

FCC PART 90 TEST REPORT
for
TRANSMITTER POCSAG ENCODER
Model No.: TX-200EN
FCC ID: NDATX200ENV

of

Applicant: **Gold Apollo Co., Ltd.**
Address: **Rm. 1, 3F., No.77, Sec. 1, Xintai 5th Rd., Xizhi Dist., New
Taipei City 221, Taiwan (R.O.C.)**

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1477, TW0020, TW1072

Industry Canada filed test laboratory Reg. No. 20037

A2LA Accredited No.: 2732.01



Report No.: W6M21909-19370-C-1

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
TEL: 886-2-66068877 FAX: 886-2-66068879 E-mail: wts@wts-lab.com

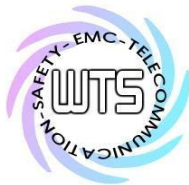
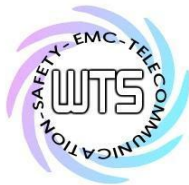


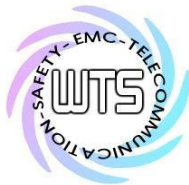
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1. General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems. The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.

The test report may only be reproduced or published in full.

Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.

Tester:

December 13, 2019

Kent Lin

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

December 13, 2019

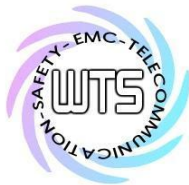
Kevin Wang

Date

WTS

Name

Signature



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1.2 Testing laboratory

1.2.1 Location

OATS

No.5-1, Lishui, Shuang Sing Village,
Wanli Dist., New Taipei City 207,
Taiwan (R.O.C.)

Company

Worldwide Testing Services(Taiwan) Co., Ltd.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.

Tel : 886-2-66068877

Fax : 886-2-66068879

1.2.2 Details of accreditation status

Accredited testing laboratory

A2LA accredited number: 2732.01

FCC filed test laboratory Reg. No. TW1477, TW0020, TW1072

Industry Canada filed test laboratory Reg. No. 20037

Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :

Name: ./.

Accredited number: ./.

Street: ./.

Town: ./.

Country: ./.

Telephone: ./.

Fax: ./.

1.3 Details of approval holder

Name: Gold Apollo Co., Ltd.

Street: Rm. 1, 3F., No.77, Sec. 1, Xintai 5th Rd., Xizhi Dist.,
City: New Taipei City 221,

Country: Taiwan (R.O.C.)

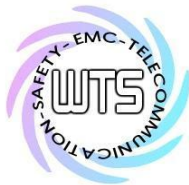
Telephone: +886 2 2698 8888

Fax: +886 2 2698 1750

1.4 Application details

Date of receipt of test item: October 22, 2019

Date of test: from October 23, 2019 to December 13, 2019



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1.5 General information of Test item

Type of test item: TRANSMITTER POCSAG ENCODER
Model Number: TX-200EN
Brand Name: Apollo
Multi-listing model number: TX-200, TX-200ENT, TX-200ENA, TX-200ENI, TX-200RP
Photos: See appendix

Technical data

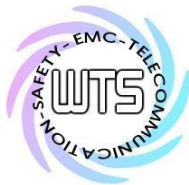
Frequency band: 150.8~156.2475 MHz, 157.1875~161.575 MHz, 161.775~161.9625 MHz, 162.0375~173.4 MHz
Sample tested frequency: 150.8125 MHz, 156.235 MHz, 157.2 MHz, 161.2625 MHz, 161.8625 MHz, 162.05 MHz, 167.7125 MHz, 173.3875 MHz
Channel spacing: 12.5 kHz
Type of modulation: FM, 2FSK
Designation of emission: 6K03F3D, 6K03F3E
Antenna Type / Gain: Dipole Antenna / 0 dBi
Connection of Antenna: ☒ detachable ☐ not detachable
Power Rating: 12Vd.c.
Operation modes: Simplex

Manufacturer: (if applicable)

Name: ./.
Street: ./.
Town: ./.
Country: ./.

1.6 Test standards

Technical standard: FCC RULES PART 90 (2018-10)



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2. Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.



or

The deviations were ascertained in the course of the tests performed.



2.2 Test environment

Relative humidity content: 20 ... 75 %

Air pressure: 86-103 KPa

Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Emission	Expanded Uncertainty: AMN: 1.30 dB Voltage probe: 1.36 dB
Estimation Result of Uncertainty of Radiated Emission(3M)	Expanded Uncertainty: 0.009-30 MHz: 2.02 dB 30-1000 MHz: 3.49 dB 1-18 GHz: 3.01 dB 18-40 GHz: 2.43 dB
Estimation Result of Uncertainty of Bandwidth Measurement 20 dB Bandwidth, Occupied bandwidth, Channel bandwidth, Necessary Bandwidth	Expanded Uncertainty: 0.45 kHz
Estimation Result of Uncertainty of Conducted Output Power Measurement Output power	Expanded Uncertainty: 1.72 dB
Estimation Result of Uncertainty of Conducted Spurious Emission Measurement Conducted spurious emission, Spectrum emission mask	Expanded Uncertainty: 1.72 dB
Estimation Result of Uncertainty of EIRP Measurement EIRP, ERP, Output power(dBm), Radiated spurious emission(dBm), Receiver spurious radiations (≥ 30 MHz)	Expanded Uncertainty: 30-200MHz: 2.50 dB 200-1000MHz: 2.50 dB 1-18GHz: 3.38 dB 18-40GHz: 3.04 dB

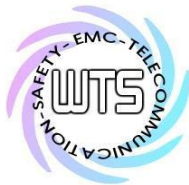
The decision rule is: Measurement uncertainty is not taken into account.

2.3 Description of Tested System

The EUT was tested with the Accessories or Peripherals Listed below:

Equipment	Model No.	Series No.	Software	Cable information	Note
--	--	--	--	--	--
--	--	--	--	--	--

Explanation: The EUT was configured as stand-alone device, and there are no accessories or peripherals during the test.



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2.4 Test Equipment List

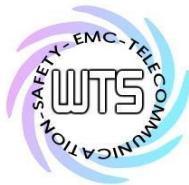
No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2019/6/4	2020/6/3
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2019/11/1	2020/10/31
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2019/9/24	2020/9/23
ETSTW-CE 008	HF-EICHLITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function Test	
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2019/7/23	2020/7/22
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2019/10/3	2020/10/2
ETSTW-CE 028	MXE EMI Receiver	N9038A	MY53220110	Agilent	2019/7/18	2020/7/17
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2019/6/4	2020/6/3
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2019/5/29	2020/5/28
ETSTW-RE 012	TUNABLE BANDREJECT FILTER	D.C 0309	146	K&L	Function Test	
ETSTW-RE 013	TUNABLE BANDREJECT FILTER	D.C 0336	397	K&L	Function Test	
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2019/7/25	2020/7/24
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	ETS-Lindgren	2019/7/22	2020/7/21
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	ETS-Lindgren	2019/4/2	2020/4/1
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2019/1/29	2020/1/28
ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2019/4/23	2020/4/22
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2019/5/13	2020/5/12
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-test Use	
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2019/2/27	2020/2/26
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2019/2/27	2020/2/26
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2019/2/27	2020/2/26
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2019/3/5	2020/3/4
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2019/2/27	2020/2/26
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2019/5/16	2020/5/15
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 069	Double-Ridged Guide Horn Antenna	3117	00069377	ETS-Lindgren	Function Test	
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2019/9/23	2020/9/22
ETSTW-RE 088	SOLID STATE AMPLIFIER	KMA180265A01	99057	KMIC	2019/9/18	2020/9/17
ETSTW-RE 091	Match Pad	MDCS1500	None	WOKEN	2019/5/9	2020/5/8
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2019/2/22	2020/2/21
ETSTW-RE 112	AC POWER SOURCE	TFC-1005	T-0A023536	T-Power	Function test	



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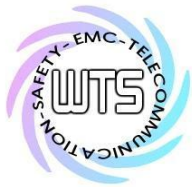
ETSTW-RE 115	2.4GHz Notch Filter	N0124411	473874	MICROWAVE CIRCUITS	2019/1/14	2020/1/13
ETSTW-RE 120	RF Player	MP9200	MP9210-111022	ADIVIC	Function test	
ETSTW-RE 122	SIGNAL GENERATOR	SMF100A	102149	R&S	2019/6/3	2020/6/2
ETSTW-RE 125	5GHz Notch filter	5NSL11-5200/E221.3-O/O	1	K&L Microwave	2019/8/8	2020/8/7
ETSTW-RE 126	5GHz Notch filter	5NSL12-5800/E221.3-O/O	1	K&L Microwave	2019/8/8	2020/8/7
ETSTW-RE 127	RF Switch Box	RFS-01	None	WTS	2019/2/26	2020/2/25
ETSTW-RE 128	5.3GHz Notch filter	N0153001	SN487233	Microwave Circuits	2019/8/8	2020/8/7
ETSTW-RE 129	5.5GHz Notch filter	N0555984	SN487234	Microwave Circuits	2019/8/8	2020/8/7
ETSTW-RE 130	Handheld RF Spectrum Analyzer	N9340A	CN0147000204	Agilent	Pre-test Use	
ETSTW-RE 142	Amplifier	8447D	2805A03378	Agilent	2019/5/16	2020/5/15
ETSTW-RE 147	Bi-log Hybrid Antenna	MCTD 2786B	BLB16M04005	ETC	2019/4/2	2020/4/1
ETSTW-RF 002	Electromagnetic field probe	LF-30	K-0007	STT	2019/5/27	2020/5/26
ETSTW-EMI 011	USB Compact Modulator	SFC-U	101689	R&S	2019/5/16	2020/5/15
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2019/3/5	2020/3/4
ETSTW-GSM 003	Radio Communication Analyzer	MT8820C	6201342073	Anritsu	2019/3/26	2020/3/25
ETSTW-GSM 004	Wideband Radio Communication Tester	CMW500	128092	R&S	2019/10/25	2020/10/24
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40/12+9SS	3	WI	2019/1/14	2020/1/13
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2019/1/14	2020/1/13
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2019/1/14	2020/1/13
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2019/1/14	2020/1/13
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2019/9/12	2020/9/11
ETSTW-GSM 024	Radio Communication Analyzer	MT8821C	None	Anritsu	2019/3/5	2020/3/4
ETSTW-GSM 025	Band Reject Filter	BRM19835	001	Micro-Tronics	2019/8/9	2020/8/8
ETSTW-Cable 011	SMA to N type Cable	RGU-400	None	THERMAX	Pre-test Use NCR	
ETSTW-Cable 016	BNC Cable	Switch Box	B Cable 1	Schwarz beck	2019/2/21	2020/2/20
ETSTW-Cable 017	BNC Cable	X Cable	B Cable 2	Schwarz beck	2019/2/21	2020/2/20
ETSTW-Cable 018	BNC Cable	Y Cable	B Cable 3	Schwarz beck	2019/2/21	2020/2/20
ETSTW-Cable 019	BNC Cable	Z Cable	B Cable 4	Schwarz beck	2019/2/21	2020/2/20
ETSTW-Cable 020	N TYPE Cable	OATS Cable 1	N30N30-L335-15M	JYE BAO CO.,LTD.	2019/7/2	2020/7/1
ETSTW-Cable 026	Microwave Cable	SUCOFLEX 104	279075	HUBER+SUHNER	2019/2/25	2020/2/24
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2019/5/14	2020/5/13
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2019/9/18	2020/9/17
ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2019/9/18	2020/9/17
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9)	279067	HUBER+SUHNER	2019/2/25	2020/2/24
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2019/5/16	2020/5/15
ETSTW-Cable 058	Microwave Cable	SUCOFLEX 104	none	HUBER+SUHNER	2019/6/6	2020/6/5



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ETSTW-Cable 064	Microwave Cable	SUCOFLEX 104	MY28891	HUBER+SUHNER	2019/5/16	2020/5/15
ETSTW-Cable 066	SMA type cable	32022	None	ASTROLAB	2019/9/24	2020/9/23
ETSTW-Cable 071	N TYPE CABLE	EMCCFD400-NM-NM-25000	170239	EMCI	2019/6/6	2020/6/5
ETSTW-Cable 072	SMA type cable (8m)	SUCOFLEX 104	805800/4	HUBER+SUHNER	2019/5/16	2020/5/15
ETSTW-Cable 074	SMA type cable (2m)	SUCOFLEX 104	802563/4	HUBER+SUHNER	2019/5/16	2020/5/15
WTSTW-SW 002	EMI TEST SOFTWARE	EZ EMC	None	Farad	Version ETS-03A1	
WTSTW-SW 006	EMI TEST SOFTWARE	e3	None	AUDIX	Version 9.161014	
WTSTW-SW 008	Signal studio	Agilent	None	AUDIX	Version 2.0.0.1	
ETSTW-TH 001	Thermohygrometer	608-H1	45204316	Testo	2019/9/9	2020/9/8
ETSTW-TH 002	Thermohygrometer	608-H1	45204317	Testo	2019/9/9	2020/9/8

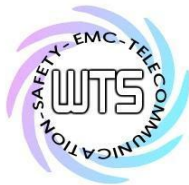


2.5 General Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The procedure used was ANSI STANDARD C63.10-2013 using a LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

RADIATION INTERFERENCE: The test procedure used was according to ANSI STANDARD C63.10-2013 employing a spectrum analyzer. For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100 kHz respectively with an appropriate sweep speed. For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

For hand-held devices, an exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.

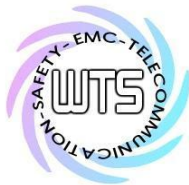


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3. Test results (enclosure)

TEST CASE	Para. Number	Required	Test passed	Test failed
Modulation Characteristics	2.1047(a) (b); 2.1033(c)	☐	☐	☐
Necessary Bandwidth	90.209	☒	☒	☐
Frequency stability	90.213	☒	☒	☐
Transmitter Output Power	90.205	☒	☒	☐
Emission masks	90.210	☒	☒	☐
Transmitter Spurious Radiated Emission	90.210	☒	☒	☐
Transmitter Spurious Conducted Emission	90.210	☒	☒	☐
Transient frequency behavior	90.214	☒	☒	☐
Receiver Radiated Spurious Emission	FCC part 15B	☐	☐	☐

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4. Modulation Characteristics

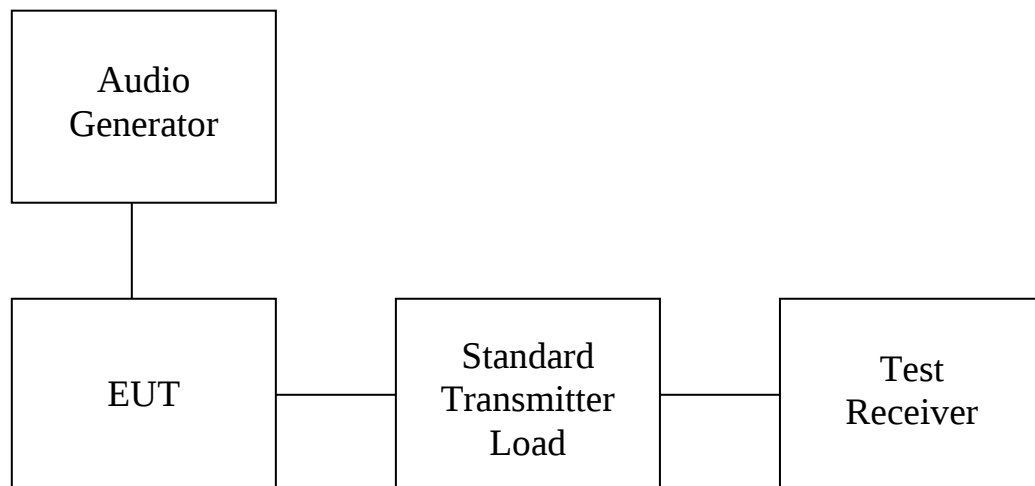
4.1 Test procedure

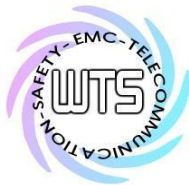
Modulation limiting is the transmitter circuit's ability to limit the transmitter from producing deviations in excess of rated system deviation.

The audio signal generator is connected to the audio input of the EUT with its full rating.

The modulation response is measured at certain modulation frequencies, related to 1000Hz reference signal. Tests are performed for positive and negative modulation.

4.2 Test Setup





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4.3 Test results

4.3.1 Audio Frequency Response

Rule Part No.: Part 2.1047(a)(b) Method of Measurement: The audio frequency response was measured in accordance with TIA/EIA Specification 603 with no exception. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 300 – 3000Hz shall be submitted. The audio frequency response curve is shown below.

Test Audio level 20mV

Test equipment used: ETSTW-RE 072

Explanation: The EUT belongs to digital device so this test is not required.

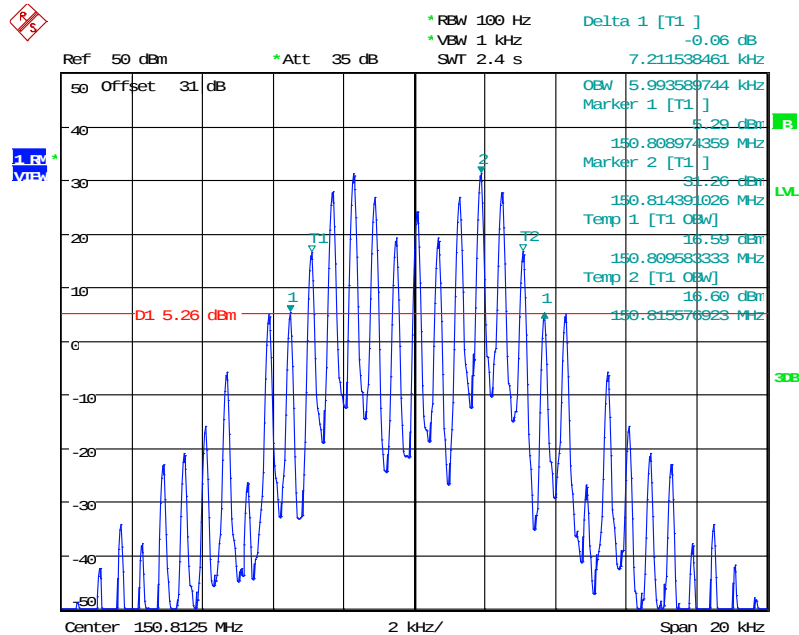


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4.3.2 Necessary Bandwidth

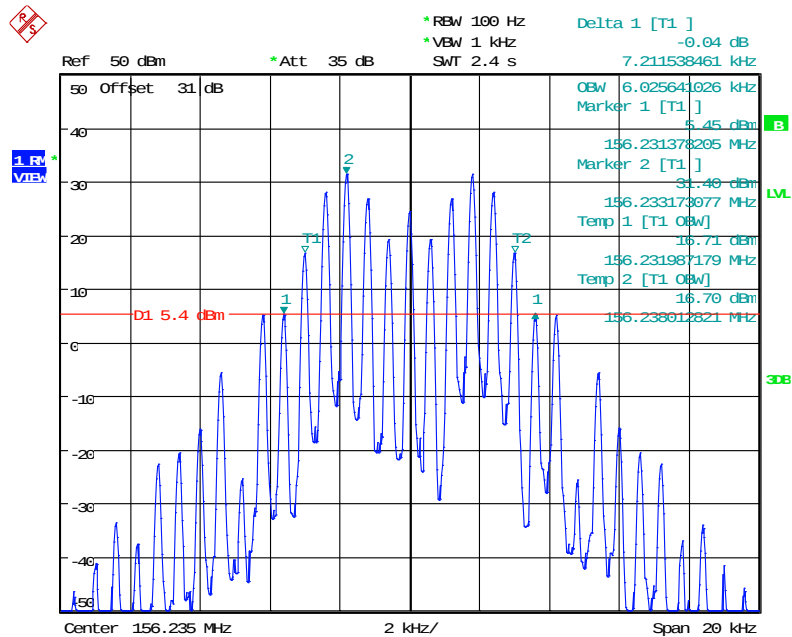
150.8125 MHz



NECESSARY BANDWIDTH

Date: 28.NOV.2019 14:46:10

156.235 MHz



NECESSARY BANDWIDTH

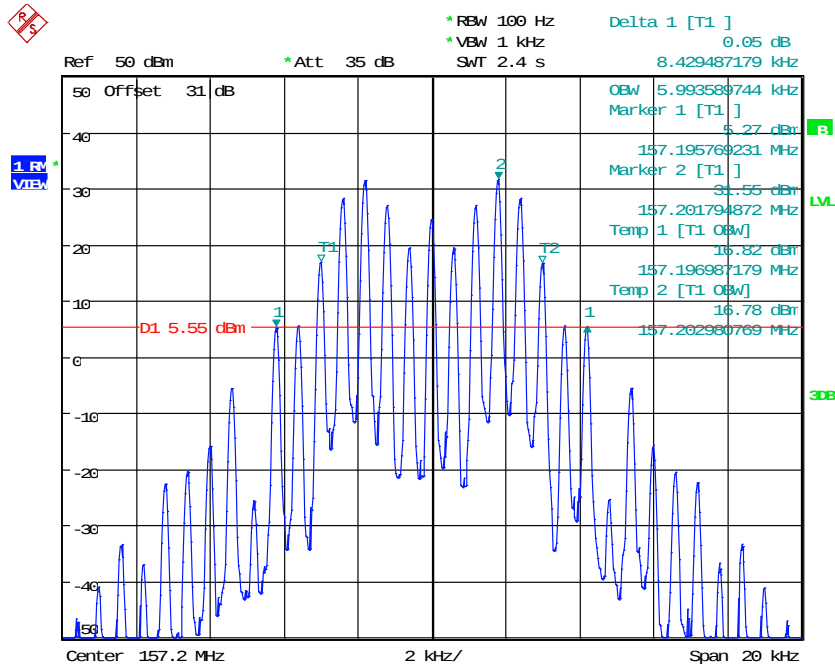
Date: 28.NOV.2019 14:47:28



Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

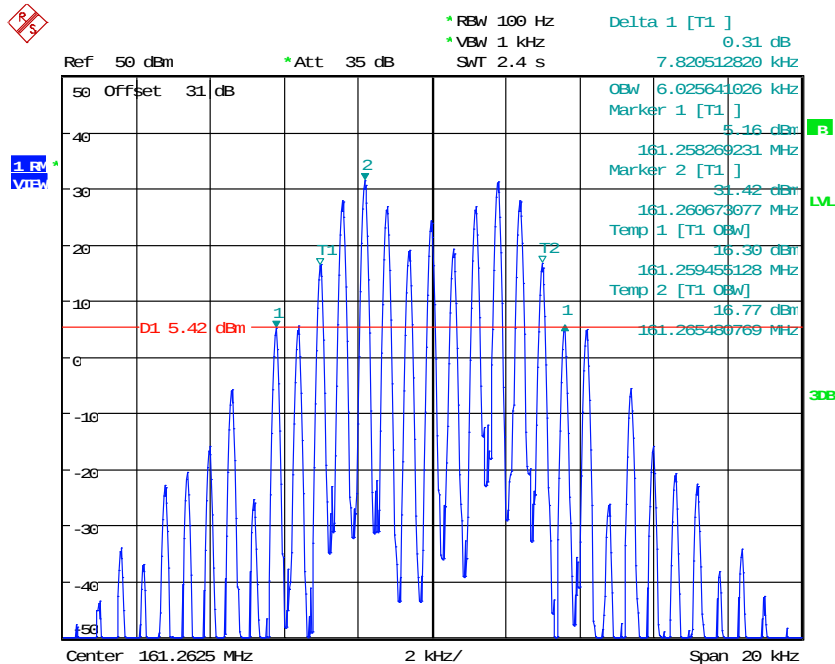
157.2 MHz



NECESSARY BANDWIDTH

Date: 28.NOV.2019 14:49:43

161.2625 MHz



NECESSARY BANDWIDTH

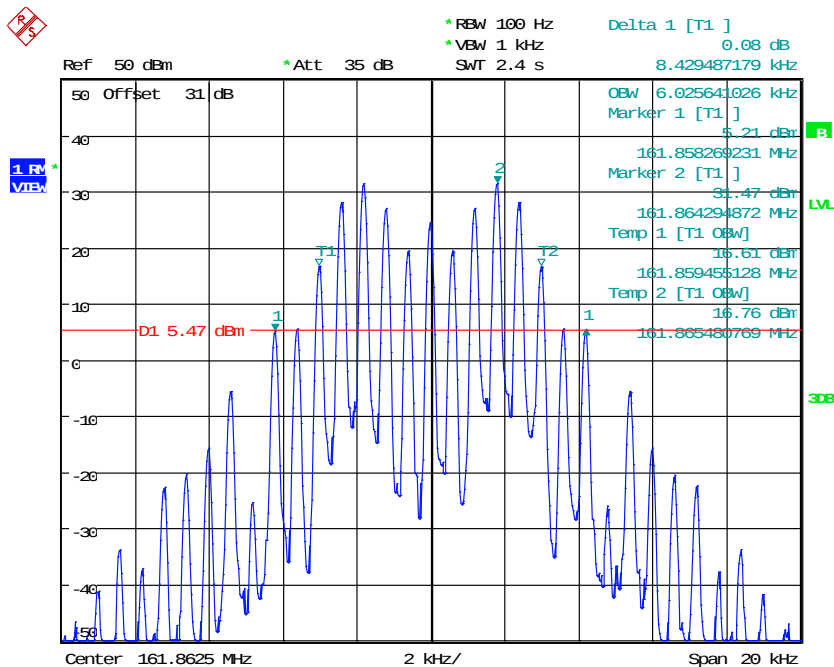
Date: 28.NOV.2019 14:52:47



Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

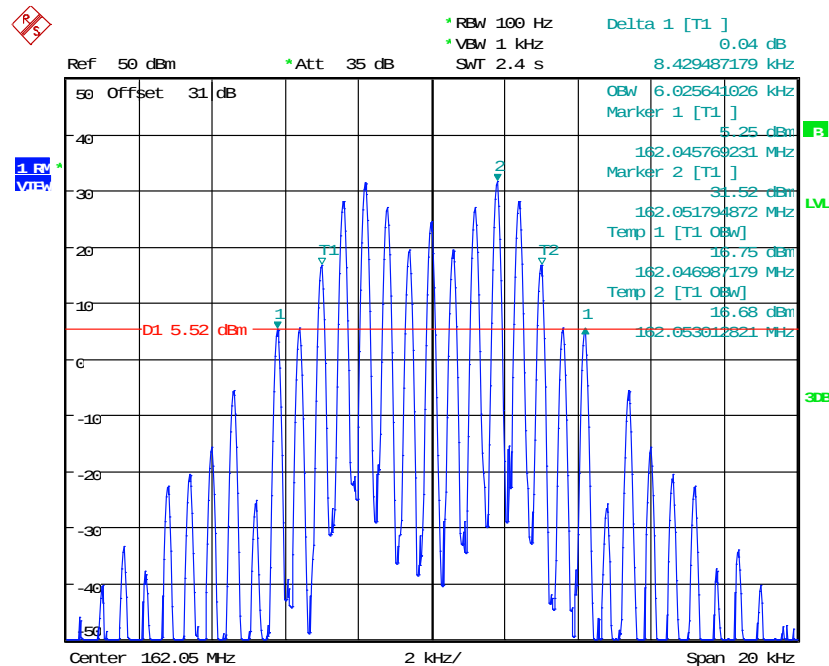
161.8625 MHz



NECESSARY BANDWIDTH

Date: 28.NOV.2019 14:54:48

162.05 MHz



NECESSARY BANDWIDTH

Date: 28.NOV.2019 14:57:08

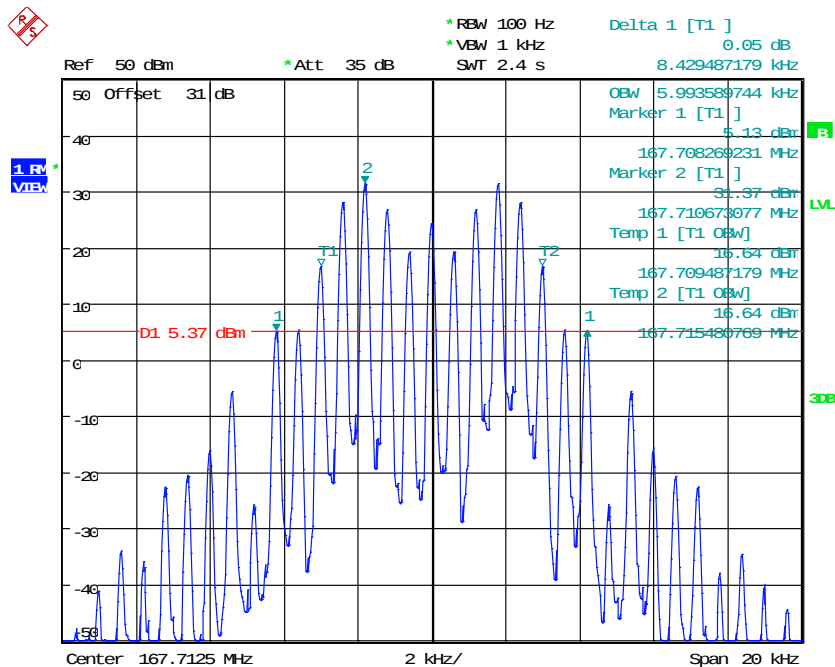


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

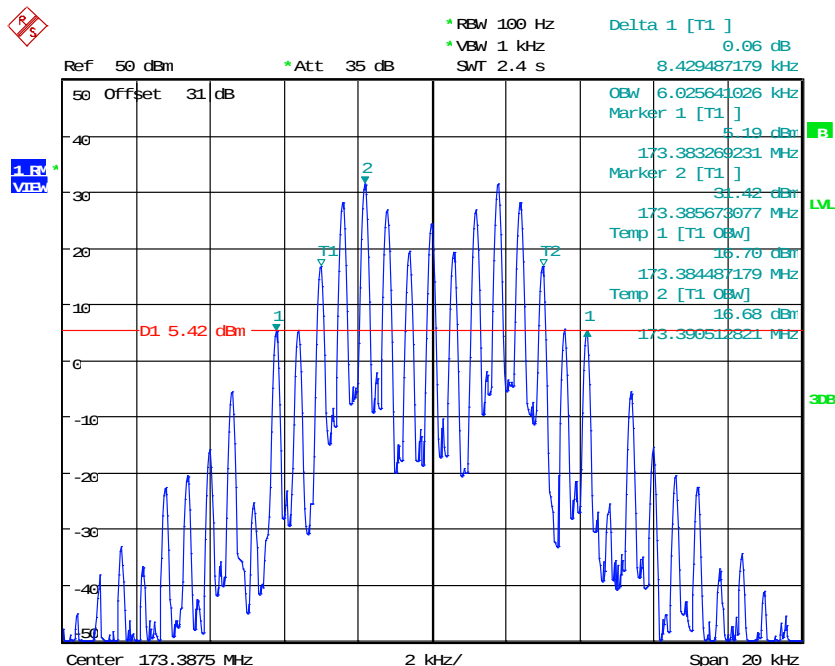
167.7125 MHz



NECESSARY BANDWIDTH

Date: 28.NOV.2019 15:00:12

173.3875 MHz



NECESSARY BANDWIDTH

Date: 28.NOV.2019 15:01:55

Test equipment used: ETSTW-RE 055, ETSTW-RE072

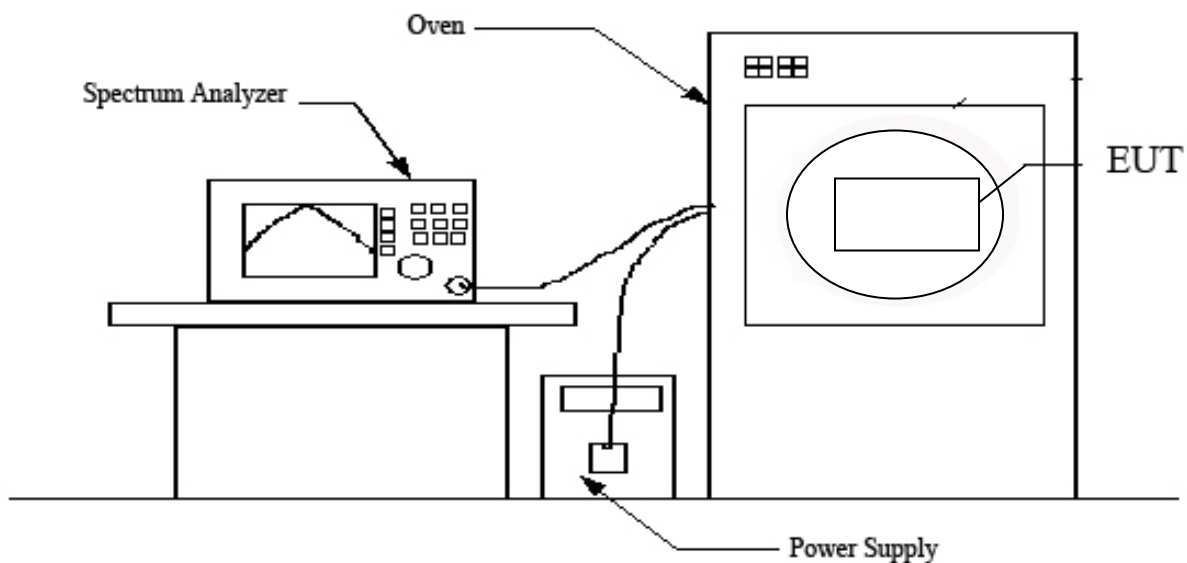
Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

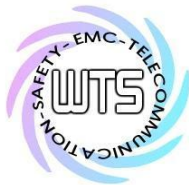
5. Frequency stability

5.1 Test Procedures

1. The transmitter output is connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 1kHz and VBW to 1kHz.
3. Use peak detector mode, Max-hold and search the peak of trace 1.
4. According to the part 2.1055(d)(1), the supply voltage has to be changed from 85 to 115 percent of the nominal value.
5. According to the part 2.1055(a)(1), extreme temperature has to be changed from -20°C to 50°C .
6. Read the frequency of the carrier and calculate the deviation.

5.2 Test Setup





Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

5.3 Test Result

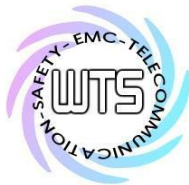
Nominal Frequency: 150.8125MHz		Nominal Frequency: 156.235MHz		Nominal Frequency: 157.2MHz	
Voltage V.S Frequency Stability		Voltage V.S Frequency Stability		Voltage V.S Frequency Stability	
Voltage	Measurement Frequency	Voltage	Measurement Frequency	Voltage	Measurement Frequency
12 V	150.812563	12 V	156.234987	12 V	157.199952
13.8 V	150.812532	13.8 V	156.235	13.8 V	157.199936
10.2 V	150.812547	10.2 V	156.234968	10.2 V	157.199952
Max Deviation (MHz)	0.000063	Max Deviation (MHz)	-0.000032	Max Deviation (MHz)	-0.000064
Max Deviation (ppm)	0.42	Max Deviation (ppm)	-0.20	Max Deviation (ppm)	-0.41
Limit (ppm)	5	Limit (ppm)	5	Limit (ppm)	5
Temperature V.S Frequency Stability		Temperature V.S Frequency Stability		Temperature V.S Frequency Stability	
Temperature	Measurement Frequency	Temperature	Measurement Frequency	Temperature	Measurement Frequency
-20	150.812548	-20	156.234984	-20	157.199952
-10	150.812516	-10	156.234968	-10	157.199952
0	150.81258	0	156.234984	0	157.199984
10	150.81258	10	156.234984	10	157.199984
20	150.81258	20	156.234984	20	157.199984
30	150.812532	30	156.234968	30	157.199968
40	150.812564	40	156.234984	40	157.199952
50	150.812564	50	156.235	50	157.199968
60	0.000080	60	-0.000032	60	-0.000048
Max Deviation (MHz)	0.53	Max Deviation (MHz)	-0.20	Max Deviation (MHz)	-0.31
Max Deviation (ppm)	5	Max Deviation (ppm)	5	Max Deviation (ppm)	5
Limit (ppm)	150.812548	Limit (ppm)	156.234984	Limit (ppm)	157.199952



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

Nominal Frequency: 161.2625MHz		Nominal Frequency: 161.8625MHz		Nominal Frequency: 162.05MHz	
Voltage V.S Frequency Stability		Voltage V.S Frequency Stability		Voltage V.S Frequency Stability	
Voltage	Measurement Frequency	Voltage	Measurement Frequency	Voltage	Measurement Frequency
12 V	161.262436	12 V	161.862452	12 V	162.049952
13.8 V	161.262436	13.8 V	161.862452	13.8 V	162.049968
10.2 V	161.262436	10.2 V	161.862452	10.2 V	162.049936
Max Deviation (MHz)	-0.000064	Max Deviation (MHz)	-0.000048	Max Deviation (MHz)	-0.000064
Max Deviation (ppm)	-0.40	Max Deviation (ppm)	-0.30	Max Deviation (ppm)	-0.39
Limit (ppm)	5	Limit (ppm)	5	Limit (ppm)	5
Temperature V.S Frequency Stability		Temperature V.S Frequency Stability		Temperature V.S Frequency Stability	
Temperature	Measurement Frequency	Temperature	Measurement Frequency	Temperature	Measurement Frequency
-20	161.262452	-20	161.862484	-20	162.049984
-10	161.262452	-10	161.862468	-10	162.049952
0	161.262484	0	161.862484	0	162.049984
10	161.262468	10	161.862484	10	162.049984
20	161.262468	20	161.862468	20	162.049968
30	161.262436	30	161.862484	30	162.049936
40	161.262436	40	161.862452	40	162.049968
50	161.262468	50	161.862484	50	162.049936
60	-0.000064	60	-0.000032	60	-0.000064
Max Deviation (MHz)	-0.40	Max Deviation (MHz)	0.20	Max Deviation (MHz)	-0.39
Max Deviation (ppm)	5	Max Deviation (ppm)	5	Max Deviation (ppm)	5
Limit (ppm)	161.262452	Limit (ppm)	161.862484	Limit (ppm)	162.049984



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

Nominal Frequency: 167.7125MHz		Nominal Frequency: 161.8625MHz	
Voltage V.S Frequency Stability		Voltage V.S Frequency Stability	
Voltage	Measurement Frequency	Voltage	Measurement Frequency
12 V	167.712452	12 V	173.387484
13.8 V	167.712468	13.8 V	173.3875
10.2 V	167.712468	10.2 V	173.387484
Max Deviation (MHz)	-0.000048	Max Deviation (MHz)	-0.000016
Max Deviation (ppm)	-0.29	Max Deviation (ppm)	-0.09
Limit (ppm)	5	Limit (ppm)	5
Temperature V.S Frequency Stability		Temperature V.S Frequency Stability	
Temperature	Measurement Frequency	Temperature	Measurement Frequency
-20	167.712484	-20	173.387468
-10	167.712484	-10	173.387484
0	167.7125	0	173.387516
10	167.7125	10	173.387516
20	167.712468	20	173.387484
30	167.712468	30	173.387484
40	167.712468	40	173.387468
50	167.7125	50	173.3875
60	-0.000032	60	-0.000032
Max Deviation (MHz)	-0.19	Max Deviation (MHz)	-0.18
Max Deviation (ppm)	5	Max Deviation (ppm)	5
Limit (ppm)	167.712484	Limit (ppm)	173.387468

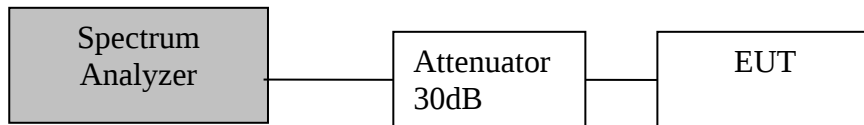
Test equipment used: ETSTW-RE 055

6. Transmitter Output Power

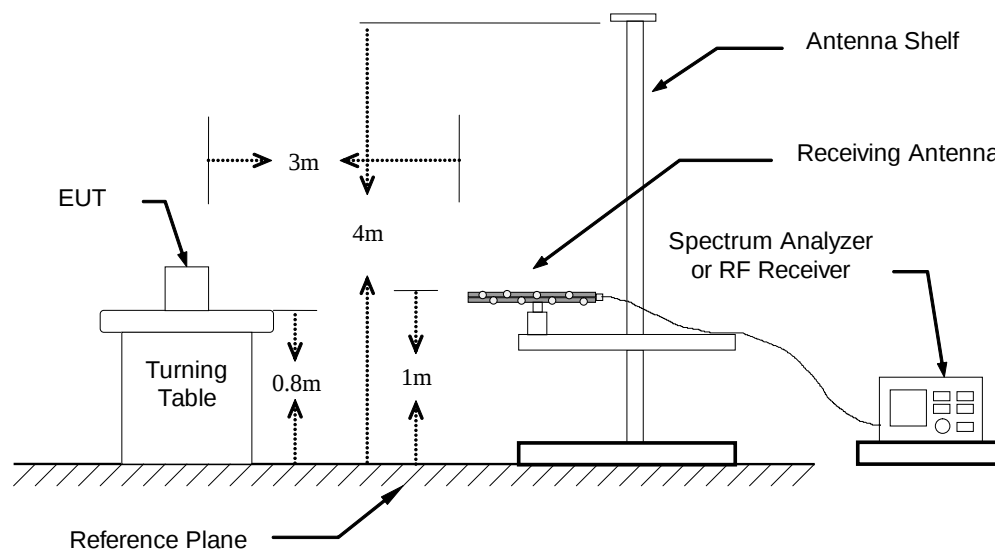
6.1 Test Procedures

1. The EUT was placed on the top of the turntable in semi-anechoic chamber.
2. The test shall be made in the transmitting mode. Antenna tower was scan (from 1 M to 4 M) and the turn table was rotated by 360 degrees to determine the position of the highest radiation.
3. The receiving Horn antenna was placed 0.5 meters far away from the turntable.
4. The receiving antenna was fixed on the same height with the EUT to find maximum suspected emissions. Recorded suspected value is indicated as Read Level (Raw).
5. Replace the EUT by standard antenna and feed the RF port by signal generator.
6. Adjust the frequency of the signal generator to the suspected emission and slightly rotate the turntable to locate the position with maximum reading.
7. Adjust the power level of the signal generator to reach the same reading with Read Level (Raw).
8. The level of the spurious emission is the power level of (7) plus the gain of the standard antenna in dBd and minus the loss of the cable used between the signal generator and the standard antenna.

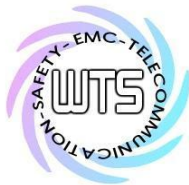
6.2 Test Setup



Setup for Conducted Power



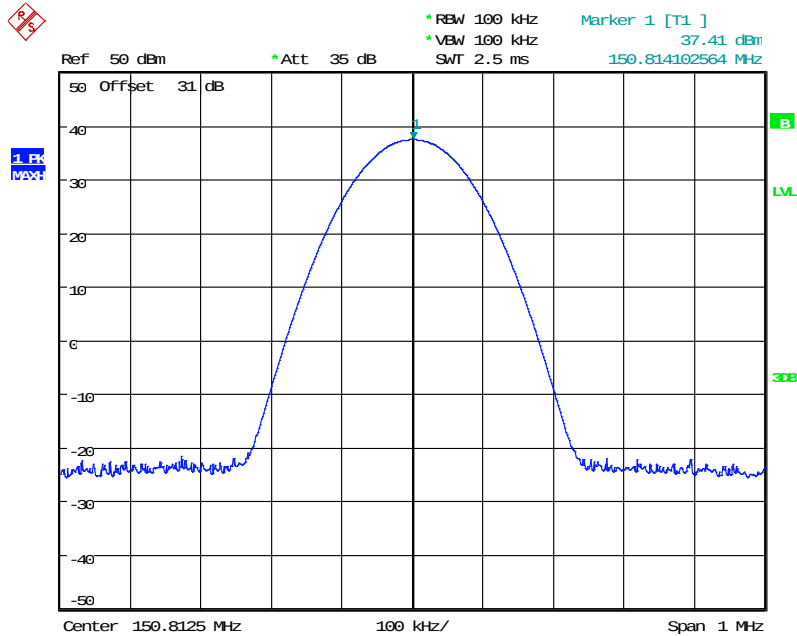
Setup for Radiated Power



Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

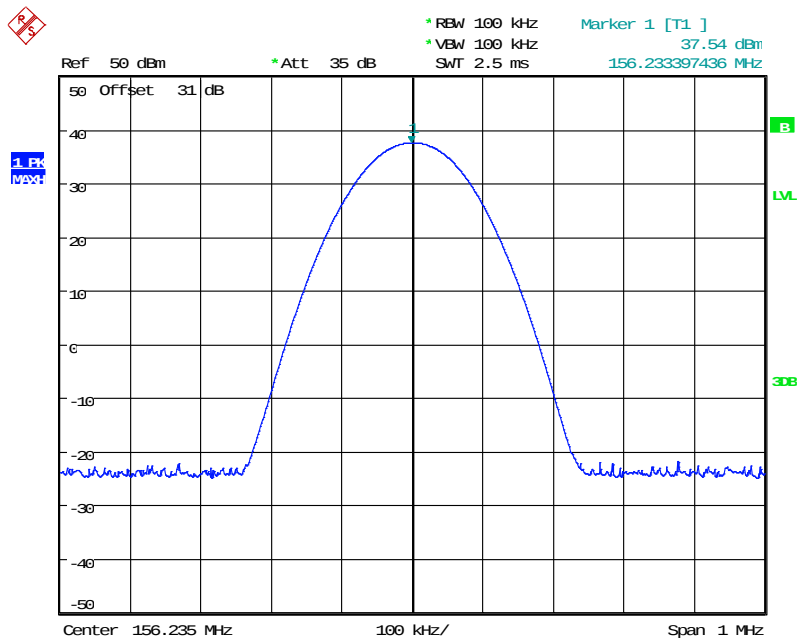
6.3 Test Result

6.3.1 Conducted Power 150.8125 MHz

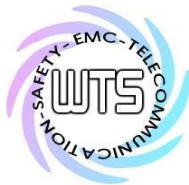


MAX OUTPUT POWER
Date: 28.NOV.2019 14:30:38

156.235 MHz



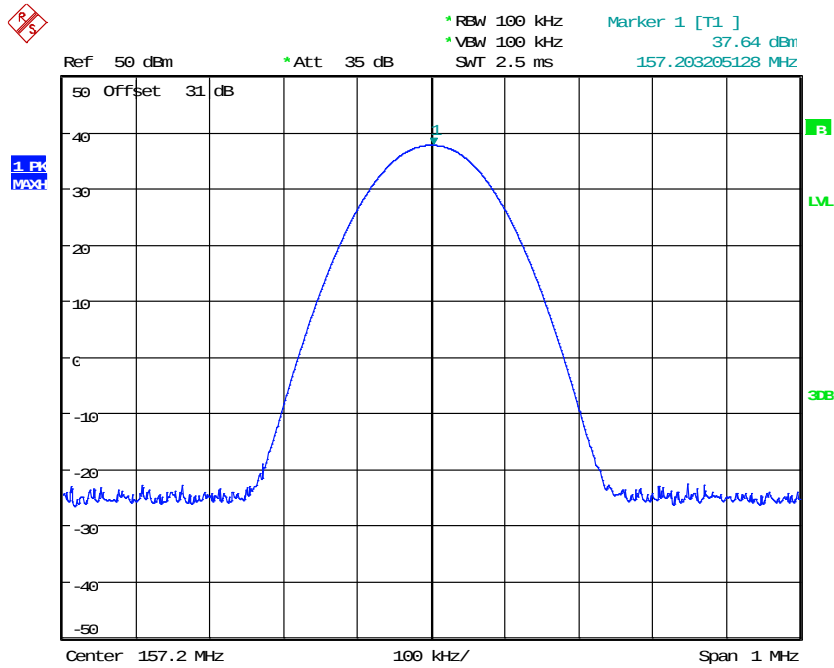
MAX OUTPUT POWER
Date: 28.NOV.2019 14:33:13



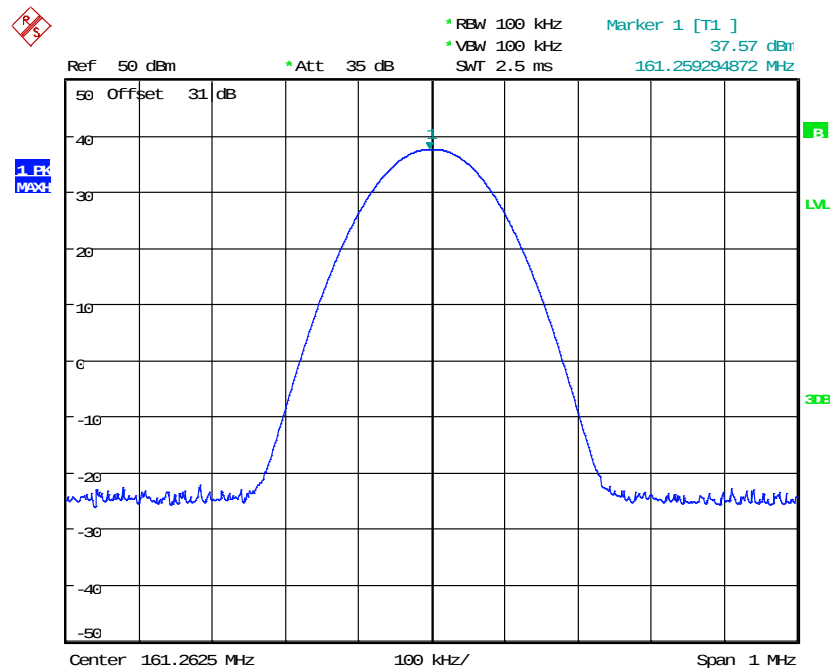
Registration number: W6M21909-19370-C-1

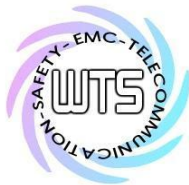
FCC ID: NDATA200ENV

157.2 MHz



161.2625 MHz

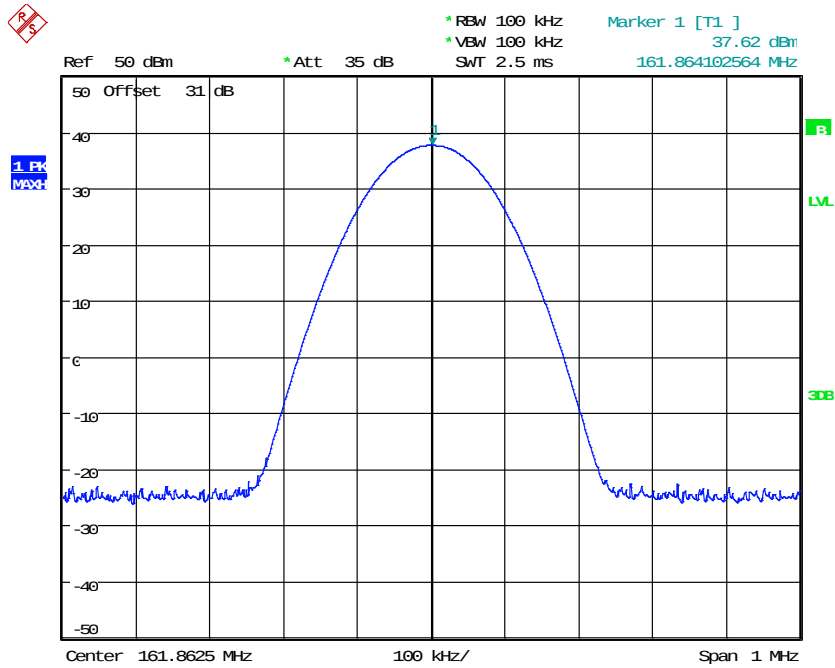




Registration number: W6M21909-19370-C-1

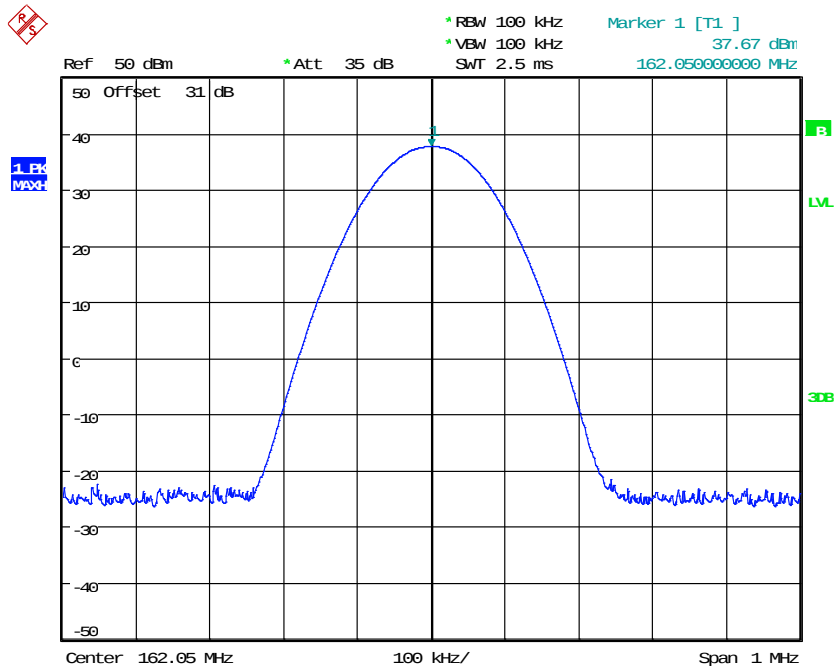
FCC ID: NDATA200ENV

161.8625 MHz



MAX OUTPUT POWER
Date: 28.NOV.2019 14:36:14

162.05 MHz



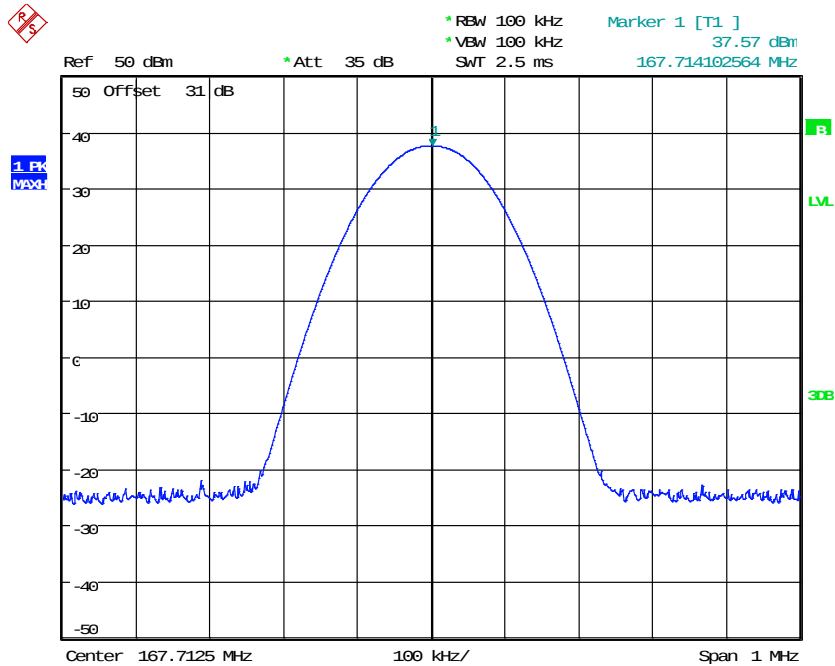
MAX OUTPUT POWER
Date: 28.NOV.2019 14:37:57



Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

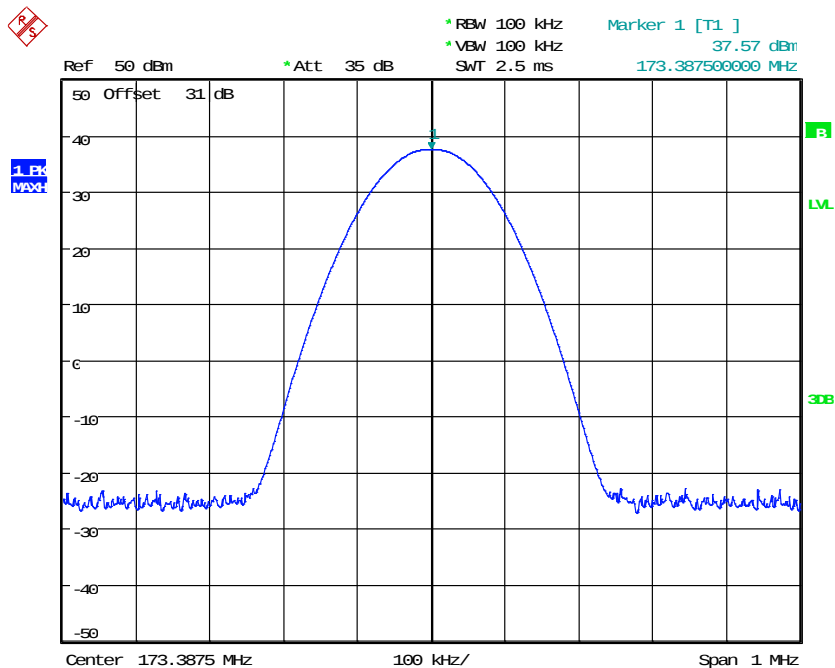
167.7125 MHz



MAX OUTPUT POWER

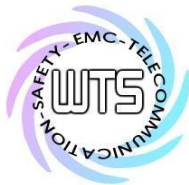
Date: 28.NOV.2019 14:38:38

173.3875 MHz



MAX OUTPUT POWER

Date: 28.NOV.2019 14:39:14

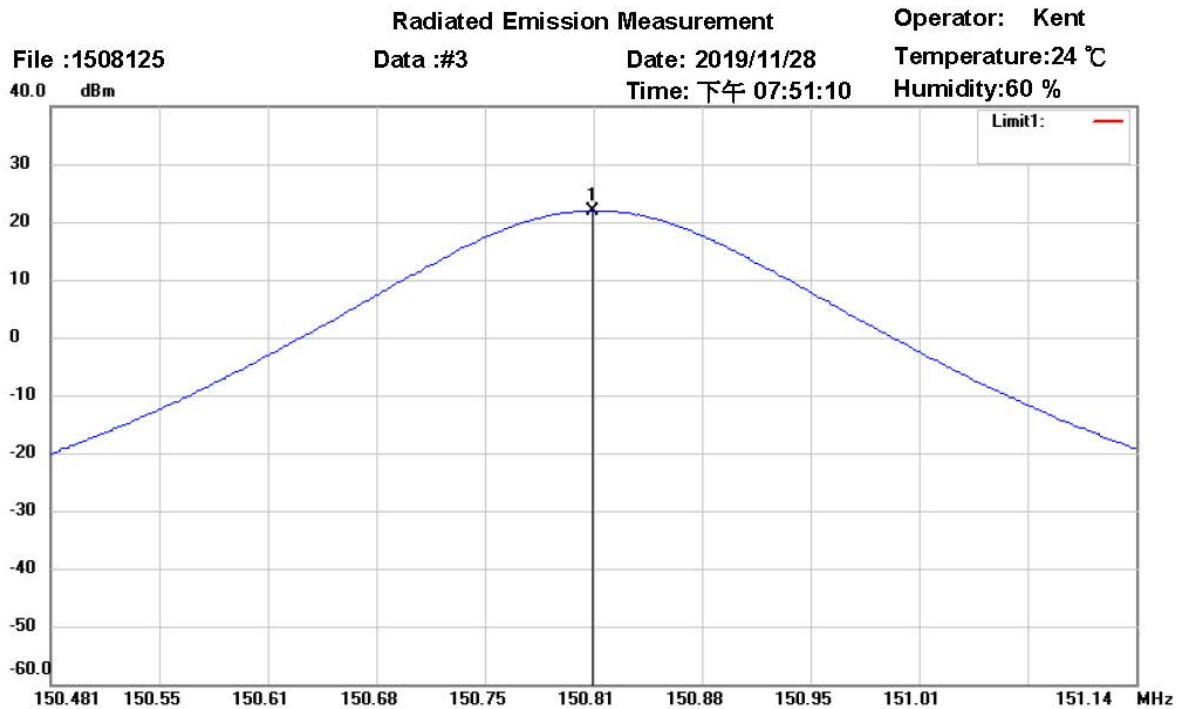


Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

6.3.2 Radiated Power

150.8125 MHz



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 150.8125MHz

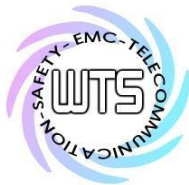
Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	150.8117	1.02	peak	20.92	21.94		150	145		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

Radiated Emission Measurement

Operator: Kent

File :1508125

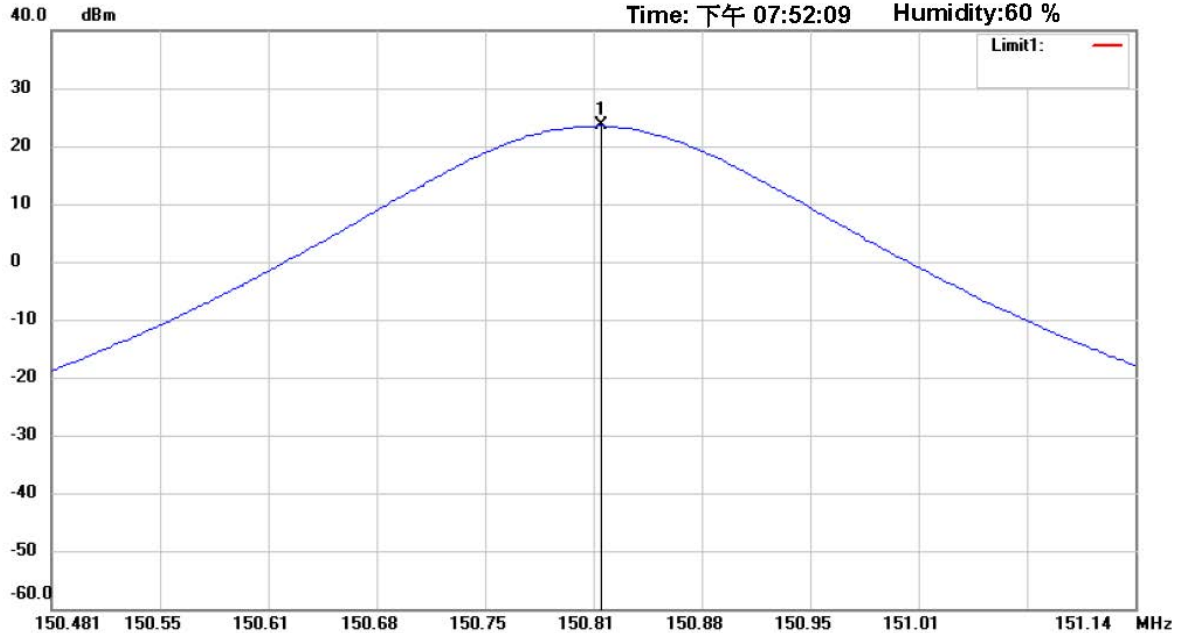
Data :#4

Date: 2019/11/28

Temperature:24 °C

Time: 下午 07:52:09

Humidity:60 %



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 150.8125MHz

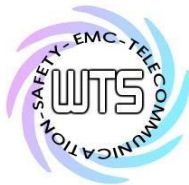
Note :

Polarization: *Vertical*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	150.8172	2.09	peak	21.45	23.54		150	220		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

156.235 MHz

Radiated Emission Measurement

Operator: Kent

File :156235

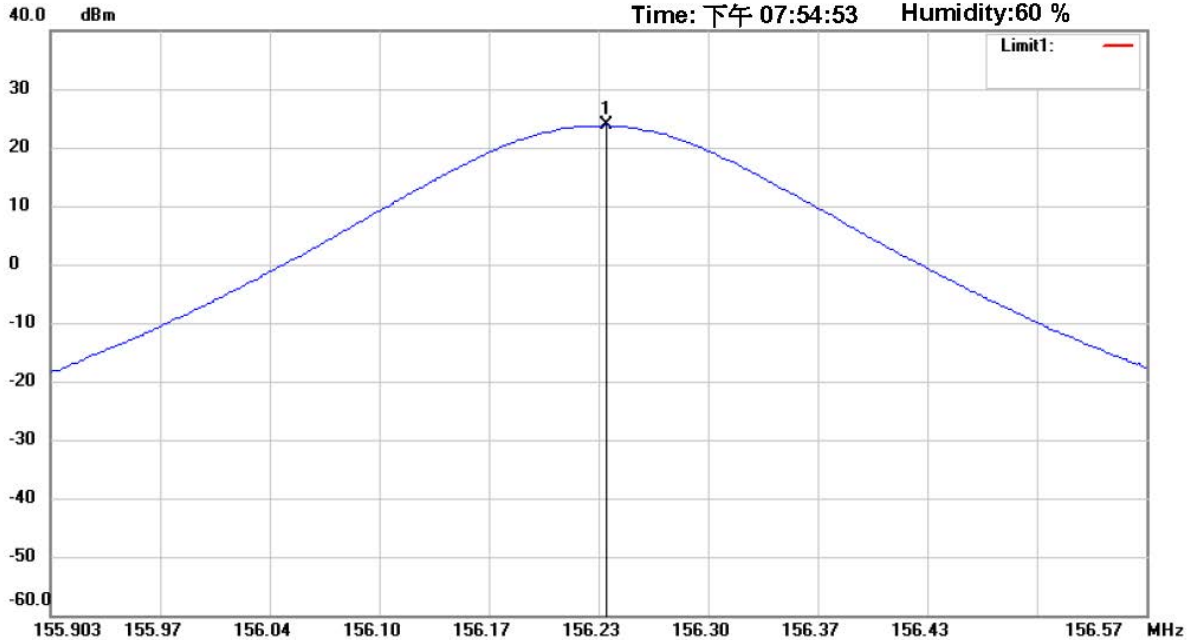
Data :#1

Date: 2019/11/28

Temperature:24 °C

Time: 下午 07:54:53

Humidity:60 %



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 156.235MHz

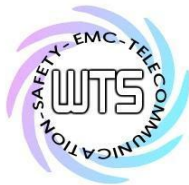
Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	156.2397	2.48	peak	21.28	23.76		150	35		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

Radiated Emission Measurement

Operator: Kent

File :156235

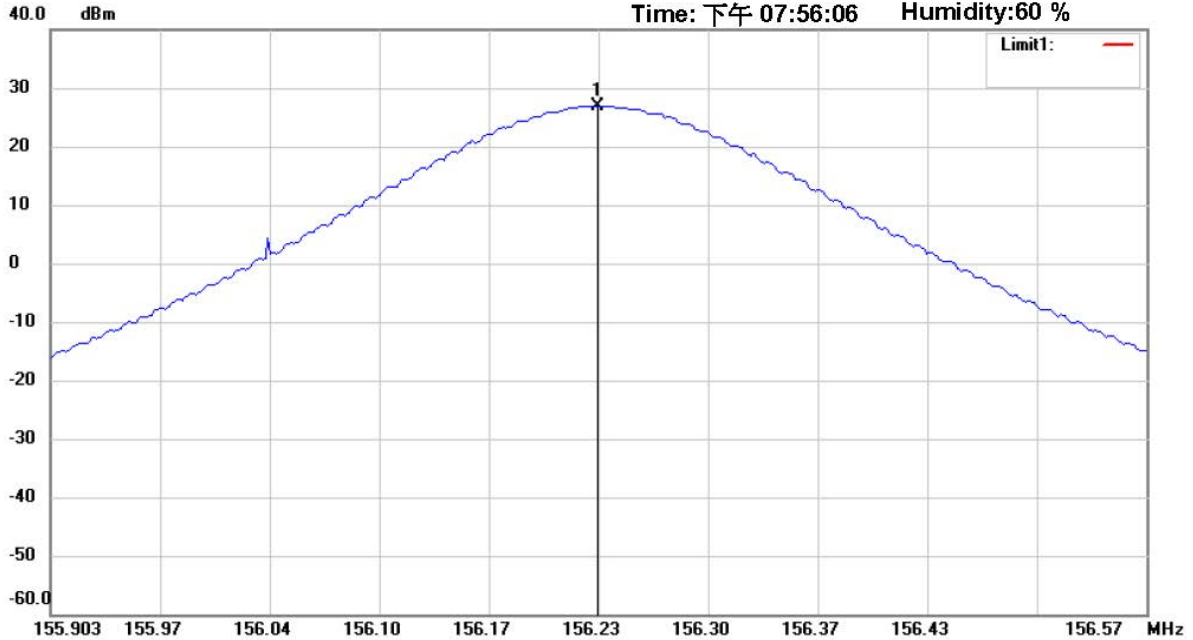
Data :#2

Date: 2019/11/28

Temperature:24 °C

Time: 下午 07:56:06

Humidity:60 %



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 156.235MHz

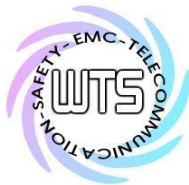
Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	156.2343	5.04	peak	21.77	26.81		150	10		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

157.2 MHz

Radiated Emission Measurement

Operator: Kent

File :1572

Data :#1

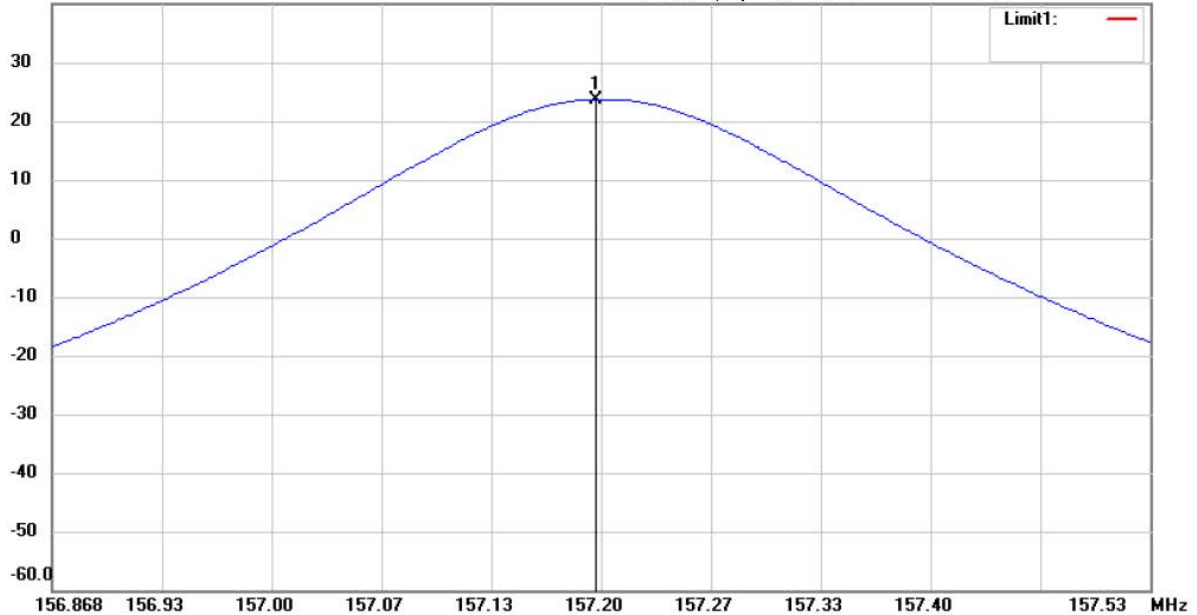
Date: 2019/11/28

Temperature:24 °C

40.0 dBm

Time: 下午 07:58:37

Humidity:60 %



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 157.2MHz

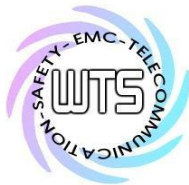
Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

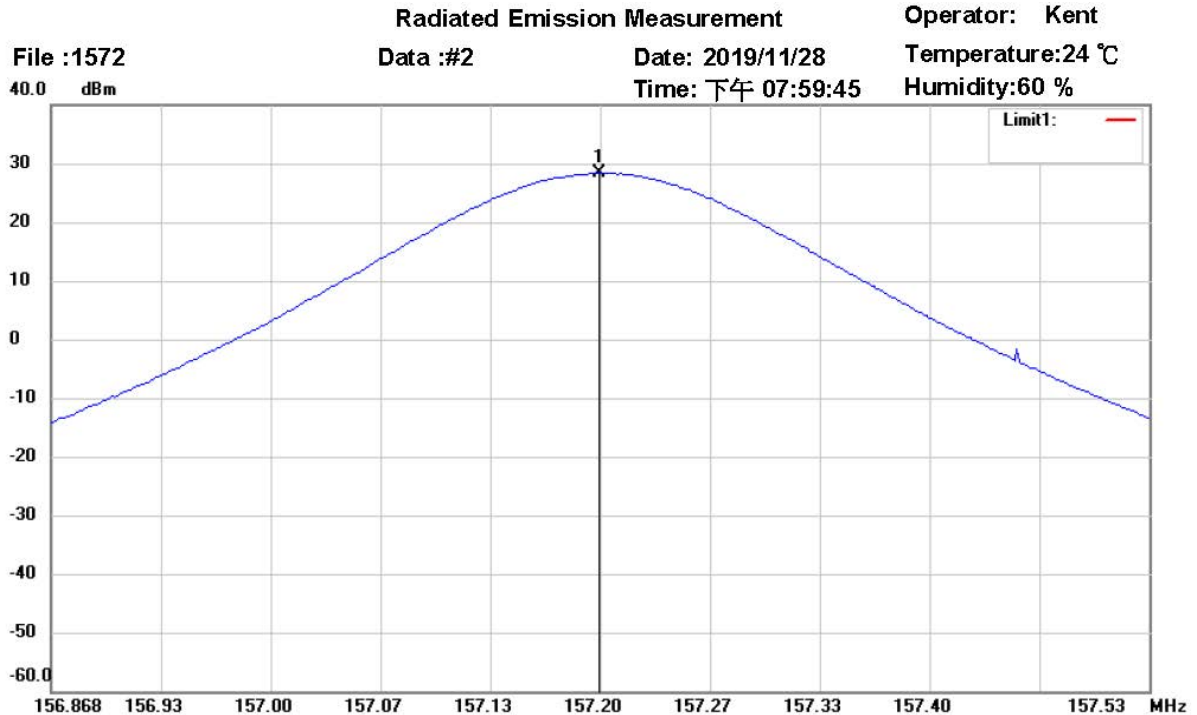
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	157.1967	2.41	peak	21.34	23.75		150	250		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 157.2MHz

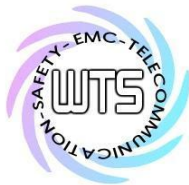
Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	157.1993	7.04	peak	21.34	28.38		150	95		

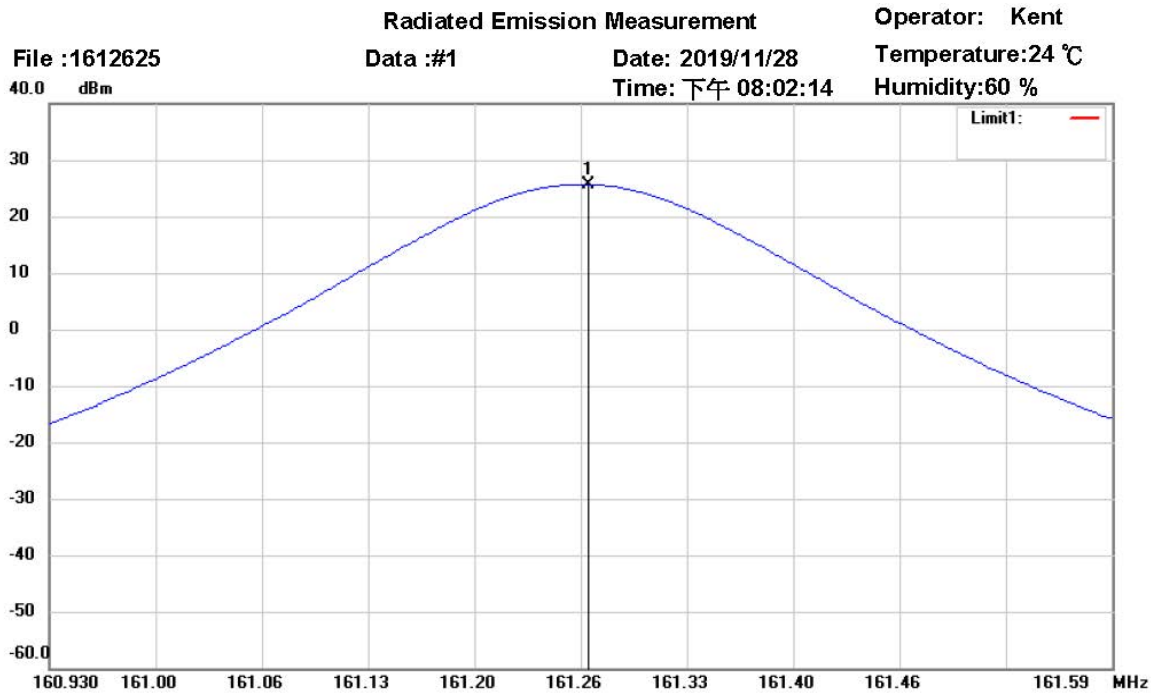


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATX200ENV

161.2625 MHz



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.2625MHz

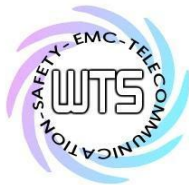
Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

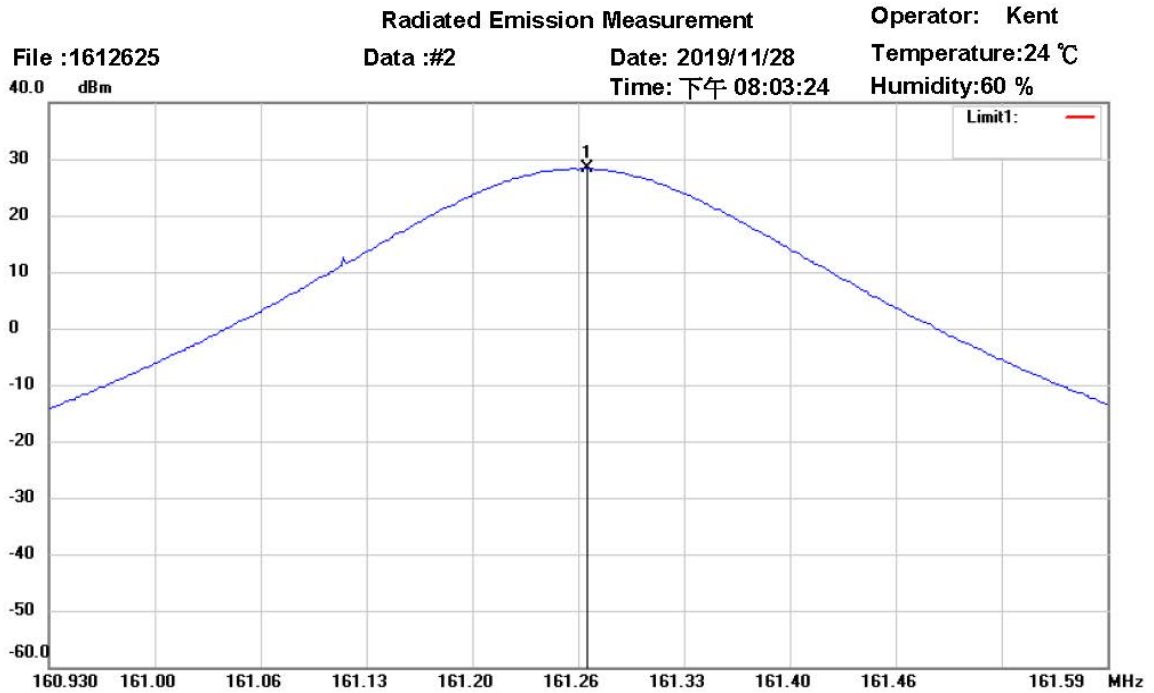
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	161.2671	4.13	peak	21.57	25.70		150	320		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.2625MHz

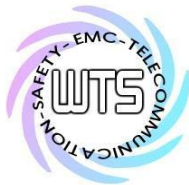
Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	161.2685	6.28	peak	22.00	28.28		150	25		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

161.8625 MHz

Radiated Emission Measurement

Operator: Kent

File :1618625

Data :#1

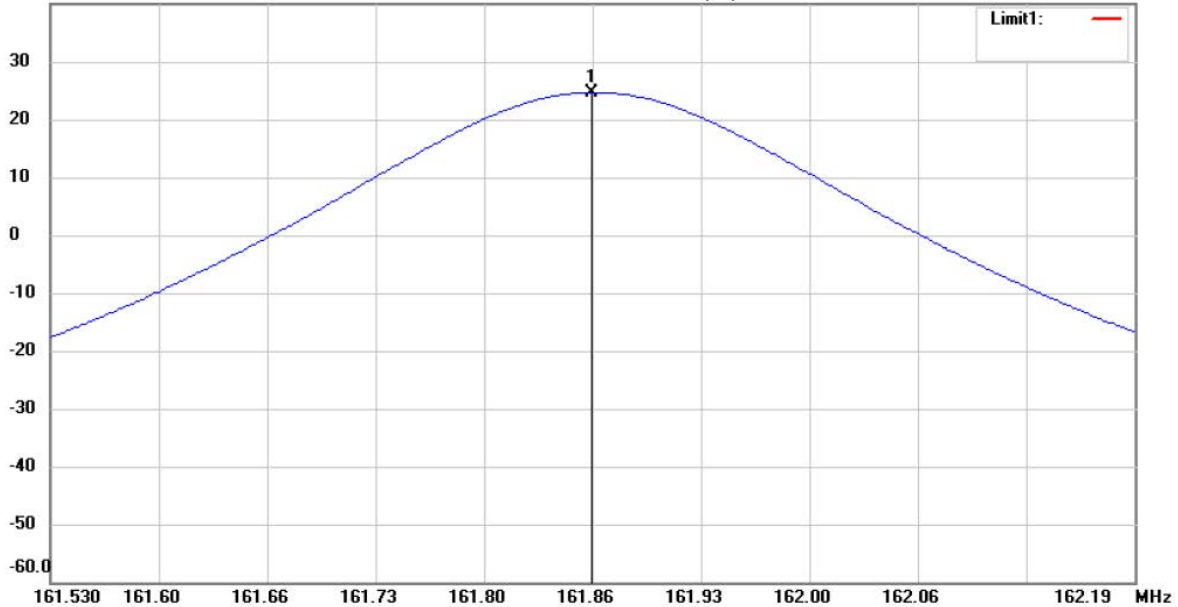
Date: 2019/11/28

Temperature:24 °C

Time: 下午 08:11:26

Humidity:60 %

40.0 dBm



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.8625MHz

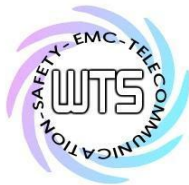
Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	161.8618	3.11	peak	21.59	24.70		150	245		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

Radiated Emission Measurement

Operator: Kent

File :1618625

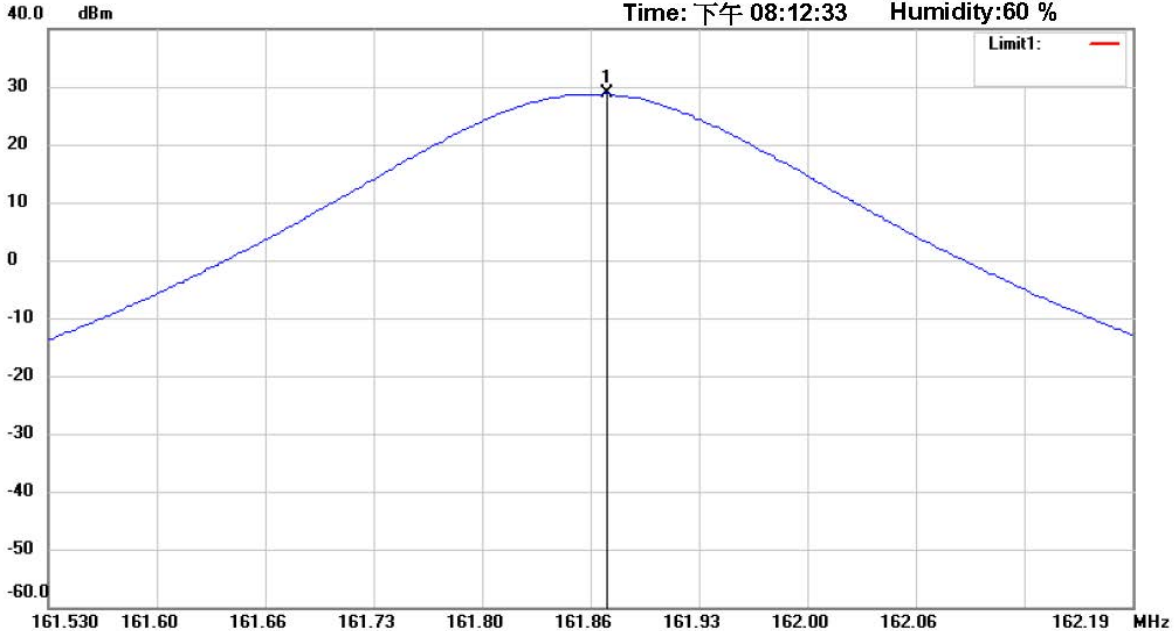
Data :#2

Date: 2019/11/28

Temperature:24 °C

Time: 下午 08:12:33

Humidity:60 %



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.8625MHz

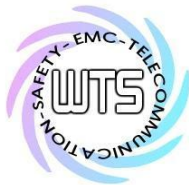
Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	161.8725	6.76	peak	22.01	28.77		150	110		

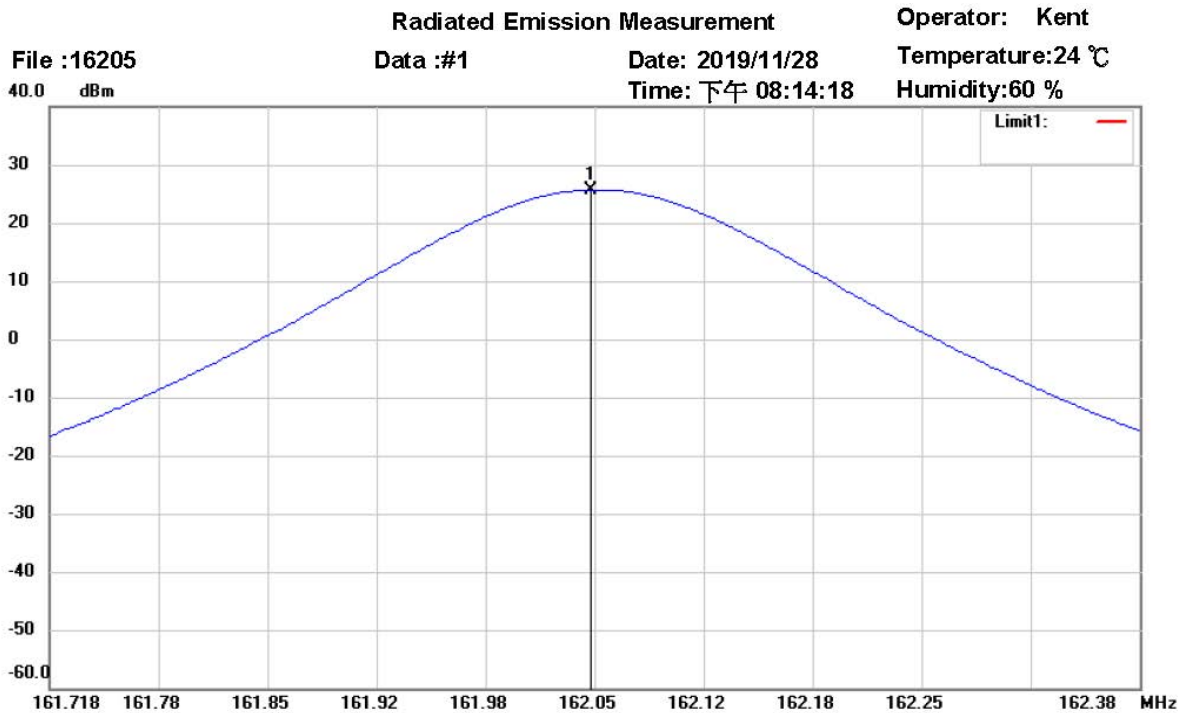


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

162.05 MHz



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 162.05MHz

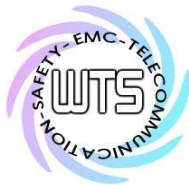
Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

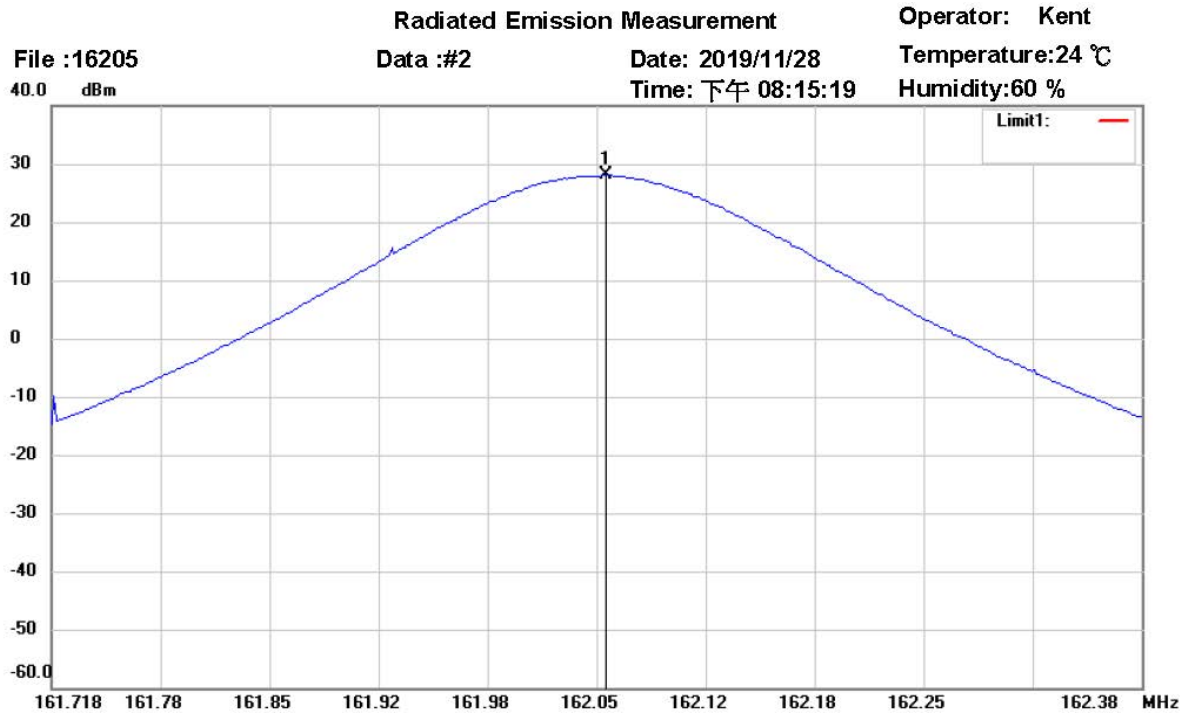
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	162.0480	4.15	peak	21.59	25.74		150	145		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 162.05MHz

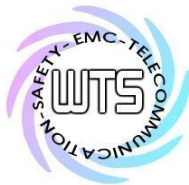
Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	162.0560	6.02	peak	22.01	28.03		150	245		

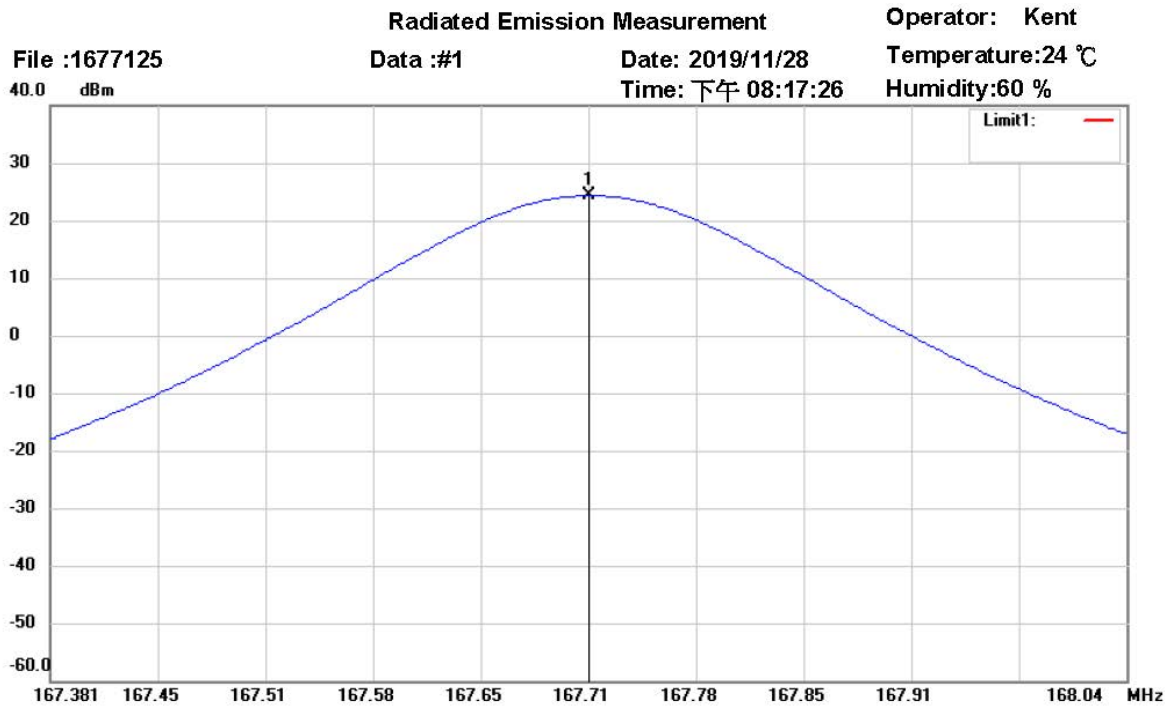


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

167.7125 MHz



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 167.7125MHz

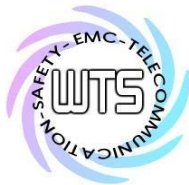
Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

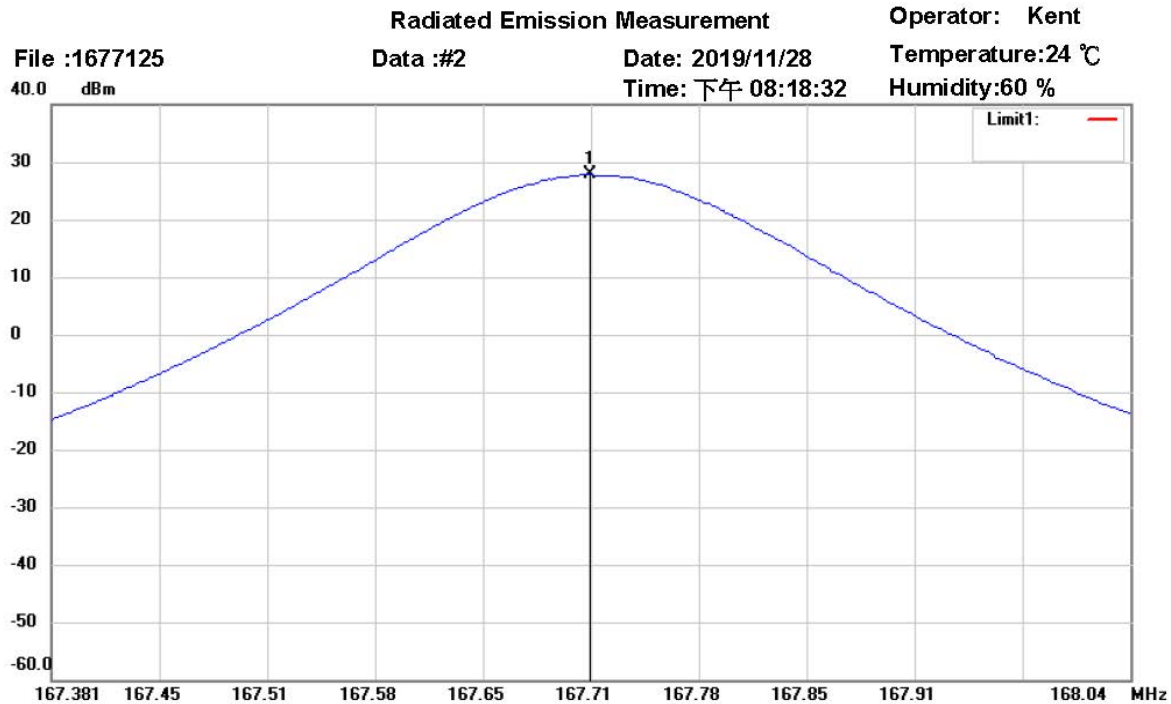
Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	167.7132	2.56	peak	21.77	24.33		150	240		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 167.7125MHz

Note :

Polarization: *Horizontal*

Power : 12 V.d.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	167.7118	6.02	peak	21.77	27.79		150	45		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

173.3875 MHz

Radiated Emission Measurement

Operator: Kent

File :1733875

Data :#1

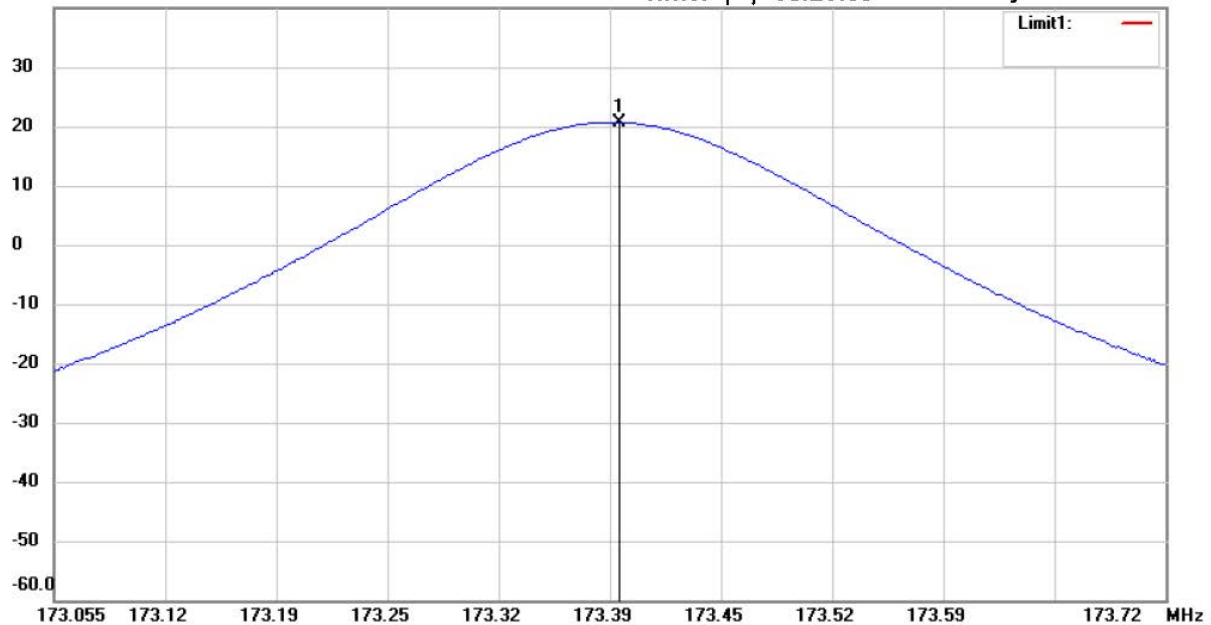
Date: 2019/11/28

Temperature:24 °C

Time: 下午 08:20:33

Humidity:60 %

40.0 dBm



Site : Chamber

Condition :

Polarization: *Horizontal*

EUT : W6M21909-19370

Power : 12 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 173.3875MHz

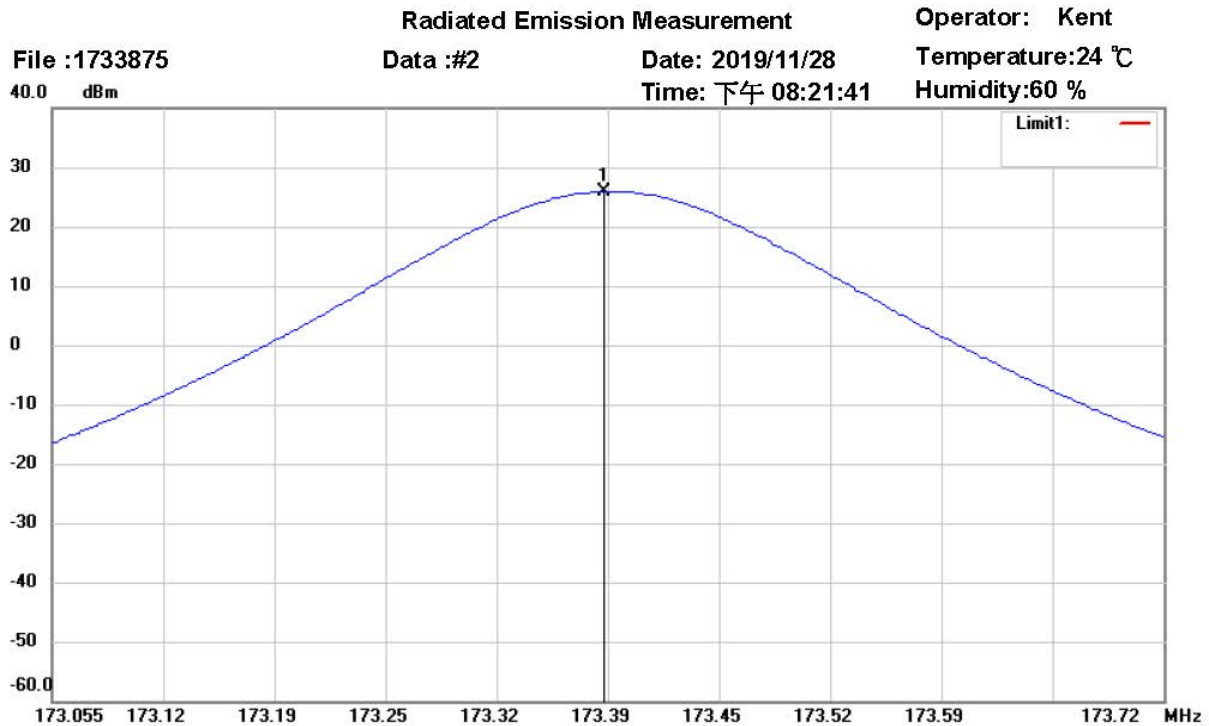
Note :

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	173.3935	-1.23	peak	21.95	20.72		150	115		



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV



Site : Chamber

Condition :

EUT : W6M21909-19370

M/N:

Test Mode : TX 173.3875MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	173.3855	3.81	peak	22.14	25.95		150	245		

Test equipment used: ETSTW-RE 003, ETSTW-RE 042, ETSTW-RE 055, ETSTW-RE 072

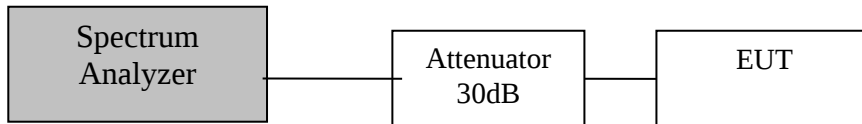
Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

7. Emission masks

7.1 Test Procedures

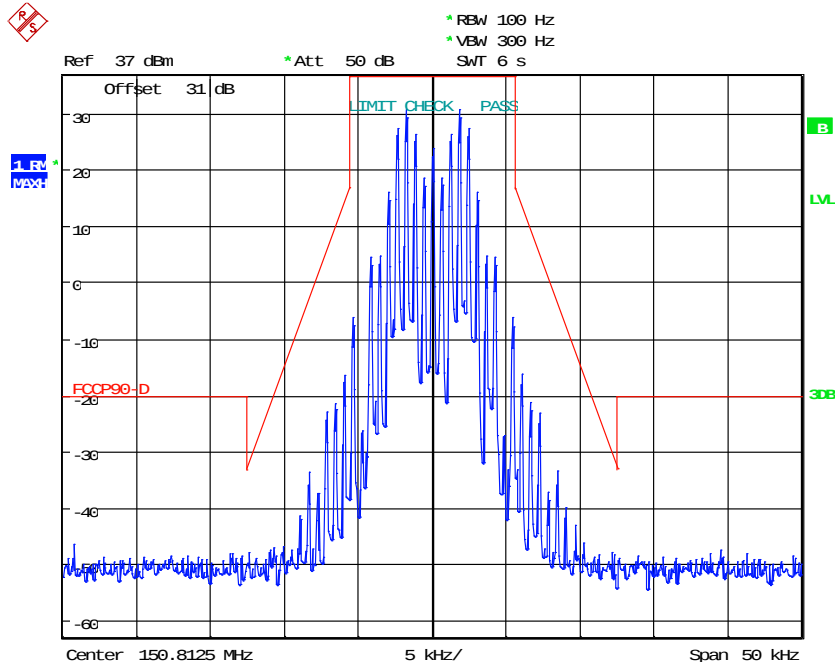
1. The transmitter output is connected to the spectrum analyzer through an attenuator.
2. Set RBW of spectrum analyzer to 100Hz and VBW to 1 kHz.
3. Mark the frequency with maximum peak power as the center of the display of the spectrum
4. Set the span to 50 kHz and the sweep time to Auto.
5. Record the power spectral and compare to the Mask.

7.2 Test Setup



7.3 Test Result

150.8125 MHz



EMISSION MASK
Date: 28.NOV.2019 15:11:35

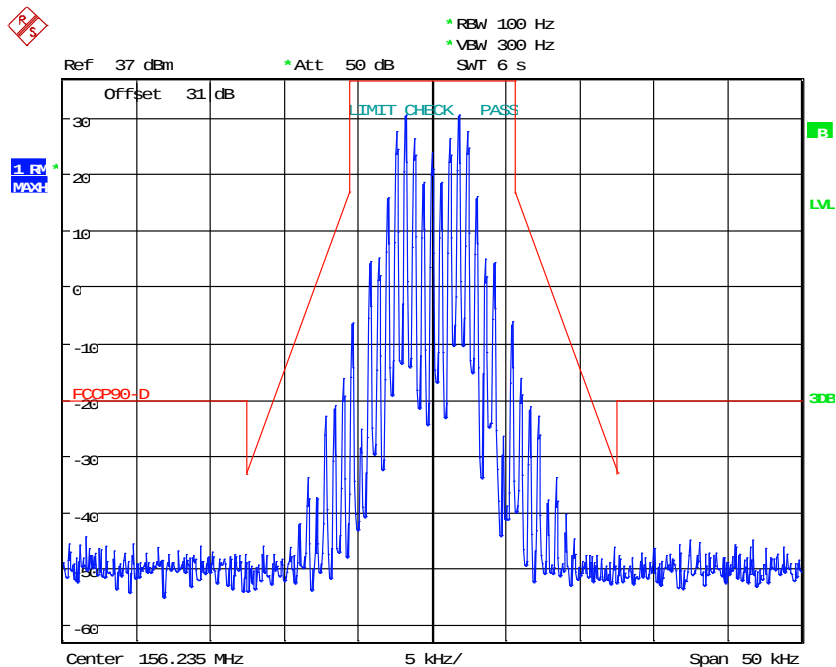


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

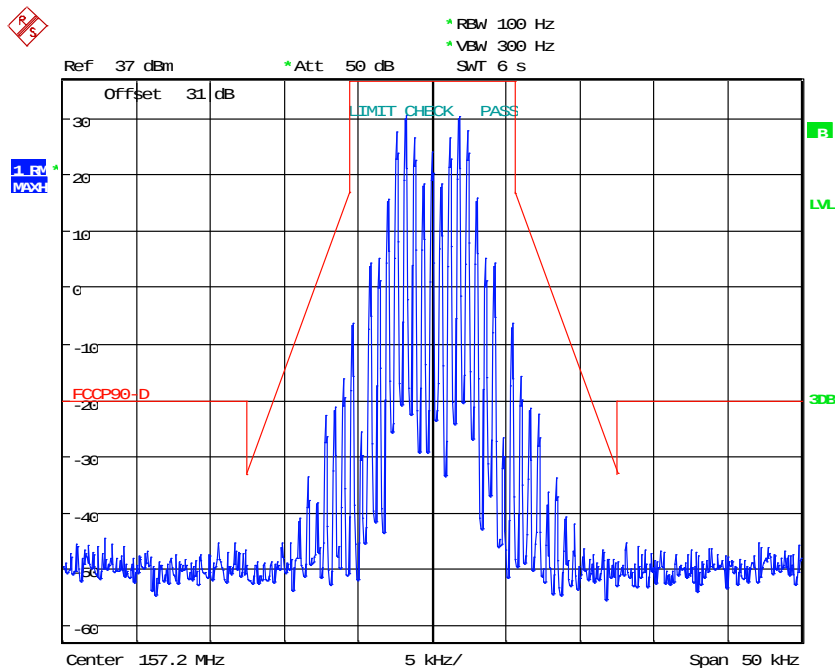
156.235 MHz



EMISSION MASK

Date: 28.NOV.2019 15:12:39

157.2 MHz



EMISSION MASK

Date: 28.NOV.2019 15:13:45

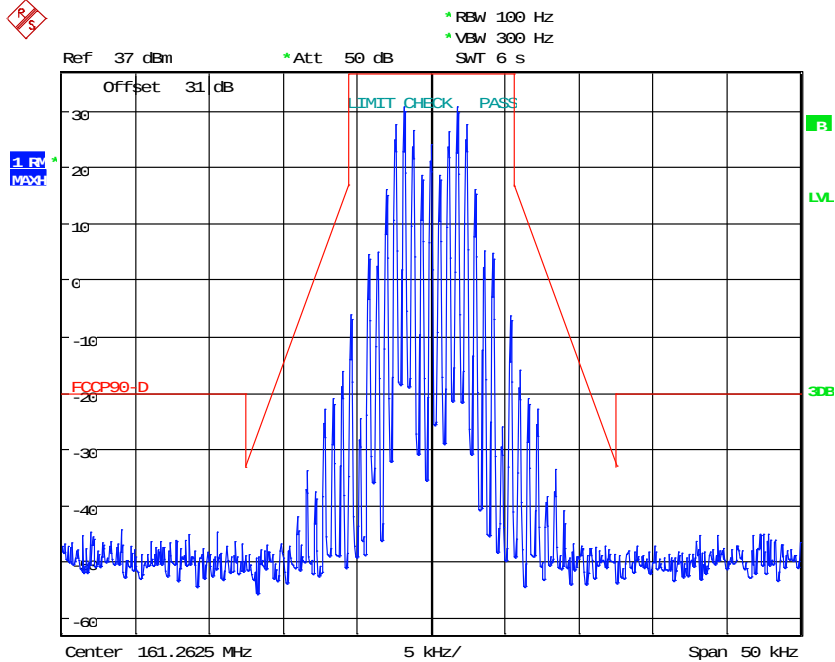


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

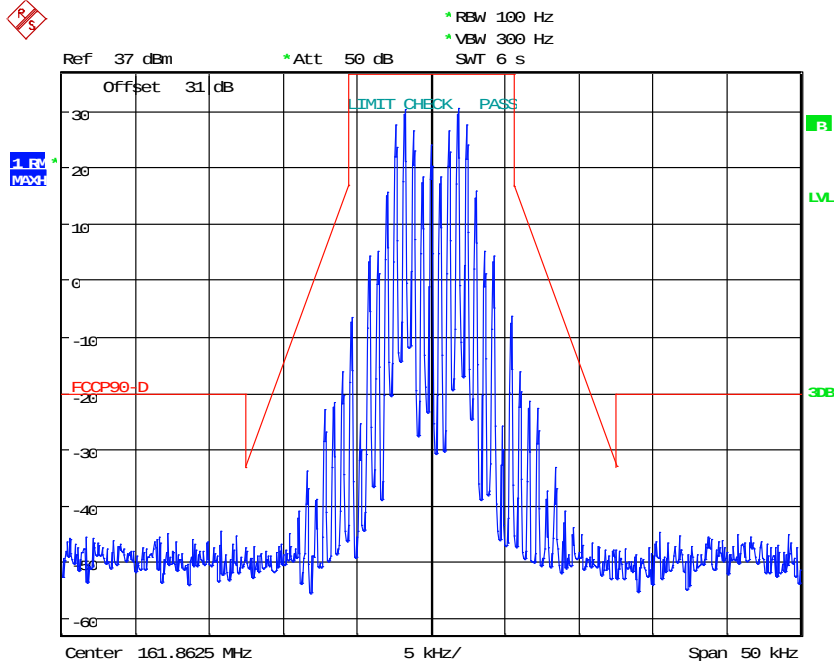
161.2625 MHz



EMISSION MASK

Date: 28.NOV.2019 15:14:44

161.8625 MHz



EMISSION MASK

Date: 28.NOV.2019 15:15:57

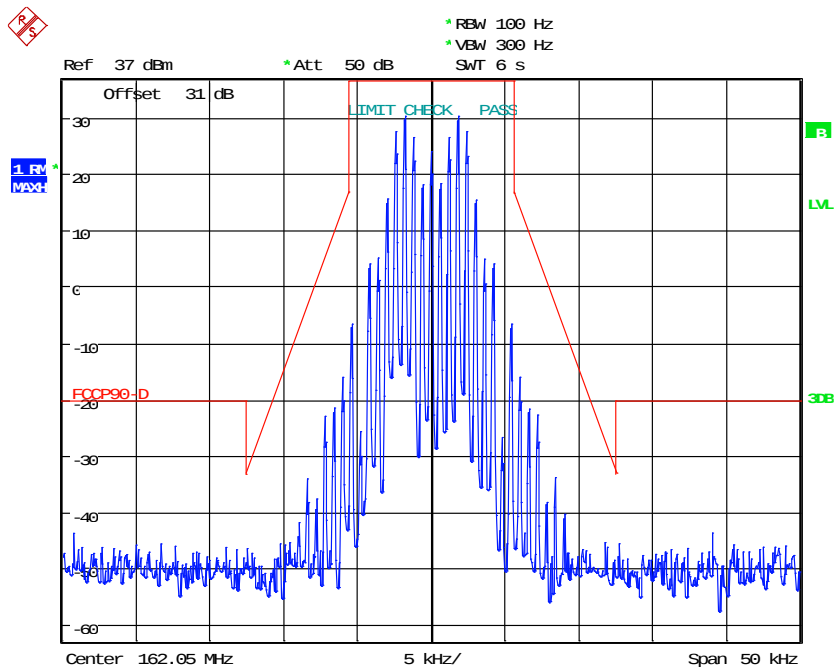


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

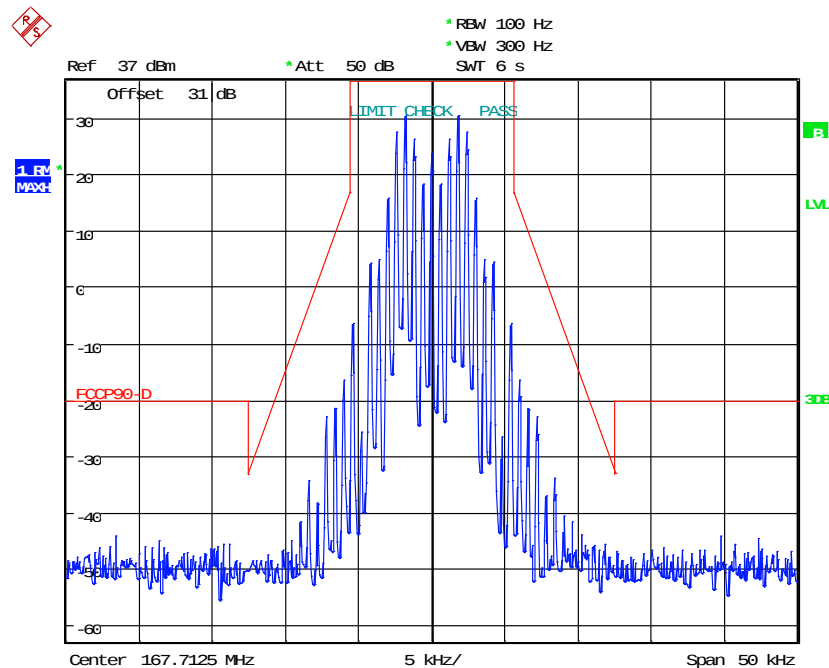
162.05 MHz



EMISSION MASK

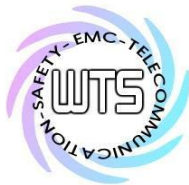
Date: 28.NOV.2019 15:16:56

167.7125 MHz



EMISSION MASK

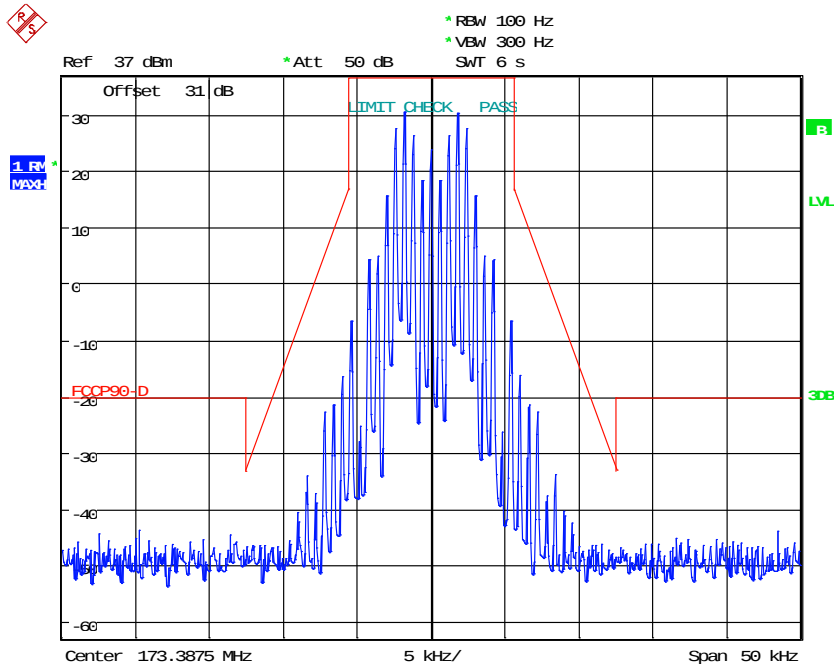
Date: 28.NOV.2019 15:17:51



Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

173.3875 MHz



EMISSION MASK

Date: 28.NOV.2019 15:18:45

Limit according to FCC § 90.210: 12.5 kHz: Emission Mask D

Test equipment used: ETSTW-RE 055, ETSTW-RE072

8. Transmitter Spurious Radiated Emission

8.1 Test Procedures

The EUT was positioned on a non-conductive turntable, 0.8m above the ground plane.

The radiated emission at the fundamental frequency was measured at 3 m distance with a test antenna and spectrum analyzer.

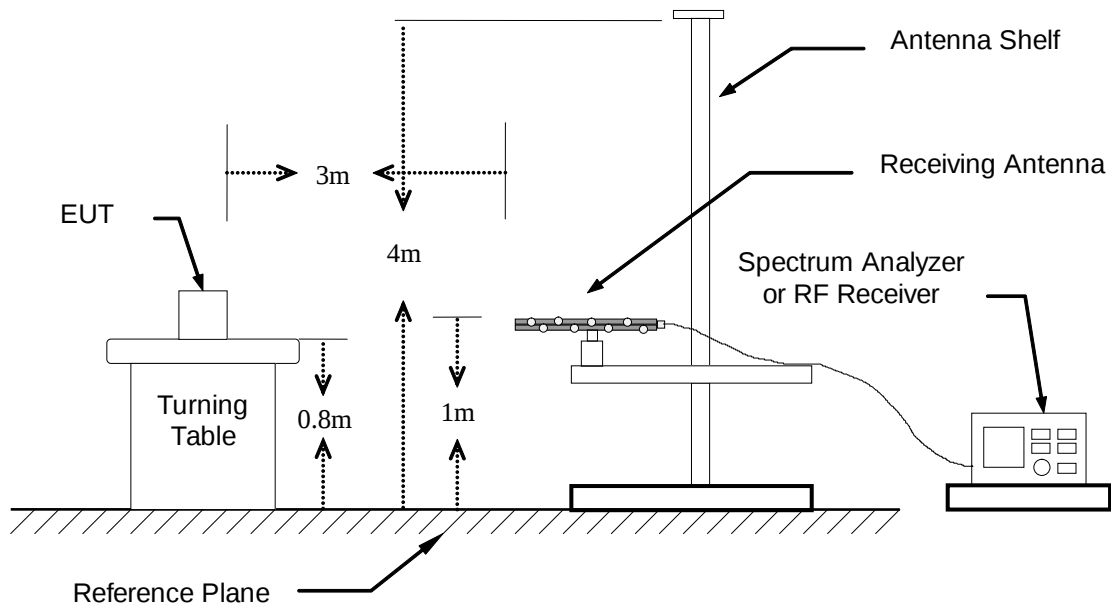
Worst case emission was recorded with the rotation of the turntable and the raising and lowering of the test antenna.

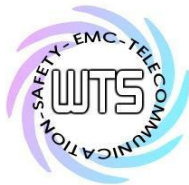
ERP was measured using a substitution method. The EUT was replaced by reference antenna connected to a signal generator.

The test of spurious radiated emission has been carried out with the validated test software. The measurements below 1GHz were performed with a measurement bandwidth of 100 kHz, above 1GHz with a bandwidth of 1MHz.

Spurious emission limits near the carrier are defined by a emission mask.

8.2 Test Setup





Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

8.3 Test Result

Model: TX-200EN Date: --
Mode: -- Temperature: -- °C Engineer: --
Polarization: Horizontal Humidity: -- %

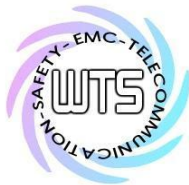
Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Polarization: Vertical

Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

- Note**
1. Correction Factor = Antenna factor + Cable loss - Preamplifier
 2. The formula of measured value as: Test Result = Reading + Correction Factor
 3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
 4. All not in the table noted test results are more than 20 dB below the relevant limits.
 5. See attached diagrams in appendix.

Test equipment used: ETSTW-RE 003, ETSTW-RE 042, ETSTW-RE 043, ETSTW-RE 044, ETSTW-RE 072



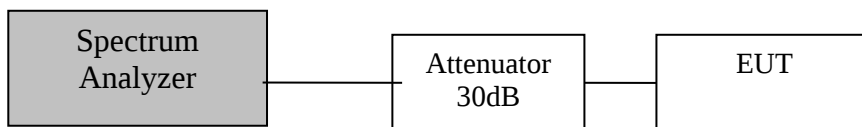
Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

9. Transmitter Spurious Conducted Emission

9.1 Test Procedures

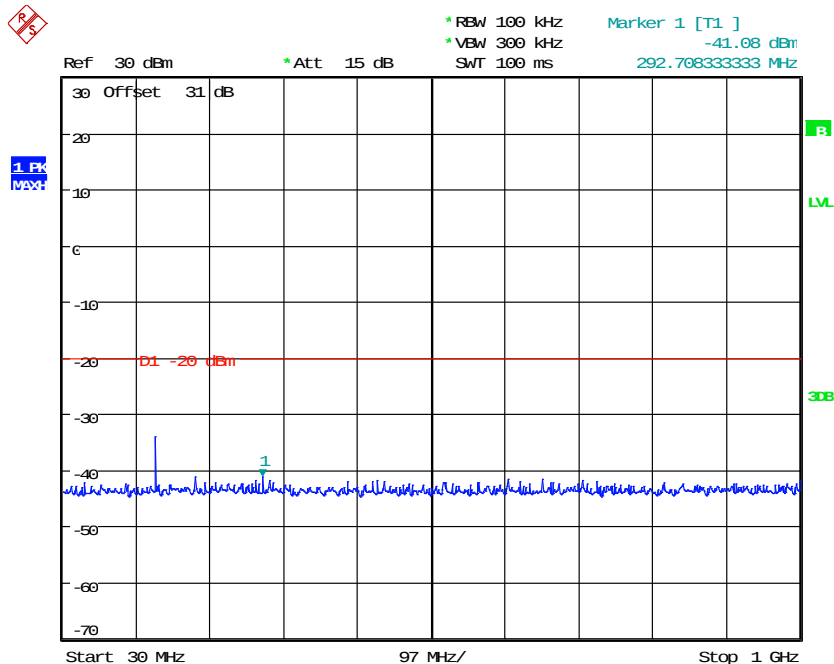
1. The transmitter output is connected to the spectrum analyzer through an attenuator.
2. Adjust the spectrum analyzer for the following settings:
 - Resolution Bandwidth = 10 kHz for spurious emissions below 1 GHz and 1 MHz for spurious emissions above 1GHz.
 - Video Bandwidth = 30 kHz for spurious emissions below 1 GHz, and 3 MHz for spurious emissions above 1 GHz.
 - Sweep Speed slow enough to maintain measurement calibration. Detector Mode = Positive Peak.
3. Limits=P (dBm)+10log(P(W)) = -13dBm

9.2 Test Setup



9.3 Test Result

150.8125 MHz

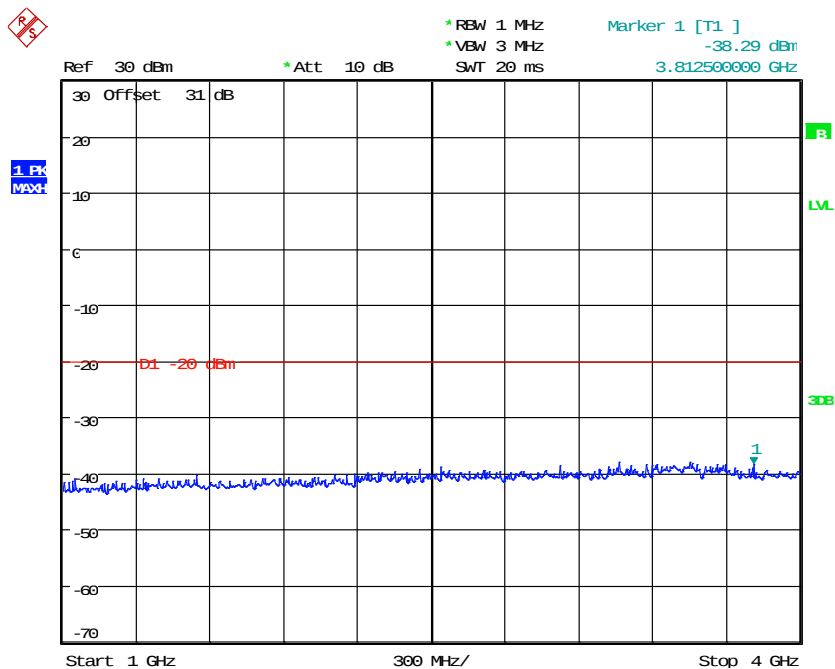


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:36:32



Registration number: W6M21909-19370-C-1

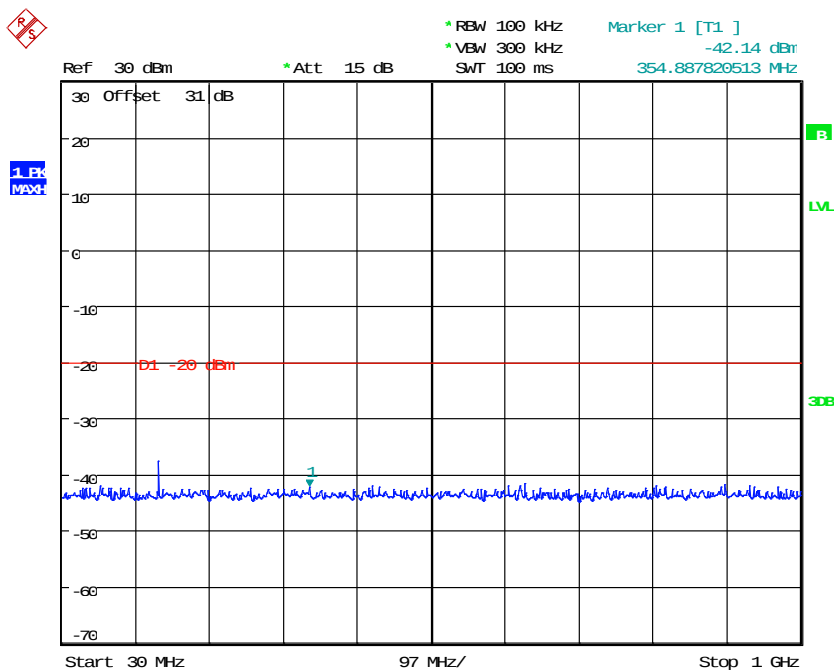
FCC ID: NDATX200ENV



CONDUCTED SPURIOUS EMISSION

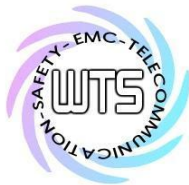
Date: 28.NOV.2019 15:45:29

156.235 MHz

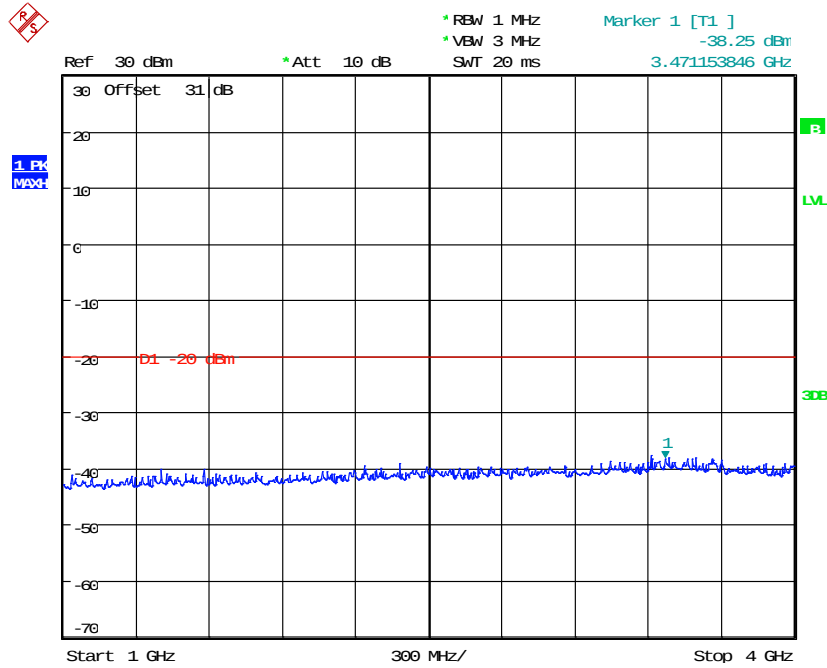


CONDUCTED SPURIOUS EMISSION

Date: 28.NOV.2019 15:37:27

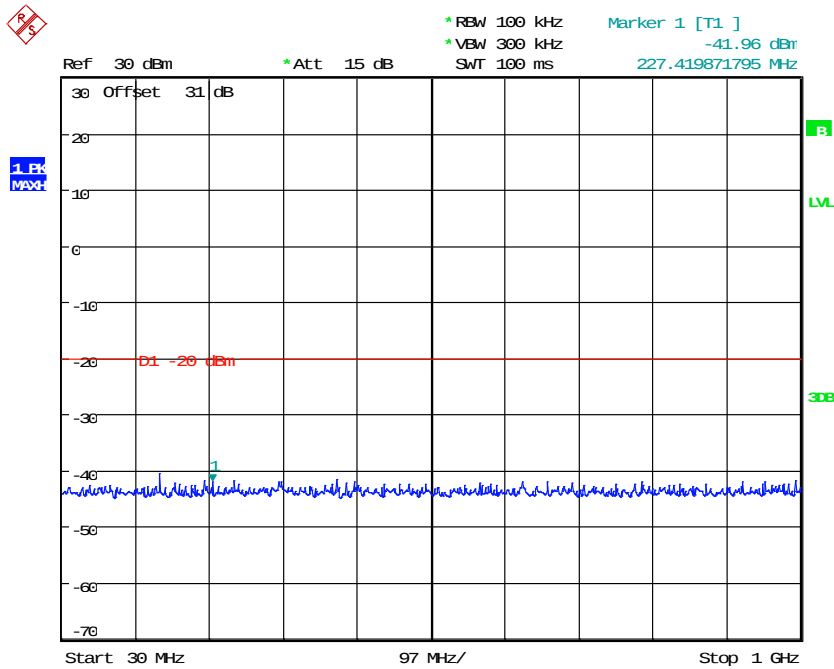


Registration number: W6M21909-19370-C-1
FCC ID: NDATX200ENV

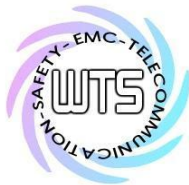


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:46:17

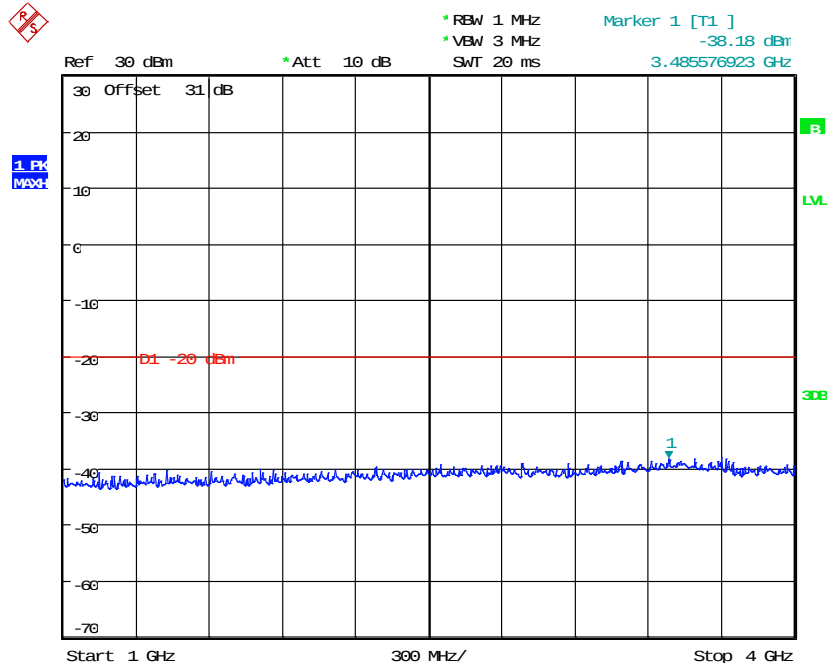
157.2 MHz



CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:38:21

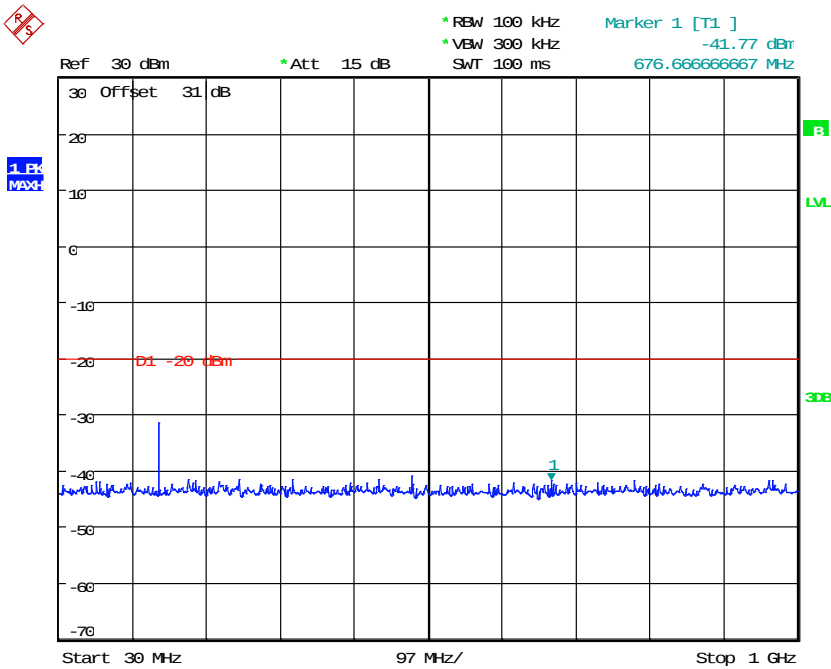


Registration number: W6M21909-19370-C-1
FCC ID: NDATX200ENV

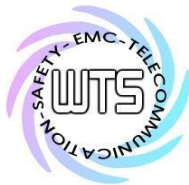


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:46:54

161.2625 MHz

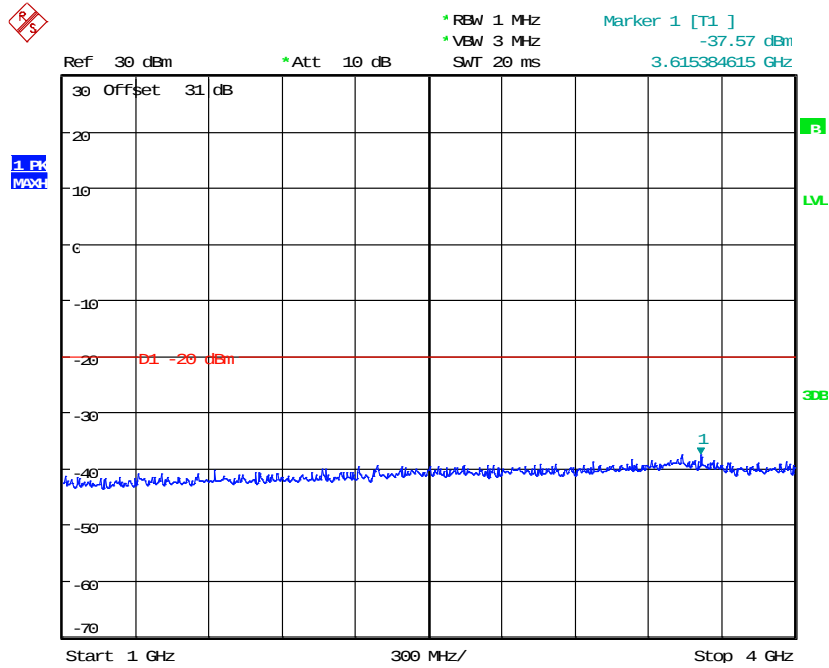


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:39:28



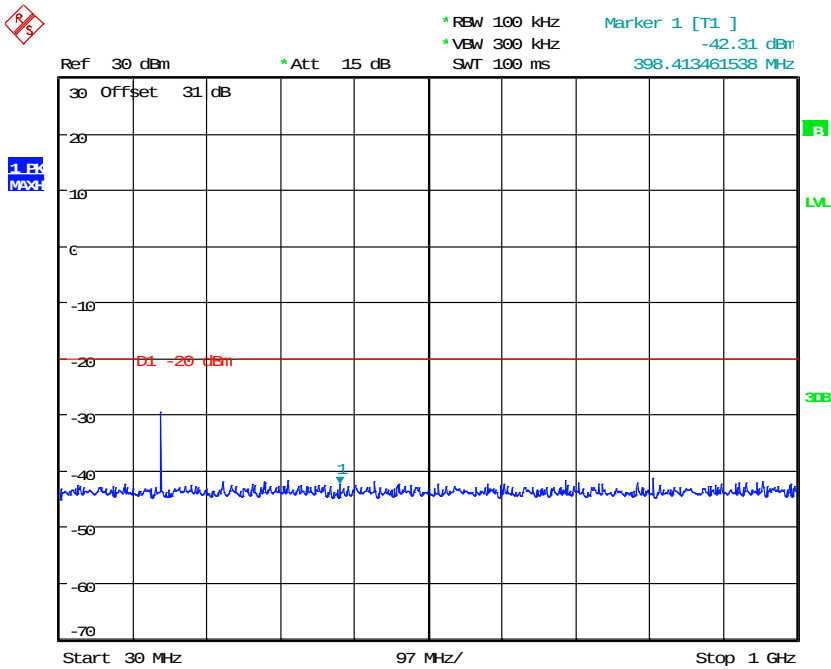
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

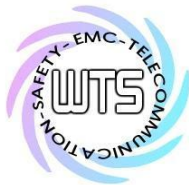


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:47:47

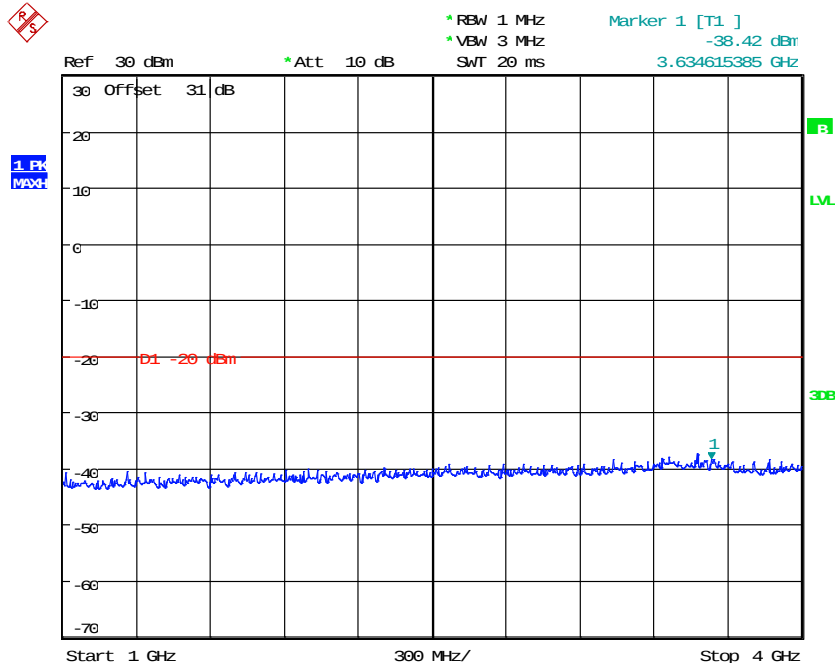
161.8625 MHz



CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:48:07

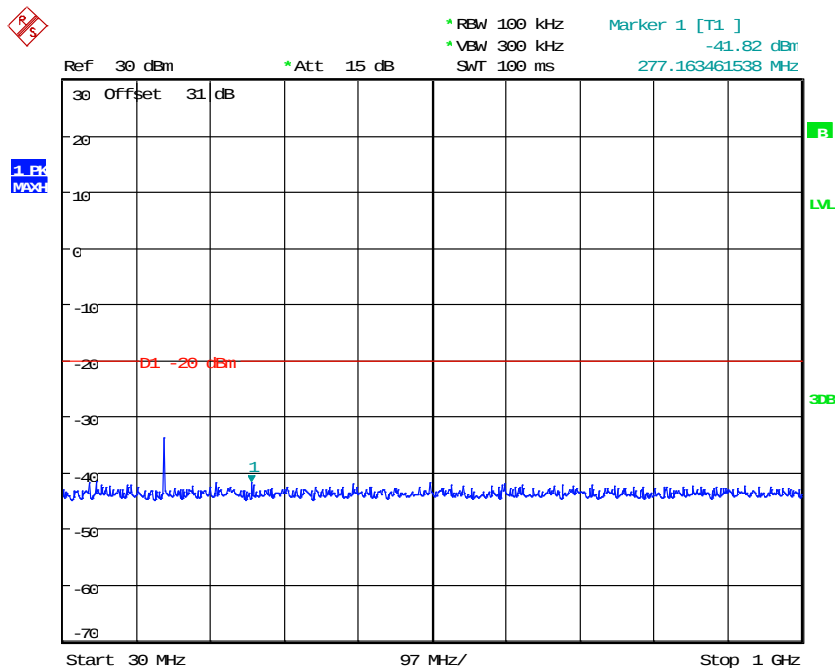


Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

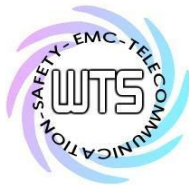


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:48:23

162.05 MHz

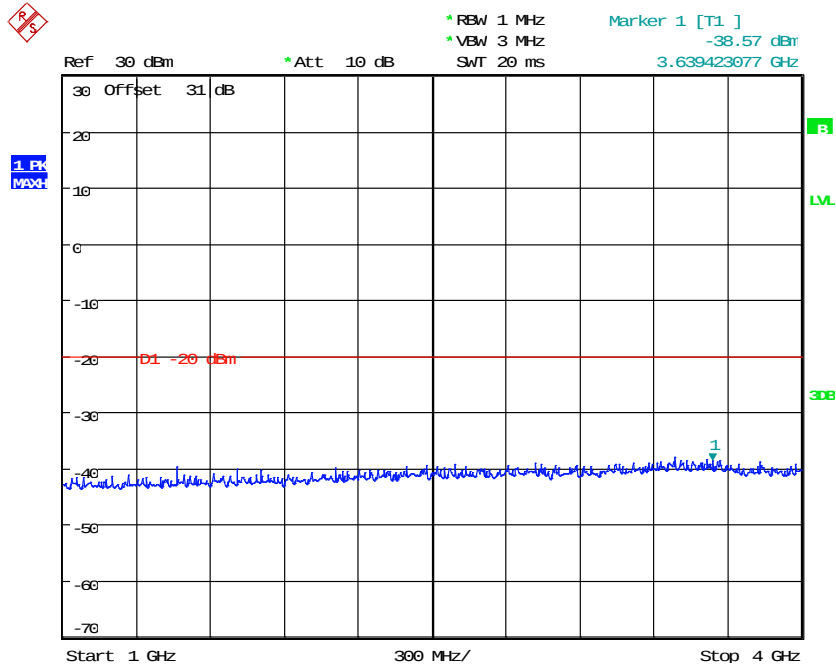


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:48:49



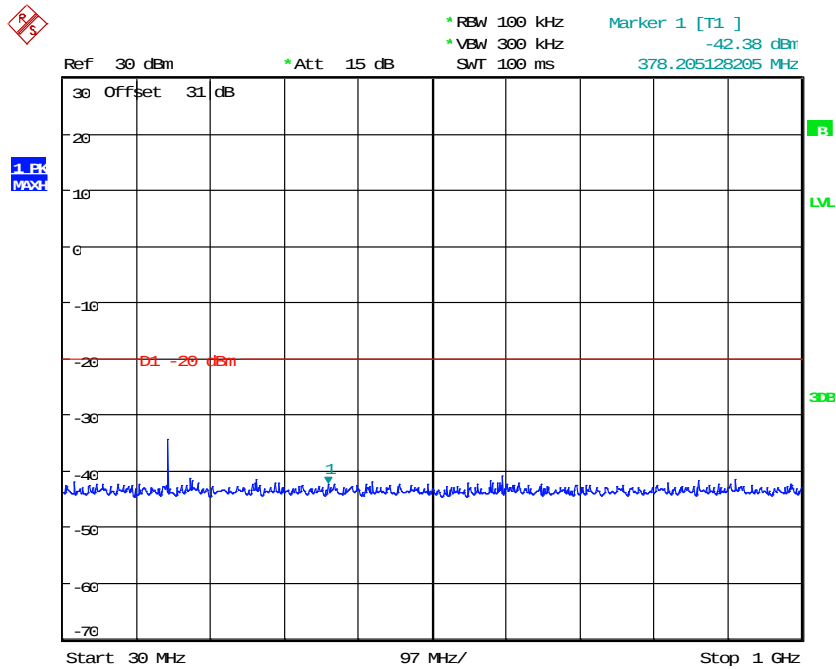
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

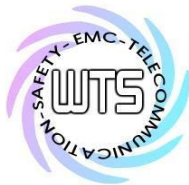


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:49:17

167.7125 MHz

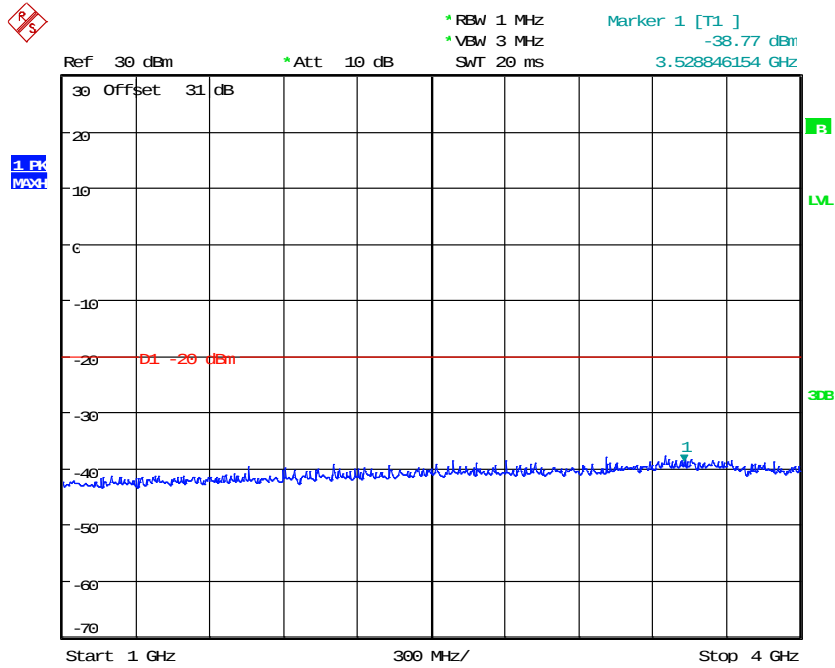


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:42:44



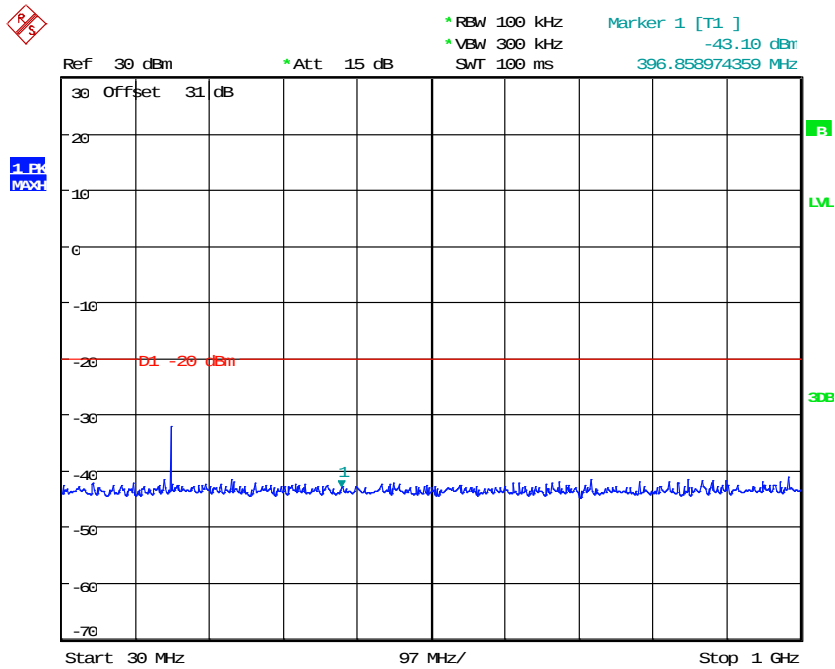
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
FCC ID: NDATX200ENV

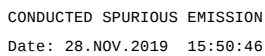


CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:50:09

173.3875 MHz



CONDUCTED SPURIOUS EMISSION
Date: 28.NOV.2019 15:43:39



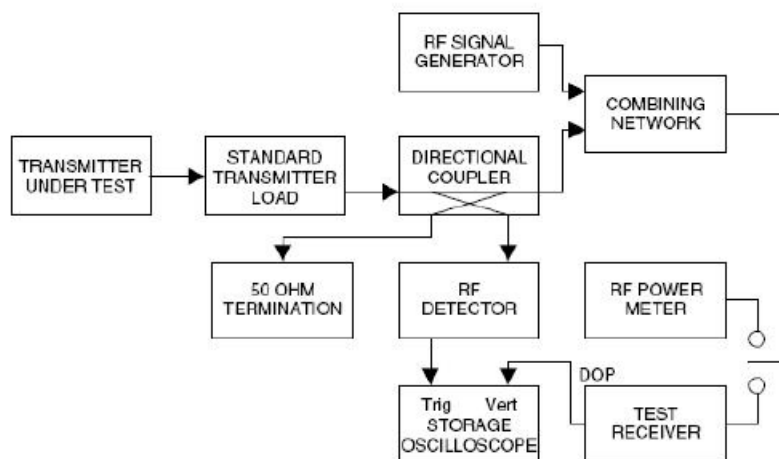
Page 58 of 71

10. Transient frequency behavior

10.1 Test Procedures

1. SG to the assigned transmitter frequency and modulate it with a 1 kHz tone at ± 25 kHz deviation and set its output level to below 30dB of EUT signal level to receiver.
2. Set the horizontal sweep rate on the storage oscilloscope to 10 ms per division and adjust the display to continuously view the 1000 Hz tone from the DOP. Adjust the vertical amplitude control of the oscilloscope to display the 1000 Hz at ± 4 divisions vertically centered on the display.
3. Transmitter on and observe the stored display. The output at the DOP, due to the change in the ratio of power between the signal generator input power and the transmitter output power will, because of the capture effect of the test receiver, produce a change in display: For the first part of the sweep it will show the 1 kHz test signal. Then once the receiver's demodulator has been captured by the transmitter power, the display will show the frequency difference from the assigned frequency to the actual transmitter frequency versus time. The instant when the 1 kHz test signal is completely suppressed (including any capture time due to phasing) is considered to be t_{on} . The trace should be maintained within the allowed divisions during the period t_1 and t_2 . See the figure in the appropriate standards section.
4. During the time from the end of t_2 to the beginning of t_3 the frequency difference should not exceed the limits set by the FCC in 47 CFR 90.214 and outlined in 3.2.2. The allowed limit is equal to the transmitter frequency times its FCC frequency tolerance times ± 4 display divisions divided by 25 kHz. For example, at a transmitter assigned frequency of 500 MHz and a frequency tolerance of 5 ppm. This would be 500 MHz times 5 ppm times ± 4 divisions divided by 25 kHz. This equals ± 0.4 divisions in this example. Greater vertical sensitivity may be required to view this accurately
5. Adjust the oscilloscope trigger controls so it will trigger on a decreasing magnitude from the RF peak detector, at 1 division from the right side of the display, when the transmitter is turned off. Set the controls to store the display. The moment when the 1 kHz test signal starts to rise is considered to provide t_{off} .

10.2 Test Setup





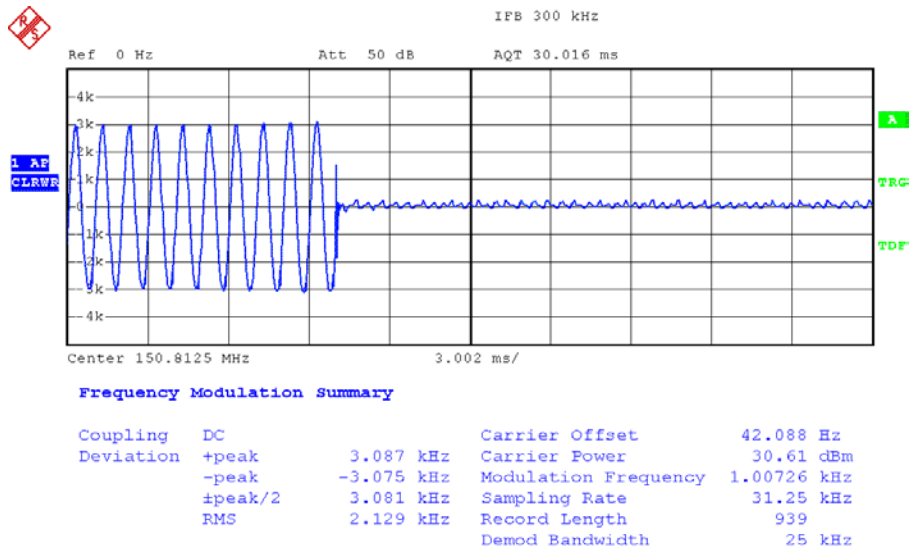
Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

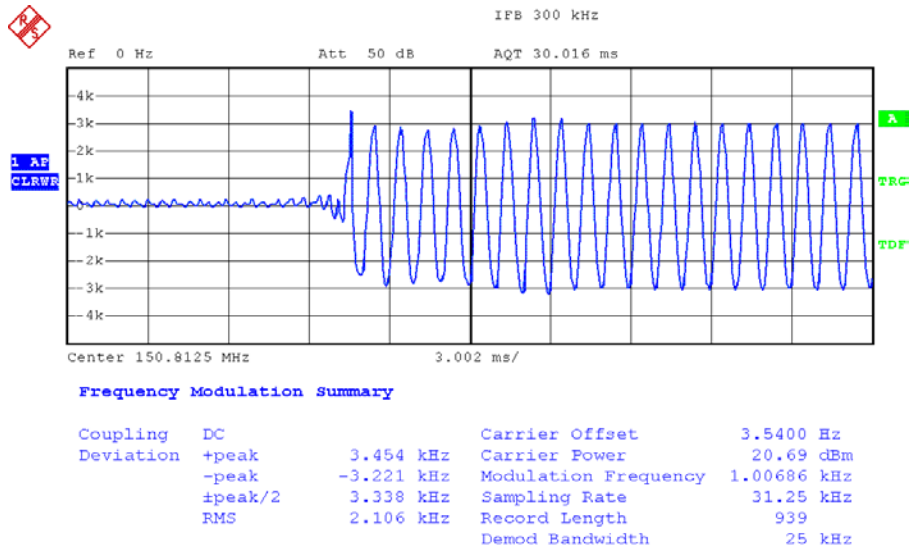
10.3 Test Result

150.8125 MHz Off to On



Date: 3.DEC.2019 17:02:53

150.8125 MHz On to Off



Date: 3.DEC.2019 17:02:09

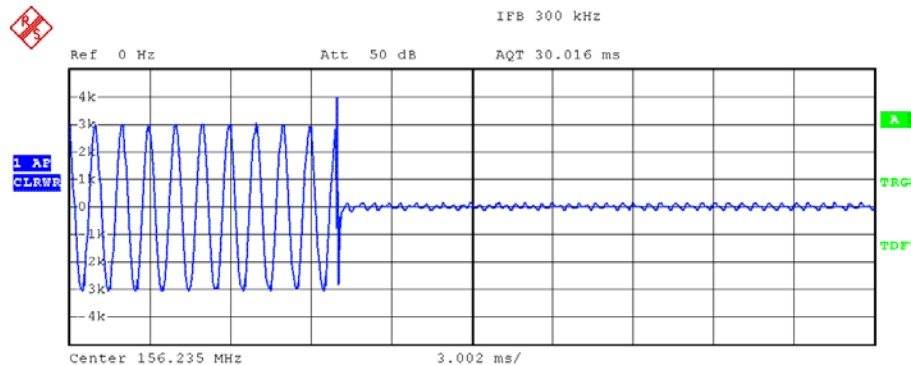


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

156.235 MHz Off to On

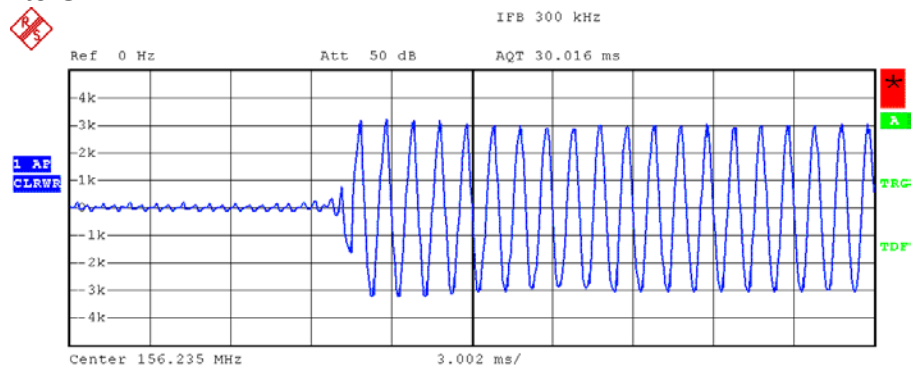


Frequency Modulation Summary

Coupling	DC	Carrier Offset	5.6152 Hz
Deviation	+peak 3.947 kHz	Carrier Power	31.22 dBm
	-peak -3.047 kHz	Modulation Frequency	1.02163 kHz
	±peak/2 3.497 kHz	Sampling Rate	31.25 kHz
	RMS 2.120 kHz	Record Length	939
		Demod Bandwidth	25 kHz

Date: 3.DEC.2019 17:03:51

156.235 MHz On to Off



Frequency Modulation Summary

Coupling	DC	Carrier Offset	-1.3826 Hz
Deviation	+peak 3.219 kHz	Carrier Power	21.55 dBm
	-peak -3.242 kHz	Modulation Frequency	1.00948 kHz
	±peak/2 3.230 kHz	Sampling Rate	31.25 kHz
	RMS 2.108 kHz	Record Length	939
		Demod Bandwidth	25 kHz

Date: 3.DEC.2019 17:04:19

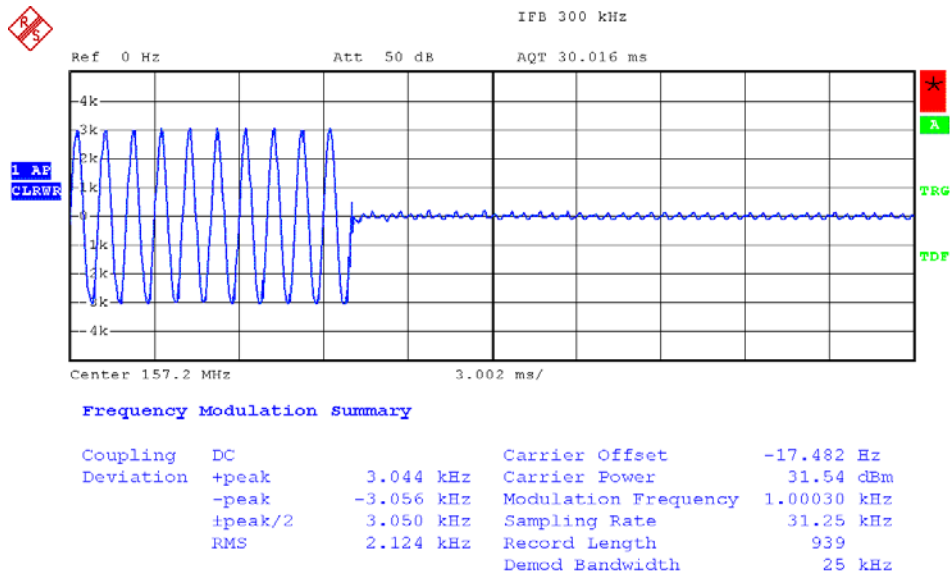


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

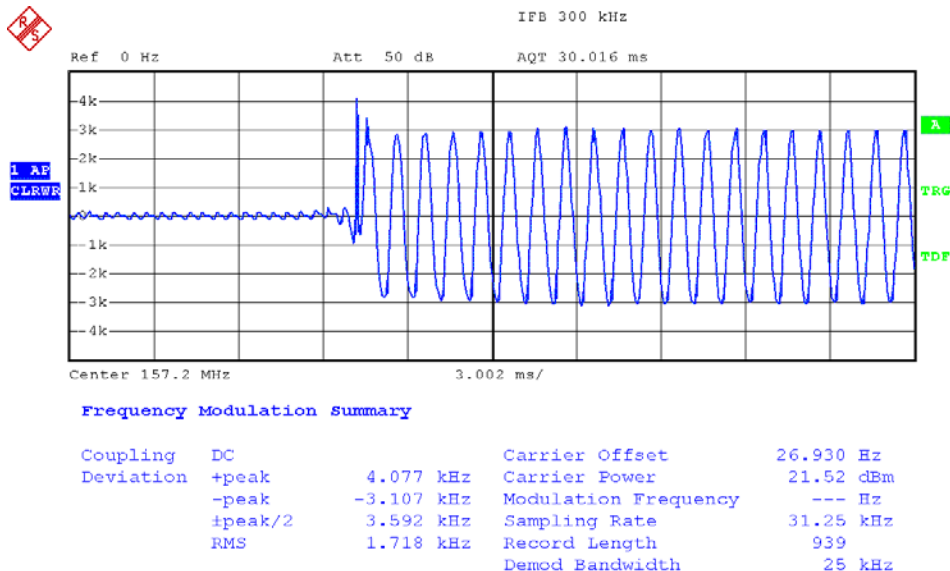
FCC ID: NDATA200ENV

157.2 MHz Off to On



Date: 3.DEC.2019 17:05:32

157.2 MHz On to Off



Date: 3.DEC.2019 17:05:05

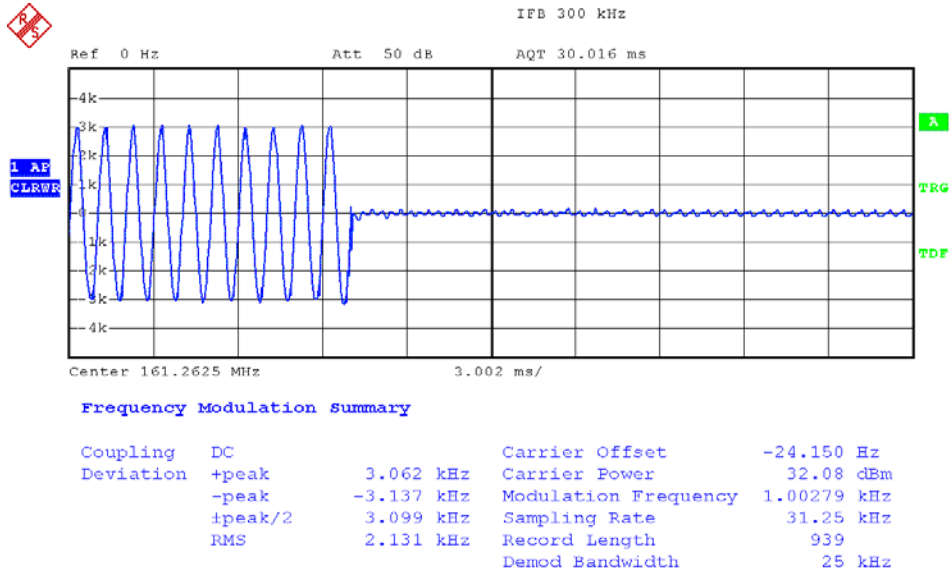


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

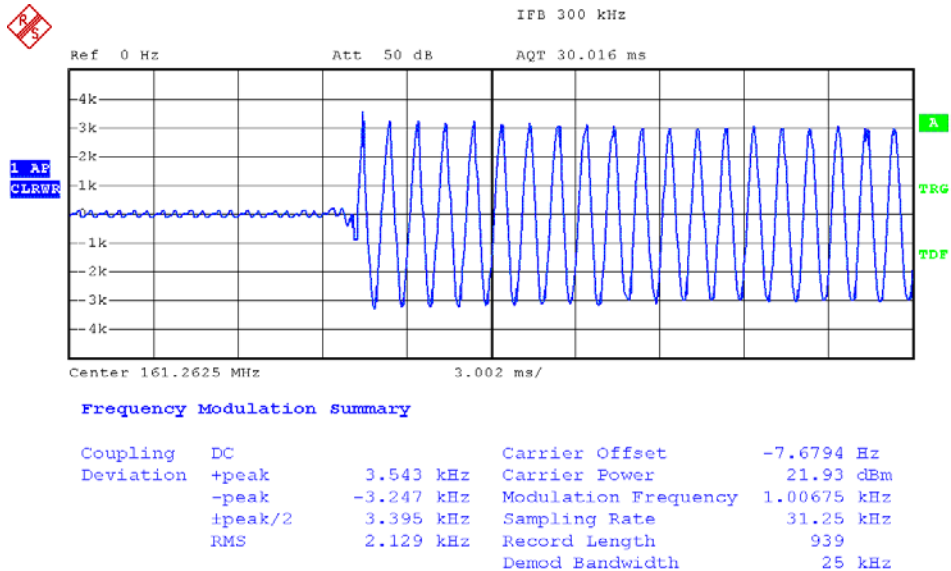
FCC ID: NDATA200ENV

161.2625 MHz Off to On



Date: 3.DEC.2019 17:06:13

161.2625 MHz On to Off



Date: 3.DEC.2019 17:06:43

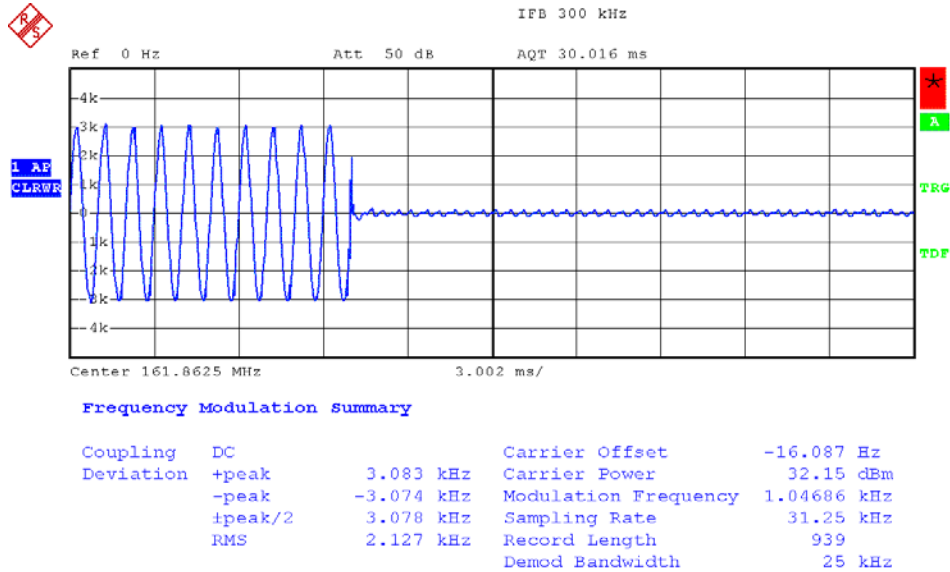


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

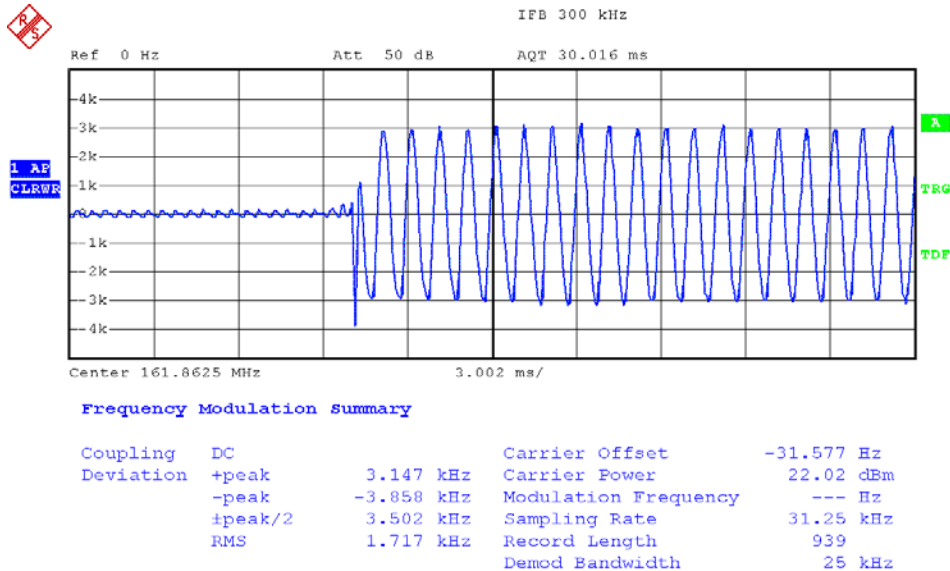
FCC ID: NDATA200ENV

161.8625 MHz Off to On



Date: 3.DEC.2019 17:08:46

161.8625 MHz On to Off



Date: 3.DEC.2019 17:08:12

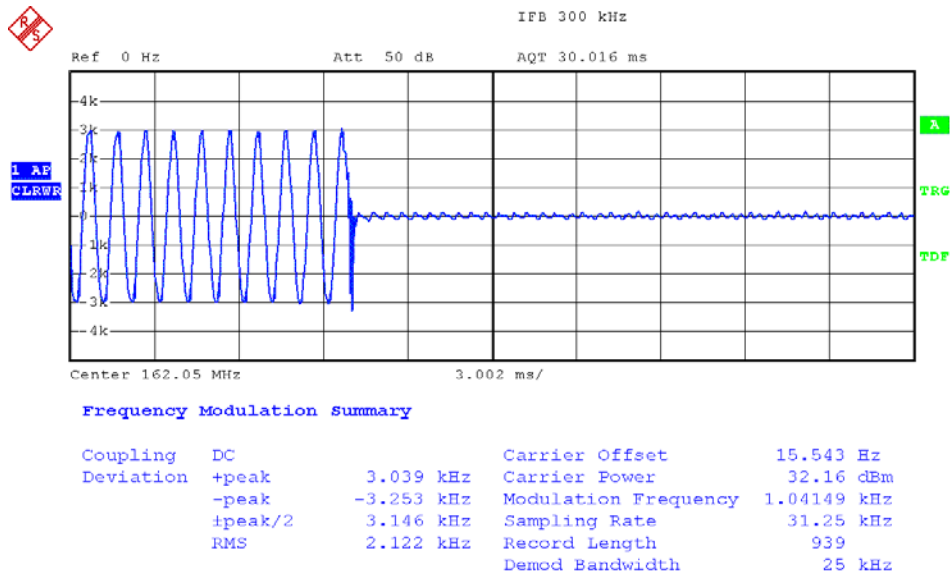


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

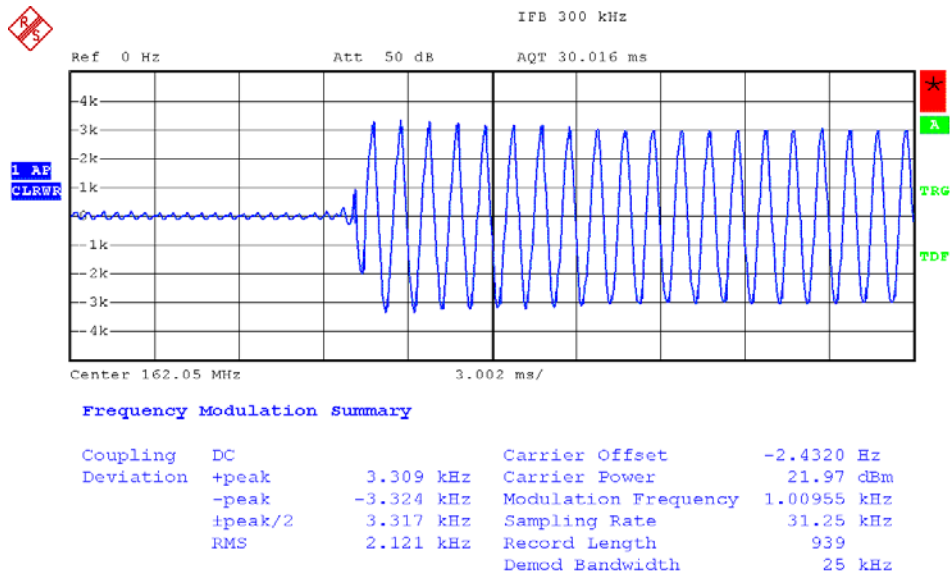
FCC ID: NDATA200ENV

162.05 MHz Off to On



Date: 3.DEC.2019 17:09:33

162.05 MHz On to Off



Date: 3.DEC.2019 17:10:03

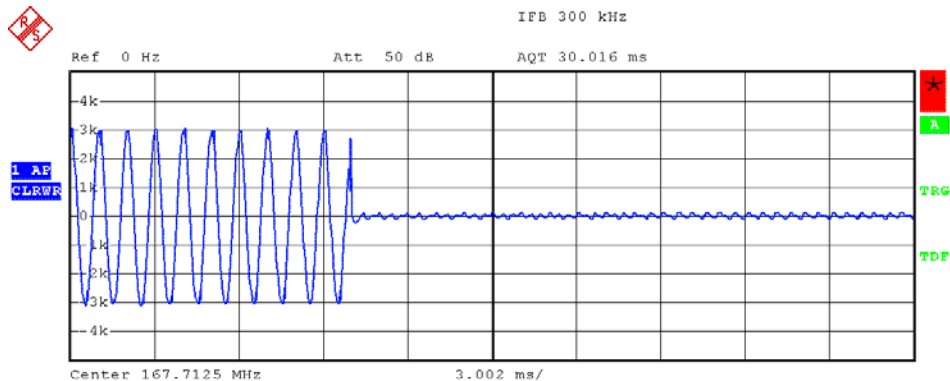


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

167.7125 MHz Off to On

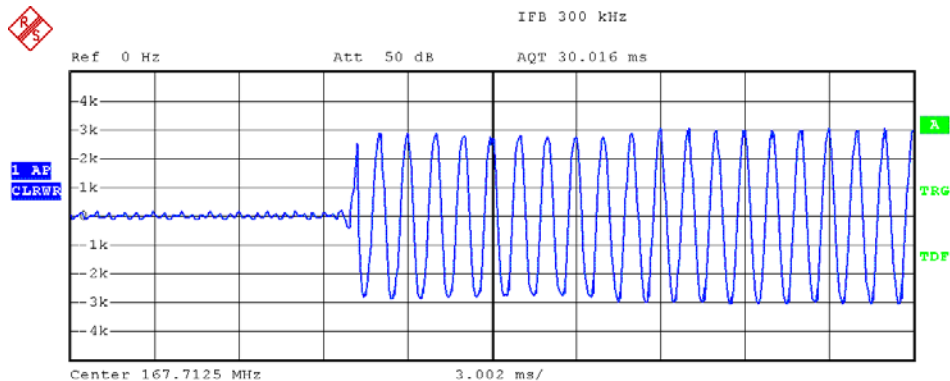


Frequency Modulation Summary

Coupling	DC	Carrier Offset	5.4156 Hz	
Deviation	+peak	3.036 kHz	Carrier Power	32.82 dBm
	-peak	-3.077 kHz	Modulation Frequency	1.02353 kHz
	+peak/2	3.057 kHz	Sampling Rate	31.25 kHz
	RMS	2.111 kHz	Record Length	939
			Demod Bandwidth	25 kHz

Date: 3.DEC.2019 17:11:25

167.7125 MHz On to Off



Frequency Modulation Summary

Coupling	DC	Carrier Offset	-15.195 Hz	
Deviation	+peak	3.046 kHz	Carrier Power	21.95 dBm
	-peak	-3.058 kHz	Modulation Frequency	1.00169 kHz
	+peak/2	3.052 kHz	Sampling Rate	31.25 kHz
	RMS	2.101 kHz	Record Length	939
			Demod Bandwidth	25 kHz

Date: 3.DEC.2019 17:10:51

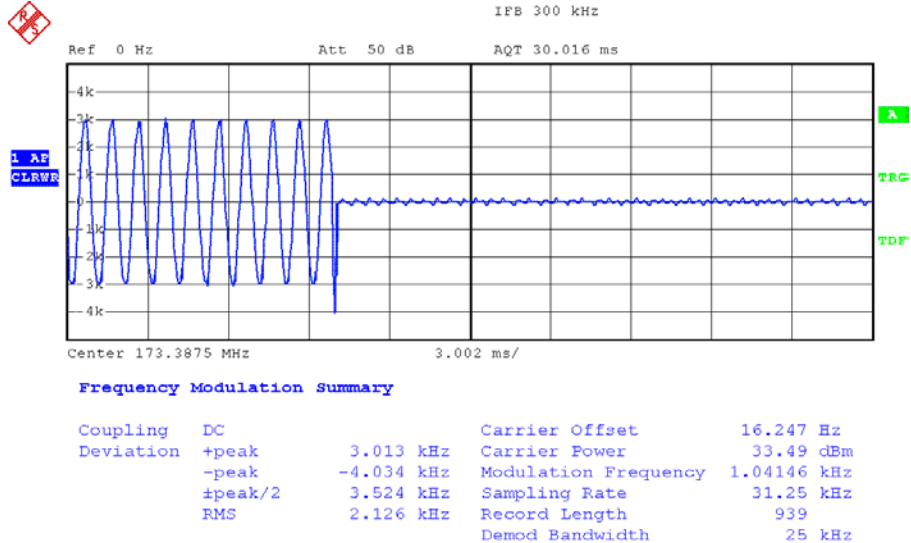


Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1

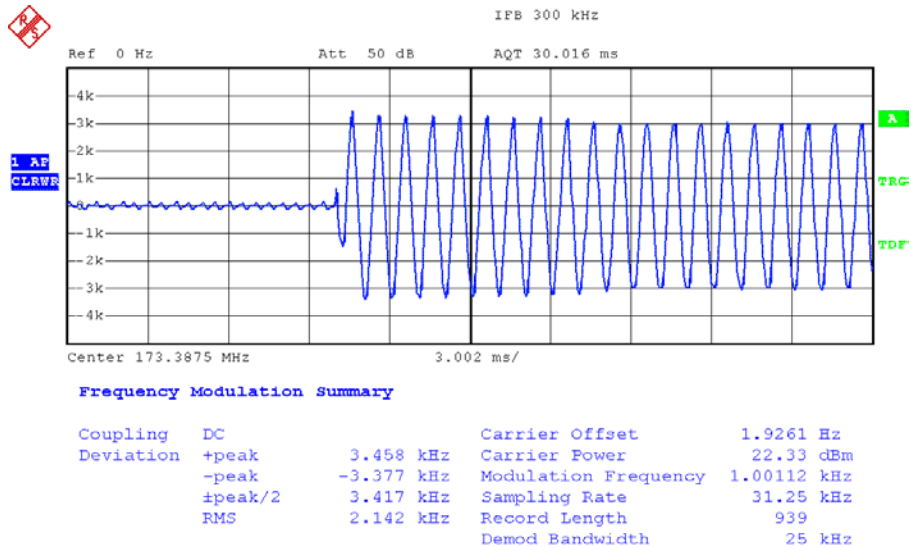
FCC ID: NDATA200ENV

173.3875 MHz Off to On



Date: 3.DEC.2019 17:12:10

173.3875 MHz On to Off



Date: 3.DEC.2019 17:12:43

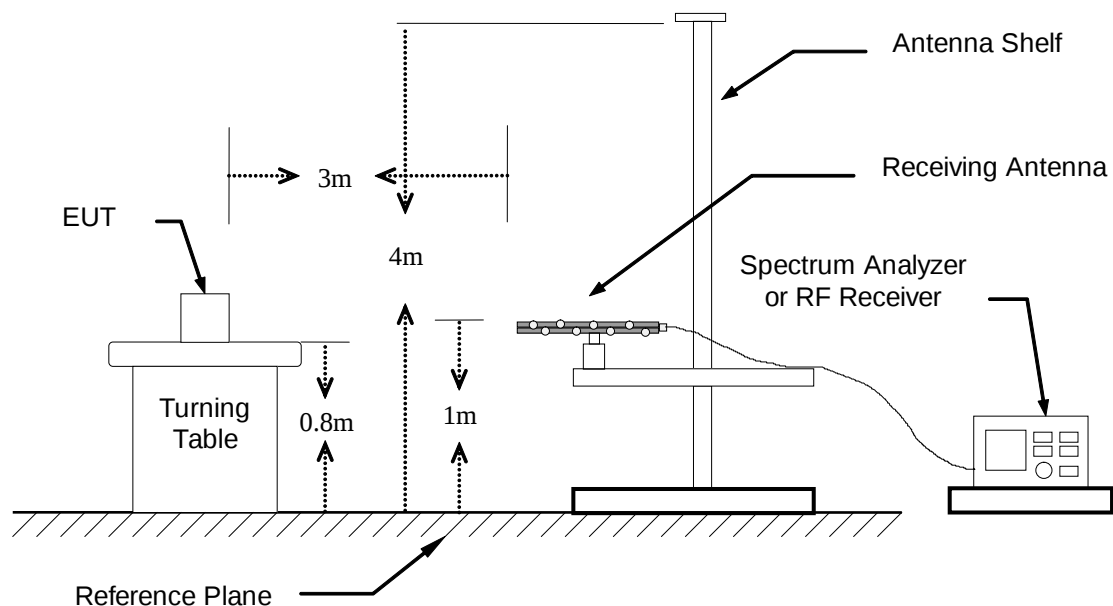
Test equipment used: ETSTW-RE 072, ETSTW-RE 033

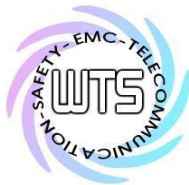
11. Receiver Radiated Spurious Emission

11.1 Test Procedures

1. Configure the EUT according to ANSI C63.4.
2. The EUT was placed on the top of the turn table 0.8 meter above ground.
3. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turn table.
4. Power on the EUT and all the supporting units.
5. The turn table was rotated 360 degrees to determine the position of the highest radiation.
6. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
7. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
8. Adjust the spectrum analyzer for the following settings:
 - Resolution Bandwidth = 100 kHz for spurious emissions below 1 GHz and 1 MHz for spurious emissions above 1GHz.
 - Video Bandwidth = 100 kHz for spurious emissions below 1 GHz, and 1 MHz for spurious emissions above 1 GHz.
 - Sweep Speed slow enough to maintain measurement calibration.
 - Detector Mode = Positive Peak.

11.2 Test Setup





Registration number: W6M21909-19370-C-1

FCC ID: NDATA200ENV

11.3 Test Result

Model: TX-200EN Date: --
Mode: -- Temperature: -- °C Engineer: --
Polarization: Horizontal Humidity: -- %

Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

Polarization: Vertical

Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

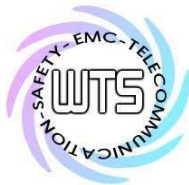
Note

1. Correction Factor = Antenna factor + Cable loss - Preamplifier
2. The formula of measured value as: Test Result = Reading + Correction Factor
3. Detector function in the form: PK = Peak, QP = Quasi Peak, AV = Average
4. Up Line: PK Limit Line, Down Line: Ave Limit Line.
5. This test is not required because the EUT is a transmitter only.

Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (microvolts/meter)	Field Strength (dBmicrovolts/meter)
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

Test equipment used: ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 062, ETSTW-RE 142,
ETSTW-RE 147



Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

12. Maximum Permissible Exposure

12.1 Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 30 cm normally can be maintained between the user and the device.

12.2 MPE Calculation Method

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

*Plane-wave equivalent power density

$$E \text{ (V/m)} \cdot \frac{\sqrt{30 \times P \times G}}{d}$$

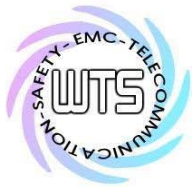
$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} \cdot \frac{E^2}{377}$$

E = Electric field (V/m) P = output power (W) G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd \cdot \frac{30 \times P \times G}{377 \times d^2}$$



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19370-C-1
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EIRP = max. conducted output power + antenna gain+ tune up

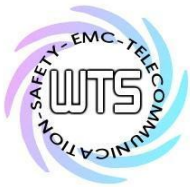
$$\begin{aligned} \text{EIRP} &= 37.67 \text{ dBm} + (0 \text{ dBi [antenna gain claimed by manufacturer]} + 1 \text{ dB [tune up]}) = \\ &38.67 \text{ dBm} = 7362.0710 \text{ mW} \end{aligned}$$

Established separation distance is 30 cm.

Operating frequency band: 150.8~156.2475 MHz, 157.1875~161.575 MHz, 161.775~161.9625 MHz,
162.0375~173.4 MHz

The product meets RF exposure requirement.

Because the power density of 0.8195 mW/m^2 at 162.05 MHz is below the power density limit of 1 mW/m^2 .



Registration number: W6M21909-19370-C-1
FCC ID: NDATA200ENV

Appendix

Measurement diagrams

Spurious Emissions radiated



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Neihu, Taipei
Tel: +886-2-6606-8877
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

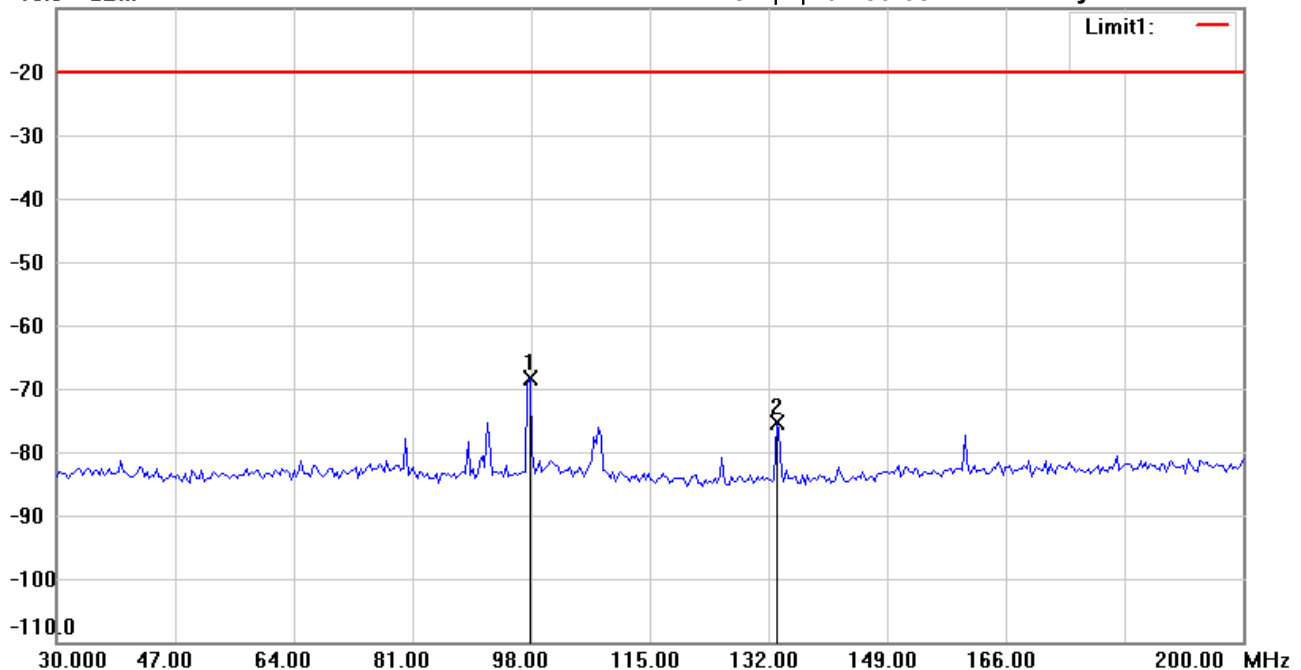
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:30:38

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 150.8125MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.69	peak	21.44	-68.25	-20.00	150	145	-48.25	
	133.2265	-95.60	peak	20.15	-75.45	-20.00	150	220	-55.45	

*:Maximum data x:Over limit !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei
Tel: +886-2-6606-8877
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

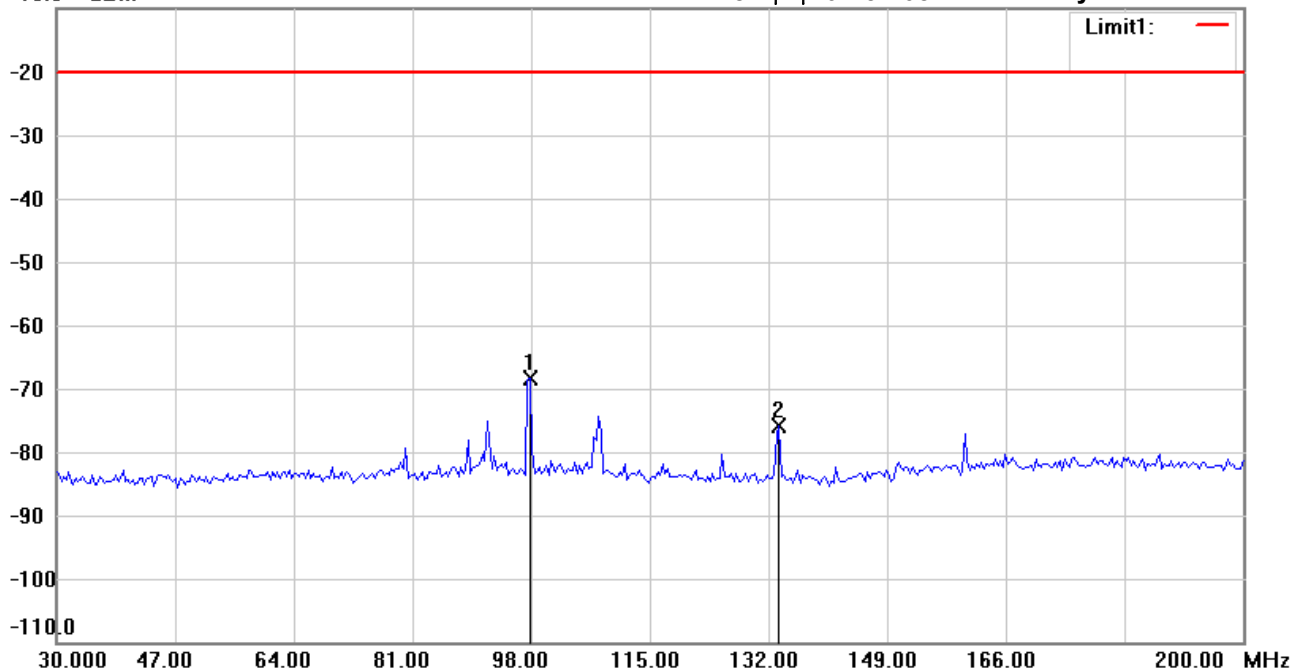
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:54:08

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 150.8125MHz

Note :

Polarization: Vertical

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-90.14	peak	21.70	-68.44	-20.00	150	145	-48.44	
	133.5671	-96.27	peak	20.32	-75.95	-20.00	150	220	-55.95	

*:Maximum data x:Over limit !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, Neihu, Taipei
Tel: +886-2-6606-8877
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File : 2

Data : #1

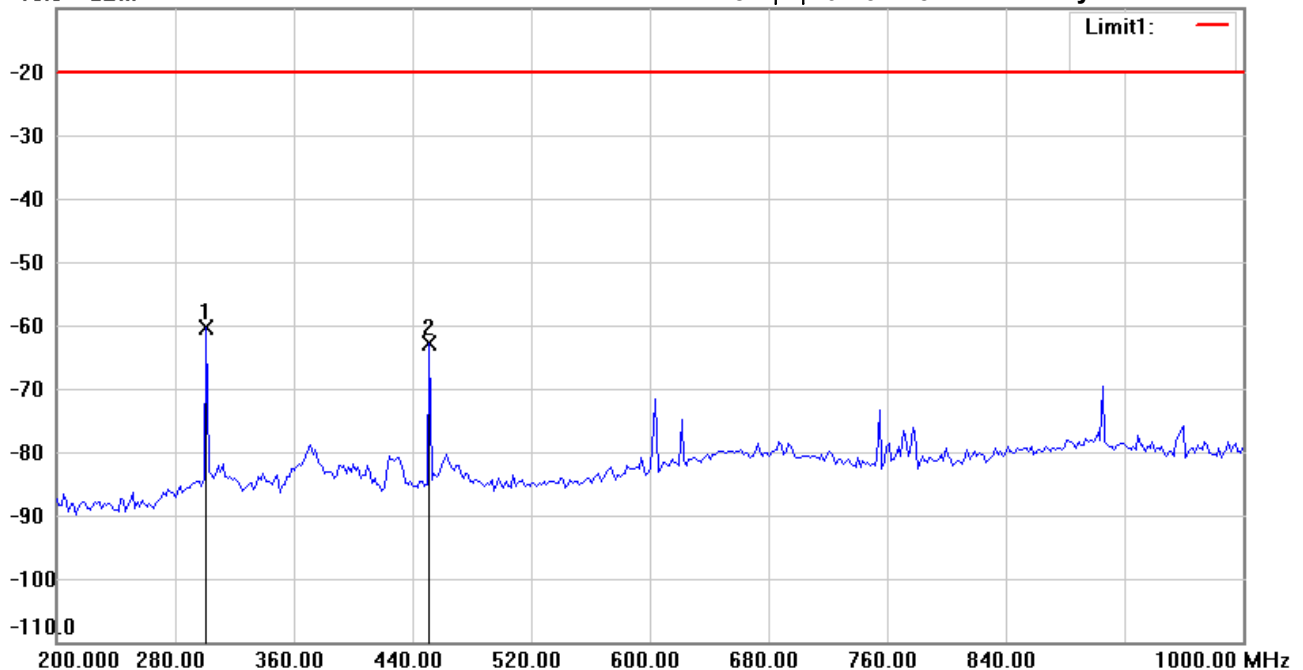
Date: 2019/11/22

Temperature: 24 °C

-10.0 dBm

Time: 下午 04:37:25

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 150.8125MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	301.0020	-50.12	peak	-10.32	-60.44	-20.00	150	245	-40.44	
	451.7034	-53.01	peak	-9.82	-62.83	-20.00	150	160	-42.83	

*:Maximum data x:Over limit !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei
Tel: +886-2-6606-8877
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File : 2

Data : #2

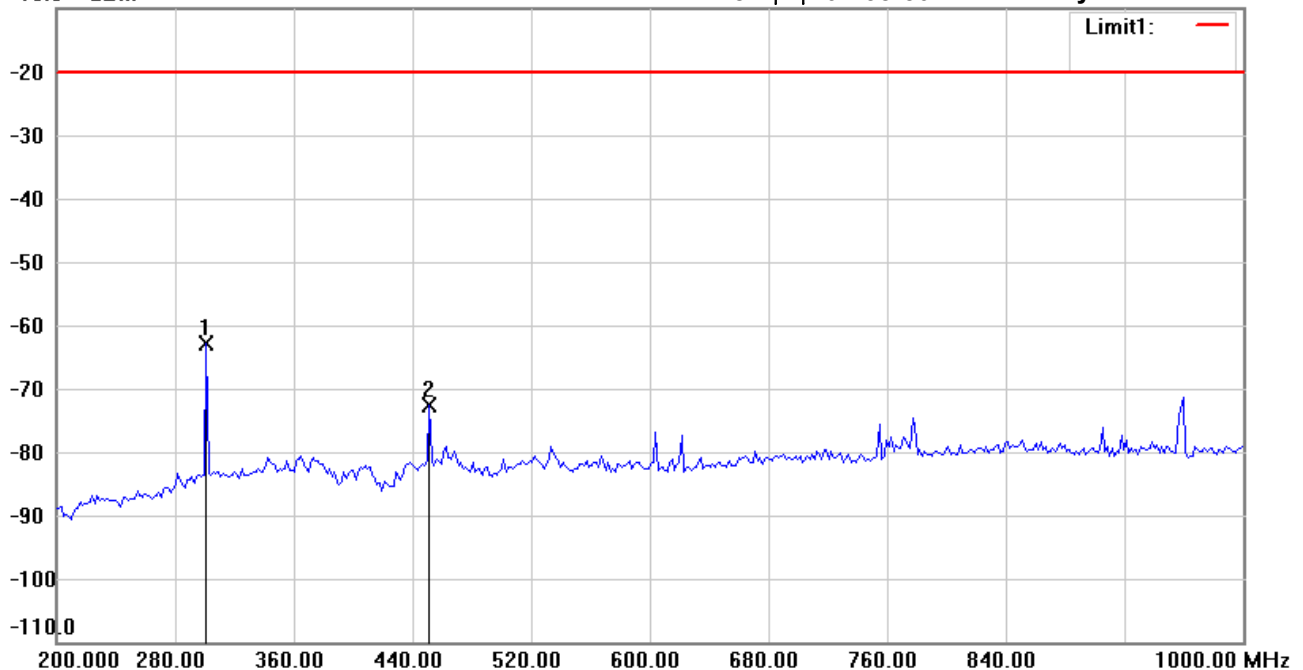
Date: 2019/11/22

Temperature: 24 °C

-10.0 dBm

Time: 下午 04:38:50

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 150.8125MHz

Note :

Polarization: *Vertical*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	301.0020	-55.31	peak	-7.62	-62.93	-20.00	150	220	-42.93	
	451.7034	-63.99	peak	-8.52	-72.51	-20.00	150	130	-52.51	

*:Maximum data x:Over limit !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei
Tel: +886-2-6606-8877
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File : 3

Data : #1

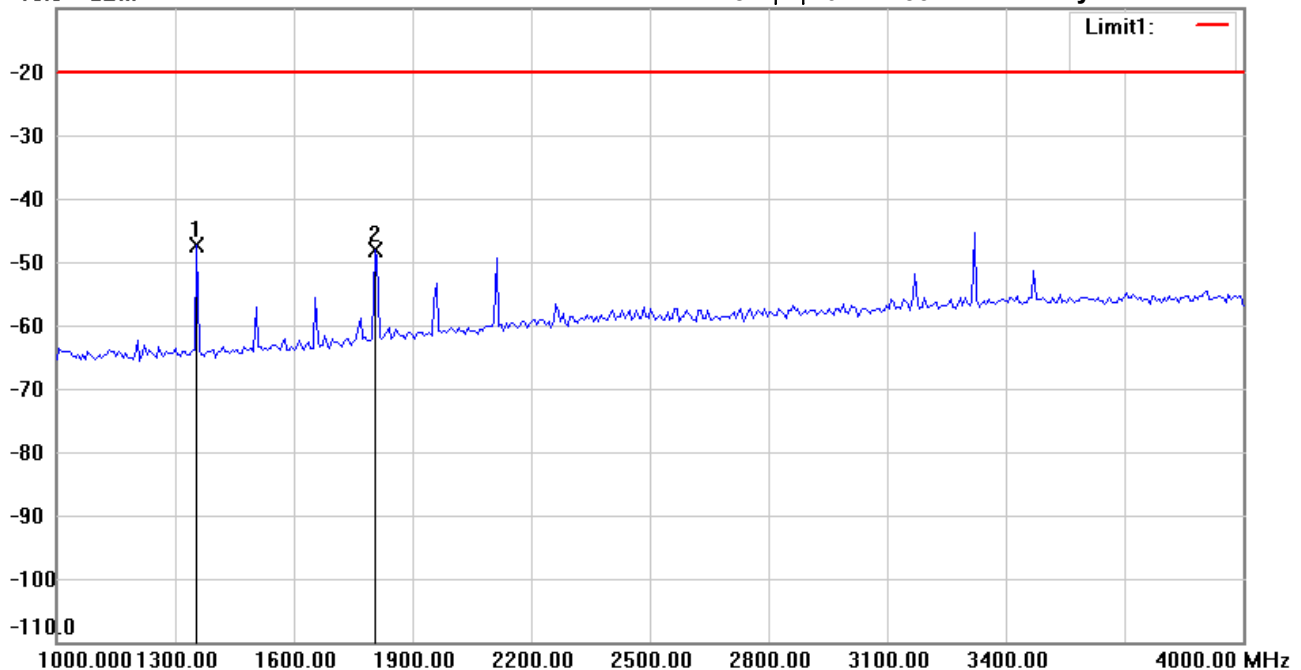
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 01:27:53

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 150.8125MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1354.709	-45.23	peak	-2.19	-47.42	-20.00	150	55	-27.42	
	1805.611	-48.02	peak	-0.18	-48.20	-20.00	150	305	-28.20	

*:Maximum data x:Over limit !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei
Tel: +886-2-6606-8877
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File : 3

Data : #2

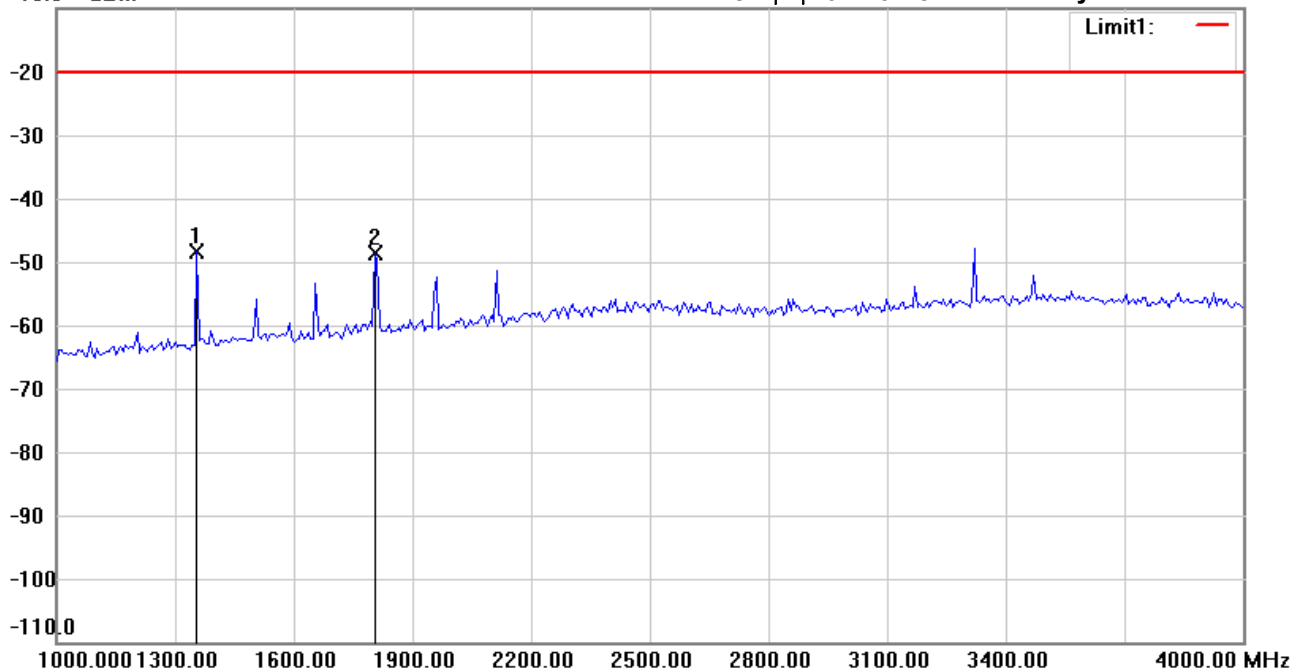
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:29:15

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 150.8125MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1354.709	-47.63	peak	-0.68	-48.31	-20.00	150	220	-28.31	
	1805.611	-50.03	peak	1.32	-48.71	-20.00	150	115	-28.71	

*:Maximum data x:Over limit !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei
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Radiated Emission Measurement

Operator: Kent

File : 1

Data : #1

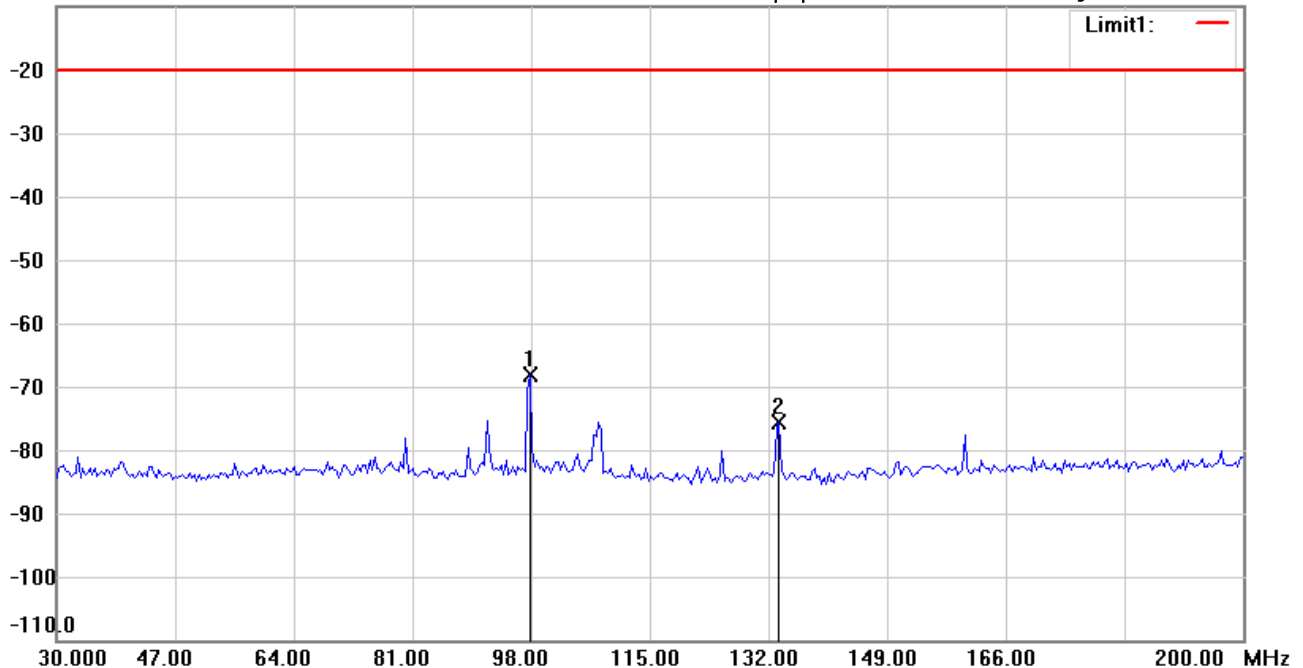
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:31:39

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 156.235MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.67	peak	21.44	-68.23	-20.00	150	145	-48.23	
	133.5671	-95.69	peak	20.15	-75.54	-20.00	150	130	-55.54	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

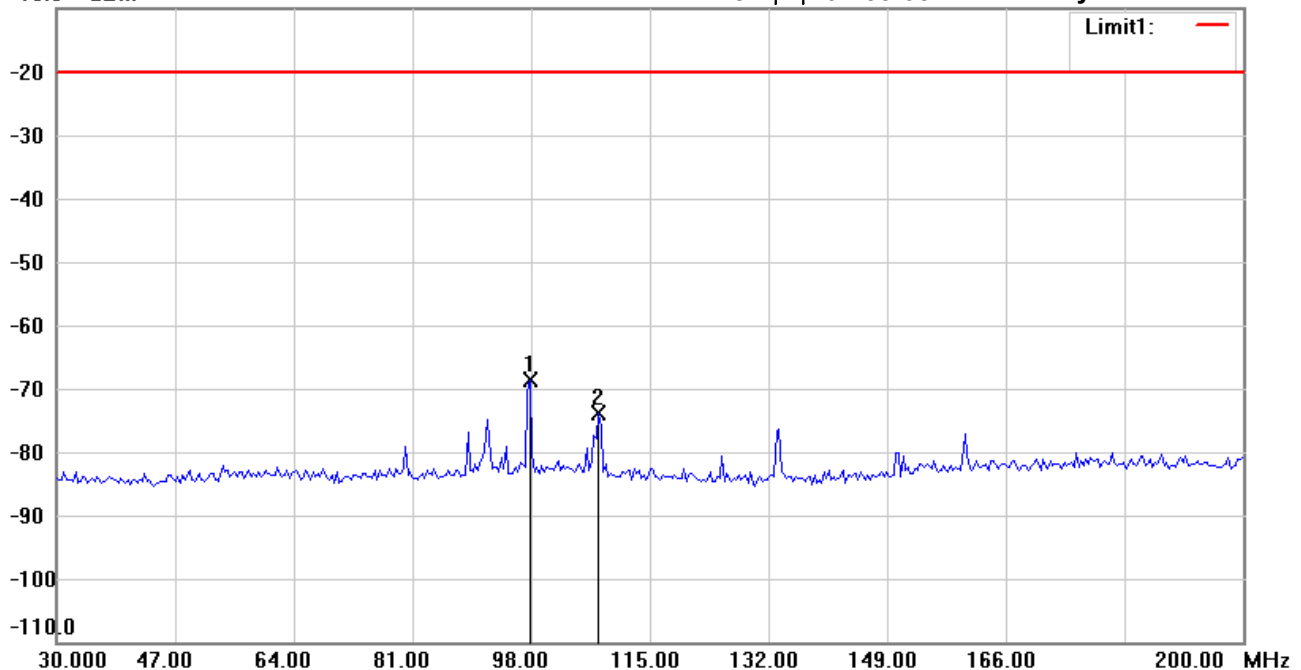
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:55:05

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 156.235MHz

Note :

Polarization: Vertical

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-90.20	peak	21.70	-68.50	-20.00	150	45	-48.50	
	107.6754	-95.32	peak	21.34	-73.98	-20.00	150	220	-53.98	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #1

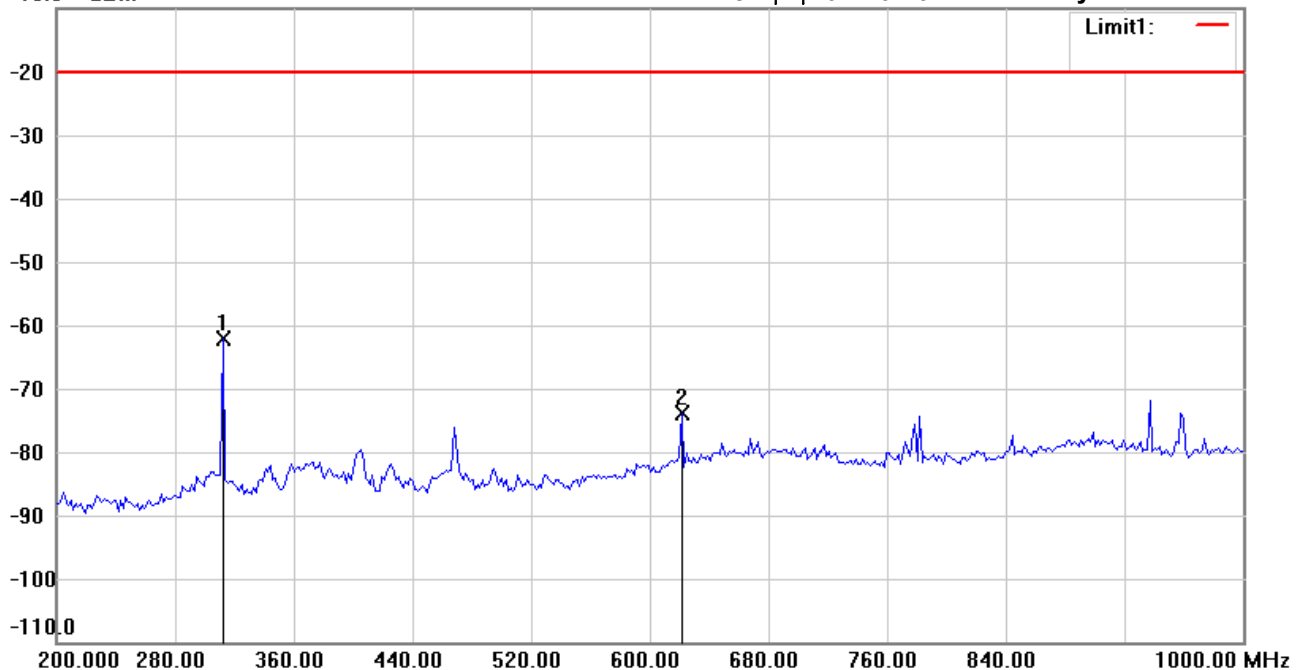
Date: 2019/11/22

Temperature: 24 °C

-10.0 dBm

Time: 下午 04:40:49

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 156.235MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	312.2243	-51.86	peak	-10.34	-62.20	-20.00	150	110	-42.20	
	621.6433	-69.25	peak	-4.55	-73.80	-20.00	150	130	-53.80	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

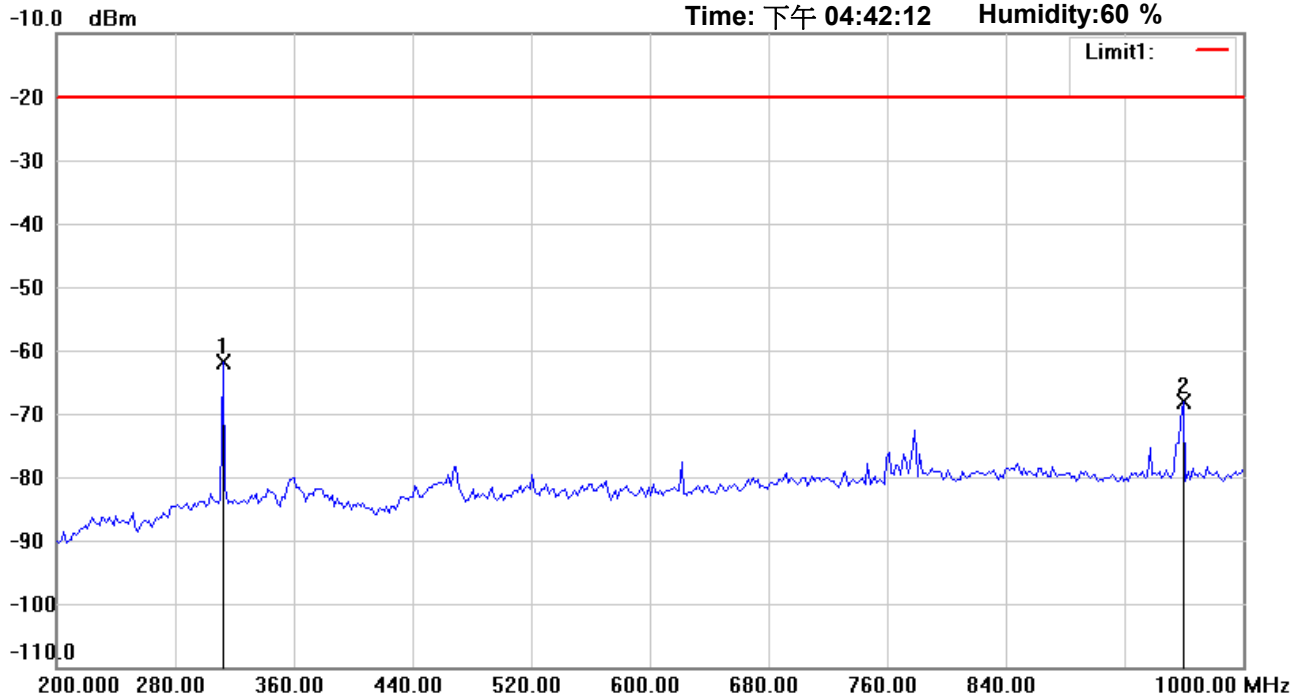
Data : #2

Date: 2019/11/22

Temperature: 24 °C

Time: 下午 04:42:12

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 156.235MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	312.2243	-53.87	peak	-7.94	-61.81	-20.00	150	220	-41.81	
	959.9198	-65.14	peak	-2.88	-68.02	-20.00	150	195	-48.02	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #1

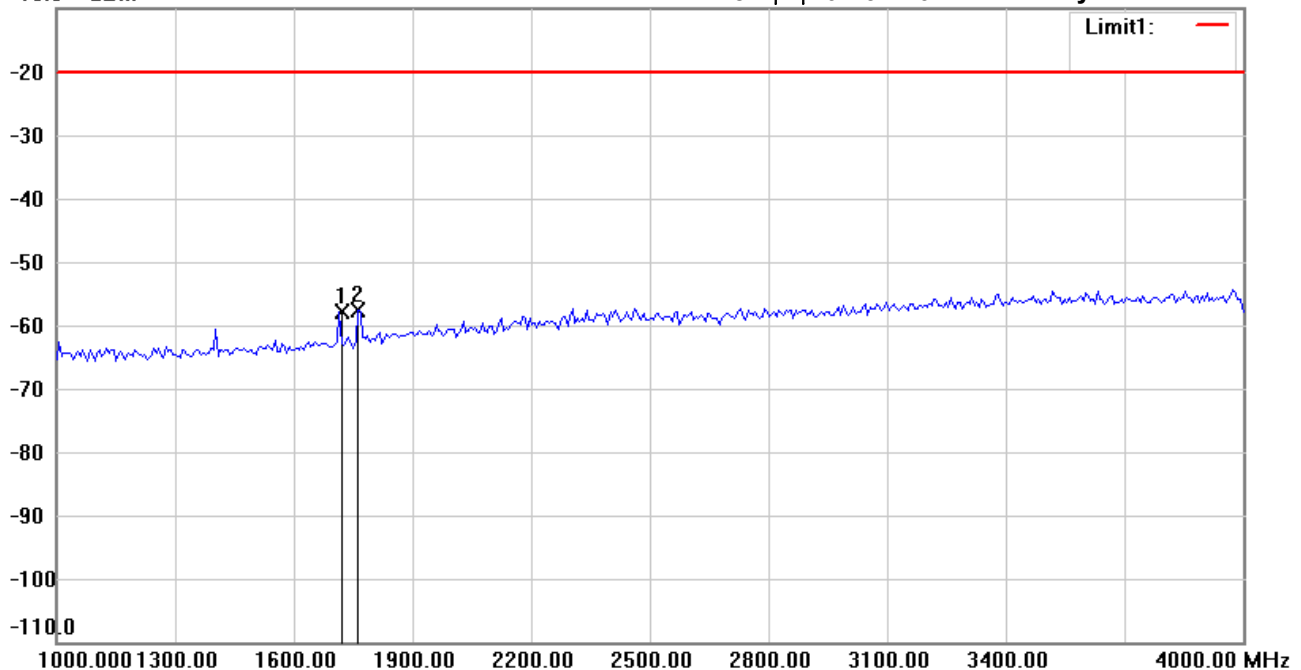
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:31:16

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 156.235MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1715.431	-57.09	peak	-0.77	-57.86	-20.00	150	130	-37.86	
*	1763.527	-57.27	peak	-0.46	-57.73	-20.00	150	220	-37.73	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #2

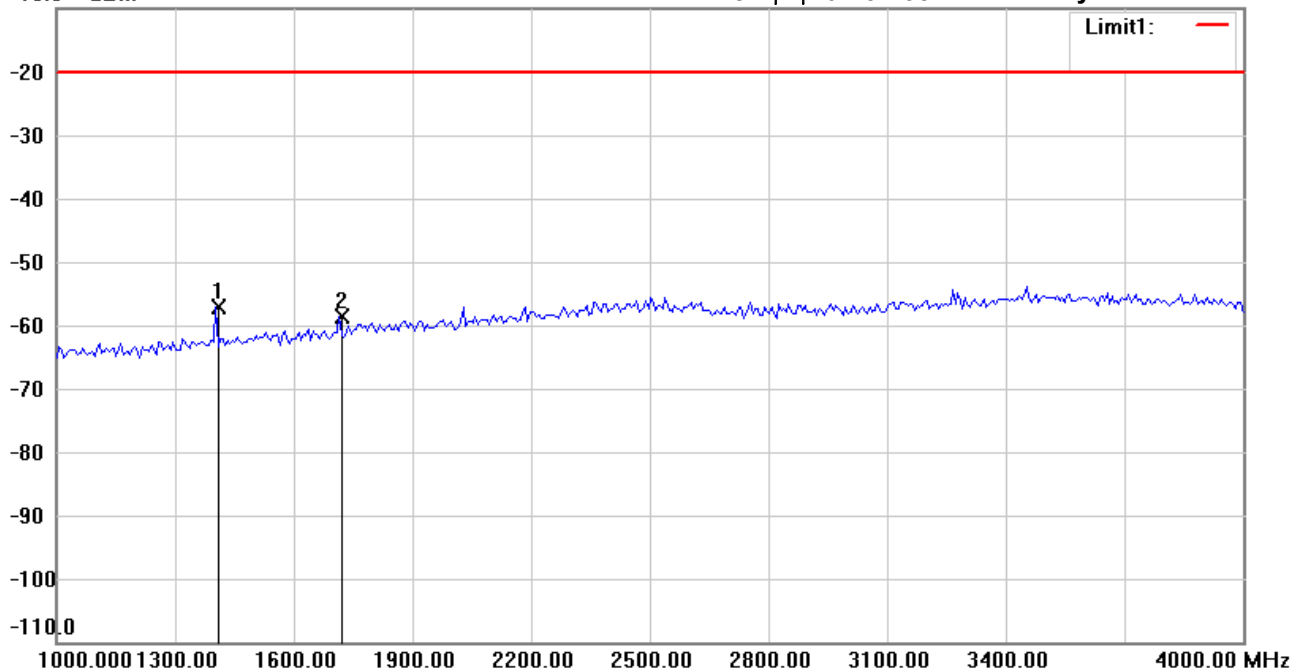
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:32:35

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 156.235MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1402.806	-56.54	peak	-0.54	-57.08	-20.00	150	305	-37.08	
	1715.431	-59.53	peak	0.86	-58.67	-20.00	150	160	-38.67	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 1

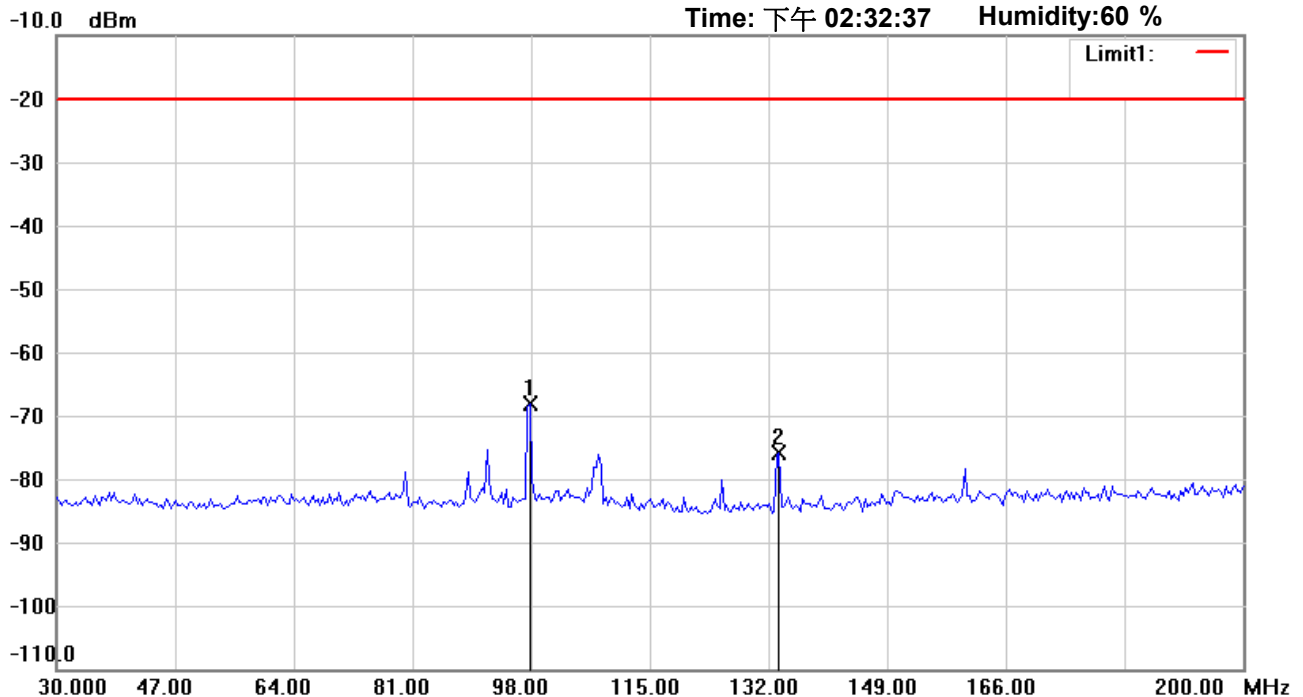
Data : #1

Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:32:37

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 157.2MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.52	peak	21.44	-68.08	-20.00	150	305	-48.08	
	133.5671	-96.02	peak	20.15	-75.87	-20.00	150	195	-55.87	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

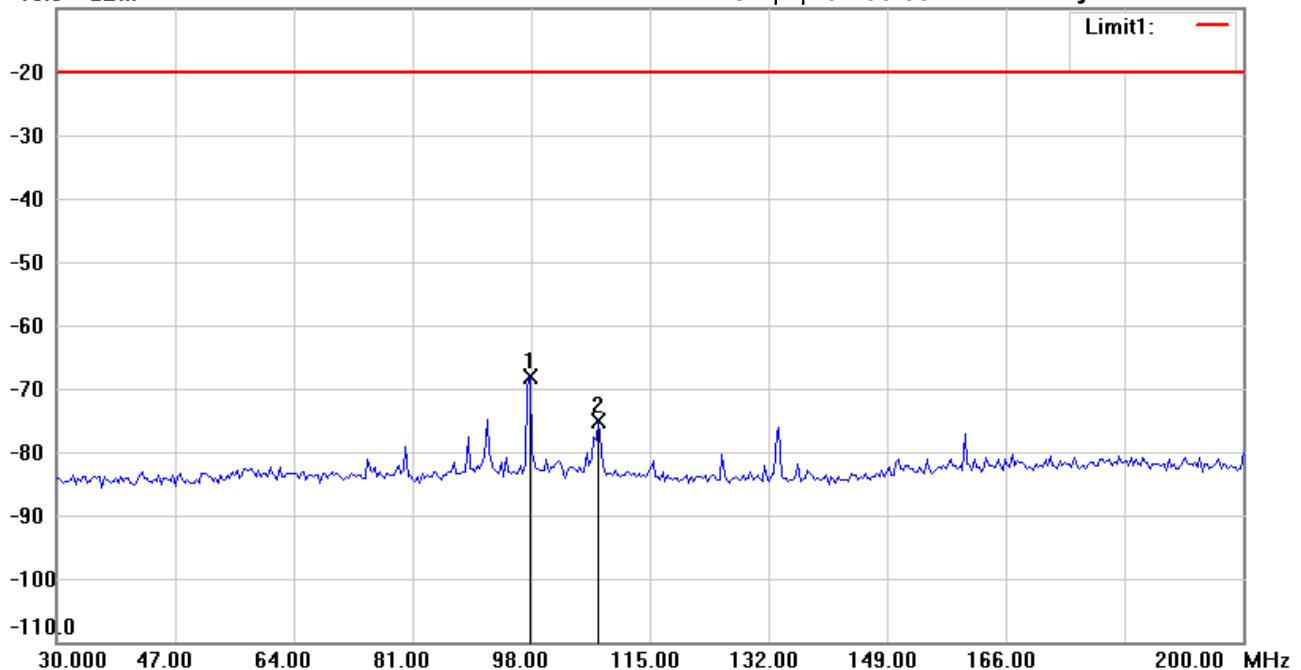
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:56:00

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 157.2MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.76	peak	21.70	-68.06	-20.00	150	75	-48.06	
	107.6754	-96.51	peak	21.34	-75.17	-20.00	150	220	-55.17	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #1

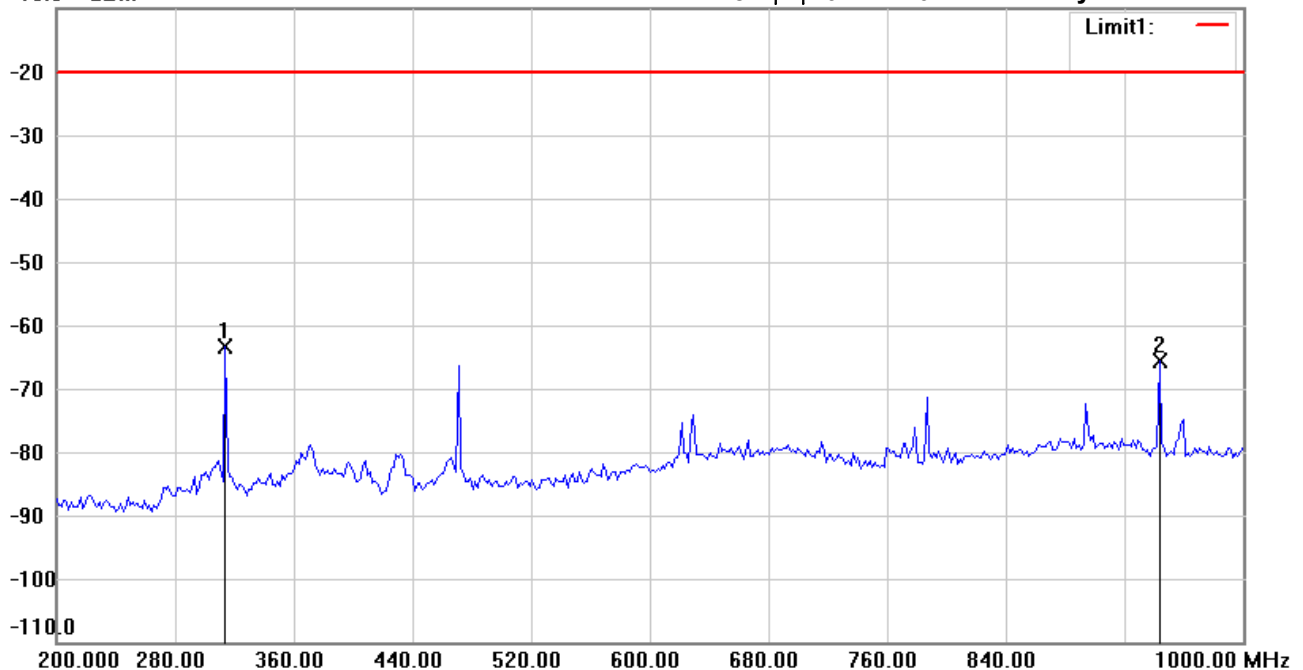
Date: 2019/11/22

Temperature: 24 °C

Time: 下午 04:44:10

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 157.2MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	313.8277	-52.96	peak	-10.34	-63.30	-20.00	150	220	-43.30	
	943.8878	-62.75	peak	-2.80	-65.55	-20.00	150	130	-45.55	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #2

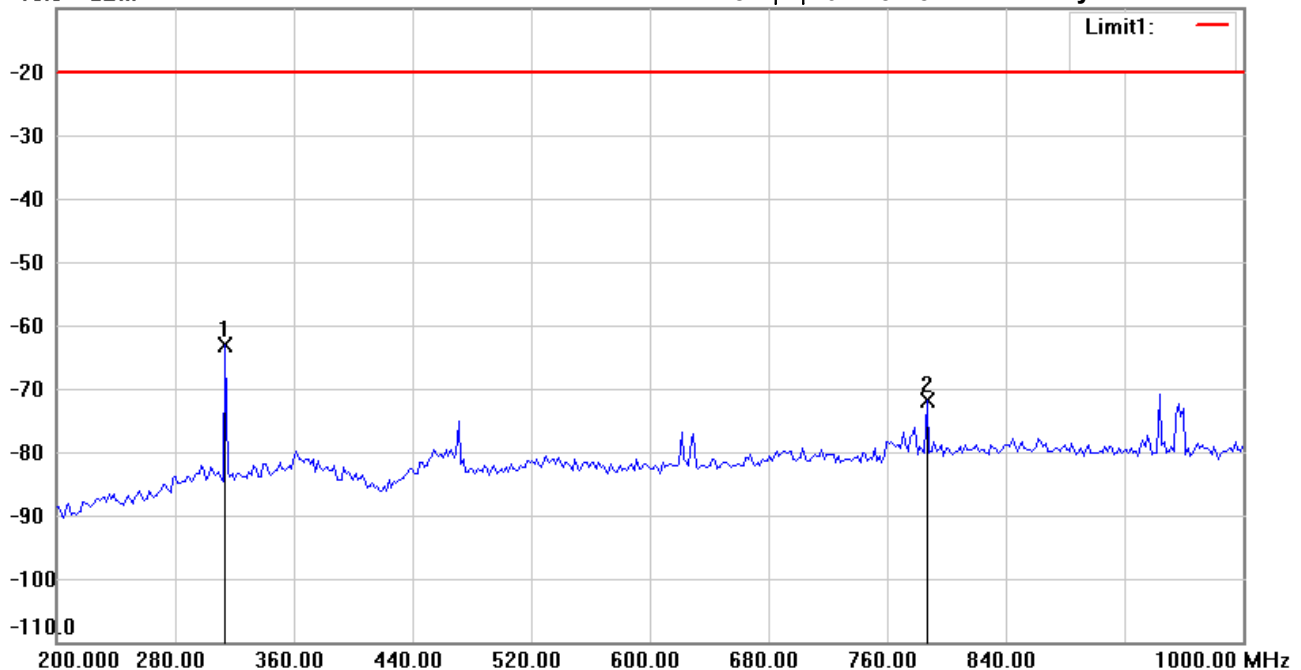
Date: 2019/11/22

Temperature: 24 °C

-10.0 dBm

Time: 下午 04:45:25

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 157.2MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	313.8277	-55.14	peak	-7.99	-63.13	-20.00	150	220	-43.13	
	786.7735	-68.97	peak	-2.96	-71.93	-20.00	150	130	-51.93	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #1

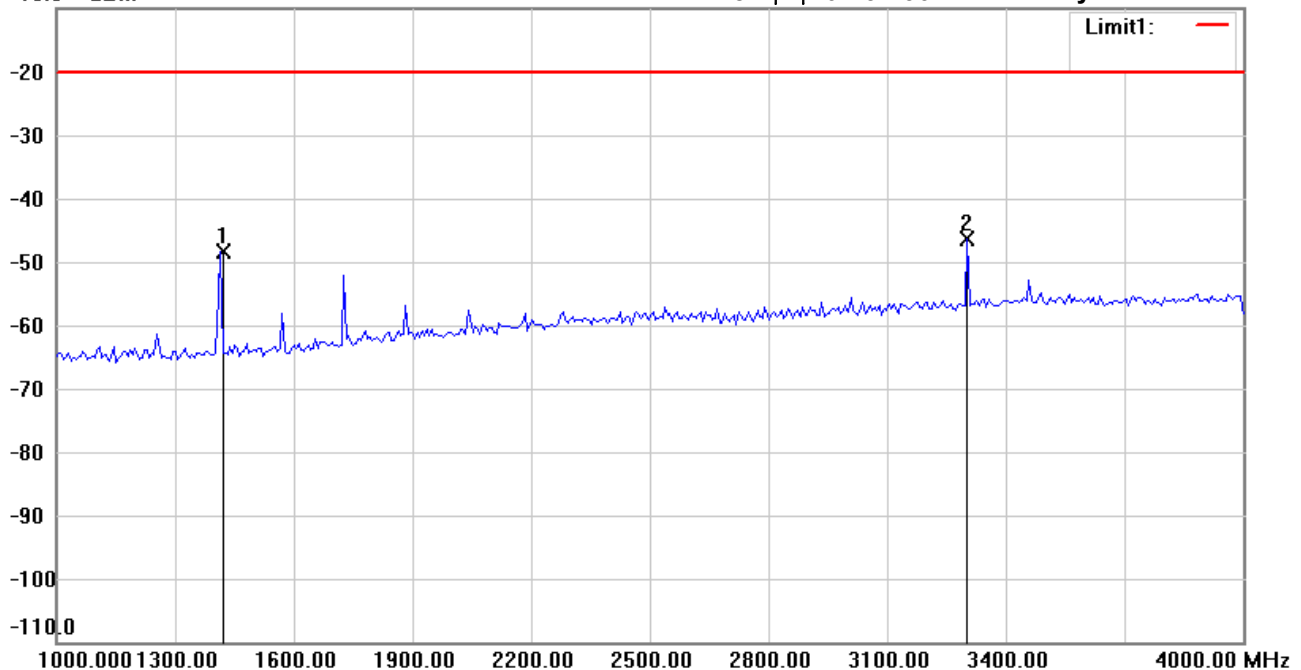
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:34:36

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 157.2MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1414.830	-46.09	peak	-2.19	-48.28	-20.00	150	45	-28.28	
*	3302.605	-52.80	peak	6.41	-46.39	-20.00	150	220	-26.39	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #2

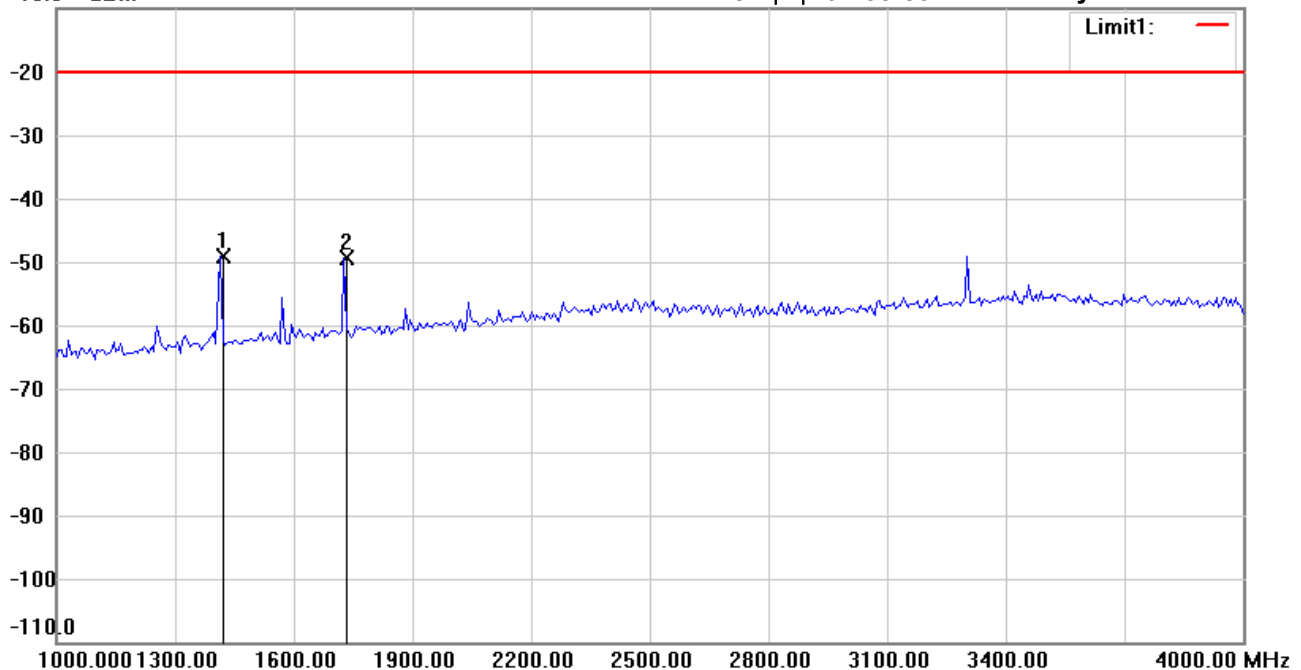
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:35:53

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 157.2MHz

Note :

Polarization: *Vertical*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1414.830	-48.65	peak	-0.50	-49.15	-20.00	150	220	-29.15	
	1727.455	-50.38	peak	0.92	-49.46	-20.00	150	195	-29.46	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 1

Data : #1

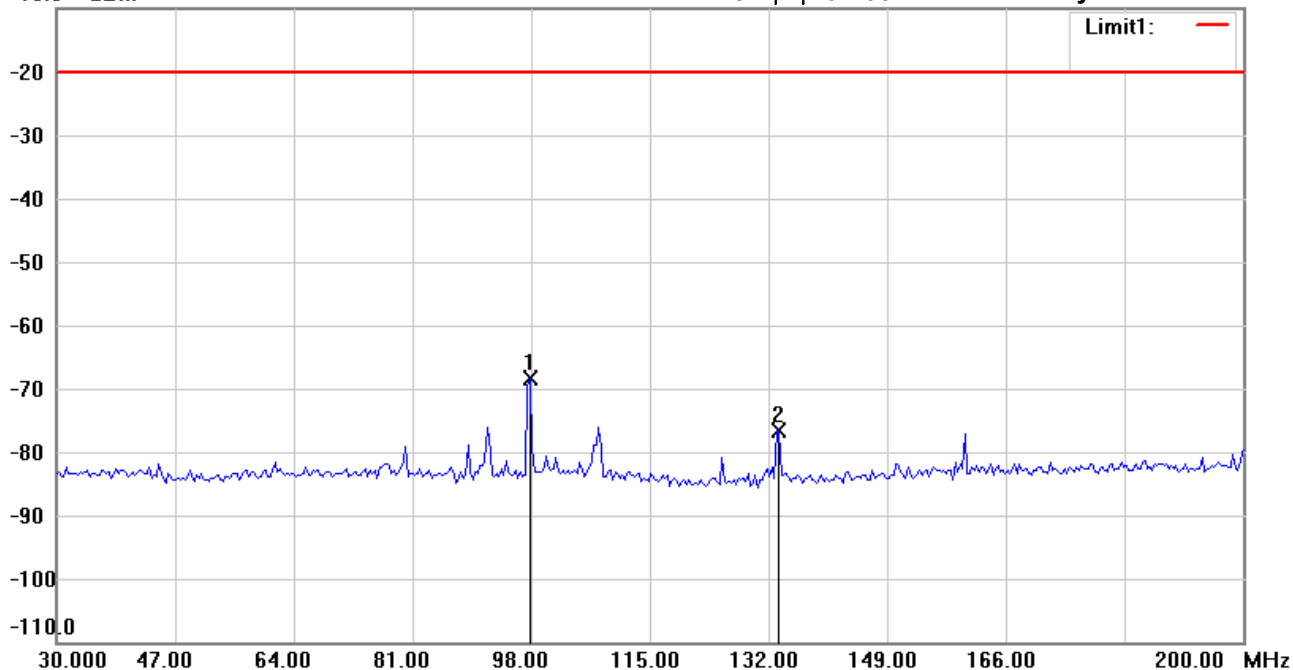
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:33:41

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.2625MHz

Note :

Polarization: **Horizontal**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.76	peak	21.44	-68.32	-20.00	150	185	-48.32	
	133.5671	-96.78	peak	20.15	-76.63	-20.00	150	330	-56.63	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

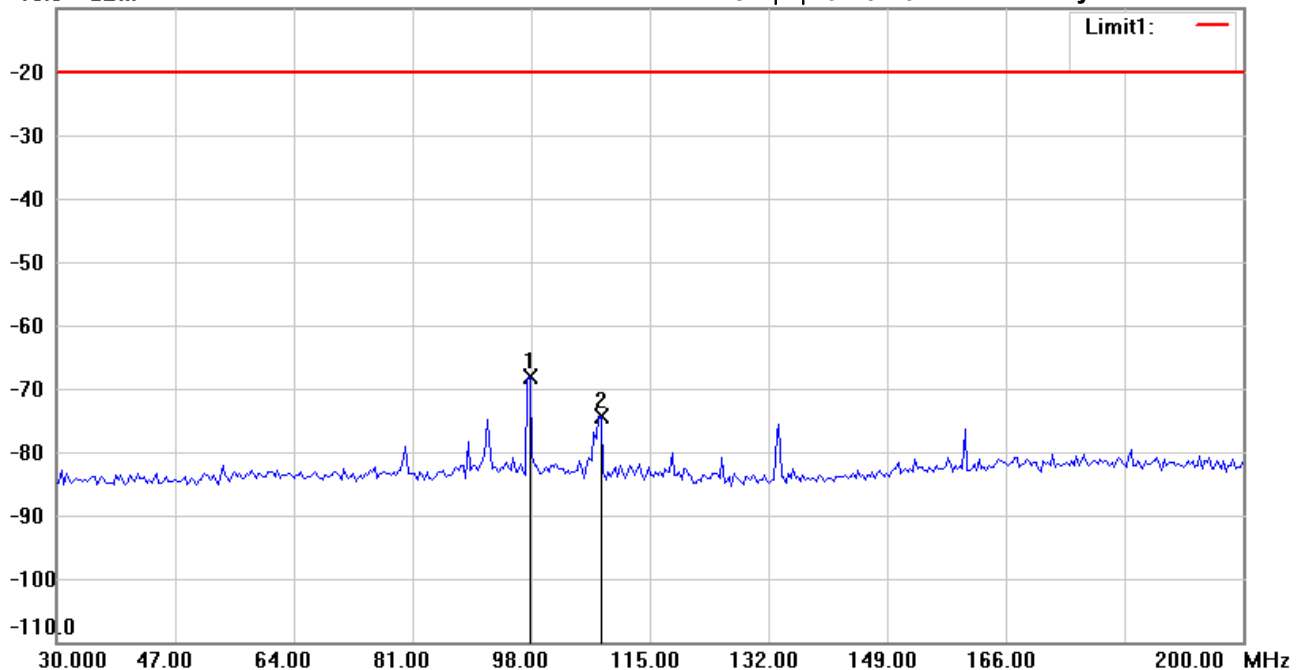
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 02:57:01

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.2625MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.80	peak	21.70	-68.10	-20.00	150	45	-48.10	
	108.0160	-95.58	peak	21.33	-74.25	-20.00	150	330	-54.25	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #1

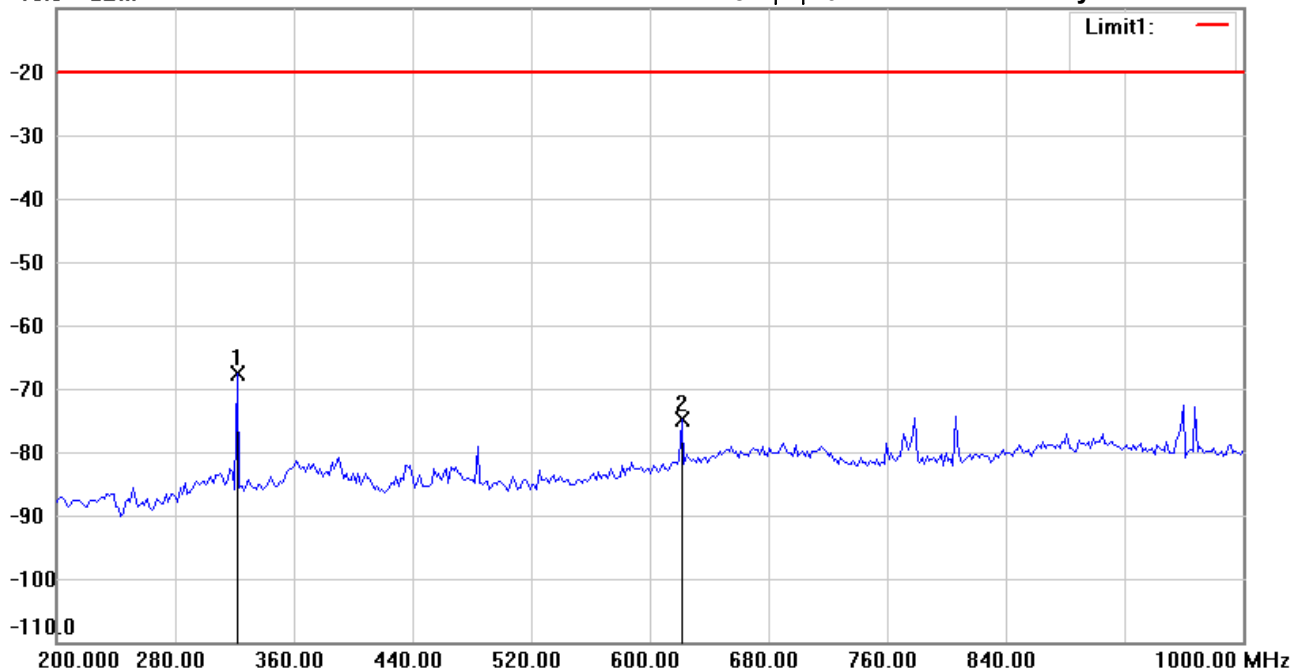
Date: 2019/11/22

Temperature: 24 °C

-10.0 dBm

Time: 下午 04:47:24

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.2625MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	321.8437	-57.25	peak	-10.36	-67.61	-20.00	150	160	-47.61	
	621.6433	-70.31	peak	-4.55	-74.86	-20.00	150	305	-54.86	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :2

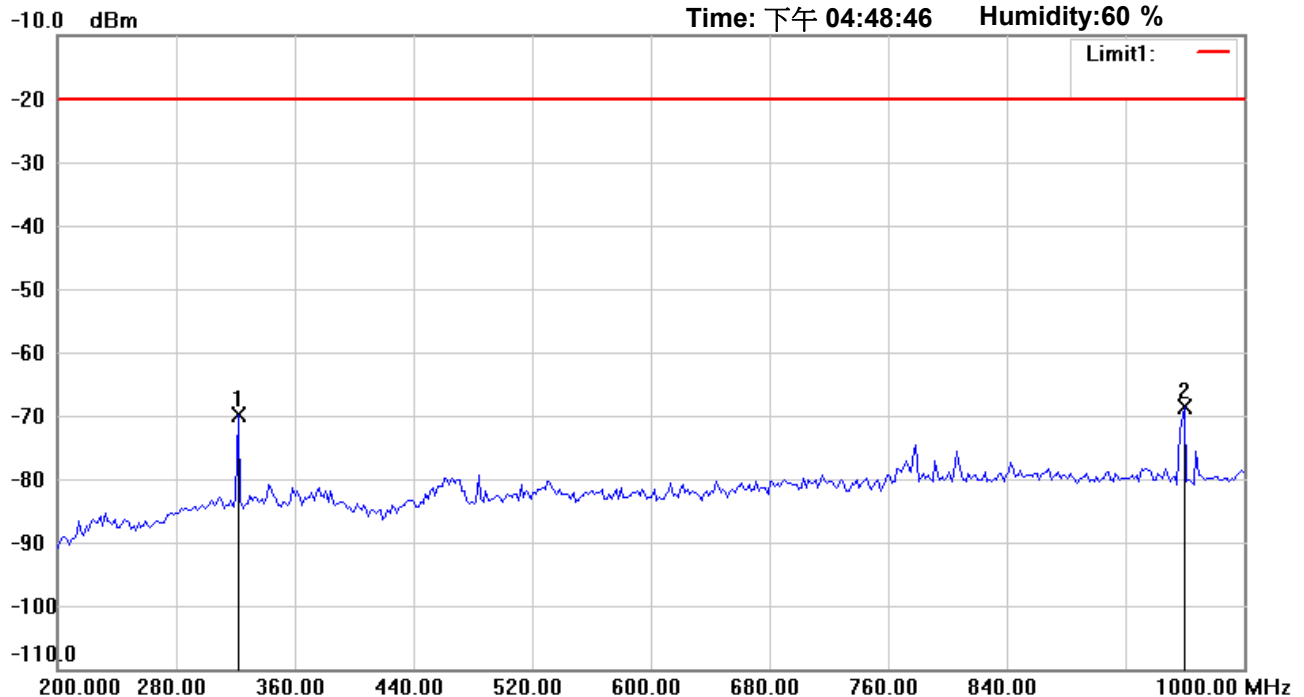
Data :#2

Date: 2019/11/22

Temperature: 24 °C

Time: 下午 04:48:46

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.2625MHz

Note :

Polarization: *Vertical*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	321.8437	-61.70	peak	-8.21	-69.91	-20.00	150	245	-49.91	
*	959.9198	-65.76	peak	-2.88	-68.64	-20.00	150	130	-48.64	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #1

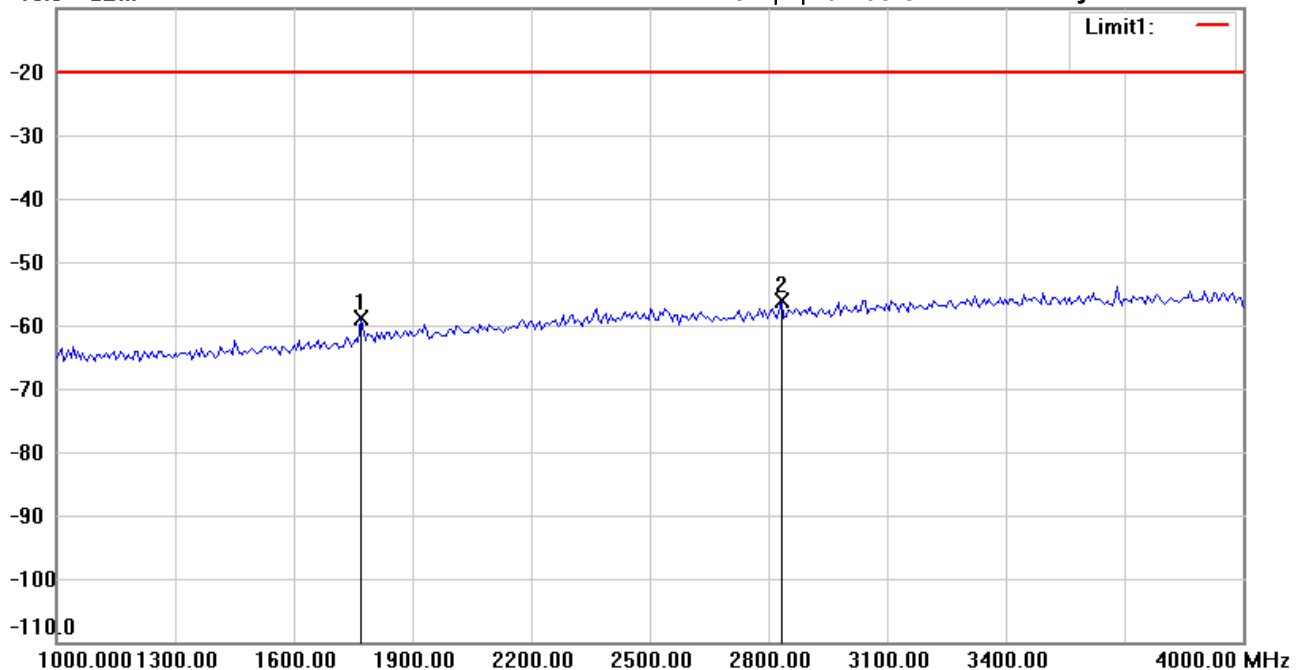
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:38:37

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.2625MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1769.539	-58.49	peak	-0.42	-58.91	-20.00	150	40	-38.91	
*	2833.667	-60.87	peak	4.64	-56.23	-20.00	150	220	-36.23	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #2

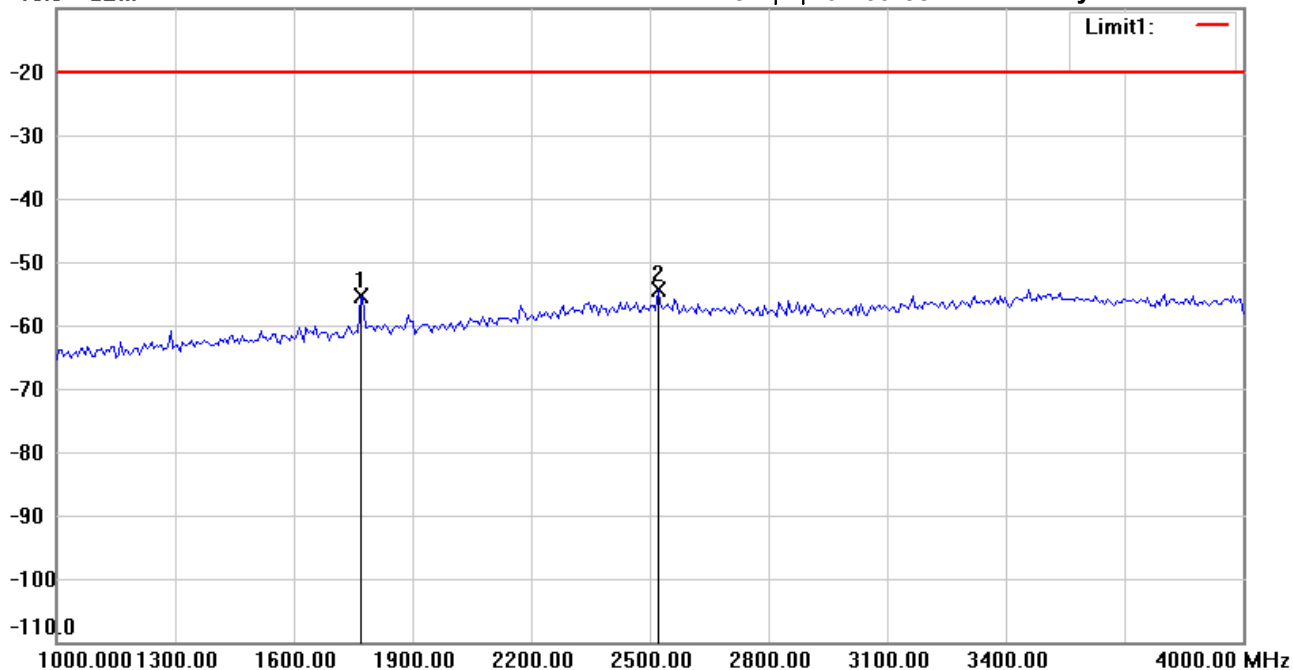
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 01:39:58

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.2625MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1769.539	-56.41	peak	1.13	-55.28	-20.00	150	75	-35.28	
*	2521.042	-59.88	peak	5.42	-54.46	-20.00	150	220	-34.46	

*:Maximum data x:Over limit !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei
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Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

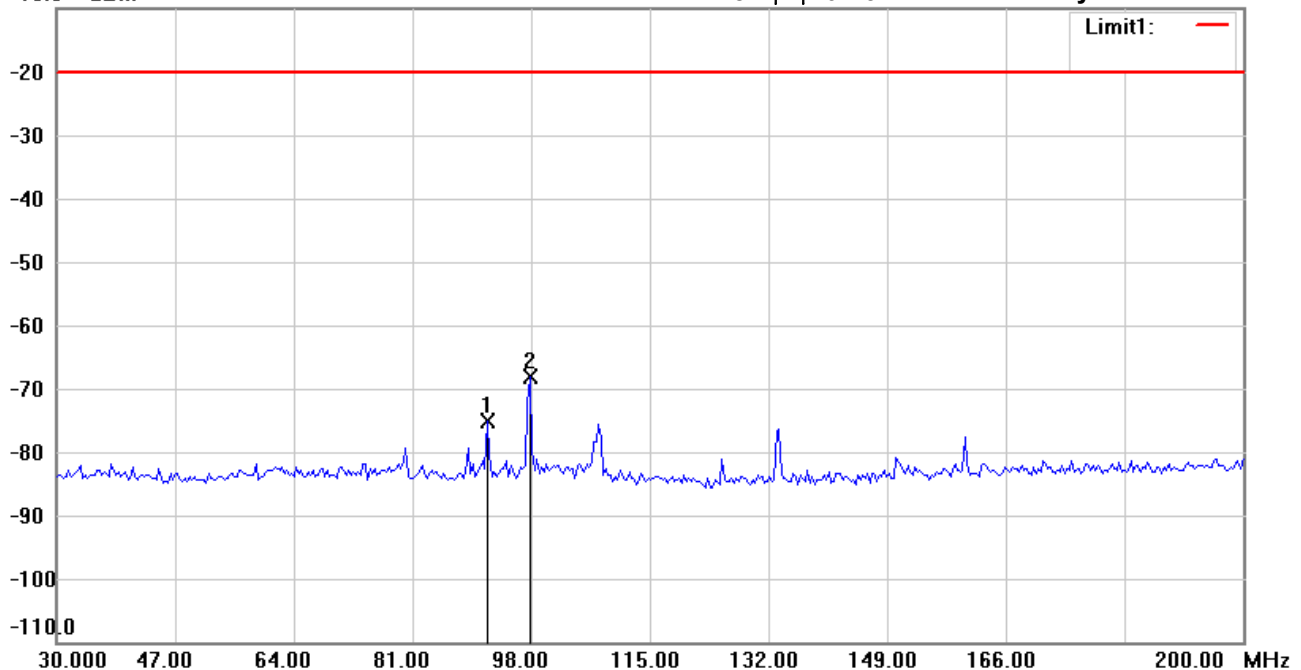
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:34:41

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.8625MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	91.6633	-96.19	peak	20.98	-75.21	-20.00	150	330	-55.21	
*	97.7956	-89.54	peak	21.44	-68.10	-20.00	150	45	-48.10	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

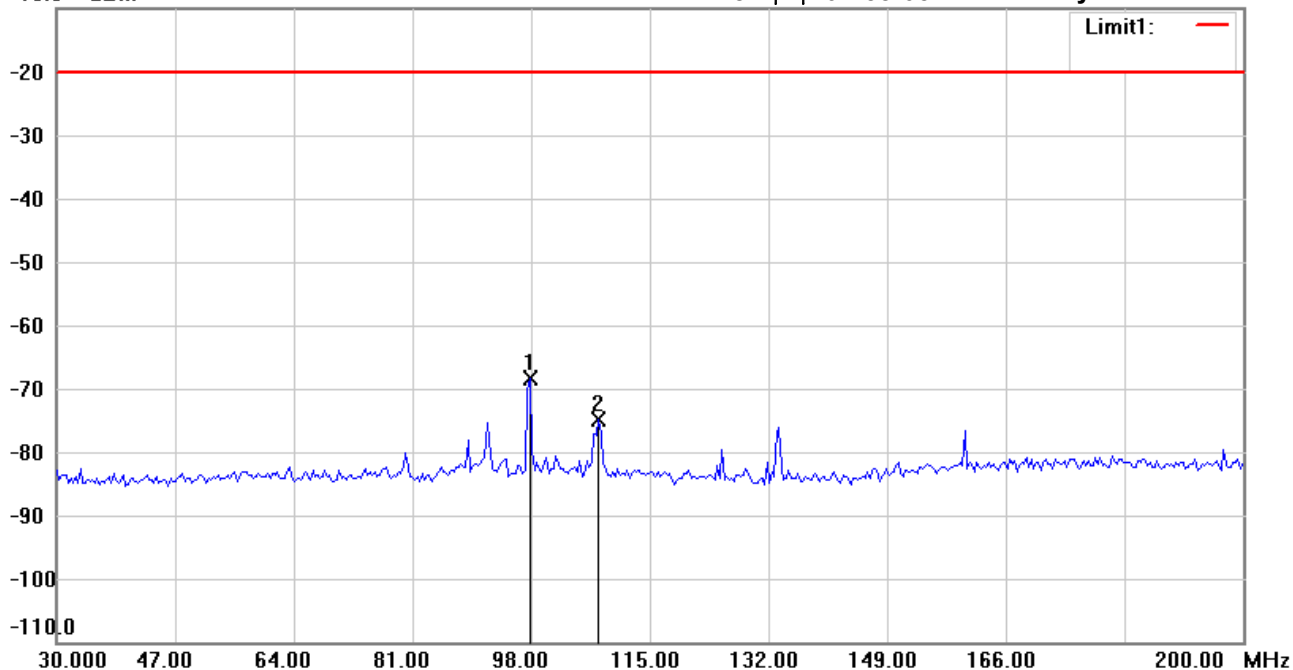
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:58:05

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.8625MHz

Note :

Polarization: Vertical

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-90.13	peak	21.70	-68.43	-20.00	150	45	-48.43	
	107.6754	-96.18	peak	21.34	-74.84	-20.00	150	220	-54.84	

*:Maximum data x:Over limit !:over margin



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Tel: +886-2-6606-8877
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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #1

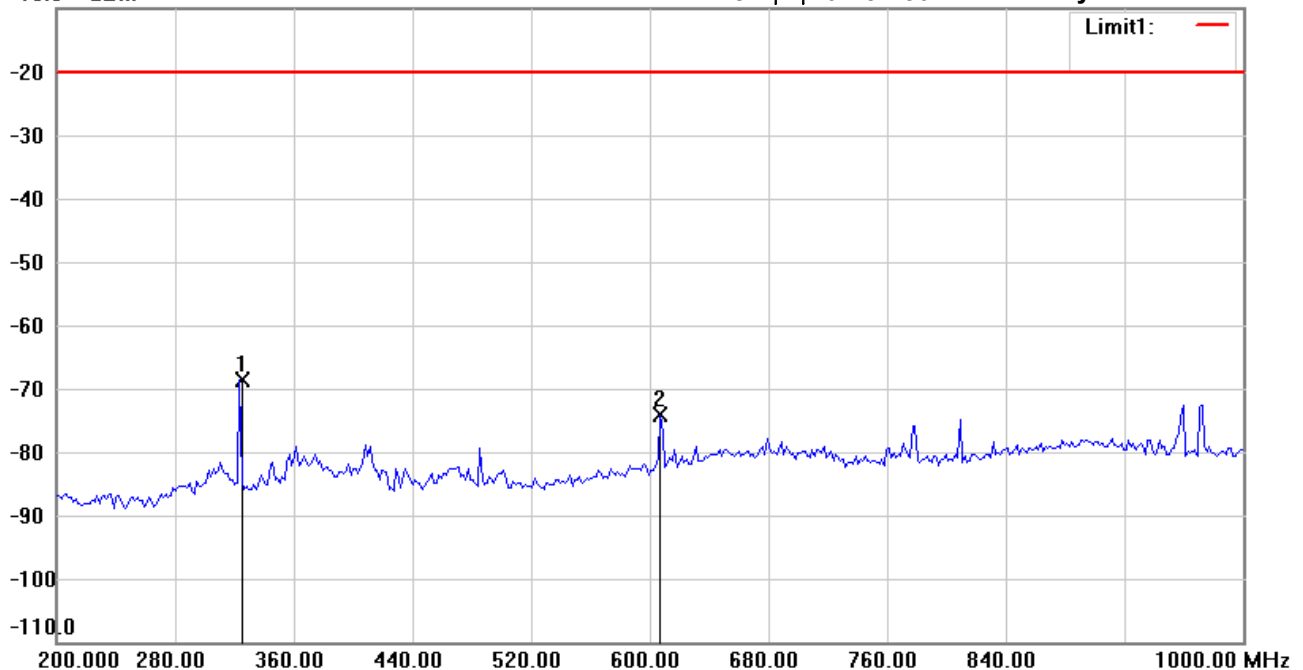
Date: 2019/11/22

Temperature: 24 °C

Time: 下午 04:52:50

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.8625MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	323.4470	-58.33	peak	-10.36	-68.69	-20.00	150	140	-48.69	
	607.2144	-68.66	peak	-5.51	-74.17	-20.00	150	330	-54.17	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #2

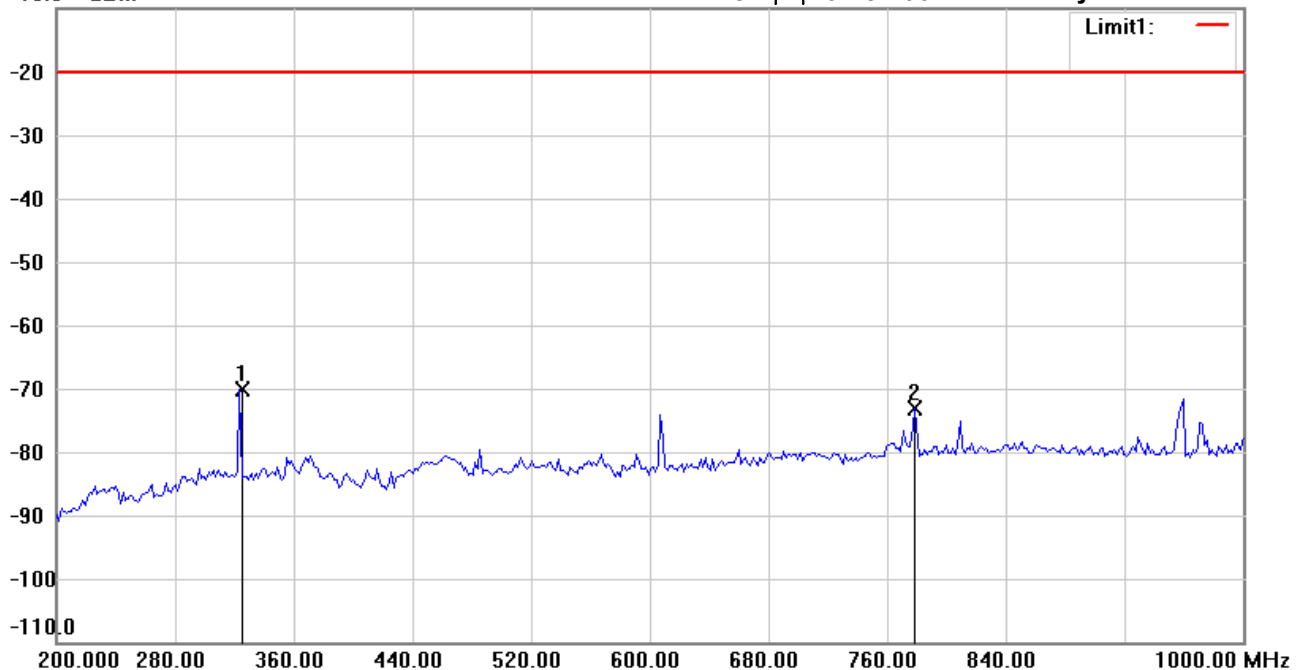
Date: 2019/11/22

Temperature: 24 °C

-10.0 dBm

Time: 下午 04:54:06

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.8625MHz

Note :

Polarization: *Vertical*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	323.4470	-61.76	peak	-8.26	-70.02	-20.00	150	245	-50.02	
	778.7575	-70.06	peak	-3.11	-73.17	-20.00	150	130	-53.17	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

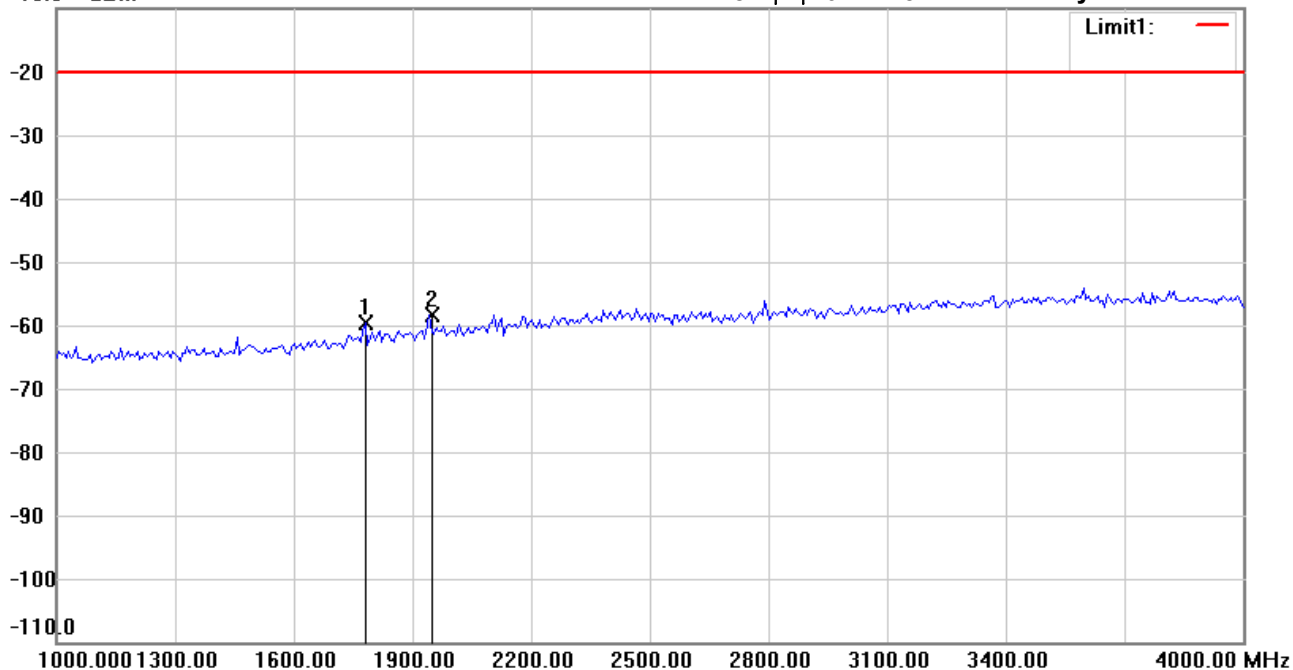
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:41:57

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.8625MHz

Note :

Polarization: **Horizontal**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1781.563	-59.19	peak	-0.34	-59.53	-20.00	150	130	-39.53	
*	1943.888	-59.17	peak	0.74	-58.43	-20.00	150	110	-38.43	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #2

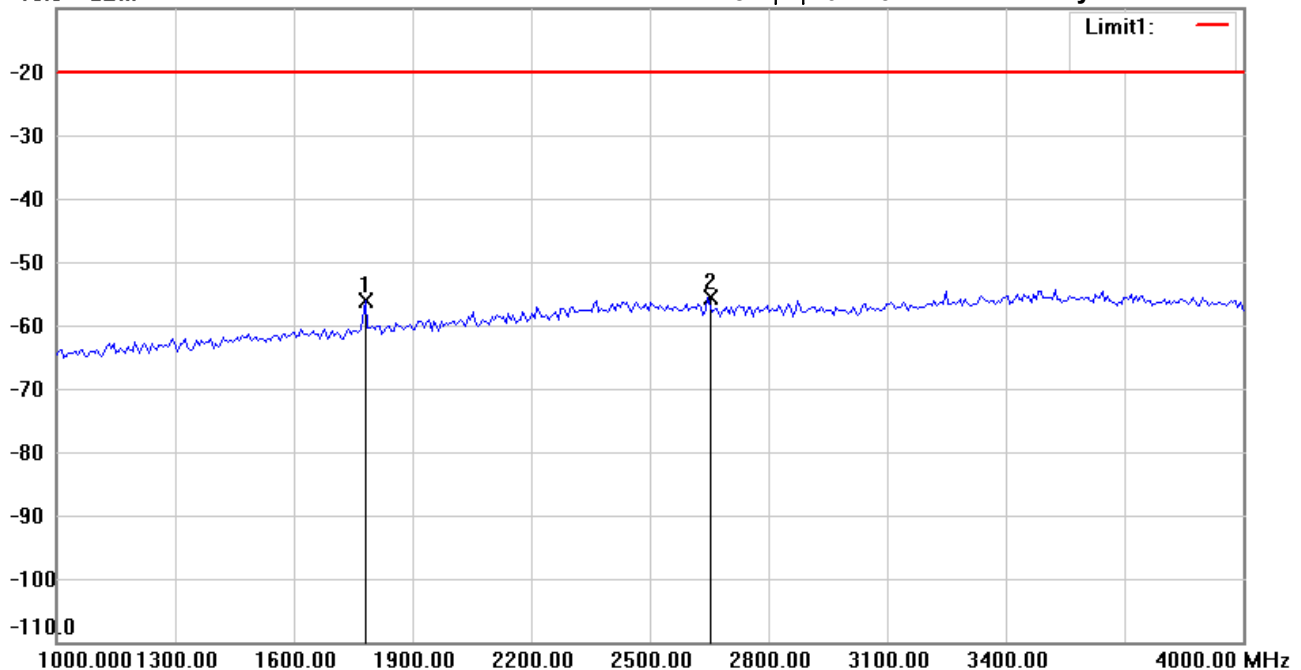
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:43:22

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 161.8625MHz

Note :

Polarization: *Vertical*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1781.563	-57.27	peak	1.20	-56.07	-20.00	150	105	-36.07	
*	2647.295	-60.98	peak	5.34	-55.64	-20.00	150	190	-35.64	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

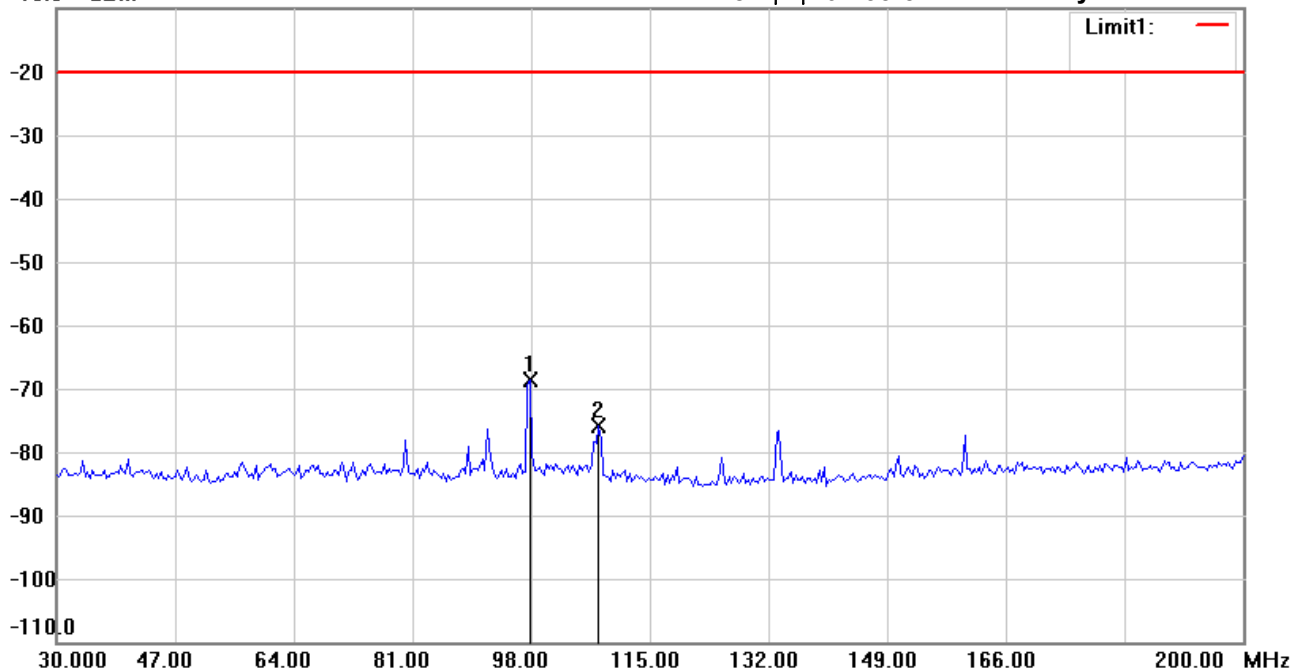
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:35:51

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 162.05MHz

Note :

Polarization: **Horizontal**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.94	peak	21.44	-68.50	-20.00	150	300	-48.50	
	107.6754	-96.83	peak	21.06	-75.77	-20.00	150	160	-55.77	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

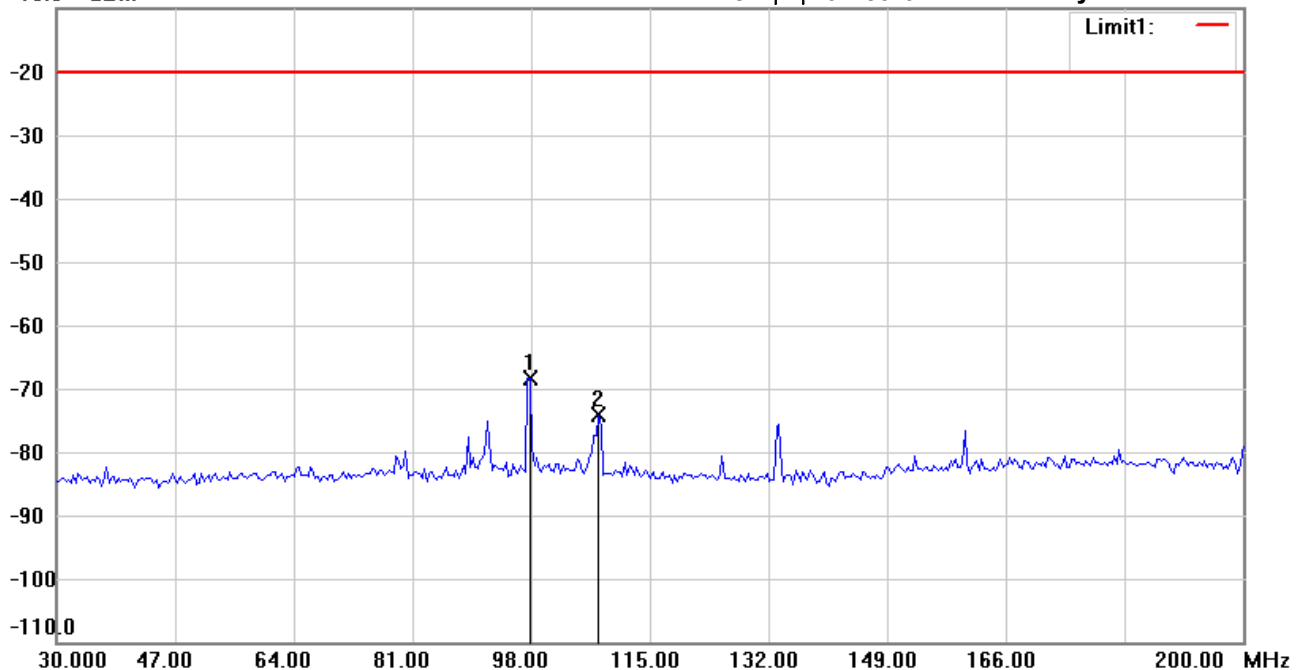
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:59:02

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 162.05MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.4550	-90.03	peak	21.70	-68.33	-20.00	150	330	-48.33	
	107.6754	-95.41	peak	21.34	-74.07	-20.00	150	140	-54.07	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #1

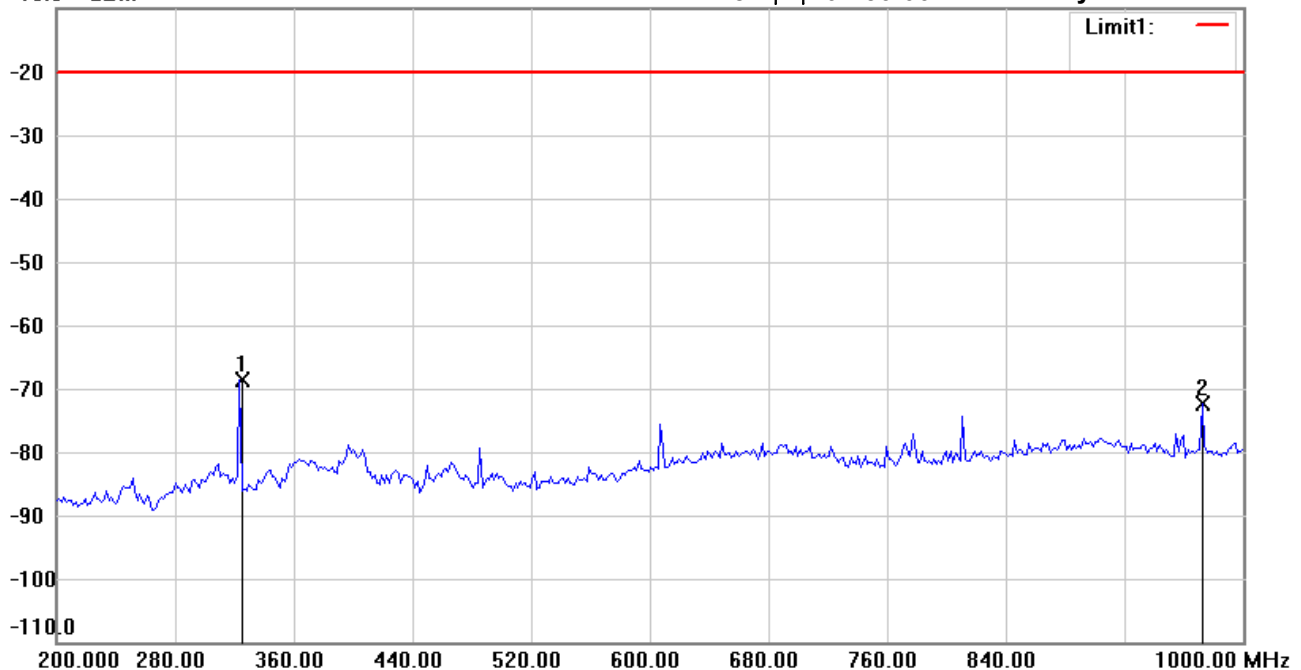
Date: 2019/11/22

Temperature: 24 °C

Time: 下午 04:56:06

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 162.05MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	323.4470	-58.32	peak	-10.36	-68.68	-20.00	150	220	-48.68	
	972.7455	-69.39	peak	-3.04	-72.43	-20.00	150	130	-52.43	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #2

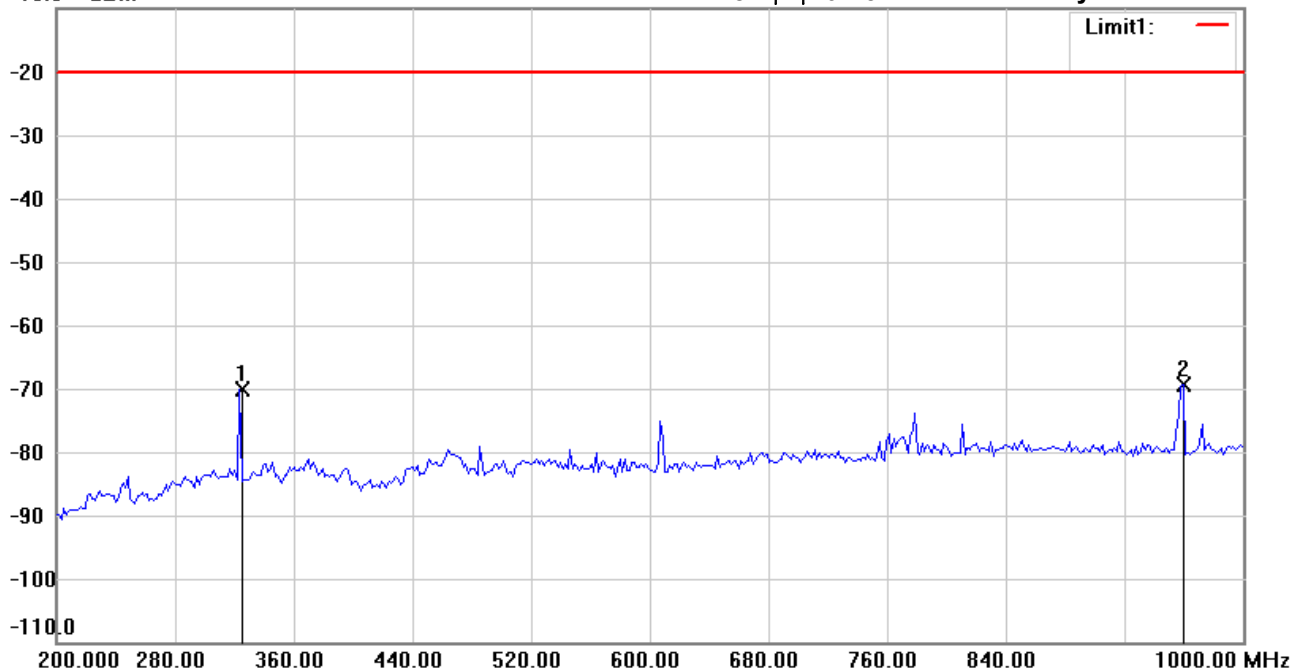
Date: 2019/11/22

Temperature: 24 °C

Time: 下午 04:57:24

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 162.05MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	323.4470	-61.79	peak	-8.26	-70.05	-20.00	150	75	-50.05	
*	959.9198	-66.43	peak	-2.88	-69.31	-20.00	150	175	-49.31	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #1

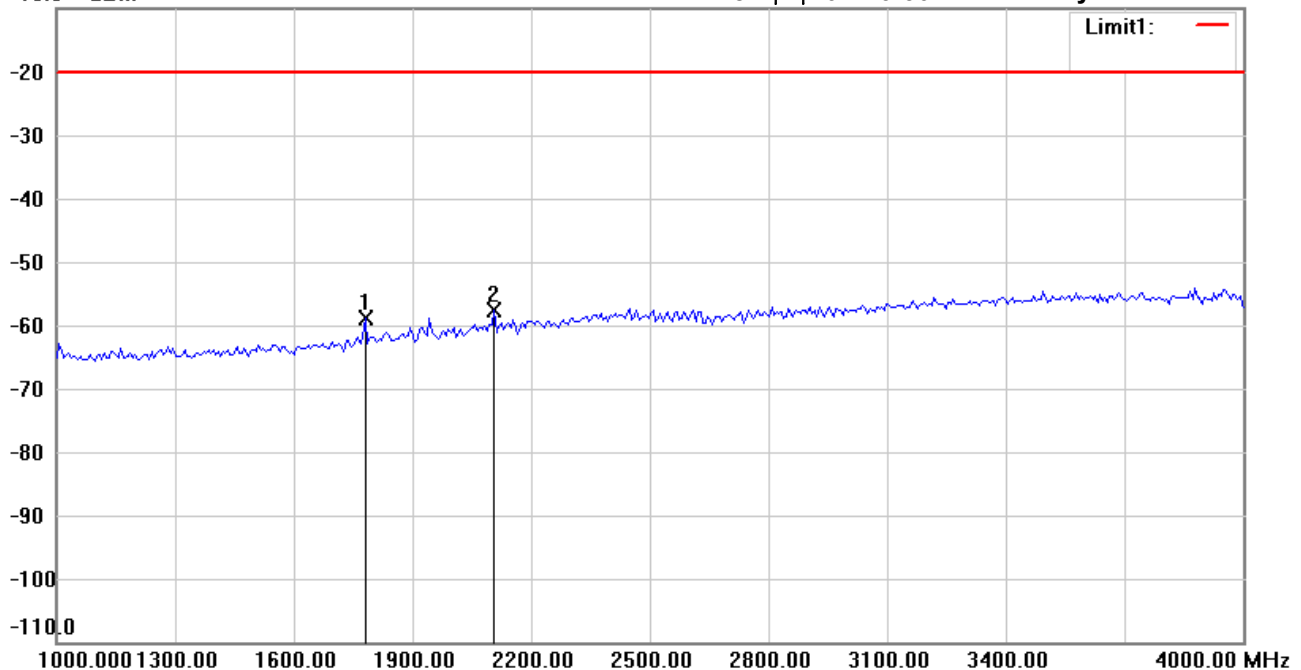
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:46:30

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 162.05MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1781.563	-58.41	peak	-0.34	-58.75	-20.00	150	300	-38.75	
*	2106.212	-59.21	peak	1.68	-57.53	-20.00	150	60	-37.53	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #2

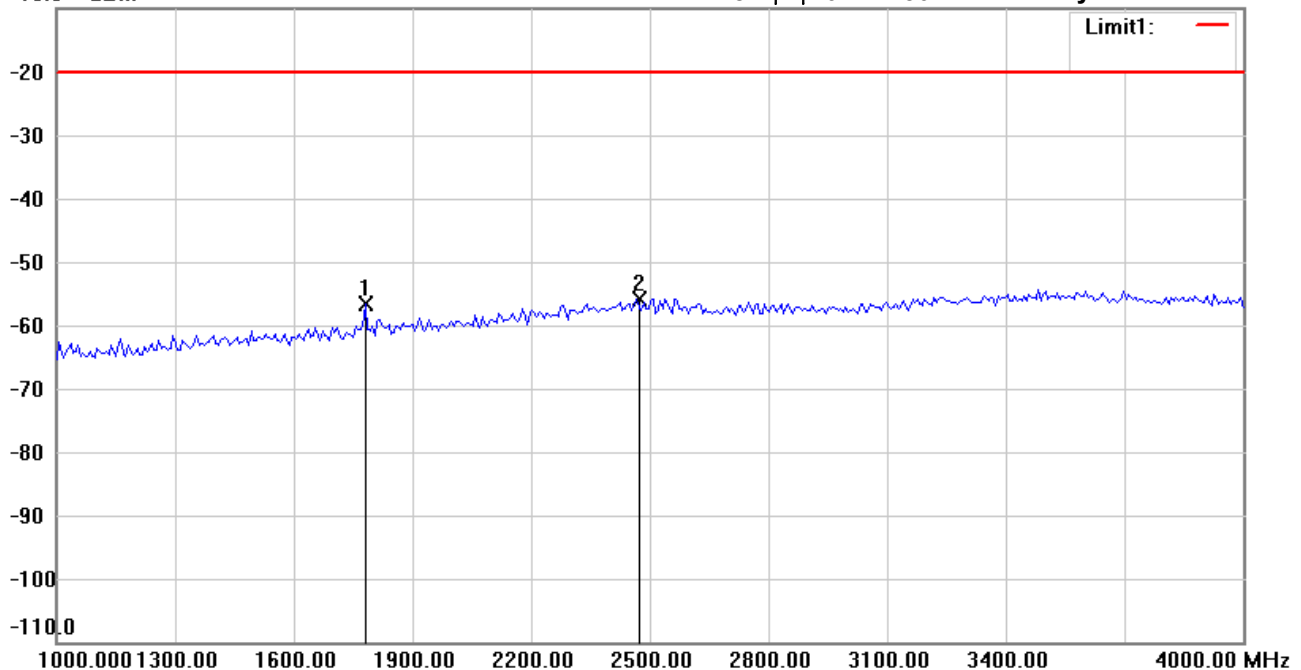
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:47:50

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 162.05MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1781.563	-57.82	peak	1.20	-56.62	-20.00	150	245	-36.62	
*	2466.934	-60.98	peak	5.22	-55.76	-20.00	150	110	-35.76	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

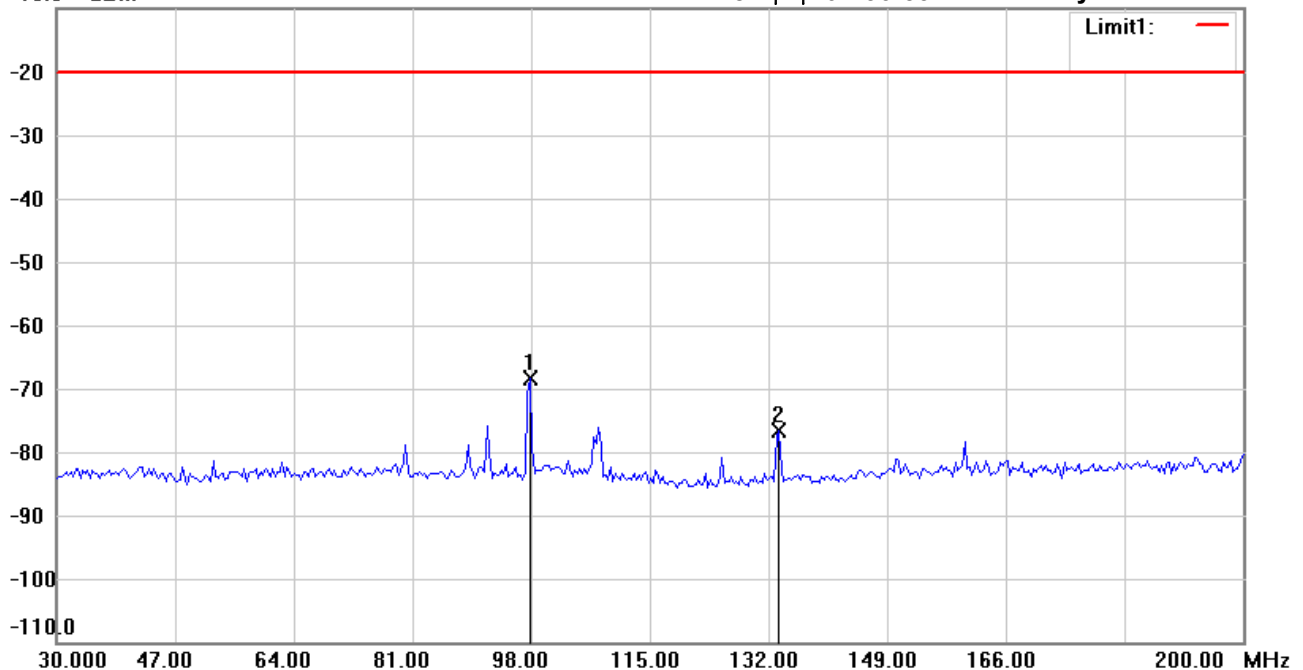
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:36:53

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 167.7125MHz

Note :

Polarization: **Horizontal**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.79	peak	21.44	-68.35	-20.00	150	130	-48.35	
	133.5671	-96.77	peak	20.15	-76.62	-20.00	150	220	-56.62	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

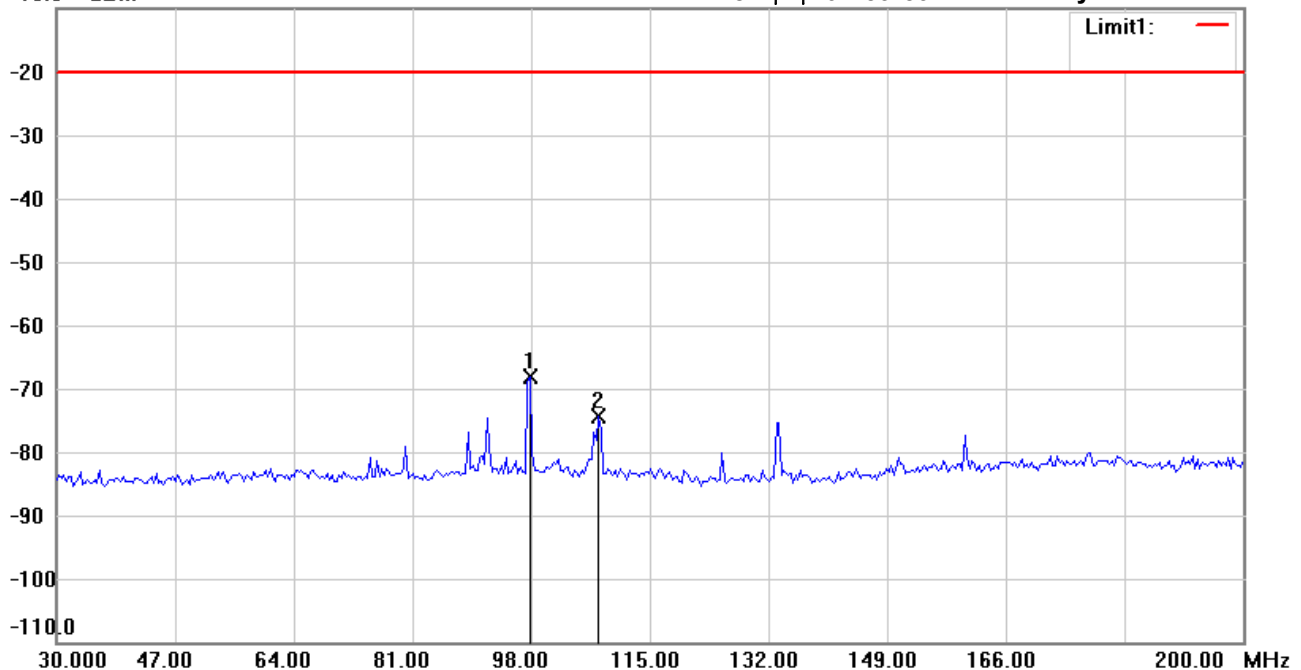
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:59:59

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 167.7125MHz

Note :

Polarization: *Vertical*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.71	peak	21.70	-68.01	-20.00	150	245	-48.01	
	107.6754	-95.63	peak	21.34	-74.29	-20.00	150	130	-54.29	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #1

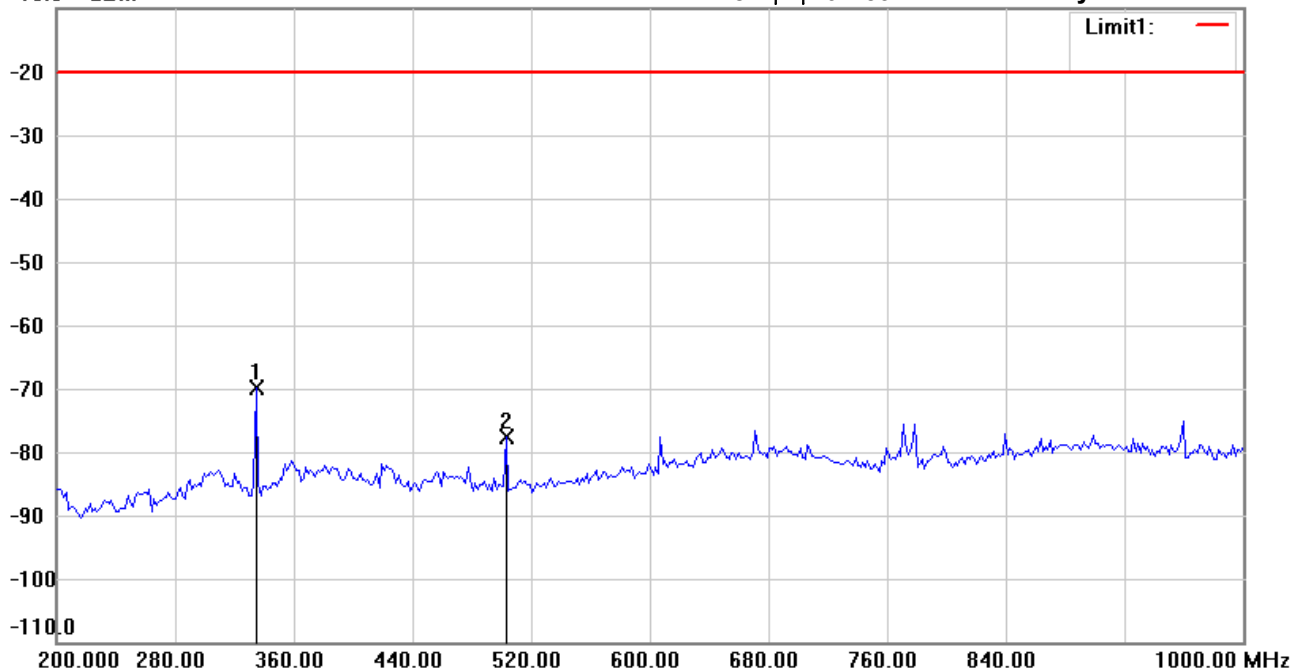
Date: 2019/11/22

Temperature: 24 °C

-10.0 dBm

Time: 下午 04:59:27

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 167.7125MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	334.6693	-59.49	peak	-10.38	-69.87	-20.00	150	50	-49.87	
	503.0060	-68.52	peak	-9.09	-77.61	-20.00	150	330	-57.61	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #2

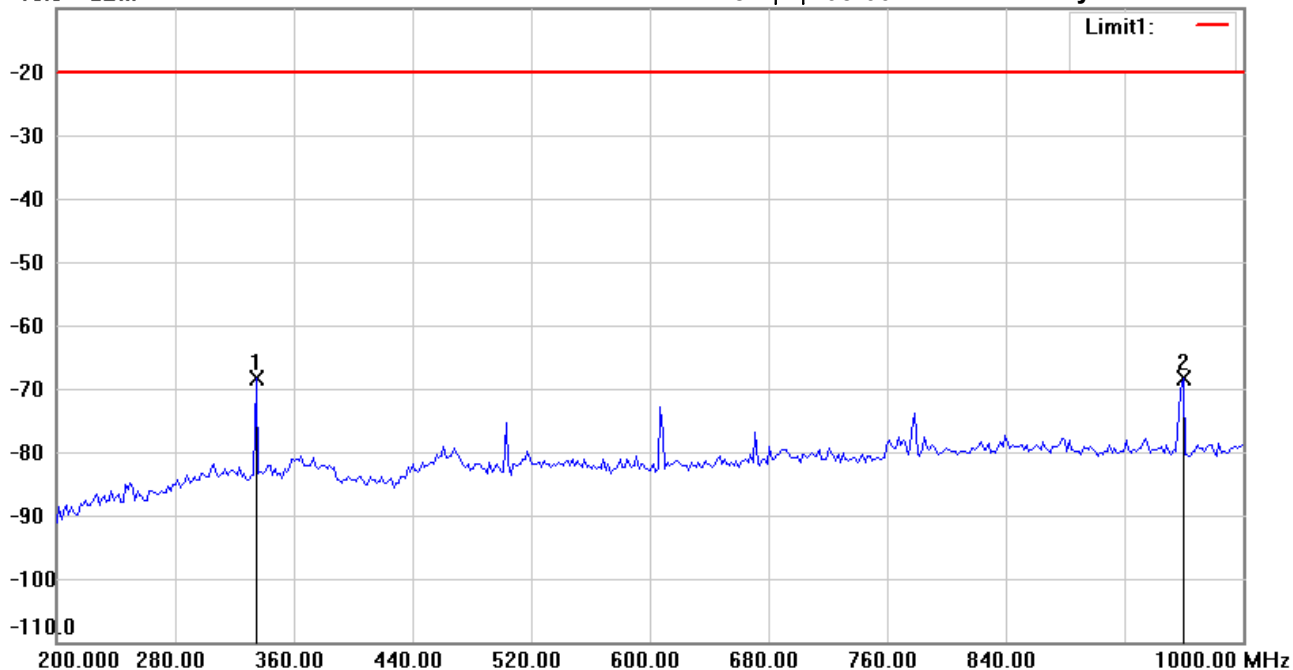
Date: 2019/11/22

Temperature: 24 °C

-10.0 dBm

Time: 下午 05:00:44

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 167.7125MHz

Note :

Polarization: *Vertical*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	334.6693	-59.89	peak	-8.58	-68.47	-20.00	150	145	-48.47	
*	959.9198	-65.40	peak	-2.88	-68.28	-20.00	150	130	-48.28	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

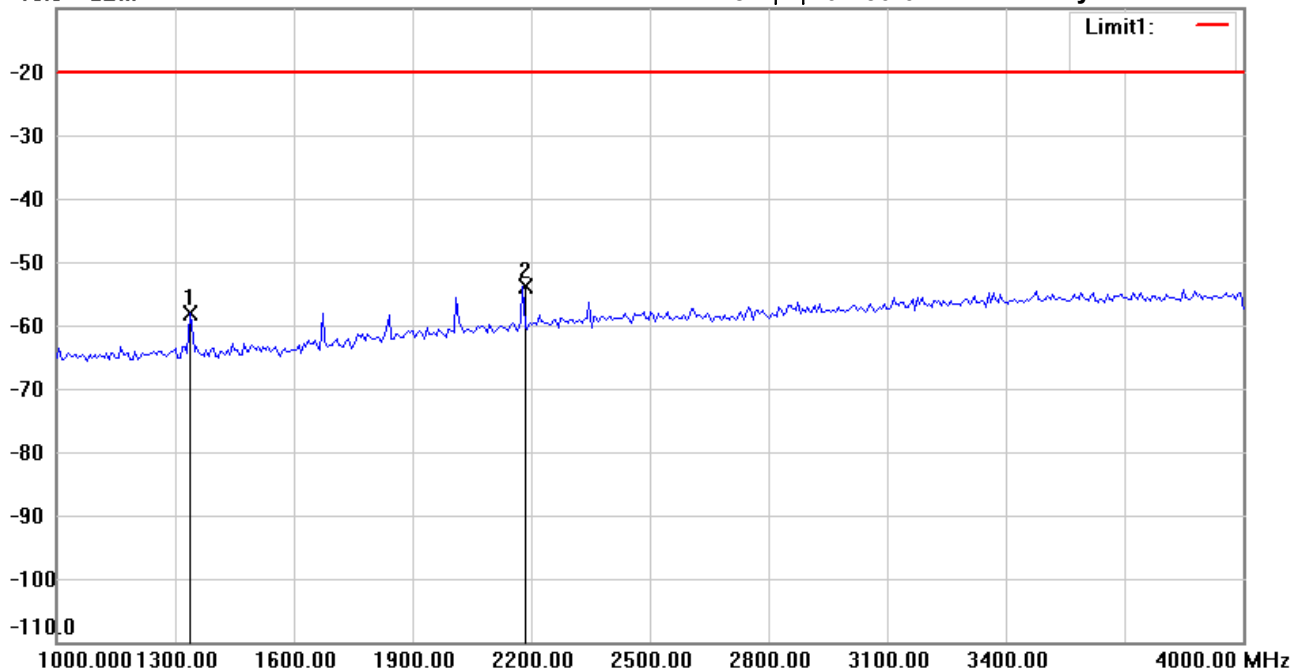
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:50:04

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 167.7125MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1336.673	-55.91	peak	-2.18	-58.09	-20.00	150	330	-38.09	
*	2178.357	-55.88	peak	2.07	-53.81	-20.00	150	45	-33.81	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #2

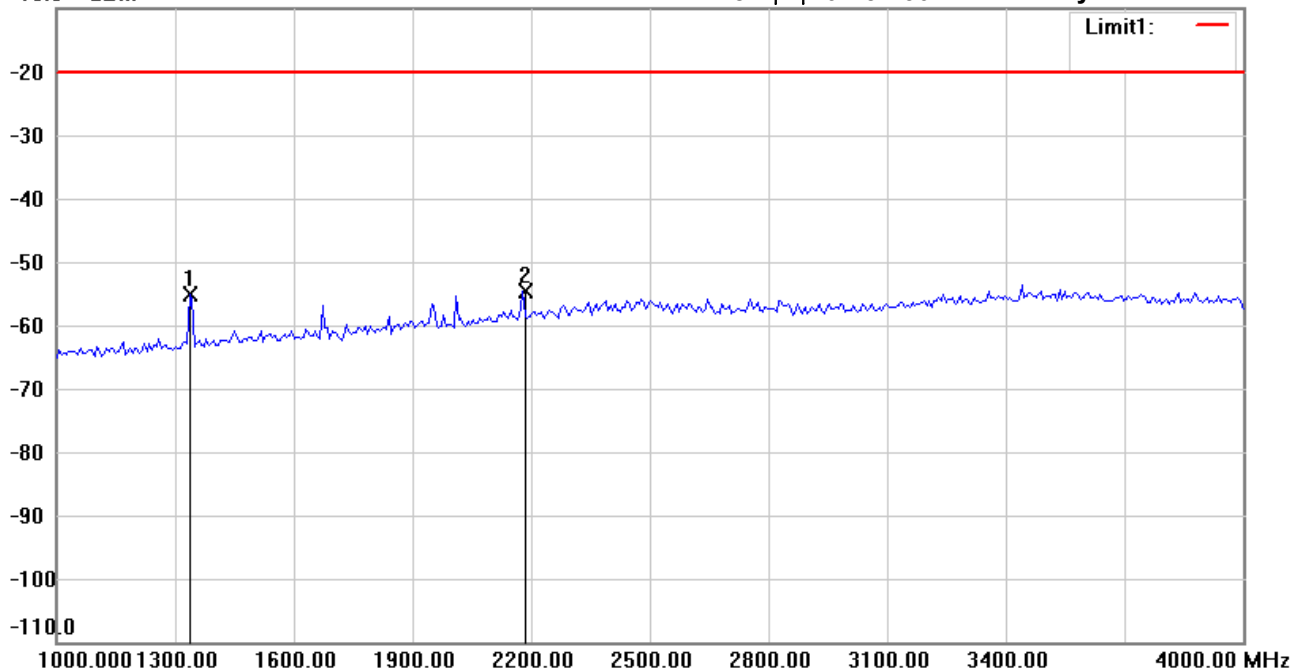
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:51:30

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 167.7125MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	1336.673	-54.48	peak	-0.74	-55.22	-20.00	150	305	-35.22	
*	2178.357	-57.97	peak	3.42	-54.55	-20.00	150	195	-34.55	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

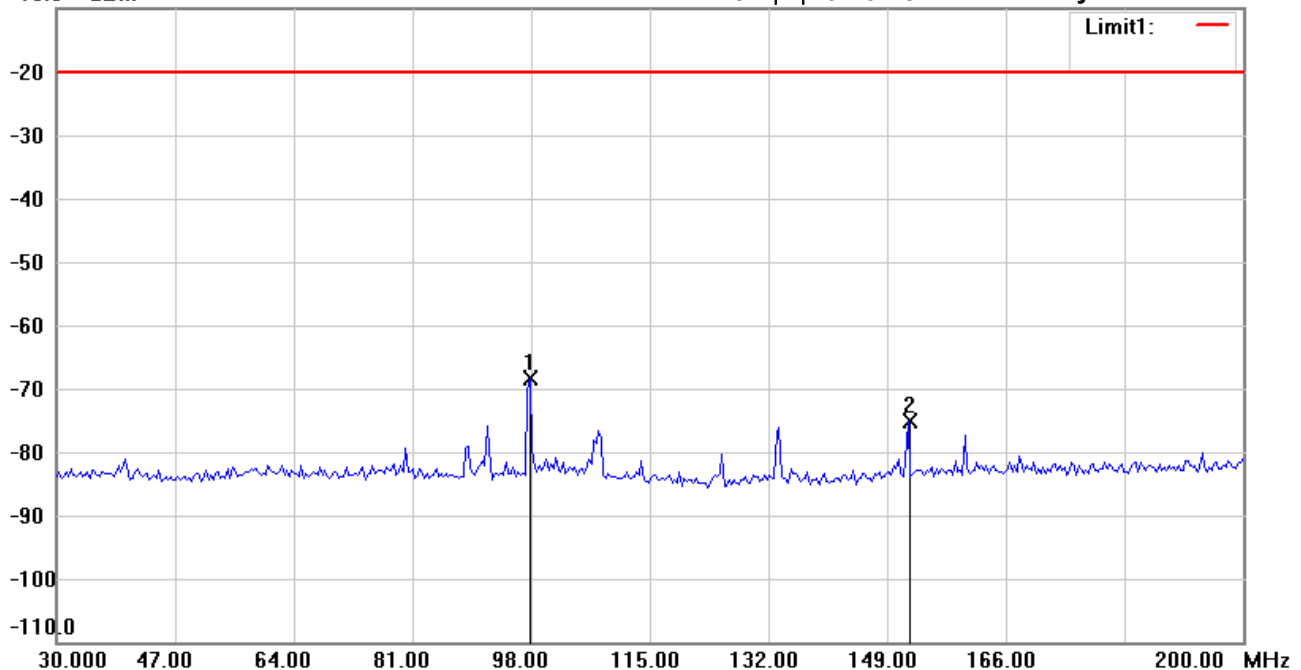
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 02:37:51

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 173.3875MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-89.78	peak	21.44	-68.34	-20.00	150	45	-48.34	
	151.9640	-96.02	peak	20.86	-75.16	-20.00	150	195	-55.16	

*:Maximum data x:Over limit !:over margin



Address: 6F., No. 58, Ln 188, Ruey Kuang Rd, NeiHu, Taipei
Tel: +886-2-6606-8877
Fax: +886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

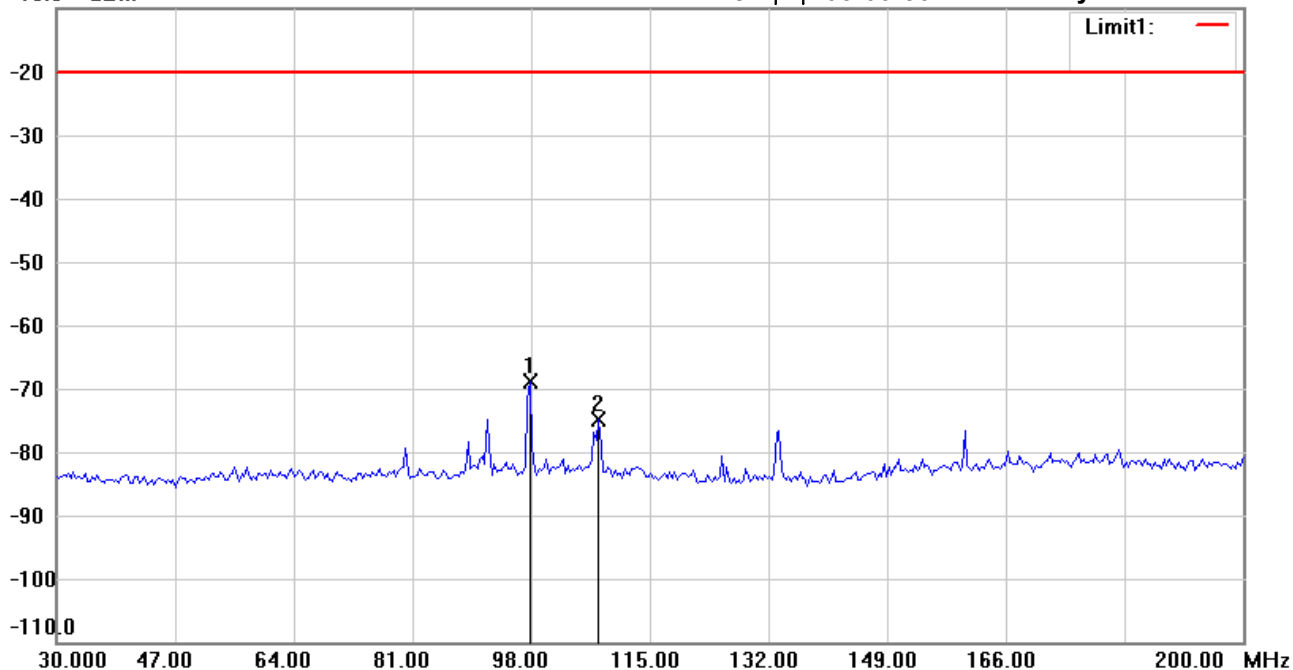
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 03:00:56

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 173.3875MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	97.7956	-90.68	peak	21.70	-68.98	-20.00	150	145	-48.98	
	107.6754	-96.21	peak	21.34	-74.87	-20.00	150	220	-54.87	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #1

Date: 2019/11/22

Temperature: 24 °C

Time: 下午 05:03:51

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 173.3875MHz

Note :

Polarization: *Horizontal*

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	345.8918	-58.99	peak	-10.40	-69.39	-20.00	150	45	-49.39	
	607.2144	-69.88	peak	-5.51	-75.39	-20.00	150	330	-55.39	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 2

Data : #2

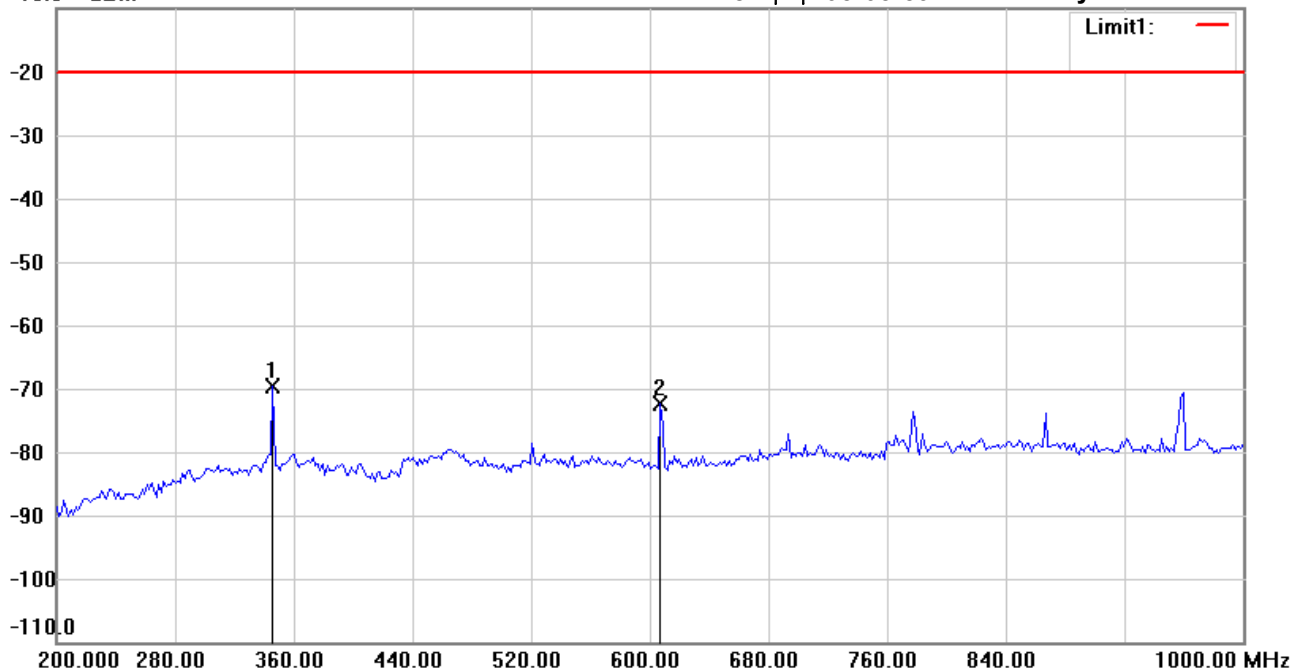
Date: 2019/11/22

Temperature: 24 °C

Time: 下午 05:05:59

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 173.3875MHz

Note :

Polarization: Vertical

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	345.8918	-60.80	peak	-8.90	-69.70	-20.00	150	245	-49.70	
	607.2144	-66.88	peak	-5.42	-72.30	-20.00	150	160	-52.30	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

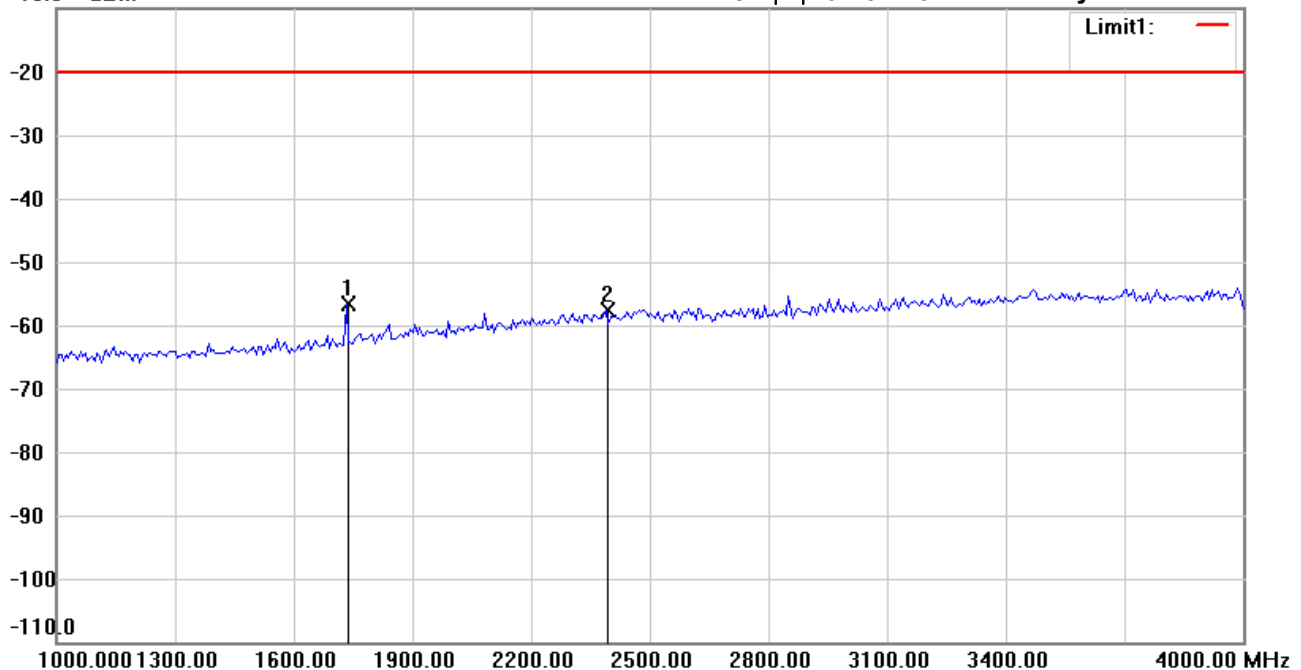
Date: 2019/11/25

Temperature: 24 °C

Time: 下午 01:54:15

Humidity: 60 %

-10.0 dBm



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 173.3875MHz

Note :

Polarization: **Horizontal**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1733.467	-56.01	peak	-0.65	-56.66	-20.00	150	130	-36.66	
	2388.778	-60.77	peak	3.20	-57.57	-20.00	150	110	-37.57	

*:Maximum data x:Over limit !:over margin



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Radiated Emission Measurement

Operator: Kent

File : 3

Data : #2

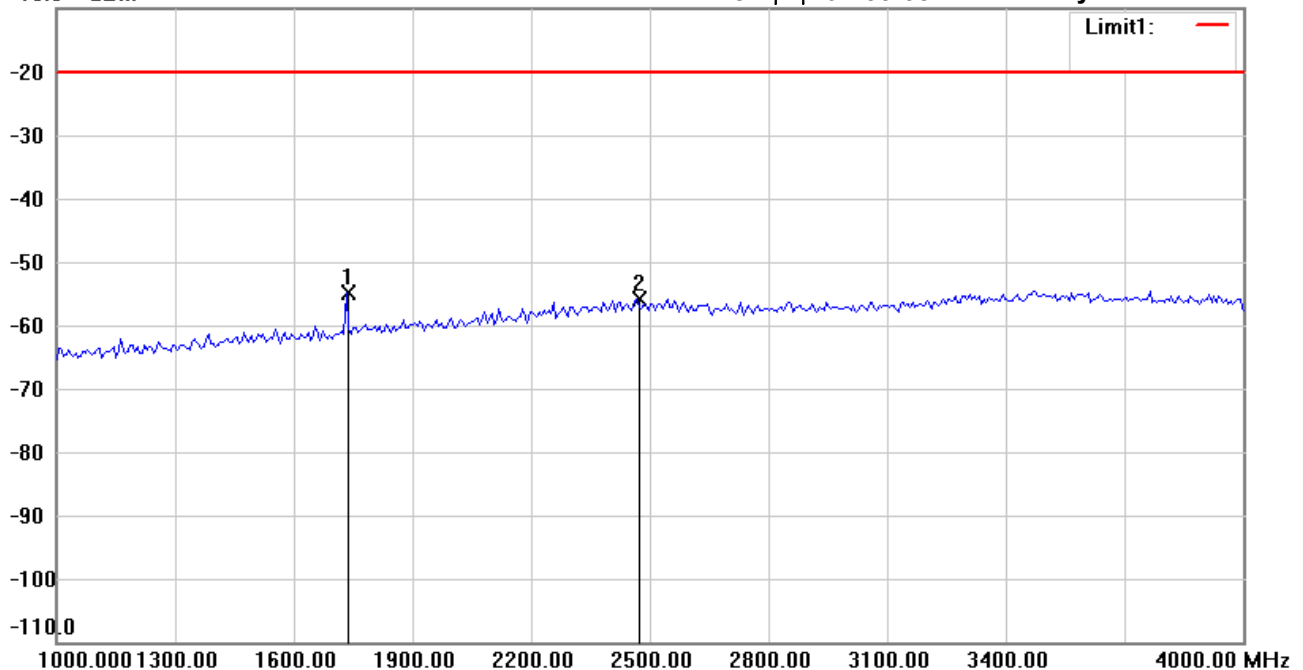
Date: 2019/11/25

Temperature: 24 °C

-10.0 dBm

Time: 下午 01:55:38

Humidity: 60 %



Site : Chamber

Condition : FCC_part 90 RE

EUT : W6M21909-19370

M/N:

Test Mode : TX 173.3875MHz

Note :

Polarization: **Vertical**

Power : 12 Vd.c.

Distance: 3m

Mk.	Frequency (MHz)	Reading (dBm)	Detector	Corr. factor (dB)	Result (dBm)	Limit (dBm)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
*	1733.467	-55.70	peak	0.95	-54.75	-20.00	150	245	-34.75	
	2466.934	-61.14	peak	5.22	-55.92	-20.00	150	160	-35.92	

*:Maximum data x:Over limit !:over margin