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Template : April 2nd, 2025

TEST REPORT

N°: **26771866-812660-A(FILE#11253614)** Version: **01**

Subject	**Radio spectrum tests according to the standards: FCC CFR 47 Part 15.225 & ANSI C63.10 RSS 210 & RSS-Gen**
Issued to	**E.M.S. ELECTRO MEDICAL SYSTEMS S.A.** Chemin de la Vuarpillière 31 1260 - NYON SWITZERLAND
Apparatus under test	
Product	**GBT Machine AIRFLOW Prophylaxis Master**
Trade mark	**EMS ELECTRO MEDICAL SYSTEMS**
Manufacturer	**E.M.S. ELECTRO MEDICAL SYSTEMS S.A.**
Model under test	**FT-300**
Serial number	**MM00773**
FCCID	**2ANZC-NSFBMJYDEAV**
IC	**23296-NSFBMJYDEAV**
Conclusion	See Test Program chapter
Test date	July 15, 2025 to July 18, 2025
Test location	LCIE Grenoble
FCC Test site	FR0008 - 918017 (MOI)
ISED Test site	6500A (MOI)
Sample receipt date	May 21, 2025
Composition of document	36 pages
Document issued on	September 12, 2025

Written by :
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PUBLICATION HISTORY

Version	Date	Author	Modification
01	September 12, 2025	Majid MOURZAGH	Creation of the document

Each new edition of this test report replaces and cancels the previous edition. The control of the old editions of report is under responsibility of client.

SUMMARY

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1. TEST PROGRAM

References

- **47 CFR Part 15.407** (July 21, 2025)
- **RSS 210 Issue 11**
- **RSS Gen Issue 5.2**
- **ANSI C63.10 (2020)**

Radio requirement:

Clause - Test Description		Test result - Comments
Occupied Bandwidth	***ISED***	**PASS**
20dB Bandwidth	***FCC & ISED***	**PASS**
Frequency Tolerance	***FCC & ISED***	**PASS**
Field strength within the band [13.110-14.010] MHz	***FCC & ISED***	**PASS**
Field strength outside of the bands [13.110-14.010] MHz	***FCC & ISED***	**PASS**
Receiver Radiated Emissions	***ISED***	**PASS(2)**
This table is a summary of test report, see conclusion of each clause of this test report for detail.		

(1) Limited program
(2) Testing covered the receive mode, and receiver spurious emissions are considered to be the same as transmitter.

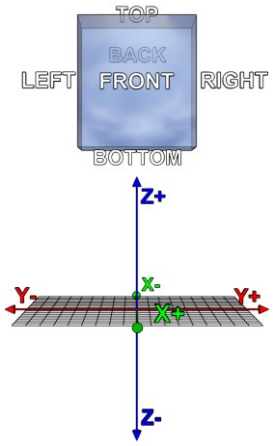
PASS: EUT complies with standard's requirement
FAIL: EUT does not comply with standard's requirement
NA: Not Applicable
NP: Test Not Performed

2. EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER)

2.1. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES)

Equipment under test (EUT):

Model under test:	**FT-300**
Serial Number:	**MM00773**



Dimensions:	26cm x 30cm x 26cm (Length x Width x Height)
Type:	Table-Top

Power supply:

Name	Type	Rating	Reference / Sn	Comments
Supply1	AC	100-240Vac	/	/

Inputs/outputs - Cable:

Name	Type	Rating	Reference / Sn	Comments
Supply1	L+N+PE	2.5	Yes	No
PZ cable	PZ	1.7	Yes	No
AF cable	AF	1.7	Yes	No

NC: Not communicated by provider

Auxiliary equipment used during test:

Type	Reference	Sn	Comments
None			

NC: Not communicated by provider

Equipment information (declaration of provider):

Type:	RFID	
Chipset	ST25R3911B	
Frequency band:	[13.553 to 13.567] MHz	
Number of Channel:	1	
Bandwidth:	Wideband (ISO14443, NFC…)	
Product class – Annex B.2	1	
Channelized system:	No	
RF mode:	Transceiver	
Standy mode:	No	
Antenna Type:	Internal	
Antenna connector:	None	
Equipment intended:	Mobile	
Type of equipment:	Stand-alone	
Equipment sample:	Production model	
Duty cycle:	Continuous operation	
Operating temperature range:	T_{min}:	+10 °C
	T_{nom}:	+20°C
	T_{max}:	+35 °C
Operating voltage:	V_{min}:	85 VAC
	V_{nom}:	230 VAC
	V_{max}:	264 VAC

PZ Antenna Characteristic			
Antenna reference	Gain (dBi)	Frequency Band (MHz)	Impedance(Ω)
CA-1004 (EMS reference)	0	13.56	50

Modulation Type
AM

NC: Not communicated by provider

2.2. RUNNING MODE

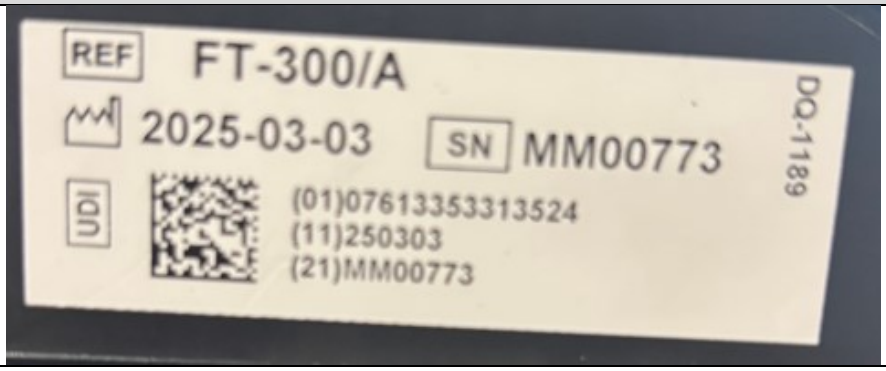
Test mode	Description of test mode
Test mode 1	Permanent emission with modulation on a fixed channel in the data rate that produced the highest power. Tests are performed with internal "TAG" **All test are performed on AirFlow RFID**
Test mode 2	Permanent reception

PZ = RFID on Piezon
AF = RFID on AirFlow

Test	Running mode
Occupied Bandwidth	Test mode 1
20dB Emission Bandwidth	Test mode 1
Frequency Tolerance	Test mode 1
Field strength within the band 13.110-14.010MHz	Test mode 1
Field strength outside of the bands 13.110-14.010 MHz	Test mode 1
Receiver Radiated Emissions	Test mode 2 (1)

(1) The test can't be performed because the transmitter and receiver are operating at the same frequency and the transmitter cannot be switched off as the carrier is used as receiver injection signal

2.3. EQUIPMENT LABELLING

Label


2.4. EQUIPMENT MODIFICATIONS DURING THE TESTS

None

2.5. TEST DISTANCE EXTRAPOLATION – FCC

The field strength is extrapolated to the new measurement distance using formula from §6.4.4 de l'ANSI C63.10 and FCC Part15.31 (p), the choice of equation is made according to the distances of the limit and the measurement,

$$FS_{\text{limit}} = FS_{\text{max}} - 40\log\left(\frac{d_{\text{near field}}}{d_{\text{measure}}}\right) - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{near field}}}\right) \quad (2)$$

$$FS_{\text{limit}} = FS_{\text{max}} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right) \quad (3)$$

$$FS_{\text{limit}} = FS_{\text{max}} - 40\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right) \quad (4)$$

where

FS_{limit}	is the calculation of field strength at the limit distance, expressed in dBµV/m
FS_{max}	is the measured field strength, expressed in dBµV/m
$d_{\text{near field}}$	is the $\lambda/2\pi$ distance
d_{measure}	is the distance of the measurement point from the EUT
d_{limit}	is the reference limit distance

2.6. TEST DISTANCE EXTRAPOLATION – ISED

The field strength is extrapolated to the new measurement distance using formula from §6.5-6.6 RSS-GEN:

Below 30MHz,

$$FS_{\text{limit}} = FS_{\text{max}} - 40\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

Above 30MHz,

$$FS_{\text{limit}} = FS_{\text{max}} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

Where:
FS_{limit} is the calculation of field strength at the limit distance, expressed in dBµV/m
FS_{max} is the measured field strength, expressed in dBµV/m
$d_{measure}$ is the distance of the measurement point from the EUT
d_{limit} is the reference limit distance

2.7. FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follow:

$$FS = RA + AF + CF - AG$$

Where:
FS = Field Strength
RA = Receiver Amplitude
AF = Antenna Factor
CF = Cable Factor
AG = Amplifier Gain

Example:
Assume a receiver reading of 52.5dBµV is obtained. The antenna factor of 7.4 and a cable factor of 1.1 are added. The amplifier gain of 29dB is subtracted, giving a field strength of 32 dBµV/m.
FS = 52.5 + 7.4 + 1.1 – 29 = 32 dBµV/m
The 32 dBµV/m value can be mathematically converted to its corresponding level in µV/m.
Level in µV/m = Common Antilogarithm [(32dBµV/m)/20] = 39.8 µV/m.

2.8. CALIBRATION DATE

The calibration intervals are extended at +4 months. This extended interval is based on the fact that there is sufficient calibration data to statistically establish a trend or based on experience of use of the test equipment to assure good measurement results for a longer period. The symbol -/- replaces the date for equipment checking before test or that have none impact on the test or that have no calibration required by the standard.

3. OCCUPIED BANDWIDTH

3.1. TEST CONDITIONS

Date of test	:	July 16, 2025
Test performed by	:	Majid MOURZAGH
Relative humidity (%)	:	39
Ambient temperature (°C)	:	24

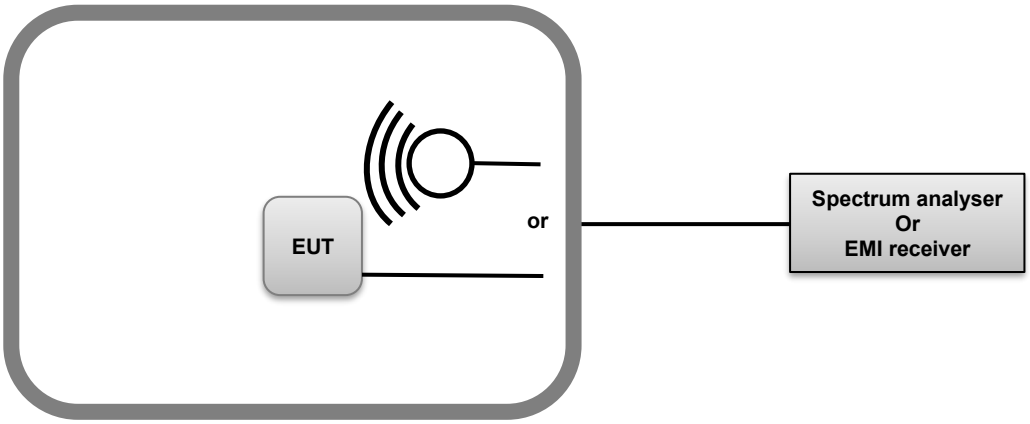
3.2. TEST SETUP

The Equipment Under Test is installed in a climatic chamber**.**
Measurement is performed with a spectrum analyzer in radiated method.

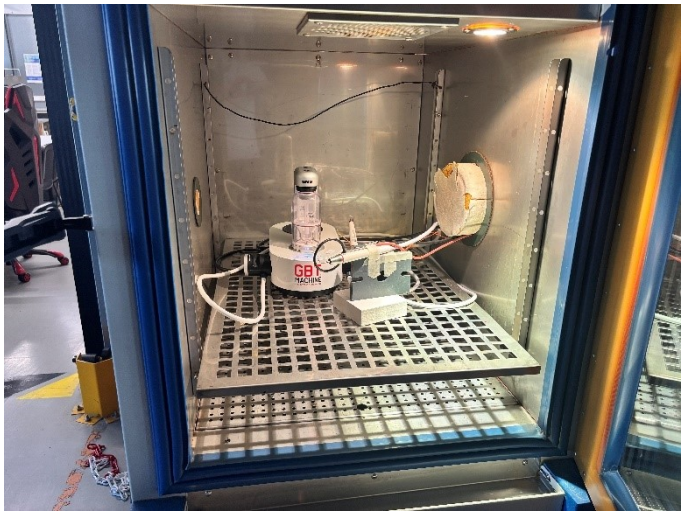
The EUT is turned ON, the center frequency of the spectrum analyzer is set to the fundamental frequency. The captured power is measured and recorded; the measurement is repeated until all frequencies required were complete.

Test Procedure:
RSS-Gen Issue 5 § 6.7

- RBW used in the range of 1% to 5% of the anticipated emission bandwidth
- Set the video bandwidth (VBW) ≥ 3 x RBW.
- Detector = Peak.
- Trace mode = Max Hold.
- Sweep = Auto couple.
- Allow the trace to stabilize.
- OBW 99% function of spectrum analyzer used



Test setup of Occupied Bandwidth



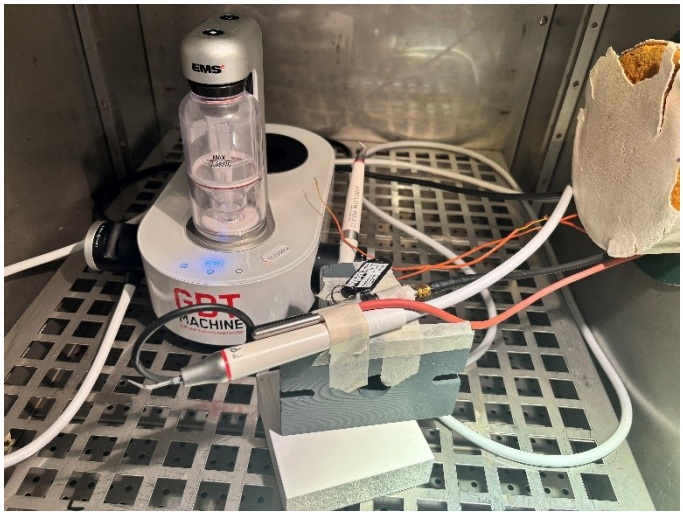


Photo of Occupied bandwidth

3.3. LIMIT

None

3.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	**Manufacturer**	**Model**	**Identifier**	**Cal_Date**	**Cal_Due**
AC source 1kW	KEYSIGHT	AC6802A	A7042305	-/-	-/-
Attenuator 10dB	WA	INA 265B	A7122274	07/24	07/26
Cable SMA 2m	_	6GHz	A5329635	09/24	09/26
Climatic chamber	BIA CLIMATIC	CL 6-25	D1022117	01/23	05/25
Data Logger (CEM1)	AGILENT	34970A	A6440083	05/23	10/25
Loop Antenna	ELECTROMETRICS	EM-6993	C2040267	05/25	05/28
SOFT 300 330 V1.1	LCIE SUD EST	Fichier_Mesure_300330-FCC-ISED	L2000064	-/-	-/-
Spectrum Analyzer 9kHz - 6GHz	ROHDE & SCHWARZ	FSL6	A2642020	01/25	01/27
Thermo-hygrometer	TESTO	608-H1	B4204120	05/25	05/27
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	09/25
Thermocouple K (radio)	FLUKE	Type K	B4045005	10/23	10/25
Thermocouple K (radio)	FLUKE	Type K	B4045004	10/23	10/25
Thermometer (radio)	FLUKE	52 II	B4043150	10/23	10/25
Multimeter - CEM	FLUKE	87	A1240251	10/23	10/25

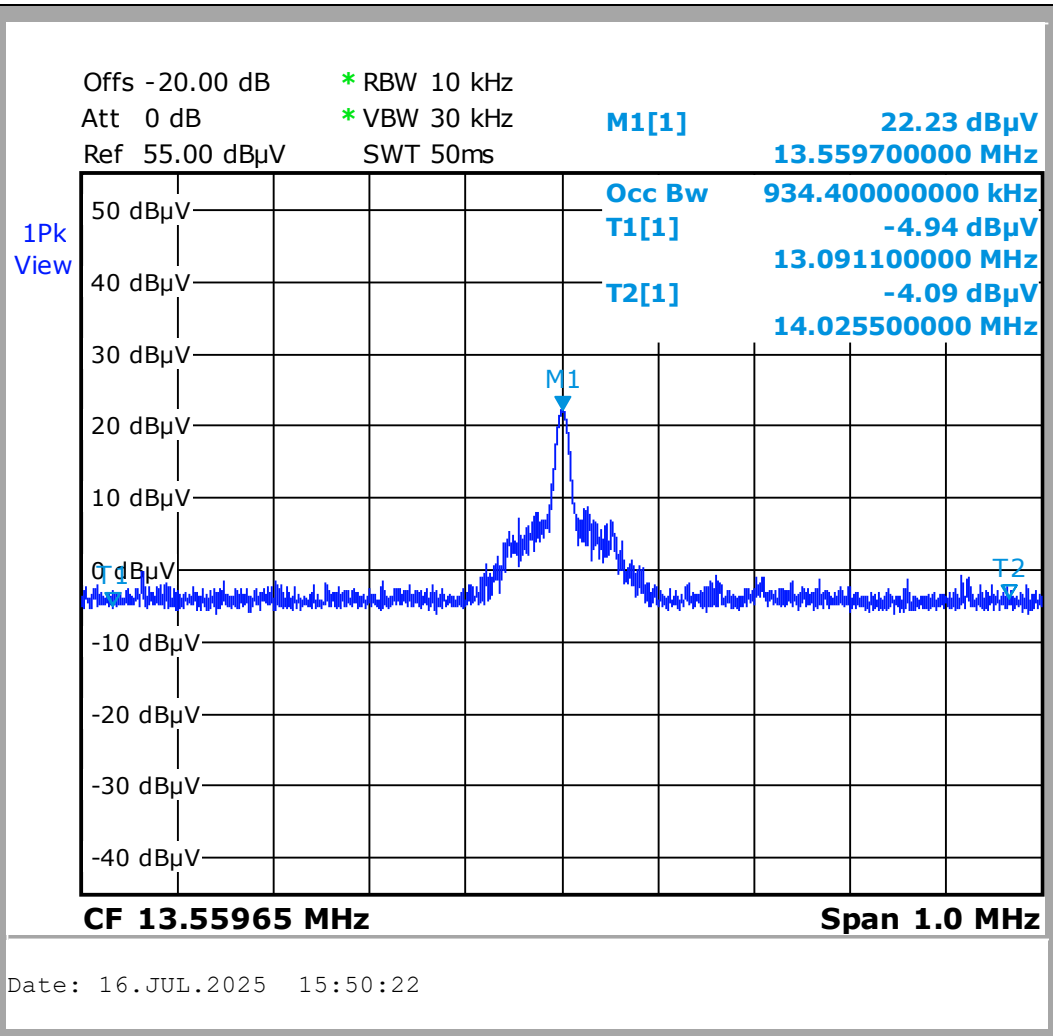
3.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

3.6. RESULTS

Occupied Bandwidth

13.56MHz



Frequency (MHz)	Occupied Bandwidth (kHz)
13.56MHz	934.4

3.7. CONCLUSION

Occupied Channel Bandwidth measurement performed on the sample of the product **FT-300**, Sn: **MM00773**, in configuration and description presented in this test report, show levels **compliant** to the **RSS-GEN** limits.

4. 20dB Emission Bandwidth

4.1. TEST CONDITIONS

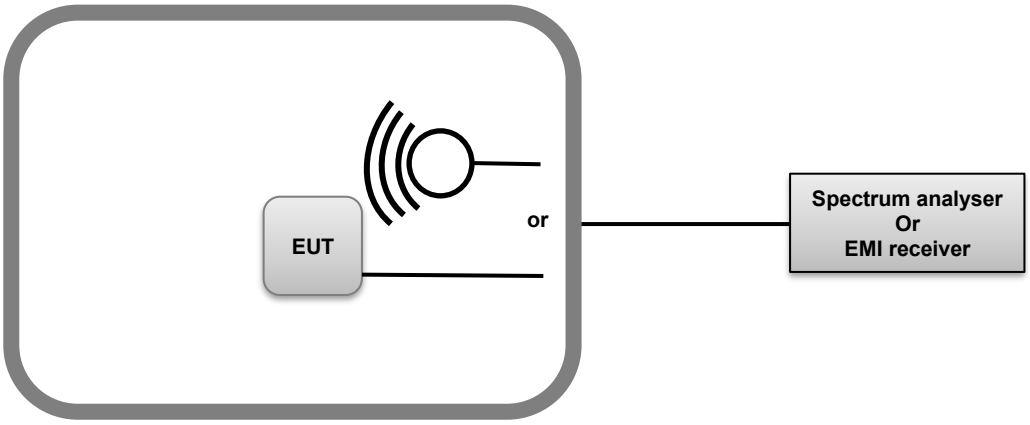
Date of test	:	July 16, 2025
Test performed by	:	Majid MOURZAGH
Relative humidity (%)	:	39
Ambient temperature (°C)	:	24

4.2. TEST SETUP

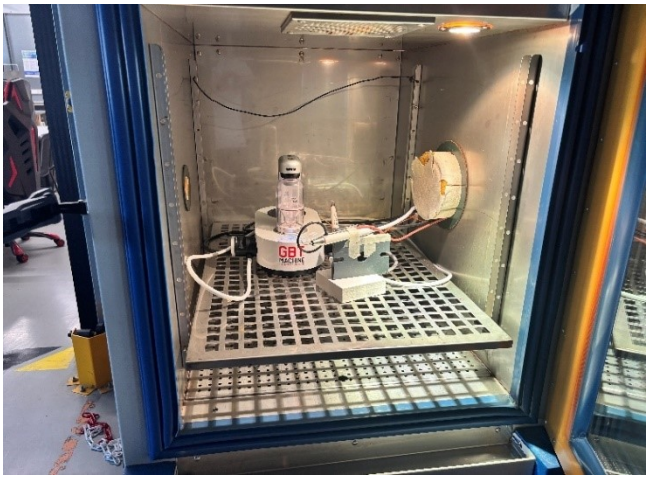
The Equipment Under Test is installed **in a climatic chamber.**
Measurement is performed with a spectrum analyzer in **radiated method**.

Test Procedure:
ANSI C63.10 § 6.9.2:

The EUT is turn ON; levels have been corrected to be in compliant with the Peak Output Power measured; and using the MaxHold function, the frequency separation of two frequencies that were attenuated 20dB from the Peak Output Power level. A delta marker is used to measure the frequency difference as the emission bandwidth.



Test setup of 20dB emission bandwidth



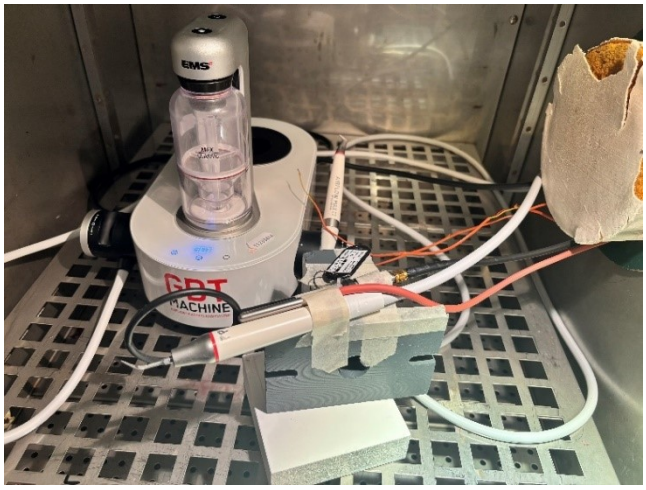


Photo of 20dB emission bandwidth

4.3. LIMIT

No Limit

4.4. TEST EQUIPMENT LIST

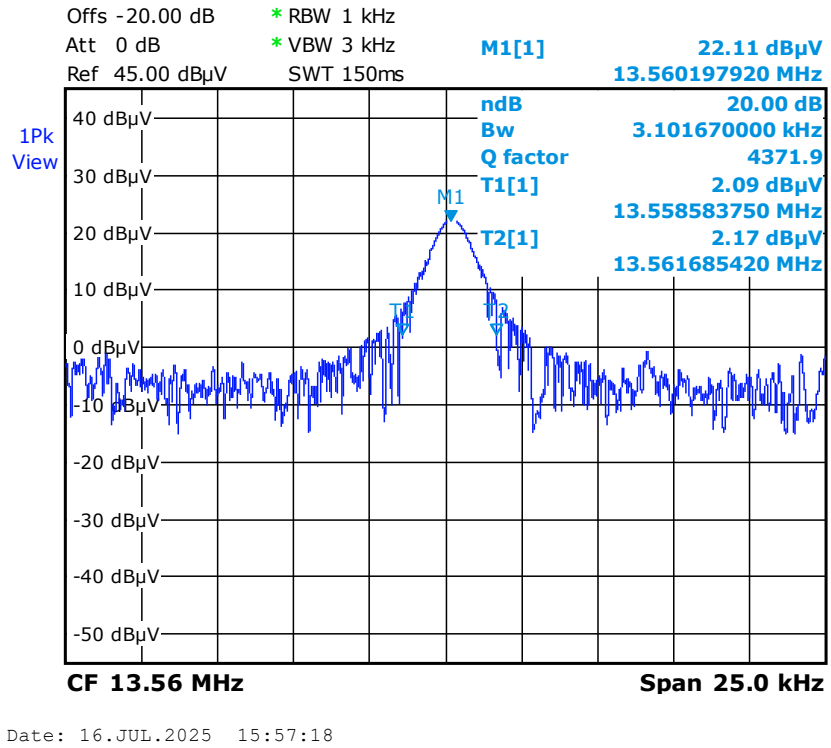
TEST EQUIPMENT USED					
Description	**Manufacturer**	**Model**	**Identifier**	**Cal_Date**	**Cal_Due**
AC source 1kW	KEYSIGHT	AC6802A	A7042305	-/-	-/-
Attenuator 10dB	WA	INA 265B	A7122274	07/24	07/26
Cable SMA 2m	_	6GHz	A5329635	09/24	09/26
Climatic chamber	BIA CLIMATIC	CL 6-25	D1022117	01/23	05/25
Data Logger (CEM1)	AGILENT	34970A	A6440083	05/23	10/25
Loop Antenna	ELECTROMETRICS	EM-6993	C2040267	05/25	05/28
SOFT 300 330 V1.1	LCIE SUD EST	Fichier_Mesure_300330-FCC-ISED	L2000064	-/-	-/-
Spectrum Analyzer 9kHz - 6GHz	ROHDE & SCHWARZ	FSL6	A2642020	01/25	01/27
Thermo-hygrometer	TESTO	608-H1	B4204120	05/25	05/27
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	09/25
Thermocouple K (radio)	FLUKE	Type K	B4045005	10/23	10/25
Thermocouple K (radio)	FLUKE	Type K	B4045004	10/23	10/25
Thermometer (radio)	FLUKE	52 II	B4043150	10/23	10/25
Multimeter - CEM	FLUKE	87	A1240251	10/23	10/25

4.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

4.6. RESULTS

Frequency (MHz)	20 dB Bandwidth (kHz)
13.56	3.10167
Graph	



4.7. CONCLUSION

20dB Emission Bandwidth measurement performed on the sample of the product **FT-300**, Sn: **MM00773**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.225 & RSS 210** limits.

5. FREQUENCY TOLERANCE

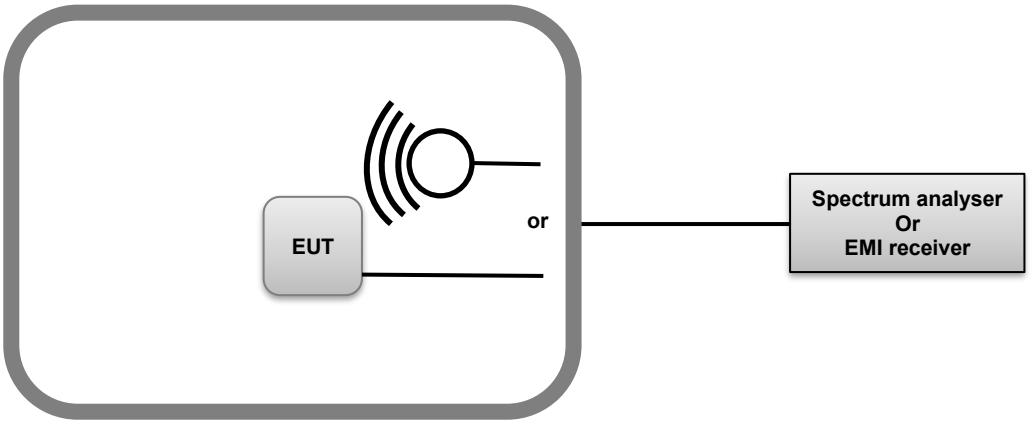
5.1. TEST CONDITIONS

Date of test	:	July 16, 2025	July 17, 2025
Test performed by	:	Majid MOURZAGH	Majid MOURZAGH
Relative humidity (%)	:	39	38
Ambient temperature (°C)	:	24	23

5.2. TEST SETUP

The Equipment Under Test is installed **in a climatic chamber.**
Measurement is performed with a spectrum analyzer in **radiated method**.

Test Procedure:
ANSI C63.10 § 6.8



Test setup of frequency tolerance

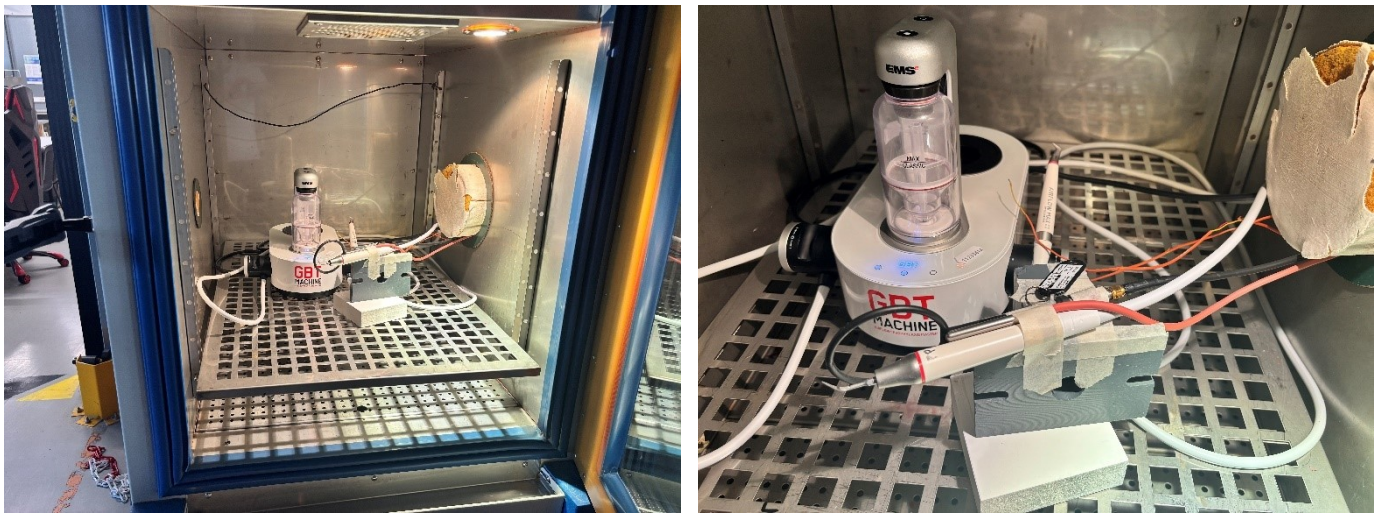


Photo of frequency tolerance

5.3. LIMIT

±0.01% (± 100ppm)

5.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	**Manufacturer**	**Model**	**Identifier**	**Cal_Date**	**Cal_Due**
AC source 1kW	KEYSIGHT	AC6802A	A7042305	-/-	-/-
Attenuator 10dB	WA	INA 265B	A7122274	07/24	07/26
Cable SMA 2m	_	6GHz	A5329635	09/24	09/26
Climatic chamber	BIA CLIMATIC	CL 6-25	D1022117	01/23	05/25
Data Logger (CEM1)	AGILENT	34970A	A6440083	05/23	10/25
Loop Antenna	ELECTROMETRICS	EM-6993	C2040267	05/25	05/28
SOFT 300 330 V1.1	LCIE SUD EST	Fichier_Mesure_300330-FCC-ISED	L2000064	-/-	-/-
Spectrum Analyzer 9kHz - 6GHz	ROHDE & SCHWARZ	FSL6	A2642020	01/25	01/27
Thermo-hygrometer	TESTO	608-H1	B4204120	05/25	05/27
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	09/25
Thermocouple K (radio)	FLUKE	Type K	B4045005	10/23	10/25
Thermocouple K (radio)	FLUKE	Type K	B4045004	10/23	10/25
Thermometer (radio)	FLUKE	52 II	B4043150	10/23	10/25
Multimeter - CEM	FLUKE	87	A1240251	10/23	10/25

5.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

5.6. RESULTS

EUT activation:	**Startup**			
Voltage:	**V_{nom}**			
Temperature °C:	**10**	**20**	**30**	**35**
Frequency (MHz)	13.56025553	13.56017643	13.56008962	13.56021749
Frequency Drift (%)	0.0019%	0.0013%	0.0007%	0.0016%
EUT activation:	**2min**			
Voltage:	**V_{nom}**			
Temperature (°C):	**10**	**20**	**30**	**35**
Frequency (MHz)	13.56025911	13.56019986	13.56028088	13.56016734
Frequency Drift (%)	0.0019%	0.0015%	0.0021%	0.0012%
EUT activation:	**5min**			
Voltage:	**V_{nom}**			
Temperature (°C):	**10**	**20**	**30**	**35**
Frequency (MHz)	13.5602197	13.56020344	13.56021226	13.56022135
Frequency Drift (%)	0.0016%	0.0015%	0.0016%	0.0016%
EUT activation:	**10min**			
Voltage:	**V_{nom}**			
Temperature (°C:	**10**	**20**	**30**	**35**
Frequency (MHz)	13.56007721	13.56020179	13.56020509	13.5599328
Frequency Drift (%)	0.0006%	0.0015%	0.0015%	-0.0005%

Temperature	**T_{nom}**		
Voltage:	**V_{min}**	**V_{nom}**	**V_{max}**
Frequency (MHz)	13.56011581	13.5601169	13.56014805
Frequency Drift (%)	0.0019%	0.0019%	0.0019%

5.7. CONCLUSION

Frequency tolerance measurement performed on the sample of the product **FT-300**, Sn: **MM00773**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.225 & RSS 210** limits.

6. FIELD STRENGTH WITHIN THE BAND 13.110-14.010MHZ

6.1. TEST CONDITIONS

Date of test	:	July 16, 2025
Test performed by	:	Majid MOURZAGH
Relative humidity (%)	:	39
Ambient temperature (°C)	:	24

6.2. TEST SETUP

The Equipment Under Test is installed **on an Open Area Test Site..**
Measurement is performed with a spectrum analyzer in **radiated method**.

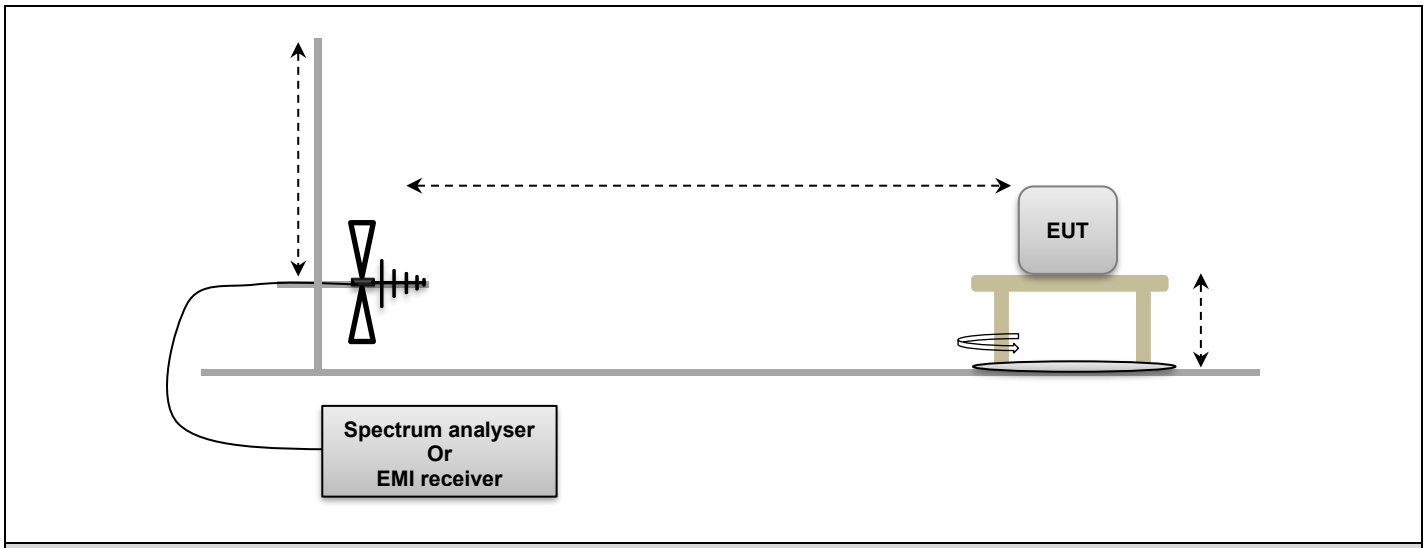
Test Procedure:
ANSI C63.10

The EUT is placed **on an open area test site**. Distance between measuring antenna and the EUT is **10m**. Test is performed in parallel, perpendicular, and ground parallel axis with a loop antenna below 30MHz. Measurement bandwidth was 9kHz between 150kHz & 30MHz. The level has been maximized by the turntable rotation of 360 degrees range on all axis of EUT used in normal configuration. Antenna height search was performed from 1 to 4m. The EUT is place at **0.8m**.

Ambient temperature: 27 °C
Relative humidity: 30 %
Note: It is impracticable to carry out tests under normal condition as specified in standard.

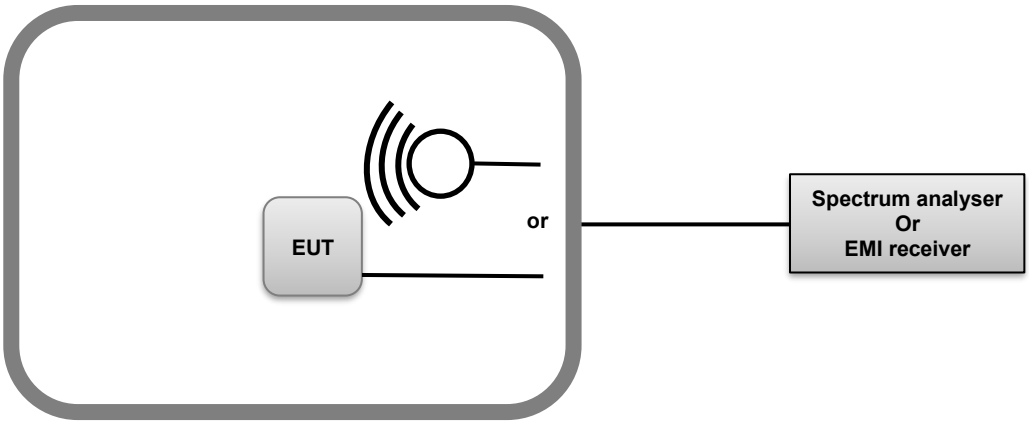
When measurement with test fixture is used, the power level calibration of the spectrum analyzer shall then be related to the power level or field strength measured with temperature during OATS measure taking in consideration in climatic chamber. The calculation will be used to calculate the absolute level of the sideband power.

Frequency band 13.110-14.010MHz
Following plots show radiated emission level in the frequency band 13.110-14.010MHz with a RBW of 9kHz and a quasi-peak detector. The graphs are obtained with a measuring receiver.



Test setup of Field strength within the band 13.110-14.010MHz in OATS

Photo of Field strength within the band 13.110-14.010MHz in OATS



Test setup of Field strength within the band 13.110-14.010MHz in Climatic Chamber

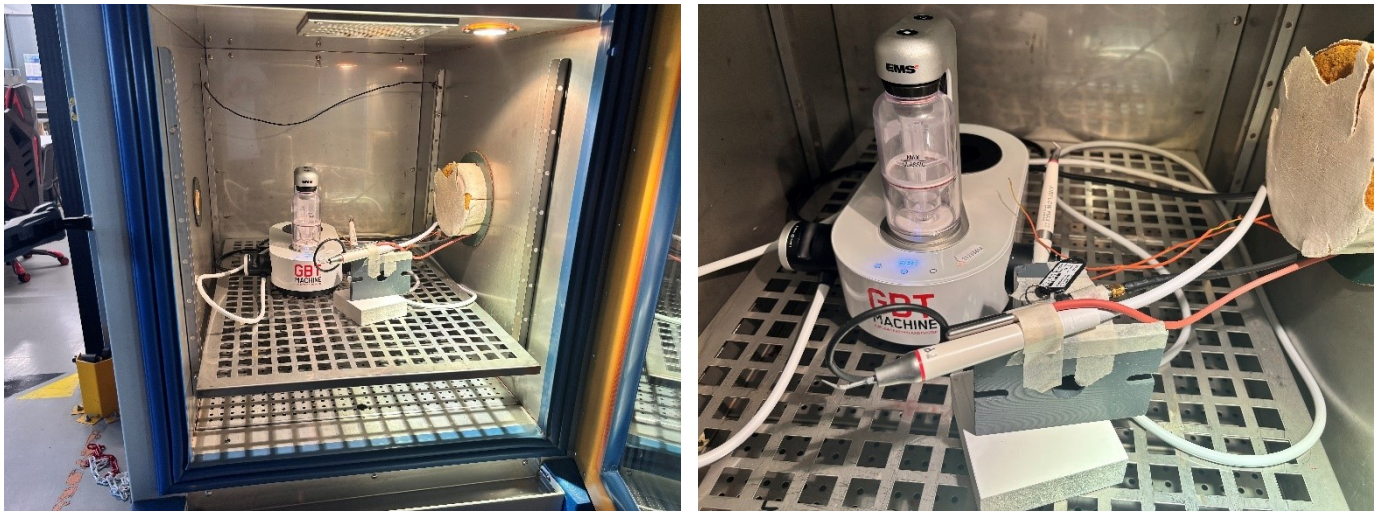


Photo of Field strength within the band 13.110-14.010MHz in Climatic Chamber

6.3. LIMIT

Frequency (MHz)	Field strength (µV/m) @30m	Field strength (dBµV/m) @30m
13.553-13.567	15 848	84.0
13.410-13.553 13.567-13.710	334.0	50.5
13.110-13.410 13.710-14.010	106.0	40.5
Below 13.110MHz Above 14.010MHz	30.0	29.5

6.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	**Manufacturer**	**Model**	**Identifier**	**Cal_Date**	**Cal_Due**
AC source 1kW	KEYSIGHT	AC6802A	A7042305	-/-	-/-
Attenuator 10dB	WA	INA 265B	A7122274	07/24	07/26
Cable SMA 2m	_	6GHz	A5329635	09/24	09/26
Climatic chamber	BIA CLIMATIC	CL 6-25	D1022117	01/23	05/25
Data Logger (CEM1)	AGILENT	34970A	A6440083	05/23	10/25
Loop Antenna	ELECTROMETRICS	EM-6993	C2040267	05/25	05/28
SOFT 300 330 V1.1	LCIE SUD EST	Fichier_Mesure_300330-FCC-ISED	L2000064	-/-	-/-
Spectrum Analyzer 9kHz - 6GHz	ROHDE & SCHWARZ	FSL6	A2642020	01/25	01/27
Thermo-hygrometer	TESTO	608-H1	B4204120	05/25	05/27
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	09/25
Thermocouple K (radio)	FLUKE	Type K	B4045005	10/23	10/25
Thermocouple K (radio)	FLUKE	Type K	B4045004	10/23	10/25
Thermometer (radio)	FLUKE	52 II	B4043150	10/23	10/25
Multimeter - CEM	FLUKE	87	A1240251	10/23	10/25

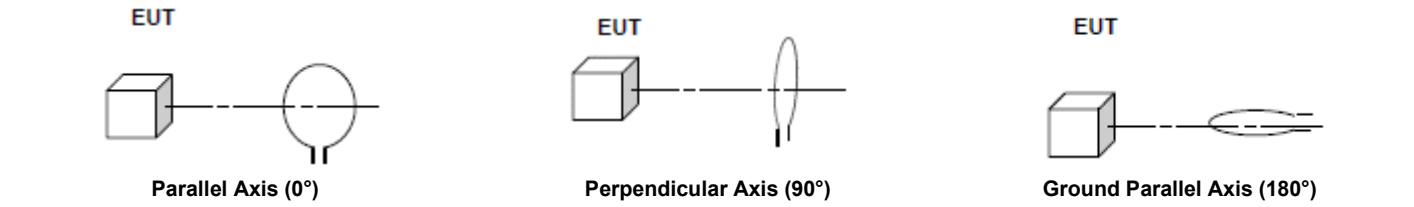
6.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

6.6. RESULTS - FCC

6.6.1. Results on OATS test conditions - FCC

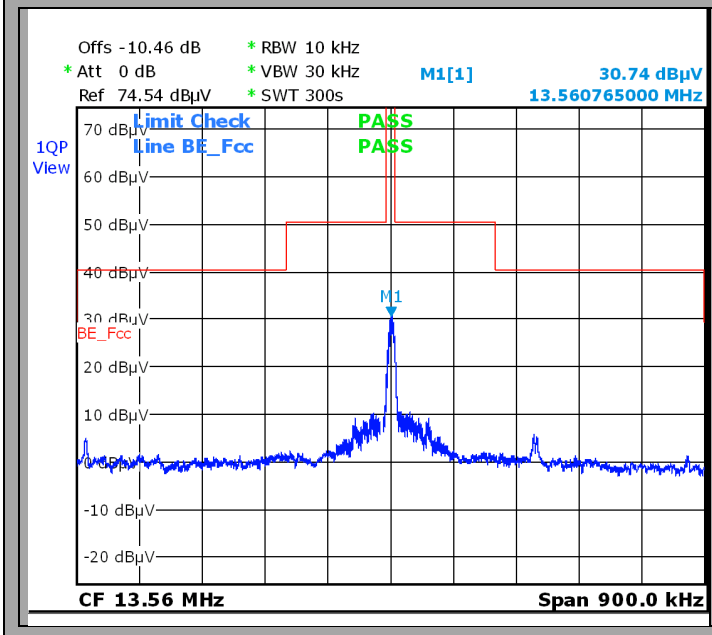
Frequency (MHz)	QPeak Limit (dBµV/m) @ 30m	QPeak (dBµV/m) @ 30m	Margin (Mes-Lim) (dB)	Angle Table (deg)	Pol Ant.	Ht Ant. (cm)	Correc. Factor (dB)	Comments
13.56	84	31.5	**-52.5**	90	0°	160	36.8	RFID Piezon

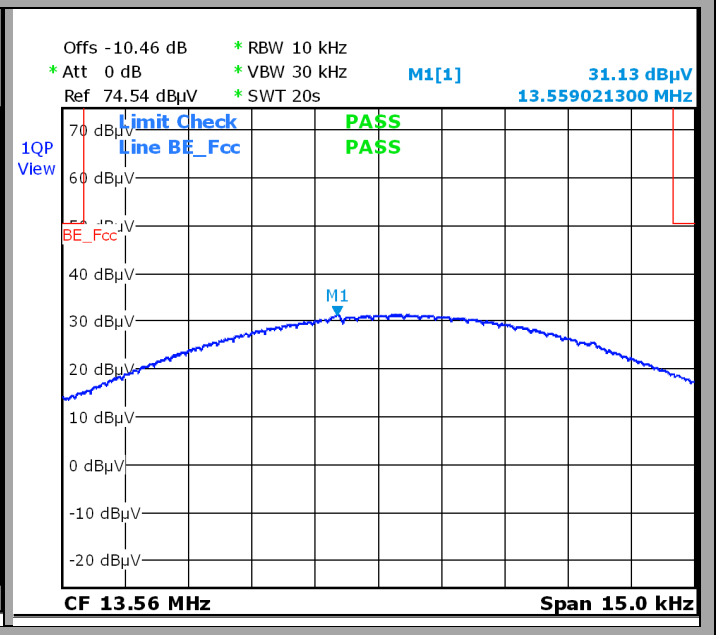


Note: Measure have been done at 10m distance and corrected according to requirements of § test distance extrapolation.

6.6.2. Results under Normal condition - FCC

Plots (Tnom)

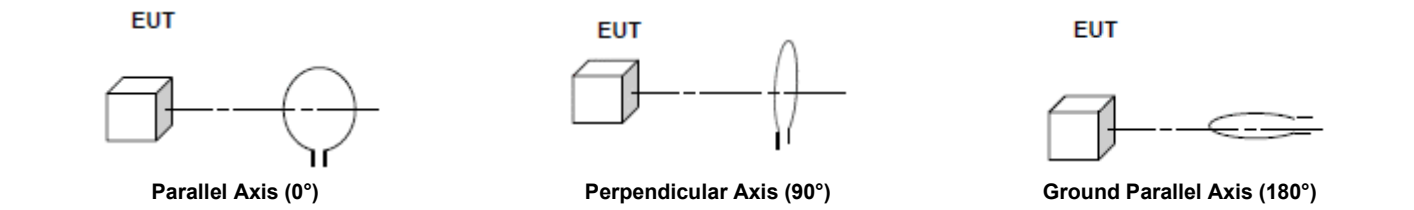




6.7. RESULTS - ISED

6.7.1. Results on OATS test conditions - ISED

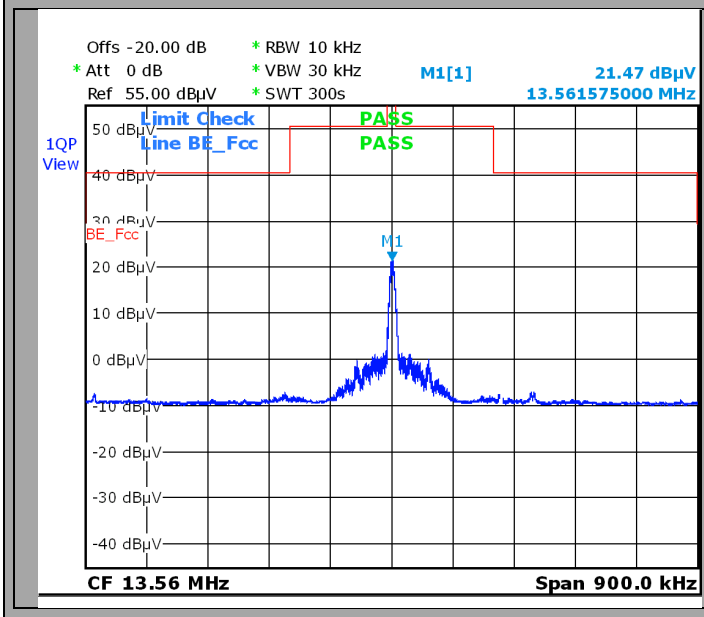
Frequency (MHz)	QPeak Limit (dBµV/m) @ 30m	QPeak (dBµV/m) @ 30m	Margin (Mes-Lim) (dB)	Angle Table (deg)	Pol Ant.	Ht Ant. (cm)	Correc. Factor (dB)	Comments
13.56	84	21.9	**-62.1**	90	0°	160	36.8	/

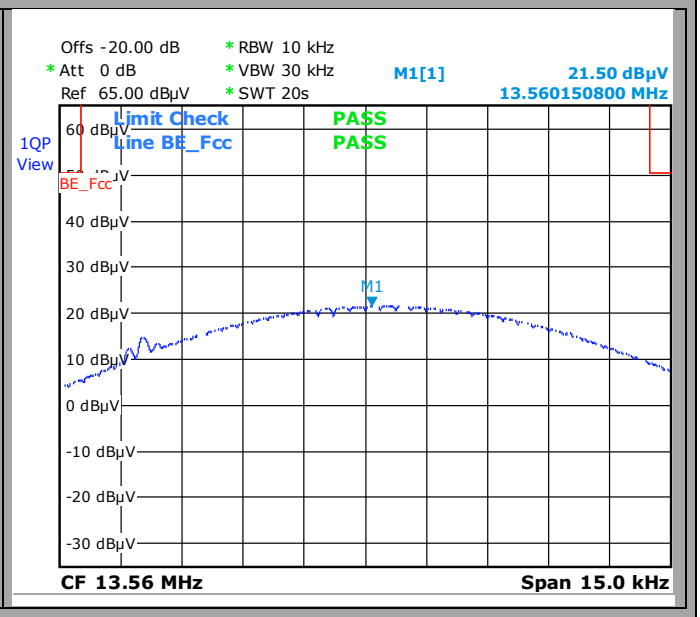


Note: Measure have been done at 10m distance and corrected according to requirements of 15.209.e) (M@30m = M@10m-19.1dB)

6.7.2. Results under Normal condition - ISED

Plots (Tnom)





6.8. CONCLUSION

Field strength within the band 13.110-14.010MHz measurement performed on the sample of the product **FT-300**, Sn: **MM00773**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.225 & RSS 210** limits.

7. FIELD STRENGTH OUTSIDE OF THE BANDS 13.110-14.010 MHZ

7.1. TEST CONDITIONS

Date of test	:	July 16, 2025
Test performed by	:	Majid MOURZAGH
Relative humidity (%)	:	39
Ambient temperature (°C)	:	24

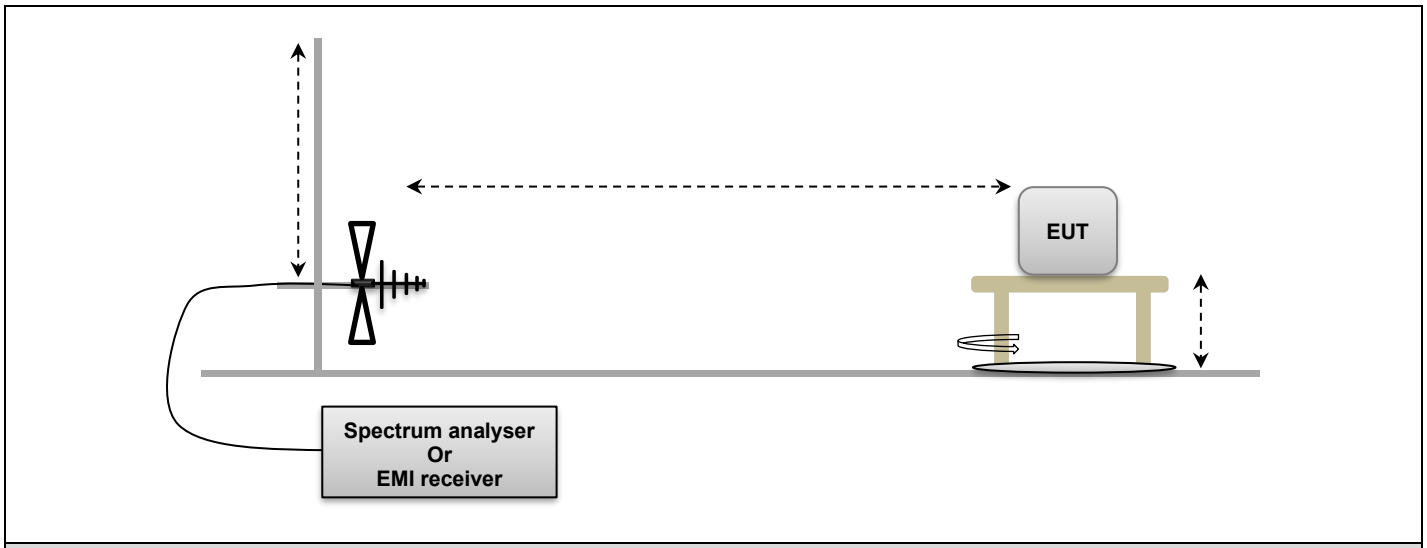
7.2. TEST SETUP

Test procedure:
ANSI C63.10 & FCC Part 15 subpart C

Following frequency ranges, test setup parameters are different and specified in this table:

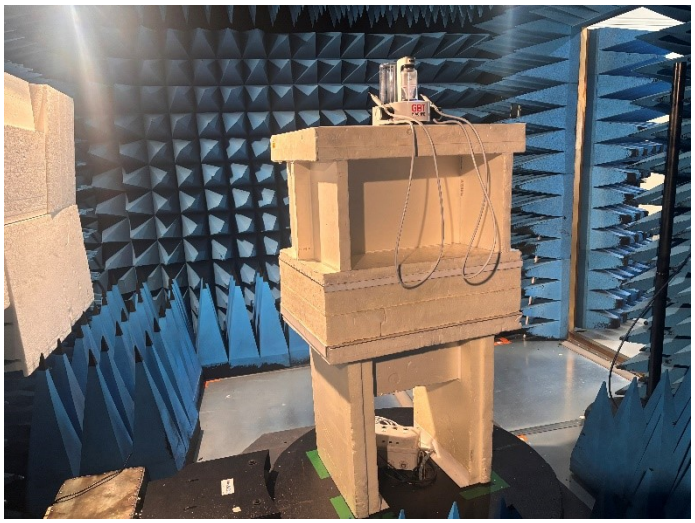
Frequency range:	**9kHz to 30MHz**	
Test:	**Pre-Characterization**	**Qualification**
Antenna Polarization:	Parallel, Perpendicular and Ground parallel	
Antenna Height:	Centered on EUT (§6.6.5 ANSI C63-10)	1m
Antenna Type:	Loop	
RBW Filter:	200Hz below 150kHz / 9kHz above 150kHz	
Maximization:	Turntable rotation of 360 degrees range	
EUT height:	1.5m	1.5m
Test site:	Full Anechoic Chamber	Open Aera Test Site
Distance EUT - Antenna:	3m	10m
Detector:	Peak	QPeak

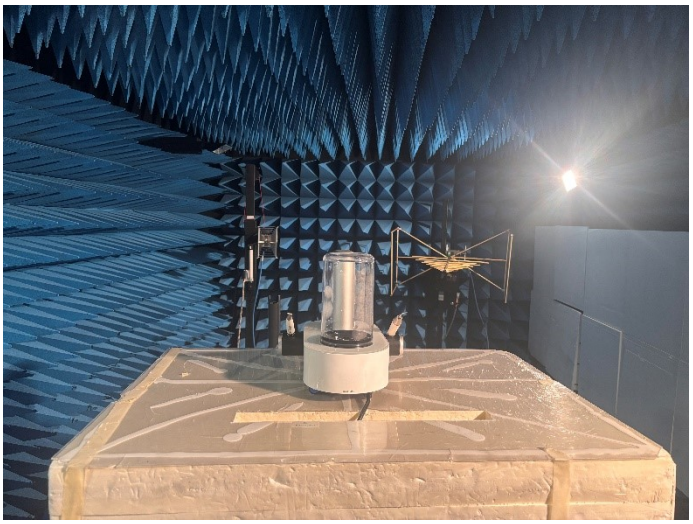
Frequency range:	**30MHz to 1GHz**	
Test:	**Pre-Characterization**	**Qualification**
Antenna Polarization:	Horizontal and Vertical	
Antenna Height:	Centered on EUT (§6.6.5 ANSI C63-10)	Varied from 1m to 4m
Antenna Type:	Bi-Log	
RBW Filter:	120kHz	
Maximization:	Turntable rotation of 360 degrees range	
EUT height:	1.5m	1.5m
Test site:	Full Anechoic Chamber	Open Aera Test Site
Distance EUT - Antenna:	3m	10m
Detector:	Peak	QPeak



Test setup of Field strength outside the band 13.110-14.010MHz

Same setup is used in semi anechoic chamber during pre-characterization, with a distance of 3m between EUT and antenna.





Test Setup on FAR

Test Setup on OATS

7.3. LIMIT

Measure at 300m		
Frequency range	**Level**	**Detector**
9kHz-490kHz	67.6dBµV/m /F(kHz)	QPeak
Measure at 30m		
Frequency range	**Level**	**Detector**
490kHz-1.705MHz	87.6dBµV/m /F(kHz)	QPeak
1.705MHz-30MHz	29.5dBµV/m	QPeak
Measure at 3m		
Frequency range	**Level**	**Detector**
30MHz to 88MHz	40dBµV/m	QPeak
88MHz to 216MHz	43.5dBµV/m	QPeak
216MHz to 960MHz	46BµV/m	QPeak
960MHz to 1000MHz	54dBµV/m	QPeak
Above 1000MHz	74dBµV/m	Peak
	54dBµV/m	Average

7.4. TEST EQUIPMENT LIST

TEST EQUIPMENT USED					
Description	**Manufacturer**	**Model**	**Identifier**	**Cal_Date**	**Cal_Due**
Amplifier 10MHz - 18GHz	LCIE SUD EST	_	A7102082	03/25	03/27
Antenna Bi-log	AH System	SAS-521-7	C2040180	05/23	10/25
BAT EMC	NEXIO	v3.21.0.32	L1000115	-/-	-/-
Cable 0.75m	-	18GHz	A5329900	08/24	08/25
CONTROLLER	INNCO	CO3000	D3044034	-/-	-/-
Filter Matrice	LCIE SUD EST	Combined filters	A7484078	03/23	07/25
Rehausse Table C3	LCIE	_	F2000511	-/-	-/-
Rehausse Table C3	LCIE	_	F2000507	-/-	-/-
Semi-Anechoic chamber #3 (BF)	SIEPEL	_	D3044017_BF	04/22	08/25
Semi-Anechoic chamber #3 (VSWR)	SIEPEL	_	D3044017_VSWR	04/22	08/25
SMA Cable 18GHz 0.5m	TELEDYNE	18GHz	A5330060	05/24	09/25
SMA Cable 18GHz 0.5m	TELEDYNE	18GHz	A5330059	05/24	09/25
SMA Cable 18GHz 6m	TELEDYNE	18GHz	A5330057	05/24	09/25
Spectrum analyzer	ROHDE & SCHWARZ	FSU 26	A4060058	09/23	09/25
Table C3	LCIE	_	F2000461	-/-	-/-
Thermo-hygrometer (PM1/2/3)	KIMO	HQ 210	B4206022	05/23	09/25
TILT	INNCO	TILT	D3044033	-/-	-/-

Turntable chamber (Cage#3)	ETS Lingren	Model 2165	F2000371	-/-	-/-
Turntable controller (Cage#3)	ETS Lingren	Model 2090	F2000444	-/-	-/-
Antenna loop	ELECTRO-METRICS	EM-6879	C2040294	11/24	11/26
Antenna Bi-log	CHASE	CBL6111A	C2040172	07/24	07/26
Antenna Mat (OATS)	ETS Lingren	2071-2	F2000392	-/-	-/-
Biconic Antenna	EATON	94455-1	C2040234	05/23	09/25
Cable (OATS)	_	1GHz	A5329623	09/24	09/25
CALCUL_FACTEURS	LCIE SUD EST	V4	L2000035	-/-	-/-
Emission Cable	RADIALEX	-/-	A5329061	01/25	01/26
Emission Cable	MICRO-COAX	1GHz	A5329656	09/24	09/25
OATS	_	_	F2000409	07/24	07/25
Radiated emission comb generator	BARDET	_	A3169050	-/-	-/-
Table C1/OATS	LCIE	_	F2000445	-/-	-/-
Turntable (OATS)	ETS Lingren	Model 2187	F2000403	-/-	-/-
Turntable / Mast controller (OATS)	ETS Lingren	Model 2066	F2000372	-/-	-/-
Receiver 20Hz – 8GHz	ROHDE & SCHWARZ	ESU8	A2642019	03/23	07/25

7.5. DIVERGENCE, ADDITION OR SUPPRESSION ON THE TEST SPECIFICATION

None

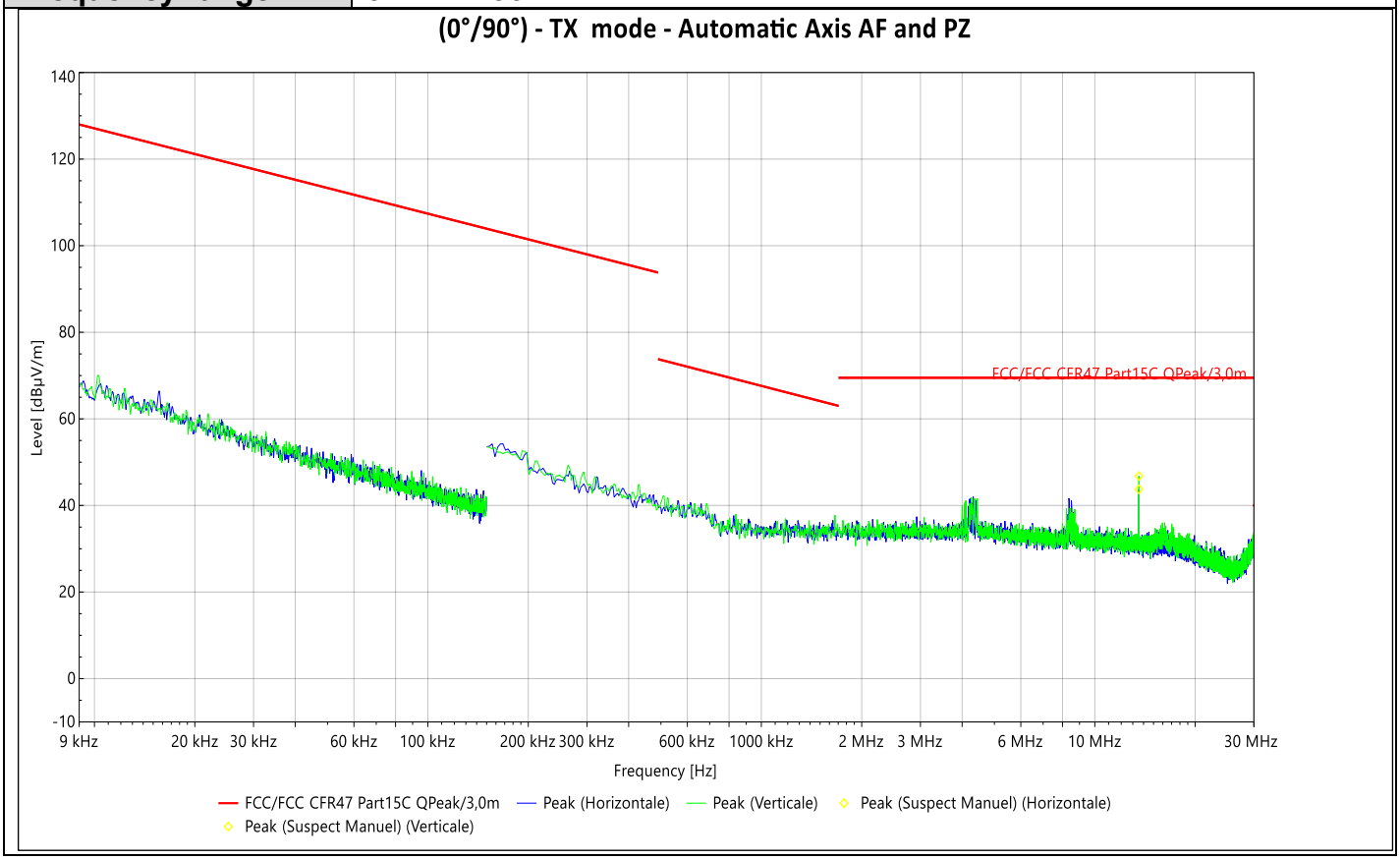
7.6. RESULTS

7.6.1. 9kHz to 30MHz

Graphs – Pre characterization:

Graph identifier	Polarization	Mode	Channel	EUT position	Comments
Emr# 1	0°/90°	TX/RX	Single	Axis XY	See the following results
Emr# 2	180°	TX/RX	Single	Axis XY	See the following results

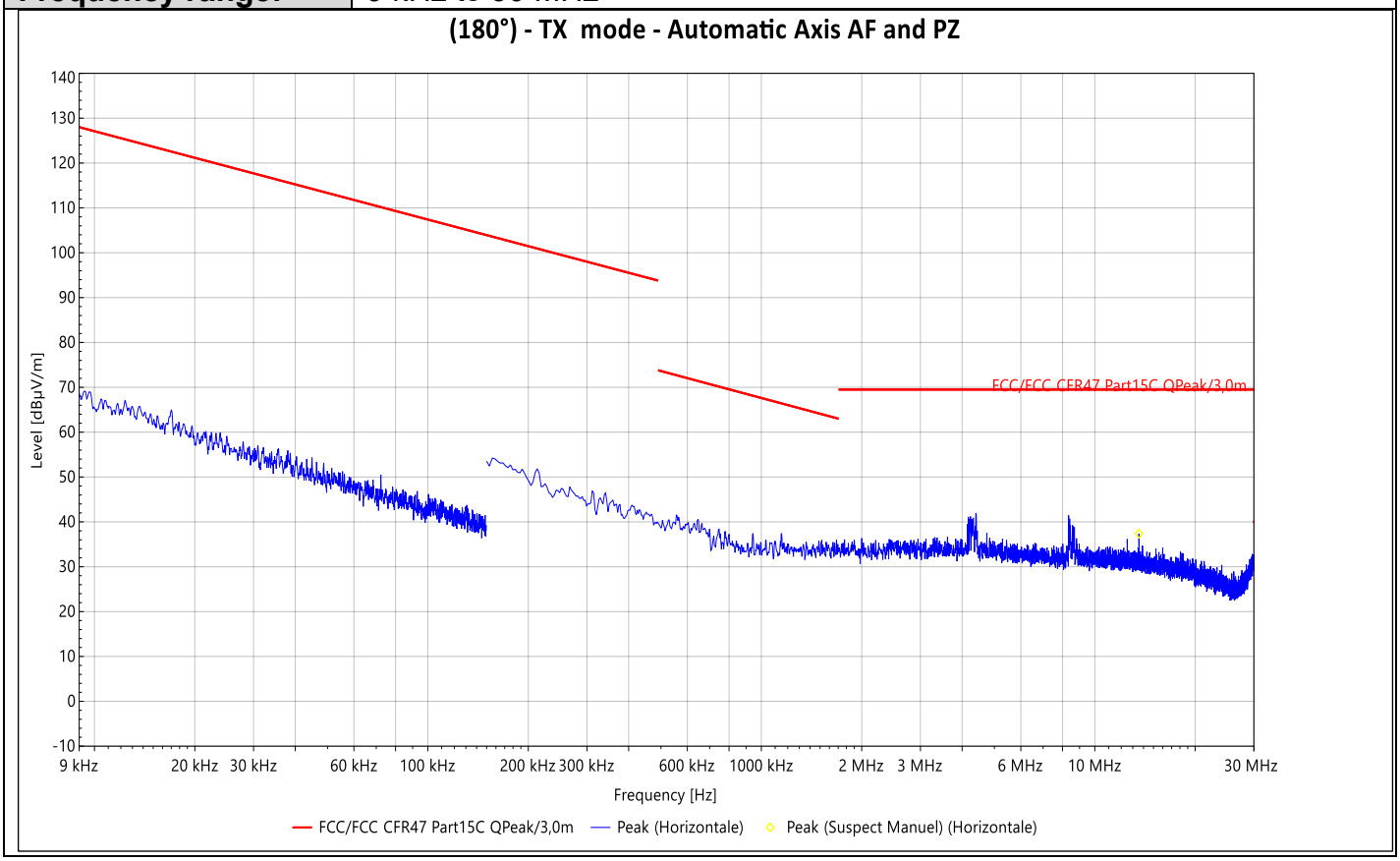
Radiated Emissions	
Graph name:	Emr#2
Frequency range:	9 kHz to 30 MHz



Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
13.559 MHz	43.73	69.50	261	H	41.90
13.562 MHz	46.79	69.50	130	V	41.90

Radiated Emissions	
Graph name:	Emr#3
Frequency range:	9 kHz to 30 MHz



Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
13.559 MHz	37.37	69.50	229	H	41.90

Final measurement:

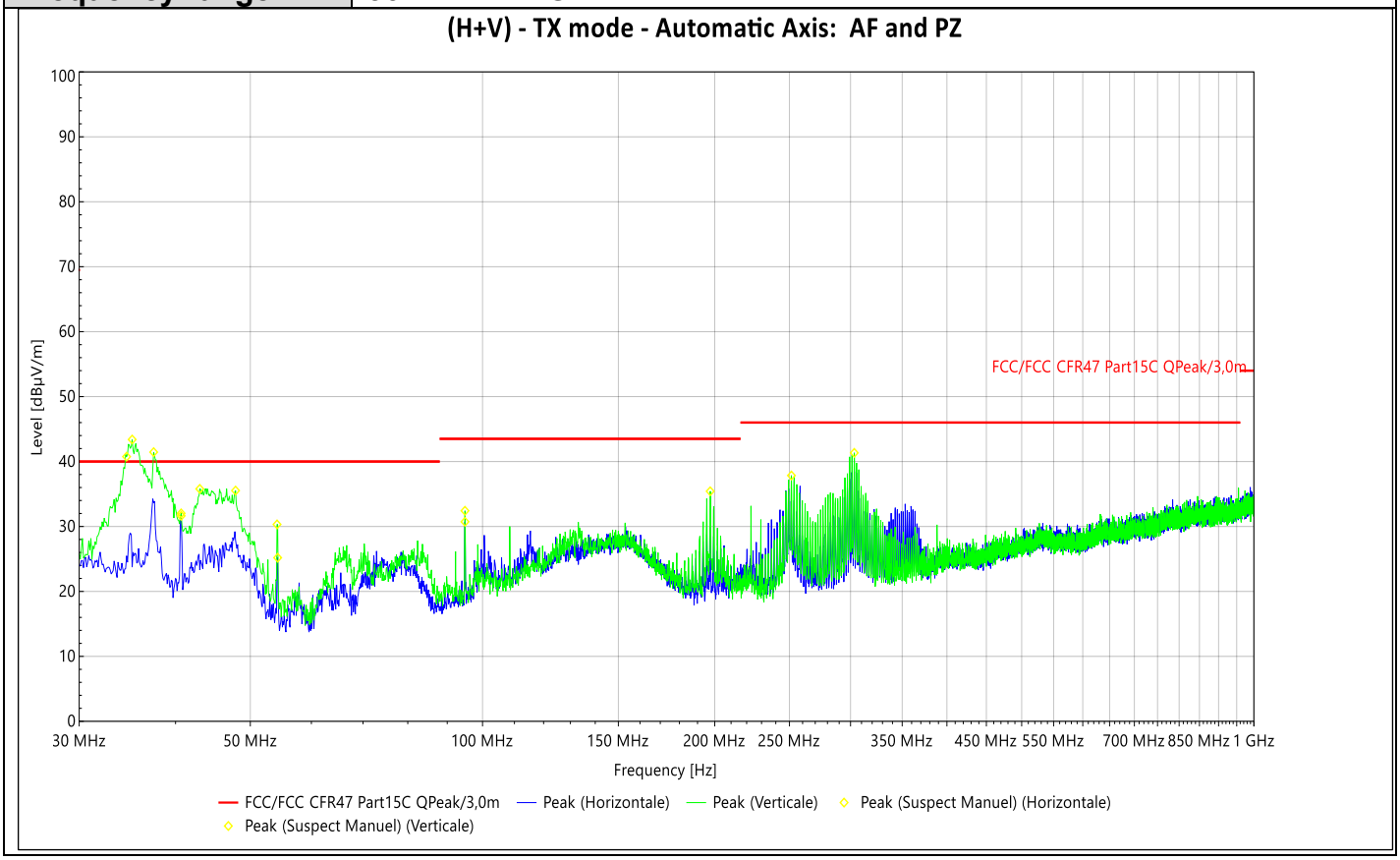
No significant frequency observed

7.6.2. 30MHz to 1GHz

Graphs – Pre characterization:

Graph identifier	Polarization	Mode	Channel	EUT position	Comments
Emr# 3	H/V	TX/RX	Single	Axis XY/Z	See the following results

Radiated Emissions	
Graph name:	Emr#75
Frequency range:	30 MHz to 1 GHz



Pre-Characterization:

Frequency	PK Level (dBµV/m)	Lim.QP (dBµV/m)	Angle (°)	Polar.	Correct. (dB)
40.670 MHz	31.64	40.00	349	H	18.75
54.250 MHz	25.19	40.00	72	H	13.51
94.893 MHz	30.73	43.50	342	H	18.13
34.559 MHz	40.75	40.00	337	V	22.18
35.141 MHz	43.39	40.00	246	V	21.88
37.469 MHz	41.45	40.00	29	V	20.61
40.670 MHz	32.02	40.00	307	V	18.75
42.998 MHz	35.79	40.00	358	V	17.59
47.848 MHz	35.53	40.00	307	V	15.42
54.153 MHz	30.32	40.00	0	V	13.54
94.893 MHz	32.42	43.50	0	V	18.13
197.325 MHz	35.42	43.50	83	V	17.50
251.451 MHz	37.85	46.00	71	V	23.59
303.346 MHz	41.34	46.00	56	V	20.55

Final measurement:

Test Frequency (MHz)	Meter Reading dB(µV)	Detector (Pk/QP/Av)	Polarity (V/H)	Azimuth (Degrees)	Antenna Height (cm)	Transducer Factor (dB)	Level (dBµV/m)	Limit (dBµV/m)	Margin (dB)
35.1500	17.6	QP	V	260	110	14.8	32.4	40.0	**-7.6**
35.5600	13.7	QP	V	212	150	14.8	28.5	40.0	**-11.5**
37.4700	15.7	QP	V	180	100	14.7	30.4	40.0	**-9.6**
43.0000	18.4	QP	V	0	110	14.2	32.6	40.0	**-7.4**
47.8000	25.5	QP	V	0	100	13.2	38.7	40.0	**-1.3**
303.0000	22.5	QP	V	70	100	18.0	40.5	46.0	**-5.5**

7.7. CONCLUSION

Field strength outside of the bands 13.110-14.010 MHz measurement performed on the sample of the product **FT-300**, Sn: **MM00773**, in configuration and description presented in this test report, show levels **compliant** to the **47 CFR PART 15.225 & RSS-Gen** limits.

8. UNCERTAINTIES CHART

Kind of measurement	*Wide uncertainty laboratory*
Occupied Channel Bandwidth	±2.8 %
Humidity	±3.2 %
Power Spectral Density, Conducted	±1.7 dB
Radio frequency	±0.3 ppm
RF power, conducted	±1.2 dB
RF power, radiated (Full anechoic chamber above 1GHz)	±3.7 dB
RF power, radiated (Semi anechoic chamber & open test site)	±5.6 dB
Spurious emission, conducted	±2.3 dB
Spurious emission, radiated (Full anechoic chamber above 1GHz)	±3.8 dB
Spurious emission, radiated (Semi anechoic chamber & open test site)	±5.7 dB
Temperature	±0.75 °C
Time	±2.3 %
Voltage	±1.7 %

The uncertainty values calculated by the laboratory are lower than limit uncertainty values defined by the standard. The conformity of the sample is directly established by the applicable limit values. This table includes all uncertainties maximum feasible for testing in the laboratory, whether or not made in this report.

---------- **END OF REPORT** ----------