





# **FCC Radio Test Report**

FCC ID: 2APRGLT03

This report concerns: Original Grant

**Project No.** : 2403G076

**Equipment**: 4G LTE CAT 6 Wi-Fi Router

Brand Name : Cudy
Test Model : LT700
Series Model : N/A

**Applicant**: Shenzhen Cudy Technology Co., Ltd.

Address : Room A606, Gaoxinqi Industrial Park, Liuxianyi Road, Baoan District,

Shenzhen, China

**Manufacturer**: Shenzhen Cudy Technology Co., Ltd.

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Shenzhen, China

Date of Receipt : May 16, 2024

Date of Test : May 21, 2024 ~ Jul. 01, 2024

Issued Date : Jul. 10, 2024

Report Version : R01

Test Sample : Engineering Sample No.: SSL20240516199 for AC Power Line

Conducted Emissions and Radiated Emissions and other conducted,

SSL20240516200 for Power.

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.

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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 manufacture'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.

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**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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## **REPORT ISSUED HISTORY**

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-1-2403G076	R00	Original Report.	Jul. 04, 2024	Invalid
BTL-FCCP-1-2403G076	R01	Modified the software version.	Jul. 10, 2024	Valid



## 1. APPLICABLE STANDARDS

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

ANSI C63.10-2013

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

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 662911 D01 Multiple Transmitter Output v02r01

## 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 Res		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.



#### 2.1 TEST FACILITY

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

1#For Maximum Output Power: Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong, People's Republic of China.

2#For Radiated Emissions 1GHz - 18GHz: Room 102 & Room 701, Building 3, No.9, Jinshagang 1st Road, Dalang, Dongguan City, Guangdong People's Republic of China.

3#For others: No.3, Jinshagang 1st Road, Dalang, Dongguan City, Guangdong People's Republic of

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 test:

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.88

## B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB01	CISPR	9kHz ~ 30MHz	2.36

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m) CISPR		30MHz ~ 200MHz	V	4.40
	CISPR	30MHz ~ 200MHz	Н	3.62
		200MHz ~ 1,000MHz	V	4.58
		200MHz ~ 1,000MHz	Н	3.98

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB18	8 CISPR	1GHz ~ 6GHz	2.24
(3m)	CISPR	6GHz ~ 18GHz	1.94

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB03 CISPR	CIEDD	18 ~ 26.5 GHz	3.36
	26.5 ~ 40 GHz	3.58	



## C. Other Measurement:

Test Item	Uncertainty
Bandwidth	0.90 %
Maximum Output Power	0.95 dB
Conducted Spurious Emission	1.9 dB
Power Spectral Density	1.4 dB
Temperature	0.8 °C
Humidity	2.2 %

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	Test Date
AC Power Line Conducted Emissions	25°C	62%	AC 120V/60Hz	Hayden Chen	May 28, 2024
Radiated Emissions-9kHz to 30 MHz	23°C	42%	AC 120V/60Hz	Hayden Chen	Jun. 12, 2024
Radiated Emissions-30MHz to 1000MHz	22°C	58%	AC 120V/60Hz	Terry Deng	Jun. 05, 2024
Radiated Emissions-Above 1000MHz	23°C	53%	AC 120V/60Hz	Jensen Zhou	Jun. 03, 2024
Radiated Emissions-Above 1000WHZ	22°C	58%	AC 120V/60Hz	Allen Tong	Jun. 12, 2024
Bandwidth	23-25°C	49-56%	DC 12V	Parker yang	Jun. 06, 2024 ~
Dandwidth				Steve Zhou	Jun. 19, 2024
Maximum Output Power	24°C	49%	DC 12V	Brand Duan	May 28, 2024 ~
Maximum Output I Owei					Jun. 20, 2024
Conducted Spurious Emissions	23-25°C	49-56%	DC 12V	Parker yang	Jun. 06, 2024 ~
Conducted Spurious Emissions	25-25 0	49-30 /0	DC 12V	Steve Zhou	Jun. 19, 2024
Power Spectral Density	23-25°C	49-56%	DC 12V	Parker yang	Jun. 06, 2024 ~
Fower Spectral Delisity	23-23 C 4	49-30%	DC 12V	Steve Zhou	Jun. 19, 2024



## 3. GENERAL INFORMATION

## 3.1 GENERAL DESCRIPTION OF EUT

Equipment	4G LTE CAT 6 Wi-Fi Router
Brand Name	Cudy
Test Model	LT700
Series Model	N/A
Model Difference(s)	N/A
Software Version	1.15.29
Hardware Version	V1
Power Source	DC Voltage supplied from AC adapter. Model: DSA-12PF11-12 FUS 120100
Power Rating	I/P:100-240V~50/60Hz 0.5A O/P:+12.0V === 1.0A
Operation Frequency	2412 MHz ~ 2462 MHz
Modulation Type	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: 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 IEEE 802.11n: up to 300 Mbps
Maximum Output Power _Non Beamforming	IEEE 802.11g: 23.74 dBm (0.2366 W)
Maximum Output Power Beamforming	IEEE 802.11n(HT20): 22.62 dBm (0.1828 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, IEEE 802.11n(HT20) CH03 - CH09 for IEEE 802.11n(HT40)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	80	2447	11	2462
03	2422	06	2437	09	2452		

3. Antenna Specification:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	<b>RF</b> link	U00T01S004N03482	Dipole	IPEX	3.18
2	RFlink	U00T01S004N03483	Dipole	IPEX	2.84

#### Note:

- 1) This EUT supports CDD, and all antenna gains are not equal, so Directional gain=10log[(10<sup>G1/20</sup>+10<sup>G2/20</sup>+...10<sup>GN/20</sup>)<sup>2</sup>/N]dBi, that is Directional gain=10log[(10<sup>3.18/20</sup>+10<sup>2.84/20</sup>)<sup>2</sup>/2]dBi =6.02. So, the output power limit is 30-(6.02-6)=29.98, the power spectral density limit is 8-(6.02-6)=7.98.
- 2) Beamforming Gain is 3 dBi, that is Directional gain=3+3.18=6.18. So, the output power limit is 30-(6.18-6)=29.82.



# 4. Table for Antenna Configuration: Non Beamforming:

Operating Mode TX Mode	2TX
IEEE 802.11b	V(Ant. 1 + Ant. 2)
IEEE 802.11g	V(Ant. 1 + Ant. 2)
IEEE 802.11n(HT20)	V(Ant. 1 + Ant. 2)
IEEE 802.11n(HT40)	V(Ant. 1 + Ant. 2)

Beamforming:

Operating Mode TX Mode	2TX
IEEE 802.11n(HT20)	V(Ant. 1 + Ant. 2)
IEEE 802.11n(HT40)	V(Ant. 1 + Ant. 2)



## 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 B Mode Channel 01/06/11
Mode 2	TX G Mode Channel 01/06/11
Mode 3	TX N(HT20) Mode Channel 01/06/11
Mode 4	TX N(HT40) Mode Channel 03/06/09
Mode 5	TX G Mode Channel 06

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 5	TX G Mode Channel 06	

Radiated emissions test - Below 1GHz		
Final Test Mode	Description	
Mode 5	TX G Mode Channel 06	

Radiated emissions test- Above 1GHz_Non Beamforming		
Final Test Mode	Description	
Mode 1	TX B Mode Channel 01/06/11	
Mode 2	TX G Mode Channel 01/06/11	
Mode 3	TX N(HT20) Mode Channel 01/06/11	
Mode 4	TX N(HT40) Mode Channel 03/06/09	

Maximum Output Power test_ Non Beamforming		
Final Test Mode	Description	
Mode 1	TX B Mode Channel 01/06/11	
Mode 2	TX G Mode Channel 01/06/11	
Mode 3	TX N(HT20) Mode Channel 01/06/11	
Mode 4	TX N(HT40) Mode Channel 03/06/09	



Maximum Output Power test_ Beamforming		
Final Test Mode	Description	
Mode 3	TX N(HT20) Mode Channel 01/06/11	
Mode 4	TX N(HT40) Mode Channel 03/06/09	

Other Conducted test_ Non Beamforming		
Final Test Mode	Description	
Mode 1	TX B Mode Channel 01/06/11	
Mode 2	TX G Mode Channel 01/06/11	
Mode 3	TX N(HT20) Mode Channel 01/06/11	
Mode 4	TX N(HT40) Mode Channel 03/06/09	

#### 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 G Mode Channel 06 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.
- (4) For radiated emission Harmonic 18-26.5GHz test, only tested the worst case and recorded.
- (5) The measurements for Output Power are tested, the Non Beamforming and Beamforming are recorded in the report. The worst case is Non Beamforming and only the worst case is documented for other test items.
- (6) For radiated emission above 1 GHz test, the polarization of Vertical and Horizontal are evaluated, the worst case is Vertical and recorded.



## 3.3 PARAMETERS OF TEST SOFTWARE

**Non Beamforming** 

Test Software Version	QATool_Dbg 0.0.0.96		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	20	25	22
IEEE 802.11g	1C	26	18
IEEE 802.11n(HT20)	17	26	17
Frequency (MHz)	2422	2437	2452
IEEE 802.11n(HT40)	14	1D	14

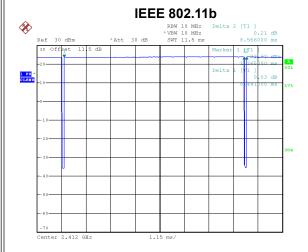
Beamforming

Test Software Version	QATool_Dbg 0.0.0.96		
Frequency (MHz)	2412 2437 2462		
IEEE 802.11n(HT20)	16	25	16
Frequency (MHz)	2422	2437	2452
IEEE 802.11n(HT40)	13	1C	13



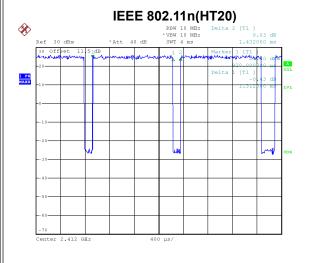
## 3.4 DUTY CYCLE

If duty cycle is  $\geq$  98 %, duty factor is not required. If duty cycle is < 98 %, duty factor shall be considered. The output power = measured power + duty factor.



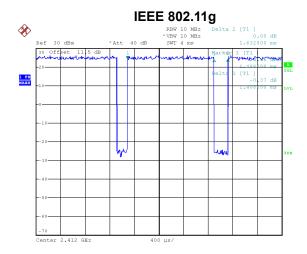
Date: 6.JUN.2024 18:48:28

Duty cycle = 8.441 ms / 8.556 ms = 98.66% Duty Factor = 10 log(1/Duty cycle) = 0.00



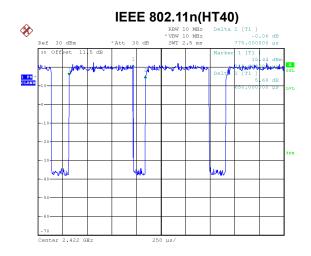
Date: 6.JUN.2024 17:14:34

Duty cycle = 1.312 ms / 1.432 ms = 91.62% Duty Factor = 10 log(1/Duty cycle) = 0.38



Date: 6.JUN.2024 17:11:30

Duty cycle = 1.408 ms / 1.632 ms = 86.27% Duty Factor = 10 log(1/Duty cycle) = 0.64



Date: 6.JUN.2024 17:34:38

Duty cycle = 0.650 ms / 0.775 ms = 83.87% Duty Factor = 10 log(1/Duty cycle) = 0.76





#### 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 710 Hz.

For IEEE 802.11n(HT20):

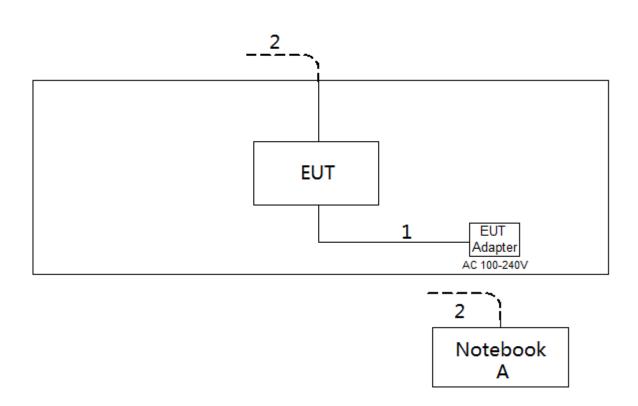
For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 762 Hz.

For IEEE 802.11n(HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1538 Hz.



## 3.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



## 3.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
Α	Notebook	Honor	14SER5 3500	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.5m
2	RJ45 Cable	NO	NO	10m

## 3.7 CUSTOMER INFORMATION DESCRIPTION

- The antenna gain and beamforming gain are provided by the manufacturer.
   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**

Fraguency 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.

#### **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:

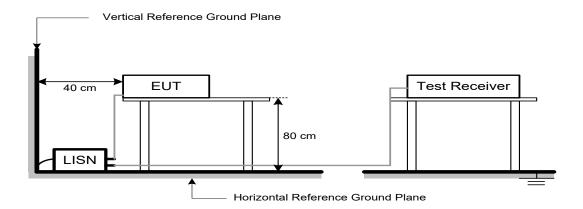
Receiver Parameters	Setting
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

#### 4.3 DEVIATION FROM TEST STANDARD

No deviation.



## 4.4 TEST SETUP



## 4.5 EUT OPERATION CONDITIONS

EUT was programmed to be in continuously transmitting mode.

## 4.6 TEST RESULTS

Please refer to the APPENDIX A.



## 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	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(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 4)	63.5 (Note 4)

#### 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)

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

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



#### **5.2 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 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)
- 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 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	1 MHz / 3 MHz for PK value
(Emission in restricted band)	1 MHz / 1/T Hz for AVG value

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

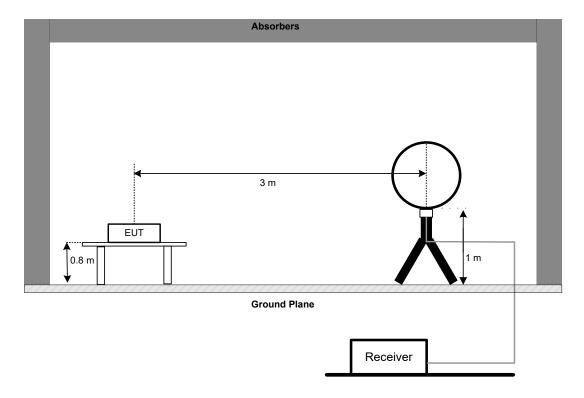


## **5.3 DEVIATION FROM TEST STANDARD**

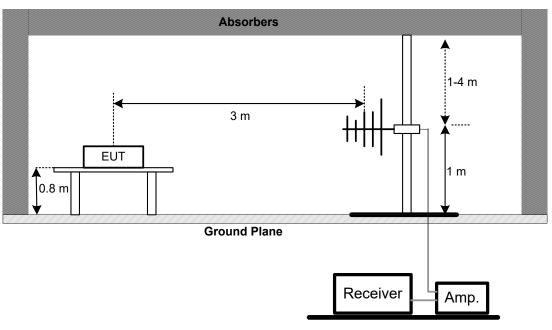
No deviation.

## 5.4 TEST SETUP

## 9 kHz to 30 MHz

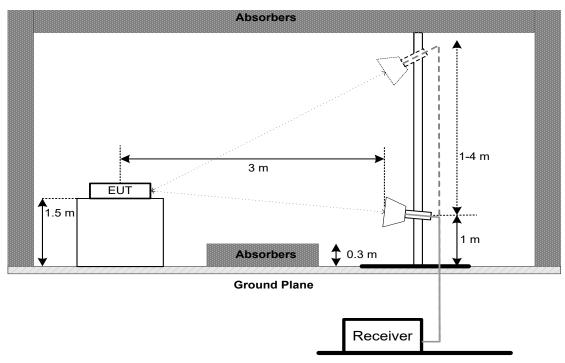


## 30 MHz to 1 GHz

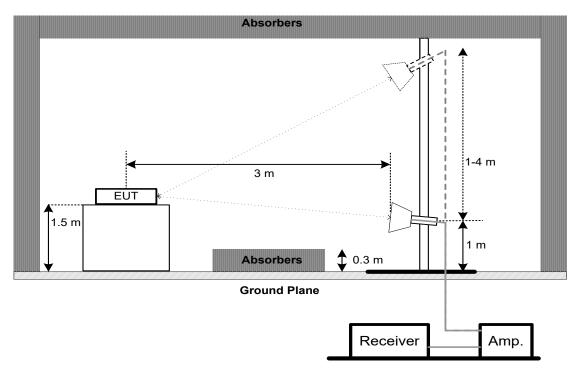




Above 1 GHz Band edge

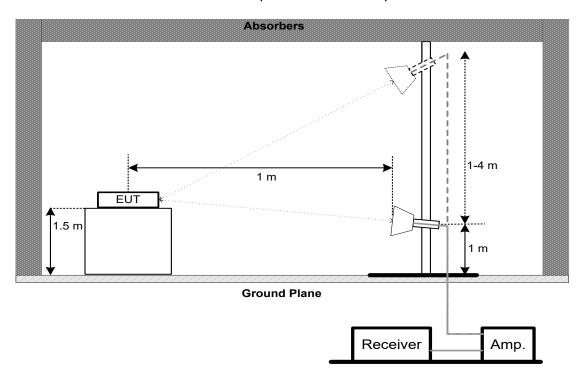


## Harmonic(1 GHz to 18 GHz)





#### Harmonic(18 GHz to 26.5 GHz)



## 5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

## 5.6 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.

## 5.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX C.

## 5.8 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.



## 6. BANDWIDTH

## 6.1 LIMIT

Section	Test Item	Limit
ECC 15 247(a)(2)	6 dB Bandwidth	Minimum 500 kHz
FCC 15.247(a)(2)	99% Emission Bandwidth	-

#### **6.2 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:

or o ab barramaan					
Spectrum Parameters	Setting				
Span Frequency	> Measurement Bandwidth				
RBW	100 kHz				
VBW	300 kHz				
Detector	Peak				
Trace	Max Hold				
Sweep Time	Auto				

#### For 99% Emission Bandwidth:

of 60% Efficient Ballawida.					
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				

## **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	

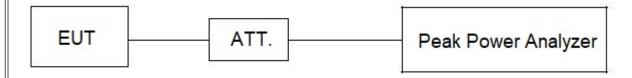
#### 7.2 TEST PROCEDURE

- a. The EUT was directly connected to the peak power analyzer and antenna output port as show in the block diagram below.
- b. The maximum conducted output power was performed in accordance with method 11.9.2.3.1 of ANSI C63.10-2013 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

#### 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 EMISSIONS

#### **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**

- 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

## 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

- 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) / 60 MHz (40 MHz)			
RBW	3 kHz			
VBW	10 kHz			
Detector	ctor 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						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	EMI Test Receiver	R&S	ESR3	103027	Jun. 16, 2024		
2	TWO-LINE V-NETWORK	R&S	ENV216	101447	Dec. 22, 2024		
3	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		
4	Cable	N/A	SFT205-NMNM-9M-00 1	9M	Nov. 27, 2024		
5	643 Shield Room	ETS	6*4*3	N/A	N/A		

	Radiated Emissions - 9 kHz to 30 MHz						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Active Loop Antenna	Schwarzbeck	FMZB 1513-60B	1513-60 B-034	Mar. 30, 2025		
2	MXE EMI Receiver	Keysight	N9038A	MY56400091	Dec. 22, 2024		
3	Cable	N/A	RW2350-3.8A-NMBM-1 .5M	N/A	Jun. 09, 2025		
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		
5	966 Chamber room	ETS	9*6*6	N/A	Jul. 11, 2024		

	Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	1462	Dec. 13, 2024	
2	Attenuator	EMC INSTRUMENT	EMCI-N-6-06	AT-06009	Dec. 13, 2024	
3	Preamplifier	EMC INSTRUMENT	EMC001330	980863	Apr. 07, 2025	
4	Cable	RegalWay	LMR400-NMNM-12.5m	N/A	Jul. 04, 2024	
5	Cable	RegalWay	LMR400-NMNM-3m	N/A	Jul. 04, 2024	
6	Cable	RegalWay	LMR400-NMNM-0.5m	N/A	Jul. 04, 2024	
7	Receiver	Agilent	N9038A	MY52130039	Dec. 22, 2024	
8	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A	
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	966 Chamber room	СМ	9*6*6	N/A	May 16, 2025	



	Radiated Emissions – 1GHz to 18 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Multi-Device Controller	ETS-Lindgren	N/A	N/A	N/A	
2	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	
3	MXA Signal Analyzer	KEYSIGHT	N9020B	MY63380204	Nov. 17, 2024	
4	Cable	RegalWay	RWLP50-4.0A-SMSM-1 .3M	N/A	Jan. 09, 2025	
5	Cable	RegalWay	RWLP50-2.6A-3.5M2.9 2MRA-3M	N/A	Jan. 09, 2025	
6	Cable	RegalWay	RWLP50-4.0A-SMSM-9 M	N/A	Jan. 09, 2025	
7	966 Chamber room	ETS	RFD-100(SVSWR)	Q2179	Jan. 09, 2025	
8	Double Ridged Horn Antenna	EMC INSTRUMENT	DRH18-E	210509A18ES	Aug. 08, 2024	
9	Preamplifier	EMC INSTRUMENT	EMC118A45SE	981001	May 31, 2025	
10	Attenuator	Talent Microwave	TA10A2-S-18	N/A	N/A	
11	Filter	STI	STI15-9912	N/A	Nov.17,2024	

	Radiated Emissions - Above 18 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	EXA Spectrum Analyzer	Keysight	N9010A	MY55150209	May 31, 2025	
2	Low Noise Amplifier	CONNPHY	CLN-18G40G-4330-K	619413	Jul. 06, 2024	
3	Cable	RegalWay	RWLP50-2.6A-2.92M2. 92M-1.1M	N/A	Jul. 26, 2024	
4	Cable	Tonscend	HF160-KMKM-3M	N/A	Jul. 26, 2024	
5	Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	1227	Oct. 10, 2024	
6	966 Chamber room	CM	9*6*6	N/A	May 19, 2025	
7	<b>Positioning Controller</b>	MF	MF-7802	N/A	N/A	
8	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	

Bandwidth & Conducted Spurious Emissions & Power Spectral Density						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP38	100852	May 31, 2025	
2 Measurement BTL BTL Conducted N/A N/A N/A					N/A	
3	Attenuator	Talent Microwave	TA10A0-S-26.5	N/A	N/A	
4	DC Block	N/A	N/A	N/A	N/A	

Maximum Output Power					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Attenuator	RegalWay	RWA-201-S-10	N/A	Sep. 26, 2024
2	Power sensors	MA24408A	12592	N/A	Dec. 22, 2024
3	MA24400A PEAK POWER ANALYZER	VERSION 1.1.0.0	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.



# 11. EUT TEST PHOTO









# Radiated Emissions Test Photos 9 kHz to 30 MHz



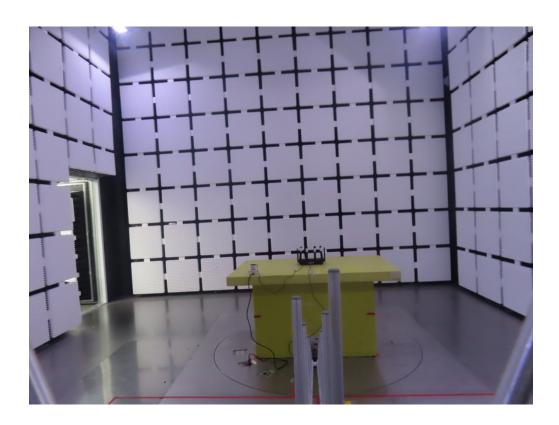




# **Radiated Emissions Test Photos**

## 30 MHz to 1 GHz

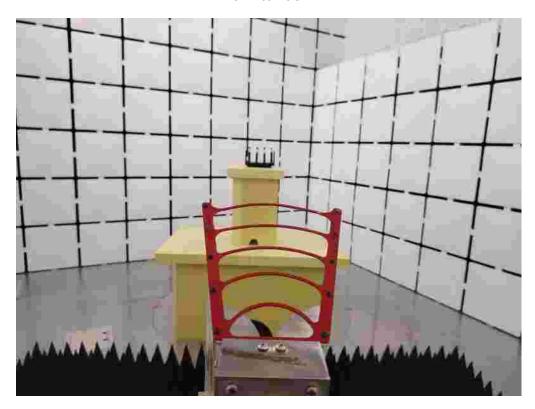


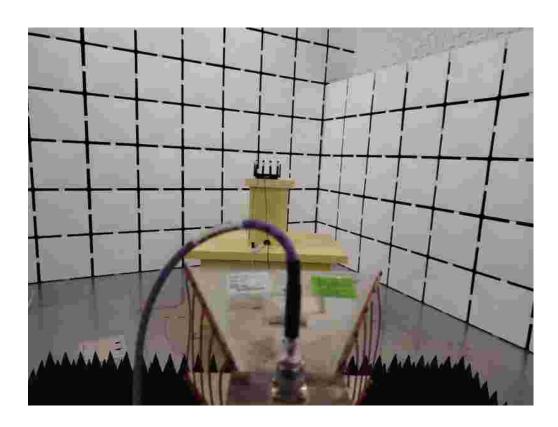




# **Radiated Emissions Test Photos**

## 1 GHz to 18GHz

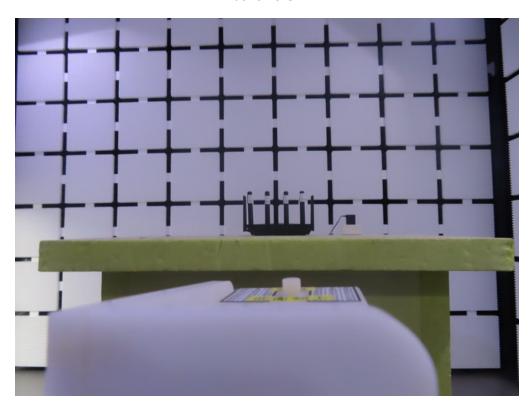


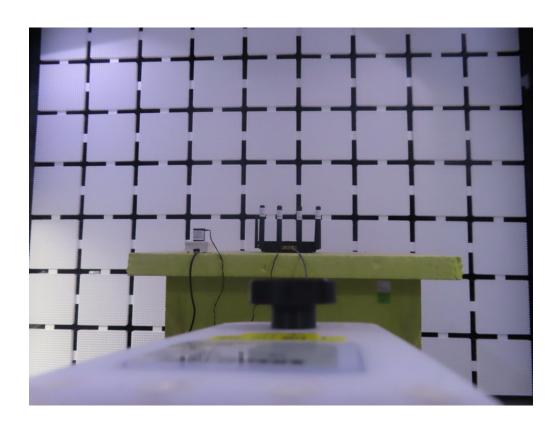




## **Radiated Emissions Test Photos**

## Above 18 GHz







## **Conducted Test Photos**



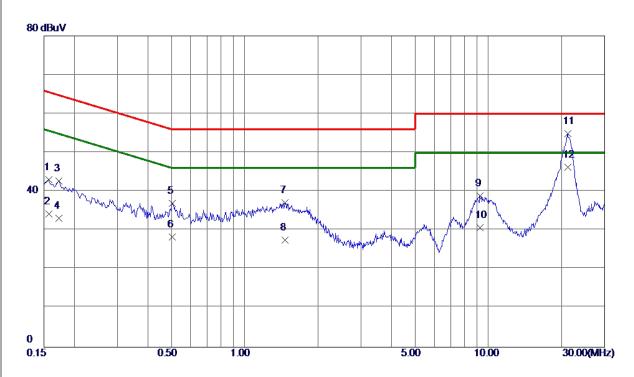




# **APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS**





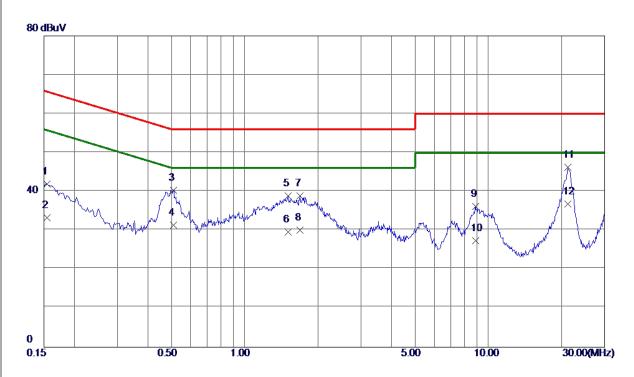


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0. 1568	33. 05	9. 97	43. 02	65. 63	-22. 61	QP	
2	0. 1568	24. 30	9. 97	34. 27	55. 63	-21. 36	AVG	
3	0. 1725	32. 79	9. 97	42. 76	64. 84	-22 <b>. 0</b> 8	QP	
4	0. 1725	23. 10	9. 97	33. 07	54. 84	-21. 77	AVG	
5	0. 5032	26. 33	10. 64	36. 97	56. 00	-19. 03	QP	
6	0. 5032	17. 70	10. 64	28. 34	46. 00	-17. 66	AVG	
7	1. 4640	25. 89	11. 27	37. 16	56. 00	-18. 84	QP	
8	1. 4640	16. 20	11. 27	27. 47	46. 00	-18. 53	AVG	
9	9. 2153	27. 14	11. 81	38. 95	60. 00	-21. 05	QP	
10	9. 2153	18. 90	11. 81	30. 71	50. 00	-19. 29	AVG	
11	21. 1448	40. 04	14. 77	54. 81	60. 00	-5. 19	QP	
12 *	21, 1448	31. 50	14. 77	46. 27	50. 00	-3, 73	AVG	

- (1) Measurement Value = Reading Level + Correct Factor.(2) 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. 1545	32. 06	9. 93	41. 99	65. 75	-23. 76	QP	
2	0. 1545	23. 31	9. 93	33. 24	55. 75	-22. 51	AVG	
3	0.5100	29. 78	10. 61	40. 39	<b>56.00</b>	-15. 61	QP	
4	0. 5100	20.80	10. 61	31. 41	46.00	-14. 59	AVG	
5	1. 5045	27. 68	11. 21	38. 89	<b>56.00</b>	-17. 11	QP	
6	1. 5045	18. 41	11. 21	29. 62	46.00	-16. 38	AVG	
7	1.6823	27. 72	11. 11	38. 83	<b>56.00</b>	-17. 17	QP	
8	1. 6823	18. 90	11. 11	30. 01	46.00	-15. 99	AVG	
9	8.8665	24. 48	11. 62	36. 10	60.00	-23. 90	QP	
10	8. 8665	15. 71	11. 62	27. 33	50. 00	-22. 67	AVG	
11	21. 2595	31. 49	14. 72	46. 21	60. 00	-13. 79	QP	
12 *	21, 2595	22. 10	14. 72	36. 82	50. 00	-13. 18	AVG	

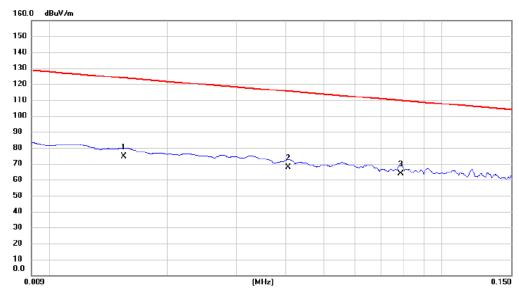
- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



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





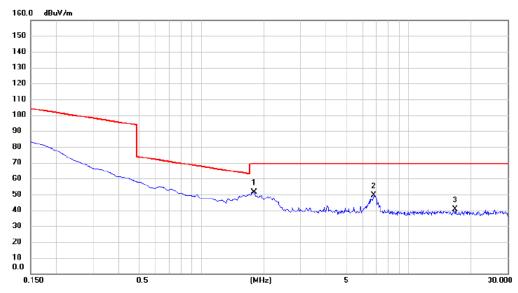


No. Mk.	Freq.	Reading Level		Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.0155	53.92	20.66	74.58	123.80	-49.22	AVG	
2	0.0406	46.48	21.15	67.63	115.43	-47.80	AVG	
3 *	0.0786	42.61	21.30	63.91	109.70	-45.79	AVG	

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





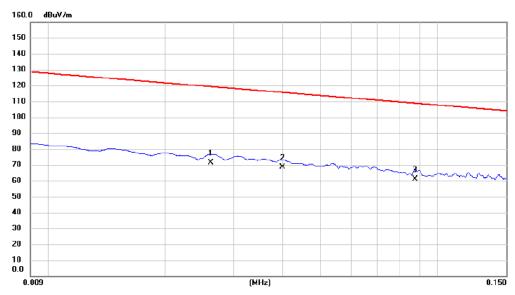


No. Mk.	Freq.		Correct Factor	Measure- ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	1.7917	30.40	21.02	51.42	69.54	-18.12	QP	
2	6.7767	28.30	21.00	49.30	69.54	-20.24	QP	
3	16.8063	19.60	21.04	40.64	69.54	-28.90	QP	

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





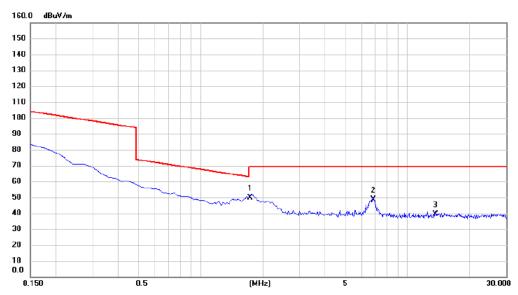


No. Mk.	Freq.			Measure- ment		Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.0262	50.36	20.99	71.35	119.24	-47.89	AVG	
2 *	0.0400	47.29	21.15	68.44	115.56	-47.12	AVG	
3	0.0875	39.87	21.30	61.17	108.76	-47.59	AVG	

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







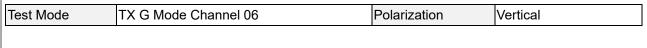
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	1.7321	28.63	21.03	49.66	69.54	-19.88	QP	
2		6.8065	27.73	21.00	48.73	69.54	-20.81	QP	
3		13.6422	18.23	20.98	39.21	69.54	-30.33	QP	

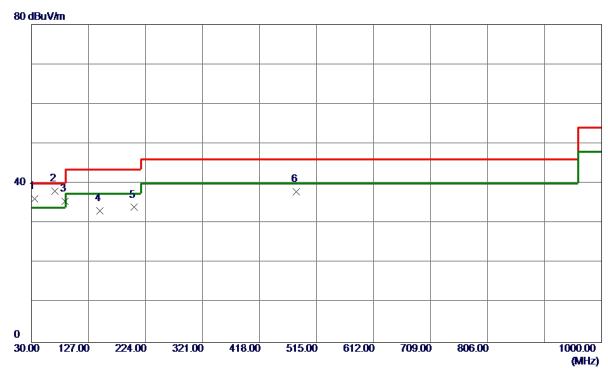
- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



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



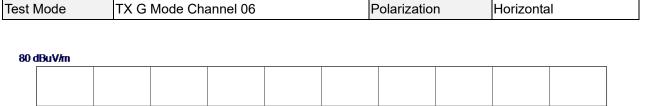


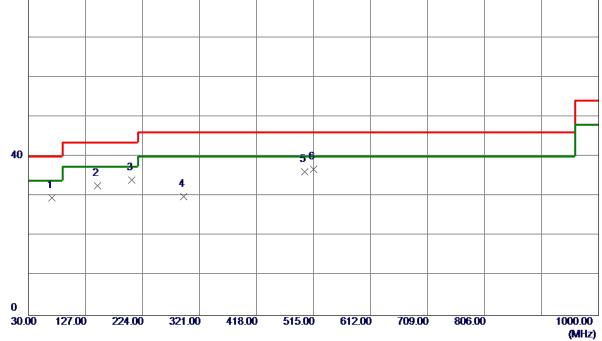


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	34.8500	48. 53	-12. 33	36. 20	40.00	-3. 80	Peak	
2 *	70. 2550	51.65	-13. 57	38. 08	40.00	-1. 92	Peak	
3	86. 7450	52. 22	-16. 70	35. 52	40.00	<b>-4.48</b>	Peak	
4	145. 9149	44. 43	-11. 38	33. 05	43. 50	-10. 45	Peak	
5	205. 0850	48. 41	-14. 41	34. 00	43. 50	<b>−9. 50</b>	Peak	
6	480. 0800	44. 22	-6. 23	37. 99	46.00	-8. 01	Peak	

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







No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	70. 2550	43. 23	-13. 57	29. 66	40.00	-10. 34	Peak	
2	147. 3700	44. 00	-11. 30	32. 70	43. 50	-10. 80	Peak	
3	206. 0549	48. 47	-14. 40	34. 07	43. 50	-9. 43	Peak	
4	294. 3250	40.62	-10. 64	29. 98	46.00	-16. 02	Peak	
5	499. 9650	42. 15	-5. 93	36. 22	46.00	-9. 78	Peak	
6 *	514. 5150	42. 38	<b>-5. 64</b>	36. 74	46.00	-9. 26	Peak	

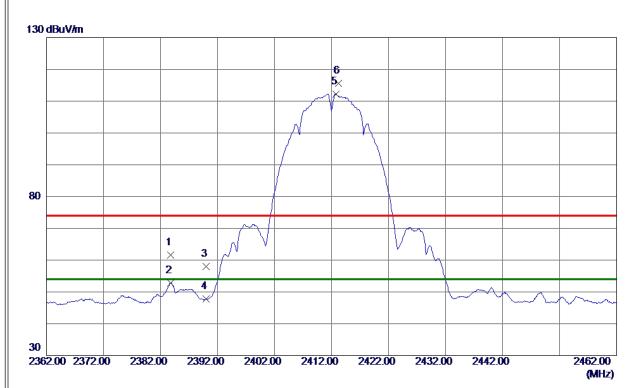
- (1) Measurement Value = Reading Level + Correct Factor.(2) Margin Level = Measurement Value Limit Value.



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



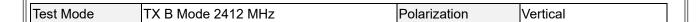


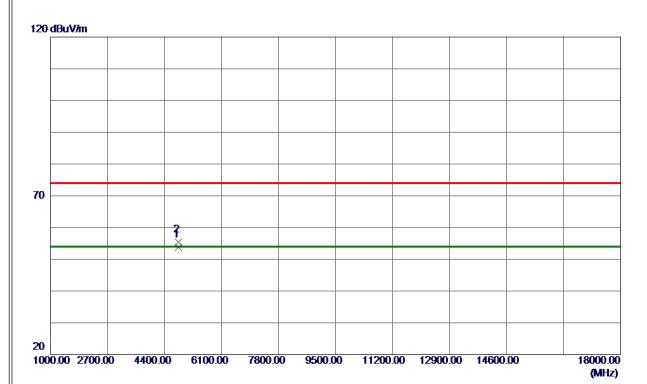


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2383. 8000	53. 25	8. 38	61. 63	74.00	-12. 37	Peak	
2	2383. 8000	44. 44	8. 38	52. 82	54.00	-1. 18	AVG	
3	2390. 0000	49. 57	8. 40	57. 97	74.00	-16. 03	Peak	
4	2390. 0000	39. 37	8. 40	47. 77	54.00	-6. 23	AVG	
5 *	2412. 8000	103.80	8. 44	112. 24	54.00	58. 24	AVG	No Limit
6	2413. 2000	107. 19	8. 45	115. 64	74.00	41.64	Peak	No Limit

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





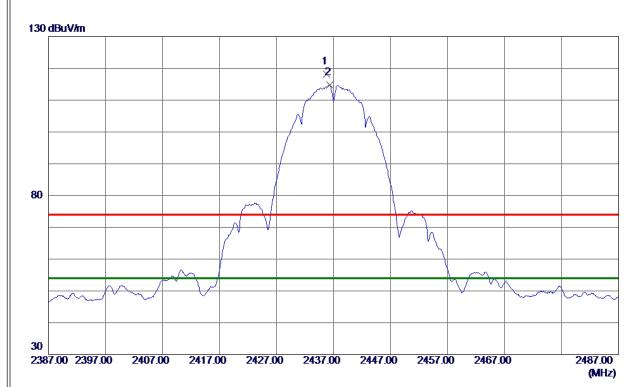


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4824. 0000	49. 96	3. 76	53. 72	54.00	<b>-0.</b> 28	AVG	
2	4824. 0500	51.71	3. 76	55. 47	74.00	-18. 53	Peak	

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



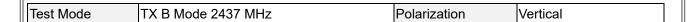


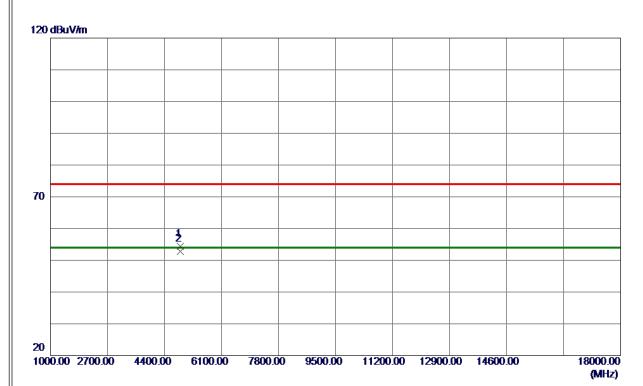


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2435. 8000	109. 70	8. 49	118. 19	74.00	44. 19	Peak	No Limit
2 *	2436, 3000	106, 23	8. 49	114, 72	54, 00	60, 72	AVG	No Limit

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





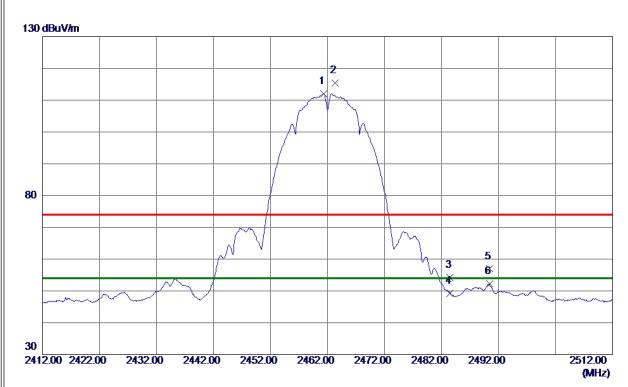


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4874. 0000	50. 44	3. 87	54. 31	74.00	-19. 69	Peak	
2 *	4874. 0500	48. 90	3. 87	52. 77	54.00	-1. 23	AVG	

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



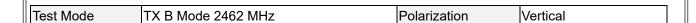


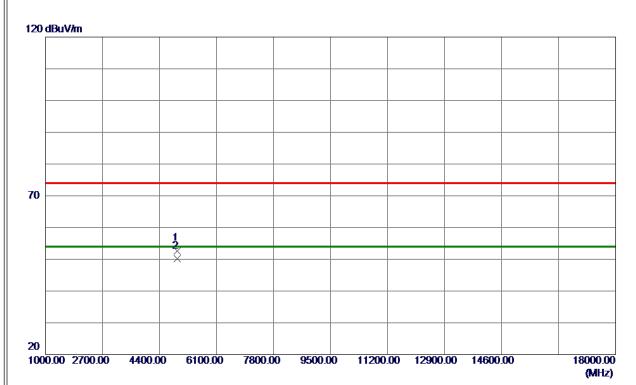


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2461. 3000	103. 40	8. 54	111. 94	54.00	57. 94	AVG	No Limit
2	2463. 3000	106.87	8. 55	115. 42	74.00	41. 42	Peak	No Limit
3	2483. 5000	<b>45.</b> 62	8. 59	54. 21	74.00	-19. 79	Peak	
4	2483. 5000	40.61	8. 59	49. 20	54.00	-4. 80	AVG	
5	2490. 4000	48. 29	8. 61	56. 90	74.00	-17. 10	Peak	
6	2490. 4000	43. 67	8. 61	52. 28	54.00	-1. 72	AVG	

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





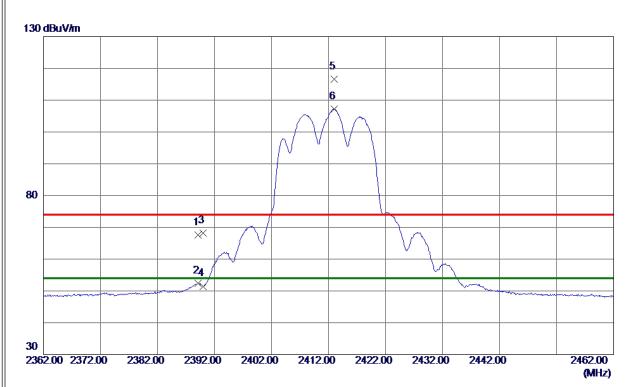


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4924. 0500	48. 72	3. 98	52. 70	74.00	-21. 30	Peak	
2 *	4924, 0500	46, 30	3. 98	50, 28	54, 00	-3, 72	AVG	

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



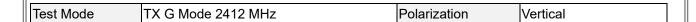


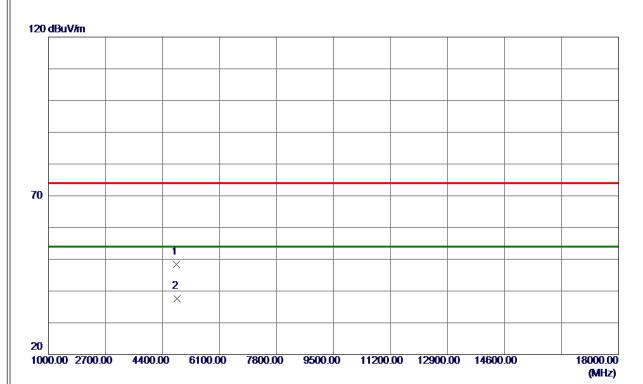


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2389. 1000	59. 29	8. 40	67. 69	74.00	-6. 31	Peak	
2	2389. 1000	44. 08	8. 40	<b>52.48</b>	54.00	-1. 52	AVG	
3	2390. 0000	59. 86	8. 40	68. 26	74.00	<b>-5.</b> 74	Peak	
4	2390. 0000	43. 10	8. 40	51. 50	54.00	-2. 50	AVG	
5	2413. 0000	108. 14	8. 44	116. 58	74. 00	42. 58	Peak	No Limit
6 *	2413. 0000	98. 81	8. 44	107. 25	54.00	53. 25	AVG	No Limit

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





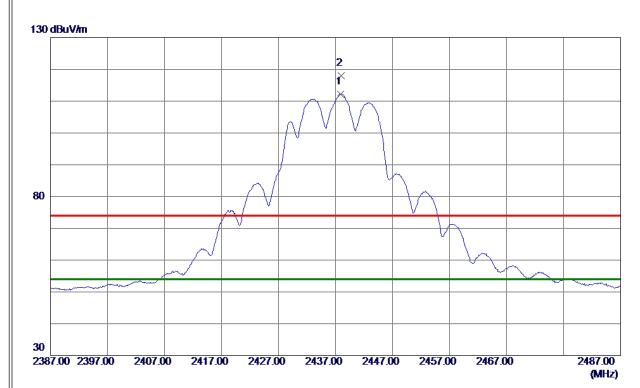


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824. 1500	44. 70	3. 76	48. 46	74.00	-25.54	Peak	
2 *	4825. 4500	33. 86	3. 77	37. 63	54. 00	-16. 37	AVG	

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



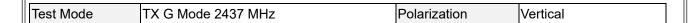


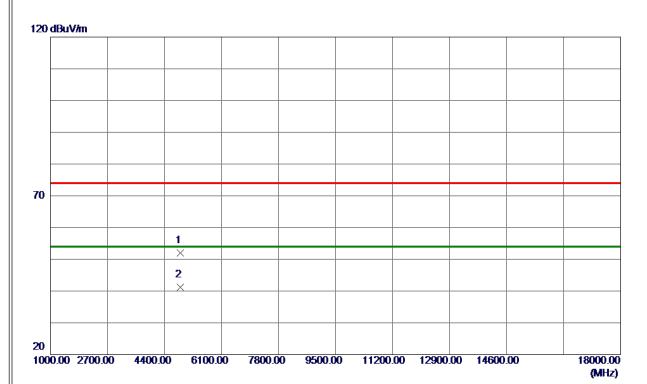


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2437. 9000	103. 79	8. 50	112. 29	54.00	58. 29	AVG	No Limit
2	2438. 0000	109. 53	8. 50	118. 03	74. 00	44. 03	Peak	No Limit

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





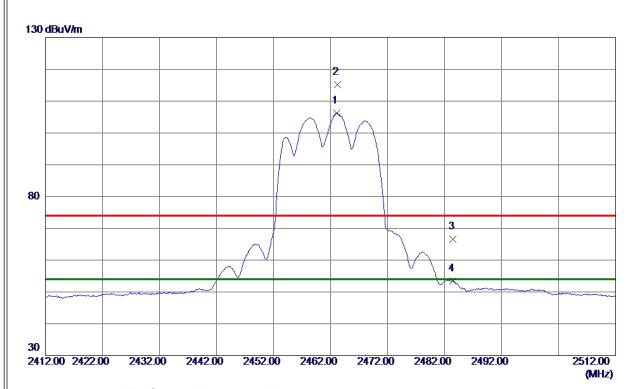


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4874. 1500	48. 13	3. 87	52. 00	74.00	-22.00	Peak	
2 *	4875. 6000	37. 40	3. 88	41. 28	54. 00	-12. 72	AVG	

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



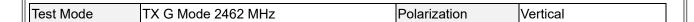


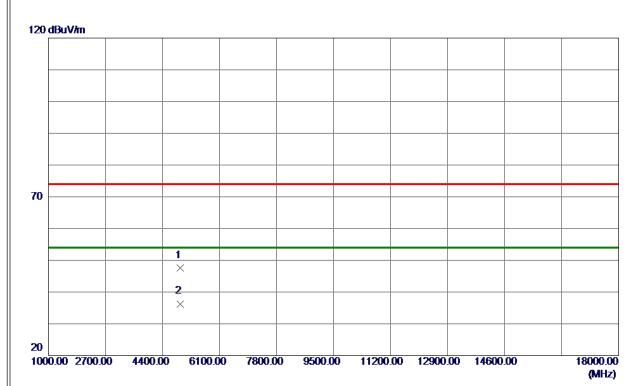


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2463. 1000	97. 70	8. 55	106. 25	54.00	52. 25	AVG	No Limit
2	2463. 2000	106. 71	8. 55	115. 26	74.00	41. 26	Peak	No Limit
3	2483. 5000	58. 10	8. 59	66. 69	74.00	-7. 31	Peak	
4	2483. 5000	44. 80	8. 59	53. 39	54. 00	-0. 61	AVG	

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





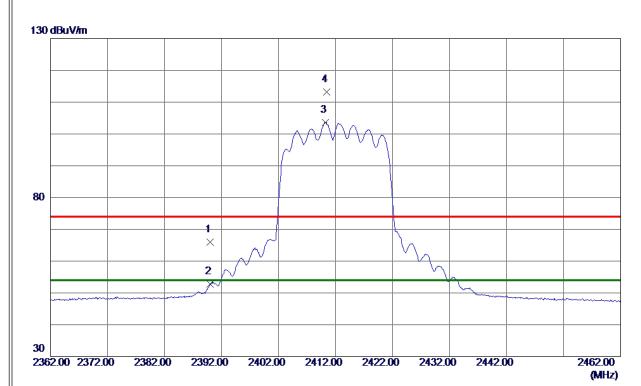


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4925. 0000	43. 59	3. 98	47. 57	74.00	-26. 43	Peak	
2 *	4925. 5500	32. 31	3. 99	36. 30	54.00	-17. 70	AVG	

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





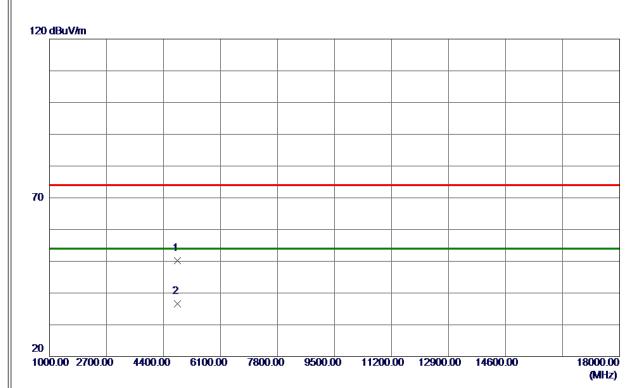


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	57. 54	8. 40	65. 94	74.00	-8. 06	Peak	
2	2390. 0000	44. 35	8. 40	52. 75	<b>54.00</b>	-1. 25	AVG	
3 *	2410. 2000	95. 15	8. 44	103. 59	<b>54.00</b>	49. 59	AVG	No Limit
4	2410. 4000	104. 67	8. 44	113. 11	74. 00	39. 11	Peak	No Limit

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





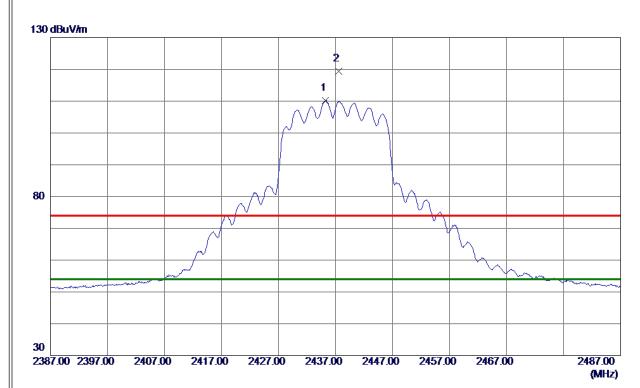


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4819. 3000	46. 37	3. 75	50. 12	74.00	-23.88	Peak	
2 *	4824. 3500	32. 91	3. 76	36. 67	54.00	-17. 33	AVG	

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



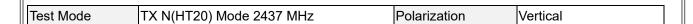


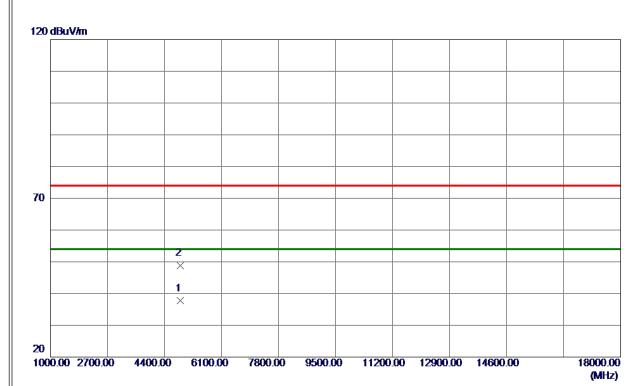


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2435. 2000	101. 78	8. 49	110. 27	54.00	56. 27	AVG	No Limit
2	2437. 5000	110.87	8. 50	119. 37	74. 00	45. 37	Peak	No Limit

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





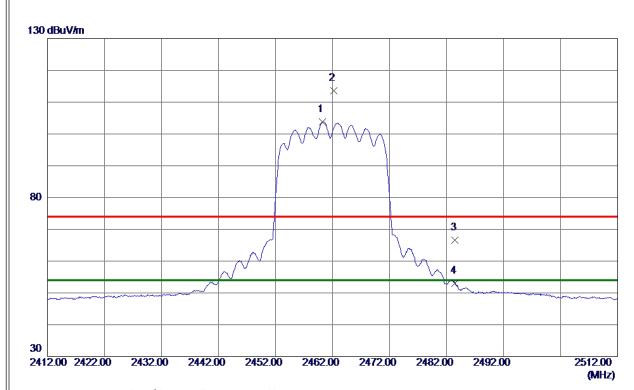


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4872. 1000	33. 83	3. 87	37. 70	54.00	-16. 30	AVG	
2	4874, 1500	44. 86	3, 87	48. 73	74. 00	-25. 27	Peak	

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



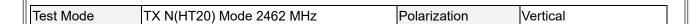


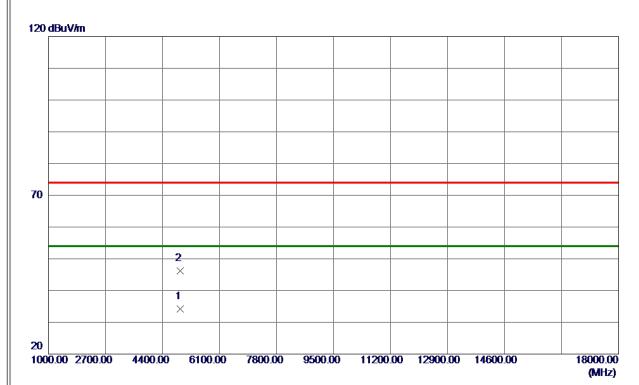


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	2460. 2000	95. 31	8. 54	103. 85	54.00	49.85	AVG	No Limit
2	2462. 2000	105. 10	8. 55	113. 65	74.00	39. 65	Peak	No Limit
3	2483. 5000	57. 99	8. 59	66. 58	74.00	-7. 42	Peak	
4	2483. 5000	44. 50	8. 59	53. 09	54.00	-0. 91	AVG	

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





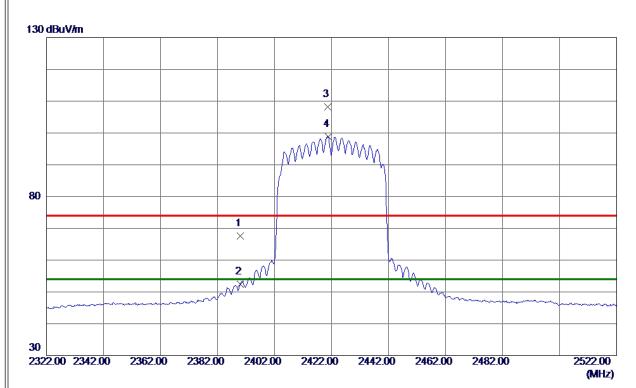


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4922. 0500	30. 26	3. 98	34. 24	54.00	-19. 76	AVG	
2	4927, 1500	42, 16	3. 99	46. 15	74. 00	-27. 85	Peak	

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



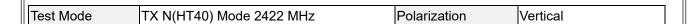


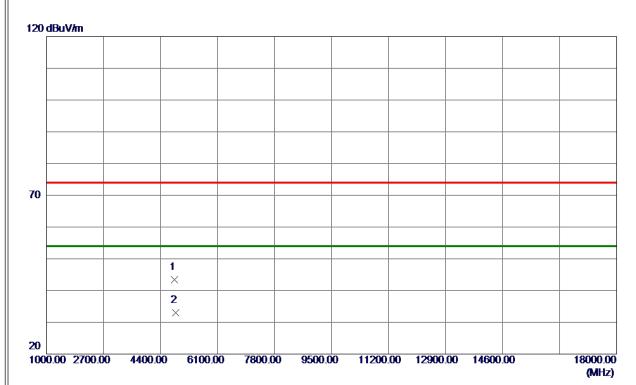


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	59. 16	8. 40	67. 56	74.00	<b>-6.44</b>	Peak	
2	2390. 0000	44. 00	8. 40	52. 40	<b>54.00</b>	-1. 60	AVG	
3	2420.6000	99. 83	8. 46	108. 29	74.00	34. 29	Peak	No Limit
4 *	2420. 8000	90. 33	8. 46	98. 79	54. 00	44. 79	AVG	No Limit

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





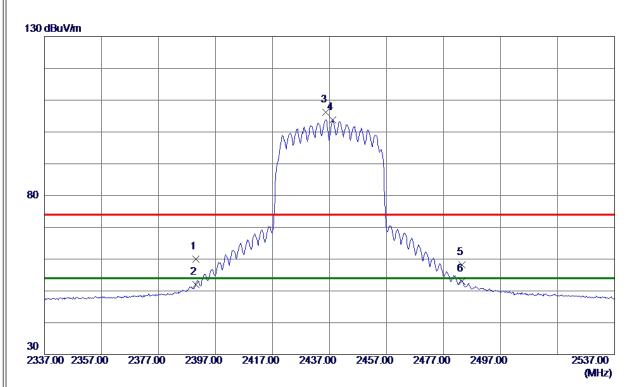


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4824. 9000	39. 70	3. 76	43. 46	74.00	-30. 54	Peak	
2 *	4844, 1000	29. 21	3. 81	33. 02	54. 00	-20. 98	AVG	

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



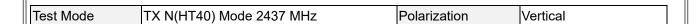


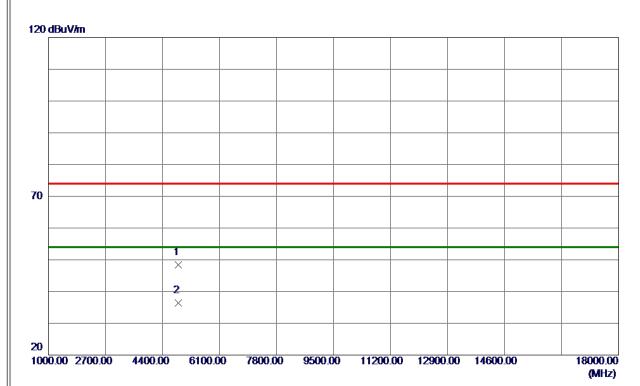


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2390. 0000	51.64	8. 40	60. 04	74.00	-13. 96	Peak	
2	2390. 0000	43.64	8. 40	52. 04	54.00	-1. 96	AVG	
3	2435. 6000	97. 72	8. 49	106. 21	74.00	32. 21	Peak	No Limit
4 *	2438. 0000	95. 39	8. 50	103. 89	54.00	49.89	AVG	No Limit
5	2483. 5000	49. 68	8. 59	58. 27	74.00	-15. 73	Peak	
6	2483. 5000	44. 39	8. 59	52. 98	54.00	-1. 02	AVG	

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





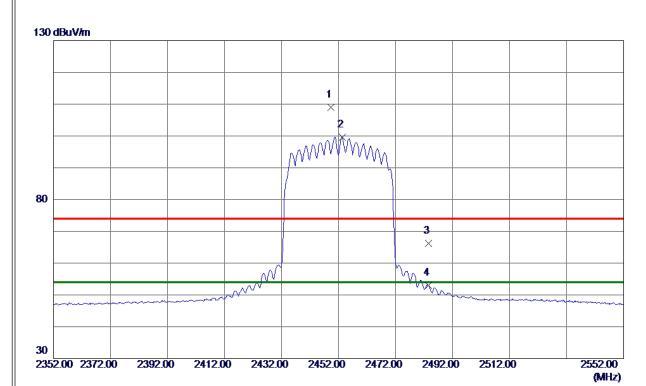


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4874. 5500	44. 58	3. 87	48. 45	74.00	-25.55	Peak	
2 *	4874, 6000	32, 52	3, 87	36, 39	54. 00	-17. 61	AVG	

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



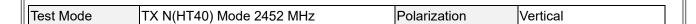


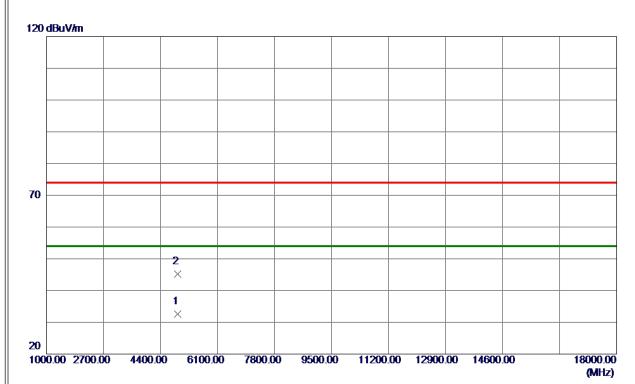


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	2449. 4000	100. 54	8. 52	109. 06	74.00	35. 06	Peak	No Limit
2 *	2453. 4000	91. 15	8. 53	99. 68	54.00	<b>45.68</b>	AVG	No Limit
3	2483. 5000	57. 58	8. 59	66. 17	74.00	-7. 83	Peak	
4	2483. 5000	44. 37	8. 59	52. 96	54.00	-1. 04	AVG	

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



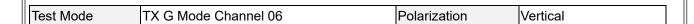


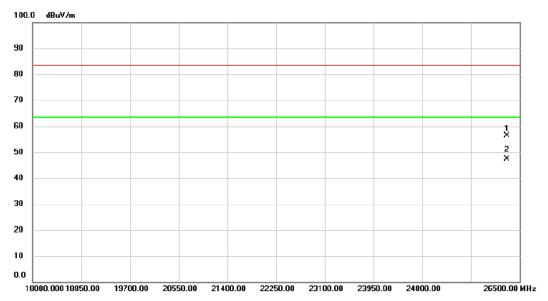


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4904. 5500	28. 73	3. 94	32. 67	54.00	-21. 33	AVG	
2	4904. 9000	41. 33	3. 94	45. 27	74. 00	-28. 73	Peak	

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





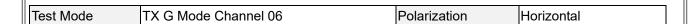


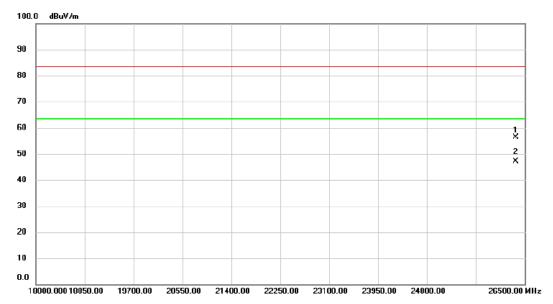
No.	Mk	. Freq.		Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26279.00	46.60	9.89	56.49	83.50	-27.01	peak	
2	*	26279.00	37.47	9.89	47.36	63.50	-16.14	AVG	

### **REMARKS**:

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







No.	Mk	. Freq.			Measure- ment		Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26342.75	46.58	9.89	56.47	83.50	-27.03	peak	
2	*	26342.75	37.28	9.89	47.17	63.50	-16.33	AVG	

### **REMARKS**:

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

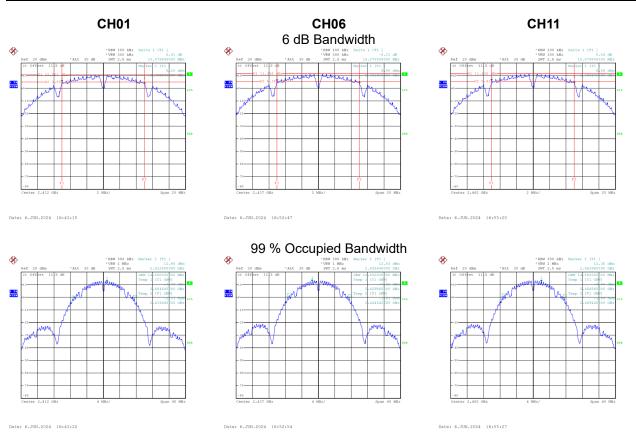


APPENDIX E - BANDWIDTH	



	Test Mode	TX B Mode
ı		

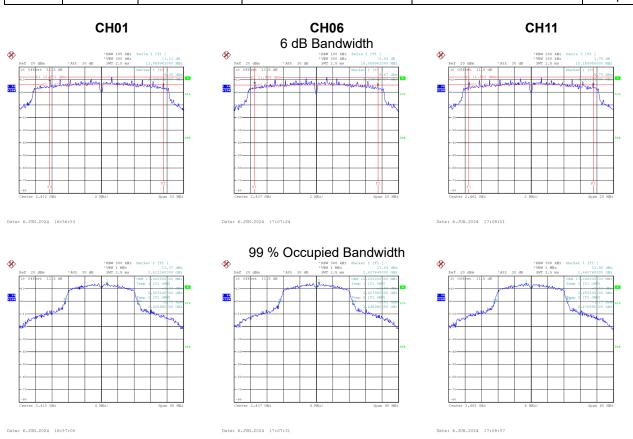
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	10.080	14.800	0.5	Complies
06	2437	10.070	14.880	0.5	Complies
11	2462	10.080	14.880	0.5	Complies





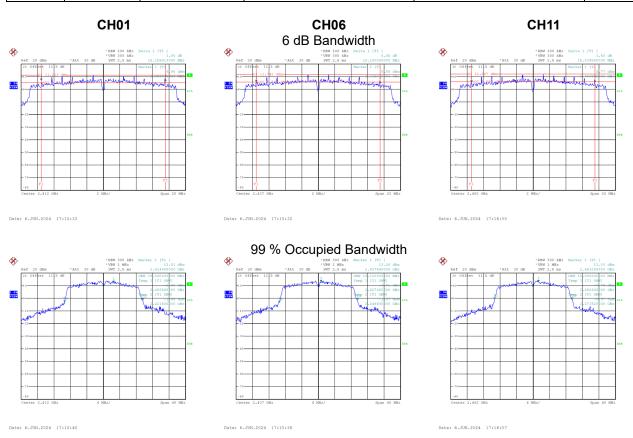
Test Mode	TX G Mode

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	13.860	17.920	0.5	Complies
06	2437	15.060	18.000	0.5	Complies
11	2462	15.160	17.840	0.5	Complies



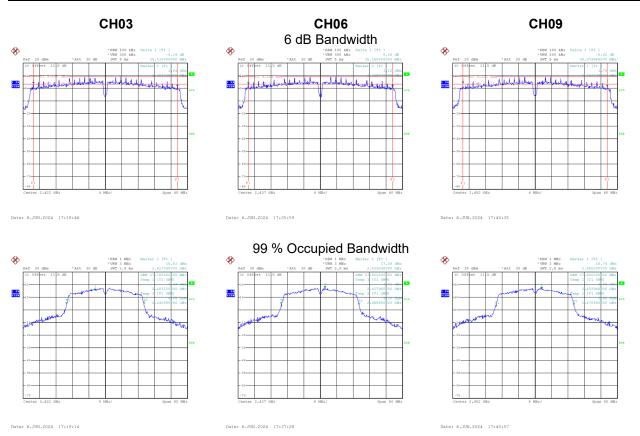


Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
01	2412	15.160	19.040	0.5	Complies
06	2437	15.100	19.120	0.5	Complies
11	2462	15.040	18.880	0.5	Complies





Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)	6 dB Bandwidth Min. Limit (MHz)	Result
03	2422	35.110	37.760	0.5	Complies
06	2437	35.160	37.920	0.5	Complies
09	2452	35.080	37.920	0.5	Complies





# **APPENDIX F - MAXIMUM OUTPUT POWER**



## Non Beamforming

Test Mode TX B Mode Ant. 1
----------------------------

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.88	0.00	17.88	30.00	1.0000	Complies
06	2437	20.49	0.00	20.49	30.00	1.0000	Complies
11	2462	18.96	0.00	18.96	30.00	1.0000	Complies

Test Mode	TX B Mode	Ant. 2

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.58	0.00	17.58	30.00	1.0000	Complies
06	2437	19.98	0.00	19.98	30.00	1.0000	Complies
11	2462	18.47	0.00	18.47	30.00	1.0000	Complies

Test Mode	TX B Mode_Total
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	20.74	29.98	0.9954	Complies
06	2437	23.25	29.98	0.9954	Complies
11	2462	21.73	29.98	0.9954	Complies



	Test Mode	TX G Mode Ant.	1
ı	103t Wood	TA G WOOG_ATT.	•

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	15.79	0.64	16.43	30.00	1.0000	Complies
06	2437	20.28	0.64	20.92	30.00	1.0000	Complies
11	2462	13.99	0.64	14.63	30.00	1.0000	Complies

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	15.24	0.64	15.88	30.00	1.0000	Complies
06	2437	19.88	0.64	20.52	30.00	1.0000	Complies
11	2462	13.63	0.64	14.27	30.00	1.0000	Complies

Test Mode
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	19.18	29.98	0.9954	Complies
06	2437	23.74	29.98	0.9954	Complies
11	2462	17.47	29.98	0.9954	Complies



Test Mode	TX N(HT20) Mode_Ar	nt. 1
100t Wode	17 (11 120 ) WOULD _7 (1	

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	12.82	0.38	13.20	30.00	1.0000	Complies
06	2437	19.97	0.38	20.35	30.00	1.0000	Complies
11	2462	12.64	0.38	13.02	30.00	1.0000	Complies

Test Mode	TX N(HT20)	Mode	Ant. 2
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	12.77	0.38	13.15	30.00	1.0000	Complies
06	2437	19.90	0.38	20.28	30.00	1.0000	Complies
11	2462	12.49	0.38	12.87	30.00	1.0000	Complies

Test Mode	TX N(HT20) Mode_Total
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	16.19	29.98	0.9954	Complies
06	2437	23.33	29.98	0.9954	Complies
11	2462	15.96	29.98	0.9954	Complies



Test Mode	TX N(HT40) Mode_Ant.	. 1
100t Wiodo	17	

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	11.11	0.76	11.87	30.00	1.0000	Complies
06	2437	15.66	0.76	16.42	30.00	1.0000	Complies
09	2452	11.18	0.76	11.94	30.00	1.0000	Complies

Test Mode	TX N	(HT40)	) Mode_	Ant.	2
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	10.91	0.76	11.67	30.00	1.0000	Complies
06	2437	15.33	0.76	16.09	30.00	1.0000	Complies
09	2452	10.73	0.76	11.49	30.00	1.0000	Complies

Test Mode TX N(HT40) Mode_Total
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	14.79	29.98	0.9954	Complies
06	2437	19.27	29.98	0.9954	Complies
09	2452	14.74	29.98	0.9954	Complies



## Beamforming

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	12.35	0.38	12.73	30.00	1.0000	Complies
06	2437	19.28	0.38	19.66	30.00	1.0000	Complies
11	2462	12.25	0.38	12.63	30.00	1.0000	Complies

Test Mode	TX N(HT20) Mode_Ant	. 2
103t Widac	1 / 1   1   1   2   0     1   1   0   0   0   0   0   0	

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	12.23	0.38	12.61	30.00	1.0000	Complies
06	2437	19.17	0.38	19.55	30.00	1.0000	Complies
11	2462	12.15	0.38	12.53	30.00	1.0000	Complies

	Test Mode	TX N(HT20) Mode_Total
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Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	15.68	29.82	0.9594	Complies
06	2437	22.62	29.82	0.9594	Complies
11	2462	15.59	29.82	0.9594	Complies



Test Mode	TX N(HT40)	) Mode	Ant.	1
103t Wode		, iviouc_	_/ \	•

Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	10.70	0.76	11.46	30.00	1.0000	Complies
06	2437	14.99	0.76	15.75	30.00	1.0000	Complies
09	2452	10.68	0.76	11.44	30.00	1.0000	Complies

Test Mode	TX N	(HT40)	) Mode_	Ant.	2
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Channel	Frequency (MHz)	Output Power (dBm)	Duty Factor	Output Power + Duty Factor (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	10.45	0.76	11.21	30.00	1.0000	Complies
06	2437	14.67	0.76	15.43	30.00	1.0000	Complies
09	2452	10.32	0.76	11.08	30.00	1.0000	Complies

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	14.35	29.82	0.9594	Complies
06	2437	18.61	29.82	0.9594	Complies
09	2452	14.28	29.82	0.9594	Complies



# **APPENDIX G - CONDUCTED SPURIOUS EMISSIONS**



