

# FCC Radio Test Report

# FCC ID: 2AQPW-SB450

This report concerns: Original Grant

Project No. Equipment	:	2103T148 Ultra Bright LCD Display with LED Backlight
Brand Name	:	Seura
Test Model	:	UB4-50
Series Model	:	N/A
Applicant	:	Innolux Corporation
Address	:	No. 160, Kesyue Rd. Jhunan Science Park, Miaoli County, Taiwan 350
Manufacturer	:	Innolux Corporation
Address	:	No. 160, Kesyue Rd. Jhunan Science Park, Miaoli County, Taiwan 350
Factory	:	Keewin Display (Suzhou) Co., LTD
Address	:	No. 17 Chengpu Rd,Suzhou Industrial Park,Jiangsu
Date of Receipt	:	Mar. 29, 2021
Date of Test	:	Mar. 29, 2021 ~ May 11, 2021
Issued Date	:	Jun. 21, 2021
<b>Report Version</b>	:	R01
Test Sample	:	Engineering Sample No.: DG20210325161
Standard(s)	:	FCC CFR Title 47, Part 15, Subpart C FCC KDB 558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10-2013

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

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#### Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective. Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.



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# **REPORT ISSUED HISTORY**

Report Version	Description	Issued Date
R00	Original Issue.	Jun. 18, 2021
R01	Changed the product name.	Jun. 21, 2021



# 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart C						
Standard(s) Section	Judgment	Remark				
15.207	AC Power Line Conducted Emissions	APPENDIX A	PASS			
15.247(d) 15.205(a) 15.209(a)	Radiated Emission	APPENDIX B APPENDIX C APPENDIX D	PASS			
15.247 (a)(1)(iii)	Number of Hopping Frequency	APPENDIX E	PASS			
15.247 (a)(1)(iii)	Average Time of Occupancy	APPENDIX F	PASS			
15.247(a)(1)	Hopping Channel Separation	APPENDIX G	PASS			
15.247(a)(1)	Bandwidth	APPENDIX H	PASS			
15.247(a)(1)	Maximum Output Power	APPENDIX I	PASS			
15.247(d)	Conducted Spurious Emission	APPENDIX J	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	2.68

#### B. Radiated emissions test:

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

#### C. Other Measurement:

Test Item	Uncertainty
Conducted Spurious Emission	±2.71 dB
Hopping Channel Separation	±53.46 Hz
Maximum Output Power	±0.95 dB
Number of Hopping Frequency	±53.46 Hz
Bandwidth	±3.8 %
Temperature	±0.08 °C
Humidity	±1.5%

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



# **1.3 TEST ENVIRONMENT CONDITIONS**

Test Item	Temperature	Humidity	Test Voltage	Tested By
AC Power Line Conducted Emissions	25°C	53%	AC 120V/60Hz	Hand Huang
Radiated Emissions-9 kHz to 30 MHz	25°C	60%	AC 120V/60Hz	Grani Zhou
Radiated Emissions-30 MHz to 1000 MHz	26°C	52%	AC 120V/60Hz	Grani Zhou
Radiated Emissions-Above 1000 MHz	26°C	52%	AC 120V/60Hz	Grani Zhou
Number of Hopping Frequency	25°C	62%	AC 120V/60Hz	Hayden Chen
Average Time of Occupancy	25°C	62%	AC 120V/60Hz	Hayden Chen
Hopping Channel Separation	25°C	62%	AC 120V/60Hz	Hayden Chen
Bandwidth	25°C	62%	AC 120V/60Hz	Hayden Chen
Maximum Output Power	25°C	62%	AC 120V/60Hz	Hand Huang
Conducted Spurious Emission	25°C	62%	AC 120V/60Hz	Hayden Chen



# 2. GENERAL INFORMATION

# 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Ultra Bright LCD Display with LED Backlight
Brand Name	Seura
Test Model	UB4-50
Series Model	N/A
Model Difference(s)	N/A
Power Source	AC Mains.
Power Rating	AC 110V, 5.5A
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Type	GFSK, π/4-DQPSK, 8-DPSK
Bit Rate of Transmitter	1Mbps, 2Mbps, 3Mbps
Max. Output Power	3Mbps: 9.09 dBm (0.0081 W)

Note:

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

#### 2. Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		



#### 3. Table for Filed Antenna:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)
	SHENZHEN ZHONGTIAN				
1	XUN Communication	61005-00244	Internal	N/A	2.99
	Technology Shares Co., Ltd.				

Note:

The antenna gain is provided by the manufacturer.



# 2.2 DESCRIPTION OF TEST MODES

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

Pretest Mode	Description
Mode 1	TX Mode_1Mbps Channel 00/39/78
Mode 2 TX Mode_2Mbps Channel 00/39/78	
Mode 3	TX Mode_3Mbps Channel 00/39/78
Mode 4	TX Mode_3Mbps Channel 39

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 4	TX Mode_3Mbps Channel 39	

Radiated emissions test - Below 1GHz		
Final Test Mode	Description	
Mode 4	TX Mode_3Mbps Channel 39	

Radiated emissions test - Above 1GHz		
Final Test Mode Description		
Mode 1	TX Mode_1Mbps Channel 00/39/78	
Mode 3	TX Mode_3Mbps Channel 00/39/78	

Maximum Output Power		
Final Test Mode Description		
Mode 1 TX Mode_1Mbps Channel 00/39/78		
Mode 2 TX Mode_2Mbps Channel 00/39/78		
Mode 3 TX Mode_3Mbps Channel 00/39/78		

Other Conducted test		
Final Test Mode Description		
Mode 1	TX Mode_1Mbps Channel 00/39/78	
Mode 3	TX Mode_3Mbps Channel 00/39/78	

#### Note:

- (1) The measurements for Output Power were tested with DH1/3/5 during 1Mbps, 2Mbps and 3Mbps, the worst case were 1Mbps (DH5) and 3Mbps (DH5), only worst case were documented for other test items except Average Time of Occupancy.
- (2) 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.
- (3) This product has the mode of BT AFH, which was considered during testing, but this mode is not the worst case mode, and this report only shows the worst case mode.
- (4) For AC power line conducted emissions and radiated spurious emissions below 1 GHz test, the 3Mbps Channel 39 are found to be the worst case and recorded.



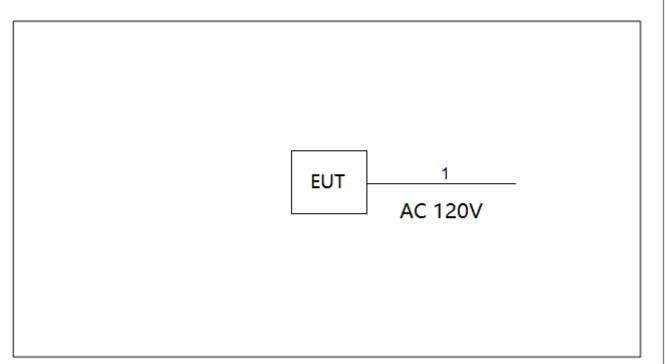
# 2.3 PARAMETERS OF TEST SOFTWARE

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

Test Software Version	IPOP V4.0		
Frequency (MHz)	2402	2441	2480
1Mbps	0	0	0
2Mbps	0	0	0
3Mbps	0	0	0



# 2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



# 2.5 SUPPORT UNITS

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

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	AC Cable	NO	NO	1.8m



# 3. AC POWER LINE CONDUCTED EMISSIONS

# 3.1 LIMIT

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

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

# 3.2 TEST PROCEDURE

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

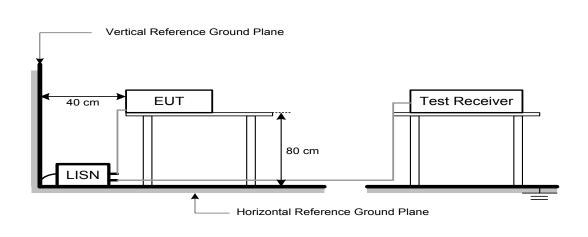
The following table is the setting of the receiver:

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

# **3.3 DEVIATION FROM TEST STANDARD** No deviation.



# 3.4 TEST SETUP



# 3.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical function (as a customer would normally use it), EUT was programmed to be in continuously transmitting data or hopping on mode.

#### 3.6 TEST RESULTS

Please refer to the APPENDIX A.

Remark:

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



# 4. RADIATED EMISSIONS

#### 4.1 LIMIT

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

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

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

#### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

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

Note:

(1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).



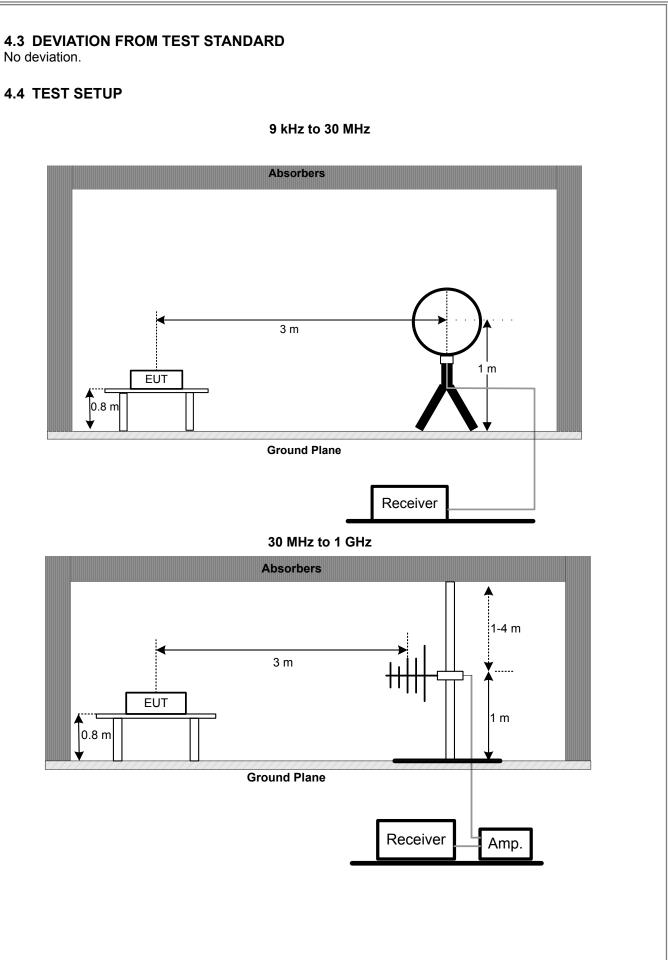
# 4.2 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
- b. The measuring distance of 3 m or 1.5m 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)
- 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
Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

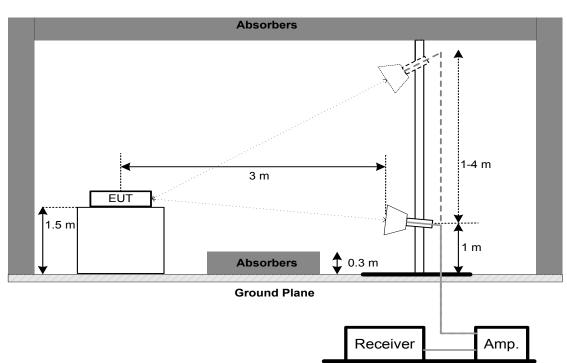






# **B**TL

# Above 1 GHz



# 4.5 EUT OPERATING 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. NUMBER OF HOPPING FREQUENCY

#### 5.1 LIMIT

Section	Test Item	Limit
FCC 15.247(a)(1)(iii)	Number of Hopping Frequency	15

#### 5.2 TEST PROCEDURE

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

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

Spectrum Parameters	Setting
Span Frequency	> Operating Frequency Range
RBW	100 kHz
VBW	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

#### **5.3 DEVIATION FROM STANDARD**

No deviation.

# 5.4 TEST SETUP



#### 5.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 5.6 TEST RESULTS

Please refer to the APPENDIX E.



# 6. AVERAGE TIME OF OCCUPANCY

#### 6.1 LIMIT

Section	Test Item	Limit
FCC 15.247(a)(1)(iii)	Average Time of Occupancy	0.4sec

#### 6.2 TEST PROCEDURE

- a. Set the EUT for DH1, DH3 and DH5 packet transmitting.
- b. Measure the maximum time duration of one single pulse.
- c. DH1 Packet permit maximum 1600 / 79 /2 = 10.12 hops per second in each channel (1 time slot TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 10.12 x 31.6 = 320 within 31.6 seconds.
- d. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 5.06 x 31.6 = 160 within 31.6 seconds.
- e. DH5 Packet permit maximum 1600/ 79 / 6 = 3.37 hops per second in each channel (5 time slots TX, 1 time slot RX). So, the dwell time is the time duration of the pulse times 3.37 x 31.6 = 106.6 within 31.6 seconds.
- f. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- g. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	0 MHz
RBW	1 MHz
VBW	1 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	As necessary to capture the entire dwell time per hopping channel

# 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. HOPPING CHANNEL SEPARATION

#### 7.1 LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

#### 7.2 TEST PROCEDURE

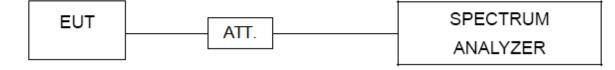
- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting	
Span Frequency	Wide enough to capture the peaks of two adjacent channels	
RBW	30 kHz	
VBW	100 kHz	
Detector	Peak	
Trace	Max Hold	
Sweep Time	Auto	

#### 7.3 DEVIATION FROM STANDARD

No deviation.

#### 7.4 TEST SETUP



#### 7.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 7.6 TEST RESULTS

Please refer to the APPENDIX G.



# 8. BANDWIDTH

#### 8.1 LIMIT

Section	Test Item
FCC 15.247(a)(1)	Bandwidth

#### 8.2 TEST PROCEDURE

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

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

Spectrum Parameters	Setting
Span Frequency	> Measurement Bandwidth
RBW	30 kHz
VBW	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

#### 8.3 DEVIATION FROM STANDARD

No deviation.

# 8.4 TEST SETUP



# **8.5 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

#### 8.6 TEST RESULTS

Please refer to the APPENDIX H.



# 9. MAXIMUM OUTPUT POWER

#### 9.1 LIMIT

Section	Test Item	Limit
FCC 15.247(a)(1)	Maximum Output Power	0.1250 Watt or 20.97 dBm

Note: Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

#### 9.2 TEST PROCEDURE

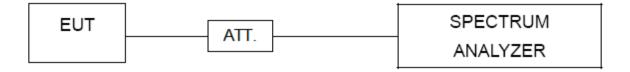
- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. The following table is the setting of the spectrum analyzer:

Spectrum Parameters	Setting
Span Frequency	Approximately five times the 20 dB bandwidth, centered on a hopping channel.
RBW	3 MHz
VBW	3 MHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

#### 9.3 DEVIATION FROM STANDARD

No deviation.

#### 9.4 TEST SETUP



#### 9.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

#### 9.6 TEST RESULTS

Please refer to the APPENDIX I.



# **10. CONDUCTED SPURIOUS EMISSION**

#### 10.1 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.

#### **10.2 TEST PROCEDURE**

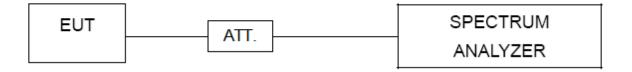
- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. The following table is the setting of the spectrum analyzer:

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

#### **10.3 DEVIATION FROM STANDARD**

No deviation.

#### 10.4 TEST SETUP



#### **10.5 EUT OPERATION CONDITIONS**

The EUT was programmed to be in continuously transmitting mode.

#### 10.6 TEST RESULTS

Please refer to the APPENDIX J.



# 11. MEASUREMENT INSTRUMENTS LIST

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

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

	Radiated Emissions - 30 MHz to 1 GHz								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 15, 2022				
2	Amplifier	HP	8447D	2944A08742	Feb. 28, 2022				
3	Receiver	Agilent	N9038A	MY52130039	Jul. 25, 2021				
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 22, 2021				
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				
8	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021				

	Radiated Emissions - Above 1 GHz								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Double Ridged Guide Antenna	ETS	3115	75789	May 12, 2021				
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jul. 07, 2021				
3	Amplifier	Agilent	8449B	3008A02584	Jul. 25, 2021				
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045 980039 & HA01		Feb. 28, 2022				
5	Receiver	Agilent	N9038A	MY52130039	Jul. 25, 2021				
6	Controller	СТ	SC100	N/A	N/A				
7	Controller	MF	MF-7802	MF780208416	N/A				
8	Cable N/A		EMC104-SM-SM-6 000	N/A	Oct. 16, 2021				
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A				
10	Filter	STI	STI15-9912	N/A	Jul. 25, 2021				
11	966 Chambe Room	RM	9*6*6m	N/A	Jul. 25, 2021				



Number of Hopping Frequency & Average Time of Occupancy & Hopping Channel Separation & Bandwidth & Maximum Output Power & Conducted Spurious Emission								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until			
1	Spectrum Analyzer R&S FSP40 100185 Jul. 25, 2							
2	Attenuator	WOKEN	6SM3502	VAS1214NL	Feb. 07, 2022			
3 RF Cable Tongkaichuan N/A N/A N/A								
4	DC Block	Mini	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.



# **12. EUT TEST PHOTO**



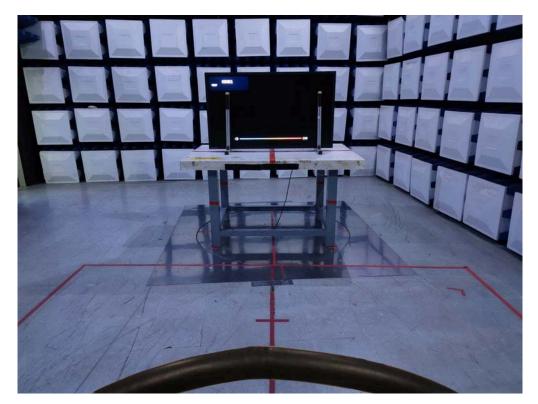


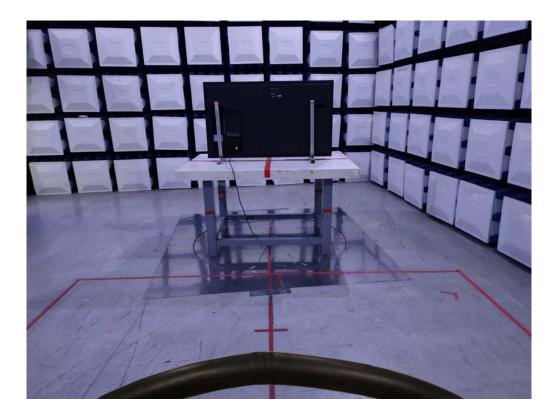


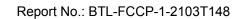


#### **Radiated Emissions Test Photos**

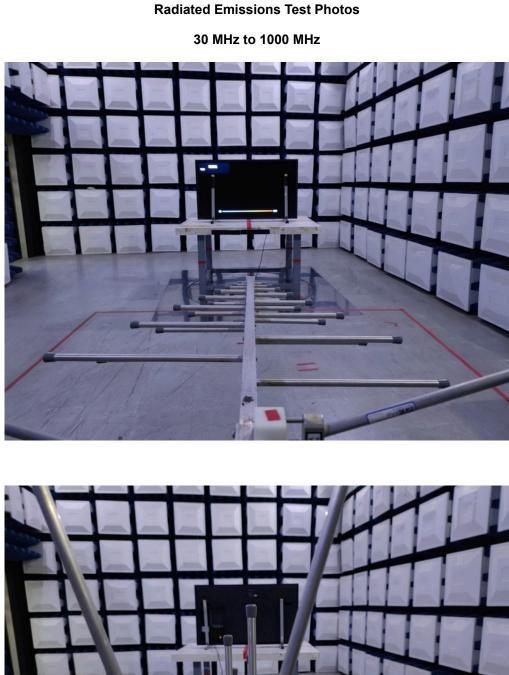
9 kHz to 30 MHz

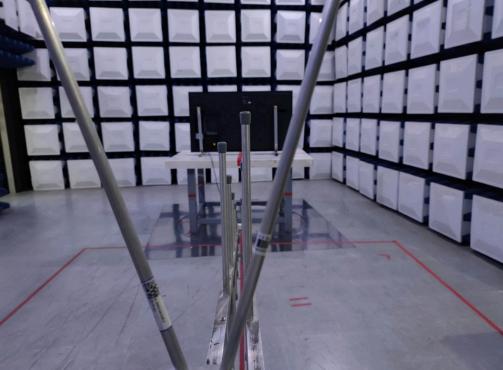








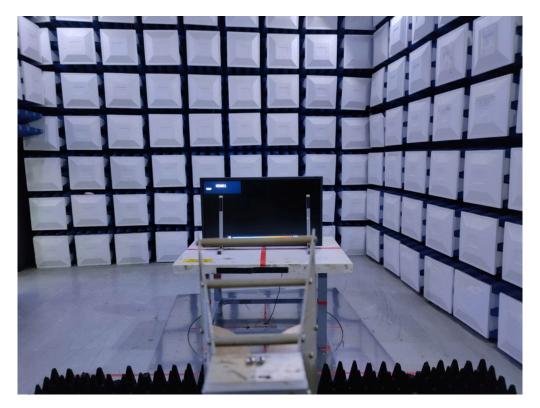


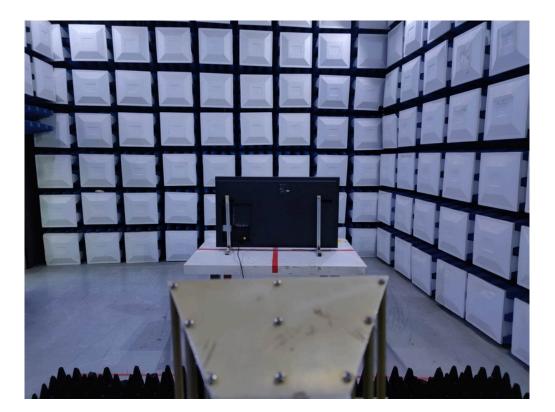




#### **Radiated Emissions Test Photos**

Above 1 GHz

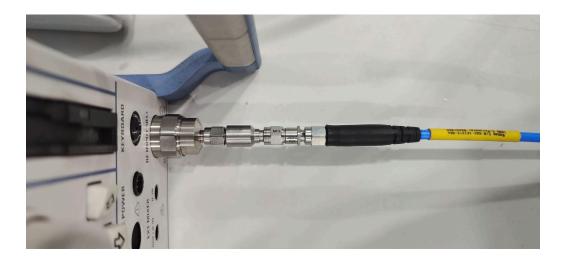




# **BIL**

# **Conducted Test Photos**

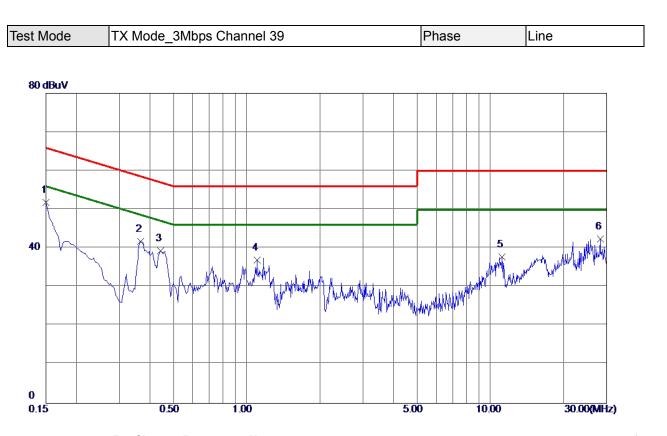






# **APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS**



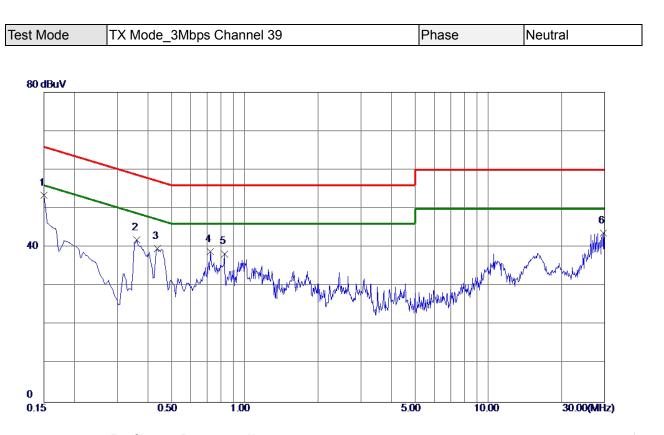


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1 *	0.1500	42.10	9.67	51.77	66.00	-14.23	Peak	
2	0.3660	31.79	9.90	41.69	58. 59	-16. 90	Peak	
3	0.4425	29.51	9.91	39.42	57. <b>0</b> 1	-17. 59	Peak	
4	1. 1040	27.03	9.99	37.02	56.00	-18.98	Peak	
5	11. 1885	27.06	10.70	37.76	60.00	-22.24	Peak	
6	28. 2660	31.23	11.14	42.37	60.00	-17.63	Peak	

**REMARKS**:

- (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 *	0.1500	43.67	9.74	53.41	66.00	-12. 59	Peak	
2	0.3615	31.84	10.04	41.88	58. 69	-16.81	Peak	
3	0. 4380	29. 54	10.09	39. 63	57.10	-17.47	Peak	
4	0.7215	28.78	10.12	38. 90	<b>56.00</b>	-17.10	Peak	
5	0.8250	28.10	10.22	38.32	<b>56.00</b>	-17.68	Peak	
6	29.7285	32.17	11. 52	43.69	60.00	-16. 31	Peak	

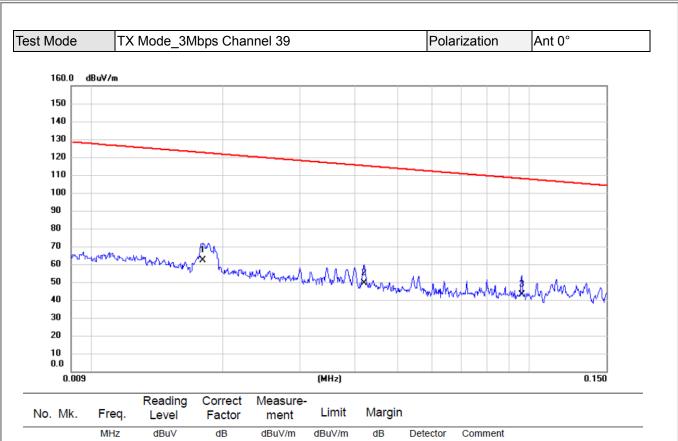
REMARKS:

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



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





1 \*

2

3

0.0180

0.0420

0.0962

48.47

36.77

30.19

13.84

12.63

12.70

62.31

49.40

42.89

122.50

115.14

107.94

-60.19

-65.74

-65.05

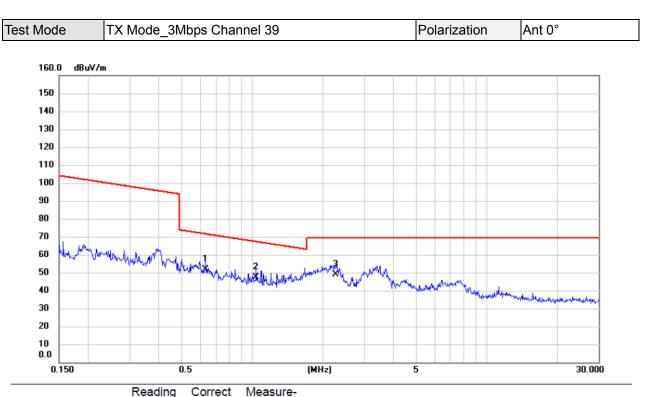
AVG

AVG

AVG

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

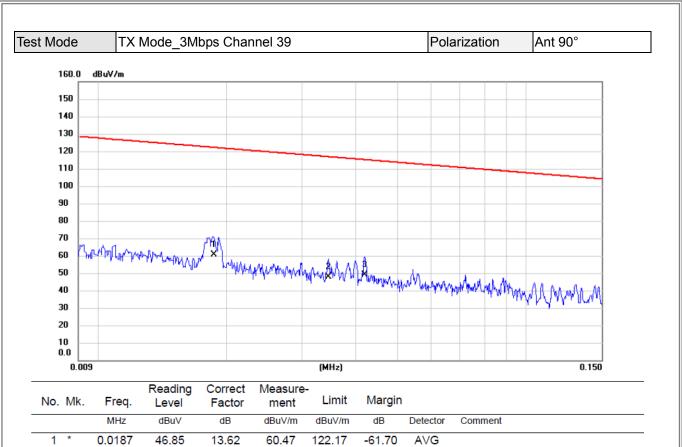




	No. N	۷k.	Freq.	Level		ment		Margin			
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
-	1 *	k	0.6338	39.93	11.96	51.89	71.56	-19.67	QP		
	2		1.0374	35.65	11.78	47.43	67.29	-19.86	QP		
-	3		2.2726	37.89	11.17	49.06	69.54	-20.48	QP		

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





2

3

0.0345

0.0420

35.14

36.38

12.83

12.63

47.97

49.01

116.85

115.14

-68.88

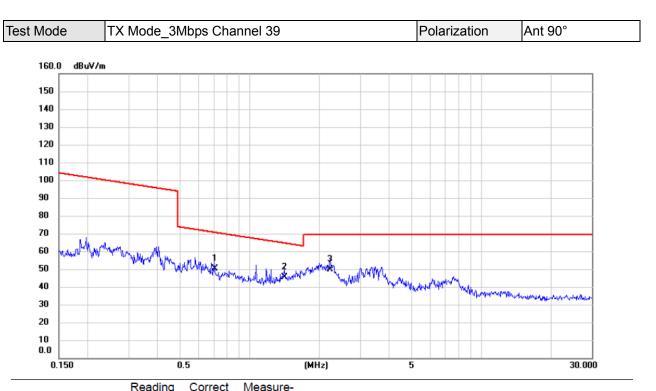
-66.13

AVG

AVG

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





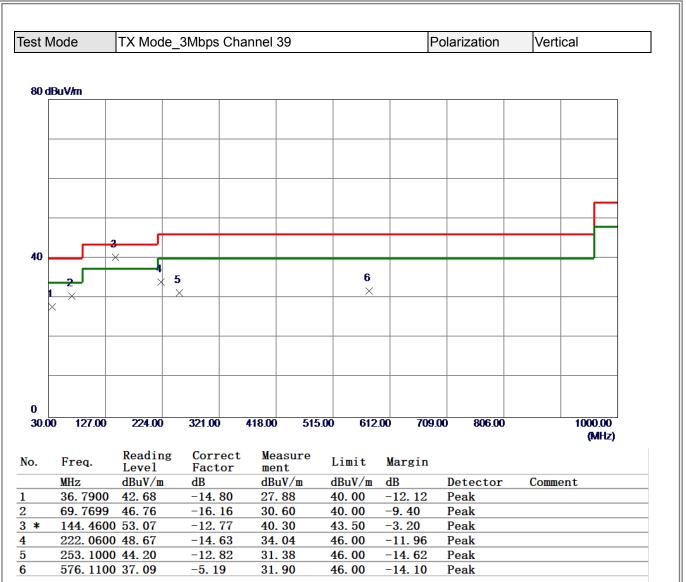
No. Mk.	Freq.	Level		ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	0.7047	38.12	11.93	50.05	70.64	-20.59	QP	
2 *	1.4107	33.73	11.59	45.32	64.62	-19.30	QP	
3	2.2250	38.57	11.20	49.77	69.54	-19.77	QP	

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



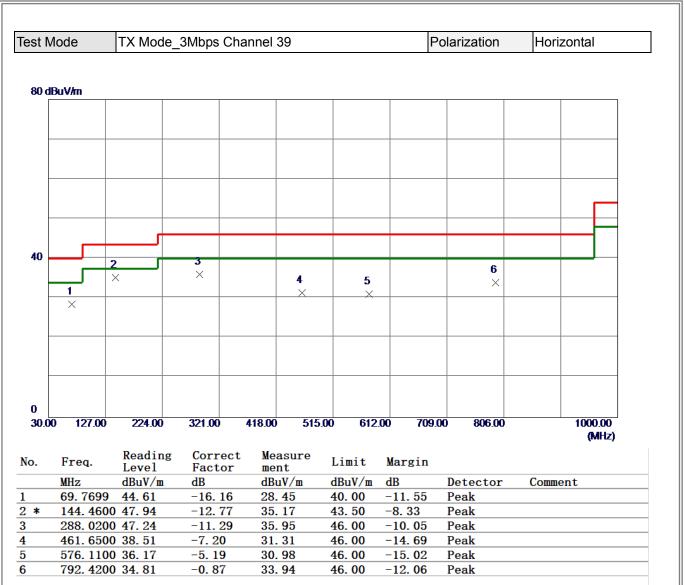
## APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ





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



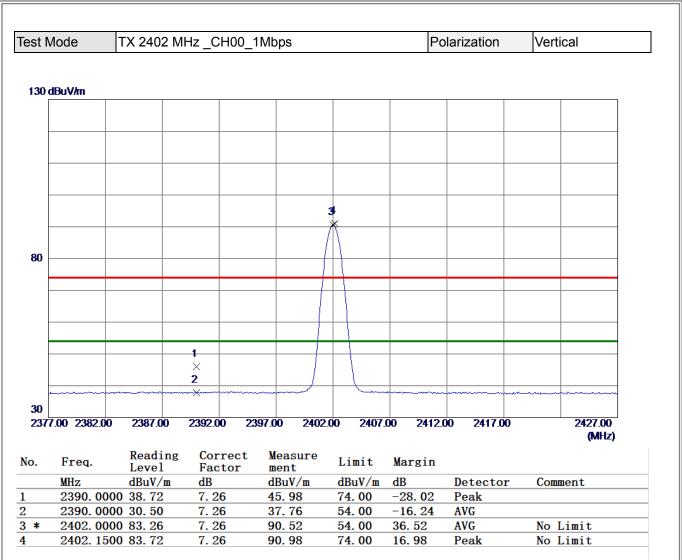


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



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



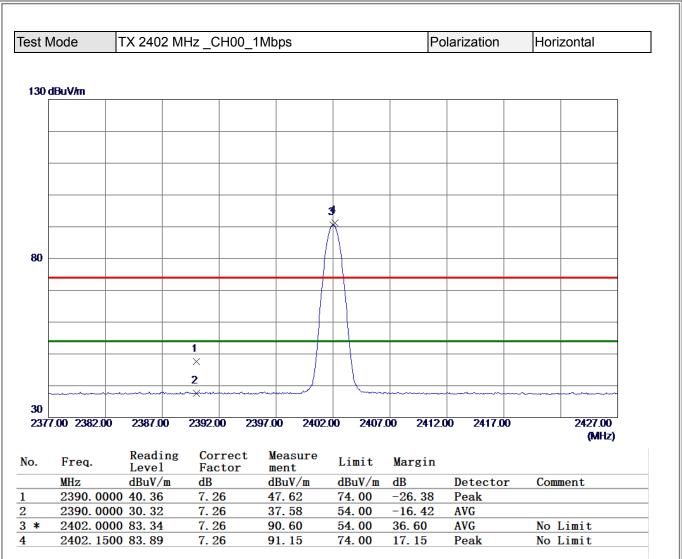


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



0 dbu/m         1         2         2         2         30         ×         1         ×         1         ×         1         ×         1         ×         1         ×         2         ×         1         ×         1         ×         1         ×         1         ×         1         ×         1         ×         1         ×	80 d	lode	TX 2402 MI	Hz_CH00_1	Mbps		Pc	olarization	Ver	tical
1	) d									
1		BuV/m								
×       ×	Γ									
×       ×										
×       ×	F									
×       ×										
×       ×										
×       ×	ŀ									
2         X         Image: Constraint of the second										
×       ×			×							
0         0			2							
Image: Second system         Image: Se	۱L		×							
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           Keading         Correct         Measure         Limit         Margin         MHz         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak	1									
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           Keading         Correct         Measure         Limit         Margin         MHz         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak										
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak										
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak										
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           Keading         Correct         Measure         Limit         Margin         MHz         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak										
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           Keading         Correct         Measure         Limit         Margin         MHz         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak										
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak										
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak										
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           Keading         Correct         Measure         Limit         Margin         MHz         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak										
Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak		00 3550.00	6100.00	8650.00 11	200.00 1375	16300	19950	00 21400.0	0	26500.0
Freq.Reading LevelCorrect FactorMeasure mentLimitMarginMHzdBuV/mdBdBuV/mdBuV/mdBDetectorComment4804.274039.634.4044.0374.00-29.97Peak	, nor	.00 5550.00	0100.00	0000.00 11	200.00 1373	7.00 10.500	100 1000	21400.0	NO .	
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.2740         39.63         4.40         44.03         74.00         -29.97         Peak		Ener	Reading	Correct	Measure	Linit	Manada			
4804. 2740 39. 63 4. 40 44. 03 74. 00 -29. 97 Peak			Level	Factor	ment					
									· Com	ment
4304.0230 28.13 4.40 32.33 34.00 -21.41 AVG										
		1001.02	50 20.15	1. 10	52.05	JI. 00	21. 11	AVO		



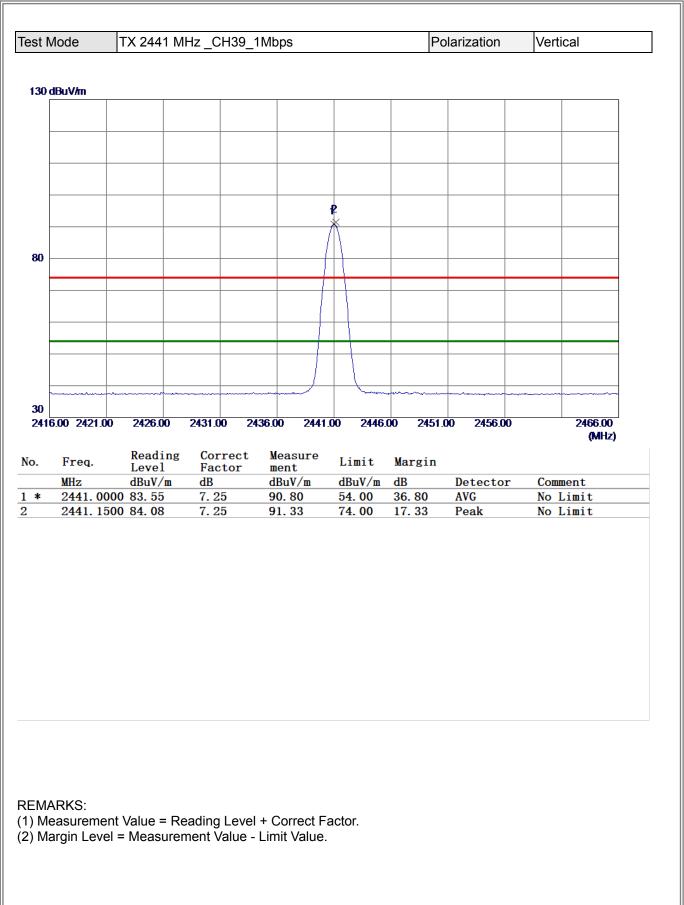


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



0 dBuV/m         1         2         2         ×		
1		
×     2       ×     ×       × <td></td> <td></td>		
×     2       ×     ×       × <td></td> <td></td>		
×     2       ×     ×       × <td></td> <td></td>		
×     2       ×     ×       0 <td></td> <td></td>		
×     2       ×     ×       × <td></td> <td></td>		
×     2       ×     ×       0 <td></td> <td></td>		
0 × · · · · · · · · · · · · · · · · · ·		
X     X       X <td></td> <td></td>		
00.00 3550.00 6100.00 8650.00 11200.00 13750.00 163		
00.00 3550.00 6100.00 8650.00 11200.00 13750.00 163		
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 163		
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 163		
00.00 3550.00 6100.00 8650.00 11200.00 13750.00 163	00.00 18850.00 21400.00 26	
00.00 3550.00 6100.00 8650.00 11200.00 13750.00 163	00 00 18850 00 21400 00 26	
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 163	00 00 18850 00 21400 00 26	
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 163	00.00 18850.00 21400.00 26	
Reading Correct Measure		500.00
Freq. Reading Correct Measure Limit		(MHz)
	Margin	
MHz         dBuV/m         dB         dBuV/m         dBuV/m		
4804. 6460 40. 13 4. 40 44. 53 74. 00	-29. 47 Peak	
4804. 9009 27. 89 4. 40 32. 29 54. 00	-21.71 AVG	

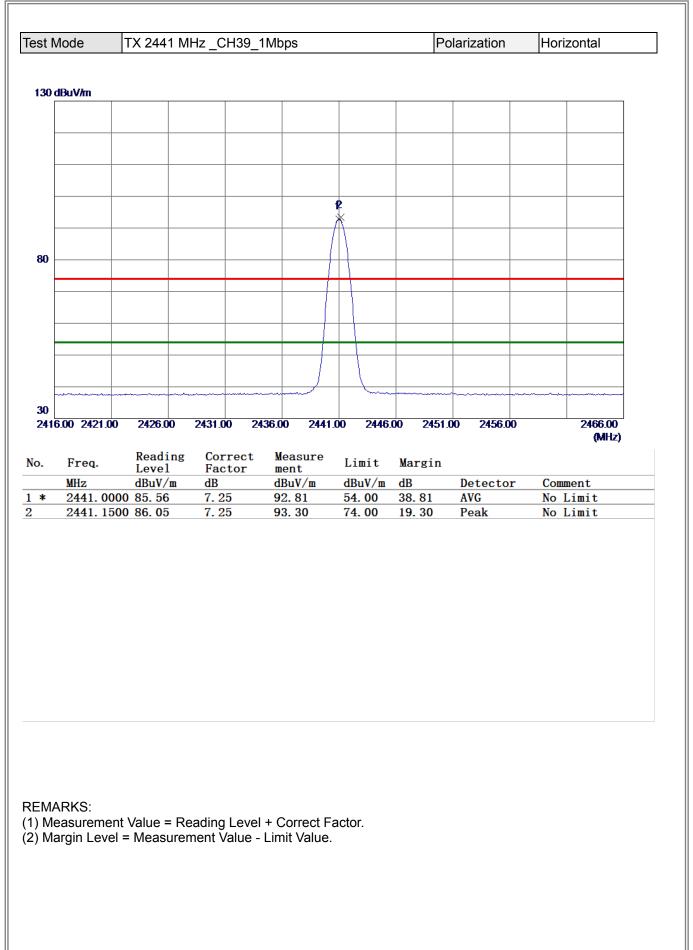






st Mode	TX 2441 M	Hz _CH39_	1Mbps		Po	olarization	Vertical
80 dBuV/m							
	1						
	×						
	2						
0	×						
20							
000.00 3550.00	0 6100.00	8650.00 1	1200.00 1375	0.00 1630	0.00 18850	0.00 21400.00	) 26500.00 (MHz)
o. Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
		dB	dBuV/m	dBuV/m		Detector	Comment
MHz 4882 63	dBuV/m		11 16				
4882.63	dBuV/m 49 39.55 70 27.88	4. 61 4. 61	44. 16 32. 49	74. 00 54. 00	-29. 84 -21. 51	Peak AVG	
4882.63	49 39.55	4.61					

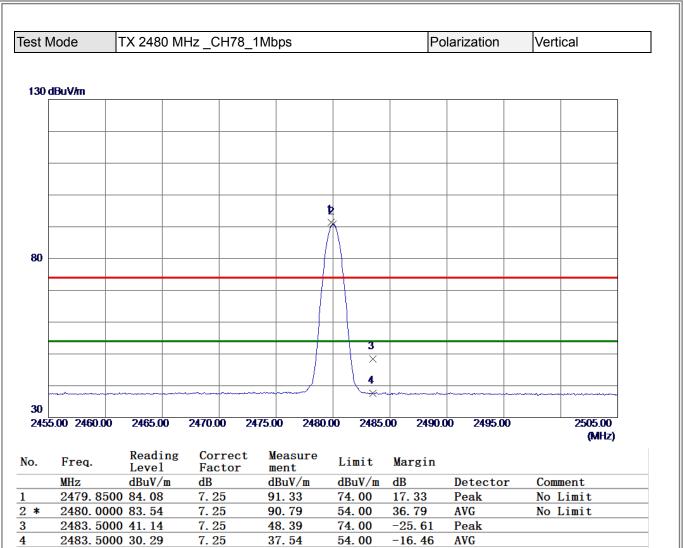






CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak		TX 2441 N	/Hz _CH39_	1Mbps		Po	larization	Horizontal
1         2         1         1           2         ×								
1         2         1         1           2         ×	0 dBu\/ <i>k</i> n							
×       ×       ×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×       ×       ×         00.00 3550.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.00         Freq.       Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment         4882. 1950       39. 51       4. 61       44. 12       74. 00       -29. 88       Peak								
×       ×       ×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×       ×       ×         00.00 3550.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.00         Freq.       Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment         4882. 1950       39. 51       4. 61       44. 12       74. 00       -29. 88       Peak								
×       ×       ×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×       ×       ×         00.00 3550.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.00         Freq.       Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment         4882. 1950       39. 51       4. 61       44. 12       74. 00       -29. 88       Peak								
×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×         00.00 3550.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.00         WHz       K       K       K       K       K       K       K       K         MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment       K         MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment         4882.1950       39.51       4.61       44.12       74.00       -29.88       Peak								
×       ×       ×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×       ×       ×         00.00 3550.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.00         Freq.       Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment         4882. 1950       39. 51       4. 61       44. 12       74. 00       -29. 88       Peak								
×       ×       ×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×       ×       ×         00.00 3550.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.00         Freq.       Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment         4882. 1950       39. 51       4. 61       44. 12       74. 00       -29. 88       Peak		4						
2         X         Image: Constraint of the sector of the		1 1						
×       ×								
Image: Second State								
CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading         Correct         Measure         Limit         Margin         (MHz         MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak	1							
CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading         Correct         Measure         Limit         Margin         (MHz         MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak								
CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading         Correct         Measure         Limit         Margin         (MHz         MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak								
CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading         Correct         Measure         Limit         Margin         (MHz         MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak						ļ		
CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading         Correct         Measure         Limit         Margin         (MHz         MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak								
CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading         Correct         Measure         Limit         Margin         (MHz         MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak								
CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading         Correct         Measure         Limit         Margin         (MHz         MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak								
CO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading         Correct         Measure         Limit         Margin         (MHz         MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak								
Freq.       Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dBuV/m       dB       Detector       Comment         4882.1950       39.51       4.61       44.12       74.00       -29.88       Peak	)							
Freq.Reading LevelCorrect FactorMeasure mentLimitMarginMHzdBuV/mdBdBuV/mdBuV/mdBDetectorComment4882.195039.514.6144.1274.00-29.88Peak	00.00 3550.	.00 6100.00	8650.00 1	1200.00 1375	0.00 16300	0.00 18850	.00 21400.00	
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.1950         39.51         4.61         44.12         74.00         -29.88         Peak		Pooding	Correct	Maggura				(init i
4882. 1950 39. 51 4. 61 44. 12 74. 00 -29. 88 Peak	Freq.	Level	Factor		Limit	Margin		
								Comment
4882. 6870 27. 91 4. 61 32. 52 54. 00 -21. 48 AVG								
	4002.0	0010 21.91	4.01	32. 32	54.00	-21.40	AVG	



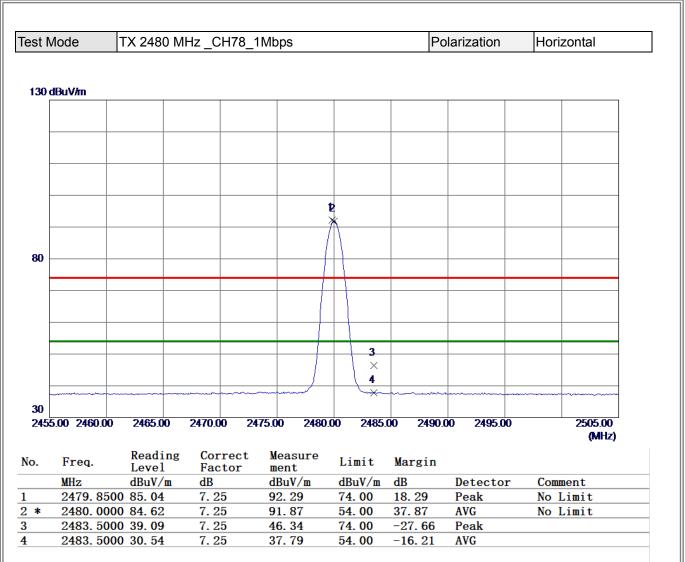


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



		TX 2480 M	MHz_CH78	3_1Mbps		Po	larization	Verti	cal
1         1           2									
×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×         1       ×       ×       ×       ×       ×       ×       ×         1       ×       ×       ×       ×       ×       ×       ×       ×         1       ×       ×       ×       ×       ×       ×       ×       ×       ×         1       × <td< th=""><th>1BuV/m</th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>	1BuV/m								
×       ×       ×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×       ×         ×									
×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×       ×         ×									
×       ×									
×       ×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×       ×         1       1       1       1       1       1       ×       ×       ×         1       1       1       1       1       1       1       1       ×         1       1       1       1       1       1       1       1       1       1         1 <td< th=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
×       ×		1							
×       ×		1 1							
Image: Second state         Image: Second state									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak		X							
Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dBuV/m       dB       Detector       Comment         4959.2730       39.66       4.81       44.47       74.00       -29.53       Peak									
No.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak									
No.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           K         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak									
No.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak									
No.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           K         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak									
No.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak									
No.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak									
Freq.Reading LevelCorrect FactorMeasure mentLimitMarginMHzdBuV/mdBdBuV/mdBuV/mdBDetectorComment4959.273039.664.8144.4774.00-29.53Peak	0.00 3550 (	00 6100 00	8650.00	11200.00 1375	0.00 16300	18850	00 21400.00		26500.0
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak	0.00 55503	00 0100.00	0000.00	11200.00 1515	0.00 10.00	1000	21400.00		(MHz
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2730         39.66         4.81         44.47         74.00         -29.53         Peak	Freq.	Reading	Correc	t Measure	Limit	Margin			
4959. 2730 39. 66 4. 81 44. 47 74. 00 -29. 53 Peak							Detector	Com	ient
4960. 2300 28. 20 4. 81 33. 01 54. 00 -20. 99 AVG	4959.2	730 39.66	4.81	44. 47	74.00	-29. 53	Peak		
	4960.2	300 28.20	4.81	33. 01	54.00	-20. 99	AVG		



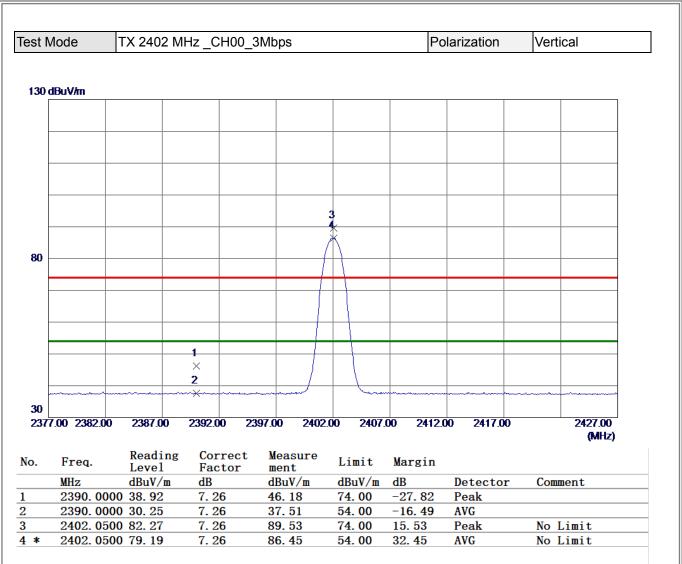


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



1         1         1           2	Image: state         Image: state<	X       X       X       X       X       X       X         30       X       X       X       X       X       X       X         30       X       X       X       X       X       X       X       X         30       X       X       X       X       X       X       X       X       X         30       X       <	30         1	est N	lode	TX 2480	MHz_CH	178_1Mb	ps			Polari	zation	Ho	orizontal
1         1         1           2	Image: state         Image: state<	Image: State of the s	Image: state of the s												
1         1         1           2	Image: state         Image: state<	Image: state of the s	30         1 <th1< th="">         1         <th1< th=""> <th1< th=""></th1<></th1<></th1<>	80 dl	BuV/m										
×       ×	X         Z         Image: Constraint of the second	30       2	X         Z         X         Image: Contract of the second seco	Γ											
×       ×	X         Z         Image: Constraint of the second	30       X	30       X												
×       ×	X         X	No       2	0       X       1												
×       ×	X         X         I <thi< th=""> <thi< th=""> <thi< th=""> <thi< th=""></thi<></thi<></thi<></thi<>	X         Z         X         Image: Constraint of the second se	X         Z         X         Image: Contract Measure ment         Limit         Margin           MHz         dB         dBV/m         dB         dBV/m         dB         Detector         Comment           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	┝											
×       ×	X         X         I <thi< th=""> <thi< th=""> <thi< th=""> <thi< th=""></thi<></thi<></thi<></thi<>	No         2         2         1 <th1< th="">         1         <th1< th=""> <th1< th=""></th1<></th1<></th1<>	No         2         2         1 <th1< th="">         1         <th1< th=""> <th1< th=""></th1<></th1<></th1<>	┝											
2       2       3	20         X         Image: Contract of the second s	30       2       X       1	30       2       X       1												
X       X <thx< th=""> <thx< th=""> <thx< th=""></thx<></thx<></thx<>	30         ×	30         ×	30       ×												
0         0	00         1 <th1< th="">         1         <th1< th=""> <th1< th=""></th1<></th1<></th1<>	0	Mo         Image: Solution of the solution of												
OOD.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           .         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak	OOD 00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           .         Freq.         Reading Level         Correct Factor ment         Limit Margin         Margin         (MHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector Comment         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           *         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00         3550.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           .         Freq.         Level         Factor         ment         Limit         Margin         (MHz)           .         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           .         4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           *         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00         3550.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           .         Freq.         Level         Factor         ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           *         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	0											
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 16300.00 18850.00 21400.00 26500.00 (MHz) Freq. Reading Correct Measure Level Factor ment Limit Margin MHz dBuV/m dB dBuV/m dBuV/m dB Detector Comment 4959.8550 39.50 4.81 44.31 74.00 -29.69 Peak	OOD000         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (NHz)           Freq.         Reading         Correct         Measure         Limit         Margin         (NHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00 3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Level         Factor         ment         Limit         Margin         (MHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00         3550.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         28500.00           MHz         Level         Factor         ment         Limit         Margin         MHz         dBuV/m         dB         Detector         Comment         4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG												
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 16300.00 18850.00 21400.00 26500.00 (MHz) Freq. Reading Correct Measure Level Factor ment Limit Margin MHz dBuV/m dB dBuV/m dBuV/m dB Detector Comment 4959.8550 39.50 4.81 44.31 74.00 -29.69 Peak	OOD000         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (NHz)           Freq.         Reading         Correct         Measure         Limit         Margin         (NHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD:000         3350.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Level         Factor         ment         Limit         Margin         (MHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD:000         3350.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         28500.00         (MHz           Freq.         Level         Factor         ment         Limit         Margin         MHz         dBuV/m         dB         Detector         Comment         4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG												
OOD.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           .         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak	00000 3550.00 6100.00 8650.00 11200.00 13750.00 16300.00 18850.00 21400.00 26500.00 (NHz) . Freq. Reading Correct Measure Limit Margin MHz dBuV/m dB dBuV/m dB Detector Comment 4959.8550 39.50 4.81 44.31 74.00 -29.69 Peak ≰ 4960.0860 28.21 4.81 33.02 54.00 -20.98 AVG ↓	OOD:00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           .         Freq.         Level         Factor         ment         Limit         Margin         (MHz)           .         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           .         4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           .         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00         3550.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           .         Freq.         Level         Factor         ment         Limit         Margin           .         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           .         4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           .         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG												
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 16300.00 18850.00 21400.00 26500.00 (MHz) Freq. Reading Correct Measure Level Factor ment Limit Margin MHz dBuV/m dB dBuV/m dBuV/m dB Detector Comment 4959.8550 39.50 4.81 44.31 74.00 -29.69 Peak	Outroit         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           .         Freq.         Level         Factor         ment         Limit         Margin         (MHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00         3550.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Level         Factor         ment         Limit         Margin         (MHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00         3550.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           .         Freq.         Level         Factor         ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG												
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak	Dob.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           Freq.         Level         Factor         ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           :         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	Dob.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         28500.00         (MHz)           Freq.         Level         Factor         ment         Limit         Margin         (MHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	Dob.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         28500.00           MHz         Level         Factor         ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	$\left  \right $											
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 16300.00 18850.00 21400.00 26500.00 (MHz) Freq. Reading Correct Measure Level Factor ment Limit Margin MHz dBuV/m dB dBuV/m dBuV/m dB Detector Comment 4959.8550 39.50 4.81 44.31 74.00 -29.69 Peak	OOD000         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00           MHz         Reading         Correct         Measure         Limit         Margin         (MHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00 3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           Freq.         Level         Factor         ment         Limit         Margin         (MHz)           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00         3550.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         28500.00           MHz         Level         Factor         ment         Limit         Margin         MHz         dBuV/m         dB         Detector         Comment         4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG												
OOD.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           .         Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak	00000 3550.00 6100.00 8650.00 11200.00 13750.00 16300.00 18850.00 21400.00 26500.00 (NHz) . Freq. Reading Correct Measure Limit Margin MHz dBuV/m dB dBuV/m dB Detector Comment 4959.8550 39.50 4.81 44.31 74.00 -29.69 Peak ≰ 4960.0860 28.21 4.81 33.02 54.00 -20.98 AVG ↓	OOD:00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz)           .         Freq.         Level         Factor         ment         Limit         Margin         (MHz)           .         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           .         4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           .         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	OOD 00         3550.00         6100.00         3650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           .         Freq.         Level         Factor         ment         Limit         Margin           .         MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           .         4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           .         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG												
Freq.Reading LevelCorrect FactorMeasure mentLimit LimitMarginMHzdBuV/mdBdBuV/mdBDetectorComment4959.855039.504.8144.3174.00-29.69Peak	MHz         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	KMHz         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	MHz         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.00         -29.69         Peak            4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG		00 3550.00	0 6100.00	9650.00	11200	00 1275	0.00 1630	0.00 1	0050.00	21400.0	0	26500.0
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak	MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVC	MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	100	.00 5550.00	0100.00	0000.00	11200.	00 1575	0.00 1050	0.00 1	00.000	21400.0	U	
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak	MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           *         4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG	MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVC	MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.8550         39.50         4.81         44.31         74.00         -29.69         Peak           4960.0860         28.21         4.81         33.02         54.00         -20.98         AVG												
4959. 8550 39. 50 4. 81 44. 31 74. 00 -29. 69 Peak	4959.8550 39.50 4.81 44.31 74.00 -29.69 Peak 4960.0860 28.21 4.81 33.02 54.00 -20.98 AVG	4959. 8550 39. 50 4. 81 44. 31 74. 00 -29. 69 Peak 4960. 0860 28. 21 4. 81 33. 02 54. 00 -20. 98 AVG 4960. 0860 28. 21 4. 81 33. 02 54. 00 -20. 98 AVG WARKS: MARKS: Measurement Value = Reading Level + Correct Factor.	4959. 8550 39. 50 4. 81 44. 31 74. 00 -29. 69 Peak 4960. 0860 28. 21 4. 81 33. 02 54. 00 -20. 98 AVG VARKS: MARKS: Measurement Value = Reading Level + Correct Factor.		Freq.	Readin	ig Corr	ect M		Limit	Marg	in			
* 4960.0860 28.21 4.81 33.02 54.00 -20.98 AVG		MARKS: Measurement Value = Reading Level + Correct Factor.	MARKS: Measurement Value = Reading Level + Correct Factor.			Readin Level dBuV/m	g Corr Fact dB	or m	ent				etector	Co	
		/leasurement Value = Reading Level + Correct Factor.	/leasurement Value = Reading Level + Correct Factor.		MHz 4959.85	dBuV/m 50 39.50	dB 4.81	or mo dl 44	ent 3uV/m 4.31	dBuV/m 74.00	dB -29. 6	De 59 Pe	eak	Co	
		Measurement Value = Reading Level + Correct Factor.	Measurement Value = Reading Level + Correct Factor.		MHz 4959.85	dBuV/m 50 39.50	dB 4.81	or mo dl 44	ent 3uV/m 4.31	dBuV/m 74.00	dB -29. 6	De 59 Pe	eak	Сс	
Measurement Value = Reading Level + Correct Factor.				⊧ MA Me	MHz 4959.85 4960.08	<u>dBuV/m</u> 50 39.50 60 28.21	<u>dB</u> <u>4. 81</u> <u>4. 81</u>	or m dI 44 3:	ent 3uV/m 4.31 3.02	dBuV/m 74.00 54.00	dB -29. 6	De 59 Pe	eak	Cc	



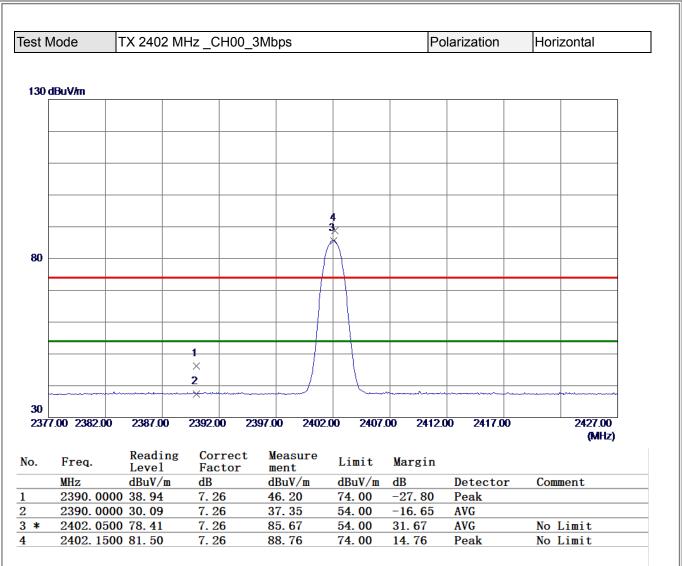


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



00 dBuV/m         1         2         2         0         ×         ×         ×         ×         ×         ×         ×         ×         ×
1
1         .
×       ×
×       ×
×       ×
×       ×
×       ×
×       ×
2       ×   <
X       X <thx< th=""> <thx< th=""> <thx< th=""></thx<></thx<></thx<>
X       X <thx< th=""> <thx< th=""> <thx< th=""></thx<></thx<></thx<>
0         0
NO0.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
NO0.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
NO0.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin         (N           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
Freq.       Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dBuV/m       dB       Detector       Comment         4804.0500       39.10       4.40       43.50       74.00       -30.50       Peak
Freq.Reading LevelCorrect FactorMeasure mentLimitMarginMHzdBuV/mdBdBuV/mdBuV/mdBDetectorComment4804.050039.104.4043.5074.00-30.50Peak
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4804.0500         39.10         4.40         43.50         74.00         -30.50         Peak
4804. 0500 39. 10 4. 40 43. 50 74. 00 -30. 50 Peak
* 4804. 4190 27. 97 4. 40 32. 37 54. 00 -21. 63 AVG



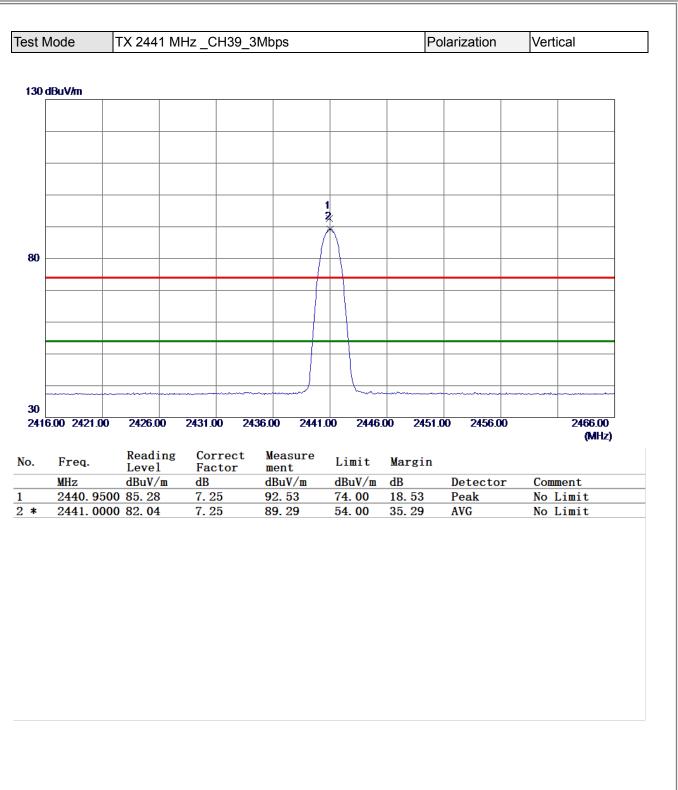


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



st Mo	ode	TX 2402 M	Hz_CH00_3	3Mbps		Po	larization	Hor	izontal
80 dBu	uV/m								
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		2							
30 -		×							
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20									
000.0	0 3550.00	) 6100.00	8650.00 11	200.00 1375	0.00 16300	0.00 18850	0.00 21400.0	0	26500.0 (MHz
	_	Reading	Correct	Measure					(ivii iz
	Freq.	Level	Factor	ment	Limit	Margin			
	MHz 4804 84	dBuV/m 80 39.67	dB 4. 40	dBuV/m 44.07	dBuV/m 74.00	dB -29. 93	Detector Peak	Сош	ment
		90 27.93	4. 40	32. 33	54.00	-21.67	AVG		



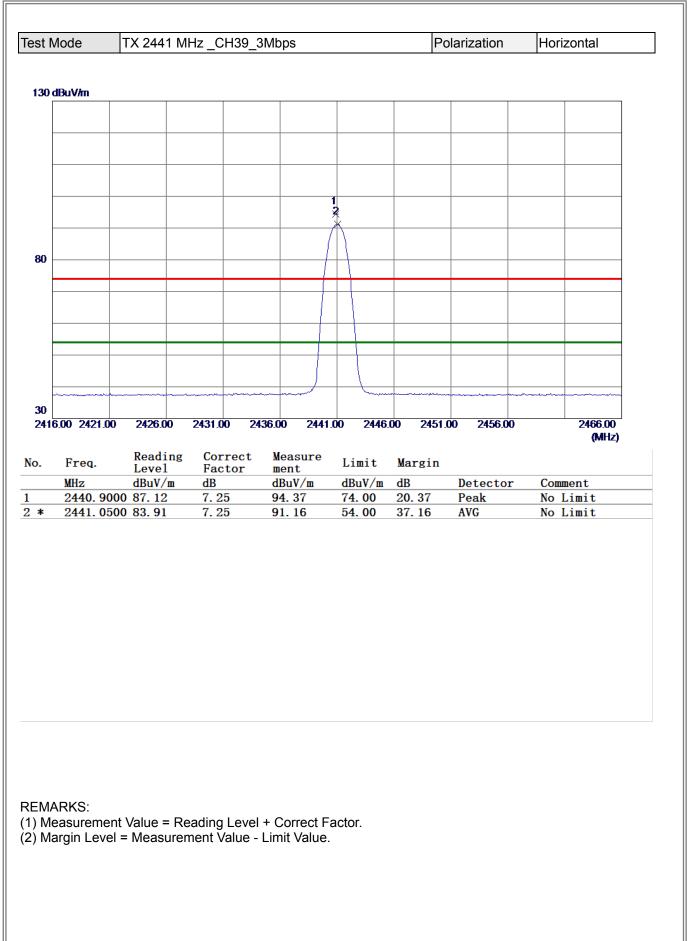


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



	ode	TX 2441 M	/Hz_CH39	_3Mbps		Po	olarization	Vertical
) dE	3uV/m							
		1 ×						
		2						
╷└		×						
$\vdash$								
	00 0550 00			44000 00 407	F0 00 4000	0.00	0.000 01.100 00	005007
UU.	.00 3550.00	6100.00	8650.00	11200.00 137	50.00 1630	0.00 1885	0.00 21400.00	) 26500.0 (MHz
	Freq.	Reading	Correct		Limit	Margin		
	MHz	Level dBuV/m	Factor dB	ment dBuV/m	dBuV/m		Detector	Comment
	4881.613		4. 60	43.86	74.00	-30. 14	Peak	Comment
	4882.900		4.61	32.57	54.00	-21. 43	AVG	

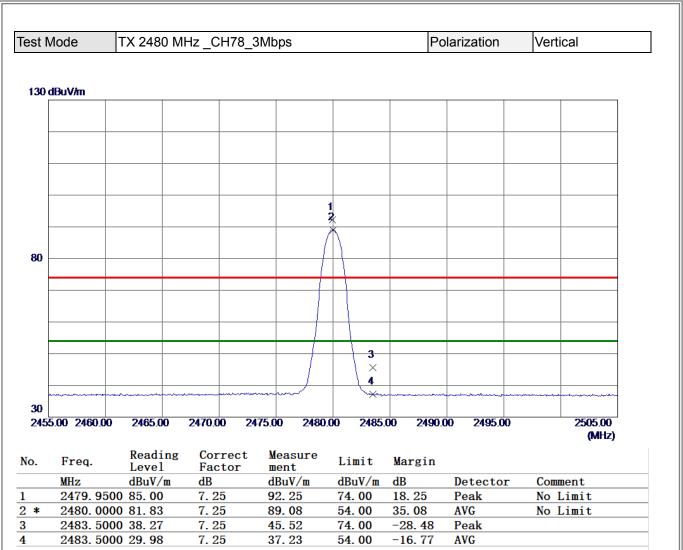






	× <t< th=""><th></th><th>lode</th><th>TX 2441 M</th><th>Hz _CH39_3</th><th>3Mbps</th><th></th><th>Po</th><th>larization</th><th>Hori</th><th>zontal</th></t<>		lode	TX 2441 M	Hz _CH39_3	3Mbps		Po	larization	Hori	zontal
1         2         1	× <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>										
×       ×	× <t< td=""><td>IE</td><td>3uV/m</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	IE	3uV/m								
×       ×	×               2       ×                ×                   ×   <										
×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×         1       1       1       1       1       1       ×         1       1       1       1       1       1       ×         1       1       1       1       1       1       1       ×         1       1       1       1       1       1       1       1       1         1       <	× <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
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×       ×       ×       ×       ×       ×       ×       ×         2       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×       ×       ×         ×	× <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
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×       ×	× <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
J       Image: Second sec	0.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       13750.00       16300.00       18850.00       21400.00       26500.0         0.00       6100.00       13750.00										
NO0.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         265           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.8180         40.20         4.61         44.81         74.00         -29.19         Peak	Reading LevelCorrect FactorMeasure mentLimit MarginMargindBuV/mdBdBuV/mdBuV/mdBDetectorComment818040.204.6144.8174.00-29.19Peak	)  -		X							
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         265           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.8180         40.20         4.61         44.81         74.00         -29.19         Peak	Reading LevelCorrect FactorMeasure mentLimit MarginMargindBuV/mdBdBuV/mdBuV/mdBDetectorComment818040.204.6144.8174.00-29.19Peak										
NO0.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         265           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.8180         40.20         4.61         44.81         74.00         -29.19         Peak	Reading LevelCorrect FactorMeasure mentLimit MarginMargindBuV/mdBdBuV/mdBuV/mdBDetectorComment818040.204.6144.8174.00-29.19Peak										
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         265           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.8180         40.20         4.61         44.81         74.00         -29.19         Peak	Reading LevelCorrect FactorMeasure mentLimit MarginMargindBuV/mdBdBuV/mdBuV/mdBDetectorComment818040.204.6144.8174.00-29.19Peak	╞									
000.00 3550.00 6100.00 8650.00 11200.00 13750.00 16300.00 18850.00 21400.00 265 Freq. Reading Correct Measure Limit Margin MHz dBuV/m dB dBuV/m dBuV/m dB Detector Comment 4882.8180 40.20 4.61 44.81 74.00 -29.19 Peak	Reading LevelCorrect FactorMeasure mentLimit MarginMargindBuV/mdBdBuV/mdBuV/mdBDetectorComment818040.204.6144.8174.00-29.19Peak										
NO0.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         265           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.8180         40.20         4.61         44.81         74.00         -29.19         Peak	Reading LevelCorrect FactorMeasure mentLimit MarginMargindBuV/mdBdBuV/mdBuV/mdBDetectorComment818040.204.6144.8174.00-29.19Peak										
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         265           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.8180         40.20         4.61         44.81         74.00         -29.19         Peak	Reading LevelCorrect FactorMeasure mentLimit MarginMargindBuV/mdBdBuV/mdBuV/mdBDetectorComment818040.204.6144.8174.00-29.19Peak										
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         265           Freq.         Reading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4882.8180         40.20         4.61         44.81         74.00         -29.19         Peak	Reading LevelCorrect FactorMeasure mentLimit MarginMargindBuV/mdBdBuV/mdBuV/mdBDetectorComment818040.204.6144.8174.00-29.19Peak	,									
Freq.Reading LevelCorrect FactorMeasure mentLimitMarginMHzdBuV/mdBdBuV/mdBuV/mdBDetectorComment4882.818040.204.6144.8174.00-29.19Peak	Reading LevelCorrect FactorMeasure mentLimit MargindBuV/mdBdBuV/mdBuV/mdBdBuV/mdBdBuV/mdBuV/mdB818040.204.6144.8174.00-29.19		.00 3550.0	0 6100.00	8650.00 1	1200.00 1375	0.00 16300	0.00 18850	.00 21400.0	0	
Freq.LevelFactormentLimitmarginMHzdBuV/mdBdBuV/mdBDetectorComment4882.818040.204.6144.8174.00-29.19Peak	Level         Factor         ment         Limit         Margin           dBuV/m         dB         dBuV/m         dB         Detector         Comment           8180         40.20         4.61         44.81         74.00         -29.19         Peak			Pooding	Correct	Vacaura					(MHZ
4882. 8180 40. 20 4. 61 44. 81 74. 00 -29. 19 Peak	8180 40. 20 4. 61 44. 81 74. 00 -29. 19 Peak			Level	Factor	ment					
										Сош	ment
		:									



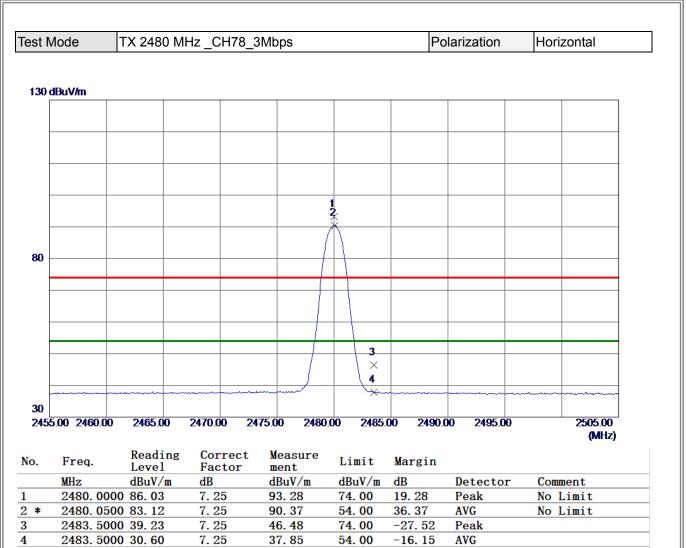


- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



dBxV/m         2         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X         1         X		TX 2480 M	1Hz_CH78	_3Mbps		Pc	larization	Ver	tical
2         2									
2         2	JD-374-								
×       Image: Contract Measure Limit Margin         MHz       dBuV/m       dBuV/m	abuv/m								
×       Image: Contract Measure Limit Margin         MHz       dBuV/m       dBuV/m									
×       1       ×       1       ×         1       ×               ×                  ×                    00.00 3550.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.00         00.00 3550.00       6100.00       8650.00       11200.00       13750.00       16300.00       18850.00       21400.00       26500.00         WHz       Level       Factor       ment       Limit       Margin           MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment         4959.2870       28.06       4.81       32.87       54.00       -21.13       AVG									
×       Image: Contract Measure Limit Margin         MHz       dBuV/m       dBuV/m									
×       Image: Contract Measure Limit Margin         MHz       dBuV/m       dBuV/m									
×       I       I       I       I       I         1       ×       I       I       I       I       I         ×       I       I       I       I       I       I       I         ×       I       I       I       I       I       I       I       I         ×       I       I       I       I       I       I       I       I       I         0       I <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>									
1         1									
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Image: Contract Measure Limit Margin         MHz       dBuV/m       dB       dBuV/m       dB       Detector       Comment         4959.2870       28.06       4.81       32.87       54.00       -21.13       AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.0           MHz         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         26500.00         (MHz           Freq.         Reading Level         Correct Factor         Measure ment         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG									
Freq.Reading LevelCorrect FactorMeasure mentLimitMarginMHzdBuV/mdBdBuV/mdBuV/mdBDetectorComment4959.287028.064.8132.8754.00-21.13AVG		0 6100.00	8650.00	11200.00 1375	0.00 1630	0.00 18850	.00 21400.0	00	
Freq.LevelFactormentLimitMarginMHzdBuV/mdBdBuV/mdBDetectorComment4959.287028.064.8132.8754.00-21.13AVG									(MH)
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.2870         28.06         4.81         32.87         54.00         -21.13         AVG	Freq.	Reading	Correct		Limit	Margin			
4959. 2870 28. 06 4. 81 32. 87 54. 00 -21. 13 AVG									
							Detector	r Cou	mont
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB		r Con	ment
	MHz 4959.28	dBuV/m 870 28.06	dB 4.81	dBuV/m 32.87	dBuV/m 54.00	dB -21.13	AVG	r Con	nment





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

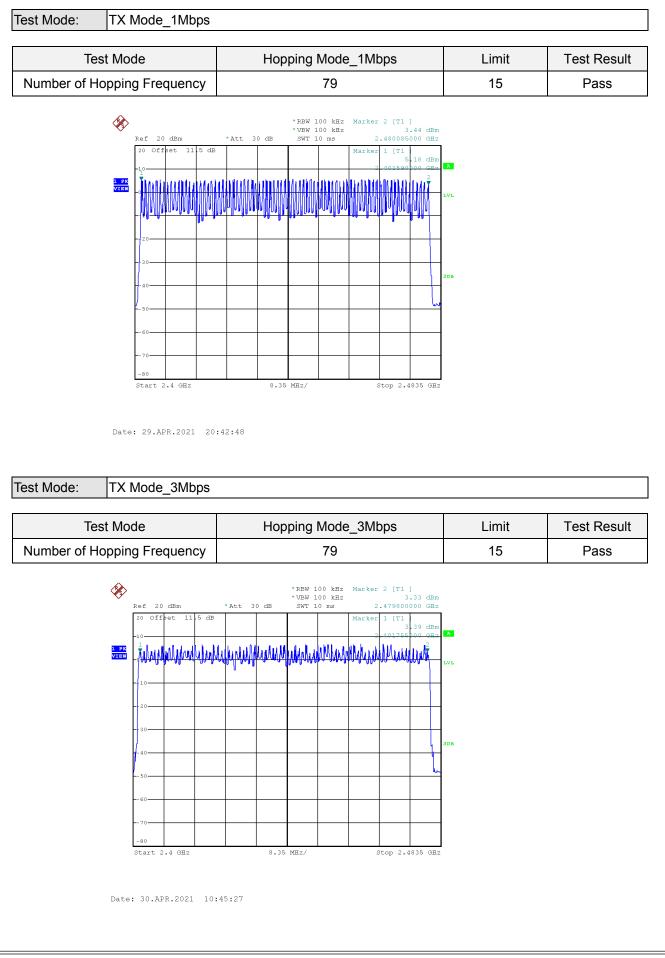


	15.17		1Hz _CH78_	3Mbps		Po	larization	Horizontal
2         2 <th2< th="">         2         <th2< th=""> <th2< th=""></th2<></th2<></th2<>	15.17							
2         2 <th2< th="">         2         <th2< th=""> <th2< th=""></th2<></th2<></th2<>	deuvm							
X       I       I       I       I         1       X       I       I       I       I         X       I       I       I       I       I       I         X       I       I       I       I       I       I       I         X       I       I       I       I       I       I       I       I         X       I       I       I       I       I       I       I       I       I         X       I       <								
×       ×       ×       ×       ×         1       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×         ×       ×       ×       ×       ×       ×       ×       ×								
×       Image: Contract Measure ment       Limit Margin         MHz       dBuV/m       dB dBuV/m       dB uV/m       dB uV/m       dB uV/m       Detector Comment								
X       I       I       I       I         1       X       I       I       I       I         X       I       I       I       I       I       I         X       I       I       I       I       I       I       I         X       I       I       I       I       I       I       I       I         X       I       I       I       I       I       I       I       I       I         X       I       <								
×       ×								
1       1		2						
0       ×		×						
0 0 0 0 0 0 0 0 0 0 0 0 0 0		1						
Image: Second state       Image: Second state<		×						
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG								
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG								
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG								
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG								
NOO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG								
NO.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG					1			
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG								
D00.00         3550.00         6100.00         8650.00         11200.00         13750.00         16300.00         18850.00         21400.00         2650           (N         Keading         Correct         Measure         Limit         Margin           MHz         dBuV/m         dB         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG								
Freq.       Reading Level       Correct Factor       Measure ment       Limit       Margin         MHz       dBuV/m       dB       dBuV/m       dBuV/m       dB       Detector       Comment         4959.3730       28.05       4.81       32.86       54.00       -21.14       AVG		10 6100.00	8650.00 1	1200.00 1375	0.00 16300	18850	00 21400.00	26500.0
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG		<i>N</i> 0100.00		1200.00 1010	0.00		21100.00	(MH
MHz         dBuV/m         dB         dBuV/m         dBuV/m         dB         Detector         Comment           4959.3730         28.05         4.81         32.86         54.00         -21.14         AVG	Freq	Reading	Correct		Limit	Margin		
4959. 3730 28. 05 4. 81 32. 86 54. 00 -21. 14 AVG							Detector	Common to
								Comment



### **APPENDIX E - NUMBER OF HOPPING FREQUENCY**







# **APPENDIX F - AVERAGE TIME OF OCCUPANCY**



Test Result

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass

Pass



DH1

DH3

DH5

DH1

DH3

DH5

Te	est Mode H								
	Data Packet	Frequency	Pulse Duration	Dwell Time	Limits				
	Dala Fackel	(MHz)	(ms)	(S)	(S)				
	DH1	2402	0.3750	0.1200	0.4000				
	DH3	2402	1.6400	0.2624	0.4000				
	DH5	2402	2.8800	0.3072	0.4000				

0.3750

1.6400

2.8800

0.3750

1.6400

2.9200

0.1200

0.2624

0.3072

0.1200

0.2624

0.3115

0.4000

0.4000

0.4000

0.4000

0.4000

0.4000

2441

2441

2441

2480

2480

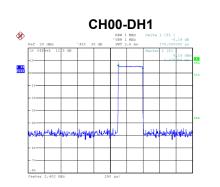
2480

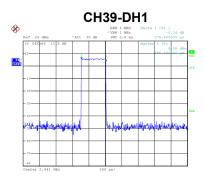
CH78-DH1

REW 1 MHZ VEW 1 MHZ SWT 2.5 m

8



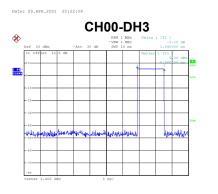


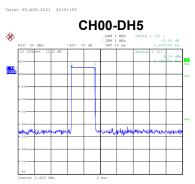


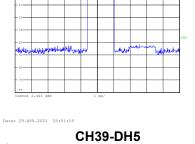
Date: 29.APR.2021 20:22:14

8

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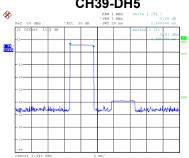


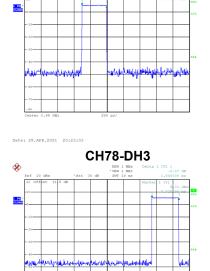


CH39-DH3

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MB







Date: 29.APR.2021 20:53:25

Date: 29.APR.2021 20:54:22

#### Date: 29.APR.2021 20:54:39

Test Mode Hopping Mode_3Mbps						
Data Packet	Frequency (MHz)	Pulse Duration (ms)	Dwell Time (s)	Limits (s)	Test Result	
3DH1	2402	0.3800	0.1216	0.4000	Pass	
3DH3	2402	1.6400	0.2624	0.4000	Pass	
3DH5	2402	2.8800	0.3072	0.4000	Pass	
3DH1	2441	0.3850	0.1232	0.4000	Pass	
3DH3	2441	1.6400	0.2624	0.4000	Pass	
3DH5	2441	2.8800	0.3072	0.4000	Pass	
3DH1	2480	0.3850	0.1232	0.4000	Pass	
3DH3	2480	1.6400	0.2624	0.4000	Pass	
3DH5	2480	2.8800	0.3072	0.4000	Pass	



CH78-3DH1

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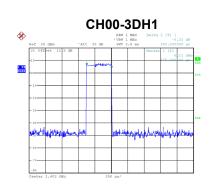
NEW 1 MHZ VEW 1 MHZ SWT 2.5

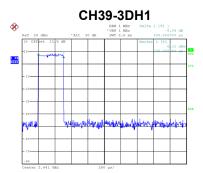
8

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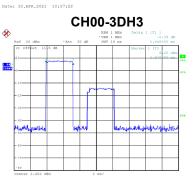
14

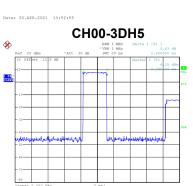


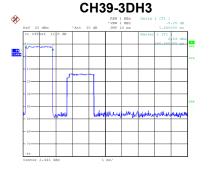


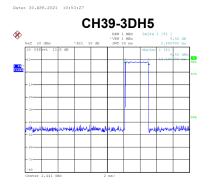


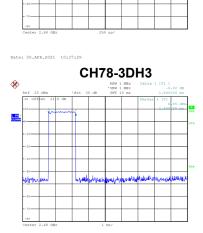
Date: 30.APR.2021 10:37:51

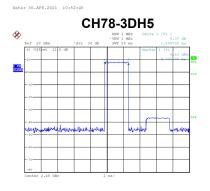












Date: 30.APR.2021 10:54:09

Date: 30.APR.2021 10:53:51

#### Date: 30.APR.2021 10:53:54

# **APPENDIX G - HOPPING CHANNEL SEPARATION**



Test Mode Hopping Mo		Hopping Mode	_1Mbps		
	Channel	Frequency (MHz)	Channel Separation (MHz)	2/3 of 20 dB Bandwidth (MHz)	Test Result
ĺ	00	2402	1.002	0.634	Pass
	39	2441	1.146	0.637	Pass
	78	2480	1.086	0.636	Pass







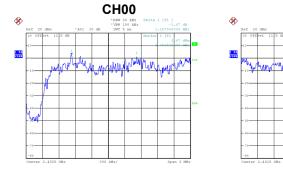
Date: 29.APR.2021 20:33:37

Date: 30.APR.2021 10:57:36

#### Test Mode Hopping Mode\_3Mbps

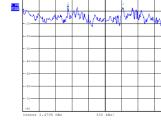
Channel	Frequency (MHz)	Channel Separation (MHz)	2/3 of 20 dB Bandwidth (MHz)	Test Result
00	2402	1.187	0.876	Pass
39	2441	1.066	0.856	Pass
78	2480	1.002	0.859	Pass

CH39



Date: 30.APR.2021 10:40:16

# 100 20 dB0 -ACL 30 dB 007 5 ml 1.00000000 BB 100 0000 ml 100 ml 000 ml 1.0000000 BB 100 0000 ml 100 ml 000 ml 1.0000000 BB 100 0000 ml 100 ml 000 ml 1.0000000 BB 100 0000 ml 100 ml 000 ml 1.000000 BB 100 0000 ml 000 ml 000 ml 000 ml 000 ml 100 000 ml 000 ml 000 ml 000 ml 000 ml 000 ml 100 000 ml 000 ml 000 ml 000 ml 000 ml 000 ml 100 000 ml 000 ml 000 ml 000 ml 000 ml 000 ml 000 000 ml 000 ml 000 ml 000 ml 000 ml 000 ml 000 000 ml 000 ml 000 ml 000 ml 000 ml 000 ml 000 000 ml 000 ml</t



**CH78** 

Date: 30.APR.2021 10:42:37

Date: 30.APR.2021 10:43:40

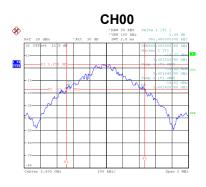
**%** 



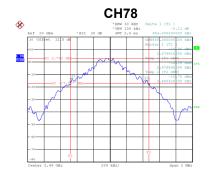
### **APPENDIX H - BANDWIDTH**



Test Mode		TX Mode _1Mbps		
ſ	Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
	00	2402	0.951	0.888
	39	2441	0.956	0.868
	78	2480	0.954	0.888





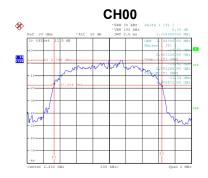


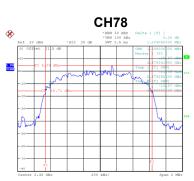
Date: 29.APR.2021 20:17:29

Date: 29.APR.2021 20:20:34

#### Test Mode TX Mode \_3Mbps

Channel	Frequency (MHz)	20 dB Bandwidth (MHz)	99 % Occupied Bandwidth (MHz)
00	2402	1.314	1.184
39	2441	1.284	1.188
78	2480	1.289	1.188





Date: 30.APR.2021 10:58:55

Date: 30.APR.2021 11:00:49

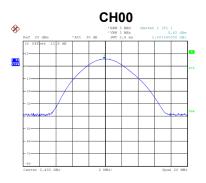
Date: 30.APR.2021 11:03:55



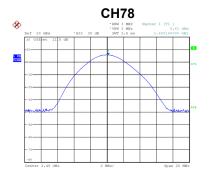
# **APPENDIX I - MAXIMUM OUTPUT POWER**



Те	st Mode	TX Mode _1M	bps			
	Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Test Result
	00	2402	5.62	20.97	0.1250	Pass
	39	2441	5.81	20.97	0.1250	Pass
	78	2480	5.61	20.97	0.1250	Pass







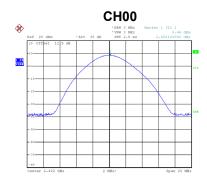
Date: 29.APR.2021 20:18:01

Date: 29.APR.2021 20:19:28

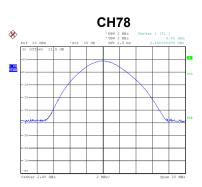
Date: 29.APR.2021 20:21:06

#### Test Mode TX Mode \_2Mbps

Channel	Frequency (MHz)	Output Power (dBm)	Max. Limit (dBm)	Max. Limit (W)	Test Result
00	2402	8.46	20.97	0.1250	Pass
39	2441	8.74	20.97	0.1250	Pass
78	2480	8.61	20.97	0.1250	Pass







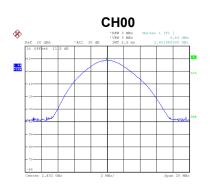
Date: 30.APR.2021 11:05:56

#### Date: 30.APR.2021 11:06:16

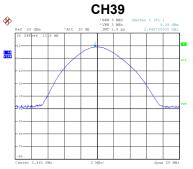
Date: 30.APR.2021 11:06:31

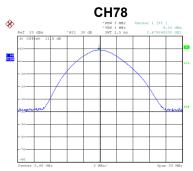


#### Test Mode TX Mode \_3Mbps Frequency **Output Power** Max. Limit Max. Limit Channel Test Result (MHz) (dBm) (dBm) (W) 2402 8.84 0.1250 Pass 00 20.97 39 2441 9.09 20.97 0.1250 Pass Pass



2480





0.1250

Date: 30.APR.2021 10:59:26

78

Date: 30.APR.2021 11:00:55

9.04

Date: 30.APR.2021 11:04:26

20.97



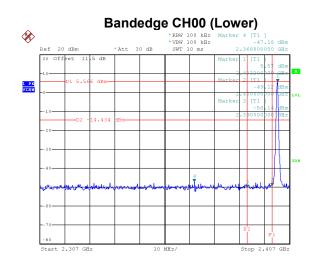
# **APPENDIX J - CONDUCTED SPURIOUS EMISSION**

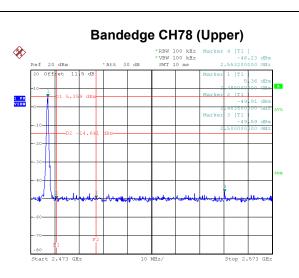




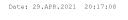
Test Mode

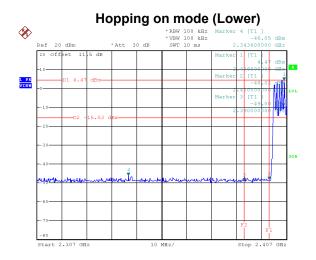
#### TX Mode \_1Mbps



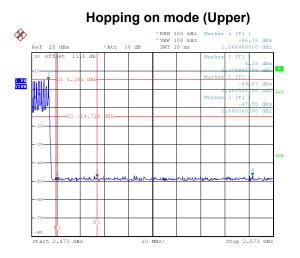


Date: 29.APR.2021 20:20:11



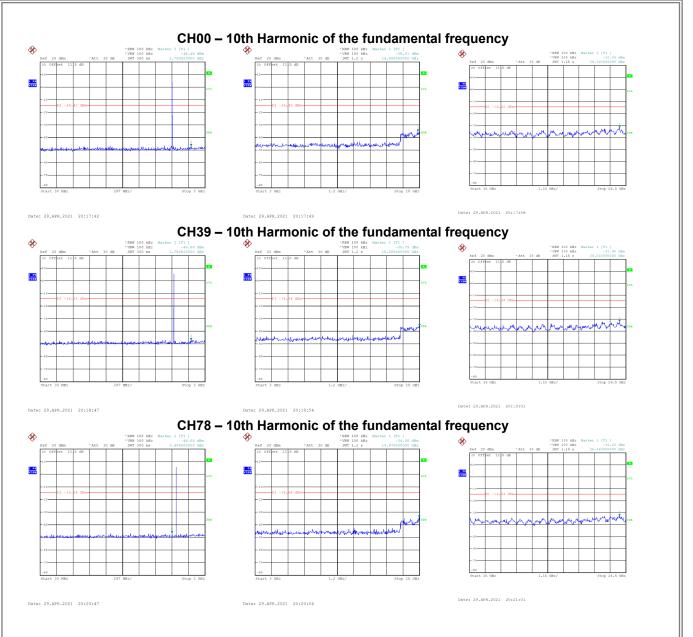


Date: 29.APR.2021 20:45:58



Date: 29.APR.2021 20:49:33

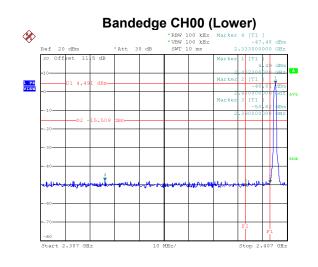
# **B**L

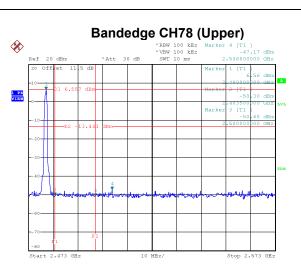




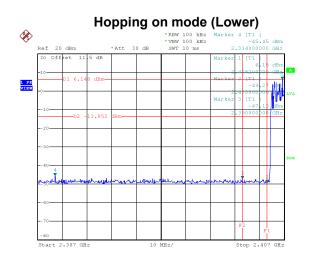


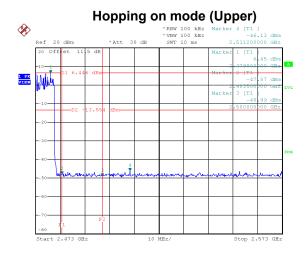
#### Test Mode TX Mode \_3Mbps





Date: 30.APR.2021 10:58:38



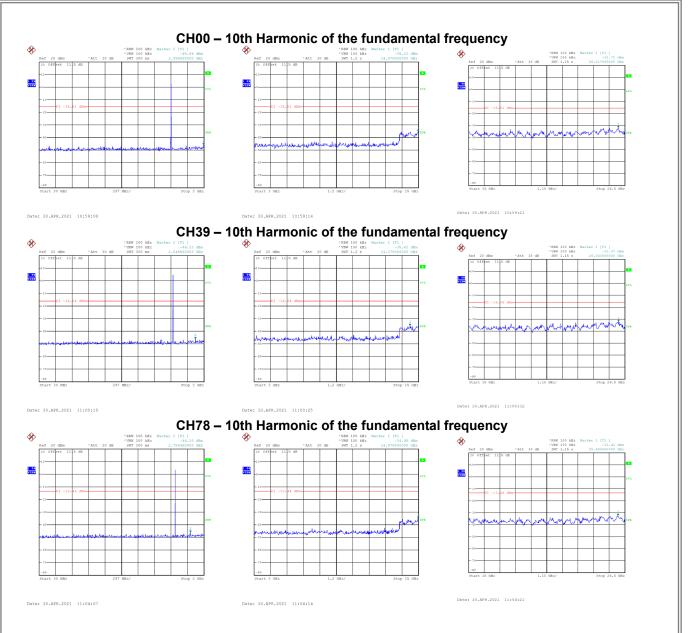


Date: 30.APR.2021 10:46:00

Date: 30.APR.2021 10:52:00

Date: 30.APR.2021 11:03:38

# **B**L





# **APPENDIX K - DECLARATION FOR BLUETOOTH DEVICE**



#### 1. Output power and channel separation of a Bluetooth device in the different operating modes:

The different operating modes (data-mode, acquisition-mode) of a Bluetooth device has no influence on the output power and the channel spacing. There is only one transmitter which is driven by identical input parameters concerning these two parameters.

Only a different hopping sequence will be used. For this reason the check of these RF parameters in one op-mode is sufficient.

#### 2. Frequency range of a Bluetooth device:

Hereby we declare that the maximum frequency of this device is: 2402 - 2480MHz. This is according to the Bluetooth Core Specification (+ critical errata) for devices which will be operated in the USA. This was checked during the Bluetooth Qualification tests (Test Case: TRM/CA/04-E). Other frequency ranges (e.g. for Spain, France, Japan) which are allowed according the Core Specification are not supported by this device.

# 3. Co-ordination of the hopping sequence in data mode to avoid simultaneous occupancy by multiple transmitters:

Bluetooth units which want to communicate with other units must be organised in a structure called piconet. This piconet consist of max. 8 Bluetooth units. One unit is the master the other seven are the slaves. The master co-ordinates frequency occupation in this piconet for all units. As the master hop sequence is derived from its BD address which is unique for each Bluetooth device, additional masters intending to establish new piconets will always use different hop sequences.

#### 4. Example of a hopping sequence in data mode:

Example of a 79 hopping sequence in data mode: 40, 21, 44, 23, 42, 53, 46, 55, 48, 33, 52, 35, 50, 65, 54, 67, 56, 37, 60, 39, 58, 69, 62, 71, 64, 25, 68, 27, 66, 57, 70, 59, 72, 29, 76, 31, 74, 61, 78, 63, 01, 41, 05, 43, 03, 73, 07, 75, 09, 45, 13, 47, 11, 77, 15, 00, 64, 49, 66, 53, 68, 02, 70, 06, 01, 51, 03, 55, 05, 04

#### 5. Equally average use of frequencies in data mode and behaviour for short transmissions:

The generation of the hopping sequence in connection mode depends essentially on two input values:

- a) LAP/UAP of the master of the connection.
- b) Internal master clock.

The LAP (lower address part) are the 24 LSB's of the 48 BD\_ADDRESS. The BD\_ADDRESS is an unambiguous number of every Bluetooth unit. The UAP (upper address part) are the 24 MSB's of the 48 BD\_ADDRESS.

The internal clock of a Bluetooth unit is derived from a free running clock which is never adjusted and is never turned off. For synchronisation with other units only offset are used. It has no relation to the time of the day. Its resolution is at least half the RX/TX slot length of 312.5  $\mu$ s. The clock has a cycle of about one day (23h30). In most case it is implemented as 28 bit counter. For the deriving of the hopping sequence the entire.

LAP (24 bits), 4 LSB's (4 bits) (Input 1) and the 27 MSB's of the clock (Input 2) are used. With this input values different mathematical procedures (permutations, additions, XOR- operations) are performed to generate the sequence. This will be done at the beginning of every new transmission.

Regarding short transmissions the Bluetooth system has the following behaviour:

The first connection between the two devices is established, a hopping sequence was generated. For transmitting the wanted data the complete hopping sequence was not used. The connection ended. The second connection will be established. A new hopping sequence is generated. Due to the fact that the Bluetooth clock has a different value, because the period between the two transmission is longer (and it cannot be shorter) than the minimum resolution of the clock (312.5  $\mu$ s). The hopping sequence will always differ from the first one.



#### 6. Receiver input bandwidth and behaviour for repeated single or multiple packets:

The input bandwidth of the receiver is 1 MHz. In every connection one Bluetooth device is the master and the other one is the slave. The master determines the hopping sequence (see chapter 5). The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master.

Additionally the type of connection (e.g. single or multislot packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings.

Repeating of a packet has no influence on the hopping sequence. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

**End of Test Report**