



Prüfbericht-Nr.: Test report no.:	CN23BIOA (P15C-433.92M) 001	Auftrags-Nr.: Order no.:	48222061	Seite 1 von 28 Page 1 of 28
Kunden-Referenz-Nr.: Client reference no.:	N/A	Auftragsdatum: Order date:	2023-05-30	
Auftraggeber: Client:	Microchip Technology Inc. 2355 West Chandler Blvd. Chandler, Arizona 85224-6199, United States			
Prüfgegenstand: Test item:	EV54D56A			
Bezeichnung / Typ-Nr.: Identification / Type no.:	ATA5835-XPRO			
Auftrags-Inhalt: Order content:	FCC Part 15C Test report			
Prüfgrundlage: Test specification:	FCC CFR47 Part 15: Subpart C Section 15.231			
Wareneingangsdatum: Date of sample receipt:	2023-07-17			
Prüfmuster-Nr.: Test sample no:	A003519207-001 A003519207-006			
Prüfzeitraum: Testing period:	2023-08-13 - 2023-08-16			
Ort der Prüfung: Place of testing:	EMC/RF Taipei Testing Site			
Prüflaboratorium: Testing laboratory:	Taipei Testing Laboratories			
Prüfergebnis*: Test result*:	Pass			
zusammengestellt von: compiled by:	genehmigt von: authorized by:			
Datum: Date: 2023-09-11				
Stellung / Position:	Senior Project Manager	Ausstellungsdatum: Issue date: 2023-09-11	Brenda Chen Senior Project Manager	
Sonstiges / Other:				
Zustand des Prüfgegenstandes bei Anlieferung: Condition of the test item at delivery:		Prüfmuster vollständig und unbeschädigt Test item complete and undamaged		
* Legende:	1 = sehr gut P(ass) = entspricht o.g. Prüfgrundlage(n)	2 = gut F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	3 = befriedigend F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	4 = ausreichend N/A = nicht anwendbar
* Legend:	1 = very good P(ass) = passed a.m. test specification(s)	2 = good F(ail) = failed a.m. test specification(s)	3 = satisfactory F(ail) = failed a.m. test specification(s)	4 = sufficient N/A = not applicable
5 = mangelhaft N/T = nicht getestet 5 = poor N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i>				

TEST SUMMARY

Report Section	FCC Clause	Test Item	Result
5.1.1	15.203	Antenna Requirement	Pass
5.1.2	15.231(c)	20 dB Bandwidth and Occupied Bandwidth	Pass
5.1.3	15.231(a)	Pulse Width / TX Gap	Pass
5.1.4	15.231(b)	Field Strength of Fundamental Emissions	Pass
5.1.5	15.231(b) & 15.205 & 15.209	Radiated Spurious Emissions	Pass
5.2.1	15.207	Mains Conducted Emission	Pass

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

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APPENDIX A - TEST RESULT OF RADIATED EMISSIONS EMISSION & Mains Conducted
Emission

APPENDIX SP - PHOTOGRAPHS OF TEST SETUP

APPENDIX EP - PHOTOGRAPHS OF EUT

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HISTORY OF THIS TEST REPORT

Report No.	Description	Date Issued
CN23BIOA (P15C-433.92M) 001	Original Release	2023-09-11

1. General Remarks

1.1 Complementary Materials

The following attachments are integral parts of this test report:

Appendix A - Test Result of Radiated Emissions Emission & Mains Conducted Emission

Appendix SP - Photographs of Test Setup

Appendix EP - Photographs of EUT

Test Specifications

The following standards were applied.

Applied Standard and Test Levels

Radio
FCC 47CFR Part 15: Subpart C Section 15.231
ANSI C63.10:2013

1.2 Decision Rule of Conformity

The decision rule of conformity of this test report is following the requirements of the requested standard in the quotation, and agreed among testing laboratory and manufacturer (applicant) to exclude the consideration of Measurement Uncertainty, unless it is required by the specific standard.

2. Test Sites

2.1 Test Laboratory

Taipei Testing Laboratories

11F. No.758, Sec. 4, Bade Rd., Songshan Dist.
Taipei City 105
Taiwan (R.O.C.)

2.2 Test Facility

Taipei Testing Laboratories

No.458-18, Sec. 2, Fenliao Rd., Linkou Dist.,
New Taipei City 244
Taiwan (R.O.C.)
FCC Registration No.: 180491
ISED Registration No.: 25563

2.3 Traceability

All measurement equipment calibrations are traceable to NML(Taiwan)/NIST(USA) or where calibration is performed outside Taiwan, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically in a suitably accredited Calibration Lab. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Measurement Uncertainty

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicate a 95% level of confidence.

Emission Measurement Uncertainty

Parameter	Uncertainty
Radiated Emission (9 kHz ~ 30 MHz)	± 1.15 dB
Radiated Emission (30 MHz ~ 200 MHz)	± 1.30 dB
Radiated Emission (200 MHz ~ 1 GHz)	± 1.30 dB
Radiated Emission (1 GHz ~ 18 GHz)	± 1.54 dB
Radiated Emission (18 GHz ~ 40 GHz)	± 2.52 dB
Mains Conducted Emission	± 1.65 dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT is an EV54D56A (ATA5835-XPRO) is a radio frequency (RF) transceiver evaluation board operating in the 433.92MHz sub-1GHz ISM band.

For details refer to the User Guide, Data Sheet and Circuit Diagram.

3.2 System Details and Ratings

Basic Information of EUT

Item	EUT information
Kind of Equipment/Test Item	EV54D56A
Type Identification	ATA5835-XPRO
FCC ID	2ADHK54D56

Technical Specification of EUT

Item	EUT information
Operating Frequency	433.92 MHz
Operation Voltage	5Vdc
Modulation	FSK
Transmission Mode	Automatically
Antenna Information	Refer to 5.1.1
Accessory Device	Refer to 4.3

3.3 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.4 Submitted Documents

- Circuit Diagram
- Instruction Manual
- Rating Label
- Technical Description

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

The equipment under test (EUT) was configured to measure its maximum emission level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Setup for testing: Test samples are modified to continuous transmitter mode which makes it possible to transmit when press the button.

Test Software	N/A
---------------	-----

The samples were used as follows:

A003519207-001

A003519207-006

Full test was applied on all test modes, but only worst case was shown.

EUT Configure Mode	Applicable To					Description
	20 dB Bandwidth	Pulse Width / TX Gap	Field Strength of Fundamental Emissions	Radiated Spurious Emissions	Mains Conducted Emission	
-	√	√	√	√	√	-

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when position on Z-plane.
2. "-" means no effect.

20 dB Bandwidth

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	433.92	433.92

Pulse Width / TX Gap

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	433.92	433.92

Field Strength of Fundamental

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	433.92	433.92

Radiated Spurious Emissions

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	433.92	433.92

Mains Conducted Emission

- ☒ Pre-Scan full test was applied on all test modes, but only worst case was shown.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Frequency (MHz)	Tested Frequency (MHz)
-	433.92	433.92

Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
20 dB Bandwidth	23.8-24.2 °C	50.5-51.3 %	Blake Wang
Pulse Width / TX Gap	23.8-24.2 °C	50.5-51.3 %	Blake Wang
Field Strength of Fundamental	19.8-20.9 °C	52-57 %	Chuan Chu
Radiated Spurious Emissions	19.8-20.9 °C	52-57 %	Chuan Chu
Mains Conducted Emission	21.1-24.9 °C	51.7-54.9 %	Ray Huang

4.3 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

Accessory of EUT

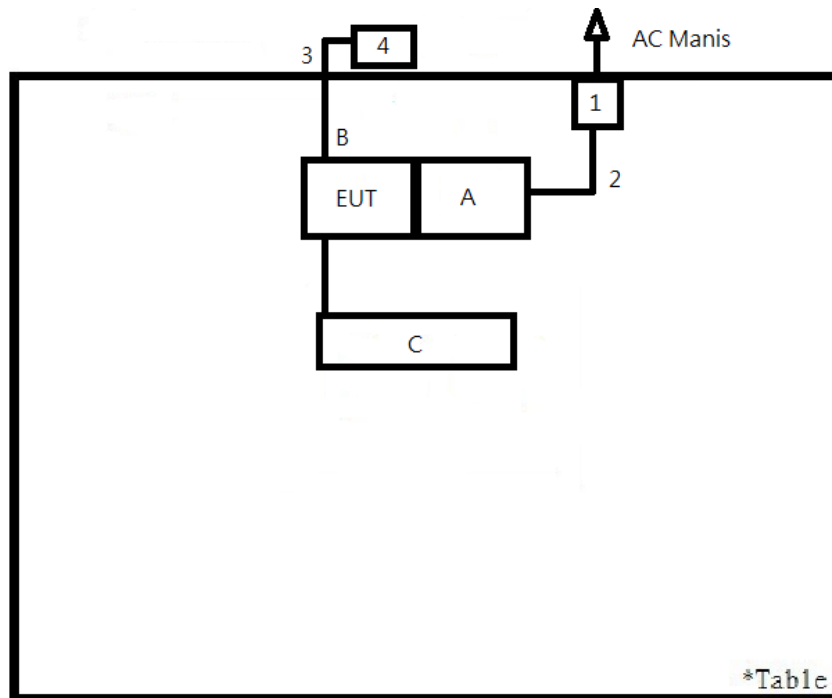
None.

Support Unit

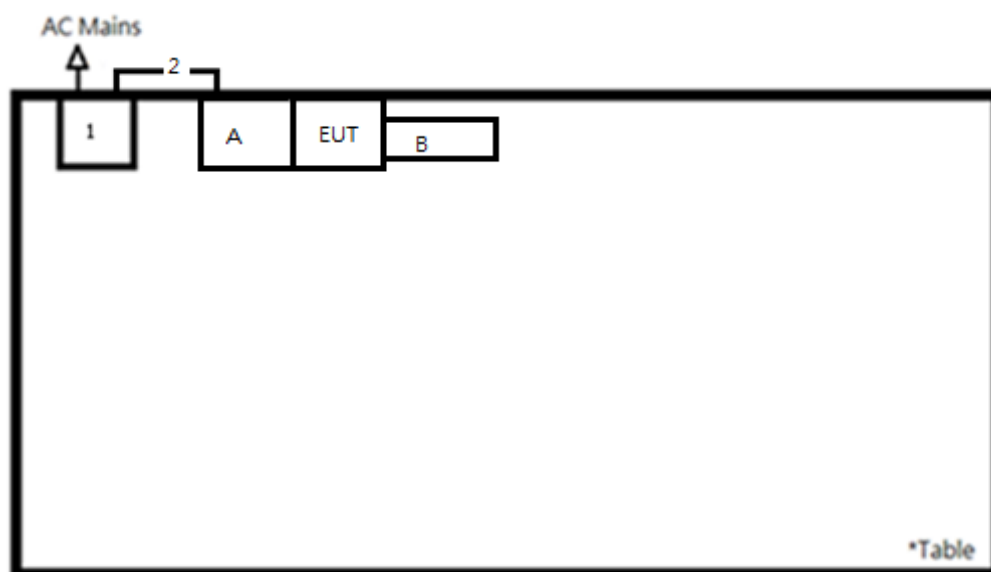
No.	Description	Brand	Model	S/N	Remark
Radiated and Mains Conduction Tests					
A	Main board	Microchip	ATSAMC21 Xplained Pro	-	A003519207-001
B	Whip Antenna	Linx Technologies Inc.	ANT-433-CW-RH	-	A003519207-006
1	Adapter	OPPO	VC56JACH	J119492AC1009359	60cm length
2	Cable	TUV	TUV-001	-	-

4.4 Test Setup Diagram

<Radiated Spurious Emissions Mode>



<Mains Conducted Emission mode>



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

Requirement Use of approved antennas only

The antenna is a whip antenna with no possibility of replacement with a non-approved antenna by the end-user. Therefore, the EUT is considered to comply with this provision.

Refer to EUT photo for details.

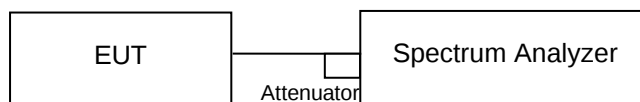
5.1.2 20 dB Bandwidth and Occupied Bandwidth

Limit

The bandwidth of the emission shall be no wider than 0.25 % of the center frequency for devices operating above 70 MHz and below 900 MHz.

Kind of Test Site Shielded room

Test Setup



Test Instruments

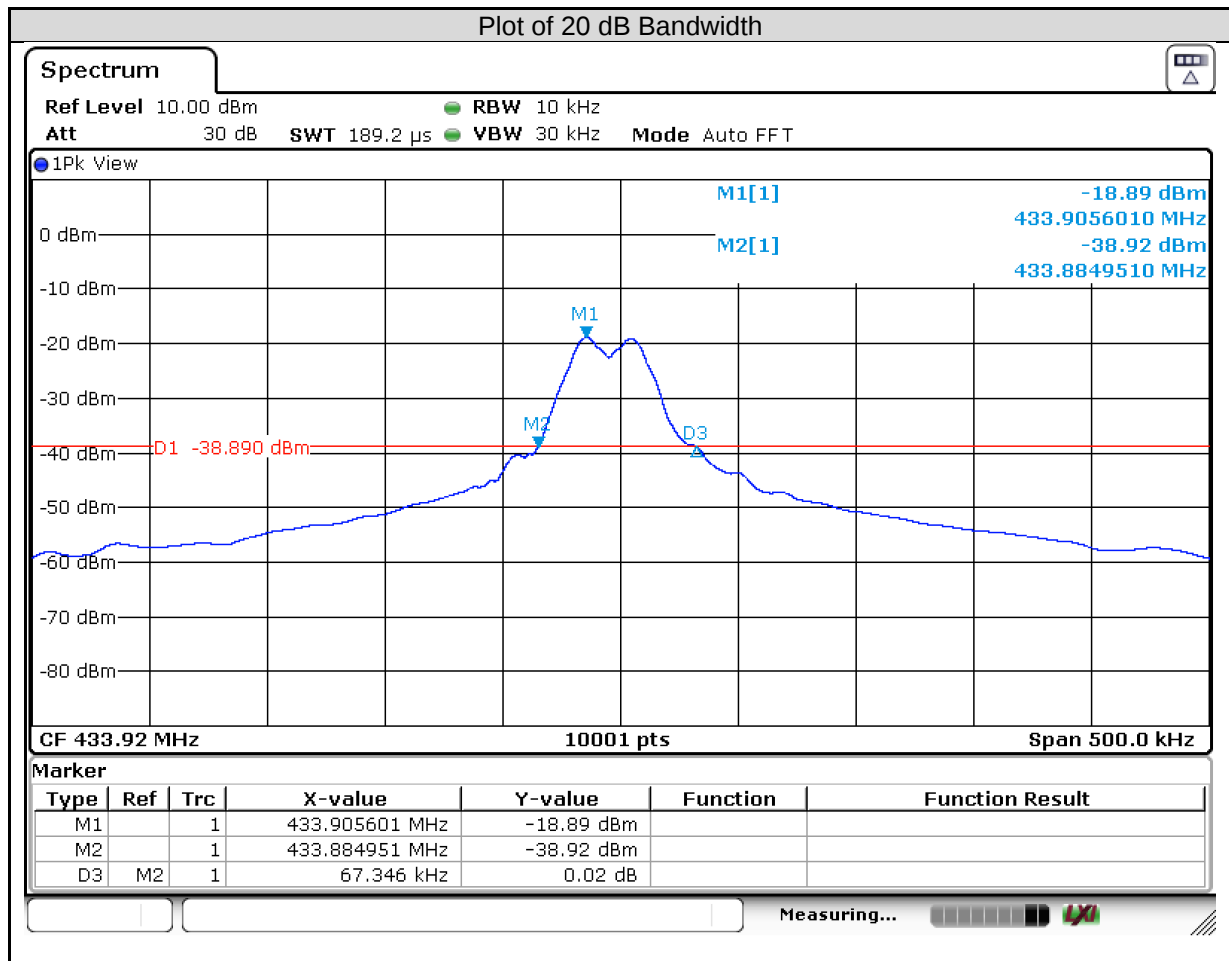
Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV	101512	2023/2/23	2024/2/22	2023/8/16	2023/8/16

Test Procedures

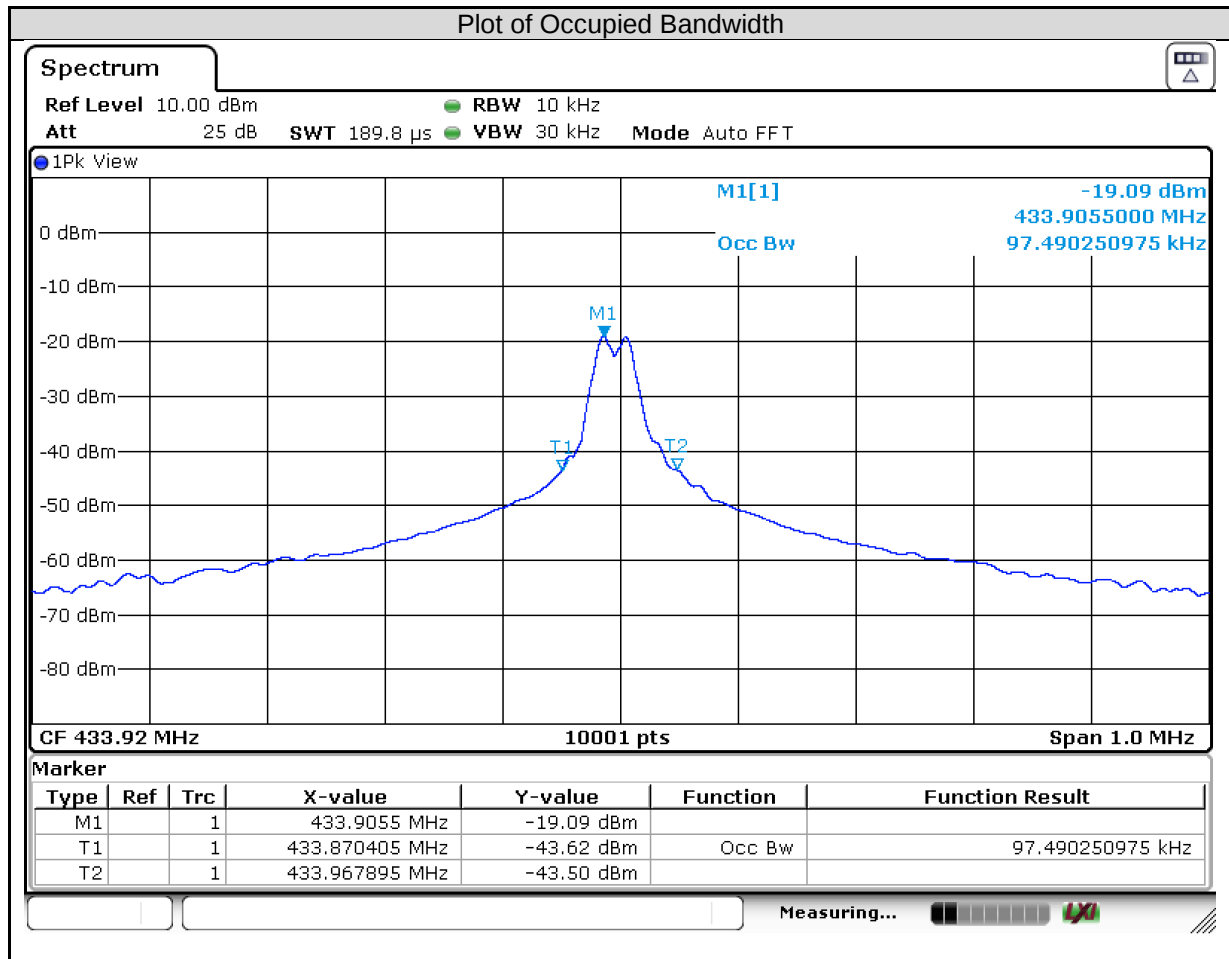
- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
- Repeat above procedures until all frequencies measured were complete.
- For occupied bandwidth, the transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1 % to 5 % of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to Sampling. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

Test Results

Channel Frequency (MHz)	20 dB Bandwidth (kHz)	Limit (kHz)
433.92	67.35	1085



Channel Frequency (MHz)	Occupied Bandwidth (kHz)
433.92	97.49



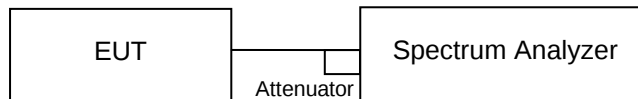
5.1.3 Pulse Width/TX Gap

Limit

For operation in 314-316 MHz and 433-435 MHz: A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds being released. A transmitter activated automatically shall cease transmission within 5 seconds after activation.

Kind of Test Site Shielded room

Test Setup



Test Instruments

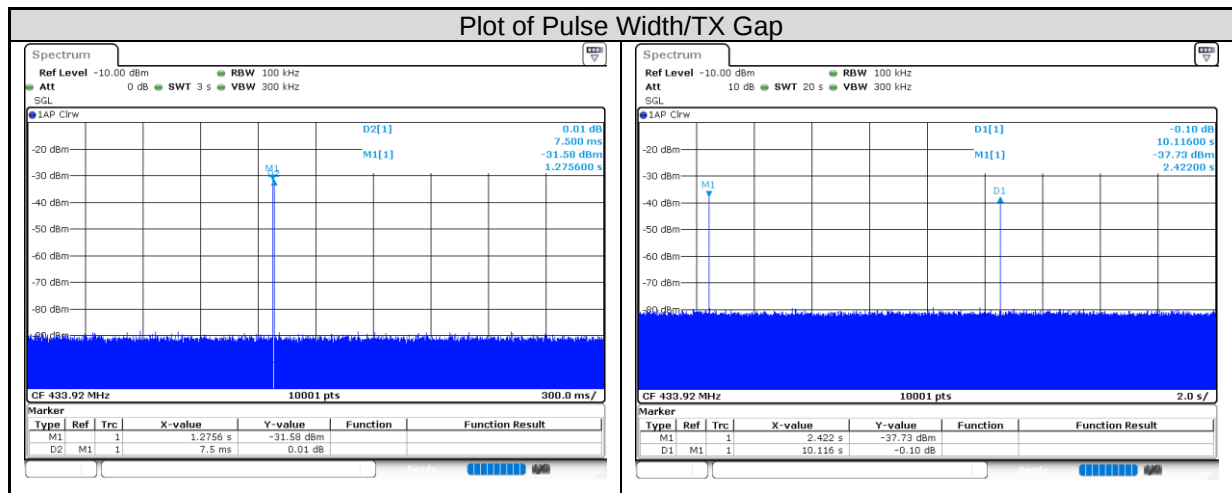
Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV	101512	2023/2/23	2024/2/22	2023/8/16	2023/8/16

Test Procedures

- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
- Measure the transmission time (Pulse width) and stop duration of a transmission period (TX gap).
- Repeat above procedures until all frequencies measured were complete.

Test Results

Channel Frequency (MHz)	Pulse Width (ms)	Limit (ms)	Result
433.92	7.5	5000	Pass

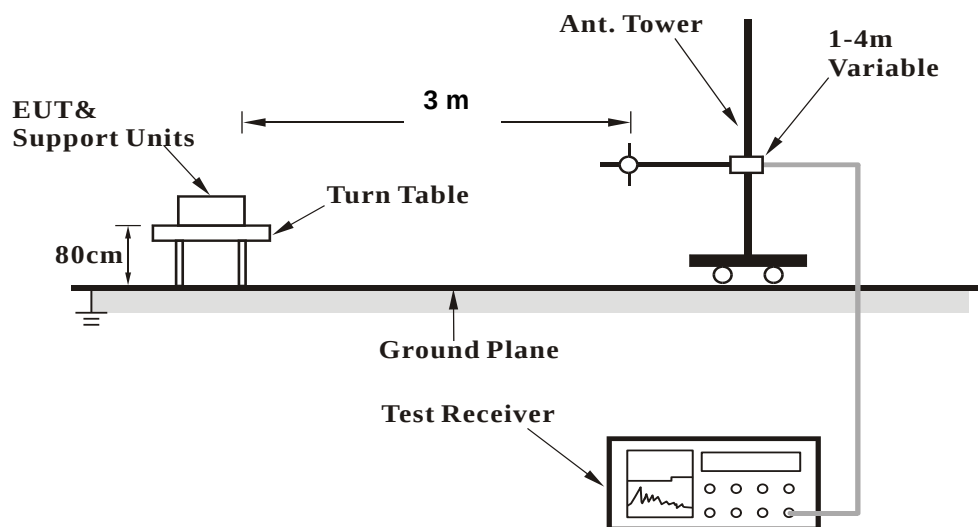


5.1.4 Field Strength of Fundamental Emissions

Limit Refer to §15.231(b) for reference

Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup



For the actual test configuration, please refer to the attached file (Test Setup Photo).

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Test Instruments

Test Date: 2023/8/14

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Above 1GHz					
Signal Analyzer	R&S	FSV40	101508	2023/4/20	2024/4/18
Horn Antenna	ETS-Lindgren	3117	00218929	2022/12/8	2023/12/7
HF-AMP + AC source	EMCI	EMC051845SE	980633	2023/2/22	2024/2/21
HF-AMP + AC source	EMCI	EMC184045SE	980657	2023/2/16	2024/2/15
Horn Antenna	SCHWARZBECK	BBHA 9170	00218930	2022/12/8	2023/12/7
30MHz-1GHz					
Receiver	R&S	ESR7	102109	2023/2/24	2024/2/23
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2023/3/31	2024/3/29
LF-AMP	Agilent	8447D	2944A107722	2023/3/22	2024/3/20
Below 1GHz					
Receiver	R&S	ESR7	102109	2023/2/24	2024/2/23
Loop Antenna	SCHWARZBECK	FMZB 1519B	00215	2023/1/4	2024/1/3

Test Procedures

- The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna 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.
- 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode.

Note:

- All modes of operation were investigated and the worst-case emissions are reported.
- The Radiated Emissions testing was performed in the X(E1), Y(H) and Z(E2) axis orientation. The worst-case Axis orientation is recorded in this test report.

Test Results

The EUT employs pulsed operation.

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Antenna orientation	Detector or calculated value
433.92	96.50	100.83	Horizontal	Peak
433.92	79.41	80.83		Average
433.92	92.90	100.83	Vertical	Peak
433.92	76.59	80.83		Average

FCC 15.231(a), NCC LP0002 4.4.2.5(1)

Note: With linear interpolations, the formulas for calculating the maximum permitted fundamental field strengths is as follows:

$$433.92\text{MHz}, \mu\text{V/m at 3 meters} = 41.6667 \times (433.92\text{MHz}) - 7083.3333 = 10996.68 \mu\text{V/m}$$

$$20\log(10996.68) = 80.83 \text{ dB } \mu\text{V/m (Average Limit)}$$

$$80.83 + 20 = 100.83 \text{ dB } \mu\text{V/m (Peak Limit)}$$

5.1.5 Radiated Spurious Emissions

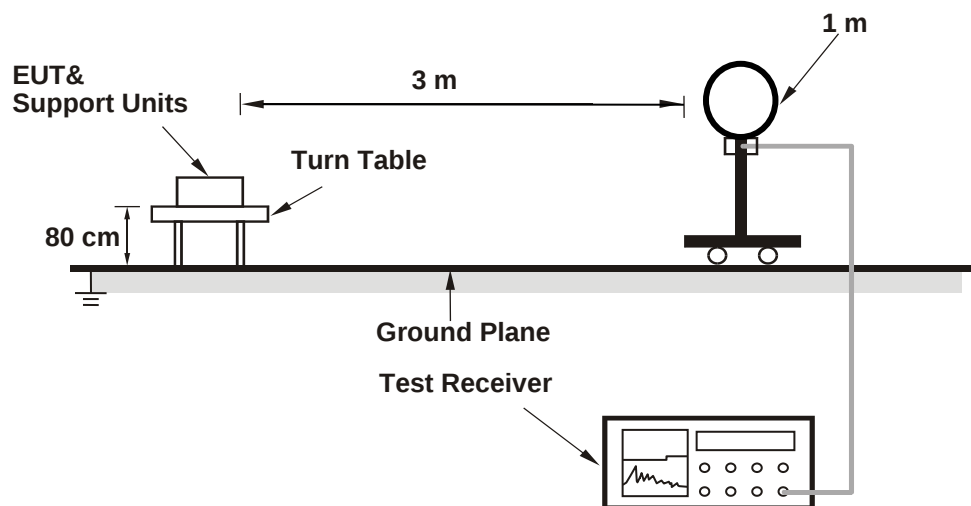
Limit

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must comply with the radiated emission limits specified in §15.209(a).

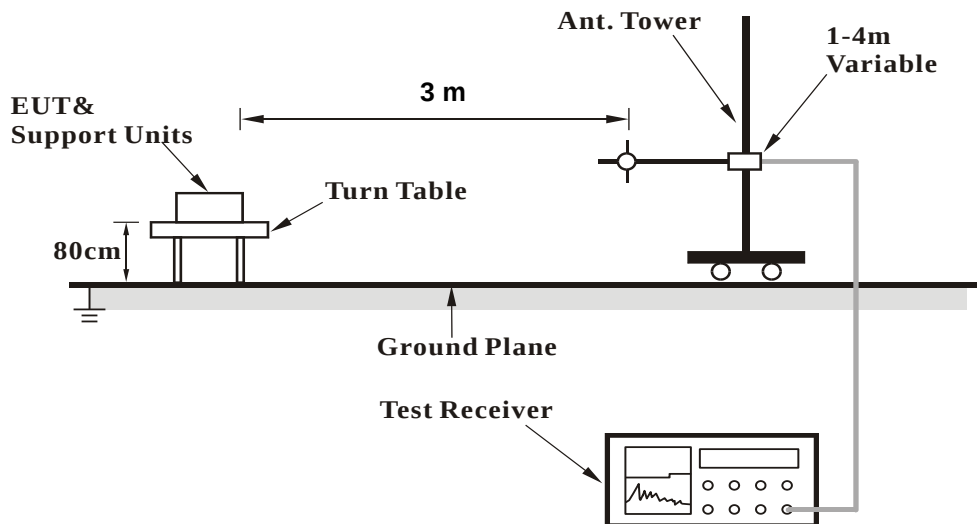
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

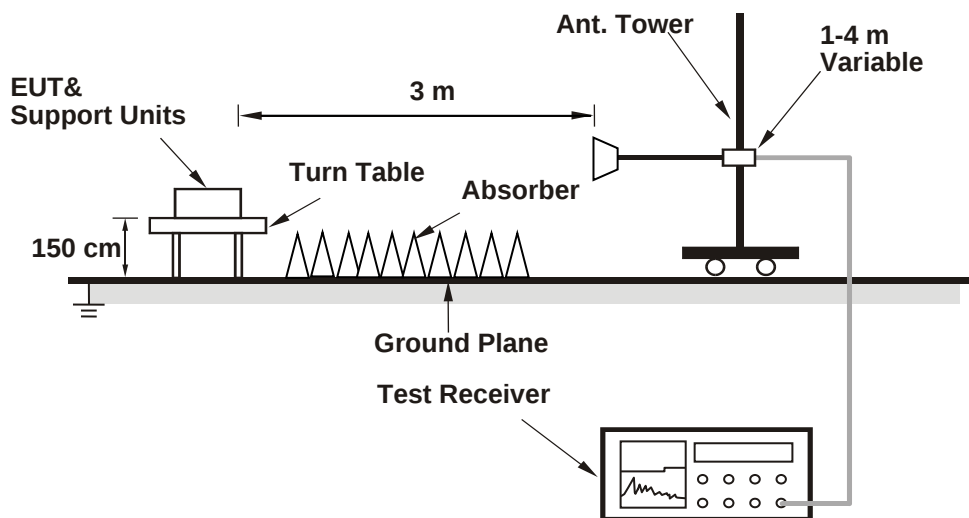
<Radiated Emissions below 30 MHz>



<Radiated Emissions 30 MHz to 1 GHz>



<Radiated Emissions above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Test Instruments

Please refer to 5.1.4 Instruments

Test Procedures**For Radiated Emissions below 30 MHz**

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel (OPEN), perpendicular (CLOSE), and ground-parallel (GROUND) orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency are 9-90 kHz, 110-490 kHz and above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9 kHz at frequency below 30 MHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

For Radiated Emissions above 30 MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30 MHz ~ 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna 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.
- d. 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) or Peak detection (PK) at frequency below 1 GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.
3. The Radiated Emissions testing was performed in the X(E1), Y(H) and Z(E2) axis orientation. The worst-case Axis orientation is recorded in this test report.
4. The emission levels of other frequencies (including the 10th harmonic of the highest fundamental frequency) are very lower than the limit and are not shown in the test report.

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Test Results

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Level (dBuV/m) = Reading (dBuV) + Factor (dB/m)

Please refer to Appendix A.

5.2 Mains Emission

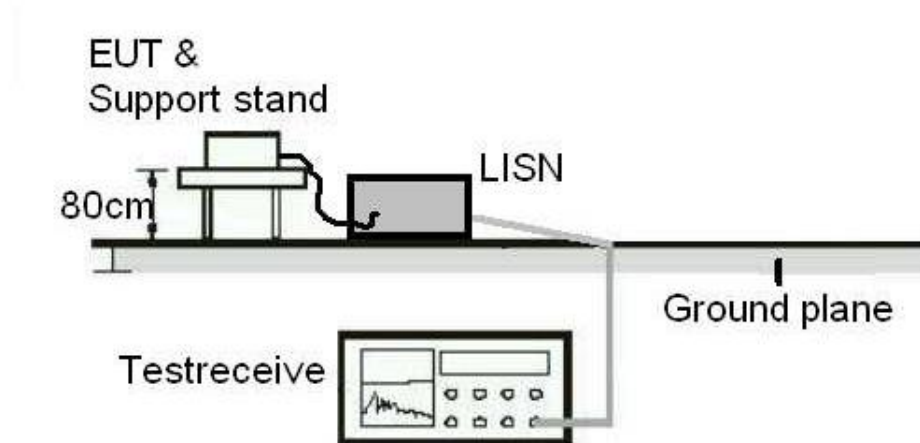
5.2.1 Mains Conducted Emission

Limit

Mains Conducted Emission as defined in §15.207 must comply with the mains conducted emission limits.

Kind of Test Site Shielded room

Test Setup



Test Instruments

Test Date: 2023/8/16

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Two-Line V-Network	Rohde & Schwarz	ENV216	101938	2022/9/22	2023/9/21
EMI Test Receiver	R&S	ESCI	101094	2022/11/24	2023/11/23

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Test Procedures

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit – 20 dB) was not recorded.

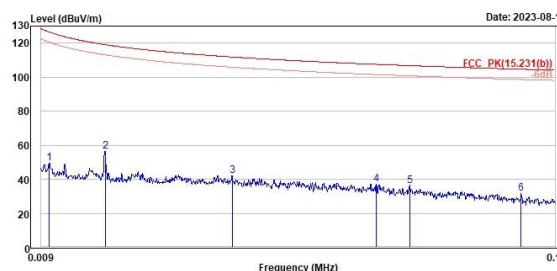
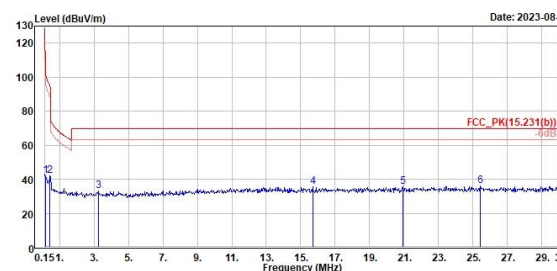
Note: The resolution bandwidth and video bandwidth of test receiver is 9 kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15 MHz – 30 MHz.

Test Results

Please refer to Appendix A.

Appendix A: Test Results of Radiated Spurious Emissions and Mains Conducted Emissions

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

9kHz~150kHz (Open)					150kHz~30MHz (Open)				
 TUV Rheinland Taiwan Ltd. No. 438-18, Sec 2, Fenlian, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.) Tel: +886-2172-1000 Fax: +886-2172-1322 Date: 2023-08-14 					 TUV Rheinland Taiwan Ltd. No. 438-18, Sec 2, Fenlian, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.) Tel: +886-2172-1000 Fax: +886-2172-1322 Date: 2023-08-14 				
Freq	Level	Read Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.01	49.35	31.55	17.80	126.56	-77.21	100	173 Peak	Open
2	0.03	56.57	37.61	18.96	119.08	-62.51	100	258 Peak	Open
3	0.06	42.20	23.35	18.85	111.82	-69.62	100	198 Peak	Open
4	0.10	37.13	19.20	17.93	107.52	-70.39	100	173 Peak	Open
5	0.11	35.88	17.91	17.97	106.75	-70.87	100	171 Peak	Open
6	0.14	31.45	13.36	18.09	104.63	-73.18	100	181 Peak	Open

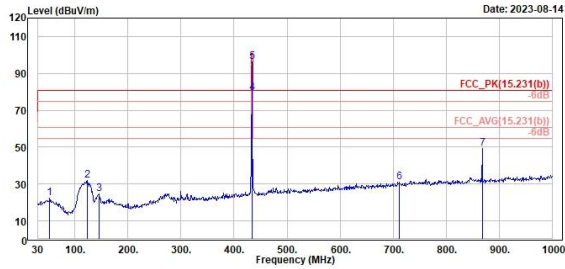
Freq	Level	Read Level Factor	Limit Line	Over Limit	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.21	42.08	23.71	18.37	101.17	-59.09	100	170 Peak	Open
2	0.45	41.96	23.14	18.82	94.57	-52.61	100	169 Peak	Open
3	3.28	32.99	13.38	19.61	69.50	-36.51	100	352 Peak	Open
4	15.79	35.40	13.45	21.95	69.50	-34.10	100	224 Peak	Open
5	20.93	35.57	13.32	22.25	69.50	-33.93	100	268 Peak	Open
6	25.40	36.30	14.01	22.29	69.50	-33.20	100	174 Peak	Open

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

Horizontal



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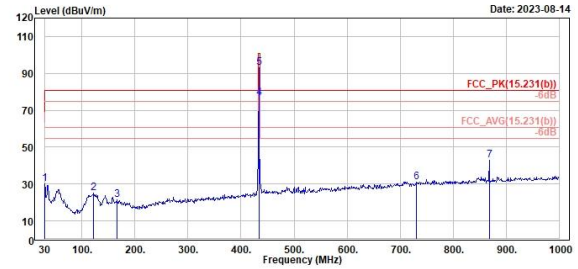


	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	52.31	22.50	29.42	-6.92	80.83	-58.33	400	226 Peak	Horizontal	
2	123.12	31.77	41.76	-9.99	80.83	-49.06	300	71 Peak	Horizontal	
3	145.43	24.55	32.25	-7.70	80.83	-56.28	200	348 Peak	Horizontal	
4	433.92	79.41	83.10	-3.69	80.83	-1.42	200	283 Average	Horizontal	
5	433.92	96.50	100.19	-3.69	100.83	-4.33	200	283 Peak	Horizontal	
6	711.91	30.88	29.21	1.67	80.83	-49.95	300	58 Peak	Horizontal	
7	868.08	49.17	45.36	3.81	80.83	-31.66	200	288 Peak	Horizontal	

Vertical



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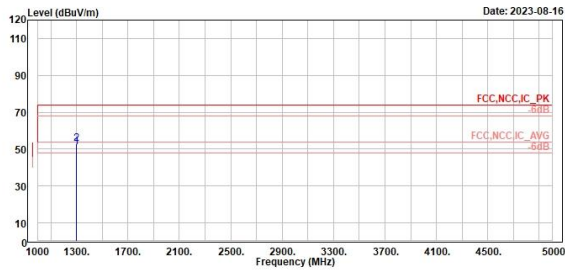
	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	30.00	30.12	39.02	-8.90	69.50	-39.38	100	74 Peak	Vertical	
2	122.15	24.90	35.06	-10.16	80.83	-55.93	100	273 Peak	Vertical	
3	165.80	21.35	28.29	-6.94	80.83	-59.48	283	1 Peak	Vertical	
4	433.92	76.59	80.28	-3.69	80.83	-4.24	100	206 Average	Vertical	
5	433.92	92.90	96.59	-3.69	100.83	-7.93	100	206 Peak	Vertical	
6	730.34	31.24	29.54	1.70	80.83	-49.59	400	304 Peak	Vertical	
7	868.08	42.79	38.98	3.81	80.83	-38.04	100	65 Peak	Vertical	

Spurious Emissions, Tx Mode, 1GHz ~ 5GHz

Horizontal



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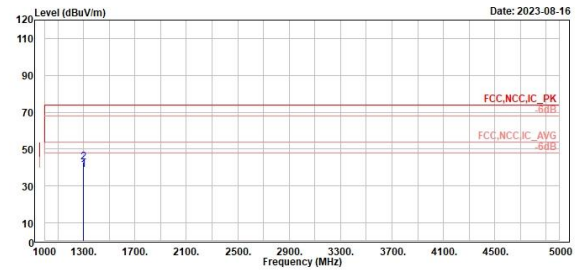


	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1301.76	51.02	69.96	-18.94	54.00	-2.98	300	251 Average	Horizontal	
2	1301.76	52.87	71.81	-18.94	74.00	-21.13	300	251 Peak	Horizontal	

Vertical



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	Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1301.76	38.65	57.59	-18.94	54.00	-15.35	234	0 Average	Vertical	
2	1301.76	42.72	61.66	-18.94	74.00	-31.28	234	0 Peak	Vertical	

Mains Conducted Emission, Tx Mode, 150kHz ~ 30MHz

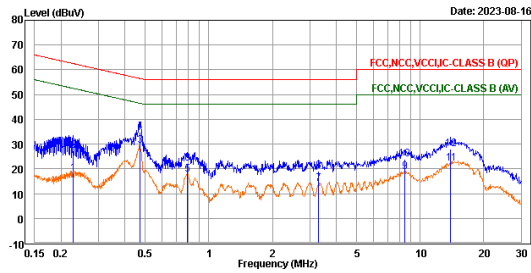
Worst Band

(Line)

(Neutral)



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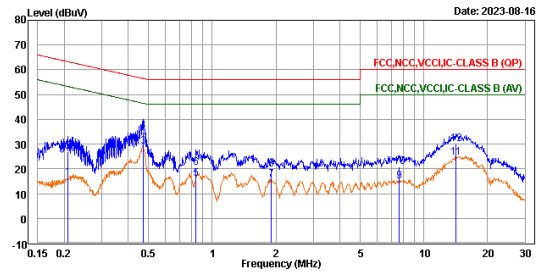


Trace: 1

	Freq	Level	Read	Level	Factor	Limit	Over			
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	Remark	Pol/Phase	Note
1	0.23	18.15	8.53	9.62	52.52	-34.37	Average	line1		
2	0.23	27.45	17.83	9.62	62.52	-35.07	QP	line1		
3	0.47	29.35	19.72	9.63	46.48	-17.13	Average	line1		
4	0.47	34.89	25.26	9.63	56.48	-21.59	QP	line1		
5	0.79	17.74	8.10	9.64	46.00	-28.26	Average	line1		
6	0.79	22.16	12.52	9.64	56.00	-33.84	QP	line1		
7	3.31	13.98	4.30	9.68	46.00	-32.02	Average	line1		
8	3.31	19.02	9.34	9.68	56.00	-36.98	QP	line1		
9	8.42	18.68	8.94	9.74	50.00	-31.32	Average	line1		
10	8.42	23.74	14.00	9.74	60.00	-36.26	QP	line1		
11	13.92	22.33	12.56	9.77	50.00	-27.67	Average	line1		
12	13.92	27.99	18.22	9.77	60.00	-32.01	QP	line1		



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Trace: 1

	Freq	Level	Read	Level	Factor	Limit	Over			
	MHz	dBuV	dBuV	dB	dBuV	dB	dB	Remark	Pol/Phase	Note
1	0.21	16.30	6.68	9.62	53.31	-37.01	Average	neutral		
2	0.21	26.89	17.27	9.62	63.31	-36.42	QP	neutral		
3	0.47	29.05	19.42	9.63	46.44	-17.39	Average	neutral		
4	0.47	35.16	25.53	9.63	56.44	-21.28	QP	neutral		
5	0.84	15.92	6.28	9.64	46.00	-30.08	Average	neutral		
6	0.84	20.35	10.71	9.64	56.00	-35.65	QP	neutral		
7	1.90	15.59	5.93	9.66	46.00	-30.41	Average	neutral		
8	1.90	19.60	9.94	9.66	56.00	-36.40	QP	neutral		
9	7.66	15.08	5.32	9.76	50.00	-34.92	Average	neutral		
10	7.66	20.83	11.07	9.76	60.00	-39.17	QP	neutral		
11	14.13	24.60	14.78	9.82	50.00	-25.40	Average	neutral		
12	14.13	30.16	20.34	9.82	60.00	-29.84	QP	neutral		