FCC Test Report

Product Name	Video Intercom Reader Pro
Model No.	OP-VID-PRO-INT
FCC ID.	2APJVOPVNRC

Applicant	Openpath Security Inc.
Address	13428 Maxella Ave, #866 Marina Del Rey, CA 90292

Date of Receipt	Jul. 01, 2021
Issued Date	Aug. 25, 2021
Report No.	2170047R-RFUSOTHV03
Report Version	V1.0

Testing Laboratory
3023

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 report of the equipment and evaluated measurement uncertainty herein.
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The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
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

Issued Date: Aug. 25, 2021
Report No.: 2170047R-RFUSOTHV03

Product Name	Video Intercom Reader Pro
Applicant	Openpath Security Inc.
Address	13428 Maxella Ave, #866 Marina Del Rey, CA 90292
Manufacturer	VIVOTEK INC.
Model No.	OP-VID-PRO-INT
FCC ID.	2APJVOPVNRC
EUT Rated Voltage	DC 48V (Power by PoE)
EUT Test Voltage	DC 48V (Power by PoE)
Trade Name	Openpath Security Inc.
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By : Genie Chang

(Senior Project Specialist / Genie Chang)

Tested By : Ivan Chuang

(Senior Engineer / Ivan Chuang)

Approved By : Jack Hsu

(Senior Engineer / Jack Hsu)

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Appendix 1: EUT Test Photographs

Appendix 2: Product Photos-Please refer to the file: 2170047R-Product Photos

Revision History

Report No.	Version	Description	Issued Date
2170047R-RFUSOTHV03	V1.0	Initial issue of report.	2021-08-25

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Video Intercom Reader Pro
Trade Name	Openpath Security Inc.
Model No.	OP-VID-PRO-INT
FCC ID	2APJVOPVNRC
Frequency Range	13.56MHz
Modulation	ASK
Antenna Type	Loop coil Antenna

Frequency of Each Channel:

Channel	Frequency
Channel 1:	13.56 MHz

Note:

1. This device is a Video Intercom Reader Pro with a built-in 13.56MHz transceiver.
2. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.225.
3. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

Test Mode	Mode 1: Transmit

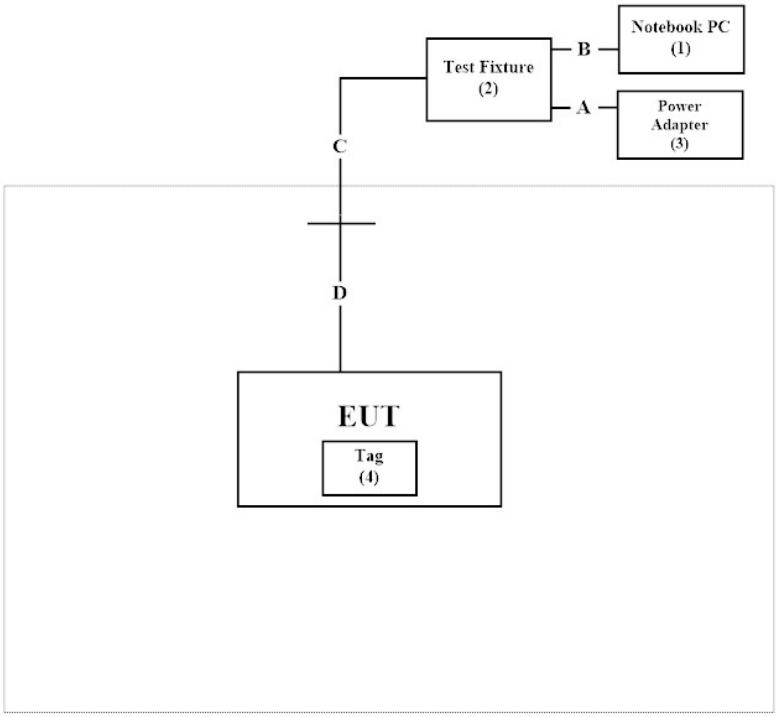
1.2. Tested System Datails

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
(1)	Notebook PC	DELL	P62G	229FJC2	N/A
(2)	Test Fixture	Openpath Security Inc	RJ-45-END-SPAN VER 0.1	N/A	N/A
(3)	Power Adapter	Deevan	DSA-96PFB-48 1	N/A	Non-shielded, 1.8m
(4)	Tag	ASUS	NFC Tag	N/A	N/A

Signal Cable Type		Signal cable Description
A	Power Cable	Non-shielded, 1.5m, with one ferrite core bonded.
B	LAN Cable	Non-shielded, 1.8m
C	LAN Cable	Non-shielded, 3m
D	PoE Cable	Non-shielded, 0.36m

1.3. Configuration of tested System



1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.3.
2. Execute software ”CMD 10.0.19043.1110” on the Notebook PC.
3. Configure the test mode, the test channel.
4. Press “OK” to start the continuous transmit.
5. Verify that the EUT works properly.

1.5. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Conducted Emission	Temperature (°C)	10~40 °C	28 °C
	Humidity (%RH)	10~90 %	55 %
Radiated Emission	Temperature (°C)	10~40 °C	23.4 °C
	Humidity (%RH)	10~90 %	65.0 %
Conductive	Temperature (°C)	10~40 °C	26.5 °C
	Humidity (%RH)	10~90 %	56.0%

USA : FCC Registration Number: TW0033
Canada : IC Registration Number: 26930

Site Description : Accredited by TAF
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd
Address : No. 26, Huaya 1st Rd., Guishan Dist.,
Taoyuan City 333411, Taiwan, R.O.C.
Phone number : 886-3-275-7255
Fax number : 866-3-327-5505
Email address : info.tw@dekra.com
Website : http://www.dekra.com.tw

1.6. List of Test Equipment

For Conduction measurements /SH1

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	EMI Test Receiver	R&S	ESR7	101601	2021.06.19	2022.06.18
X	Two-Line V-Network	R&S	ENV216	101306	2021.04.08	2022.04.07
X	Two-Line V-Network	R&S	ENV216	101307	2021.05.04	2022.05.03
X	Coaxial Cable	DEKRA	RG400_BNC	RF001	2021.05.24	2022.05.23

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : DEKRA Testing System V2.0

For Conducted measurements /SH3

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Temperature Chamber	KSON	THS-D4T-100	A0606	2021.08.24	2022.08.23
X	Spectrum Analyzer	R&S	FSV40	101149	2021.02.04	2022.02.03
X	AC Power Source	eec	6605	1570547	2020.12.23	2021.12.22

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.

For Radiated measurements /966-3

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Data	Due. Data
X	Loop Antenna	AMETEK	HLA6121	56736	2021.04.14	2022.04.13
X	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-678	2020.09.04	2021.09.03
	Horn Antenna	ETS-Lindgren	3117	00201259	2020.10.23	2021.10.22
	Horn Antenna	Com-Power	AH-840	101087	2021.06.16	2022.06.15
X	Pre-Amplifier	EMCI	EMC001330	060736	2021.08.11	2022.08.10
	Pre-Amplifier	EMCI	EMC051835SE	980312	2021.02.24	2022.02.23
	Pre-Amplifier	EMCI	EMC05820SE	980361	2020.12.21	2021.12.20
	Pre-Amplifier	EMCI	EMC184045SE	980314	2021.06.24	2022.06.23
	Filter	MICRO TRONICS	BRM50702	G251	2020.09.17	2021.09.16
	Filter	MICRO TRONICS	BRM50716	G188	2020.09.17	2021.09.16
X	EMI Test Receiver	R&S	ESR	102793	2020.12.17	2021.12.16
X	Spectrum Analyzer	R&S	FSV3044	101113	2021.02.03	2022.02.02
X	Coaxial Cable	SUHNER	SUCOFLEX 106	RF003	2021.03.03	2022.03.02
	Mircoflex Cable	HUBER SUHNER	SUCOFLEX 102	MY3381/2	2021.06.25	2022.06.24

Note:
1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version : DEKRA Testing System V2.0

1.7. Uncertainty

Uncertainties have been calculated according to the DEKRA internal document, and is described in each test chapter of this report.

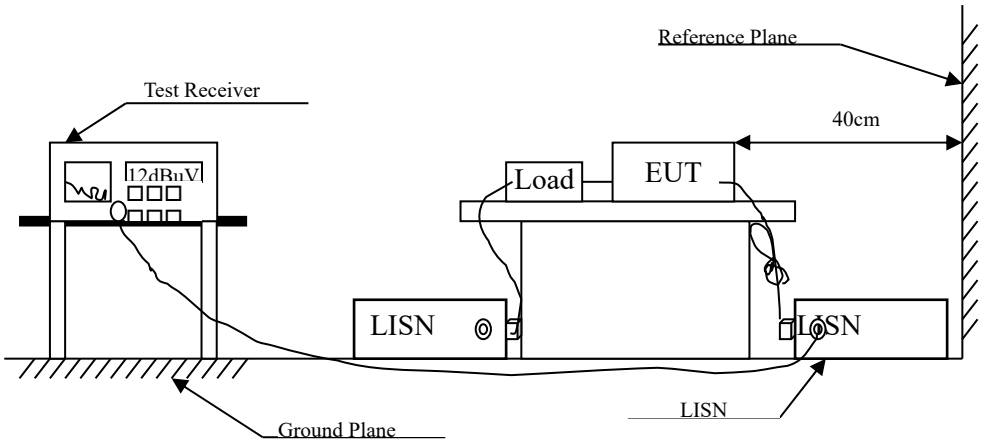
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

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 item	**Uncertainty**	
Conducted Emission	±3.42 dB	
Radiated Emission	Under 1GHz ±4.06 dB	Above 1GHz ±3.73 dB
Band Edge	Under 1GHz ±4.06 dB	Above 1GHz ±3.73 dB
Frequency Tolerance	±682.83 Hz	

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56(註)	56-46(註)
0.50-5.0	56	46
5.0 - 30	60	50

2.3. Test Procedure

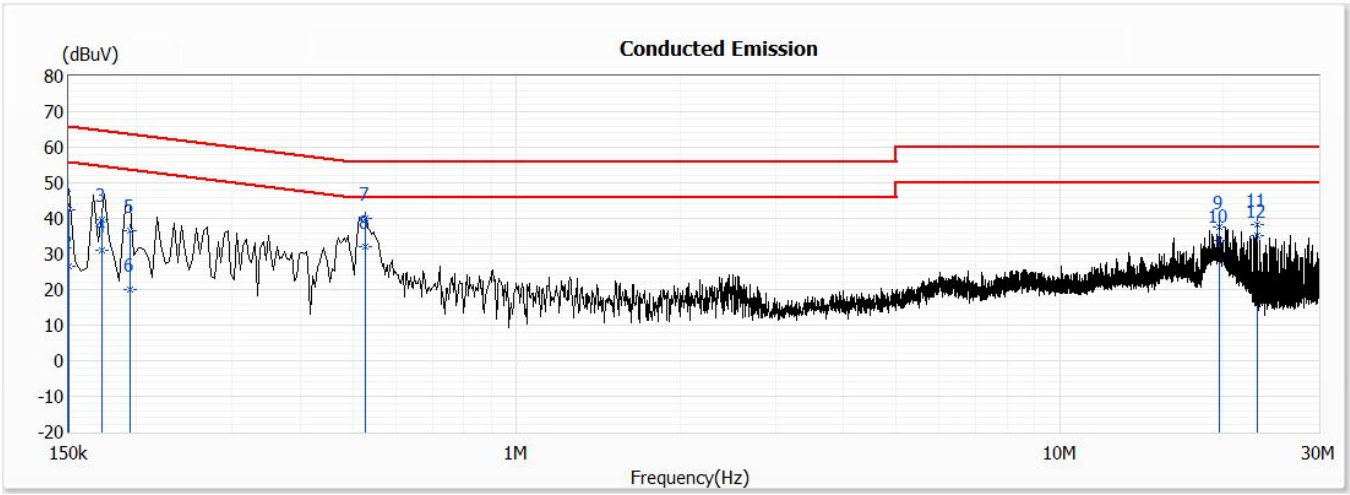
The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers 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 C63.4: 2014 on conducted measurement.

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

2.4. Test Result of Conducted Emission

Product : Video Intercom Reader Pro
Test Item : Conducted Emission Test
Power Line : L1
Test Mode : Mode 1: Transmit
Test Date : 2021/09/03

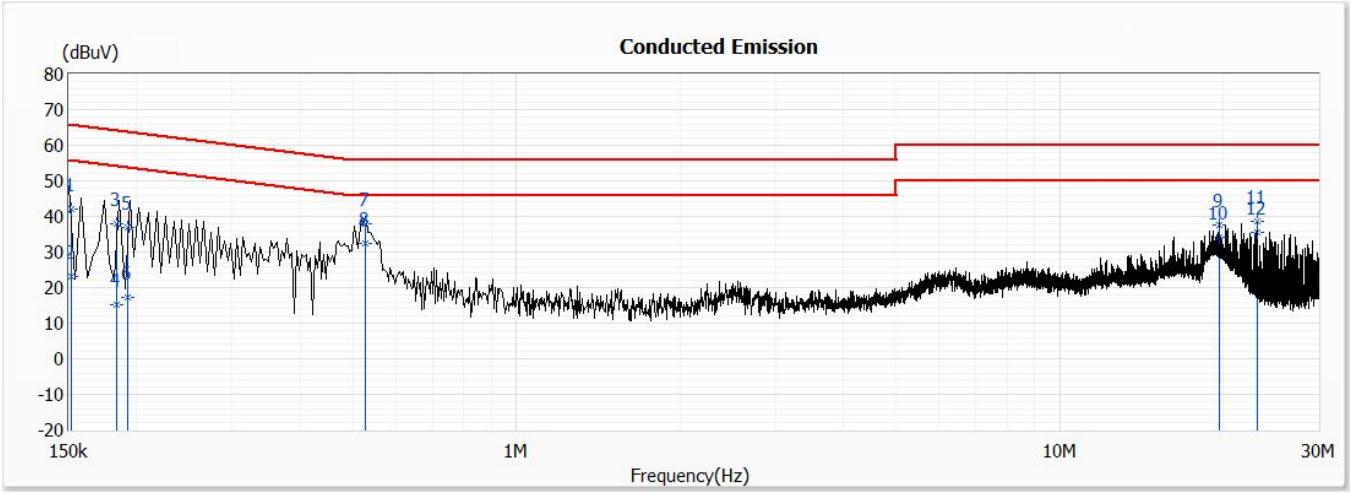


No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.150	42.31	65.98	-23.67	32.61	9.70	QP
2	0.150	26.54	55.98	-29.44	16.84	9.70	AV
3	0.173	39.61	64.84	-25.23	29.91	9.70	QP
4	0.173	31.16	54.84	-23.68	21.46	9.70	AV
5	0.195	36.70	63.82	-27.12	27.01	9.69	QP
6	0.195	20.08	53.82	-33.74	10.39	9.69	AV
7	0.527	39.85	56.00	-16.15	30.15	9.70	QP
*8	0.527	32.16	46.00	-13.84	22.46	9.70	AV
9	19.709	37.49	60.00	-22.51	26.73	10.76	QP
10	19.709	33.85	50.00	-16.15	23.09	10.76	AV
11	23.128	38.15	60.00	-21.85	27.46	10.69	QP
12	23.128	35.15	50.00	-14.85	24.46	10.69	AV

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Video Intercom Reader Pro
Test Item : Conducted Emission Test
Power Line : N
Test Mode : Mode 1: Transmit
Test Date : 2021/09/03



No	Frequency (MHz)	Emission Level (dBuV)	Limit (dBuV)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	0.151	42.04	65.92	-23.88	32.33	9.71	QP
2	0.151	23.14	55.92	-32.78	13.43	9.71	AV
3	0.184	37.89	64.32	-26.43	28.18	9.71	QP
4	0.184	15.12	54.32	-39.20	5.41	9.71	AV
5	0.192	36.88	63.94	-27.06	27.17	9.71	QP
6	0.192	17.24	53.94	-36.70	7.53	9.71	AV
7	0.526	38.04	56.00	-17.96	28.33	9.71	QP
*8	0.526	32.42	46.00	-13.58	22.71	9.71	AV
9	19.709	37.58	60.00	-22.42	26.74	10.84	QP
10	19.709	33.97	50.00	-16.03	23.13	10.84	AV
11	23.129	38.69	60.00	-21.31	27.89	10.80	QP
12	23.129	35.63	50.00	-14.37	24.83	10.80	AV

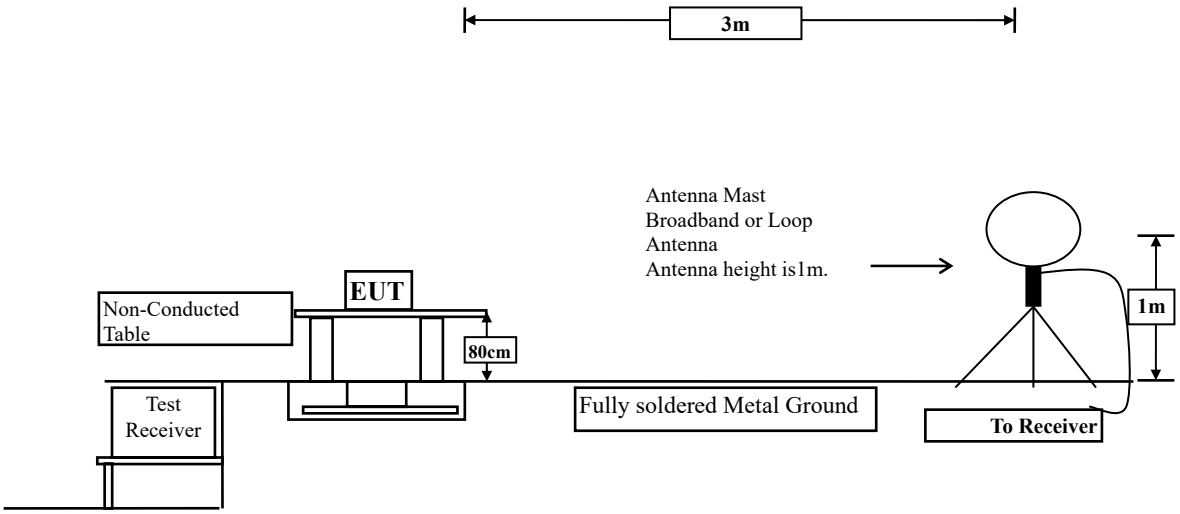
Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

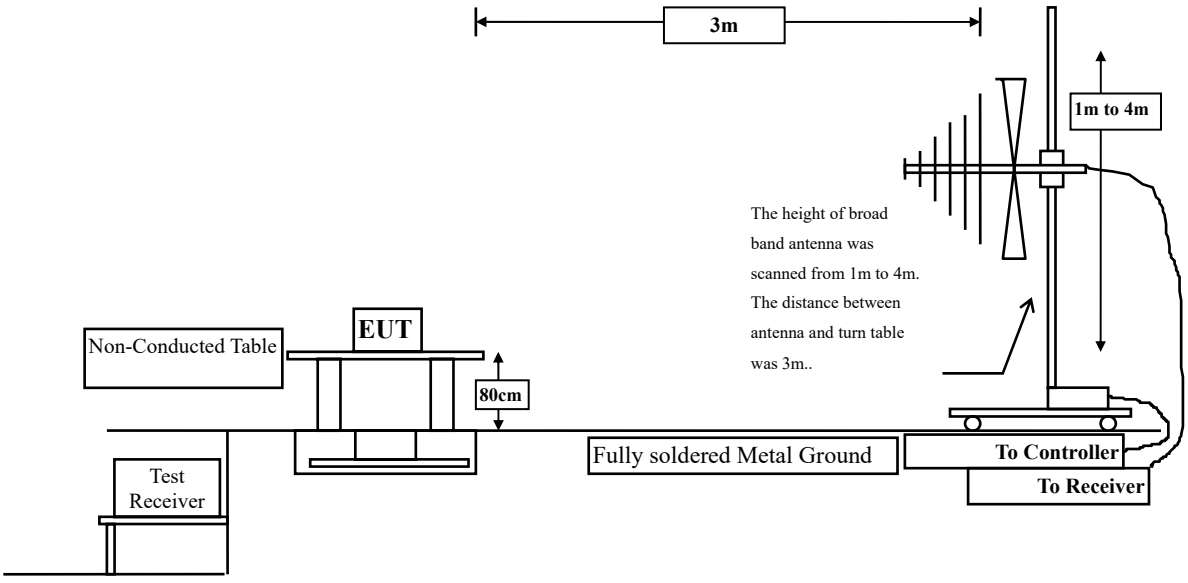
3. Radiated Emission

3.1. Test Setup

Radiated Emission Under 30MHz



Radiated Emission Below 1GHz



3.2. Limits

➢ Fundamental electric field strength Limit

FCC Part 15 Subpart C Paragraph 15.225 Limits				
Fundamental Frequency MHz	Field strength of fundamental			
	uV/m	Distance (meter)	dBuV/m	Distance (meter)
13.553 – 13.567	15848	30	124	3
13.410 – 13.553 and 13.567 – 13.710	334	30	90.47	3
13.110 – 13.410 and 13.710 – 14.010	106	30	80.50	3
Outside of the 13.110 – 14.010	See 15.209 Limits			

Remarks :

1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
3. The emission limit in this paragraph is based on measurement instrumentation employing an quasi-peak detector.

➢ Spurious electric field strength Limit

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks :

1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
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.

3.3. Test Procedure

Fundamental electric field strength:

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum electric field strength.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna which is 1 meter above ground. All X-axis, Y-axis and Z-axis polarization of the antenna are set on measurement.

Spurious electric field strength:

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

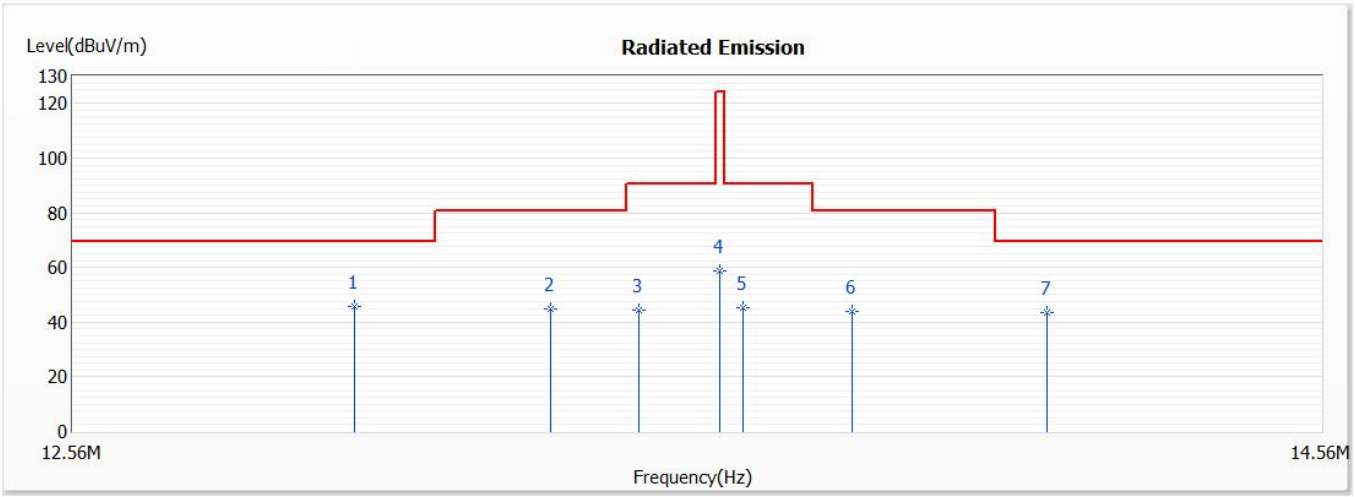
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.

The bandwidth below 30MHz setting on the field strength meter is 9kHz and above 30MHz is 120kHz. The frequency range from 9kHz to 10th harmonics is checked.

3.4. Test Result of Radiated Emission

Product	:	Video Intercom Reader Pro
Test Item	:	Fundamental Radiated Emission
Test Mode	:	Mode 1: Transmit
Test date	:	2021/07/09

Horizontal_X-axis



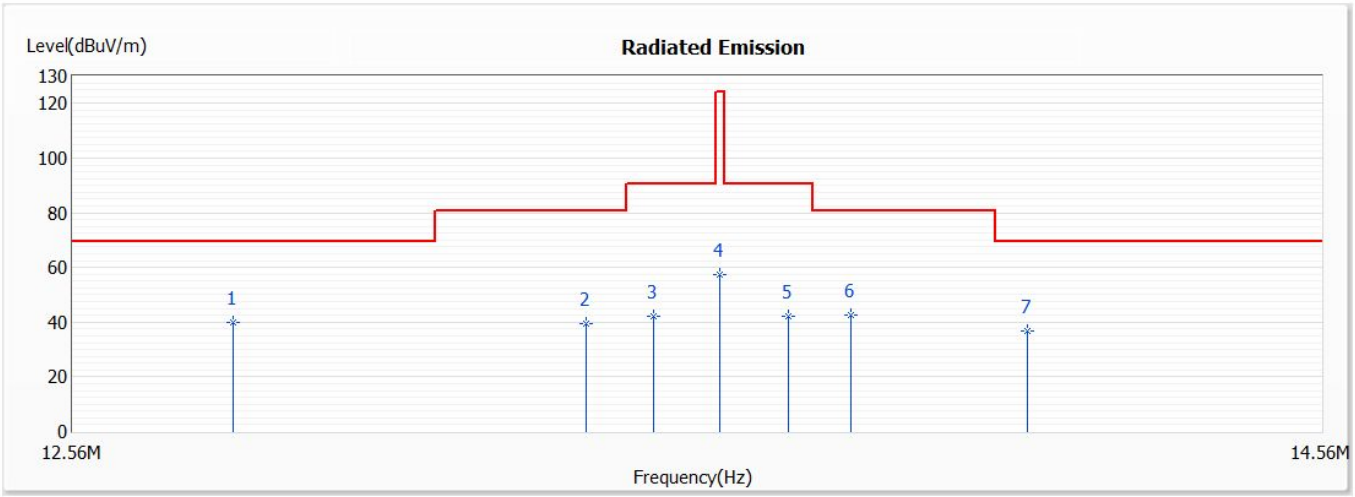
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	12.986	45.79	69.50	-23.71	25.43	20.36	QP
2	13.290	44.83	80.50	-35.67	24.59	20.24	QP
3	13.430	44.48	90.47	-45.99	24.29	20.19	QP
4	13.560	58.88	124.00	-65.12	38.74	20.14	QP
5	13.596	45.28	90.47	-45.19	25.16	20.12	QP
6	13.774	44.15	80.50	-36.35	24.10	20.05	QP
7	14.094	43.49	69.50	-26.01	23.53	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. “ * ” means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product	:	Video Intercom Reader Pro
Test Item	:	Fundamental Radiated Emission
Test Mode	:	Mode 1: Transmit
Test date	:	2021/07/09

Vertical_X-axis



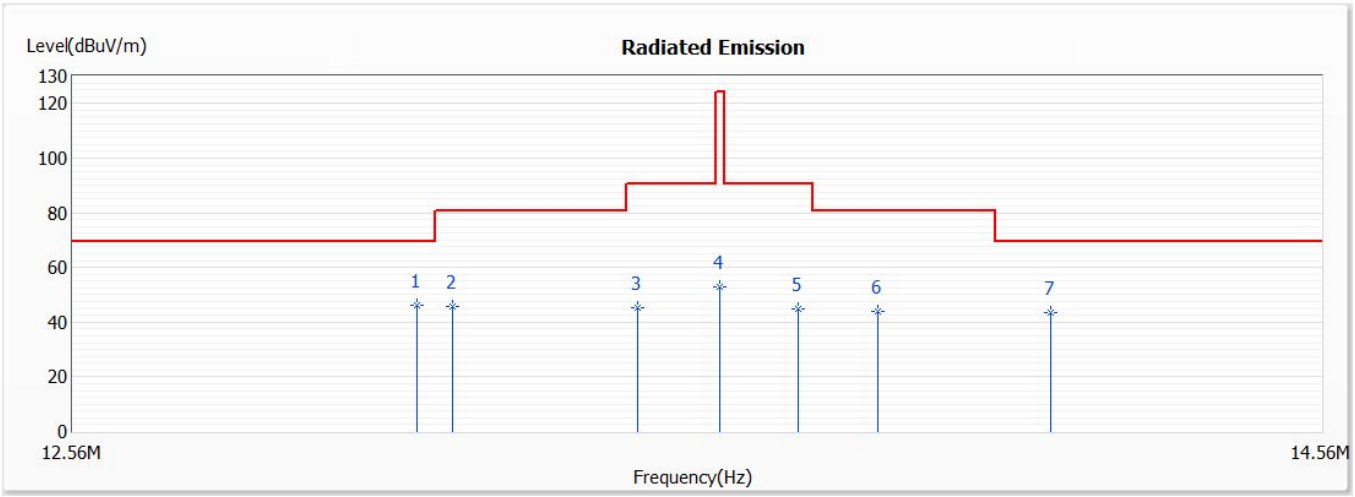
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	12.800	39.94	69.50	-29.56	19.64	20.30	QP
2	13.346	39.40	80.50	-41.10	19.18	20.22	QP
3	13.454	42.22	90.47	-48.25	22.04	20.18	QP
4	13.560	57.31	124.00	-66.69	37.17	20.14	QP
5	13.670	42.18	90.47	-48.29	22.09	20.09	QP
6	13.772	42.52	80.50	-37.98	22.47	20.05	QP
7	14.062	36.54	69.50	-32.96	16.58	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product	:	Video Intercom Reader Pro
Test Item	:	Fundamental Radiated Emission
Test Mode	:	Mode 1: Transmit
Test date	:	2021/07/09

Horizontal_Y-axis



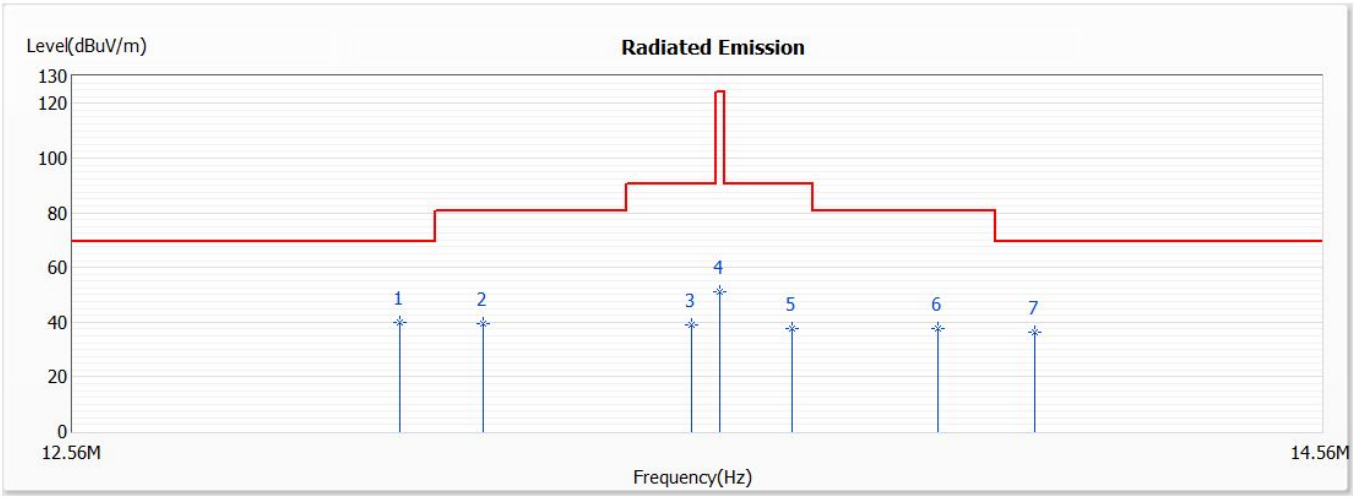
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	13.082	46.35	69.50	-23.15	26.02	20.33	QP
2	13.138	45.87	80.50	-34.63	25.57	20.30	QP
3	13.428	45.06	90.47	-45.41	24.87	20.19	QP
4	13.560	53.12	124.00	-70.88	32.98	20.14	QP
5	13.686	44.83	90.47	-45.64	24.74	20.09	QP
6	13.816	44.05	80.50	-36.45	24.02	20.03	QP
7	14.100	43.46	69.50	-26.04	23.50	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product	:	Video Intercom Reader Pro
Test Item	:	Fundamental Radiated Emission
Test Mode	:	Mode 1: Transmit
Test date	:	2021/07/09

Vertical_Y-axis



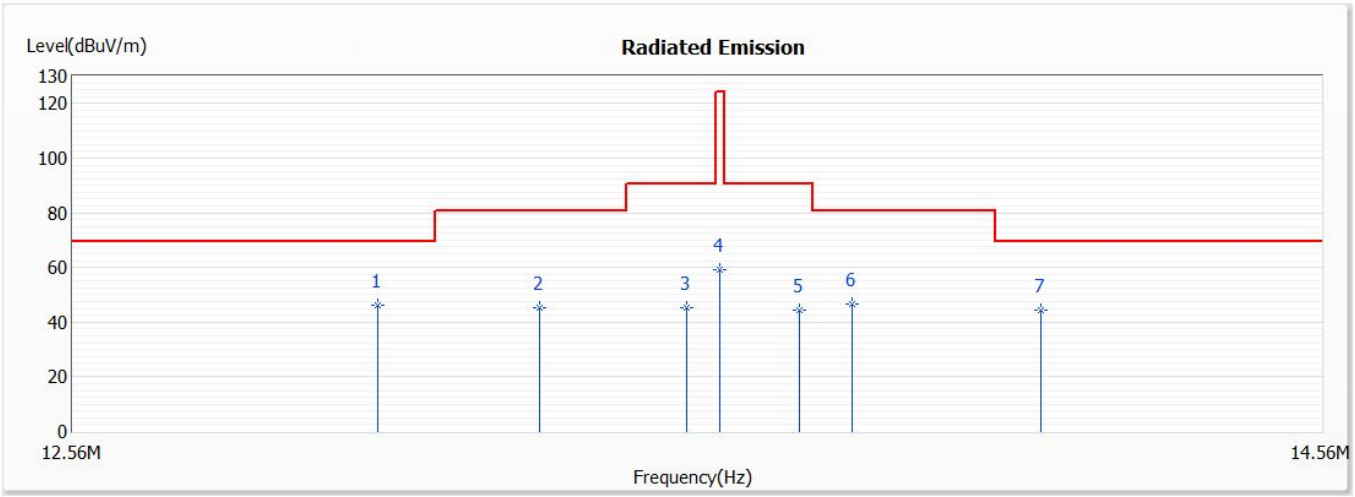
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	13.056	39.83	69.50	-29.67	19.49	20.34	QP
2	13.186	39.30	80.50	-41.20	19.01	20.29	QP
3	13.514	39.09	90.47	-51.38	18.94	20.15	QP
4	13.560	51.23	124.00	-72.77	31.09	20.14	QP
5	13.676	37.60	90.47	-52.87	17.51	20.09	QP
6	13.914	37.52	80.50	-42.98	17.53	19.99	QP
7	14.074	36.24	69.50	-33.26	16.28	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product	:	Video Intercom Reader Pro
Test Item	:	Fundamental Radiated Emission
Test Mode	:	Mode 1: Transmit
Test date	:	2021/07/09

Horizontal_Z-axis



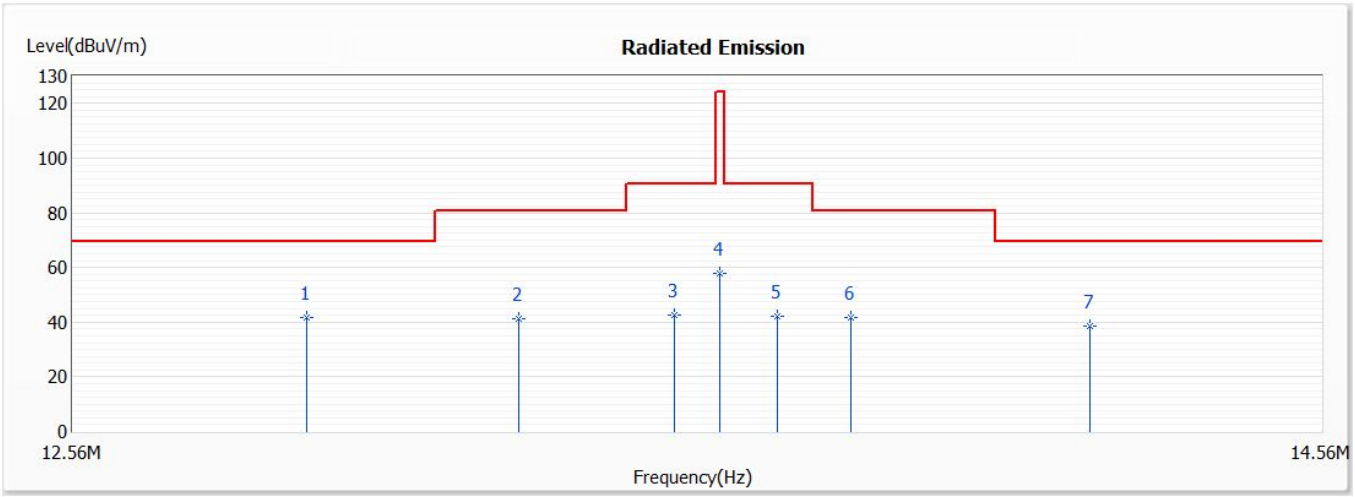
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	13.022	46.02	69.50	-23.48	25.67	20.35	QP
2	13.274	45.27	80.50	-35.23	25.02	20.25	QP
3	13.506	45.07	90.47	-45.40	24.91	20.16	QP
4	13.560	59.19	124.00	-64.81	39.05	20.14	QP
5	13.688	44.48	90.47	-45.99	24.40	20.08	QP
6	13.774	46.62	80.50	-33.88	26.57	20.05	QP
7	14.084	44.40	69.50	-25.10	24.44	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product	:	Video Intercom Reader Pro
Test Item	:	Fundamental Radiated Emission
Test Mode	:	Mode 1: Transmit
Test date	:	2021/07/09

Vertical_Z-axis



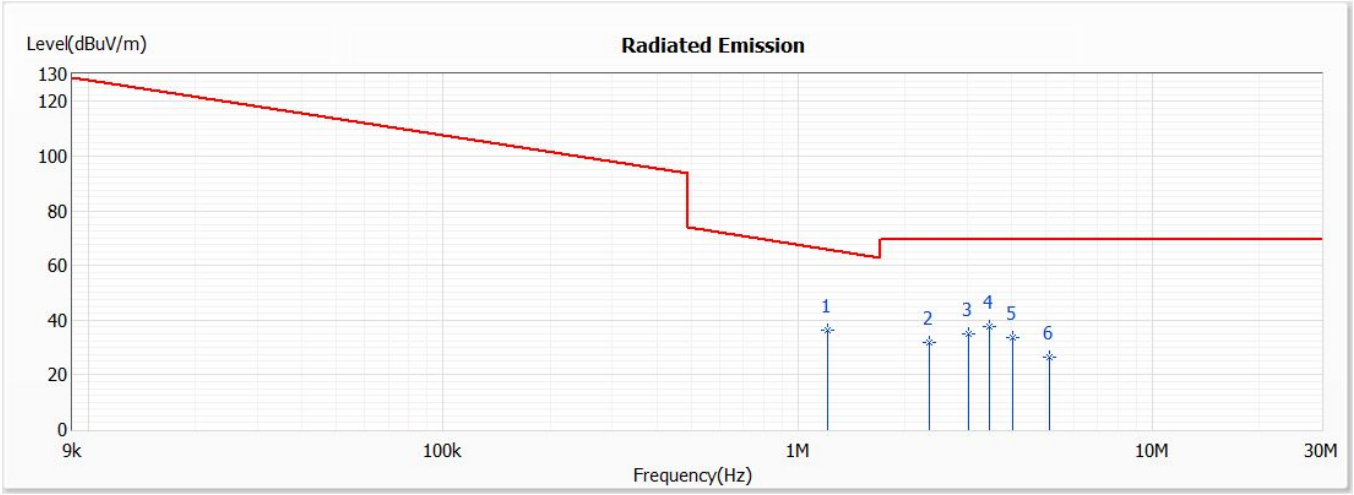
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	12.912	41.88	69.50	-27.62	21.54	20.34	QP
2	13.240	41.29	80.50	-39.21	21.03	20.26	QP
3	13.486	42.76	90.47	-47.71	22.59	20.17	QP
4	13.560	57.72	124.00	-66.28	37.58	20.14	QP
5	13.652	42.18	90.47	-48.29	22.08	20.10	QP
6	13.772	41.80	80.50	-38.70	21.75	20.05	QP
7	14.166	38.42	69.50	-31.08	18.46	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product	:	Video Intercom Reader Pro
Test Item	:	General Radiated Emission Data (below 30MHz)
Test Mode	:	Mode 1: Transmit
Test date	:	2021/07/09

Horizontal Z-axis



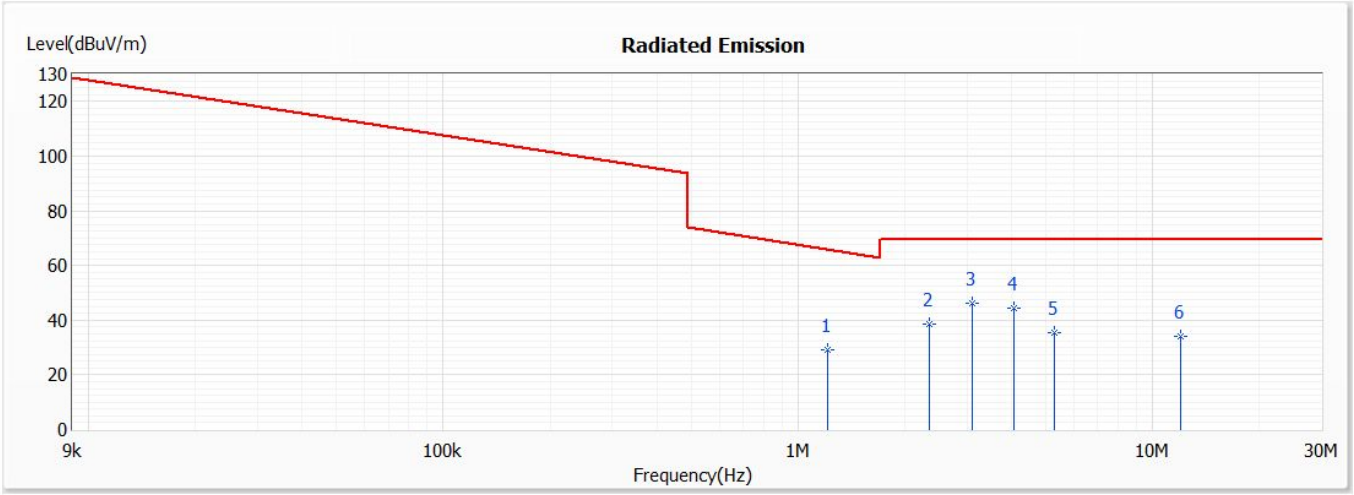
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	1.209	36.52	65.98	-29.46	16.44	20.08	QP
2	2.348	31.82	69.54	-37.72	11.72	20.10	QP
3	3.038	35.07	69.54	-34.47	14.96	20.11	QP
4	3.458	37.58	69.54	-31.96	17.45	20.13	QP
5	4.028	33.74	69.54	-35.80	13.59	20.15	QP
6	5.107	26.46	69.54	-43.08	6.37	20.09	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product	:	Video Intercom Reader Pro
Test Item	:	General Radiated Emission Data (below 30MHz)
Test Mode	:	Mode 1: Transmit
Test date	:	2021/07/09

Vertical Z-axis



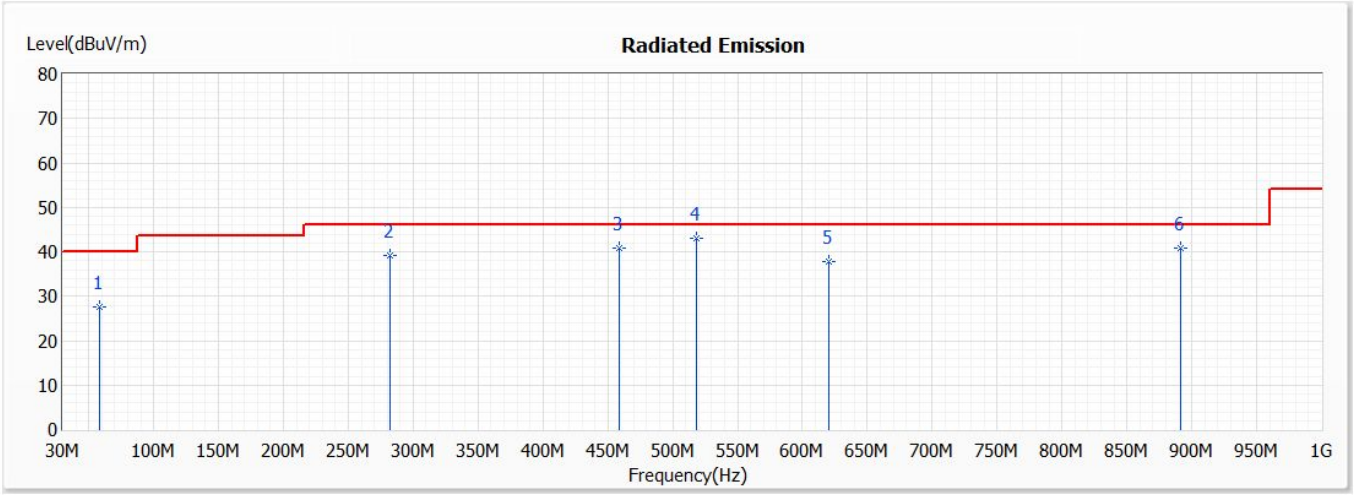
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	1.209	29.06	65.98	-36.92	8.98	20.08	QP
2	2.348	38.66	69.54	-30.88	18.56	20.10	QP
* 3	3.098	46.03	69.54	-23.51	25.92	20.11	QP
4	4.058	44.60	69.54	-24.94	24.45	20.15	QP
5	5.287	35.62	69.54	-33.92	15.52	20.10	QP
6	12.005	33.98	69.54	-35.56	13.90	20.08	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product : Video Intercom Reader Pro
Test Item : General Radiated Emission Data (above 30MHz)
Test Mode : Mode 1: Transmit
Test date : 2021/07/09

Horizontal Z-axis



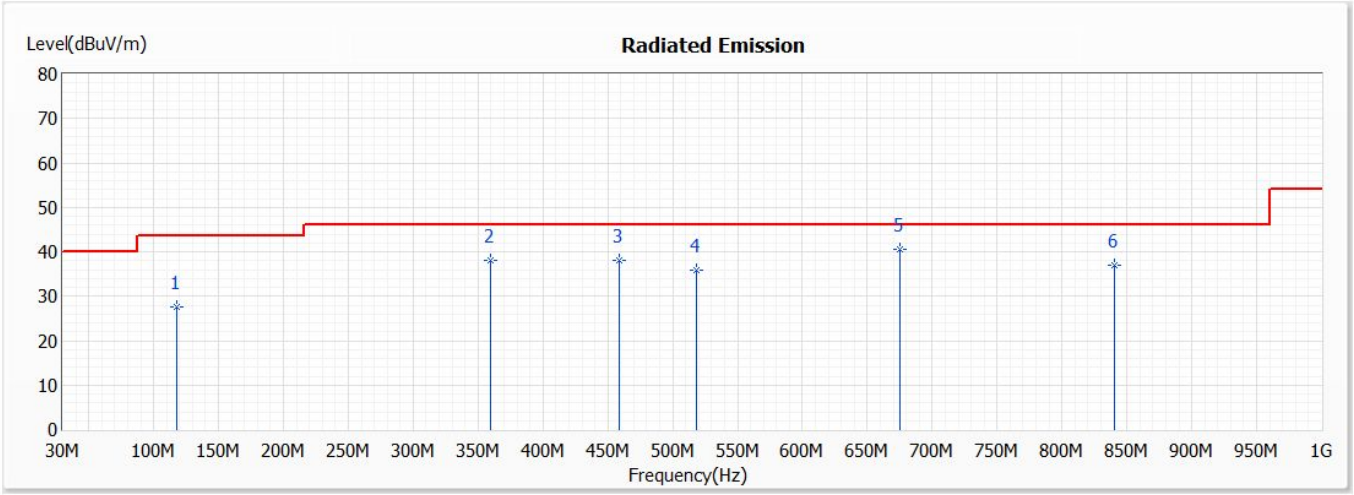
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	58.130	27.56	40.00	-12.44	46.99	-19.43	QP
2	282.200	39.04	46.00	-6.96	57.73	-18.69	QP
3	458.740	40.85	46.00	-5.15	55.21	-14.36	QP
* 4	517.910	42.99	46.00	-3.01	56.06	-13.07	QP
5	620.730	37.66	46.00	-8.34	48.67	-11.01	QP
6	891.360	40.87	46.00	-5.13	48.07	-7.20	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Video Intercom Reader Pro
Test Item : General Radiated Emission Data (above 30MHz)
Test Mode : Mode 1: Transmit
Test date : 2021/07/09

Vertical Z-axis



No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	118.270	27.56	43.50	-15.94	49.20	-21.64	QP
2	359.800	38.02	46.00	-7.98	54.76	-16.74	QP
3	458.740	38.03	46.00	-7.97	52.39	-14.36	QP
4	517.910	35.87	46.00	-10.13	48.94	-13.07	QP
* 5	675.050	40.48	46.00	-5.52	50.95	-10.47	QP
6	839.950	36.86	46.00	-9.14	44.71	-7.85	QP

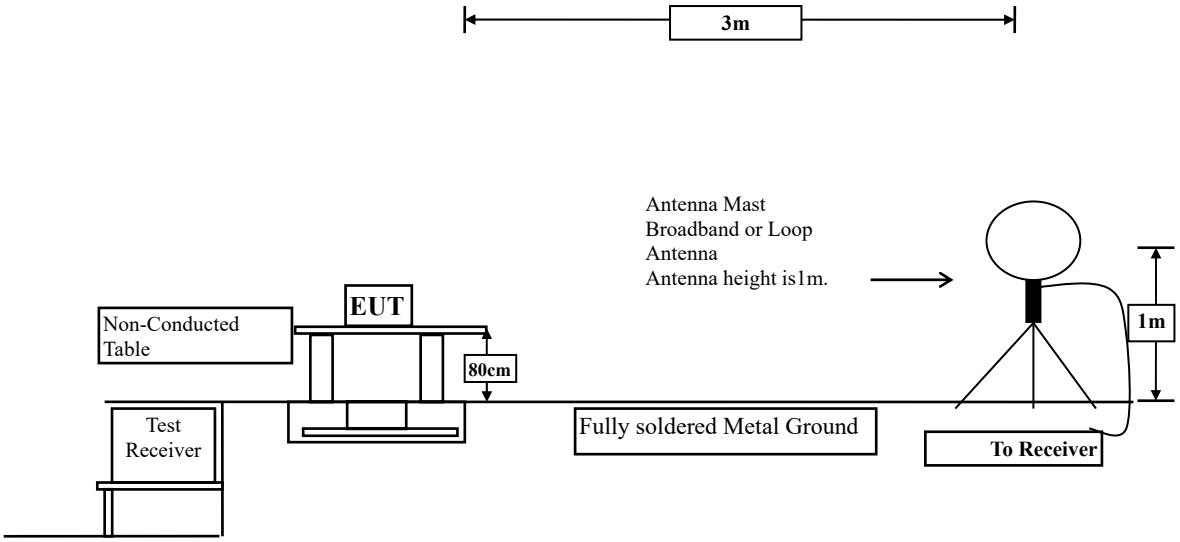
Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

4. Band Edge

4.1. Test Setup

Radiated Emission Under 30MHz



4.2. Limits

The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in Section 15.209. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205, must also comply with the radiated emission limits specified in Section 15.209

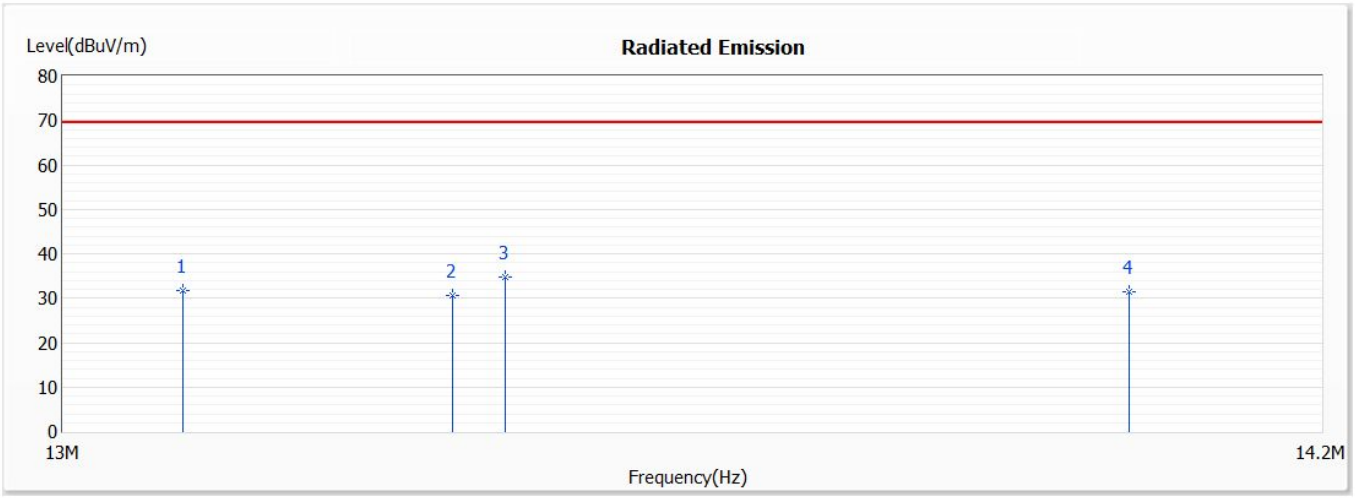
4.3. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.
The bandwidth below 30MHz setting on the field strength meter is 9kHz and above 30MHz is 120kHz.

4.4. Test Result of Band Edge

Product : Video Intercom Reader Pro
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit
Test date : 2021/07/09

Horizontal Z-axis



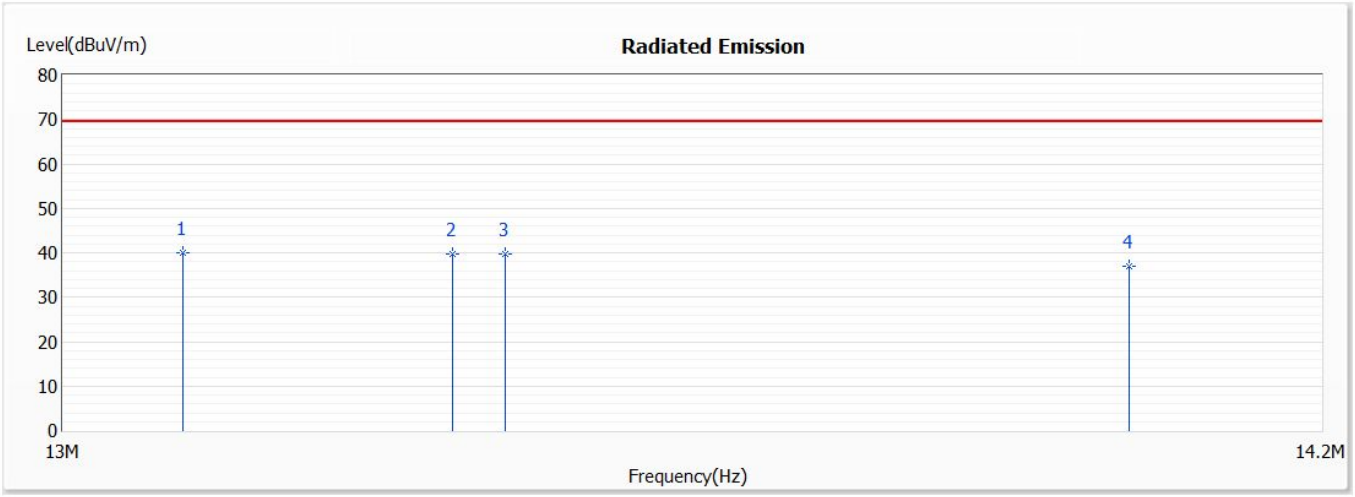
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
1	13.110	31.77	69.54	-37.77	11.45	20.32	QP
2	13.360	30.61	69.54	-38.93	10.39	20.22	QP
* 3	13.410	34.81	69.54	-34.73	14.61	20.20	QP
4	14.010	31.32	69.54	-38.22	11.36	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Video Intercom Reader Pro
Test Item : Band Edge Data
Test Mode : Mode 1: Transmit
Test date : 2021/07/09

Vertical Z-axis



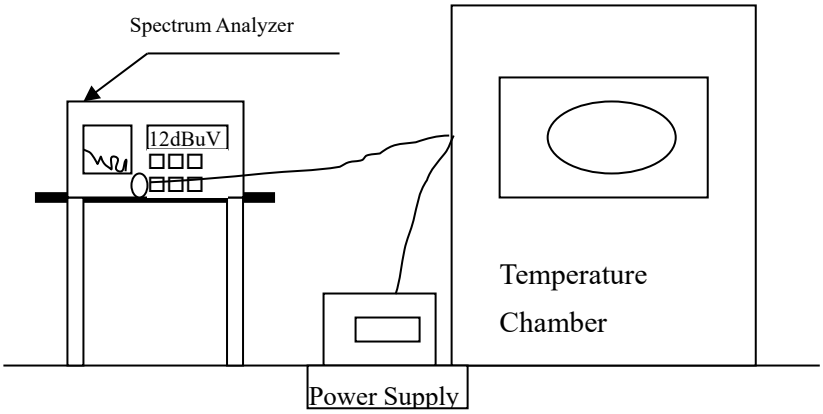
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Reading Level (dBuV)	Correct Factor (dB)	Detector Type
* 1	13.110	40.12	69.54	-29.42	19.80	20.32	QP
2	13.360	39.61	69.54	-29.93	19.39	20.22	QP
3	13.410	39.61	69.54	-29.93	19.41	20.20	QP
4	14.010	37.09	69.54	-32.45	17.13	19.96	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are average value.
2. " * " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

5. Frequency Tolerance

5.1. Test Setup



5.2. Limits

The frequency tolerance of the carrier signal shall be maintained within ±0.01％ of the operating frequency.

5.3. Test Procedure

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of −20 degrees to + 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

5.4. Test Result of Frequency Stability

Product : Video Intercom Reader Pro
Test Item : Frequency Tolerance
Test Mode : Mode 1: Transmit
Test date : 2021/08/19

Temperature (℃)	Voltage (V)	Observe Time	Declared Frequency (MHz)	Read Frequency (MHz)	Tolerance (%)	Limit (%)
20	120	start	13.56	13.56072	0.005310	±0.01 %
		2mins	13.56	13.56077	0.005678	
		5mins	13.56	13.56071	0.005236	
		10mins	13.56	13.56066	0.004867	
20	130.2	start	13.56	13.56070	0.005162	±0.01 %
		2mins	13.56	13.56080	0.005900	
		5mins	13.56	13.56075	0.005531	
		10mins	13.56	13.56072	0.005310	
20	102	start	13.56	13.56072	0.005310	±0.01 %
		2mins	13.56	13.56072	0.005310	
		5mins	13.56	13.56072	0.005310	
		10mins	13.56	13.56072	0.005310	
50	5	start	13.56	13.56072	0.005310	±0.01 %
		2mins	13.56	13.56070	0.005162	
		5mins	13.56	13.56071	0.005236	
		10mins	13.56	13.56077	0.005678	
40	5	start	13.56	13.56069	0.005088	±0.01 %
		2mins	13.56	13.56074	0.005457	
		5mins	13.56	13.56072	0.005310	
		10mins	13.56	13.56073	0.005383	
30	5	start	13.56	13.56072	0.005310	±0.01 %
		2mins	13.56	13.56072	0.005310	
		5mins	13.56	13.56077	0.005678	
		10mins	13.56	13.56076	0.005605	

10	5	start	13.56	13.56070	0.005162	±0.01 %
		2mins	13.56	13.56072	0.005310	
		5mins	13.56	13.56071	0.005236	
		10mins	13.56	13.56075	0.005531	
0	5	start	13.56	13.56072	0.005310	±0.01 %
		2mins	13.56	13.56072	0.005310	
		5mins	13.56	13.56070	0.005162	
		10mins	13.56	13.56070	0.005162	
-10	5	start	13.56	13.56072	0.005310	±0.01 %
		2mins	13.56	13.56071	0.005236	
		5mins	13.56	13.56070	0.005162	
		10mins	13.56	13.56079	0.005826	
-20	5	start	13.56	13.56075	0.005531	±0.01 %
		2mins	13.56	13.56076	0.005605	
		5mins	13.56	13.56072	0.005310	
		10mins	13.56	13.56077	0.005678	

6. EMI Reduction Method During Compliance Testing

No modification was made during testing.