

# FCC Radio Test Report

# FCC ID: 2AUTE-FT800

This report concerns: Original Grant

Project No.	:	2103C008
Equipment	:	Wireless Home Printer
Brand Name	:	HPRT, iDPRT
Test Model	:	FT800
Series Model	:	Future800
Applicant	:	Xiamen Hanin Electronic Technology Co.,Ltd.
Address	:	Room 305A, Angye Building, Pioneering Park, Torch High-tech, Zone,
		Xiamen
Manufacturer	:	Xiamen Hanin Electronic Technology Co.,Ltd.
Address	:	Room 305A, Angye Building, Pioneering Park, Torch High-tech, Zone,
		Xiamen
Factory	:	Xiamen Hanin Electronic Technology Co.,Ltd.
Address	:	96# Rongyuan Road,Tong'an District,Xiamen
Date of Receipt	:	Mar. 04, 2021
Date of Test	:	Mar. 08, 2021 ~ Jun. 01, 2021
Issued Date	:	Jun. 16, 2021
<b>Report Version</b>	:	R00
Test Sample	:	Engineering Sample No.: DG2021030837 for conducted,
		DG2021030838 for radiated.
Standard(s)	:	FCC CFR Title 47, Part 15, Subpart C FCC KDB 558074 D01 15.247 Meas Guidance v05r02 FCC KDB 662911 D01 Multiple Transmitter Output v02r01 ANSI C63.10-2013

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

Vincent. Tan

Prepared by : Vincent Tan

Chan Ma

Approved by : Ethan Ma



Certificate #5123.02

Add: No.3, Jinshagang 1st Road, Shixia, Dalang Town,Dongguan, Guangdong, China. Tel: +86-769-8318-3000 Web: www.newbtl.com



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#### 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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# **APPENDIX H - POWER SPECTRAL DENSITY**

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## **REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	Jun. 16, 2021

# **1. 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 Emissions	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 in this test report.(2) The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.



#### 1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China BTL's Test Firm Registration Number for FCC: 357015 BTL's Designation Number for FCC: CN1240

BTL'S Designation Number for FCC. CN 1240

#### **1.2 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% confidence level (based on a coverage factor (k=2)) The BTL measurement uncertainty as below table:

A. AC power line conducted emissions test:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.68

B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
		9kHz ~ 30MHz	-	3.02
		30MHz ~ 200MHz	V	4.26
DG-CB03	CISPR	30MHz ~ 200MHz	Н	3.38
		200MHz ~ 1,000MHz	V	3.98
		200MHz ~ 1,000MHz	Н	3.94
		1GHz ~ 6GHz	I	3.96
		6GHz ~ 18GHz	I	5.24
		18GHz ~ 26.5GHz	I	3.62
		26.5GHz ~ 40GHz	-	4.00

#### C. Other Measurement:

Test Item	Uncertainty
Bandwidth	±3.8 %
Maximum Output Power	±0.95 dB
Conducted Spurious Emission	±2.71 dB
Power Spectral Density	±0.86 dB
Temperature	±0.08 °C
Humidity	±1.5%

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

#### **1.3 TEST ENVIRONMENT CONDITIONS**

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	53%	AC 120V/60Hz	Hand Huang
Radiated Emissions-9kHz to 30 MHz	25°C	60%	AC 120V/60Hz	Hayden Chen
Radiated Emissions-30MHz to 1000MHz	26°C	52%	AC 120V/60Hz	Hayden Chen
Radiated Emissions-Above 1000MHz	26°C	52%	AC 120V/60Hz	Hayden Chen
Bandwidth	24°C	52%	AC 120V/60Hz	Kwok Guo
Maximum Output Power	24°C	52%	AC 120V/60Hz	Hand Huang
Conducted Spurious Emissions	24°C	52%	AC 120V/60Hz	Kwok Guo
Power Spectral Density	24°C	52%	AC 120V/60Hz	Kwok Guo

# 2. GENERAL INFORMATION

#### 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless Home Printer
Brand Name	HPRT, iDPRT
Test Model	FT800
Series Model	Future800
Model Difference(s)	Only differ in model name, the internal circuit, panel, enclosure and power board are all the same.
Power Source	DC voltage supplied from AC adapter. Model: AP091G-140300
Power Rating	I/P: 100-240V~ 50/60Hz 1.5A Max. O/P: 14.0V === 3.0A
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM
Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps
Maximum Output Power	IEEE 802.11b: 21.52 dBm (0.1419 W)

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

#### 2. Channel List:

CH01 - CH11 for IEEE 802.11b, IEEE 802.11g							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

#### 3. Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	BAT WIRELESS	BW258FNX50-9B4	FPC	I-Pex or competitor	3.0

Note: The antenna gain is provided by the manufacturer.

### 2.2 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 B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX B Mode Channel 01

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 3	TX B Mode Channel 01	

Radiated emissions test - Below 1GHz		
Final Test Mode	Description	
Mode 3	TX B Mode Channel 01	

Radiated emissions test- Above 1GHz		
Final Test Mode	Description	
Mode 1	TX B Mode Channel 01/06/11	
Mode 2	TX G Mode Channel 01/06/11	

Conducted test		
Final Test Mode	Description	
Mode 1	TX B Mode Channel 01/06/11	
Mode 2	TX G Mode Channel 01/06/11	

NOTE:

- (1) All the bit rate of transmitter have been tested and found the lowest rate is found to be the worst case and recorded.
- (2) For AC power line conducted emissions and radiated emission below 1 GHz test, the TX B Mode Channel 01 is found to be the worst case and recorded.
- (3) 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.

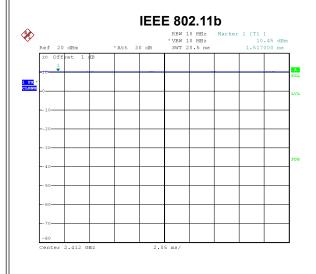


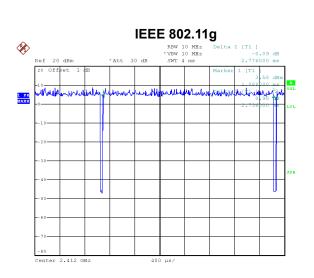
### 2.3 PARAMETERS OF TEST SOFTWARE

Test Software Version	sscom5.13.1		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	40	40	40
IEEE 802.11g	40	40	40

# **BIL**

# 2.4 DUTY CYCLE





Date: 16.MAY.2021 16:14:46

Duty cycle = 20.500 ms / 20.500 ms = 100% Duty Factor = 10 log(1/Duty cycle) = 0.00 Date: 16.MAY.2021 16:10:52

Duty cycle = 2.736 ms / 2.776 ms = 98.56% Duty Factor = 10 log(1/Duty cycle) = 0.00

#### NOTE:

For IEEE 802.11b:

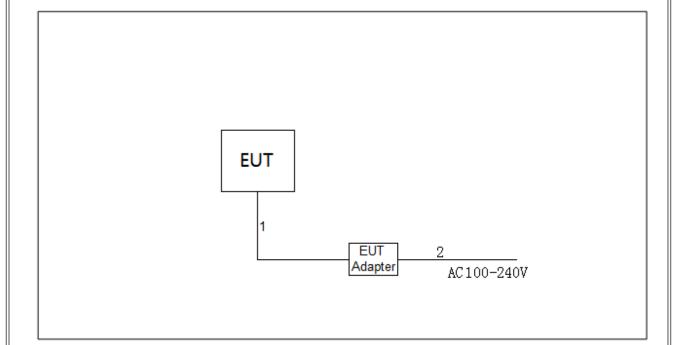
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz.

For IEEE 802.11g:

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1 kHz.



#### 2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



#### 2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
-	-	-	-	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.2m
2	AC Cable	NO	NO	1.5m



# 3. AC POWER LINE CONDUCTED EMISSIONS

#### 3.1 LIMIT

Frequency of Emission (MHz)	Limit (dBµV)		
Frequency of Emission (MHz)	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.

#### 3.2 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:

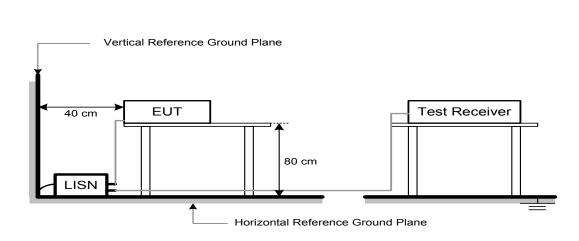
Receiver Parameters	Setting	
Start Frequency	0.15 MHz	
Stop Frequency	30 MHz	
IF Bandwidth	9 kHz	

#### 3.3 DEVIATION FROM TEST STANDARD

No deviation.



# 3.4 TEST SETUP



#### 3.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

#### 3.6 TEST RESULTS

Please refer to the APPENDIX A.



# 4. RADIATED EMISSIONS

#### 4.1 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)	(dBuV/m at 3 m)		
Frequency (MHz)		Peak	Average
	Above 1000	74	54

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).

#### 4.2 TEST PROCEDURE

- a. 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)
- b. The measuring distance of 3 m 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 1 GHz)
- c. 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.
- d. 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).
- e. 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.
- f. 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.
- g. 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)
- h. 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)
- i. 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 Frequency9 kHz~150 kHz for RBW 200				
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	1 MHz / 3 MHz for PK value
(Emission in restricted band)	1 MHz / 1/T Hz for AVG value

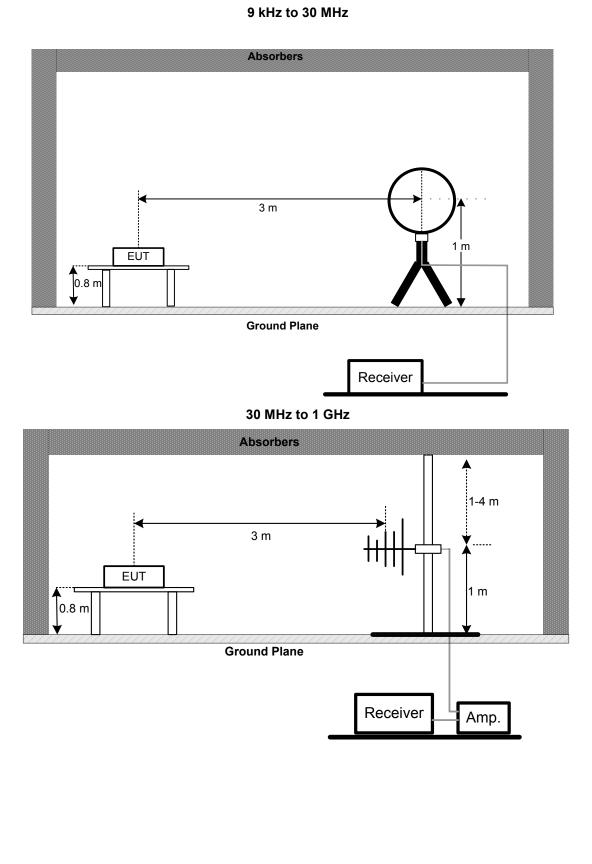
Descion Descentary	Q-ttlar
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector



# 4.3 DEVIATION FROM TEST STANDARD

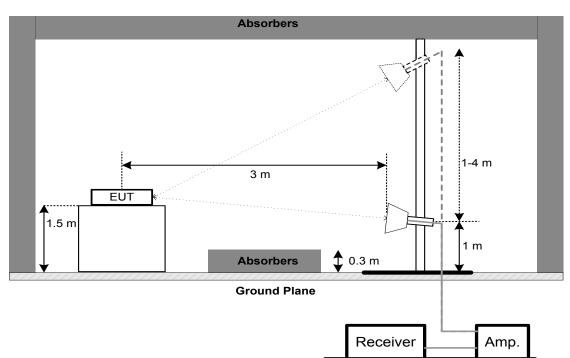
No deviation.

#### 4.4 TEST SETUP





#### Above 1 GHz



#### 4.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 4.6 TEST RESULTS - 9 KHZ TO 30 MHZ

Please refer to the APPENDIX B.

#### Remark:

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

#### 4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

#### 4.8 TEST RESULTS - 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.



## 5. BANDWIDTH

#### 5.1 LIMIT

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

#### 5.2 TEST PROCEDURE

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

For 6 dB Bandwidth:

Spectrum ParametersSettingSpan Frequency> Measurement BandwidthRBW100 kHzVBW300 kHzDetectorPeakTraceMax Hold		
RBW     100 kHz       VBW     300 kHz       Detector     Peak       Trace     Max Hold	Spectrum Parameters	Setting
VBW     300 kHz       Detector     Peak       Trace     Max Hold	Span Frequency	> Measurement Bandwidth
Detector     Peak       Trace     Max Hold	RBW	100 kHz
Trace Max Hold	VBW	300 kHz
	Detector	Peak
	Trace	Max Hold
Sweep Time Auto	Sweep Time	Auto

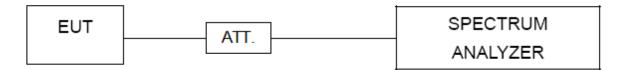
#### For 99% Emission Bandwidth:

Spectrum Parameters	Setting	
Span Frequency	Between 1.5 times and 5.0 times the OBW	
RBW	300 kHz For 20MHz 1 MHz For 40MHz	
VBW	1 MHz For 20MHz 3 MHz For 40MHz	
Detector	Peak	
Trace	Max Hold	
Sweep Time	Auto	

5.3 DEVIATION FROM STANDARD

No deviation.

#### 5.4 TEST SETUP



#### 5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 5.6 TEST RESULTS

Please refer to the APPENDIX E.



## 6. MAXIMUM OUTPUT POWER

#### 6.1 LIMIT

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

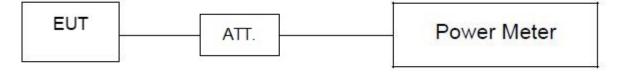
#### 6.2 TEST PROCEDURE

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below.
- b. The maximum conducted output power was performed in accordance with method 11.9.1.3 of ANSI C63.10-2013.

#### 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 F.



# 7. CONDUCTED SPURIOUS EMISSIONS

#### 7.1 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.

#### 7.2 TEST PROCEDURE

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

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

#### 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 G.



# 8. POWER SPECTRAL DENSITY

#### 8.1 LIMIT

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

#### 8.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	25 MHz (20 MHz)
RBW	3 kHz
VBW	10 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 H.

# 9. MEASUREMENT INSTRUMENTS LIST

	AC Power Line Conducted Emissions				
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Feb. 28, 2022
2	LISN	EMCO	3816/2	52765	Feb. 27, 2022
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	Feb. 27, 2022
4	50Ω Terminator	SHX	TF5-3	15041305	Feb. 27, 2022
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 09, 2022
7	643 Shield Room	ETS	6*4*3m	N/A	N/A

	Radiated Emissions - 9 kHz to 30 MHz				
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Loop Antenna	EM	EM-6876-1	230	Apr. 28, 2022
2	Cable	N/A	RG 213/U	N/A	May 29, 2022
3	EMI Test Receiver	R&S	ESCI	100895	Feb. 27, 2022
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
5	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021

	Radiated Emissions - 30 MHz to 1 GHz								
Item	Item Kind of Equipment Manufactu		Type No.	Serial No.	Calibrated until				
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 15, 2022				
2	Amplifier	HP	8447D	2944A08742	Feb. 28, 2022				
3	Receiver	Agilent	N9038A	MY52130039	Jul. 25, 2021				
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 22, 2022				
5	Controller	СТ	SC100	N/A	N/A				
6	Controller	Controller MF		MF780208416	N/A				
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A				
8	966 Chambe Room	966 Chambe Room RM		N/A	Jul. 25, 2021				

Radiated Emissions - Above 1 GHz								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until			
1	Double Ridged Guide Antenna	ETS	3115	75846	Mar. 17, 2022			
2	Broad-Band Horn Antenna	Schwarzbeck BBHA 9170 9170319		9170319	Jul. 07, 2021			
3	Amplifier	Agilent	8449B	3008A02584	Jul. 25, 2021			
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045 980039 & HA01		Feb. 28, 2022			
5	Receiver	Agilent	N9038A	MY52130039	Jul. 25, 2021			
6	Controller	СТ	SC100	N/A	N/A			
7	Controller	MF	MF-7802	MF780208416	N/A			
8	Cable	N/A	EMC104-SM-SM-6 000	N/A	Oct. 16, 2021			
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A			
10	Filter	STI	STI15-9912	N/A	Jul. 25, 2021			
11	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021			



Bandwidth & Conducted Spurious Emissions & Power Spectral Density									
Item	Item Kind of Equipment Manufacturer Type No. Serial No. Calibrated unti								
1 Spectrum Analyzer R&S FSP40 100185 Jul. 25, 202									
2	2 Attenuator WOKEN 6SM3502 VAS1214NL Feb. 07, 202								
3	3 RF Cable Tongkaichuan N/A N/A N/A								
4 DC Block Mini N/A N/A N/A									

	Maximum Output Power								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Peak Power Analyzer	Keysight	8990B	MY51000506	Aug. 07, 2021				
2	Wideband power sensor	Keysight	N1923A	MY58310004	Jul. 25, 2021				
3	Attenuator WOKEN		6SM3502	VAS1214NL	Feb. 07, 2022				
4	RF Cable	Tongkaichuan	N/A	N/A	N/A				

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.



# 10. EUT TEST PHOTO

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#### AC Power Line Conducted Emissions Test Photos

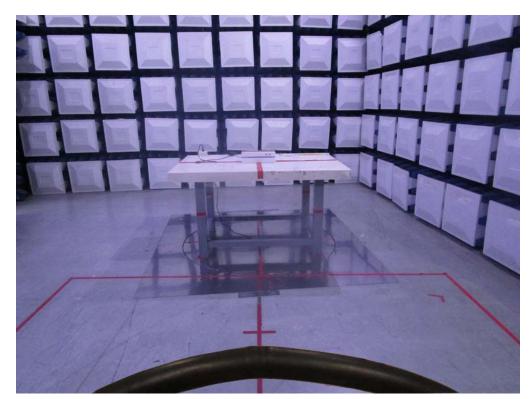


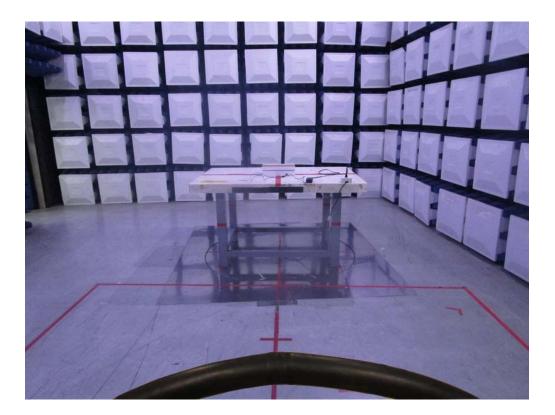




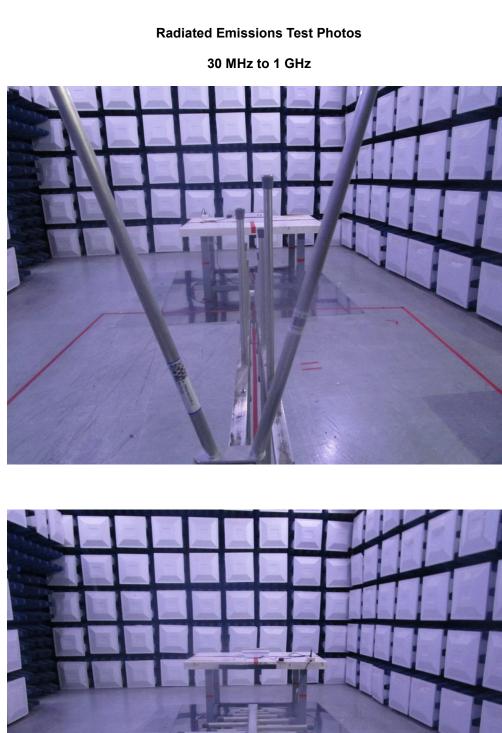
**Radiated Emissions Test Photos** 

9 kHz to 30 MHz





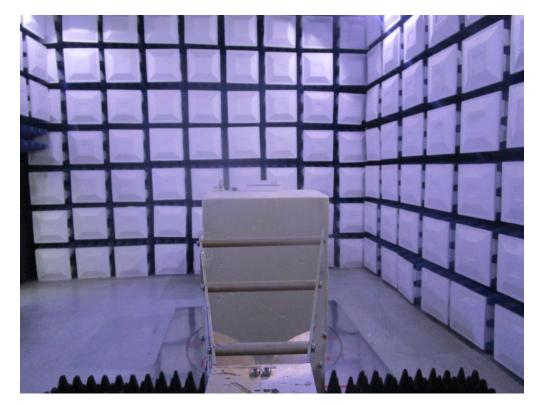






**Radiated Emissions Test Photos** 

Above 1 GHz

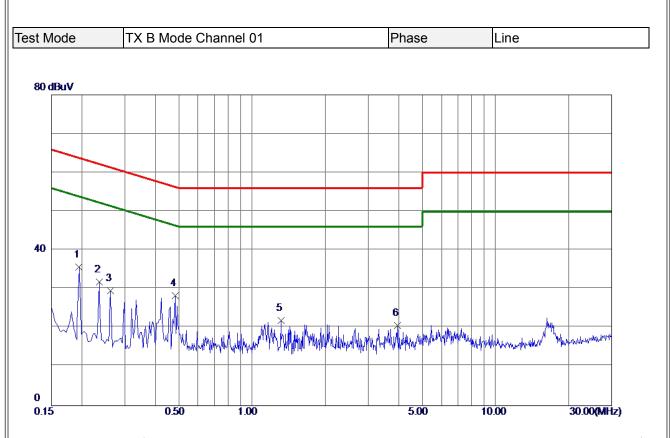






# **APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS**

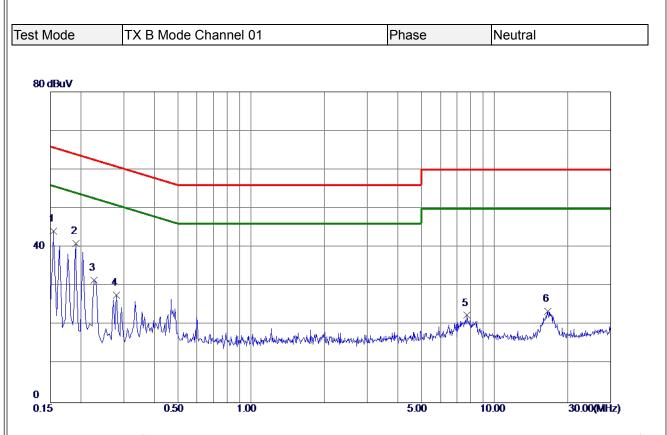




No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1949	25.77	9.89	35.66	63.83	-28.17	Peak	
2	0.2355	21.98	9.88	31.86	62.25	-30. 39	Peak	
3	0.2625	19.68	9.87	29.55	61.35	-31.80	Peak	
4 *	0.4830	18.42	9.92	28.34	56.29	-27.95	Peak	
5	1.3154	11.97	10.00	21.97	56.00	-34. 03	Peak	
6	3. 9480	10. 51	10.20	20.71	56.00	-35. 29	Peak	

- Measurement Value = Reading Level + Correct Factor.
   Margin Level = Measurement Value Limit Value.





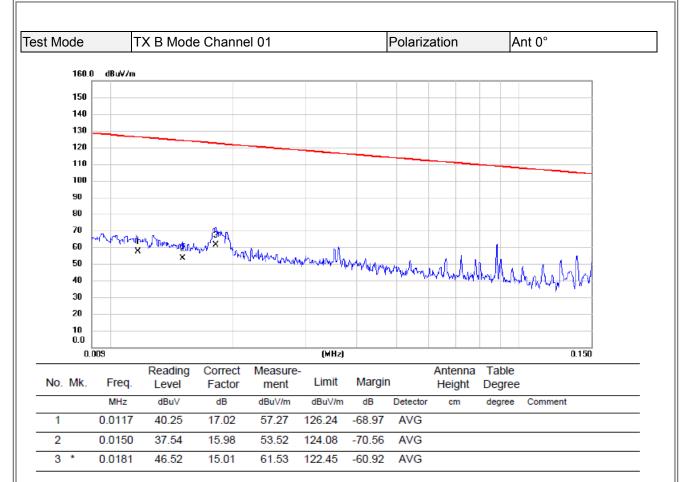
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.1544	34.45	9.78	44.23	65.76	-21.53	Peak	
2	0.1905	<b>31. 03</b>	9.97	41.00	<b>64.01</b>	-23. <b>0</b> 1	Peak	
3	0.2267	21.55	9.99	<b>31. 54</b>	62.57	-31.03	Peak	
4	0.2805	17.64	9.99	27.63	60.80	-33.17	Peak	
5	7.7010	11.65	10.83	22.48	60.00	-37. 52	Peak	
6	16. 5660	12.36	11.10	23. 46	60.00	-36. 54	Peak	

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



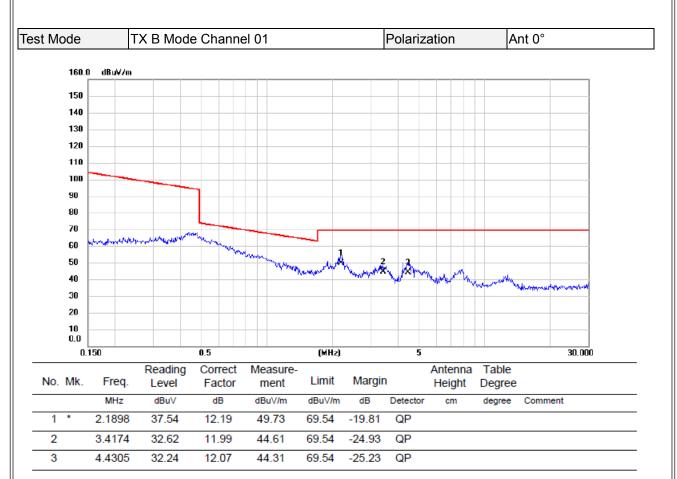
# **APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ**

# **BIL**



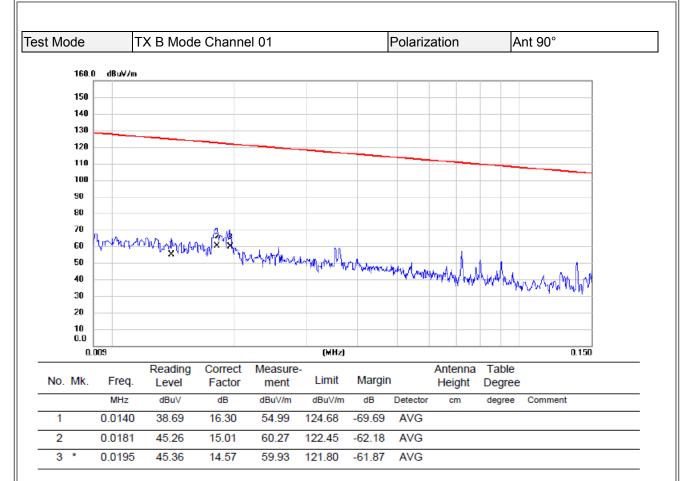
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





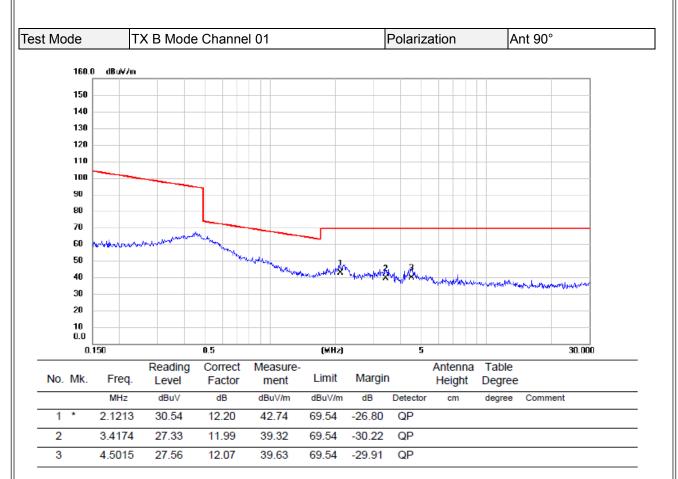
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

# **BIL**



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



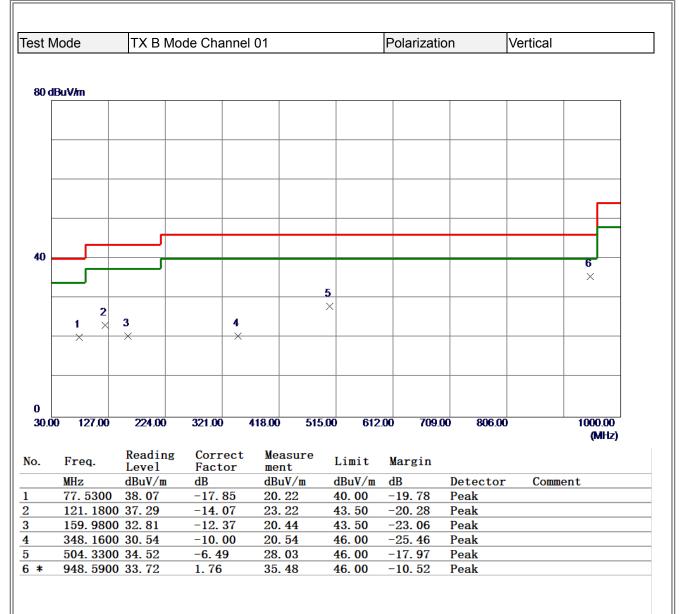


#### REMARKS:

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

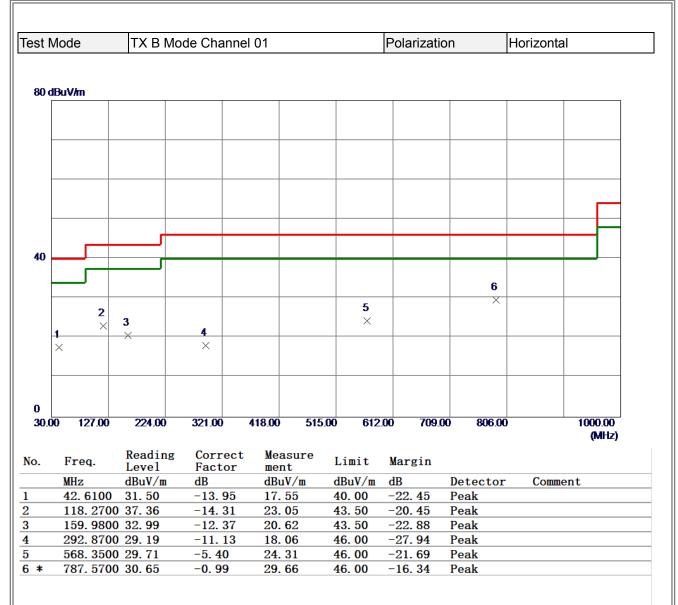


#### APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ



REMARKS:

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

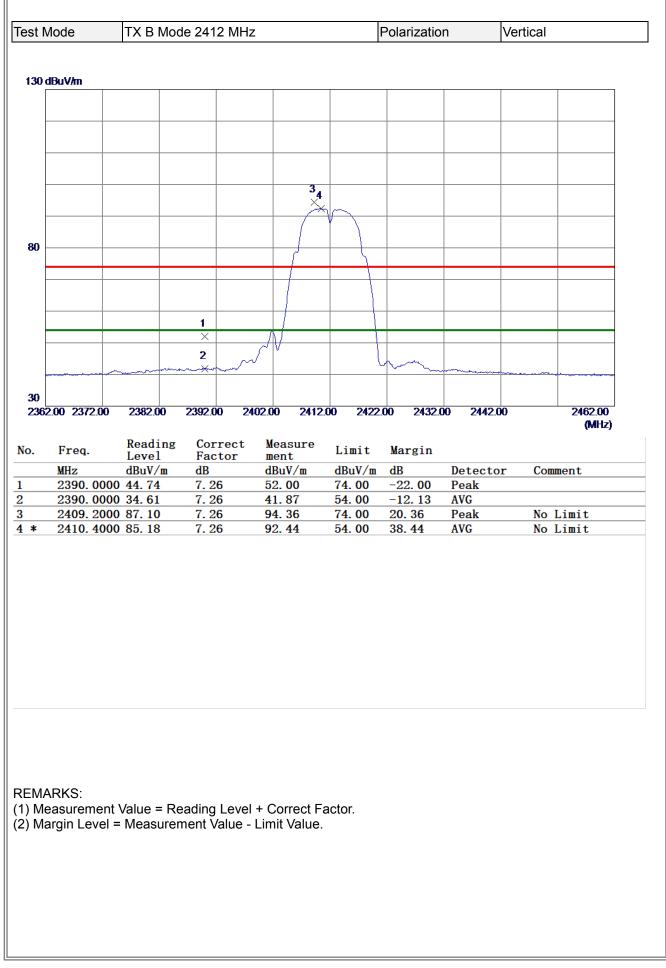


REMARKS:

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

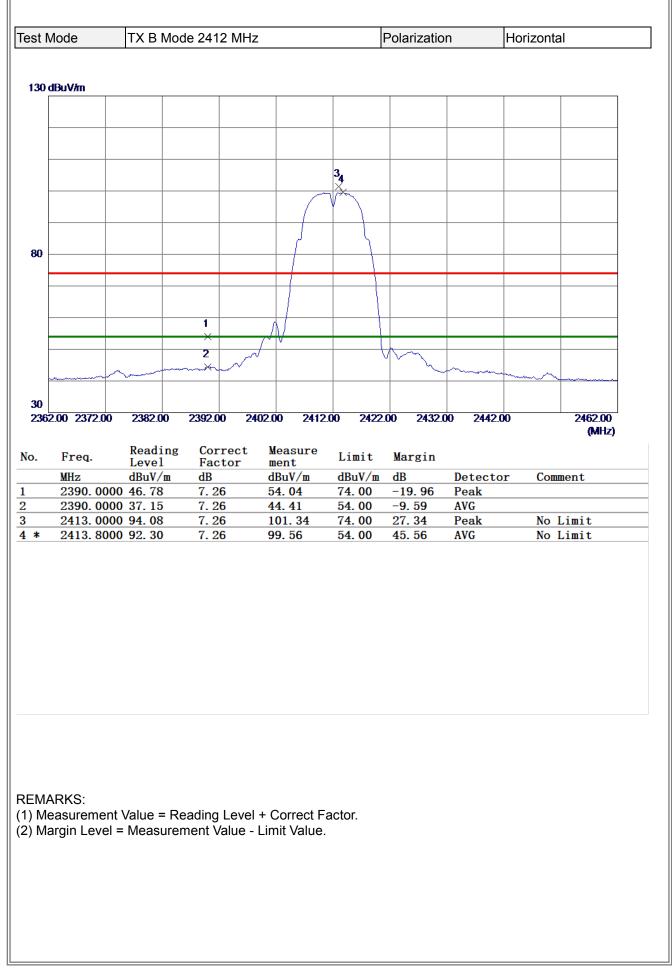


#### **APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ**

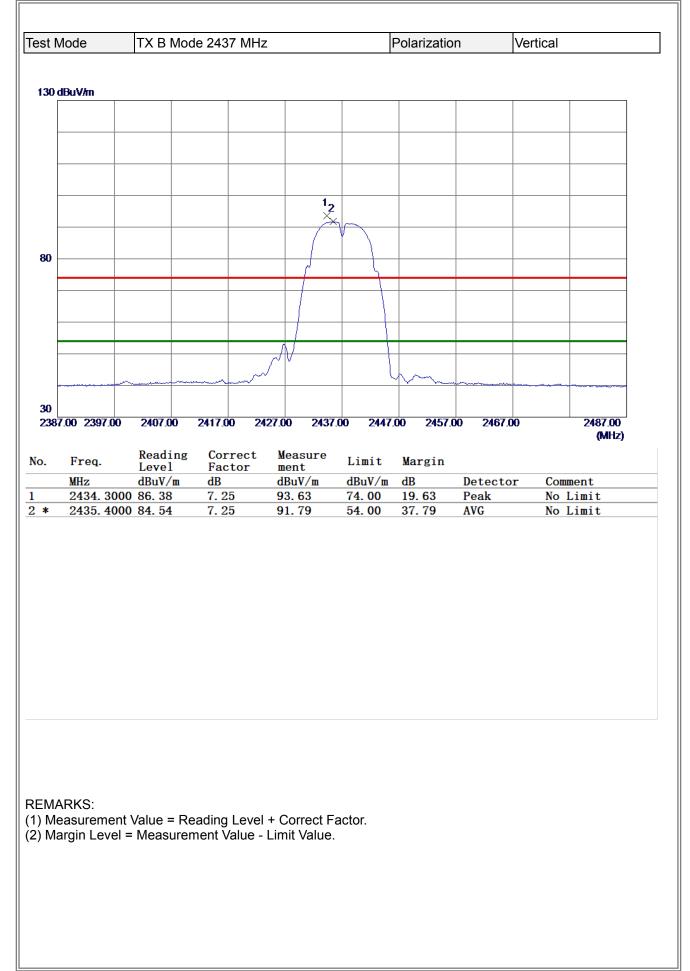


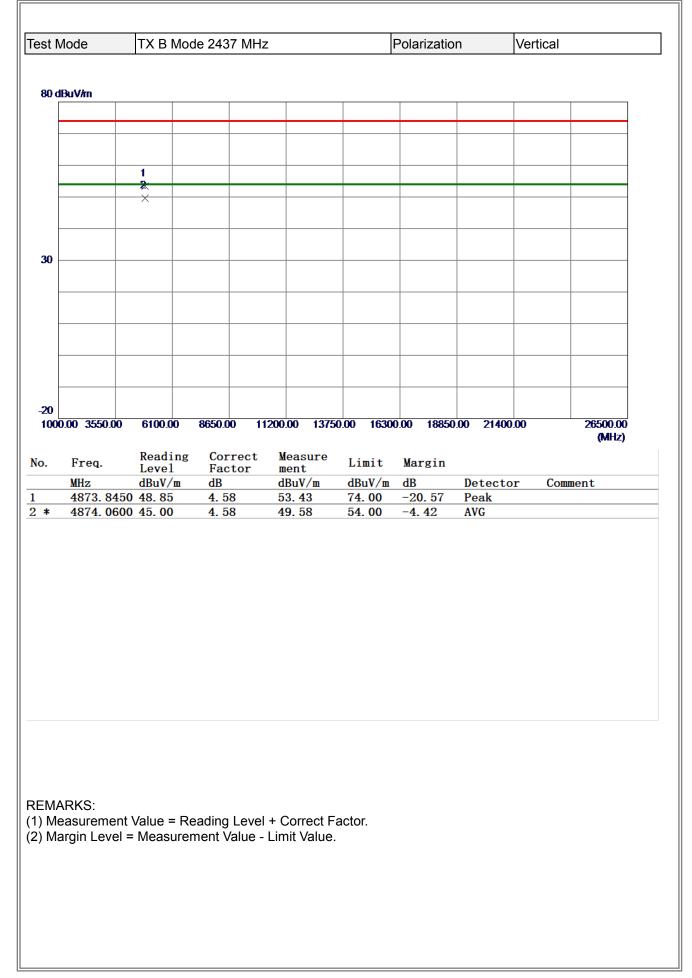
## **3**TL

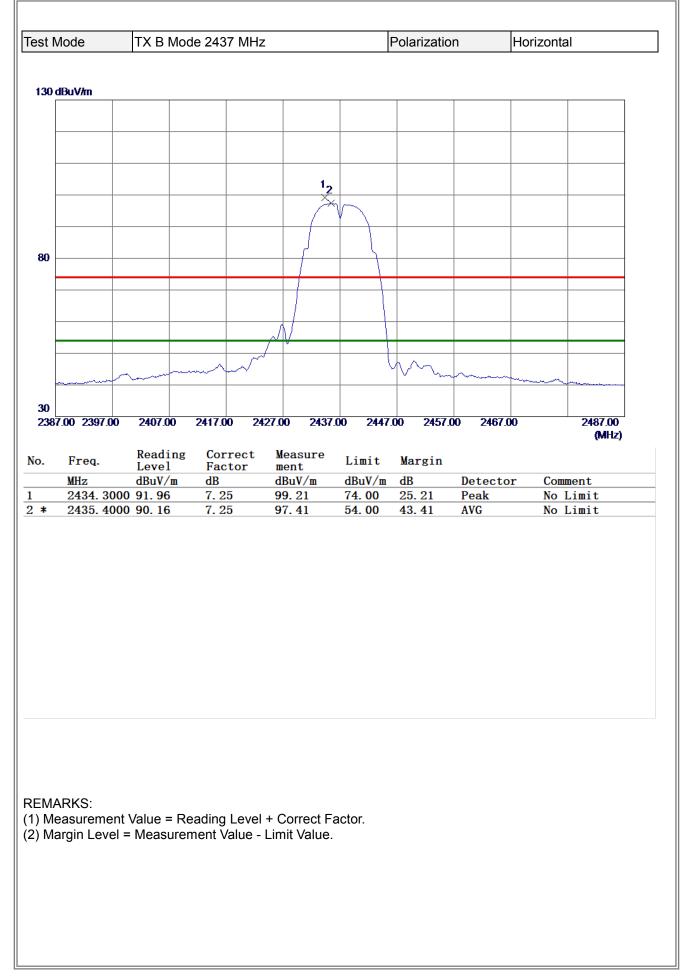
20 1000.00 5. F <u>M</u> * 4	//m	2 1/2 X 6100.00 Readin Level dBuV/r	ng Cori Fact	rect Me	asure	00 1630 Limit	0.00 18850		.00	26500.00 (MHz)
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	) 3550.00 Freq.	1 × 6100.00 Readin Level dBuV/r	ng Cori Fact	rect Me	asure				.00	
0 0000.00 F M = 4	req. Hz	1 × 6100.00 Readin Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
20 0000.00 . F <u>M</u> * 4	req. Hz	1 X	ng Cori Fact	rect Me	asure			0.00 21400	.00	
20 1000.00 5. F <u>M</u> * 4	req. Hz	1 X	ng Cori Fact	rect Me	asure			0.00 21400	.00	
20 20 5. F <u>M</u> * 4	req. Hz	1 X	ng Cori Fact	rect Me	asure			0.00 21400	.00	
o. F ∭ * 4	req. Hz	6100.00 Readin Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
20 1000.00 5. F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
20 1000.00 . F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
20 1000.00 . F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
20 1000.00 . F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
1000.00 . F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
000.00 . F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
1000.00 5. F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
1000.00 b. F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
1000.00 . F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
1000.00 b. F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
1000.00 5. F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			.00 21400	.00	
1000.00 5. F <u>M</u> * 4	req. Hz	Readi Level dBuV/r	ng Cori Fact	rect Me	asure			0.00 21400	.00	
M * 4	Hz	Level dBuV/r	Fact	rect Mea tor mea		Limit	Vargin			(MHz)
M * 4	Hz	Level dBuV/r	Fact	rect Mea tor mea		Limit	Margin			
* 4		dBuV/1					Margin			
	824.052			dBı	uV/m	dBuV/m		Detecto	r Co	mment
4		0 47.50 0 50.96				54.00 74.00	-2. 05 -18. 59	AVG Peak		
MAR		h \ /# !	Deedler			tor				
Marci	in Level	t value =	Reading	Level + Co alue - Limit	orrect ⊢ao t Value	tor.				
mary		incasu			t value.					



st Mode	TX B I	Node 241	2 MHz		I	Polarizatio	n	Horizon	tal
0 dBuV/m									
	1								
	<u>×</u>								
	×								
30									
20									
000.00 3550	.00 6100.0	0 8650.0	0 1120	0.00 1375	0.00 1630	0.00 18850	0.00 21400	0.00	26500.00 (MHz)
									(MILTZ)
. Freq.	Readi	ng Cor	rect	Measure	Limit	Margin			(1411 12.)
	Level	Fac	tor	ment		Margin	Detecto	or Co	
MHz	Readi Level dBuV/ 7780 46.92	Fac m dB	tor		Limit dBuV/m 74.00		Detecto Peak	or Co	nment
MHz 4823.	Level dBuV/	Fac m dB 4.4	tor 5	ment dBuV/m	dBuV/m	dB	Detecto Peak AVG	or Co	
MHz 4823.	Leve1 dBuV/1 7780 46.92	Fac m dB 4.4	tor 5	ment dBuV/m 51.37	dBuV/m 74. 00	dB -22. 63	Peak	or Cor	

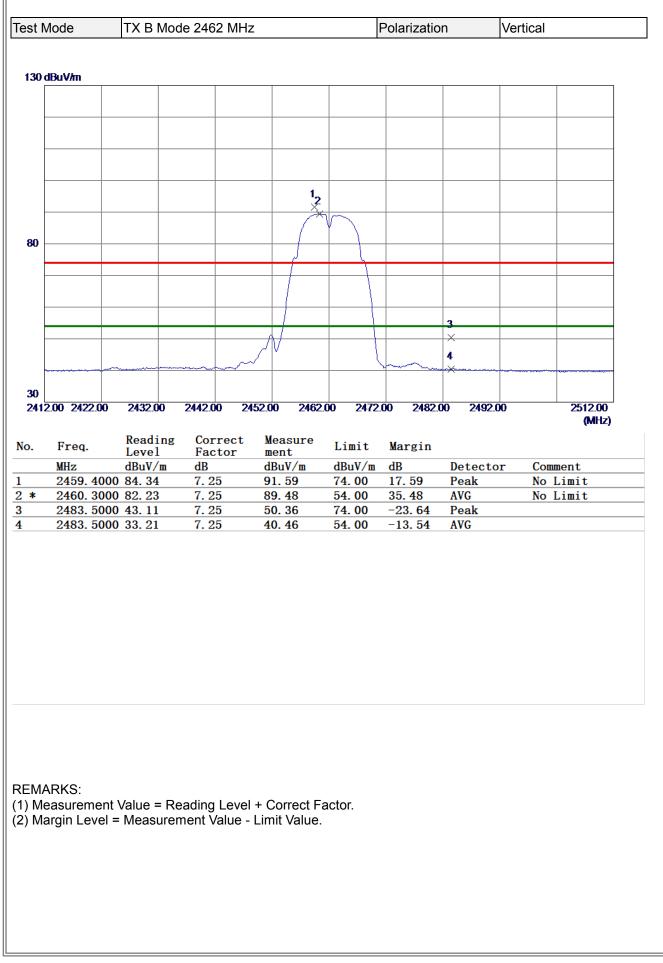




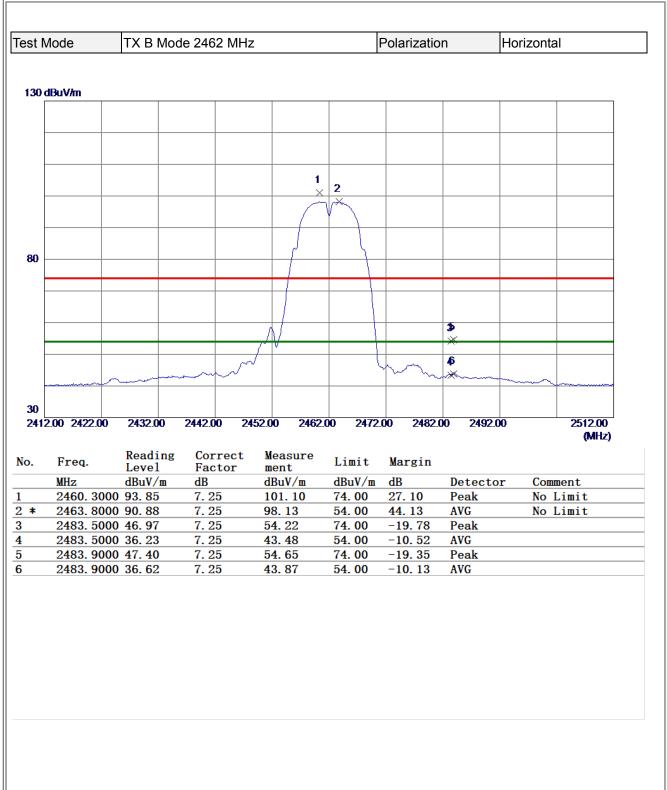


## **3**TL

	TX B M	ode 2437 MF	lz		Polarizatio	n	Horizont	al
dBuV/m								
	2							
	X							
1								
00.00 3550.	00 6100.00	8650.00	11200.00 1375	0.00 1630	0.00 18850	00 21400	0.00	26500.00 (MHz)
	Reading	g Correct	Measure	<b>.</b>				(m. 12.)
Freq.	Level	Factor	ment	Limit	Margin dB	Detect		ment
MHz 4874.0	dBuV/m 730 34.37	dB 4. 58	dBuV/m 38.95	dBuV/m 54.00	-15. 05	Detecto AVG		ment
	220 43.01	4. 58	47. 59	74.00	-26. 41	Peak		

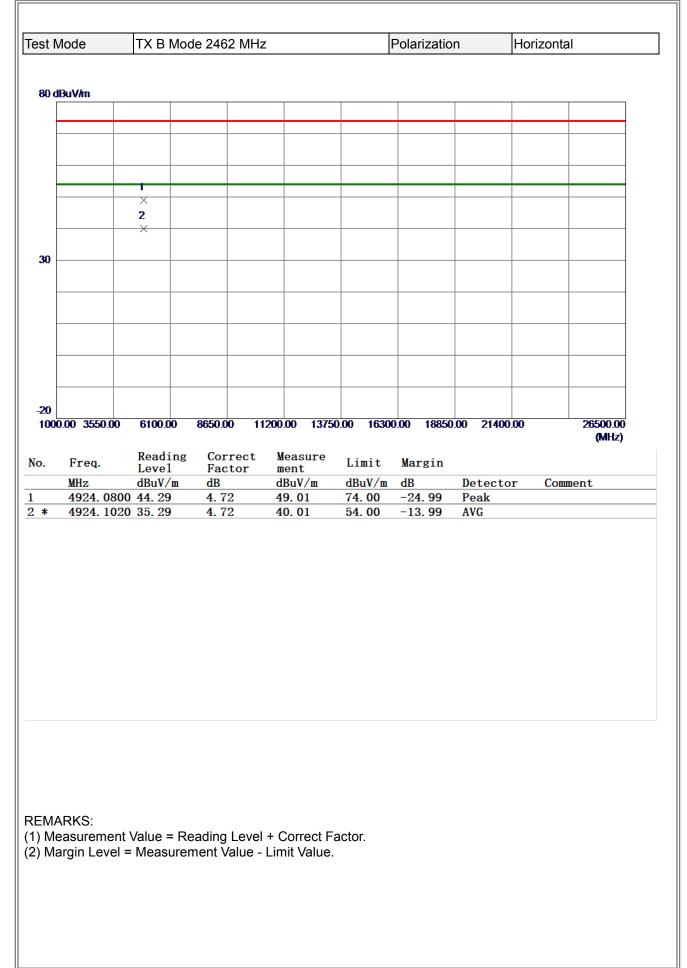


80 dBu	V/m							
		2						
30								
-20								
	3550.00	6100.00	8650.00 1	1200.00 13750	).00 <b>1630</b> 0	 ).00 18850	0.00 21400.0	
		Reading	Correct	Measure				(MHz)
	req.	Level	Factor	ment	Limit	Margin		
	Hz 924. 0299	dBuV/m 46, 53	dB 4. 72	dBuV/m 51.25	dBuV/m 54.00	dB -2. 75	Detector AVG	Comment
	924. 0680		4. 72	54.10	74.00	-19.90	Peak	
EMARI								
) Meas	surement	Value = R	eading Leve	+ Correct Fa	actor.			
	in Level =	Measure	ment value	- Limit Value.				
!) Marg								
?) Marg								
?) Marg								
) Marg								

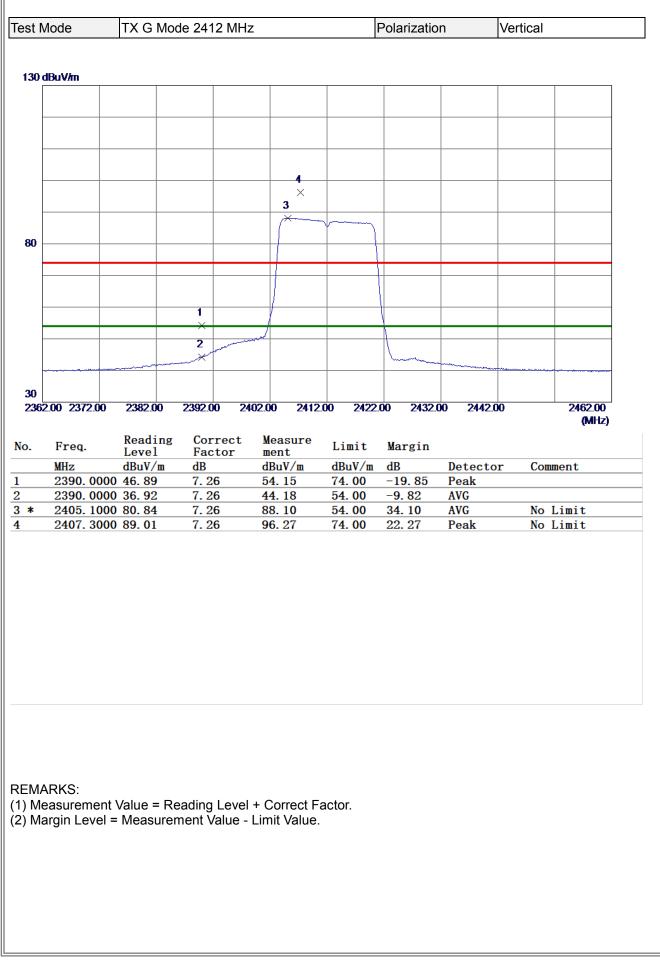


REMARKS:

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

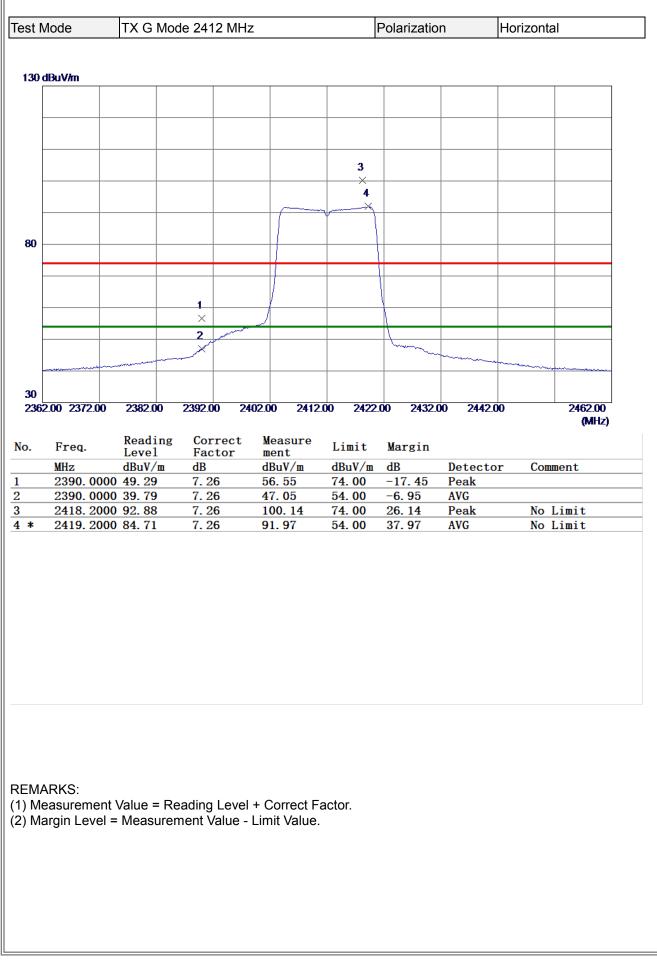


## **B**L



## **B**TL

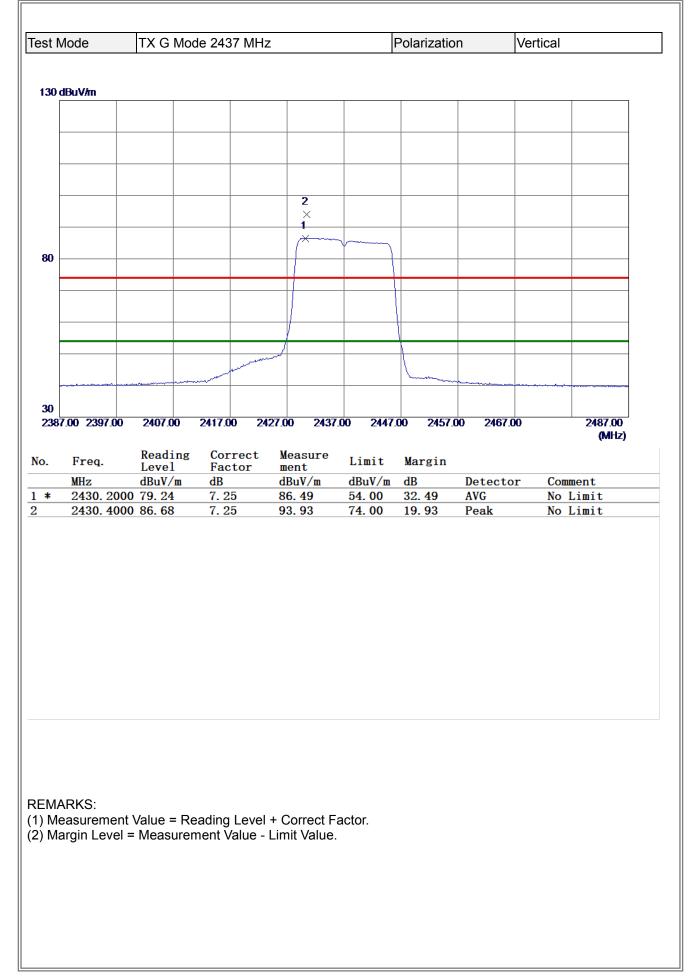
	lode	TX G I	Mode 241	2 MHz			Polarizatio	on	Vertical	
d	BuV/m									
╞										
		2								
		×								
┢		1								
		×								
┝										
-										
00	0.00 3550.00	6100.00	0 8650.0	0 112	00.00 1375	0.00 1630	0.00 18850	0.00 21400	0.00	26500.00
		Readi	ng Cor	rect	Measure					(MHz)
	Freq.	Level	Fac		ment	Limit	Margin			
	MHz	dBuV/1 00 38.95		=	dBuV/m	dBuV/m		Detecto	or Co	mment
	4823. 00									
		50 50. 55			43. 40 55. 01	54.00 74.00	-10. 60 -18. 99	AVG Peak		



## **B**TL

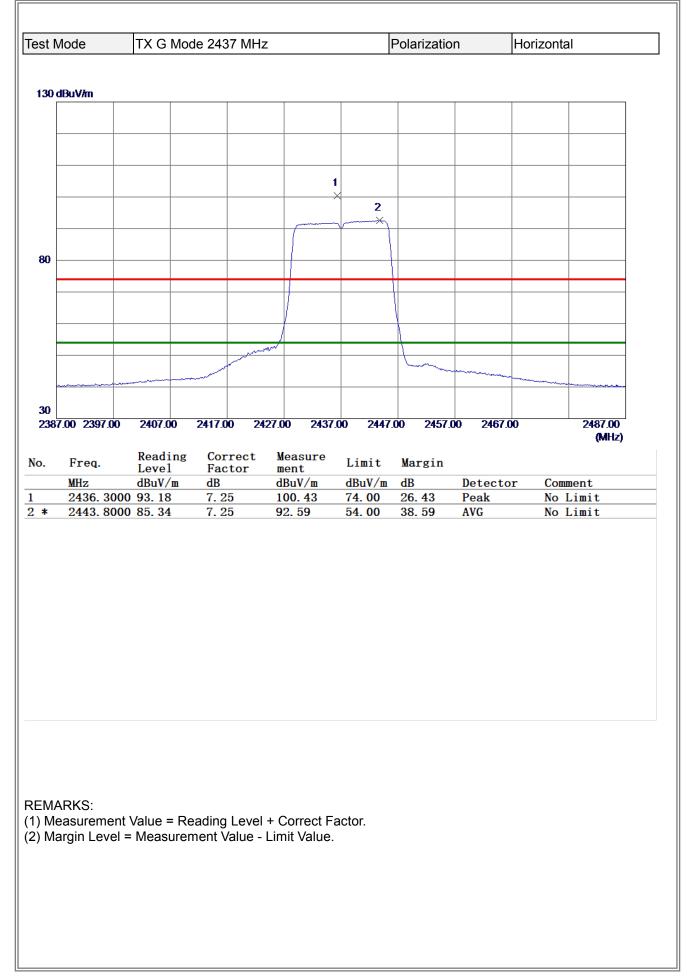
st Mode	TX G Mo	ode 2412 MH	Z		Polarizatio	n	Horizont	al
0 dBuV/m								
	2 ×							
	×							
0								
20 1000.00 3550	.00 6100.00	8650.00 1	1200.00 13750	).00 1630	0.00 19950	.00 2140		26500.00
1000.00 3.00	00 0100.00	0000.00	1200.00 15150	7.00 10.00	0.00 100.00			(MHz)
. Freq.	Reading	Correct	Measure	Limit				
. rreq.	Level	Feeter			Margin			
MH <sub>2</sub>		Factor	dBuV/m		Margin	Detect	or Con	mont
MHz * 4822.5	dBuV/m 5000 30.67	dB 4. 45	ment dBuV/m 35.12	dBuV/m 54.00		Detecto AVG	or Con	ment
* 4822.5	dBuV/m	dB	dBuV/m	dBuV/m	dB		or Con	ment
* 4822.5	dBuV/m 5000 30.67	dB 4. 45	dBuV/m 35.12	dBuV/m 54.00	dB -18. 88	AVG	or Con	ment

### **B**L



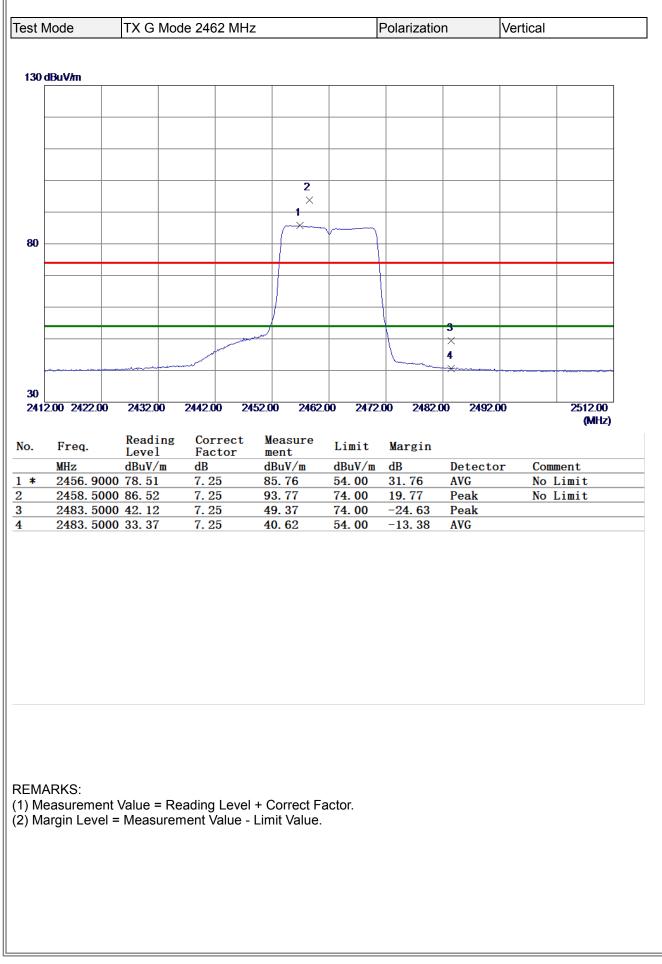
# **B**L

1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           io.         Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak		lode	TX G Mc	ode 2437 M⊦	łz	F	Polarizatio	n	Vertical
1         1         1           × </th <th>00 AI</th> <th>Dullin</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	00 AI	Dullin							
2         2         2           30         X         X         X         X           30         X         X         X         X         X           30         X         X         X         X         X         X           30         X         X         X         X         X         X         X           30         X         X         X         X         X         X         X         X           30         X         X         X         X         X         X         X         X         X           30         X<	80 Gi	buv/m							
30         2         1	-								
30         2         1									
30         2         1	-								
30       ×									
30       ×			2						
-20       -	-								
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak	30 -								
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak	_								
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak	╞								
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak	Ļ								
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak	-20								
No.Freq.Reading LevelCorrect FactorMeasure mentLimitMarginMHzdBuV/mdBdBuV/mdBuV/mdBDetectorComment4871.750046.264.5850.8474.00-23.16Peak		.00 3550.00	6100.00	<b>8650.00</b> 1	1200.00 13750	0.00 16300	0.00 18850	0.00 21400	
MHz         Level         Factor         ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4871.7500         46.26         4.58         50.84         74.00         -23.16         Peak			Reading	Correct	Measure				(MILZ)
4871. 7500 46. 26 4. 58 50. 84 74. 00 -23. 16 Peak	lo.		Level	Factor	ment				
									r Comment
EMARKS: ) Measurement Value = Reading Level + Correct Factor.			t Value = R	eading Leve	al + Correct Fa	actor			
EMARKS: ) Measurement Value = Reading Level + Correct Factor. 2) Margin Level = Measurement Value - Limit Value.	1) Me	asuremen	t Value = R = Measure	eading Leve ment Value	el + Correct Fa - Limit Value.	actor.			
) Measurement Value = Reading Level + Correct Factor.	1) Me	asuremen	t Value = R = Measure	eading Leve ment Value	el + Correct Fa - Limit Value.	actor.			
) Measurement Value = Reading Level + Correct Factor.	1) Me	asuremen	t Value = R = Measure	eading Leve ment Value	el + Correct Fa - Limit Value.	actor.			
) Measurement Value = Reading Level + Correct Factor.	1) Me	asuremen	t Value = R = Measure	eading Leve ment Value	el + Correct Fa - Limit Value.	actor.			
) Measurement Value = Reading Level + Correct Factor.	1) Me	asuremen	t Value = R = Measure	eading Leve ment Value	el + Correct Fa - Limit Value.	actor.			



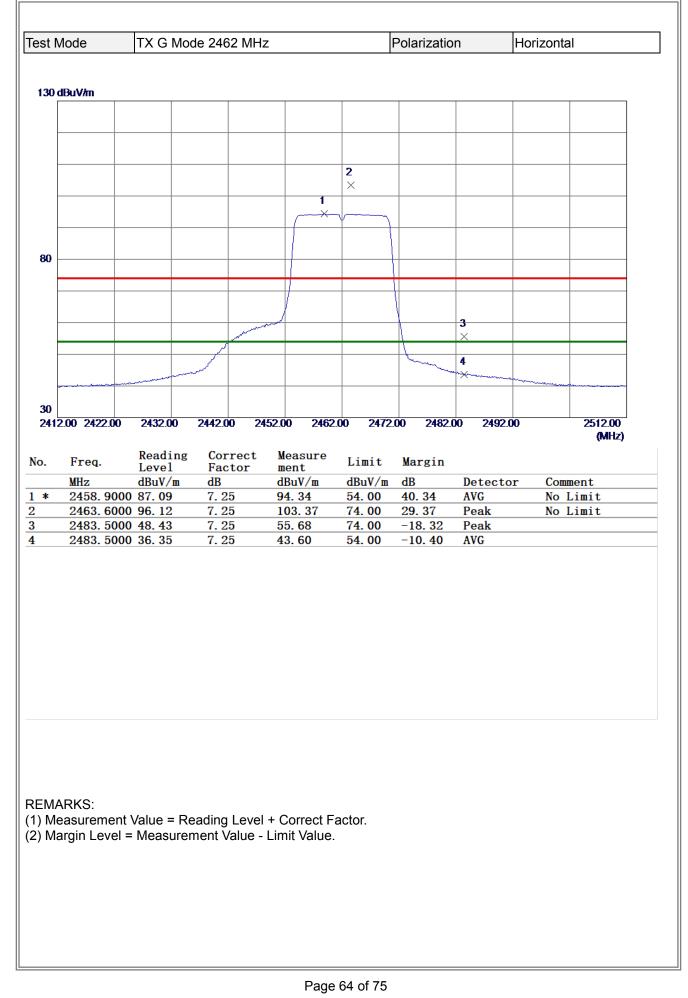
## **B**TL

st Mode	TX G	Mode 24	37 MHz		I	Polarizatio	n	Horizont	al
0 dBuV/m									
	_								
	1								
	X								
	2								
30	×								
~									
20 1000.00 3550	.00 6100.0	0 8650.	00 113	200.00 13750	00 1630	0.00 18850	00 21400		26500.00
1000.00 5550		0 0000	.00 112	200.00 15150	0.00 10000	0.00 10000	21400	1.00	(MHz)
									(MILZ)
Free	Readi	ng Co	rrect	Measure	Limit	Vorgin			(MILZ)
. Freq.	Level	. Fa	ctor	ment	Limit	Margin	Detecto		
MHz	Level dBuV/	Fa m dB	ctor	ment dBuV/m	dBuV/m	dB	Detecto	or Coi	(MHZ) ment
MHz 4872.2	Level	Fa m dB 4.	ctor 58	ment			Detecto Peak AVG	or Cor	
MHz 4872.2	Leve1 dBuV/ 2750 39.75	Fa m dB 4.	ctor 58	ment dBuV/m 44.33	dBuV/m 74. 00	dB -29. 67	Peak	or Cor	



## **B**L

1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           100         .00 </th <th>I         I         I           1         I         I         I           2         I         I         I         I           30         X         I         I         I         I           2         I         I         I         I         I         I           30         X         I         I         I         I         I         I           2         I         I         I         I         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII</th> <th>est N</th> <th>Node</th> <th>TX G Mo</th> <th>de 2462 MH</th> <th>Z</th> <th>I</th> <th>Polarizatio</th> <th>n</th> <th>Vertical</th>	I         I         I           1         I         I         I           2         I         I         I         I           30         X         I         I         I         I           2         I         I         I         I         I         I           30         X         I         I         I         I         I         I           2         I         I         I         I         IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	est N	Node	TX G Mo	de 2462 MH	Z	I	Polarizatio	n	Vertical
I         I         I         I           30         X         I         I         I           X         I         I         I         I         I           30         X         I         I         I         I         I           X         I         I         I         I         I         I         I           30         X         I	I         I         I         I           30         X         I         I         I           X         I         I         I         I         I           30         X         I         I         I         I         I           X         I         I         I         I         I         I         I           30         X         I	00 -	Dutter							
X         Z         Image: Contract Measure Limit Margin           20         Freq.         Reading Correct Measure Factor ment         Limit Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector Comment	X         Z         Image: Contract Measure Limit Margin           20         Freq.         Reading Correct Measure Factor ment         Limit Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector Comment	80 a	IBUV/M							
X         X         Image: Contract Measure Limit Margin           2         Image: Contract Measure Here         Image: Contract Measure Here           0         Freq.         Reading Correct Measure Here         Limit Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector Comment	X         Z         Image: Contract Measure Limit Margin           20         Freq.         Reading Correct Measure Factor ment         Limit Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector Comment									
X         X	X         X									
X         X	X         X									
2       X       Image: Contract Measure Limit Margin         MHz       dBuV/m       dB       dBuV/m       dB       dBuV/m       dB       Detector Comment	2       X       Image: Content Measure Limit Margin         MHz       dBuV/m       dB       dBuV/m       dB       dBuV/m       dB       Detector       Comment 4914.9000       43.95       4.69       48.64       74.00       -25.36       Peak									
30       ×	30       ×									
-20 -20 -20 -20 -20 -20 -20 -20	-20 -20 -20 -20 -20 -20 -20 -20									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	30								
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	-								
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           io.         Freq.         Reading Level         Correct Measure ment         Limit Margin         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak									
1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	1000.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           o.         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	-20								
o. Freq. Reading Correct Measure ment Limit Margin MHz dBuV/m dB dBuV/m dB dBuV/m dB Detector Comment 4914.9000 43.95 4.69 48.64 74.00 -25.36 Peak	o. Freq. Reading Correct Measure ment Limit Margin MHz dBuV/m dB dBuV/m dB dBuV/m dB Detector Comment 4914.9000 43.95 4.69 48.64 74.00 -25.36 Peak	100	0.00 3550.00	6100.00	8650.00 1	1200.00 13750	0.00 16300	0.00 18850	00 21400	
b.         Freq.         Level         Factor         ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak	b.         Freq.         Level         Factor         ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4914.9000         43.95         4.69         48.64         74.00         -25.36         Peak									(init 12.)
4914. 9000 43. 95 4. 69 48. 64 74. 00 -25. 36 Peak	4914. 9000 43. 95 4. 69 48. 64 74. 00 -25. 36 Peak		Ema	Reading	Correct	Measure	Linit	Vorsi		
* 4924.0250 33.14 4.72 37.86 54.00 -16.14 AVG	* 4924.0250 33.14 4.72 37.86 54.00 -16.14 AVG	ю.		Level	Factor	ment			Dotooto	vr Commont
			MHz	Level dBuV/m	Factor dB	ment dBuV/m	dBuV/m	dB		or Comment
			MHz 4914.9000	Level dBuV/m 43.95	Factor dB 4.69	ment dBuV/m 48.64	dBuV/m 74.00	dB −25. 36	Peak	or Comment
			MHz 4914.9000	Level dBuV/m 43.95	Factor dB 4.69	ment dBuV/m 48.64	dBuV/m 74.00	dB −25. 36	Peak	or Comment
		No.	MHz 4914.9000	Level dBuV/m 43.95	Factor dB 4.69	ment dBuV/m 48.64	dBuV/m 74.00	dB −25. 36	Peak	or Comment
		**	MHz 4914.9000 4924.0250	Level dBuV/m 43.95	Factor dB 4.69	ment dBuV/m 48.64	dBuV/m 74.00	dB −25. 36	Peak	or Comment
		* EMA	MHz 4914.9000 4924.0250	Level dBuV/m ) 43. 95 ) 33. 14	Factor dB 4. 69 4. 72	ment dBuV/m 48.64 37.86	dBuV/m 74.00 54.00	dB −25. 36	Peak	or Comment
) Measurement Value = Reading Level + Correct Factor.	EMARKS: ) Measurement Value = Reading Level + Correct Factor. 2) Margin Level = Measurement Value - Limit Value.	: * EMA	MHz 4914. 9000 4924. 0250	Leve1 dBuV/m ) 43. 95 ) 33. 14 Value = Re	Factor dB 4. 69 4. 72	ment dBuV/m 48. 64 37. 86	dBuV/m 74.00 54.00	dB −25. 36	Peak	or Comment
) Measurement Value = Reading Level + Correct Factor.	<ol> <li>Measurement Value = Reading Level + Correct Factor.</li> </ol>	: * EMA	MHz 4914. 9000 4924. 0250	Leve1 dBuV/m ) 43. 95 ) 33. 14 Value = Re	Factor dB 4. 69 4. 72	ment dBuV/m 48. 64 37. 86	dBuV/m 74.00 54.00	dB −25. 36	Peak	or Comment
) Measurement Value = Reading Level + Correct Factor.	<ol> <li>Measurement Value = Reading Level + Correct Factor.</li> </ol>	: * EMA	MHz 4914. 9000 4924. 0250	Leve1 dBuV/m ) 43. 95 ) 33. 14 Value = Re	Factor dB 4. 69 4. 72	ment dBuV/m 48. 64 37. 86	dBuV/m 74.00 54.00	dB −25. 36	Peak	or Comment
) Measurement Value = Reading Level + Correct Factor.	<ol> <li>Measurement Value = Reading Level + Correct Factor.</li> </ol>	: * EMA	MHz 4914. 9000 4924. 0250	Leve1 dBuV/m ) 43. 95 ) 33. 14 Value = Re	Factor dB 4. 69 4. 72	ment dBuV/m 48. 64 37. 86	dBuV/m 74.00 54.00	dB −25. 36	Peak	or Comment
) Measurement Value = Reading Level + Correct Factor.	) Measurement Value = Reading Level + Correct Factor.	* EM4	MHz 4914. 9000 4924. 0250	Leve1 dBuV/m ) 43. 95 ) 33. 14 Value = Re	Factor dB 4. 69 4. 72	ment dBuV/m 48. 64 37. 86	dBuV/m 74.00 54.00	dB −25. 36	Peak	or Comment



## **B**TL

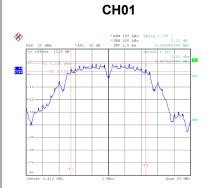
est M	lode	TX G I	Mode 24	62 MHz			Polarizatio	n	Horizon	ntal
i0 dE	BuV/m									
-										
		1 ×								
-		2								
		×								
30  -										
-										
F										
20										
	.00 3550.00	) 6100.0	0 8650.0	00 112	200.00 1375	0.00 16300	0.00 18850	0.00 21400	.00	26500.00
										(MHz)
	Freq.	Readi	ng Con Fac	rrect	Measure	Limit	Margin			
<i>.</i>	Freq. MHz	Readi Level dBuV/	Fac	rrect	Measure ment dBuV/m	Limit dBuV/m		Detecto	or Co	mment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	or Co	omment
	MHz 4915.12	Level dBuV/	Fac m dB 4.6	otor 59	ment dBuV/m	dBuV/m	dB		or Co	pmment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	or Co	omment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	or Co	omment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	or Co	omment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	or Co	omment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	or Co	mment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	or Co	omment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	o <u>r Co</u>	omment
	MHz 4915.12	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	o <u>r Co</u>	pmment
*	MHz 4915. 12 4924. 20	Leve1 dBuV/1 50 39.92	Fac m dB 4.6	otor 59	ment dBuV/m 44.61	dBuV/m 74. 00	dB -29. 39	Peak	o <u>r Co</u>	omment
*	MHz 4915. 12 4924. 20	Leve1 dBuV/1 50 39. 92 00 29. 13	Fac m dB 4.6 4.7	29 72	ment dBuV/m 44.61 33.85	dBuV/m 74.00 54.00	dB -29. 39	Peak	or Co	mment
* EMA	MHz 4915. 12 4924. 20	Leve1 dBuV/i 50 39. 92 00 29. 13	Fac m dB 4. 6 4. 7	g Level -	ment dBuV/m 44. 61 33. 85 + Correct Fa	dBuV/m 74.00 54.00	dB -29. 39	Peak	or Co	mment
* EMA	MHz 4915. 12 4924. 20	Leve1 dBuV/i 50 39. 92 00 29. 13	Fac m dB 4. 6 4. 7	g Level -	ment dBuV/m 44.61 33.85	dBuV/m 74.00 54.00	dB -29. 39	Peak	o <u>r Co</u>	mment
) Me	MHz 4915. 12 4924. 20	Leve1 dBuV/i 50 39. 92 00 29. 13	Fac m dB 4. 6 4. 7	g Level -	ment dBuV/m 44. 61 33. 85 + Correct Fa	dBuV/m 74.00 54.00	dB -29. 39	Peak	or Co	mment
* EMA	MHz 4915. 12 4924. 20	Leve1 dBuV/i 50 39. 92 00 29. 13	Fac m dB 4. 6 4. 7	g Level -	ment dBuV/m 44. 61 33. 85 + Correct Fa	dBuV/m 74.00 54.00	dB -29. 39	Peak	o <u>r Co</u>	mment
* EMA	MHz 4915. 12 4924. 20	Leve1 dBuV/i 50 39. 92 00 29. 13	Fac m dB 4. 6 4. 7	g Level -	ment dBuV/m 44. 61 33. 85 + Correct Fa	dBuV/m 74.00 54.00	dB -29. 39	Peak	o <u>r Co</u>	mment
* MA Me	MHz 4915. 12 4924. 20	Leve1 dBuV/i 50 39. 92 00 29. 13	Fac m dB 4. 6 4. 7	g Level -	ment dBuV/m 44. 61 33. 85 + Correct Fa	dBuV/m 74.00 54.00	dB -29. 39	Peak	or Co	mment
⊧ MA Me	MHz 4915. 12 4924. 20	Leve1 dBuV/i 50 39. 92 00 29. 13	Fac m dB 4. 6 4. 7	g Level -	ment dBuV/m 44. 61 33. 85 + Correct Fa	dBuV/m 74.00 54.00	dB -29. 39	Peak	o <u>r Co</u>	mment

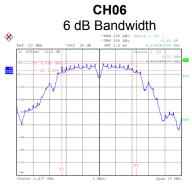


#### **APPENDIX E - BANDWIDTH**

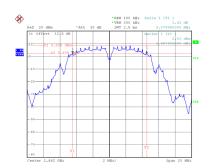


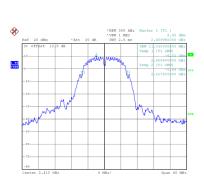
Test Mode	e TX E	3 Mode			
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	9.160	11.040	0.5	Complies
06	2437	9.110	11.040	0.5	Complies
11	2462	9.080	10.960	0.5	Complies

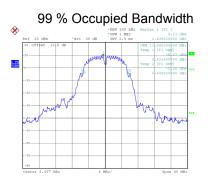




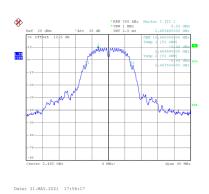
CH11







Date: 31.MAY.2021 17:56:09



Date: 31.MAY.2021 17:50:00

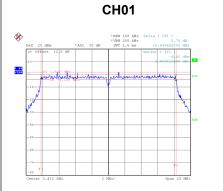
Date: 31.MAY.2021 17:49:52

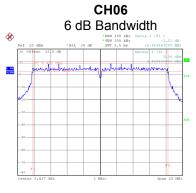
Date: 31.MAY.2021 17:52:16

Date: 31.MAY.2021 17:52:08

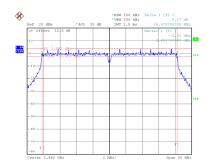


Test Mode	e TX (	G Mode			
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	16.450	16.800	0.5	Complies
06	2437	16.410	16.880	0.5	Complies
11	2462	16.470	16.800	0.5	Complies

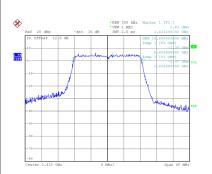




CH11

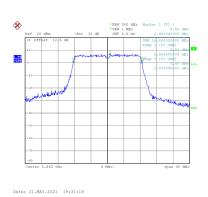


Date: 31.MAY.2021 19:26:02



99 % Occupied Bandwidth

Date: 31.MAY.2021 19:31:10



Date: 31.MAY.2021 19:26:10

Date: 31.MAY.2021 19:28:58

Date: 31.MAY.2021 19:28:50



#### **APPENDIX F - MAXIMUM OUTPUT POWER**



Test Mode TX B Mode						
Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result	
01	2412	21.52	30.00	1.0000	Complies	
06	2437	21.37	30.00	1.0000	Complies	
11	2462	21.21	30.00	1.0000	Complies	

TX G Mode Test Mode

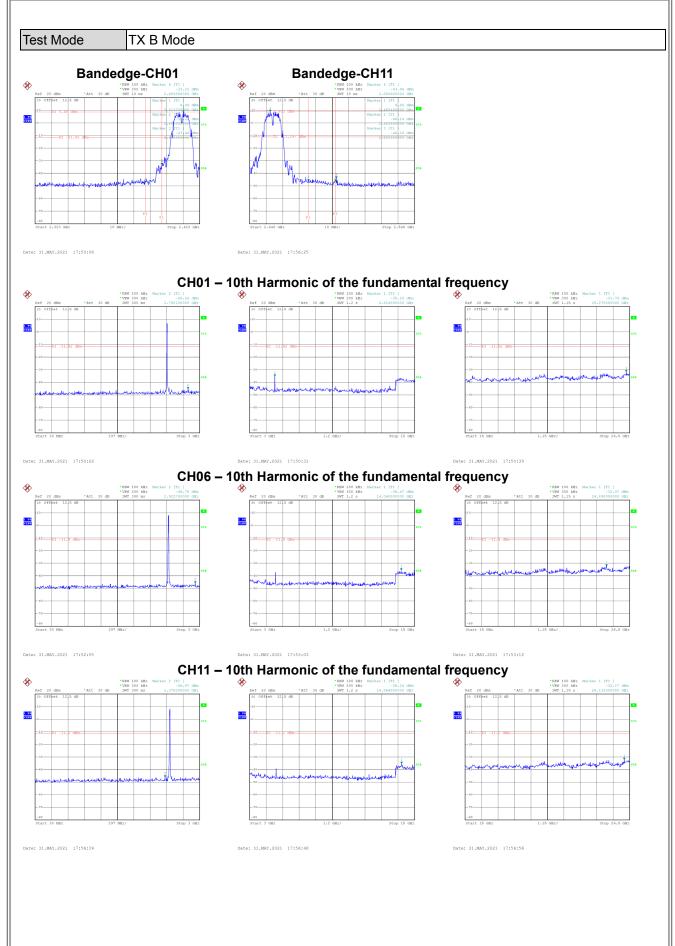
IX	G	Mode

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	20.94	30.00	1.0000	Complies
06	2437	20.63	30.00	1.0000	Complies
11	2462	21.13	30.00	1.0000	Complies

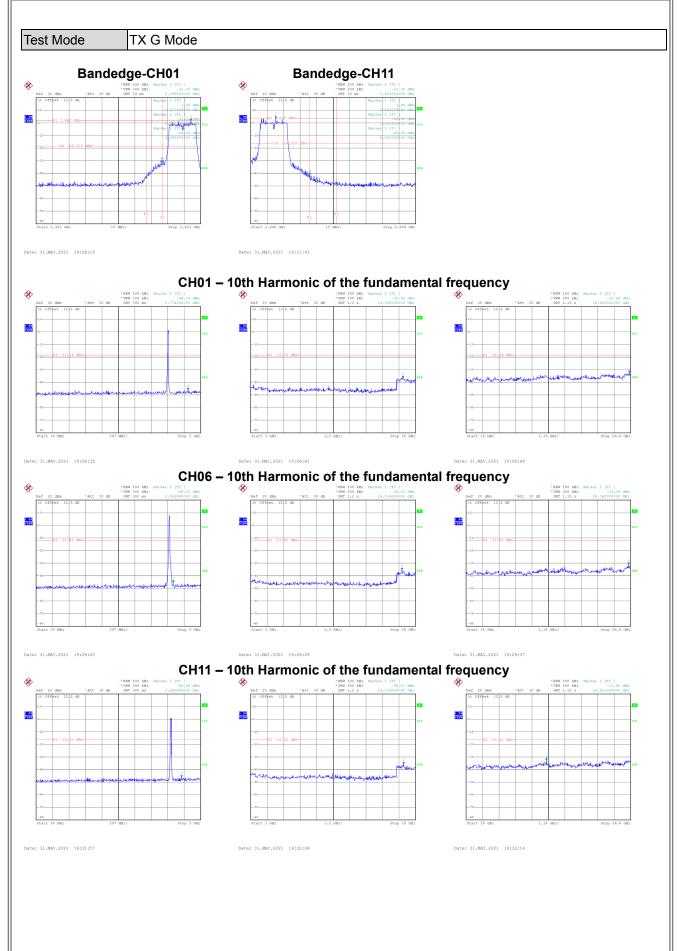


#### **APPENDIX G - CONDUCTED SPURIOUS EMISSIONS**







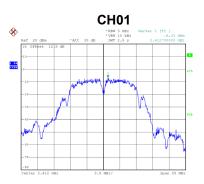




#### **APPENDIX H - POWER SPECTRAL DENSITY**



Test Mode TX B Mode						
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result		
01	2412	-6.33	8.00	Complies		
06	2437	-3.96	8.00	Complies		
11	2462	-6.34	8.00	Complies		





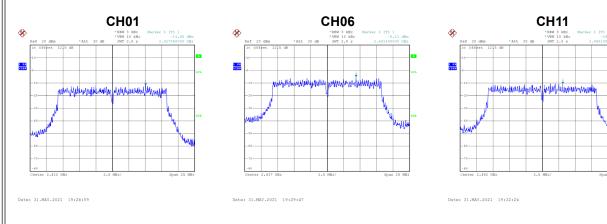


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TX G Mode Test Mode

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-11.88	8.00	Complies
06	2437	-5.11	8.00	Complies
11	2462	-10.52	8.00	Complies



**End of Test Report**