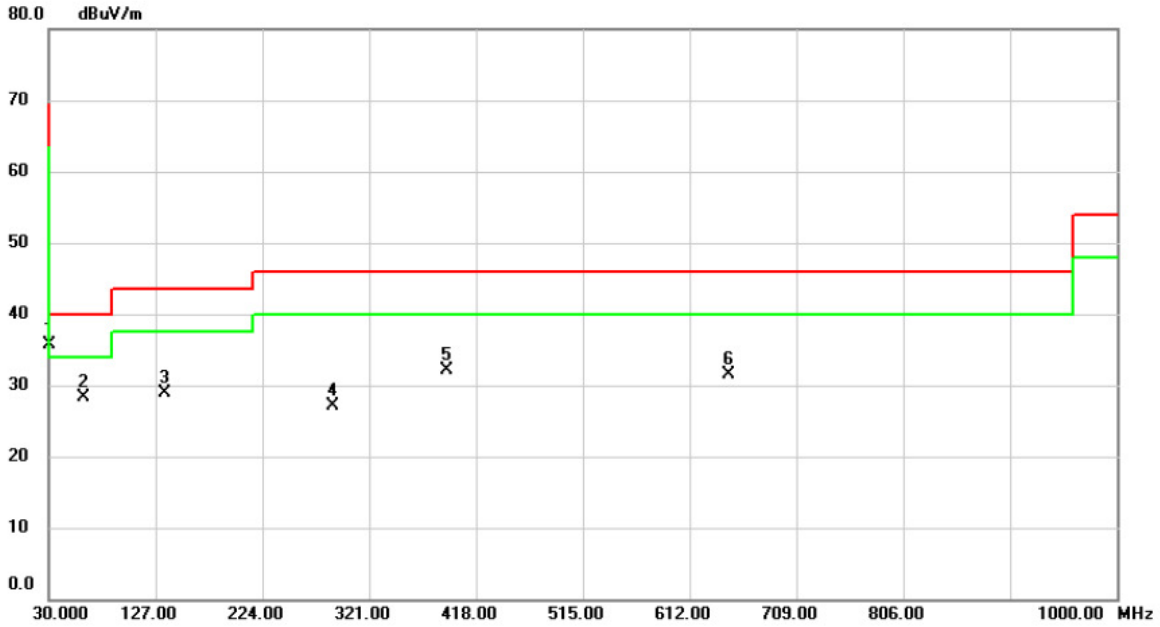


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.5680	37.42	11.83	49.25	73.10	-23.85	peak	
2		0.9261	33.25	11.97	45.22	69.91	-24.69	peak	
3		1.2843	30.22	11.87	42.09	66.72	-24.63	peak	
4	*	1.6126	28.65	11.72	40.37	63.79	-23.42	peak	
5		1.9708	25.25	11.56	36.81	69.54	-32.73	peak	
6		2.8365	22.63	11.17	33.80	69.54	-35.74	peak	

ATTACHMENT C - RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Mode:	13.56MHz Transmit

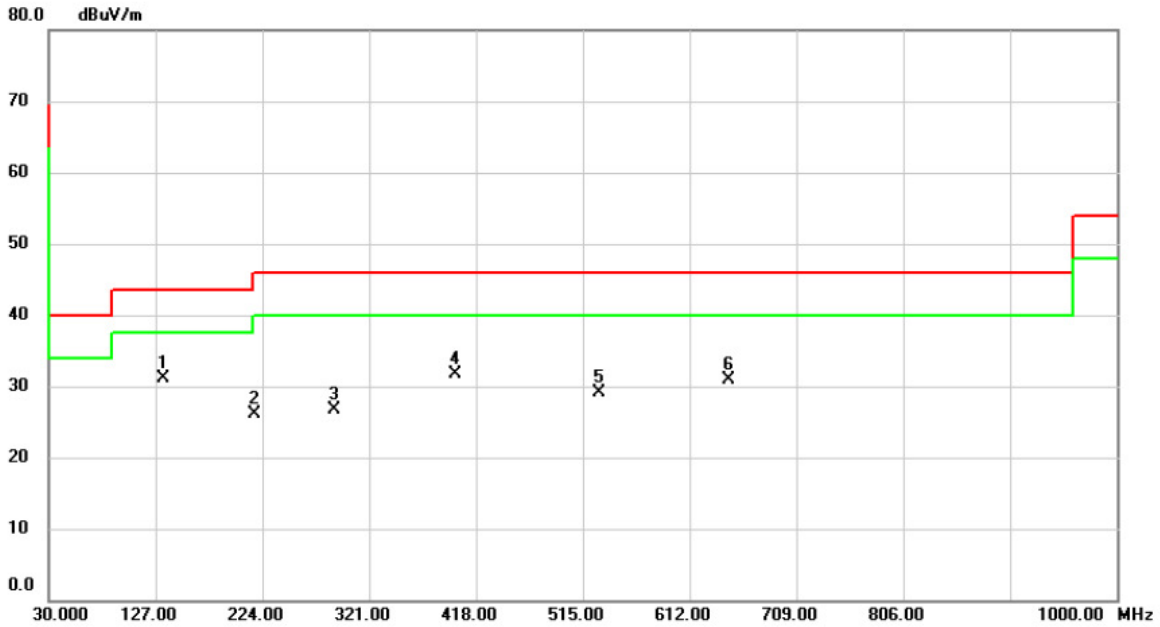
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	30.9700	44.77	-9.03	35.74	40.00	-4.26	peak	
2		61.0400	37.40	-9.17	28.23	40.00	-11.77	peak	
3		134.7600	38.33	-9.34	28.99	43.50	-14.51	peak	
4		288.0200	35.17	-7.97	27.20	46.00	-18.80	peak	
5		391.8100	37.44	-5.41	32.03	46.00	-13.97	peak	
6		647.8900	31.83	-0.24	31.59	46.00	-14.41	peak	

Test Mode:	13.56MHz Transmit

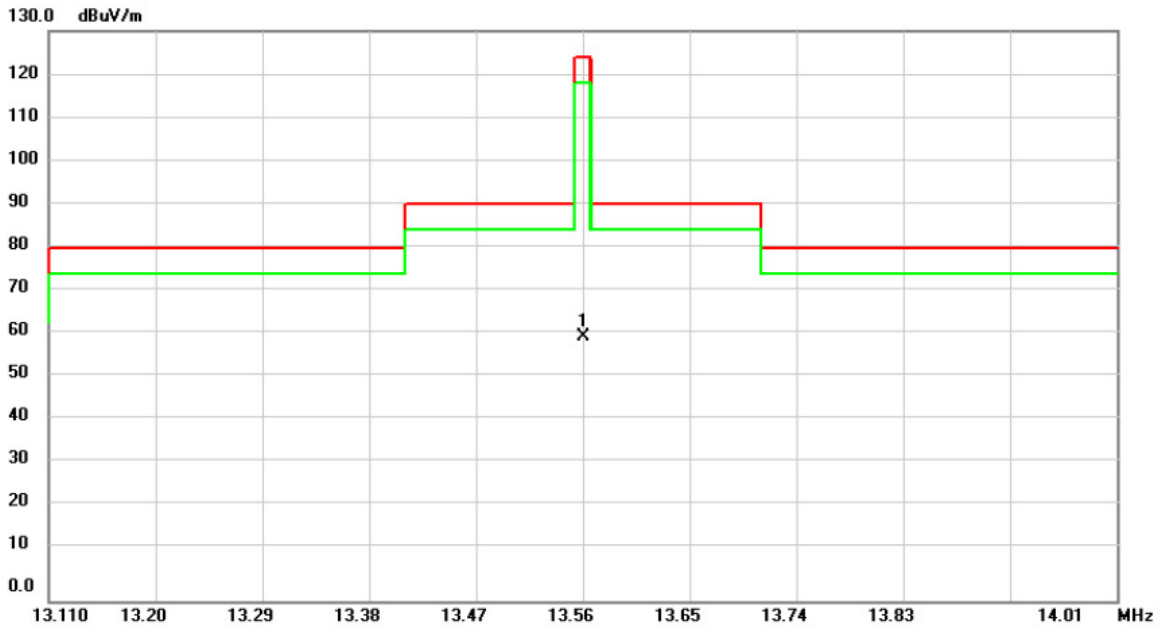
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	133.7900	40.44	-9.43	31.01	43.50	-12.49	peak	
2		216.2400	37.27	-11.13	26.14	46.00	-19.86	peak	
3		289.9600	34.71	-7.91	26.80	46.00	-19.20	peak	
4		398.6000	36.91	-5.27	31.64	46.00	-14.36	peak	
5		529.5500	31.48	-2.38	29.10	46.00	-16.90	peak	
6		647.8900	31.19	-0.24	30.95	46.00	-15.05	peak	

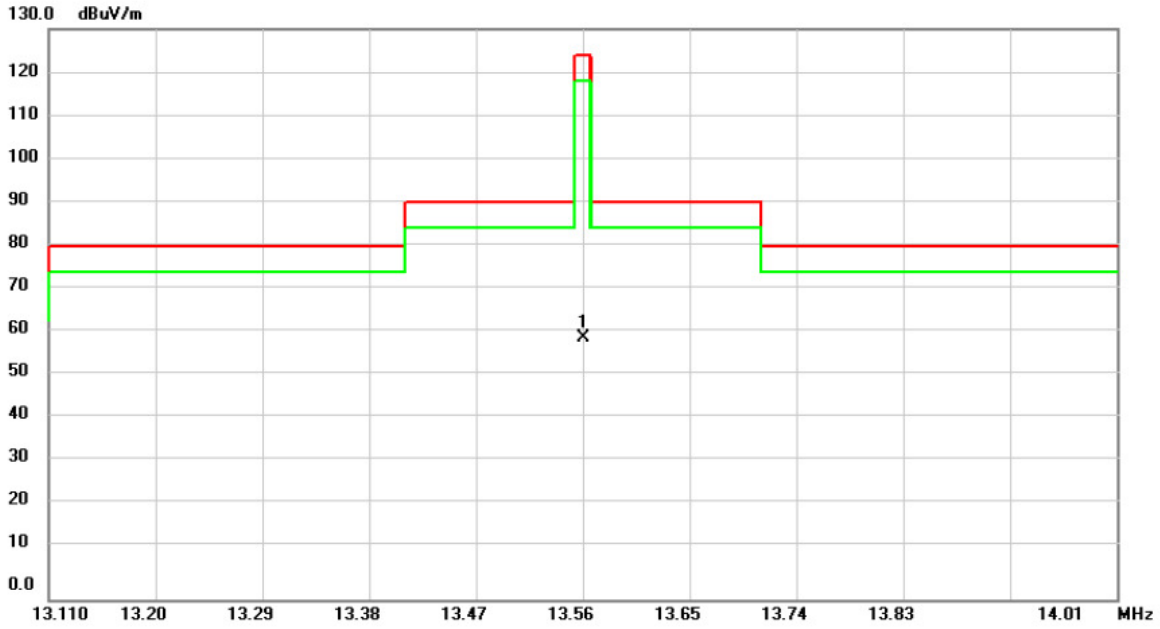
ATTACHMENT D - RADIATED EMISSION (FCC PART 15.225)

Test Mode:	13.56MHz Transmit - Open



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5600	49.19	11.19	60.38	124.00	-63.62	peak	

Test Mode:	13.56MHz Transmit - Close



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	13.5600	48.47	11.19	59.66	124.00	-64.34	peak	

ATTACHMENT E - FREQUENCY STABILITY MEASUREMENT

Test Mode:	13.56MHz Transmit

Frequency Stability Versus Environmental Temperature						
	Temperature (°C)	Voltage (AC)	Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
	20	120V	13.56000	-	-	-
0 min	55	120V	13.56030	0.300	+/- 1.356	PASS
	-20	120V	13.56020	0.200	+/- 1.356	PASS
2 min	55	120V	13.56045	0.450	+/- 1.356	PASS
	-20	120V	13.56028	0.280	+/- 1.356	PASS
5 min	55	120V	13.56010	0.100	+/- 1.356	PASS
	-20	120V	13.56022	0.220	+/- 1.356	PASS
10 min	55	120V	13.56025	0.250	+/- 1.356	PASS
	-20	120V	13.56041	0.410	+/- 1.356	PASS

Fuequency Stability Versus Input Voltage						
Temperature (°C)	Voltage (AC)		Frequency (MHz)	Frequency Error (kHz)	Limit (kHz)	Result
20	V-nom	120	13.56020	-	-	-
20	V-min	102	13.56015	-0.050	+/- 1.356	PASS
20	V-max	138	13.56035	0.150	+/- 1.356	PASS