FCC Radio Test Report

FCC ID	:	**2BOYO-SCR-10**
Equipment	:	**Wireless Card Reader**
Brand Name	:	**SKS**
Model Name	:	**SCR-10-1**
Applicant	:	**TAIWAN SHIN KONG SECURITY CO.,LTD No. 128, Xing'ai Rd., Neihu Dist., Taipei City 114508, Taiwan**
Manufacturer	:	**TAIWAN SHIN KONG SECURITY CO.,LTD No. 128, Xing'ai Rd., Neihu Dist., Taipei City 114508, Taiwan**
Standard	:	**47 CFR FCC Part 15.225**

The product was received on Mar. 25, 2025, and testing was started from Apr. 16, 2025 and completed on Apr. 23, 2025. We, SPORTON INTERNATIONAL INC. Hsinhua 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. Hsinhua Laboratory, the test report shall not be reproduced except in full.

Approved by: Jackson Tsai

SPORTON INTERNATIONAL INC. Hsinhua Laboratory

No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR531014AR	01	Initial issue of report	May 13, 2025
FR531014AR	02	Revised typo. (This report is the latest version replacing for the report issued on May 13, 2025.)	May 20, 2025

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(e)	Frequency Stability	PASS	-
3.4	15.225(a)~(d)	Field Strength of Fundamental Emissions and Spectrum Mask	PASS	-
3.5	15.225(d)	Transmitter Radiated Unwanted Emissions	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: Sam Tsai

Report Producer: Michelle Tsai

1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information					
Frequency Range(MHz)	**Mode**	**Ch. Frequency (MHz)**	**Channel Number**	**Field Strength (dBuV/m at 3m)**	**Field Strength (dBuV/m at 30m)**
13.553 – 13.567	NFC-A (ISO 14443-3A)	13.56	1	46.26	6.26

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

1.1.2 Antenna Information

Ant.	Port	Brand	Model Name	Antenna Type	Connector	Support	Gain (dBi)
1	1	FeiXin	FX-ZF-923M-TH-253	spring	N/A	Lora	1.5
2	2	JESONcom	6B003A-36	NFC	N/A	NFC	0

For LoRa function:
For LoRa mode (1TX/1RX)
Ant. 1 (port 1) could transmit/receive.
For NFC function:
For NFC mode (1TX/1RX)
Ant. 2 (port 2) could transmit/receive.

1.1.3 EUT Information

Operational Condition	
EUT Power Type	From AC Adapter
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

Test Lab.：Sporton International Inc. Hsinhua Laboratory				
☒ Hsinhua	**ADD:** No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-327-3456		**FAX:** 886-3-327-0973	
Test site Designation No. TW3785 with FCC.				
Test Condition	**Test Site No.**	**Test Engineer**	**Test Environment**	**Test Date**
AC Conduction	CO04-HY	Daniel Lin	21.6~23.8°C / 51~55%	23/Apr/2025
RF Conducted	TH07-HY	Yuna Lin	22.6~23.1°C / 48~52%	16/Apr/2025
Radiated	03CH03-HY	Ian Liou	21.5~22.9°C / 49~51%	16/Apr/2025
☐ Wen 33rd.St.	**ADD:** No.14-1, Ln. 19, Wen 33rd St., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)			
(TAF: 3785**)**	**TEL:** 886-3-318-0787		**FAX:** 886-3-318-0287	

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
AC Power-line Conducted Emissions	4.53 dB	Confidence levels of 95%
Emission Bandwidth	0.005 MHz	Confidence levels of 95%
Frequency Stability	5 ppm	Confidence levels of 95%
Field Strength of Fundamental Emissions and Spectrum Mask	2.5 dB	Confidence levels of 95%
Transmitter Radiated Unwanted Emissions	4.8 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

RF Conducted	Abbreviation	Remark
TnomVnom	Tnom	20°C
	Vnom	120V
Freq. Stability	Abbreviation	Remark
-20°C	-	-
-10°C	-	-
0°C	-	-
10°C	-	-
20°C	-	-
30°C	-	-
40°C	-	-
50°C	-	-
55°C	-	-
20°C-138V	-	-
20°C-120V	-	-
20°C-102V	-	-

2.2 Test Channel Mode

Test Software Version	N/A

Note: Ancillary equipment triggered the RFID function during the test.

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 Test Voltage: 120Vac / 60Hz
Operating Mode	CTX
	Adapter 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 and 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)		
Operating Mode	CTX		
	Adapter Mode		
Orthogonal Planes of EUT	**X Plane**	**Y Plane**	**Z Plane**
			
Worst Planes of EUT	V		

2.4 Accessories

Accessories				
AC Adapter 1 (TAIWAN Plug)	Brand Name	Sunun	Model Name	SA182V-050300U
	Manufacturer	Dongguan Sunun Power Co., Ltd	SN	-
	Power Rating	I/P: 100 - 240Vac, 0.4A, O/P: 90-264Vdc, 3A		
	Power Cord	1.5meter, non-shielded cable, w/o ferrite core		
Battery	Brand Name	EVE	Model Name	ICR18650/26V
	Manufacturer	EVE Energy CO., LTD	SN	-
	Power Rating	3.6Vdc, 2550mAh	Type	Li-ion, Yes

Reminder: Regarding to more detail and other information, please refer to user manual.

2.5 Support Equipment

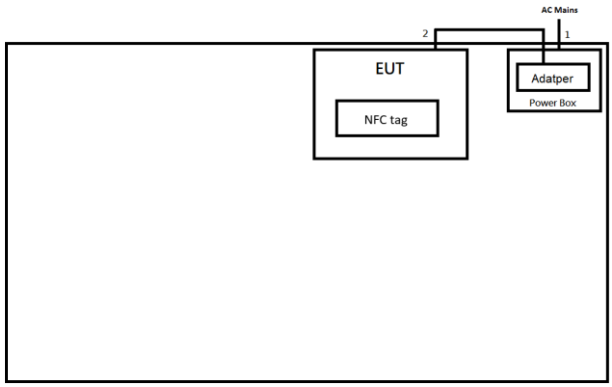
Support Equipment – AC Conduction					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	NFC tag	NXP	MIFARE Classic S50 EV1	-	-

Support Equipment – Conducted					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	NFC tag	NXP	MIFARE Classic S50 EV1	-	-

Support Equipment –Radiated					
No.	**Equipment**	**Brand Name**	**Model Name**	**FCC ID**	**Remark**
1	NFC tag	NXP	MIFARE Classic S50 EV1	-	-

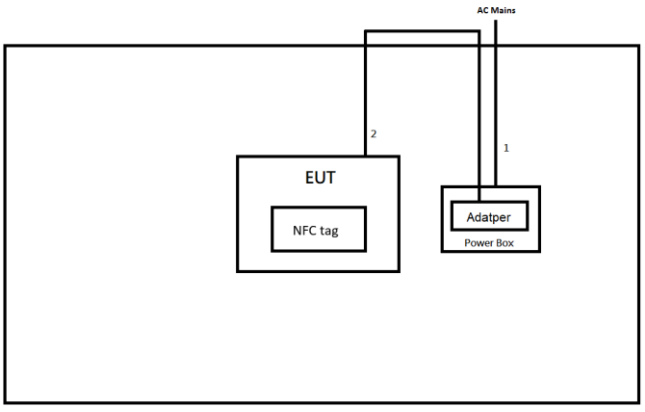
2.6 Test Setup Diagram

Test Setup Diagram – AC Line Conducted Emission Test



Item	Connection	Shielded	Length(m)	Remark
1	AC Power cable	No	1.8	-
2	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	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

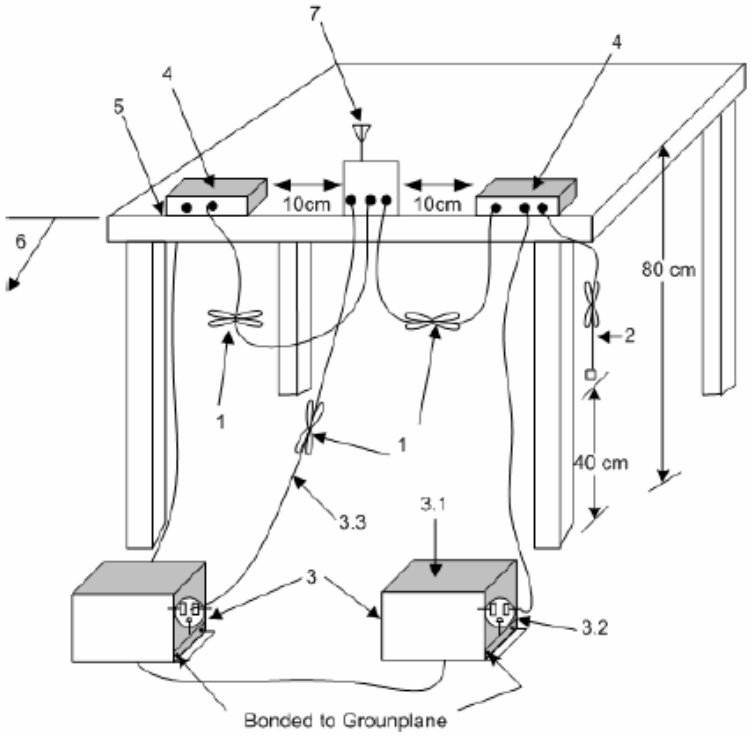
Test Method	
☒	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.
☒	If AC conducted emissions fall in operating band, then following below test method confirm final result.
☐	Accept measurements done with a suitable dummy load replacing the antenna under the following conditions: (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

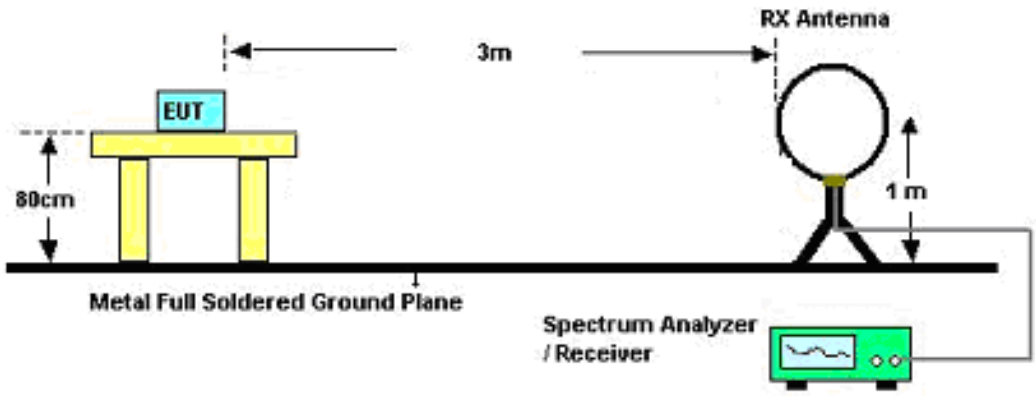
Refer a test equipment and calibration data table in this test report.

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 Frequency Stability

3.3.1 Frequency Stability Limit

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

3.3.2 Measuring Instruments

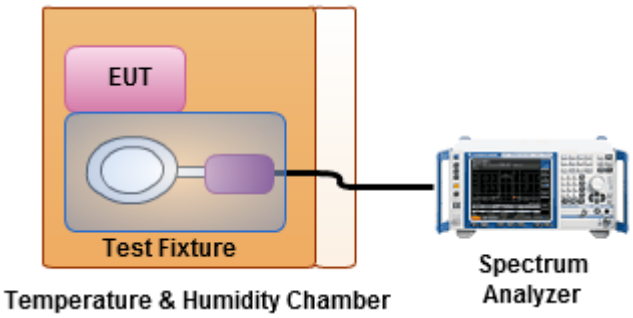
Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method	
☒	Refer as ANSI C63.10, clause 6.8 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.

3.3.4 Test Setup

Frequency Stability



3.3.5 Test Result of Frequency Stability

Refer as Appendix C

3.4 Field Strength of Fundamental Emissions

3.4.1 Field Strength of Fundamental Emissions and Spectrum Mask Limit

Field Strength of Fundamental Emissions and Spectrum Mask					
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					
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

3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

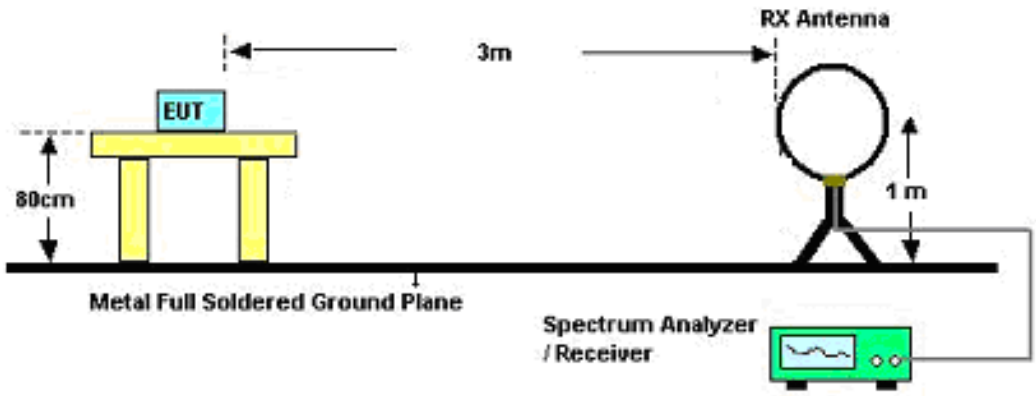
Test Method	
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz and test distance is 3m.
☒	At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the requirements; however, an attempt should be made to avoid making measurements 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.

3.4.4 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

Field Strength of Fundamental Emissions and Spectrum Mask



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

Refer as Appendix D

3.5 Transmitter Radiated Unwanted Emissions

3.5.1 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.

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

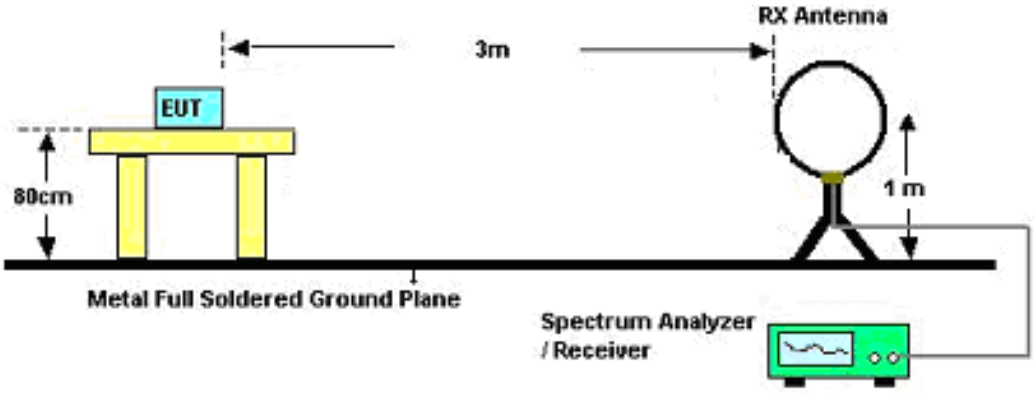
Test Method		
☒	Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1 GHz and test distance is 3m.	
☒	Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz and test distance is 3m.	
☒	At frequencies below 30 MHz, measurements may be performed at a distance closer 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.

3.5.4 Measurement Results Calculation

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

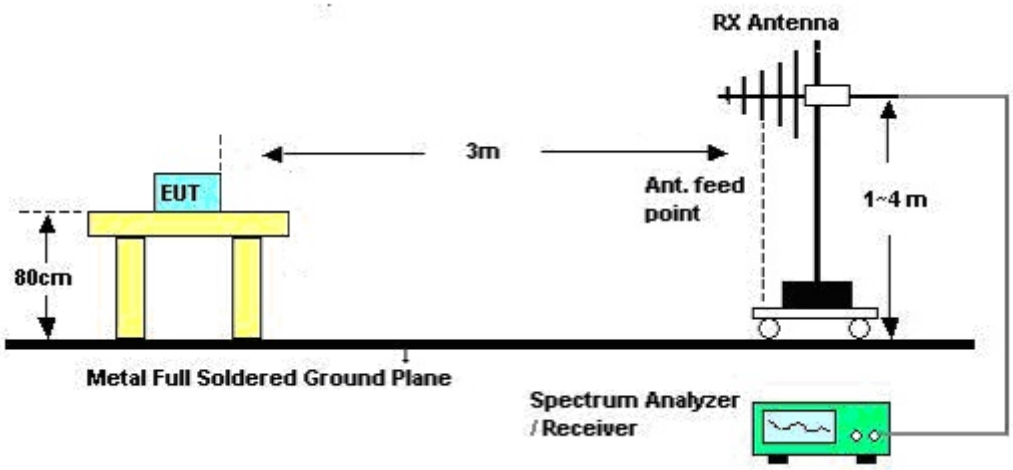
3.5.5 Test Setup

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.

3.5.6 Transmitter Radiated Unwanted Emissions

Refer as Appendix D

4 Test Equipment and Calibration Data

Instrument for AC Conduction

Instrument	Manufacturer / Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
EMI Test Receiver	ROHDE & SCHWARZ	ESR3	102051	9kHz ~ 3.6GHz	17/May/2024	16/May/2025
Two-Line V-Network	ROHDE & SCHWARZ	ENV 216	101578	9kHz ~ 30MHz	11/Oct/2024	10/Oct/2025
RF Cable 5m	TITAN	TITAN	CO04-cable-01	9 kHz~200MHz	26/Feb/2025	25/Feb/2026
Impuls Begrenzer Pulse Limiter	SCHWARZBECK	VTSD 9561-F	9561-F041	9kHz ~ 30MHz	17/Oct/2024	16/Oct/2025
Software	Sporton	SENSE-EMI	V5.11.3	-	NCR	NCR

NCR: No Calibration Required

Instrument for Conducted Test

Instrument	Manufacturer / Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV 40	101515	10Hz~40GHz	23/Jan/2025	22/Jan/2026
Programmable Temp. & Humi. Chamber	Giant Force	GTH-225-40-CP-AR	MAA1311-008	-40~100℃	07/Jun/2024	06/Jun/2025
SENSE-NFC	Sporton	V5.11.2	N/A	N/A	N/A	N/A

Instrument for Radiated Test

Instrument	Manufacturer / Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	14/Jul/2024	13/Jul/2025
EMI Test Receiver	R&S	ESR	102052	9kHz~3.6GHz	03/May/2024	02/May/2025
Signal Analyzer	R&S	FSV40	101500	10Hz~40GHz	01/Nov/2024	31/Oct/2025
Loop Antenna	TESEQ	HLA 6120	31244	9kHz~30MHz	20/Mar/2025	19/Mar/2026
Bilog Antenna & 6dB Attenuator	SCHAFFNER / EMCI	CBL6112B / N-6-05	22237 / AT-N-0603	30MHz~1GHz	14/Oct/2024	13/Oct/2025
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz~30MHz	12/Jun/2024	11/Jun/2025
RF Cable-R03m	Jye Bao	RG142	03CH03-cable-02	30MHz~1GHz	12/Jun/2024	11/Jun/2025
Amplifier	Aglient	8447D	2944A08033	100kHz~1.3GHz	13/Sep/2024	12/Sep/2025
SENSE-NFC	Sporton	V5.11.0	NA	NA	NA	NA

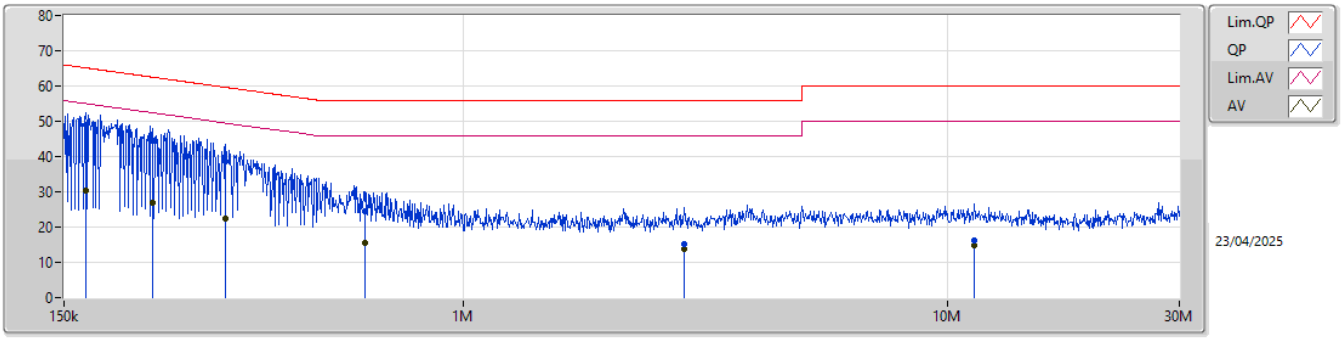
Summary

Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	166.406k	49.01	65.14	-16.13	Line

Result

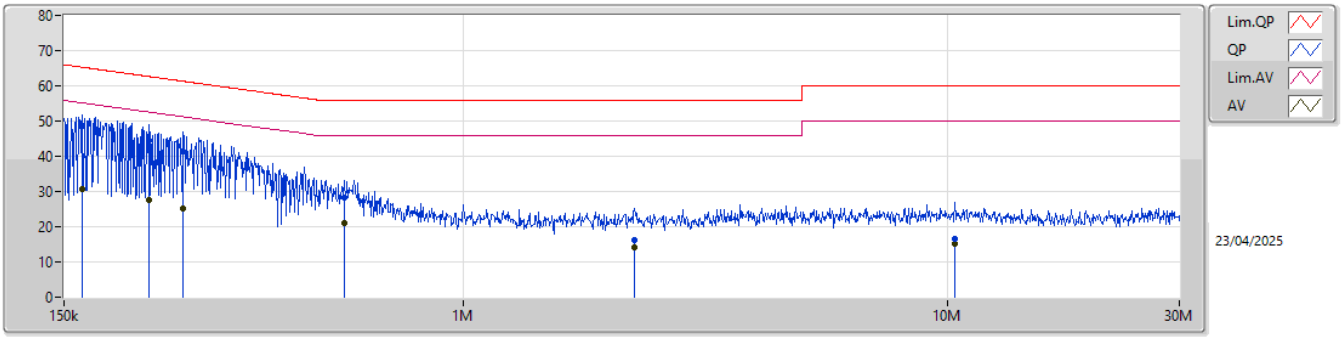
Mode	Result	Type	Freq (Hz)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Condition
Mode 1	Pass	QP	166.406k	49.01	65.14	-16.13	Line
Mode 1	Pass	AV	166.406k	30.47	55.14	-24.67	Line
Mode 1	Pass	QP	228.103k	44.41	62.52	-18.11	Line
Mode 1	Pass	AV	228.103k	26.73	52.52	-25.79	Line
Mode 1	Pass	QP	322.823k	38.65	59.63	-20.98	Line
Mode 1	Pass	AV	322.823k	22.51	49.63	-27.12	Line
Mode 1	Pass	QP	626.268k	24.59	56.00	-31.41	Line
Mode 1	Pass	AV	626.268k	15.62	46.00	-30.38	Line
Mode 1	Pass	QP	2.855M	15.12	56.00	-40.88	Line
Mode 1	Pass	AV	2.855M	13.79	46.00	-32.21	Line
Mode 1	Pass	QP	11.316M	16.06	60.00	-43.94	Line
Mode 1	Pass	AV	11.316M	14.91	50.00	-35.09	Line
Mode 1	Pass	QP	163.769k	48.75	65.27	-16.52	Neutral
Mode 1	Pass	AV	163.769k	30.70	55.27	-24.57	Neutral
Mode 1	Pass	QP	224.49k	44.60	62.65	-18.05	Neutral
Mode 1	Pass	AV	224.49k	27.42	52.65	-25.23	Neutral
Mode 1	Pass	QP	264.41k	41.41	61.30	-19.89	Neutral
Mode 1	Pass	AV	264.41k	25.23	51.30	-26.07	Neutral
Mode 1	Pass	QP	566.784k	28.35	56.00	-27.65	Neutral
Mode 1	Pass	AV	566.784k	21.06	46.00	-24.94	Neutral
Mode 1	Pass	QP	2.256M	16.25	56.00	-39.75	Neutral
Mode 1	Pass	AV	2.256M	14.15	46.00	-31.85	Neutral
Mode 1	Pass	QP	10.323M	16.54	60.00	-43.46	Neutral
Mode 1	Pass	AV	10.323M	15.21	50.00	-34.79	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	166.406k	49.01	65.14	-16.13	20.22	Line	-	28.79	10.24	0.01	9.97
AV	166.406k	30.47	55.14	-24.67	20.22	Line	-	10.25	10.24	0.01	9.97
QP	228.103k	44.41	62.52	-18.11	19.75	Line	-	24.66	9.77	0.01	9.97
AV	228.103k	26.73	52.52	-25.79	19.75	Line	-	6.98	9.77	0.01	9.97
QP	322.823k	38.65	59.63	-20.98	19.88	Line	-	18.77	9.88	0.02	9.98
AV	322.823k	22.51	49.63	-27.12	19.88	Line	-	2.63	9.88	0.02	9.98
QP	626.268k	24.59	56.00	-31.41	20.01	Line	-	4.58	9.99	0.04	9.98
AV	626.268k	15.62	46.00	-30.38	20.01	Line	-	-4.39	9.99	0.04	9.98
QP	2.855M	15.12	56.00	-40.88	19.71	Line	-	-4.59	9.69	0.04	9.98
AV	2.855M	13.79	46.00	-32.21	19.71	Line	-	-5.92	9.69	0.04	9.98
QP	11.316M	16.06	60.00	-43.94	19.93	Line	-	-3.87	9.70	0.25	9.98
AV	11.316M	14.91	50.00	-35.09	19.93	Line	-	-5.02	9.70	0.25	9.98

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	163.769k	48.75	65.27	-16.52	20.17	Neutral	-	28.58	10.19	0.01	9.97
AV	163.769k	30.70	55.27	-24.57	20.17	Neutral	-	10.53	10.19	0.01	9.97
QP	224.49k	44.60	62.65	-18.05	19.80	Neutral	-	24.80	9.82	0.01	9.97
AV	224.49k	27.42	52.65	-25.23	19.80	Neutral	-	7.62	9.82	0.01	9.97
QP	264.41k	41.41	61.30	-19.89	19.70	Neutral	-	21.71	9.71	0.02	9.97
AV	264.41k	25.23	51.30	-26.07	19.70	Neutral	-	5.53	9.71	0.02	9.97
QP	566.784k	28.35	56.00	-27.65	20.04	Neutral	-	8.31	10.02	0.04	9.98
AV	566.784k	21.06	46.00	-24.94	20.04	Neutral	-	1.02	10.02	0.04	9.98
QP	2.256M	16.25	56.00	-39.75	19.71	Neutral	-	-3.46	9.71	0.03	9.97
AV	2.256M	14.15	46.00	-31.85	19.71	Neutral	-	-5.56	9.71	0.03	9.97
QP	10.323M	16.54	60.00	-43.46	19.94	Neutral	-	-3.40	9.72	0.24	9.98
AV	10.323M	15.21	50.00	-34.79	19.94	Neutral	-	-4.73	9.72	0.24	9.98

Summary

Mode	20dB	Fl-20dB	Fh-20dB	OBW	Limit
	(Hz)	(Hz)	(Hz)	(Hz)	(Range)
13.553-13.567MHz	-	-	-	-	-
NFC	2.581k	13.55923M	13.56181M	2.204k	13.553-13.567

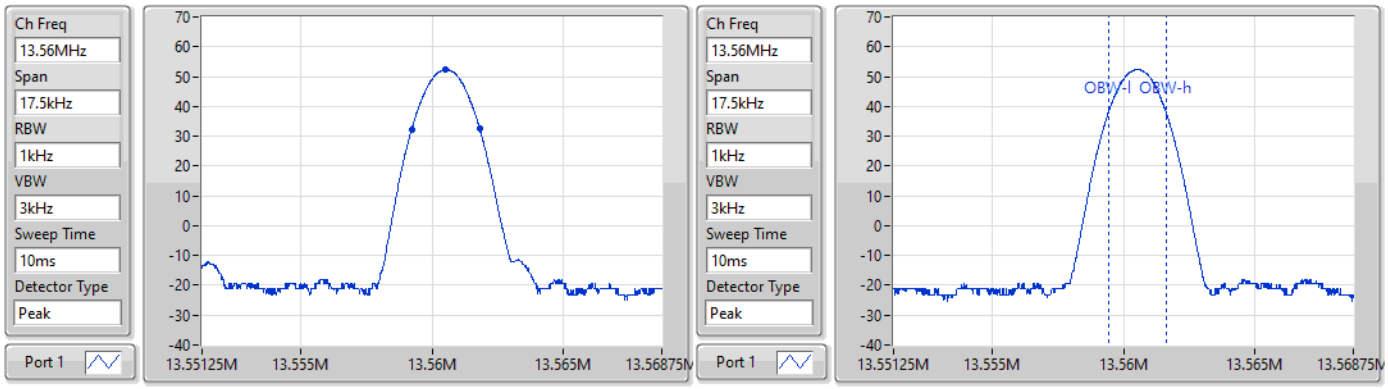
Result

Mode	Result	20dB	Fl-20dB	Fh-20dB	OBW	Fl-OBW	Fh-OBW	Limit
		(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Hz)	(Range)
NFC	-	-	-	-	-	-	-	-
13.56MHz_TnomVnom	Pass	2.581k	13.55923M	13.56181M	2.204k	13.55942M	13.56163M	13.553-13.567

NFC **EBW**

13.56MHz_TnomVnom

16/04/2025



20dB(Hz)	Fl-20dB(Hz)	Fh-20dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Range)
2.581k	13.55923M	13.56181M	2.204k	13.55942M	13.56163M	13.553-13.56

Summary

Mode	Result	Ch	Center	ppm	Limit	Port	Remark
		(Hz)	(Hz)		(ppm)		
13.553-13.567MHz	-	-	-	-	-	-	-
NFC	Pass	13.56M	13.560588M	43.3574	100	1	2 min

Result

Mode	Result	Ch	Center	ppm	Limit	Port	Remark
		(Hz)	(Hz)		(ppm)		
NFC	-	-	-	-	-	-	-
13.56MHz_-20°C	Pass	13.56M	13.560587M	43.2929	100	1	0 min
13.56MHz_-20°C	Pass	13.56M	13.560588M	43.3574	100	1	2 min
13.56MHz_-20°C	Pass	13.56M	13.560587M	43.2929	100	1	5 min
13.56MHz_-20°C	Pass	13.56M	13.560588M	43.3574	100	1	10 min
13.56MHz_-10°C	Pass	13.56M	13.560561M	41.3573	100	1	0 min
13.56MHz_-10°C	Pass	13.56M	13.560562M	41.4218	100	1	2 min
13.56MHz_-10°C	Pass	13.56M	13.560562M	41.4218	100	1	5 min
13.56MHz_-10°C	Pass	13.56M	13.560562M	41.4218	100	1	10 min
13.56MHz_0°C	Pass	13.56M	13.560534M	39.3572	100	1	0 min
13.56MHz_0°C	Pass	13.56M	13.560534M	39.3572	100	1	2 min
13.56MHz_0°C	Pass	13.56M	13.560534M	39.3572	100	1	5 min
13.56MHz_0°C	Pass	13.56M	13.560535M	39.4217	100	1	10 min
13.56MHz_10°C	Pass	13.56M	13.560519M	38.2603	100	1	0 min
13.56MHz_10°C	Pass	13.56M	13.560519M	38.2603	100	1	2 min
13.56MHz_10°C	Pass	13.56M	13.560519M	38.2603	100	1	5 min
13.56MHz_10°C	Pass	13.56M	13.560519M	38.2603	100	1	10 min
13.56MHz_20°C	Pass	13.56M	13.560525M	38.712	100	1	0 min
13.56MHz_20°C	Pass	13.56M	13.560525M	38.712	100	1	2 min
13.56MHz_20°C	Pass	13.56M	13.560525M	38.712	100	1	5 min
13.56MHz_20°C	Pass	13.56M	13.560525M	38.712	100	1	10 min
13.56MHz_30°C	Pass	13.56M	13.560487M	35.9376	100	1	0 min
13.56MHz_30°C	Pass	13.56M	13.560486M	35.8731	100	1	2 min
13.56MHz_30°C	Pass	13.56M	13.560487M	35.9376	100	1	5 min
13.56MHz_30°C	Pass	13.56M	13.560487M	35.9376	100	1	10 min
13.56MHz_40°C	Pass	13.56M	13.560486M	35.8086	100	1	0 min
13.56MHz_40°C	Pass	13.56M	13.560486M	35.8086	100	1	2 min
13.56MHz_40°C	Pass	13.56M	13.560486M	35.8086	100	1	5 min
13.56MHz_40°C	Pass	13.56M	13.560486M	35.8086	100	1	10 min
13.56MHz_50°C	Pass	13.56M	13.560487M	35.9376	100	1	0 min
13.56MHz_50°C	Pass	13.56M	13.560487M	35.9376	100	1	2 min
13.56MHz_50°C	Pass	13.56M	13.560487M	35.9376	100	1	5 min
13.56MHz_50°C	Pass	13.56M	13.560487M	35.9376	100	1	10 min
13.56MHz_55°C	Pass	13.56M	13.560486M	35.8086	100	1	0 min
13.56MHz_55°C	Pass	13.56M	13.560486M	35.8086	100	1	2 min
13.56MHz_55°C	Pass	13.56M	13.560486M	35.8086	100	1	5 min
13.56MHz_55°C	Pass	13.56M	13.560486M	35.8086	100	1	10 min
13.56MHz_20°C-138V	Pass	13.56M	13.560524M	38.6475	100	1	0 min
13.56MHz_20°C-138V	Pass	13.56M	13.560524M	38.6475	100	1	2 min
13.56MHz_20°C-138V	Pass	13.56M	13.560524M	38.6475	100	1	5 min
13.56MHz_20°C-138V	Pass	13.56M	13.560524M	38.6475	100	1	10 min
13.56MHz_20°C-120V	Pass	13.56M	13.560524M	38.6475	100	1	0 min
13.56MHz_20°C-120V	Pass	13.56M	13.560525M	38.712	100	1	2 min
13.56MHz_20°C-120V	Pass	13.56M	13.560524M	38.6475	100	1	5 min
13.56MHz_20°C-120V	Pass	13.56M	13.560524M	38.6475	100	1	10 min
13.56MHz_20°C-102V	Pass	13.56M	13.560524M	38.6475	100	1	0 min
13.56MHz_20°C-102V	Pass	13.56M	13.560525M	38.712	100	1	2 min
13.56MHz_20°C-102V	Pass	13.56M	13.560525M	38.712	100	1	5 min
13.56MHz_20°C-102V	Pass	13.56M	13.560524M	38.6475	100	1	10 min

Summary

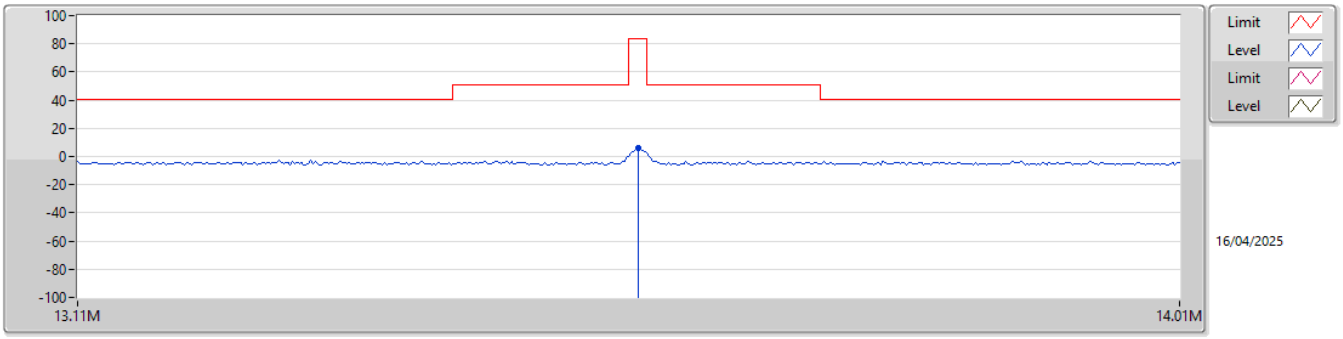
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Azimuth (°)	Height (m)
13.56M	-	-	-	-	-	-	-	-	-
NFC	Pass	PK	18.845M	-1.52	29.54	-31.06	30	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Azimuth (°)	Height (m)
NFC	-	-	-	-	-	-	-	-	-
13.56MHz_Adapter	Pass	PK	13.56M	6.26	84.00	-77.74	30	360	1.00
13.56MHz_Adapter	Pass	PK	71.886k	-39.30	50.46	-89.76	300	360	1.00
13.56MHz_Adapter	Pass	PK	104.034k	-35.35	27.26	-62.61	300	360	1.00
13.56MHz_Adapter	Pass	PK	125.184k	-36.09	45.64	-81.73	300	360	1.00
13.56MHz_Adapter	Pass	PK	327.48k	-34.74	37.30	-72.04	300	360	1.00
13.56MHz_Adapter	Pass	PK	405.68k	-34.37	35.44	-69.81	300	360	1.00
13.56MHz_Adapter	Pass	PK	452.6k	-35.01	34.48	-69.49	300	360	1.00
13.56MHz_Adapter	Pass	PK	14.832M	-2.92	29.54	-32.46	30	0	1.00
13.56MHz_Adapter	Pass	PK	18.845M	-1.52	29.54	-31.06	30	0	1.00
13.56MHz_Adapter	Pass	PK	25.101M	-2.75	29.54	-32.29	30	0	1.00

13.56M_NFC

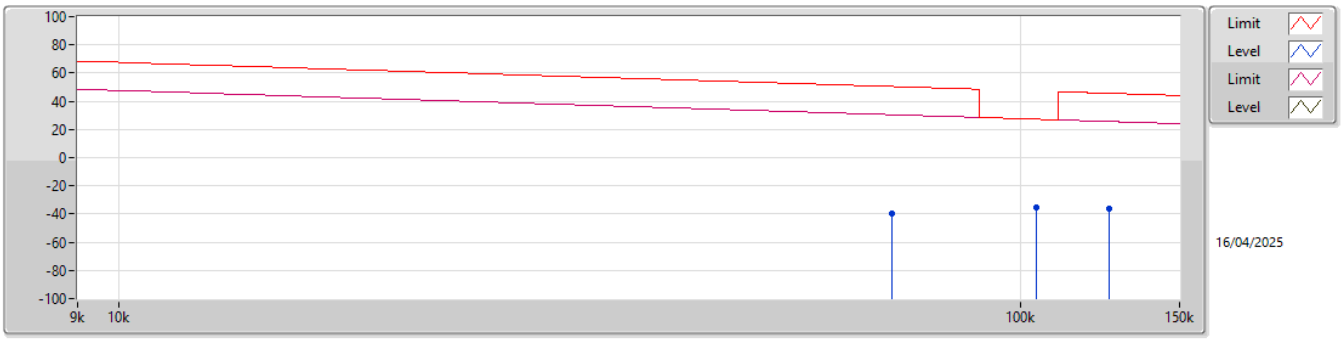
13.56MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	13.56M	6.26	84.00	-77.74	-17.42	30	Horizontal	360	1.00	23.68	22.09	0.49	-

13.56M_NFC

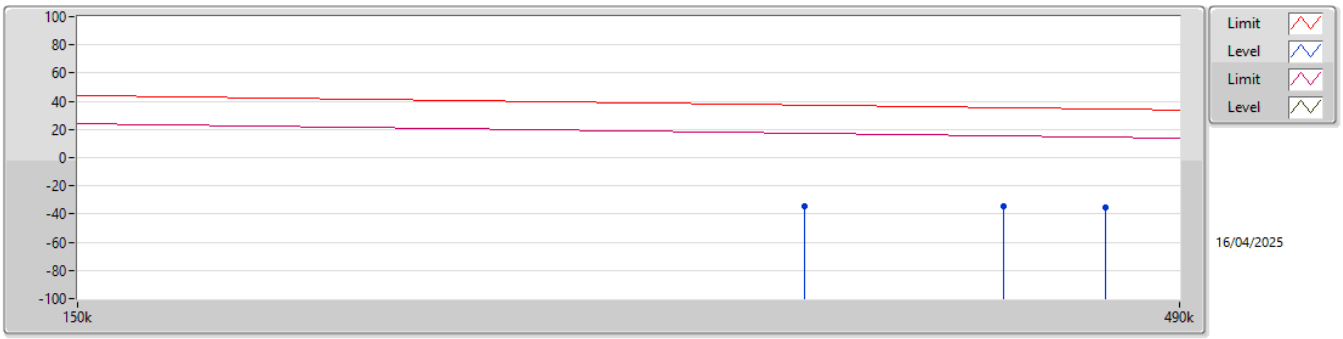
13.56MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	71.886k	-39.30	50.46	-89.76	-60.75	300	Horizontal	360	1.00	21.45	19.24	0.01	-
PK	104.034k	-35.35	27.26	-62.61	-60.27	300	Horizontal	360	1.00	24.92	19.73	-	-
PK	125.184k	-36.09	45.64	-81.73	-60.09	300	Horizontal	360	1.00	24.00	19.90	0.01	-

13.56M_NFC

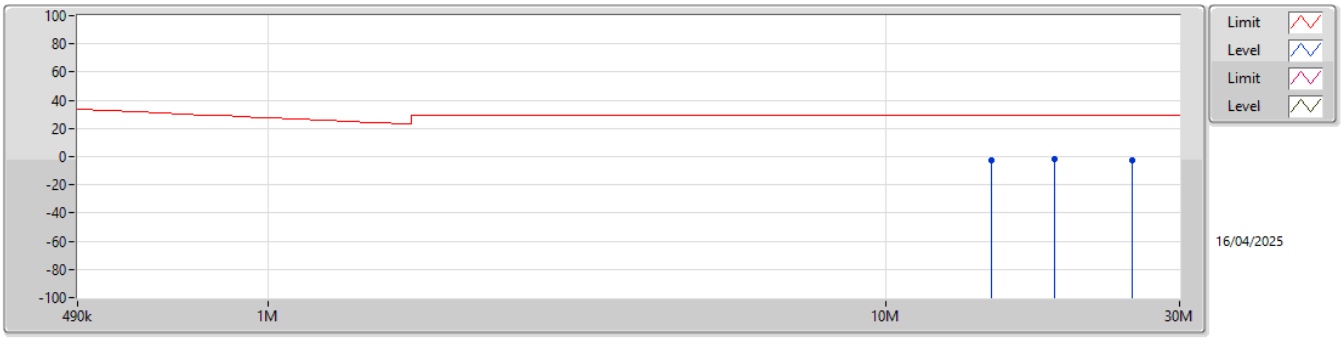
13.56MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	327.48k	-34.74	37.30	-72.04	-59.76	300	Horizontal	360	1.00	25.02	20.19	0.05	-
PK	405.68k	-34.37	35.44	-69.81	-59.55	300	Horizontal	360	1.00	25.18	20.39	0.06	-
PK	452.6k	-35.01	34.48	-69.49	-59.60	300	Horizontal	360	1.00	24.59	20.34	0.06	-

13.56M_NFC

13.56MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	14.832M	-2.92	29.54	-32.46	-17.40	30	Horizontal	0	1.00	14.48	22.08	0.52	-
PK	18.845M	-1.52	29.54	-31.06	-15.55	30	Horizontal	0	1.00	14.03	23.84	0.61	-
PK	25.101M	-2.75	29.54	-32.29	-14.89	30	Horizontal	0	1.00	12.14	24.43	0.68	-

Summary

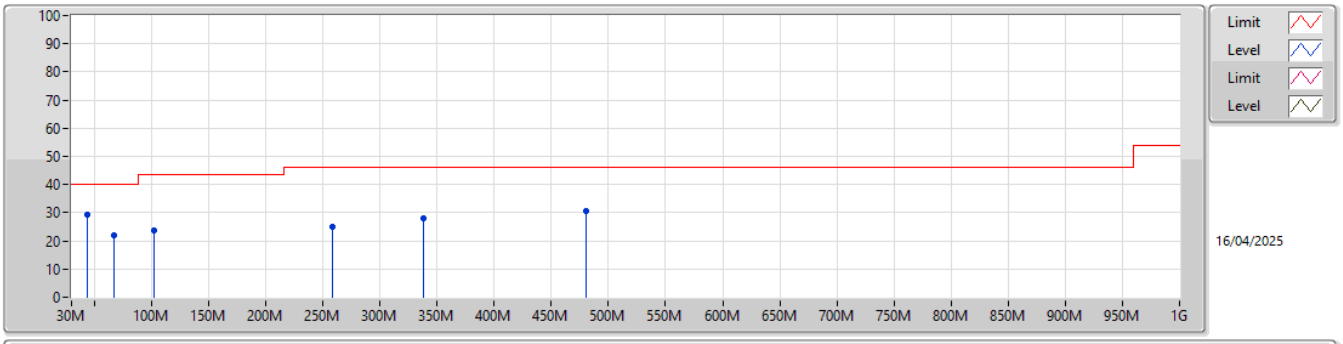
Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Azimuth (°)	Height (m)
13.56M	-	-	-	-	-	-	-	-	-
NFC	Pass	PK	43.58M	29.28	40.00	-10.72	3	0	1.00

Result

Mode	Result	Type	Freq (Hz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Dist (m)	Azimuth (°)	Height (m)
NFC	-	-	-	-	-	-	-	-	-
13.56MHz_Adapter	Pass	PK	43.58M	29.28	40.00	-10.72	3	0	1.00
13.56MHz_Adapter	Pass	PK	66.86M	21.98	40.00	-18.02	3	0	1.00
13.56MHz_Adapter	Pass	PK	101.78M	23.52	43.50	-19.98	3	0	1.00
13.56MHz_Adapter	Pass	PK	258.92M	24.91	46.00	-21.09	3	0	1.00
13.56MHz_Adapter	Pass	PK	338.46M	28.06	46.00	-17.94	3	0	1.00
13.56MHz_Adapter	Pass	PK	480.08M	30.74	46.00	-15.26	3	0	1.00
13.56MHz_Adapter	Pass	PK	30M	27.54	40.00	-12.46	3	360	1.00
13.56MHz_Adapter	Pass	PK	144.46M	28.14	43.50	-15.36	3	360	1.00
13.56MHz_Adapter	Pass	PK	262.8M	25.70	46.00	-20.30	3	360	1.00
13.56MHz_Adapter	Pass	PK	313.24M	26.76	46.00	-19.24	3	360	1.00
13.56MHz_Adapter	Pass	PK	346.22M	28.07	46.00	-17.93	3	360	1.00
13.56MHz_Adapter	Pass	PK	468.44M	33.07	46.00	-12.93	3	360	1.00

13.56M_NFC

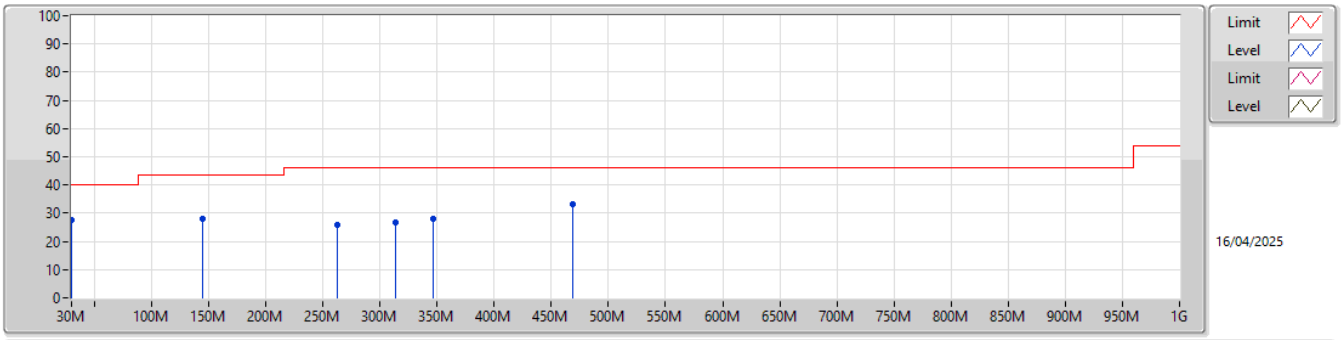
13.56MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	43.58M	29.28	40.00	-10.72	-10.06	3	Vertical	0	1.00	39.34	16.98	0.36	27.40
PK	66.86M	21.98	40.00	-18.02	-14.30	3	Vertical	0	1.00	36.28	12.49	0.59	27.38
PK	101.78M	23.52	43.50	-19.98	-8.77	3	Vertical	0	1.00	32.29	17.52	1.00	27.29
PK	258.92M	24.91	46.00	-21.09	-4.93	3	Vertical	0	1.00	29.84	19.63	2.17	26.73
PK	338.46M	28.06	46.00	-17.94	-4.50	3	Vertical	0	1.00	32.56	20.04	2.44	26.98
PK	480.08M	30.74	46.00	-15.26	-1.42	3	Vertical	0	1.00	32.16	23.53	3.10	28.05

13.56M_NFC

13.56MHz_Adapter



Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Raw	AF	CL	PA
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	(dBuV)	(dB)	(dB)	(dB)
PK	30M	27.54	40.00	-12.46	-3.00	3	Horizontal	360	1.00	30.54	24.27	0.24	27.51
PK	144.46M	28.14	43.50	-15.36	-8.50	3	Horizontal	360	1.00	36.64	17.12	1.55	27.17
PK	262.8M	25.70	46.00	-20.30	-5.15	3	Horizontal	360	1.00	30.85	19.40	2.18	26.73
PK	313.24M	26.76	46.00	-19.24	-4.79	3	Horizontal	360	1.00	31.55	19.70	2.31	26.80
PK	346.22M	28.07	46.00	-17.93	-4.23	3	Horizontal	360	1.00	32.30	20.32	2.48	27.03
PK	468.44M	33.07	46.00	-12.93	-1.47	3	Horizontal	360	1.00	34.54	23.47	3.03	27.97