Test Report

Applicant	:	INTEGRATED TECHNICAL VISION LTD
Address	:	12 CHIGORINA STR., KYIV 01042, UKRAINE
Product Name	:	U-Prox access control system
Brand Mark	:	U-Prox
Model	:	Universal reader with a keypad U-Prox SE keypad
FCC ID	:	2BLQF-482026137ECX
Report Number	:	BLA-EMC-202402-A2504
Date of Receipt	:	Feb. 23, 2024
Date of Test	:	Feb. 23, 2024 to Dec. 31, 2024
Test Standard	:	47 CFR Part 15, Subpart C
Test Result	:	Pass

Compiled by: Hugh **Review by:** Sweely **Approved by:** Blue Zheng

Issued Date: Dec. 31, 2024

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.

Address: Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

TABLE OF CONTENTS

Revise Record

Version No.	Date	Description
01	Dec. 31, 2024	Original

1 GENERAL INFORMATION

1.1 GENERAL INFORMATION

Applicant	INTEGRATED TECHNICAL VISION LTD
Address	12 CHIGORINA STR., KYIV 01042, UKRAINE
Manufacturer	INTEGRATED TECHNICAL VISION LTD
Address	12 CHIGORINA STR., KYIV 01042, UKRAINE
Factory	INTEGRATED TECHNICAL VISION LTD
Address	5, kurganny side street, Chernihiv 14013, ukraine
Product Name	U-Prox access control system
Test Model No.	Universal reader with a keypad U-Prox SE keypad

1.2 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	N/A
Software Version	N/A
Operation Frequency:	125KHz
Modulation type:	ASK, FSK
Antenna Type:	Internal Antenna
Antenna Gain:	4dBi
Power Supply	DC12V

2 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Antenna requirement	47 CFR Part 15.215	N/A	N/A	Pass
20dB Bandwidth	47 CFR Part 15.215	ANSI C63.10 (2013) Section 7.8.7	47 CFR Part 15, Subpart C 15.215	Pass
Radiated Spurious Emissions	47 CFR Part 15.209	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209	Pass
Conducted Emissions at Mains Terminals (150kHz-30MHz)	47 CFR Part 15.207	ANSI C63.4:2014	Class B	N/A

N/A: Not Applicable

3 TEST CONFIGURATION

3.1 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	25°C	DC12V

3.2 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
TM1	Keep the EUT in TX mode

3.3 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission(9kHz-30MHz)	±4.34dB
Radiated Emission(30Mz-1000MHz)	±4.24dB
Radiated Emission(1GHz-18GHz)	±4.68dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB

3.4 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
Rechargeable battery	OUTDO	UTX7L-BS	N/A	From lab （No.BLA-ZC-PJ-2023005）

4 LABORATORY INFORMATION

4.1 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co.,Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673

The test facility is recognized, certified, or accredited by the following organizations:
FCC — Designation No.: CN1252
BlueAsia of Technical Services(Shenzhen) Co., Ltd has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Designation CN1252.
ISED — CAB identifier No.: CN0028
BlueAsia of Technical Services(Shenzhen) Co., Ltd has been registered by Certification and Engineering Bureau of ISED for radio equipment testing with CAB identifier CN0028

5 TEST INSTRUMENTS LIST

RF conducted

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-003-003	Shield room	5*3*3	SKET	N/A	2023/11/16	2025/11/15
BLA-EMC-016	Signal Generator	N5182A	Agilent	MY52420567	2024/06/28	2025/06/27
BLA-EMC-038	Spectrum	N9020A	Agilent	MY49100060	2024/08/08	2025/08/07
BLA-EMC-042	Power sensor	RPR3006W	DARE	14I00889SN042	2024/08/08	2025/08/07
BLA-EMC-044	Radio communication tester	CMW500	R&S	132429	2024/08/08	2025/08/07
BLA-EMC-064	Signal Generator	N5182B	KEYSIGHT	MY58108892	2024/06/28	2025/06/27
BLA-EMC-079	Spectrum	N9020A	Agilent	MY54420161	2024/08/08	2025/08/07
BLA-EMC-088	Audio Analyzer	ATS-1	Audio Precision	ATS141094	2024/06/28	2025/06/27

Radiated Spurious Emissions (Below 1GHz)

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-002-01	Anechoic chamber	9*6*6 chamber	SKET	N/A	2024/3/27	2027/3/26
BLA-EMC-002-02	Control room	966 control room	SKET	N/A	2024/3/27	2027/3/26
BLA-EMC-009	EMI receiver	ESR7	R&S	101199	2024/08/08	2025/08/07
BLA-EMC-043	Loop antenna	FMZB1519B	Schwarzbeck	00102	2024/06/29	2026/06/28
BLA-EMC-065	Broadband antenna	VULB9168	Schwarzbeck	01065P	2024/06/29	2026/06/27
BLA-XC-01	Coaxial Cable	N/A	BlueAsia	V01	N/A	N/A
BLA-XC-02	Coaxial Cable	N/A	BlueAsia	V02	N/A	N/A

Radiated Spurious Emissions (Above 1GHz)

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-001-01	Anechoic chamber	9*6*6 chamber	SKET	N/A	2023/11/16	2026/11/15
BLA-EMC-001	Control	966 control	SKET	N/A	2023/11/1	2025/11/1

-02	Room	room			6	5
BLA-EMC-008	Spectrum	FSP40	R&S	100817	2024/08/08	2025/08/07
BLA-EMC-012	Broadband antenna	VULB9168	Schwarzbeck	00836 P:00227	2022/10/12	2025/10/11
BLA-EMC-013	Horn Antenna	BBHA9120D	Schwarzbeck	01892	2024/06/29	2026/06/28
BLA-EMC-014	Amplifier	PA_000318G-45	SKET	PA2018043003	2024/08/08	2025/08/07
BLA-EMC-046	Filter bank	2.4G/5G Filter bank	SKET	N/A	2024/06/28	2025/06/27
BLA-EMC-061	Receiver	ESPI7	R&S	101477	2024/06/28	2025/06/27
BLA-EMC-066	Amplifier	LNPA_30M01G-30	SKET	SK2021060801	2024/06/28	2025/06/27
BLA-EMC-086	Amplifier	LNPA_18G40G-50dB	SKET	SK2022071301	2024/06/28	2025/06/27
BLA-EMC-087	Horn Antenna	BBHA 9170	Schwarzbeck	1106	2024/06/29	2026/06/28
BLA-XC-03	Coaxial Cable	N/A	BlueAsia	V03	N/A	N/A
BLA-XC-04	Coaxial Cable	N/A	BlueAsia	V04	N/A	N/A

Test Software Record：

Software No.	Software Name	Manufacture	Software version	Test site
BLA-EMC-S001	EZ-EMC	EZ	EEMC-3A1+	RE
BLA-EMC-S002	EZ-EMC	EZ	EEMC-3A1+	RE
BLA-EMC-S010	MTS 8310	MW	2.0.0.0	RF
BLA-EMC-S014	Bluetooth and WiFi Test System	Tonscend	2.5.77.0418	RF

6 Antenna requirement

Test Standard	47 CFR Part 15, Subpart C 15.215
Test Method	N/A

6.1 REQUIREMENT

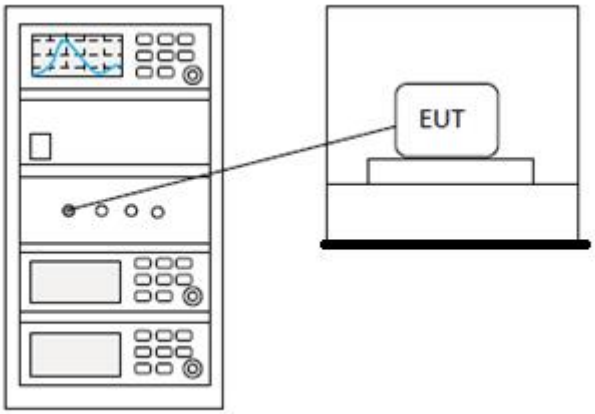
An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of a so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

This product has an integral antenna, fulfill the requirement of this section.

7 20DB BANDWIDTH

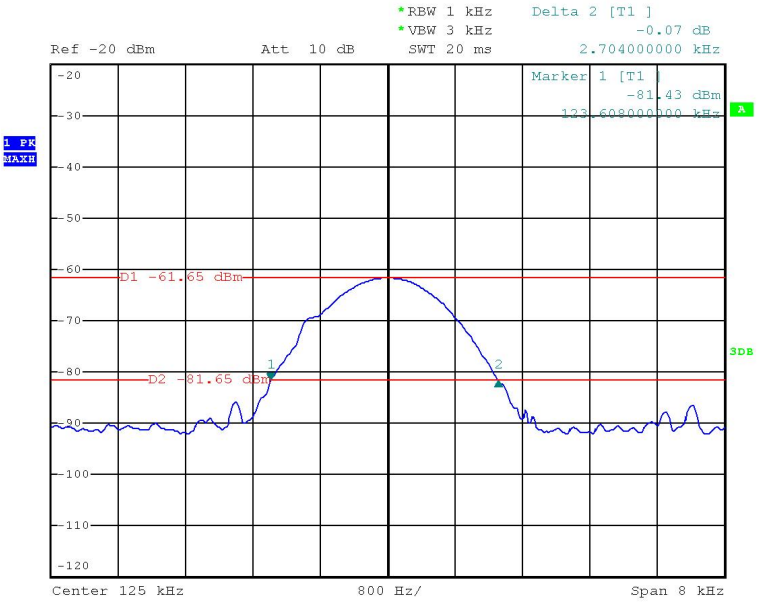
Test Standard	47 CFR Part 15, Subpart C 15.215
Test Method	ANSI C63.10 (2013) Section 7.8.7
Test Mode (Pre-Scan)	TM1
Test Mode (Final Test)	TM1
Tester	Hugh
Temperature	25℃
Humidity	60%

7.1 BLOCK DIAGRAM OF TEST SETUP



7.2 TEST DATA

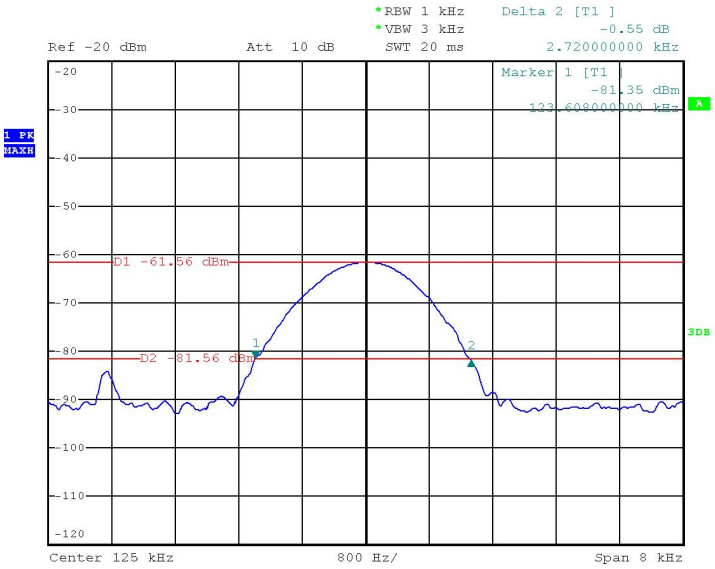
ASK:



jjjj
Date: 19.DEC.2024 03:34:31

20dB bandwidth (MHz)	Results
0.002704	Passed

FSK:



20dB bandwidth (MHz)	Results
0.002720	Passed

8 RADIATED SPURIOUS EMISSIONS

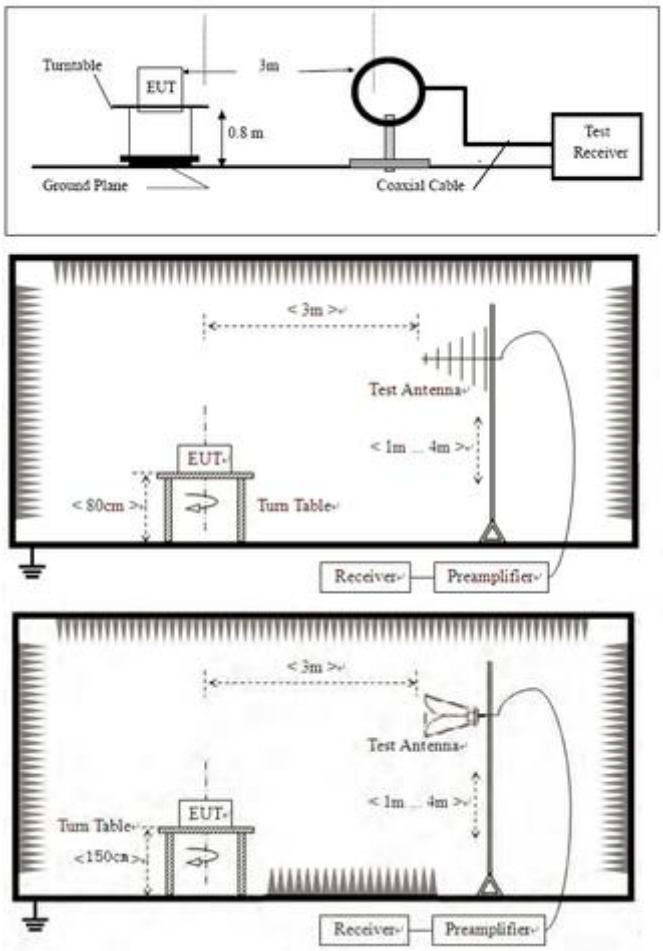
Test Standard	47 CFR Part 15, Subpart C 15.215
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Test Mode (Pre-Scan)	TM1
Test Mode (Final Test)	TM1
Tester	Jozu
Temperature	25℃
Humidity	60%

8.1 LIMITS

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

8.2 BLOCK DIAGRAM OF TEST SETUP



8.3 PROCEDURE

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not

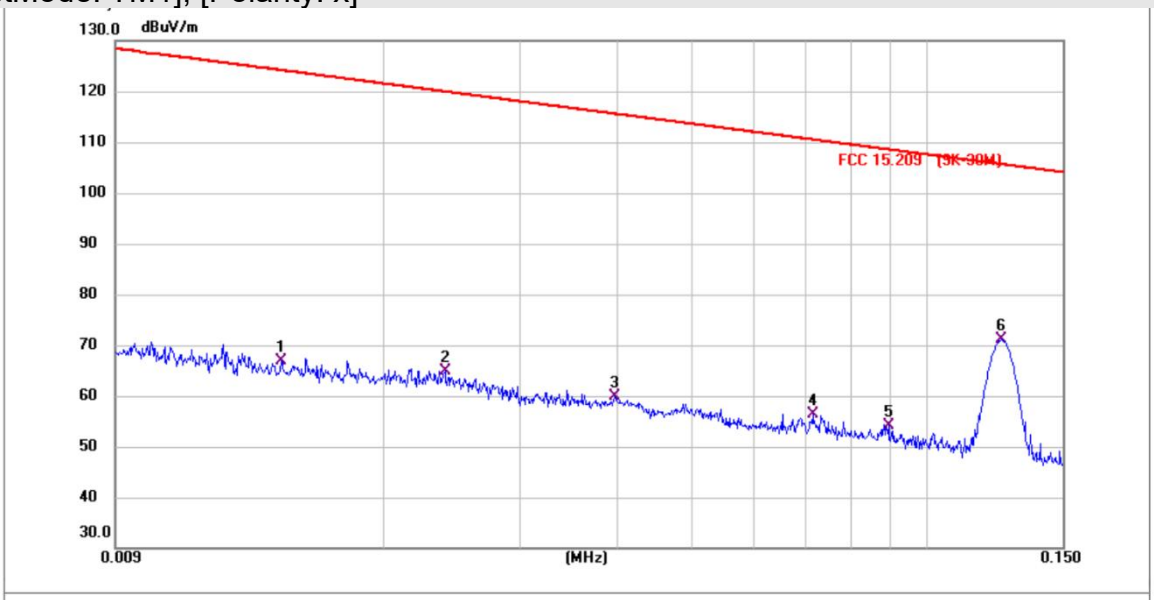
have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.

Remark:
1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.fundamental frequency is blocked by filter, and only spurious emission is shown.
4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

8.4 TEST DATA

ASK: 9kHz-30MHz:

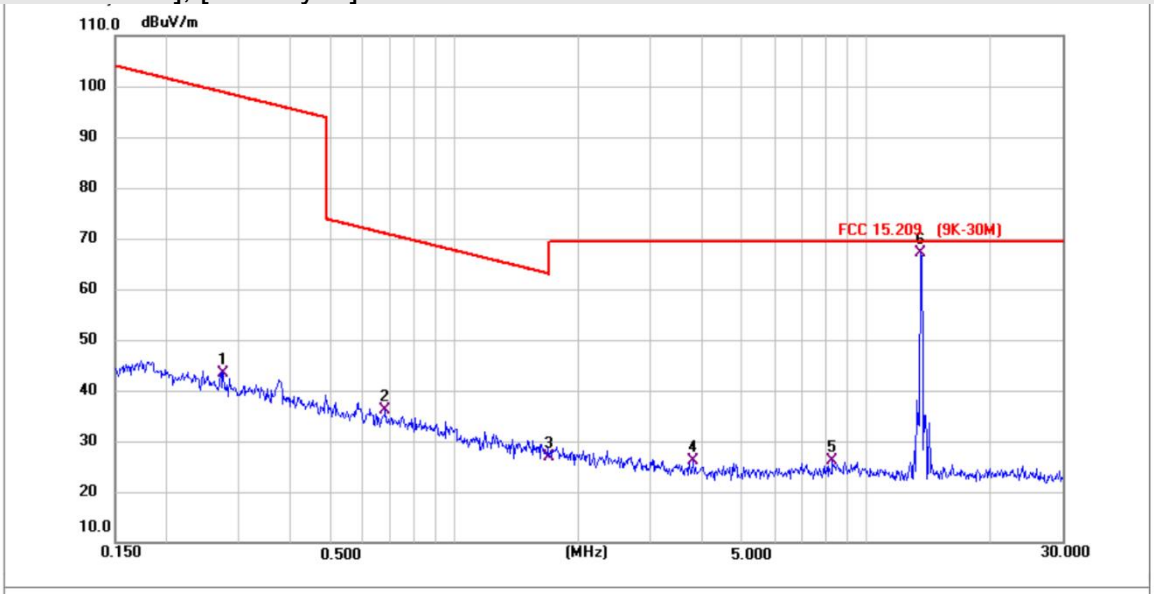
[TestMode: TM1]; [Polarity: x]



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.0147	46.41	20.58	66.99	124.16	-57.17	QP	P	
2	0.0240	44.29	20.58	64.87	119.91	-55.04	QP	P	
3	0.0396	39.30	20.54	59.84	115.58	-55.74	QP	P	
4	0.0714	35.92	20.50	56.42	110.47	-54.05	QP	P	
5	0.0894	33.63	20.59	54.22	108.53	-54.31	QP	P	
6 *	0.1249	50.65	20.42	71.07	105.63	-34.56	QP	P	

Test Result: Pass

[TestMode: TM1]; [Polarity: x]

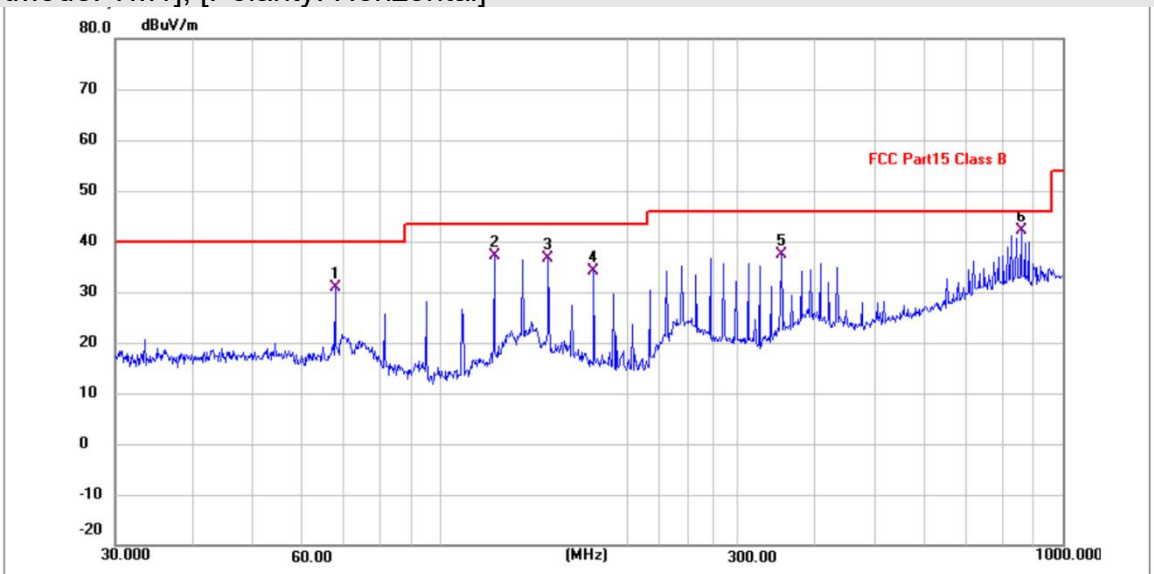


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.2744	22.91	20.44	43.35	98.82	-55.47	QP	P	
2	0.6790	15.52	20.56	36.08	70.97	-34.89	QP	P	
3	1.6981	6.17	20.64	26.81	63.04	-36.23	QP	P	
4	3.7994	5.42	20.61	26.03	69.50	-43.47	QP	P	
5	8.2789	5.35	20.73	26.08	69.50	-43.42	QP	P	
6 *	13.5509	46.52	20.57	67.09	69.50	-2.41	QP	P	

Test Result: Pass

30MHz-1GHz:

[TestMode: TM1]; [Polarity: Horizontal]



Site
Limit: FCC Part15 Class B
EUT: U-Prox access control system
M/N: Universal reader with a keypad
Mode: RF ID
Note:

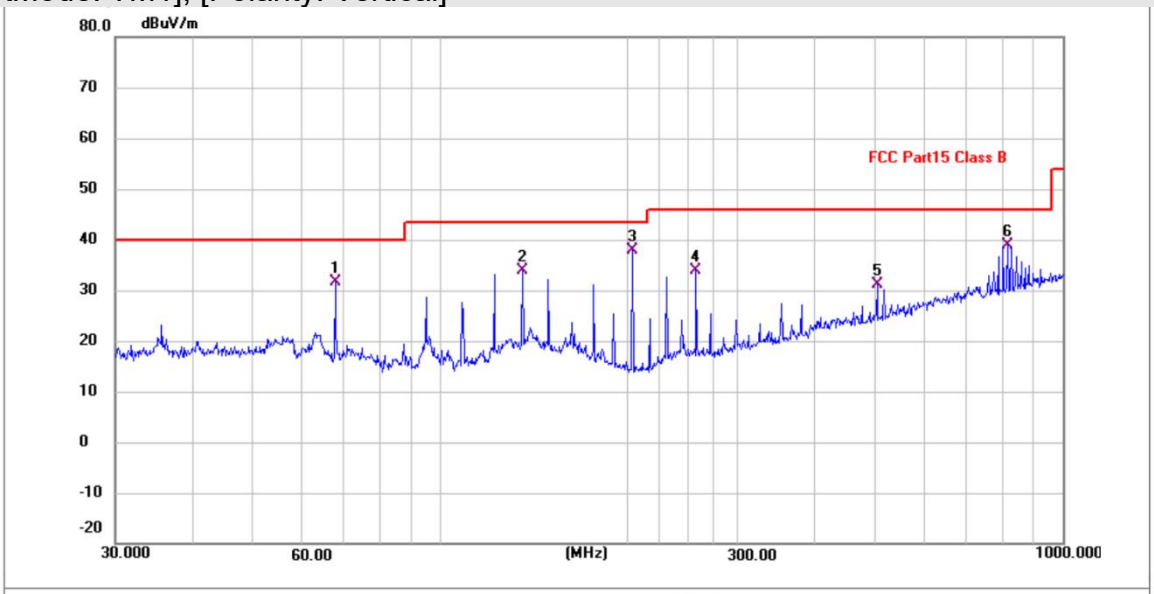
Polarization: ***Horizontal***
Power:

Temperature: (C)
Humidity: %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	67.6751	13.43	17.39	30.82	40.00	-9.18	QP	P	
2	121.9755	18.60	18.46	37.06	43.50	-6.44	QP	P	
3	148.9624	15.80	20.76	36.56	43.50	-6.94	QP	P	
4	176.2686	15.67	18.40	34.07	43.50	-9.43	QP	P	
5	352.9433	15.93	21.42	37.35	46.00	-8.65	QP	P	
6 *	857.0246	11.75	30.45	42.20	46.00	-3.80	QP	P	

Test Result: Pass

[TestMode: TM1]; [Polarity: Vertical]



Site
Limit: FCC Part15 Class B
EUT: U-Prox access control system
M/N: Universal reader with a keypad
Mode: RF ID
Note:

Polarization: ***Vertical***
Power:

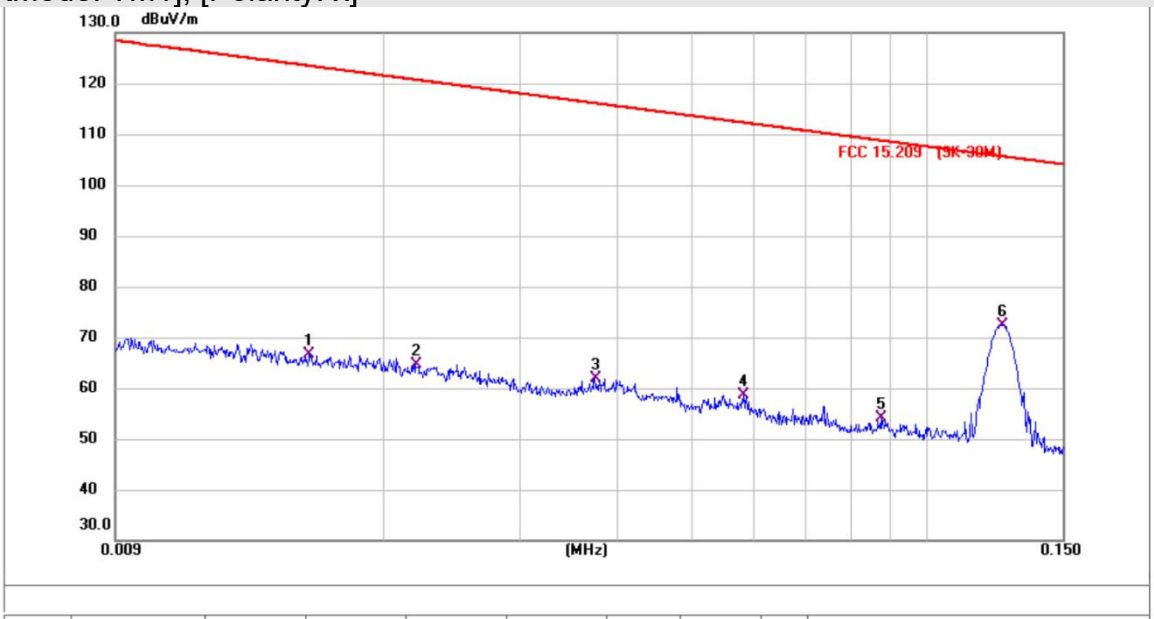
Temperature: (C)
Humidity: %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	67.6751	14.30	17.39	31.69	40.00	-8.31	QP	P	
2	135.5061	14.10	19.88	33.98	43.50	-9.52	QP	P	
3 *	203.5227	21.61	16.19	37.80	43.50	-5.70	QP	P	
4	257.4221	15.33	18.58	33.91	46.00	-12.09	QP	P	
5	502.9395	5.86	25.38	31.24	46.00	-14.76	QP	P	
6	815.9678	8.97	29.97	38.94	46.00	-7.06	QP	P	

Test Result: Pass

FSK: 9kHz-30MHz:

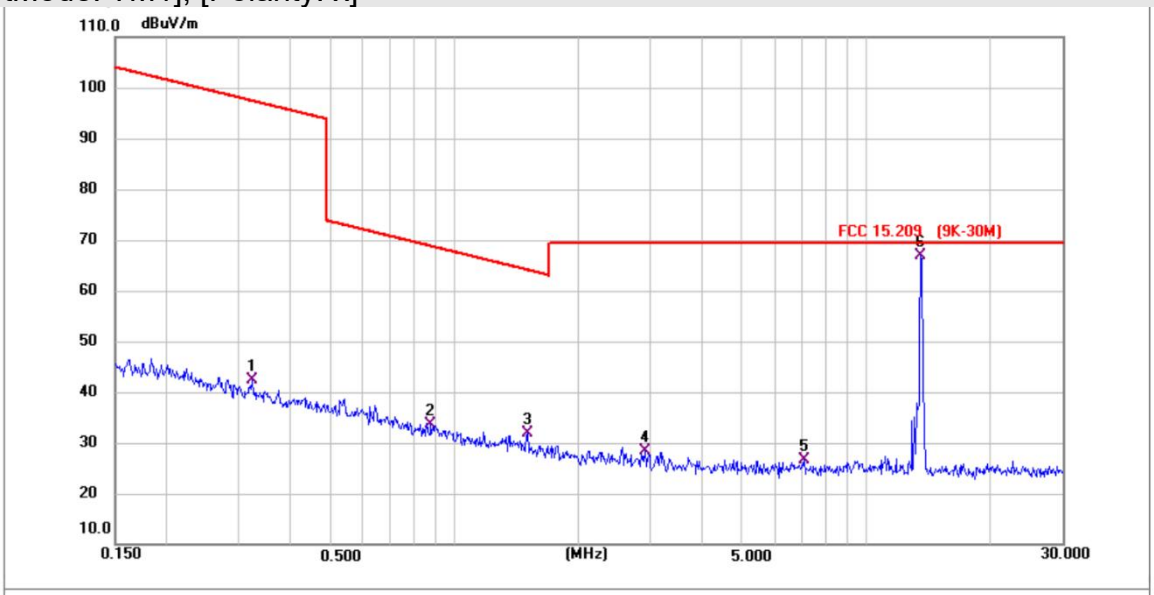
[TestMode: TM1]; [Polarity: x]



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.0160	46.05	20.58	66.63	123.42	-56.79	QP	P	
2	0.0220	44.07	20.58	64.65	120.67	-56.02	QP	P	
3	0.0374	41.38	20.55	61.93	116.07	-54.14	QP	P	
4	0.0581	38.25	20.49	58.74	112.26	-53.52	QP	P	
5	0.0874	33.52	20.58	54.10	108.72	-54.62	QP	P	
6 *	0.1256	52.09	20.41	72.50	105.58	-33.08	QP	P	

Test Result: Pass

[TestMode: TM1]; [Polarity: x]

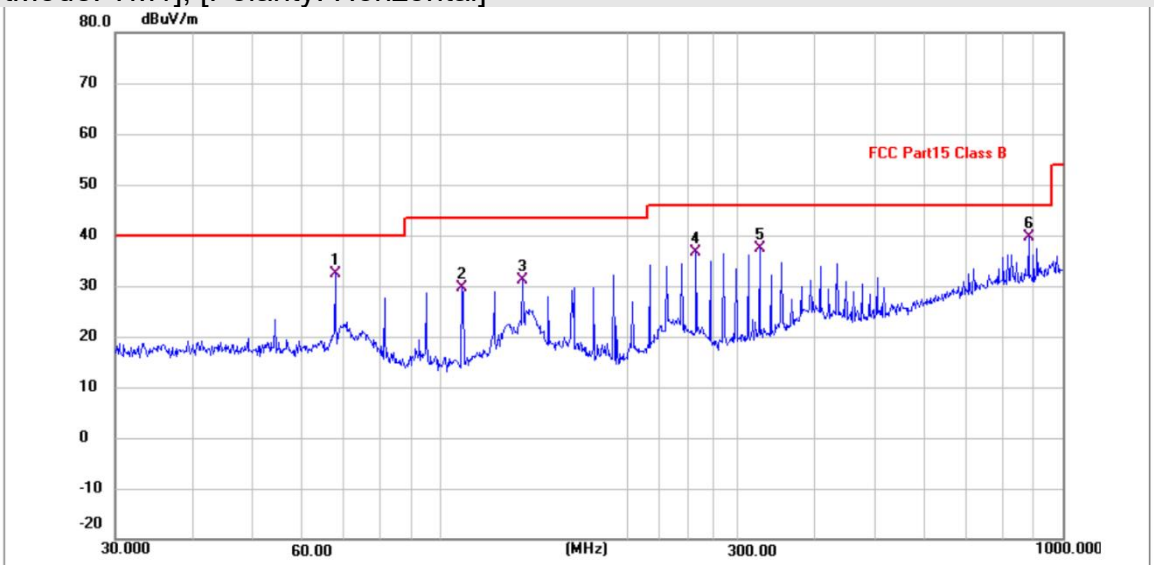


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	0.3215	21.97	20.46	42.43	97.44	-55.01	QP	P	
2	0.8756	13.00	20.61	33.61	68.77	-35.16	QP	P	
3	1.5032	11.18	20.64	31.82	64.09	-32.27	QP	P	
4	2.8997	7.73	20.67	28.40	69.50	-41.10	QP	P	
5	7.0622	5.81	20.78	26.59	69.50	-42.91	QP	P	
6 *	13.5508	46.34	20.57	66.91	69.50	-2.59	QP	P	

Test Result: Pass

30MHz-1GHz:

[TestMode: TM1]; [Polarity: Horizontal]



Site
Limit: FCC Part15 Class B
EUT: U-Prox access control system
M/N: Universal reader with a keypad
Mode: RF ID
Note:

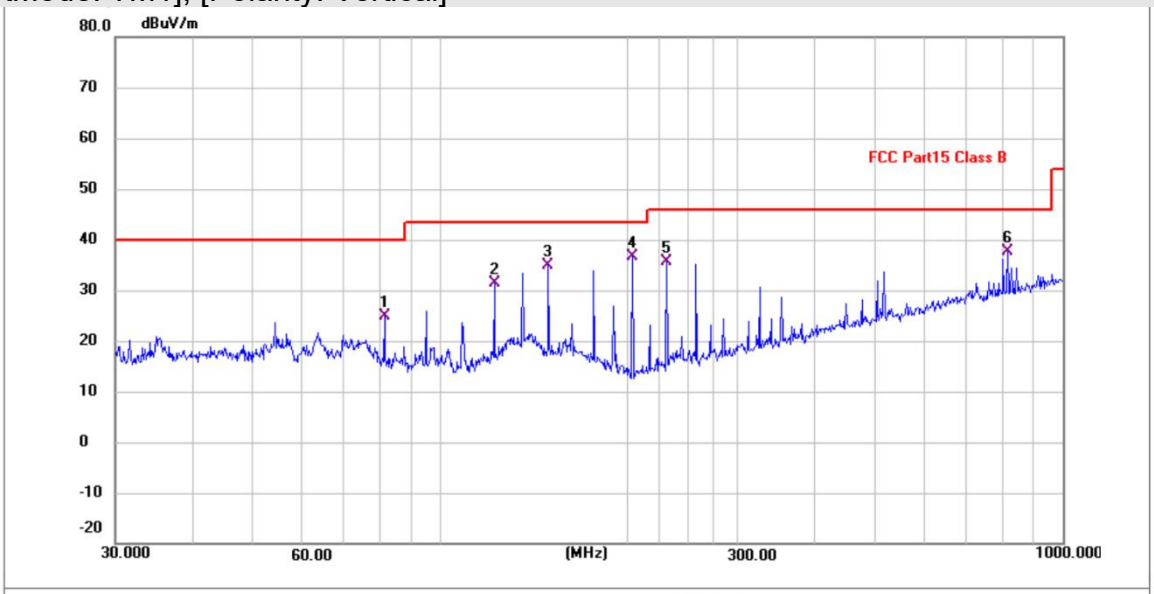
Polarization: *Horizontal*
Power:

Temperature: (C)
Humidity: %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	67.6751	15.03	17.39	32.42	40.00	-7.58	QP	P	
2	108.2666	12.81	16.72	29.53	43.50	-13.97	QP	P	
3	135.5061	11.35	19.88	31.23	43.50	-12.27	QP	P	
4	257.4221	17.99	18.58	36.57	46.00	-9.43	QP	P	
5	325.5958	16.23	21.11	37.34	46.00	-8.66	QP	P	
6 *	881.4067	8.83	30.90	39.73	46.00	-6.27	QP	P	

Test Result: Pass

[TestMode: TM1]; [Polarity: Vertical]



Site
Limit: FCC Part15 Class B
EUT: U-Prox access control system
M/N: Universal reader with a keypad
Mode: RF ID
Note:

Polarization: ***Vertical***
Power:

Temperature: (C)
Humidity: %RH

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F	Remark
1	81.2117	9.77	15.22	24.99	40.00	-15.01	QP	P	
2	121.9755	12.87	18.46	31.33	43.50	-12.17	QP	P	
3	148.9625	14.00	20.76	34.76	43.50	-8.74	QP	P	
4 *	203.5228	20.51	16.19	36.70	43.50	-6.80	QP	P	
5	230.9068	18.58	17.11	35.69	46.00	-10.31	QP	P	
6	815.9678	7.60	29.97	37.57	46.00	-8.43	QP	P	

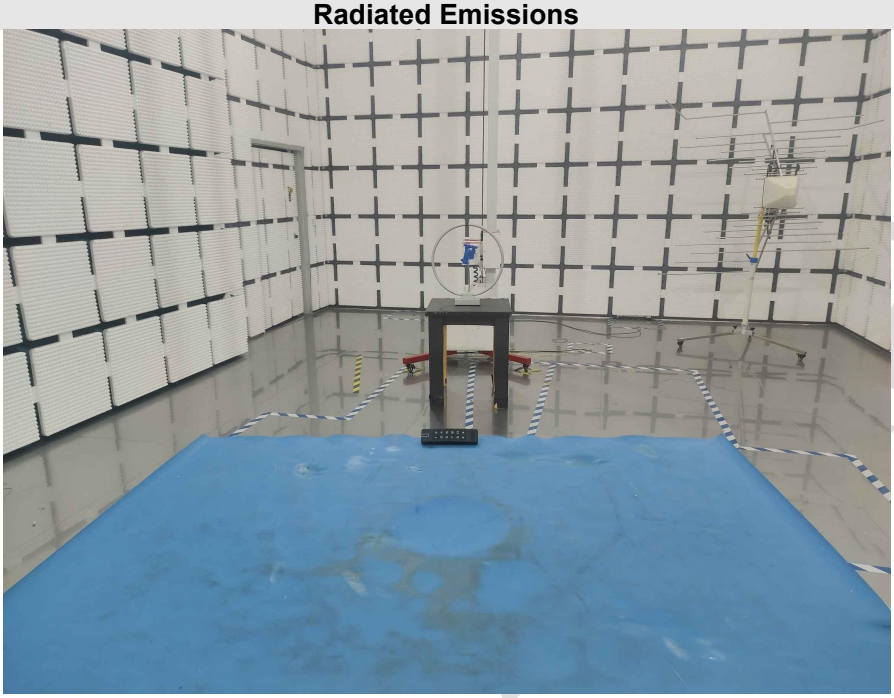
Test Result: Pass

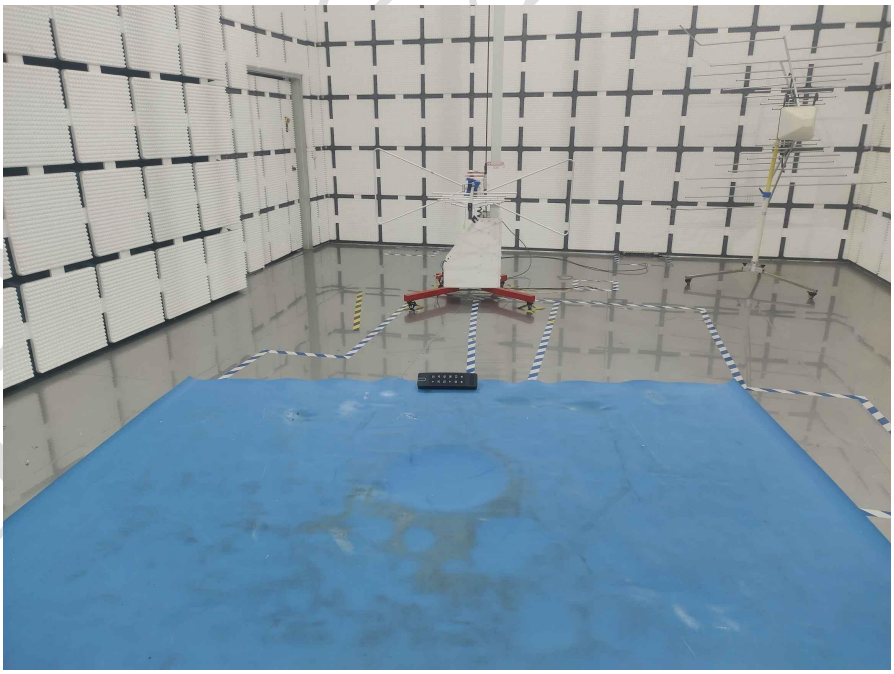
Remark:

1. Final Level =Receiver Read level + Correct factor
2. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor
3. The emission levels of other frequencies are very lower than the limit and not show in test report.

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Emissions





APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202402-A2501

----END OF REPORT----

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of BlueAsia, this report can't be reproduced except in full.