



TEST REPORT

Applicant: QINGDAO HISTONE INTELLIGENT COMMERCIAL SYSTEM CO., LTD.

Address of Applicant: Wisdom Valley, No.8 Shengshui Road, Laoshan District, Qingdao City, China

Manufacturer: QINGDAO HISTONE INTELLIGENT COMMERCIAL SYSTEM CO., LTD.

Address of Manufacturer: Wisdom Valley, No.8 Shengshui Road, Laoshan District, Qingdao City, China

Product Name: Tablet POS

Model No.: HM638N,HM638,HM638A

Trade Mark: HiStone

FCC ID: 2A397-HM638N

Applicable standards: CFR Title 47 Part 15.225

Date of Test: Mar.05, 2025-Apr.24, 2026

Date of report issued: Apr.25, 2026

Remark:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full without prior written permission of the company.

The report would be invalid without specific stamp of test institute and the signatures of compiler and approver

Prepared By

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Authorized Signature



Report Revision History		
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1. Test Summary

Test Item	Section	Result	Test by
Antenna requirement	47CFR part 15.203	Pass	/
Conducted emission	47CFR part 15.207	Pass	Jason Huang
Transmitter field strength	47CFR part 15.225(a)(b)(c))	Pass	Leo Zhong
Radiated emission and Restricted band	47CFR part 15.247 (a)(2)	Pass	Leo Zhong
Occupied Bandwidth	47CFR part 15.215(c)	Pass	Oliver Wang
Frequency Stability	47CFR part 15.225(e)	Pass	Oliver Wang

Remarks:

1. Pass: The EUT complies with the essential requirements in the standard.
2. Test according to ANSI C63.10-2020+COR.1-2023.
3. Note: Compliance determination rules
 - 1).The Compliance determination of test results does not take into account measurement uncertainty. Measurement results are determined based on regulatory limitations or requirements specified by the applicant/manufacture. If measurement uncertainty is taken into account, the applicant/manufacture will bear all possible risks of non-compliance.
 - 2).The measurement uncertainty please refer to each test result in the "Measurement Uncertainty"

Measurement Uncertainty

Test Item	Measurement Uncertainty	Notes
Occupied Channel Bandwidth	0.72%	(1)
RF output power, conducted	±0.67 dB	(1)
Power Spectral Density, conducted	±0.51 dB	(1)
Unwanted Emissions, conducted	±0.64 dB	(1)
AC Power Line Conducted Emission	± 3.38 dB	(1)
Radiated emissions 9K-30MHz	±4.26 dB	(1)
Radiated emissions 30M- 1GHz	±4.88 dB	(1)
Radiated emissions 1GHz-18GHz	± 4.16 dB	(1)
Radiated emissions 18GHz-40GHz	±4.14 dB	(1)
Frequency error	Uc=6X10-7	(1)
Duty Cycle	0.03	(1)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

2. General Information

2.1 General Description of EUT

Product Name:	Tablet POS
Model No.:	HM638N, HM638, HM638A
Difference of model(s)	All the model are the same circuit and RF module, except the model names and housing colors.
Test Model:	HM638N
Hardware version:	N/A
Software version:	N/A
Power supply:	DC 24V from adapter with AC 100-240V or DC 7.7V From Battery
Adapter information:	Model: GM60-240250-F Input: 100-240VAC, 50-60Hz; Output: 24.0VDC 2.5A Model: FSP060-DAAN3 INPUT:100-240VAC, 50-60Hz Output: 24.0VDC 2.5A Model: FSP120-AAAN3 Input: 100-240VAC, 50-60Hz; Output: 24.0VDC 5.0A Model: GQ65PD02-E1 Input: 100-240VAC, 50-60Hz; Output: 20.0VDC 3.25A Model: PA-1650-58 Input: 100-240VAC, 50-60Hz; Output: 20.0VDC 3.25A
Battery:	DC 7.7V 4416mAh
Radio Technology:	NFC
Operation Frequency:	13.56MHz
Channel Numbers:	1
Modulation technology:	ASK
Antenna Type:	PCB antenna
Antenna gain:	3.0dBi
Note: 1. Other information please Reference user manual. 2. Antenna information is provided by applicant, Testing lab is not responsible for the accuracy of the information. 3. EUTt has two structural differences, mainly whether it has a base: Structure 1: Handheld PAD Structure 2: Handheld PAD+Regular Function Base Structure 3: Handheld PAD+Multi functional Base	

2.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
<i>Remark: For battery operated equipment, the EUT was performed using a new DC 7.7V battery..</i>	

2.3 Description of Support Units

No.	Description	Manufacturer	Model	Serial Number
1	MOUSE	DELL	MS116	/
2	KEYBOARD	DELL	KB216T	/

2.4 Test Facility

Test laboratory:	Shenzhen ETR Standard Technology Co., Ltd.
CNAS Registration Number:	L11864
A2LA Certificate Number:	6640.01
FCC Designation Number:	CN1326
FCC Test Firm Registration:	183064
IC Company Number:	28440
IC CAB identifier:	CN0132
Laboratory location:	No.103, No.10, Phase I, Zone 3, Xinxing Industrial Park, Xinhe, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China

2.5 Additional Instructions

Test Software	/
Power level setup	Default



3. Test Instruments list

Item	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	Rohde&schwarz	ESCI7	101214	2026.3.05	2027.3.04
2	EMI Test Receiver	Rohde&schwarz	ESCI3	102696	2026.3.05	2027.3.04
3	Loop Antenna	schwarabeck	FMZB 1519 B	128	2026.3.08	2028.3.07
4	Broadband antenna	schwarabeck	VULB9168	1064	2026.3.11	2028.3.10
5	Horn antenna	schwarabeck	BBHA9120D	2288	2026.3.08	2028.3.07
6	amplifier	EMtrace	RP01A	50117	2026.3.05	2027.3.04
7	AMN	schwarabeck	NSLK8127	8127483	2026.3.05	2027.3.04
8	AMN	ETS	3186/2NM	1132	2026.3.05	2027.3.04
9	10dB attenuator	HUBER+SUHN R	10dB	/	2026.3.05	2027.3.04
10	amplifier	Space-Dtronics	EWLAN0118G- P40	19113001	2026.3.05	2027.3.04
11	Filter	Xingbo	XBLBQ-GTA19	210410-3-1	2026.3.05	2027.3.04
12	Spectrum analyzer	KEYSIGHT	N9020A	MY55370280	2026.3.05	2027.3.04
13	Power control box	MWRFTest	MW100-PSB	MW201020JYT	2026.3.05	2027.3.04
14	Power Sensor	Keysight	U2021XA	MY54111006	2026.3.05	2027.3.04
15	amplifier	SKET	LNPA_1840-50 (18-40GHz)	19113001	2026.3.05	2027.3.04
16	Horn antenna	schwarabeck	BBHA 9170	946	2026.3.08	2028.3.07
17	Temp. & Humidity Chamber	Jiecheng Instrument	QA-LP-80	20160705001	2026/3/06	2027/3/05

Note: the calibration interval of the above test instruments is 12 or 24 months and the calibrations are traceable to international system unit (SI).

Software Name	Manufacturer	Model	Version
Conducted test software	EZ-EMC	Farad	Ver.EMC-CON 3A1.1
Radiated test software	EZ-EMC	Farad	Ver.FA-03A2 RE

4. Test results and Measurement Data

4.1 Antenna requirement

Standard requirement:	47CFR Part 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 PCB Antenna, the best case gain of the antenna is 3.0 dBi, reference to the ET-26030668IP for details.	

4.2 Conducted Emissions

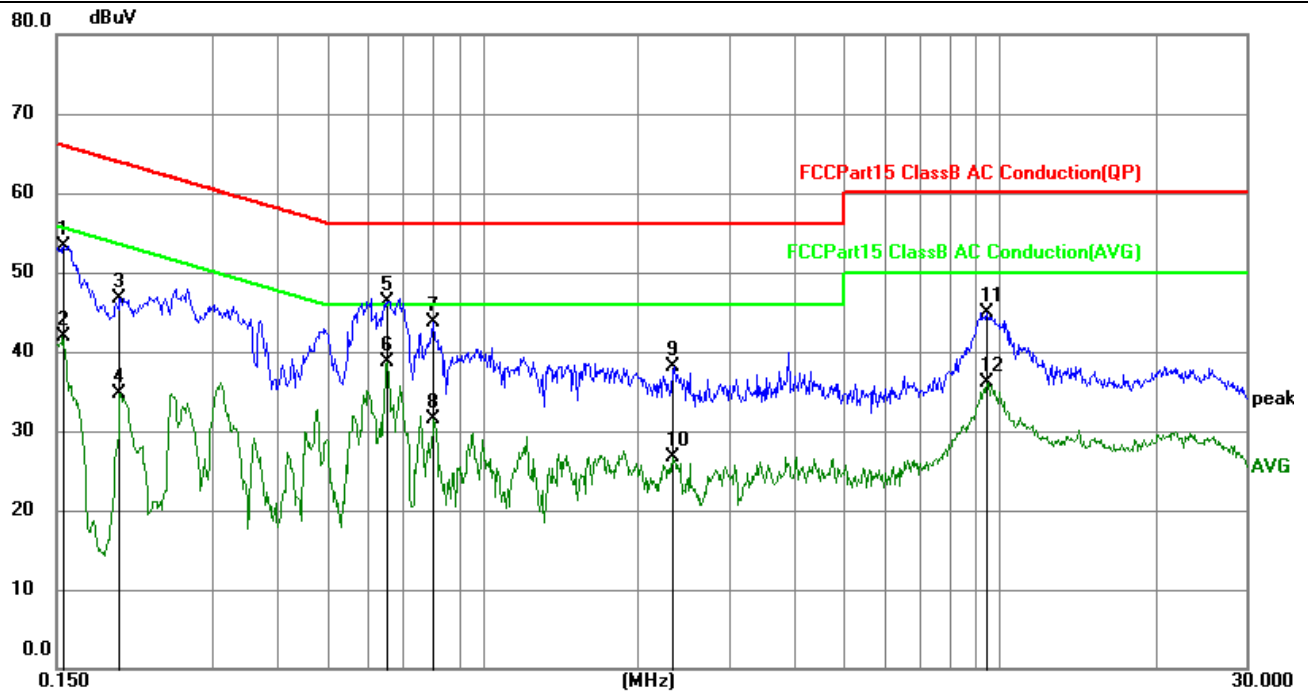
Test Requirement:	47CFR part 15.207						
Test Method:	ANSI C63.10-2020+COR.1-2023 § 6.2						
Test Frequency Range:	150KHz to 30MHz						
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto						
Limit:	Frequency range (MHz)		Limit (dBuV)				
			Quasi-peak		Average		
	0.15-0.5		66 to 56*		56 to 46*		
	0.5-5		56		46		
	5-30		60		50		
* Decreases with the logarithm of the frequency.							
Test setup:	Reference Plane 40cm LISN AUX Equipment E.U.T 80cm LISN Filter AC power EMI Receiver Test table/Insulation plane Remark: E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m						
Test procedure:	1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. 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 C63.10-2020+COR.1-2023 on conducted measurement.						
Test Instruments:	Refer to section 3.0 for details						
Test mode:	Refer to section 2.2 for details						
Test environment:	Temp.:	21.6°C	Humid.:	49%	Press.:	1012mbar	
Test voltage:	AC 120V 60Hz						
Test results:	Pass						

Remark:

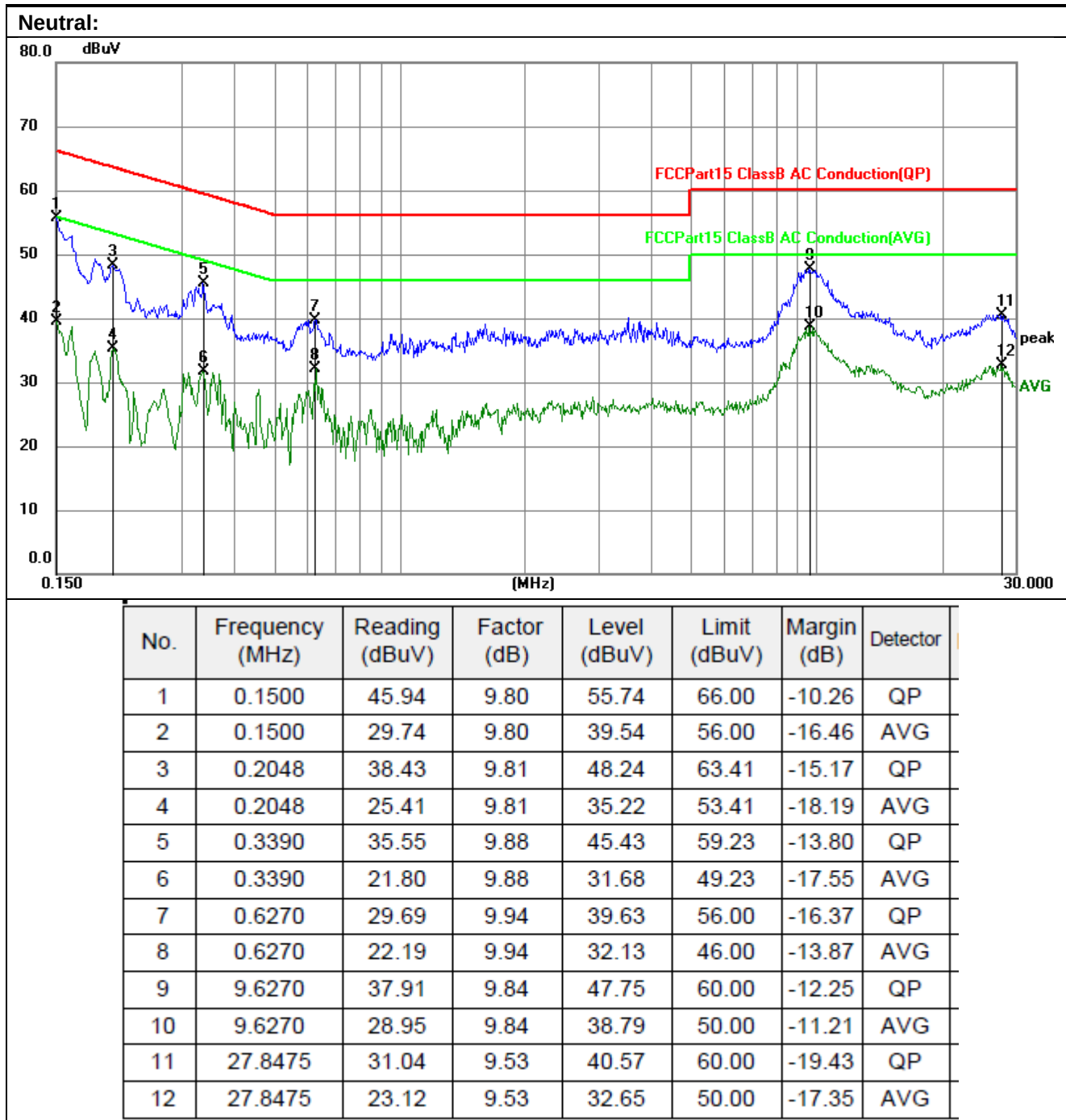
1. Both high voltage and low voltage have been tested, and the report only shows the worst case data with AC 120V/60Hz.
2. All adapters were tested, and found the Model: GM60-240250-F had the worst test data, and only show the worst case data in the report .

Measurement data

Line:



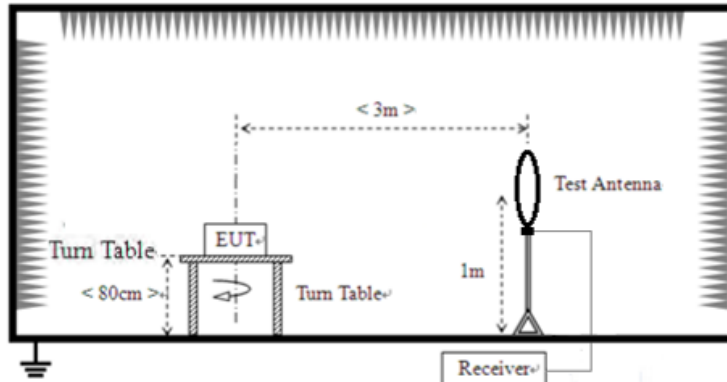
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1547	43.44	9.80	53.24	65.74	-12.50	QP
2	0.1547	32.02	9.80	41.82	55.74	-13.92	AVG
3	0.1985	36.94	9.81	46.75	63.67	-16.92	QP
4	0.1985	24.85	9.81	34.66	53.67	-19.01	AVG
5	0.6542	36.31	9.94	46.25	56.00	-9.75	QP
6	0.6542	28.82	9.94	38.76	46.00	-7.24	AVG
7	0.8044	33.77	9.96	43.73	56.00	-12.27	QP
8	0.8044	21.60	9.96	31.56	46.00	-14.44	AVG
9	2.3334	28.16	9.85	38.01	56.00	-17.99	QP
10	2.3334	16.90	9.85	26.75	46.00	-19.25	AVG
11	9.4512	35.05	9.83	44.88	60.00	-15.12	QP
12	9.4512	26.31	9.83	36.14	50.00	-13.86	AVG



Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Level = Receiver Read level + Factor (Factor= LISN Factor + Cable Loss+ Attenuator Factor)

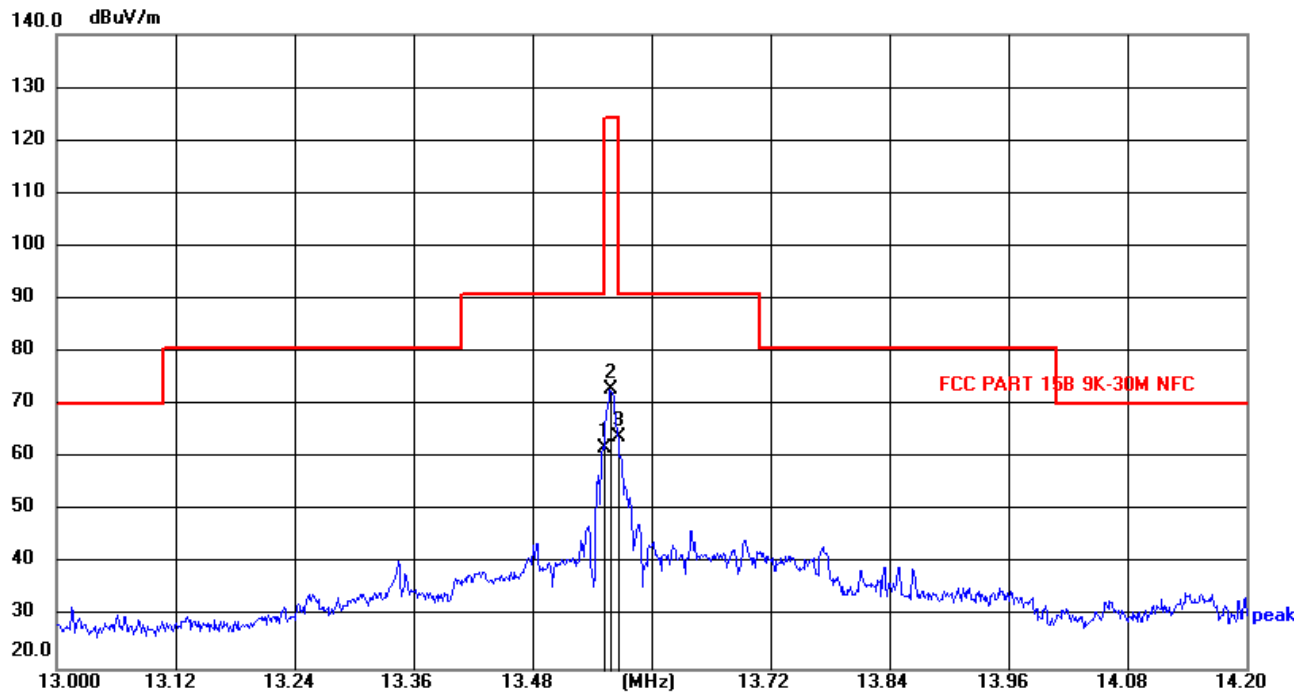
3.3 Field Strength of the Fundamental

Test Requirement:	47CFR part 15.225(a)					
Test Method:	ANSI C63.10-2020+COR.1-2023§6.4&6.5					
Test site:	Measurement Distance: 3m					
Receiver setup:	Frequency	Detector	RBW	VBW	Remark	
	9kHz-150kHz	Quasi-peak	200Hz	300Hz	Quasi-peak Value	
	150kHz-30MHz	Quasi-peak	9kHz	10kHz	Quasi-peak Value	
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value	
Limit: (Field strength of the fundamental signal)	Fundamental frequency (MHz)		Field Strength (uV/m) at 30m		Field Strength (dBuV/m) at 3m	
	1.705~13.110		30		69.5	
	13.110~13.410		106		80.5	
	13.410~13.553		334		90.5	
	13.553~13.567		15848		124.0	
	13.567~13.710		334		90.5	
	13.710~14.010		106		80.5	
	14.010~30.000		30		69.5	
	Limit dBuV/m @3m =Limit dBuV/m @30m +40*log(30/3)= Limit dBuV/m @30m + 40.					
Test setup:						
Test Procedure:	1. The EUT was setup and tested according to ANSI C63.10 requirements 2. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. 3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. 4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10 on radiated measurement.					
Test Instruments:	Refer to section 3.0 for details					
Test mode:	Refer to section 2.2 for details					
Test environment:	Temp.:	23.4 °C	Humid.:	65%	Press.:	1012mbar
Test voltage:	DC 7.7V From Battery					
Test results:	Pass					

Remark:

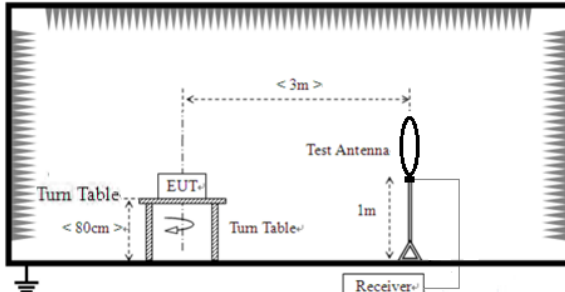
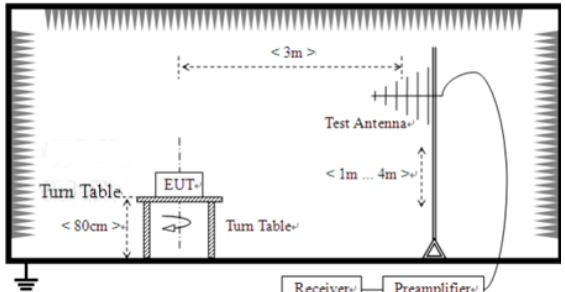
Three structurals have been tested, and the report only show the worst test data(structural 3).

Test plot as follows:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	13.5518	40.80	20.95	61.75	90.50	-28.75	QP
2	13.5586	51.98	20.95	72.93	124.00	-51.07	peak
3	13.5663	42.94	20.95	63.89	124.00	-60.11	QP

4.4 Radiated Emission Measurement

Test Requirement:	47CFR part 15.209 & 15.231 (b) and 15.205(a).				
Test Method:	ANSI C63.10-2020+COR.1-2023§6.4&6.5				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz-150kHz	Quasi-peak	200Hz	300Hz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	10kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak Value
Limit: (Spurious Emissions)	Frequency	Limit (uV/m)		Remark	
	0.009MHz-0.490MHz	2400/F(kHz) @300m		Quasi-peak Value	
	0.490MHz-1.705MHz	24000/F(kHz) @30m		Quasi-peak Value	
	1.705MHz-30.0MHz	30 @30m		Quasi-peak Value	
	30MHz-88MHz	100 @3m		Quasi-peak Value	
	88MHz-216MHz	150 @3m		Quasi-peak Value	
	216MHz-960MHz	200 @3m		Quasi-peak Value	
	960MHz-1GHz	500 @3m		Quasi-peak Value	
Limit: (band edge)	Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.				
Test setup:	For radiated emissions from 9kHz to 30MHz  For radiated emissions from 30MHz to 1GHz 				
Test Procedure:	5. The EUT was placed on the top of a rotating table (0.8m for below 1GHz) above the ground at a 3 meter camber. 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.				



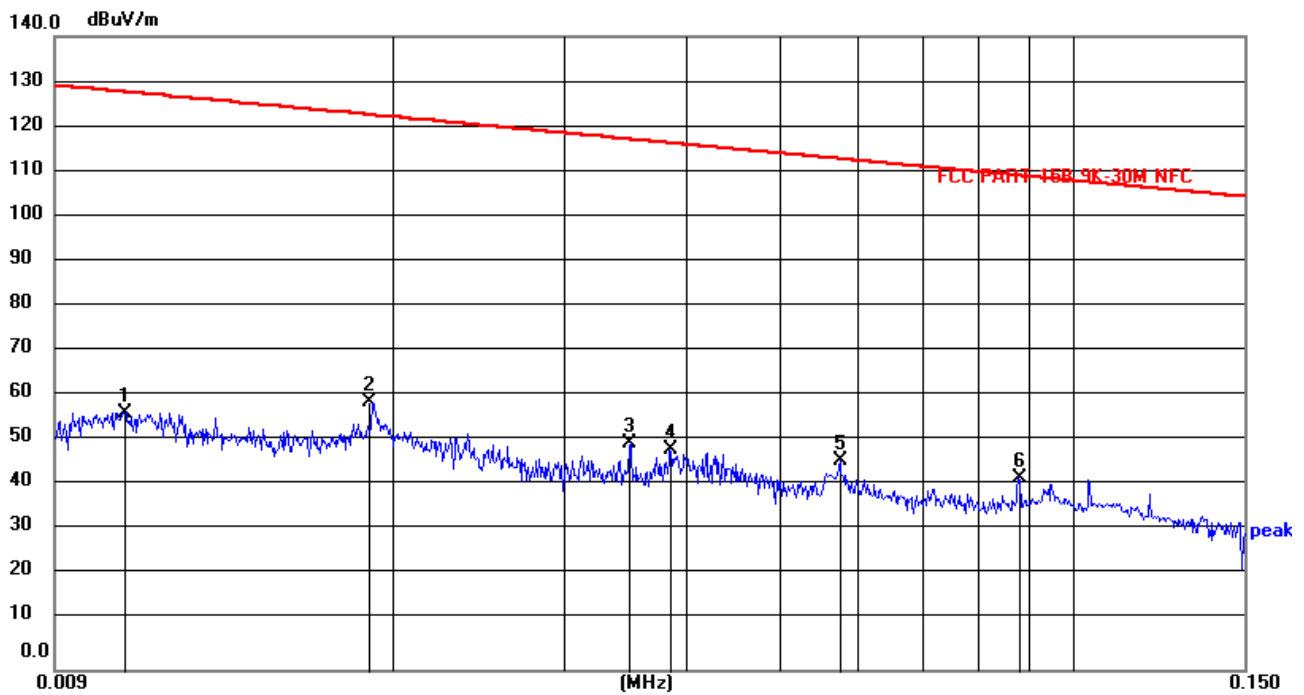
	8. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 9. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 10. 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.			
Test Instruments:	Refer to section 3.0 for details			
Test mode:	Refer to section 2.2 for details			
Test environment:	Temp.:	23.4 °C	Humid.:	65%RH
Test voltage:	DC 7.7V From Battery			
Test results:	Pass			

Remark:

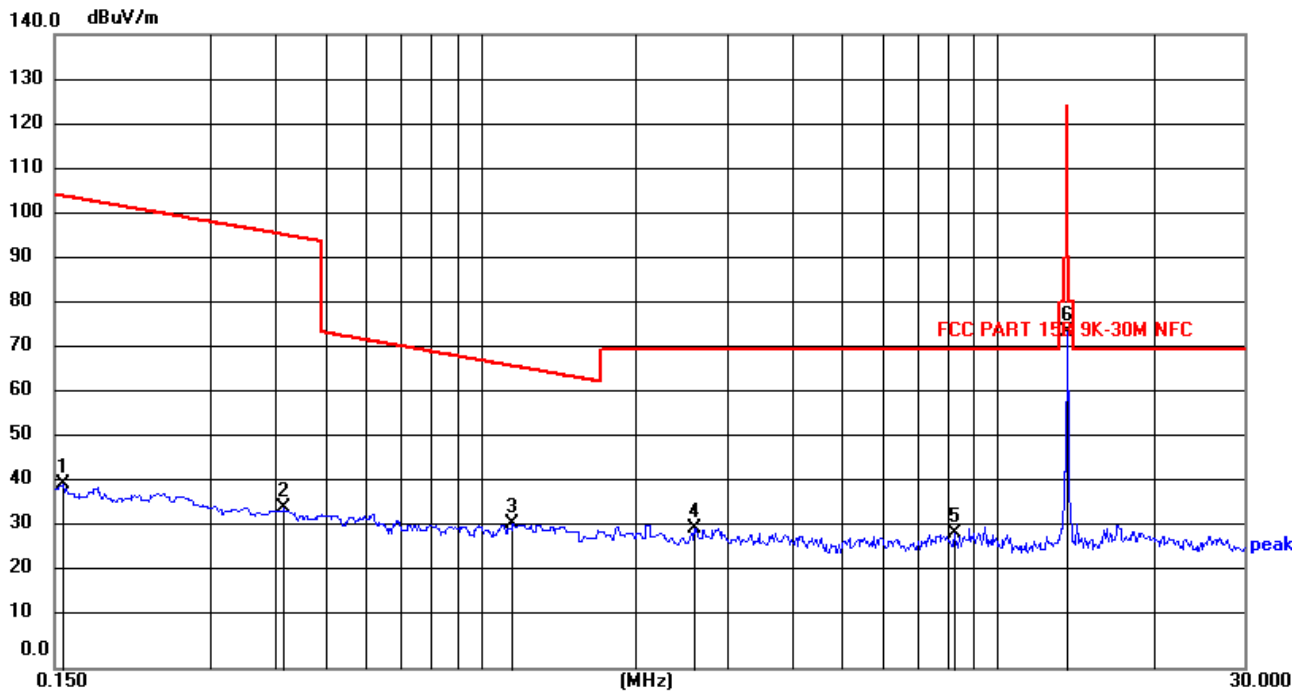
Three structurals have been tested, and the report only show the worst test data(structural 3).

All adapters were tested, and found the Model: GM60-240250-F had the worst test data, and only show the worst case data in the report .

Radiated Emission (9KHz-30MHz)



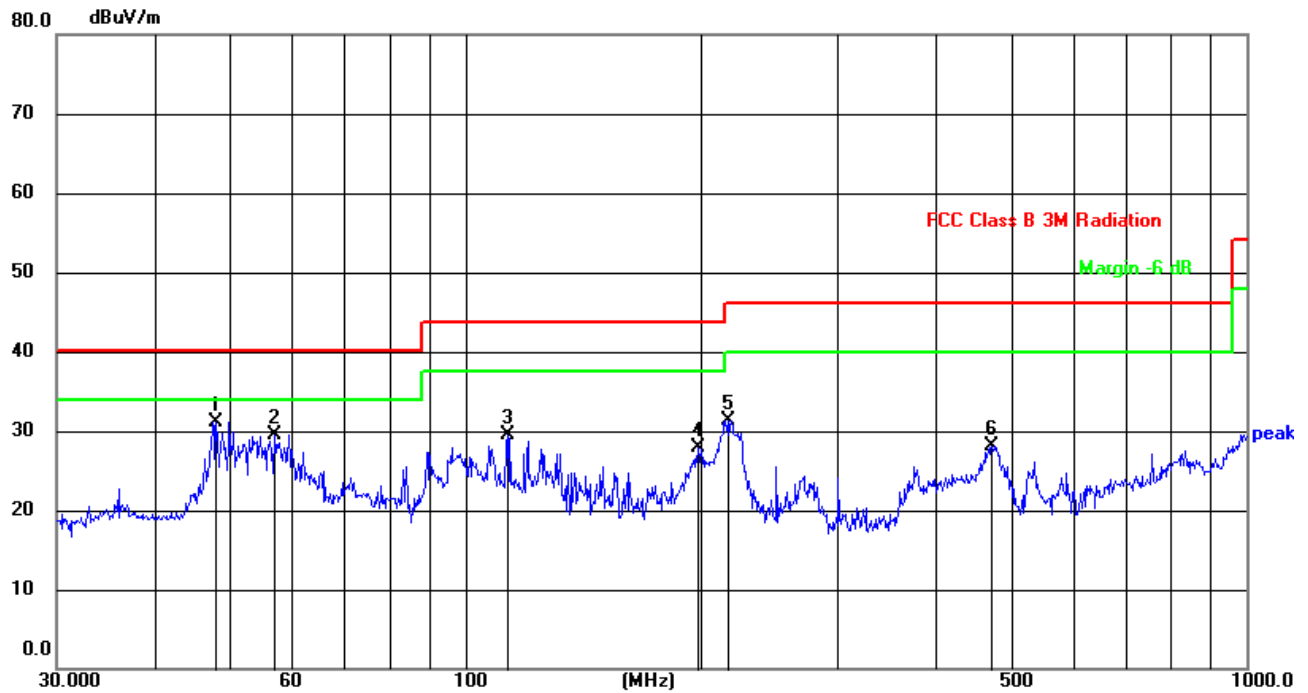
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.0106	37.57	19.43	57.00	127.38	-70.38	QP
2	0.0189	39.73	19.51	59.24	122.34	-63.10	QP
3	0.0350	30.70	19.57	50.27	116.98	-66.71	QP
4	0.0386	29.20	19.54	48.74	116.12	-67.38	QP
5	0.0575	26.74	19.48	46.22	112.65	-66.43	QP
6	0.0879	22.93	19.48	42.41	108.96	-66.55	QP



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	0.1554	20.97	19.89	40.86	104.00	-63.14	QP
2	0.4168	15.29	20.16	35.45	95.41	-59.96	QP
3	1.1532	11.52	20.37	31.89	66.45	-34.56	QP
4	2.5943	10.55	20.58	31.13	70.00	-38.87	QP
5	8.2024	8.92	20.91	29.83	70.00	-40.17	QP
6	13.5685	53.57	20.95	74.52	90.50	-15.98	peak

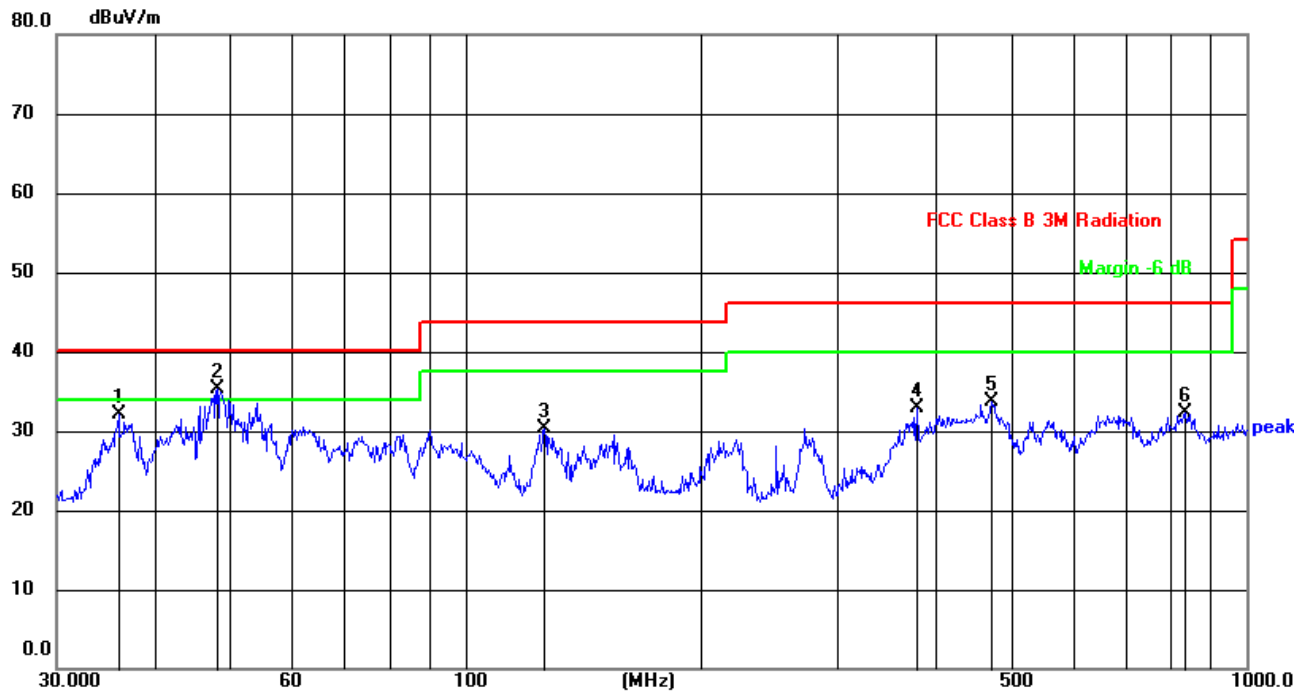
Radiated Emission (30MHz-1GHz)

Horizontal:



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	47.9938	53.35	-22.29	31.06	40.00	-8.94	QP
2	56.9911	52.56	-23.12	29.44	40.00	-10.56	QP
3	113.3161	54.44	-24.92	29.52	43.50	-13.98	QP
4	198.5877	52.74	-24.85	27.89	43.50	-15.61	QP
5	216.7828	56.45	-25.14	31.31	46.00	-14.69	QP
6	472.1759	46.23	-18.05	28.18	46.00	-17.82	QP

Vertical:

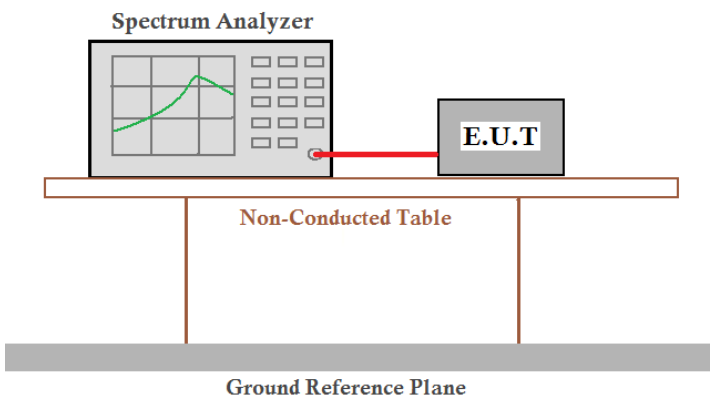


No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	36.0007	54.28	-22.15	32.13	40.00	-7.87	QP
2	48.1625	57.59	-22.31	35.28	40.00	-4.72	QP
3	126.3285	54.18	-23.97	30.21	43.50	-13.29	QP
4	378.5842	53.09	-20.26	32.83	46.00	-13.17	QP
5	472.1759	51.73	-18.05	33.68	46.00	-12.32	QP
6	836.2441	41.96	-9.73	32.23	46.00	-13.77	QP

Remark:

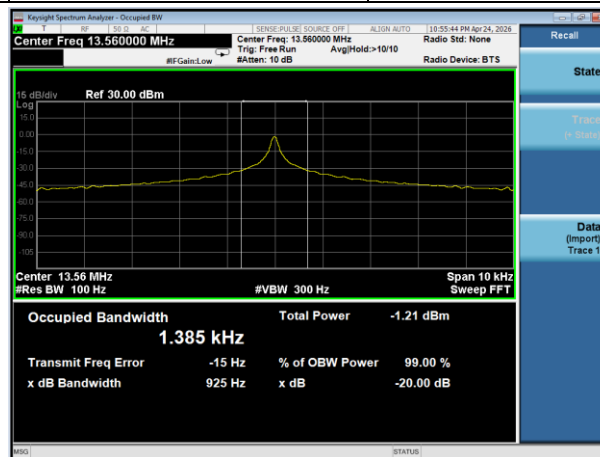
1. Final Level = Receiver Read level + Correction Factor (Antenna Factor + Cable Loss – Preamplifier Factor)
2. The emission levels of other frequencies are more than 20 dB below the limit and not show in test report.

4.5 20dB Occupy Bandwidth

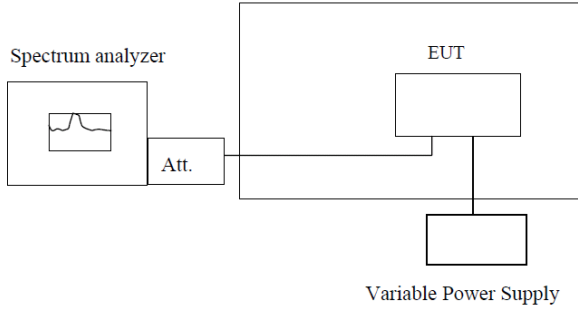
Test Requirement:	47CFR part 15.215		
Test Method:	ANSI C63.10-2020+COR.1-2023§6.4&6.9		
Limit:	Operation within the band 13.553 MHz to 13.567 MHz		
Test setup:			
Test Procedure:	With the EUT's antenna attached, the EUT's 20dB Bandwidth power was received by the test antenna which was connected to the spectrum analyzer with the START and STOP frequencies set to the EUT's operation band.		
Test Instruments:	Refer to section 3.0 for details		
Test mode:	Refer to section 2.2 for details		
Test environment:	Temp.:	23.4 °C	Humid.: 65%RH
Test voltage:	DC 7.7V From Battery		
Test results:	Pass		

Measurement Result

Center Frequency	20dB bandwidth(kHz)	Limit(kHz)	Result
13.56MHz	0.925KHz	13.553 MHz to 13.567 MHz (14KHz)	Pass



4.6 Frequency Stability

Test Requirement:	47CFR part 15.225(e)
Test Method:	ANSI C63.10-2020+COR.1-2023§6.4&6.8
Limit:	The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ 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.
Test setup:	Temperature Chamber  Variable Power Supply Note : Measurement setup for testing on Antenna connector
Test Procedure:	Test Procedures for Temperature Variation: 1. The EUT was set up in the thermal chamber and connected Spectrum analyzer. 2. Put the EUT in the chamber, set the temperature to be measured and record the carrier frequency error. Test Procedures for Voltage Variation: 1. The EUT was placed in a temperature chamber at $20 \pm 5^\circ\text{C}$ and connected Spectrum analyzer. 2. The voltage changes from 85% to 115% of the rated supply voltage and Record the carrier frequency error.
Test Instruments:	Refer to section 3.0 for details
Test mode:	Refer to section 2.2 for details
Test results:	Pass

Test Result

Voltage (Vdc)	Temp. ($^\circ\text{C}$)	Frequency (MHz)	Deviation (%)	Limit (%)
12.0	-20	13.560195	0.001	$\pm 0.01\%$
12.0	-10	13.560110	0.001	
12.0	0	13.560215	0.002	
12.0	10	13.560129	0.001	
12.0	20	13.560312	0.002	
12.0	30	13.560209	0.002	
12.0	40	13.560134	0.001	
12.0	50	13.560154	0.001	
10.8	20	13.560132	0.001	
13.2	20	13.560103	0.001	



5. Test Setup Photo

Reference to the file No.: ET-26030668SP for details.

6. EUT Constructional Details

Reference to the file No.: ET-26030668E04P and ET-26030668IP for details.

-----End-----