

FCC Radio Test Report

FCC ID: V7TAC5V3

This report concerns: Original Grant

Project No.	: 1912C183
Equipment	: AC1200 Smart Dual-band WiFi Router
Brand Name	: Tenda
Test Model	: AC5
Series Model	: N/A
Applicant	: SHENZHEN TENDA TECHNOLOGY CO., LTD
Address	: 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan
	District, Shenzhen, China. 518052
Manufacturer	: SHENZHEN TENDA TECHNOLOGY CO., LTD
Address	: 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan
	District, Shenzhen, China. 518052
Date of Receipt	: Feb. 26, 2020
Date of Test	: Feb. 27, 2020 ~ Feb. 28, 2020
Issued Date	: Mar. 02, 2020
Report Version	: R01
Test Sample	: Engineering Sample No.: DG2019122778 for conducted,
	DG2019122777 for radiated.
Standard(s)	: FCC Part15, Subpart C (15.247)
	ANSI C63.10-2013
	KDB 558074 D01 15.247 Meas Guidance v05r02

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

NIGL Chen

Prepared by : Nick Chen

-Charl .

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



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** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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

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

BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** 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.



Table of Contents	Page
REPORT ISSUED HISTORY	6
1. SUMMARY OF TEST RESULTS	7
1.1 TEST FACILITY	8
1.2 MEASUREMENT UNCERTAINTY	8
1.3 TEST ENVIRONMENT CONDITIONS	9
2 . GENERAL INFORMATION	10
2.1 GENERAL DESCRIPTION OF EUT	10
2.2 DESCRIPTION OF TEST MODES	12
2.3 PARAMETERS OF TEST SOFTWARE	14
2.4 DUTY CYCLE	15
2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	16
2.6 SUPPORT UNITS	16
3 . AC POWER LINE CONDUCTED EMISSIONS TEST	17
3.1 LIMIT	17
3.2 TEST PROCEDURE	17
3.3 DEVIATION FROM TEST STANDARD	17
3.4 TEST SETUP	18
3.5 EUT OPERATION CONDITIONS	18
3.6 TEST RESULTS	18
4 . RADIATED EMISSIONS TEST	19
4.1 LIMIT	19
4.2 TEST PROCEDURE	20
4.3 DEVIATION FROM TEST STANDARD	20
4.4 TEST SETUP	21
4.5 EUT OPERATION CONDITIONS	22
4.6 TEST RESULTS - 9 KHZ TO 30 MHZ	22
4.7 TEST RESULTS - 30 MHZ TO 1000 MHZ	22
4.8 TEST RESULTS - ABOVE 1000 MHZ	22
5 . BANDWIDTH TEST	23
5.1 LIMIT	23
5.2 TEST PROCEDURE	23
5.3 DEVIATION FROM STANDARD	23
5.4 TEST SETUP	23



Table of Contents	Page
5.5 EUT OPERATION CONDITIONS	23
5.6 TEST RESULTS	23
6 . MAXIMUM OUTPUT POWER TEST	24
6.1 LIMIT	24
6.2 TEST PROCEDURE	24
6.3 DEVIATION FROM STANDARD	24
6.4 TEST SETUP	24
6.5 EUT OPERATION CONDITIONS	24
6.6 TEST RESULTS	24
7 . CONDUCTED SPURIOUS EMISSIONS	25
7.1 LIMIT	25
7.2 TEST PROCEDURE	25
7.3 DEVIATION FROM STANDARD	25
7.4 TEST SETUP	25
7.5 EUT OPERATION CONDITIONS	25
7.6 TEST RESULTS	25
8 . POWER SPECTRAL DENSITY TEST	26
8.1 LIMIT	26
8.2 TEST PROCEDURE	26
8.3 DEVIATION FROM STANDARD	26
8.4 TEST SETUP	26
8.5 EUT OPERATION CONDITIONS	26
8.6 TEST RESULTS	26
9 . MEASUREMENT INSTRUMENTS LIST	27
10 . EUT TEST PHOTO	29
APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS	33
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ	38
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	43
APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ	46
APPENDIX E - BANDWIDTH	97
APPENDIX F - MAXIMUM OUTPUT POWER	102
APPENDIX G - CONDUCTED SPURIOUS EMISSIONS	108



Table of Contents

Page

APPENDIX H - POWER SPECTRAL DENSITY

119



REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Feb. 11, 2020
R01	Modified the comments of TCB.	Mar. 02, 2020

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart C (15.247)						
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

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	2.60

B. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)												
		9kHz ~ 30MHz	V	3.79												
		9kHz ~ 30MHz	Н	3.57												
		30MHz ~ 200MHz	V	4.88												
	CISPR	G-CB03 CISPR 200MHz ~ 1,000 200MHz ~ 1,000 1GHz ~ 6GHz 6GHz ~ 18GH								30MHz ~ 200MHz	Н	4.14				
										CIEDD	CIEDD		CIEDD			
DG-CB03			200MHz ~ 1,000MHz	Н	4.80											
						1GHz ~ 6GHz	-	4.58								
			18GHz ~ 26.5GHz	-	3.62											
		26.5GHz ~ 40GHz	-	4.00												

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 AC 240V/50Hz	Grani Zhou
Radiated Emissions-9K-30MHz	25°C	60%	AC 120V/60Hz	Laughing Zhang
Radiated Emissions-30 MHz to 1GHz	24°C	68%	AC 120V/60Hz	Laughing Zhang
Radiated Emissions-Above 1000 MHz	24°C	68%	AC 120V/60Hz	Laughing Zhang
Bandwidth	25°C	60%	DC 9V	Grani Zhou
Maximum output power	25°C	60%	DC 9V	Damon Deng
Conducted Spurious Emissions	25°C	60%	DC 9V	Grani Zhou
Power Spectral Density	25°C	60%	DC 9V	Grani Zhou



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	AC1200 Smart Dual-band WiFi Router			
Brand Name	Tenda			
Test Model	AC5			
Series Model	N/A			
Model Difference(s)	N/A			
Power Source	DC voltage supplied from AC/DC adapter. Model: BN052-A09009E			
Power Rating	I/P: 100-240V~50/60Hz 0.3A O/P: 9V === 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 802.11b: 20.91 dBm (0.1233 W) IEEE 802.11g: 29.34 dBm (0.8590 W) IEEE 802.11n (HT20): 27.90 dBm (0.6166 W) IEEE 802.11n (HT40): 27.94 dBm (0.622.3 W)			
Maximum Output Power Beamforming	IEEE 802.11n (HT20): 27.85 dBm (0.6094 W) IEEE 802.11n (HT40): 27.75 dBm (0.5962 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 (MHz) Channel (MHz)					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	N/A	N/A	Dipole	N/A	5
2	N/A	N/A	Dipole	N/A	5

Note:

(1) For Non-Beamforming Function:

Antenna Gain=5 dBi. This EUT supports MIMO 2X2, any transmit signals are correlated with each other, so Directional gain = G_{ANT} +10log(N)dBi, that is Directional gain =5+10log(2)dBi=8.01. So, the output power limit is 30-(8.01-6)=27.99, the power spectral density limit is 8-(8.01-6)=5.99.

 (2) For Beamforming Function: Beamforming Gain=3 dBi, Directional gain=3+5=8 dBi. So, the output power limit is 30-(8-6)=28, the power spectral density limit is 8-(8-6)=6.

4. Table for Antenna Configuration:

For Non Beamforming:

Operating Mode	1TX	2TX	
TX Mode			
802.11b	V (Ant. 1)	-	
802.11g	V (Ant. 1)	-	
802.11n(20 MHz)	-	V (Ant. 1 + Ant. 2)	
802.11n(40 MHz)	-	V (Ant. 1 + Ant. 2)	

For Beamforming:

Operating Mode TX Mode	2TX
802.11n(20 MHz)	V (Ant. 1 + Ant. 2)
802.11n(40 MHz)	V (Ant. 1 + Ant. 2)

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 N-20 MHz Mode Channel 01/06/11
Mode 4	TX N-40 MHz Mode Channel 03/06/09
Mode 5	TX N20 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 N20 Mode Channel 06	

Radiated emissions test - Below 1GHz		
Final Test Mode:	Description	
Mode 5	TX N20 Mode Channel 06	

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	
Mode 3	TX N-20 MHz Mode Channel 01/06/11	
Mode 4	TX N-40 MHz Mode Channel 03/06/09	

Conducted test		
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-20 MHz Mode Channel 01/06/11	
Mode 4	TX N-40 MHz Mode Channel 03/06/09	





NOTE:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) 802.11b mode: CCK (1 Mbps) 802.11g mode: OFDM (6 Mbps) 802.11n HT20 mode : BPSK (13 Mbps) 802.11n HT40 mode : BPSK (27 Mbps)
 - For radiated emission tests, the highest output powers were set for final test.
- (3) For radiated emission below 1 GHz test, the IEEE 802.11n20 Channel 06 is found to be the worst case and recorded.
- (4) For radiated emission above 1 GHz test, 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.
- (5) For radiated emissions, the WLAN 2.4G G Mode 2412MHz+RLAN 5G AC 40 Mode 5190MHz was found the worst case of simultaneous transmission and recorded.

2.3 PARAMETERS OF TEST SOFTWARE

		_	
Test Software	MP_TEST		
Frequency (MHz)	2412	2437	2462
IEEE 802.11b	68	67	73
IEEE 802.11g	101	96	96
IEEE 802.11n (HT20)	81/81	81/81	81/81
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (HT40)	80/80	80/80	80/80

Non-Beamforming

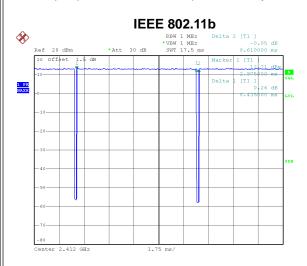
Beamforming

Test Software	MP_TEST		
Frequency (MHz)	2412	2437	2462
IEEE 802.11n (HT20)	77/77	77/77	77/77
Frequency (MHz)	2422	2437	2452
IEEE 802.11n (HT40)	80/80	79/79	79/79



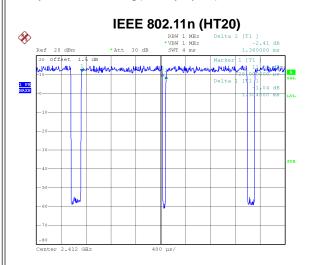
2.4 DUTY CYCLE

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: 3.JAN.2020 15:21:45

Duty cycle = 8.435 ms / 8.610 ms = 97.97%Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.09$

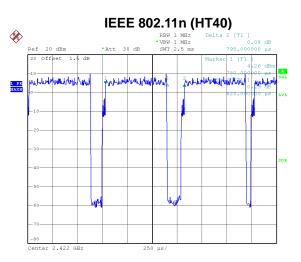


Date: 3.JAN.2020 15:23:13

Duty cycle = 1.304 ms / 1.360 ms = 95.88%Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.18$

Date: 3.JAN.2020 15:22:13

Duty cycle = 1.392 ms / 1.584 ms = 87.88%Duty Factor = $10 \log(1/\text{Duty cycle}) = 0.56$



Date: 3.JAN.2020 15:24:07

Duty cycle = 0.620 ms / 0.795 ms = 77.99%Duty Factor = $10 \log(1/\text{Duty cycle}) = 1.08$

NOTE:

For IEEE 802.11g and 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 1 kHz (Duty cycle < 98%).

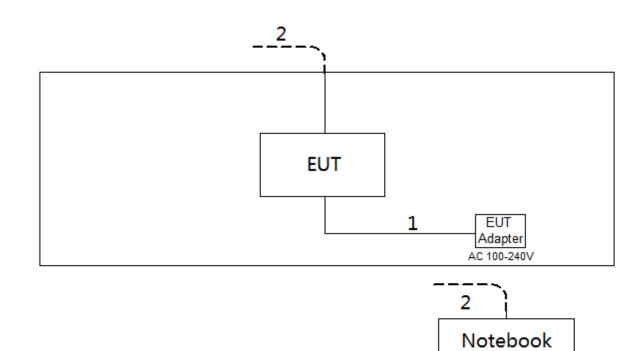
For IEEE 802.11n (HT40):

For radiated emissions frequency above 1 GHz, the resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 2 kHz (Duty cycle < 98%).



А

2.5 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.6 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Notebook	Dell	Inspiron 15-7559	N/A

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



3. AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency of Emission (MHz)	Limit (dBµV)		
Frequency of Emission (MHz)	Quasi-peak	Average	
0.15 - 0.50	66 to 56*	56 to 46*	
0.50 - 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.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.2 TEST PROCEDURE

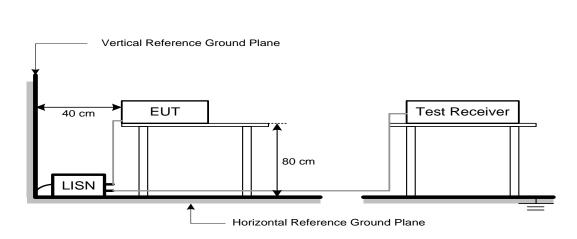
- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 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.

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 TEST

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	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)	(dBuV/m at 3 m)		
	Peak	Average	
Above 1000	74	54	

NOTE:

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

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	1 MHz / 3 MHz for Peak,
(Emission in restricted band)	1 MHz / 1/T for Average

Receiver Parameter	Setting
Attenuation	Auto
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

4.2 TEST PROCEDURE

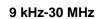
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The measuring distance 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)
- 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.

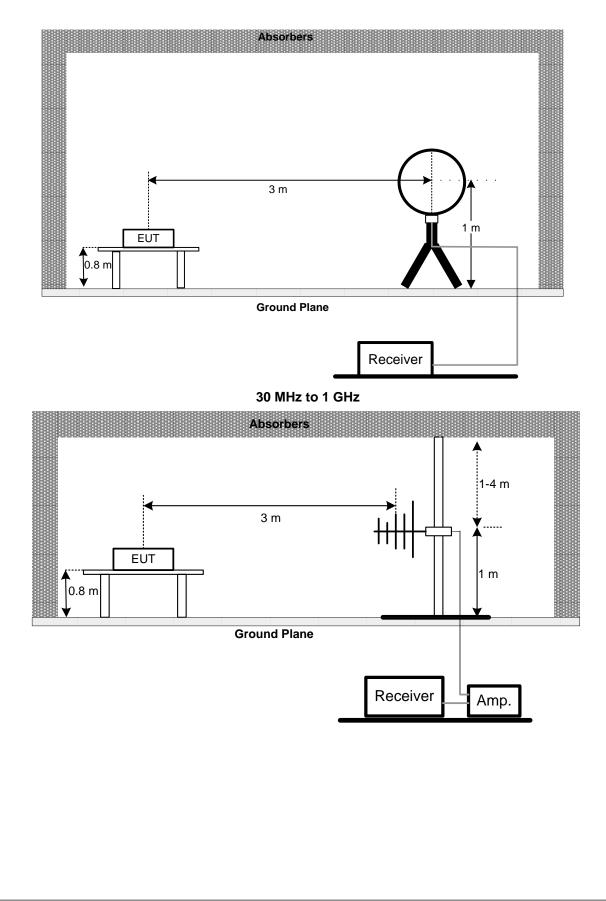
4.3 DEVIATION FROM TEST STANDARD

No deviation

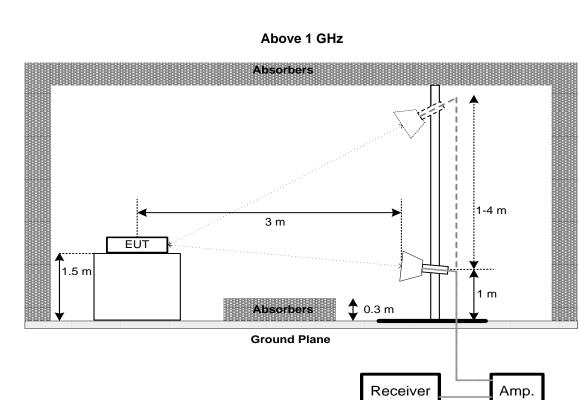


4.4 TEST SETUP









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 TEST

5.1 LIMIT

FCC Part15, Subpart C (15.247)				
Section Test Item Limit				
15.247(0)(2)	6 dB Bandwidth	Minimum 500 kHz		
15.247(a)(2)	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. Spectrum Setting:

For 6 dB Bandwidth : RBW= 100 kHz, VBW=300 kHz, Sweep time = auto.

For 99% Emission Bandwidth B/G/N-20 Mode: RBW= 300 KHz, VBW=1 MHz, Sweep time = 2.5 ms. For 99% Emission Bandwidth N-40 Mode: RBW= 1 MHz, VBW=3 MHz, Sweep time = 2.5 ms.

c. The bandwidth was performed in accordance with method 11.8.1 of ANSI C63.10-2013.

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 TEST

6.1 LIMIT

FCC Part15, Subpart C (15.247)				
Section Test Item Limit				
15.247(b)(3)	Maximum Output Power	1 Watt or 30dBm		

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 and FCC KDB 662911 D01 v02r01 Multiple Transmitter Output.

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. Spectrum Setting: RBW= 100 kHz, VBW=300 kHz, Sweep time = Auto.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



SPECTRUM ANALYZER

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 TEST

8.1 LIMIT

FCC Part15, Subpart C (15.247)					
Section Test Item Limit					
15.247(e)	Bower Spectral Density	8 dBm (in any 3 kHz)			
15.247(e)	Power Spectral 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. Spectrum Setting: RBW=3 kHz, VBW=10 kHz, Sweep time = Auto.
- c. The Power Spectral Density was performed in accordance with method 11.10.2 of ANSI C63.10-2013.

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	Mar. 10, 2020	
2	LISN	EMCO	3816/2	52765	Mar. 10, 2020	
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	May. 19, 2020	
4	50Ω Terminator	SHX	TF5-3	15041305	Mar. 10, 2020	
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	
6	Cable	N/A	RG223	12m	Mar. 12, 2020	

	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	Jan. 15, 2020	
2	Cable	N/A	RG 213/U	C-102	May. 31, 2020	
3	EMI Test Receiver	R&S	ESCI	100895	Mar. 10, 2020	
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A	

	Radiated Emissions - 30 MHz to 1 GHz						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2020		
2*	Amplifier	HP	8447D	2944A09673	Aug. 11, 2021		
3	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020		
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 24, 2020		
5	Controller	СТ	SC100	N/A	N/A		
6	Controller	MF	MF-7802	MF780208416	N/A		
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		

	Radiated Emissions - Above 1 GHz						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until		
1	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 09, 2020		
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 23, 2020		
3	Amplifier	Agilent	8449B	3008A02333	Mar. 10, 2020		
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 10, 2020		
5	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020		
6	Controller	СТ	SC100	N/A	N/A		
7	Controller	MF	MF-7802	MF780208416	N/A		
8	Cable	mitron	B10-01-01-12M	18072744	Jun. 29, 2020		
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A		



	Bandwidth & Antenna Conducted Spurious Emissions & Power Spectral Density					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 03, 2020	
		Maxin	num Output Power			
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Peak Power Analyzer	Keysight	8990B	MY51000506	Aug. 03, 2020	
2	Wideband power sensor	Keysight	N1923A	MY58310004	Aug. 03, 2020	

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

"*" calibration period of equipment list is three year.

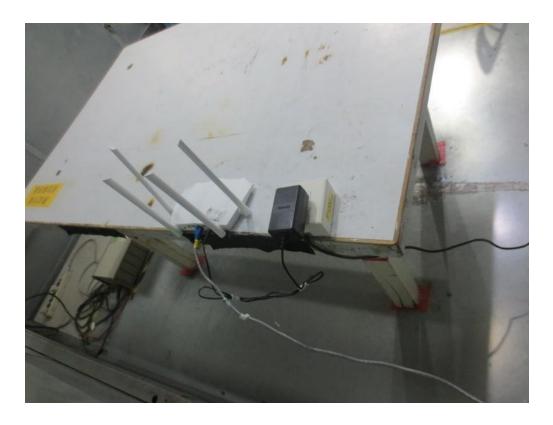
Except * item, all calibration period of equipment list is one year.



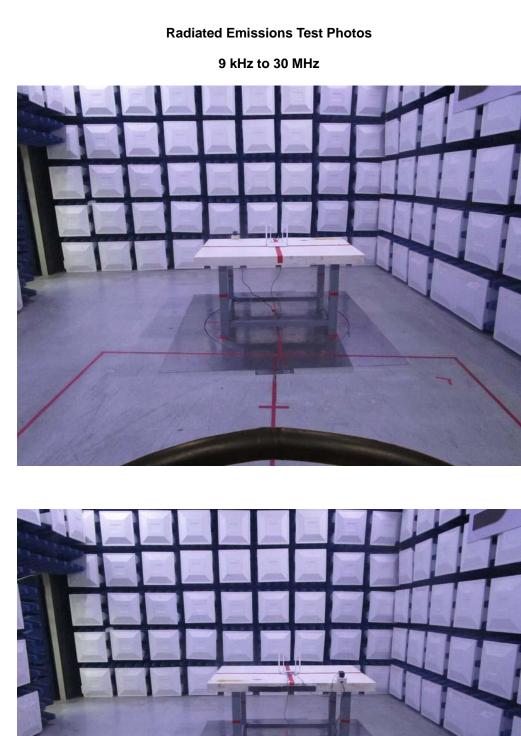
10. EUT TEST PHOTO

AC Power Line Conducted Emissions Test Photos







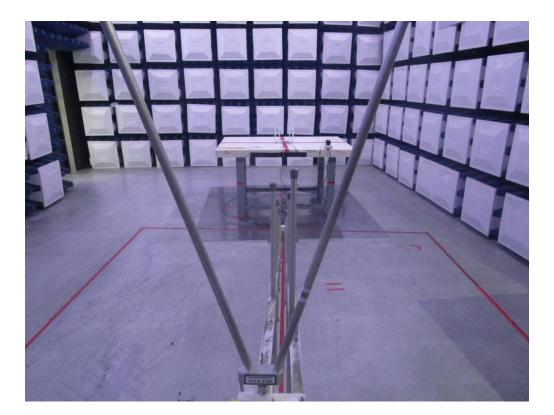




Radiated Emissions Test Photos

30 MHz to 1 GHz



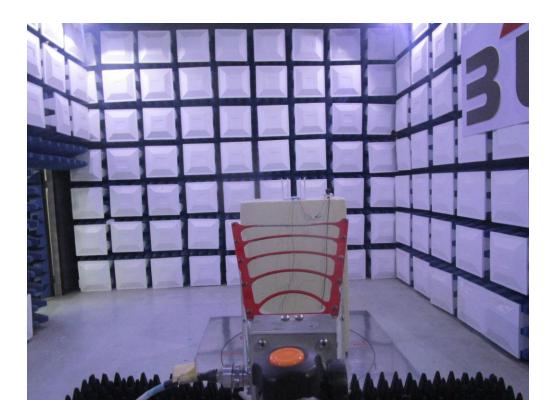




Radiated Emissions Test Photos

Above 1 GHz

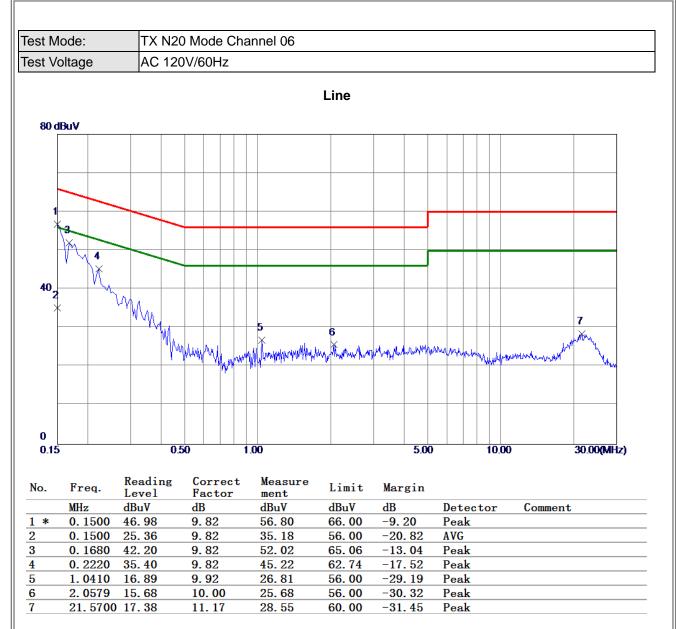






APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS



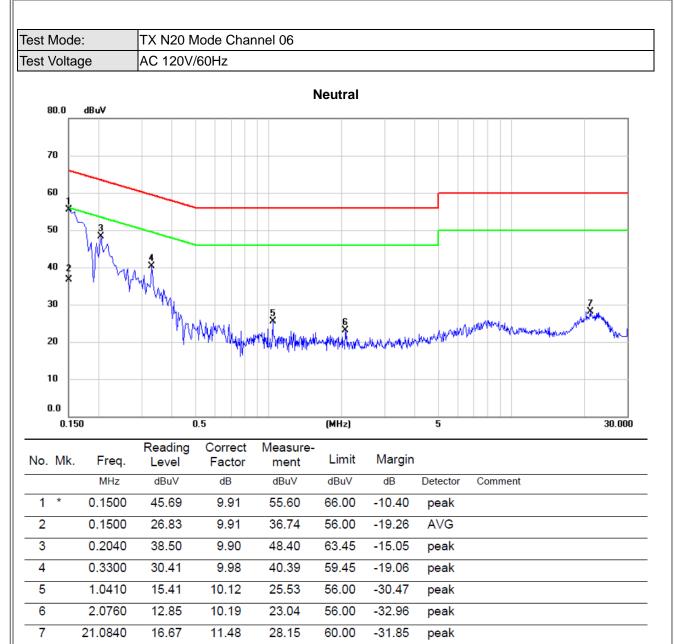


REMARKS:

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

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



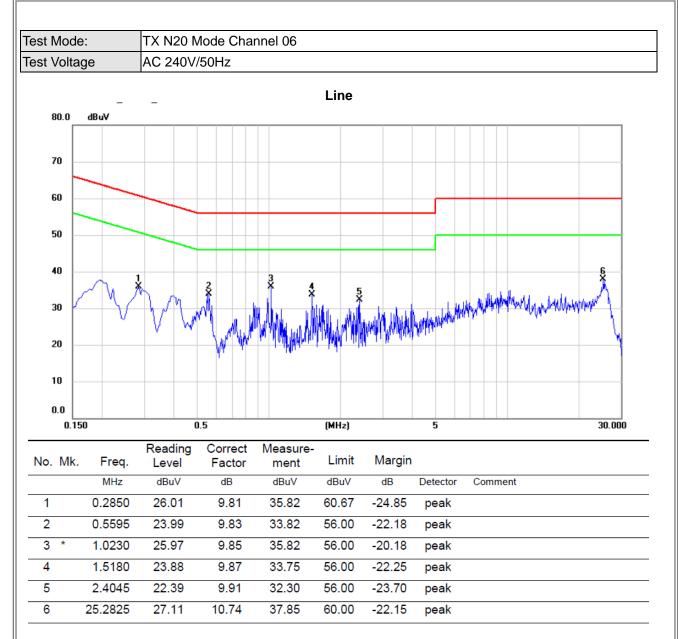


REMARKS:

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

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





REMARKS:

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

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



3

4 *

5

6

0.5505

0.9960

1.6260

10.9545

23.08

24.83

21.89

26.95

9.98

10.05

10.08

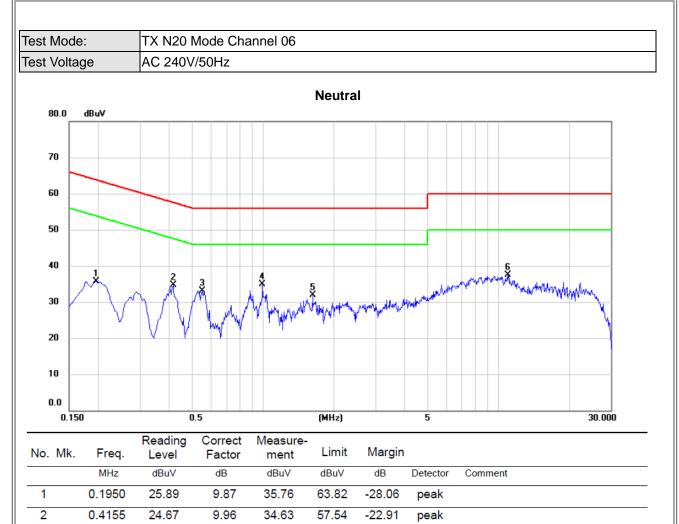
10.55

33.06

34.88

31.97

37.50



-22.94

-21.12

-24.03

-22.50

peak

peak

peak

peak

56.00

56.00

56.00

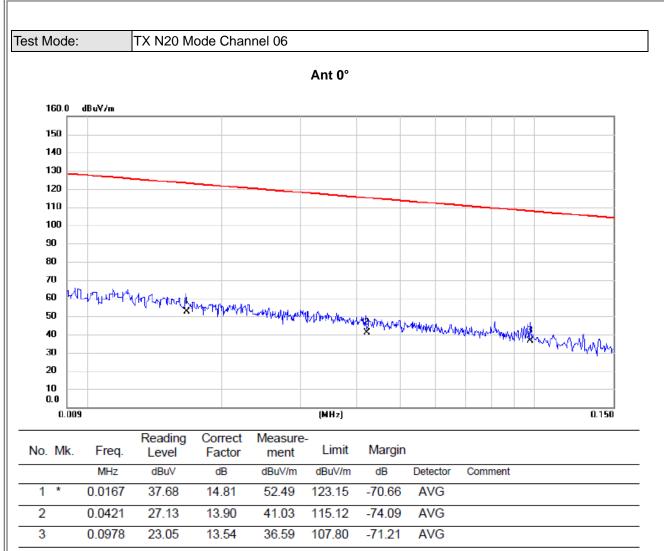
60.00

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



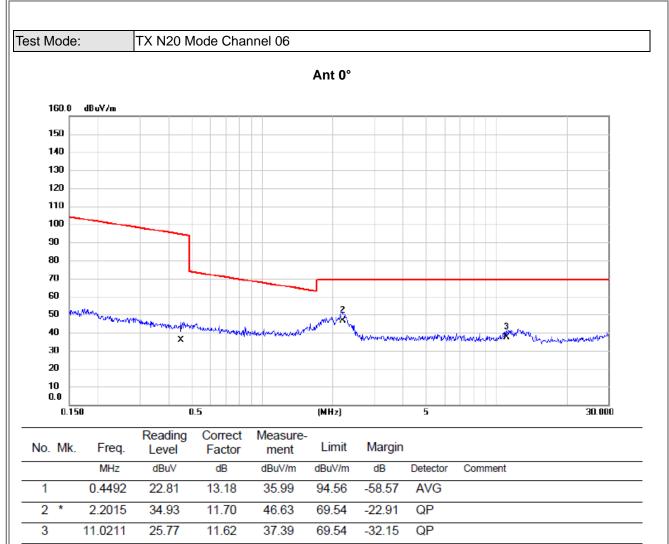
APPENDIX B - RADIATED EMISSION - 9 KHZ TO 30 MHZ





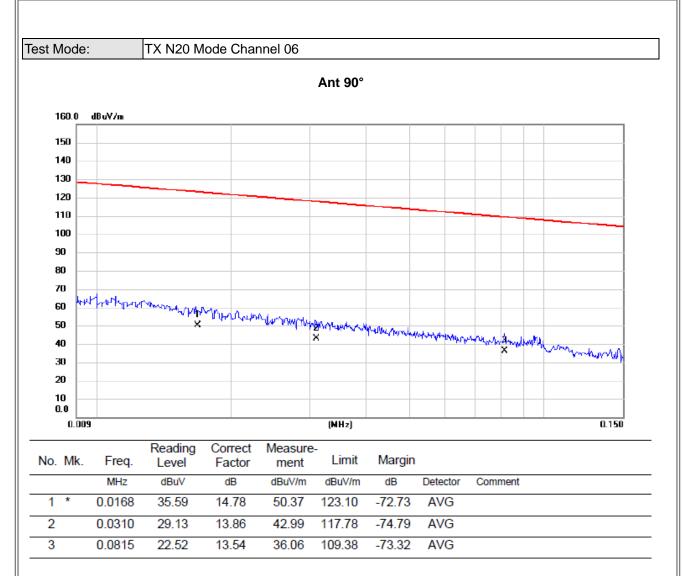
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





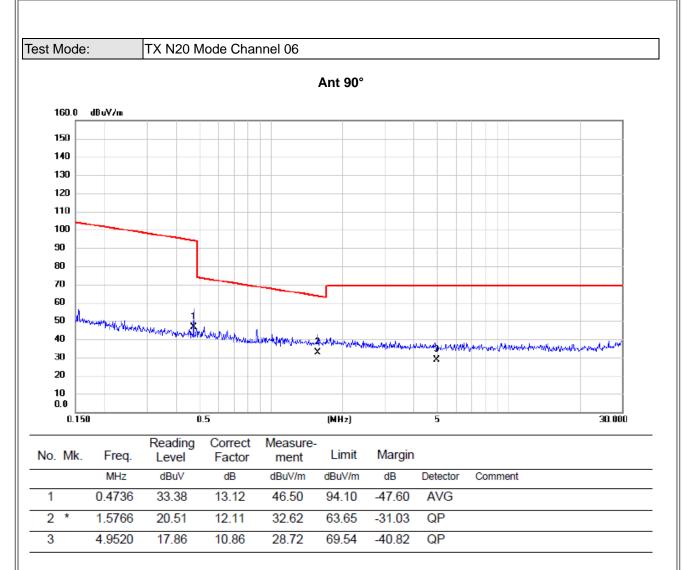
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





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



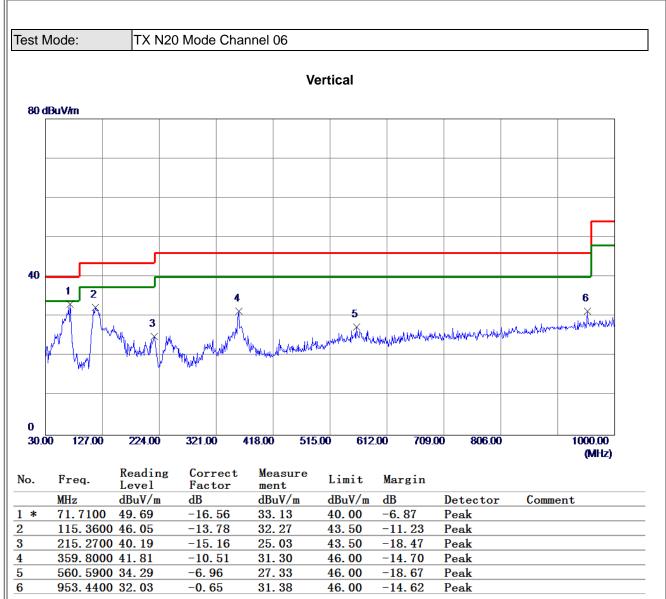


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



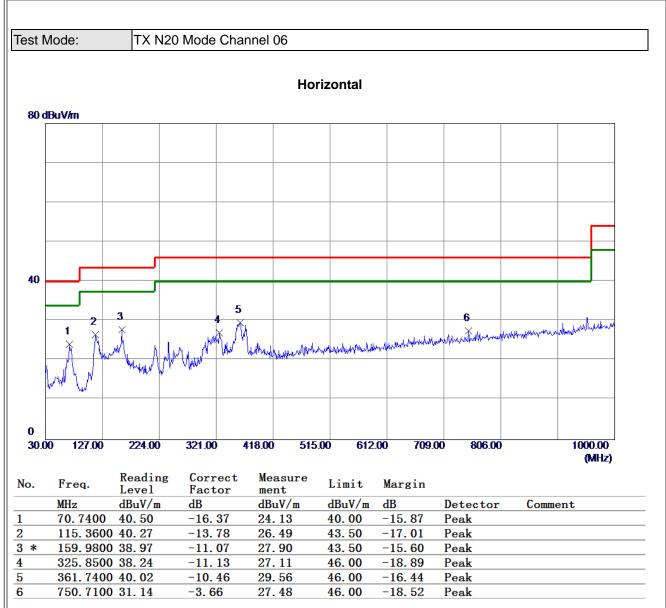
APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ





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



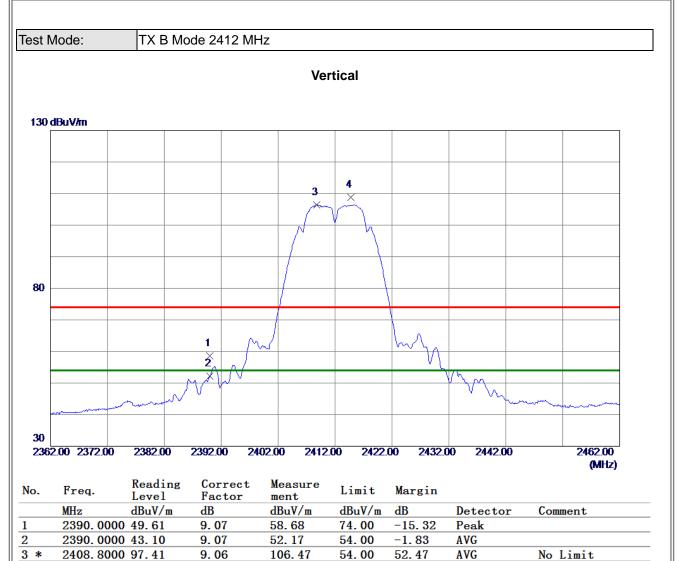


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



APPENDIX D - RADIATED EMISSION- ABOVE 1000 MHZ





4

2414.8000 99.67

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

9.06

108.73

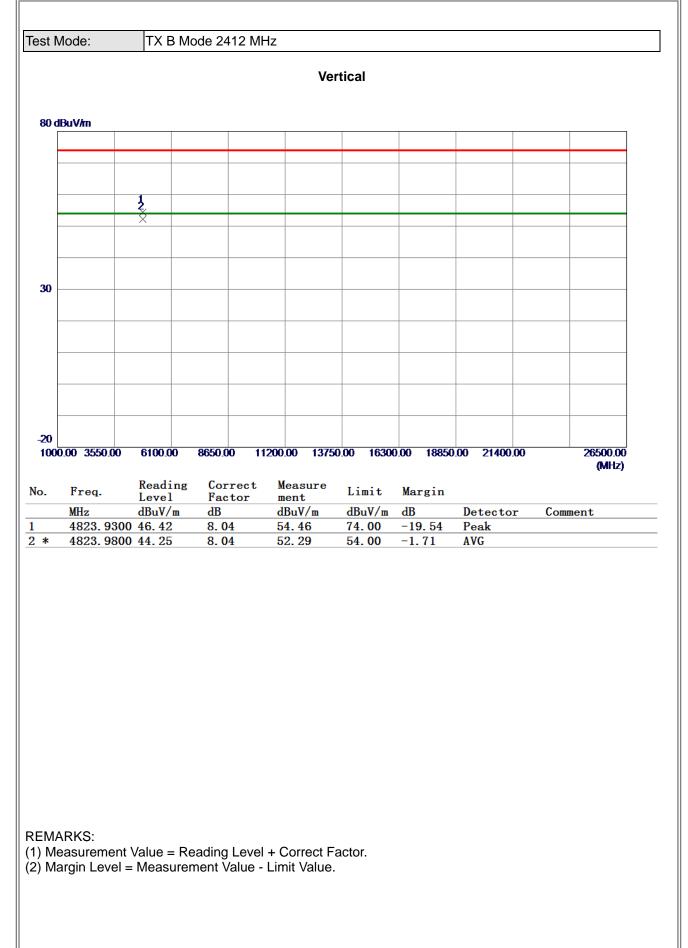
74.00

34.73

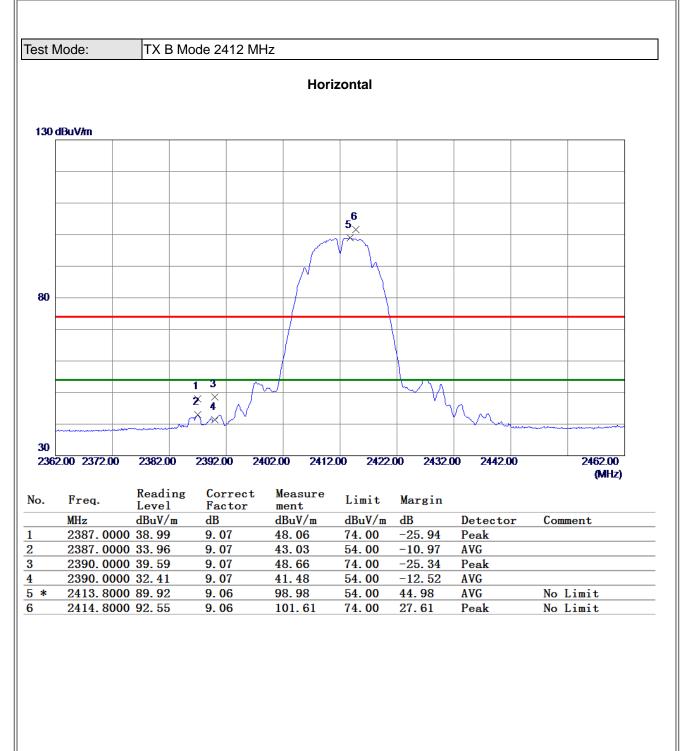
Peak

No Limit









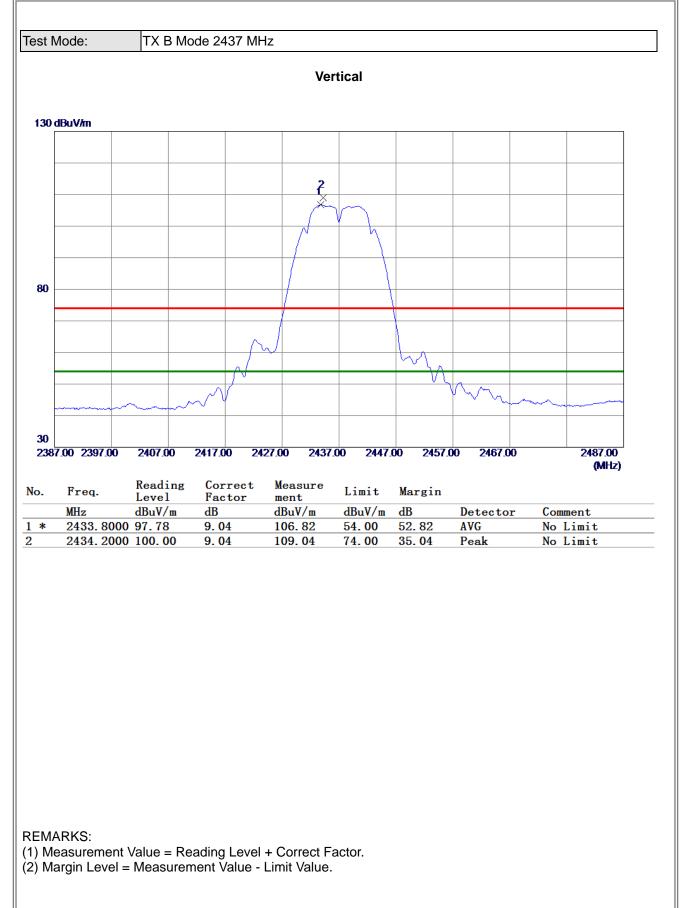
(1) Measurement Value = Reading Level + Correct Factor.



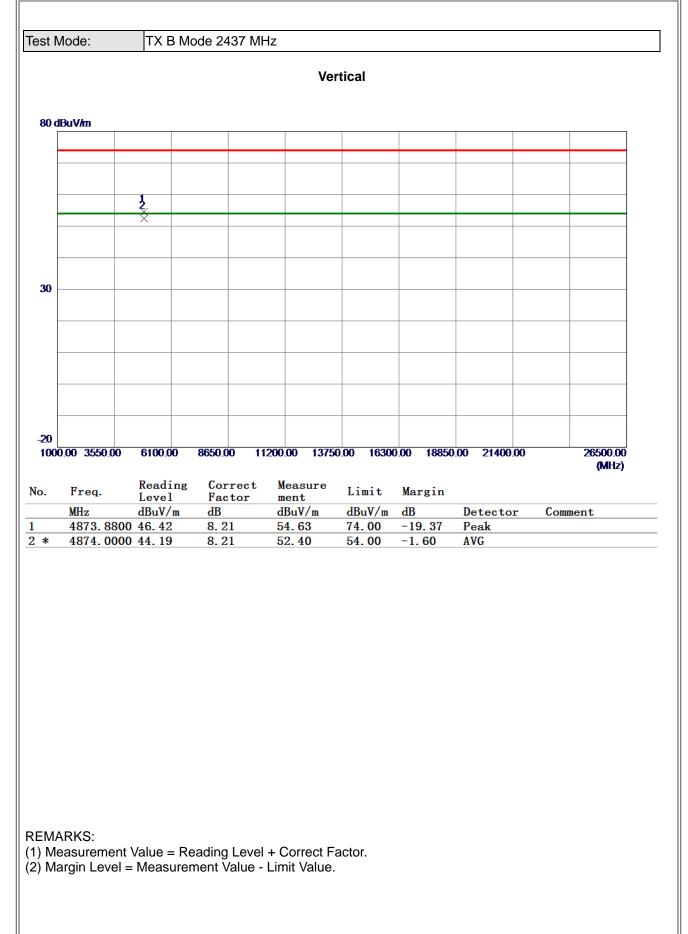


(1) Measurement Value = Reading Level + Correct Factor.

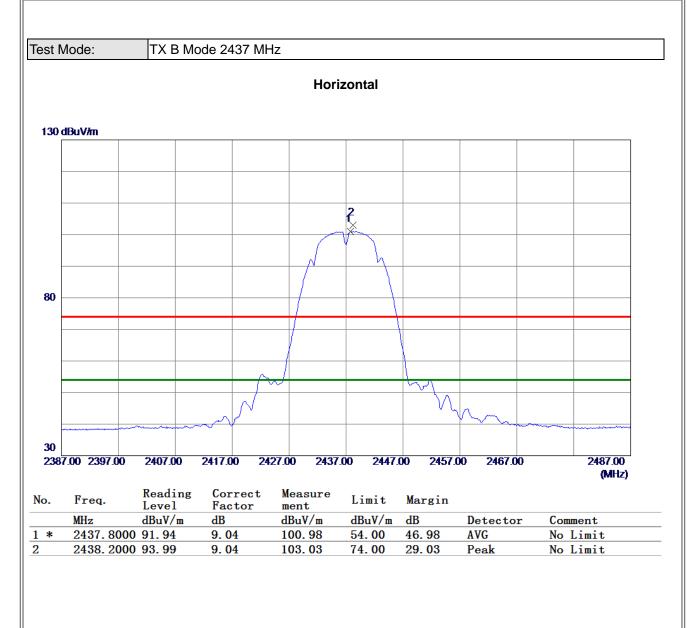












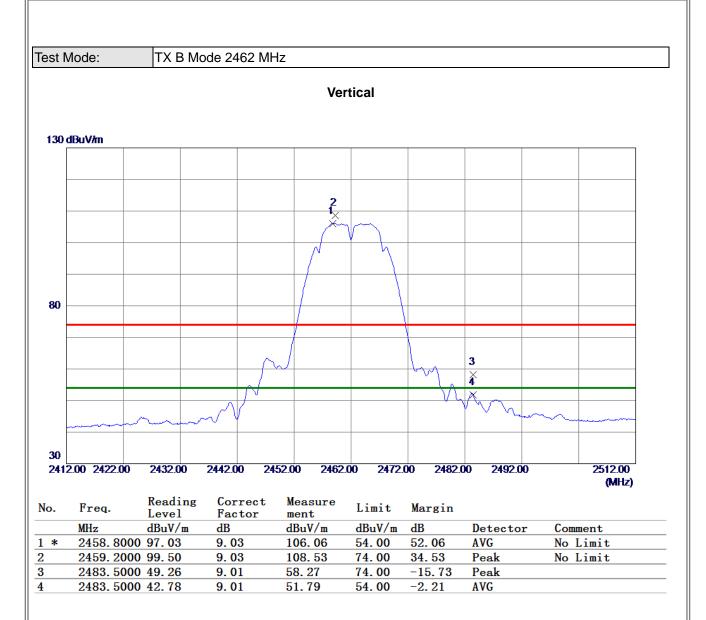
(1) Measurement Value = Reading Level + Correct Factor.





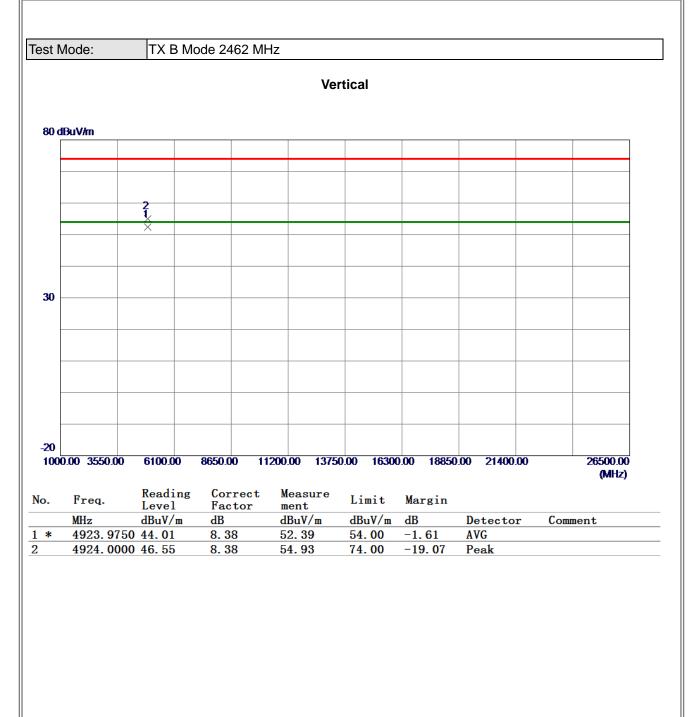
(1) Measurement Value = Reading Level + Correct Factor.





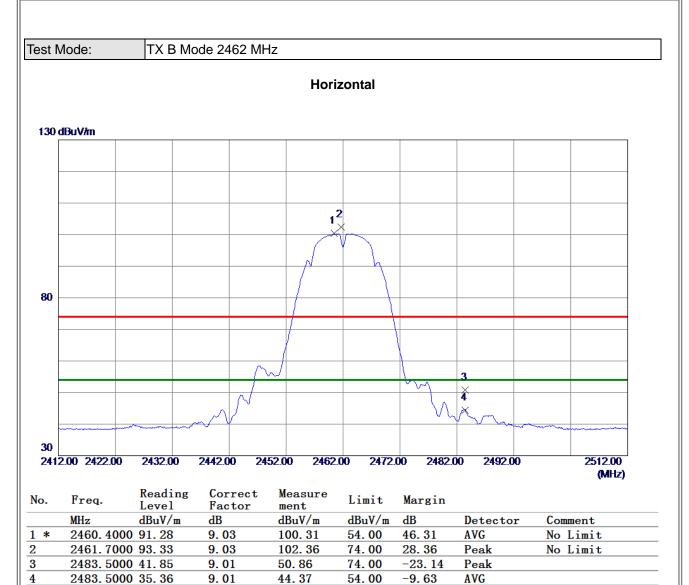
(1) Measurement Value = Reading Level + Correct Factor.





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





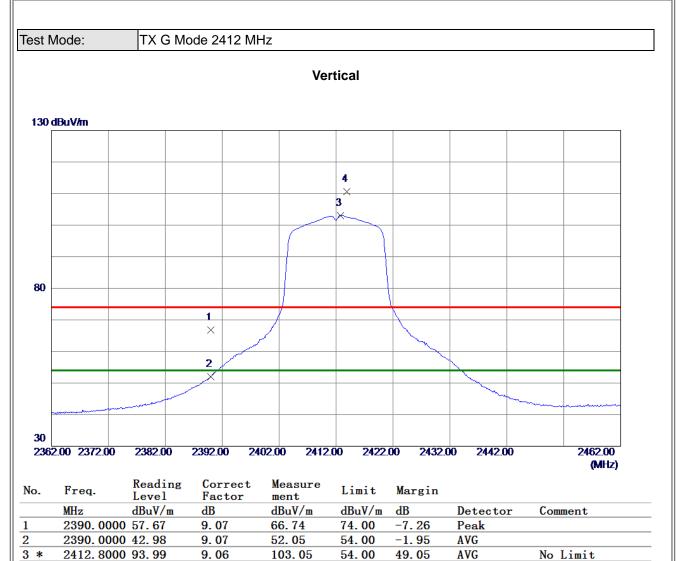
(1) Measurement Value = Reading Level + Correct Factor.





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





4

2413.9000 101.49

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

9.06

110.55

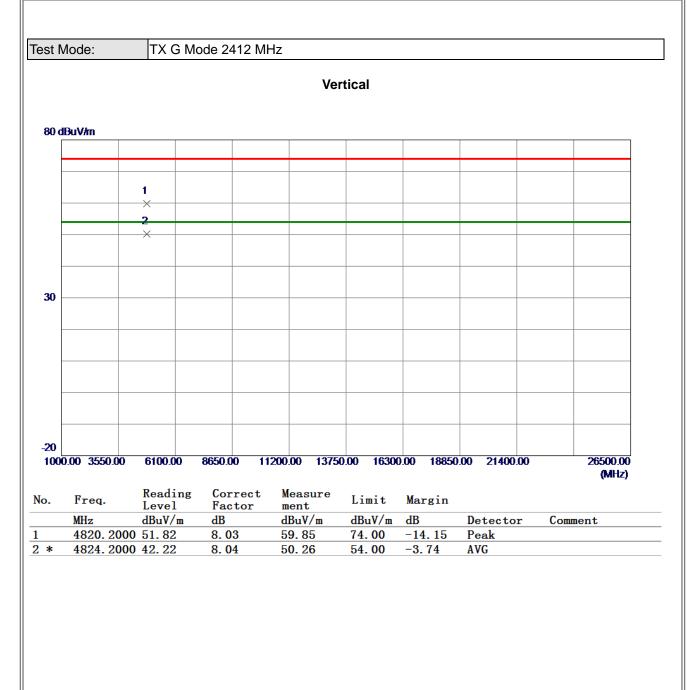
74.00

36.55

Peak

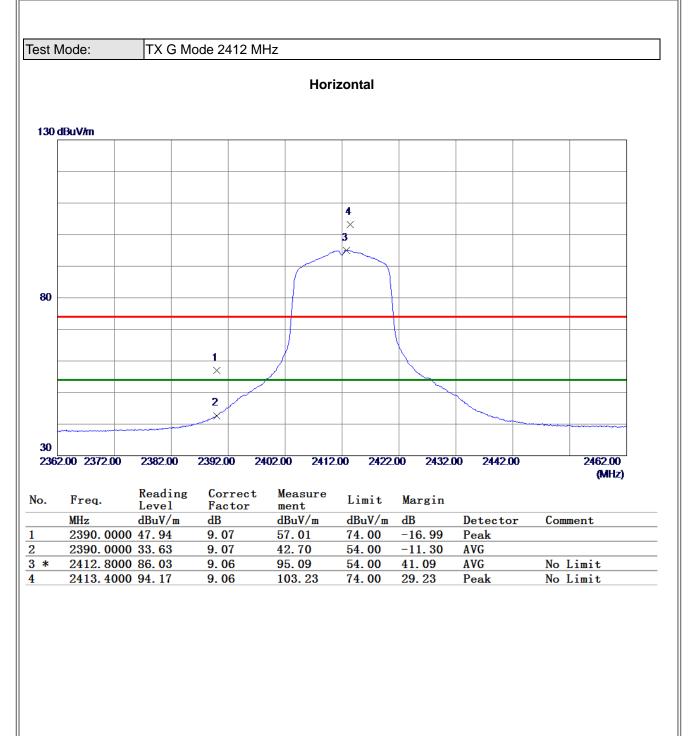
No Limit





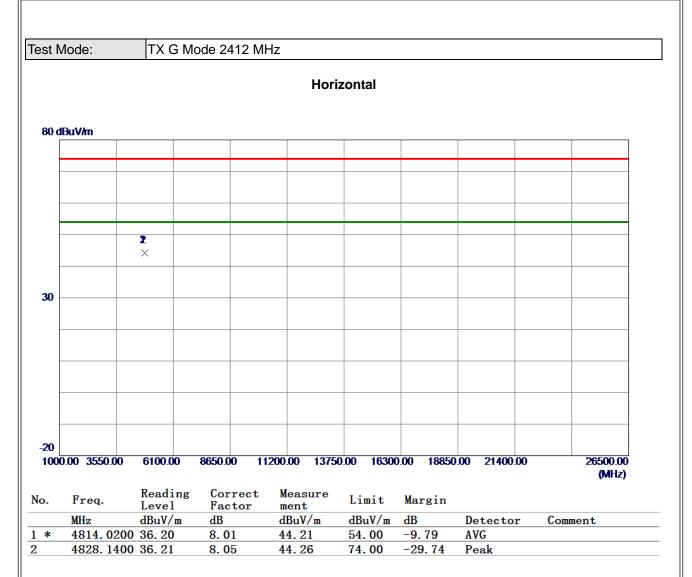
(1) Measurement Value = Reading Level + Correct Factor.





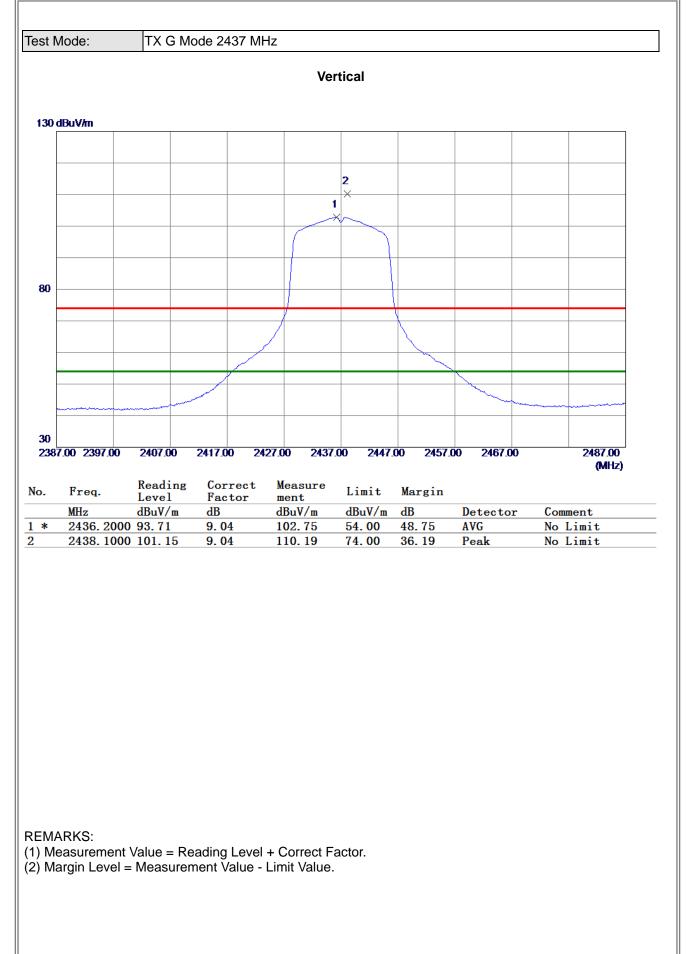
(1) Measurement Value = Reading Level + Correct Factor.



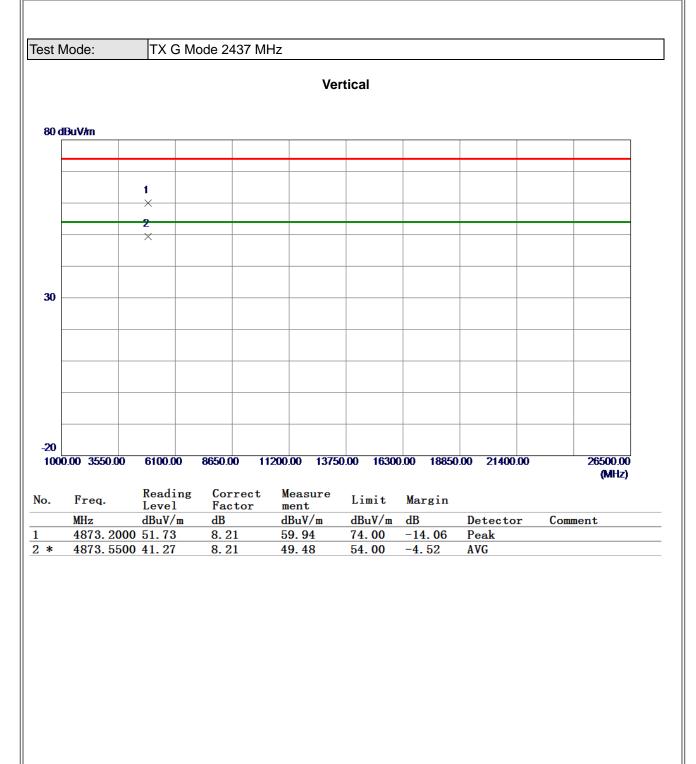


(1) Measurement Value = Reading Level + Correct Factor.



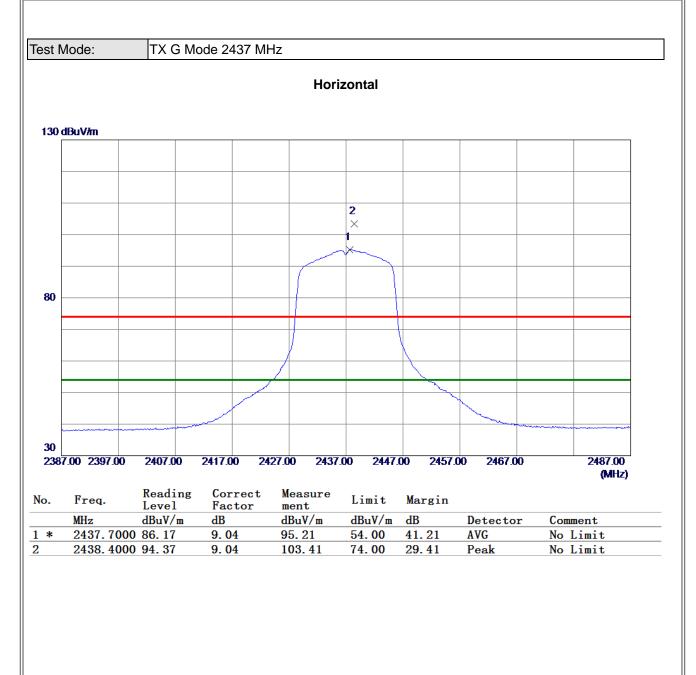






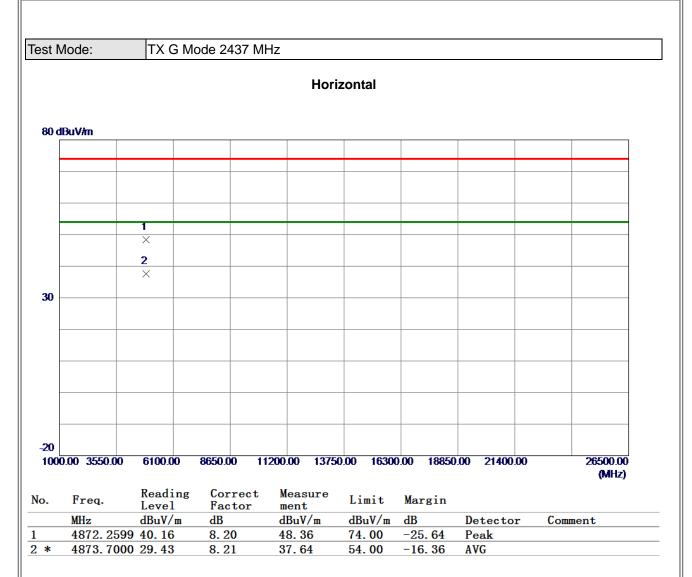
(1) Measurement Value = Reading Level + Correct Factor.





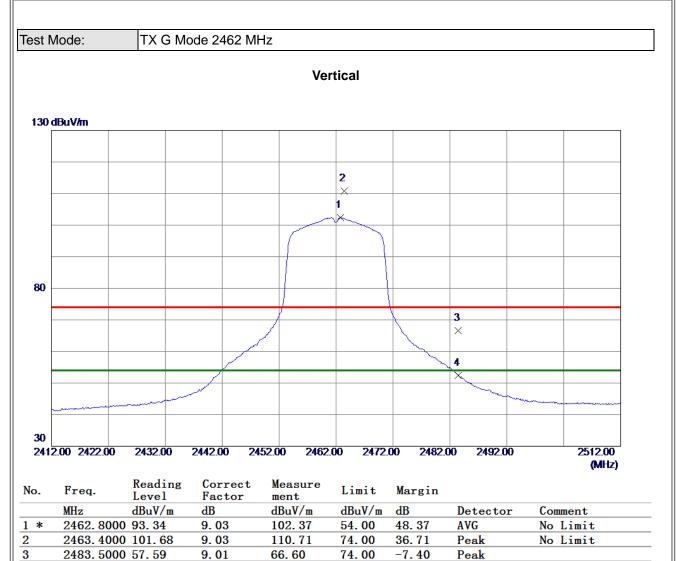
(1) Measurement Value = Reading Level + Correct Factor.





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





AVG

REMARKS:

4

2483. 5000 43. 48

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

9.01

52.49

54. **00**

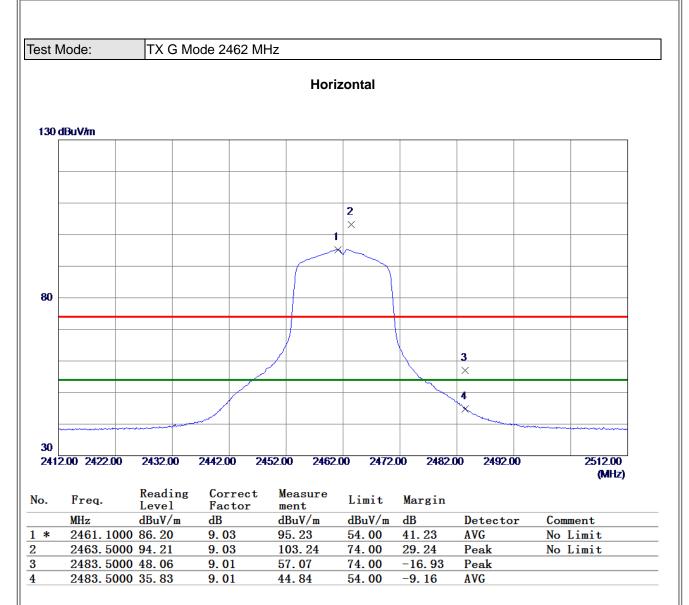
-1.51





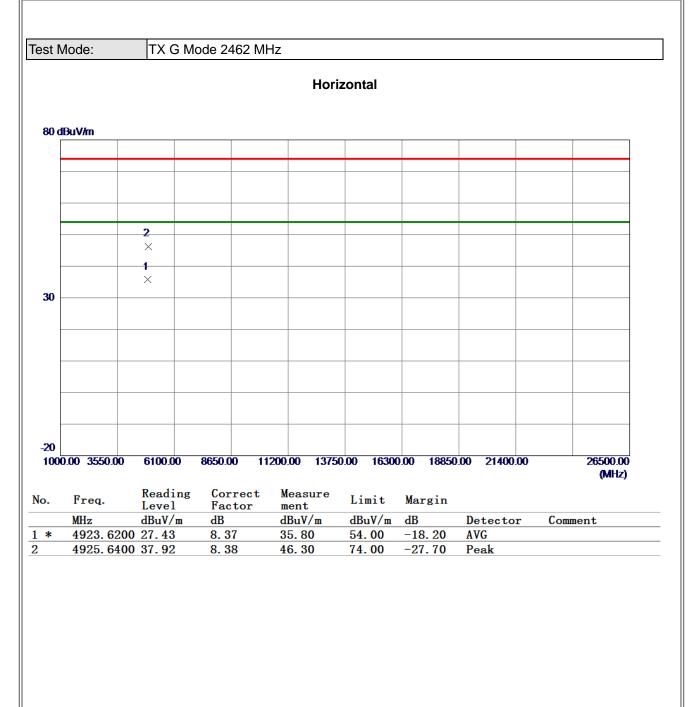
(1) Measurement Value = Reading Level + Correct Factor.





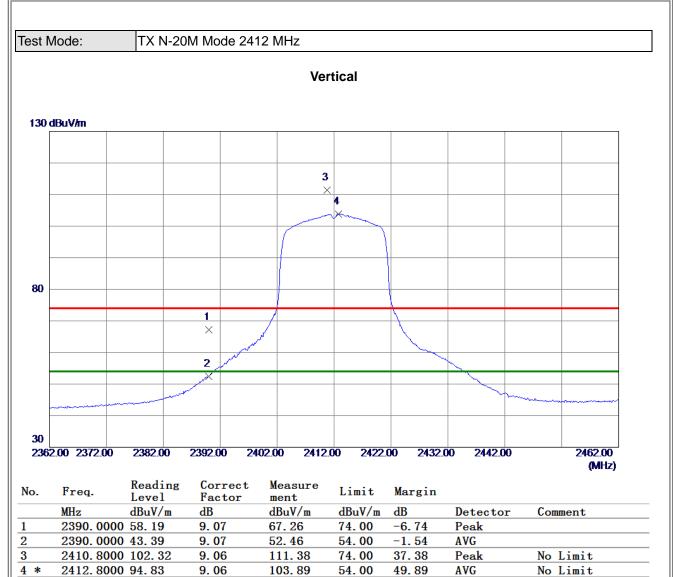
(1) Measurement Value = Reading Level + Correct Factor.





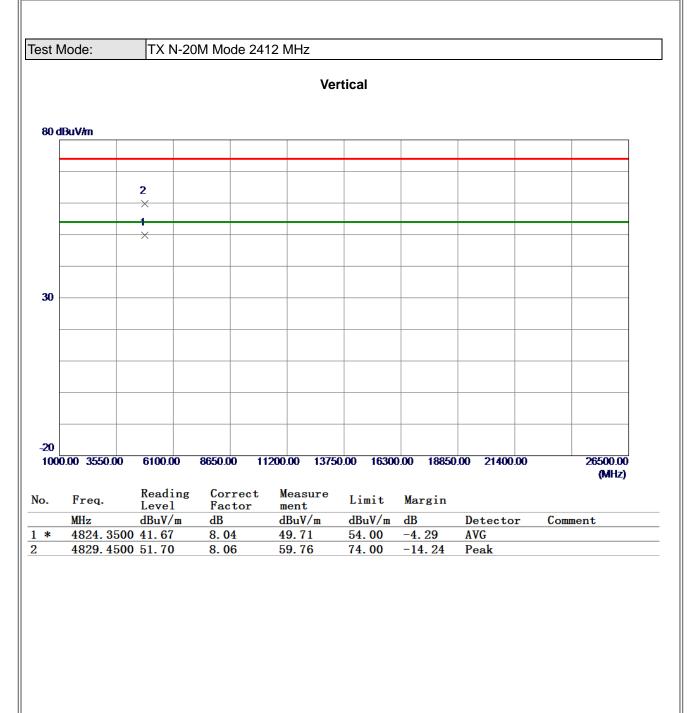
(1) Measurement Value = Reading Level + Correct Factor.





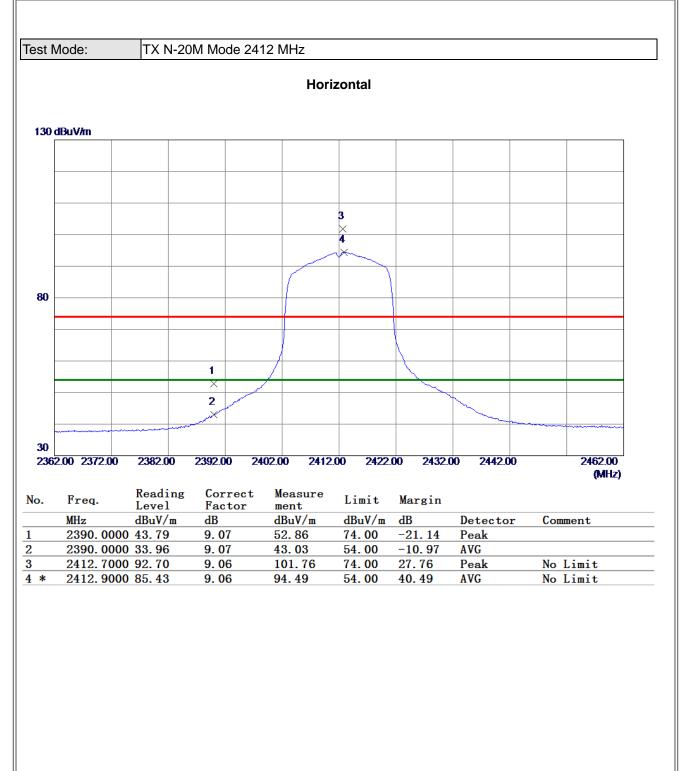
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





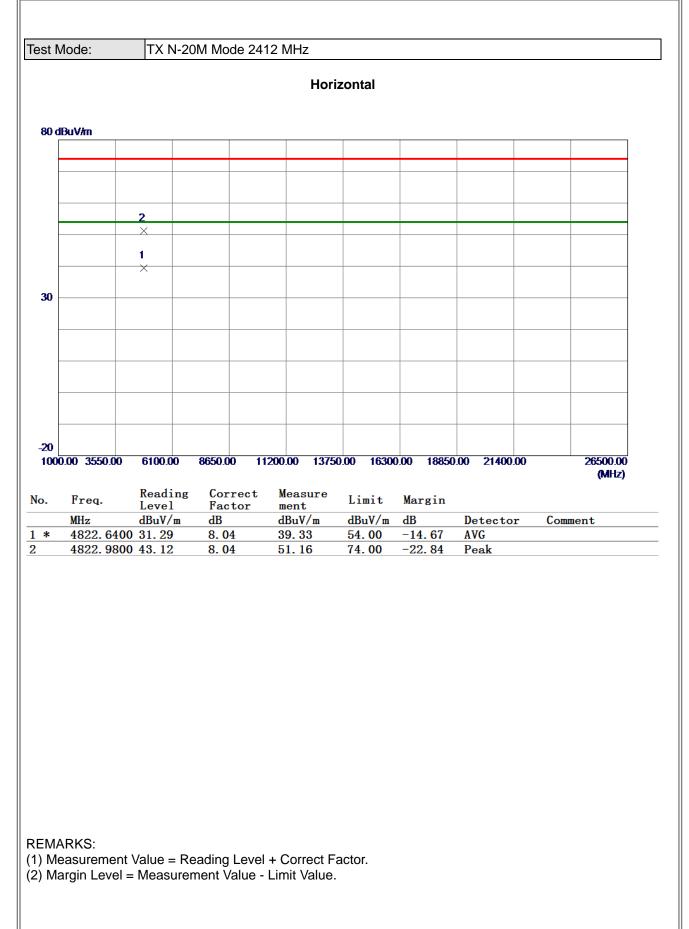
(1) Measurement Value = Reading Level + Correct Factor.



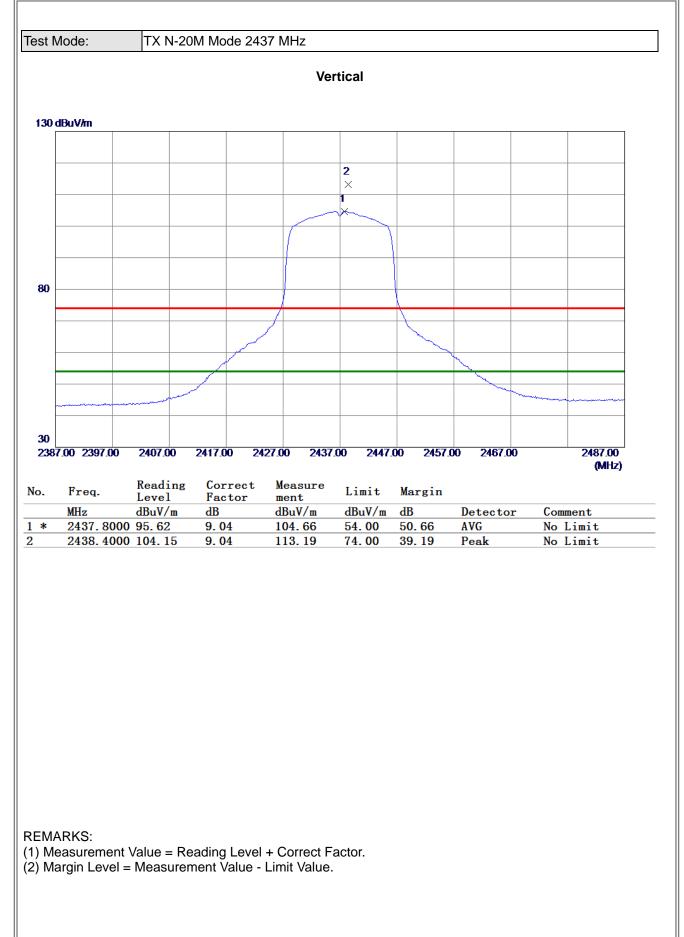


(1) Measurement Value = Reading Level + Correct Factor.

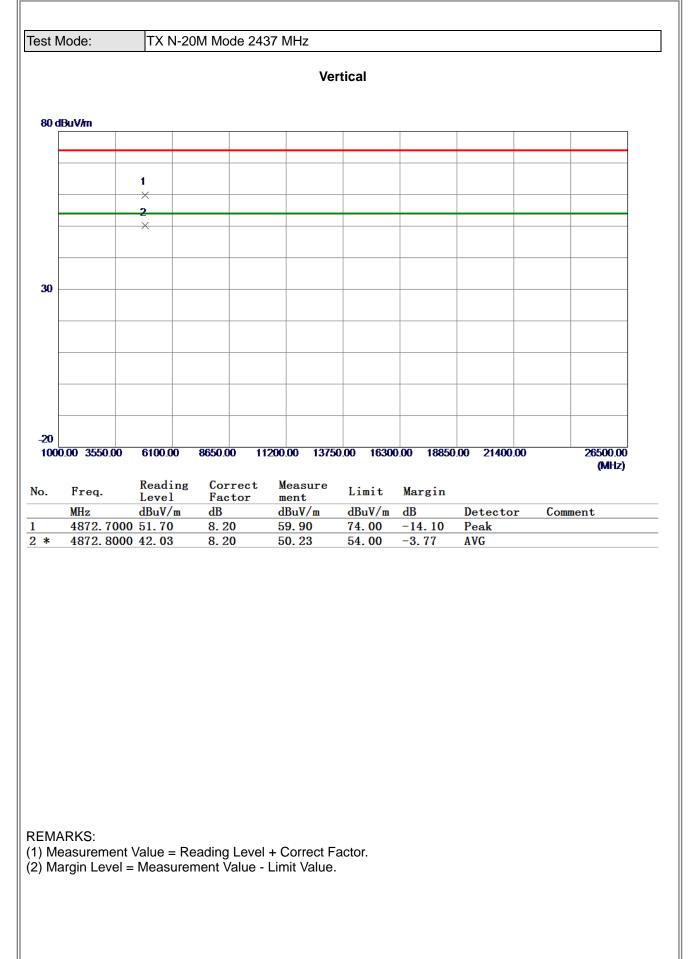




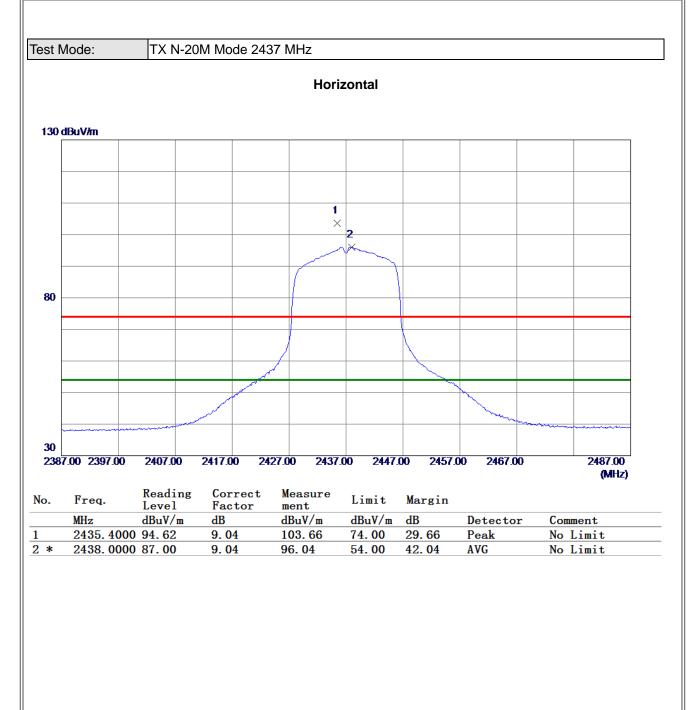






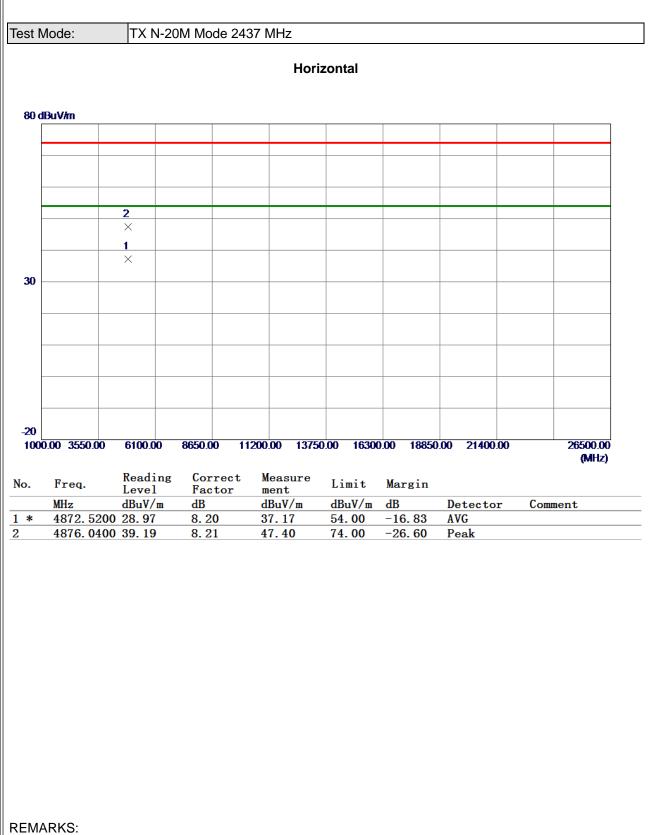






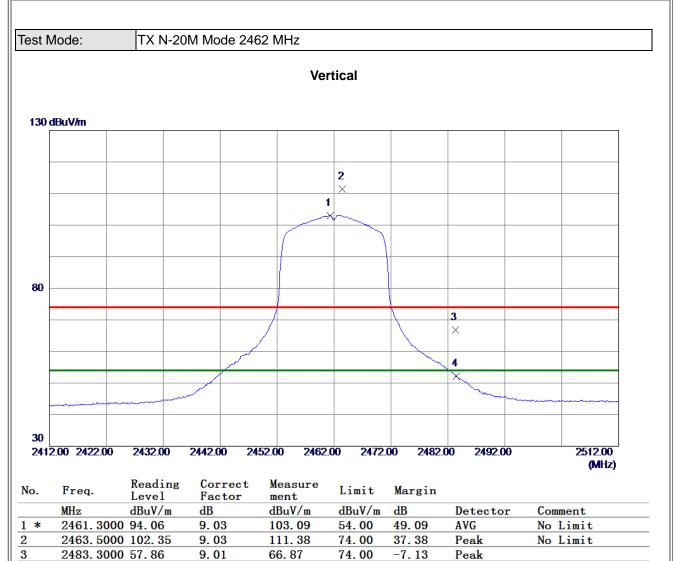
(1) Measurement Value = Reading Level + Correct Factor.





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





AVG

REMARKS:

4

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

9.01

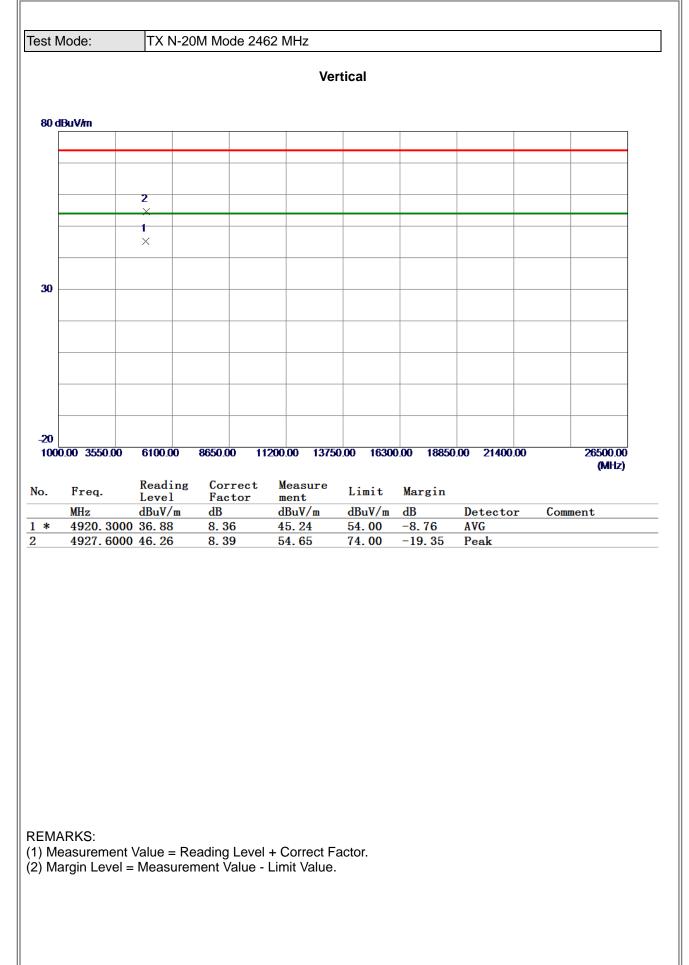
52.14

54. **00**

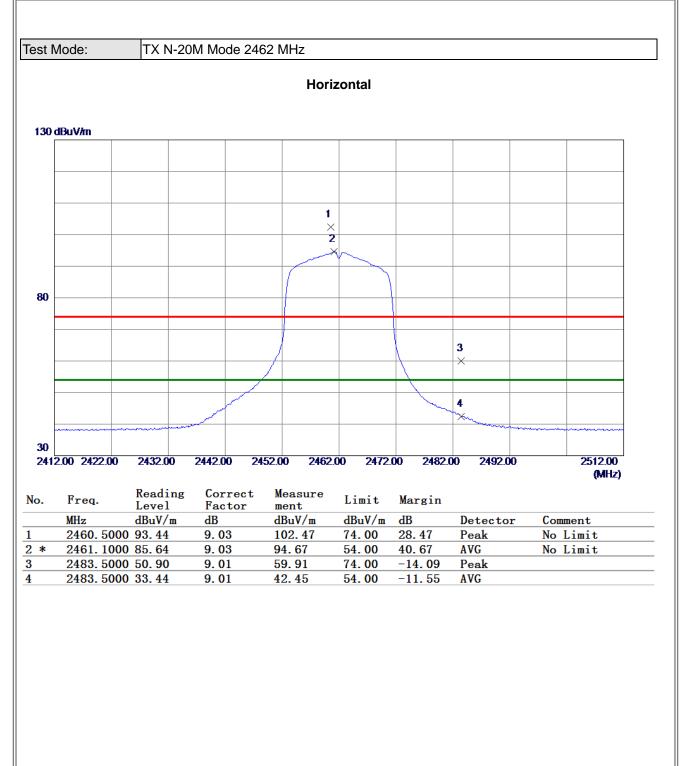
-1.86

2483. 5000 43. 13



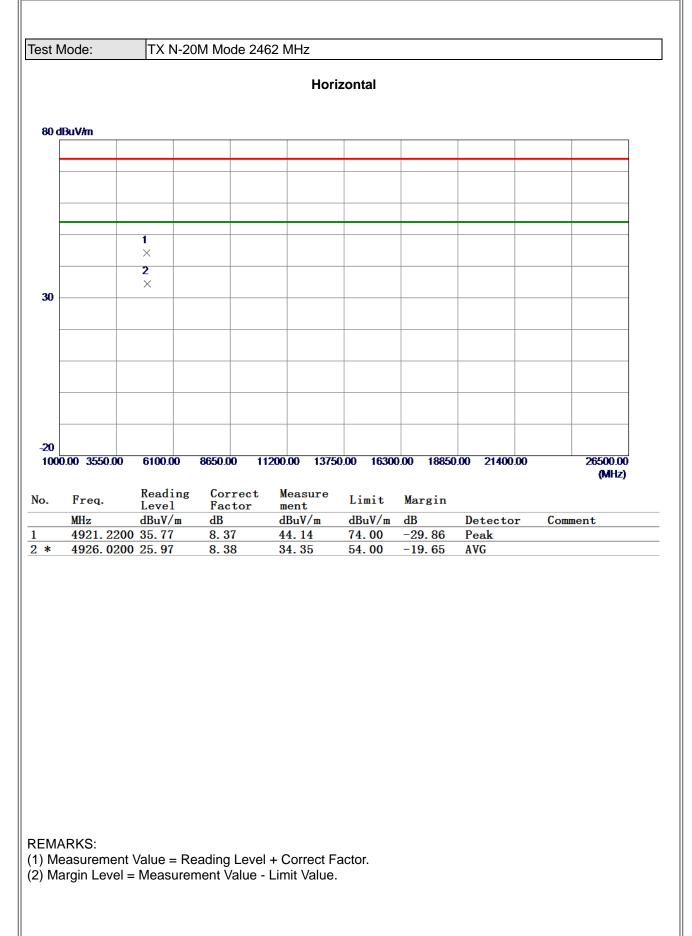






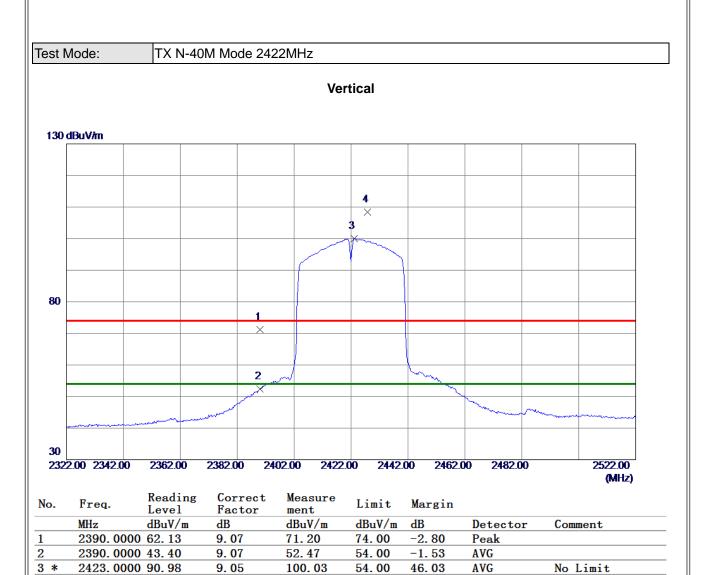
(1) Measurement Value = Reading Level + Correct Factor.







No Limit



REMARKS:

4

2427.8000 99.29

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

9.05

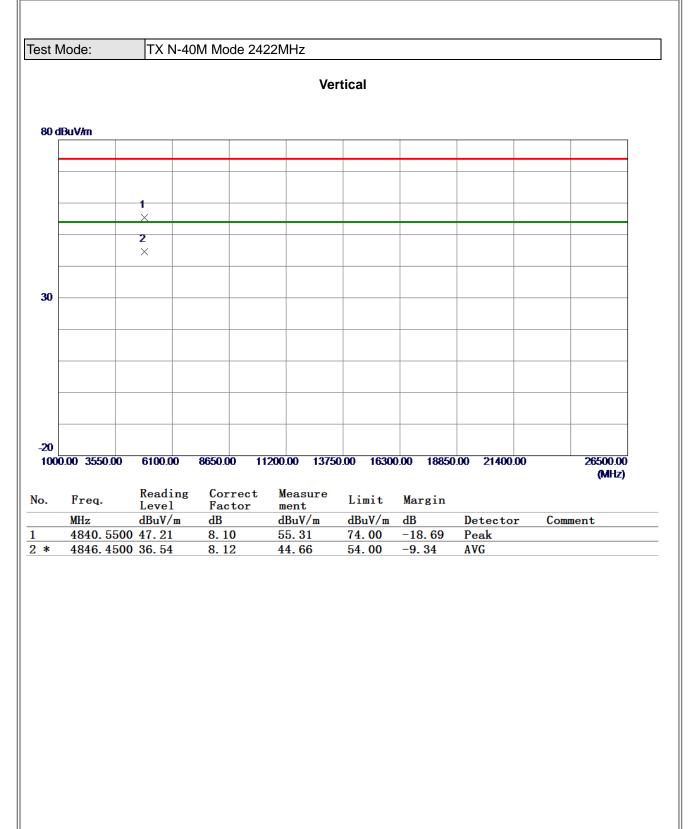
108.34

74.00

34.34

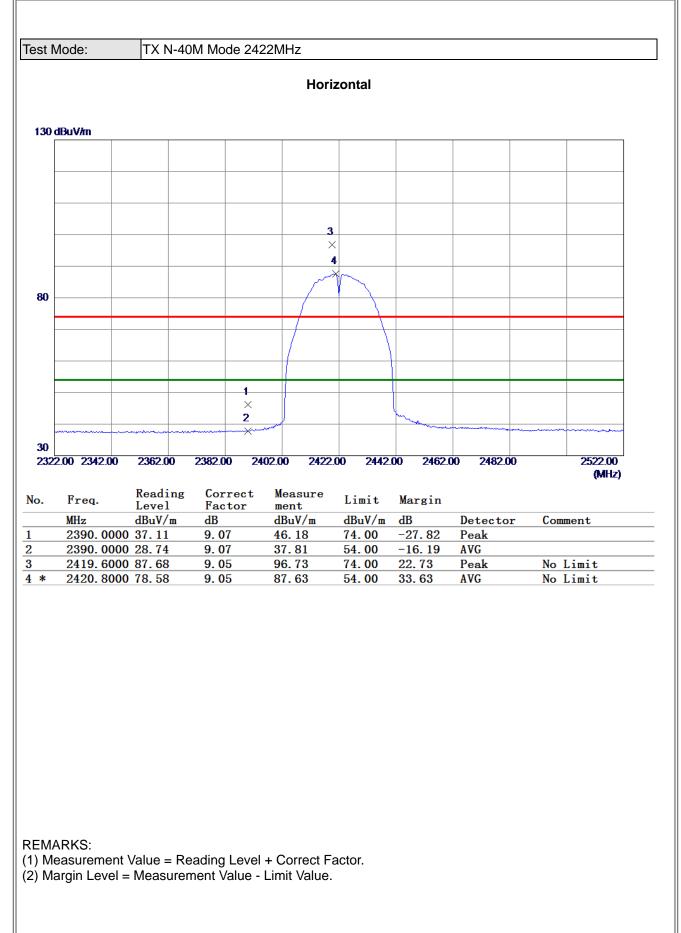
Peak



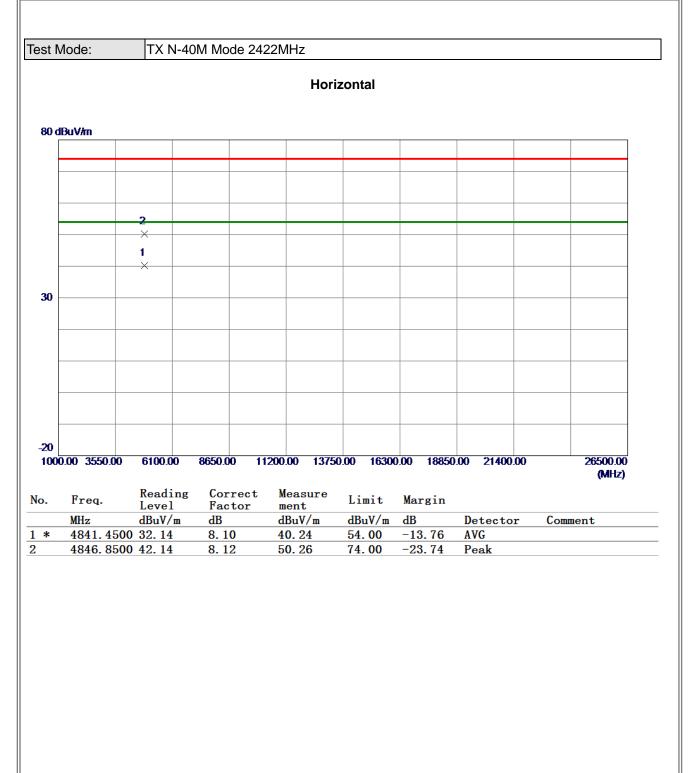


(1) Measurement Value = Reading Level + Correct Factor.



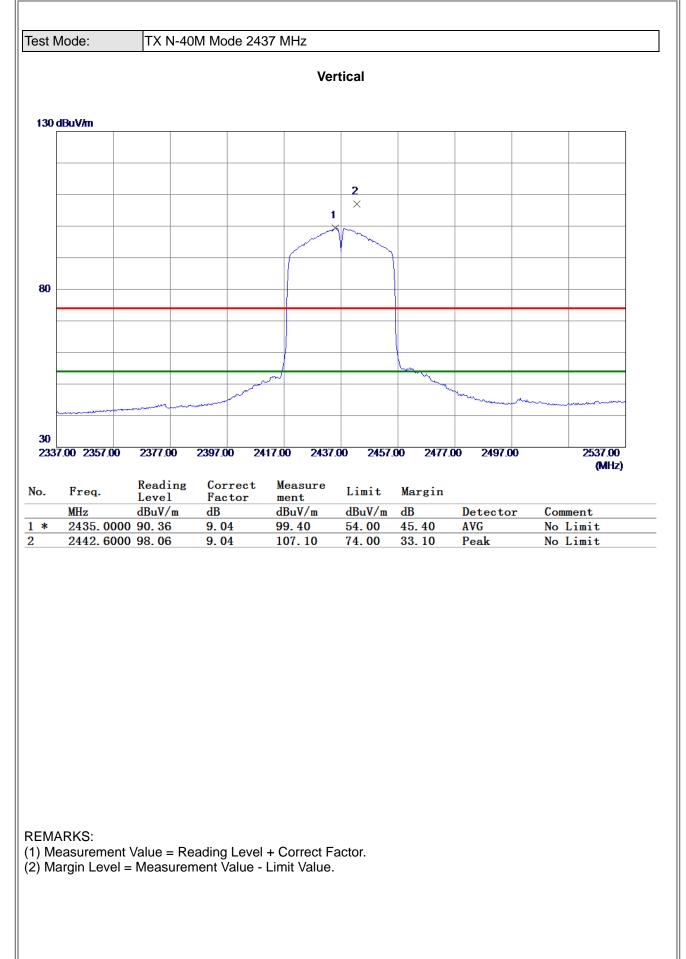




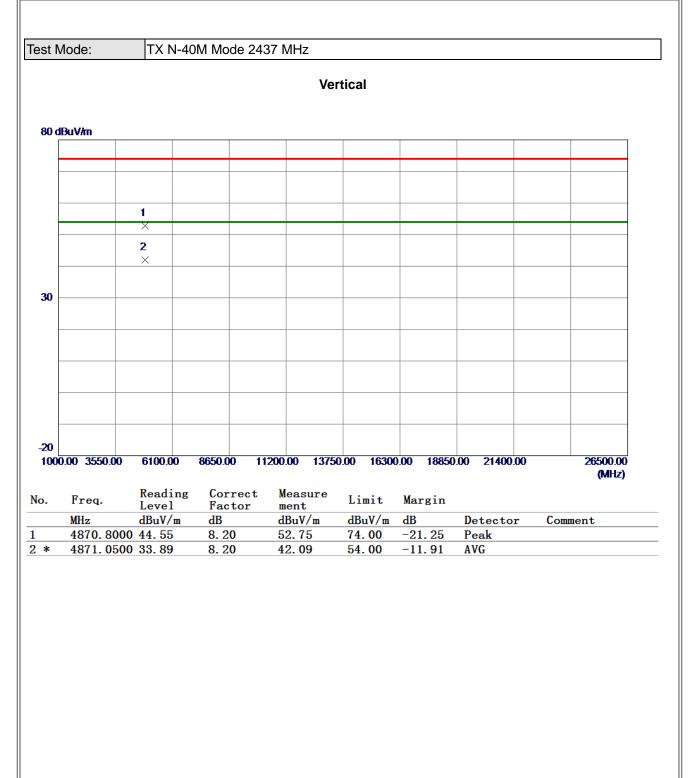


(1) Measurement Value = Reading Level + Correct Factor.



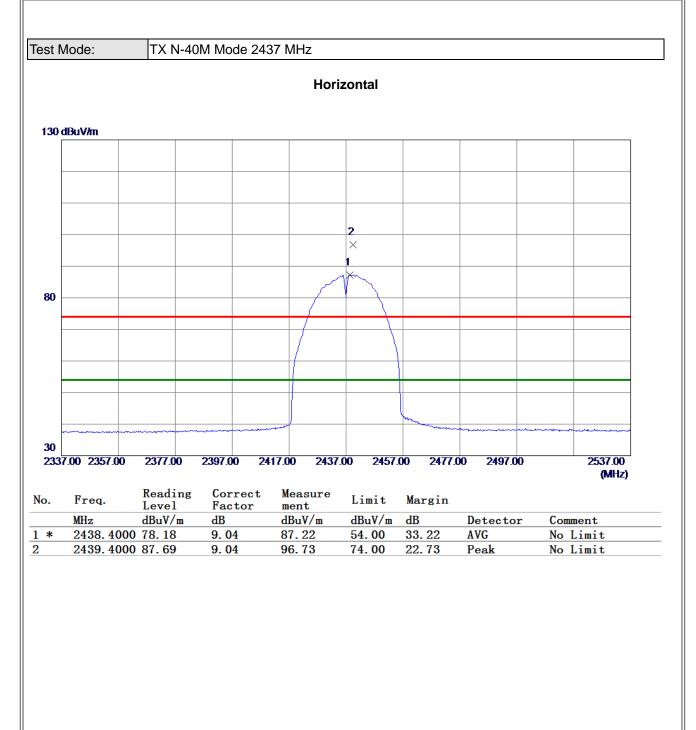






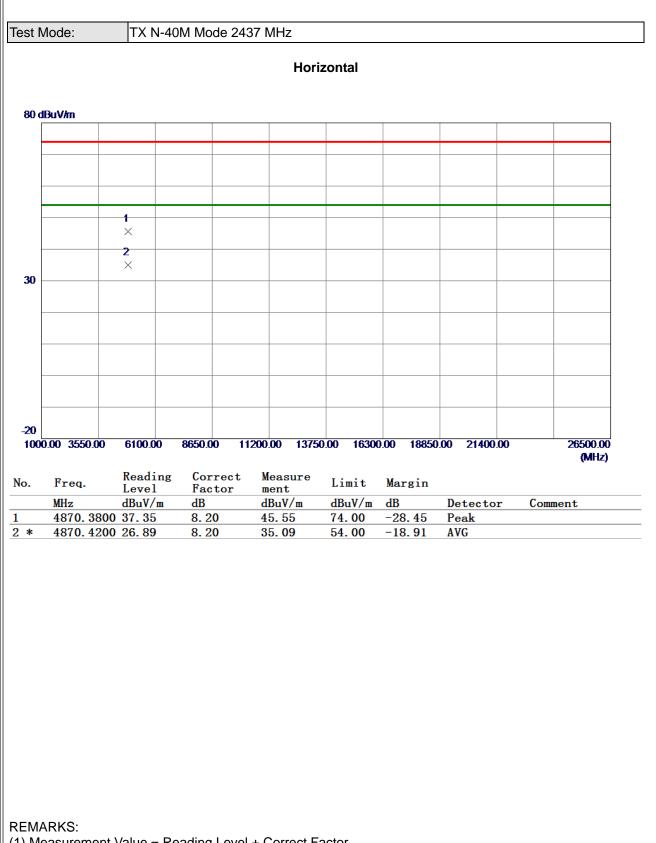
(1) Measurement Value = Reading Level + Correct Factor.





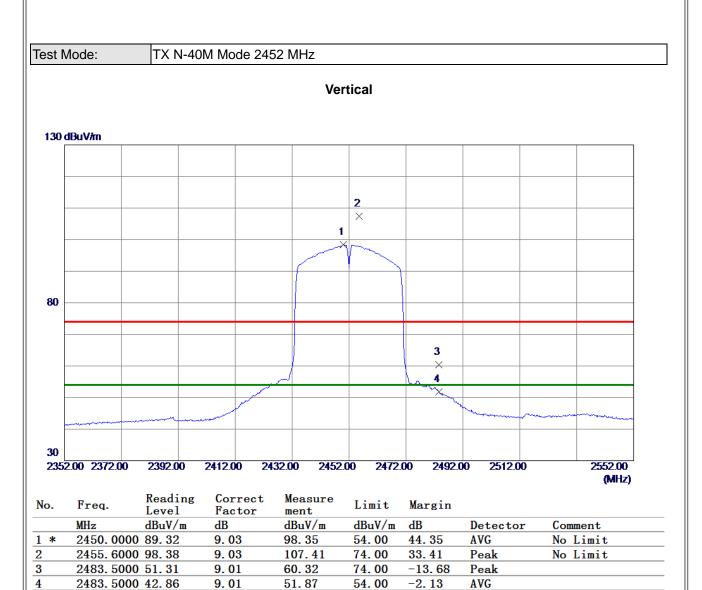
(1) Measurement Value = Reading Level + Correct Factor.





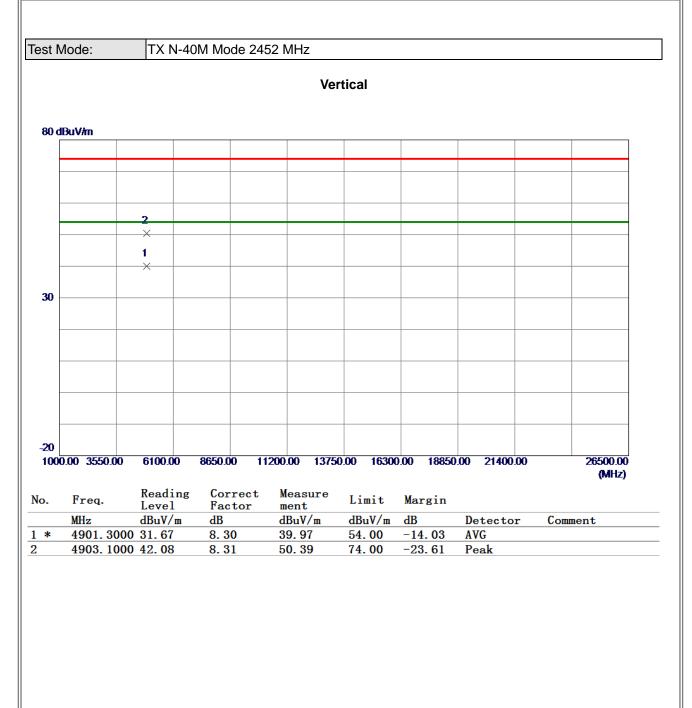
(1) Measurement Value = Reading Level + Correct Factor.





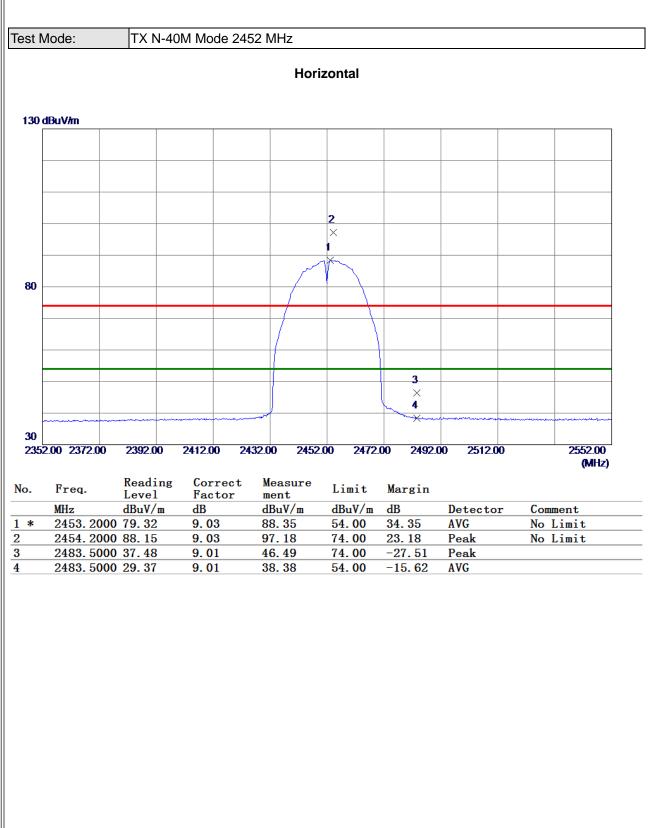
(1) Measurement Value = Reading Level + Correct Factor.





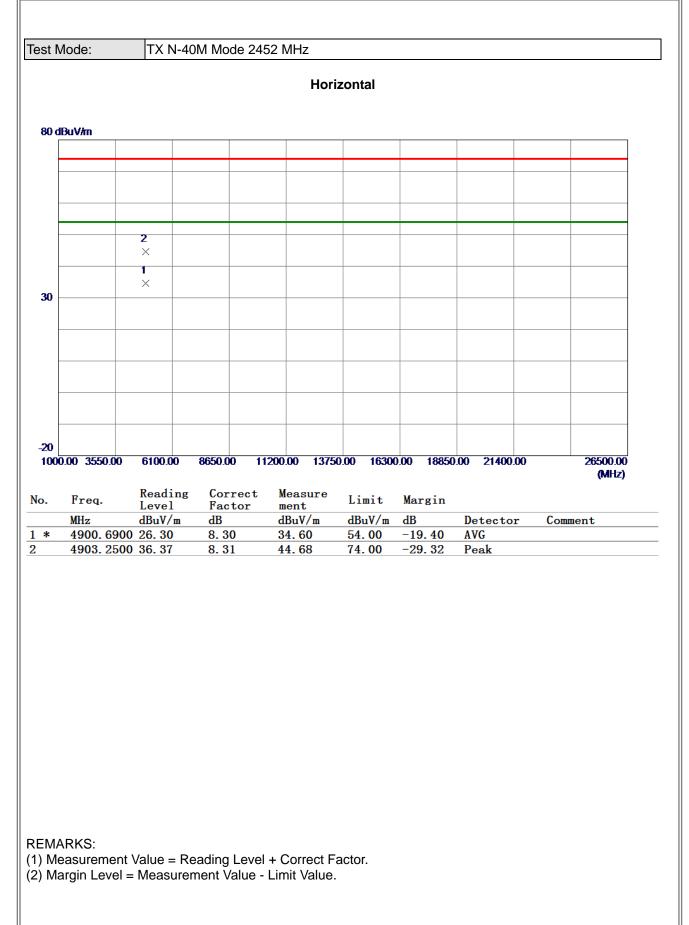
(1) Measurement Value = Reading Level + Correct Factor.





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



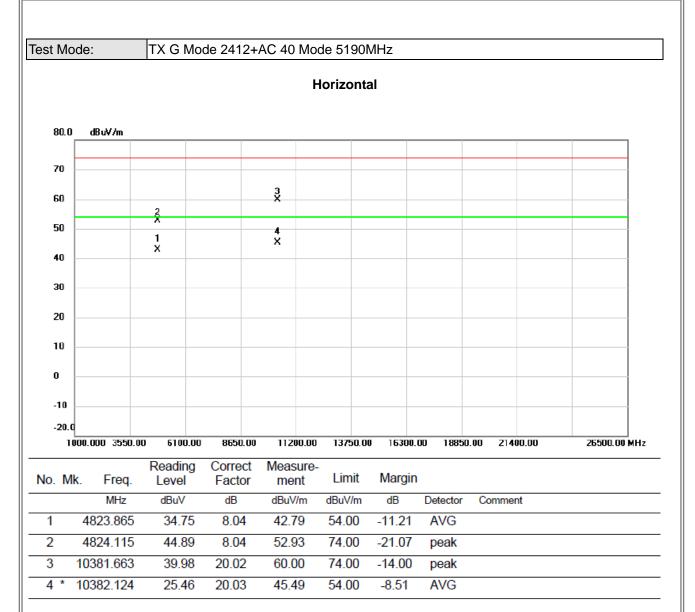






- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





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



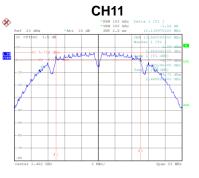
APPENDIX E - BANDWIDTH



	Non-Beamorning						
Test Mode	TX B Mode_Ant. 1						
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result			
01	2412	10.10	500	Complies			
06	2437	10.20	500	Complies			
11	2462	10.14	500	Complies			





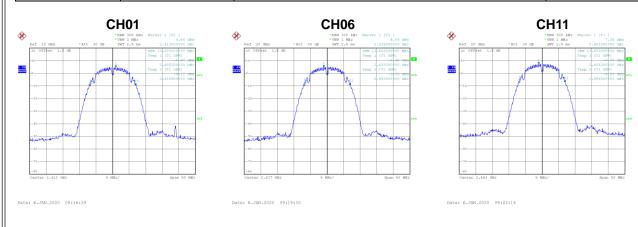


Date: 6.JAN.2020 09:08:37

Date: 6.JAN.2020 09:18:18



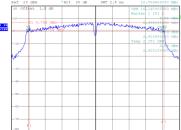
Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	13.60	Complies
06	2437	13.60	Complies
11	2462	13.60	Complies

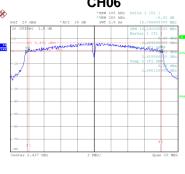


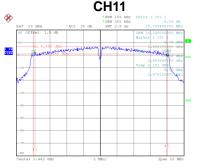
Non-Beamforming



st Mode	TX G Mode_Ant.	1		
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
01	2412	16.06	500	Complies
06	2437	15.80	500	Complies
11	2462	15.80	500	Complies
-	H01 *sgw 100 MHz Delts 1 (T1) *uw 100 MHz 5.10 dB 50T 2.5 ms 16.0550000 MHz	CH06 *301 10 Mc *10 Mc *901 20 dB *10 20 dB	- -	*RM110 *NW 100 kHz Delts 1 (T1) *WW 100 kHz -0.04 dB SWT 2.5 me 15.75940000 Hz
10 012	COUP 14 - 2000 100 100 100 Rec 4 - 1 CT3 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0	-15 Maril -16 - 46 dm	14/2 - 2000 - 2001 2001 1/12/2 1/12/2 1/1	Core 1/2 - 2000 000 Miles Handra 1 (21)





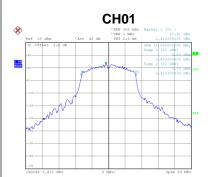


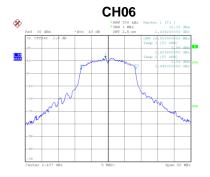
6.JAN.2020 09:24:45

Date: 6.JAN.2020 09:30:12

Date: 6.JAN.2020 09:33:

Channel	Frequency (MHz)	99 % Emission Bandwidth (MHz)	Result
01	2412	16.50	Complies
06	2437	16.50	Complies
11	2462	16.50	Complies







Date: 6.JAN.2020 09:26:49

Date: 6.JAN.2020 09:31:54

Date: 6.JAN.2020 09:34:40



est Mode	TX N-20M Mode_	_Ant. 1		
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Lin (kHz)	nit Result
01	2412	15.72	500	Complies
06	2437	15.15	500	Complies
11	2462	15.88	500	Complies
361 20 40.0 40.0 30 60 10 0717/44 1.6 60 60 60 11 61 6.10 60 60 60 10 61 6.10 60 60 60 10 61 6.10 60 60 60 10 60 60 60 60 60 10 60 60 60 60 60 10 60 60 60 60 60 10 60 60 60 60 60 10 60 60 60 60 60 10 60 60 60 60 60 60 10 60 <	•	CHUC ************************************	No. 1. (T1.) 1.1.0000000000000000000000000000000000	CH11:
• 6.JNN.2020 09137100	Frequency	99 % Fmissi	Date: 6.JJM.2020 09142104	Result
01	(MHz) 2412		17.60	Complies
06	2412		17.60	Complies
11	2462		17.60	Complies
Net: 30 dim *Att. 40 dim 10 0000 10000 10000 11 0000 00000 10000 12 00000 00000 00000 13 00000 00000 00000 13 00000 00000 000000 13 000000 000000 000000 10 000000000 0000000000 00000000000 10 000000000000000000000000000000000000	EXPENSION 1.12 March 1.12.1 1.12 March 1.12.1 1.	Inf: 10:	kur 1 (1) 1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	CPUTUL 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
r 6.7AN.2020 09138117		Date: 6.JAN.2020 09:40:34	Date: 6.33M.2020 09:43:16	



st Mode	TX N-40M Mode	_Ant. 1		
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Result
03	2422	32.07	500	Complies
06	2437	31.67	500	Complies
09	2452	32.32	500	Complies
f 20 dBm *Att 30 dB 0 0ff+et 3.6 dB	CH03 ****** [10] 8 Min = [10] 1 = [10]	No. CHO6 ************************************	1 [T1] ************************************	*#00 10 kHz Celsa 1 (T1) *VBW 308 kHz Celsa 1 (T1) #VBW 308 kHz Celsa 1 (T1) 0.44 cels
1.2.2.2.0 09:14155	Ware 4 Weiget 4	Example 1 0.7 100 1	Japan 49 Min Dipan 49 Min Dipan 49 Min	то обла и на страна, на страна на
Channel	Frequency (MHz)	99 % Emissi	on Bandwidth (MHz)	Result
03	2422		35.40	Complies
06	2437		35.40	Complies
09	2452		35.40	Complies
	CHO3	Ref 30 dBm *Att 40 dB SWT 2.5 ms 36 Offket 1.6 dB m 0	cstsr: 1; [7] j 2; 2; 2; 2; 0; 0; 0; 0; 1; 1; 2; 0; 0; 0; 1; 1; 0; 0; 0; 0; 1; 0	CHO9 - NO 1 NO WHITE A SAME AND A CONTRACT OF A SAME WHITE A SAME AND A CONTRACT OF A SAME CONTRACT OF A SAME AND A CONTRACT OF A SAME A SAME A SAME AND A CONTRACT OF A SAME A SAME A SAME AND A CONTRACT OF A SAME A SAME A SAME
es	9042/ Span 100 1012	_13	-10 -10 -13 -10 -13 -10 -13 -10 -13 -10 -13 -10 -14 -10 -15 -10 -10	Mis/ Open 100 His



APPENDIX F - MAXIMUM OUTPUT POWER



Non-Beamforming

Test Mode	TX B Mode				
Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	17.95	30.00	1.0000	Complies
06	2437	18.55	30.00	1.0000	Complies
11	2462	20.91	30.00	1.0000	Complies

Test Mode TX G Mode

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	29.34	30.00	1.0000	Complies
06	2437	29.09	30.00	1.0000	Complies
11	2462	29.29	30.00	1.0000	Complies



	-		NA 1 1 1 1	
Test Mode	TX N-20M Mode_A	Ant 1		

Cł	nannel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
	01	2412	24.77	30	1.0000	Complies
	06	2437	24.74	30	1.0000	Complies
	11	2462	24.85	30	1.0000	Complies

Test Mode TX N-20M Mode_Ant. 2

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	24.89	30	1.0000	Complies
06	2437	24.88	30	1.0000	Complies
11	2462	24.93	30	1.0000	Complies

Test Mode TX N-20M Mode_Total

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	27.84	27.99	0.6295	Complies
06	2437	27.82	27.99	0.6295	Complies
11	2462	27.90	27.99	0.6295	Complies



Test Mode	TX N-40M Mode_Ant. 1

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	24.78	30	1.0000	Complies
06	2437	24.89	30	1.0000	Complies
09	2452	24.87	30	1.0000	Complies

Test Mode TX N-40M Mode_Ant. 2

Channel	Frequency (MHz)	Peak Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	24.86	30	1.0000	Complies
06	2437	24.96	30	1.0000	Complies
09	2452	24.93	30	1.0000	Complies

Test Mode TX N-40M Mode_Total

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	27.83	27.99	0.6295	Complies
06	2437	27.94	27.99	0.6295	Complies
09	2452	27.91	27.99	0.6295	Complies



Beamforming

Test Mode TX N-20M Mode_Ant. 1						
	Frequency	Output Power	Max. Limit	Max. Limit		
Channel	Frequency (MHz)	(dBm)	(dBm)	(W)	Result	
01	2412	24.29	30	1.0000	Complies	
06	2437	24.22	30	1.0000	Complies	
11	2462	24.54	30	1.0000	Complies	

Test Mode TX N-20M Mode_Ant. 2

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	25.08	30	1.0000	Complies
06	2437	25.38	30	1.0000	Complies
11	2462	25.08	30	1.0000	Complies

Test Mode TX N-20M Mode_Total

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
01	2412	27.71	28.00	0.6310	Complies
06	2437	27.85	28.00	0.6310	Complies
11	2462	27.83	28.00	0.6310	Complies



Test Mode	TX N-40M Mode_Ant. 1

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	24.91	30	1.0000	Complies
06	2437	24.65	30	1.0000	Complies
09	2452	24.68	30	1.0000	Complies

Test Mode TX N-40M Mode_Ant. 2

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	24.57	30	1.0000	Complies
06	2437	24.51	30	1.0000	Complies
09	2452	24.76	30	1.0000	Complies

Test Mode ΤХ

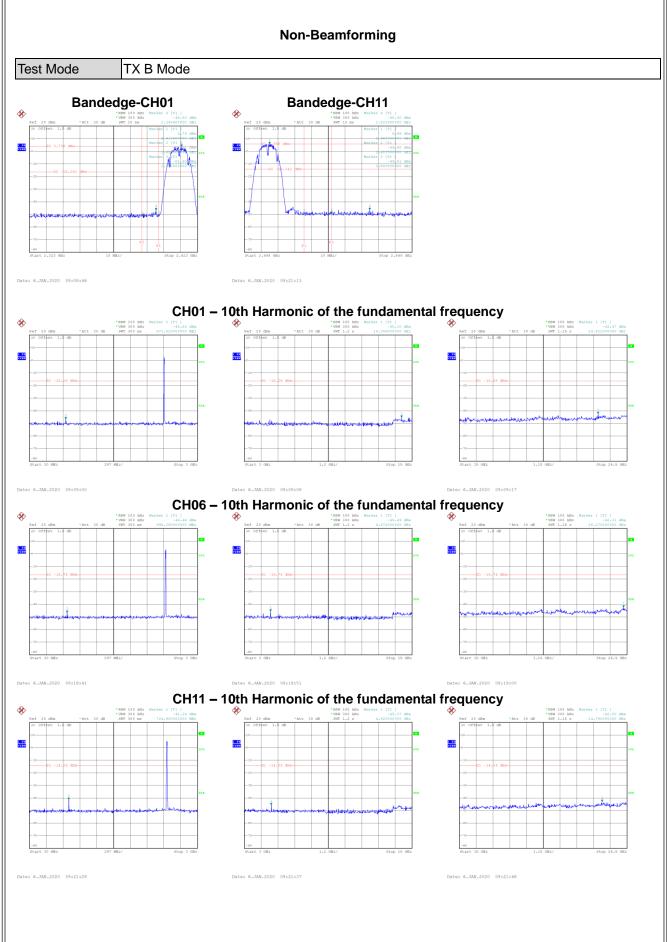
ļ	N-40M	Mode_	Total	
---	-------	-------	-------	--

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Result
03	2422	27.75	28.00	0.6310	Complies
06	2437	27.59	28.00	0.6310	Complies
09	2452	27.73	28.00	0.6310	Complies

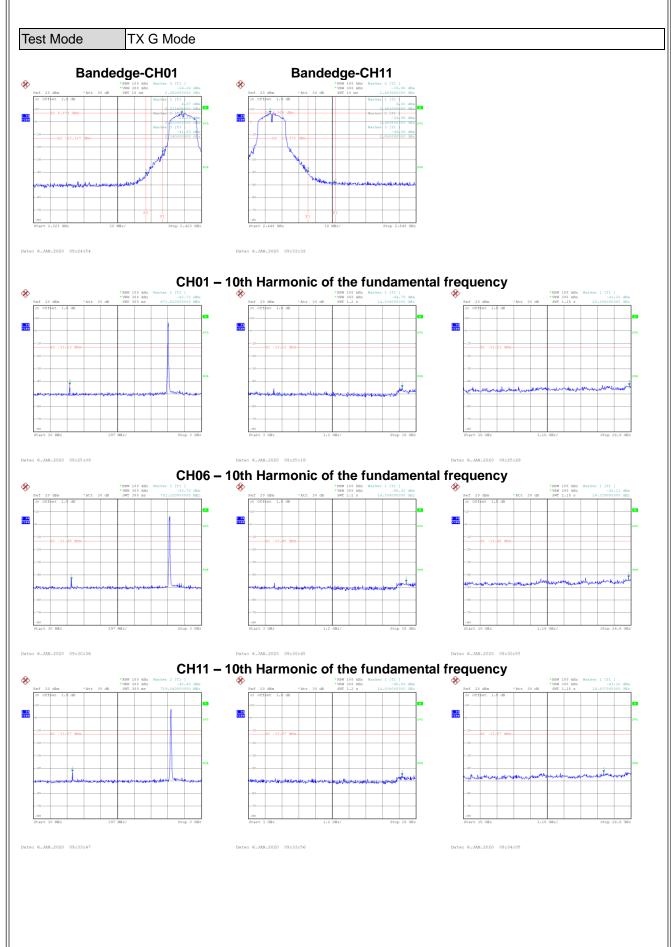


APPENDIX G - CONDUCTED SPURIOUS EMISSIONS

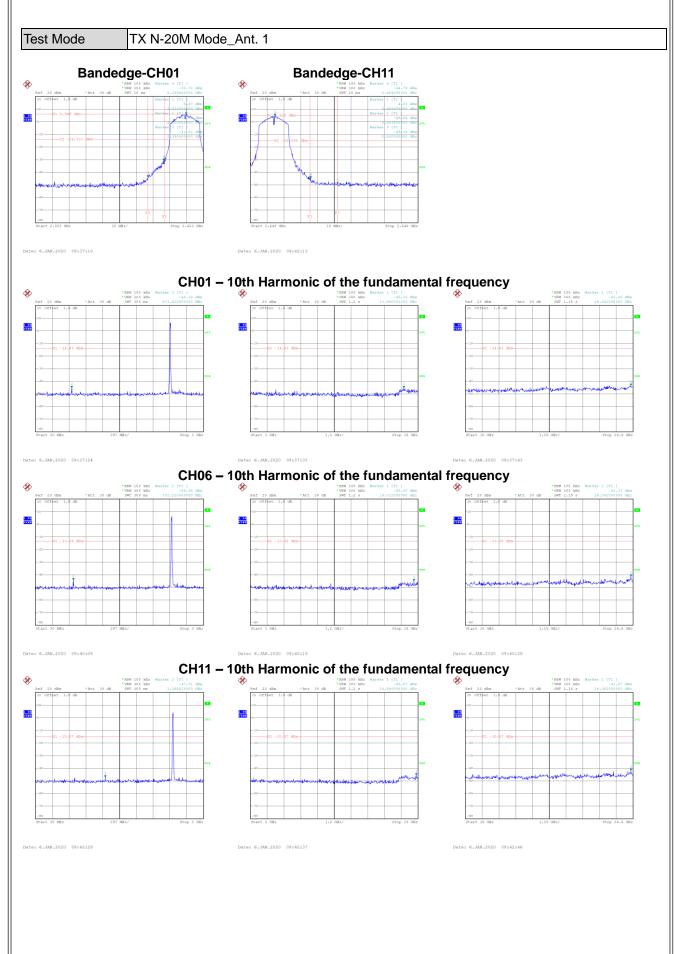




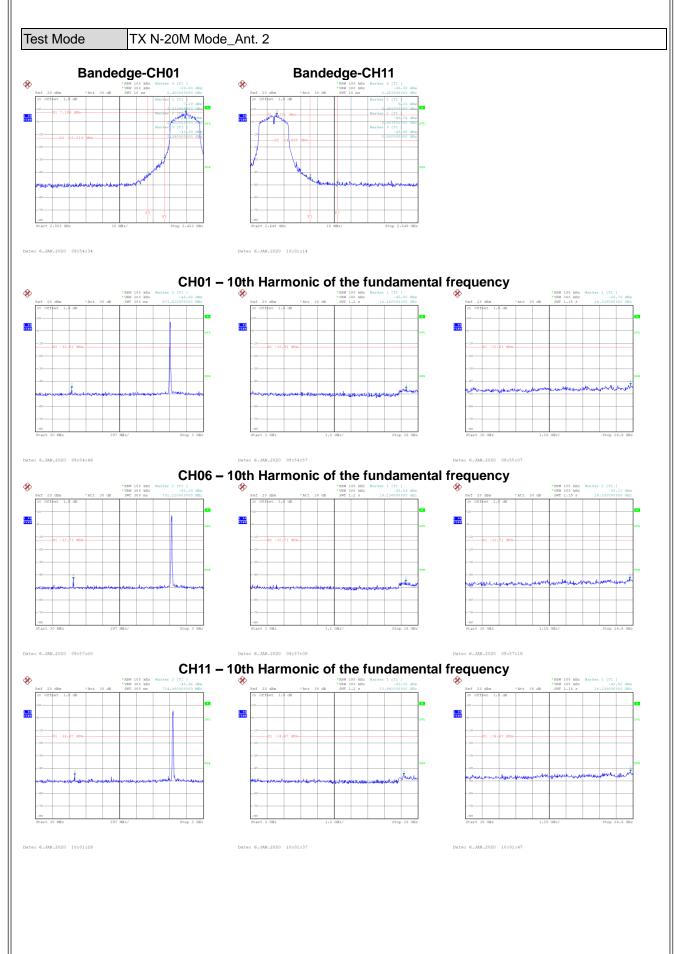




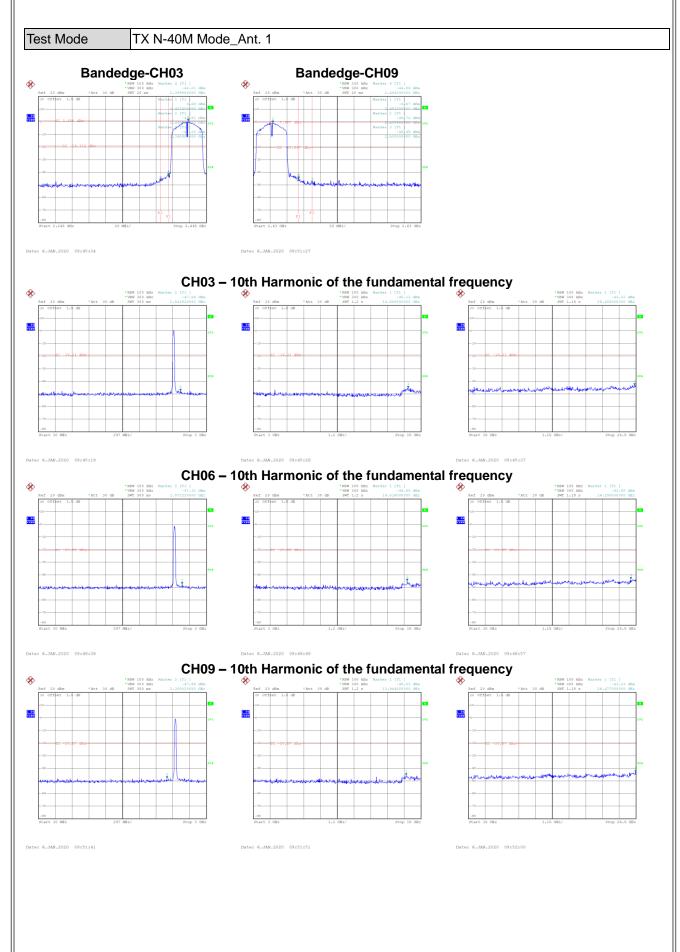




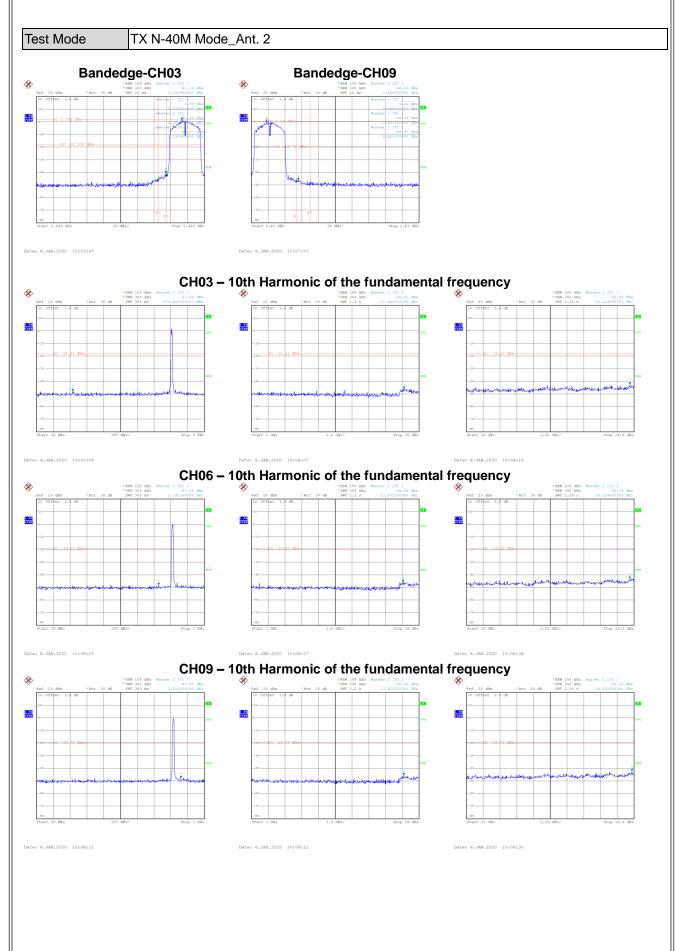




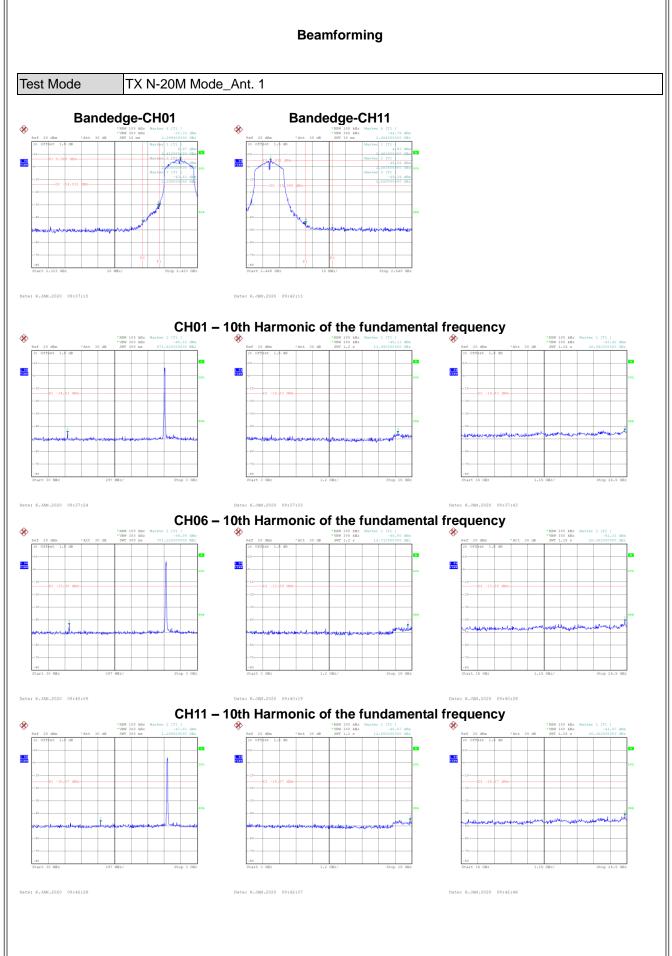




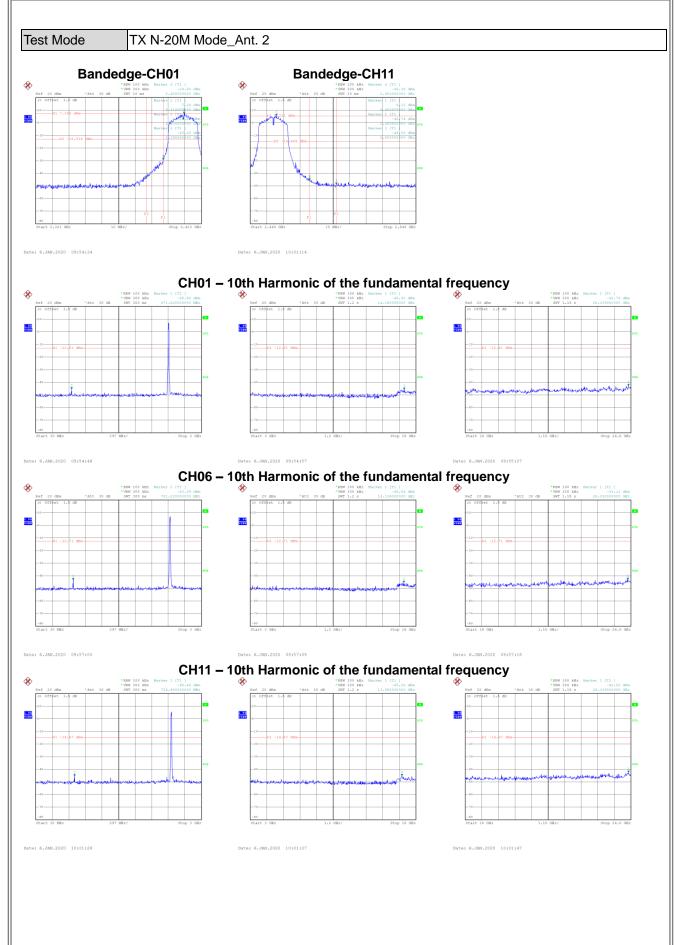




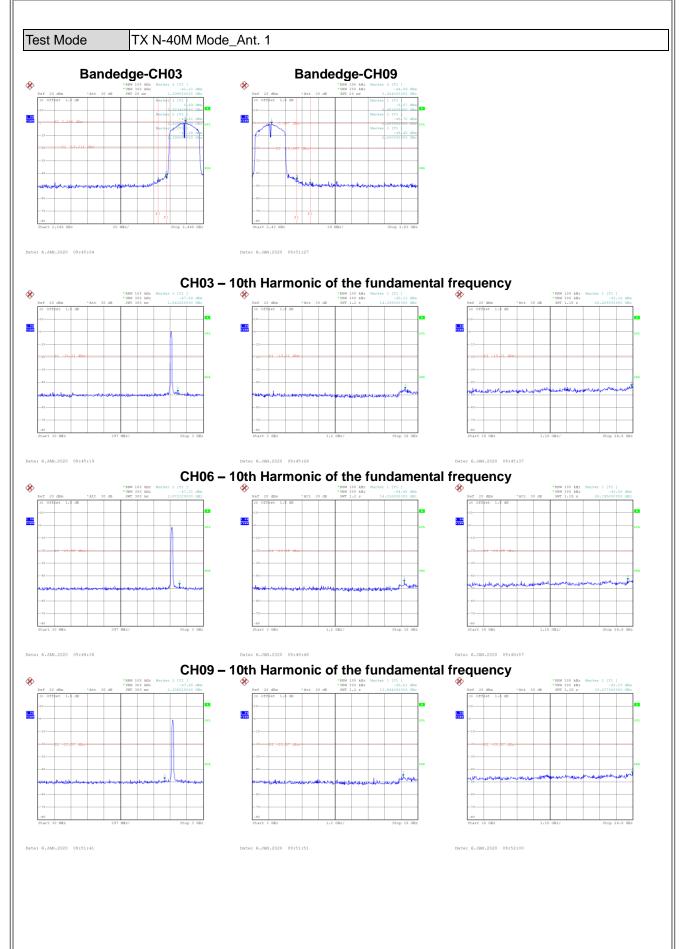




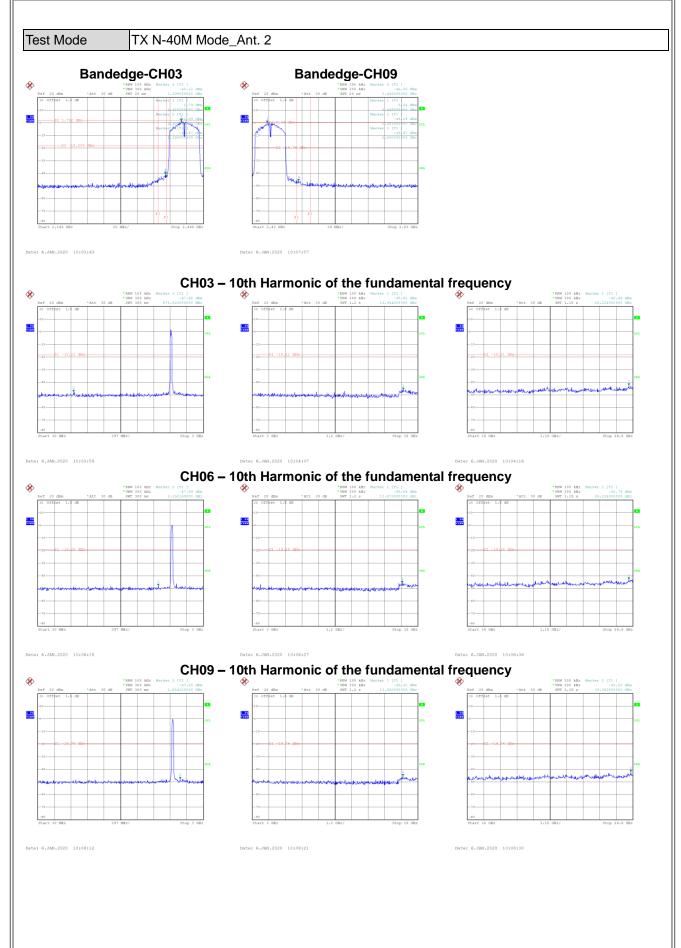










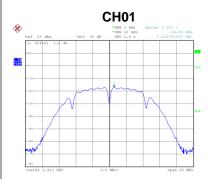


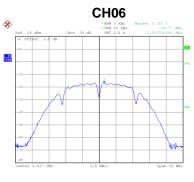


APPENDIX H - POWER SPECTRAL DENSITY



		Non-Beamforming		
Test Mode	TX B Mode			
	•		•	
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-16.98	8.00	Complies
06	2437	-16.77	8.00	Complies
11	2462	-14.39	8.00	Complies





Date: 6.JAN.2020 09:19:10

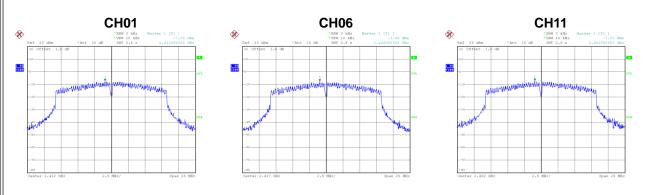


Date: 6.JAN.2020 09:11:38

Test Mode

TX G Mode

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-7.25	8.00	Complies
06	2437	-7.49	8.00	Complies
11	2462	-7.03	8.00	Complies



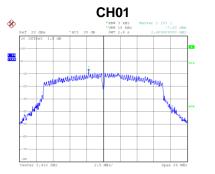
Date: 6.JAN.2020 09:25:38

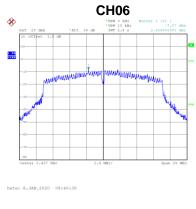
Date: 6.JAN.2020 09:31:05

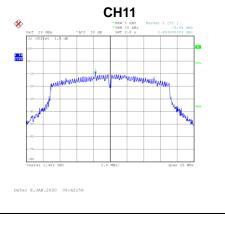
Date: 6.JAN.2020 09:34:16



Test Mode TX N-20M Mode_Ant. 1				
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-7.83	8.00	Complies
06	2437	-7.87	8.00	Complies
11	2462	-9.84	8.00	Complies



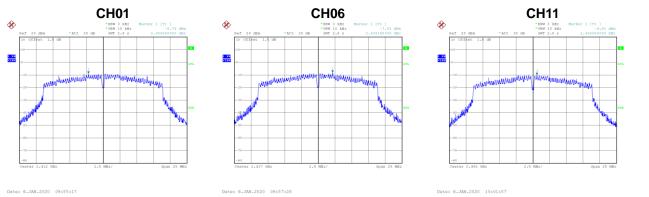




Test Mode

TX N-20M Mode_Ant. 2

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-8.74	8.00	Complies
06	2437	-7.91	8.00	Complies
11	2462	-9.91	8.00	Complies



6.JAN.2020

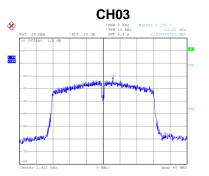
09:57:2

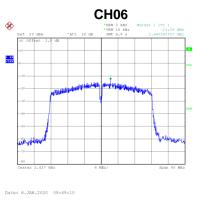
Test Mode TX N-20M Mode_Total

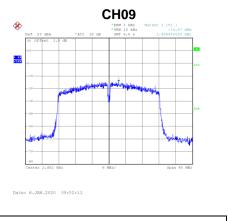
	-		.	
Channel	Frequency	Power Spectral Density	Max. Limit	Result
	(MHz)	(dBm/3kHz)	(dBm/3kHz)	
01	2412	-5.25	5.99	Complies
06	2437	-4.88	5.99	Complies
11	2462	-6.86	5.99	Complies



Test Mode TX N-40M Mode_Ant. 1				
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-12.62	8.00	Complies
06	2437	-13.26	8.00	Complies
09	2452	-14.67	8.00	Complies

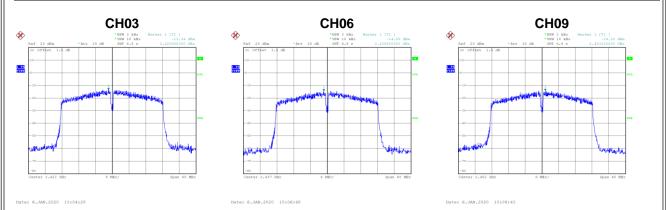






Test Mode TX N-40M Mode_Ant. 2

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-13.34	8.00	Complies
06	2437	-14.55	8.00	Complies
09	2452	-14.30	8.00	Complies

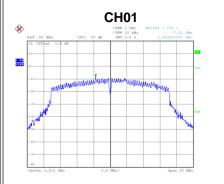


Test Mode TX N-40M Mode_Total

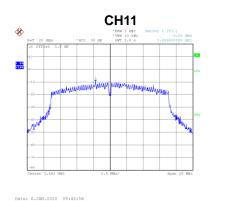
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-9.95	5.99	Complies
06	2437	-10.85	5.99	Complies
09	2452	-11.47	5.99	Complies



Test Mode TX N-20M Mode_Ant. 1				
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-7.83	8.00	Complies
06	2437	-7.87	8.00	Complies
11	2462	-9.84	8.00	Complies







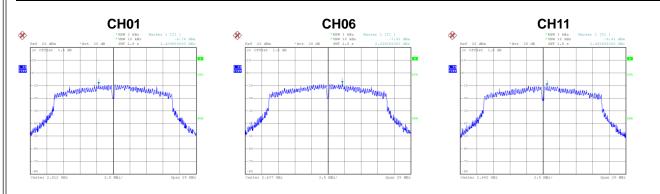
Date: 6.JAN.2020 10:01:57

Test Mode TX

Date: 6.JAN.2020 09:37:53

TX N-20M Mode_Ant. 2

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-8.74	8.00	Complies
06	2437	-7.91	8.00	Complies
11	2462	-9.91	8.00	Complies



Date: 6.JAN.2020 09:57:28

Test Mode T

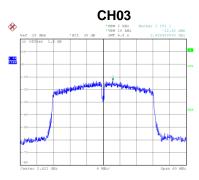
Date: 6.JAN.2020 09:55:17

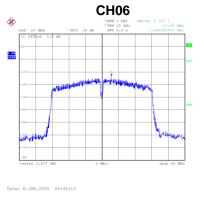
TX N-20M Mode_Total

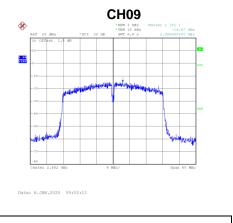
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
01	2412	-5.25	6.00	Complies
06	2437	-4.88	6.00	Complies
11	2462	-6.86	6.00	Complies



Test Mode TX N-40M Mode_Ant. 1					
Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result	
03	2422	-12.62	8.00	Complies	
06	2437	-13.26	8.00	Complies	
09	2452	-14.67	8.00	Complies	





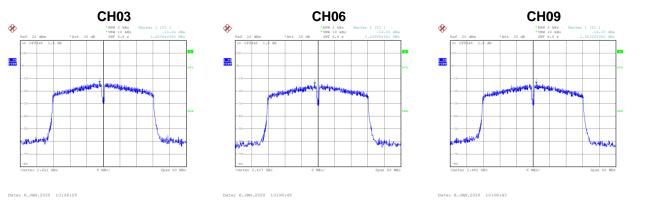


Test Mode

Date: 6.JAN.2020 09:45:50

TX N-40M Mode_Ant. 2

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-13.34	8.00	Complies
06	2437	-14.55	8.00	Complies
09	2452	-14.30	8.00	Complies



54041 010812020 10104125

Test Mode TX N-40M Mode_Total

Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Max. Limit (dBm/3kHz)	Result
03	2422	-9.95	6.00	Complies
06	2437	-10.85	6.00	Complies
09	2452	-11.47	6.00	Complies

End of Test Report