FCC Radio Test Report

FCC ID: 2AVUGAP8220

This report concerns: Original Grant

Project No.	:	2005C033
Equipment	:	Wireless LAN Access Point
Brand Name	:	Alibaba Cloud
Test Model	:	AP8220
Series Model	:	N/A
Applicant	:	Alibaba Cloud Commputing Co.,Ltd
Address	:	Building 8, No.16, Zhuan Tang Jing Ji Qu Kuai, Xihu District, Hangzhou, Zhejiang, China
Manufacturer	:	Alibaba Cloud Commputing Co.,Ltd
Address	:	Building 8, No.16, Zhuan Tang Jing Ji Qu Kuai, Xihu District, Hangzhou, Zhejiang, China
Factory	:	Joy Technology (ShenZhen) Corporation
Address	:	HengKeng Ind., Shangpai, Shangwu,Aiqun Rd., Shiyan Town,Shenzhen 518108 China
Date of Receipt	:	May 11, 2020
Date of Test	:	May 13, 2020 ~ Jul. 25, 2020
Issued Date	:	Aug. 06, 2020
Report Version	:	R00
Test Sample	:	Engineering Sample No.: DG202005125 for conducted, DG202005128 for radiated.
Standard(s)	:	FCC Part15, Subpart C (15.247) ANSI C63.10-2013 FCC KDB 558074 D01 15.247 Meas Guidance v05r02

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

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Declaration

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BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

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

Limitation

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

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Aug. 06, 2020

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

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

Note:

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

(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 Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
DG-C02	CISPR	150kHz ~ 30MHz	2.60

B. Radiated emissions Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9kHz ~ 30MHz	V	3.79
		9kHz ~ 30MHz	H	3.57
		30MHz ~ 200MHz	V	4.88
		30MHz ~ 200MHz	H	4.14
		200MHz ~ 1,000MHz	V	4.62
		200MHz ~ 1,000MHz	H	4.80
		1GHz ~ 6GHz	-	4.58
		6GHz ~ 18GHz	-	5.18
		18GHz ~ 26.5GHz	-	3.62
		26.5GHz ~ 40GHz	-	4.00

C. Other Measurement:

Parameter	Uncertainty
Bandwidth	±3.8 %
Maximum Output Power	±0.95 dB
Conducted Spurious Emission	±2.71 dB
Power Spectral Density	±0.86 dB
Temperature	±0.08 °C
Time	±0.58 %
Supply voltages	±0.3 %

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	55%	AC 120V/60Hz AC 240V/50Hz	Sheldon Ou
Radiated Emissions-9K-30MHz	25°C	60%	AC 120V/60Hz	Sheldon Ou
Radiated Emissions-30 MHz to 1GHz	22°C	54%	AC 120V/60Hz	Sheldon Ou
Radiated Emissions-Above 1000 MHz	24°C	60%	AC 120V/60Hz	Sheldon Ou
Bandwidth	25°C	49%	DC 12V	Hayden Chen
Maximum Output Power	25°C	49%	DC 12V	Laughing Zhang
Conducted Spurious Emission	25°C	49%	DC 12V	Hayden Chen
Power Spectral Density	25°C	49%	DC 12V	Hayden Chen

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless LAN Access Point
Brand Name	Alibaba Cloud
Test Model	AP8220
Series Model	N/A
Model Difference(s)	N/A
Power Source	1# Supplied from PoE (Support Unit). 2# DC voltage supplied from AC adapter (Support Unit).
Power Rating	1# I/P: PoE 48V ⎓ , 0.7A 2# DC 12V, 3A
Operation Frequency	2402 MHz ~ 2480 MHz
Modulation Technology	GFSK
Bit Rate of Transmitter	1Mbps, 2Mbps
Max. Output Power	1Mbps: 4.82 dBm (0.0030 W) 2Mbps: 4.86 dBm (0.0031 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)
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	P/N	Antenna Type	Connector	Gain (dBi)
1	MAG. LAYERS SCIENTIFIC-TECHNICS CO., LTD	MSA-1313-25GC4-A1-ZF	Internal	N/A	5.19

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 19 _2Mbps

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 2	TX Mode Channel 19 _2Mbps

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 2	TX Mode Channel 19 _2Mbps

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:

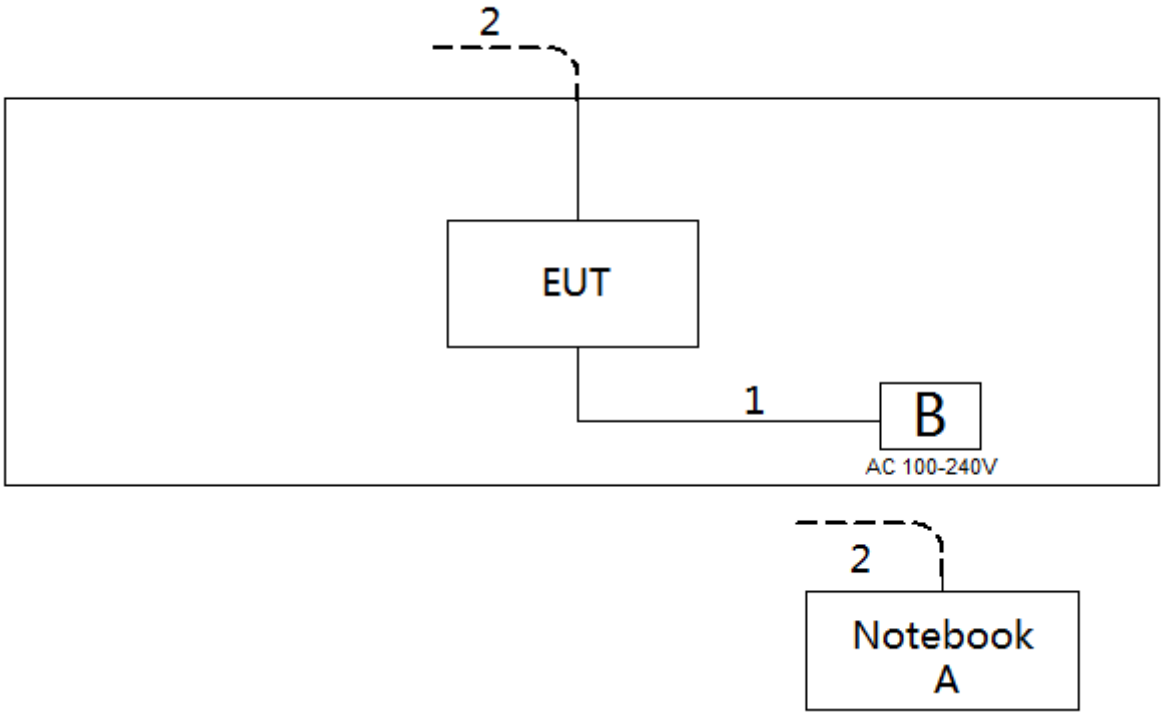
(1) The measurements are performed at the high, middle, low available channels.
(2) For radiated emission above 1 GHz test, 1GHz~26.5GHz have been pre-tested and in this report only recorded the worst case. The remaining spurious points are all below the limit value of 20dB.
(3) For radiated emissions below 1 GHz test, the 2Mbps channel 19 is found to be the worst case and recorded.
(4) For radiated emissions, the TX Bluetooth LE 1Mbps 2402MHz + WLAN 2.4G AX40 Mode 2452MHz + WLAN 5G A Mode 5320MHz was found the worst case of simultaneous transmission 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. 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
1Mbps	6	6	5
2Mbps	6	6	5

2.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.5 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.
A	Notebook	Dell	Inspiron 15-7559	N/A
B	Adapter	APD	WA-36N12FU	N/A

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

3. AC POWER LINE CONDUCTED EMISSIONS TEST

3.1 LIMIT

Frequency of Emission (MHz)	Limit (dBμV)	
	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.

The following table is the setting of the receiver

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

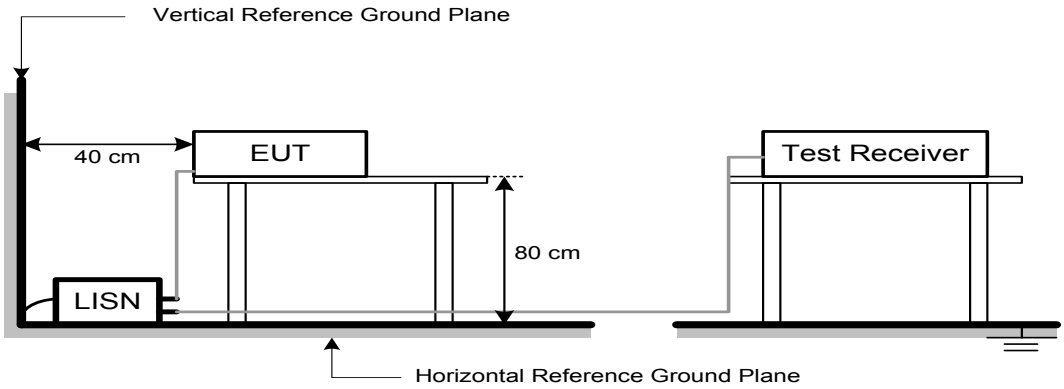
3.2 TEST PROCEDURE

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

3.3 DEVIATION FROM TEST STANDARD

No deviation

3.4 TEST SETUP



3.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

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 EMISSION TEST

4.1 LIMIT

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

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

Frequency (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)

For Bluetooth LE + WLAN 2.4GHz:

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

For WLAN 5GHz:

Frequency (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBμV/m)
5150-5250	-27	68.3

Note:

(1) The limit for radiated test was performed according to FCC PART 15C & FCC PART 15E.
(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 (Emission in restricted band)	RBW 1 MHz VBW 3 MHz peak detector for Pk value 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

4.2 TEST PROCEDURE

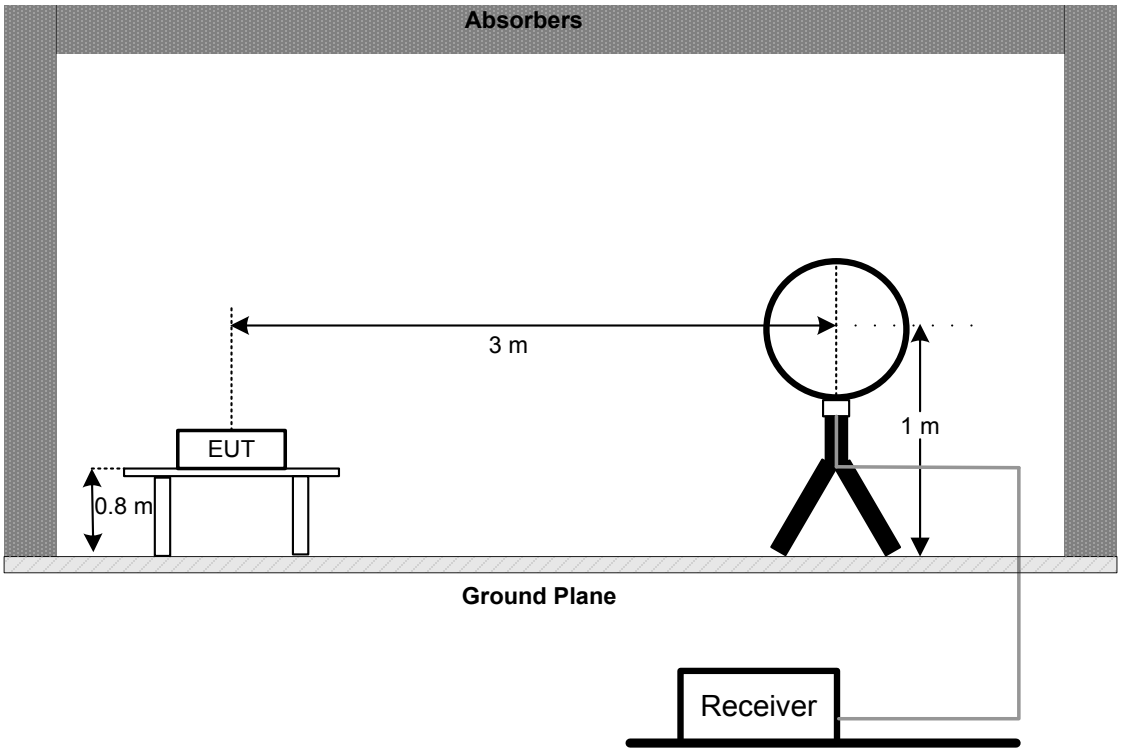
a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1 GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1 GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1 GHz)
i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.3 DEVIATION FROM TEST STANDARD

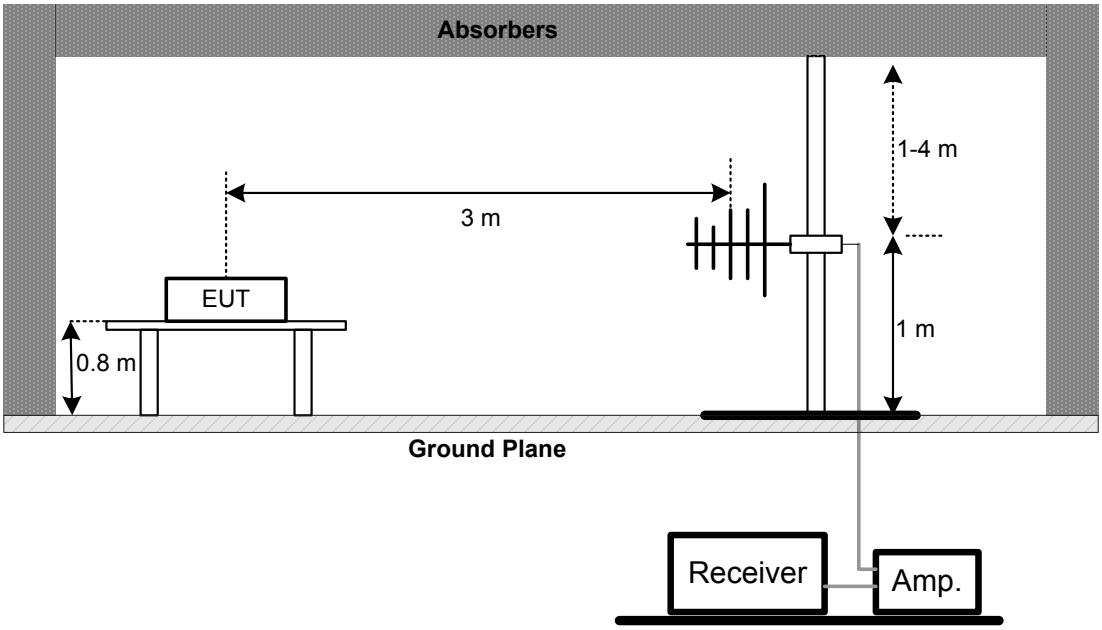
No deviation

4.4 TEST SETUP

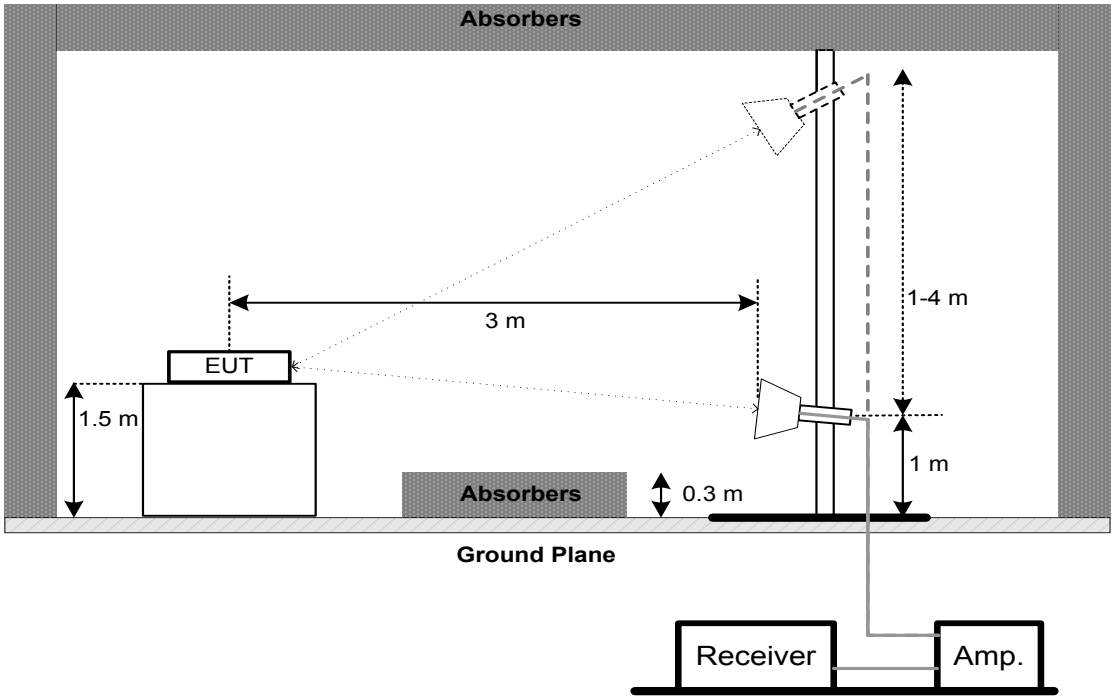
9 kHz-30 MHz



30 MHz to 1 GHz



Above 1 GHz



4.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

4.6 TEST RESULT - 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 RESULT - 30 MHz TO 1000 MHz

Please refer to the APPENDIX C.

4.8 TEST RESULT - ABOVE 1000 MHz

Please refer to the APPENDIX D.

Remark:

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

5. BANDWIDTH TEST

5.1 LIMIT

FCC Part15, Subpart C (15.247)		
Section	Test Item	Limit
15.247(a)(2)	Bandwidth	>= 500 kHz (6 dB bandwidth)
	99% Emission Bandwidth	-

5.2 TEST PROCEDURE

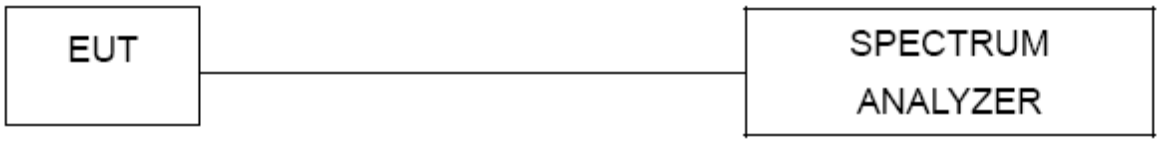
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

b. Spectrum Setting:
For 6 dB Bandwidth: RBW= 100 kHz, VBW=300 kHz, Sweep time = 2.5 ms
For 99 % Emission Bandwidth: RBW= 30 kHz, VBW=100 kHz, Sweep time = 2.5 ms.

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 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. MAXIMUM OUTPUT POWER

6.1 LIMIT

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

6.2 TEST PROCEDURE

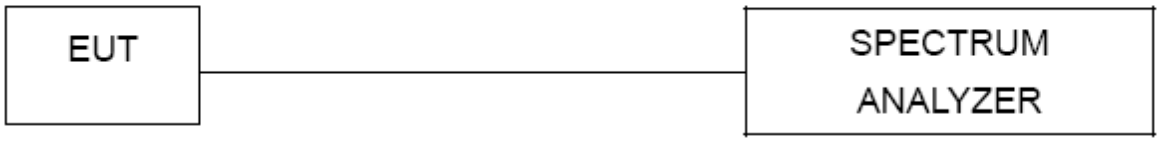
a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

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

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 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. CONDUCTED SPURIOUS EMISSION

7.1 LIMIT

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak Output Power limits. If the transmitter complies with the Output Power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in Section 15.209(a) is not required.

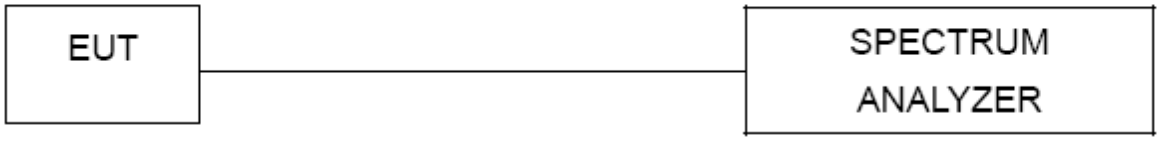
7.2 TEST PROCEDURE

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

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 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. POWER SPECTRAL DENSITY TEST

8.1 LIMIT

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

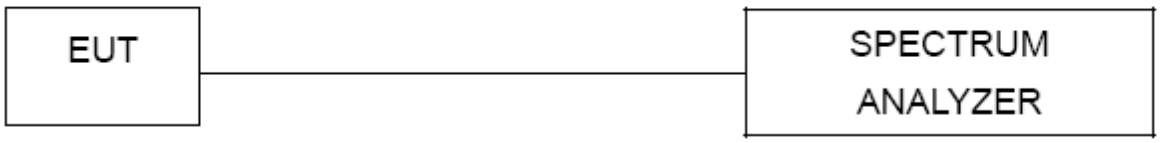
8.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Spectrum Setting: RBW=3 kHz, VBW=10 kHz, Sweep time = auto.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 3.5 unless otherwise a special operating condition is specified in the follows during the testing.

8.6 TEST RESULTS

Please refer to the APPENDIX H.

9. MEASUREMENT INSTRUMENTS LIST

AC Power Line Conducted Emissions					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EMI Test Receiver	R&S	ESCI	100382	Feb. 28, 2021
2	LISN	EMCO	3816/2	52765	Mar. 01, 2021
3	TWO-LINE V-NETWORK	R&S	ENV216	101447	Feb. 28, 2021
4	50Ω Terminator	SHX	TF5-3	15041305	Mar. 01, 2021
5	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
6	Cable	N/A	RG223	12m	Mar. 10, 2021

Radiated Emissions - 9 kHz to 30 MHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	EM	EM-6876-1	230	Apr. 16, 2021
2	Cable	N/A	RG 213/U	N/A	May 29, 2021
3	EMI Test Receiver	R&S	ESCI	100895	Feb. 28, 2021
4	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2021
2*	Amplifier	HP	8447D	2944A09673	Aug. 11, 2021
3	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 22, 2021
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

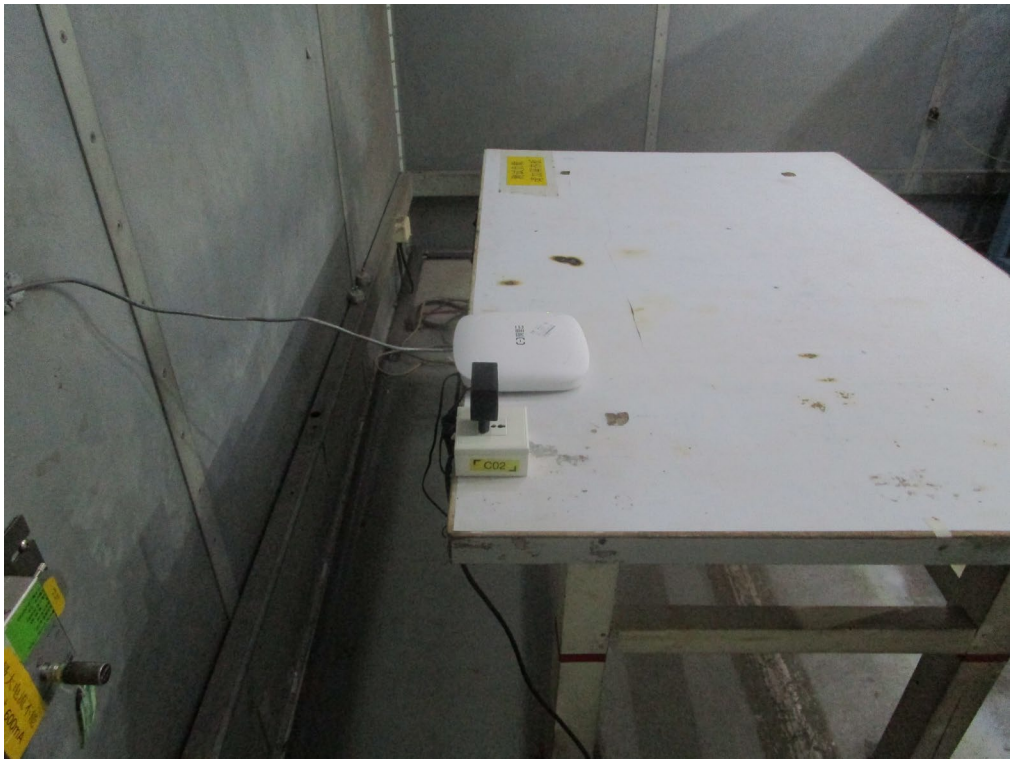
Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	May 12, 2021
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jul. 07, 2021
3	Amplifier	Agilent	8449B	3008A02333	Mar. 01, 2021
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 07, 2021
5	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	N/A	EMC104-SM-SM-6 000	N/A	May 09, 2021
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

Bandwidth & Maximum Output Power & Power Spectral Density & Antenna Conducted Spurious Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP40	100185	Aug. 03, 2020

Remark: “N/A” denotes no model name, serial no. or calibration specified.
“*” calibration period of equipment list is three year.
Except * item, all calibration period of equipment list is one year.

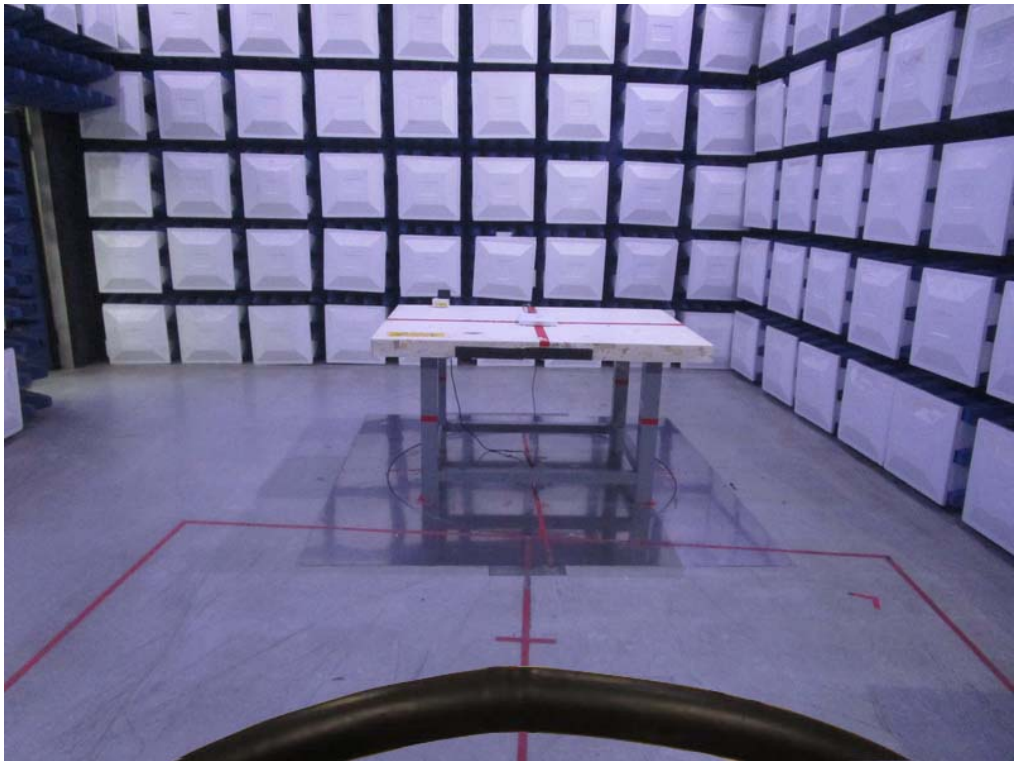
10. EUT TEST PHOTO

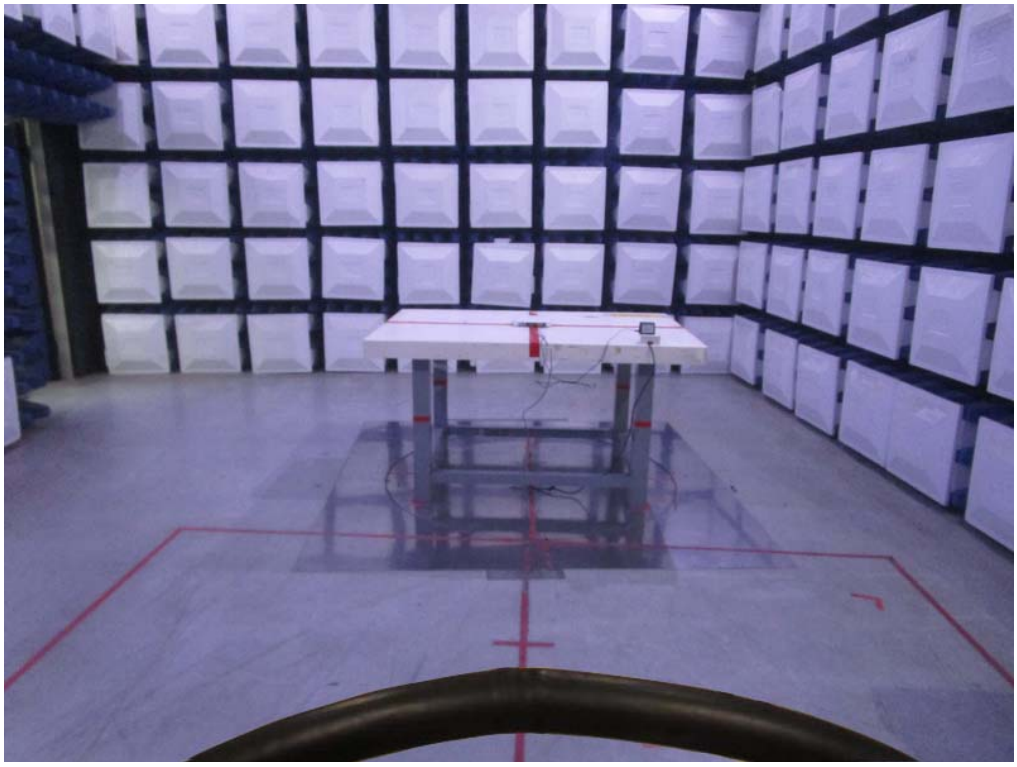
AC Power Line Conducted Emissions Test Photos



Radiated Emissions Test Photos

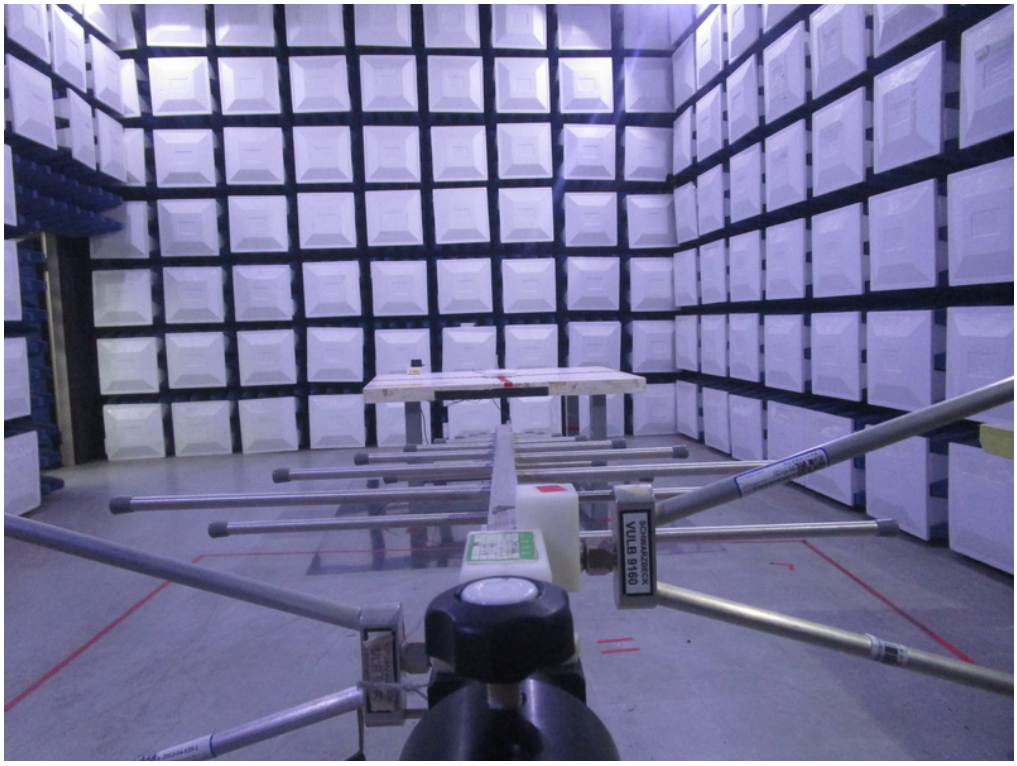
9 kHz to 30 MHz

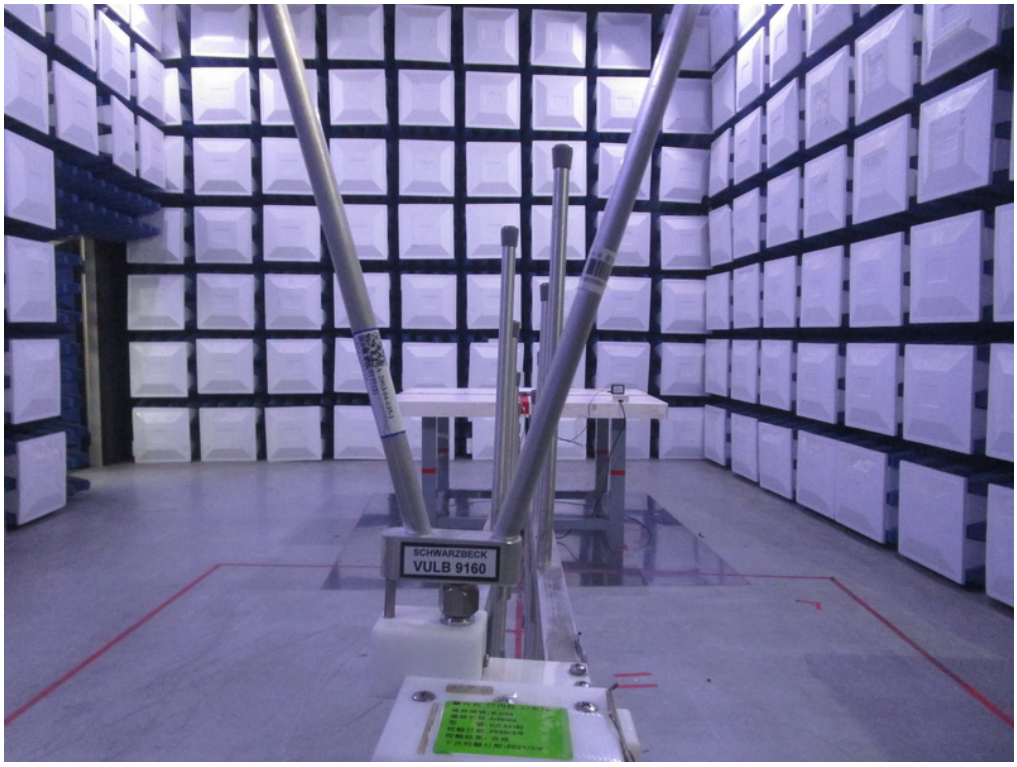




Radiated Emissions Test Photos

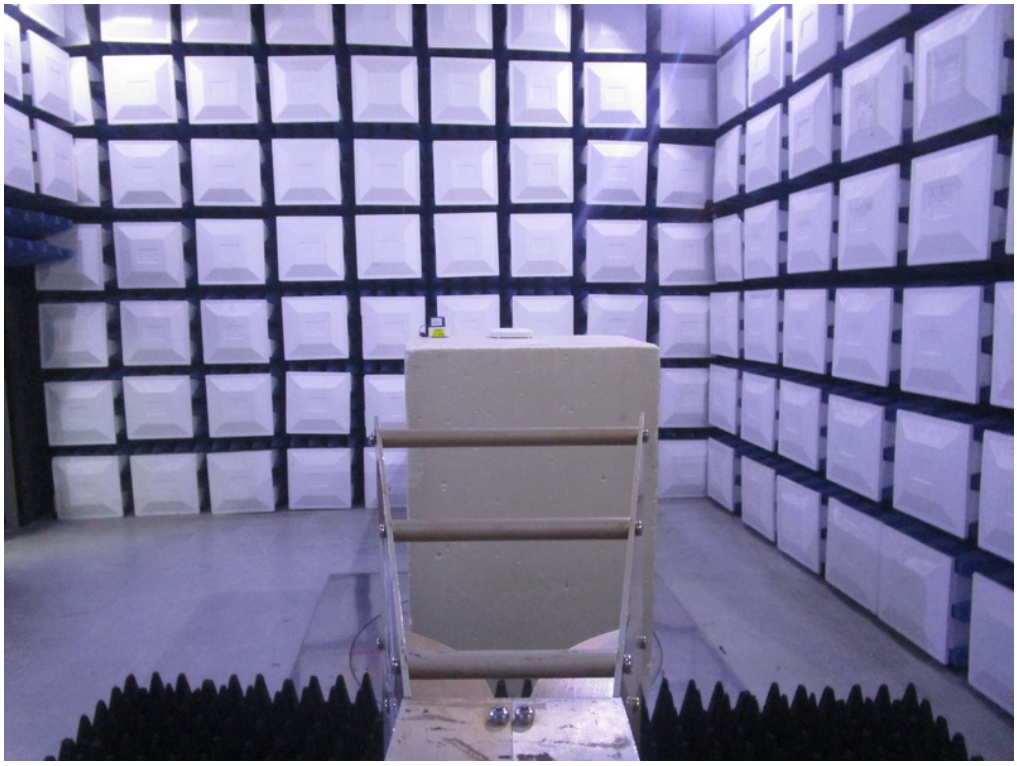
30 MHz to 1000 MHz





Radiated Emissions Test Photos

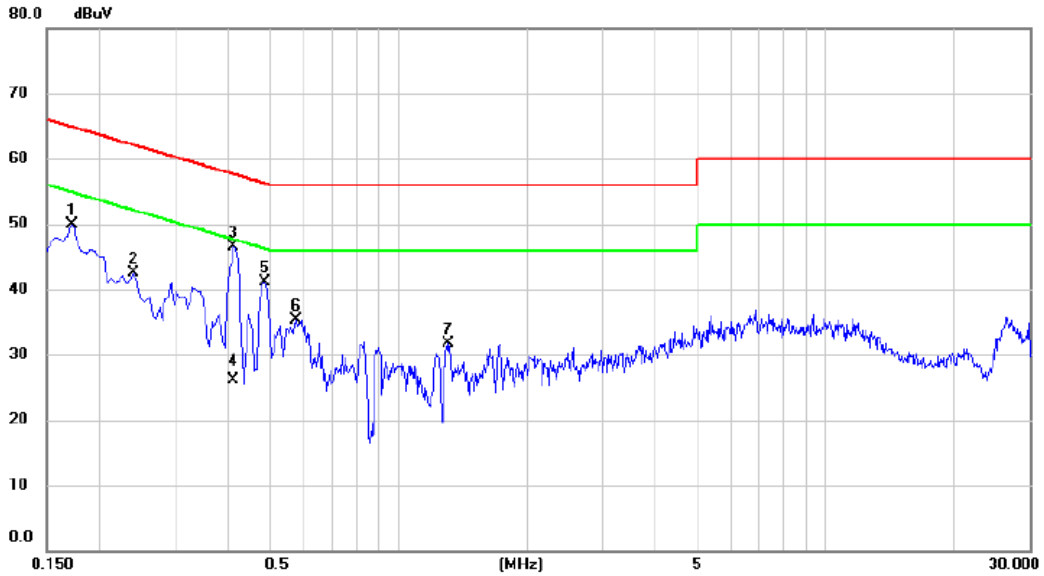
Above 1 GHz



APPENDIX A - AC POWER LINE CONDUCTED EMISSIONS

Test Voltage:	AC 120V/60Hz
Test Mode:	TX Mode Channel 19 _2Mbps

Line

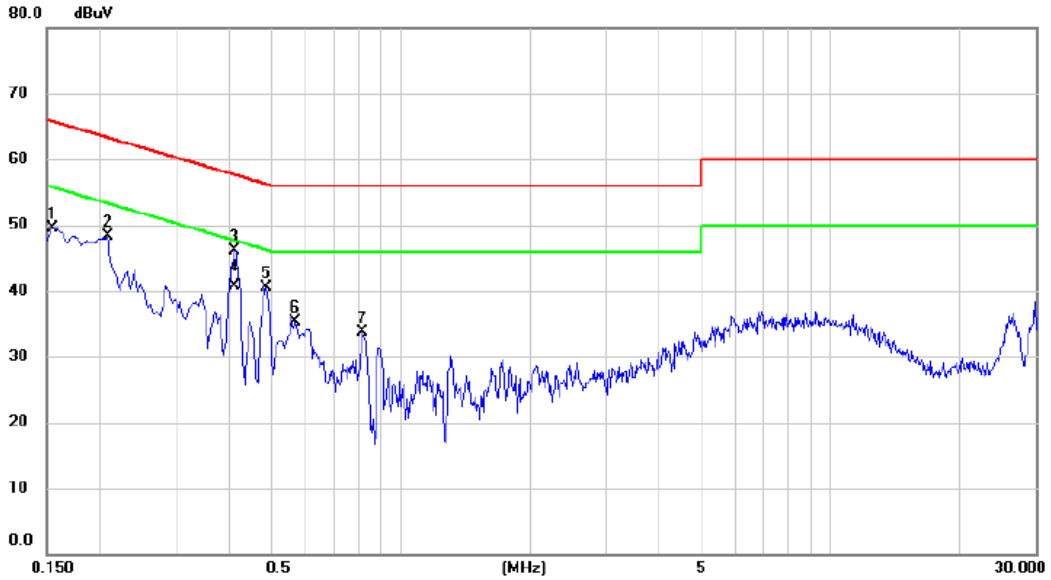


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1725	40.12	9.83	49.95	64.84	-14.89	peak	
2		0.2400	32.69	9.88	42.57	62.10	-19.53	peak	
3	*	0.4110	36.58	9.92	46.50	57.63	-11.13	peak	
4		0.4110	16.27	9.92	26.19	47.63	-21.44	AVG	
5		0.4875	31.22	9.95	41.17	56.21	-15.04	peak	
6		0.5775	25.35	9.96	35.31	56.00	-20.69	peak	
7		1.3110	21.63	10.03	31.66	56.00	-24.34	peak	

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

Test Voltage:	AC 120V/60Hz
Test Mode:	TX Mode Channel 19 _2Mbps

Neutral

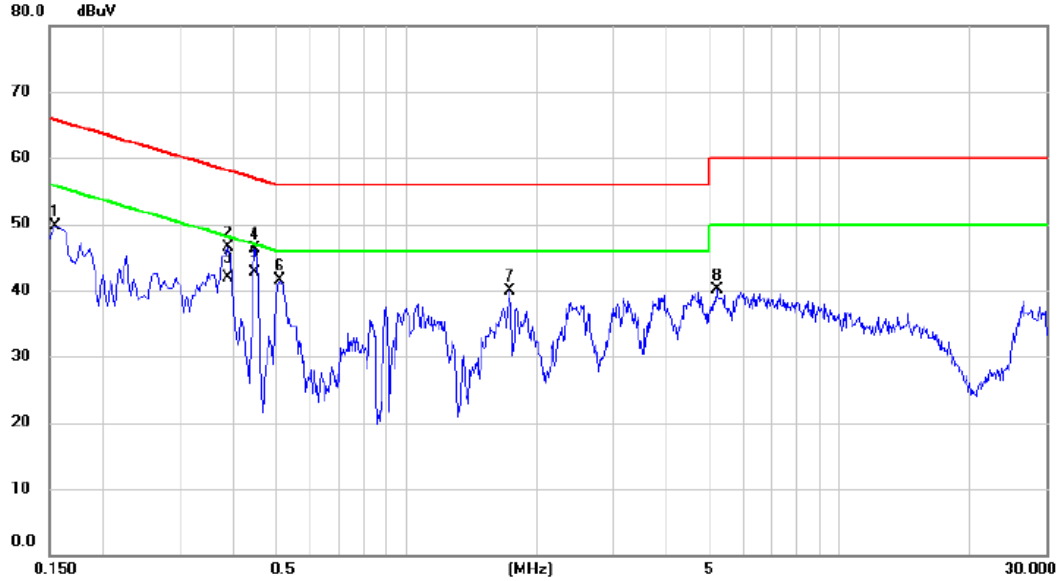


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1548	39.72	9.78	49.50	65.74	-16.24	peak	
2		0.2085	38.28	10.00	48.28	63.26	-14.98	peak	
3		0.4110	36.08	10.09	46.17	57.63	-11.46	peak	
4	*	0.4110	30.67	10.09	40.76	47.63	-6.87	AVG	
5		0.4875	30.32	10.13	40.45	56.21	-15.76	peak	
6		0.5685	25.08	10.18	35.26	56.00	-20.74	peak	
7		0.8160	23.47	10.24	33.71	56.00	-22.29	peak	

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

Test Voltage:	AC 240V/50Hz
Test Mode:	TX Mode Channel 19 _2Mbps

Line

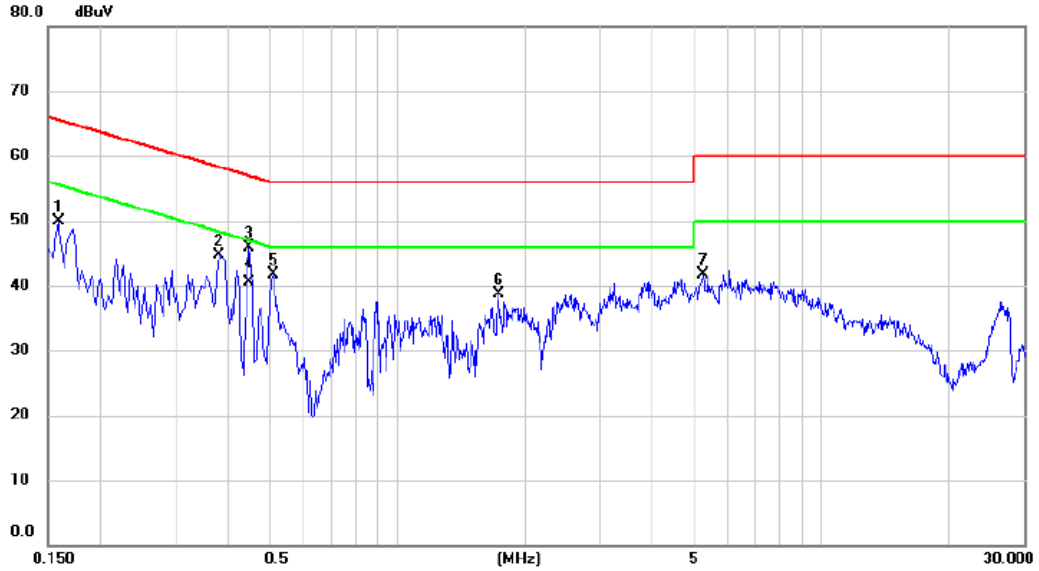


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1545	40.06	9.70	49.76	65.75	-15.99	peak	
2		0.3885	36.66	9.92	46.58	58.10	-11.52	peak	
3		0.3885	32.00	9.92	41.92	48.10	-6.18	AVG	
4		0.4470	36.44	9.93	46.37	56.93	-10.56	peak	
5	*	0.4470	32.70	9.93	42.63	46.93	-4.30	AVG	
6		0.5100	31.57	9.95	41.52	56.00	-14.48	peak	
7		1.7295	29.84	10.06	39.90	56.00	-16.10	peak	
8		5.2035	29.75	10.35	40.10	60.00	-19.90	peak	

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

Test Voltage:	AC 240V/50Hz
Test Mode:	TX Mode Channel 19 _2Mbps

Neutral



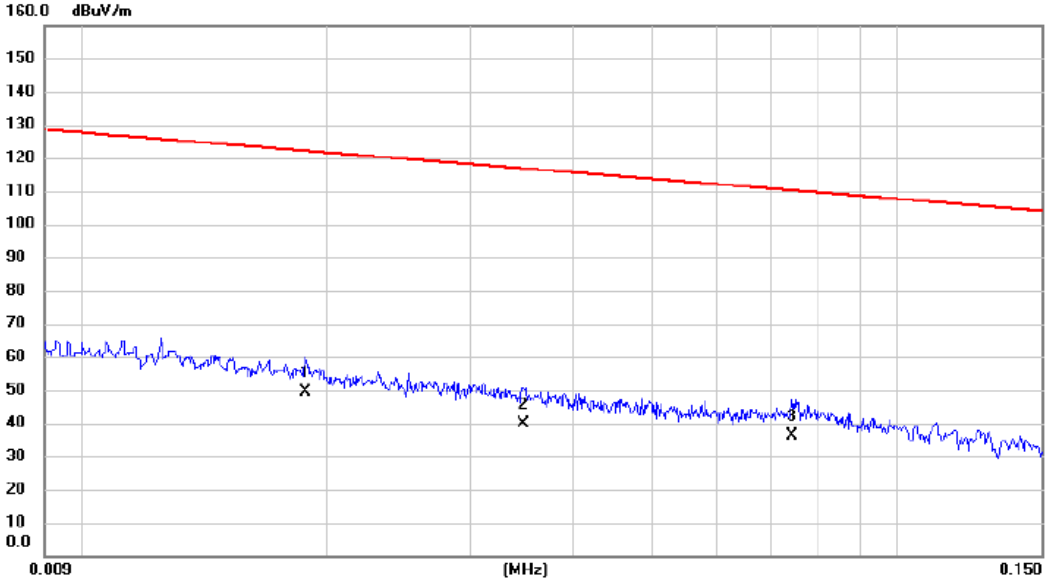
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1590	40.12	9.81	49.93	65.52	-15.59	peak	
2		0.3795	34.67	10.08	44.75	58.29	-13.54	peak	
3		0.4470	35.84	10.11	45.95	56.93	-10.98	peak	
4	*	0.4470	30.40	10.11	40.51	46.93	-6.42	AVG	
5		0.5100	31.53	10.14	41.67	56.00	-14.33	peak	
6		1.7340	28.28	10.39	38.67	56.00	-17.33	peak	
7		5.2530	30.94	10.69	41.63	60.00	-18.37	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

Test Mode:	TX Mode Channel 19 _2Mbps

Ant 0°

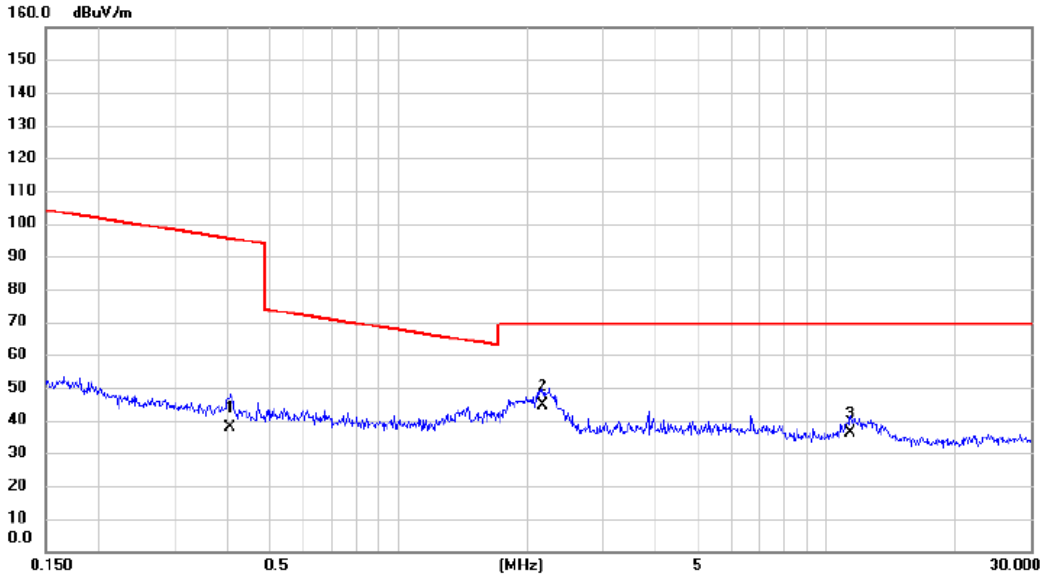


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0188	35.92	13.49	49.41	122.12	-72.71	AVG	
2		0.0348	27.14	12.74	39.88	116.77	-76.89	AVG	
3		0.0742	23.68	12.48	36.16	110.20	-74.04	AVG	

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

Test Mode:	TX Mode Channel 19 _2Mbps

Ant 0°

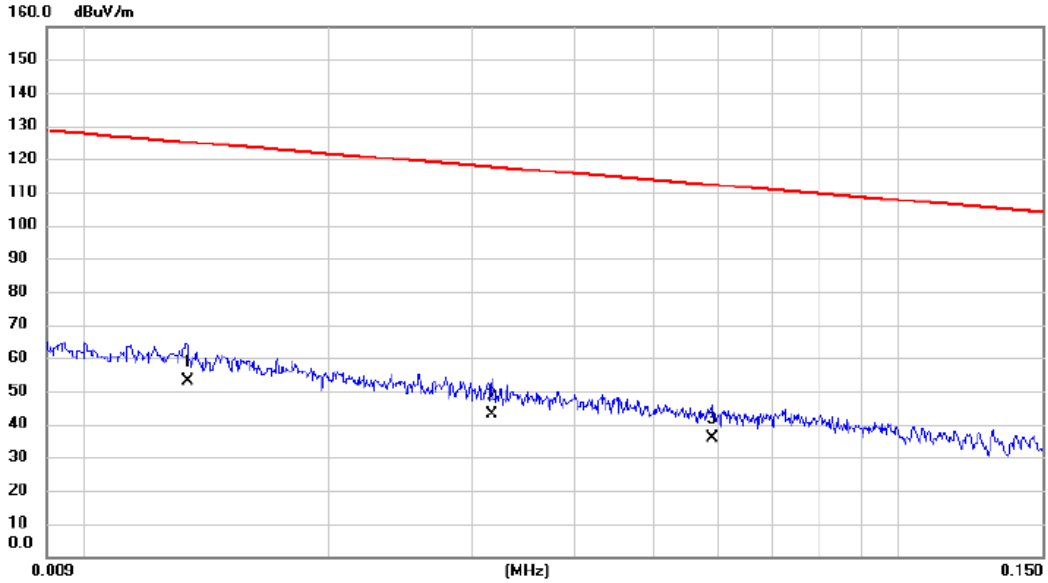


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.4061	25.94	12.04	37.98	95.43	-57.45	AVG	
2	*	2.1783	33.83	10.91	44.74	69.54	-24.80	QP	
3		11.3771	25.27	10.87	36.14	69.54	-33.40	QP	

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

Test Mode:	TX Mode Channel 19 _2Mbps

Ant 90°

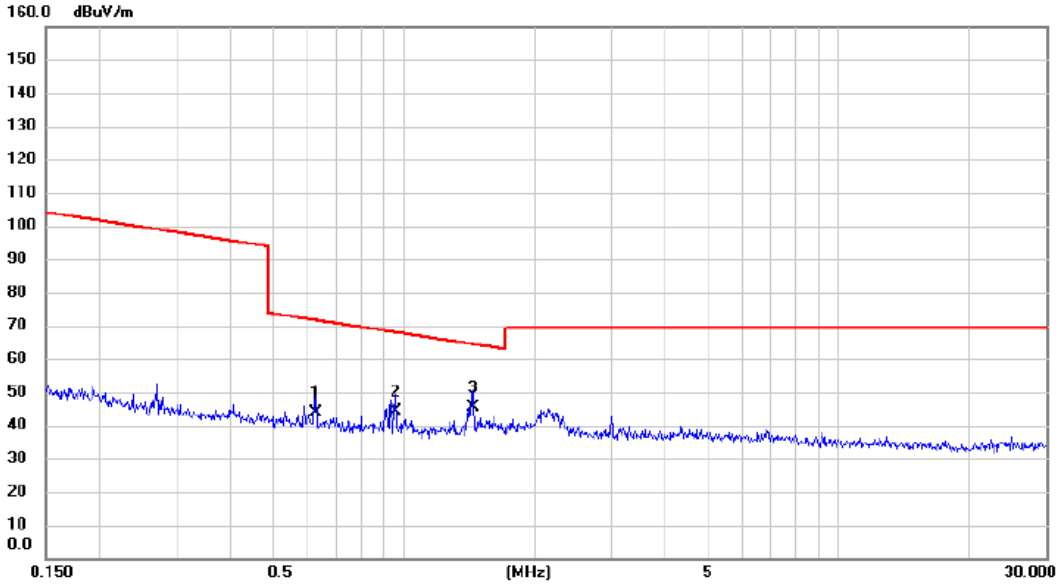


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	0.0134	37.87	15.17	53.04	125.06	-72.02	AVG	
2		0.0317	30.16	12.81	42.97	117.58	-74.61	AVG	
3		0.0590	23.26	12.38	35.64	112.19	-76.55	AVG	

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

Test Mode:	TX Mode Channel 19 _2Mbps

Ant 90°



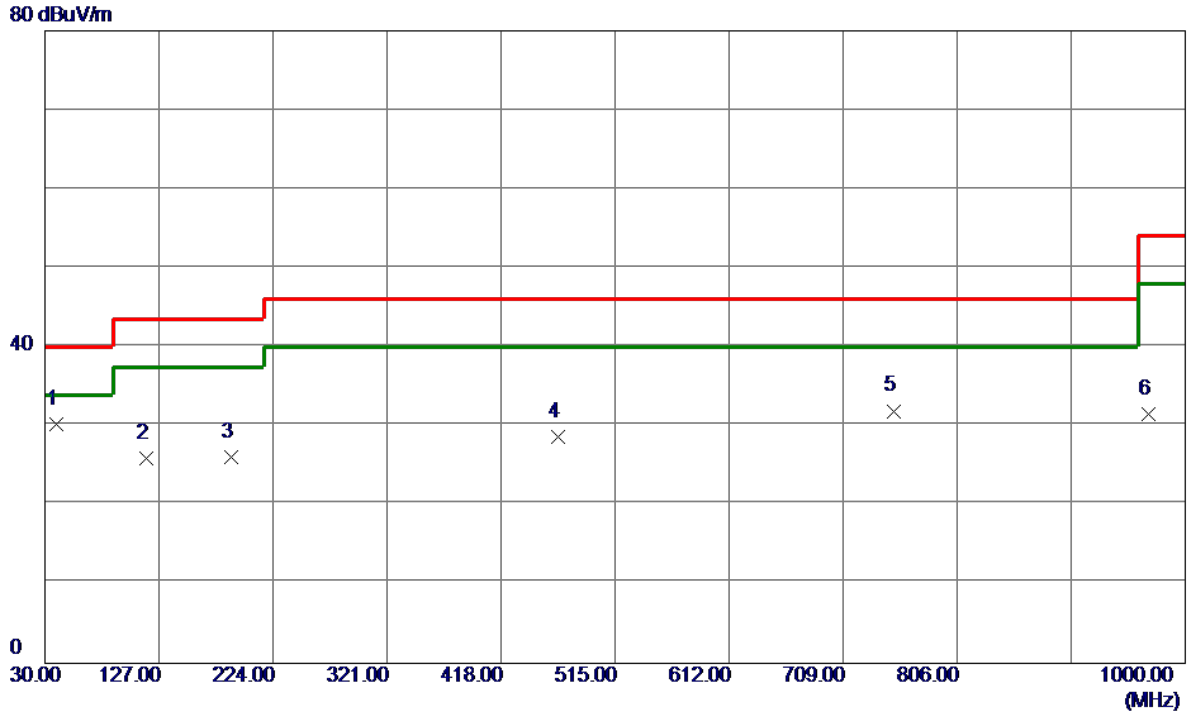
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.6271	31.97	11.72	43.69	71.66	-27.97	QP	
2		0.9582	32.45	11.62	44.07	67.98	-23.91	QP	
3	*	1.4410	33.89	11.35	45.24	64.43	-19.19	QP	

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

APPENDIX C - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

Test Mode:	TX Mode Channel 19 _2Mbps

Vertical

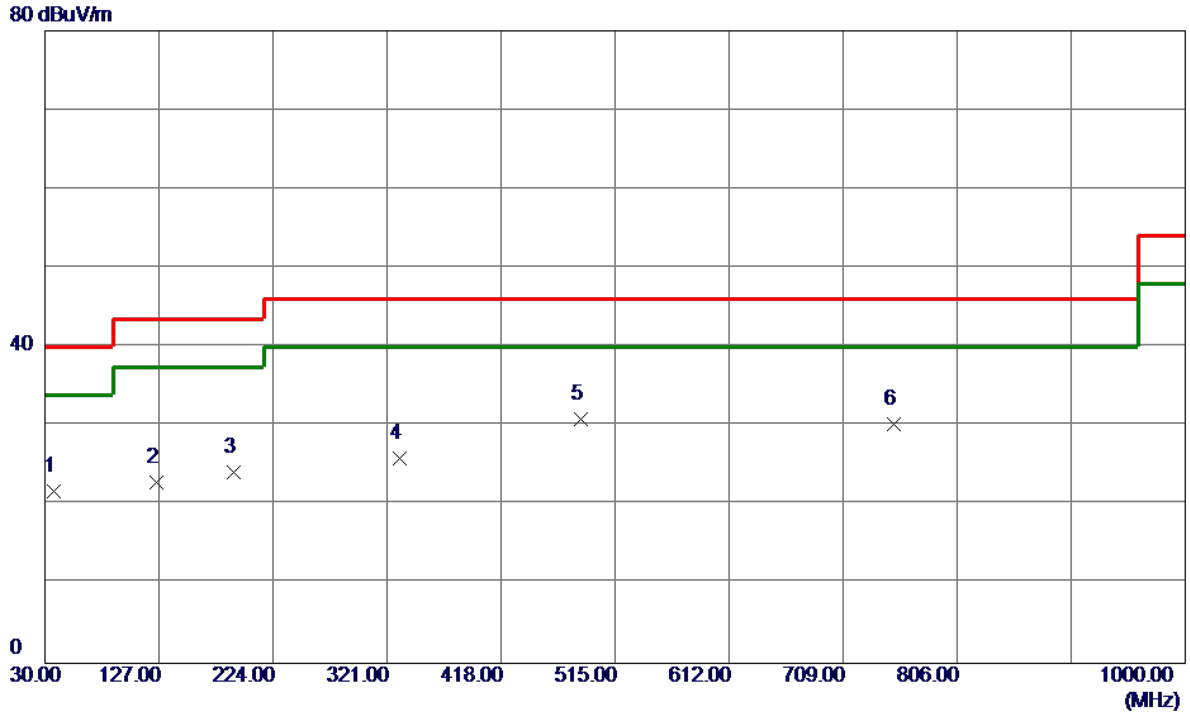


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	39.7000	43.77	-13.48	30.29	40.00	-9.71	Peak	
2	116.3300	39.13	-13.15	25.98	43.50	-17.52	Peak	
3	188.1100	39.77	-13.68	26.09	43.50	-17.41	Peak	
4	466.5000	35.88	-7.23	28.65	46.00	-17.35	Peak	
5	751.6800	34.68	-2.76	31.92	46.00	-14.08	Peak	
6	968.9600	30.45	1.07	31.52	54.00	-22.48	Peak	

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

Test Mode:	TX Mode Channel 19 _2Mbps

Horizontal



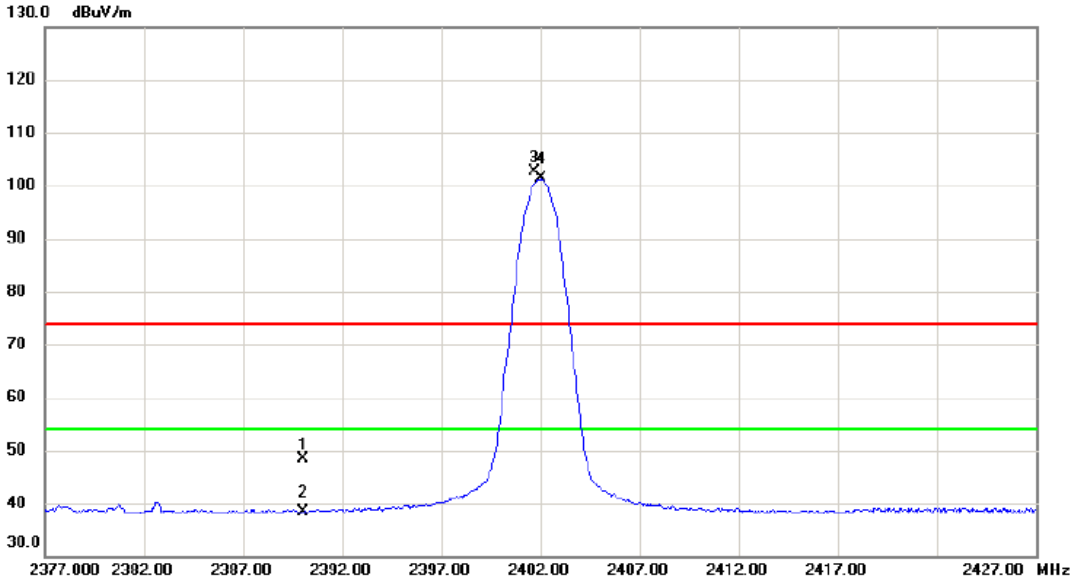
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	37.7599	35.90	-14.19	21.71	40.00	-18.29	Peak	
2	125.0600	35.52	-12.61	22.91	43.50	-20.59	Peak	
3	191.0200	38.19	-13.99	24.20	43.50	-19.30	Peak	
4	331.6700	36.23	-10.27	25.96	46.00	-20.04	Peak	
5 *	485.9000	37.98	-7.08	30.90	46.00	-15.10	Peak	
6	751.6800	32.98	-2.76	30.22	46.00	-15.78	Peak	

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

APPENDIX D - RADIATED EMISSION - ABOVE 1000 MHZ

Test Mode :	TX 2402 MHz _CH00_1Mbps

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	37.79	10.50	48.29	74.00	-25.71	peak	
2		2390.000	27.95	10.50	38.45	54.00	-15.55	AVG	
3	X	2401.700	92.20	10.53	102.73	74.00	28.73	peak	No Limit
4	*	2402.050	90.73	10.53	101.26	54.00	47.26	AVG	No Limit

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

Test Mode :	TX 2402 MHz _CH00_1Mbps

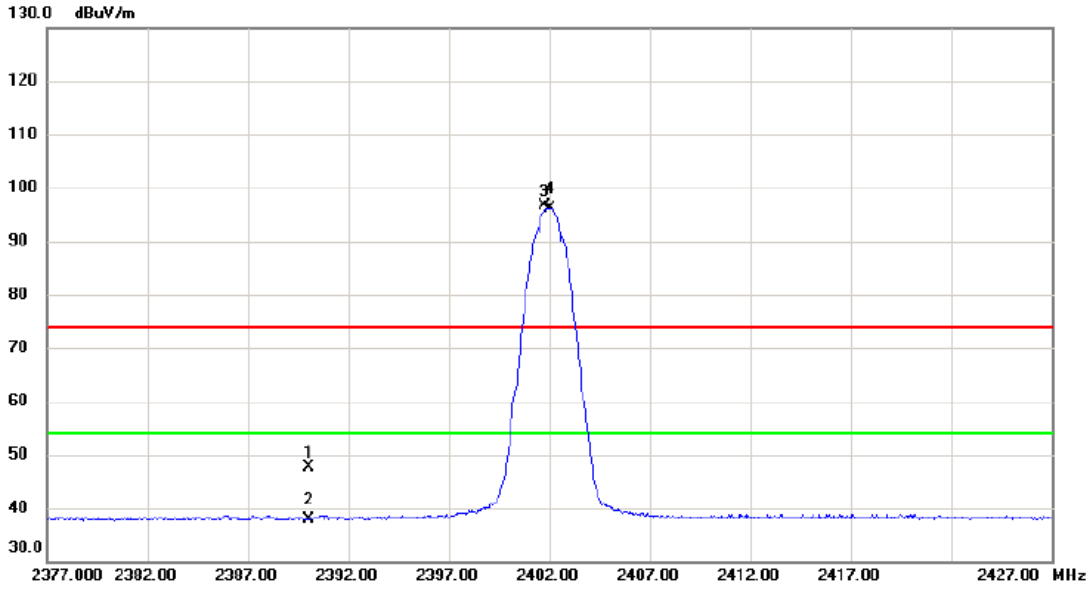
Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4803.9500	29.92	6.48	36.40	54.00	-17.60	AVG	
2	4804.4600	38.30	6.48	44.78	74.00	-29.22	Peak	

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

Test Mode :	TX 2402 MHz _CH00_1Mbps

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	37.14	10.50	47.64	74.00	-26.36	peak	
2		2390.000	27.48	10.50	37.98	54.00	-16.02	AVG	
3	X	2401.750	86.21	10.53	96.74	74.00	22.74	peak	No Limit
4	*	2402.050	85.68	10.53	96.21	54.00	42.21	AVG	No Limit

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

Test Mode :	TX 2402 MHz _CH00_1Mbps

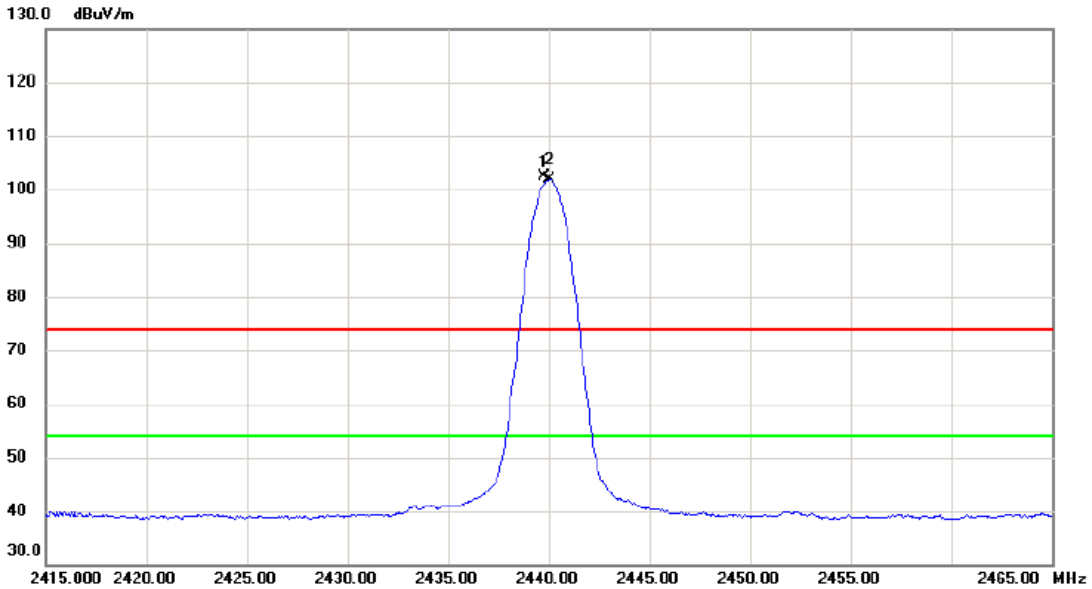
Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4803.8150	28.36	6.48	34.84	54.00	-19.16	AVG	
2	4804.5850	37.36	6.48	43.84	74.00	-30.16	Peak	

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

Test Mode :	TX 2440 MHz _CH19_1Mbps

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2439.750	91.63	10.64	102.27	74.00	28.27	peak	No Limit
2	*	2440.050	91.14	10.64	101.78	54.00	47.78	AVG	No Limit

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

Test Mode :	TX 2440 MHz _CH19_1Mbps

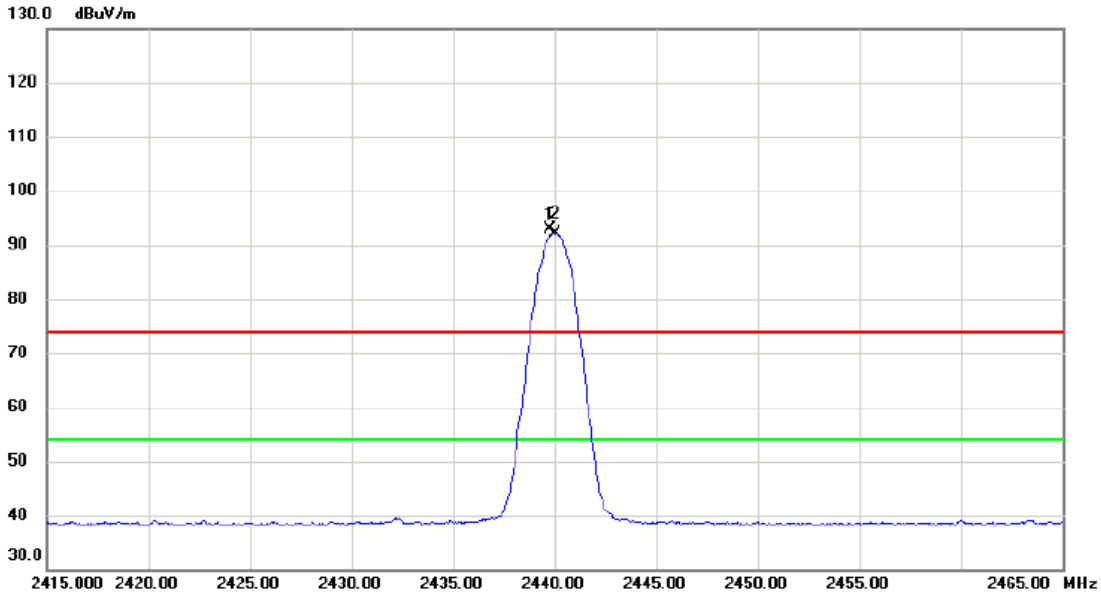
Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4879.8500	28.38	6.66	35.04	54.00	-18.96	AVG	
2	4880.4600	37.08	6.66	43.74	74.00	-30.26	Peak	

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

Test Mode :	TX 2440 MHz _CH19_1Mbps

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2439.750	82.16	10.64	92.80	74.00	18.80	peak	No Limit
2	*	2440.050	81.58	10.64	92.22	54.00	38.22	AVG	No Limit

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

Test Mode :	TX 2440 MHz _CH19_1Mbps

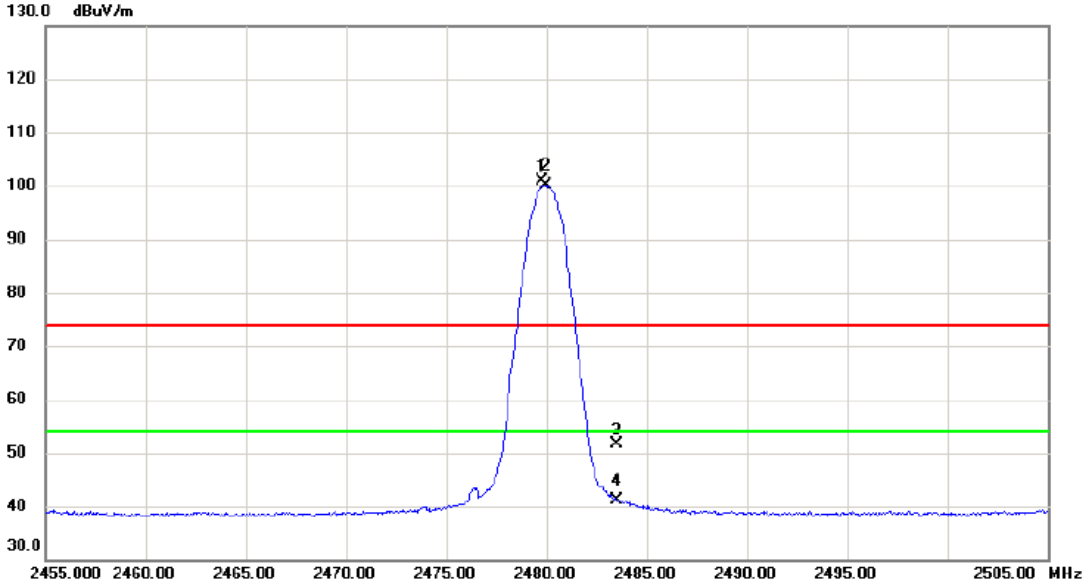
Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4879.9850	26.40	6.66	33.06	54.00	-20.94	AVG	
2	4880.1549	37.23	6.66	43.89	74.00	-30.11	Peak	

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

Test Mode :	TX 2480 MHz _CH39_1Mbps

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2479.750	90.02	10.76	100.78	74.00	26.78	peak	No Limit
2	*	2479.950	89.43	10.76	100.19	54.00	46.19	AVG	No Limit
3		2483.500	40.96	10.76	51.72	74.00	-22.28	peak	
4		2483.500	30.48	10.76	41.24	54.00	-12.76	AVG	

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

Test Mode :	TX 2480 MHz _CH39_1Mbps

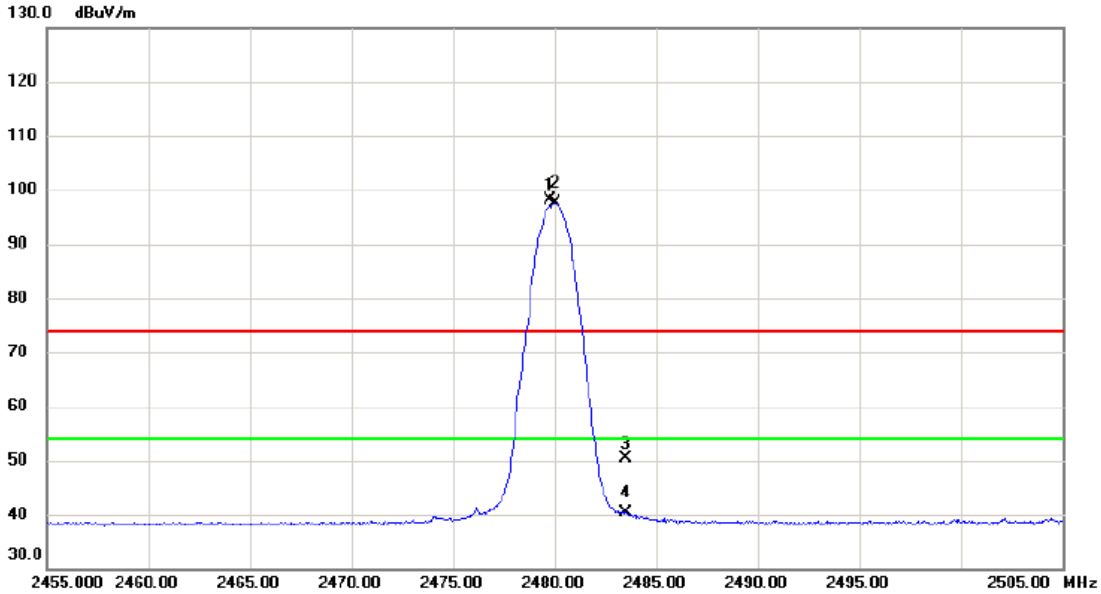
Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4959.4800	38.07	6.86	44.93	74.00	-29.07	Peak	
2 *	4959.8300	28.36	6.86	35.22	54.00	-18.78	AVG	

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

Test Mode :	TX 2480 MHz _CH39_1Mbps

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2479.750	87.33	10.76	98.09	74.00	24.09	peak	No Limit
2	*	2480.000	86.80	10.76	97.56	54.00	43.56	AVG	No Limit
3		2483.500	39.59	10.76	50.35	74.00	-23.65	peak	
4		2483.500	29.53	10.76	40.29	54.00	-13.71	AVG	

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

Test Mode :	TX 2480 MHz _CH39_1Mbps

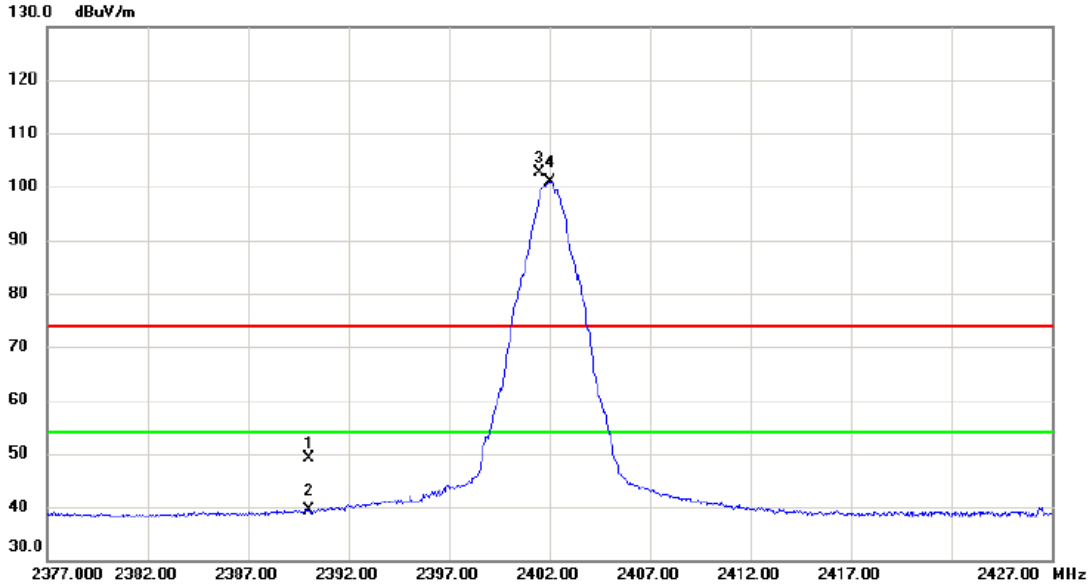
Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4959.8400	37.66	6.86	44.52	74.00	-29.48	Peak	
2 *	4960.0450	26.16	6.86	33.02	54.00	-20.98	AVG	

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

Test Mode :	TX 2402 MHz _CH00_2Mbps

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	38.75	10.50	49.25	74.00	-24.75	peak	
2		2390.000	28.78	10.50	39.28	54.00	-14.72	AVG	
3	X	2401.500	92.02	10.53	102.55	74.00	28.55	peak	No Limit
4	*	2402.000	90.33	10.53	100.86	54.00	46.86	AVG	No Limit

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

Test Mode :	TX 2402 MHz _CH00_2Mbps

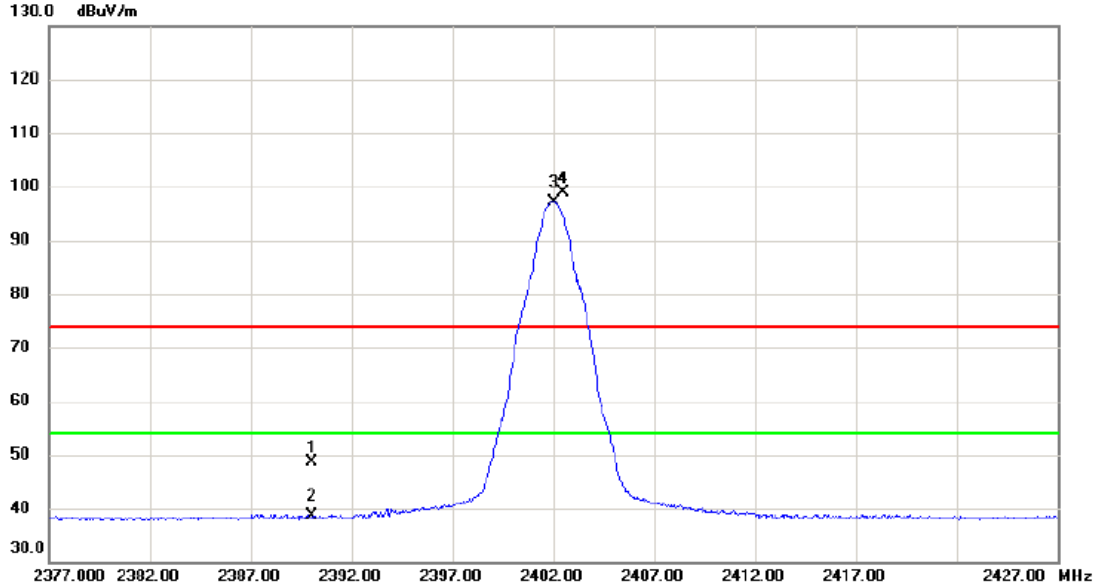
Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4803.0000	37.64	6.47	44.11	74.00	-29.89	Peak	
2 *	4803.4150	27.03	6.47	33.50	54.00	-20.50	AVG	

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

Test Mode :	TX 2402 MHz _CH00_2Mbps

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		2390.000	38.05	10.50	48.55	74.00	-25.45	peak	
2		2390.000	28.18	10.50	38.68	54.00	-15.32	AVG	
3	*	2402.000	86.70	10.53	97.23	54.00	43.23	AVG	No Limit
4	X	2402.500	88.44	10.54	98.98	74.00	24.98	peak	No Limit

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

Test Mode :	TX 2402 MHz _CH00_2Mbps

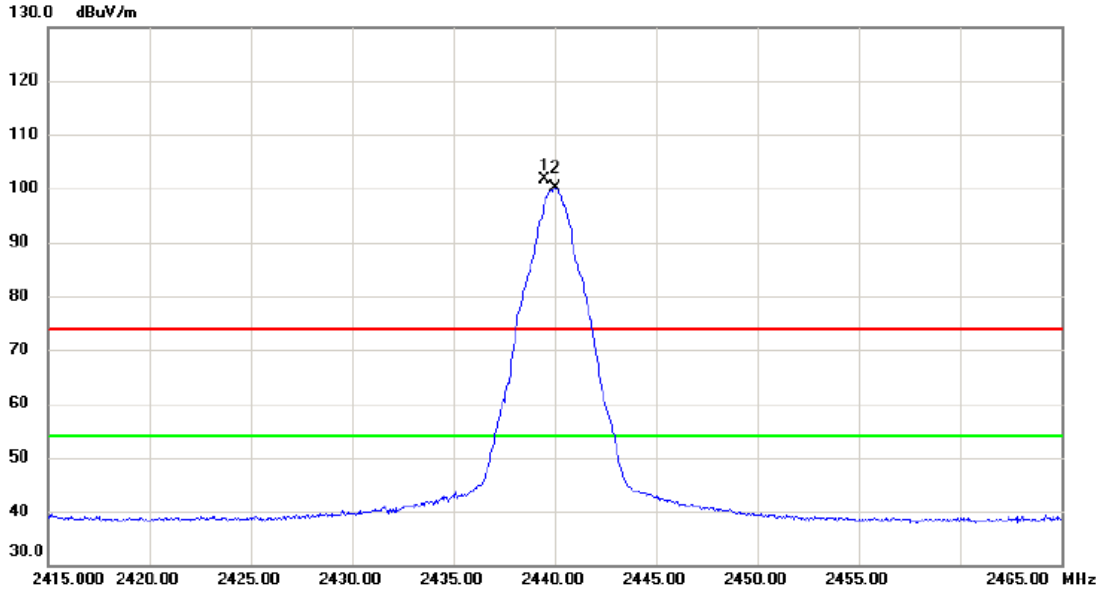
Horizontal

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4803.1150	24.68	6.47	31.15	54.00	-22.85	AVG	
2	4803.1300	36.93	6.47	43.40	74.00	-30.60	Peak	

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

Test Mode :	TX 2440 MHz _CH19_2Mbps

Vertical

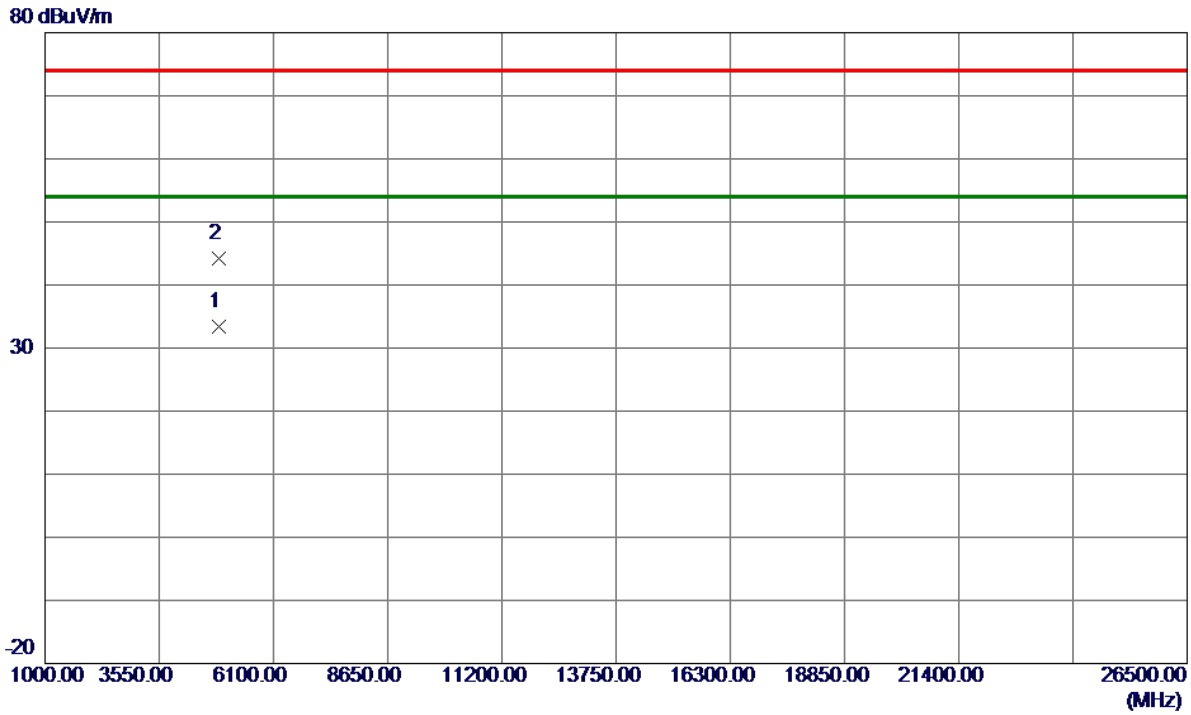


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2439.500	90.87	10.64	101.51	74.00	27.51	peak	No Limit
2	*	2440.000	89.37	10.64	100.01	54.00	46.01	AVG	No Limit

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

Test Mode :	TX 2440 MHz _CH19_2Mbps

Vertical

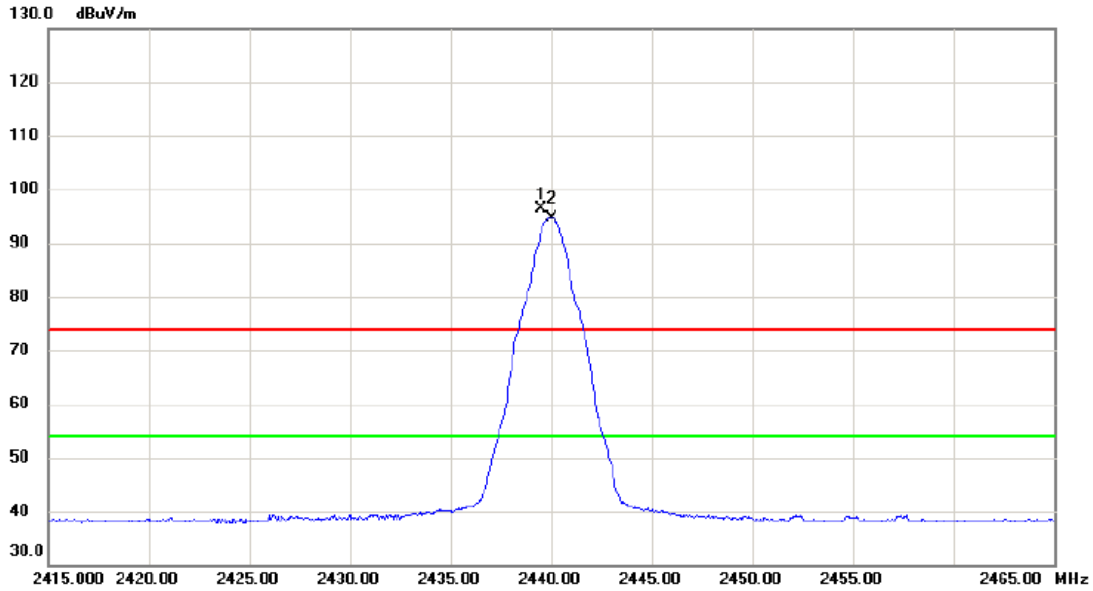


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4879.2050	26.74	6.66	33.40	54.00	-20.60	AVG	
2	4880.9850	37.54	6.67	44.21	74.00	-29.79	Peak	

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

Test Mode :	TX 2440 MHz _CH19_2Mbps

Horizontal

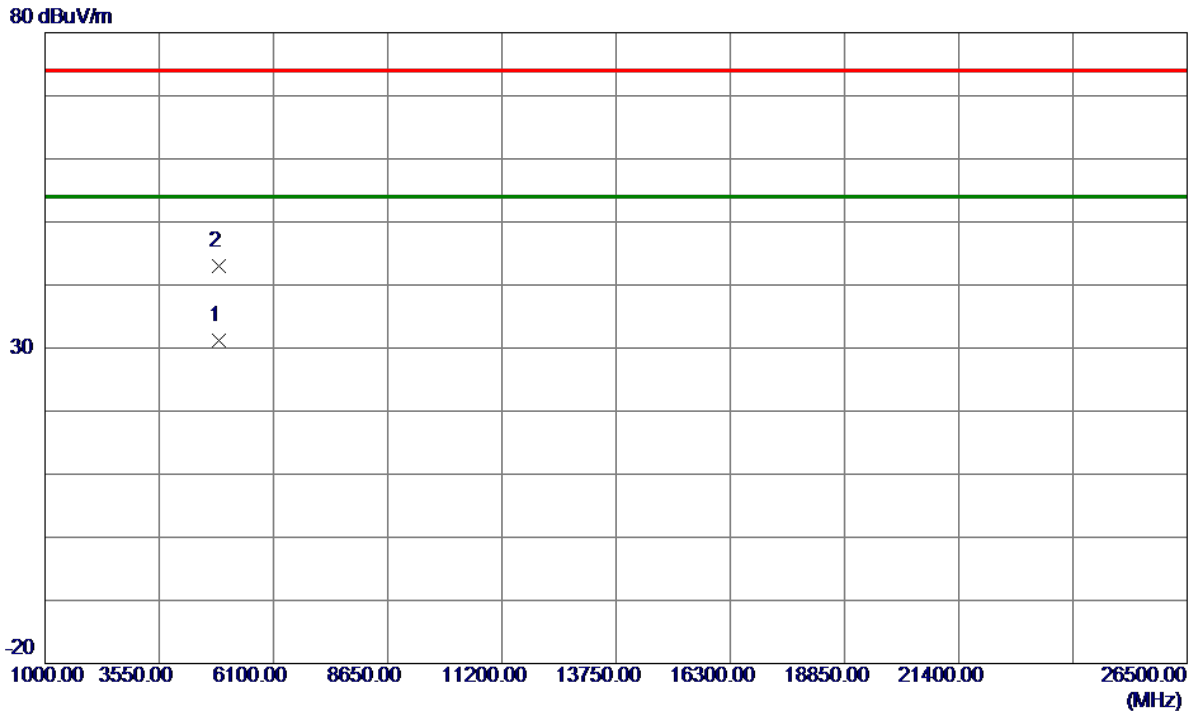


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2439.500	85.75	10.64	96.39	74.00	22.39	peak	No Limit
2	*	2440.000	84.09	10.64	94.73	54.00	40.73	AVG	No Limit

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

Test Mode :	TX 2440 MHz _CH19_2Mbps

Horizontal

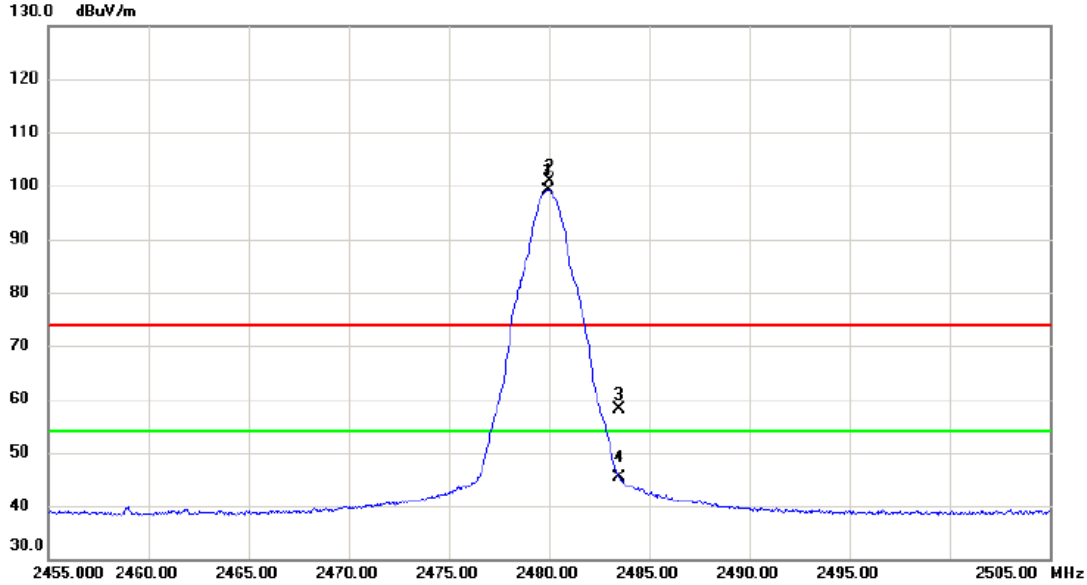


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1 *	4879.2950	24.57	6.66	31.23	54.00	-22.77	AVG	
2	4880.6500	36.26	6.67	42.93	74.00	-31.07	Peak	

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

Test Mode :	TX 2480 MHz _CH39_2Mbps

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2479.950	88.43	10.76	99.19	54.00	45.19	AVG	No Limit
2	X	2480.000	90.09	10.76	100.85	74.00	26.85	peak	No Limit
3		2483.500	47.30	10.76	58.06	74.00	-15.94	peak	
4		2483.500	34.70	10.76	45.46	54.00	-8.54	AVG	

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

Test Mode :	TX 2480 MHz _CH39_2Mbps

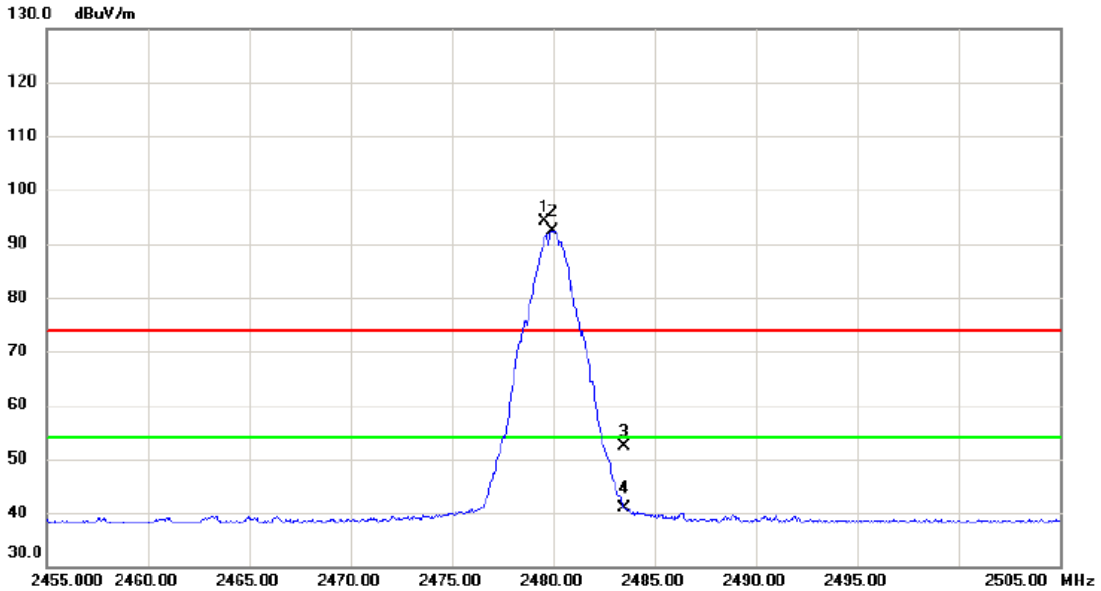
Vertical

No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4958.9200	37.06	6.86	43.92	74.00	-30.08	Peak	
2 *	4959.3200	26.23	6.86	33.09	54.00	-20.91	AVG	

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

Test Mode :	TX 2480 MHz _CH39_2Mbps

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	X	2479.550	83.32	10.76	94.08	74.00	20.08	peak	No Limit
2	*	2479.950	81.64	10.76	92.40	54.00	38.40	AVG	No Limit
3		2483.500	41.52	10.76	52.28	74.00	-21.72	peak	
4		2483.500	30.20	10.76	40.96	54.00	-13.04	AVG	

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

Test Mode :	TX 2480 MHz _CH39_2Mbps

Horizontal

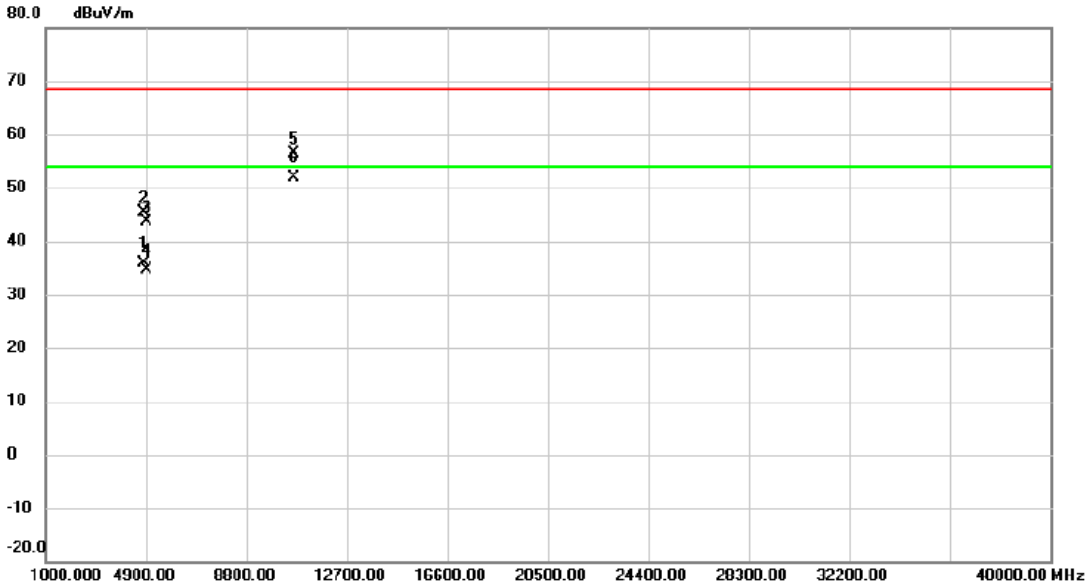
No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin		
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	4958.9600	35.56	6.86	42.42	74.00	-31.58	Peak	
2 *	4959.3750	23.40	6.86	30.26	54.00	-23.74	AVG	

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

The worst case of simultaneous transmission:

Test Mode :	TX Bluetooth LE 1Mbps 2402MHz + WLAN 2.4G AX40 Mode 2452MHz + WLAN 5G A Mode 5320MHz

Vertical

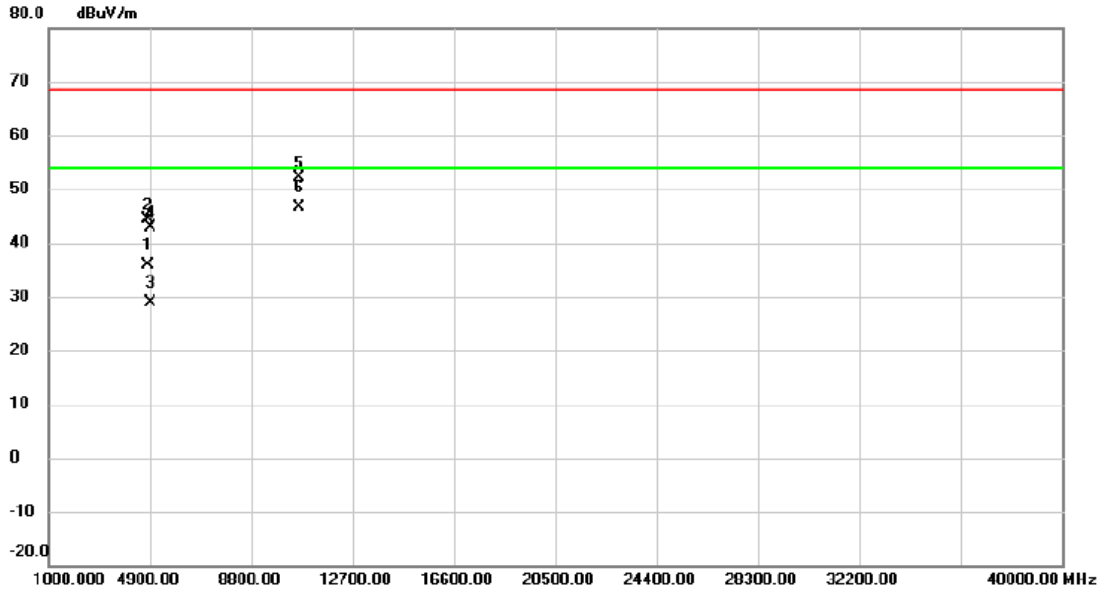


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.963	29.49	6.48	35.97	54.00	-18.03	AVG	
2		4805.101	38.95	6.48	45.43	68.30	-22.87	peak	
3		4903.998	36.80	6.73	43.53	68.30	-24.77	peak	
4		4904.120	27.96	6.73	34.69	54.00	-19.31	AVG	
5		10640.117	41.23	15.17	56.40	68.30	-11.90	peak	
6	*	10640.253	36.81	15.17	51.98	54.00	-2.02	AVG	

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

Test Mode :	TX Bluetooth LE 1Mbps 2402MHz + WLAN 2.4G AX40 Mode 2452MHz + WLAN 5G A Mode 5320MHz

Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4804.008	29.48	6.48	35.96	54.00	-18.04	AVG	
2		4804.258	37.88	6.48	44.36	68.30	-23.94	peak	
3		4903.986	22.15	6.73	28.88	54.00	-25.12	AVG	
4		4905.127	36.19	6.73	42.92	68.30	-25.38	peak	
5		10639.896	36.93	15.17	52.10	68.30	-16.20	peak	
6	*	10639.989	31.53	15.17	46.70	54.00	-7.30	AVG	

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

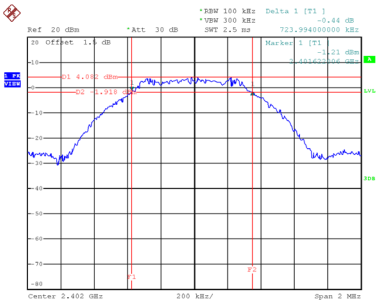
APPENDIX E - BANDWIDTH

Test Mode:	CH00, CH19 , CH39 - 1Mbps

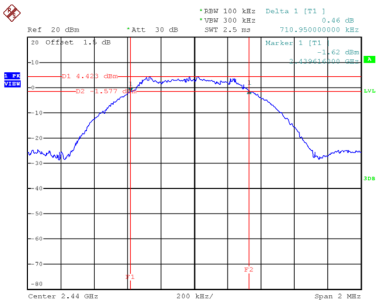
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Emission Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Test Result
00	2402	0.724	1.060	500	Pass
19	2440	0.711	1.032	500	Pass
39	2480	0.714	1.048	500	Pass

CH00 **CH19** **CH39**

6 dB Bandwidth



Date: 1.JUN.2020 14:27:50



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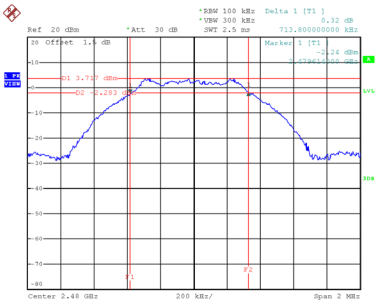

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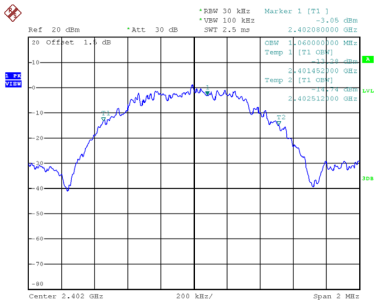
99 % Emission Bandwidth



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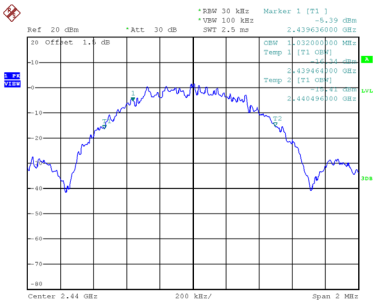

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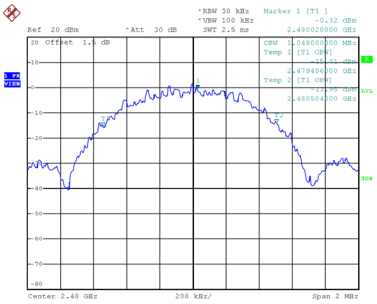


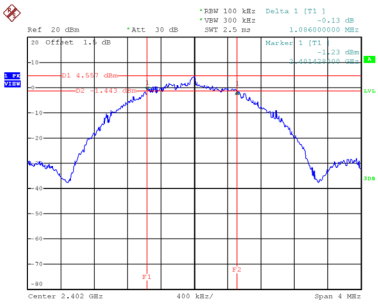
Date: 1.JUN.2020 14:35:15

Test Mode:	CH00, CH19 , CH39 - 2Mbps

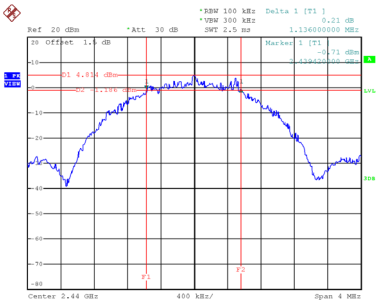
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	99 % Emission Bandwidth (MHz)	6 dB Bandwidth Min. Limit (kHz)	Test Result
00	2402	1.086	2.032	500	Pass
19	2440	1.136	2.056	500	Pass
39	2480	1.176	2.040	500	Pass

CH00 **CH19** **CH39**

6 dB Bandwidth



Date: 1.JUN.2020 14:37:46



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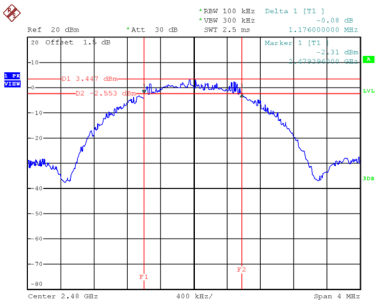
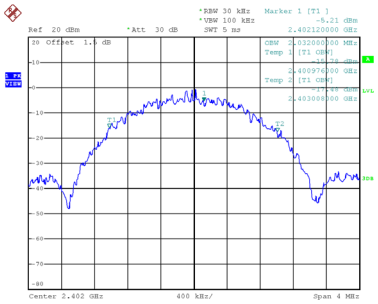


Date: 1.JUN.2020 14:41:41

99 % Emission Bandwidth



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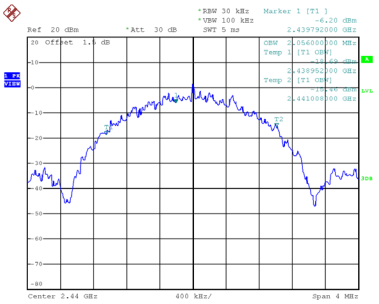

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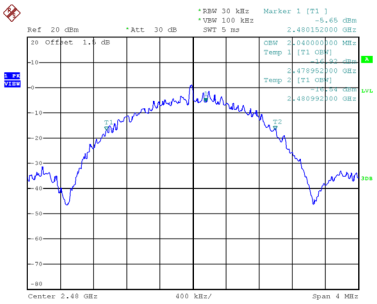


Date: 1.JUN.2020 14:41:47

APPENDIX F - MAXIMUM OUTPUT POWER

Test Mode :	CH00, CH19 , CH39 - 1Mbps

Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	4.57	0.0029	30.00	1.00	Pass
2440	4.82	0.0030	30.00	1.00	Pass
2480	4.07	0.0026	30.00	1.00	Pass

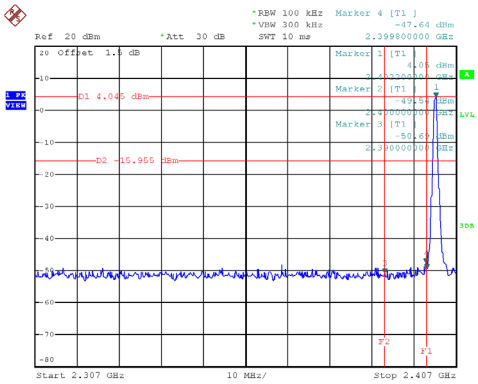
Test Mode :	CH00, CH19 , CH39 - 2Mbps

Frequency (MHz)	Output Power (dBm)	Output Power (W)	Max. Limit (dBm)	Max. Limit (W)	Test Result
2402	4.62	0.0029	30.00	1.00	Pass
2440	4.86	0.0031	30.00	1.00	Pass
2480	4.06	0.0025	30.00	1.00	Pass

APPENDIX G - CONDUCTED SPURIOUS EMISSION

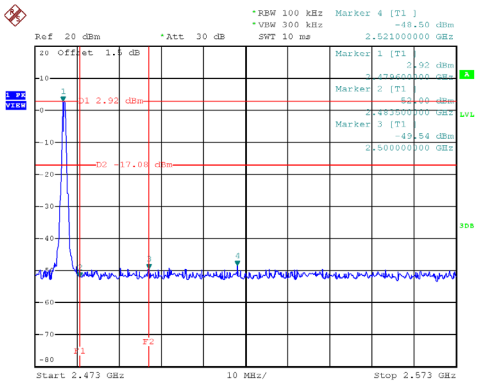
Test Mode :	CH00, CH19 , CH39 - 1Mbps

Bandedge CH00 (Lower)



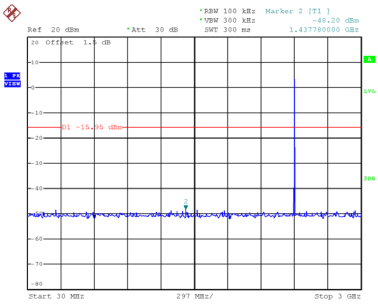
Date: 1.JUN.2020 14:27:57

Bandedge CH39 (Upper)

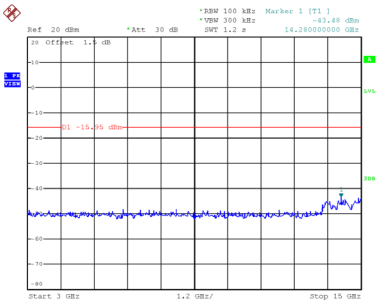


Date: 1.JUN.2020 14:35:22

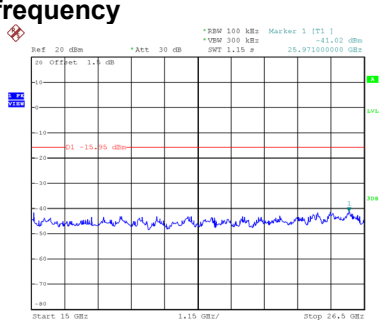
CH00 – 10th Harmonic of the fundamental frequency



Date: 1.JUN.2020 14:28:09

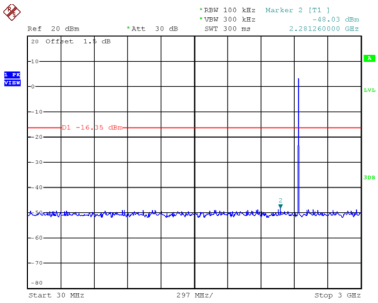


Date: 1.JUN.2020 14:28:16

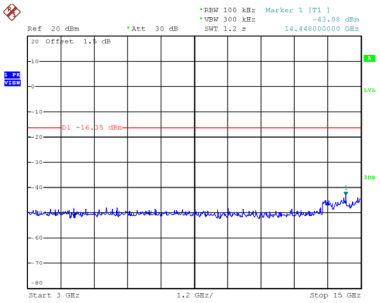


Date: 1.JUN.2020 14:28:23

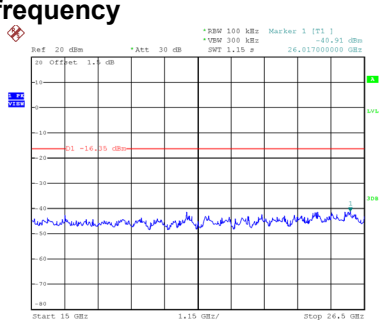
CH19 – 10th Harmonic of the fundamental frequency



Date: 1.JUN.2020 14:31:10

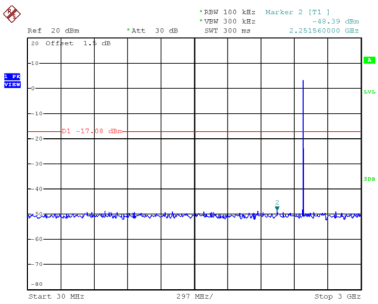


Date: 1.JUN.2020 14:31:17

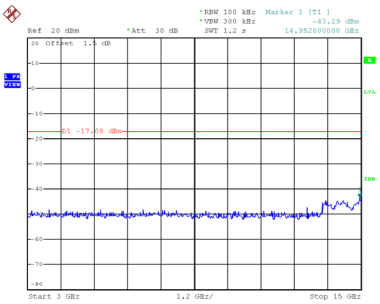


Date: 1.JUN.2020 14:31:23

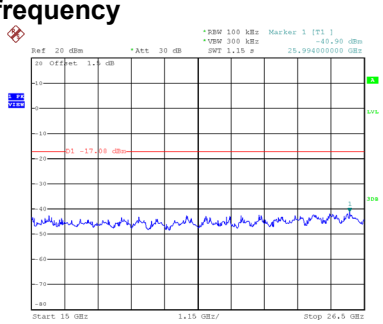
CH39 – 10th Harmonic of the fundamental frequency



Date: 1.JUN.2020 14:35:34



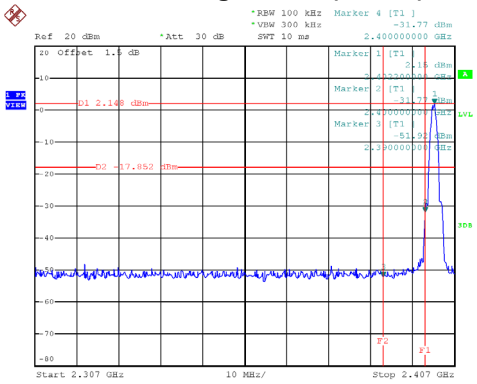
Date: 1.JUN.2020 14:35:41



Date: 1.JUN.2020 14:35:48

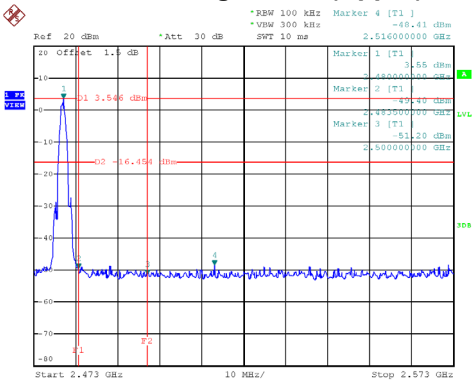
Test Mode :	CH00, CH19 , CH39 - 2Mbps

Bandedge CH00 (Lower)



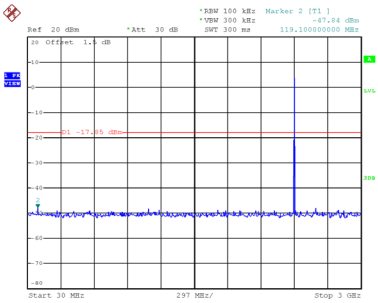
Date: 1.JUN.2020 14:37:53

Bandedge CH39 (Upper)

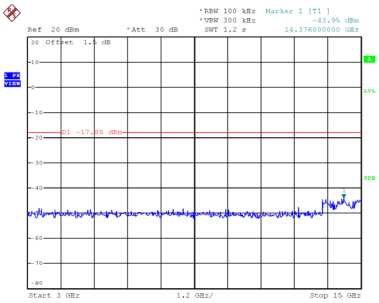


Date: 1.JUN.2020 14:41:54

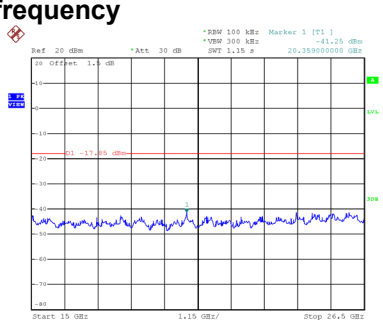
CH00 – 10th Harmonic of the fundamental frequency



Date: 1.JUN.2020 14:38:05

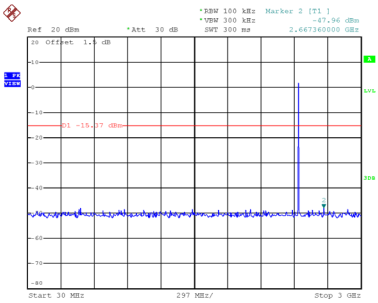


Date: 1.JUN.2020 14:38:12

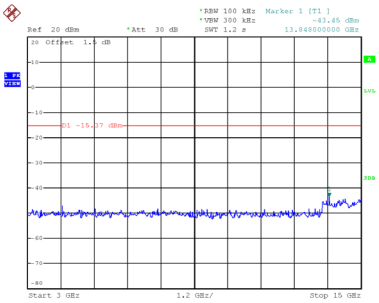


Date: 1.JUN.2020 14:38:19

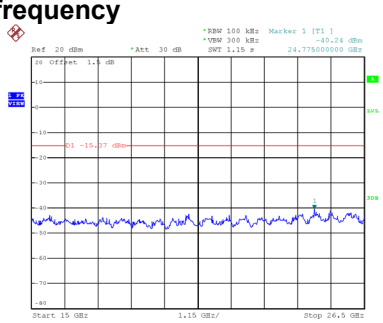
CH19 – 10th Harmonic of the fundamental frequency



Date: 1.JUN.2020 14:40:09

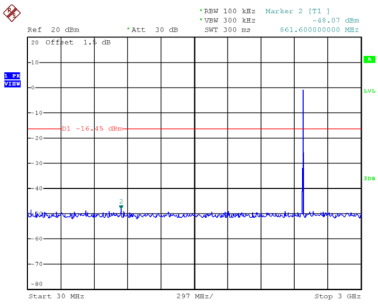


Date: 1.JUN.2020 14:40:16

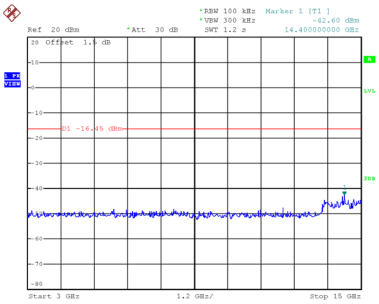


Date: 1.JUN.2020 14:40:23

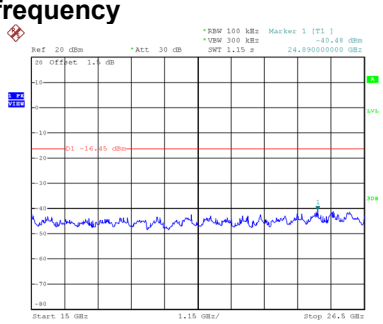
CH39 – 10th Harmonic of the fundamental frequency



Date: 1.JUN.2020 14:42:06



Date: 1.JUN.2020 14:42:13



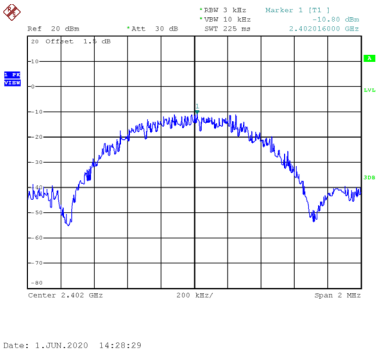
Date: 1.JUN.2020 14:42:20

APPENDIX H - POWER SPECTRAL DENSITY

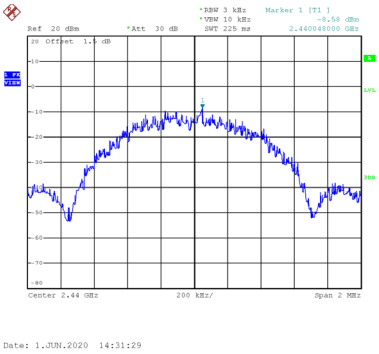
Test Mode:	CH00, CH19 , CH39 - 1Mbps

Channel	Frequency (MHz)	Power Spectral Density (dBm/3 kHz)	Max. Limit (dBm/3 kHz)	Test Result
00	2402	-10.80	8.00	Pass
19	2440	-8.58	8.00	Pass
39	2480	-10.56	8.00	Pass

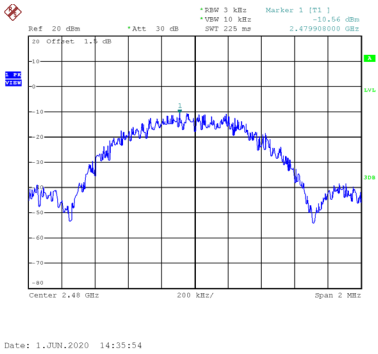
CH00



CH19



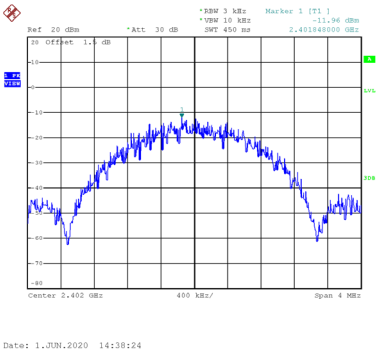
CH39



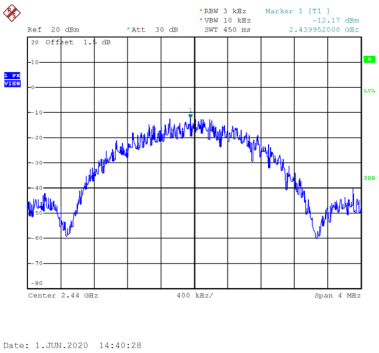
Test Mode:	CH00, CH19 , CH39 - 2Mbps

Channel	Frequency (MHz)	Power Spectral Density (dBm/3 kHz)	Max. Limit (dBm/3 kHz)	Test Result
00	2402	-11.96	8.00	Pass
19	2440	-12.17	8.00	Pass
39	2480	-13.35	8.00	Pass

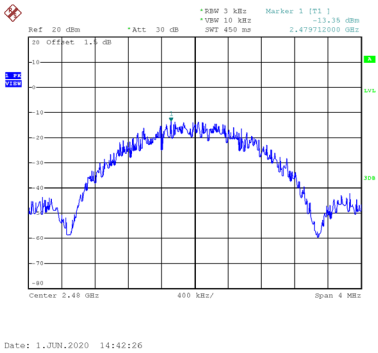
CH00



CH19



CH39



End of Test Report