

Prüfbericht-Nr.: <i>Test report no.:</i>	CN21UY11(P15C-433MHz) 001	Auftrags-Nr.: <i>Order no.:</i>	238492924	Seite 1 von 28 Page 1 of 28	
Kunden-Referenz-Nr.: <i>Client reference no.:</i>	N/A	Auftragsdatum: <i>Order date:</i>	2020-10-19		
Auftraggeber: <i>Client:</i>	Microchip Technology Inc. 2355 West Chandler Blvd. Chandler, AZ 85224-6199, USA				
Prüfgegenstand: <i>Test item:</i>	ATAB5702A				
Bezeichnung / Typ-Nr.: <i>Identification / Type no.:</i>	EV06Z22A				
Auftrags-Inhalt: <i>Order content:</i>	FCC Part 15C Test report				
Prüfgrundlage: <i>Test specification:</i>	FCC CFR47 Part 15: Subpart C Section 15.231				
Wareneingangsdatum: <i>Date of sample receipt:</i>	2020-10-20				
Prüfmuster-Nr.: <i>Test sample no.:</i>	A002935351-009 A002935351-010				
Prüfzeitraum: <i>Testing period:</i>	2020-11-09 - 2020-12-02				
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				
überprüft von: <i>reviewed by:</i>		genehmigt von: <i>authorized by:</i>			
Datum: <i>Date:</i>	2020-12-15	Ausstellungsdatum: <i>Issue date:</i>	2020-12-15		
Stellung / Position:	Kenji Lin Laboratory Manager	Stellung / Position:	Brenda Chen Senior Project Manager		
Sonstiges / Other:					
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	5 = mangelhaft N/T = nicht getestet
* 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 = poor N/T = not tested
<p>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></p>					

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
-	15.207	Mains Conducted Emission	Not Applicable
-	FCC KDB 447498 D01 v06	RF Exposure Compliance	Refer to report no. CN21UYI1(FCC-RFEXP) 001

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

Contents

HISTORY OF THIS TEST REPORT	5
1. GENERAL REMARKS	6
1.1 COMPLEMENTARY MATERIALS.....	6
1.2 DECISION RULE OF CONFORMITY	6
2. TEST SITES	7
2.1 TEST LABORATORY	7
2.2 TEST FACILITY.....	7
2.3 TRACEABILITY	8
2.4 CALIBRATION	8
2.5 MEASUREMENT UNCERTAINTY	8
3. GENERAL PRODUCT INFORMATION.....	9
3.1 PRODUCT FUNCTION AND INTENDED USE	9
3.2 SYSTEM DETAILS AND RATINGS.....	9
3.3 NOISE GENERATING AND NOISE SUPPRESSING PARTS	10
3.4 SUBMITTED DOCUMENTS.....	10
4. TEST SET-UP AND OPERATION MODES.....	11
4.1 PRINCIPLE OF CONFIGURATION SELECTION	11
4.2 TEST OPERATION AND TEST SOFTWARE.....	11
4.3 SPECIAL ACCESSORIES AND AUXILIARY EQUIPMENT	12
4.4 TEST SETUP DIAGRAM	12
5. TEST RESULTS	13
5.1 TRANSMITTER REQUIREMENT & TEST SUITES	13
5.1.1 <i>Antenna Requirement</i>	<i>13</i>
5.1.2 <i>20 dB Bandwidth</i>	<i>14</i>
5.1.3 <i>Pulse Width/TX Gap.....</i>	<i>17</i>
5.1.4 <i>Field Strength of Fundamental Emissions</i>	<i>22</i>
5.1.5 <i>Radiated Spurious Emissions</i>	<i>25</i>

Prüfbericht - Nr.: CN21UYI1(P15C-433MHz) 001
Test Report No.

Seite 4 von 28
Page 4 of 28

APPENDIX A - TEST RESULT OF RADIATED EMISSIONS

APPENDIX SP - PHOTOGRAPHS OF TEST SETUP

APPENDIX EP - PHOTOGRAPHS OF EUT

Prüfbericht - Nr.: CN21UYI1(P15C-433MHz) 001
Test Report No.

Seite 5 von 28
Page 5 of 28

HISTORY OF THIS TEST REPORT

Report No.	Description	Date Issued
CN21UYI1(P15C-433MHz) 001	Original Release	2020-12-15

1. General Remarks

1.1 Complementary Materials

The following attachments are integral parts of this test report:

Appendix A - Test Result of Radiated 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
KDB 447498 D01 General RF Exposure Guidance v06

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.: 226631
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 equipment (EV06Z22A/ ATAB5702A) is an evaluation board of the ATAK51005-V1 kit, which operating on 434MHz 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	ATAB5702A
Type Identification	EV06Z22A
FCC ID	2ADHK06Z22

Technical Specification of EUT

Item	EUT information	
Modulation	ASK	FSK
Operating Frequency	433.92 MHz	433.47, 433.92, and 434.35 MHz
Operation Voltage	3.3 Vdc	
Antenna Information	Refer to 5.1.1	
Accessory Device	Refer to 4.3	

3.3 Noise Generating and Noise Suppressing Parts

Nothing mentioned explicitly. Please 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 provided with firmware for channel testing. Channel switching is by means of buttons, switching sequentially.

Test Software	None.
---------------	-------

The samples were used as follows:

A002935351-009 for FSK mode of conducted and radiated

A002935351-010 for ASK mode of conducted and radiated

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)
ASK	433.92	433.92
FSK	433.47 to 434.35	433.47, 433.92, 434.35

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)
ASK	433.92	433.92
FSK	433.47 to 434.35	433.47, 433.92, 434.35

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)
ASK	433.92	433.92
FSK	433.47 to 434.35	433.47, 433.92, 434.35

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)
ASK	433.92	433.92
FSK	433.47 to 434.35	433.47, 433.92, 434.35

Test Condition

Test Item	Ambient Temperature	Relative Humidity	Tested by
20 dB Bandwidth	22.4 °C	63.4 %	Stanislas Charles
Pulse Width / TX Gap	22.4 °C	63.4 %	Stanislas Charles
Field Strength of Fundamental	22 °C	55.4 %	Simon Tsai
Radiated Spurious Emissions	22 °C	55.4 %	Simon Tsai

4.3 Special Accessories and Auxiliary Equipment

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

Accessory of EUT

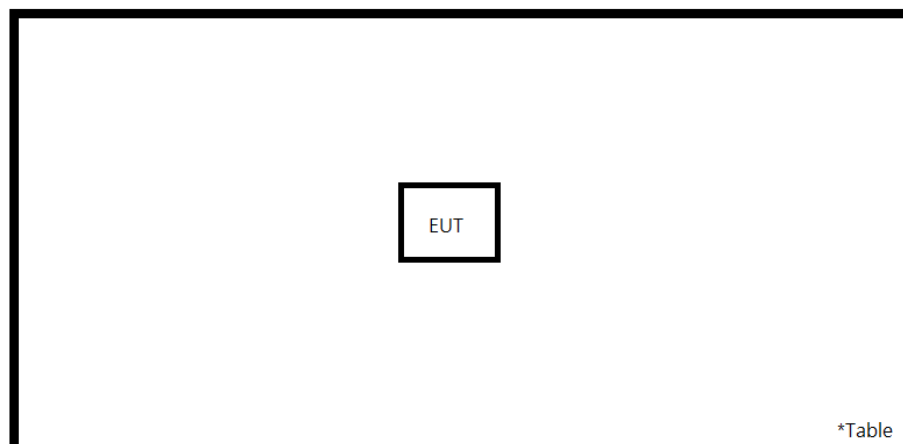
None.

Support Unit

No.	Description	Brand	Model	S/N	Remark
-	DC Cable	-	-	-	100 cm non-shielded cable w/o core
-	USB to DC Cable	-	-	-	180 m shielded cable w/o core

4.4 Test Setup Diagram

<Radiated Spurious Emissions mode>



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 -23.85 dBi. The antenna is a printed PCB trace 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.

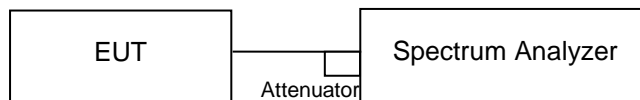
5.1.2 20 dB Bandwidth

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

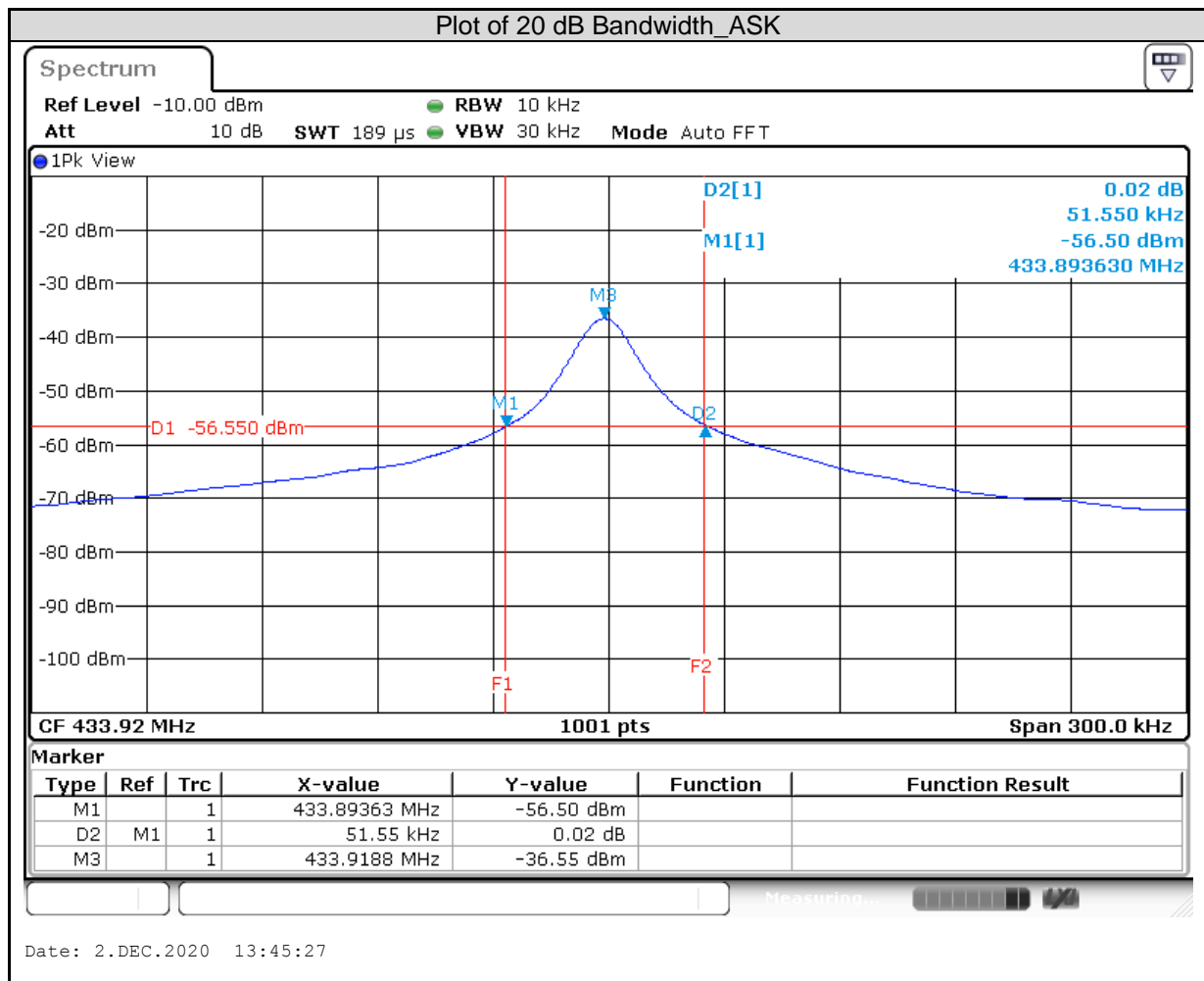
Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	Agilent	N9010A	MY53470241	2020/6/2	2021/6/1	2020/12/02	2020/12/02

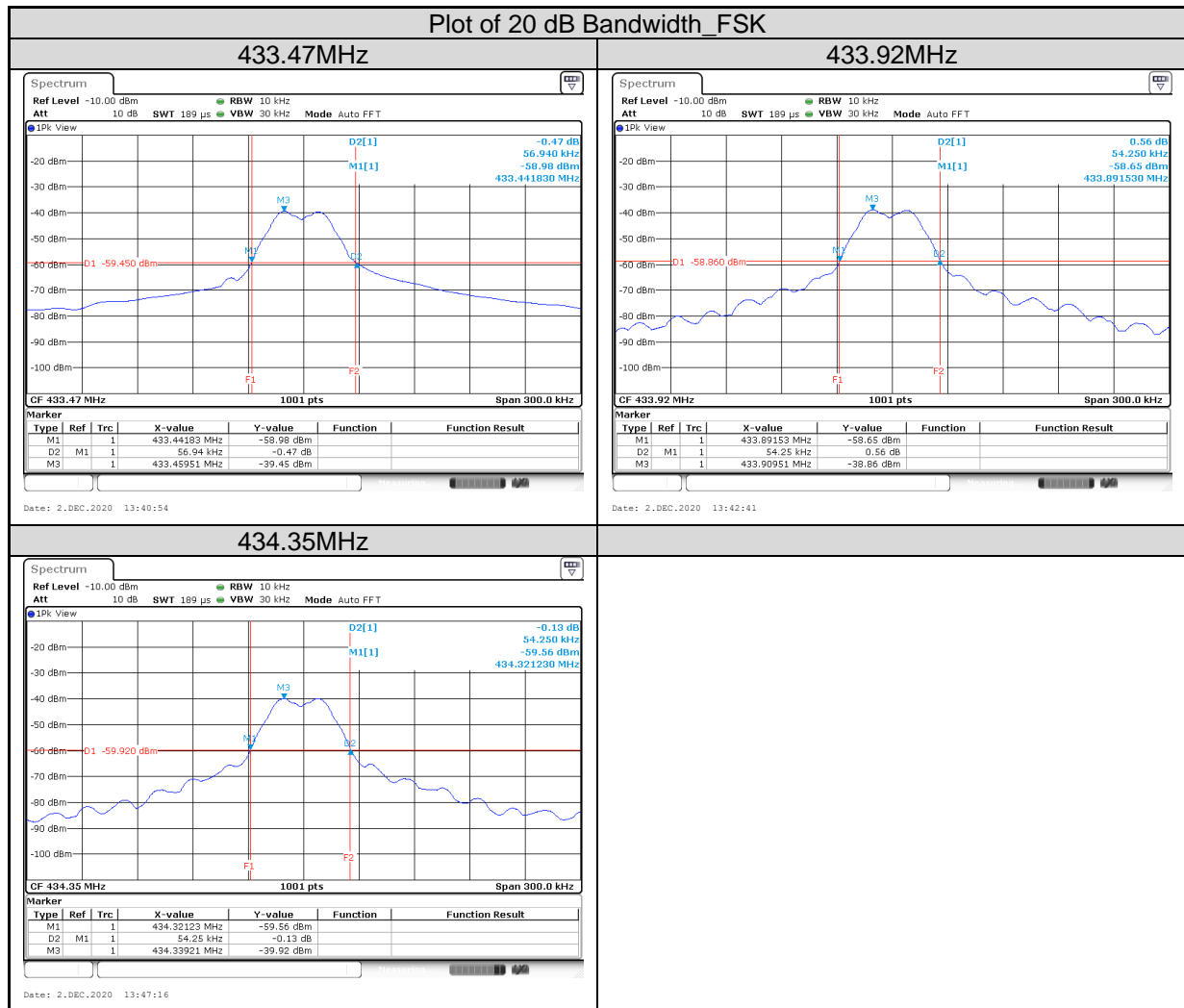
Test Procedures

- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. 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.
- c. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
- d. Repeat above procedures until all frequencies measured were complete.

Test Results

Channel Frequency (MHz)	20 dB Bandwidth (kHz)
433.92	51.55
433.47	56.94
433.92	54.25
434.35	54.25





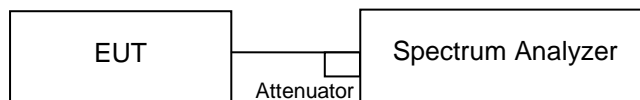
5.1.3 Pulse Width/TX Gap

Limit

For operation in 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

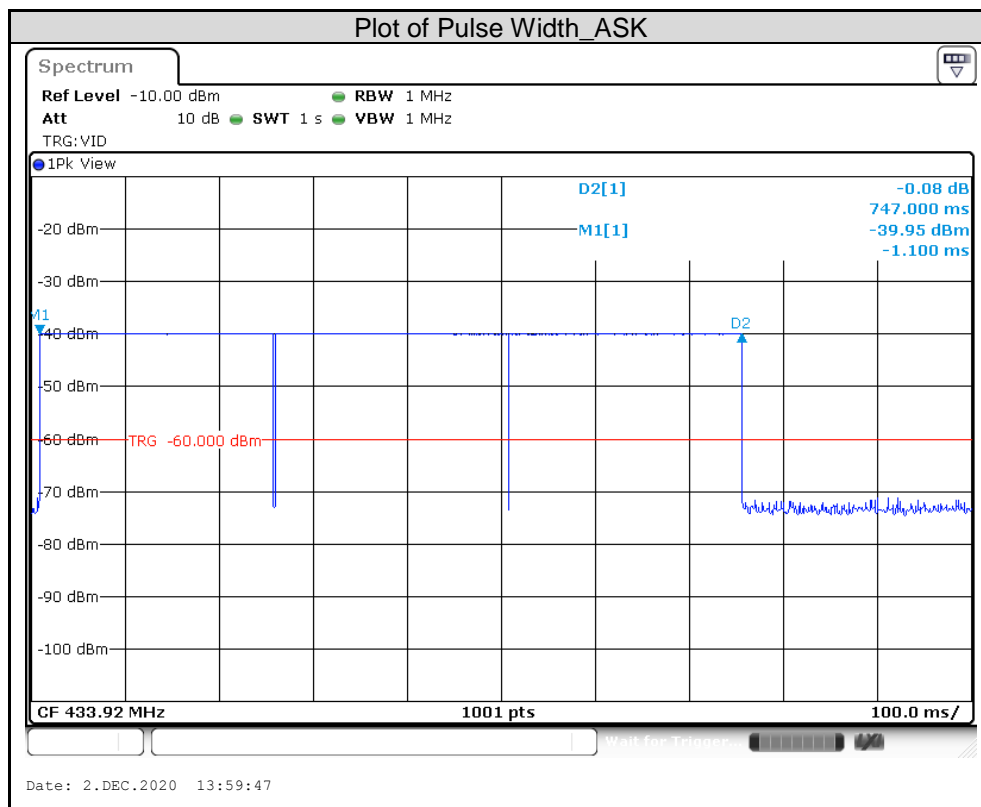
Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date	Test Date	
						From	Until
Spectrum Analyzer	Agilent	N9010A	MY53470241	2020/6/2	2021/6/1	2020/12/02	2020/12/02

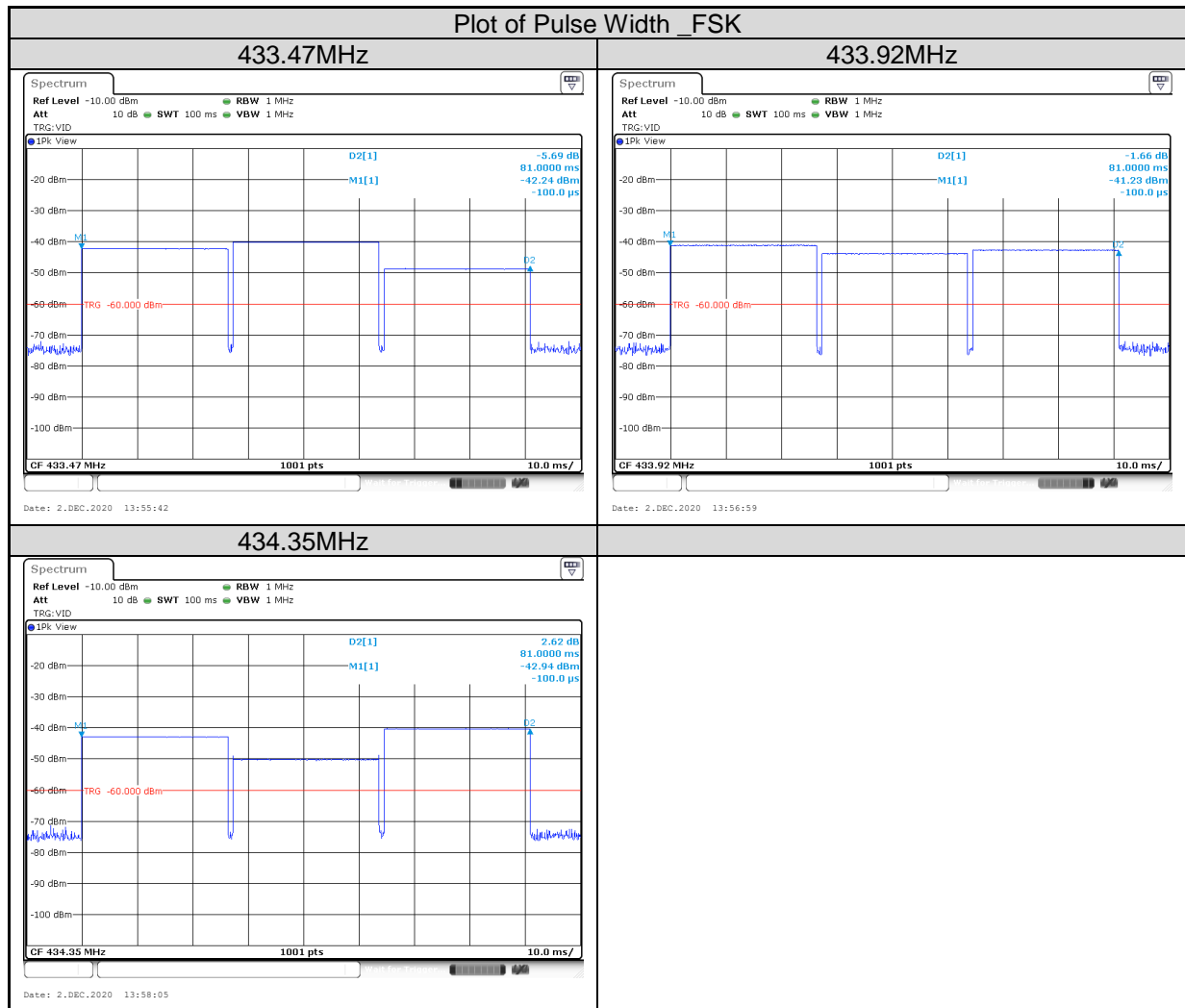
Test Procedures

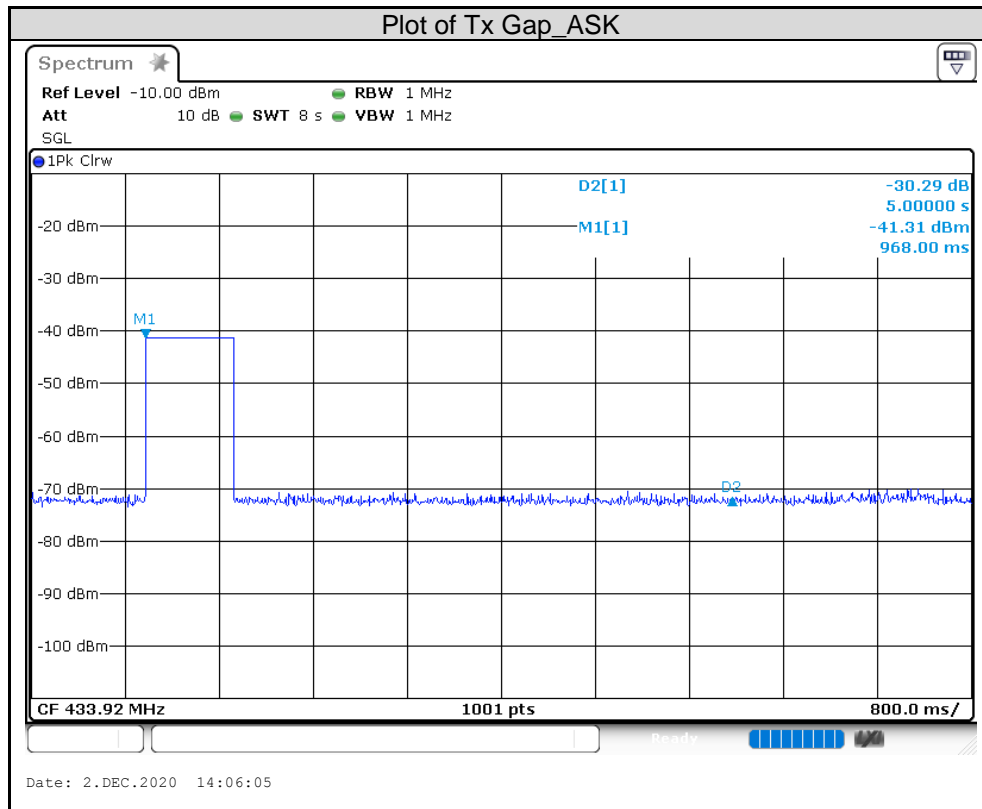
- a. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the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

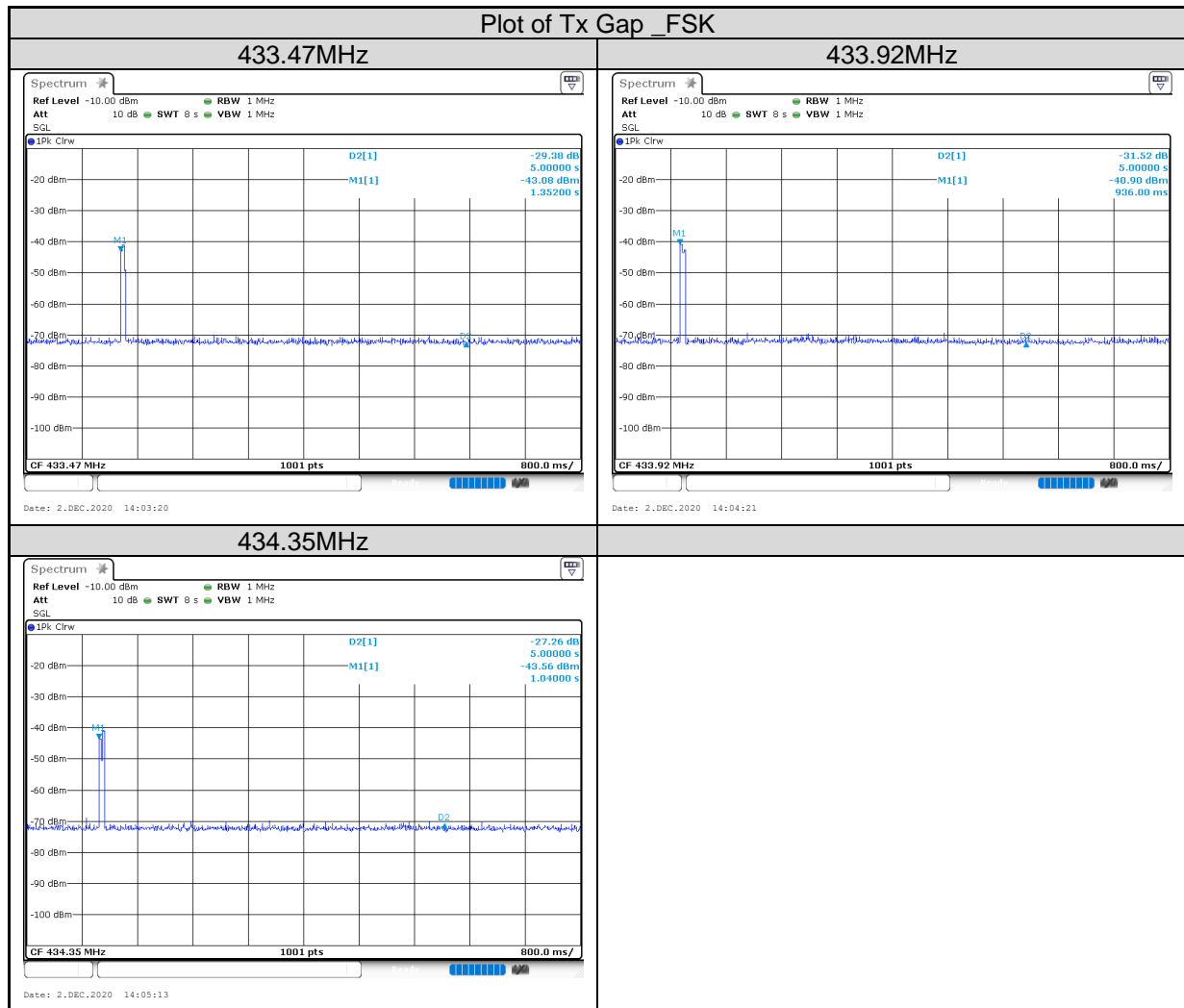
Test Results

Mode	Channel Frequency (MHz)	Pulse Width (ms)	Limit (ms)	Result
ASK	433.92	747	5000	Pass
FSK	433.47	81	5000	Pass
	433.92	81	5000	Pass
	434.35	81	5000	Pass







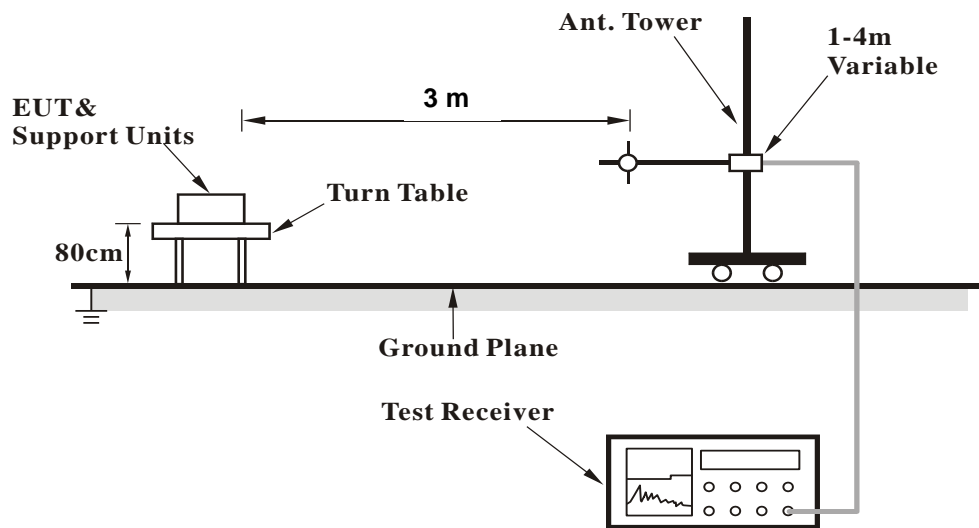


5.1.4 Field Strength of Fundamental Emissions

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).

Test Instruments

Kind of Equipment	Manufacturer	Type	S/N	Calibration Date	Calibration Due Date
Signal Analyzer	R&S	FSV40	101508	2020/3/16	2021/3/15
Receiver	R&S	ESR7	102108	2020/4/22	2021/4/21
Bilog Antenna	SCHWARZBECK	VULB-9168	00951	2020/2/14	2021/2/12
Horn Antenna	ETS-Lindgren	3117	00218930	2019/12/6	2020/12/4
LF-AMP	Agilent	8447D	2944A10772	2020/2/11	2021/2/9
HF-AMP + AC source	EMCI	EMC051845SE	980633	2020/2/17	2021/2/15
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104EA	800056/4EA	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104	804680/4	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 104	MY37202/4	2020/3/25	2021/3/24
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	800898/2EA	2020/4/22	2021/4/21
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	800901/2EA	2020/4/22	2021/4/21
Microwave Cable	HUBER+SUHNER	SUCOFLEX 102EA	801027/2EA	2020/4/22	2021/4/21
Loop Antenna	Chance Most	EMCILPA600 +calibration	287	2020/1/9	2021/1/7

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, Y and Z axis orientation. The worst-case Axis orientation is recorded in this test report.

Test Results
ASK

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Antenna Orientation	Detector or calculated value
433.92	78.50	92.87	Horizontal	Peak
433.92	72.43	72.87		Average
433.92	66.69	92.87	Vertical	Peak
433.92	60.62	72.87		Average

FSK

Frequency (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Antenna Orientation	Detector or calculated value
433.47	79.09	92.85	Horizontal	Peak
433.47	68.64	72.65		Average
433.47	65.51	92.85	Vertical	Peak
433.47	51.06	72.85		Average
433.92	78.80	92.87	Horizontal	Peak
433.92	68.35	72.87		Average
433.92	63.68	92.87	Vertical	Peak
433.92	52.23	72.87		Average
434.35	78.43	92.88	Horizontal	Peak
434.35	62.97	72.88		Average
434.35	62.45	92.88	Vertical	Peak
434.35	51.99	72.88		Average

5.1.5 Radiated Spurious Emissions

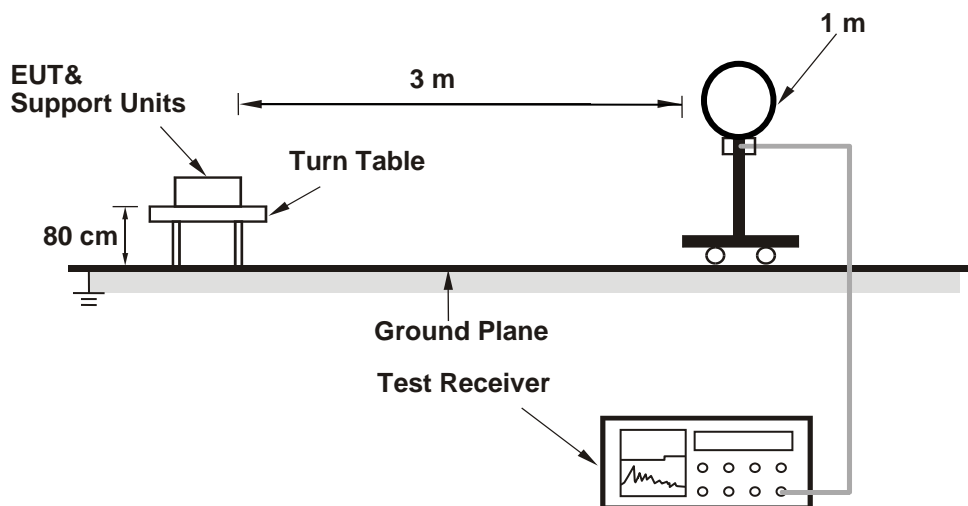
Limit

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).

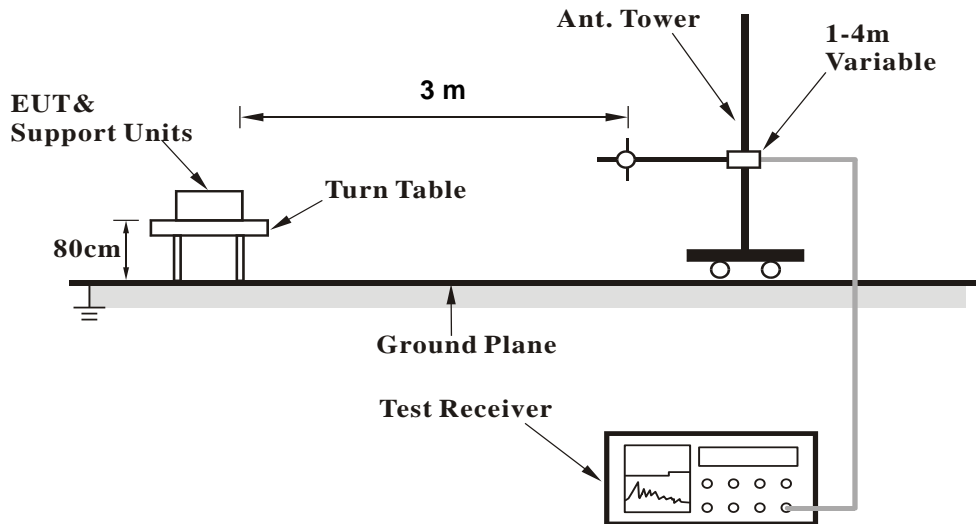
Kind of Test Site 3m Semi-Anechoic Chamber

Test Setup

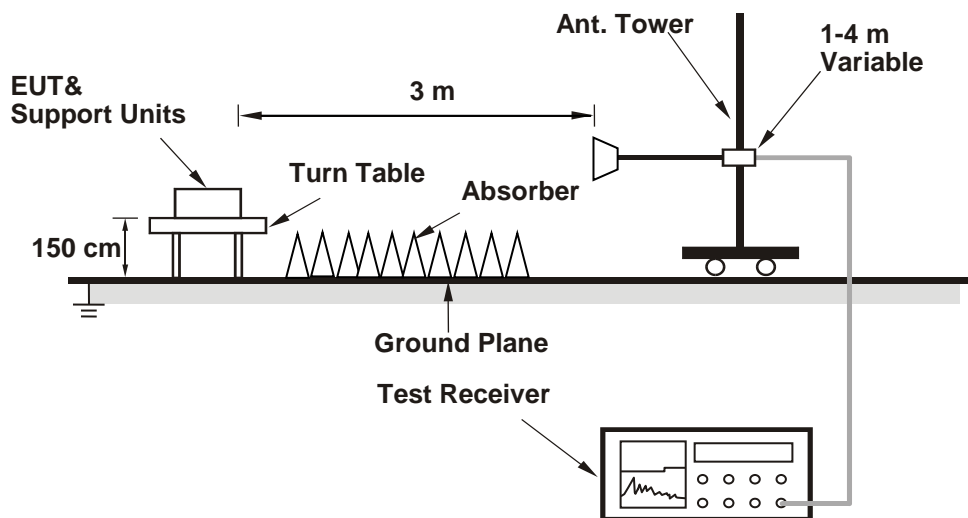
<Radiated Emissions below 30 MHz>



<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, Y and Z axis orientation. The worst-case Axis orientation is recorded in this test report.

Prüfbericht - Nr.: **CN21UYI1(P15C-433MHz) 001**
Test Report No.

Seite 28 von 28
Page 28 of 28

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.

Appendix A: Test Results of Radiated Spurious Emissions

Band Edges, 2.31GHz ~ 2.9GHz, ASK

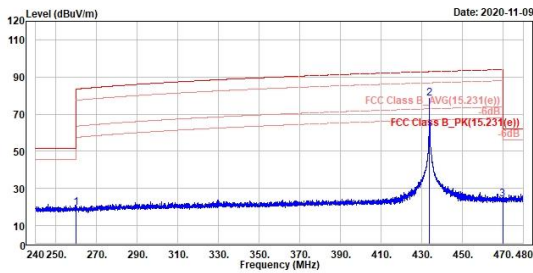
433.92MHz

(Horizontal) Peak

(Vertical) Peak



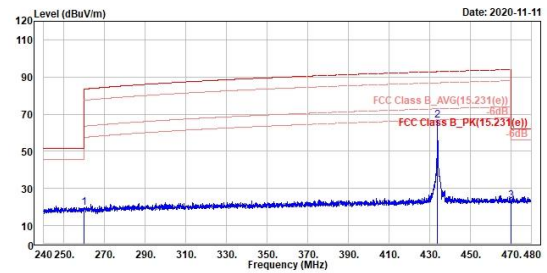
TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenhua Rd., Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	259.99	19.59	27.41	-7.82	51.48	-31.89	100	26 QP	Horizontal
2	433.92	78.50	82.50	-4.00	92.87	-14.37	100	26 Peak	Horizontal
3	469.99	24.08	27.76	-3.68	93.98	-69.90	100	26 QP	Horizontal



TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenhua Rd., Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Read	Level	Factor	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	260.02	19.70	27.52	-7.82	83.52	-63.82	100	154 QP	Vertical
2	433.97	66.69	70.69	-4.00	92.87	-26.18	100	154 Peak	Vertical
3	470.02	23.05	26.73	-3.68	61.94	-38.89	100	154 QP	Vertical

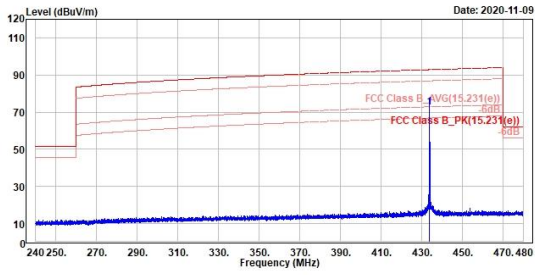
433.92MHz

(Horizontal) Average

(Vertical) Average



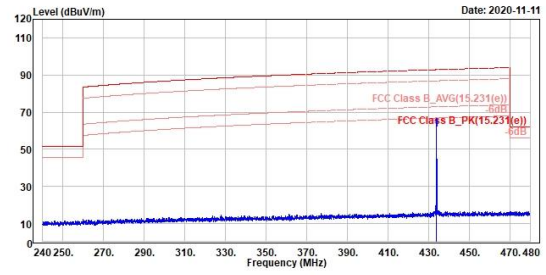
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1 433.92	72.43	76.43	-4.00	72.87	-0.44	100	26 Average	Horizontal	CF

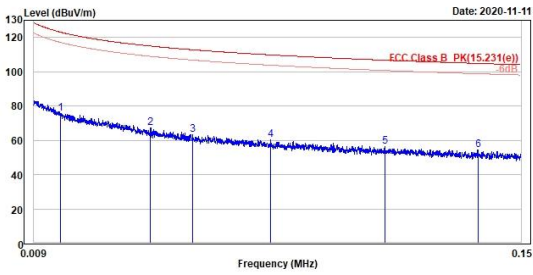


TUV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322

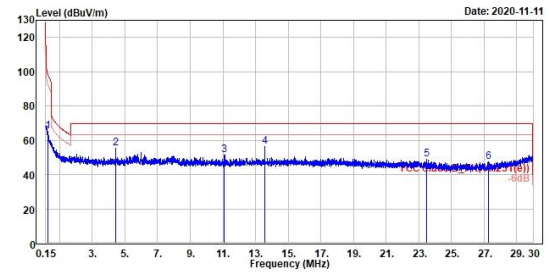


Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1 433.92	60.62	64.62	-4.00	72.87	-12.25	100	154 Average	Vertical	CF

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz, ASK
433.92MHz
9kHz~150kHz (Horizontal)
150kHz~30MHz (Vertical)

 TÜV Rheinland Taiwan Ltd.
 No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
 Tel: +886-2172-1000 Fax: +886-2172-1322


1	2	3	4	5	6
0.02	0.04	0.05	0.08	0.11	0.14
75.07	67.03	63.24	60.16	56.46	54.59
1.30	0.19	-1.12	-1.36	-2.18	-2.40
74.57	66.84	64.36	61.52	58.64	57.07
123.09	114.96	112.79	109.80	106.72	104.83
-47.22	-47.93	-49.55	-49.64	-50.26	-50.24
100	100	100	100	100	100
162	64	348	106	5	223
QP	QP	QP	QP	QP	QP
Open	Open	Open	Open	Open	Open


 TÜV Rheinland Taiwan Ltd.
 No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
 Tel: +886-2172-1000 Fax: +886-2172-1322


1	2	3	4	5	6
0.27	4.43	11.10	13.56	23.47	27.27
65.44	55.40	51.25	56.55	49.13	47.06
13.97	17.07	14.84	19.03	13.88	13.14
51.47	38.33	37.21	37.52	35.25	34.52
99.09	69.50	69.50	69.50	69.50	69.50
-33.65	-14.10	-18.25	-12.95	-20.37	-21.84
100	100	100	100	100	100
78	1	176	14	21	360
QP	QP	QP	QP	QP	QP
Open	Open	Open	Open	Open	Open

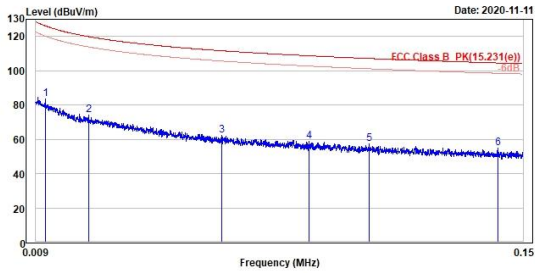
433.92MHz, ASK

9kHz~150kHz (Horizontal)

150kHz~30MHz (Vertical)



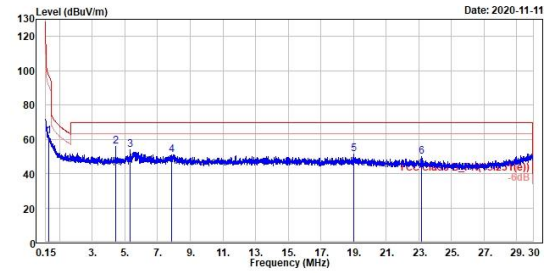
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	83.65	5.96	77.69	126.13	-42.48	100	2 QP		Close
2	80.82	73.93	2.17	71.76	119.86	-45.93	100	329 QP	Close
3	62.09	-1.20	63.29	111.64	-49.55	100	143 QP		Close
4	58.88	-1.73	60.61	108.70	-49.82	100	169 QP		Close
5	57.10	-1.84	58.94	107.14	-50.04	100	86 QP		Close
6	54.70	-2.07	56.77	104.51	-49.81	100	346 QP		Close



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	61.67	11.76	49.91	97.33	-35.66	100	115 QP		Close
2	56.03	17.70	38.33	69.50	-13.47	100	90 QP		Close
3	54.06	15.72	38.34	69.50	-15.44	100	292 QP		Close
4	51.06	12.95	38.11	69.50	-18.44	100	292 QP		Close
5	51.47	15.02	36.45	69.50	-18.03	100	271 QP		Close
6	49.77	14.31	35.46	69.50	-19.73	100	308 QP		Close

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz, ASK

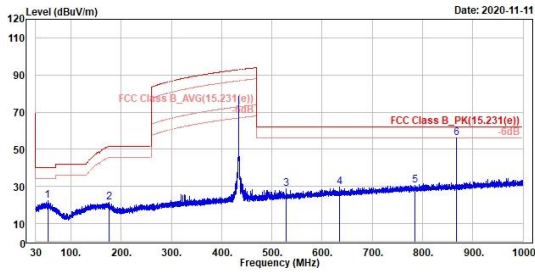
433.92MHz

(Horizontal)

(Vertical)



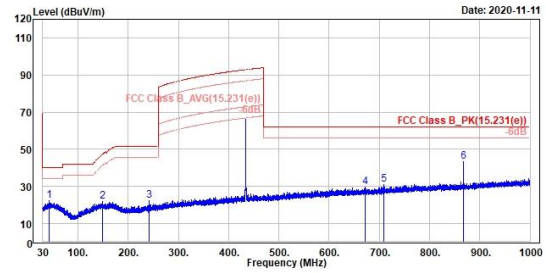
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	53.67	22.37	29.95	-7.58	40.00	-17.63	300	350 QP	horizontal
2	175.60	21.28	29.14	-7.86	51.48	-30.20	200	106 QP	horizontal
3	528.39	28.83	31.54	-2.71	61.94	-33.11	200	341 QP	horizontal
4	635.28	29.71	30.43	-0.72	61.94	-32.23	122	52 QP	horizontal
5	785.44	30.41	28.86	1.55	61.94	-31.53	300	184 QP	horizontal
6	867.89	56.00	53.33	2.67	61.94	-5.94	100	69 QP	horizontal



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	43.29	22.29	29.98	-7.69	40.00	-17.71	300	53 QP	vertical
2	148.34	21.78	29.45	-7.67	47.20	-25.42	100	74 QP	vertical
3	242.53	22.41	30.63	-8.22	51.48	-29.07	100	116 QP	vertical
4	671.17	29.69	30.10	-0.41	61.94	-32.25	337	360 QP	vertical
5	789.58	30.99	30.72	0.27	61.94	-30.95	400	18 QP	vertical
6	867.89	43.42	40.75	2.67	61.94	-18.52	200	310 QP	vertical

Spurious Emissions, Tx Mode, 1GHz ~ 5GHz, ASK

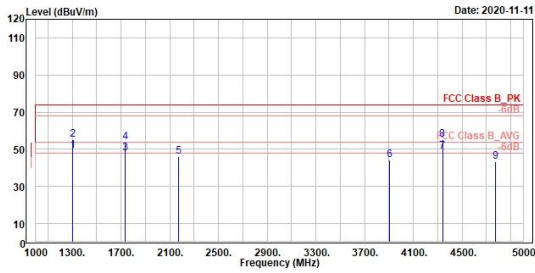
433.92MHz

(Horizontal)

(Vertical)



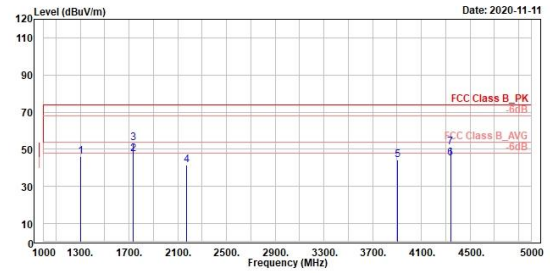
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	4	5	6	7	8	9	
MHz	Level	Read	Limit	Over	Apos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1381.76	49.14	68.76	-19.62	54.00	-4.86	349	74 Average	Horizontal CF
2	1381.76	55.21	74.83	-19.62	74.00	-18.79	349	74 Peak	Horizontal
3	1735.68	47.97	65.45	-17.48	54.00	-6.03	400	293 Average	Horizontal CF
4	1735.68	54.04	71.52	-17.48	74.00	-19.96	400	293 Peak	Horizontal
5	2169.60	46.22	61.57	-15.35	74.00	-27.78	100	116 Peak	Horizontal
6	3905.28	44.42	55.92	-11.50	74.00	-29.58	300	86 Peak	Horizontal
7	4339.20	48.94	59.86	-10.92	54.00	-5.06	304	311 Average	Horizontal CF
8	4339.20	55.01	65.93	-10.92	74.00	-18.99	304	311 Peak	Horizontal
9	4773.12	43.51	53.62	-10.11	74.00	-30.49	100	320 Peak	Horizontal



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	4	5	6	7			
MHz	Level	Read	Limit	Over	Apos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1381.76	46.05	65.67	-19.62	74.00	-27.95	367	360 Peak	Vertical
2	1735.68	47.37	64.85	-17.48	54.00	-6.63	400	206 Average	Vertical CF
3	1735.68	53.44	70.92	-17.48	74.00	-20.56	400	206 Peak	Vertical
4	2169.60	41.41	56.76	-15.35	74.00	-32.59	400	34 Peak	Vertical
5	3905.28	44.27	55.77	-11.50	74.00	-29.73	400	217 Peak	Vertical
6	4339.20	45.15	56.07	-10.92	54.00	-8.85	268	153 Average	Vertical CF
7	4339.20	51.22	62.14	-10.92	74.00	-22.78	268	193 Peak	Vertical

Band Edges, 2.31GHz ~ 2.9GHz, FSK

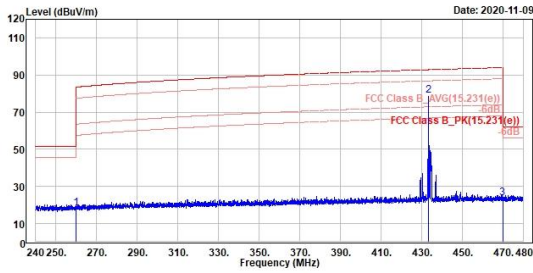
433.47MHz

(Horizontal) Peak

(Vertical) Peak



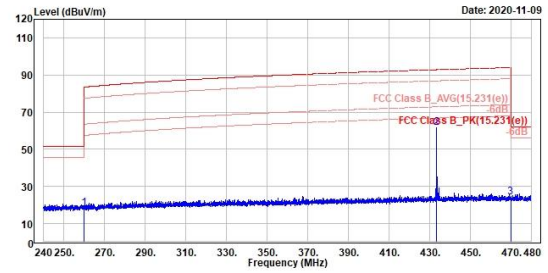
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	259.99	18.07	25.89	-7.82	51.48	-33.41	100	25	QP	Horizontal	
2	433.47	79.09	83.10	-4.01	92.85	-13.76	100	25	Peak	Horizontal	
3	469.99	23.94	27.62	-3.68	93.98	-70.04	100	25	QP	Horizontal	



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	260.00	18.00	25.90	-7.82	51.40	-33.40	100	25	QP	Vertical	
2	433.47	61.51	65.52	-4.01	92.85	-13.34	100	25	Peak	Vertical	
3	470.00	24.02	27.70	-3.68	61.94	-37.92	100	25	QP	Vertical	

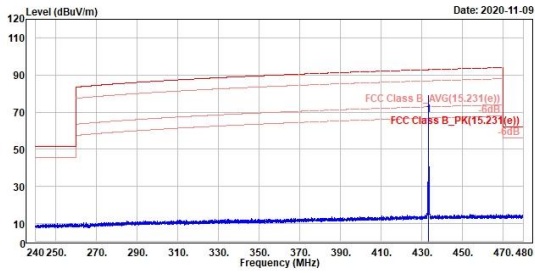
433.47MHz

(Horizontal) Average

(Vertical) Average



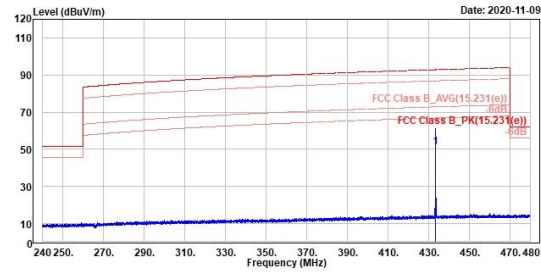
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



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			
1 433.47	68.64	72.65	-4.01	72.85	-4.21	100	25	Average	Horizontal	CF



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



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			
1 433.47	51.06	55.07	-4.01	72.85	-21.79	100	258	Average	Vertical	CF

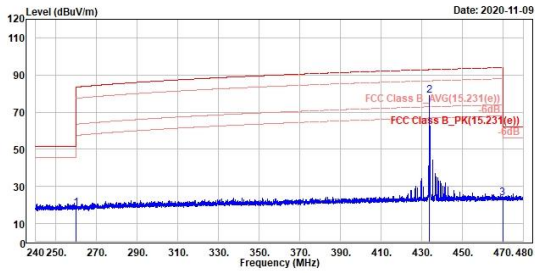
433.92MHz

(Horizontal) Peak

(Vertical) Peak



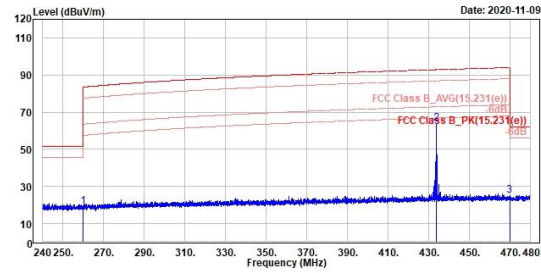
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3							
MHz	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	259.99	18.45	26.27	-7.82	51.48	-33.03	100	22 QP	Horizontal
2	433.92	78.80	82.80	-4.00	92.87	-14.07	100	22 Peak	Horizontal
3	469.99	23.62	27.30	-3.68	93.98	-70.36	100	22 QP	Horizontal



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3							
MHz	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	259.99	19.26	27.08	-7.82	51.48	-32.22	211	290 QP	Vertical
2	433.92	63.68	67.68	-4.00	92.87	-29.19	211	290 Peak	Vertical
3	469.99	25.06	28.74	-3.68	93.98	-68.92	211	290 QP	Vertical

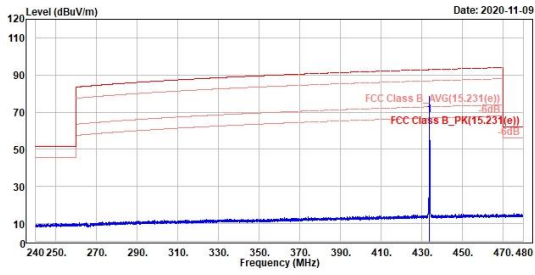
433.92MHz

(Horizontal) Average

(Vertical) Average



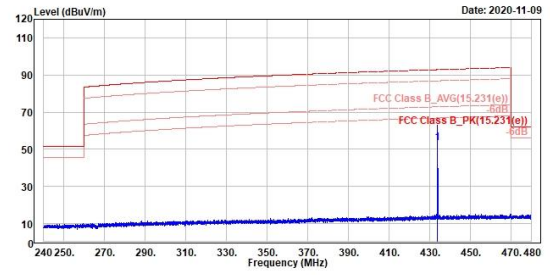
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



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			
1 433.92	68.35	72.35	-4.00	72.87	-4.52	100	22	Average	Horizontal	CF



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



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			
1 433.92	53.23	57.23	-4.00	72.87	-19.64	211	290	Average	Vertical	CF

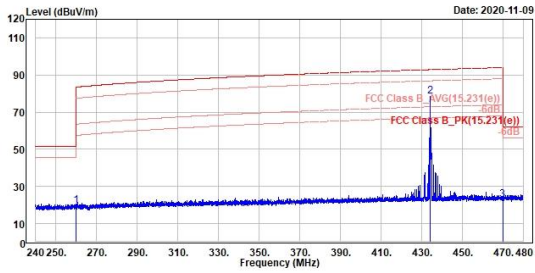
434.35MHz

(Horizontal) Peak

(Vertical) Peak



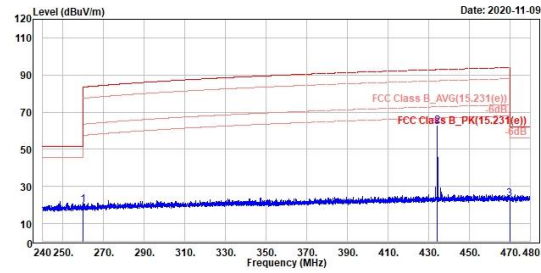
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3								
Level	Level	Level								
Factor	Factor	Factor								
Line	Line	Line								
Limit	Limit	Limit								
Over	Over	Over								
Limit	Limit	Limit								
APos	APos	APos								
TPos	TPos	TPos								
Remark	Remark	Remark								
Pol/Phase	Pol/Phase	Pol/Phase								
Note	Note	Note								
259.99	19.01	27.63	-7.82	51.48	-31.67	100	22	QP	Horizontal	
434.35	78.43	82.42	-3.99	92.88	-14.45	100	22	Peak	Horizontal	
469.99	22.87	26.55	-3.68	93.98	-71.11	100	22	QP	Horizontal	



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliiao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3								
Level	Level	Level								
Factor	Factor	Factor								
Line	Line	Line								
Limit	Limit	Limit								
Over	Over	Over								
Limit	Limit	Limit								
APos	APos	APos								
TPos	TPos	TPos								
Remark	Remark	Remark								
Pol/Phase	Pol/Phase	Pol/Phase								
Note	Note	Note								
259.99	19.91	27.73	-7.82	51.48	-31.57	219	290	QP	Vertical	
434.35	62.45	66.44	-3.99	92.88	-30.43	219	290	Peak	Vertical	
469.99	23.37	27.05	-3.68	93.98	-70.61	219	290	QP	Vertical	

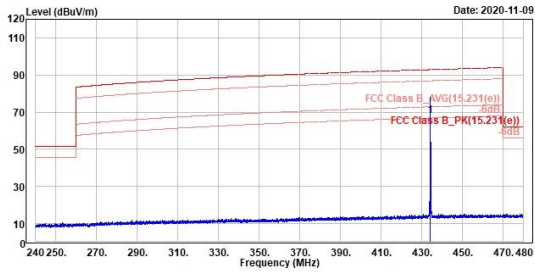
434.35 MHz

(Horizontal) Average

(Vertical) Average



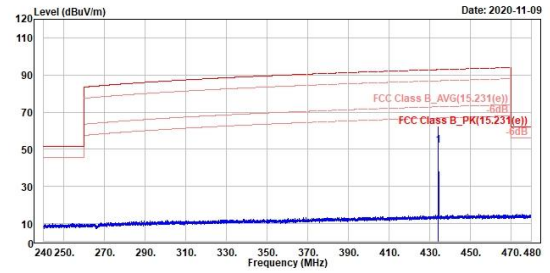
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



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			
1 434.35	67.97	71.96	-3.99	72.88	-4.91	100	22	Average	Horizontal	CF



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



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			
1 434.35	51.99	55.98	-3.99	72.88	-20.89	219	290	Average	Vertical	CF

Spurious Emissions, Tx Mode, 9kHz ~ 30MHz, FSK

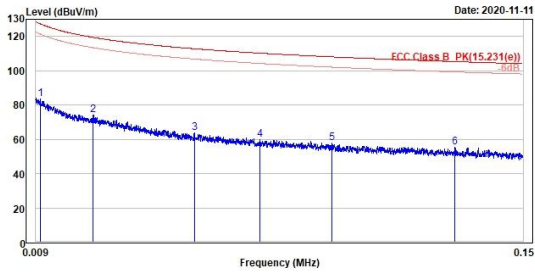
433.47MHz

9kHz~150kHz (Horizontal)

150kHz~30MHz (Vertical)



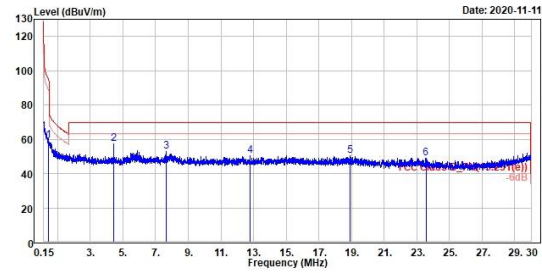
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	4	5	6
0.01	0.03	0.05	0.07	0.09	0.13
83.67	74.36	63.54	59.70	58.08	55.17
5.05	2.84	-0.83	-2.23	-1.81	-2.32
78.62	71.52	64.37	61.93	59.89	57.49
127.28	119.40	112.80	110.23	108.07	105.29
-43.61	-45.04	-49.26	-50.53	-49.99	-50.12
100	100	100	100	100	100
206	180	62	279	32	0
QP	QP	QP	QP	QP	QP
Close	Close	Close	Close	Close	Close



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	4	5	6
0.44	4.43	7.63	12.80	18.94	23.56
59.46	57.37	52.83	50.39	50.39	49.13
11.77	19.04	14.65	13.00	13.92	13.95
47.69	38.33	38.18	37.39	36.47	35.10
94.68	12.13	69.50	69.50	69.50	69.50
-35.22	-12.13	-16.67	-19.11	-19.11	-20.37
100	100	100	100	100	100
278	97	187	209	360	168
QP	QP	QP	QP	QP	QP
Close	Close	Close	Close	Close	Close

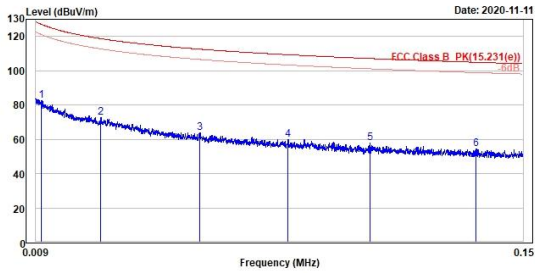
433.47MHz

9kHz~150kHz (Horizontal)

150kHz~30MHz (Vertical)



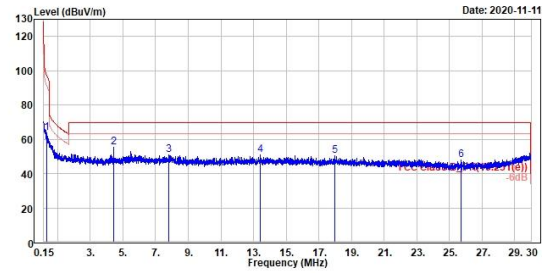
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	82.79	4.30	78.40	127.00	-44.30	100	130 QP		Open
2	72.61	1.49	71.12	118.68	-46.07	100	359 QP		Open
3	63.64	-0.49	64.13	112.54	-48.90	100	35 QP		Open
4	60.01	-1.08	61.09	109.31	-49.30	100	52 QP		Open
5	57.63	-1.29	58.92	107.12	-49.49	100	151 QP		Open
6	54.37	-2.76	57.13	104.89	-50.52	100	60 QP		Open



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	63.95	13.72	50.23	97.74	-33.79	100	22 QP		Open
2	4.43	55.53	17.20	38.33	69.50	-13.97	100	243 QP	Open
3	7.81	50.98	12.85	38.13	69.50	-18.52	100	278 QP	Open
4	13.40	51.15	13.66	37.49	69.50	-18.35	100	162 QP	Open
5	17.99	50.64	13.80	36.84	69.50	-18.86	100	229 QP	Open
6	25.74	47.84	13.62	34.22	69.50	-21.66	100	350 QP	Open

Spurious Emissions, Tx Mode, 30MHz ~ 1GHz, FSK

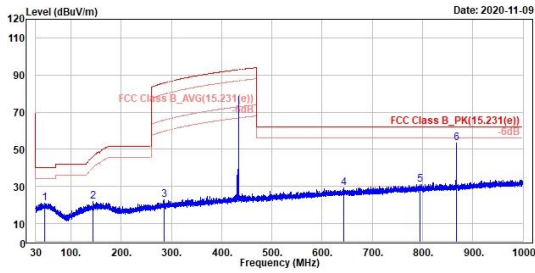
433.47MHz

(Horizontal)

(Vertical)



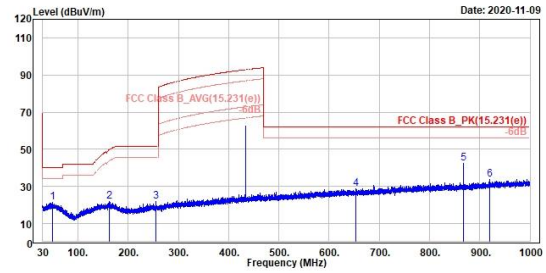
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	47.36	20.03	28.37	-7.54	40.00	-19.17	100	111 QP	horizontal
2	143.88	21.88	29.53	-7.65	46.21	-24.33	104	360 QP	horizontal
3	284.82	22.69	29.52	-6.83	85.64	-62.95	100	14 QP	horizontal
4	642.75	29.23	29.85	-0.62	61.94	-32.71	234	0 QP	horizontal
5	795.04	31.13	29.50	1.63	61.94	-30.81	300	352 QP	horizontal
6	866.94	53.48	50.84	2.64	61.94	-8.46	100	63 QP	horizontal



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	48.02	21.57	29.06	-7.49	40.00	-18.43	200	290 QP	vertical
2	162.02	21.99	29.37	-7.38	49.74	-27.75	200	31 QP	vertical
3	254.56	21.79	29.78	-7.99	51.48	-29.69	226	0 QP	vertical
4	653.03	28.54	29.12	-0.58	61.94	-33.40	100	132 QP	vertical
5	866.94	42.31	39.67	2.64	61.94	-19.63	300	351 QP	vertical
6	920.65	33.76	30.01	3.75	61.94	-28.18	300	0 QP	vertical

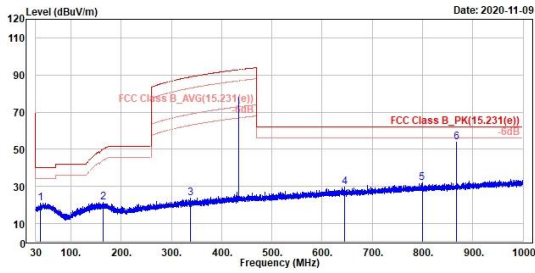
433.92MHz

(Horizontal)

(Vertical)



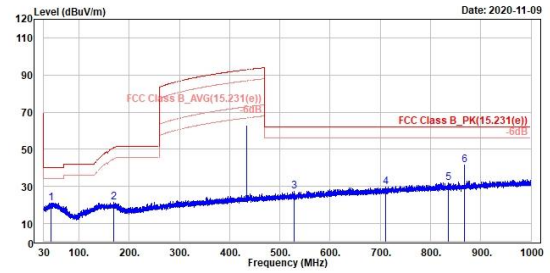
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	39.68	21.11	29.18	-8.07	40.00	-18.89	100	137 QP	Horizontal
2	163.86	21.51	28.81	-7.30	50.03	-28.52	200	302 QP	Horizontal
3	338.27	23.80	29.49	-5.69	88.96	-65.16	242	0 QP	Horizontal
4	644.59	29.46	30.06	-0.60	61.94	-32.48	100	0 QP	Horizontal
5	799.31	31.92	30.24	1.68	61.94	-30.02	200	231 QP	Horizontal
6	867.84	53.68	51.01	2.67	61.94	-8.26	100	63 QP	Horizontal



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	44.94	21.18	28.69	-7.51	40.00	-18.82	300	32 QP	Vertical
2	168.81	21.54	28.77	-7.23	50.77	-29.23	300	34 QP	Vertical
3	528.29	27.35	30.06	-2.71	61.94	-34.59	200	169 QP	Vertical
4	718.94	29.57	29.27	0.30	61.94	-32.37	100	304 QP	Vertical
5	836.36	32.05	29.76	2.29	61.94	-29.89	100	360 QP	Vertical
6	867.84	41.51	38.84	2.67	61.94	-20.43	300	314 QP	Vertical

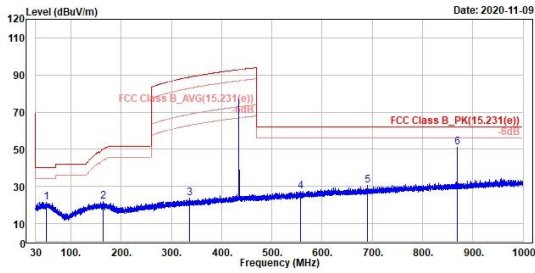
434.35MHz

(Horizontal)

(Vertical)



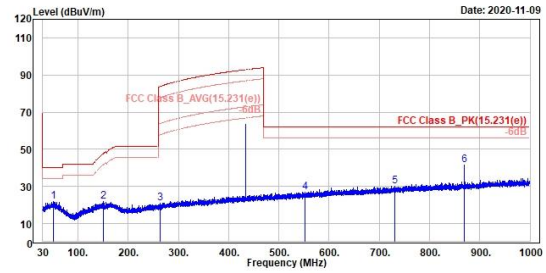
TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	51.15	21.36	28.82	-7.46	48.00	-18.64	100	230 QP	Horizontal
2	164.54	22.01	29.29	-7.28	58.14	-28.13	200	114 QP	Horizontal
3	336.13	23.80	29.51	-5.71	88.85	-65.05	100	200 QP	Horizontal
4	557.49	27.28	29.47	-2.19	61.94	-34.66	200	0 QP	Horizontal
5	689.99	30.50	30.49	0.01	61.94	-31.44	100	0 QP	Horizontal
6	868.70	51.31	48.63	2.68	61.94	-10.63	100	72 QP	Horizontal

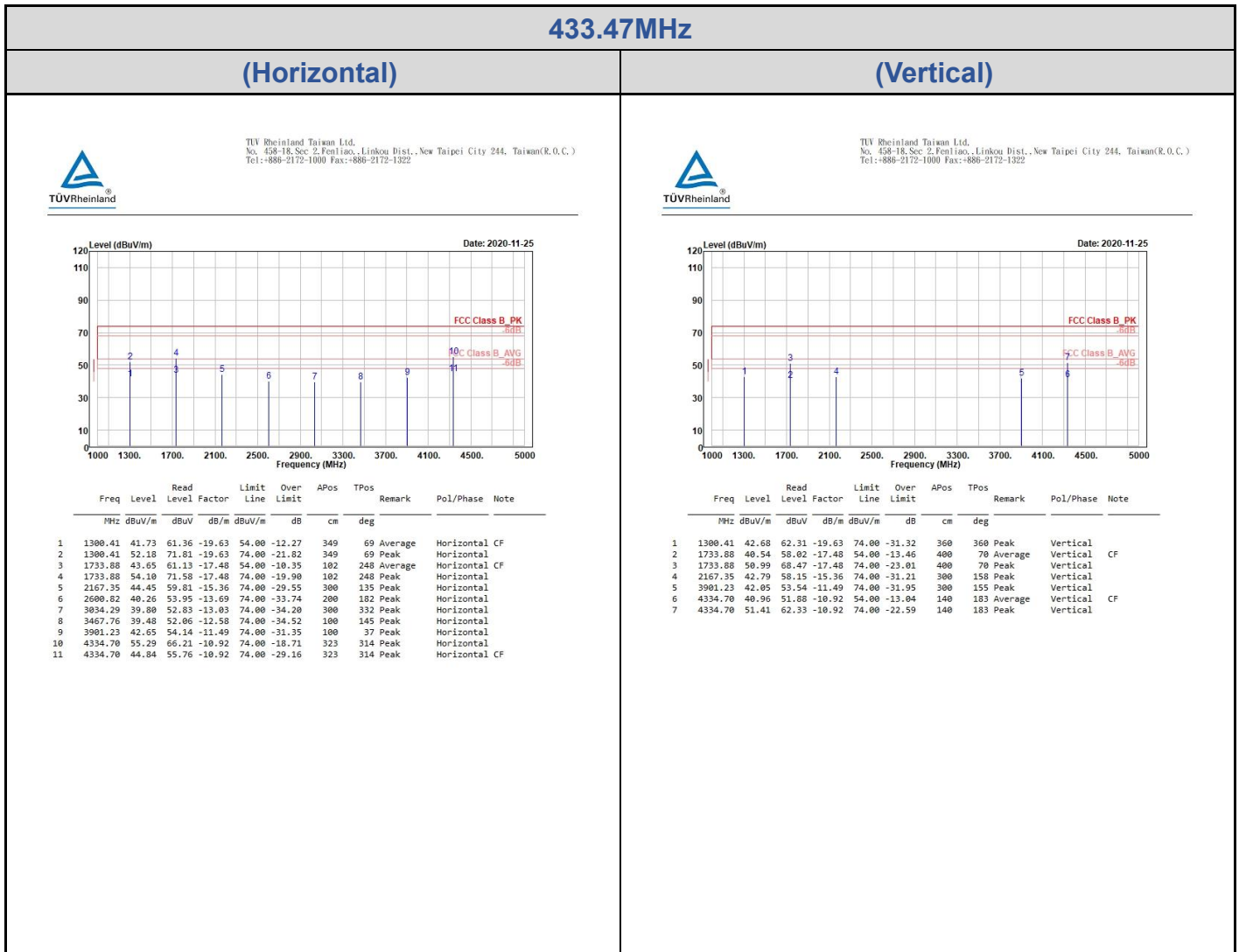


TÜV Rheinland Taiwan Ltd.
No. 458-18, Sec. 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



Freq	Level	Read	Limit	Over	APos	TPos	Remark	Pol/Phase	Note
MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	51.83	21.87	29.31	-7.44	48.00	-18.13	200	276 QP	Vertical
2	150.57	21.91	29.59	-7.68	47.67	-25.76	400	1 QP	Vertical
3	263.67	21.12	28.82	-7.70	83.87	-62.75	336	360 QP	Vertical
4	551.38	27.05	29.43	-2.38	61.94	-34.89	200	209 QP	Vertical
5	730.24	29.96	29.25	0.71	61.94	-31.98	200	360 QP	Vertical
6	868.70	41.39	38.71	2.68	61.94	-20.55	200	327 QP	Vertical

Spurious Emissions, Tx Mode, 1GHz ~ 5GHz, FSK



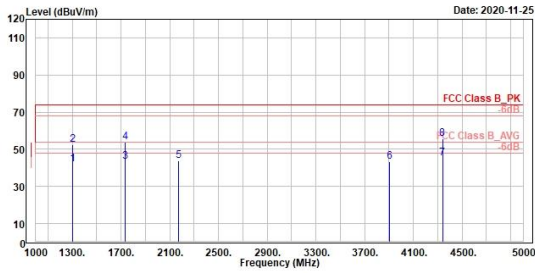
433.92MHz

(Horizontal)

(Vertical)



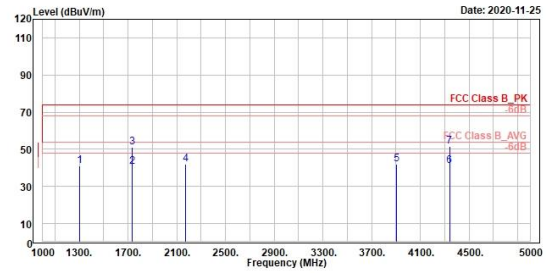
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	4	5	6	7	8
1381.76	1381.76	1735.68	1735.68	2169.60	3905.28	4339.20	4339.20
41.01	52.26	43.53	53.98	43.78	43.36	45.15	55.60
61.43	71.88	61.01	71.46	59.13	54.06	56.07	66.52
-19.62	-19.62	-17.48	-17.48	-15.35	-11.50	-10.92	-10.92
54.00	74.00	54.00	74.00	74.00	74.00	74.00	74.00
-12.19	-21.74	-10.47	-20.02	-30.22	-30.64	-8.85	-18.40
348	348	338	338	200	100	322	322
68 Average	68 Peak	248 Average	248 Peak	104 Peak	39 Peak	312 Average	312 Peak
Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
CF		CF				CF	



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	4	5	6	7
1381.76	1735.68	1735.68	2169.60	3905.28	4339.20	4339.20
41.05	40.54	50.99	42.02	42.02	41.27	51.72
68.67	58.02	68.47	57.37	53.52	52.19	62.64
-19.62	-17.48	-17.48	-15.35	-11.50	-10.92	-10.92
74.00	54.00	74.00	74.00	74.00	54.00	74.00
-32.95	-13.46	-23.01	-31.98	-31.98	-12.73	-22.28
356	400	400	400	400	140	140
360 Peak	68 Average	68 Peak	160 Peak	228 Peak	162 Average	162 Peak
Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
	CF				CF	

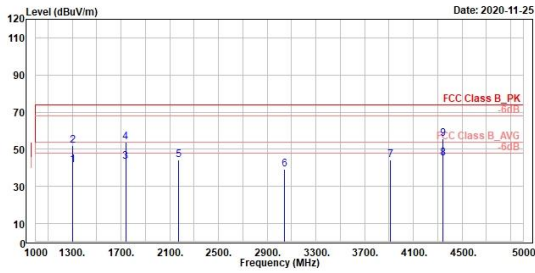
434.35MHz

(Horizontal)

(Vertical)



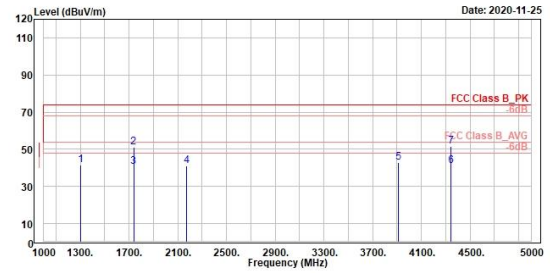
TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	4	5	6	7	8	9	
Level	Read	Factor	Limit	Over	Apos	Tpos	Remark	Pol/Phase	Note
dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1383.05	41.73	61.34	-19.61	54.00	-12.27	350	68 Average	Horizontal	CF
1383.05	52.18	71.79	-19.61	74.00	-21.82	350	68 Peak	Horizontal	
1737.40	43.43	60.91	-17.48	54.00	-10.57	336	247 Average	Horizontal	CF
1737.40	53.88	71.36	-17.48	74.00	-20.12	336	247 Peak	Horizontal	
2171.75	44.11	59.46	-15.35	74.00	-29.89	300	116 Peak	Horizontal	
3049.45	39.07	52.10	-13.03	74.00	-34.93	100	49 Peak	Horizontal	
3909.15	44.13	55.63	-11.50	74.00	-29.87	100	31 Peak	Horizontal	
4343.50	45.27	56.19	-10.92	54.00	-8.73	323	314 Average	Horizontal	CF
4343.50	55.72	66.64	-10.92	74.00	-18.28	323	314 Peak	Horizontal	



TUV Rheinland Taiwan Ltd.
No. 458-18, Sec 2, Fenliao, Linkou Dist., New Taipei City 244, Taiwan(R.O.C.)
Tel: +886-2172-1000 Fax: +886-2172-1322



1	2	3	4	5	6	7			
Level	Read	Factor	Limit	Over	Apos	Tpos	Remark	Pol/Phase	Note
dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg			
1383.50	41.74	61.35	-19.61	74.00	-32.26	355	360 Peak	Vertical	
1737.40	50.96	68.44	-17.48	74.00	-23.04	398	71 Peak	Vertical	
1737.40	40.51	57.99	-17.48	74.00	-33.49	398	71 Peak	Vertical	CF
2171.75	40.85	56.20	-15.35	74.00	-33.15	300	129 Peak	Vertical	
3909.15	43.09	54.59	-11.50	74.00	-30.91	400	227 Peak	Vertical	
4343.50	40.90	51.62	-10.92	54.00	-13.10	248	359 Average	Vertical	CF
4343.50	51.35	62.27	-10.92	74.00	-22.65	248	359 Peak	Vertical	