



Prüfbericht-Nr.: <i>Test report no.:</i>	CN25X34F 001	Auftrags-Nr.: <i>Order no.:</i>	48276826	Seite 1 von 25 Page 1 of 25
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2025-05-15	
Auftraggeber: <i>Client:</i>	CUB ELECPARTS INC. No. 6, Lane 546, Sec. 6, Changlu Road, Fuhsin Township, Changhua County, Taiwan			
Prüfgegenstand: <i>Test item:</i>	Truck TPMS Sensor			
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	TPM111			
Auftrags-Inhalt: <i>Order content:</i>	FCC Part 15C Test report (433.92 MHz)			
Prüfgrundlage: <i>Test specification:</i>	FCC CFR47 Part 15: Subpart C Section 15.231			
Wareneingangsdatum: <i>Date of sample receipt:</i>	2025-05-23			
Prüfmuster-Nr.: <i>Test sample no.:</i>	A004002228-001, 002 A004002228-003, 004			
Prüfzeitraum: <i>Testing period:</i>	2025-05-29 - 2025-07-01			
Ort der Prüfung: <i>Place of testing:</i>	EMC/RF Taipei Testing Site			
Prüflaboratorium: <i>Testing laboratory:</i>	Taipei Testing Laboratories			
Prüfergebnis*: <i>Test result*:</i>	Pass			
zusammengestellt von: <i>compiled by:</i>			genehmigt von: <i>authorized by:</i>	
Datum: <i>Date:</i>	2025-07-04		Ausstellungsdatum: <i>Issue date:</i>	2025-07-04
Stellung / Position:	Senior Project Manager		Stellung / Position:	Senior Project Manager
Sonstiges / Other:	This product supports Tx function only.			
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>	Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
* 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
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>				

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Anmerkungen
Remarks

1	Alle eingesetzten Prüfmittel waren zum angegebenen Prüfzeitraum gemäß eines festgelegten Kalibrierungsprogramms unseres Prüfhauses kalibriert. Sie entsprechen den in den Prüfprogrammen hinterlegten Anforderungen. Die Rückverfolgbarkeit der eingesetzten Prüfmittel ist durch die Einhaltung der Regelungen unseres Managementsystems gegeben. Detaillierte Informationen bezüglich Prüfkonditionen, Prüfequipment und Messunsicherheiten sind im Prüflabor vorhanden und können auf Wunsch bereitgestellt werden. <i>The equipment used during the specified testing period was calibrated according to our test laboratory calibration program. The equipment fulfils the requirements included in the relevant standards. The traceability of the test equipment used is ensured by compliance with the regulations of our management system. Detailed information regarding test conditions, equipment and measurement uncertainty is available in the test laboratory and could be provided on request.</i>
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3	Prüfklausel mit der Note * wurden an qualifizierte Unterauftragnehmer vergeben und sind unter der jeweiligen Prüfklausel des Berichts beschrieben. Abweichungen von Prüfspezifikation(en) oder Kundenanforderungen sind in der jeweiligen Prüfklausel im Bericht aufgeführt. <i>Test clauses with remark of * are subcontracted to qualified subcontractors and described under the respective test clause in the report.</i> <i>Deviations of testing specification(s) or customer requirements are listed in specific test clause in the report.</i>
4	Die Entscheidungsregel für Konformitätserklärungen basierend auf numerischen Messergebnissen in diesem Prüfbericht basiert auf der "Null-Grenzwert-Regel" und der "Einfachen Akzeptanz" gemäß ILAC G8:2019 und IEC Guide 115:2023, es sei denn, in der auf Seite 1 dieses Berichts genannten angewandten Norm ist etwas anderes festgelegt oder vom Kunden gewünscht. Dies bedeutet, dass die Messunsicherheit nicht berücksichtigt wird und daher auch nicht im Prüfbericht angegeben wird. Zu weiteren Informationen bezüglich des Risikos durch diese Entscheidungsregel siehe ILAC G8:2019. <i>The decision rule for statements of conformity, based on numerical measurement results, in this test report is based on the "Zero Guard Band Rule" and "Simple Acceptance" in accordance with ILAC G8:2019 and IEC Guide 115:2023, unless otherwise specified in the applied standard mentioned on Page 1 of this report or requested by the customer. This means that measurement uncertainty is not taken in account and hence also not declared in the test report. For additional information to the resulting risk based of this decision rule please refer to ILAC G8:2019.</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(e)	Pulse Width / TX Gap	Pass
5.1.4	15.231(e)	Field Strength of Fundamental Emissions	Pass
5.1.5	15.231(e) & 15.205 & 15.209	Radiated Spurious Emissions	Pass
-	15.207	Mains Conducted Emission	Not Applicable

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 SPURIOUS EMISSIONS**APPENDIX SP - PHOTOGRAPHS OF TEST SETUP****APPENDIX EP - PHOTOGRAPHS OF EUT**

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HISTORY OF THIS TEST REPORT

Revision	Description	Date Issued
R01	Original Release	2025-07-04

1. General Remarks

1.1 Complementary Materials

The following attachments are integral parts of this test report:

Appendix A - Test Result of Radiated Spurious Emissions

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)	± 1.32 dB
Radiated Emission (200 MHz ~ 1 GHz)	± 1.31 dB
Radiated Emission (1 GHz ~ 18 GHz)	± 1.53 dB
Radiated Emission (18 GHz ~ 40 GHz)	± 2.50 dB
Mains Conducted Emission	± 1.65 dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a Truck TPMS Sensor working at 433.92 MHz.
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	Truck TPMS Sensor
Type Identification	TPM111
FCC ID	ZPNTPM111

Technical Specification of EUT

Item	EUT information
Operating Frequency	433.92 MHz
Operation Voltage	3Vdc (Battery)
Modulation	ASK, FSK
Field Strength	ASK: 68.36 dBuV/m @3m FSK: 73.79 dBuV/m @3m
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 the power on.

The samples were used as follows:

A004002228-001, 002 for Conducted Test

A004002228-003, 004 for Radiated Test

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	
ASK	√	√	√	√	-	-
FSK	√	√	√	√	-	-

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when position on **X-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 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

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

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Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
20 dB Bandwidth	18.4-18.8 °C	54-66 %	Nick Hsu
Pulse Width / TX Gap	18.4-18.8 °C	54-66 %	Nick Hsu
Field Strength of Fundamental	22.3-22.5 °C	52-53 %	Ivan Chiang
Radiated Spurious Emissions	22.3-22.5 °C	52-53 %	Ivan Chiang

4.3 Special Accessories and Auxiliary Equipment

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

Accessory of EUT

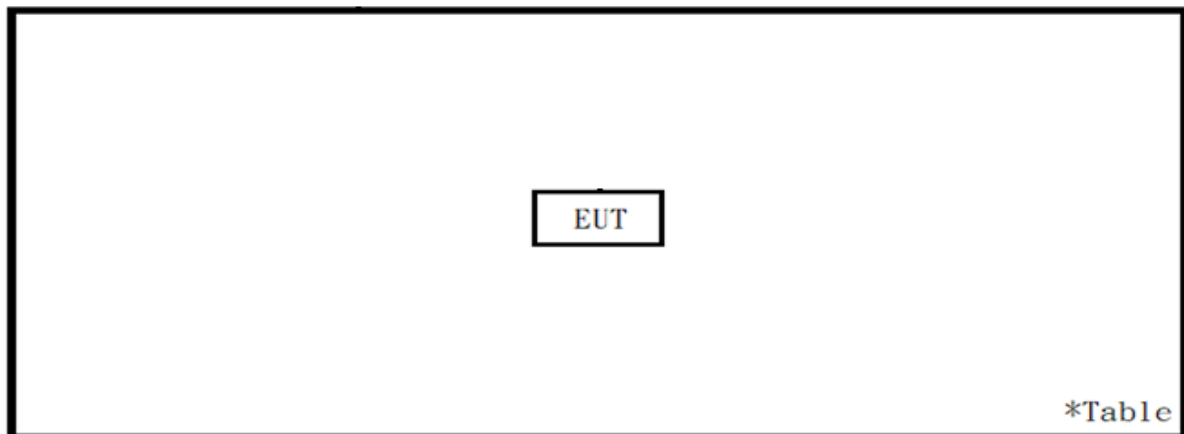
None.

Support Unit

None.

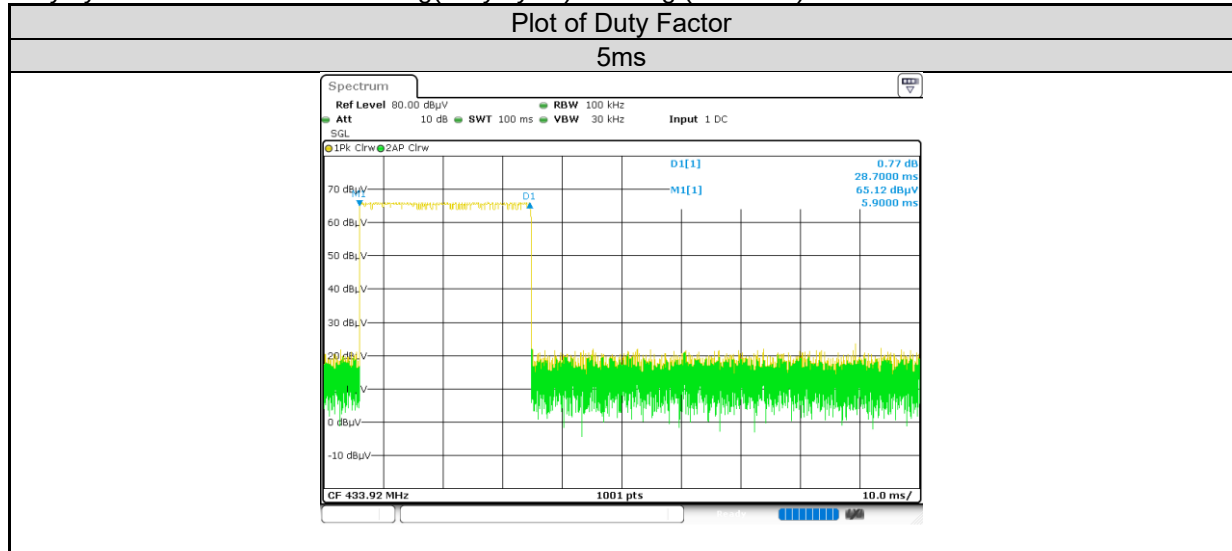
4.4 Test Setup Diagram

<Radiated Spurious Emissions Mode>



4.5 Duty Cycle of Test Signal

Duty cycle correction factor = $20 \log(\text{Duty cycle}) = 20 \log(28.7/100) = -10.84 \text{ dB}$



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Antenna Requirement

Requirement Use of approved antennas only

According to the manufacturer declaration, the EUT has an antenna with a directional gain of -6.5 dBi. The antenna is monopole antennawith 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.

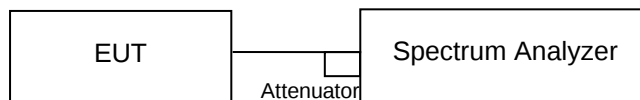
5.1.2 20 dB Bandwidth and Occupied Bandwidth

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. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Kind of Test Site Shielded room

Test Setup



Test Instruments

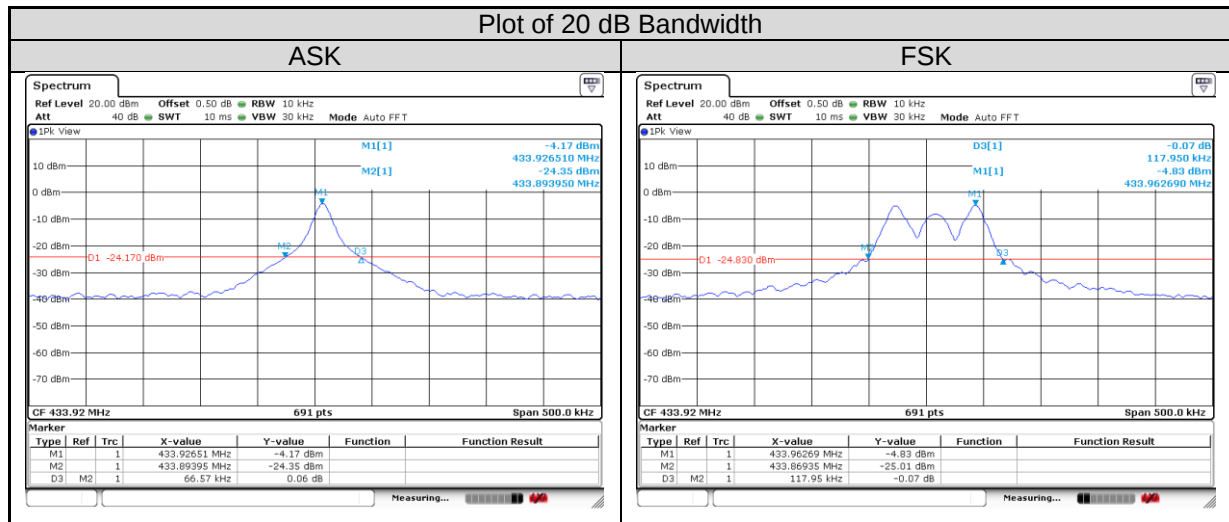
Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV	101512	2025/02/26	2026/02/25	2025/6/11	2025/6/11

Test Procedures

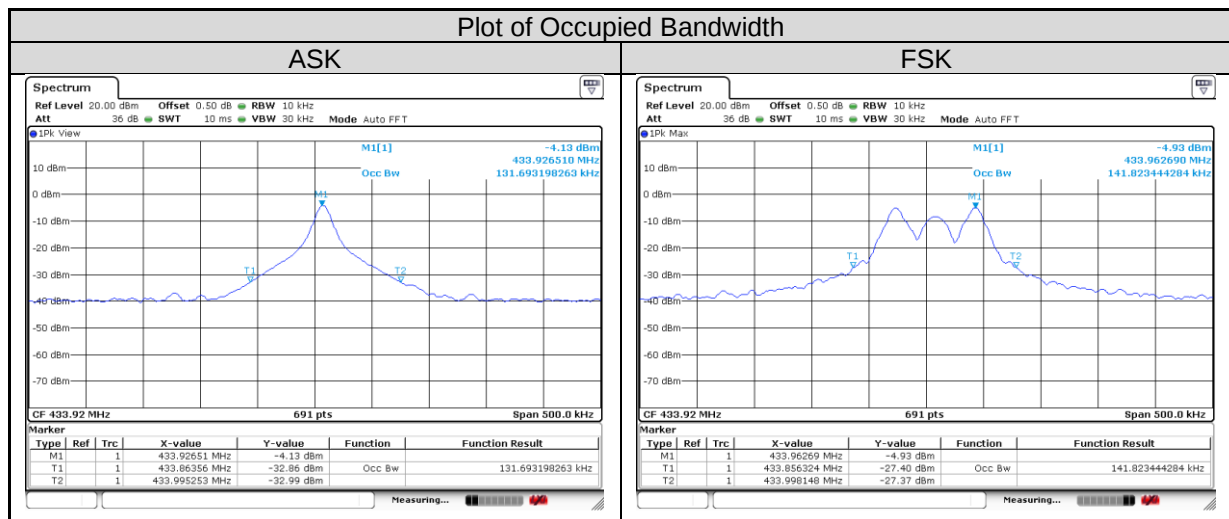
- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring 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.

Test Results

Mode	Channel Frequency (MHz)	20 dB Bandwidth (kHz)	Limit (kHz)
ASK	433.92	66.57	1084.80
FSK	433.92	117.95	1084.80



Mode	Channel Frequency (MHz)	Occupied Bandwidth (kHz)
ASK	433.92	131.69
FSK	433.92	141.82



5.1.3 Pulse Width/TX Gap

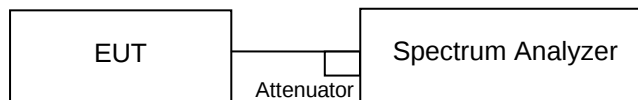
Limit

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.
√	The device has automatic control mechanism such that each transmission time (Pulse width) is shorter than 1 second and stop duration of a transmission period (TX gap) is longer than 10 seconds and is not shorter than transmission time multiplied by 30.
	Periodic transmissions at regular predetermined intervals are not permitted. However, polling or supervision transmissions used in security or safety applications shall be allowed if the total periodic rate of transmission is less than or equal to two seconds duration per hour for each transmitter.

Kind of Test Site Shielded room

Test Setup



Test Instruments

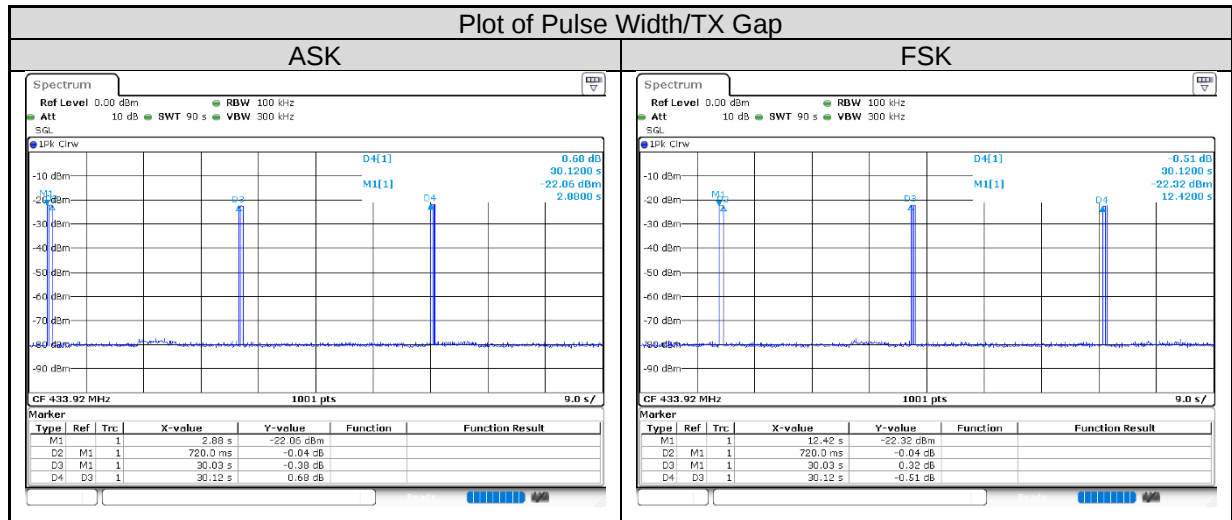
Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	R&S	FSV	101512	2025/02/26	2026/02/25	2025/6/11	2025/6/11

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

Mode	Channel Frequency (MHz)	Time Off (ms)	Time On (ms)	Limit (ms)		Result
ASK	433.92	30030	720	Ton <1000	Toff > 21600	Pass
FSK	433.92	30030	720	Ton <1000	Toff > 21600	Pass

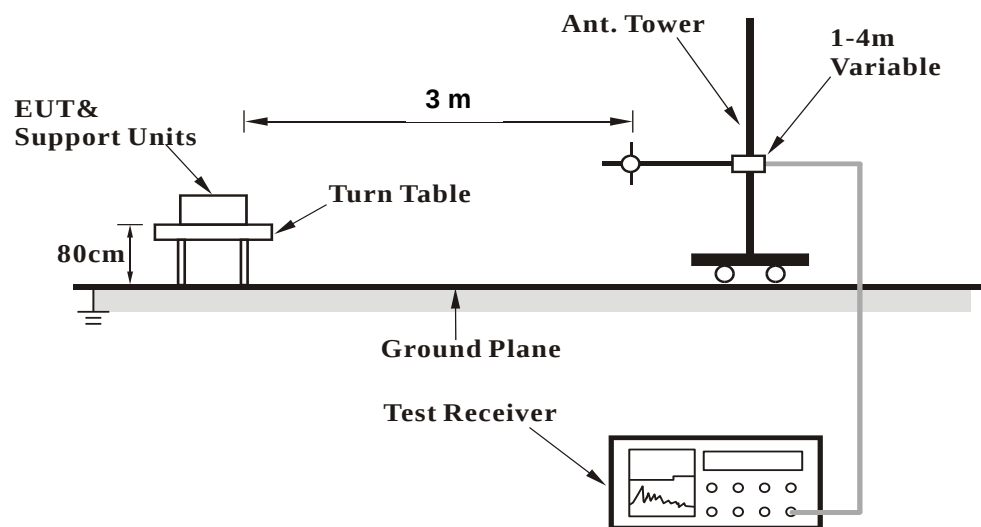


5.1.4 Field Strength of Fundamental Emissions

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

ASK Mode Test Date: 2025/7/1 , FSK Mode Test Date: 2025/5/29

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Above 1 GHz					
Signal Analyzer	R&S	FSV40	101508	2025/4/29	2026/4/28
Horn Antenna	ETS-Lindgren	3117	00218929	2024/11/21	2025/11/20
HF-AMP + AC source	EMCI	EMC051845SE	980633	2025/1/15	2026/1/14
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A
30 MHz – 1 GHz					
Receiver	R&S	ESR7	102109	2025/2/13	2026/2/12
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2025/4/8	2026/4/7
LF-AMP	Agilent	8447D	2727A05146	2025/1/15	2026/1/14
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A
Below 30 MHz					
Receiver	R&S	ESR7	102109	2025/2/13	2026/2/12
Loop Antenna	SCHWARZBECK	FMZB 1519B	00215	2024/12/11	2025/12/10
Test Software	Audix E3	15914a_20191106 tuv	PK-001087	N/A	N/A

Test Procedures

- a. 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.
- 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 peak and average detect function and specified bandwidth with maximum hold mode.

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

NCC LP0002 4.4.2.5(2)

433.92MHz, $\mu\text{V/m}$ at 3 meters = $16.6667 \times (433.92\text{MHz}) - 2833.3333 = 4398.68 \mu\text{V/m}$
 $20\log(4398.68) = 72.87 \text{ dB}\mu\text{V/m}$ (Average Limit)
 $72.87 + 20 = 92.87 \text{ dB}\mu\text{V/m}$ (Peak Limit)

Test Results

The EUT employs pulsed operation.

Mode	Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Antenna Orientation	Detector or calculated value
ASK	433.92	60.26	92.87	Horizontal	Peak
		49.42	72.87		Average
		68.36	92.87	Vertical	Peak
		57.52	72.87		Average
FSK		63.71	92.87	Horizontal	Peak
		34.91	72.87		Average
		73.79	92.87	Vertical	Peak
		41.21	72.87		Average

5.1.5 Radiated Spurious Emissions

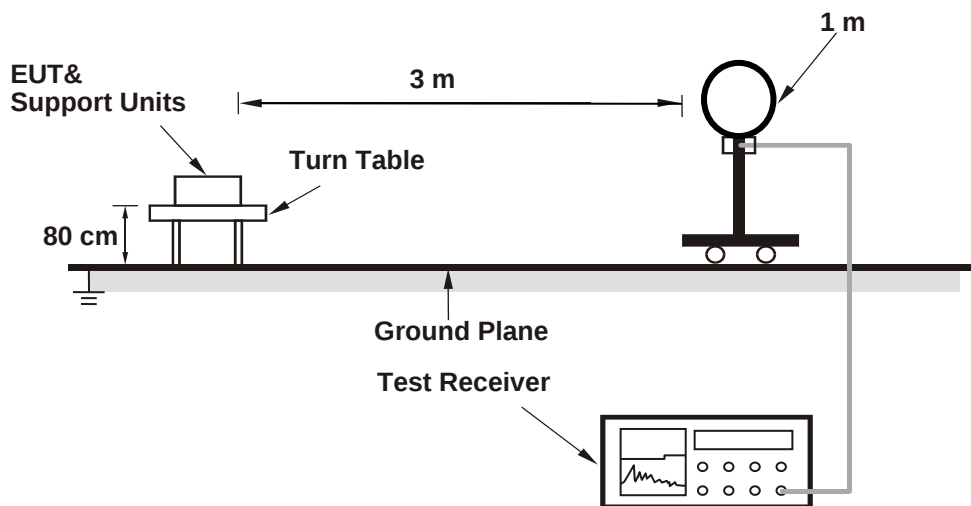
Limit

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).

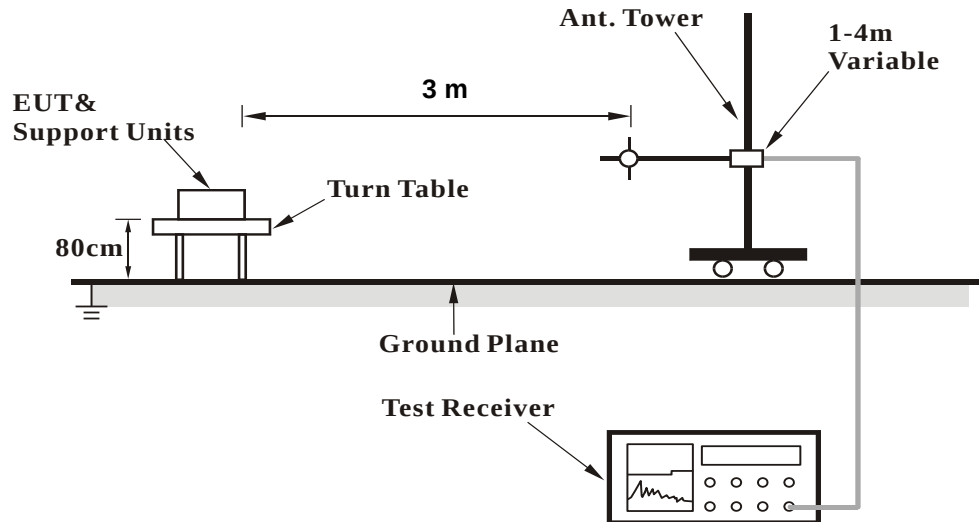
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

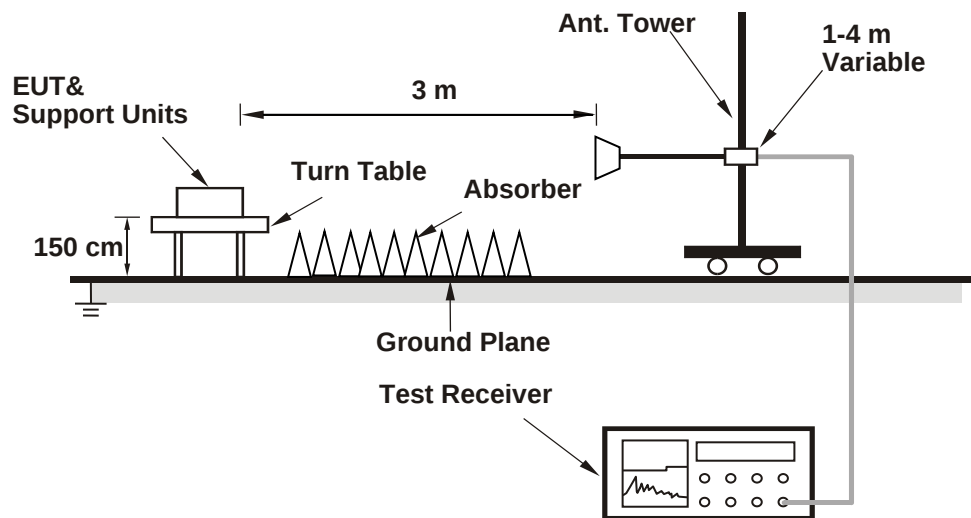
<Radiated Emissions below 30 MHz>



<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.

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) – Amplifier (dB)

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

Please refer to Appendix A.

Appendix A: Test Results of Radiated Spurious Emissions

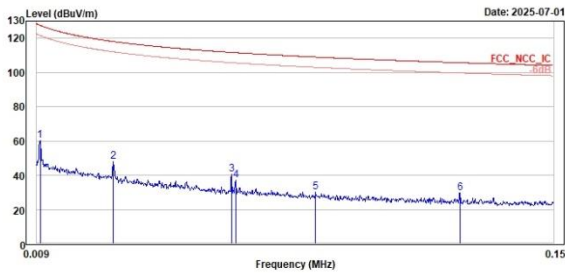
Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

ASK

9kHz~150kHz(Open)



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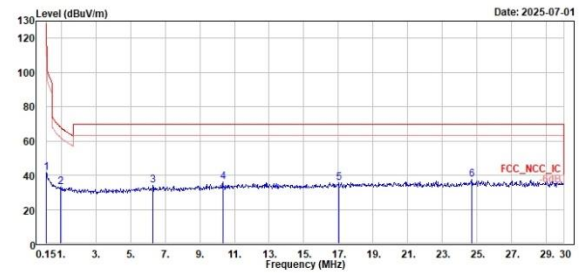


	Freq	Level	Read	Limit	Over	Apos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	0.01	60.07	41.95	18.12	127.60	-67.53	100	299 Peak	Open	
2	0.03	47.91	27.09	20.02	118.05	-70.14	100	106 Peak	Open	
3	0.06	40.29	22.24	18.05	111.72	-71.43	100	32 Peak	Open	
4	0.06	37.21	19.09	18.12	111.57	-74.36	100	0 Peak	Open	
5	0.09	30.40	12.28	18.12	108.99	-78.59	100	15 Peak	Open	
6	0.12	29.56	11.38	18.18	105.70	-76.14	100	233 Peak	Open	

150kHz~30MHz(Open)



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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	0.15	41.60	23.26	18.34	104.00	-62.48	100	233 Peak	Open	
2	0.96	33.22	14.39	18.83	68.00	-34.78	100	173 Peak	Open	
3	6.30	33.89	13.12	20.77	69.50	-35.61	100	215 Peak	Open	
4	10.33	36.13	14.72	21.41	69.50	-33.37	100	80 Peak	Open	
5	17.02	35.72	13.38	22.34	69.50	-33.78	100	51 Peak	Open	
6	24.69	37.35	14.33	23.02	69.50	-32.15	100	26 Peak	Open	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

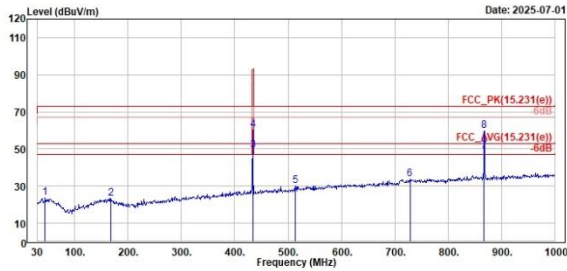
ASK

Horizontal

Vertical



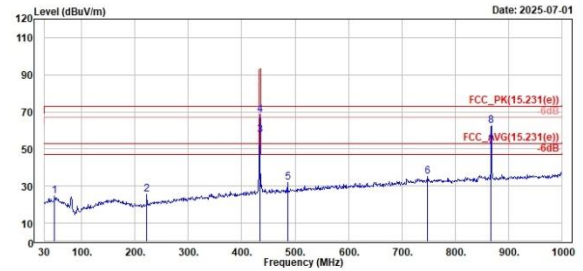
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	44.55	23.63	29.79	-6.16	72.87	-49.24	200	305	Peak	Horizontal	
2	167.74	23.47	29.26	-5.79	72.87	-49.40	400	241	Peak	Horizontal	
3	433.92	49.42	51.19	-1.77	72.87	-23.45	200	301	Average	Horizontal	CF
4	433.92	60.26	62.03	-1.77	92.87	-32.61	200	301	Peak	Horizontal	
5	513.06	30.02	30.39	-0.37	72.87	-42.85	200	323	Peak	Horizontal	
6	728.40	33.02	30.12	3.70	72.87	-39.05	300	230	Peak	Horizontal	
7	867.84	49.00	43.40	5.60	52.87	-3.87	100	333	Average	Horizontal	CF
8	867.84	59.84	54.24	5.60	72.87	-13.03	100	333	Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	49.40	24.55	30.27	-5.72	72.87	-48.32	100	254	Peak	Vertical	
2	222.06	25.30	33.28	-7.98	72.87	-47.49	100	90	Peak	Vertical	
3	433.92	57.52	59.29	-1.77	72.87	-15.35	143	360	Average	Vertical	CF
4	433.92	68.36	70.13	-1.77	92.87	-24.51	143	360	Peak	Vertical	
5	485.90	31.98	32.95	-0.97	72.87	-40.89	100	250	Peak	Vertical	
6	748.77	34.92	30.81	4.11	72.87	-37.95	100	157	Peak	Vertical	
7	867.84	51.74	46.14	5.60	52.87	-1.13	136	360	Average	Vertical	CF
8	867.84	62.58	56.98	5.60	72.87	-10.29	136	360	Peak	Vertical	

Spurious Emissions, Tx Mode, 1GHz ~ 5GHz

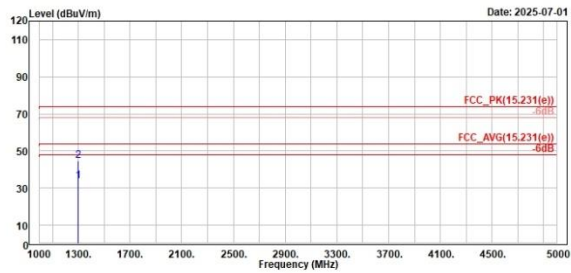
ASK

Horizontal

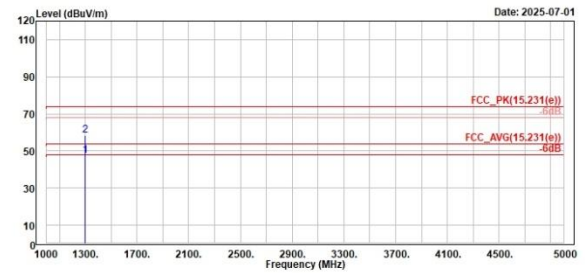
Vertical



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Spurious Emissions, Tx Mode, 9kHz ~ 30MHz

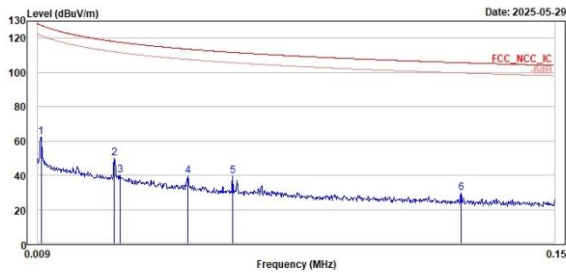
FSK

9kHz~150kHz(Open)

150kHz~30MHz(Open)



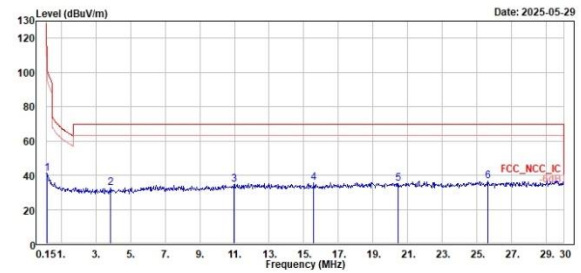
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.01	62.38	44.26	18.12	127.60	-65.22	100	334	Peak	Open	
2	0.03	49.88	29.86	20.02	118.05	-68.17	100	244	Peak	Open	
3	0.03	39.81	19.95	19.86	117.61	-77.80	100	337	Peak	Open	
4	0.05	39.54	20.52	19.02	113.61	-74.07	100	44	Peak	Open	
5	0.06	39.58	21.53	18.05	111.72	-72.14	100	200	Peak	Open	
6	0.12	29.86	11.68	18.18	105.70	-75.84	100	223	Peak	Open	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	0.18	41.25	22.73	18.52	102.50	-61.25	100	76	Peak	Open	
2	3.05	32.64	13.29	19.35	69.50	-36.86	100	168	Peak	Open	
3	10.99	34.45	12.90	21.55	69.50	-35.05	100	316	Peak	Open	
4	15.58	35.47	13.68	21.79	69.50	-34.03	100	138	Peak	Open	
5	20.45	35.34	12.55	22.79	69.50	-34.16	100	321	Peak	Open	
6	25.64	36.77	13.75	23.02	69.50	-32.73	100	81	Peak	Open	

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz

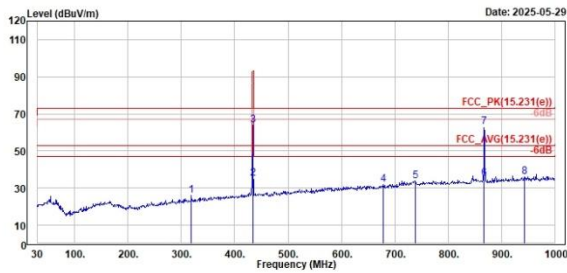
FSK

Horizontal

Vertical



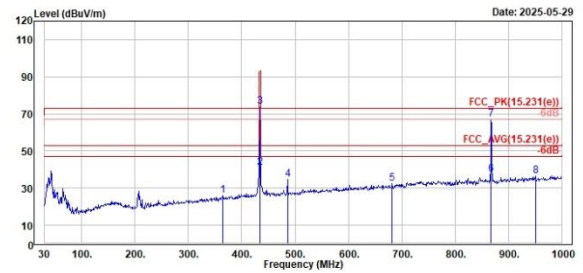
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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	319.06	26.01	30.16	-4.15	72.87	-46.86	200		48 Peak	Horizontal	
2	433.92	34.91	36.68	-1.77	72.87	-37.96	100		152 Average	Horizontal	
3	433.92	63.71	65.48	-1.77	92.87	-29.16	100		152 Peak	Horizontal	
4	678.93	32.12	29.31	2.81	72.87	-40.75	300		308 Peak	Horizontal	
5	738.10	33.79	30.06	3.73	72.87	-39.08	200		68 Peak	Horizontal	
6	867.84	35.07	29.47	5.60	52.87	-17.80	100		129 Average	Horizontal	
7	867.84	63.00	57.40	5.60	72.87	-9.87	100		129 Peak	Horizontal	
8	942.77	35.97	29.25	6.72	72.87	-36.90	100		0 Peak	Horizontal	



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	Freq	Level	Read	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1	364.65	25.79	29.03	-3.24	72.87	-47.08	100		266 Peak	Vertical	
2	433.92	41.21	42.98	-1.77	72.87	-31.66	140		80 Average	Vertical	
3	433.92	73.79	75.56	-1.77	92.87	-19.08	140		80 Peak	Vertical	
4	485.90	34.48	35.45	-0.97	72.87	-38.39	100		282 Peak	Vertical	
5	681.84	32.19	29.35	2.84	72.87	-40.68	300		92 Peak	Vertical	
6	867.84	37.44	31.84	5.60	52.87	-15.43	120		113 Average	Vertical	
7	867.84	67.28	61.68	5.60	72.87	-5.59	120		113 Peak	Vertical	
8	950.53	36.30	29.52	6.78	72.87	-36.57	300		253 Peak	Vertical	

Spurious Emissions, Tx Mode, 1GHz ~ 5GHz

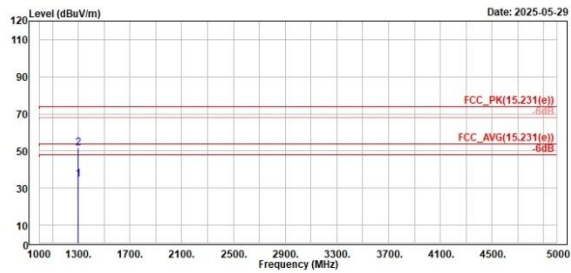
FSK

Horizontal

Vertical



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