



FCC REPORT

Applicant	:	GPRO GLOBAL SDN. BHD.
Address of Applicant	:	29-33, JALAN HANG TUAH 4, TAMAN MUHIBBAH, 86000, KLUANG, JOHOR, MALAYSIA.
Manufacturer	:	GPRO GLOBAL SDN. BHD.
Address of Manufacturer	:	29-33, JALAN HANG TUAH 4, TAMAN MUHIBBAH, 86000, KLUANG, JOHOR, MALAYSIA.
Equipment under Test	:	Smart Reader
Model No.	:	Gmini-HF
FCC ID	:	2BREF-GMINI-HF
Test Standard(s)	:	FCC Rules and Regulations Part 15 Subpart C Section 15.225, ANSI C63.10:2013
Report No.	:	A2506012-C01-R01
Issue Date	:	2025/08/16
Issued By	:	Shenzhen Alpha Product Testing Co., Ltd. Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen City, Guangdong Province, P.R. China.

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Test Report Declare

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Address of Manufacturer	:	29-33, JALAN HANG TUAH 4, TAMAN MUHIBBAH, 86000, KLUANG, JOHOR, MALAYSIA.
Equipment under Test	:	Smart Reader
Model No.	:	Gmini-HF
Trademark	:	/

Test Standard Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.225, ANSI C63.10:2013

We Declare:

The equipment described above is tested by Shenzhen Alpha Product Testing Co., Ltd. and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

Report No.:	A2506012-C01-R01		
Date of Receipt:	2025/06/13	Date of Test:	2025/06/13 - 2025/08/16

Prepared By:

Yannis Wen/Engineer**Approved By:**

Jack Xu/EMC Manager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Revision History

Rev.	Revisions	Issue Date	Revised By
V0	Initial issue	2025/08/16	Yannis Wen

1. Summary of Test Results

No.	Test Parameter	Clause No.	Result
1	20dB Bandwidth and 99% Bandwidth	FCC Part 15: 15.225, ANSI C63.10 :2013	Pass
2	Radiated Emission&Field Strength Emissions	FCC Part 15: 15.209, ANSI C63.10 :2013	Pass
3	Frequency stability	FCC Part 15: 15.225(e), ANSI C63.10 :2013	Pass
4	Power Line Conducted Emissions	FCC Part 15: 15.207, ANSI C63.10 :2013	Pass
5	Antenna Requirement	FCC Part 15: 15.203	Pass

Note: 1.N/A is an abbreviation for Not Applicable, and means this item is not applicable for this device or no need to test according to standard.

2. Decision rules for the conclusion of this test report: decision by actual test data without considering measurement uncertainty.

Software Information			
Test Item	Software Name	Manufacturer	Version
RE	EZ-EMC	Farad	Alpha-3A1
RF-CE	MTS 8310	MWRFTest	V2.0.0.0

2. General Test Information

2.1. Description of EUT

EUT Name	:	Smart Reader
Model Number	:	Gmini-HF
Difference of model number	:	/
Power Supply	:	DC 5V from Type-C
Hardware Version	:	GPRO-HF-TYPE-C-Reader V4.5
Software Version	:	/

Radio Technology	:	NFC
Operation frequency	:	13.56 MHz
Modulation	:	ASK
Antenna Type	:	Internal antenna
Max Antenna Gain(dBi)	:	2dBi (Antenna information is provided by applicant.)

Channel information	
Channel	Frequency (MHz)
1	13.56

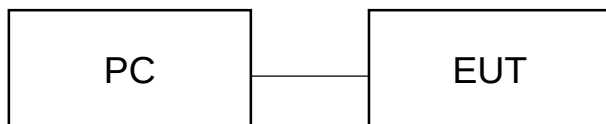
Note: The above EUT information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications or User's Manual. The above Antenna information is declared by manufacturer and for more detailed features description please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

“☒” means to be chosen or applicable; “☐” means don't to be chosen or not applicable; This note applies to entire report.

2.2. Accessories of EUT

Accessories	Manufacturer	Model number	Description
/	/	/	/

2.3. Block diagram of EUT configuration for test



2.4. Test mode description

No	Title	Description
Mode 1	TX mode	Keep the EUT in continuously transmitting mode

2.5. Deviations of test standard

No deviation.

2.6. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Items	Required
Temperature range:	15-35°C
Humidity range:	25-75%
Pressure range:	86-106kPa

Note: The specific temperature and humidity information of each test item refers to the temperature and humidity record in the corresponding test data.

2.7. Test laboratory

Shenzhen Alpha Product Testing Co., Ltd.

Add.: Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen City, Guangdong Province, P.R. China.

Tel.: 4008-3008-95, Website: <http://www.a-lab.cn>, Email: service@a-lab.cn

CNAS Accreditation No. L7472; A2LA Accreditation Number: 4762.01

FCC Designation Number: CN1182, Test Firm Registration Number: 203110

Innovation, Science and Economic Development Canada Site Registration Number: 12135A

CAB identifier: CN0085

2.8. Measurement uncertainty

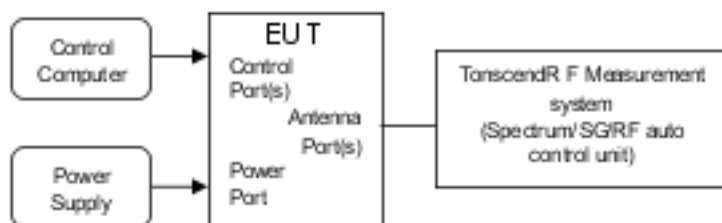
Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	3.5dB
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.74dB(Polarize: V)
	3.76dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (18GHz to 40GHz)	4.31 dB(Polarize: V)
	4.30 dB(Polarize: H)
Uncertainty for radio frequency	5.06×10^{-8} GHz
Uncertainty for conducted RF Power	0.40dB
Uncertainty for temperature	0.2°C
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3. 20dB Bandwidth and 99% Bandwidth

3.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCHWARZ	CMW500	Aa-EE073	2024/08/08	2025/08/07
Spectrum analyzer	ROHDE&SCHWARZ	FSV40-N	Aa-EE081	2024/08/08	2025/08/07
Signal Analyzer	Agilent	N9020A	Aa-EE039	2024/08/08	2025/08/07
Power Sensor	Agilent	E9300A	Aa-EE046	2024/08/08	2025/08/07
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2024/08/08	2025/08/07
Power Sensor	DARE	RPR3006W	Aa-EE071	2024/08/08	2025/08/07
Power Sensor	DARE	RPR3006W	Aa-EE070	2024/08/08	2025/08/07

3.2. Block diagram of test setup



3.3. Limits

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in FCC part 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

3.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
Portable laptop	Lenovo	ThinkPad E14	/	/

3.5. Test procedure

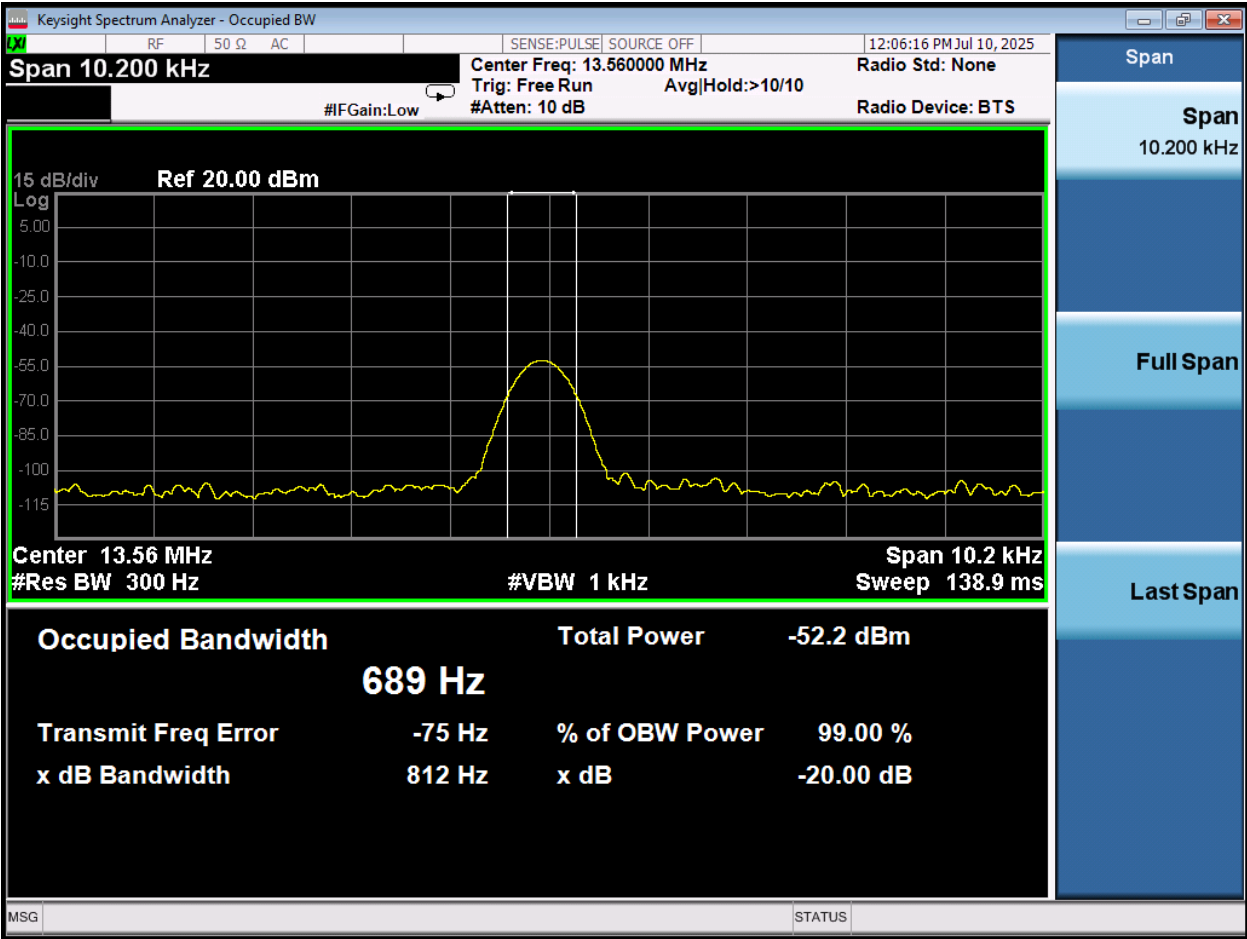
1. The transmitter output was directly connected to a spectrum analyzer with a 50Ω cable. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 3KHz RBW and 10kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.
2. The test receiver set RBW =1-5%BW, VBW≥3*RBW, Sweep time set auto, detail see the test plot for 99% Bandwidth.

3.6. Test result

Test Site: RF Laboratory	Test Date: 2025/07/10--2025/07/10
Condition: 24.1°C,56%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	
EUT Name: Smart Reader	EUT Model: Gmini-HF
Sample No.: A2506012-S0001	Test Mode: TX mode
Power supply: DC 5V from Type-C	Memo: The measured signal is Cw-like, adjusting the RBW per C63.10 would not be practical since measurement bandwidth will always follow the RBW, The RBW is set to 300Hz to performm the occupiedbandwidth test. .

/

3.7. Test data

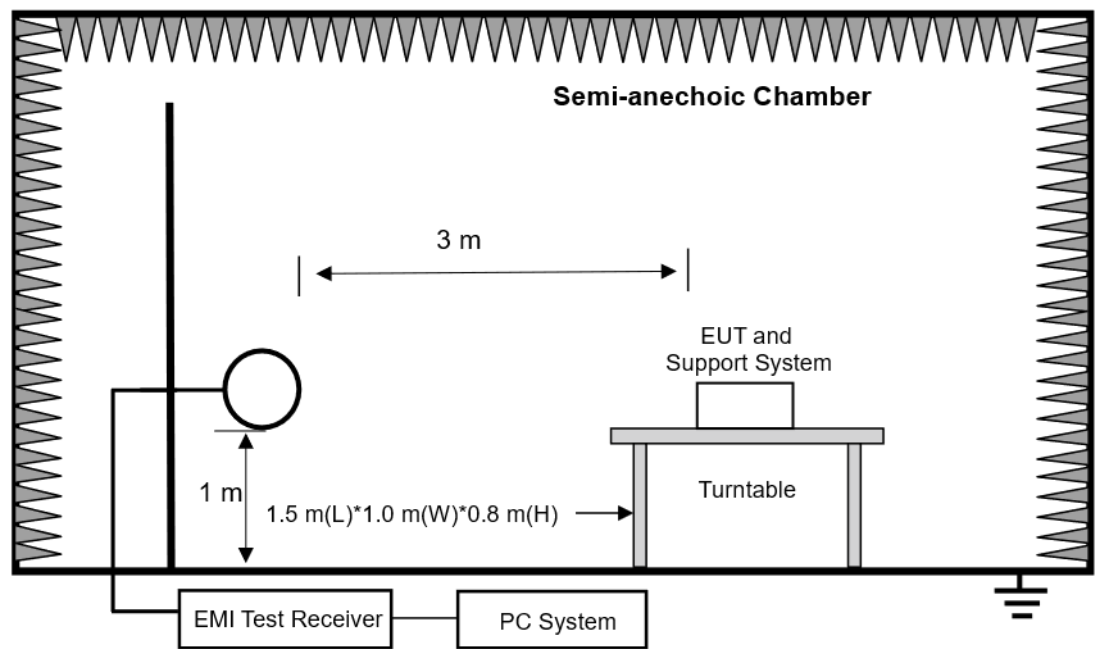


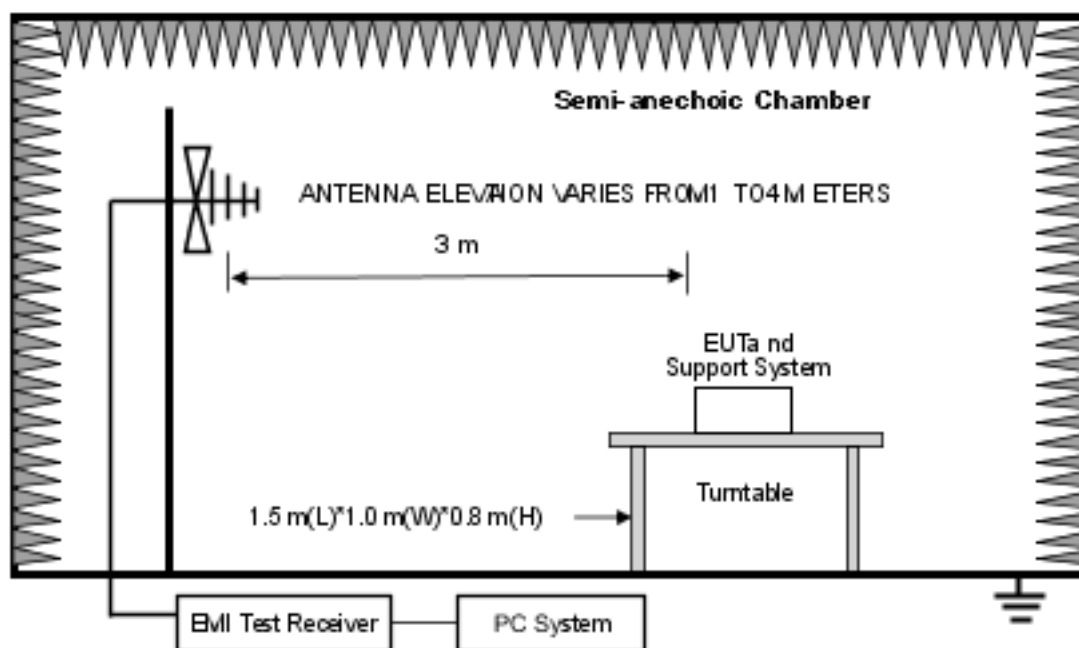
4. Radiated Emission&Field Strength Emissions

4.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
Spectrum analyzer	ROHDE&SCHWARZ	FSU	Aa-EE075	2024/08/08	2025/08/07
Spectrum analyzer	ROHDE&SCHWARZ	FSU	Aa-EE075	2025/08/04	2026/08/03
Horn Antenna	SCHWARZBECK	BBHA 9120 D	Aa-EE076	2023/08/19	2025/08/18
Test Receiver	ROHDE&SCHWARZ	ESR	Aa-EE048	2024/08/08	2025/08/07
Test Receiver	ROHDE&SCHWARZ	ESR	Aa-EE048	2025/08/04	2026/08/03
Bilog Antenna	SCHWARZBECK	VULB 9168	Aa-EE001	2023/08/28	2025/08/27
Amplifier	SKET	LNPA_0118G-45	Aa-EE087	2024/08/08	2025/08/07
Amplifier	SKET	LNPA_0118G-45	Aa-EE087	2025/08/04	2026/08/03
Horn Antenna	SCHWARZBECK	BBHA 9170	Aa-EE077	2023/08/19	2025/08/18
Loop Antenna	SCHWARZBECK	FMZB 1519B	Aa-EE074	2023/08/19	2025/08/18

4.2. Block diagram of test setup





4.3. Limits

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.
- (d) 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 [§ 15.209](#).

Frequency MHz	Field strengths		Field strengths limit	
	uV/m	Distance(m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000*2400/F(kHz)	20log((2400/F(kHz))+80)
0.490 ~ 1.705	24000/F(kHz)	30	100*24000/F(kHz)	20log((2400/F(kHz))+40)
1.705 ~ 30.0	30	30	100*30	20log(30)+40
30~88	100	3	100	20log(100)
88~216	150	3	150	20log(150)
216~960	200	3	200	20log(200)
Above	500	3	500	20log(500)

Note:

a) The tighter limit applies at the band edges.

For example: F.S limit at 88MHz is 100uV/m

b) If measurement is made at 3m distance, then F.S Limit at 3m distance is adjusted by using the formula of $Ld2=Ld2*(d2/d1)^2$.

For example:

F.S Limit at 30m(d2) distance is 30uV/m(Ld2), then F.S Limit at 3m(d1) distance is

$Ld1=30uV/m*(30/3)^2=100*30uV/m=69.54 \text{ dBuV/m}$.

4.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
Portable laptop	Lenovo	ThinkPad E14	/	/

4.5. Test procedure

The measuring distance of 3m shall be used for measurements at frequency up to 1GH and above 1GHz, The EUT was placed on a rotating 0.8 m high above ground for below 1GHz and 1.5m high for above1GHz testing, The table was rotated 360 degrees to determine the position of the highest radiation.

The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set of make measurement.

The initial step in collecting conducted emission data is a spectrum analyzer Peak detector mode pre-scanning the measurement frequency range. Significant Peaks are then marked. and then Qusia Peak Detector mode premeasured.

If Peak value comply with QP limit Below 1GHz.The EUT deemed to comply with QP limit. But the Peak value and average value both need to comply with applicable limit above 1GHz.

For the actual test configuration, please see the test setup photo.

4.6. Test result

Test Site: Chamber 1#(RSE)	Test Date: 2025/07/07--2025/08/16
Condition: 22.4°C,55%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smart Reader	EUT Model: Gmini-HF
Sample No.: A2506012-S0001	Test Mode: TX mode
Power supply: DC 5V from Type-C	Memo: /

Note:

1. The test results are listed in next pages.
2. This report only reflected the worst mode. The worst case of below 30MHz is Polarization X.
3. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the quasi-peak detector need not be carried out.

4.7. Test data

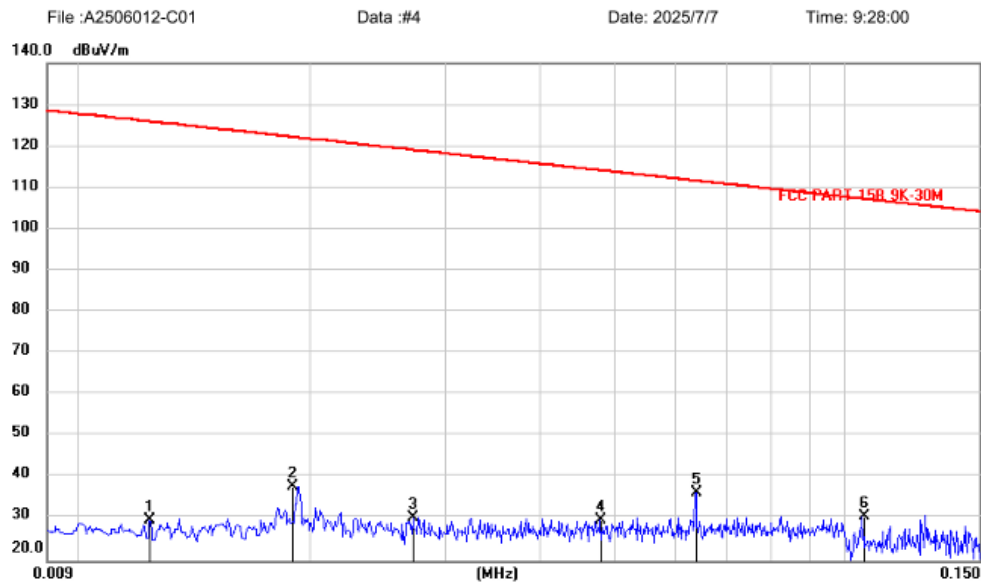


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地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Site LAB 966 Chamber 1	Polarization: X	Temperature: 22.4
Limit: FCC PART 15B 9K-30M	Power: DC 5V from Type-C	Humidity: 55 %
EUT/Task No : A2506012-C01	Distance: 3m	
M/N/Sample No: A2506012-S0001		
Mode : Mode 1		
Note:		
Engineer Signature: <i>Yanni3 wen</i>		

Radiated Emission Measurement



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	
			dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree Comment
1		0.0123	29.73	0.10	29.83	125.9	-96.07	peak		
2		0.0189	37.77	0.10	37.87	122.1	-84.31	peak		
3		0.0271	30.35	0.10	30.45	119.0	-88.61	peak		
4		0.0478	29.60	0.10	29.70	114.1	-84.45	peak		
5	*	0.0638	36.29	0.10	36.39	111.6	-75.26	peak		
6		0.1054	30.62	0.10	30.72	107.3	-76.58	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

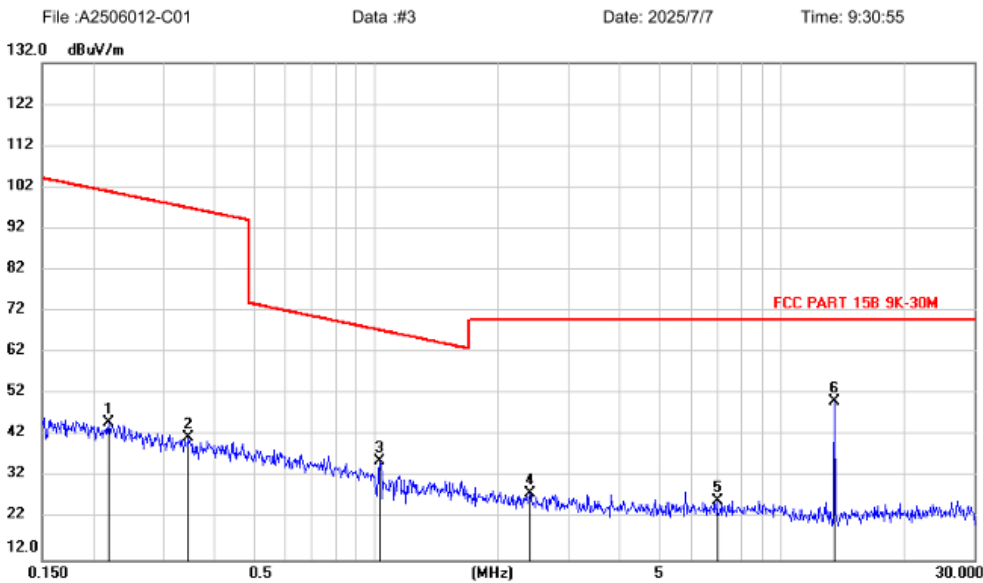


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SHENZHEN ALPHA PRODUCT TESTING CO.,LTD. Shenzhen Alpha Product Testing Co.,Ltd.

地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Site LAB 966 Chamber 1	Polarization: X	Temperature: 22.4
Limit: FCC PART 15B 9K-30M	Power: DC 5V from Type-C	Humidity: 55 %
EUT/Task No : A2506012-C01	Distance: 3m	
M/N/Sample No: A2506012-S0001		
Mode : Mode 1		
Note:		
Engineer Signature: Yannis Wen		

Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree
1		0.2193	45.19	0.10	45.29	100.9	-55.67	peak		
2		0.3450	41.54	0.10	41.64	97.04	-55.40	peak		
3		1.0238	35.78	0.10	35.88	67.50	-31.62	peak		
4		2.4090	28.10	0.10	28.20	70.00	-41.80	peak		
5		6.9545	26.29	0.10	26.39	70.00	-43.61	peak		
6	*	13.5652	50.18	0.10	50.28	70.00	-19.72	peak		

Note:1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

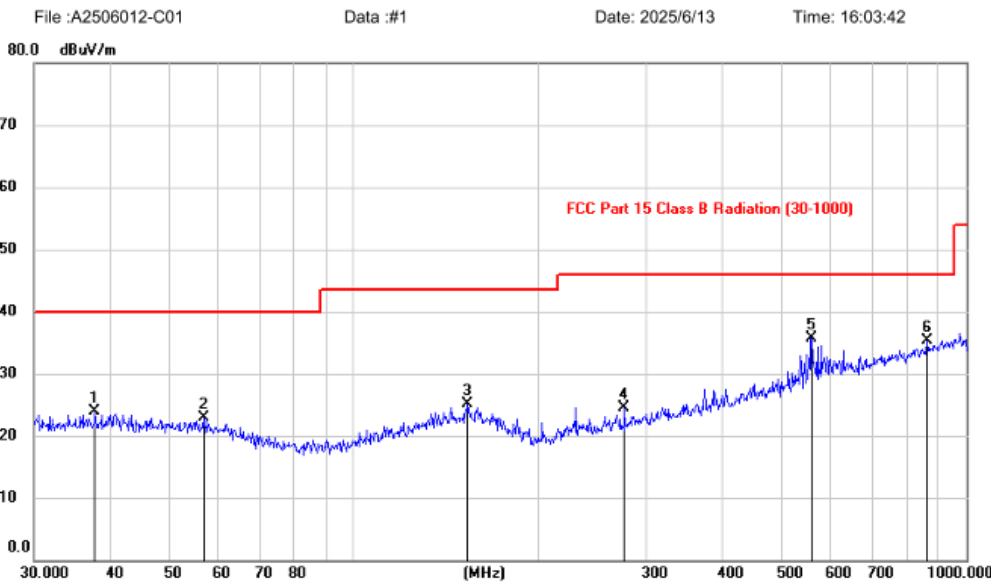


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SHENZHEN ALPHA PRODUCT TESTING CO.,LTD. Shenzhen Alpha Product Testing Co.,Ltd.

地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Site LAB 966 Chamber 1	Polarization: Vertical	Temperature: 22.5
Limit: FCC Part 15 Class B Radiation (30-1000)	Power: DC 5V from Type-C	Humidity: 55 %
EUT/Task No : A2506012-C01	Distance: 3m	
M/N/Sample No: A2506012-S0001		
Mode : Mode 1		
Note:		
Engineer Signature: <i>Yanni3 wen</i>		

Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		37.7680	9.73	14.11	23.84	40.00	-16.16	peak		
2		56.8449	9.50	13.43	22.93	40.00	-17.07	peak		
3		153.3616	9.96	15.05	25.01	43.50	-18.49	peak		
4		276.4788	11.05	13.47	24.52	46.00	-21.48	peak		
5	*	560.6273	16.42	19.38	35.80	46.00	-10.20	peak		
6		865.5819	11.79	23.57	35.36	46.00	-10.64	peak		

Note: 1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

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SHENZHEN ALPHA PRODUCT TESTING CO.,LTD.深圳阿尔法商品检验有限公司
Shenzhen Alpha Product Testing Co.,Ltd.地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Site LAB 966 Chamber 1

Polarization: Horizontal

Temperature: 22.5

Limit: FCC Part 15 Class B Radiation (30-1000)

Power: DC 5V from Type-C

Humidity: 55 %

EUT/Task No : A2506012-C01

Distance: 3m

M/N/Sample No: A2506012-S0001

Mode : Mode 1

Note:

Engineer Signature: Yanni3 wen

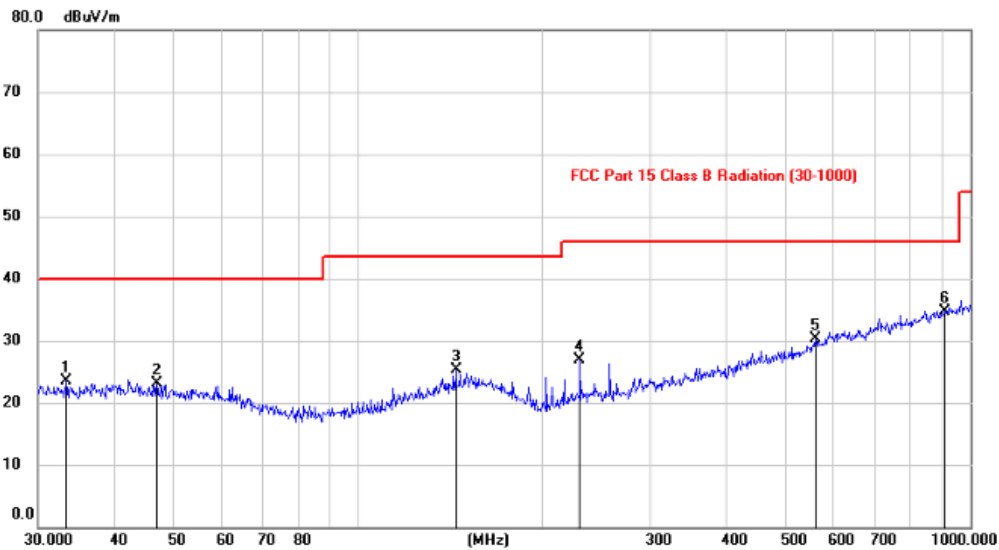
Radiated Emission Measurement

File :A2506012-C01

Data :#2

Date: 2025/6/13

Time: 16:05:17



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		33.4019	9.74	13.67	23.41	40.00	-16.59	peak	
2		46.9179	8.97	14.07	23.04	40.00	-16.96	peak	
3		144.6894	10.58	14.66	25.24	43.50	-18.26	peak	
4		230.5022	14.49	12.32	26.81	46.00	-19.19	peak	
5		560.1033	10.93	19.37	30.30	46.00	-15.70	peak	
6	*	908.0731	10.61	24.14	34.75	46.00	-11.25	peak	

Note: 1. *:Maximum data; x:Over limit; !:over margin.

2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

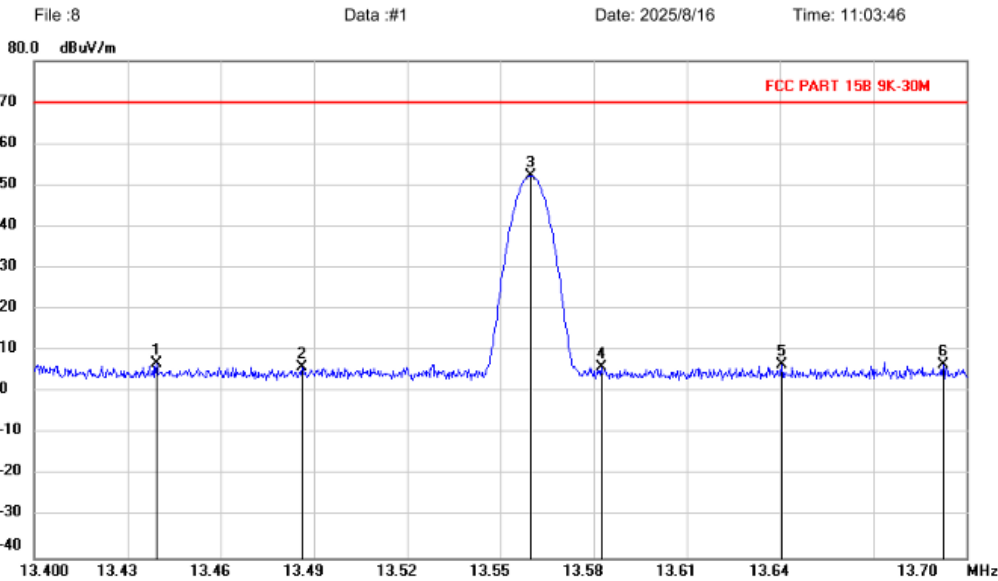


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地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Site LAB 966 Chamber 1	Polarization: X	Temperature: 22.4
Limit: FCC PART 15B 9K-30M	Power: DC 5V from Type-C	Humidity: 55 %
EUT/Task No : A2506012-C01	Distance: 3m	
M/N/Sample No: A2506012-S0001		
Mode : Mode 1		
Note:		
Engineer Signature: Yanni3 wen		

Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree
1		13.4393	6.85	0.10	6.95	70.00	-63.05	peak	
2		13.4863	6.02	0.10	6.12	70.00	-63.88	peak	
3	*	13.5598	52.19	0.10	52.29	70.00	-17.71	peak	
4		13.5826	5.93	0.10	6.03	70.00	-63.97	peak	
5		13.6407	6.64	0.10	6.74	70.00	-63.26	peak	
6		13.6925	6.57	0.10	6.67	70.00	-63.33	peak	

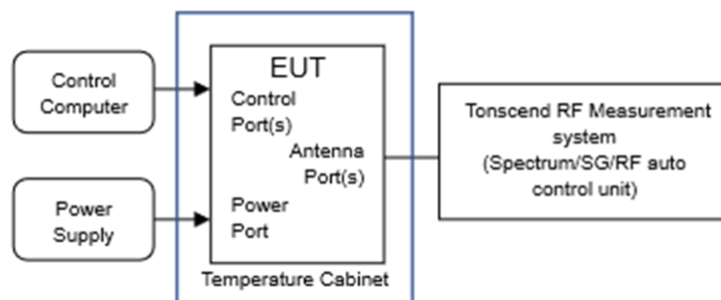
Note: 1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

5. Frequency stability

5.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2024/08/08	2025/08/07
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2024/08/08	2025/08/07
Signal Analyzer	Agilent	N9020A	Aa-EE039	2024/08/08	2025/08/07
Power Sensor	Agilent	E9300A	Aa-EE046	2024/08/08	2025/08/07
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2024/08/08	2025/08/07
Power Sensor	DARE	RPR3006W	Aa-EE071	2024/08/08	2025/08/07
Power Sensor	DARE	RPR3006W	Aa-EE070	2024/08/08	2025/08/07
Temp. & Humid. Chamber	Teelong	TL-HW408S	Aa-SE303	2024/07/15	2025/07/14
Regulated Power Supply	Haode	HD-10KVA	Aa-EE112	2025/03/06	2026/03/05

5.2. Block diagram of test setup



5.3. Limits

Please refer section 15.225e.

Regulation 15.225(e) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ (± 100 ppm) 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. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
Portable laptop	Lenovo	ThinkPad E14	/	/

5.5. Test procedure

The following equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.6. Test result

Test Site: RF Laboratory	Test Date: 2025/06/20--2025/06/23
Condition: 24.2°C,56%RH	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smart Reader	EUT Model: Gmini-HF
Sample No.: A2506012-S0001	Test Mode: TX mode
Power supply: DC 5V from Type-C	Memo: /

/

5.7. Test data

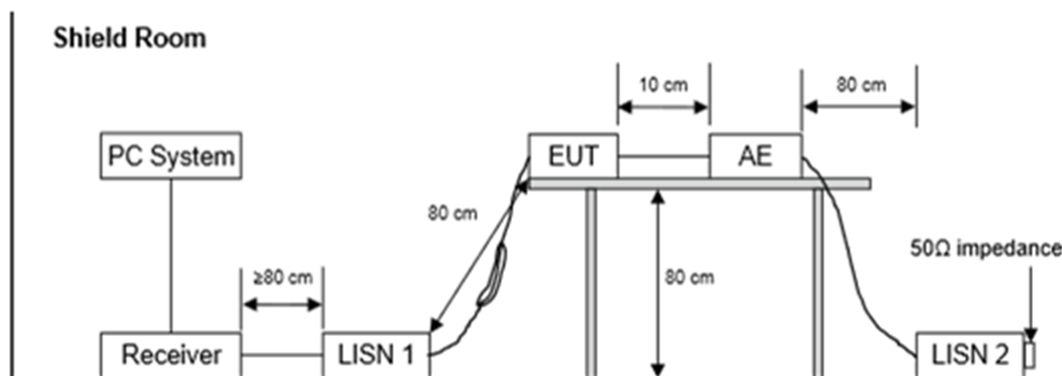
Assigned Frequency(MHz): 13.56MHz				
Voltage	Temperature	Measured Frequency (MHz)	Frequency stability	Limit
Low DC 4.25V	+20°C	13.561152	0.001152	±100 ppm ±0.001356MHz
Normal DC 5V	-10°C	13.559141	-0.000859	
	-5°C	13.558779	-0.001221	
	0°C	13.560027	0.000027	
	+10°C	13.559184	-0.000816	
	+20°C	13.560239	0.000239	
	+30°C	13.559944	-0.000056	
	+40°C	13.558963	-0.001037	
	+50°C	13.559751	-0.000249	
	+60°C	13.558918	-0.001082	
High DC 5.75V	+20°C	13.560849	0.000849	

6. Power Line Conducted Emissions

6.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
Test Receiver	ROHDE&SCHWARZ	ESCI	Aa-EE005	2024/08/08	2025/08/07
Pulse Limiter	SCHWARZBEC K	9516F	Aa-EE004	2024/08/08	2025/08/07
L.I.S.N.	SCHWARZBEC K	NSLK8126	Aa-EE003	2024/08/08	2025/08/07

6.2. Block diagram of test setup



6.3. Limits

Frequency	Quasi-Peak Level dB(uV)	Average Level dB(uV)
150 kHz~500 kHz	66 ~ 56*	56 ~ 46*
500 kHz~5 MHz	56	46
5 MHz~30 MHz	60	50

Notes: 1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3. The limit decreases in line with the logarithm of the frequency in rang of 0.15 to 0.50 MH

6.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
AC Adapter	DEE VAN ENTERPRISE CO., LTD.	D5A-45PDA FCH	/	/

6.5. Test procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In

order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10:2013 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9 kHz.

6.6. Test result

Test Site: Shield Room CE 1#	Test Date: 2025/06/17--2025/06/17
Condition: 23.2°C,53%RH,101kPa	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smart Reader	EUT Model: Gmini-HF
Sample No.: A2506012-S0001	Test Mode: TX mode
Power supply: DC 5V from Type-C	Memo: Mark 5 is the main frequency transmission.

/

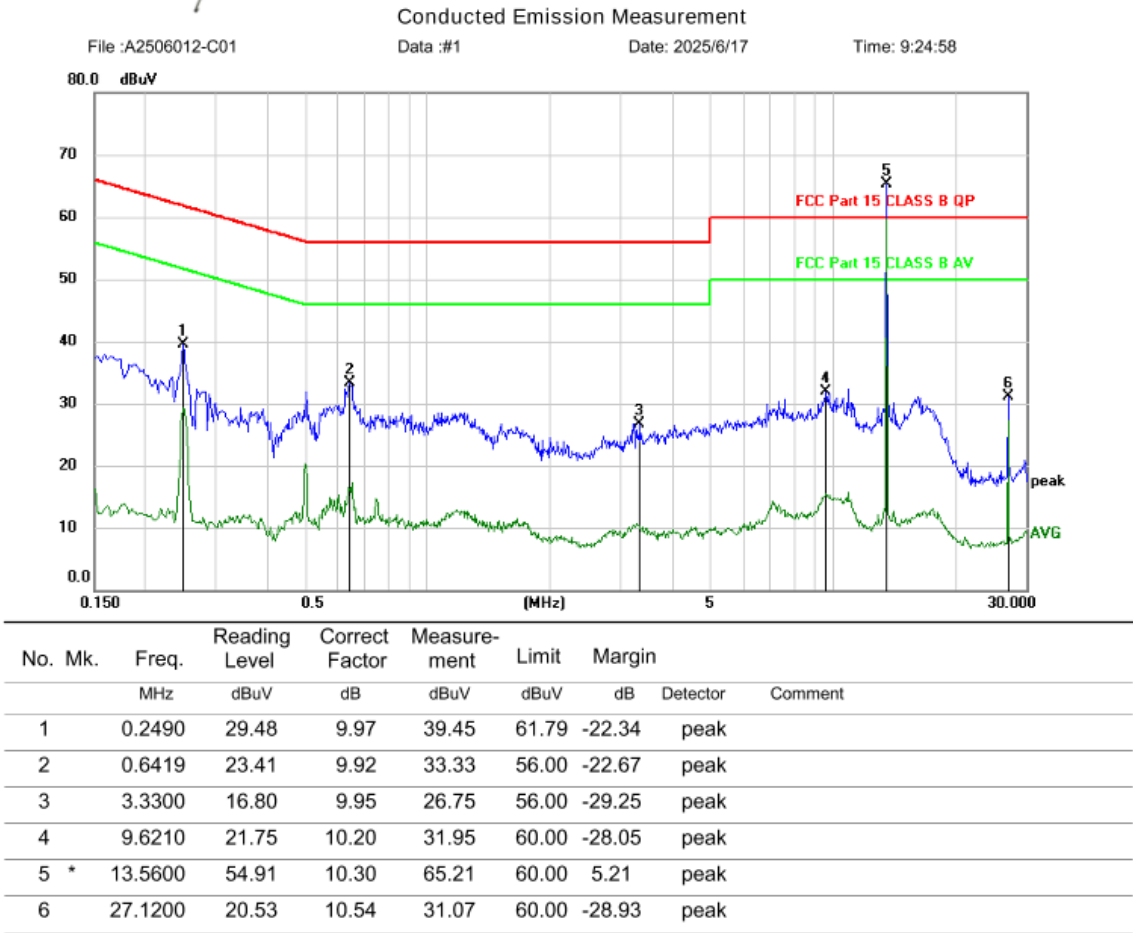
6.7. Test data



深圳阿尔法商品检验有限公司
SHENZHEN ALPHA PRODUCT TESTING CO.,LTD.

深圳阿尔法商品检验有限公司
Shenzhen Alpha Product Testing Co.,Ltd.
地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Site LAB	Phase: L1	Temperature: 23.2
Limit: FCC Part 15 CLASS B QP	Power: DC 5V from Type-C	Humidity: 53 %
EUT/Task No : A2506012-C01		
M/N/Sample No: A2506012-S0001		
Mode : Mode 1		
Note:		
Engineer Signature: Yanni3 wen		



*:Maximum data x:Over limit !:over margin <Reference Only
Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable



深圳阿尔法商品检验有限公司
SHENZHEN ALPHA PRODUCT TESTING CO.,LTD.

深圳阿尔法商品检验有限公司
Shenzhen Alpha Product Testing Co.,Ltd.

地址: ALPHA 广东省深圳市宝安区福永街道立新路 2 号 i 栋
TEL: 4008-3008-95

Site LAB

Phase: N

Temperature: 23.2

Limit: FCC Part 15 CLASS B QP

Power: DC 5V from Type-C

Humidity: 53 %

EUT/Task No : A2506012-C01

M/N/Sample No: A2506012-S0001

Mode : Mode 1

Note:

Engineer Signature: Vanni3 Wen

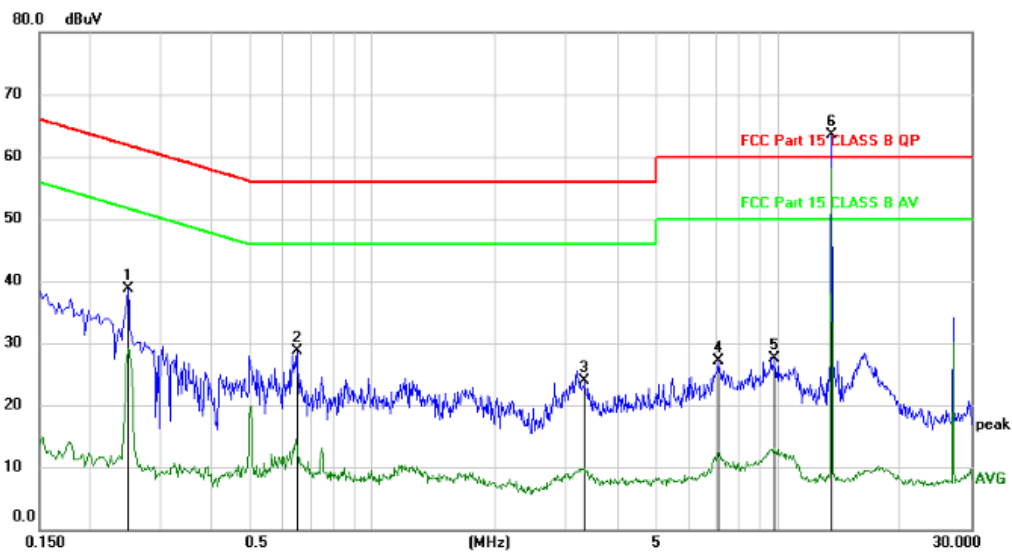
Conducted Emission Measurement

File :A2506012-C01

Data :#2

Date: 2025/6/17

Time: 9:27:13



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
								Comment
1		0.2490	28.74	9.97	38.71	61.79	-23.08	peak
2		0.6510	18.84	9.93	28.77	56.00	-27.23	peak
3		3.3390	14.00	9.95	23.95	56.00	-32.05	peak
4		7.1190	16.98	10.12	27.10	60.00	-32.90	peak
5		9.8430	17.29	10.21	27.50	60.00	-32.50	peak
6	*	13.5600	53.18	10.30	63.48	60.00	3.48	peak

*:Maximum data x:Over limit !:over margin

<Reference Only

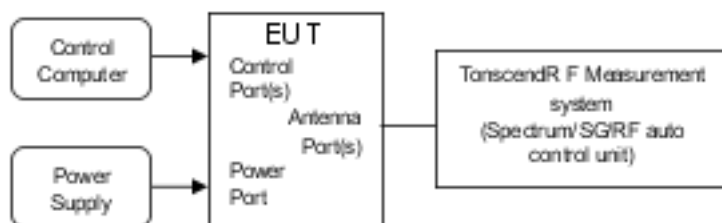
Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

7. Antenna Requirement

7.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal Due To
CMW500	ROHDE&SCH WARZ	CMW500	Aa-EE073	2024/08/08	2025/08/07
Spectrum analyzer	ROHDE&SCH WARZ	FSV40-N	Aa-EE081	2024/08/08	2025/08/07
Signal Analyzer	Agilent	N9020A	Aa-EE039	2024/08/08	2025/08/07
Power Sensor	Agilent	E9300A	Aa-EE046	2024/08/08	2025/08/07
Vector Signal Generator	Agilent	N5182A	Aa-EE040	2024/08/08	2025/08/07
Power Sensor	DARE	RPR3006W	Aa-EE071	2024/08/08	2025/08/07
Power Sensor	DARE	RPR3006W	Aa-EE070	2024/08/08	2025/08/07

7.2. Block diagram of test setup



7.3. Limits

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 a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

For intentional device, according to FCC 47 CFR Section 15.203, 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. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

7.5. Test procedure

The antenna is internal antenna and no consideration of replacement. Please see EUT photo for details.

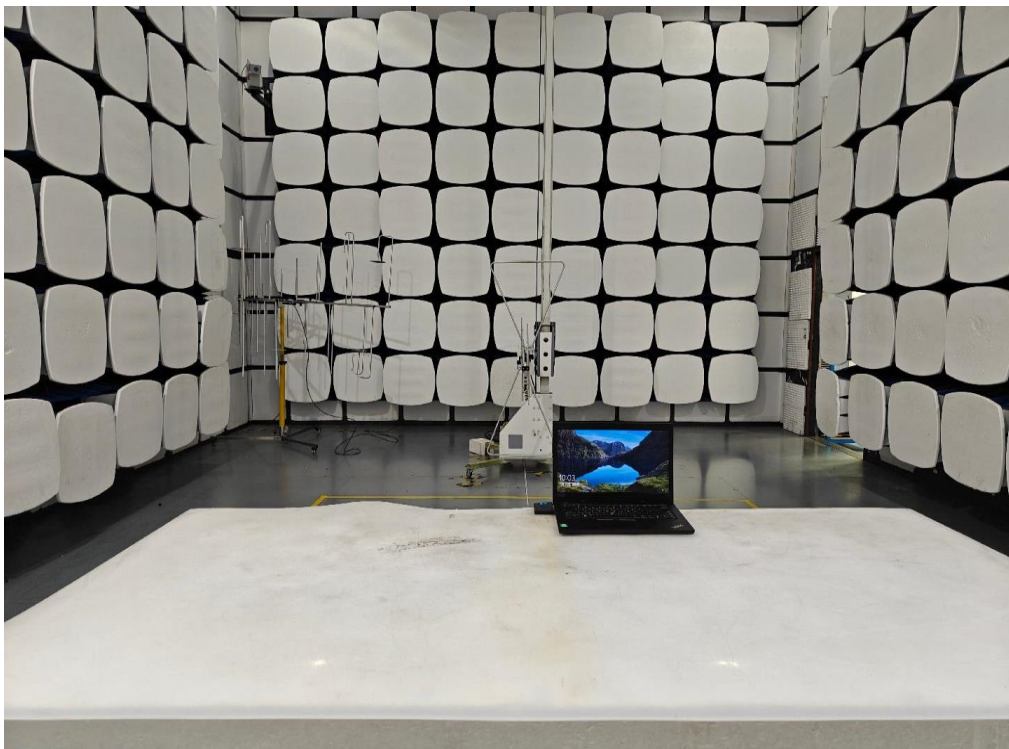
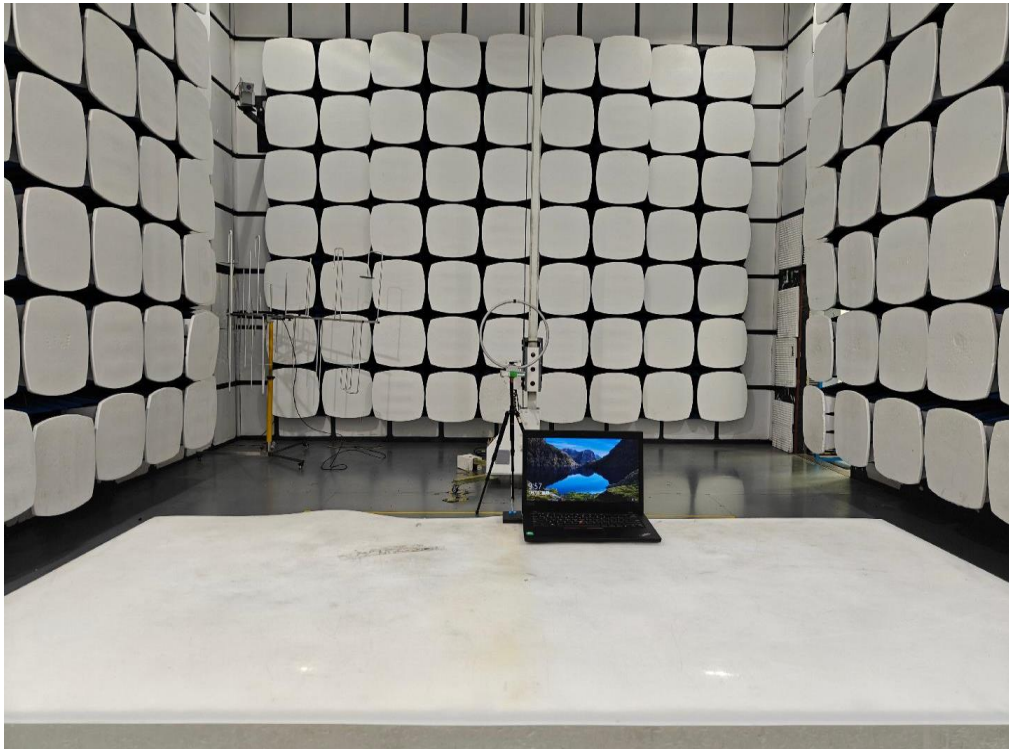
7.6. Test result

Test Site: RF Laboratory	Test Date: 2025/07/01--2025/07/01
Condition: 24.3°C,56%RH	Test Engineer: Yannis Wen
Memo: /	

EUT Name: Smart Reader	EUT Model: Gmini-HF
Sample No.: A2506012-S0001	Test Mode: /
Power supply: DC 5V from Type-C	Memo: The EUT antenna is Internal Antenna. It complies with the standard requirement.

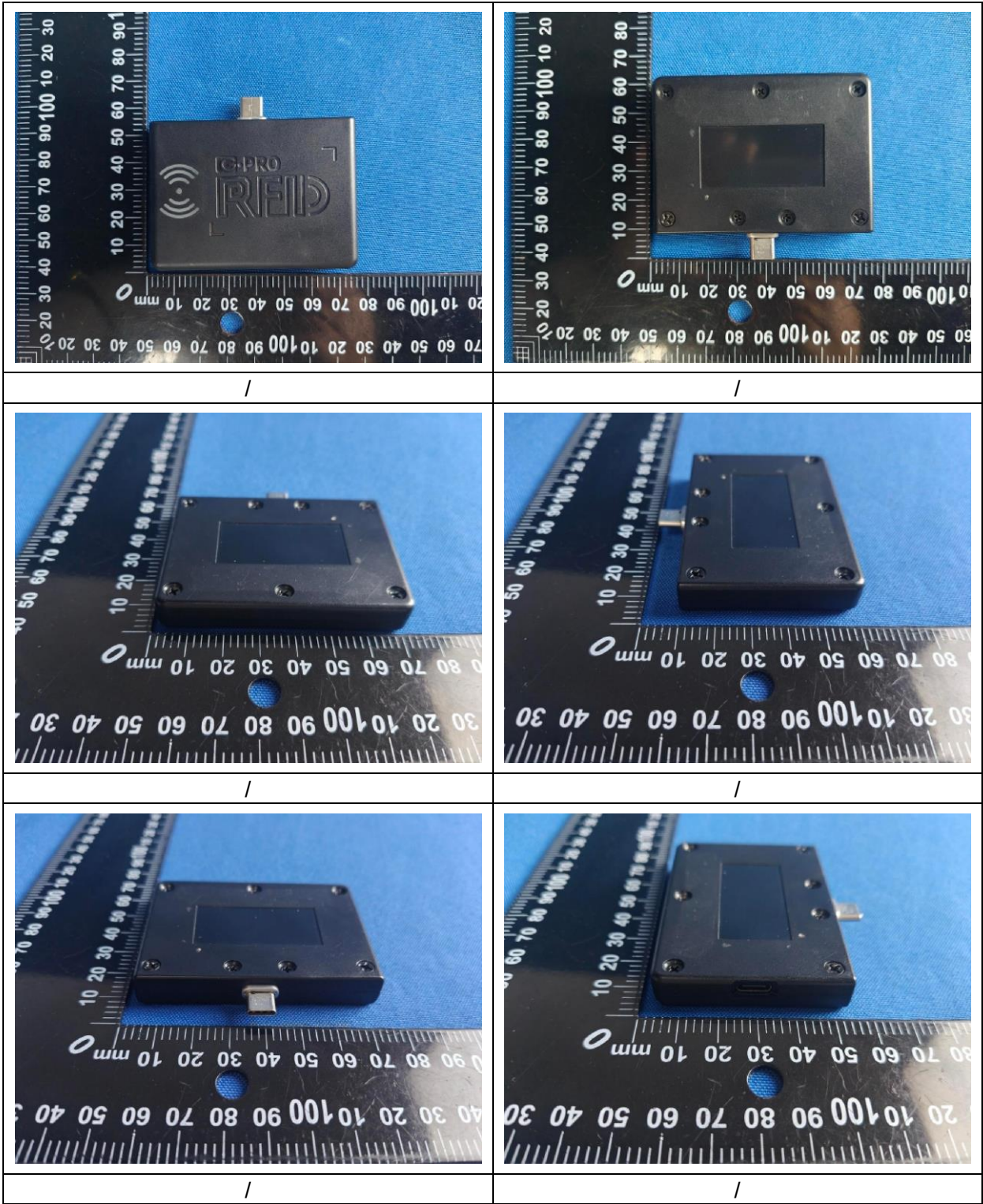
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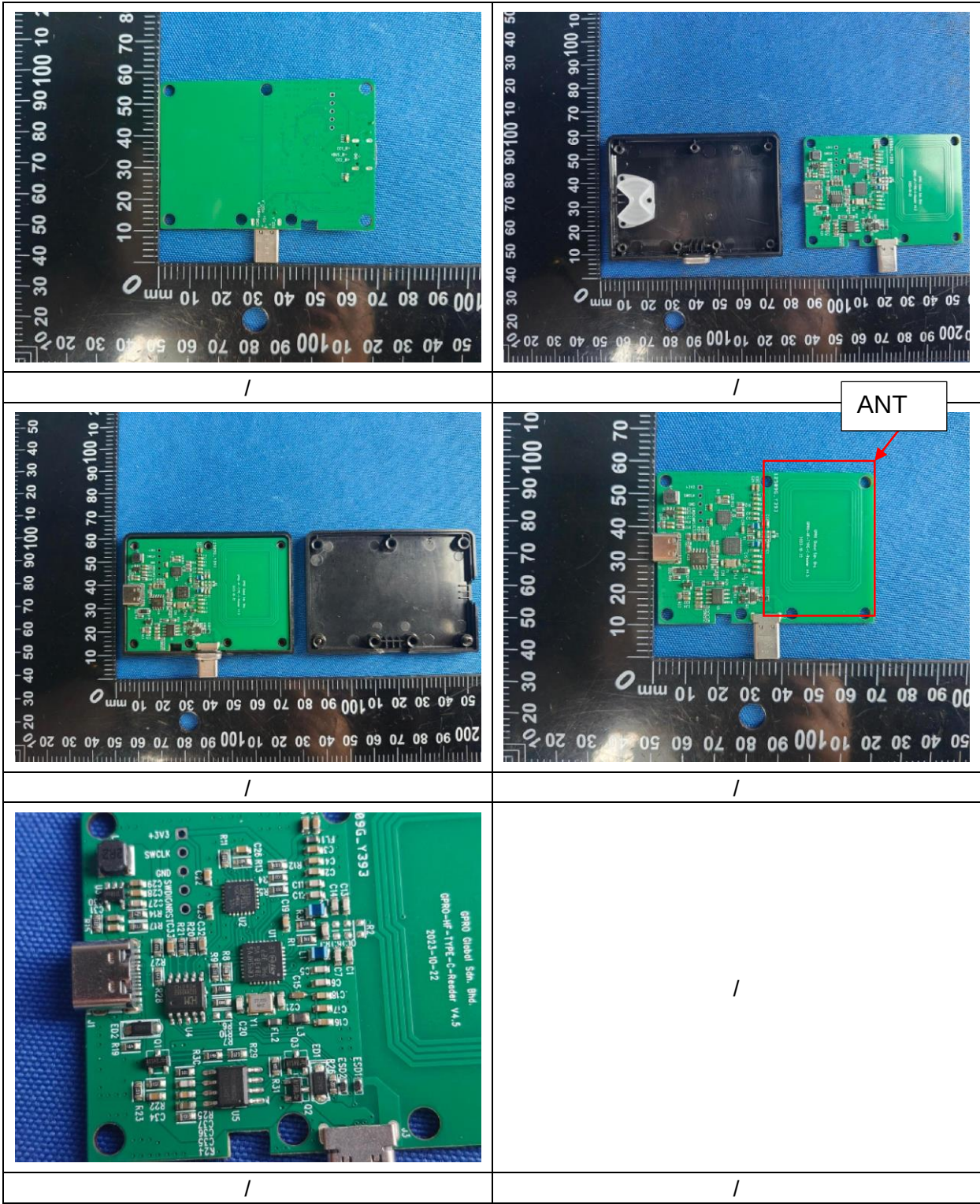
8. Test Setup Photograph





9. Photos of the EUT





-----End Report-----