



FCC Radio Test Report

FCC ID: 2ARNB-HMWB02

This report concerns: Original Grant

Project No. : 2604C279
Equipment : Module
Brand Name : Hoymiles
Model Name : HM-WB02
Applicant : Hoymiles Power Electronics Inc.
Address : No.18 Kangjing Road, Hangzhou, Zhejiang Province, P.R.China
Manufacturer : Hoymiles Power Electronics Inc.
Address : No.18 Kangjing Road, Hangzhou, Zhejiang Province, P.R.China
Factory : Hoymiles Power Electronics Inc.
Address : No.149 Kangzhong Road, Hangzhou 310015, Zhejiang Province, P.R. China
Date of Receipt : Apr. 29, 2026
Date of Test : May 12, 2026 ~ Jun. 23, 2026
Issued Date : Jul. 01, 2026
Test Sample : Engineering Sample No.: DG920260429153 for Radiated and AC Power Line Conducted Emissions, DG920260429152 for Others.
Standard(s) : FCC CFR Title 47, Part 15, Subpart C

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc. (Dongguan)

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacturer's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. BTL assumes no responsibility for the data provided by the customer, any statements, inferences or generalizations drawn by the customer or others from the reports issued by BTL.

The report must not be used by the client to claim product certification, approval, or endorsement by A2LA or any agency of the U.S. Government.

This report is the confidential property of the client. As a mutual protection to the clients, the public and ourselves, the test report shall not be reproduced, except in full, without our written approval.

BTL's laboratory quality assurance procedures are in compliance with the ISO/IEC 17025: 2017 requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-3-2604C279	R00	Original Report.	Jul. 01, 2026	Valid

1. APPLICABLE STANDARDS

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standard:

ANSI C63.10-2020

The following reference test guidance is not within the scope of accreditation of A2LA:

KDB 558074 D01 15.247 Meas Guidance v05r02

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C				
Standard(s) Section	Test Item	Test Result	Judgment	Remark
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS	-----
15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX B APPENDIX C APPENDIX D	PASS	-----
15.247(a)(2)	Bandwidth	APPENDIX E	PASS	-----
15.247(b)(3)	Maximum Output Power	APPENDIX F	PASS	-----
15.247(d)	Conducted Spurious Emission	APPENDIX G	PASS	-----
15.247(e)	Power Spectral Density	APPENDIX H	PASS	-----
15.203	Antenna Requirement	-----	PASS	Note(2)

NOTE:

(1) "N/A" denotes test is not applicable to this device.

(2) The device what use a permanently attached antenna or a non-standard antenna jackwere considered sufficient to comply with the provisions of 15.203.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

For Radiated Emissions-Above 18G items: Room 102 & 702, Building A3, No.9, Jinshagang 1st Road, Dalang, Dongguan, Guangdong People's Republic of China.

For other items: No.3, Jinshagang 1st Road, Dalang, Dongguan, Guangdong People's Republic of China.

BTL's Registration Number for FCC: 747969

BTL's Designation Number for FCC: CN1377

2.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95.45% confidence level (based on a coverage factor (k=2))

The BTL measurement uncertainty as below table:

A. AC power line conducted emissions Measurement:

Test Site	Method	Measurement Frequency Range	U,(dB)
DGDLC02	CISPR	150kHz ~ 30MHz	2.66

B. Radiated emissions Measurement:

Test Site	Method	Measurement Frequency Range	U,(dB)
DGDLCB03	CISPR	9kHz ~ 30MHz	2.26

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DGDLCB03 (3m)	CISPR	30MHz ~ 200MHz	V	4.40
		30MHz ~ 200MHz	H	3.62
		200MHz ~ 1,000MHz	V	4.58
		200MHz ~ 1,000MHz	H	3.98

Test Site	Method	Measurement Frequency Range	U,(dB)
DGDLCB03 (3m)	CISPR	1GHz ~ 6GHz	4.16
		6GHz ~ 18GHz	4.74

Test Site	Method	Measurement Frequency Range	U,(dB)
DGGDCB01 (1m)	CISPR	18GHz ~ 40GHz	4.30

C. Other Measurement:

Test Item	Uncertainty
Bandwidth	0.75 %
Maximum Output Power	1.3 dB
Conducted Spurious Emission	2.1 dB
Conducted Bandedge Emission	1.7 dB
Power Spectral Density	1.8 dB
Temperature	0.7 °C
Humidity	1.7 %

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

2.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	54%	DC 5V	Hayden Chen
Radiated Emissions -9 kHz to 30 MHz	23°C	44%	DC 5V	Hayden Chen
Radiated Emissions -30 MHz to 1000 MHz	24°C	48%	DC 5V	Jensen Zhou
Radiated Emissions -Above 1000 MHz	23-25°C	48-52%	DC 5V	Allen Tong Lafu Li
Bandwidth	24°C	54%	DC 5V	Alex Yin
Maximum Output Power	24°C	54%	DC 5V	Alex Yin
Conducted Spurious Emission	24°C	54%	DC 5V	Alex Yin
Power Spectral Density	24°C	54%	DC 5V	Alex Yin

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Module
Brand Name	Hoymiles
Test Model	HM-WB02
Model Name	HM-WB02
Model Difference(s)	N/A
Hardware Version	V1.0
Software Version	IDF5.4.1
Power Source	DC power supply.
Power Rating	DC 3.3V
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Type	O-QPSK
Bit Rate of Transmitter	2Mbps
Max. Output Power	20.16 dBm (0.1038 W)

Note:

1. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

2. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
11	2405	19	2445
12	2410	20	2450
13	2415	21	2455
14	2420	22	2460
15	2425	23	2465
16	2430	24	2470
17	2435	25	2475
18	2440	26	2480

3. Table for Filed Antenna:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	SLEing®	SLEingA202640055	Rubber Duck Antenna	MHF	0.6
	SLEing®	SLEingA201400060	Rubber Duck Antenna	MHF	1.58
	SLEing®	SLEingB201400090	Rubber Duck Antenna	MHF	3.06
	INNOWAVE	F062F8109911000	Rubber Duck Antenna	IPEX 1	3.16

Note: Only choiced the maximum gain antenna for testing and recorded in this report.

3.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

Pretest Mode	Description
Mode 1	TX Mode_2Mbps Channel 11/18/26
Mode 2	TX Mode_2Mbps Channel 18

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

AC power line conducted emissions test	
Final Test Mode	Description
Mode 2	TX Mode_2Mbps Channel 18

Radiated emissions test - Below 1GHz & Above 18 GHz	
Final Test Mode	Description
Mode 2	TX Mode_2Mbps Channel 18

Radiated emissions test - 1 GHz - 18 GHz	
Final Test Mode	Description
Mode 1	TX Mode_2Mbps Channel 11/18/26

Conducted test	
Final Test Mode	Description
Mode 1	TX Mode_2Mbps Channel 11/18/26

Note:

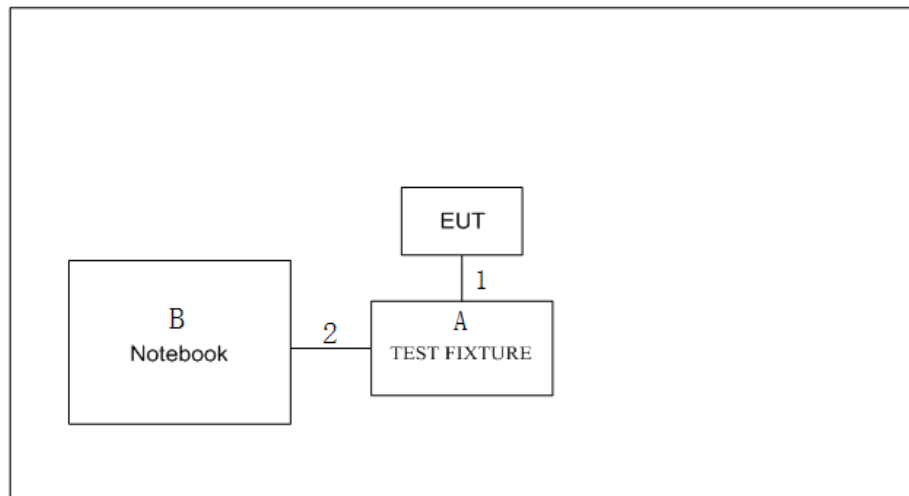
- (1) For radiated emission above 1 GHz test, the spurious points of 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
- (2) For AC power line conducted emissions and radiated emissions below 1 GHz test, the channel 18 is found to be the worst case and recorded.
- (3) For radiated emission Harmonic 18-26.5GHz test, only tested the worst case and recorded.
- (4) For radiated emission 1 GHz - 18GHz test, the polarization of Vertical and Horizontal are evaluated, the worst case is recorded in this report.

3.3 PARAMETERS OF TEST SOFTWARE

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level.

Test Software Version	EspRFTestTool_v5.2_Manual		
Frequency (MHz)	2405	2440	2480
2Mbps	15	15	14

3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.5 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Test Fixture	N/A	N/A	N/A
B	Notebook	HUAWEI	KLVG-16	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	Data Cable	NO	NO	0.2m
2	USB Cable	NO	NO	1m

3.6 CUSTOMER INFORMATION DESCRIPTION

- 1) The antenna gain is provided by the manufacturer.
- 2) Except for AC power line conducted emissions and radiated emissions, the results of all test items include cable losses. All cable losses are provided by the testing laboratory.

4. AC POWER LINE CONDUCTED EMISSIONS

4.1 LIMIT

Frequency of Emission (MHz)	Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56*	56 to 46*
0.5 - 5.0	56	46
5.0 - 30.0	60	50

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor (if use)
 Margin Level = Measurement Value - Limit Value

4.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

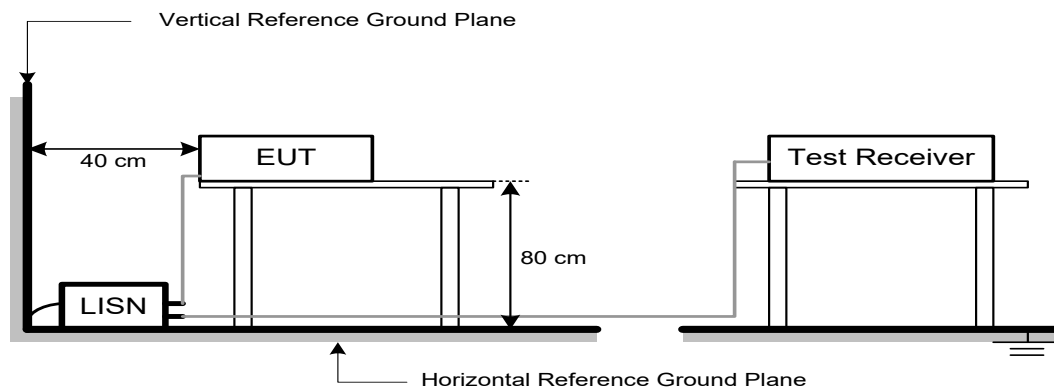
The following table is the setting of the receiver:

Receiver Parameters	Setting
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.3 DEVIATION FROM TEST STANDARD

No deviation.

4.4 TEST SETUP



4.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

4.6 TEST RESULTS

Please refer to the APPENDIX A.

Remark:

- (1) All readings are QP Mode value unless otherwise stated AVG in column of 『Note』 . If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a " * " marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150 kHz to 30 MHz.

5. RADIATED EMISSIONS

5.1 LIMIT

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000 MHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	Band edge/ Harmonic at 3m (dBμV/m)		Harmonic at 1m (dBμV/m)	
	Peak	Average	Peak	Average
Above 1000	74	54	83.5 (Note 5)	63.5 (Note 5)

Note:

- (1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
 Margin Level = Measurement Value - Limit Value

(5)

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

20log (d_{limit}/d_{measure})=20log (3/1)=9.5 dB.

FS_{limit}: Harmonic at 3m Peak and Average limit.

FS_{max}: Harmonic at 1m Peak and Average Maximum value.

d_{limit}: Harmonic at 3m test distance.

d_{measure}: Harmonic Actual test distance.

5.2 TEST PROCEDURE

- The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- The measuring distance of 3 m or 1m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. 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 find the maximum reading (used Bore sight function).
- The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
- The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
(below 1 GHz)
- All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1 GHz)
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

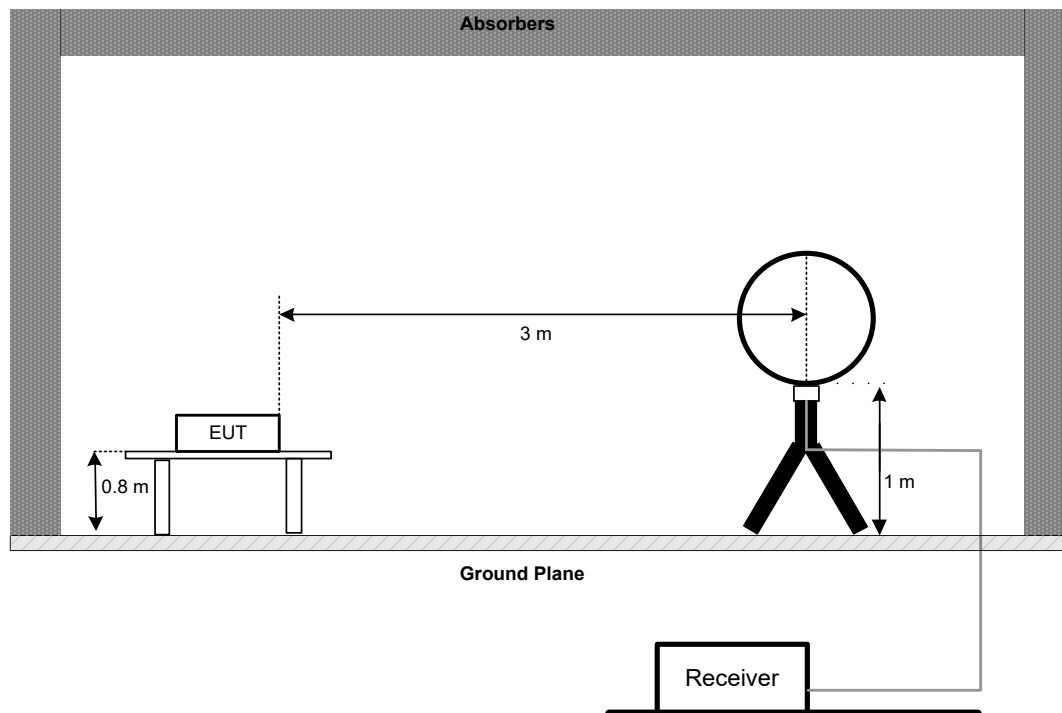
Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

5.3 DEVIATION FROM TEST STANDARD

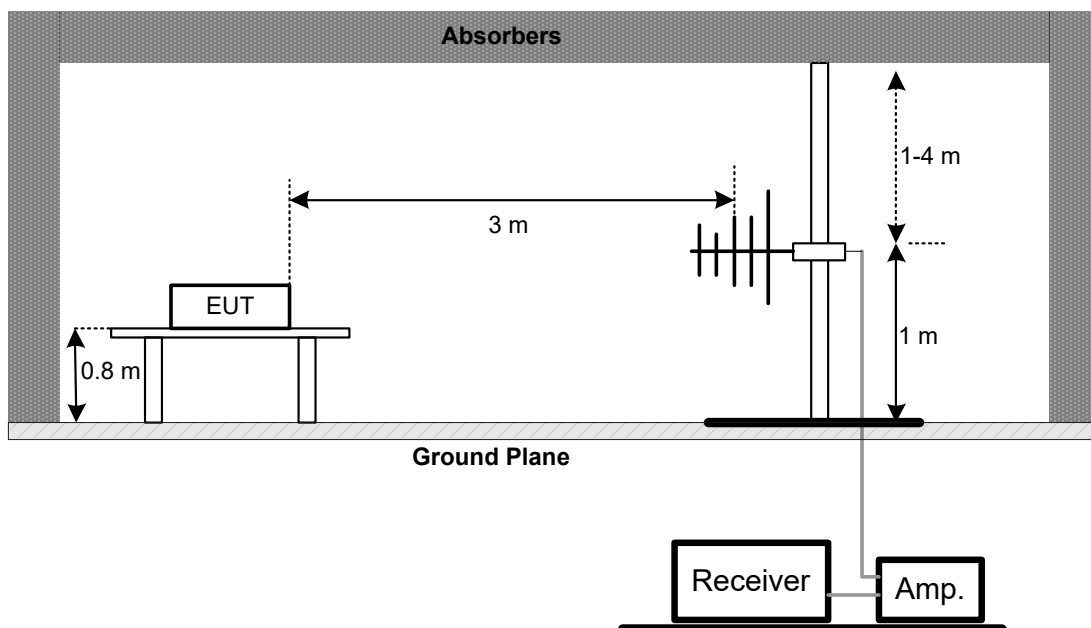
No deviation.

5.4 TEST SETUP

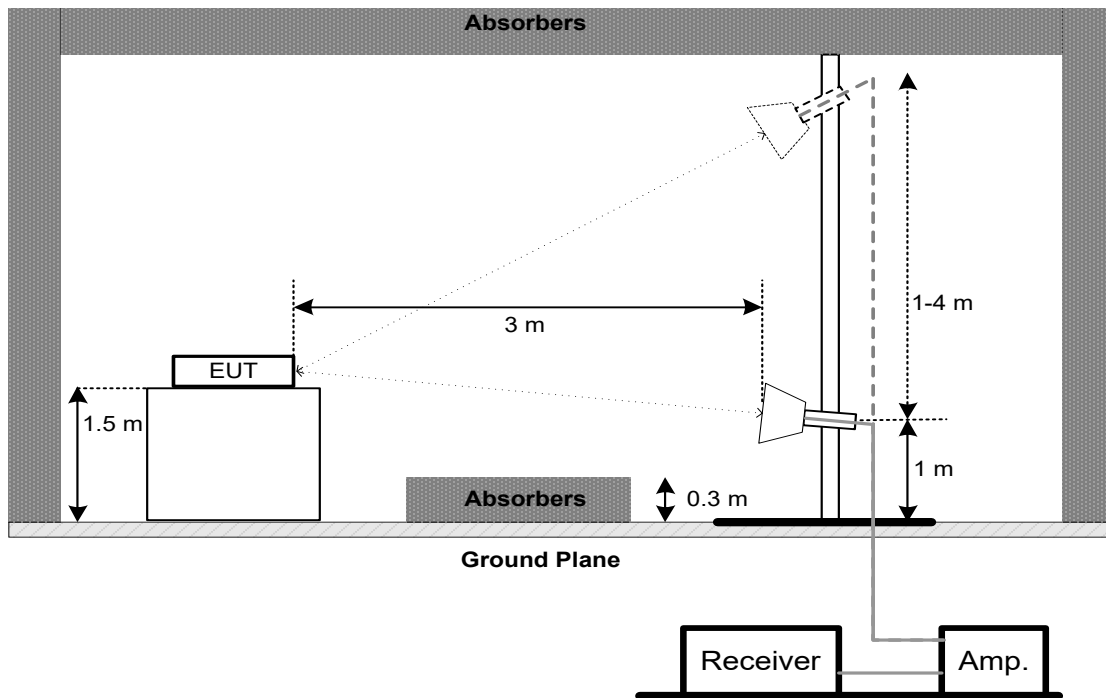
9 kHz to 30 MHz



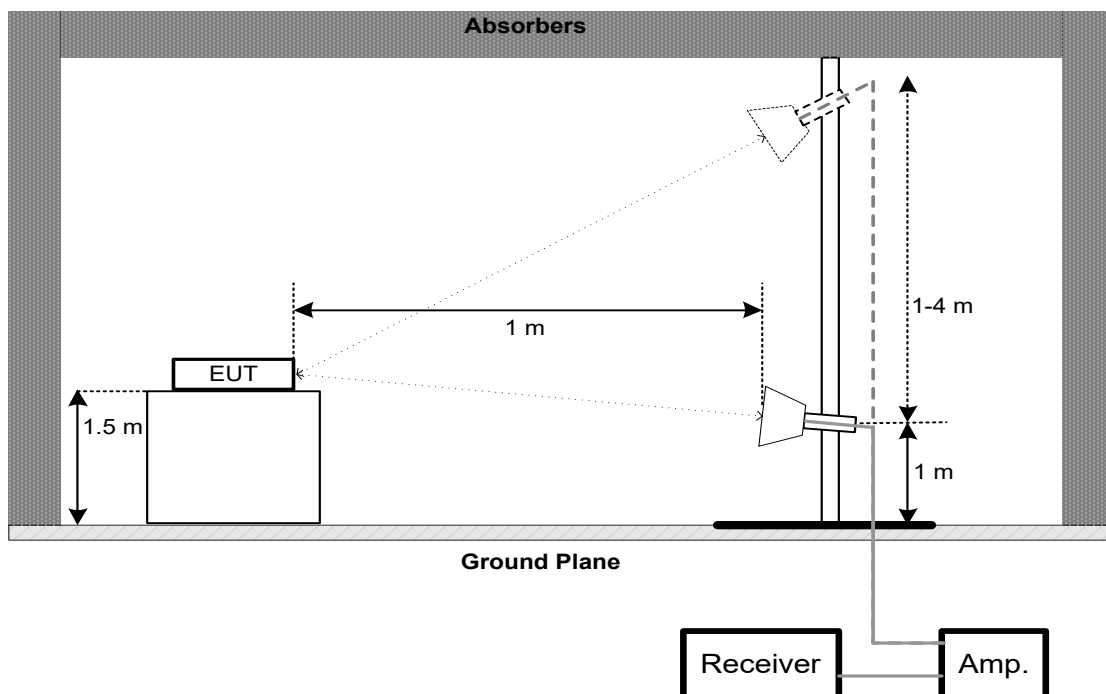
30 MHz to 1 GHz



**Above 1 GHz
Band edge & Harmonic(1 GHz to 18 GHz)**



Harmonic(18 GHz to 26.5 GHz)



5.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

5.6 TEST RESULT - 9 kHz TO 30 MHz

Please refer to the APPENDIX B.

Remark:

- (1) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB).
- (2) Limit line = specific limits (dBuV) + distance extrapolation factor.

5.7 TEST RESULT - 30 MHz TO 1000 MHz

Please refer to the APPENDIX C.

5.8 TEST RESULT - ABOVE 1000 MHz

Please refer to the APPENDIX D.

Remark:

- (1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

6. BANDWIDTH

6.1 LIMIT

Section	Test Item	Limit
FCC 15.247(a)(2)	6 dB Bandwidth	≥ 500 kHz
	99% Emission Bandwidth	-

6.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

For 6 dB Bandwidth:

Spectrum Parameters	Setting
Span	$>$ Measurement Bandwidth
RBW	Shall be in the range of 1% to 5% of the OBW but not less than 100 kHz
VBW	$\geq 3 \times$ RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For 99% Emission Bandwidth:

Spectrum Parameters	Setting
Span	Between 1.5 times and 5.0 times the OBW
RBW	30 kHz
VBW	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULTS

Please refer to the APPENDIX E.

7. MAXIMUM OUTPUT POWER

7.1 LIMIT

Section	Test Item	Limit
FCC 15.247(b)(3)	Maximum Output Power	1.0000 watt or 30.00 dBm

7.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span	$\geq 3 \times \text{RBW}$
RBW	3 MHz
VBW	10 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

7.6 TEST RESULTS

Please refer to the APPENDIX F.

8. CONDUCTED SPURIOUS EMISSION

8.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

8.2 TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

For Reference Level:

Spectrum Parameters	Setting
Span	≥ 1.5 times the bandwidth.
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For Emission Level - Band edge:

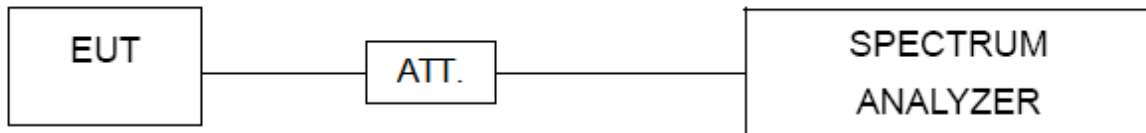
Spectrum Parameters	Setting
Start Frequency	2300 MHz
Stop Frequency	2690 MHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

For Emission Level - Harmonic:

Spectrum Parameters	Setting
Start Frequency	30 MHz
Stop Frequency	26.5 GHz
RBW	100 kHz
VBW	300 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP**8.5 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

Please refer to the APPENDIX G.

9. POWER SPECTRAL DENSITY

9.1 LIMIT

Section	Test Item	Limit
FCC 15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)

9.2 TEST PROCEDURE

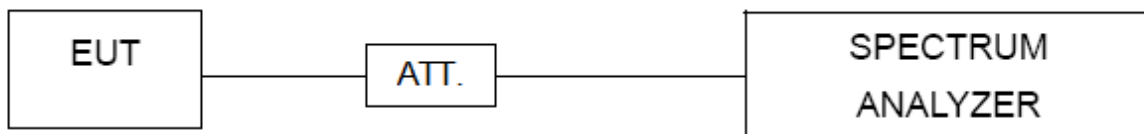
- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span	1.5 times the DTS bandwidth
RBW	3 kHz
VBW	10 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP



9.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

9.6 TEST RESULTS

Please refer to the APPENDIX H.

10. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions (Test Date: May 18, 2026)					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI TEST RECEIVER	R&S	ESCI	100382	Nov. 21, 2026
2	TWO-LINE V-NETWORK	R&S	ENV216	101447	Nov. 21, 2026
3	BTL_RE_System	BTL	BTL_RE_System	N/A	N/A
4	Cable	N/A	SFT205-NMNM-9M-001	9M	Jul. 08, 2026
5	643 Shield Room	ETS	6*4*3	N/A	N/A

Radiated Emissions - 9 kHz to 30 MHz (Test Date: May 15, 2026)					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Active Loop Antenna	Schwarzbeck	FMZB 1513-60	00025	Mar. 14, 2027
2	Receiver	Agilent	N9038A	MY52130039	Apr. 25, 2027
3	Cable	RegalWay	LMR400-NMNM-6m	N/A	Apr. 22, 2027
4	Cable	RegalWay	LMR400-NMRANM-3.5m	N/A	Apr. 22, 2027
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	966 Chamber room	CM	9*6*6	N/A	May 15, 2026

Radiated Emissions - 30 MHz to 1 GHz (Test Date: May 15, 2026)					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	01462	Dec. 07, 2026
2	Attenuator	EMC INSTRUMENT	EMCI-N-6-06	AT-06009	Dec. 07, 2026
3	Preamplifier	EMC INSTRUMENT	EMC001330	980998	Apr. 25, 2027
4	Cable	RegalWay	LMR400-NMNM-10m	N/A	May 10, 2027
5	Cable	RegalWay	LMR400-NMNM-3m	N/A	May 10, 2027
6	Cable	RegalWay	LMR400-NMNM-0.5m	N/A	May 10, 2027
7	Receiver	Agilent	N9038A	MY52130039	Apr. 25, 2027
8	Positioning Controller	MF	MF-7802	N/A	N/A
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	966 Chamber room	CM	9*6*6	N/A	May 14, 2027

Radiated Emissions - 1 GHz - 18 GHz
(Test Date: Jun. 04, 2026)

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Receiver	Agilent	N9038A	MY52130039	Apr. 25, 2027
2	Preamplifier	EMC INSTRUMENT	EMC118A45SE	980888	Oct. 17, 2026
3	Double Ridged Guide Antenna	ETS	3115	75846	Mar. 03, 2027
4	Cable	RegalWay	RWLP50-4.0A-SMS M-12.5M	N/A	Feb. 01, 2027
5	Cable	RegalWay	RWLP50-4.0A-NM RASM-2.5M	N/A	Feb. 01, 2027
6	Cable	RegalWay	RWLP50-4.0A-NM RASMRA-0.8M	N/A	Feb. 01, 2027
7	966 Chamber room	CM	9*6*6	N/A	May 14, 2027
8	Filter	STI	STI15-9912	N/A	May 16, 2027
9	Positioning Controller	MF	MF-7802	N/A	N/A
10	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
11	Attenuator	RegalWay	RWA-201-S-10	N/A	Apr. 25, 2027

Radiated Emissions - Above 18 GHz
(Test Date: Jun. 02, 2026)

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	MXA Signal Analyze	KEYSIGHT	N9020B	MY63430227	May 16, 2027
2	Pre-Amplifier	EMC INSTRUMENT	EMC184045SE	980911	May 18, 2027
3	Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	0 1046	Jul. 18, 2026
4	Cable	RegalWay	RWLP50-2.6A-2.92 M2.92M-2M	N/A	Jan. 06, 2027
5	Cable	RegalWay	RWLP50-2.6A-3.5 M2.92MMRA-6M	N/A	Jan. 06, 2027
6	Positioning Controller	MF	MF-7802	N/A	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	966 Chamber room	Tai He	9*6*6 (NSA&VSWR)	N/A	May 17, 2027

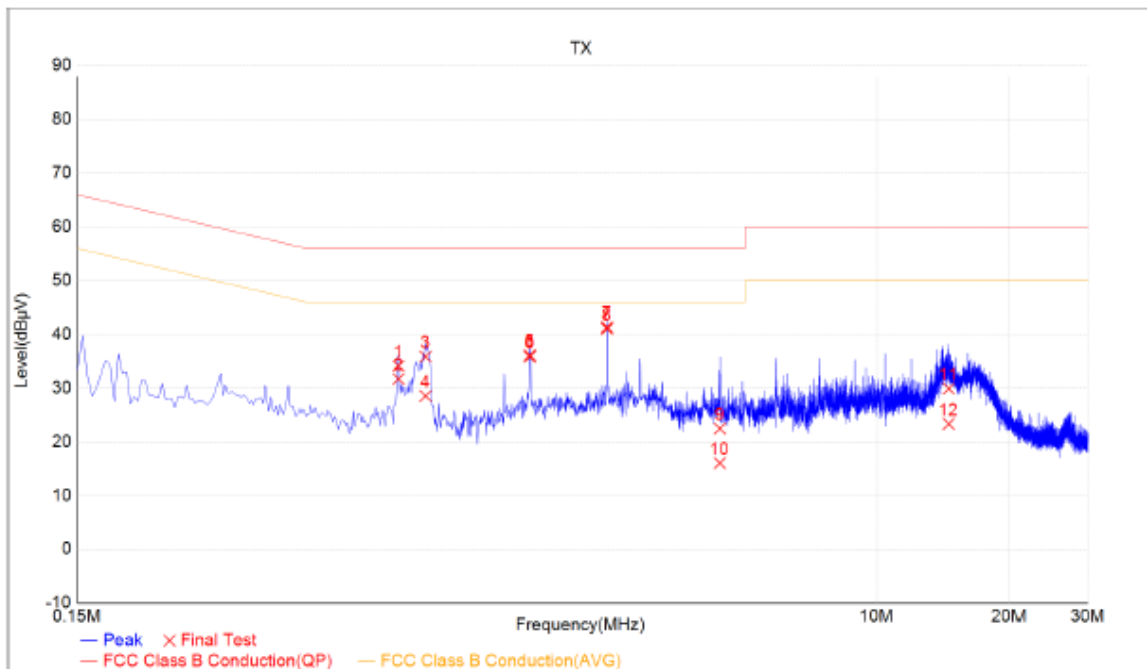
**Bandwidth &
Maximum Output Power &
Power Spectral Density &
Conducted Spurious Emission**
(Test Date: Jun. 13, 2026)

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyze	R&S	FSP40	100185	Apr. 25, 2027
2	CTA	BTL	CTA	N/A	N/A
3	Isolation attenuator	Z-Link	ASMA-16-18-2W	N/A	May 16, 2027

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Mode	TX Mode Channel 18_2Mbps	Phase	Line
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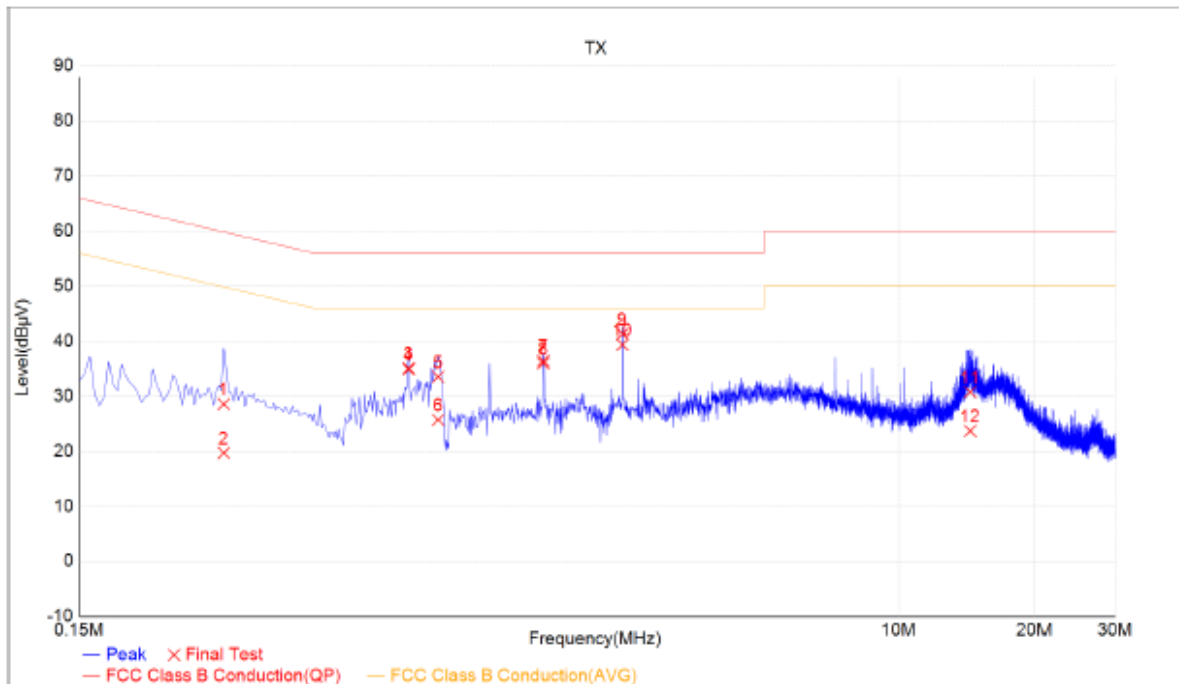


Suspected Note List									
	NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	Level [dBμV]	Limit [dBμV]	Margin [dB]	Detector	Content
	1	0.81	23.62	10.54	34.16	56	-21.84	QP	
	2	0.81	21.19	10.54	31.73	46	-14.27	AVG	
	3	0.9335	25.31	10.56	35.87	56	-20.13	QP	
	4	0.9335	17.99	10.56	28.55	46	-17.45	AVG	
	5	1.6145	25.57	10.61	36.17	56	-19.83	QP	
	6	1.6145	25.21	10.61	35.82	46	-10.18	AVG	
	7	2.4223	30.69	10.68	41.36	56	-14.64	QP	
*	8	2.4223	30.35	10.68	41.03	46	-4.97	AVG	
	9	4.3815	11.5	10.97	22.48	56	-33.52	QP	
	10	4.3815	5.09	10.97	16.06	46	-29.94	AVG	
	11	14.5701	16.94	12.99	29.93	60	-30.07	QP	
	12	14.5701	10.36	12.99	23.35	50	-26.65	AVG	

REMARKS:

- (1) Level = Reading + Factor.
- (2) Margin = Level - Limit.

Test Mode	TX Mode Channel 18_2Mbps	Phase	Neutral
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Suspected Note List									
NO.	Freq. [MHz]	Reading [dBuV]	Factor [dB]	Level [dBuV]	Limit [dBuV]	Margin [dB]	Detector	Content	
1	0.3138	18.11	10.48	28.6	59.86	-31.27	QP		
2	0.3138	9.23	10.48	19.72	49.86	-30.15	AVG		
3	0.8097	24.53	10.57	35.1	56	-20.9	QP		
4	0.8097	24.35	10.57	34.92	46	-11.08	AVG		
5	0.9415	22.98	10.58	33.56	56	-22.44	QP		
6	0.9415	15.15	10.58	25.74	46	-20.26	AVG		
7	1.6144	25.85	10.64	36.48	56	-19.52	QP		
8	1.6144	25.36	10.64	35.99	46	-10.01	AVG		
9	2.4225	30.61	10.72	41.33	56	-14.67	QP		
10	2.4225	28.66	10.72	39.38	46	-6.62	AVG		
11	14.3942	17.64	13.14	30.79	60	-29.21	QP		
12	14.3942	10.58	13.14	23.72	50	-26.28	AVG		

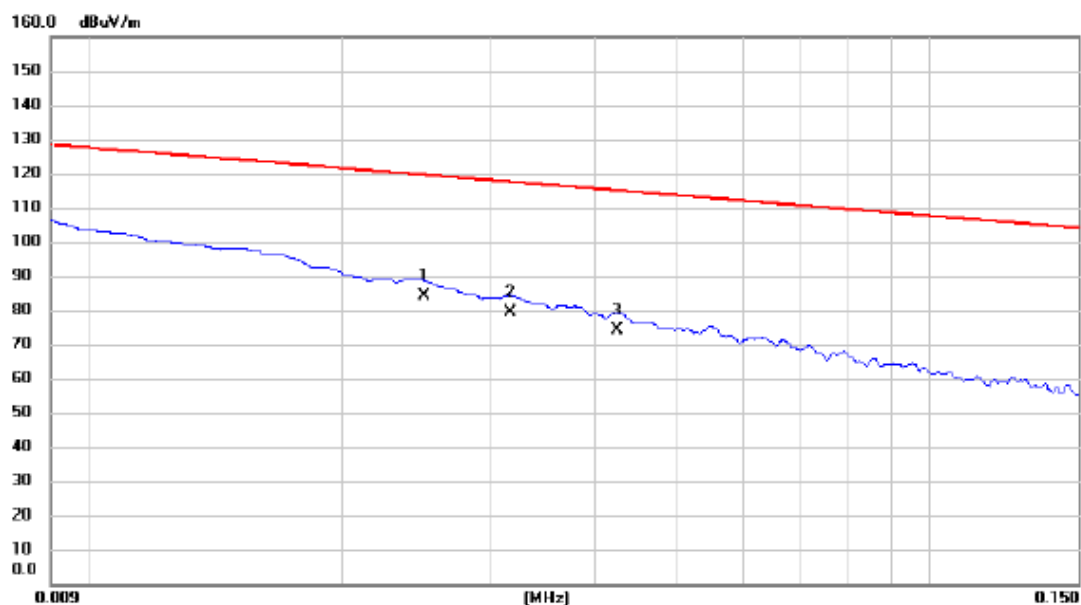
REMARKS:

(1) Level = Reading + Factor.

(2) Margin = Level - Limit.

APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Ant 0°
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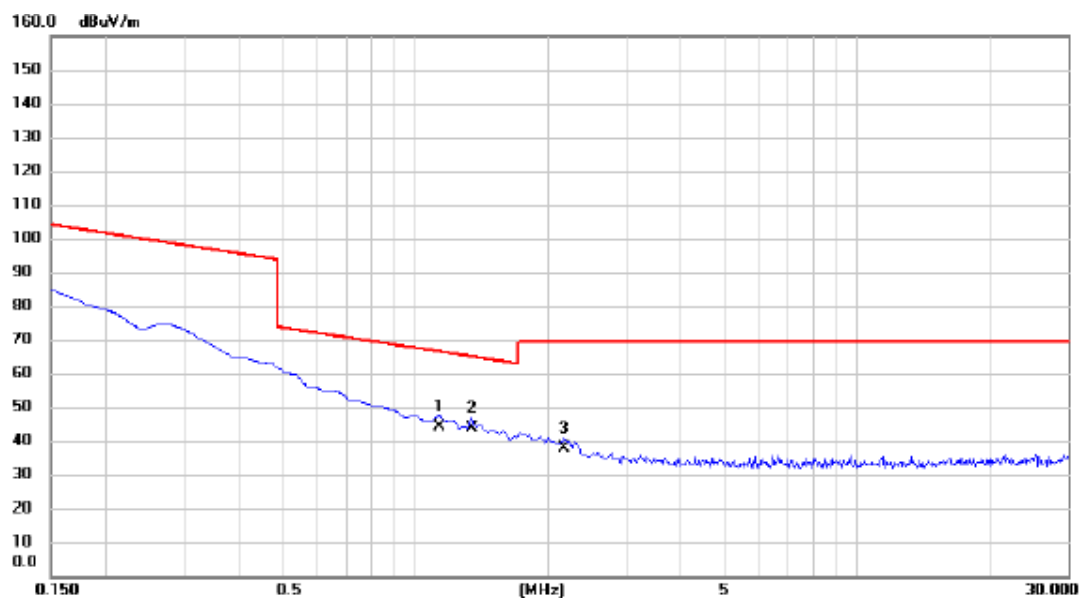
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.025	63.46	20.62	84.08	119.65	-35.57	AVG	
2		0.032	58.95	20.56	79.51	117.58	-38.07	AVG	
3		0.043	53.46	20.61	74.07	115.04	-40.97	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Ant 0°
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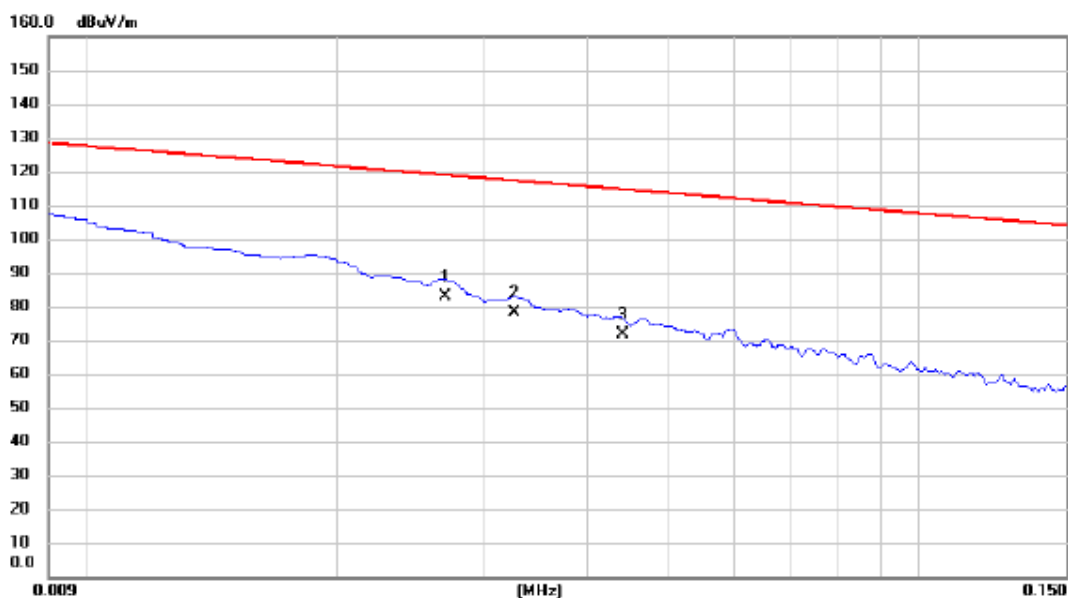
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	1.135	24.15	20.06	44.21	66.50	-22.29	QP	
2 *	1.344	23.69	20.12	43.81	65.04	-21.23	QP	
3	2.180	17.58	20.33	37.91	69.54	-31.63	QP	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Ant 90°
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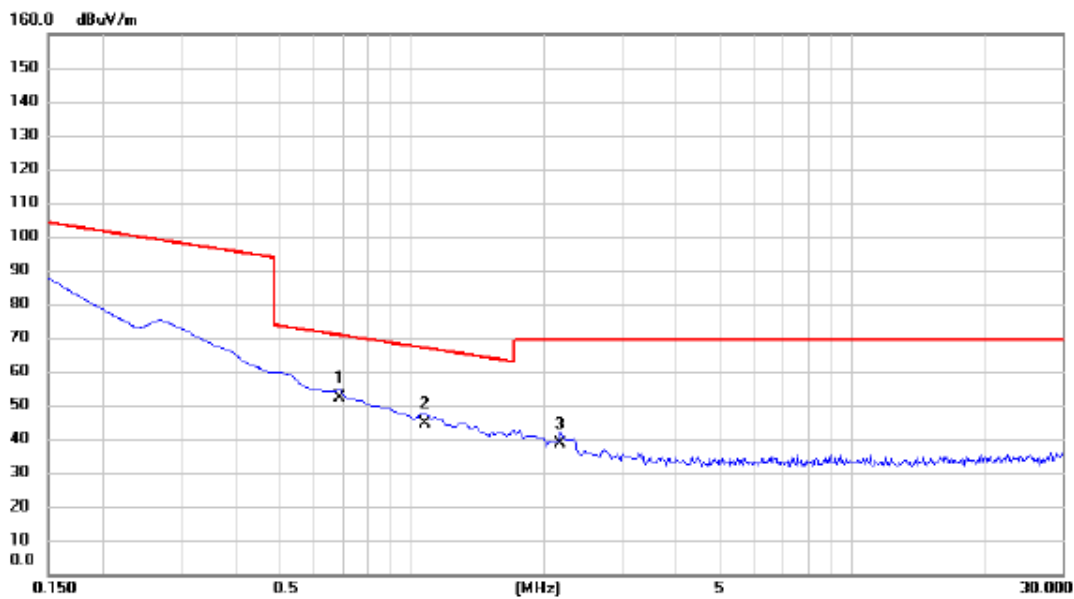


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.027	62.58	20.60	83.18	118.98	-35.80	AVG	
2		0.033	57.69	20.56	78.25	117.34	-39.09	AVG	
3		0.044	51.26	20.62	71.88	114.72	-42.84	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Ant 90°
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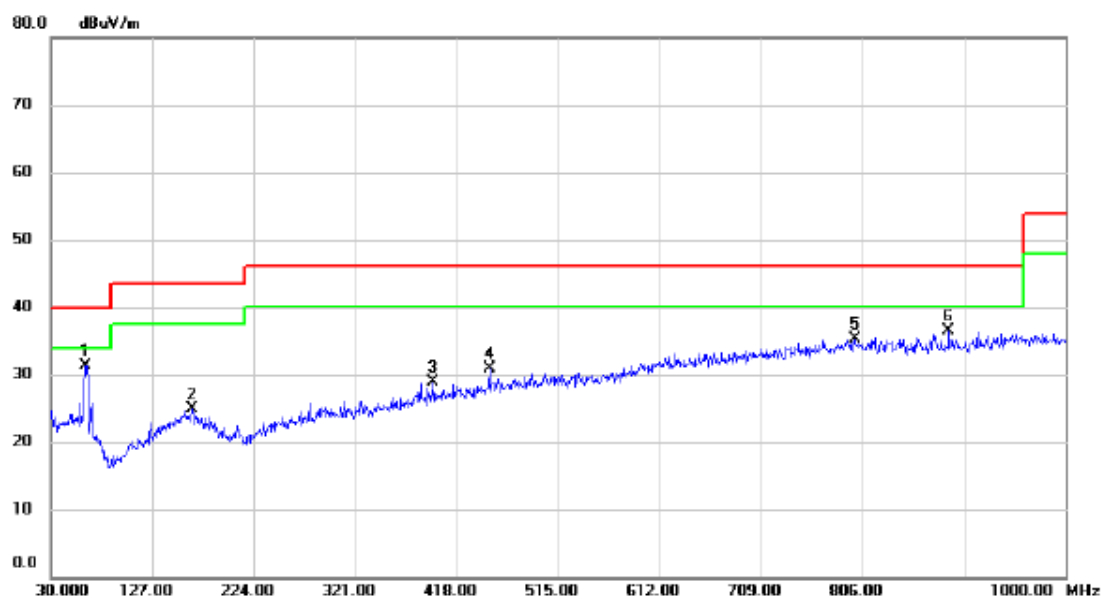
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	0.687	31.69	20.51	52.20	70.86	-18.66	QP	
2	1.075	24.58	20.04	44.62	66.97	-22.35	QP	
3	2.180	18.26	20.33	38.59	69.54	-30.95	QP	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Vertical
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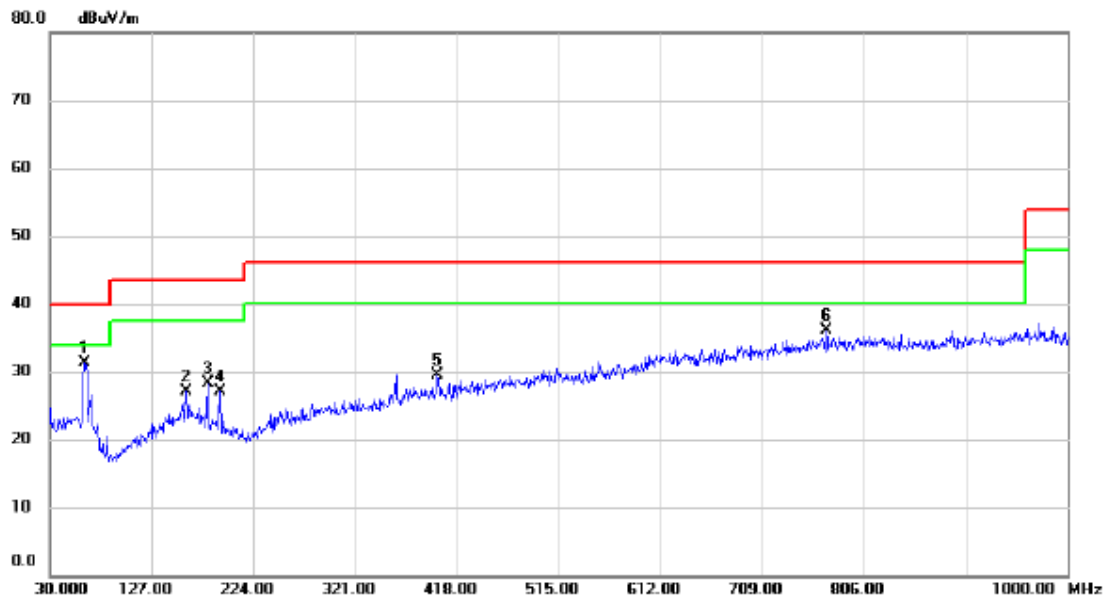
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	62.980	43.63	-12.33	31.30	40.00	-8.70	peak	
2	164.830	36.48	-11.58	24.90	43.52	-18.62	peak	
3	395.690	37.56	-8.64	28.92	46.02	-17.10	peak	
4	449.040	37.93	-6.97	30.96	46.02	-15.06	peak	
5	798.240	36.31	-0.97	35.34	46.02	-10.68	peak	
6	888.450	37.45	-0.86	36.59	46.02	-9.43	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Horizontal
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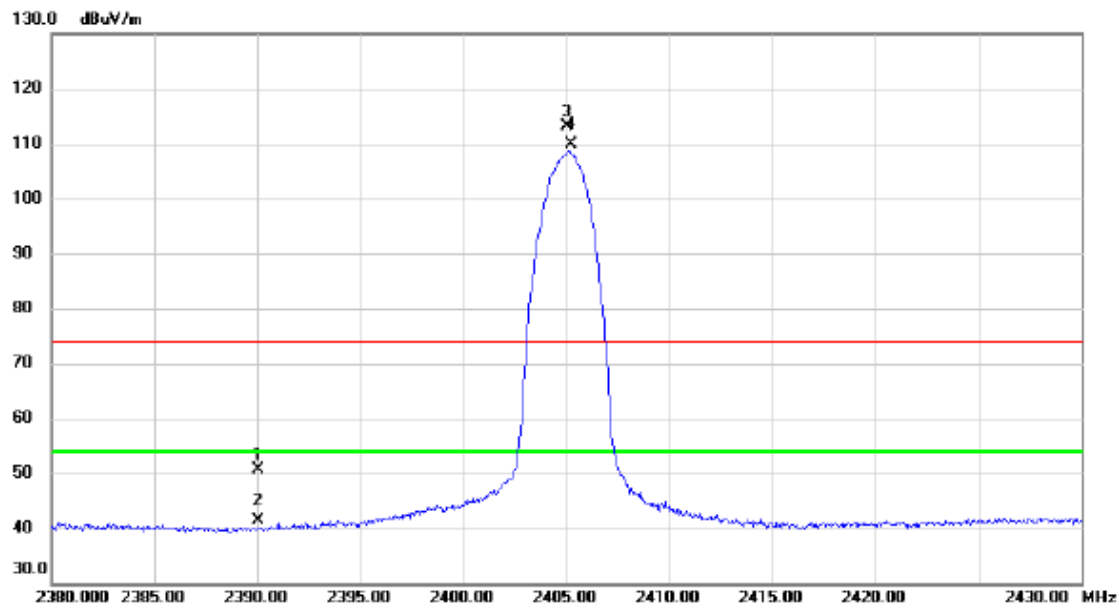
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	62.980	43.59	-12.33	31.26	40.00	-8.74	peak	
2		159.980	38.39	-11.32	27.07	43.52	-16.45	peak	
3		180.350	41.07	-12.80	28.27	43.52	-15.25	peak	
4		191.990	40.89	-13.82	27.07	43.52	-16.45	peak	
5		399.570	38.18	-8.60	29.58	46.02	-16.44	peak	
6		770.110	37.55	-1.53	36.02	46.02	-10.00	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

Test Mode	TX Mode Channel 11_2Mbps	Polarization	Vertical
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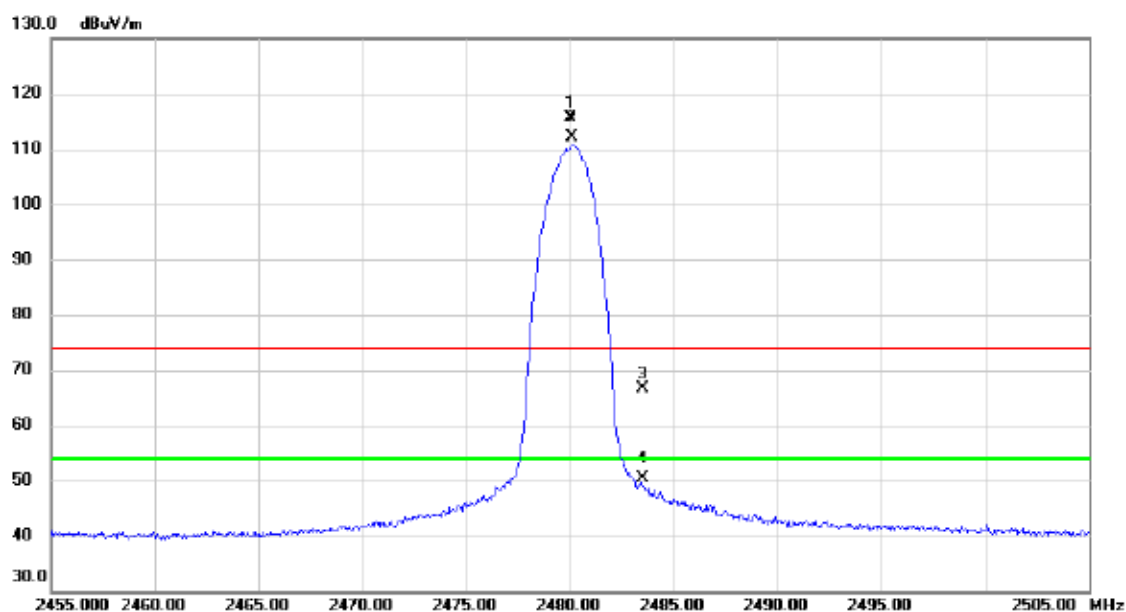
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2390.000	42.63	8.05	50.68	74.00	-23.32	peak	
2		2390.000	33.30	8.05	41.35	54.00	-12.65	AVG	
3	X	2405.000	104.97	8.06	113.03	74.00	39.03	peak	No Limit
4	*	2405.250	101.93	8.07	110.00	54.00	56.00	AVG	No Limit

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 26_2Mbps	Polarization	Vertical
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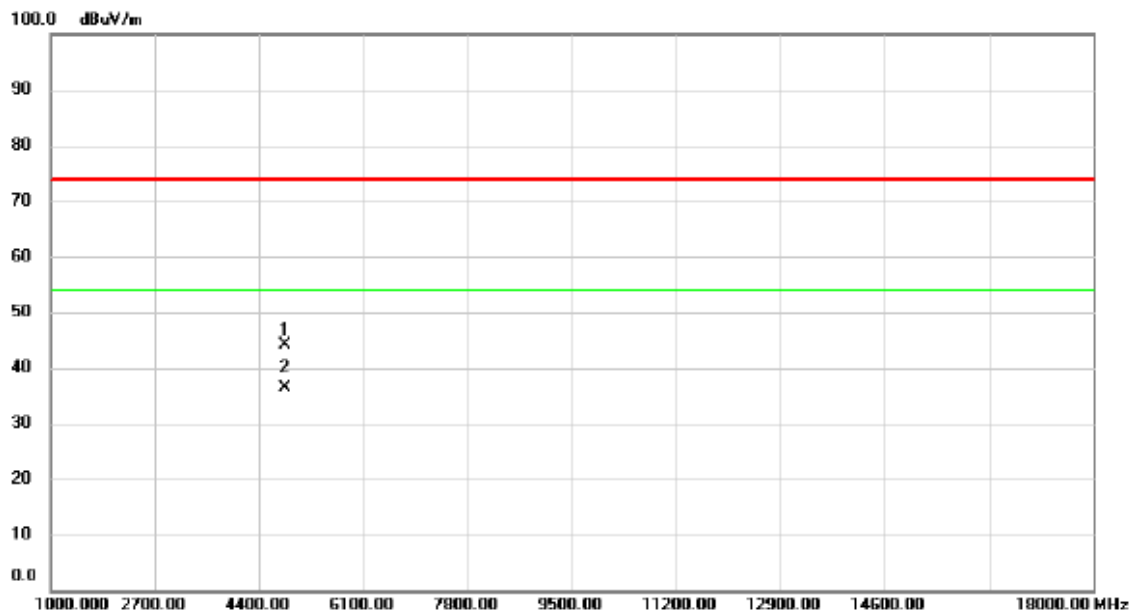


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2480.000	107.52	8.11	115.63	74.00	41.63	peak	No Limit
2	*	2480.100	104.03	8.11	112.14	54.00	58.14	AVG	No Limit
3		2483.500	58.48	8.11	66.59	74.00	-7.41	peak	
4		2483.500	42.38	8.11	50.49	54.00	-3.51	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 11_2Mbps	Polarization	Horizontal
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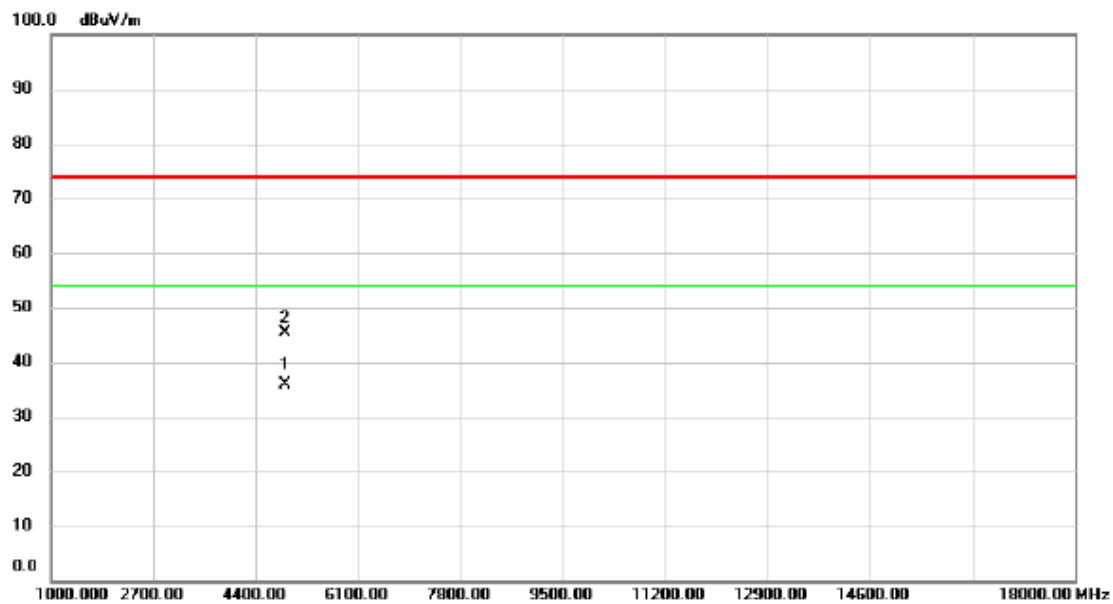
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		4809.890	40.89	3.36	44.25	74.00	-29.75	peak	
2	*	4810.770	33.09	3.36	36.45	54.00	-17.55	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Horizontal
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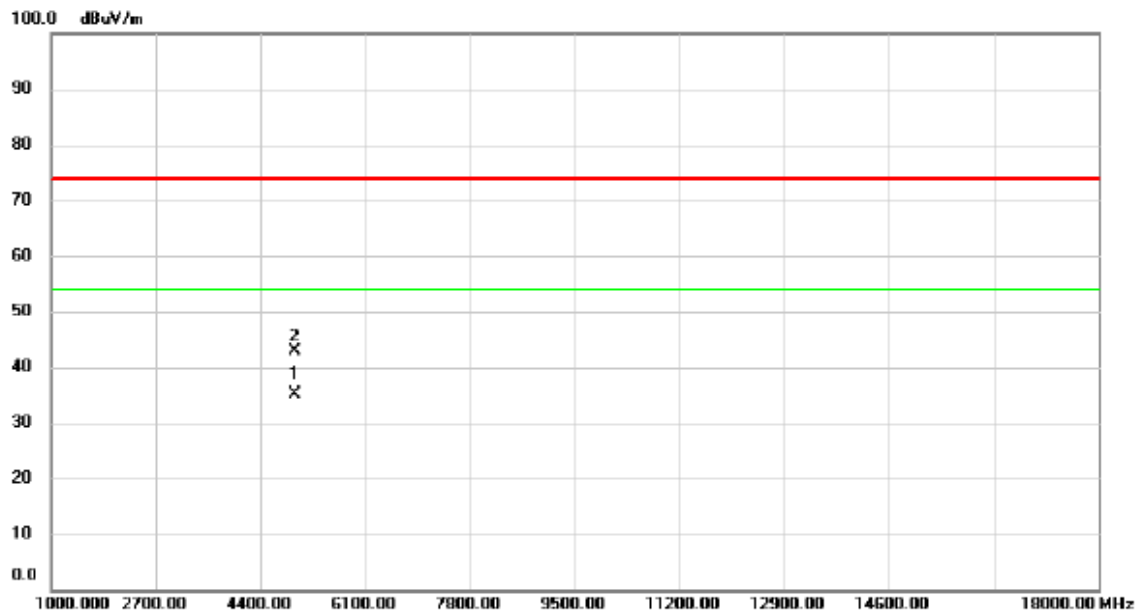
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	4881.040	32.39	3.60	35.99	54.00	-18.01	AVG	
2		4879.790	41.70	3.60	45.30	74.00	-28.70	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 26_2Mbps	Polarization	Horizontal
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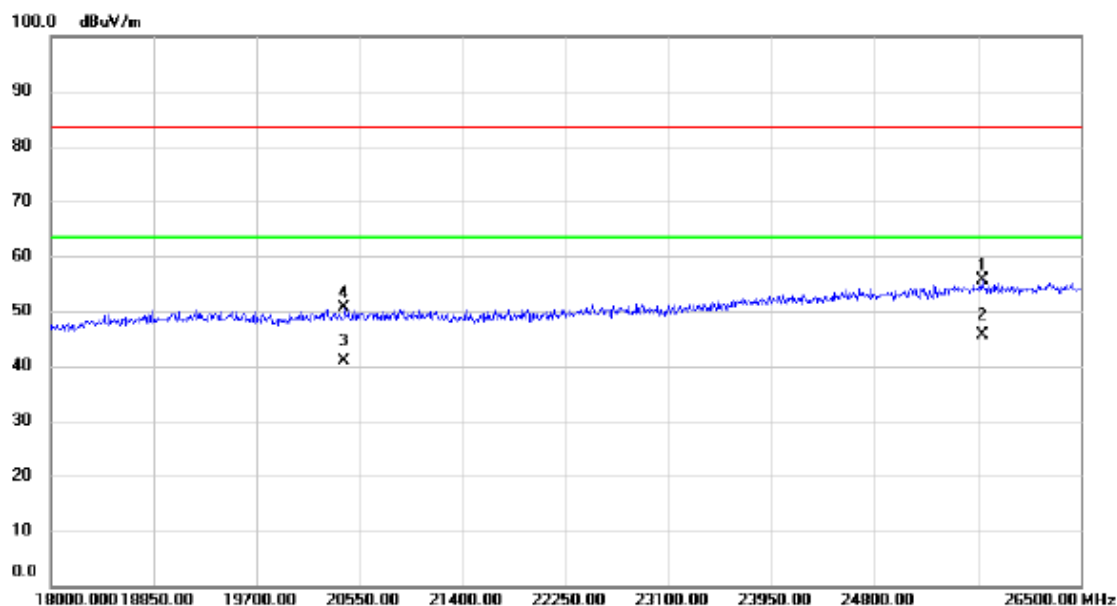


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1 *	4960.950	31.30	3.89	35.19	54.00	-18.81	AVG	
2	4960.990	38.88	3.89	42.77	74.00	-31.23	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Vertical
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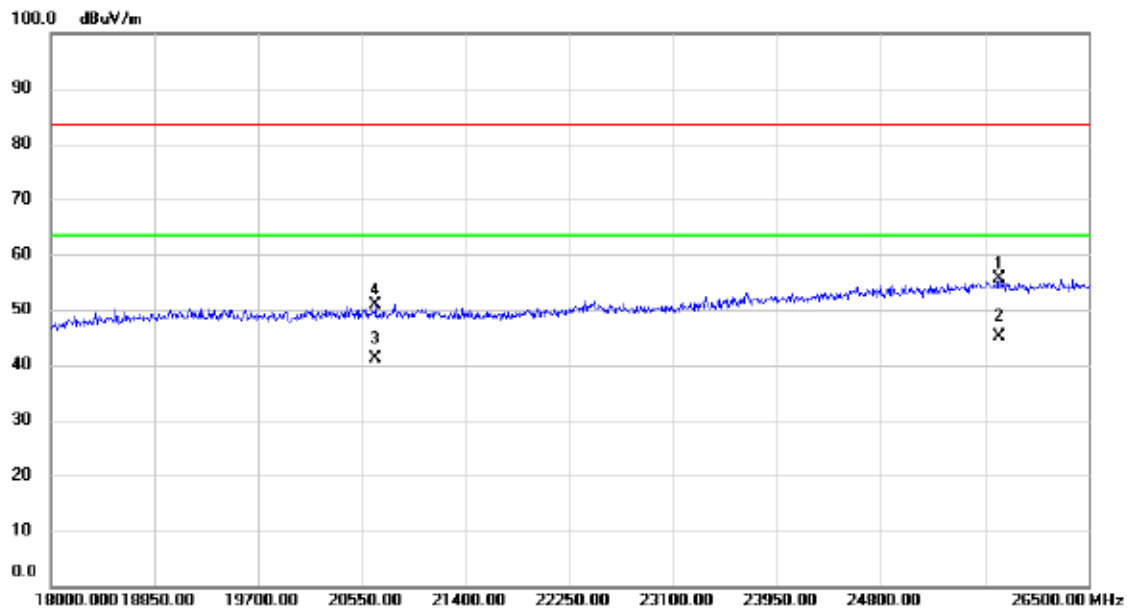
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		25684.000	47.05	8.55	55.60	83.50	-27.90	peak	
2	*	25684.000	37.00	8.55	45.55	63.50	-17.95	AVG	
3		20422.500	38.45	2.37	40.82	63.50	-22.68	AVG	
4		20422.500	48.15	2.37	50.52	83.50	-32.98	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 18_2Mbps	Polarization	Horizontal
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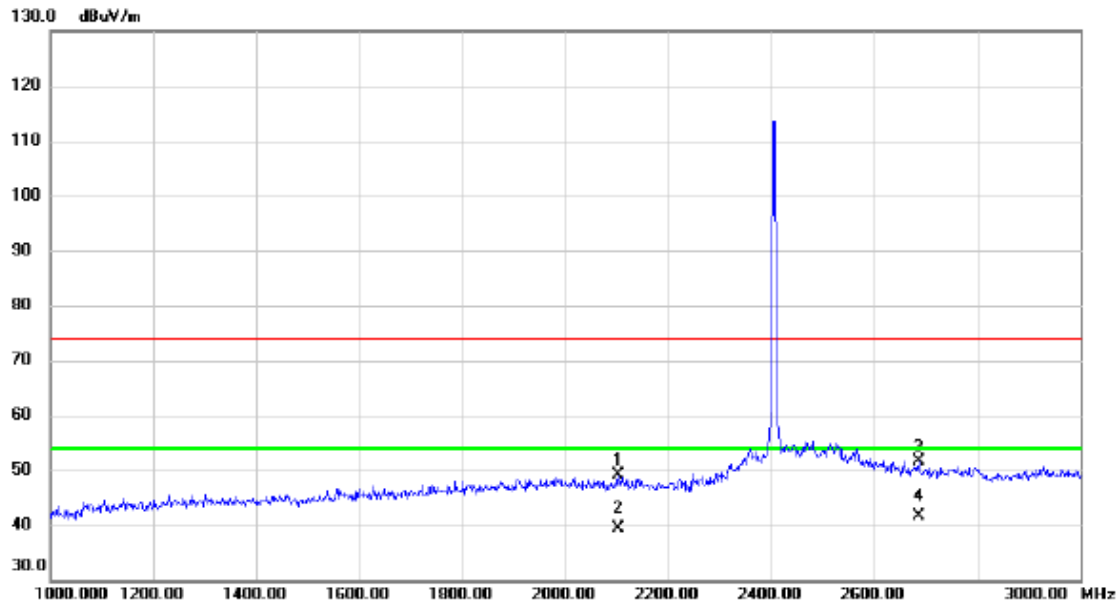
No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	25769.000	46.95	8.58	55.53	83.50	-27.97	peak	
2 *	25769.000	36.49	8.58	45.07	63.50	-18.43	AVG	
3	20660.500	38.48	2.55	41.03	63.50	-22.47	AVG	
4	20660.500	48.45	2.55	51.00	83.50	-32.50	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Worst case:

Test Mode	TX Mode Channel 11_2Mbps	Polarization	Vertical
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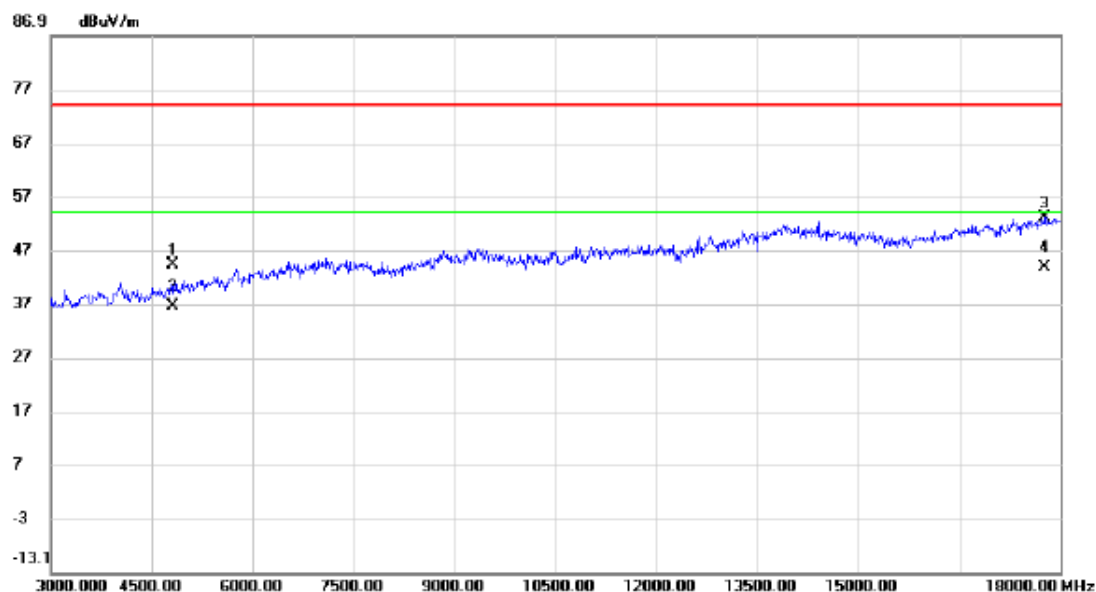


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		2102.000	41.32	7.86	49.18	74.00	-24.82	peak	
2		2102.000	31.56	7.86	39.42	54.00	-14.58	AVG	
3		2686.000	42.70	9.00	51.70	74.00	-22.30	peak	
4	*	2686.000	32.66	9.00	41.66	54.00	-12.34	AVG	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
 (2) Margin Level = Measurement Value - Limit Value.

Test Mode	TX Mode Channel 11_2Mbps	Polarization	Vertical
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4809.890	40.89	3.36	44.25	74.00	-29.75	peak	
2		4810.770	33.09	3.36	36.45	54.00	-17.55	AVG	
3		17775.000	37.32	15.63	52.95	74.00	-21.05	peak	
4 *		17775.000	28.16	15.63	43.79	54.00	-10.21	AVG	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

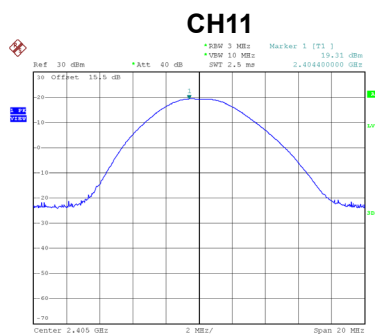
APPENDIX E - BANDWIDTH

APPENDIX F - MAXIMUM OUTPUT POWER

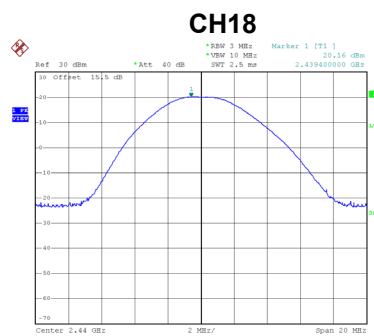
Test Mode	TX Mode_2Mbps
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Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2405	19.31	0.0853	30.00	1.0000	Pass
2440	20.16	0.1038	30.00	1.0000	Pass
2480	18.88	0.0773	30.00	1.0000	Pass

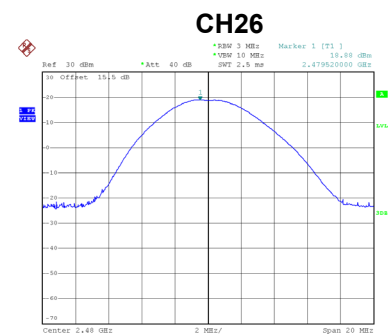
Note: Output power = Measure result + Cable loss



Date: 13 JUN 2026 09:22:11



Date: 13 JUN 2026 09:26:47

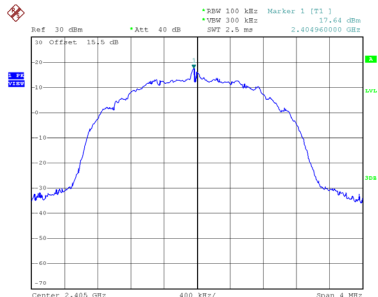


Date: 13 JUN 2026 09:34:46

APPENDIX G - CONDUCTED SPURIOUS EMISSION

Test Mode TX Mode_2Mbps

Reference Level-CH11

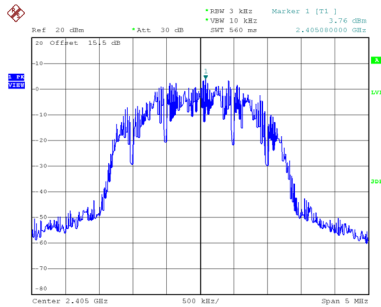


APPENDIX H - POWER SPECTRAL DENSITY

Test Mode	TX Mode_2Mbps
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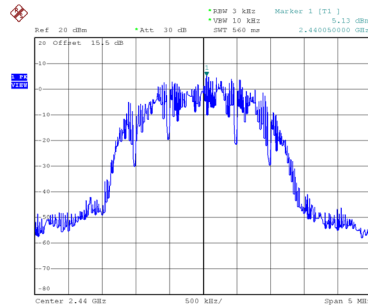
Channel	Frequency (MHz)	Power Spectral Density (dBm/3 kHz)	Max. Limit (dBm/3 kHz)	Test Result
11	2405	3.76	8.00	Pass
18	2440	5.13	8.00	Pass
26	2480	4.44	8.00	Pass

CH11



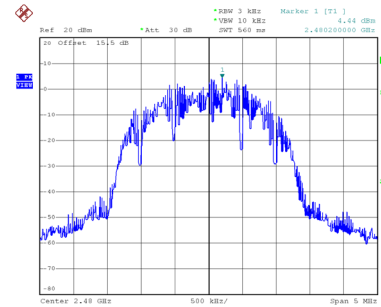
Date: 13.JUN.2026 09:24:00

CH18



Date: 13.JUN.2026 09:27:23

CH26



Date: 13.JUN.2026 09:35:22

End of Test Report