



Project No.: TM-2512000239P
Report No.: TMWK2512005725KR FCC ID: P4Q-N693B

Page: 1 / 30
Rev.: 02

FCC 47 CFR PART 15 SUBPART C (CLASS II PERMISSIVE CHANGE)

TEST REPORT

For

Gemini SE

Model No.: N693, N693F, N693D, N693FT, N693DT

**Brand Name: MiTAC, Mio, NAVMAN, MAGELLAN, Solera, ORBCOMM,
Geotab**

Issued to

MiTAC Digital Technology Corporation
4F., No. 1, R&D Road 2, Hsinchu Science Park, Hsinchu 30076 Taiwan

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City, Taiwan.
Issued Date: April 23, 2026

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	April 8, 2026	Initial Issue	ALL	Peggy Tsai
01	April 20, 2026	See the following Note Rev.(01)	P.7, 14-16	Peggy Tsai
02	April 23, 2026	See the following Note Rev.(02)	P.16	Peggy Tsai

Rev. (01)

1. Modify notes in section 2.2.
2. Modify test setup diagram in section 6.2.
3. Modify test procedure and note in section 7.1.

Rev. (02)

1. Modify test results in section 7.1.

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1. TEST RESULT CERTIFICATION

Applicant: MiTAC Digital Technology Corporation
4F., No. 1, R&D Road 2, Hsinchu Science Park, Hsinchu 30076
Taiwan

Manufacturer: MiTAC Digital Technology Corporation
4F., No. 1, R&D Road 2, Hsinchu Science Park, Hsinchu 30076
Taiwan

Equipment Under Test: Gemini SE

Brand Name: MiTAC, Mio, NAVMAN, MAGELLAN, Solera, ORBCOMM,
Geotab

Model No.: N693, N693F, N693D, N693FT, N693DT

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC 47 CFR Part 15 Subpart C	Compliance
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10-2020 and the energy emitted by the sample tested as described in this report is in compliance with the requirements of FCC Rules Part 15.225.

The test results of this report relate only to the tested sample identified in this report.

Approved by:

Sehni Hu

Sehni Hu
Supervisor

2. EUT DESCRIPTION

2.1 EUT INFORMATION

Equipment	Gemini SE
Model Name	N693, N693F, N693D, N693FT, N693DT
Model Discrepancy	Please see remark as below.
Brand Name	MiTAC, Mio, NAVMAN, MAGELLAN, Solera, ORBCOMM, Geotab
Received Date	January 23, 2026
Date of Test	February 23 ~ April 16, 2026
Power Supply	Power from Car Battery. (DC 13V)
Frequency Range	13.56MHz
Modulation Technique	BPSK
Number of Channels	1 Channel
HW Version	R01
SW Version	R40
Class II Permissive Change	1. Added brand name: Solera, ORBCOMM, Geotab. 2. The NFC chip IC is changed from NXP NQ310 to NQ410, with the same brand, model series, and specifications as the original. 3. Updated SW Version to R40.

Remark:

1. For more details, please refer to the User's manual of the EUT.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
3. Disclaimer: Variant information between/among model numbers / trademarks is provided by the applicant, test results of this report are applicable to the sample EUT received of main test model name.

4. Model Discrepancy:

Model name		Difference Description	Brand name	Market name
Main	N693	-	MiTAC, Mio, MAGELLAN, Navman, Solera, ORBCOMM, Geotab	Gemini SE, GO Focus Plus
Series	N693F	The only difference between the base model N693 and the additional model(s) N693F is as follows: The only difference is exchanged position between right camera and left camera.	MiTAC, Mio, MAGELLAN, Navman, Solera, ORBCOMM, Geotab	MiTAC, Mio, NAVMAN, MAGELLAN
	N693FT	The only difference between the base model N693F and the additional model(s) N693FT is as follows: Disable LTE B71 by software.	ORBCOMM, Geotab	MiTAC, Mio, NAVMAN, MAGELLAN
	N693D	The only difference between the base model N693 and the additional model(s) N693D is as follows: N693: Dual Camera N693D: Single Camera	MiTAC, Mio, MAGELLAN, Navman, Solera, ORBCOMM, Geotab	MioEYE™ K series K145c
	N693DT	The only difference between the base model N693D and the additional model(s) N693DT is as follows: Disable LTE B71 by software.	ORBCOMM, Geotab	MioEYE™ K series K145c

2.2 ANTENNA INFORMATION

Antenna Specification	☐ PIFA ☐ PCB ☐ Dipole ☒ Loop Antenna
Antenna Gain	Gain: N/A dBi

Notes:

- 1.The antenna(s) of the EUT are permanently attached and there are no provisions for connection to an external antenna. So the EUT complies with the requirements of §15.203.
2. Only radiated measurements are used to show compliance with FCC limits for fundamental and spurious emissions.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2020 and FCC CFR 47 Part 15.207, 15.209, 15.225.

3.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

3.2 FCC PART 15.205 RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.52525	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	156.7 - 156.9	3260 - 3267	23.6 - 24.0
12.29 - 12.293	162.0125 - 167.17	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	167.72 - 173.2	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	240 - 285	3600 - 4400	(²)
13.36 - 13.41	322 - 335.4		

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

3.3 DESCRIPTION OF TEST MODES

The EUT had been tested under engineering test mode condition and the EUT staying in continuous transmitting mode.

All modes and data rates were investigated and it was determined that ISO 14443A/B, ISO 18092 Type y and ISO 15693 reader and FeliCa™ reader.

The frequency 13.56 MHz. The default channel to test, where it is the only manipulative channel as this application supports.

All data rates were investigated. Therefore, all testing was performed in ISO14443A and 106 Kbps mode was considered worst-case.

3.3.1 The worst mode of measurement

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Power Supply(N693)
	Mode 2: EUT power by Power Supply(N693D)
	Mode 3: EUT power by Power Supply(N693F)
	Mode 4: EUT power by Power Supply(N693DT)
	Mode 5: EUT power by Power Supply(N693FT)
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

1. The worst mode was record in this test report.
2. EUT pre-scanned in three axis ,X,Y, Z and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report.
3. Variations between models/brands are evaluated by laboratories and the test results reported here apply to the worst model: N693.

4. TEST SUMMARY

FCC Standard Sec.	Chapter	Test Item	Result
15.203	2	Antenna Requirement	Pass
15.215	7.1	Occupied Bandwidth (99%) and 20dB Bandwidth	Pass
15.225 (a,b,c,d) 15.209 15.205	7.2	Radiated Emissions	Pass
15.255 (e)	7.3	Frequency Stability	Pass
15.207	7.4	AC Power-line Conducted Emission	N/A

5. INSTRUMENT CALIBRATION

5.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

5.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Conducted_FCC/IC/NCC (All)					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Cable	Woken	WC12	SS01	2025-06-26	2026-06-25
Constant Temperature Humidity Chamber	TERCHY	MHG-150LF	930619	2025-10-14	2026-10-13
Loop Antenna	COM-POWER	AL-130	121051	2026-02-04	2027-02-03
PXA Signal Analyzer	Keysight	N9030B	MY62291089	2025-09-24	2026-09-23
DC Power Source	GWINSTEK	SPS-3610	GPE880163	2025-11-06	2026-11-05
Software	N/A				

966A_Radiated					
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Signal Analyzer	Agilent	N9010A	MY53400256	2025-11-26	2026-11-25
Active Loop Antenna	COM-POWER	AL-130	121051	2026-02-04	2027-02-03
Thermo-Hygro Meter	HTC	HTC-1	HTC-D06	2025-05-26	2026-05-25
Bi-Log Antenna	Sunol Sciences	JB3	A030105&532	2025-06-26	2026-06-25
Preamplifier	EMEC	EM330	060609	2026-02-13	2027-02-12
Cable	Huber+Suhner	104PEA	20995+21000+182330	2025-08-06	2026-08-05
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Software	e3 V9-210616c				

Remark:

- Each piece of equipment is scheduled for calibration once a year.
- N.C.R. = No Calibration Required.

5.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	± 2.37 dB
Channel Bandwidth	± 2.85 dB
Frequency Stability	± 2.74 dB
Radiated Emission_9kHz-30MHz	± 2.750 dB
Radiated Emission_30MHz-200MHz	± 3.874 dB
Radiated Emission_200MHz-1GHz	± 4.065 dB

Remark: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

5.4 FACILITIES AND TEST LOCATION

All measurement facilities used to collect the measurement data are located at No.11, Wugong 6th Rd., Wugu Dist., New Taipei City, Taiwan.
CAB identifier: TW1309

Test site	Test Engineer	Remark
AC Conduction Room	-	Not applicable, because EUT not connect to AC Main Source direct.
Radiation	Tony Chao, Ben Yang	-
RF Conducted	David Li	-

Remark: The lab has been recognized as the FCC accredited lab. under the KDB 974614 D01 and is listed in the FCC public Access Link (PAL) database, FCC Registration No. :444940, the FCC Designation No.:TW1309

6. SETUP OF EQUIPMENT UNDER TEST

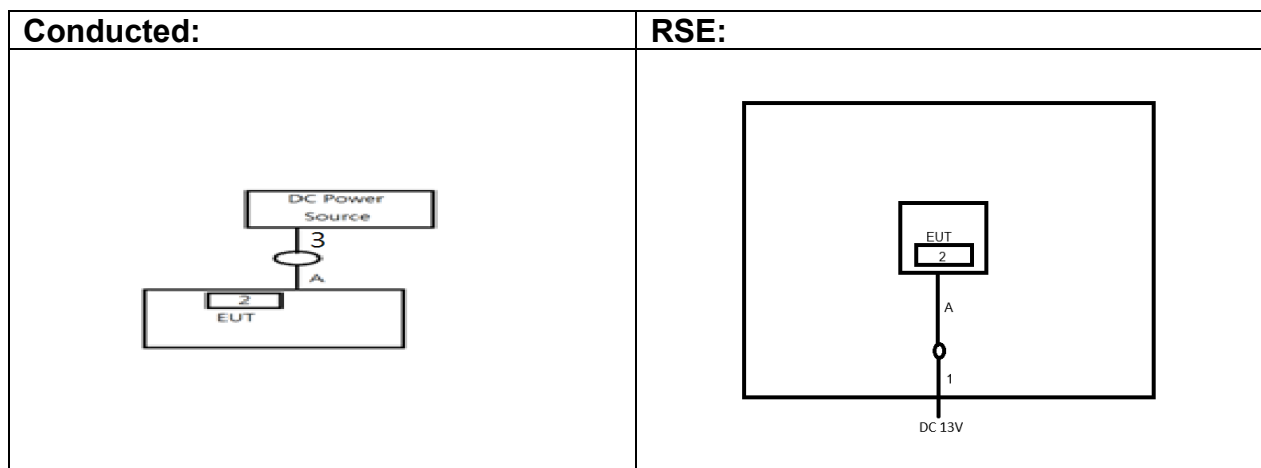
6.1 SUPPORT EQUIPMENT

EUT Accessories Equipment						
No.	Equipment	Brand	Model	Series No.	FCC ID	IC
	N/A					

Support Equipment (Conducted & RSE)						
No.	Equipment	Brand	Model	Series No.	FCC ID	IC
1	DC Power Source	GWINSTEK	SPS-3610	GPE880163	N/A	N/A
2	Card	N/A	N/A	N/A	N/A	N/A
3	DC Power Cable	N/A	N/A	N/A	N/A	N/A
A	Power Cable	N/A	N/A	N/A	N/A	N/A

Support Equipment (Conducted & RSE)						
No.	Equipment	Brand	Model	Series No.	FCC ID	IC
1	DC Cable	MISUMI	MCR3S-RE	N/A	N/A	N/A
2	NFC Card	nexwise	NTAG213	N/A	N/A	N/A
A	Power Cable	N/A	N/A	N/A	N/A	N/A

6.2 TEST SETUP DIAGRAM



6.3 TEST PROGRAM

This EUT powered on and placing the card in the sensing area to set the frequency, modulation and power to allow continuous transmission of the sample.

7. FCC PART 15.225 REQUIREMENTS

7.1 OCCUPIED BANDWIDTH(99%) AND 20 DB BANDWIDTH TEST CONFIGURATION

Refer to section 6.2.

TEST PROCEDURE

The Loop antenna connected to the spectrum analyzer, was touching to the transmitter antenna. Set the RBW=1% to 5% of the anticipated emission bandwidth, VBW=3*RBW, Detector = Peak, Trace mode = Max hold. Measure the maximum width of the emission that is constrained by the frequencies associated with the Occupied Bandwidth.

TEST RESULTS

Compliance

Temperature: 21.7 ~ 26.5°C

Test Date:

February 23 ~
April 16, 2026

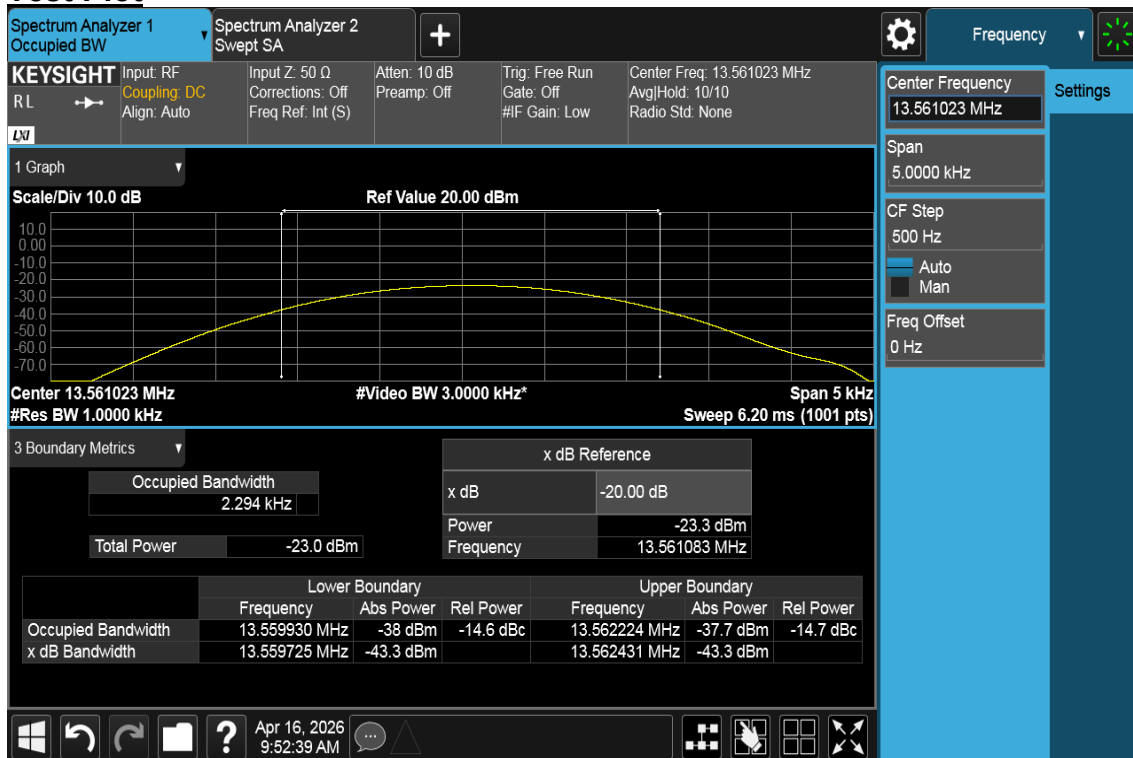
Humidity: 50 ~ 65% RH

Tested by:

David Li

NFC					
Frequency (MHz)	20dB BW (kHz)	Operation range	Frequency (MHz)	Limit (MHz)	99% BW (kHz)
13.56	2.706	Low	13.55973	>13.11	2.294
		High	13.56243	<14.01	

Test Plot



7.2 FUNDAMENTAL AND RADIATED EMISSIONS

LIMIT

According to §15.225

- (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 and shall not exceed the general radiated emission limits in §15.209.

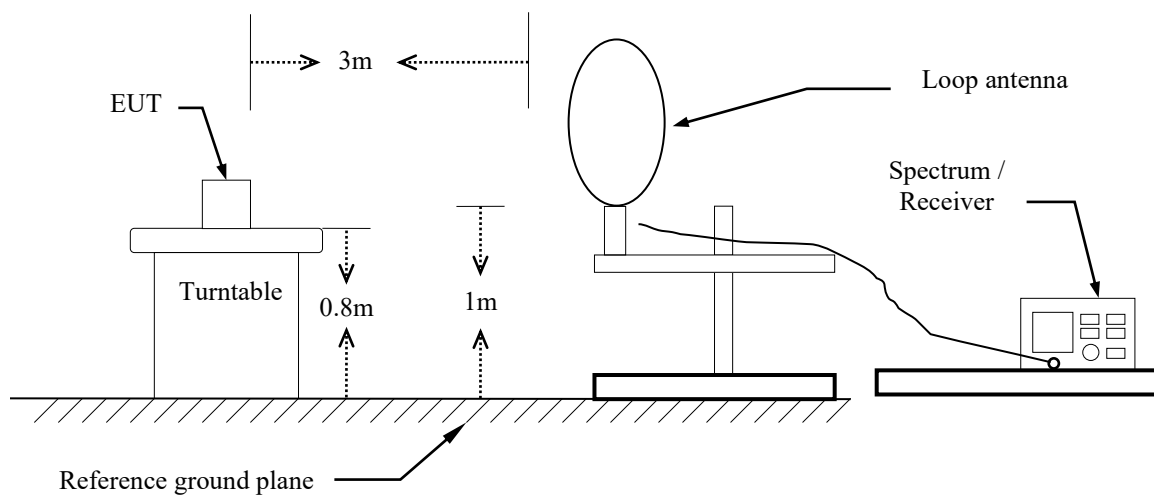
According to §15.225, except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (µV/m at meter)	Measurement Distance (meter)
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

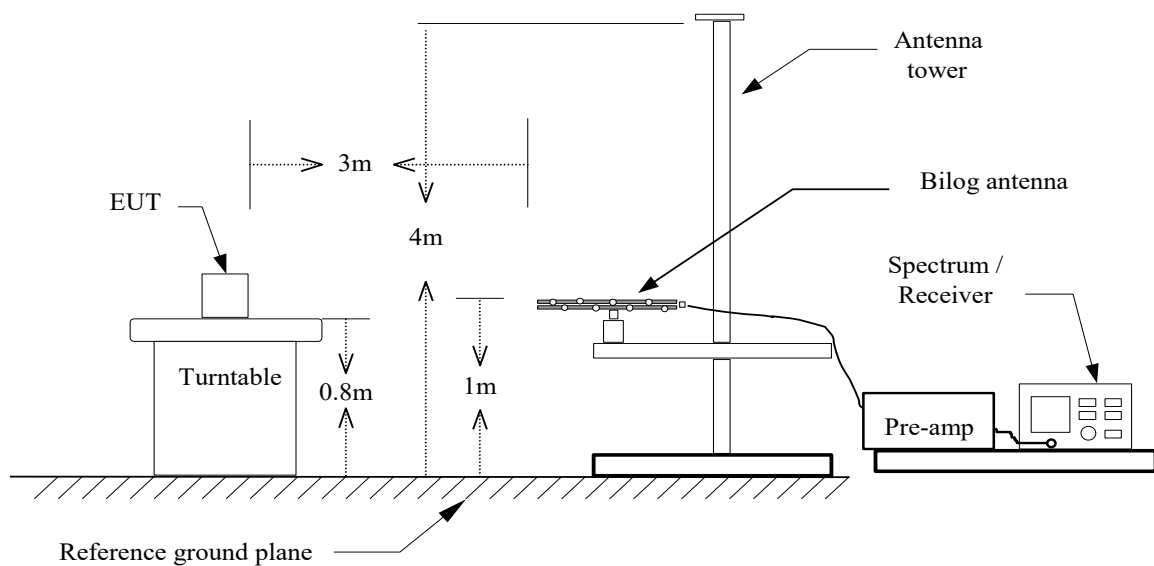
** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

Test Configuration

9kHz ~ 30MHz



30MHz ~ 1GHz



TEST PROCEDURE

For 9kHz ~ 30MHz

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, The lower edge of the loop shall be 1 m above the ground then to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. Set the spectrum analyzer in the following setting as:
9KHz-490KHz : RBW=200Hz / VBW=1kHz / Sweep=AUTO
490KHz-30MHz : RBW=10kHz / VBW=30kHz / Sweep=AUTO
6. Repeat above procedures until the measurements for all frequencies are complete.

For 30MHz ~ 1GHz

1. The EUT is placed on a turntable, which is 0.8m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Set the spectrum analyzer in the following setting as:
RBW=100kHz / VBW=300kHz / Sweep=AUTO
7. Repeat above procedures until the measurements for all frequencies are complete.

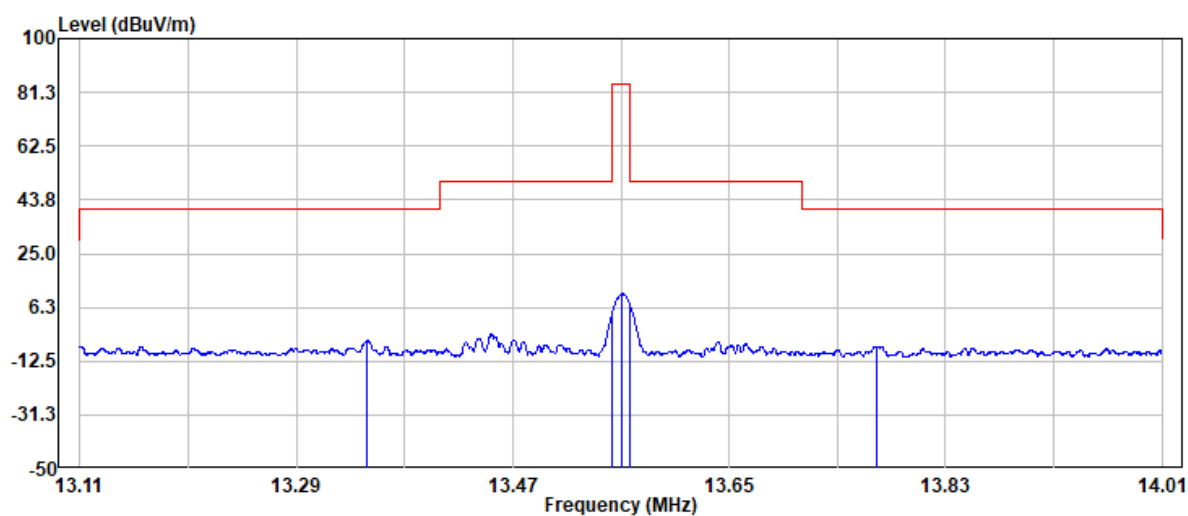
Remark:

1. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30 m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

Test Data: Main

Project No : TM-2512000239P
Operation Band : NFC
Frequency : 13.56 MHz
Operation Mode : Main
EUT Pol : E2
Setting : N693

Test Date : 2026-03-20
Temp./Humi. : 25.6/52
Antenna Pol. : Horizontal
Engineer : Tony.Chao
Test Chamber : 966A



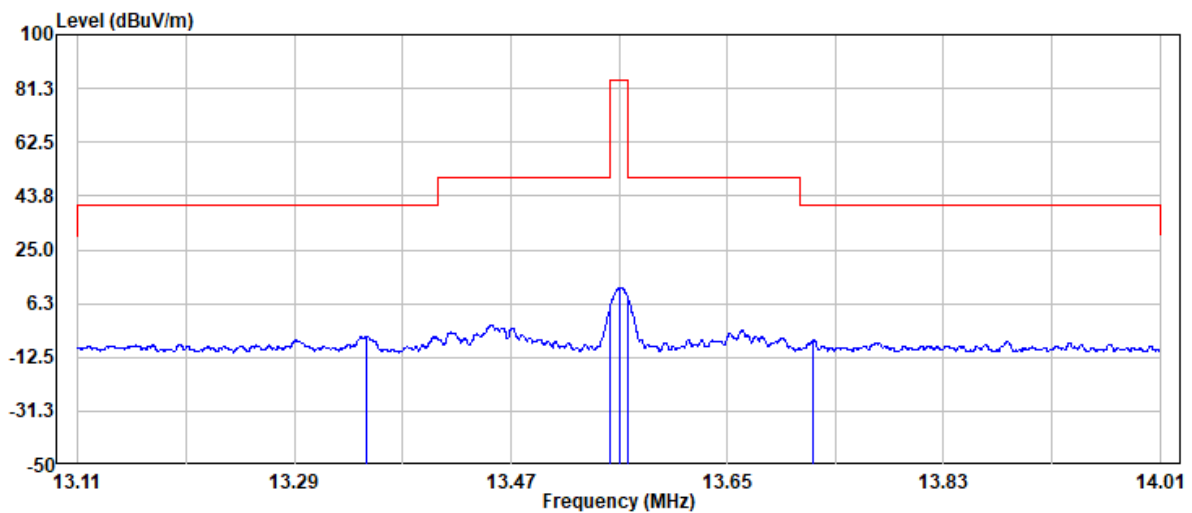
Freq	Read Level @3m	Factor @3m	Actual @3m	Factor @30m @300m	Actual @30m @300m	Limit	Margin	Detector Mode
----- MHz	----- dBuV	----- dB	----- dBuV/m	----- dB	----- dBuV/m	----- dBuV/m	----- dB	----- PK/QP/AV
13.35	18.36	16.13	34.49	-40.00	-5.51	40.51	-46.02	Peak
13.55	28.70	16.09	44.79	-40.00	4.79	84.00	-79.21	Peak
13.56	34.80	16.09	50.89	-40.00	10.89	84.00	-73.11	Peak
13.57	31.77	16.08	47.86	-40.00	7.86	84.00	-76.14	Peak
13.77	16.60	16.05	32.65	-40.00	-7.35	40.51	-47.86	Peak

Remark:

1. Radiated emissions measured were made with an instrument using peak/quasi-peak/average detector mode.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).
4. Result=Read level+Factor@3m+Distance factor
5. Distance factor=40log(3m/30m)
6. Factor=antenna factor+cable loss

Project No : TM-2512000239P
Operation Band : NFC
Frequency : 13.56 MHz
Operation Mode : Main
EUT Pol : E2
Setting : N693

Test Date : 2026-03-20
Temp./Humi. : 25.6/52
Antenna Pol. : VERTICAL
Engineer : Tony.Chao
Test Chamber : 966A



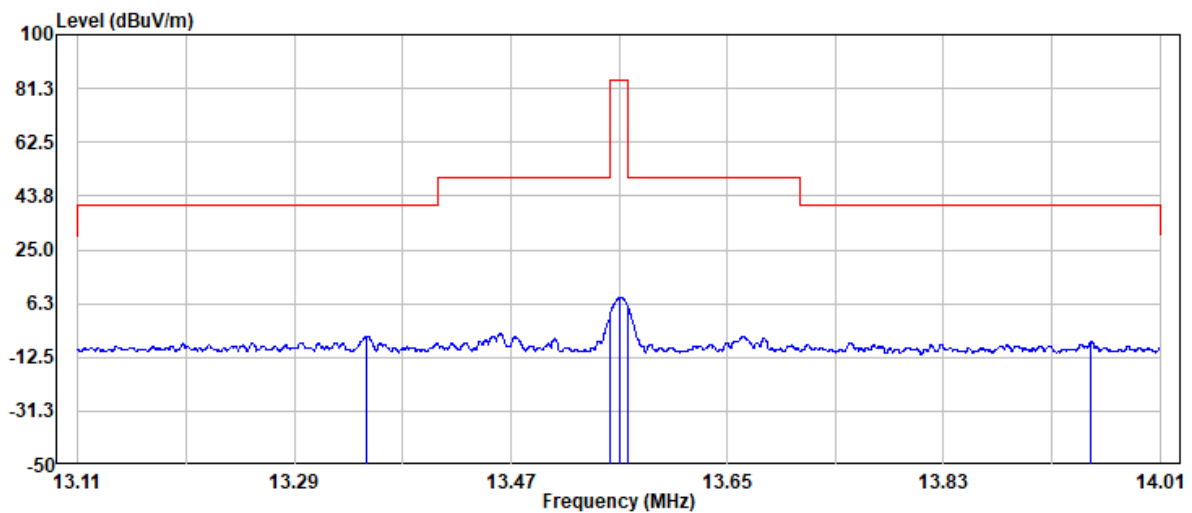
Freq	Read Level	Factor	Actual	Factor	Actual	Limit	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
13.35	18.55	16.13	34.68	-40.00	-5.32	40.51	-45.83	Peak
13.55	29.84	16.09	45.93	-40.00	5.93	84.00	-78.07	Peak
13.56	35.67	16.09	51.76	-40.00	11.76	84.00	-72.24	Peak
13.57	32.87	16.08	48.96	-40.00	8.96	84.00	-75.04	Peak
13.72	17.52	16.05	33.58	-40.00	-6.42	40.51	-46.93	Peak

Remark:

1. Radiated emissions measured were made with an instrument using peak/quasi-peak/average detector mode.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).
4. Result=Read level+Factor@3m+Distance factor
5. Distance factor=40log(3m/30m)
6. Factor=antenna factor+cable loss

Project No : TM-2512000239P
Operation Band : NFC
Frequency : 13.56 MHz
Operation Mode : Main
EUT Pol : E2
Setting : N693

Test Date : 2026-03-20
Temp./Humi. : 25.6/52
Antenna Pol. : Ground
Engineer : Tony.Chao
Test Chamber : 966A



Freq	Read Level	Factor	Actual	Factor	Actual	Limit	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
13.35	18.61	16.13	34.74	-40.00	-5.26	40.51	-45.77	Peak
13.55	27.09	16.09	43.18	-40.00	3.18	84.00	-80.82	Peak
13.56	32.38	16.09	48.47	-40.00	8.47	84.00	-75.53	Peak
13.57	29.50	16.08	45.59	-40.00	5.59	84.00	-78.41	Peak
13.95	16.79	16.01	32.80	-40.00	-7.20	40.51	-47.71	Peak

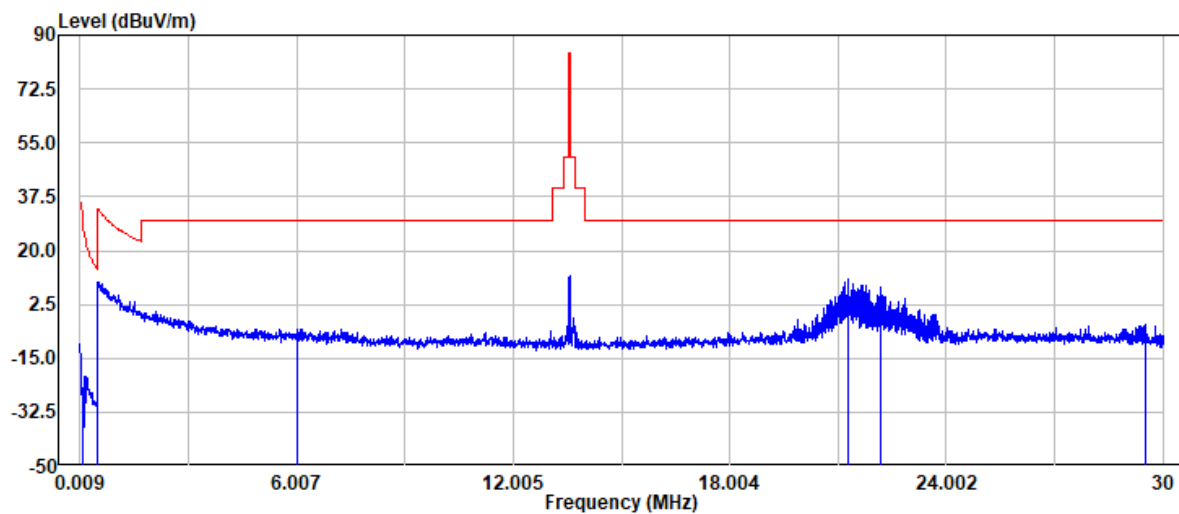
Remark:

1. Radiated emissions measured were made with an instrument using peak/quasi-peak/average detector mode.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Margin (dB) = Result (dBuV/m) – Limit (dBuV/m).
4. Result=Read level+Factor@3m+Distance factor
5. Distance factor=40log(3m/30m)
6. Factor=antenna factor+cable loss

Test Data: 9kHz ~ 30MHz

Project No : TM-2512000239P
Operation Band : NFC
Frequency : 13.56 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2026-02-26
Temp./Humi. : 25.5/52
Antenna Pol. : Vertical
Engineer : Ben.Yang
Test Chamber : 966A



Freq	Read Level @3m	Factor @3m	Actual @3m	Factor @30m @300m	Actual @30m @300m	Limit	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
0.06	41.85	13.37	55.22	-80.00	-24.78	31.42	-56.20	Peak
0.51	36.09	13.73	49.82	-40.00	9.82	33.48	-23.66	Peak
6.03	18.72	15.84	34.56	-40.00	-5.44	29.54	-34.98	Peak
21.28	33.79	16.96	50.74	-40.00	10.74	29.54	-18.80	Peak
22.20	31.10	16.78	47.88	-40.00	7.88	29.54	-21.66	Peak
29.50	18.94	16.82	35.77	-40.00	-4.23	29.54	-33.77	Peak

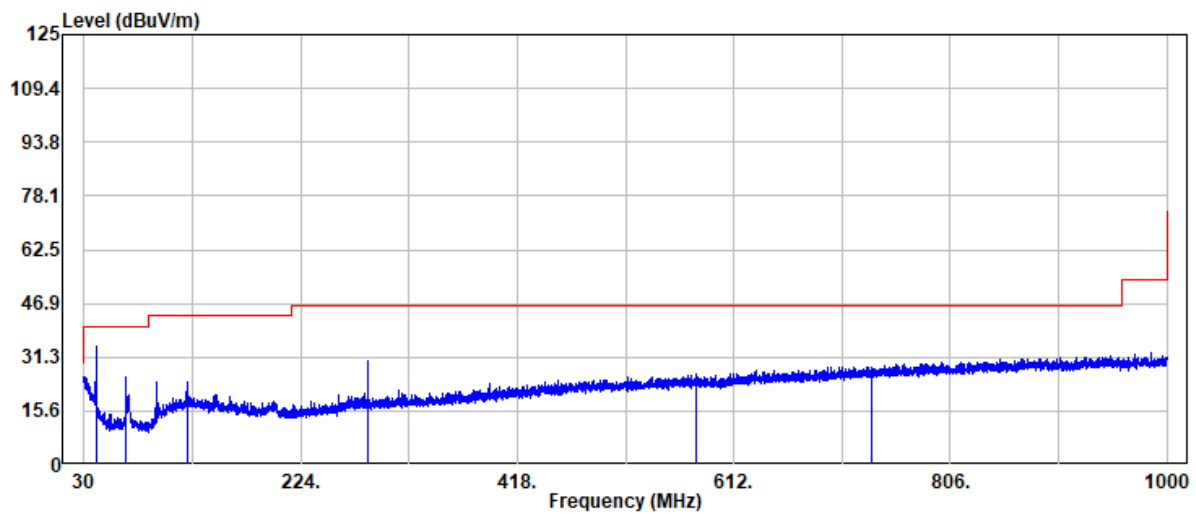
Remark:

- 9kHz to 490kHz Limit(@3m) = 2400(F/kHz)
490kHz to 1.705MHz Limit (@3m) = 2400(F/kHz)
1.705MHz to 30MHz Limit (@3m) = 29.54
- Distance factor=40log(3m/300m)@9-490kHz ; 40log(3m/30m)@490kHz-30MHz
- Result=Read level+Factor@3m+Distance factor
- After pre-scanning the main wave, only the worst polarization is evaluated and recorded in the report.

Test Data: 30MHz ~ 1GHz

Project No : TM-2512000239P
Operation Band : NFC
Frequency : 13.56 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

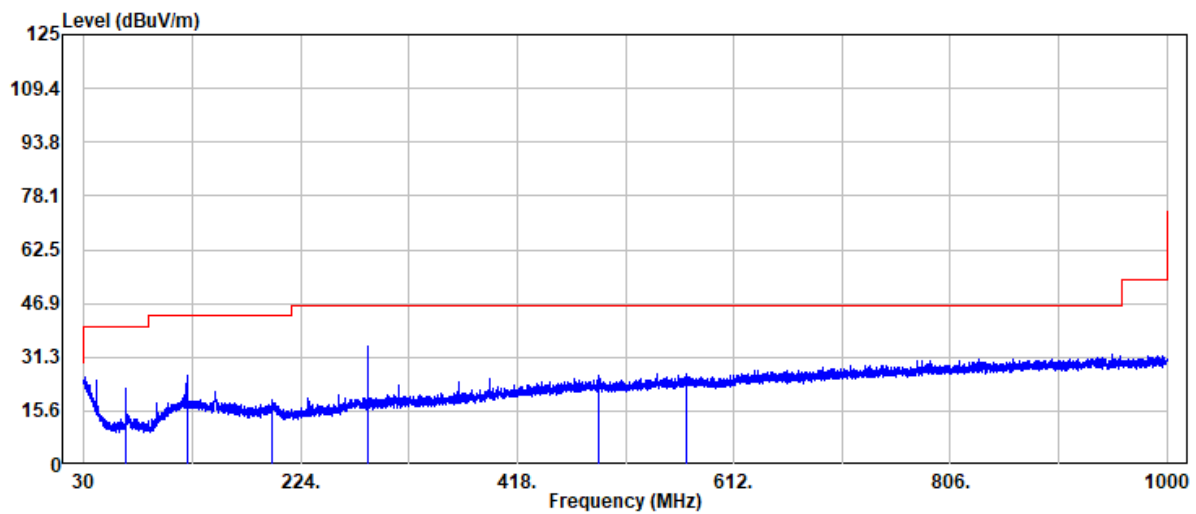
Test Date : 2026-02-26
Temp./Humi. : 25.5/52
Antenna Pol. : VERTICAL
Engineer : Ben.Yang
Test Chamber : 966A



Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
40.67	45.19	-10.87	34.32	40.00	-5.68	Peak
67.83	41.13	-15.59	25.54	40.00	-14.46	Peak
122.03	33.43	-9.60	23.83	43.50	-19.67	Peak
284.75	39.69	-9.56	30.13	46.00	-15.87	Peak
578.29	29.70	-3.09	26.61	46.00	-19.39	Peak
734.95	29.04	-0.72	28.32	46.00	-17.68	Peak

Project No : TM-2512000239P
Operation Band : NFC
Frequency : 13.56 MHz
Operation Mode : TX
EUT Pol : E2
Setting :

Test Date : 2026-02-26
Temp./Humi. : 25.5/52
Antenna Pol. : HORIZONTAL
Engineer : Ben.Yang
Test Chamber : 966A



Freq	Read Level	Factor	Actual FS	Limit @3m	Margin	Detector Mode
-----	-----	-----	-----	-----	-----	-----
MHz	dBuV	dB	dBuV/m	dBuV/m	dB	PK/QP/AV
67.83	37.71	-15.59	22.12	40.00	-17.88	Peak
122.03	35.68	-9.60	26.08	43.50	-17.42	Peak
198.42	29.21	-10.50	18.71	43.50	-24.79	Peak
284.75	43.84	-9.56	34.28	46.00	-11.72	Peak
490.27	30.18	-4.44	25.74	46.00	-20.26	Peak
570.29	29.31	-3.09	26.22	46.00	-19.78	Peak

7.3 FREQUENCY STABILITY

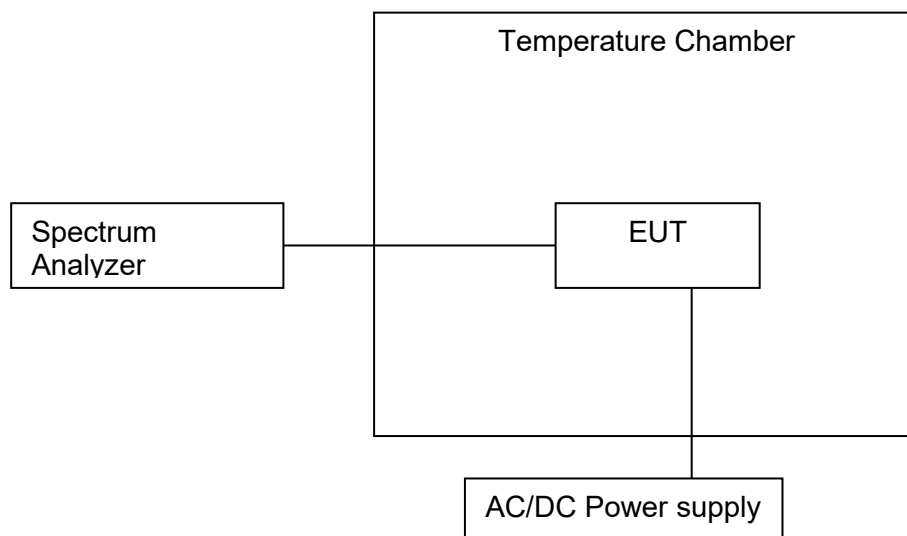
LIMIT

According to §15.225(e),

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 Configuration

Temperature and Voltage Measurement (under normal and extreme test conditions)



TEST PROCEDURE

1. Turn the EUT off, and place it inside the environmental temperature chamber.
2. Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.
3. Set the spectrum analyzer as RBW=1kHz, VBW = RBW, Span = 200kHz, Sweep = auto.
4. Turn the EUT on and record the operating frequency at startup and two, five, and ten minutes after the EUT is energized.
5. Switch off the EUT and Lower the chamber temperature by not more than 10 °C and allow the temperature inside the chamber to stabilize.
6. Mark the peak frequency and measure the frequency tolerance using frequency counter function.
7. Repeat step 4 through step 6 down to the specified temperature.

TEST RESULTS

Compliance

Temperature: 21.7 ~ 26.5°C

Test Date:

February 23 ~
April 16, 2026

Humidity: 50 ~ 65% RH

Tested by:

David Li

TEST DATA

Startup				
A. Temperature Variation				
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)
Vdc	Temperature (°C)	(MHz)		
13	-20	13.561041	1.04100	+/- 1.356
13	-10	13.561052	1.05200	+/- 1.356
13	0	13.561045	1.04500	+/- 1.356
13	10	13.561045	1.04500	+/- 1.356
13	20	13.561051	1.05100	+/- 1.356
13	30	13.561043	1.04300	+/- 1.356
13	40	13.561045	1.04500	+/- 1.356
13	50	13.561054	1.05400	+/- 1.356
B. Supply Voltage Variation				
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)
Vdc	Temperature (°C)	(MHz)		
14.95	20	13.561051	1.05100	+/- 1.356
13	20	13.561051	1.05100	+/- 1.356
11.05	20	13.561052	1.05200	+/- 1.356

Note: Extreme temperatures are declared by the manufacturer

2 minutes				
A. Temperature Variation				
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)
Vdc	Temperature (°C)	(MHz)		
13	-20	13.561044	1.04400	+/- 1.356
13	-10	13.561048	1.04800	+/- 1.356
13	0	13.561056	1.05600	+/- 1.356
13	10	13.561057	1.05700	+/- 1.356
13	20	13.561044	1.04400	+/- 1.356
13	30	13.561049	1.04900	+/- 1.356
13	40	13.561042	1.04200	+/- 1.356
13	50	13.561046	1.04600	+/- 1.356
B. Supply Voltage Variation				
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)
Vdc	Temperature (°C)	(MHz)		
14.95	20	13.561052	1.05200	+/- 1.356
13	20	13.561044	1.04400	+/- 1.356
11.05	20	13.561045	1.04500	+/- 1.356

Note: Extreme temperatures are declared by the manufacturer

5 minutes				
A. Temperature Variation				
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)
Vdc	Temperature (°C)	(MHz)		
13	-20	13.561042	1.04200	+/- 1.356
13	-10	13.561066	1.06600	+/- 1.356
13	0	13.561055	1.05500	+/- 1.356
13	10	13.561061	1.06100	+/- 1.356
13	20	13.561051	1.05100	+/- 1.356
13	30	13.561057	1.05700	+/- 1.356
13	40	13.561043	1.04300	+/- 1.356
13	50	13.561054	1.05400	+/- 1.356
B. Supply Voltage Variation				
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)
Vdc	Temperature (°C)	(MHz)		
14.95	20	13.561042	1.04200	+/- 1.356
13	20	13.561051	1.05100	+/- 1.356
11.05	20	13.561043	1.04300	+/- 1.356

Note: Extreme temperatures are declared by the manufacturer

10 minutes				
A. Temperature Variation				
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)
Vdc	Temperature (°C)	(MHz)		
13	-20	13.561054	1.05400	+/- 1.356
13	-10	13.561058	1.05800	+/- 1.356
13	0	13.561053	1.05300	+/- 1.356
13	10	13.561052	1.05200	+/- 1.356
13	20	13.561052	1.05200	+/- 1.356
13	30	13.561048	1.04800	+/- 1.356
13	40	13.561054	1.05400	+/- 1.356
13	50	13.561056	1.05600	+/- 1.356
B. Supply Voltage Variation				
Power Supply	Environment	Frequency	Delta (kHz)	Limit (kHz)
Vdc	Temperature (°C)	(MHz)		
14.95	20	13.561052	1.05200	+/- 1.356
13	20	13.561052	1.05200	+/- 1.356
11.05	20	13.561058	1.05800	+/- 1.356

Note: Extreme temperatures are declared by the manufacturer

7.4 AC POWERLINE CONDUCTED EMISSIONS

LIMIT

According to §15.207(a) for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56*	56 to 46*
0.50 to 5	56	46
5 to 30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

1. The EUT was placed on a table, which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.

TEST RESULTS

Not applicable, because EUT not connect to AC Main Source direct.

- End of Test Report -