

FCC Radio Test Report

FCC ID: RWO-RC30031501

This report concerns: Original Grant

Project No.	:	1907C116
Equipment	:	Gaming Mouse
Brand Name	:	RAZER
Test Model	:	RC30-031501
Series Model		N/A
Applicant	:	Razer Inc.
Address	:	201 3rd Street, Suite 900, San Francisco, CA 94103 USA
Manufacturer	:	Razer (Asia-Pacific) Pte.,Ltd.
Address	:	514 Chai Chee Lane, #07-01-06,Singapore 469029
Factory	:	RAZER TECHNOLOGY AND DEVELOPMENT (SHENZHEN)
		CO., LTD
Address	:	East Wing, 3rd Floor, Block 2, Phase 1 of Vision Shenzhen
		Business Park Keji South Road, Hi-Tech Industrial
		Park, Shenzhen 518057, China
Date of Receipt	:	Jul. 26, 2019
Date of Test	:	Jul. 29, 2019 ~ Sep. 09, 2019
Issued Date	:	Sep. 20, 2019
Report Version	:	R00
Test Sample	:	Engineering Sample No.: DG190726111 for conducted,
		DG190726116 for radiated.
Standard(s)	:	FCC Part15, Subpart C (15.247)
		ANSI C63.10-2013
		FCC KDB 558074 D01 DTS Meas Guidance v05r02

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

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Declaration

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BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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

Limitation

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



Table of Contents	Page
REPORT ISSUED HISTORY	5
1. SUMMARY OF TEST RESULTS	6
1.1 TEST FACILITY	с 7
1.2 MEASUREMENT UNCERTAINTY	7
1.3 TEST ENVIRONMENT CONDITIONS	7
2. GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF EUT	8
2.2 DESCRIPTION OF TEST MODES	10
2.3 PARAMETERS OF TEST SOFTWARE	10
2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTE	D 11
2.5 SUPPORT UNITS	11
3. RADIATED EMISSION TEST	12
3.1 LIMIT	12
3.2 TEST PROCEDURE	13
3.3 DEVIATION FROM TEST STANDARD	13
3.4 TEST SETUP	14
3.5 EUT OPERATING CONDITIONS	15
3.6 TEST RESULT - 9 KHZ TO 30 MHZ	15
3.7 TEST RESULT - 30 MHZ TO 1000 MHZ	15
3.8 TEST RESULT - ABOVE 1000 MHZ	15
4 . BANDWIDTH TEST	16
4.1 LIMIT	16
4.2 TEST PROCEDURE	16
4.3 DEVIATION FROM STANDARD	16
4.4 TEST SETUP	16
4.5 EUT OPERATION CONDITIONS	16
4.6 TEST RESULTS	16
5 . MAXIMUM OUTPUT POWER	17
5.1 LIMIT	17
5.2 TEST PROCEDURE	17
5.3 DEVIATION FROM STANDARD	17
5.4 TEST SETUP	17
5.5 EUT OPERATION CONDITIONS	17



Table of Contents	Page
5.6 TEST RESULTS	17
6 . CONDUCTED SPURIOUS EMISSION	18
6.1 LIMIT	18
6.2 TEST PROCEDURE	18
6.3 DEVIATION FROM STANDARD	18
6.4 TEST SETUP	18
6.5 EUT OPERATION CONDITIONS	18
6.6 TEST RESULTS	18
7 . POWER SPECTRAL DENSITY TEST	19
7.1 LIMIT	19
7.2 TEST PROCEDURE	19
7.3 DEVIATION FROM STANDARD	19
7.4 TEST SETUP	19
7.5 EUT OPERATION CONDITIONS	19
7.6 TEST RESULTS	19
8. MEASUREMENT INSTRUMENTS LIST	20
APPENDIX A - RADIATED EMISSION - 9 KHZ TO 30 MHZ	21
APPENDIX B - RADIATED EMISSION - 30 MHZ TO 1000 MHZ	26
APPENDIX C - RADIATED EMISSION - ABOVE 1000 MHZ	29
APPENDIX D - BANDWIDTH	54
APPENDIX E - MAXIMUM OUTPUT POWER	56
APPENDIX F - CONDUCTED SPURIOUS EMISSION	58
APPENDIX G - POWER SPECTRAL DENSITY	61



REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Sep. 20, 2019



1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part15, Subpart C (15.247)					
Standard(s) Section	Test Item	Test Result	Judgment	Remark	
15.207	AC Power Line Conducted Emissions		N/A		
15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX A APPENDIX B APPENDIX C	PASS		
15.247(a)(2)	Bandwidth	APPENDIX D	PASS		
15.247(b)(3)	Maximum Output Power	APPENDIX E	PASS		
15.247(d)	Conducted Spurious Emission	APPENDIX F	PASS		
15.247(e)	Power Spectral Density	APPENDIX G	PASS		
15.203	Antenna Requirement		PASS		

Note:

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



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. Radiated emissions Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
		9kHz ~ 30MHz	V	3.79
	CISPR	9kHz ~ 30MHz	Н	3.57
		30MHz ~ 200MHz	V	4.88
		30MHz ~ 200MHz	Н	4.14
DG-CB03		200MHz ~ 1,000MHz	V	4.62
00-0803		200MHz ~ 1,000MHz	Н	4.80
		1GHz ~ 6GHz	-	4.58
		6GHz ~ 18GHz	-	5.18
		18GHz ~ 26.5GHz	-	3.80
		26.5GHz ~ 40GHz	-	4.30

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
Radiated Emissions-9K-30MHz	25°C	60%	DC 1.5V	Laughing Zhang
Radiated Emissions-30 MHz to 1GHz	24°C	68%	DC 1.5V	Kwok Guo
Radiated Emissions-Above 1000 MHz	25°C	60%	DC 1.5V	Sheldon Ou
Bandwidth	26°C	53%	DC 1.5V	Jonas Chen
Maximum Output Power	26°C	53%	DC 1.5V	Jonas Chen
Conducted Spurious Emission	26°C	53%	DC 1.5V	Jonas Chen
Power Spectral Density	26°C	53%	DC 1.5V	Jonas Chen



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Gaming Mouse
Brand Name	RAZER
Test Model	RC30-031501
Series Model	N/A
Model Difference(s)	The system's model name is RZ01-0315XXXX-XXXX (X:Can be 0-9, A-Z), and the system is contain a Gaming Mouse (Model name: RC30-031501) and USB Dongle (Model name: DGRFG6)
Power Source	Supplied from 1*AA battery.
Power Rating	DC 1.5V, 25mA
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Technology	GFSK
Bit Rate of Transmitter	1/2Mbps
Max. Output Power	1Mbps: 6.80 dBm (0.0048 W) 2Mbps: 6.72 dBm (0.0047 W)

Note:

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

2. Channel List:

BIL

Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	20	2442
01	2404	21	2444
02	2406	22	2446
03	2408	23	2448
04	2410	24	2450
05	2412	25	2452
06	2414	26	2454
07	2416	27	2456
08	2418	28	2458
09	2420	29	2460
10	2422	30	2462
11	2424	31	2464
12	2426	32	2466
13	2428	33	2468
14	2430	34	2470
15	2432	35	2472
16	2434	36	2474
17	2436	37	2476
18	2438	38	2478
19	2440	39	2480

3. Table for Filed Antenna:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	N/A	N/A	Internal	N/A	2.27



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 NOTE (1)	
Mode 2	TX Mode Channel 39 _1Mbps	

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

Radiated emissions test - Below 1GHz		
Final Test Mode	Description	
Mode 2	TX Mode Channel 39 _1Mbps	

Radiated emissions test - Above 1GHz		
Final Test Mode	Description	
Mode 1	TX Mode NOTE (1)	

Conducted test		
Final Test Mode Description		
Mode 1 TX Mode NOTE (1)		

Note:

(1) The measurements are performed at the high, middle, low available channels.

(2) For radiated emission above 1 GHz test, 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.

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. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of BT LE

Test Software		N/A	
Frequency (MHz)	2402	2440	2480
Parameters (1Mbps)	N/A	N/A	N/A
Parameters (2Mbps)	N/A	N/A	N/A



2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

EUT	

2.5 SUPPORT UNITS

ltem	Equipment	Brand	Model No.	Series No.
-	-	-	-	-

ltem	Cable Type	Shielded Type	Ferrite Core	Length
-	-	-	-	-



3. RADIATED EMISSION TEST

3.1 LIMIT

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

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

Note:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).



Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW	RBW 1 MHz VBW 3 MHz peak detector for Pk value
(Emission in restricted band)	RMS detector for AV value

Receiver Parameter	Setting	
Attenuation	Auto	
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector	
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector	
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector	
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector	
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector	

3.2 TEST PROCEDURE

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

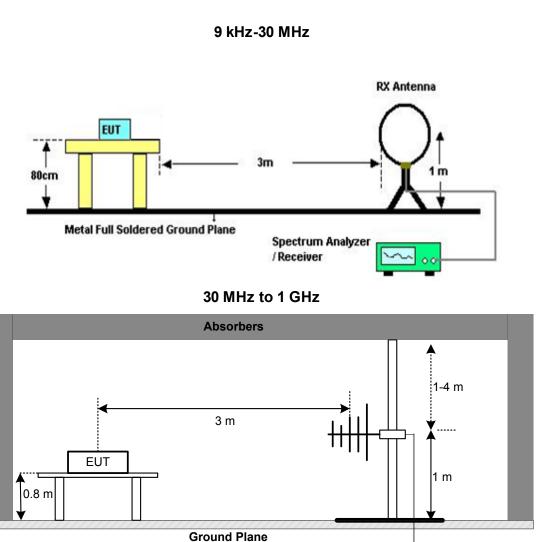
3.3 DEVIATION FROM TEST STANDARD

No deviation





3.4 TEST SETUP

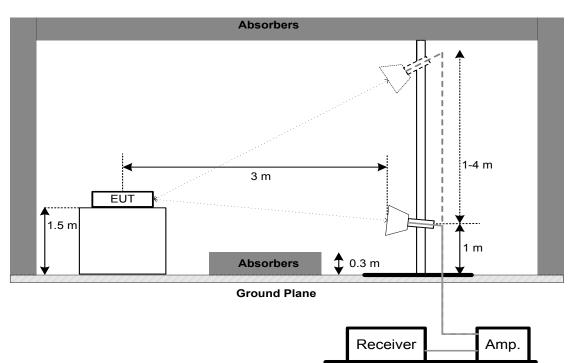


Receiver

Amp.

BL

Above 1 GHz



3.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULT - 9 kHz TO 30 MHz

Please refer to the APPENDIX A.

Remark:

(1) Distance extrapolation factor = 40 log (specific distance / test distance) (dB).

(2) Limit line = specific limits (dBuV) + distance extrapolation factor.

3.7 TEST RESULT - 30 MHz TO 1000 MHz

Please refer to the APPENDIX B

3.8 TEST RESULT - ABOVE 1000 MHz

Please refer to the APPENDIX C.

Remark:

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



4. BANDWIDTH TEST

4.1 LIMIT

FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(a)(2)	Bandwidth	>= 500 kHz (6 dB bandwidth)

4.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting : RBW= 100 kHz, VBW=300 kHz, Sweep time = 2.5 ms.

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

4.5 EUT OPERATION 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. Unless otherwise a special operating condition is specified in the follows during the testing.

4.6 TEST RESULTS

Please refer to the APPENDIX D.



5. MAXIMUM OUTPUT POWER

5.1 LIMIT

FCC Part15, Subpart C (15.247)					
Section Test Item Limit					
15.247(b)(3)	1 watt or 30 dBm				

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 maximum conducted output power was performed in accordance with method 11.9.1.1 of ANSI C63.10-2013.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

5.5 EUT OPERATION 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. Unless otherwise a special operating condition is specified in the follows during the testing.

5.6 TEST RESULTS

Please refer to the APPENDIX E.



6. CONDUCTED SPURIOUS EMISSION

6.1 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.

6.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Spectrum Setting : RBW= 100 kHz, VBW=300 kHz, Sweep time = 10 ms.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION 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. Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULTS

Please refer to the APPENDIX F.



7. POWER SPECTRAL DENSITY TEST

7.1 LIMIT

FCC Part15, Subpart C (15.247)						
Section Test Item Limit						
15.247(e)	Power Spectral Density	8 dBm (in any 3 kHz)				

7.2 TEST PROCEDURE

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

b. Spectrum Setting: RBW=3 kHz, VBW=10 kHz, Sweep time = auto.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP

EUT	SPECTRUM
	ANALYZER

7.5 EUT OPERATION 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. Unless otherwise a special operating condition is specified in the follows during the testing.

7.6 TEST RESULTS

Please refer to the APPENDIX G.



8. MEASUREMENT INSTRUMENTS LIST

	Radiated Emissions - 9 kHz to 30 MHz								
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until				
1	Loop Antenna	EM	EM-6876-1	230	Jan. 15, 2020				
2	Cable N/A		RG 213/U	C-102	May 31, 2020				
3	EMI Test Receiver R&S		ESCI	100895	Mar. 10, 2020				
4	Measurement	Farad	EZ-EMC	N/A	N/A				
4	Software		Ver.NB-03A1-01		IN A				

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

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

	Bandwidth & Maximum Output Power & Power Spectral Density						
Item Kind of Equipment Manufacturer Type No. Serial No. Calibrated							
1 Spectrum Analyzer R&S FSP40 100185 Aug. 03, 20							

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

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

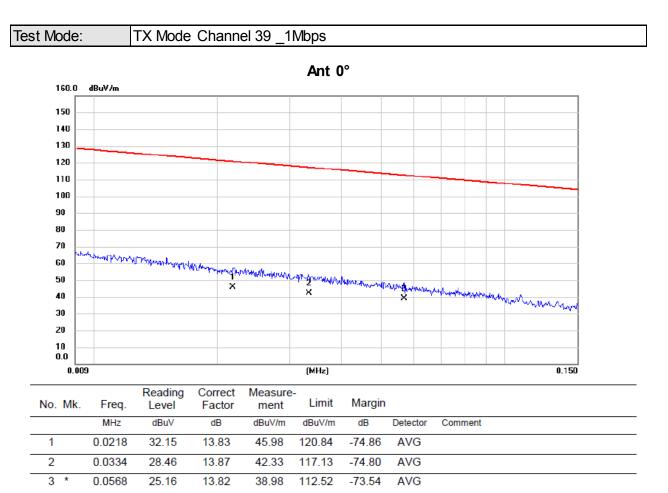
Except * item, all calibration period of equipment list is one year.



APPENDIX A - RADIATED EMISSION - 9 KHZ TO 30 MHZ



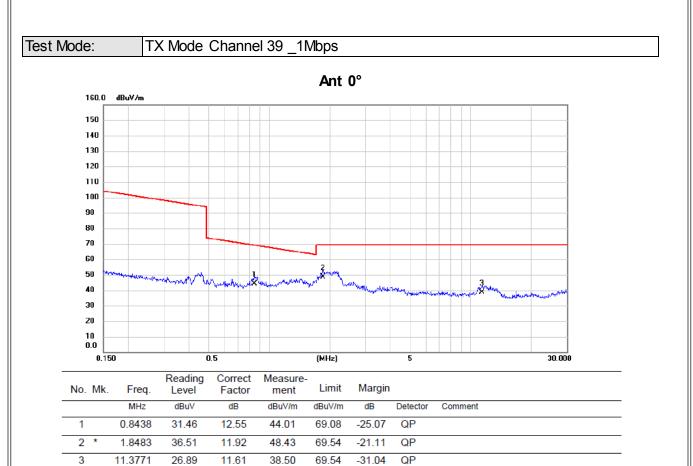




- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

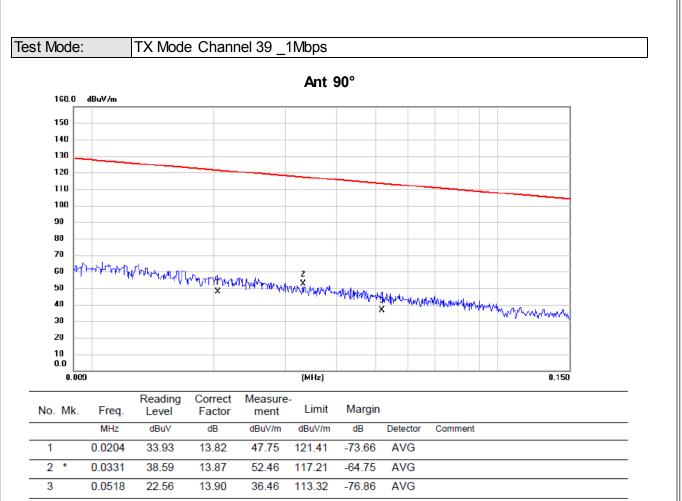






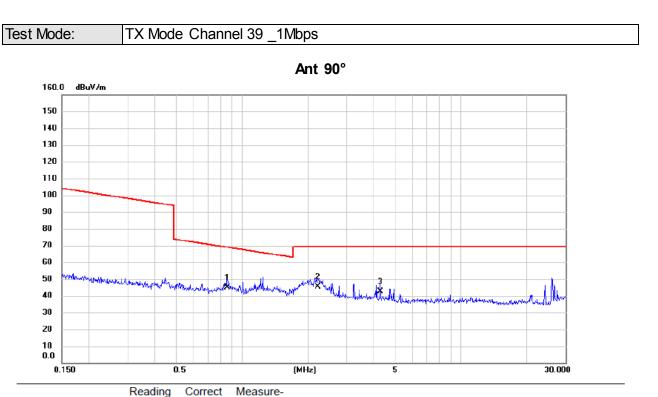
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.





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





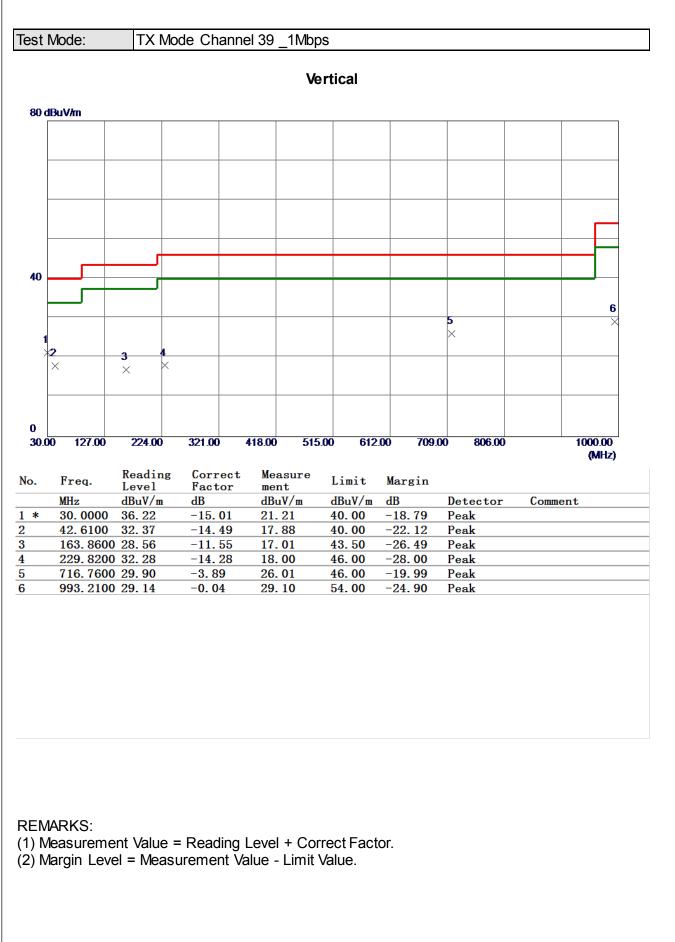
No.	Mk.	Freq.	Level	Factor	ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.8573	32.59	12.55	45.14	68.94	-23.80	QP	
2		2.2250	33.90	11.68	45.58	69.54	-23.96	QP	
3		4.2692	31.59	10.92	42.51	69.54	-27.03	QP	

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

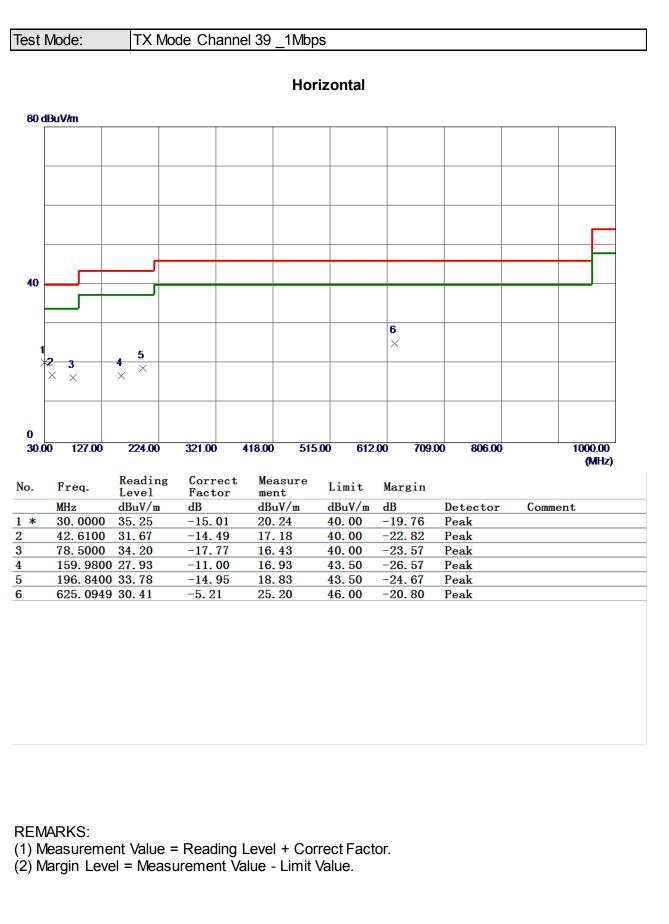


APPENDIX B - RADIATED EMISSION - 30 MHZ TO 1000 MHZ







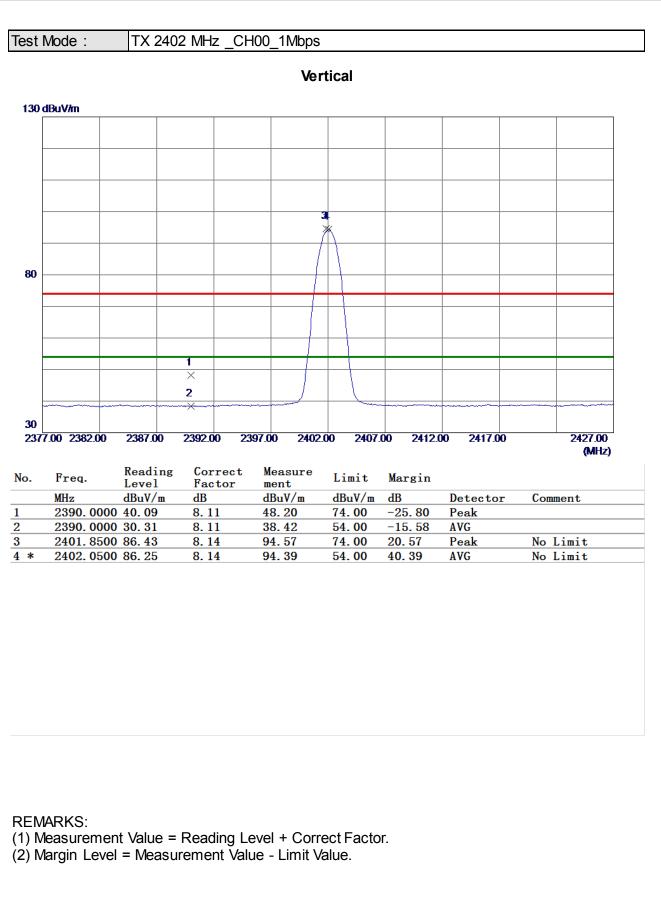




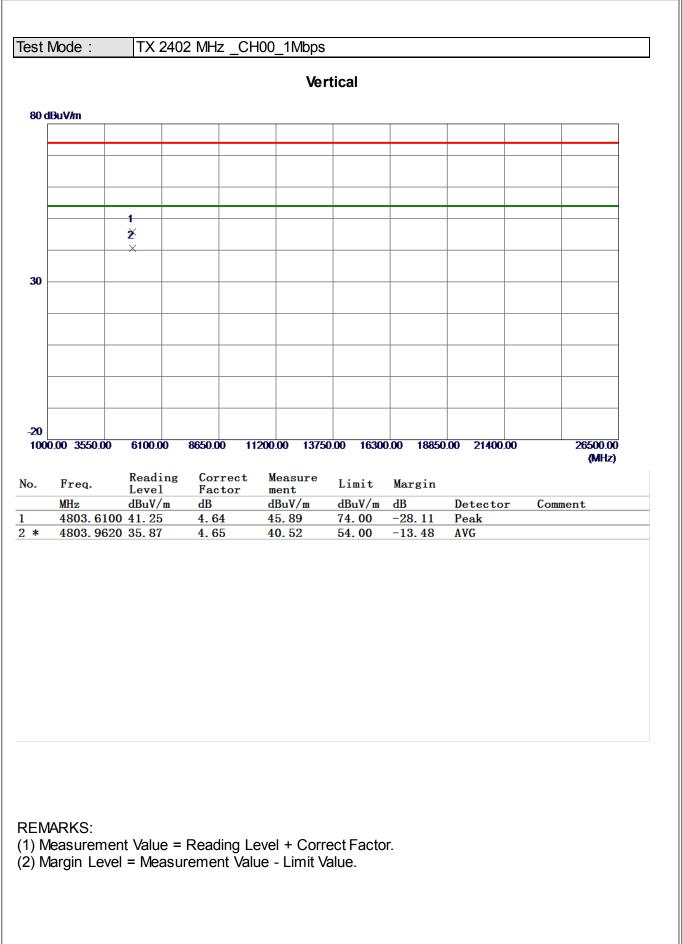
APPENDIX C - RADIATED EMISSION - ABOVE 1000 MHZ





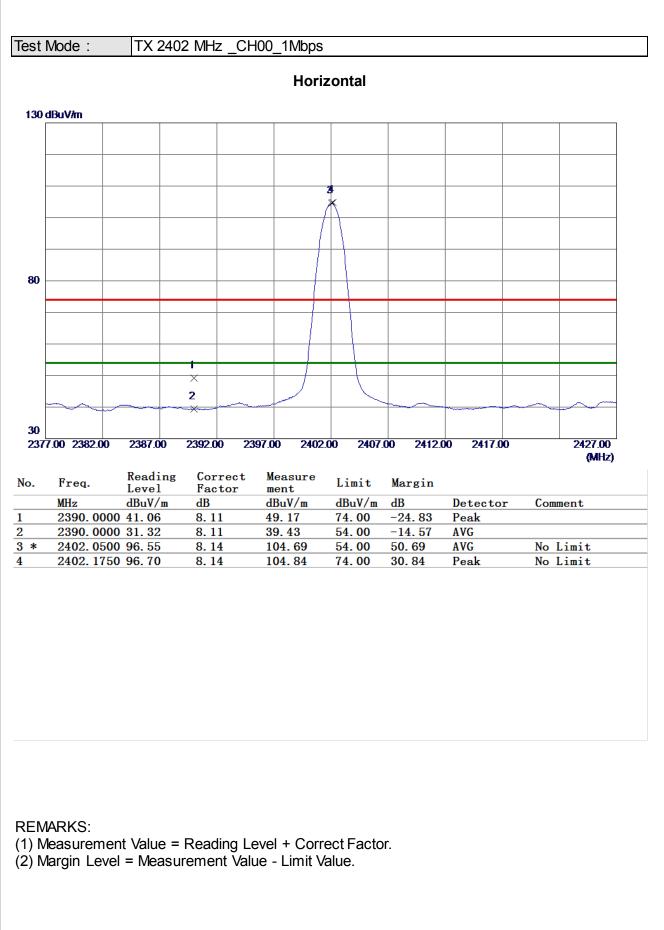




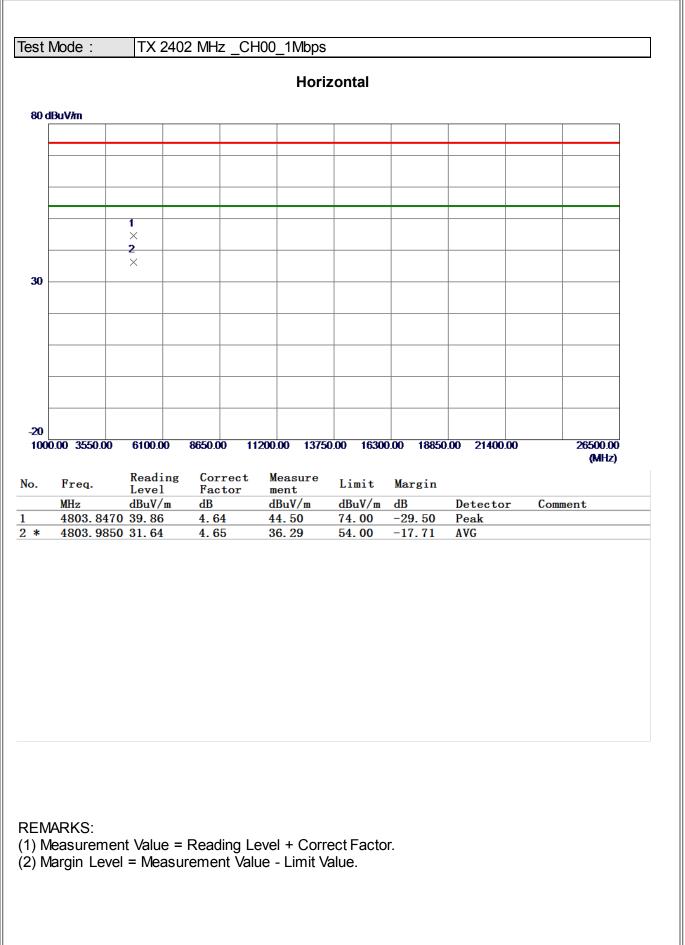




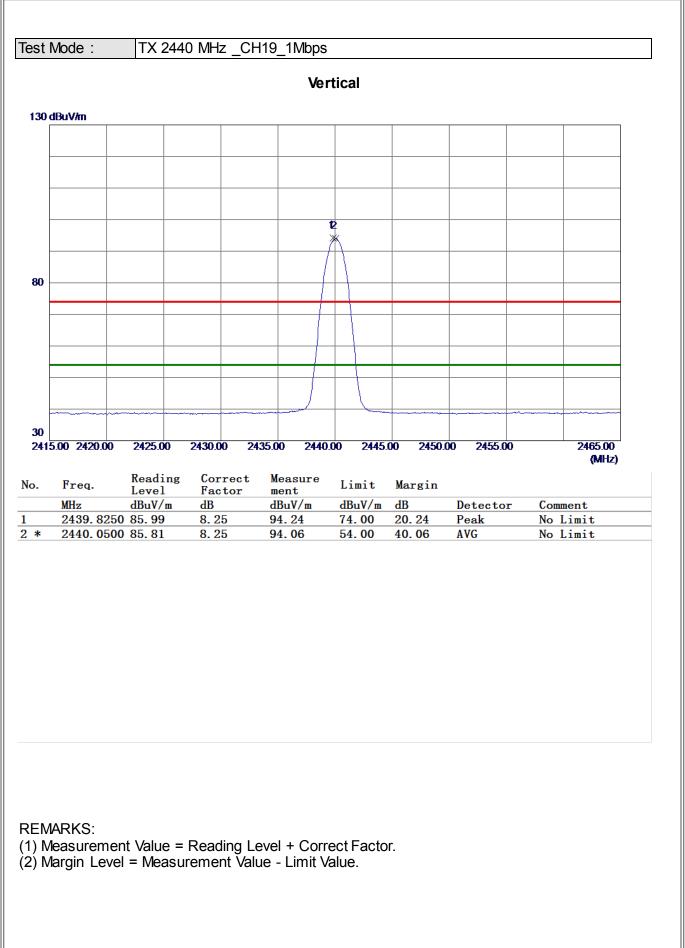




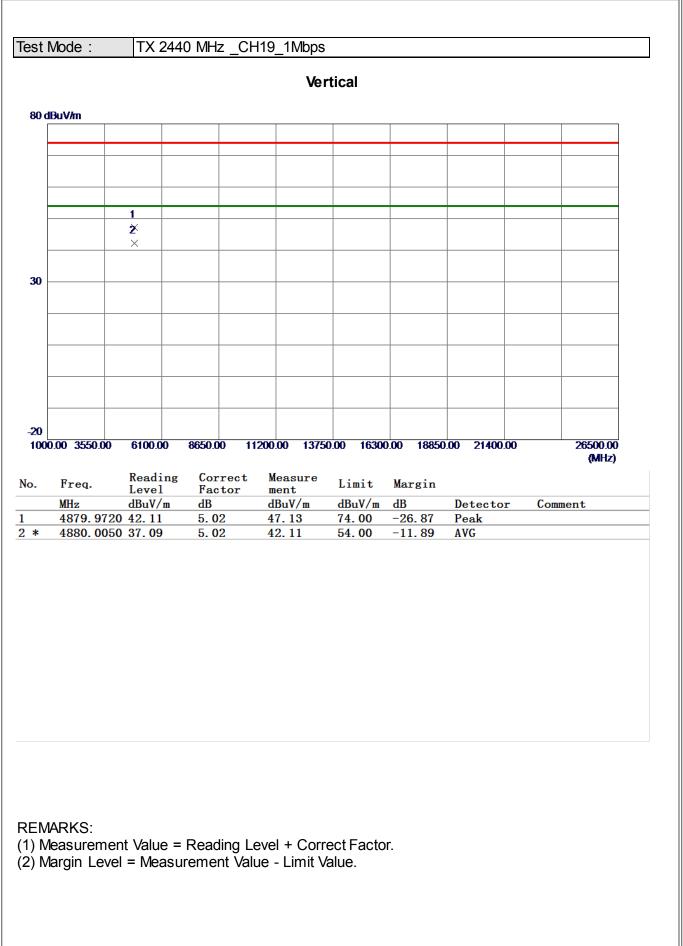




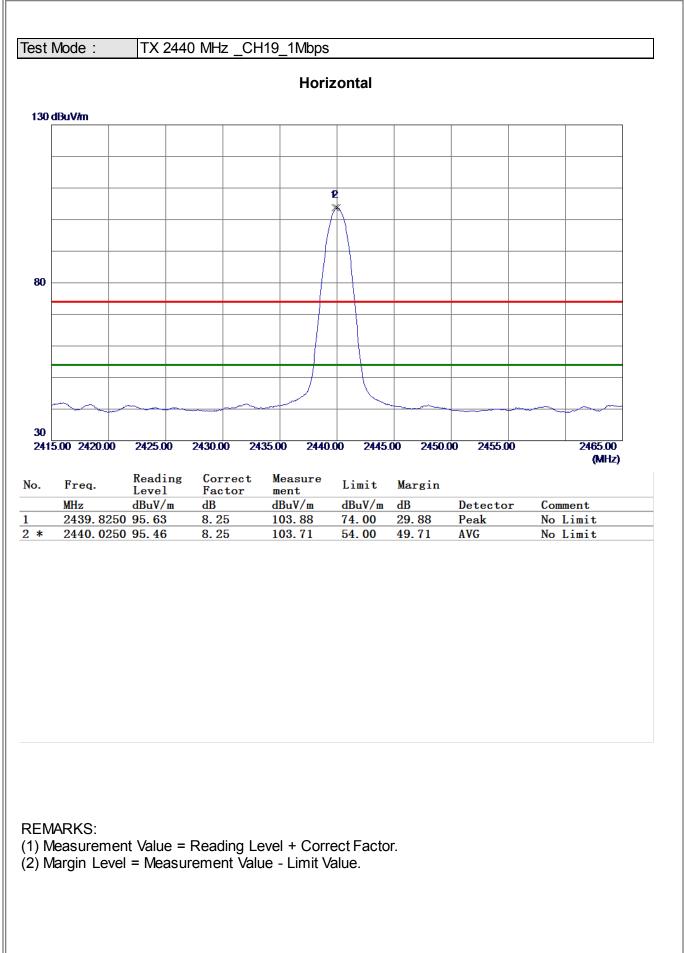




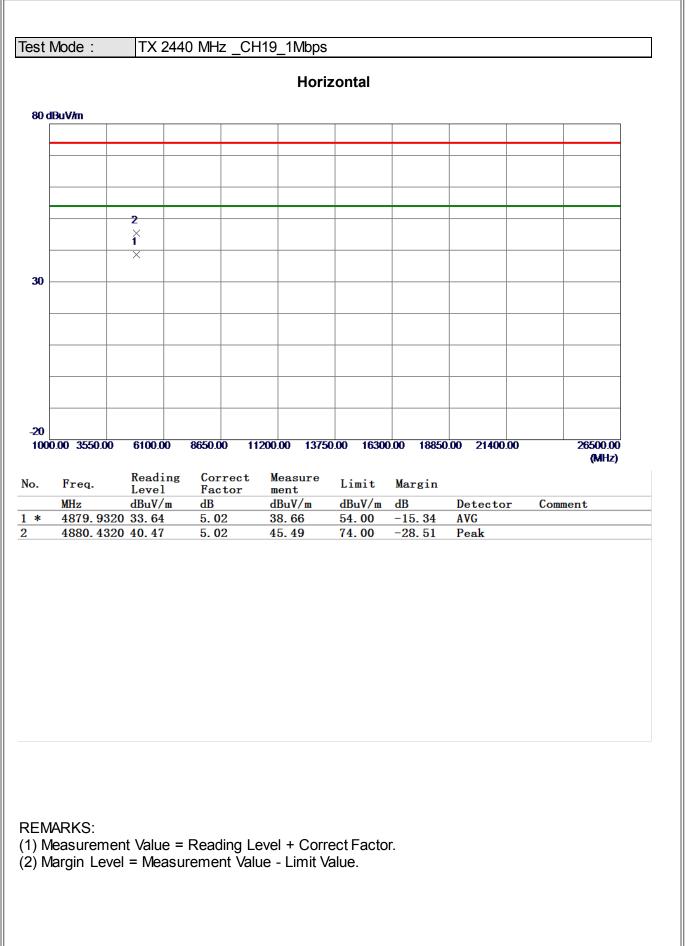




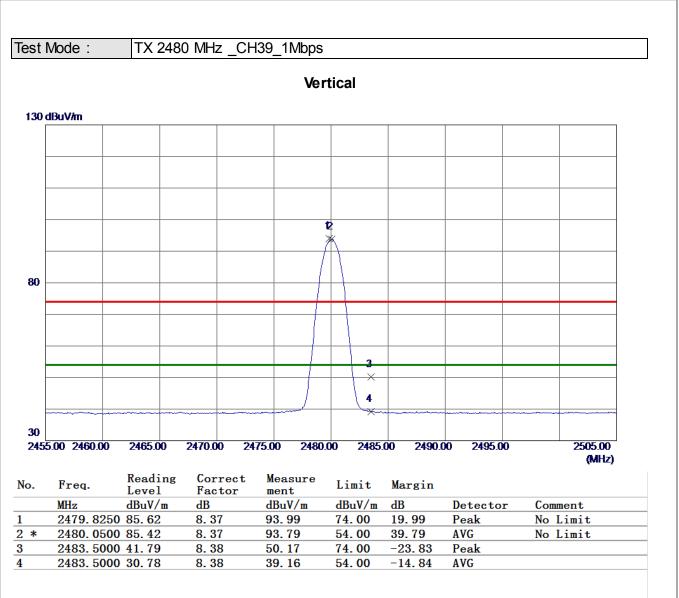






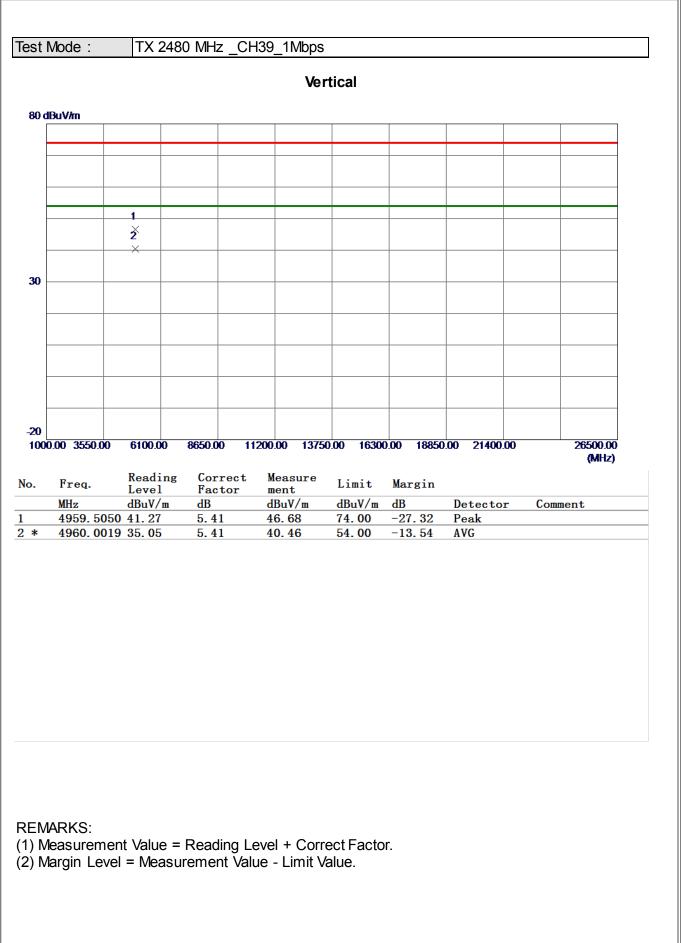






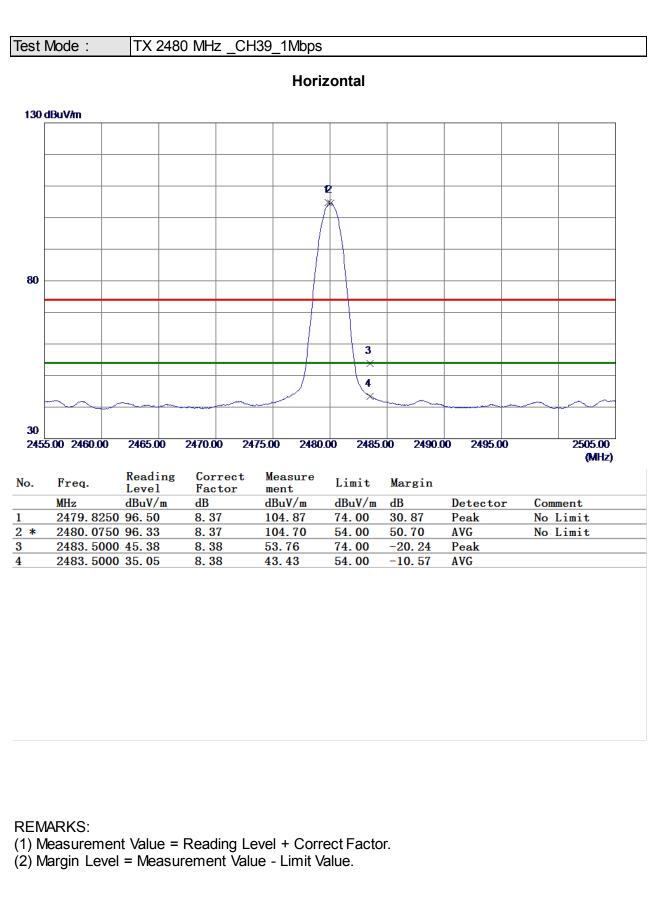
- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



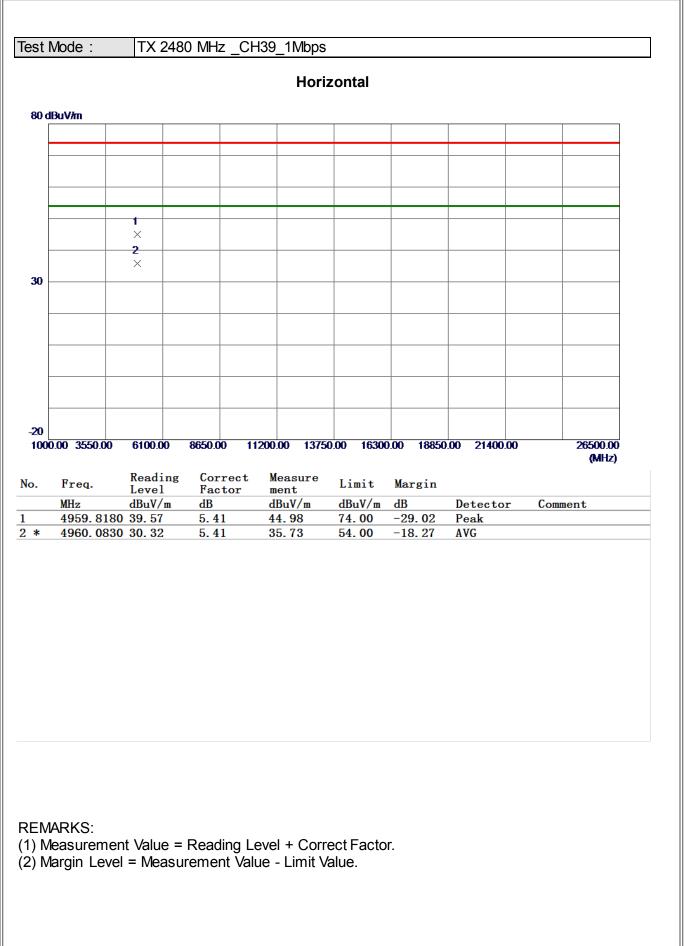






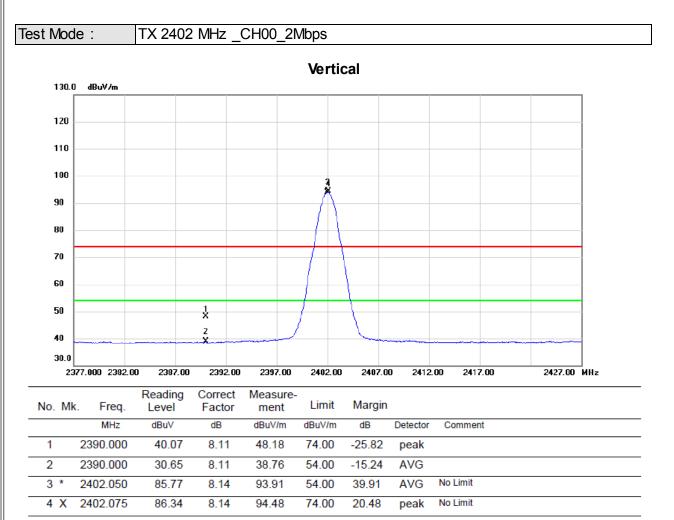






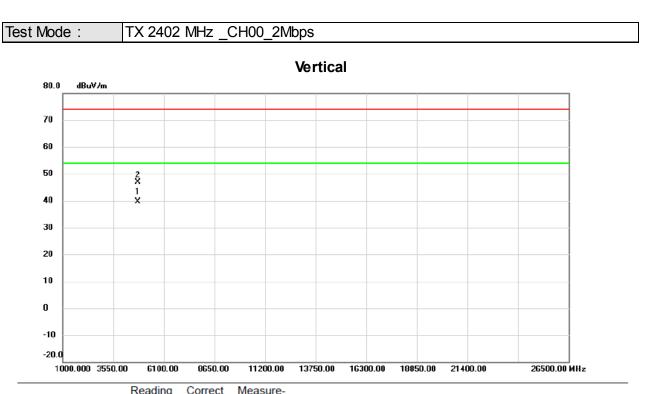






- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



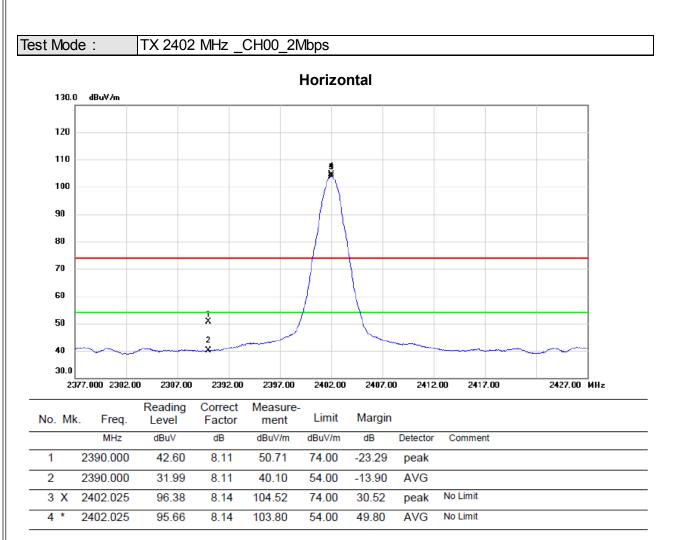


	No.	Mk	Freq.	Level	Factor	ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
-	1	*	4803.917	34.91	4.65	39.56	54.00	-14.44	AVG	
_	2		4804.660	42.16	4.65	46.81	74.00	-27.19	peak	

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

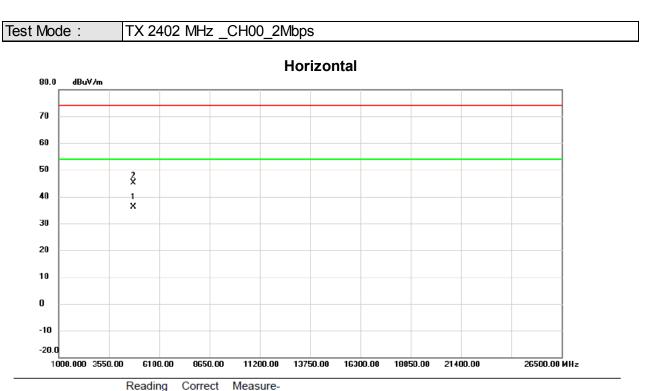






- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.



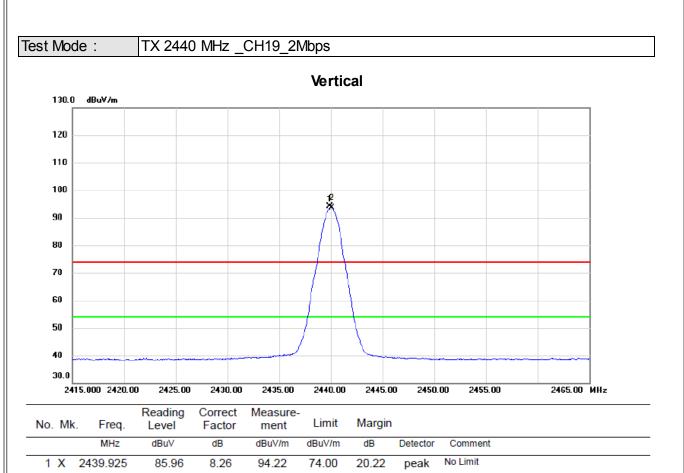


N	0.	Mk	. Freq.			ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1 '	ł	4803.950	31.54	4.65	36.19	54.00	-17.81	AVG	
	2		4804.675	40.42	4.65	45.07	74.00	-28.93	peak	

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







2 *

2440.075

85.30

8.26

93.56

54.00

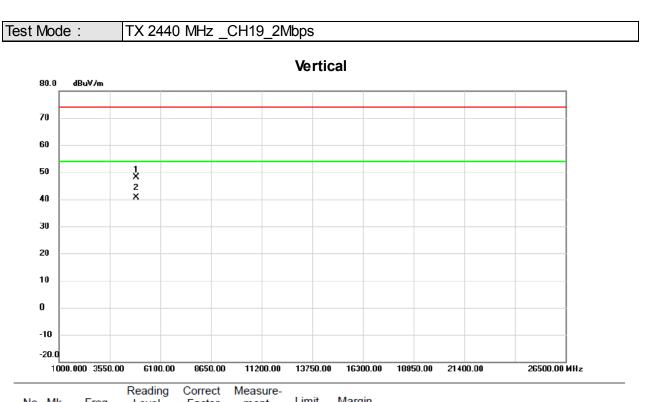
AVG

39.56

No Limit

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



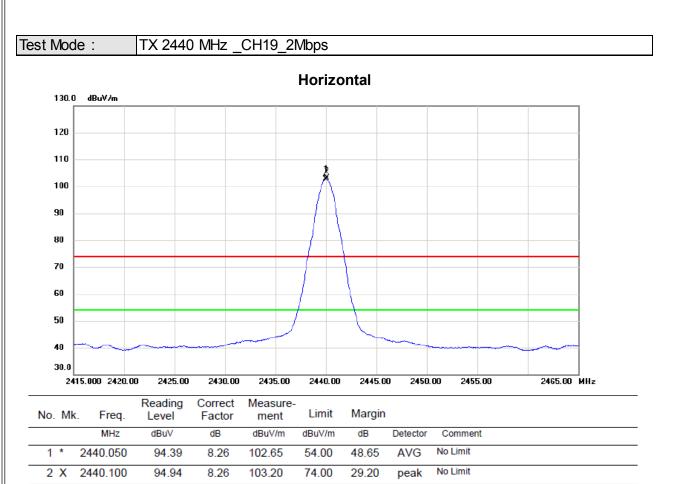


	No. M	lk. Freq.	Level		ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
-	1	4879.297	43.05	5.01	48.06	74.00	-25.94	peak	
	2 *	4880.005	35.55	5.02	40.57	54.00	-13.43	AVG	

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

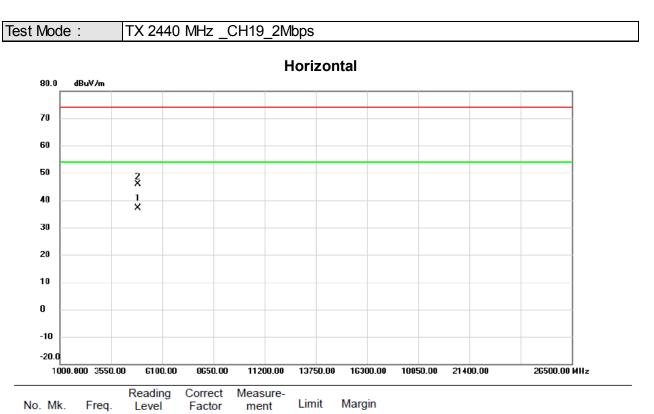






- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value Limit Value.

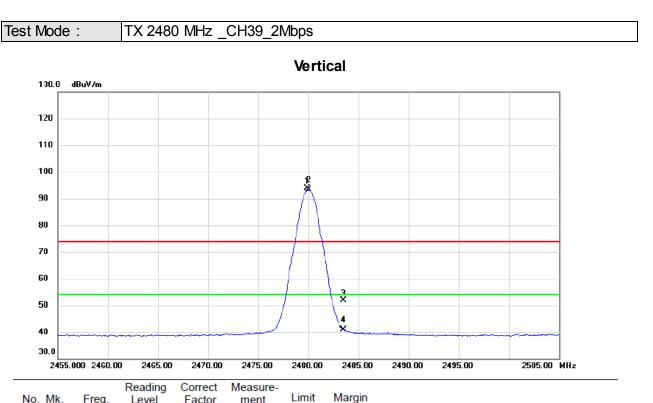




No. M	k. Freq.			ment	Limit	Margin				
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment		
1 *	4880.000	32.13	5.02	37.15	54.00	-16.85	AVG			
2	4880.373	40.84	5.03	45.87	74.00	-28.13	peak			

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

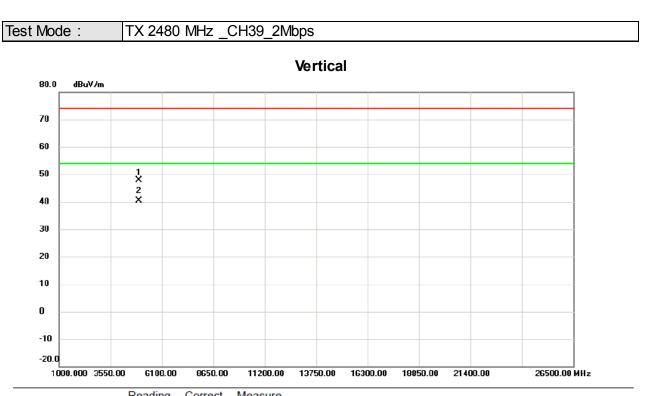




No. Mk	. Freq.	Level	Factor	ment	Limit	Margin		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 X	2479.875	85.44	8.37	93.81	74.00	19.81	peak	No Limit
2 *	2480.050	84.91	8.37	93.28	54.00	39.28	AVG	No Limit
3	2483.500	43.60	8.38	51.98	74.00	-22.02	peak	
4	2483.500	32.41	8.38	40.79	54.00	-13.21	AVG	

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



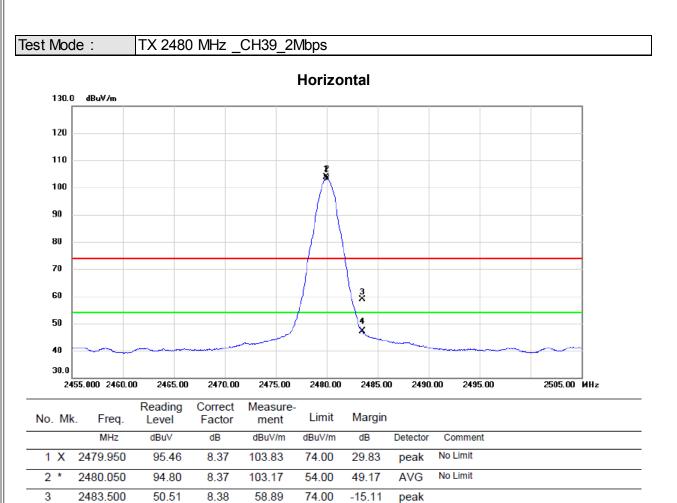


	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1	4	1959.342	42.35	5.41	47.76	74.00	-26.24	peak	
_	2	* 4	4959.985	35.00	5.41	40.41	54.00	-13.59	AVG	

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







4

2483.500

38.66

8.38

47.04

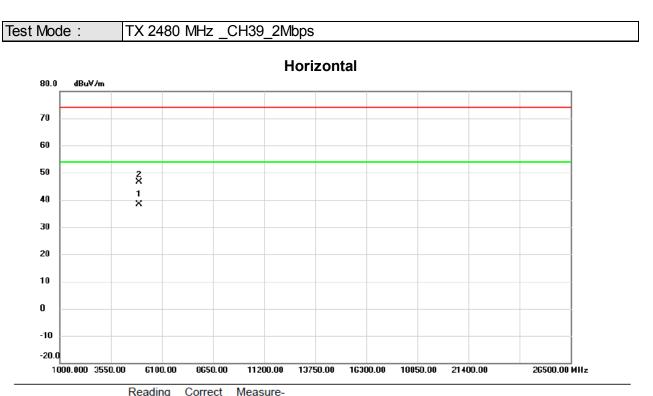
54.00

-6.96

AVG

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





	No. M	lk.	Freq.		Factor	measure- ment	Limit	Margin		
			MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	1 *	49	959.825	32.93	5.41	38.34	54.00	-15.66	AVG	
-	2	49	960.852	41.30	5.41	46.71	74.00	-27.29	peak	

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



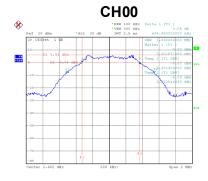


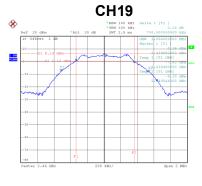
APPENDIX D - BANDWIDTH



Test Mode:	CH00, CH19 , CH39 - 1Mbps
TOOL MOGO.	

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Emission Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Test Result
00	2402	0.695	1.060	500	Pass
19	2440	0.700	1.064	500	Pass
39	2480	0.702	1.072	500	Pass







Date: 24.AUG.2019 15:58:41

Date: 24.AUG.2019 16:01:07

Test Mode: CH00, CH19, CH39 - 2Mbps

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Emission Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Test Result
00	2402	1.144	2.048	500	Pass
19	2440	1.168	2.032	500	Pass
39	2480	1.176	2.064	500	Pass





APPENDIX E - MAXIMUM OUTPUT POWER



Te	est Mode :	CH00, CH19, 0	CH00, CH19 , CH39 - 1Mbps							
I	F	Output Dower	Output Dower	Max Lineit	Max Lineit					
	Frequency	Output Power	Output Power	Max. Limit	Max. Limit	Test Result				
	(MHz)	(dBm)	(W)	(dBm)	(W)					
	2402	6.59	0.0046	30.00	1.00	Pass				
	2440	6.75	0.0047	30.00	1.00	Pass				
	2480	6.80	0.0048	30.00	1.00	Pass				

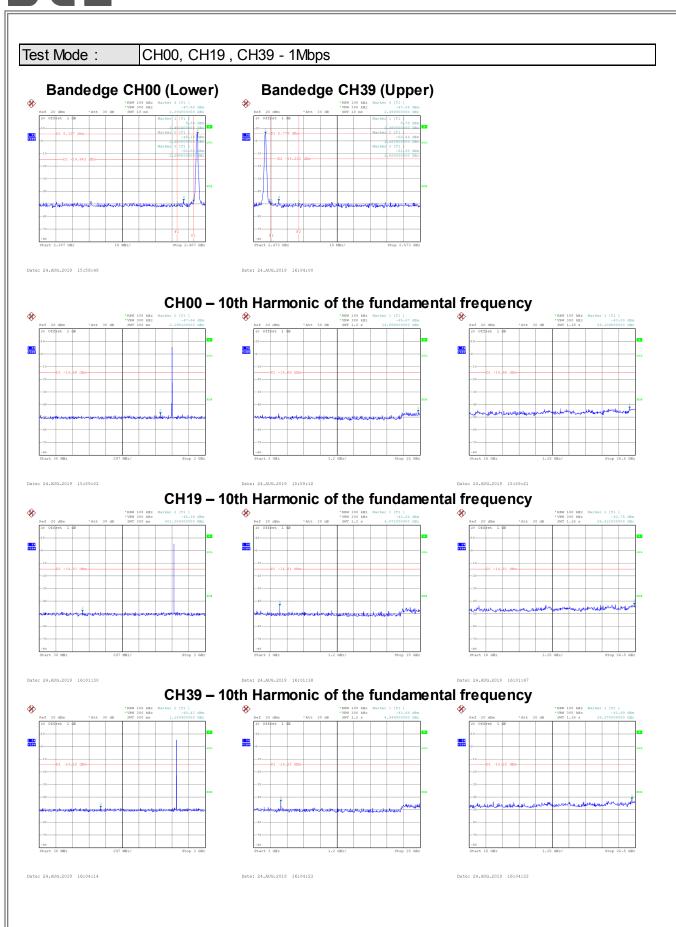
Test Mode : CH00, CH19, CH39 - 2Mbps

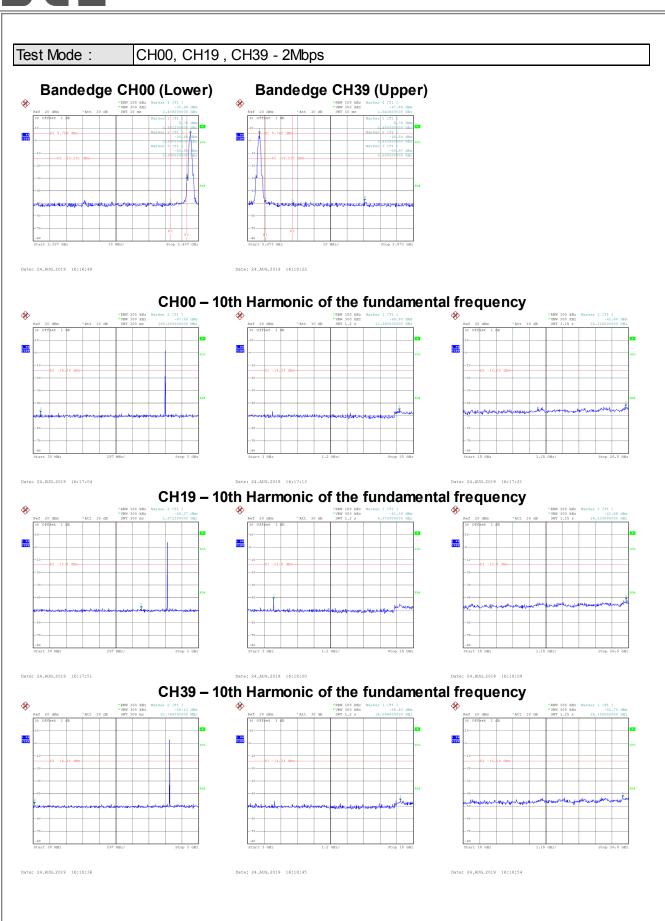
Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	6.58	0.0045	30.00	1.00	Pass
2440	6.72	0.0047	30.00	1.00	Pass
2480	6.72	0.0047	30.00	1.00	Pass





APPENDIX F - CONDUCTED SPURIOUS EMISSION



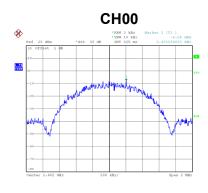




APPENDIX G - POWER SPECTRAL DENSITY



Test Mode:		CH00, CH19, CH39 - 1Mbps				
		Frequency	Power Spectral Density	Max. Limit		
	Channel	(MHz)	(dBm/3 kHz)	(dBm/3 kHz)	Test Result	
	00	2402	-8.06	8.00	Pass	
	19	2440	-7.77	8.00	Pass	
	39	2480	-7.48	8.00	Pass	







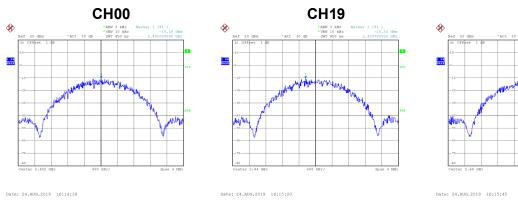
Date: 24.AUG.2019 16:04:40

Date: 24.AUG.2019 15:59:28

Test Mode:

CH00, CH19 , CH39 - 2Mbps

Channel	Frequency (MHz)	Power Spectral Density (dBm/3 kHz)	Max. Limit (dBm/3 kHz)	Test Result
00	2402	-10.16	8.00	Pass
19	2440	-10.34	8.00	Pass
39	2480	-9.58	8.00	Pass



CH39

Date: 24.AUG.2019 16:14:39

Date: 24.AUG.2019 16:15:20

End of Test Report