

TEST REPORT

Product : Smart Access Control Terminal
Trade mark : N/A
Model/Type reference : G5
Serial Number : N/A
Report Number : EED32R81916605
FCC ID : 2AJ9T-21014
Date of Issue : Dec. 04, 2025
Test Standards : 47 CFR Part 15, Subpart C
Test result : PASS

Prepared for:

ZKTECO CO., LTD.

**No.32,Pingshan Industrial Avenue,Tangxia Town,Dongguan
City,Guangdong Province,China 523728**

Prepared by:

**Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China**

TEL: +86-755-3368 3668

FAX: +86-755-3368 3385

Compiled by:

Frazer Li

Frazer Li

Reviewed by:

Keven Tan

Keven Tan

Approved by:

Aaron Ma

Aaron Ma

Date:

Dec. 04, 2025



Check No.: 2524161025

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2 Test Summary

Test Item	FCC Test Requirement	Test Method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203	ANSI C63.10 2020	Pass
Conducted Emission (150KHz to 30MHz)	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 2020	Pass
Electric Field Strength of Fundamental and Outside the Allocated bands	47 CFR Part 15, Subpart C Section 15.225(a)/(b)/(c)	ANSI C63.10 2020	Pass
Radiated Emission	47 CFR Part 15, Subpart C Section 15.225(d)/15.209	ANSI C63.10 2020	Pass
Frequency Tolerance	47 CFR Part 15, Subpart C Section 15.225(e)	ANSI C63.10 2020	Pass
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.215	ANSI C63.10 2020	Pass

3 General Information

3.1 Client Information

Applicant:	ZKTECO CO., LTD.
Address of Applicant:	No.32,Pingshan Industrial Avenue,Tangxia Town,Dongguan City,Guangdong Province,China 523728
Manufacturer:	ZKTECO CO., LTD.
Address of Manufacturer:	No.32,Pingshan Industrial Avenue,Tangxia Town,Dongguan City,Guangdong Province,China 523728

3.2 General Description of E.U.T.

Product Name:	Smart Access Control Terminal
Model No.(EUT):	G5
Test Model No.:	G5
Trade Mark:	N/A
Product Type:	☐ Mobile ☐ Portable ☒ Fixed Location
Operation Frequency:	13.56MHz
Modulation Type:	BPSK&ASK
Antenna Type:	Coil antenna
Antenna Gain:	0dBi
Power Supply:	SWITCHING ADAPTER MODEL:ADS-40SI-12-3 INPUT:100-240V~50/60Hz,1.0A max OUTPUT:12.0V,3.0A,36.0W
Test voltage:	AC 120V
Sample Received Date:	Oct. 17, 2025
Sample tested Date:	Oct. 17, 2025 to Dec. 04, 2025

3.3 Test Environment & Test Mode

Operating Environment:	
Radiated Emissions:	
Temperature:	20.0 °C
Humidity:	53 % RH
Atmospheric Pressure:	1010mbar
Conducted Emissions:	
Temperature:	20.0 °C
Humidity:	53 % RH
Atmospheric Pressure:	1010mbar
Test Mode:	
Test mode:	Keep EUT working in continuous transmitting mode with 100% duty cycle.

3.4 Description of Support Units

The EUT has been tested with associated equipment below.

1) Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
/	/	/	/	/

3.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

No tests were sub-contracted.

IC-Registration No.: 7408A, CAB identifier number: CN0037

FCC Designation No.: CN1164

3.6 Deviation from Standards

None.

3.7 Abnormalities from Standard Conditions

None.

3.8 Other Information Requested by the Customer

None.

3.9 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.46dB (30MHz-1GHz)
		0.55dB (1GHz-18GHz)
3	Radiated Spurious emission test	3.3dB (9kHz-30MHz)
		4.3dB (30MHz-1GHz)
		4.5dB (1GHz-12.75GHz)
4	Conduction emission	3.5dB (9kHz to 150kHz)
		3.1dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	3.8%
7	DC power voltages	0.026%

3.10 Equipment List

RF test system					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Communication test set	R&S	CMW500	107929	06-16-2025	06-15-2026
Signal Generator	R&S	SMBV100A	1407.6004K02- 262149-CV	09-02-2024 08-11-2025	09-01-2025 08-10-2026
Spectrum Analyzer	R&S	FSV40	101200	07-16-2025	07-15-2026
RF control unit(power unit)	MWRF-test	MW100-RFCB	MW220620CTI-42	06-16-2025	06-15-2026
High-low temperature test chamber	Dong Guang Qin Zhuo	LK-80GA	QZ20150611879	11-30-2024 11-13-2025	11-29-2025 11-12-2026
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	05-26-2025	05-25-2026
BT&WI-FI Automatic test software	MWRF-test	MTS 8310	V2.0.0.0	---	---
Spectrum Analyzer	R&S	FSV3044	101509	02-14-2025	02-13-2026

Conducted disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
				(mm-dd-yyyy)	(mm-dd-yyyy)
Receiver	R&S	ESCI	100435	04-08-2025	04-07-2026
Temperature/ Humidity Indicator	Defu	TH128	/	03-31-2025	03-30-2026
LISN	R&S	ENV216	100098	09-19-2024 09-13-2025	09-18-2025 09-12-2026
Barometer	changchun	DYM3	1188	---	---
Test software	Fara	EZ-EMC	EMC-CON 3A1.1	---	---
Capacitive voltage probe	Schwarzbeck	CVP 9222C	00124	06-07-2025	06-06-2026
ISN	TESEQ	ISN T800	30297	12-05-2024 11-24-2025	12-04-2025 11-23-2026

3M Semi-anechoic Chamber (2)- Radiated disturbance Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. date	Cal. Due date
				(mm-dd-yyyy)	(mm-dd-yyyy)
3M Chamber & Accessory Equipment	TDK	SAC-3	---	01/13/2024	01/12/2027
Receiver	R&S	ESC17	100938-003	09/07/2024 09/03/2025	09/06/2025 09/02/2026
Spectrum Analyzer	R&S	FSV40	101200	08/11/2025	08/10/2026
TRILOG Broadband Antenna	schwarzbeck	VULB 9163	9163-618	05/14/2025	05/13/2026
Loop Antenna	Schwarzbeck	FMZB 1519B	1519B-076	04/07/2025	04/06/2026
Microwave Preamplifier	Tonscend	EMC051845SE	980380	12/05/2024	12/04/2025
Horn Antenna	A.H.SYSTEMS	SAS-574	374	07/02/2023	07/01/2026
Horn Antenna	ETS-LINGREN	BBHA 9120D	9120D-1869	04/07/2025	04/06/2026
Preamplifier	Agilent	11909A	12-1	03/03/2025	03/02/2026
Preamplifier	CD	PAP-1840-60	6041.6042	05/26/2025	05/25/2026
Test software	Fara	EZ-EMC	EMEC-3A1-Pre	---	---
Cable line	Fulai(7M)	SF106	5219/6A	01/13/2024	01/12/2027
Cable line	Fulai(6M)	SF106	5220/6A	01/13/2024	01/12/2027
Cable line	Fulai(3M)	SF106	5216/6A	01/13/2024	01/12/2027
Cable line	Fulai(3M)	SF106	5217/6A	01/13/2024	01/12/2027

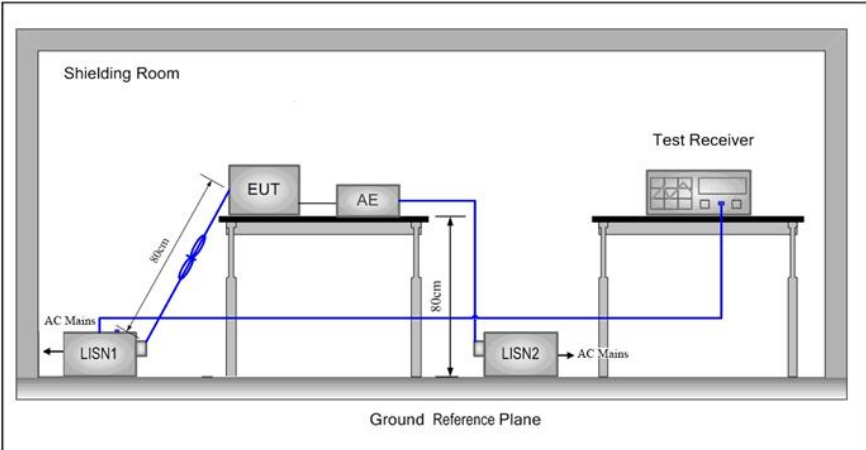
3M full-anechoic Chamber					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Fully Anechoic Chamber	TDK	FAC-3	---	01-09-2024	01-08-2027
Receiver	Keysight	N9038A	MY57290136	01-04-2025	01-03-2026
Spectrum Analyzer	Keysight	N9020B	MY57111112	01-14-2025	01-13-2026
Spectrum Analyzer	Keysight	N9030B	MY57140871	01-14-2025	01-13-2026
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	9163-1148	04-12-2025	04-11-2026
Horn Antenna	Schwarzbeck	BBHA 9170	9170-832	04-12-2025	04-11-2026
Horn Antenna	ETS-LINDGREN	3117	57407	07-03-2024 06-29-2025	07-02-2025 06-28-2026
Preamplifier	EMCI	EMC001330	980563	03-03-2025	03-02-2026
Preamplifier	Tonscend	TAP-011858	AP21B806112	07-18-2024 07-07-2025	07-17-2025 07-06-2026
Preamplifier	Tonscend	EMC051845SE	980380	12-05-2024	12-04-2025
Communication test set	R&S	CMW500	102898	01-04-2025	01-03-2026
Temperature/ Humidity Indicator	biaozhi	GM1360	EE1186631	03-31-2025	03-30-2026
RSE Automatic test software	JS Tonscend	JS36-RSE	V4.0.0.0	---	---
Cable line	Times	SFT205-NMSM-2.50M	394812-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0002	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	394812-0003	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-2.50M	393495-0001	01-09-2024	01-08-2027
Cable line	Times	EMC104-NMNM-1000	SN160710	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-3.00M	394813-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMNM-1.50M	381964-0001	01-09-2024	01-08-2027
Cable line	Times	SFT205-NMSM-7.00M	394815-0001	01-09-2024	01-08-2027
Cable line	Times	HF160-KMKM-3.00M	393493-0001	01-09-2024	01-08-2027

4 Test Result and Measurement Data

4.1 Antenna Requirement

Standard requirement:	47 CFR Part15 C Section 15.203
15.203 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 a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, 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.
EUT Antenna:	
The antenna is Coil antenna.	

4.2 Conducted Emissions

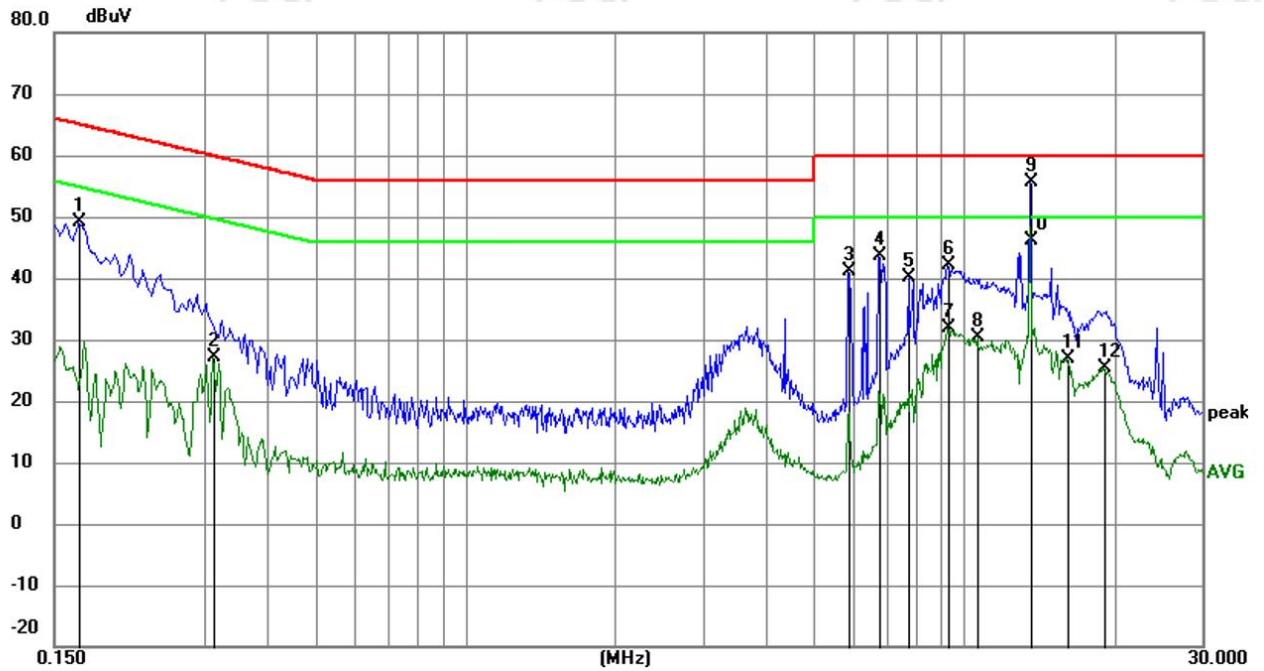
Test Requirement:	47 CFR Part 15C Section 15.207		
Test Method:	ANSI C63.10: 2020		
Test Frequency Range:	150kHz to 30MHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test Procedure:	1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a $50\Omega/50\mu\text{H} + 5\Omega$ linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane. 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.		
Test Setup:			

Test Mode:	Transmitting with ASK modulation.
Test Results:	Pass

Measurement Data

Mode a:

Live line:



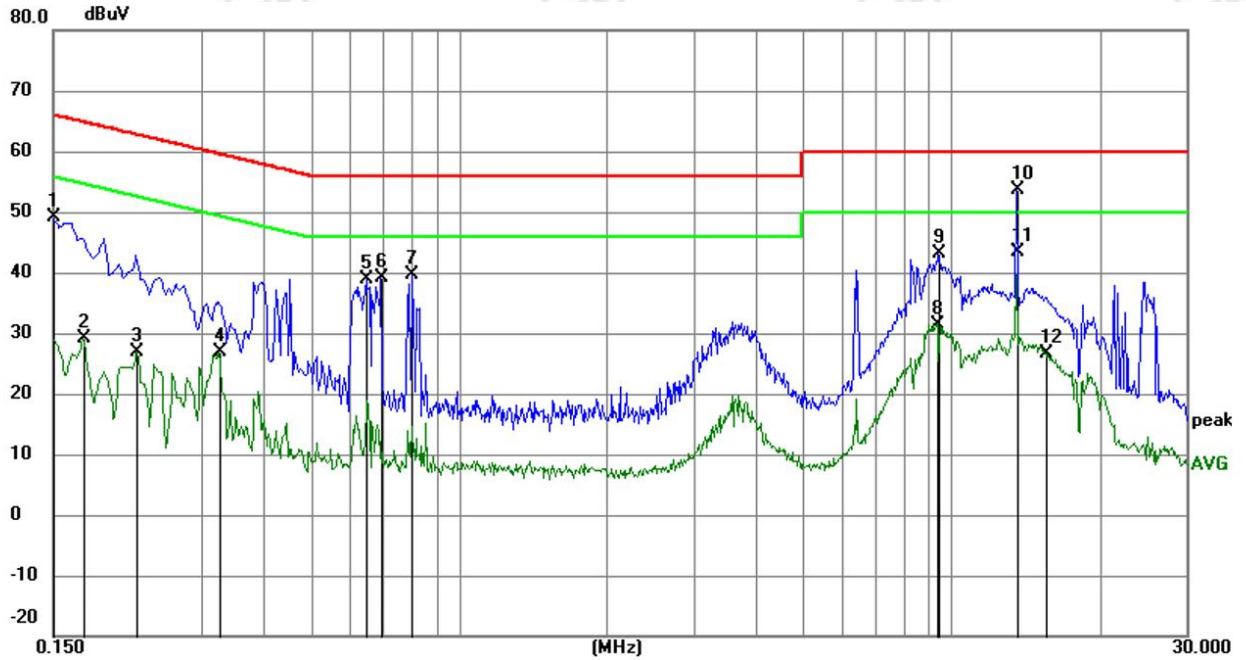
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1680	38.76	10.26	49.02	65.06	-16.04	QP	
2		0.3120	17.10	10.13	27.23	49.92	-22.69	AVG	
3		5.8605	30.98	10.05	41.03	60.00	-18.97	QP	
4		6.7515	33.67	10.03	43.70	60.00	-16.30	QP	
5		7.7595	30.01	10.01	40.02	60.00	-19.98	QP	
6		9.2850	32.14	9.97	42.11	60.00	-17.89	QP	
7		9.2850	21.81	9.97	31.78	50.00	-18.22	AVG	
8		10.6530	20.44	9.94	30.38	50.00	-19.62	AVG	
9		13.5600	45.67	9.89	55.56	60.00	-4.44	QP	
10	*	13.5600	36.31	9.89	46.20	50.00	-3.80	AVG	
11		16.0800	16.92	9.85	26.77	50.00	-23.23	AVG	
12		19.0950	15.54	9.81	25.35	50.00	-24.65	AVG	

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

Mode a:

Neutral line:

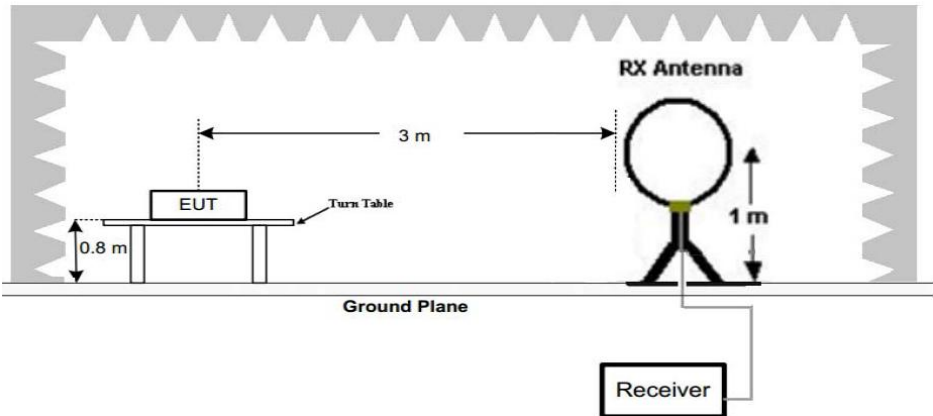


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1500	38.82	10.28	49.10	66.00	-16.90	QP	
2		0.1725	18.95	10.25	29.20	54.84	-25.64	AVG	
3		0.2220	16.63	10.19	26.82	52.74	-25.92	AVG	
4		0.3255	16.83	10.12	26.95	49.57	-22.62	AVG	
5		0.6495	28.72	10.11	38.83	56.00	-17.17	QP	
6		0.6945	28.89	10.13	39.02	56.00	-16.98	QP	
7		0.8025	29.46	10.18	39.64	56.00	-16.36	QP	
8		9.3615	21.53	9.97	31.50	50.00	-18.50	AVG	
9		9.4470	33.09	9.96	43.05	60.00	-16.95	QP	
10	*	13.5645	43.62	9.89	53.51	60.00	-6.49	QP	
11		13.5645	33.61	9.89	43.50	50.00	-6.50	AVG	
12		15.6210	16.74	9.85	26.59	50.00	-23.41	AVG	

Remark:

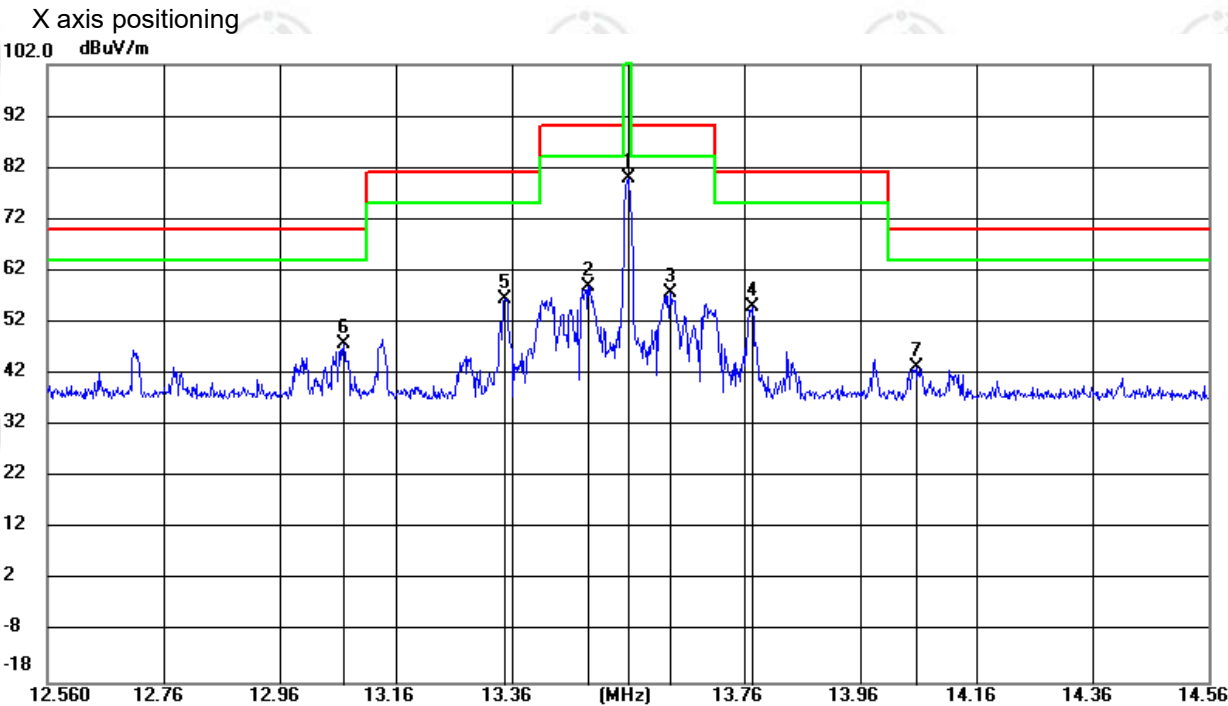
1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level = Receiver Reading + LISN Factor + Cable Loss.
3. If the Peak value under Average limit, the Average value is not recorded in the report.

4.3 Electric Field Strength of Fundamental and Outside the Allocated bands

Test Requirement:	47 CFR Part 15, Subpart C Section 15.225(a)/(b)/(c)				
Test Method:	ANSI C63.10: 2020				
Test Site:	3m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
Limit:	Frequency Range(MHz)	E-field Strength Limit @ 30 m (μV/m)	E-field Strength Limit @ 3 m (dBμV/m)		
	13.560 ± 0.007	15848	124		
	13.410 to 13.553 13.567 to 13.710	334	90		
	13.110 to 13.410 13.710 to 14.010	106	81		
Note: Where the limits have been defined at one distance, and a signal level measured at another, the limits have been extrapolated using the following formula: Extrapolation(dB)=40log ₁₀ (Measurement Distance/Specification Distance)					
Test Setup:	 Figure 1. Below 30MHz				
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3. 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. 4. 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. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. 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. 7. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
Test Mode:	Transmitting with ASK modulation.
Test Result:	Pass

Measurement Data



No. Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1	13.5600	59.50	20.35	79.85	124.00	-44.15	peak		
2	13.4920	38.68	20.35	59.03	90.00	-30.97	peak		
3	13.6329	37.44	20.35	57.79	90.00	-32.21	peak		
4	13.7739	34.77	20.35	55.12	81.00	-25.88	peak		
5	13.3480	36.31	20.35	56.66	81.00	-24.34	peak		
6 *	13.0700	27.55	20.35	47.90	70.00	-22.10	peak		
7	14.0570	22.91	20.34	43.25	70.00	-26.75	peak		

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Factor= Antenna Factor + Cable Factor – Preamplifier Factor,

Level = Read Level + Factor,

Over Limit=Level-Limit Line.

4.4 Radiated Emissions

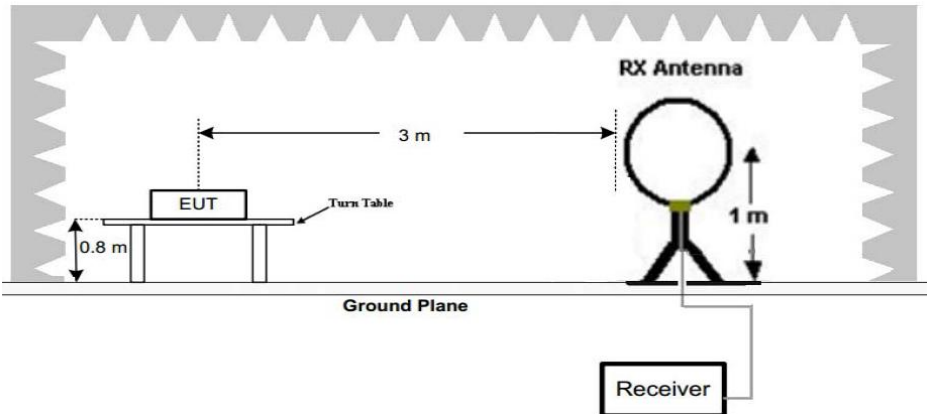
Test Requirement:	47 CFR Part 15C Section 15.209 and 15.225(d),				
Test Method:	ANSI C63.10: 2020				
Test Site:	3m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Peak	100 kHz	300kHz	Peak
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m) @ 3 m	Remark	
	0.009MHz-0.490MHz	2400/F(kHz) @300m	128.5-93.8	Quasi-peak	
	0.490MHz-1.705MHz	24000/F(kHz) @30m	73.8-63	Quasi-peak	
	1.705MHz-30MHz	30 @30m	70	Quasi-peak	
	30MHz-88MHz	100 @3m	40.0	Quasi-peak	
	88MHz-216MHz	150 @3m	43.5	Quasi-peak	
	216MHz-960MHz	200 @3m	46.0	Quasi-peak	
	960MHz-1GHz	500 @3m	54.0	Quasi-peak	
Note: Where the limits have been defined at one distance, and a signal level measured at another, the limits have been extrapolated using the following formula: Extrapolation(dB)=40log ₁₀ (Measurement Distance/Specification Distance)					
Test Setup:					

Figure 1. Below 30MHz

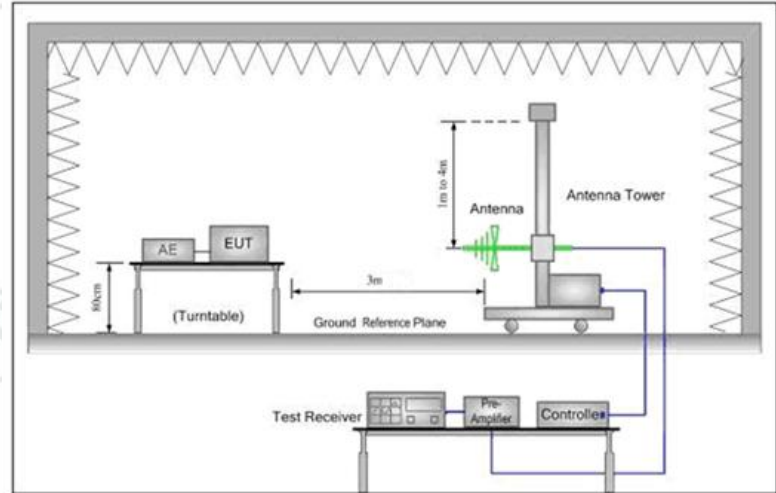


Figure 2. 30MHz to 1GHz

Test Procedure:

5. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
6. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
7. 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.
8. 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.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. 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.
7. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.

Test Mode:

Transmitting with ASK modulation.

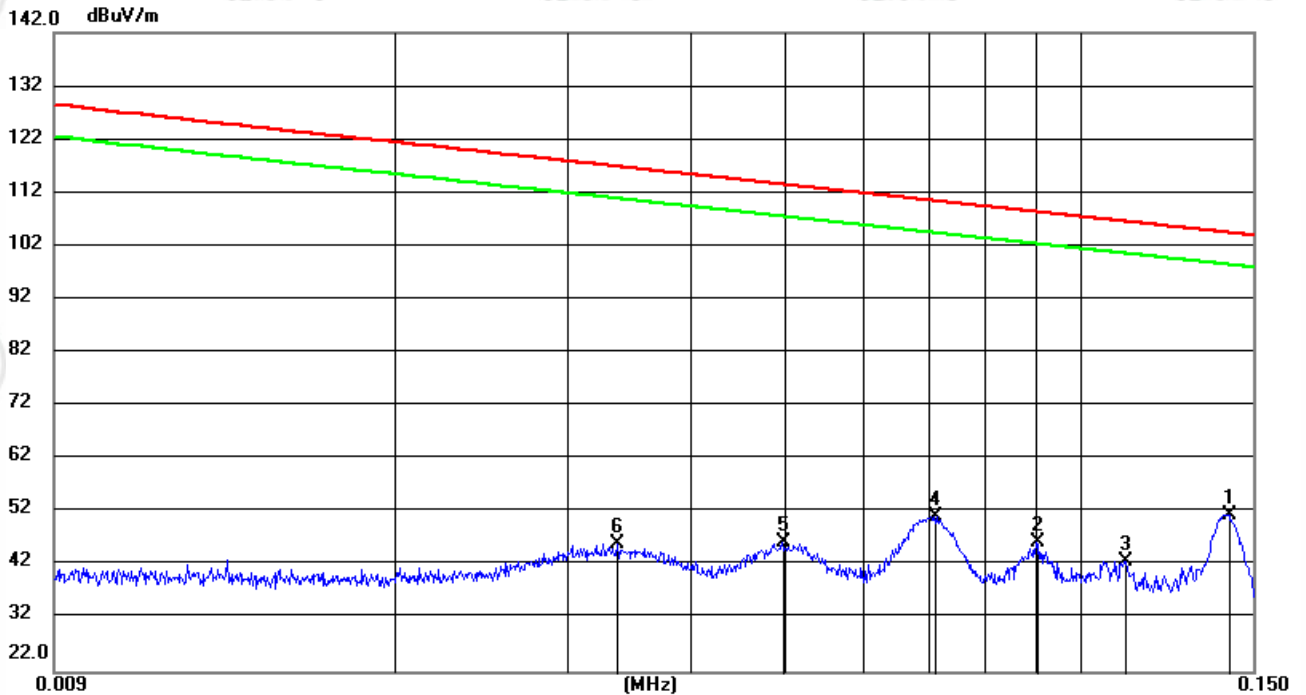
Test Result:

Pass

Measurement Data

X axis positioning

9kHz – 150KHz:



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Antenna Height cm	Table Degree	Comment
1	*	0.1416	31.05	20.56	51.61	104.52	-52.91	peak	100	317
2		0.0902	25.82	20.61	46.43	108.41	-61.98	peak	100	7
3		0.1113	22.44	20.55	42.99	106.59	-63.60	peak	100	7
4		0.0710	30.71	20.64	51.35	110.48	-59.13	peak	100	317
5		0.0497	25.77	20.72	46.49	113.55	-67.06	peak	100	7
6		0.0337	25.38	20.76	46.14	116.91	-70.77	peak	100	327

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

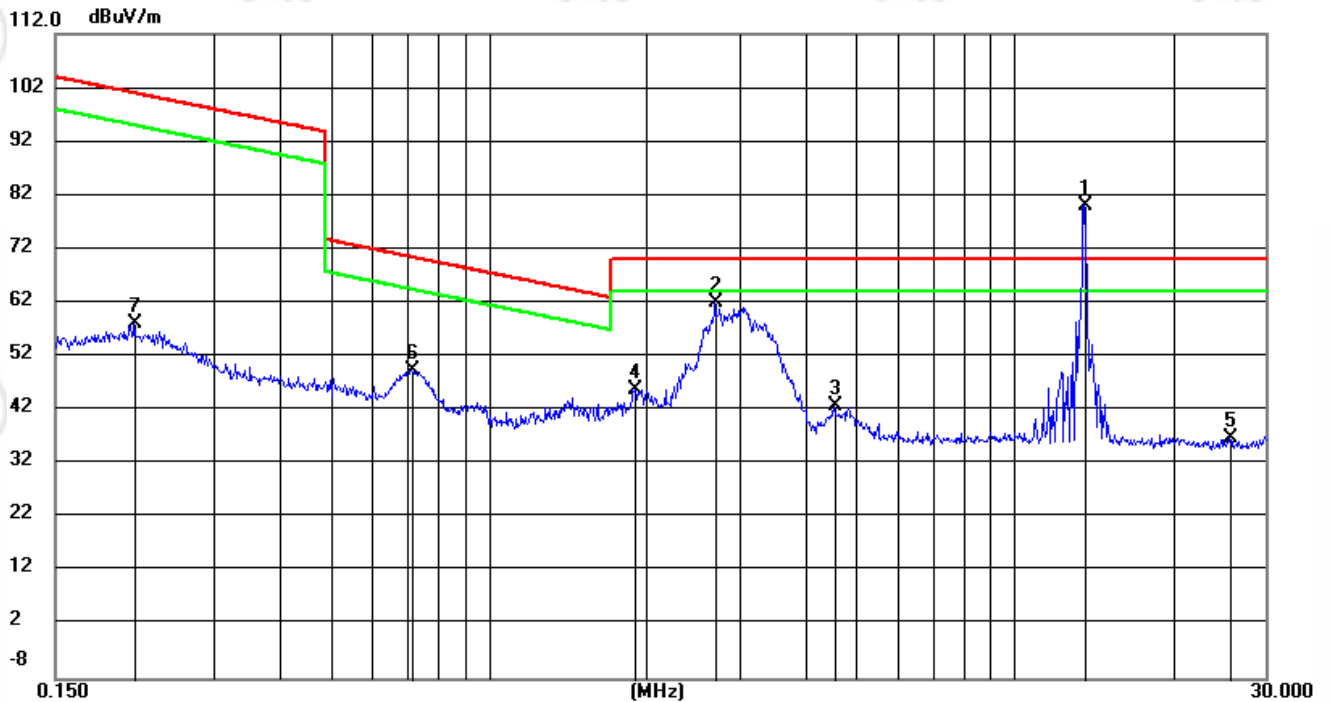
Factor= Antenna Factor + Cable Factor – Preamplifier Factor,

Level = Read Level + Factor,

Over Limit=Level-Limit Line.

X axis positioning

150KHz-30MHz:



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Antenna Height cm	Table Degree degree	Comment
1	*	13.5580	59.79	20.35	80.14	70.00	10.14	peak		
2		2.6996	41.77	20.37	62.14	70.00	-7.86	peak		
3		4.5265	22.33	20.38	42.71	70.00	-27.29	peak		
4		1.8979	25.55	20.39	45.94	70.00	-24.06	peak		
5		25.6251	16.37	20.42	36.79	70.00	-33.21	peak		
6		0.7157	28.93	20.43	49.36	70.52	-21.16	peak		
7		0.2121	37.74	20.54	58.28	101.03	-42.75	peak		

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

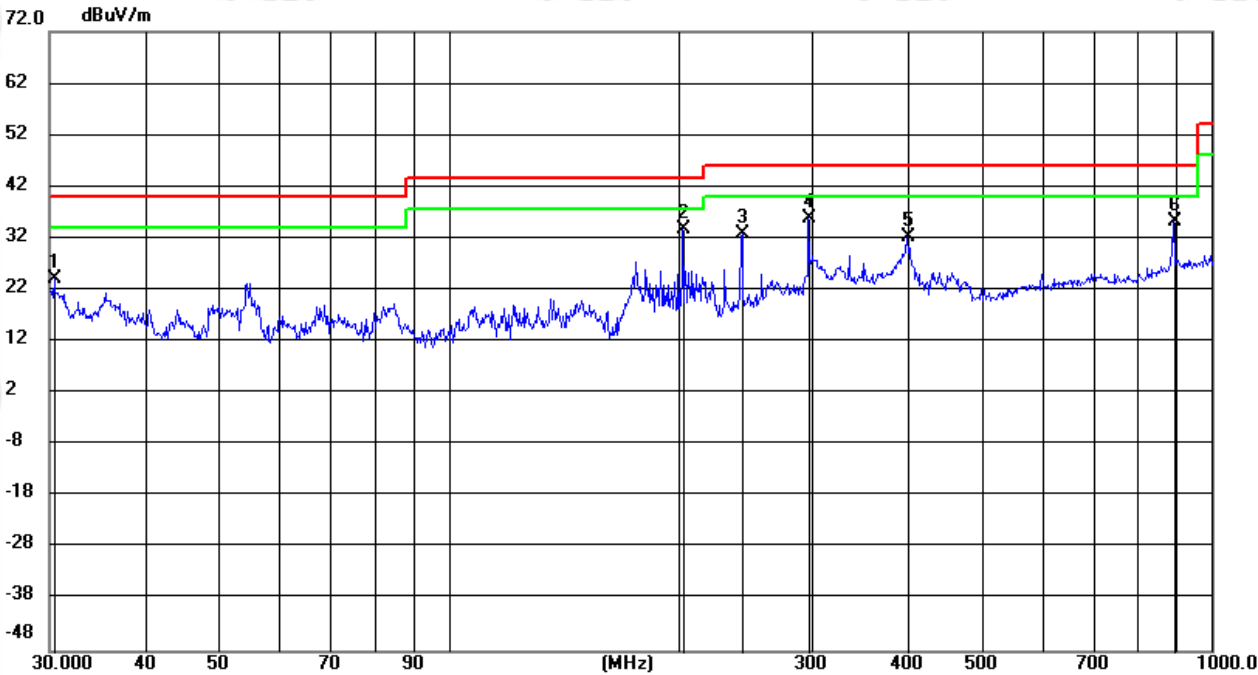
Factor= Antenna Factor + Cable Factor – Preamplifier Factor,

Level = Read Level + Factor,

Over Limit=Level-Limit Line.

30MHz-1GHz

Horizontal



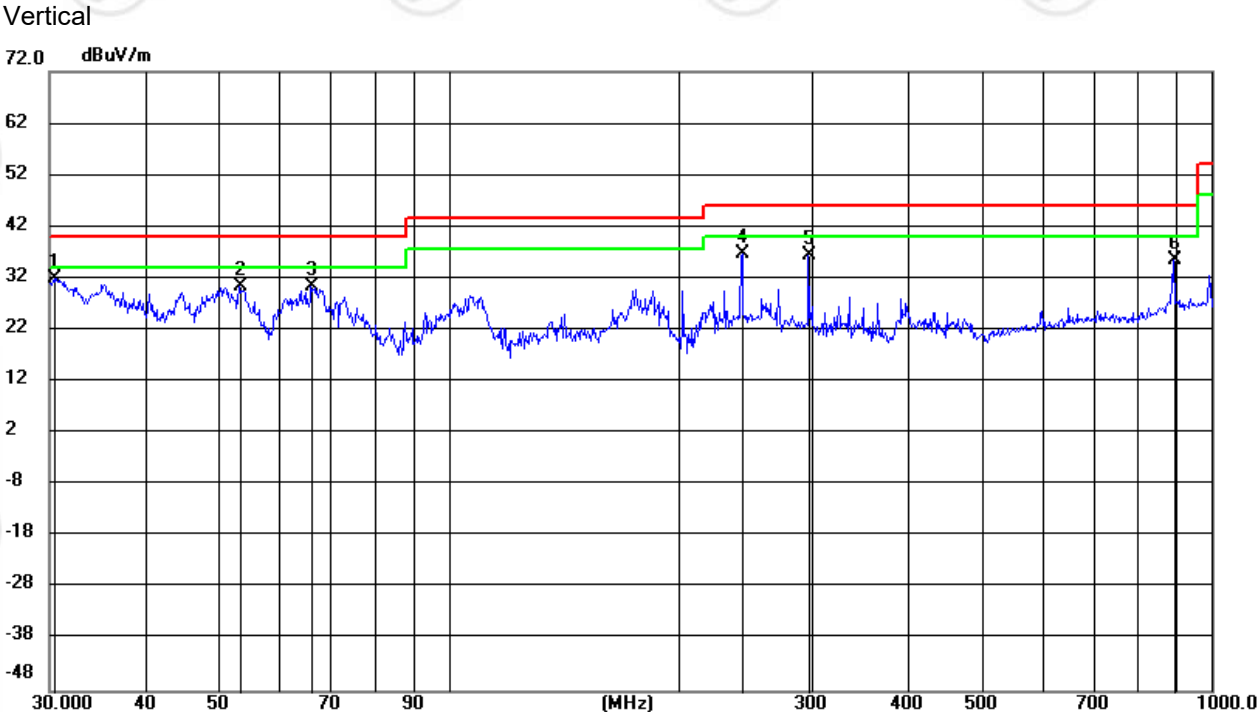
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Antenna	Table	
		MHz	Level	Factor	ment			Height	Degree	Comment
			dBuV	dB/m	dBuV/m	dBuV/m	dB	cm	degree	
1		30.4504	11.55	12.50	24.05	40.00	-15.95	QP	100	360
2	*	203.4157	20.99	12.70	33.69	43.50	-9.81	QP	199	48
3		242.5677	18.57	14.21	32.78	46.00	-13.22	QP	100	322
4		297.0156	19.75	16.20	35.95	46.00	-10.05	QP	100	40
5		400.0810	12.75	19.49	32.24	46.00	-13.76	QP	100	322
6		891.0401	8.57	26.74	35.31	46.00	-10.69	QP	100	108

Remark:

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Factor= Antenna Factor + Cable Factor – Preamplifier Factor,

Level = Read Level + Factor,
Over Limit=Level-Limit Line.



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Antenna Height	Table Degree	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector	cm	degree
1	*	30.4504	19.47	12.50	31.97	40.00	-8.03	QP	100	207
2		53.2806	16.14	14.28	30.42	40.00	-9.58	QP	100	216
3		66.0689	18.34	11.99	30.33	40.00	-9.67	QP	100	216
4		242.5678	22.50	14.21	36.71	46.00	-9.29	QP	100	6
5		297.0157	20.40	16.20	36.60	46.00	-9.40	QP	100	190
6		891.0402	8.80	26.74	35.54	46.00	-10.46	QP	100	23

Remark:

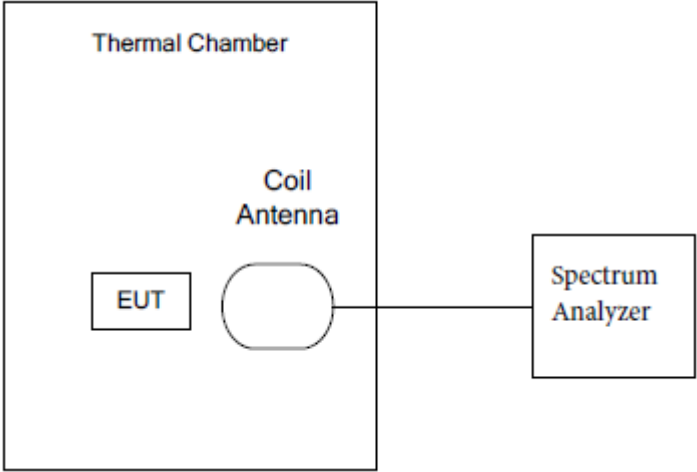
The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Factor= Antenna Factor + Cable Factor – Preamplifier Factor,

Level = Read Level + Factor,

Over Limit=Level-Limit Line.

4.5 Frequency Stability

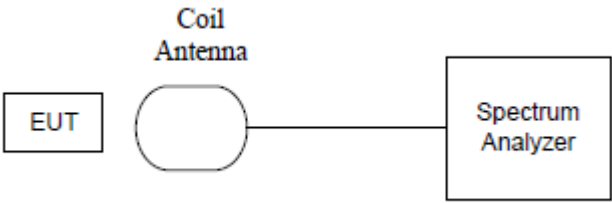
Test Requirement:	47 CFR Part 15 C Section 15.225(e)
Test Method:	ANSI C63.10: 2020
Test Setup:	 The diagram illustrates the test setup. A large rectangular box labeled 'Thermal Chamber' contains two components: a smaller rectangle labeled 'EUT' and an oval labeled 'Coil Antenna'. A line connects the 'Coil Antenna' to a rectangle outside the chamber labeled 'Spectrum Analyzer'.
Frequency Range:	Operation within the band 13.110-14.010 MHz
Requirements:	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.
Method of Measurement:	The EUT was placed in an environmental test chamber and powered such that control element received normal voltage and the transmitter provided maximum RF output.
Test Result:	The unit does meet the FCC Part 15 C Section 15.225(e) requirements.

Test Frequency: 13.56MHz			Temperature:20°C	
Supply Voltage (V) DC	Test Result (MHz)	Deviation (kHz)	Limit ±0.01% (kHz)	Result
12	13.56024	0.24	1.3560	Pass
13.2	13.56030	0.3	1.3560	Pass
10.8	13.56018	0.18	1.3560	Pass

Test Frequency: 13.56MHz			Normal Voltage:3.7Vdc	
Temperature (°C)	Test Result (MHz)	Deviation (kHz)	Limit ±0.01% (kHz)	Result
-20	13.56030	0.3	1.3560	Pass
-10	13.56024	0.24	1.3560	
0	13.56048	0.48	1.3560	
10	13.56024	0.24	1.3560	
20	13.56018	0.18	1.3560	
30	13.56024	0.24	1.3560	
40	13.56018	0.18	1.3560	
50	13.56024	0.24	1.3560	

Note: Deviation (KHz) = (Test Result-13.56MHz)*1000)

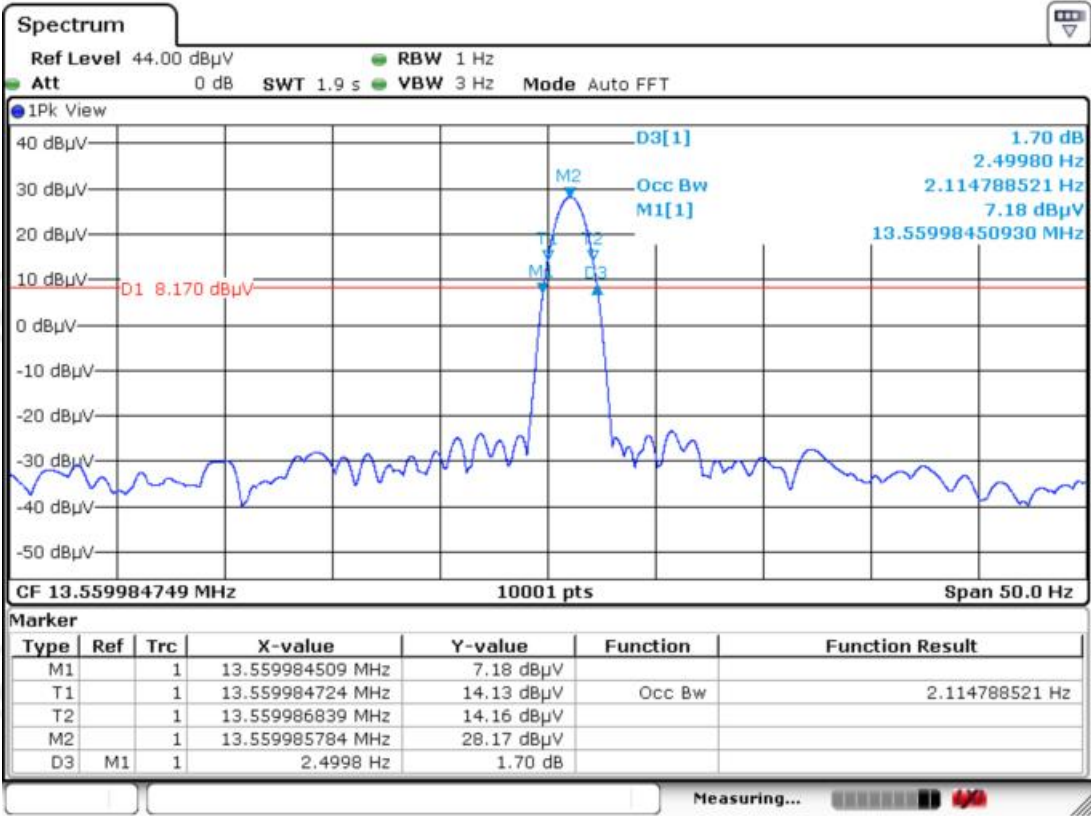
4.6 20dB Occupied Bandwidth

Test Requirement:	47 CFR Part 15 C Section 15.215 (C)
Test Method:	ANSI C63.10: 2020
Test Setup:	
Frequency Range:	Operation within the band 13.110 – 14.010 MHz
Requirements:	Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §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 is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the 20 dB bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.
Limit:	For 13.56 MHz the permitted frequency band is 14kHz, so the limit is 13.5488MHz to 13.5712MHz.

Test Data:

20dB bandwidth (Hz)	FL (MHz)	FH (MHz)	Limit(KHz)	Result
2.4998	13.55998	13.56248	13.5488MHz to 13.5712MHz	Pass

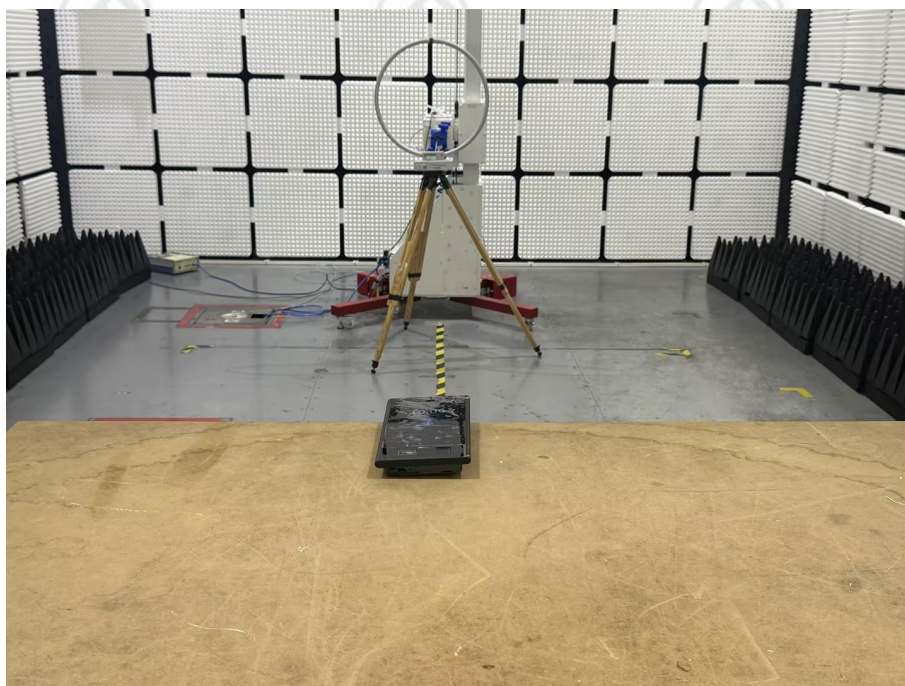
Test plot as follows:



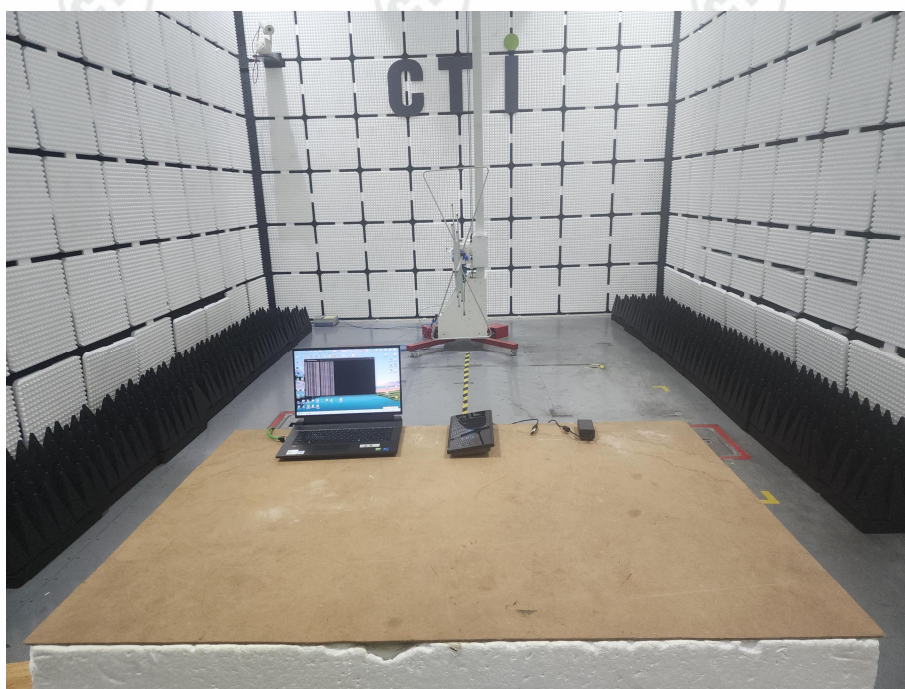
Note:

During the test, RBW has been set as close to 1% of OBW as possible.

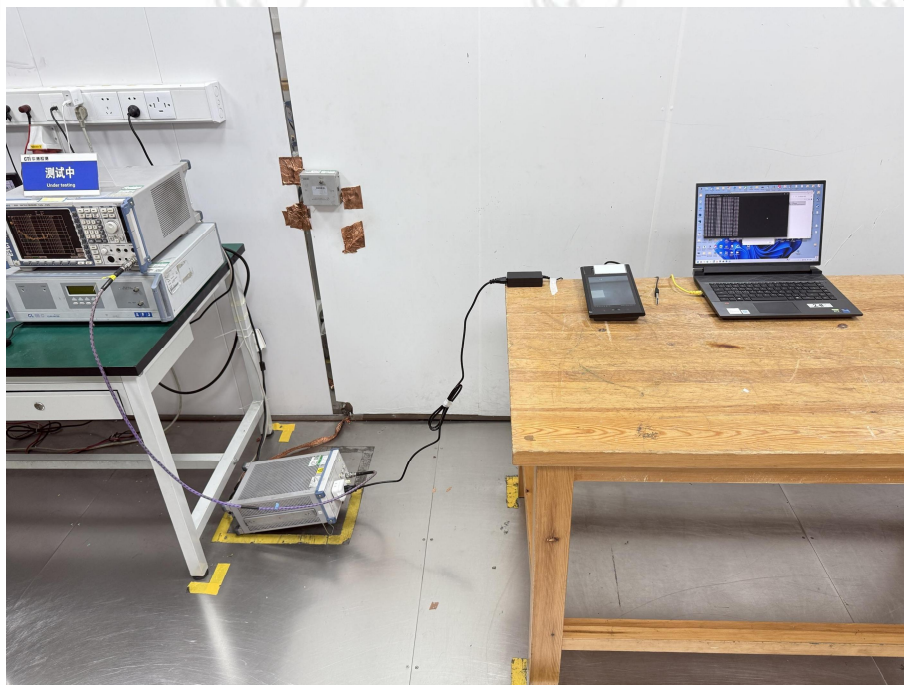
APPENDIX 1 PHOTOGRAPHS OF TEST SETUP



Radiated Spurious Emissions Test Setup (9kHz~30MHz)



Radiated Spurious Emissions Test Setup (30MHz~1GHz)



Conducted Emissions

APPENDIX 2 PHOTOGRAPHS OF EUT

Refer to Report No.EED32R81916601 for EUT external and internal photos.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule stated in ILAC-G8:09/2019/CNAS-GL015:2022;
5. Without written approval of CTI, this report can't be reproduced except in full;

*** End of Report ***