FCC Test Report

Product Name	:	Electric Vehicle (EV) Supply Equipment
Brand Name	:	DELTA ELECTRONICS, INC.
Model No.	:	EIAW-U11KSSU7A04, EIAW-U19KSSU7A04
FCC ID	:	H79EIAWU19KSS
Applicant	:	Delta Electronics Incorporated
Address	:	3 Tungyuan Road Chungli Industrial Zone, Taoyuan County, 32063, Taiwan
Date of Receipt	:	Oct. 19, 2021
Issued Date	:	Dec. 23, 2021
Report No.	:	21A0519R-RFUSOTHV07-A
Report Version	:	V1.0

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by TAF or any agency of the government.
Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test Report Certification

Product Name	:	Electric Vehicle (EV) Supply Equipment
Applicant	:	Delta Electronics Incorporated
Address	:	3 Tungyuan Road Chungli Industrial Zone, Taoyuan County, 32063, Taiwan
Manufacturer	:	Delta Electronics Incorporated
Address	:	3 Tungyuan Road Chungli Industrial Zone, Taoyuan County, 32063, Taiwan
Brand Name	:	DELTA ELECTRONICS, INC.
Model No.	:	EIAW-U11KSSU7A04, EIAW-U19KSSU7A04
FCC ID	:	H79EIAWU19KSS
EUT Voltage	:	AC 208~240V
Testing Voltage	:	AC 220V/60Hz
Applicable Standard	:	FCC CFR Title 47 Part 15 Subpart C Section 15.225 ANSI C63.10: 2013
Laboratory Name	:	Hsin Chu Laboratory
Address	:	No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 310, Taiwan, R.O.C. TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result	:	Complied

Documented By : Hailey Peng

(Hailey Peng / Senior Engineer)

Approved By : Louis Hsu

(Louis Hsu / Deputy Manager)

The test results relate only to the samples tested.
The test report shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	Dec. 23, 2021

TABLE OF CONTENTS

1. General Information

1.1. EUT Description

Product Name	Electric Vehicle (EV) Supply Equipment
Brand Name	DELTA ELECTRONICS, INC.
Model No.	EIAW-U11KSSU7A04, EIAW-U19KSSU7A04
Frequency	13.56 MHz
Channel Number	1 Channel
Type of Modulation	ASK

The difference for each model is shown as below:

Model No.	Rating
EIAW-U11KSSU7A04	208-240Vac, 1P48A, 60Hz
EIAW-U19KSSU7A04	208-240Vac, 1P80A, 60Hz

From the above models, model: EIAW-U19KSSU7A04 was selected as representative model for the test and its data was recorded in this report.

Antenna Information				
Ant.	Brand Name	Model No.	Type	Gain (dBi)
0	REYAX	RYRR20I	PCB	-0.15

Working Frequency of Each Channel	
Channel	Frequency
01	13.56 MHz

Note: The above EUT information is declared by the manufacturer.

1.2. Test Mode

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Test Mode	Mode 1: Transmit

Test Items	Test Mode	Modulation	Result
AC Power Line Conducted Emission	Mode 1	ASK	Pass
20dB Bandwidth	Mode 1	ASK	Pass
Field Strength of Fundamental Emissions and Spectrum Mask	Mode 1	ASK	Pass
Radiated Emission	Mode 1	ASK	Pass
Frequency Tolerance	Mode 1	ASK	Pass

Note: Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

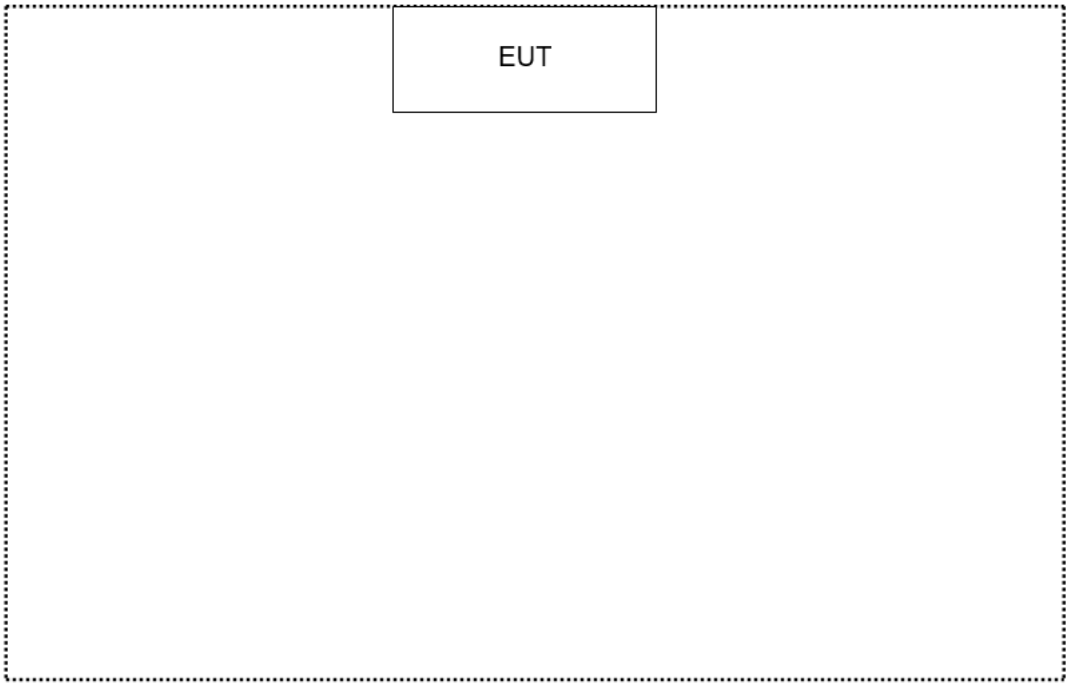
1.3. Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1.4. Tested System Details

N/A

1.5. Configuration of tested System

Connection Diagram


1.6. EUT Operation of during Test

1	Set the EUT as shown.
2	EUT power on.
3	Make the EUT to start the continuous transmitting.
4	Verify that device is working properly.

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Actually	Tested by	Test Date	Test Site
Temperature (°C)	AC Power Line Conducted Emission	20	Elwin Lin	2021/11/12	SR2-H
Humidity (%RH)		60			
Temperature (°C)	Emission Bandwidth	23	Elwin Lin	2021/11/19	SR12-H
Humidity (%RH)		68			
Temperature (°C)	Field Strength of Fundamental	22.2	Ling Chen	2021/11/12	CB2-H
Humidity (%RH)	Emissions and Spectrum Mask	49			
Temperature (°C)	Radiated Emission	22.2	Ling Chen	2021/11/12	CB2-H
Humidity (%RH)		49			
Temperature (°C)	Frequency Stability	21	Elwin Lin	2021/11/16	SR12-H
Humidity (%RH)		61			

Note: Test site information refers to Laboratory Information.

Laboratory Information

USA	**:**	**FCC Registration Number: TW3024**
Canada	**:**	**CAB identifier : TW3024**

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw

If you have any comments, please don't hesitate to contact us. Our test sites as below:

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
Address	1. No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C. 2. No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.
Phone number	1. +886-3-582-8001 2. +886-3-582-8001
Fax number	1. +886-3-582-8958 2. +886-3-582-8958
Email address	info.tw@dekra.com
Website	http://www.dekra.com.tw
Note: Test site number for address 1 includes SR2-H. Test site number for address 2 includes CB2-H, CB3-H, CB4-H, SR10-H and SR12-H.	

1.8. List of Test Equipment

SR2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Artificial Mains Network	R&S	ENV4200	848411/010	2020/12/24	2021/12/23
Test Receiver	R&S	ESCS 30	836858/022	2021/02/22	2022/02/21
LISN	R&S	ENV216	100092	2021/06/08	2022/06/07
Coaxial Cable(9 m)	Harbour	RG-400	SR2-H	2021/08/15	2022/08/14
DEKRA Testing System	DEKRA	Version 2.0	SR2-H	N/A	N/A

SR12-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2021/11/12	2022/11/11
Pulse Power Sensor	Anritsu	MA2411B	1531043	2021/11/12	2022/11/11
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2021/01/25	2022/01/24
Pulse Power Sensor	Anritsu	MA2411B	1531044	2021/11/12	2022/11/11
Power Meter	Keysight	8990B	MY51000248	2021/05/21	2022/05/20
Power Sensor	Keysight	N1923A	MY57240005	2021/05/21	2022/05/20
Spectrum Analyzer	Keysight	N9030B	MY57140404	2021/05/14	2022/05/13
Spectrum Analyzer	Keysight	N9010B	MY57110159	2021/03/29	2022/03/28
Spectrum Analyzer	Agilent	N9010A	US47140172	2021/05/28	2022/05/27

CB2-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal & Spectrum Analyzer	R&S	FSV40	101049	2021/03/31	2022/03/30
Signal Analyzer	R&S	FSVA40	101435	2021/06/04	2022/06/03
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2021/01/25	2022/01/24
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	1272	2021/08/20	2022/08/19
Bilog Antenna	Teseq	CBL6112D	23191	2021/02/26	2022/02/25
Horn Antenna	Schwarzbeck	BBHA 9120D	639	2021/05/17	2022/05/16
Horn Antenna	Schwarzbeck	BBHA 9170	202	2020/12/16	2021/12/15
Pre-Amplifier	EMCI	EMC01820I	980365	2021/05/28	2022/05/27
Pre-Amplifier	EMEC	EM01G18GA	060741	2021/07/02	2022/07/01
Pre-Amplifier	DEKRA	AP-400C	201801231	2021/11/12	2022/11/11
EMI Test Receiver	R&S	ESR7	102260	2020/12/28	2021/12/27
Magnetic Loop Antenna	Teseq	HLA 6121	44287	2021/09/06	2022/09/05
Coaxial Cable(10m)	Suhner	SF102_SF104	CB4-H	2021/08/09	2022/08/08
Coaxial Cable(13m)	Huber+Suhner	SF104	CB2-H	2021/08/17	2022/08/16
Coaxial Cable(3m)	Suhnerr,Rosnol	SF102_Rosnol	CB2-H	2021/08/17	2022/08/18
Radiated Software	AUDIX	e3 V9	CB2-H	N/A	N/A

Note: All equipment upon which need to calibrated are with calibration period of 1 year.

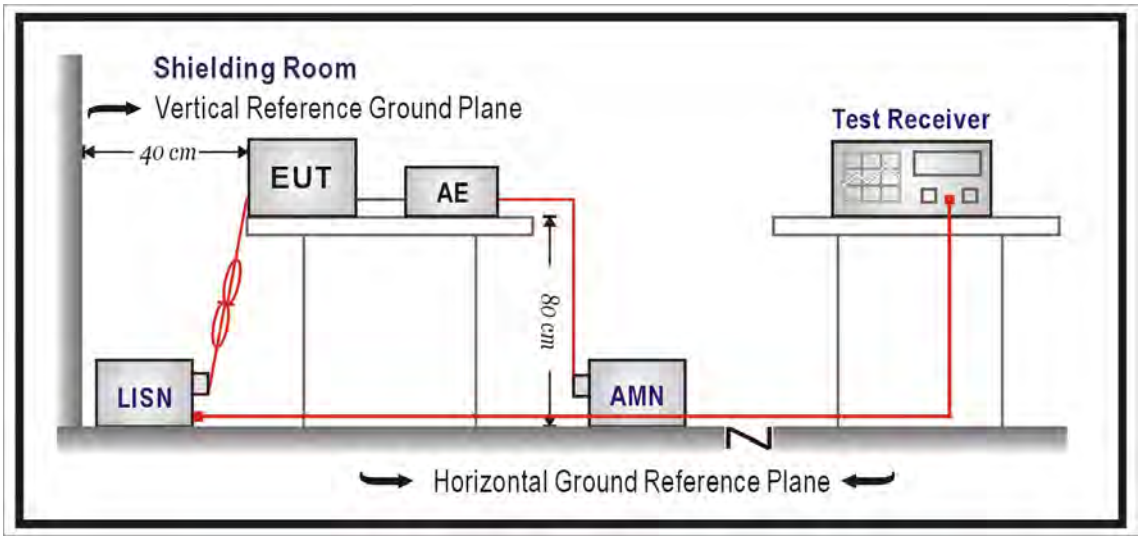
1.9. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2).

Test item	Uncertainty
AC Power Line Conducted Emission	± 2.10 dB
Emission Bandwidth	± 282.55 Hz
Field Strength of Fundamental Emissions and Spectrum Mask	± 3.28 dB
Radiated Emission	± 3.25 dB
Frequency Stability	± 282.55 Hz

2. AC Power Line Conducted Emission

2.1. Test Setup



2.2. Test Limit

Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50 ohm termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.

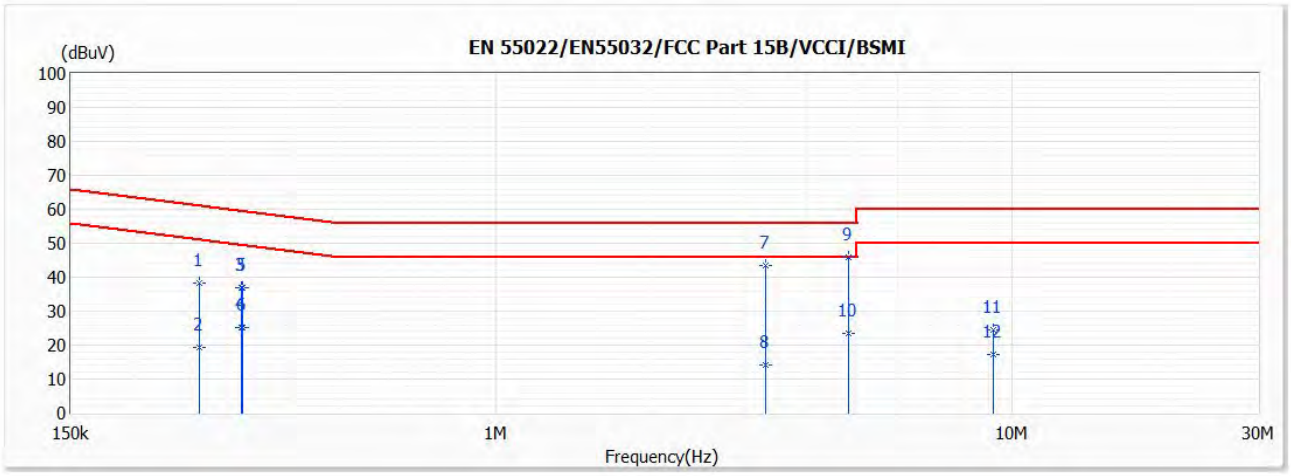
Conducted emissions were invested over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9 kHz.

2.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.207.

2.5. Test Result of AC Power Line Conducted Emission

Test Condition	13.56 MHz	Phase	Line

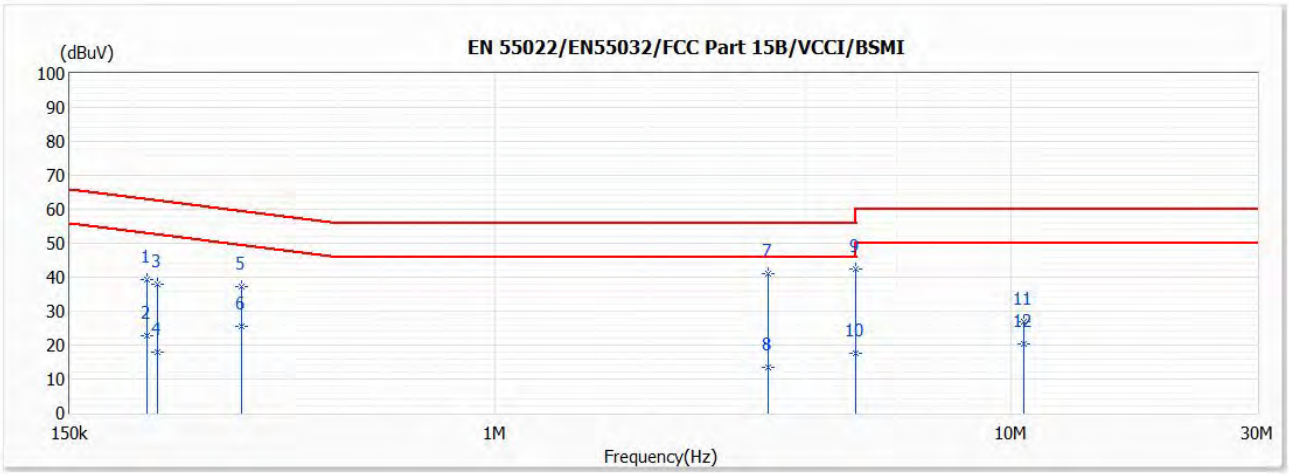


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.266	38.39	61.26	-22.87	28.75	9.64	QP
2	0.266	19.17	51.26	-32.09	9.53	9.64	AV
3	0.321	37.05	59.68	-22.63	27.40	9.65	QP
4	0.321	25.30	49.68	-24.38	15.65	9.65	AV
5	0.322	36.97	59.65	-22.68	27.32	9.65	QP
6	0.322	25.07	49.65	-24.58	15.42	9.65	AV
7	3.325	43.58	56.00	-12.42	33.74	9.84	QP
8	3.325	13.98	46.00	-32.02	4.14	9.84	AV
*9	4.829	45.74	56.00	-10.26	35.82	9.92	QP
10	4.829	23.29	46.00	-22.71	13.37	9.92	AV
11	9.211	24.61	60.00	-35.39	14.53	10.08	QP
12	9.211	17.09	50.00	-32.91	7.01	10.08	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

Test Condition	13.56 MHz	Phase	Neutral



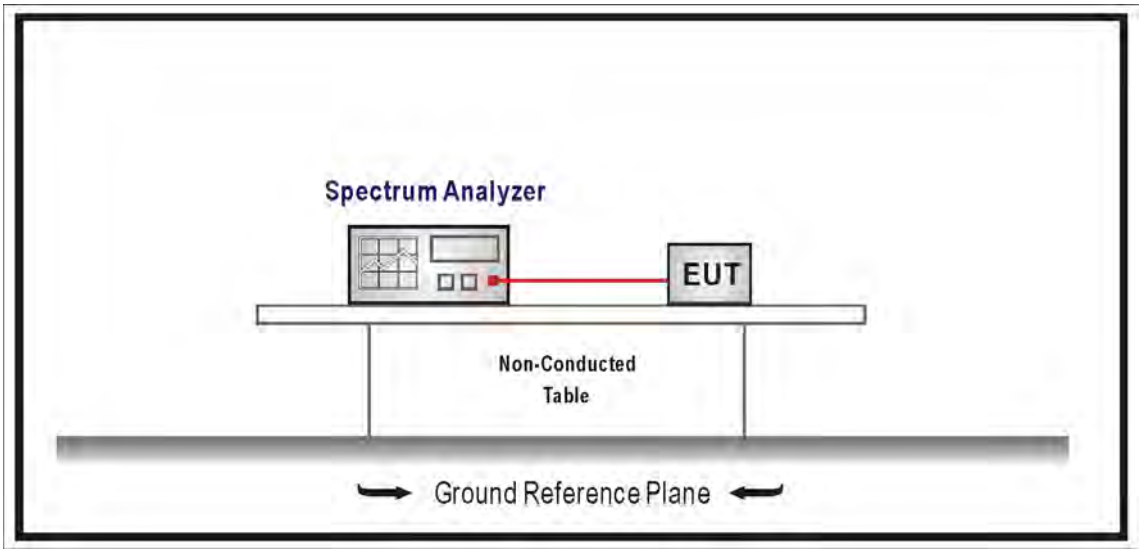
No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.211	39.33	63.15	-23.82	29.69	9.64	QP
2	0.211	22.75	53.15	-30.40	13.11	9.64	AV
3	0.222	37.83	62.74	-24.91	28.19	9.64	QP
4	0.222	17.82	52.74	-34.92	8.18	9.64	AV
5	0.322	37.19	59.66	-22.47	27.53	9.66	QP
6	0.322	25.51	49.66	-24.15	15.85	9.66	AV
7	3.390	40.94	56.00	-15.06	31.08	9.86	QP
8	3.390	13.35	46.00	-32.65	3.49	9.86	AV
*9	5.000	42.38	56.00	-13.62	32.43	9.95	QP
10	5.000	17.72	46.00	-28.28	7.77	9.95	AV
11	10.573	26.96	60.00	-33.04	16.79	10.17	QP
12	10.573	20.30	50.00	-29.70	10.13	10.17	AV

Remark:

1. "*" means this data is the worst emission level.
2. Emission Level = Reading Level + Correct Factor (Correct Factor = LISN Insertion Loss + Cable Loss).
3. Margin = Emission Level - Limit.

3. Emission Bandwidth

3.1. Test Setup



3.2. Test Limit

Intentional radiators must be designed to ensure that the emission bandwidth of the emissions in the specific band. (13.553 ~ 13.567 MHz)

3.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. The resolution bandwidth of 1 kHz and the video bandwidth of 3 kHz were used.

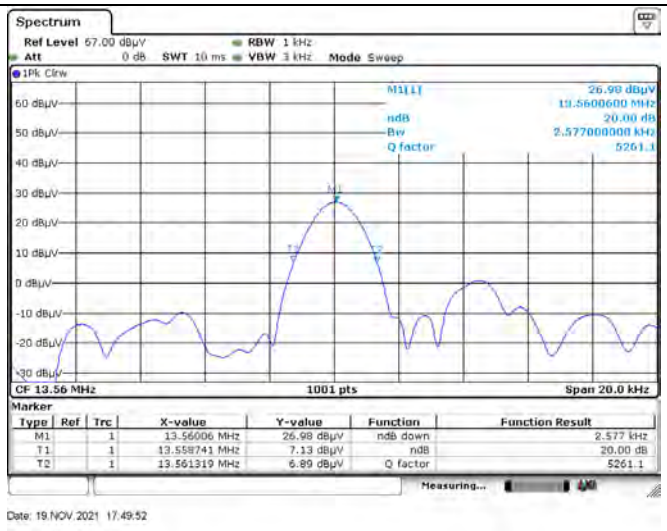
3.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.225.

3.5. Test Result of Emission Bandwidth

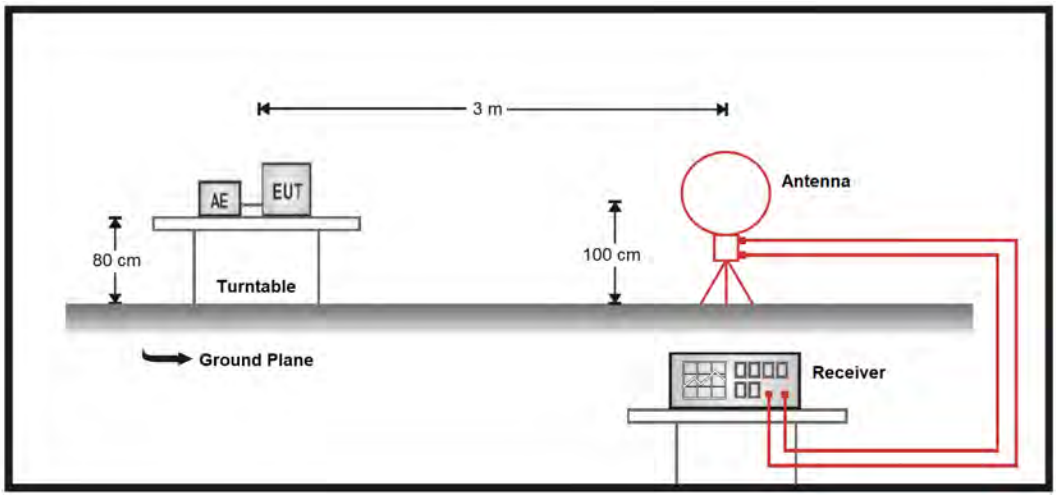
Frequency (MHz)	Measure Level (kHz)	Limit (MHz)
13.56	2.577	-

13.56 MHz



4. Field Strength of Fundamental Emissions and Spectrum Mask

4.1. Test Setup



4.2. Test Limit

Field Strength of Fundamental Emissions			
Frequencies (MHz)	Field Strength (microvolts/meter) at 30m	Field Strength (dBμV/m) at 10m	Field Strength (dBμV/m) at 3m
13.553 – 13.567 MHz	15848	103.08 (QP)	124 (QP)
Quasi peak measurement of the fundamental.			

Spectrum Mask					
Rules and specifications	CFR 47 Part 15 section 15.225(a)-(d)				
Description	Compliance with the spectrum mask is tested using a spectrum analyzer with RBW set to a 9kHz for the band 13.553 – 13.567 MHz.				
Limit	Freq. of Emission (MHz)	Field Strength			
		(uV/m)@30m	(dBuV/m)@30m	(dBuV/m)@10m	(dBuV/m)@3m
	1.705~13.110	30	29.5	48.6	69.5
	13.110~13.410	106	40.5	59.6	80.5
	13.410~13.553	334	50.5	69.6	90.5
	13.553~13.567	15848	84.0	103.1	124.0
	13.567~13.710	334	50.5	69.6	90.5
	13.710~14.010	106	40.5	59.6	80.5
	14.010~30.000	30	29.5	48.6	69.5

4.3. Test Procedure

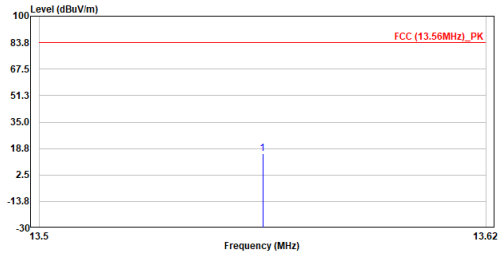
1. Configure the EUT according to ANSI C63.10: 2013. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the loop receiving antenna mounted antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the receiving antenna was fixed at one meter above ground to find the maximum emissions field strength.
4. For Fundamental emissions, use the receiver to measure QP reading.
5. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
6. Compliance with the spectrum mask is tested using a spectrum analyzer with RBW set to a 9kHz for the band 13.553 – 13.567 MHz.

4.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.225.

4.5. Test Result of Field Strength of Fundamental Emissions

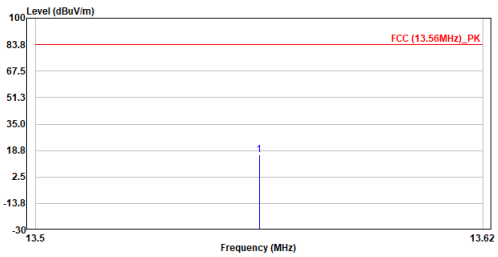
Site :CB2-H
Condition :3m Loop
Mode :Fundamental_X-Y
Test by :Ling



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	13.560	15.70	84.00	-68.30	34.15	-18.45	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

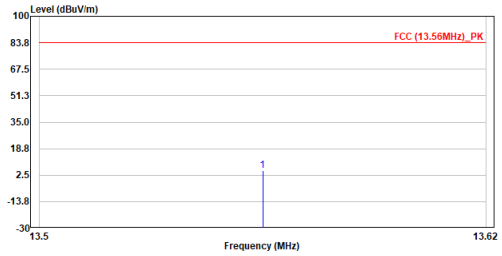
Site :CB2-H
Condition :3m Loop
Mode :Fundamental_Y-Y
Test by :Ling



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	13.560	15.95	84.00	-68.05	34.40	-18.45	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

Site :CB2-H
Condition :3m Loop
Mode :Fundamental_Z-Y
Test by :Ling

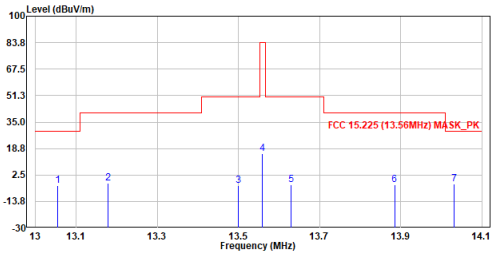


No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	13.560	5.46	84.00	-78.54	23.91	-18.45	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

4.6. Test Result of Spectrum Mask

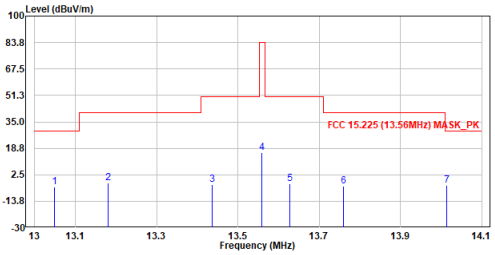
Site :CB2-H
Condition :3m Loop
Mode :Mask_X-Y
Test by :Ling



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	13.054	-4.12	29.50	-33.62	14.37	-18.49	Peak
2	13.179	-2.75	40.50	-43.25	15.73	-18.48	Peak
3	13.501	-3.82	50.50	-54.32	14.63	-18.45	Peak
4	13.560	15.59	84.00	-68.41	34.04	-18.45	Peak
5	13.630	-3.75	50.50	-54.25	14.70	-18.45	Peak
6	13.885	-3.27	40.50	-43.77	15.16	-18.43	Peak
7	14.031	-3.03	29.50	-32.53	15.39	-18.42	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

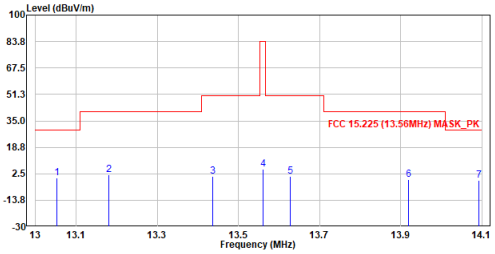
Site :CB2-H
Condition :3m Loop
Mode :Mask_Y-Y
Test by :Ling



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	13.049	-4.86	29.50	-34.36	13.63	-18.49	Peak
2	13.180	-2.73	40.50	-43.23	15.75	-18.48	Peak
3	13.437	-3.46	50.50	-53.96	15.00	-18.46	Peak
4	13.560	16.23	84.00	-67.77	34.68	-18.45	Peak
5	13.628	-3.04	50.50	-53.54	15.41	-18.45	Peak
6	13.759	-4.65	40.50	-45.15	13.79	-18.44	Peak
7	14.014	-3.83	29.50	-33.33	14.59	-18.42	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

Site :CB2-H
Condition :3m Loop
Mode :Mask_Z-Y
Test by :Ling



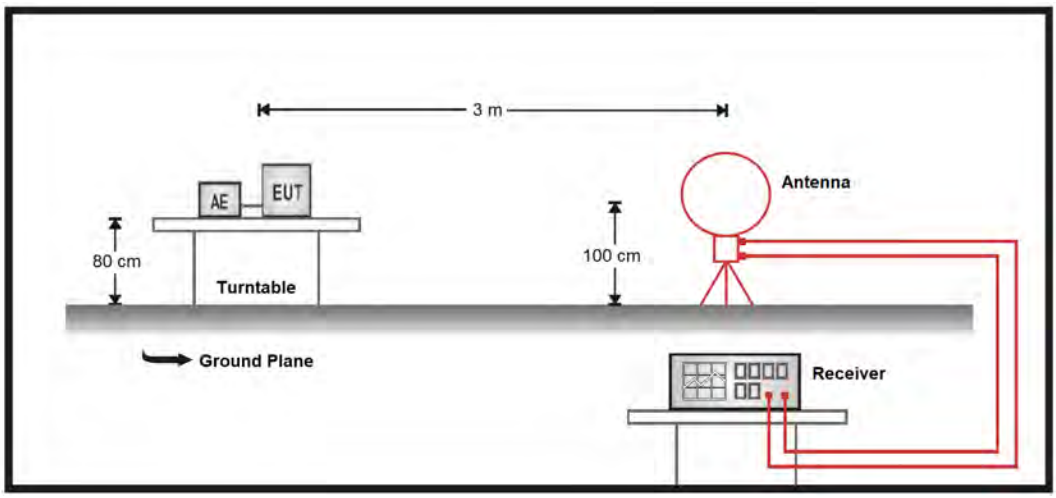
No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	13.053	0.07	29.50	-29.43	18.56	-18.49	Peak
2	13.180	2.03	40.50	-38.47	20.51	-18.48	Peak
3	13.437	0.80	50.50	-49.70	19.26	-18.46	Peak
4	13.561	5.21	84.00	-78.79	23.66	-18.45	Peak
5	13.628	0.87	50.50	-49.63	19.32	-18.45	Peak
6	13.920	-0.90	40.50	-41.40	17.53	-18.43	Peak
7	14.092	-1.33	29.50	-30.83	17.08	-18.41	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

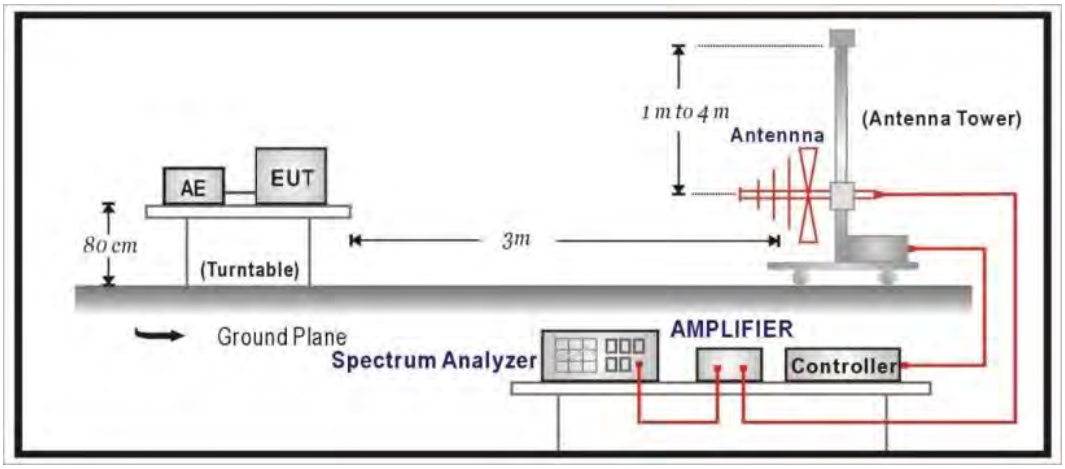
5. Radiated Emission

5.1. Test Setup

9 kHz ~ 30 MHz



30 MHz ~ 1 GHz



5.2. Test Limit

The field strength of any emissions which appear outside of 13.553 ~ 13.567MHz band shall not exceed the general radiated emissions limits.

Frequency (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	20 log (2400/F(kHz))	300
0.490 – 1.705	24000/F(kHz)	20 log (24000/F(kHz))	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Remarks:

1. Field strength (dBuV/m) = 20 log Field strength (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

5.3. Test Procedure

1. Configure the EUT according to ANSI C63.10: 2013. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
7. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

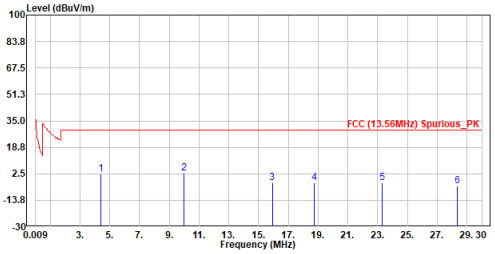
5.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.225.

5.5. Test Result of Radiated Emissions

9 kHz ~ 30 MHz

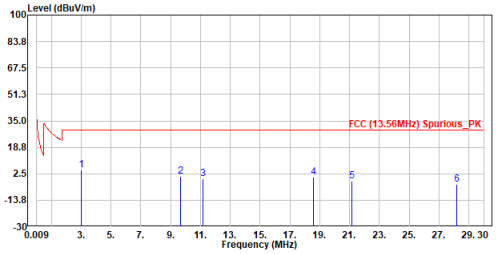
Site :CB2-H
Condition :3m Loop
Mode :9k-30M_X-Y
Test by :Ling



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	4.399	2.54	29.54	-27.00	23.03	-20.49	Peak
2	9.963	2.87	29.54	-26.67	21.58	-18.71	Peak
3	15.917	-3.22	29.54	-32.76	15.07	-18.29	Peak
4	18.743	-2.88	29.54	-32.42	15.21	-18.09	Peak
5	23.306	-2.80	29.54	-32.34	15.23	-18.03	Peak
6	28.348	-4.85	29.54	-34.39	13.23	-18.08	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

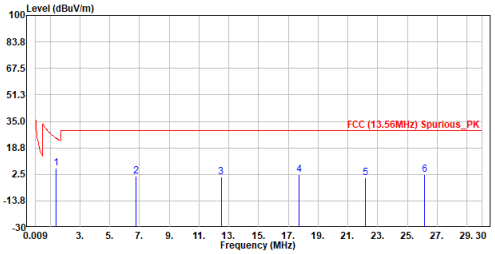
Site :CB2-H
Condition :3m Loop
Mode :9k-30M_Y-Y
Test by :Ling



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	3.008	4.84	29.54	-24.70	25.54	-20.70	Peak
2	9.658	1.03	29.54	-28.51	19.85	-18.82	Peak
3	11.180	-0.34	29.54	-29.88	18.28	-18.62	Peak
4	18.569	0.50	29.54	-29.04	18.60	-18.10	Peak
5	21.177	-2.13	29.54	-31.67	15.88	-18.01	Peak
6	28.174	-3.89	29.54	-33.43	14.19	-18.08	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

Site :CB2-H
Condition :3m Loop
Mode :9k-30M_Z-Y
Test by :Ling

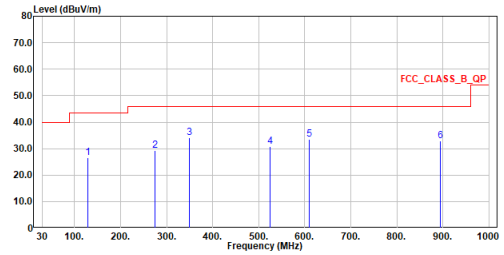


No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1.400	6.22	24.68	-18.46	26.68	-20.46	Peak
2	6.790	1.52	29.54	-28.02	21.31	-19.79	Peak
3	12.484	0.71	29.54	-28.83	19.24	-18.53	Peak
4	17.699	2.39	29.54	-27.15	20.55	-18.16	Peak
5	22.176	0.29	29.54	-29.25	18.31	-18.02	Peak
6	26.132	2.55	29.54	-26.99	20.61	-18.06	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Aux Factor
3. Over Limit = Level - Limit Line
4. Aux Factor = Distance convert formula + Unit convert formula
5. The other emission levels were very low against the limit.

30 MHz ~ 1 GHz

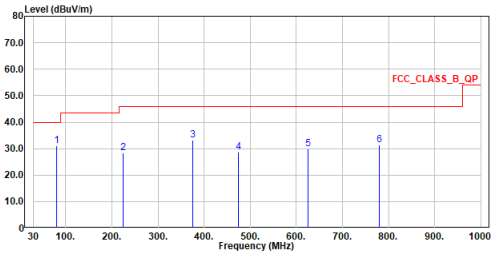
Site :CB2-H
Condition :3m Horizontal
Mode :NFC_TX_13.56MHz
Test by :Ling



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	129.328	26.50	43.50	-17.00	30.40	-3.90	QP
2	275.022	29.40	46.00	-16.60	32.01	-2.61	QP
3	350.003	34.15	46.00	-11.85	34.75	-0.60	QP
4	525.088	30.86	46.00	-15.14	26.94	3.92	QP
5	608.993	33.38	46.00	-12.62	27.18	6.20	QP
6	894.367	32.99	46.00	-13.01	22.88	10.11	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

Site :CB2-H
Condition :3m Vertical
Mode :NFC_TX_13.56MHz
Test by :Ling

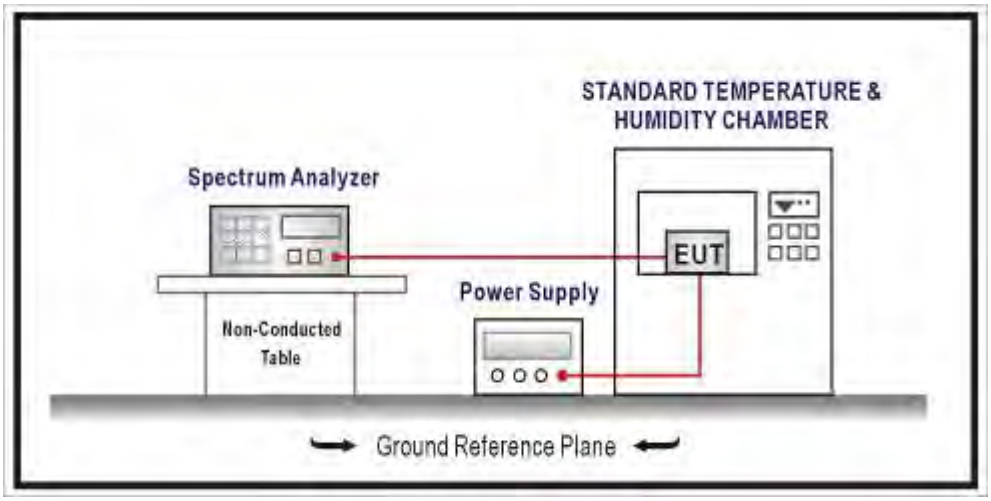


No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	80.440	31.08	40.00	-8.92	37.79	-6.71	QP
2	224.970	28.44	46.00	-17.56	34.16	-5.72	QP
3	375.029	33.12	46.00	-12.88	32.91	0.21	QP
4	475.036	28.72	46.00	-17.28	25.80	2.92	QP
5	624.998	29.83	46.00	-16.17	23.64	6.19	QP
6	779.907	31.37	46.00	-14.63	22.39	8.98	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

6. Frequency Stability

6.1. Test Setup



6.2. Test Limit

Carrier frequency stability shall be maintained to ±0.01% (±100 ppm).

6.3. Test Procedures

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.

6.4. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.225.

6.5. Test Result of Frequency Stability

Test Conditions		Frequency (MHz)	Frequency Tolerance (%)	Limit (%)
20℃	220V	13.5600	0.00000	<0.01
20℃	208V	13.5600	0.00000	<0.01
20℃	240V	13.5602	0.00147	<0.01

Test Conditions		Frequency (MHz)	Frequency Tolerance (%)	Limit (%)
-30℃	220V	13.5602	0.00147	<0.01
-20℃	220V	13.5604	0.00295	<0.01
-10℃	220V	13.5602	0.00147	<0.01
0℃	220V	13.5604	0.00295	<0.01
10℃	220V	13.5600	0.00000	<0.01
20℃	220V	13.5598	-0.00147	<0.01
30℃	220V	13.5602	0.00147	<0.01
40℃	220V	13.5604	0.00295	<0.01
50℃	220V	13.5598	-0.00147	<0.01