FCC Test Report

FCC ID	:	**2ADB4-SEDONA**
Equipment	:	**Sled Server**
Brand Name	:	**FOXCONN**
Model Name	:	**Sedona**
Applicant	:	**Foxconn Interconnect Technology Limited Taiwan Branch** NO.66-1, JHONGSHAN RD., TUCHENG DIST., NEW TAIPEI CITY 236, TAIWAN (R.O.C.)
Manufacturer	:	**Foxconn Interconnect Technology Limited Taiwan Branch** NO.66-1, JHONGSHAN RD., TUCHENG DIST., NEW TAIPEI CITY 236, TAIWAN (R.O.C.)
Standard	:	**47 CFR FCC Part 15.225**

The product was received on Jan. 26, 2021, and testing was started from Feb. 05, 2021 and completed on Feb. 18, 2021. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Allen Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

Table of Contents

History of this test report

Report No.	Version	Description	Issued Date
FR112301AR	01	Initial issue of report	Feb. 26, 2021

Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.1.2	15.203	Antenna Requirement	PASS	-
3.1	15.207	AC Power-line Conducted Emissions	PASS	-
3.2	15.215(c)	Emission Bandwidth	PASS	-
3.3	15.225(a)~(d)	Field Strength of Fundamental Emissions and Spectrum Mask	PASS	-
3.4	15.225(d)	Transmitter Radiated Unwanted Emissions	PASS	-
3.5	15.225(e)	Frequency Stability	PASS	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and explanations:
None

Reviewed by: Ben Tseng
Report Producer: Debby Hung

1 General Description

1.1 Information

The EUT has four NFC chips which could transmit/receive simultaneously, and the worst case was measured during the test.

1.1.1 RF General Information

RF General Information					
Frequency Range(MHz)	**Type**	**Mode**	**Ch. Frequency (MHz)**	**Channel Number**	**Field Strength (dBuV/m)**
13.553 – 13.567	NFC-A (ISO 14443-3A)	NFC	13.56	1	53.80

Note :
- Field strength performed peak level at 3m.
- Uses a ASK modulation.

1.1.2 Antenna Information

Ant.	Brand	Model Name	Antenna Type
1	Smart Approach Co., Ltd.	Macaron N Series SM-MFAD4-C02	Loop antenna
2	Smart Approach Co., Ltd.	Macaron N Series SM-MFAD4-C02	Loop antenna
3	Smart Approach Co., Ltd.	Macaron N Series SM-MFAD4-C02	Loop antenna
4	Smart Approach Co., Ltd.	Macaron N Series SM-MFAD4-C02	Loop antenna

For NFC mode (4T4R)

Ant. 1, 2, 3 and 4 could transmit/receive simultaneously.

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From DC Power Supply
Type of EUT	
☒	Stand-alone
☐	Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.:
☐	Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.:
☐	Other:

1.1.4 Test Signal Duty Cycle

Duty Cycle Operation Restriction			
The transmitter is used for		The transmitter is operated	
☒	Inductive applications	☒	Automatically triggered
☐	Duty cycle fixed mode	☒	Duty cycle random mode
☒	**Duty cycle mode - NFC-A (ISO 14443-3A)**		
Declare transmitter duty cycle / 1 hour =		100%	
☐	**Duty cycle mode - NFC-B (ISO 14443-3B)**		
Declare transmitter duty cycle / 1 hour =		100%	
☐	**Duty cycle mode - NFC-F (ISO 18092)**		
Declare transmitter duty cycle / 1 hour =		100%	
☐	**Duty cycle mode - NFC-V (ISO 15693)**		
Declare transmitter duty cycle / 1 hour =		100%	

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR FCC Part 15
- ANSI C63.10-2013

The following reference test guidance is not within the scope of accreditation of TAF:

- KDB 414788 D01 v01r01

1.3 Testing Location Information

Testing Location			
☒	HWA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)	
		TEL : 886-3-327-3456	FAX : 886-3-327-0973
Test site Designation No. TW1190 with FCC.			

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
AC Conduction	CO04-HY	Edward	20.8~21.3°C/ 54~58%	06/Feb/2021
RF Conducted	TH01-HY	Barry	22.3~23.5°C / 44~49%	18/Feb/2021
Radiated Emission	03CH03-HY	Edward	21.2~22.5°C / 50~55%	05/Feb/2021

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated 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 Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	0.9 dB	Confidence levels of 95%
Radiated Emission (9kHz ~ 30MHz)	2.4 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.7 dB	Confidence levels of 95%
Conducted Emission	1.0 dB	Confidence levels of 95%
Temperature	0.41 °C	Confidence levels of 95%
Humidity	3.4 %	Confidence levels of 95%

2 Test Configuration of EUT

2.1 Test Condition

Condition Item	Abbreviation/Remark	Remark
TnomVnom	Tnom	20°C
-	Vnom	12V
Freq. Stability	Abbreviation	Remark
-20°C	-	-
-10°C	-	-
0°C	-	-
10°C	-	-
20°C	-	-
30°C	-	-
40°C	-	-
50°C	-	-
20°C-13.8V	-	-
20°C-12V	-	-
20°C-10.2V	-	-

2.2 Test Channel Mode

Test Software Version	NA

Note: Transmit by EUT itself.

Mode	Power Setting
NFC	-
13.56MHz	default

2.3 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests	
Tests Item	AC power-line conducted emissions
Condition	AC power-line conducted measurement for line and neutral
Operating Mode	CTX
	☒ 1. DC Power Supply mode

The Worst Case Mode for Following Conformance Tests	
Tests Item	Emission Bandwidth, Frequency Stability
Test Condition	Conducted measurement

The Worst Case Mode for Following Conformance Tests	
Tests Item	Field Strength of Fundamental Emissions Spectrum Mask, Transmitter Radiated Unwanted Emissions
Test Condition	Radiated measurement
Pretest Mode	☒ 1. NFC-A (ISO 14443-3A)
	☐ 2. NFC-B (ISO 14443-3B)
	☐ 3. NFC-F (ISO 18092)
	☐ 4. NFC-V (ISO 15693)
Mode 1 configuration was pretested and found to be the worst case and measured during the test.	
Operating Mode	CTX
	1. DC Power Supply mode
Orthogonal Planes of EUT	**Z Plane**
	
Worst Planes of EUT	V

2.4 Support Equipment

Support Equipment - AC Conduction			
No.	**Equipment**	**Brand Name**	**Model Name**
1	AC Power cable	Power Sync	PW-GPC180-3
2	DC Power Supply	Chroma	62024P-100-50
3	DC Power cable(+)	FOXCONN	DC01
4	DC Power cable(-)	FOXCONN	DC02
5	DC Power cable(+)	FOXCONN	DC03
6	DC Power cable(-)	FOXCONN	DC04

Note: Support equipment No.3-6 was provided by customer.

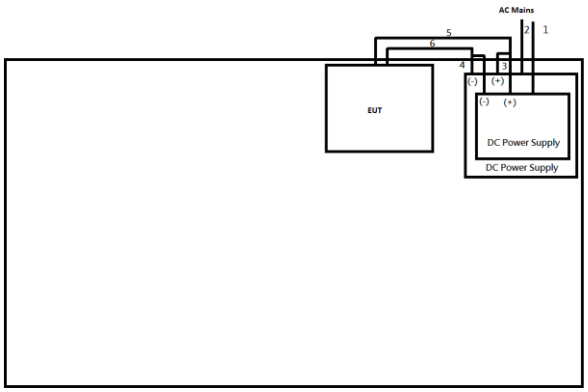
Support Equipment - RF Conducted			
No.	**Equipment**	**Brand Name**	**Model Name**
1	DC Power Supply	Chroma	62024P-100-50

Support Equipment - Radiated			
No.	**Equipment**	**Brand Name**	**Model Name**
1	AC Power cable	Power Sync	PW-GPC180-3
2	DC Power Supply	Chroma	62024P-100-50
3	DC Power cable(+)	FOXCONN	DC01
4	DC Power cable(-)	FOXCONN	DC02
5	DC Power cable(+)	FOXCONN	DC03
6	DC Power cable(-)	FOXCONN	DC04

Note: Support equipment No.3-6 was provided by customer.

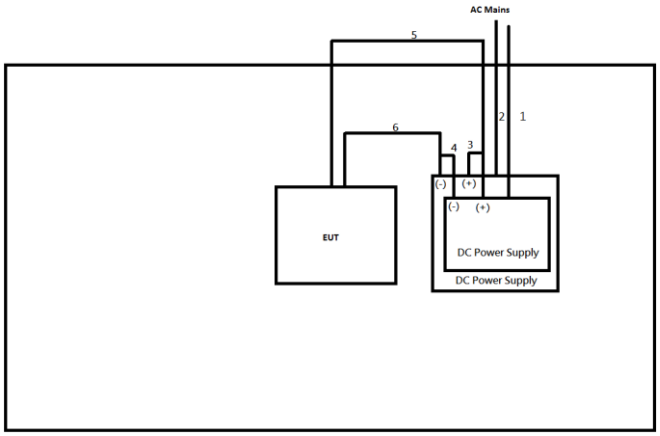
2.5 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	AC Power cable	No	1.8	-
3	DC Power cable(+)	No	0.5	-
4	DC Power cable(-)	No	0.8	-
5	DC Power cable(+)	No	1.5	-
6	DC Power cable(-)	No	1.5	-

Test Setup Diagram - Radiated Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	AC Power cable	No	1.8	-
3	DC Power cable(+)	No	0.5	-
4	DC Power cable(-)	No	0.8	-
5	DC Power cable(+)	No	1.5	-
6	DC Power cable(-)	No	1.5	-

3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit		
Frequency Emission (MHz)	**Quasi-Peak**	**Average**
0.15-0.5	66 - 56 *	56 - 46 *
0.5-5	56	46
5-30	60	50
Note 1: * Decreases with the logarithm of the frequency.		

3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

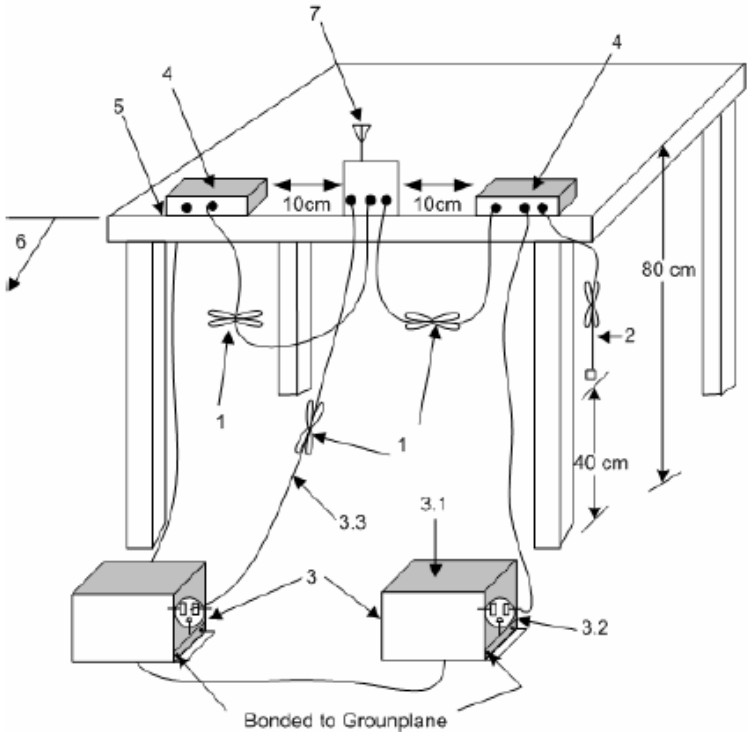
Test Method	
☒	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.
☒	If AC conducted emissions fall in operating band, then following below test method confirm final result.
☐	Accept measurements done with a suitable dummy load replacing the antenna under the following conditions: (1) Perform the AC line conducted tests with the antenna connected to determine compliance with FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load to determine compliance with FCC 15.207 limits within the transmitter's fundamental emission band.
☒	For a device with a permanent antenna operating at or below 30 MHz, accept measurements done with a suitable dummy load, in lieu of the permanent antenna under the following conditions: (1) Perform the AC line conducted tests with the permanent antenna to determine compliance with the FCC 15.207 limits outside the transmitter's fundamental emission band; (2) Retest with a dummy load in lieu of the permanent antenna to determine compliance with the FCC 15.207 limits within the transmitter's fundamental emission band.

3.1.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) +LISN(LISN Factor) + CL(Cable Loss) + AT(Attenuator).

3.1.5 Test Setup

AC Power-line Conducted Emissions



1—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 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory 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.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

3.1.6 Test Result of AC Power-line Conducted Emissions

Refer as Appendix A

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

20dB Bandwidth Limit
☒ Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emissions in the specific band (13.553 – 13.567).

3.2.2 Measuring Instruments

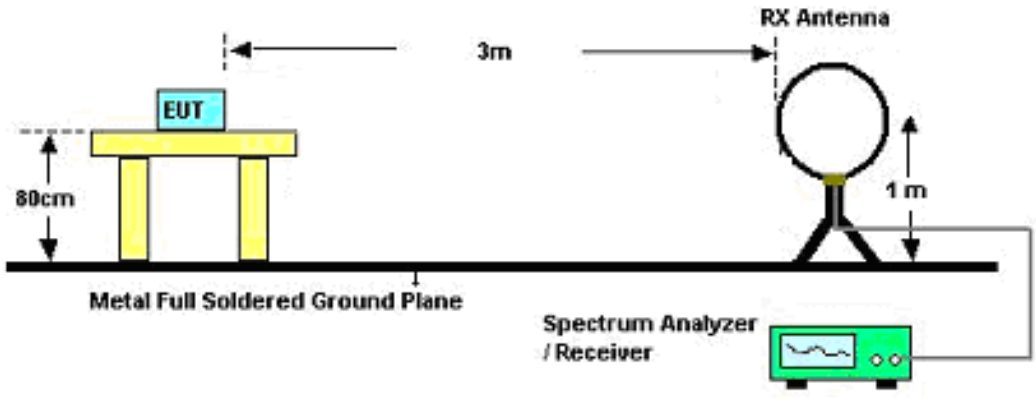
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

Test Method
☒ Because the measured signal is CW or CW-like adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.
☒ For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.

3.2.4 Test Setup

Emission Bandwidth



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix B

3.3 Field Strength of Fundamental Emissions and Spectrum Mask

3.3.1 Field Strength of Fundamental Emissions and Spectrum Mask Limit

Field Strength of Fundamental Emissions For FCC					
Emissions	**(uV/m)@30m**	**(dBuV/m)@30m**	**(dBuV/m)@10m**	**(dBuV/m)@3m**	**(dBuV/m)@1m**
fundamental	15848	84.0	103.1	124.0	143.1
Quasi peak measurement of the fundamental.					

Spectrum Mask For FCC					
Freq. of Emission (MHz)	**(uV/m)@30m**	**(dBuV/m)@30m**	**(dBuV/m)@10m**	**(dBuV/m)@3m**	**(dBuV/m)@1m**
1.705~13.110	30	29.5	48.6	69.5	88.6
13.110~13.410	106	40.5	59.6	80.5	99.6
13.410~13.553	334	50.5	69.6	90.5	109.6
13.553~13.567	15848	84.0	103.1	124.0	143.1
13.567~13.710	334	50.5	69.6	90.5	109.6
13.710~14.010	106	40.5	59.6	80.5	99.6
14.010~30.000	30	29.5	48.6	69.5	88.6

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

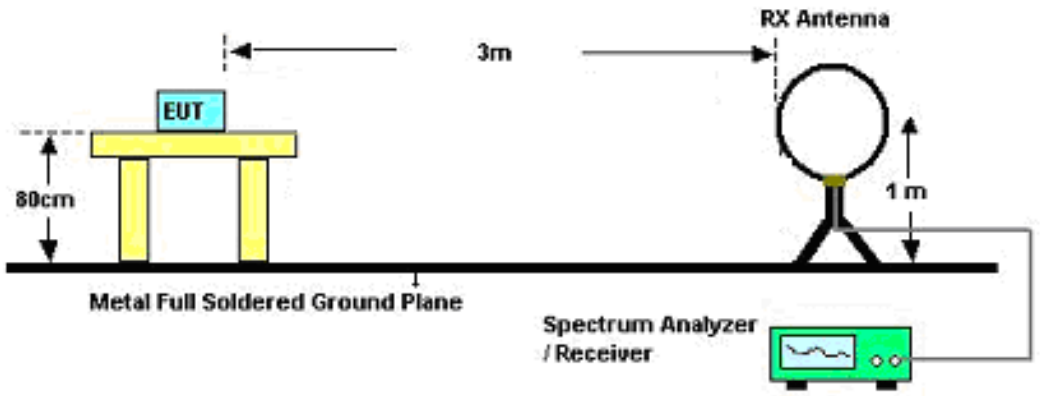
Test Method	
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz and test distance is 3m.
☒	At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be following below methods.
☐	The results shall be extrapolated to the specified distance by making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor.
☒	The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade).
☒	For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.

3.3.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor).

3.3.5 Test Setup

Field Strength of Fundamental Emissions and Spectrum Mask



3.3.6 Test Result of Field Strength of Fundamental Emissions and Spectrum Mask

Refer as Appendix C

3.4 Transmitter Radiated Unwanted Emissions

3.4.1 Transmitter Radiated Unwanted Emissions Limit

Transmitter Radiated Unwanted Emissions Limit			
Frequency Range (MHz)	**Field Strength (uV/m)**	**Field Strength (dBuV/m)**	**Measure Distance (m)**
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

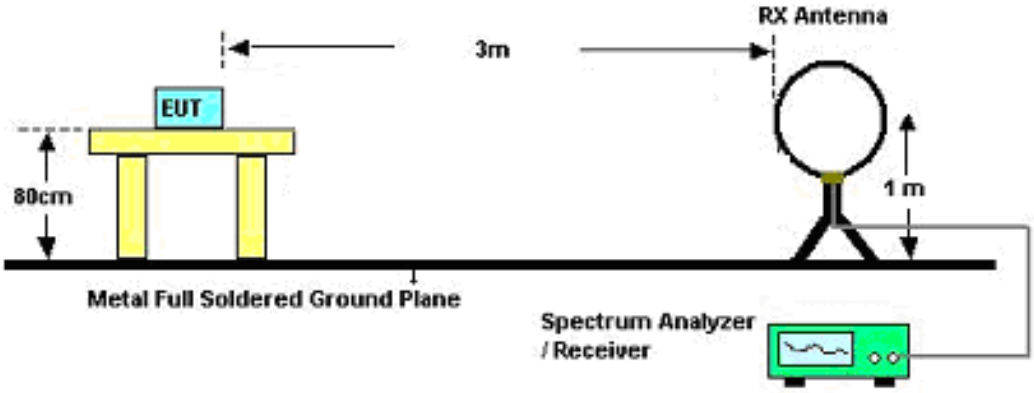
Test Method		
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m.	
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz and test distance is 3m.	
☒	At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be following below methods.	
	☐	The results shall be extrapolated to the specified distance by making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor.
	☒	The results shall be by using the square of an inverse linear distance extrapolation factor (40 dB/decade).
☒	For radiated measurement. Loop antenna was rotated about the horizontal and vertical axis and the equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted field strength level.	
☒	The any unwanted emissions level shall not exceed the fundamental emission level.	
☒	All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.	
☒	KDB 414788 D01 v01r01 Open-Field Test Sites and Chamber Correlation Justification.	
	▪	Based on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in regulations; however, an attempt should be made to avoid making measurements in the near field.
	▪	Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

3.4.4 Measurement Results Calculation

The measured Level is calculated using:
Corrected Reading: Raw(Read Level) + AF(Antenna Factor) + CL(Cable Loss) - PA(Preamp Factor)

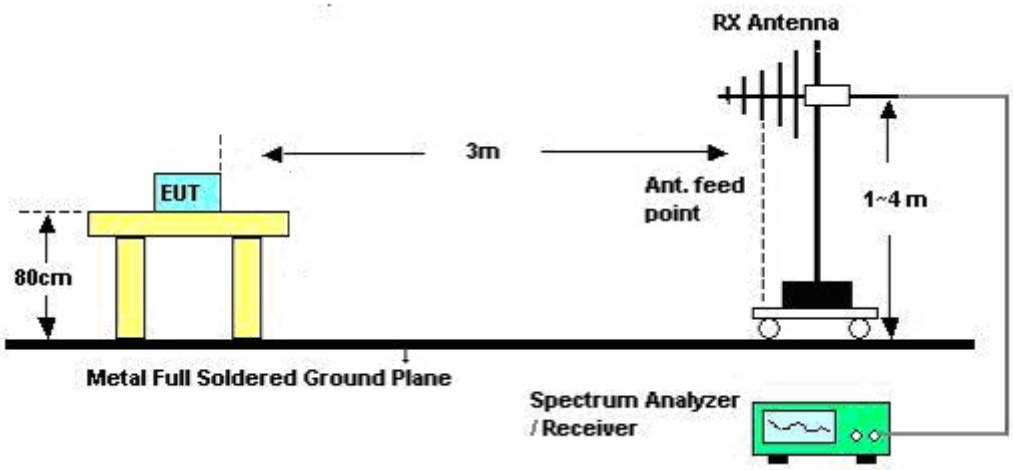
3.4.5 Test Setup

Transmitter Radiated Unwanted Emissions



Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. The center of the loop shall be 1 m above the ground.

Transmitter Radiated Bandedge Emissions



Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna. the antenna height shall be varied from 1 m to 4 m.

3.4.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix C

3.5 Frequency Stability

3.5.1 Frequency Stability Limit

Frequency Stability Limit
☒ Carrier frequency stability shall be maintained to ±0.01% (±100 ppm).

3.5.2 Measuring Instruments

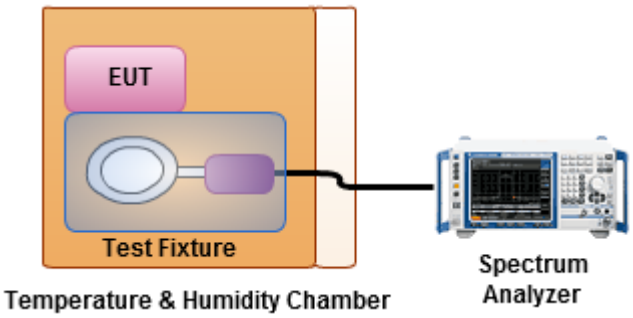
Refer a test equipment and calibration data table in this test report.

3.5.3 Test Procedures

Test Method	
☒	Refer as ANSI C63.10, clause 6.8 for frequency stability tests
	☒ Frequency stability with respect to ambient temperature
	☒ Frequency stability when varying supply voltage
☐	For conducted measurement.
☒	For radiated measurement. The equipment to be measured and the test antenna shall be oriented to obtain the maximum emitted power level.

3.5.4 Test Setup

Frequency Stability



3.5.5 Test Result of Frequency Stability

Refer as Appendix D

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
EMI Test Receiver	R&S	ESR3	102051	9kHz ~ 3.6GHz	29/May/2020	28/May/2021
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	11/Nov/2020	10/Nov/2021
RF Cable-CON	MTJ	RG142	CB002-CO	9kHz ~ 200MHz	31/Aug/2020	30/Aug/2021
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	21/Sep/2020	20/Sep/2021

Instrument for Conducted Test

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101013	10Hz~40GHz	19/Mar/2020	18/Mar/2021
Programmable Temp. & Humi. Chamber	Giant Force	GTH-225-20-SP-SD	MAA1112-007	-20~100℃	15/May/2020	14/May/2021

Instrument for Radiated Test

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	06/Aug/2020	05/Aug/2021
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	19/Aug/2020	18/Aug/2021
Amplifier	HP	8447D	2944A08033	10kHz~1.3GHz	14/Apr/2020	13/Apr/2021
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	25/Oct/2020	24/Oct/2021
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	19/Jun/2020	18/Jun/2021
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz~1GHz	18/Mar/2020	17/Mar/2021
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	16/Mar/2020	15/Mar/2021
EMI Test Receiver	R&S	ESR3	102051	9kHz~3.6GHz	29/May/2020	28/May/2021

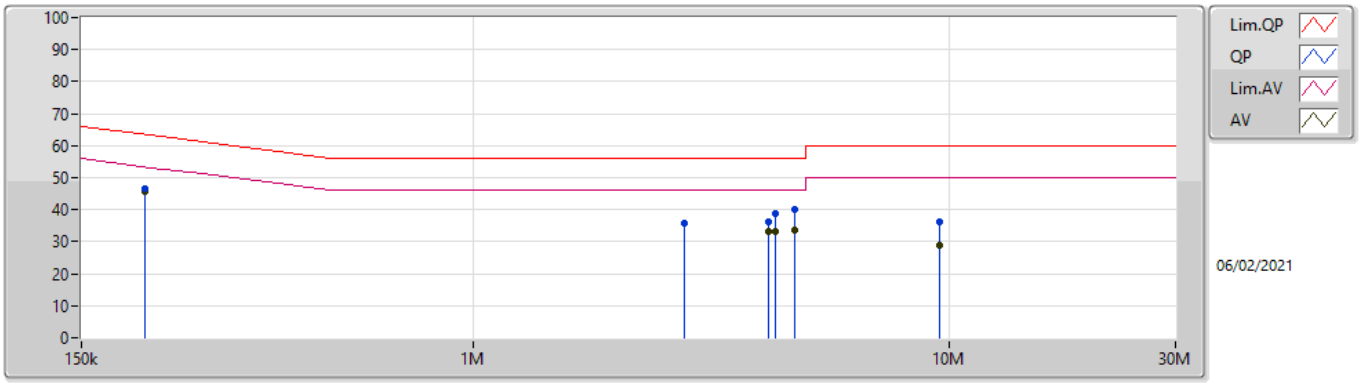
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	AV	4.446M	43.62	46.00	-2.38	Neutral

Mode Configure

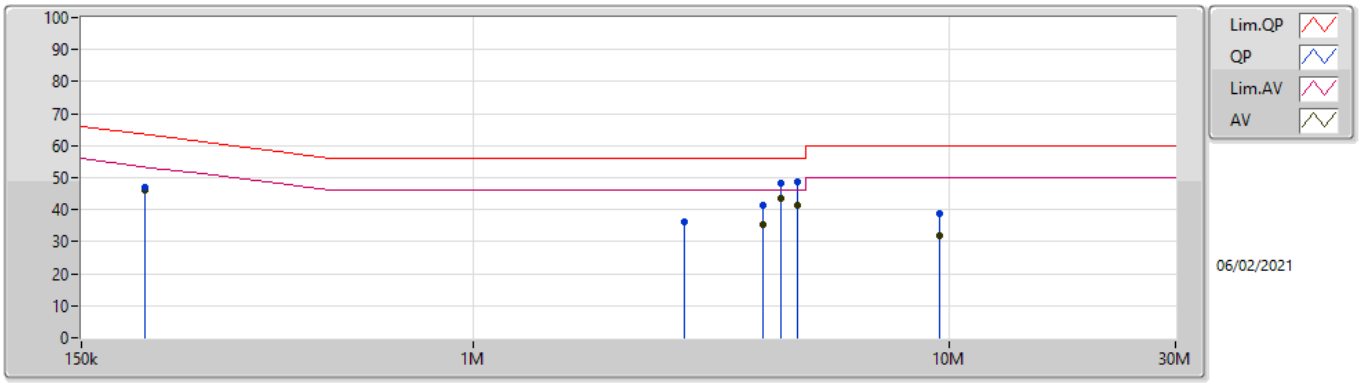
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition	Comments
Mode 1	Pass	QP	203.98k	46.75	63.44	-16.69	Line	-
Mode 1	Pass	AV	203.98k	45.87	53.44	-7.57	Line	-
Mode 1	Pass	QP	2.787M	35.82	56.00	-20.18	Line	-
Mode 1	Pass	AV	2.787M	35.64	46.00	-10.36	Line	-
Mode 1	Pass	QP	4.171M	36.02	56.00	-19.98	Line	-
Mode 1	Pass	AV	4.171M	33.10	46.00	-12.90	Line	-
Mode 1	Pass	QP	4.324M	38.72	56.00	-17.28	Line	-
Mode 1	Pass	AV	4.324M	33.02	46.00	-12.98	Line	-
Mode 1	Pass	QP	4.74M	40.19	56.00	-15.81	Line	-
Mode 1	Pass	AV	4.74M	33.83	46.00	-12.17	Line	-
Mode 1	Pass	QP	9.569M	36.12	60.00	-23.88	Line	-
Mode 1	Pass	AV	9.569M	28.96	50.00	-21.04	Line	-
Mode 1	Pass	QP	203.98k	47.03	63.44	-16.41	Neutral	-
Mode 1	Pass	AV	203.98k	46.14	53.44	-7.30	Neutral	-
Mode 1	Pass	QP	2.787M	36.29	56.00	-19.71	Neutral	-
Mode 1	Pass	AV	2.787M	36.05	46.00	-9.95	Neutral	-
Mode 1	Pass	QP	4.056M	41.51	56.00	-14.49	Neutral	-
Mode 1	Pass	AV	4.056M	35.38	46.00	-10.62	Neutral	-
Mode 1	Pass	QP	4.446M	48.29	56.00	-7.71	Neutral	-
Mode 1	Pass	AV	4.446M	43.62	46.00	-2.38	Neutral	-
Mode 1	Pass	QP	4.797M	48.81	56.00	-7.19	Neutral	-
Mode 1	Pass	AV	4.797M	41.36	46.00	-4.64	Neutral	-
Mode 1	Pass	QP	9.569M	38.87	60.00	-21.13	Neutral	-
Mode 1	Pass	AV	9.569M	31.86	50.00	-18.14	Neutral	-

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	203.98k	46.75	63.44	-16.69	19.59	Line	-	27.16	9.68	0.01	9.90
AV	203.98k	45.87	53.44	-7.57	19.59	Line	-	26.28	9.68	0.01	9.90
QP	2.787M	35.82	56.00	-20.18	19.63	Line	-	16.19	9.68	0.10	9.85
AV	2.787M	35.64	46.00	-10.36	19.63	Line	-	16.01	9.68	0.10	9.85
QP	4.171M	36.02	56.00	-19.98	19.71	Line	-	16.31	9.69	0.12	9.90
AV	4.171M	33.10	46.00	-12.90	19.71	Line	-	13.39	9.69	0.12	9.90
QP	4.324M	38.72	56.00	-17.28	19.72	Line	-	19.00	9.69	0.13	9.90
AV	4.324M	33.02	46.00	-12.98	19.72	Line	-	13.30	9.69	0.13	9.90
QP	4.74M	40.19	56.00	-15.81	19.74	Line	-	20.45	9.70	0.14	9.90
AV	4.74M	33.83	46.00	-12.17	19.74	Line	-	14.09	9.70	0.14	9.90
QP	9.569M	36.12	60.00	-23.88	19.83	Line	-	16.29	9.72	0.21	9.90
AV	9.569M	28.96	50.00	-21.04	19.83	Line	-	9.13	9.72	0.21	9.90

Conducted Emissions at Powerline_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Condition	Comment	Raw	LISN	CL	AT
	(Hz)	(dBuV)	(dBuV)	(dB)	(dB)			(dBuV)	(dB)	(dB)	(dB)
QP	203.98k	47.03	63.44	-16.41	19.59	Neutral	-	27.44	9.68	0.01	9.90
AV	203.98k	46.14	53.44	-7.30	19.59	Neutral	-	26.55	9.68	0.01	9.90
QP	2.787M	36.29	56.00	-19.71	19.63	Neutral	-	16.66	9.68	0.10	9.85
AV	2.787M	36.05	46.00	-9.95	19.63	Neutral	-	16.42	9.68	0.10	9.85
QP	4.056M	41.51	56.00	-14.49	19.71	Neutral	-	21.80	9.69	0.12	9.90
AV	4.056M	35.38	46.00	-10.62	19.71	Neutral	-	15.67	9.69	0.12	9.90
QP	4.446M	48.29	56.00	-7.71	19.72	Neutral	-	28.57	9.69	0.13	9.90
AV	4.446M	43.62	46.00	-2.38	19.72	Neutral	-	23.90	9.69	0.13	9.90
QP	4.797M	48.81	56.00	-7.19	19.74	Neutral	-	29.07	9.70	0.14	9.90
AV	4.797M	41.36	46.00	-4.64	19.74	Neutral	-	21.62	9.70	0.14	9.90
QP	9.569M	38.87	60.00	-21.13	19.84	Neutral	-	19.03	9.73	0.21	9.90
AV	9.569M	31.86	50.00	-18.14	19.84	Neutral	-	12.02	9.73	0.21	9.90

Summary

Mode	20dB (Hz)	Fl-20dB (Hz)	Fh-20dB (Hz)	OBW (Hz)	Limit (Range)
13.553-13.567MHz	-	-	-	-	-
NFC	2.59k	13.55862M	13.56121M	2.195k	13.553-13.567

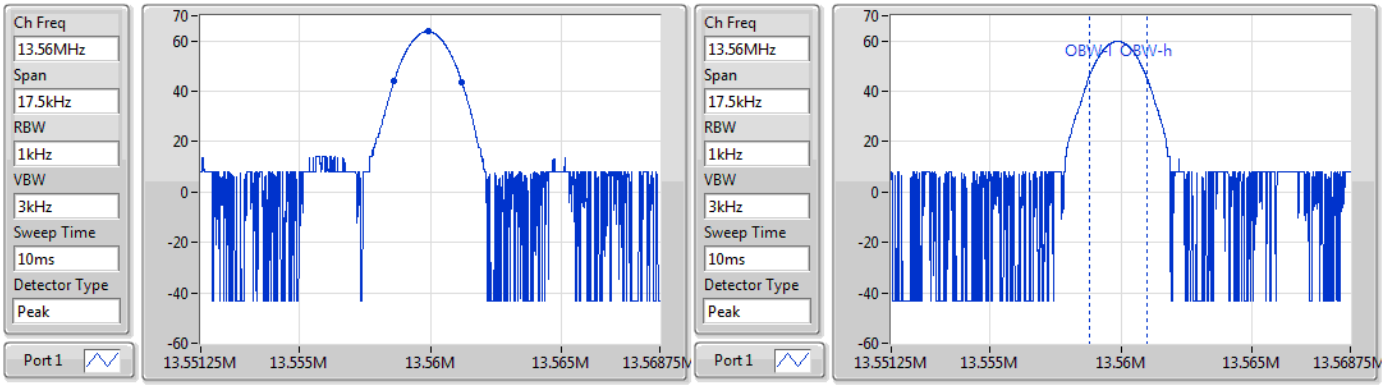
Result

Mode	Result	20dB (Hz)	Fl-20dB (Hz)	Fh-20dB (Hz)	OBW (Hz)	Fl-OBW (Hz)	Fh-OBW (Hz)	Limit (Range)
NFC	-	-	-	-	-	-	-	-
13.56MHz_TnomVnom	Pass	2.59k	13.55862M	13.56121M	2.195k	13.55879M	13.56099M	13.553-13.567

NFC **EBW**

13.56MHz_TnomVnom

18/02/2021



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Range
2.59k	13.55862M	13.56121M	2.195k	13.55879M	13.56099M	13.553-13.56

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Azimuth (°)	Height (m)	Comments
13.553-13.567MHz	-	-	-	-	-	-	-	-	-	-	-
NFC	Pass	PK	1.941M	48.45	69.50	-21.05	20.25	3	0	1.00	-

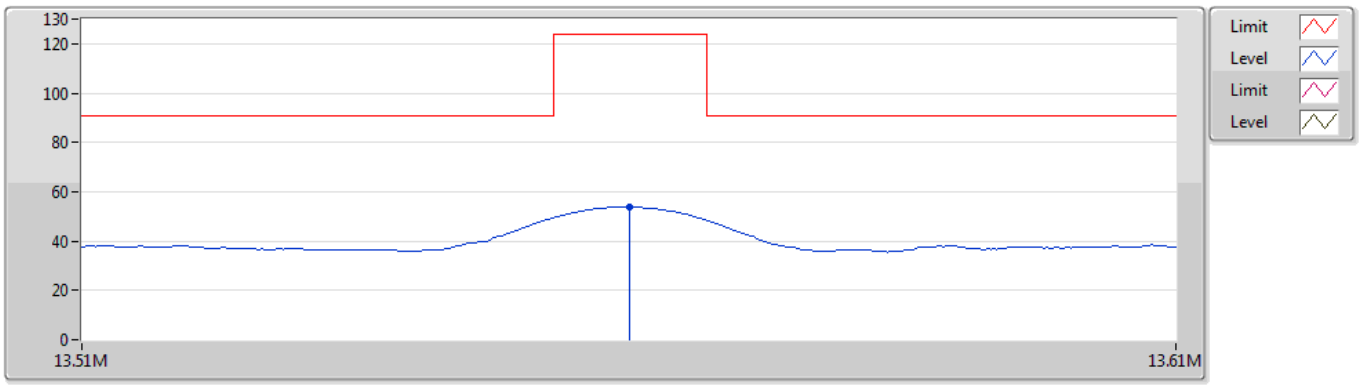
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Azimuth (°)	Height (m)	Comments
NFC	-	-	-	-	-	-	-	-	-	-	-
13.56MHz_Mode 1	Pass	PK	13.56M	53.80	124.00	-70.20	22.89	3	201	1.00	-
13.56MHz_Mode 1	Pass	PK	49.326k	50.56	113.73	-63.17	21.25	3	360	1.00	-
13.56MHz_Mode 1	Pass	PK	66.246k	40.94	111.17	-70.23	20.72	3	201	1.00	-
13.56MHz_Mode 1	Pass	PK	112.494k	38.86	106.57	-67.71	20.01	3	360	1.00	-
13.56MHz_Mode 1	Pass	PK	1.941M	48.45	69.50	-21.05	20.25	3	0	1.00	-
13.56MHz_Mode 1	Pass	PK	4.329M	46.54	69.50	-22.96	20.75	3	0	1.00	-
13.56MHz_Mode 1	Pass	PK	24.806M	43.74	69.50	-25.76	23.70	3	0	1.00	-

NFC Operating below 30MHz

05/02/2021

13.56MHz_Mode 1

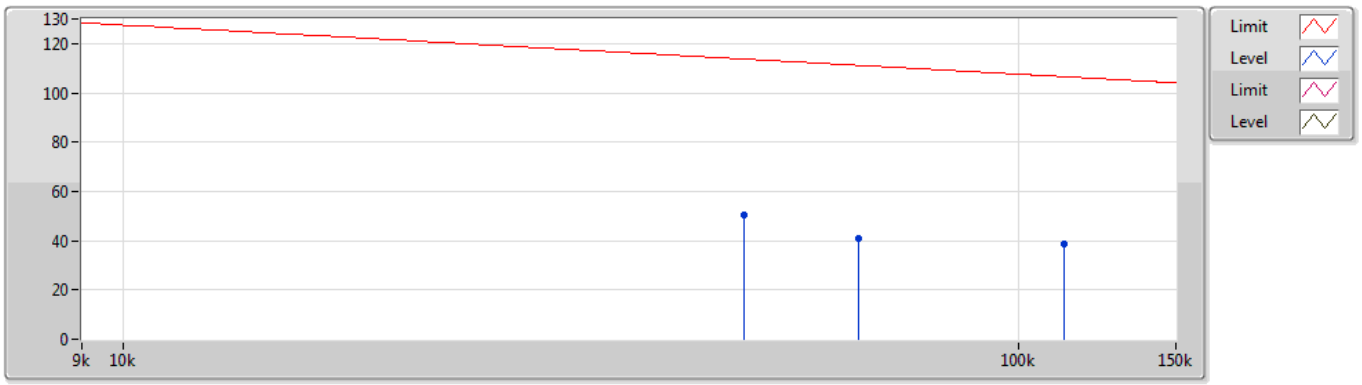


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	13.56M	53.80	124.00	-70.20	22.89	3	Horizontal	201	1.00	-	30.91	22.35	0.54	-

NFC Operating below 30MHz

05/02/2021

13.56MHz_Mode 1

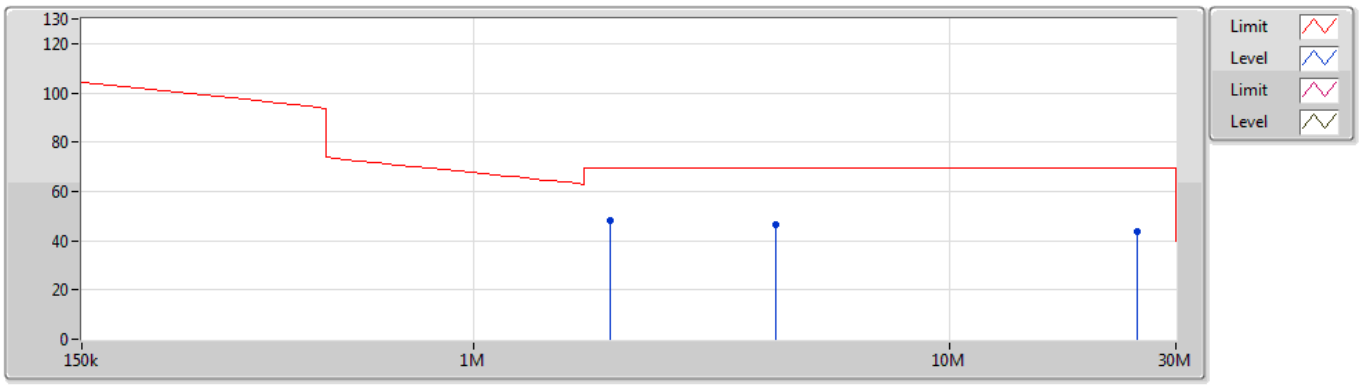


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	49.326k	50.56	113.73	-63.17	21.25	3	Horizontal	360	1.00	-	29.31	21.20	0.05	-
PK	66.246k	40.94	111.17	-70.23	20.72	3	Horizontal	201	1.00	-	20.22	20.67	0.05	-
PK	112.494k	38.86	106.57	-67.71	20.01	3	Horizontal	360	1.00	-	18.85	19.95	0.06	-

NFC Operating below 30MHz

05/02/2021

13.56MHz_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	1.941M	48.45	69.50	-21.05	20.25	3	Horizontal	0	1.00	-	28.20	20.04	0.21	-
PK	4.329M	46.54	69.50	-22.96	20.75	3	Horizontal	0	1.00	-	25.79	20.44	0.31	-
PK	24.806M	43.74	69.50	-25.76	23.70	3	Horizontal	0	1.00	-	20.04	22.96	0.74	-

Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Azimuth (°)	Height (m)	Comments
13.553-13.567MHz	-	-	-	-	-	-	-	-	-	-	-
NFC	Pass	PK	179.38M	40.39	43.50	-3.11	-10.25	3	0	1.00	-

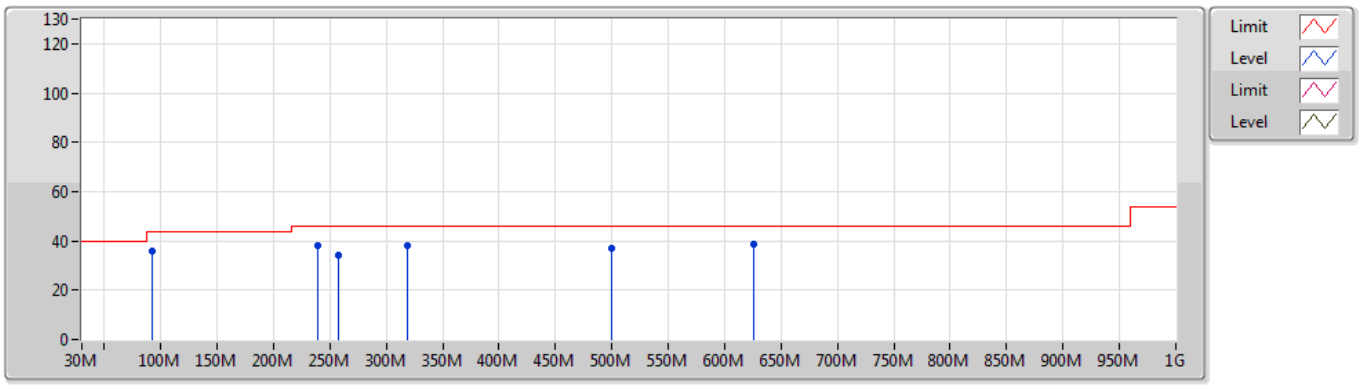
Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Factor (dB)	Dist (m)	Azimuth (°)	Height (m)	Comments
NFC	-	-	-	-	-	-	-	-	-	-	-
13.56MHz_Mode 1	Pass	PK	92.08M	35.87	43.50	-7.63	-11.14	3	360	1.00	-
13.56MHz_Mode 1	Pass	PK	239.52M	37.95	46.00	-8.05	-7.71	3	360	1.00	-
13.56MHz_Mode 1	Pass	PK	256.98M	34.37	46.00	-11.63	-5.47	3	360	1.00	-
13.56MHz_Mode 1	Pass	PK	319.06M	37.84	46.00	-8.16	-5.03	3	360	1.00	-
13.56MHz_Mode 1	Pass	PK	499.48M	37.02	46.00	-8.98	-1.34	3	360	1.00	-
13.56MHz_Mode 1	Pass	PK	625.58M	38.80	46.00	-7.20	0.23	3	360	1.00	-
13.56MHz_Mode 1	Pass	PK	30M	35.45	40.00	-4.55	-3.17	3	0	1.00	-
13.56MHz_Mode 1	Pass	PK	92.08M	35.42	43.50	-8.08	-11.14	3	0	1.00	-
13.56MHz_Mode 1	Pass	PK	179.38M	40.39	43.50	-3.11	-10.25	3	0	1.00	-
13.56MHz_Mode 1	Pass	PK	317.12M	41.71	46.00	-4.29	-5.04	3	0	1.00	-
13.56MHz_Mode 1	Pass	PK	625.58M	37.54	46.00	-8.46	0.23	3	0	1.00	-
13.56MHz_Mode 1	Pass	PK	701.24M	39.47	46.00	-6.53	0.84	3	0	1.00	-

NFC Operating above 30MHz

05/02/2021

13.56MHz_Mode 1

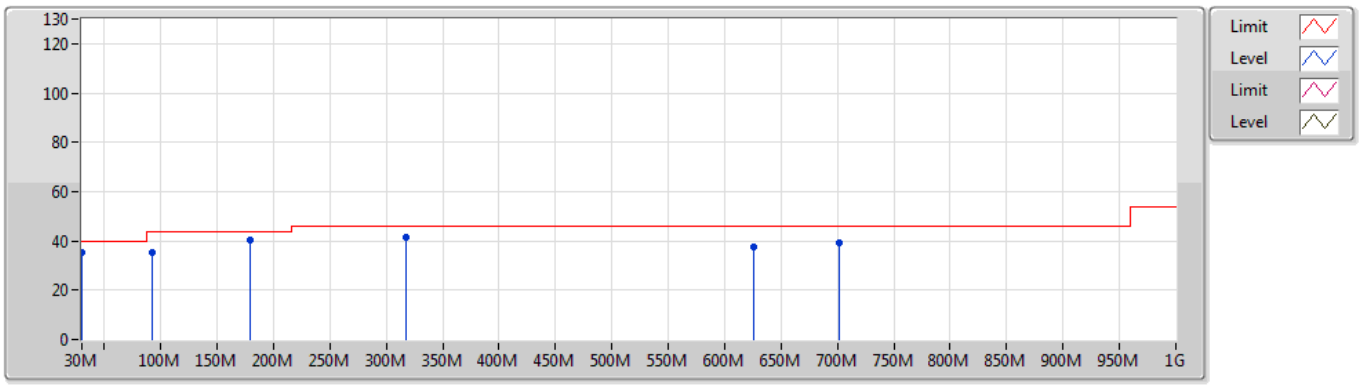


Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	92.08M	35.87	43.50	-7.63	-11.14	3	Vertical	360	1.00	-	47.01	14.72	1.54	27.40
PK	239.52M	37.95	46.00	-8.05	-7.71	3	Vertical	360	1.00	-	45.66	16.50	2.54	26.75
PK	256.98M	34.37	46.00	-11.63	-5.47	3	Vertical	360	1.00	-	39.84	18.59	2.64	26.70
PK	319.06M	37.84	46.00	-8.16	-5.03	3	Vertical	360	1.00	-	42.87	18.75	2.98	26.76
PK	499.48M	37.02	46.00	-8.98	-1.34	3	Vertical	360	1.00	-	38.36	22.75	3.70	27.79
PK	625.58M	38.80	46.00	-7.20	0.23	3	Vertical	360	1.00	-	38.57	24.09	4.20	28.06

NFC Operating above 30MHz

05/02/2021

13.56MHz_Mode 1



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comment	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)		(dBuV)	(dB)	(dB)	(dB)
PK	30M	35.45	40.00	-4.55	-3.17	3	Horizontal	0	1.00	-	38.62	23.51	0.90	27.58
PK	92.08M	35.42	43.50	-8.08	-11.14	3	Horizontal	0	1.00	-	46.56	14.72	1.54	27.40
PK	179.38M	40.39	43.50	-3.11	-10.25	3	Horizontal	0	1.00	-	50.64	14.58	2.19	27.02
PK	317.12M	41.71	46.00	-4.29	-5.04	3	Horizontal	0	1.00	-	46.75	18.74	2.97	26.75
PK	625.58M	37.54	46.00	-8.46	0.23	3	Horizontal	0	1.00	-	37.31	24.09	4.20	28.06
PK	701.24M	39.47	46.00	-6.53	0.84	3	Horizontal	0	1.00	-	38.63	24.42	4.40	27.98

Summary

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
13.553-13.567MHz	-	-	-	-	-	-	-
NFC	Pass	13.56M	13.559787M	15.6783	100	1	10 min

Result

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
NFC	-	-	-	-	-	-	-
13.56MHz_-20°C	Pass	13.56M	13.559942M	4.2583	100	1	0 min
13.56MHz_-20°C	Pass	13.56M	13.559853M	10.8394	100	1	2 min
13.56MHz_-20°C	Pass	13.56M	13.559962M	2.8389	100	1	5 min
13.56MHz_-20°C	Pass	13.56M	13.559985M	1.0968	100	1	10 min
13.56MHz_-10°C	Pass	13.56M	13.559905M	7.0327	100	1	0 min
13.56MHz_-10°C	Pass	13.56M	13.55992M	5.9358	100	1	2 min
13.56MHz_-10°C	Pass	13.56M	13.559955M	3.2905	100	1	5 min
13.56MHz_-10°C	Pass	13.56M	13.559969M	2.3227	100	1	10 min
13.56MHz_0°C	Pass	13.56M	13.559955M	3.355	100	1	0 min
13.56MHz_0°C	Pass	13.56M	13.559949M	3.7422	100	1	2 min
13.56MHz_0°C	Pass	13.56M	13.559916M	6.1939	100	1	5 min
13.56MHz_0°C	Pass	13.56M	13.559941M	4.3874	100	1	10 min
13.56MHz_10°C	Pass	13.56M	13.55992M	5.8713	100	1	0 min
13.56MHz_10°C	Pass	13.56M	13.559929M	5.2261	100	1	2 min
13.56MHz_10°C	Pass	13.56M	13.559933M	4.968	100	1	5 min
13.56MHz_10°C	Pass	13.56M	13.559941M	4.3874	100	1	10 min
13.56MHz_20°C	Pass	13.56M	13.559881M	8.7747	100	1	0 min
13.56MHz_20°C	Pass	13.56M	13.559898M	7.5488	100	1	2 min
13.56MHz_20°C	Pass	13.56M	13.559865M	9.9361	100	1	5 min
13.56MHz_20°C	Pass	13.56M	13.559899M	7.4843	100	1	10 min
13.56MHz_30°C	Pass	13.56M	13.559793M	15.2912	100	1	0 min
13.56MHz_30°C	Pass	13.56M	13.559793M	15.2912	100	1	2 min
13.56MHz_30°C	Pass	13.56M	13.559807M	14.2589	100	1	5 min
13.56MHz_30°C	Pass	13.56M	13.559787M	15.6783	100	1	10 min
13.56MHz_40°C	Pass	13.56M	13.559793M	15.2912	100	1	0 min
13.56MHz_40°C	Pass	13.56M	13.559791M	15.4203	100	1	2 min
13.56MHz_40°C	Pass	13.56M	13.559798M	14.9041	100	1	5 min
13.56MHz_40°C	Pass	13.56M	13.559815M	13.6137	100	1	10 min
13.56MHz_50°C	Pass	13.56M	13.559797M	14.9686	100	1	0 min
13.56MHz_50°C	Pass	13.56M	13.559802M	14.5815	100	1	2 min
13.56MHz_50°C	Pass	13.56M	13.559808M	14.1299	100	1	5 min
13.56MHz_50°C	Pass	13.56M	13.559804M	14.4525	100	1	10 min
13.56MHz_20°C-13.8V	Pass	13.56M	13.559902M	7.2262	100	1	0 min
13.56MHz_20°C-13.8V	Pass	13.56M	13.559891M	8.065	100	1	2 min
13.56MHz_20°C-13.8V	Pass	13.56M	13.559906M	6.9682	100	1	5 min
13.56MHz_20°C-13.8V	Pass	13.56M	13.559888M	8.2586	100	1	10 min
13.56MHz_20°C-12V	Pass	13.56M	13.5599M	7.3553	100	1	0 min
13.56MHz_20°C-12V	Pass	13.56M	13.559871M	9.4844	100	1	2 min
13.56MHz_20°C-12V	Pass	13.56M	13.559895M	7.7424	100	1	5 min
13.56MHz_20°C-12V	Pass	13.56M	13.559878M	9.0328	100	1	10 min
13.56MHz_20°C-10.2V	Pass	13.56M	13.559894M	7.8069	100	1	0 min
13.56MHz_20°C-10.2V	Pass	13.56M	13.559905M	7.0327	100	1	2 min
13.56MHz_20°C-10.2V	Pass	13.56M	13.559888M	8.2586	100	1	5 min

Mode	Result	Ch (Hz)	Center (Hz)	ppm	Limit (ppm)	Port	Remark
13.56MHz_20°C-10.2V	Pass	13.56M	13.5599M	7.3553	100	1	10 min