

**FCC PART 90 TEST REPORT**

**for**

**Booster**

**Model No.: Booster**

**FCC ID: LEA-BOOSTER**

of

Applicant: **Unication Co., Ltd.**

Address: **5F., No. 6, Wu-kung 5 Rd., Hsinchuang City, Taipei,  
Taiwan. R.O.C**

Tested and Prepared

by

**Worldwide Testing Services (Taiwan) Co., Ltd.**

**FCC Registration No.: TW1477, TW0020, TW1072**

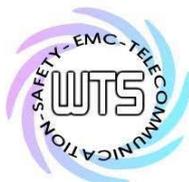
**Industry Canada filed test laboratory Reg. No. 20037**

**A2LA Accredited No.: 2732.01**



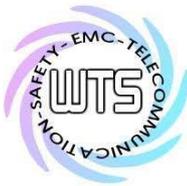
**Report No.: W6M21909-19340-C-1**

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](mailto:wts@wts-lab.com)



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# Worldwide Testing Services(Taiwan) Co., Ltd.

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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.

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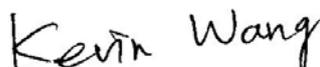
### Tester:

December 24, 2019	Kent Lin	
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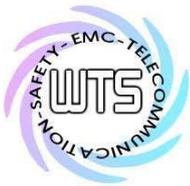
Date	WTS-Lab.	Name	Signature
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### Technical responsibility for area of testing:

December 24, 2019	Kevin Wang	
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Date	WTS	Name	Signature
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# **Worldwide Testing Services(Taiwan) Co., Ltd.**

Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

## **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. :**

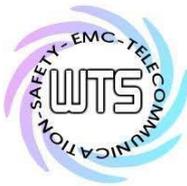
Name: ./.  
Accredited number: ./.  
Street: ./.  
Town: ./.  
Country: ./.  
Telephone: ./.  
Fax: ./.

### **1.3 Details of approval holder**

Name: Un cationiCo., Ltd.  
Street: 5F., No. 6, Wu-kung 5 Rd.,  
City: New Taipei City 221,  
Country: Taiwan (R.O.C.)  
Telephone: ./.  
Fax: ./.

### **1.4 Application details**

Date of receipt of test item: November 25, 2019  
Date of test: from November 26, 2019 to December 20, 2019



# ***Worldwide Testing Services(Taiwan) Co., Ltd.***

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## **1.5 General information of Test item**

Type of test item: Booster  
Model Number: Booster  
Brand Name: Unication  
Multi-listing model number: ./.  
Photos: See appendix

## **Technical data**

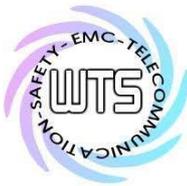
Frequency band: 150.05~173.4 MHz, 758~775 MHz, 851~862 MHz  
Sample tested frequency: 150.053125 MHz, 161.725 MHz, 173.396875 MHz,  
758.003125 MHz, 766.5 MHz, 774.996875 MHz,  
851.003125 MHz, 856.5 MHz, 861.996875 MHz  
Designation of emission: 150.05~173.4 MHz: 4K00F1E, 11K3F3E, 16K0F3E  
758~775 MHz: 7K41F3E, 7K41F1D  
851~862 MHz: 7K41F3E, 7K41F1D  
Antenna Type / Gain: Plane Antenna / 4 dBi  
Connection of Antenna:  detachable       not detachable  
Power Rating: Adaptor (I/P: 100-240V~50-60Hz 0.28A, O/P: 5V, 2A)  
Operation modes: Simplex

## **Manufacturer: (if applicable)**

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

## **1.6 Test standards**

Technical standard: FCC RULES PART 90 (2018-10)  
KDB 935210 D05 v01r03



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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 Frequency Drift Measurement	Expanded Uncertainty: 6.11 Hz
Estimation Result of Uncertainty of EIRP Measurement	Expanded Uncertainty: 30-200 MHz: 2.50 dB 200-1000 MHz: 2.50 dB 1-18 GHz: 3.38 dB 18-40 GHz: 3.04 dB
Estimation Result of Uncertainty of Bandwidth Measurement	Expanded Uncertainty: 0.45 kHz
Estimation Result of Uncertainty of Conducted Output Power Measurement	Expanded Uncertainty: 1.72 dB
Estimation Result of Uncertainty of Conducted Spurious Emission Measurement	Expanded Uncertainty: 1.726 dB

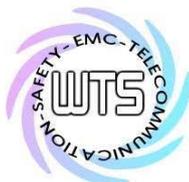
The decision rule is: Measurement uncertainty is not taken into account.

**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
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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

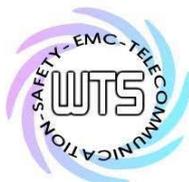
No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2019/6/4	2020/6/3
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2019/11/1	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_EMG	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



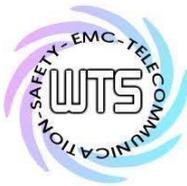
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## **2.5 General Test Procedure**

**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.

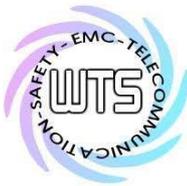


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**3. Test results (enclosure)**

Test case	Para. Number	Required	Test passed	Test failed
Measuring AGC threshold level	935210 D05 v01r03 ch4.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Out-of-band rejection	935210 D05 v01r03 ch4.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Input-versus-output signal comparison	935210 D05 v01r03 ch4.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Input/output power and amplifier/booster gain	935210 D05 v01r03 ch4.5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Noise figure measurements	935210 D05 v01r03 ch4.6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Measuring out-of-band/out-of-block (including intermodulation) and spurious emissions	935210 D05 v01r03 ch4.7	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Frequency stability measurements	935210 D05 v01r03 ch4.8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Spurious emissions radiated measurements	935210 D05 v01r03 ch4.9	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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**4. Measuring AGC threshold level**

Testing at and above the AGC threshold will be required. The AGC threshold shall be determined by applying the procedure of 3.2, but with the signal generator configured to produce a test signal defined in Table 1, a CW input signal, or a digitally modulated signal, consistent with the discussion about signal types in 4.1.

The AGC threshold is to be determined as follows.

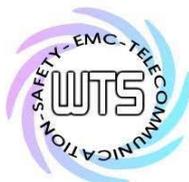
In the case of fiber-optic distribution systems, the RF input port of the equipment under test (EUT) refers to the RF input of the supporting equipment RF to optical convertor; see also descriptions and diagrams for typical DAS booster systems in KDB Publication 935210 D02 [R7].

Devices intended to be directly connected to an RF source (donor port) only need to be evaluated for any over-the-air transmit paths.

- a) Connect a signal generator to the input of the EUT.
- b) Connect a spectrum analyzer or power meter to the output of the EUT using appropriate attenuation as necessary.
- c) The signal generator should initially be configured to produce either of the required test signals (i.e., broadband or narrowband).
- d) Set the signal generator frequency to the center frequency of the EUT operating band.
- e) While monitoring the output power of the EUT, measured using the methods of 3.5.3 or 3.5.4, increase the input level until a 1 dB increase in the input signal power no longer causes a 1 dB increase in the output signal power.
- f) Record this level as the AGC threshold level.
- g) Repeat the procedure with the remaining test signal.

**4.1 Test results**

150.05MHz~173.4MHz Band				
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	150.0625	-68	0.64	68.64
AGC threshold		-71	0.01	71.01
		-72	-0.49	71.51
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	161.725	-69	0.41	69.41
AGC threshold		-72	-0.65	71.35
		-73	-1.16	71.84
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	173.3875	-69	0.17	69.17
AGC threshold		-72	-0.93	71.07
		-73	-1.20	71.8



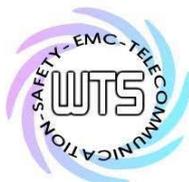
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1

FCC ID: LEA-BOOSTER

150.05MHz~173.4MHz Band				
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	150.05625	-69	0.32	69.32
AGC threshold		-72	-0.81	71.19
		-73	-1.28	71.72
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	161.725	-69	0.37	69.37
AGC threshold		-72	-0.69	71.31
		-73	-1.18	71.82
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	173.39375	-69	0.15	69.15
AGC threshold		-72	-0.94	71.06
		-73	-1.21	71.79

150.05MHz~173.4MHz Band				
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	150.05625	-69	0.45	69.45
AGC threshold		-72	-0.72	71.28
		-73	-1.24	71.76
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	161.725	-69	0.26	69.26
AGC threshold		-72	-0.75	71.25
		-73	-1.20	71.8
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	173.39375	-69	-0.11	68.89
AGC threshold		-72	-1.08	70.92
		-73	-1.64	71.36



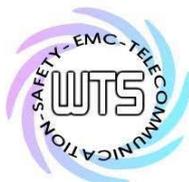
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1

FCC ID: LEA-BOOSTER

150.05MHz~173.4MHz Band				
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	150.053125	-69	0.31	69.31
AGC threshold		-72	-0.82	71.18
		-73	-1.28	71.72
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	161.725	-69	0.48	69.48
AGC threshold		-72	-0.32	71.68
		-73	-0.82	72.18
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	173.396875	-69	0.23	69.23
AGC threshold		-72	-0.86	71.14
		-73	-1.14	71.86

150.05MHz~173.4MHz Band				
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	150.053125	-68	0.51	68.51
AGC threshold		-71	-0.34	70.66
		-72	-0.81	71.19
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	161.725	-69	0.22	69.22
AGC threshold		-72	-0.87	71.13
		-73	-1.34	71.66
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	173.396875	-69	-0.02	68.98
AGC threshold		-72	-0.83	71.17
		-73	-1.28	71.72



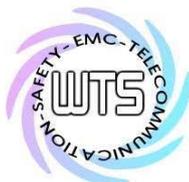
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1

FCC ID: LEA-BOOSTER

758MHz~775MHz Band				
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	758.0125	-62	11.45	73.45
AGC threshold		-65	10.56	75.56
		-66	9.84	75.84
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	766.5	-63	11.41	74.41
AGC threshold		-66	9.80	75.8
		-67	9.16	76.16
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	774.9875	-64	11.57	75.57
AGC threshold		-67	10.71	77.71
		-68	9.96	77.96

758MHz~775MHz Band				
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	758.00625	-63	11.30	74.3
AGC threshold		-66	10.01	76.01
		-67	9.39	76.39
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	766.5	-64	11.26	75.26
AGC threshold		-67	9.63	76.63
		-68	9.03	77.03
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	774.99375	-63	11.77	74.77
AGC threshold		-66	10.83	76.83
		-67	10.26	77.26



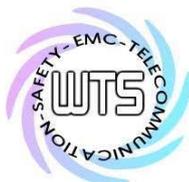
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1

FCC ID: LEA-BOOSTER

758MHz~775MHz Band				
P25 input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	758.00625	-62	11.44	73.44
AGC threshold		-65	10.59	75.59
		-66	9.82	75.82
P25 input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	766.5	-62	11.52	73.52
AGC threshold		-65	10.53	75.53
		-66	9.88	75.88
P25 input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	774.99375	-62	11.88	73.88
AGC threshold		-65	11.11	76.11
		-66	10.68	76.68

758MHz~775MHz Band				
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	758.003125	-63	11.29	74.29
AGC threshold		-66	10.02	76.02
		-67	9.40	76.4
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	766.5	-62	11.44	73.44
AGC threshold		-65	10.63	75.63
		-66	10.10	76.1
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	774.996875	-63	11.70	74.7
AGC threshold		-66	10.75	76.75
		-67	10.18	77.18



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1

FCC ID: LEA-BOOSTER

758MHz~775MHz Band				
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	758.003125	-62	11.40	73.4
AGC threshold		-65	9.98	74.98
		-66	9.19	75.19
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	766.5	-64	11.06	75.06
AGC threshold		-67	9.44	76.44
		-68	8.82	76.82
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	774.996875	-65	11.35	76.35
AGC threshold		-68	9.67	77.67
		-69	9.05	78.05

758MHz~775MHz Band				
LTE 5M bandwidth input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	760.5	-62	10.22	72.22
AGC threshold		-65	8.92	73.92
		-66	8.23	74.23
LTE 5M bandwidth input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	766.5	-63	10.88	73.88
AGC threshold		-66	9.44	75.44
		-67	8.86	75.86
LTE 5M bandwidth input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	772.5	-62	10.42	72.42
AGC threshold		-65	9.46	74.46
		-66	8.81	74.81



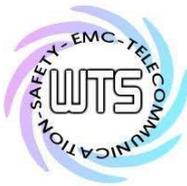
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1

FCC ID: LEA-BOOSTER

851MHz~862MHz Band				
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	851.0125	-64	11.82	75.82
AGC threshold		-67	9.89	76.89
		-68	9.25	77.25
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	856.5	-64	12.05	76.05
AGC threshold		-67	10.85	77.85
		-68	10.18	78.18
16K0F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	861.9875	-59	12.15	71.15
AGC threshold		-62	11.03	73.03
		-63	10.23	73.23

851MHz~862MHz Band				
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	851.00625	-63	11.45	74.45
AGC threshold		-66	9.85	75.85
		-67	9.19	76.19
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	856.5	-64	12.10	76.1
AGC threshold		-67	11.07	78.07
		-68	10.60	78.6
11K3F3E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	861.99375	-58	12.48	70.48
AGC threshold		-61	11.42	72.42
		-62	11.18	73.18

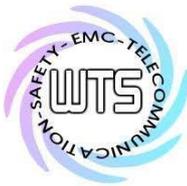


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1  
 FCC ID: LEA-BOOSTER

851MHz~862MHz Band				
P25 input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	851.00625	-62	11.99	73.99
AGC threshold		-65	10.39	75.39
		-66	9.92	75.92
P25 input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	856.5	-63	12.32	75.32
AGC threshold		-66	11.45	77.45
		-67	10.99	77.99
P25 input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	861.99375	-59	11.95	70.95
AGC threshold		-62	10.96	72.96
		-63	10.20	73.2

851MHz~862MHz Band				
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	851.003125	-62	11.69	73.69
AGC threshold		-65	10.50	75.5
		-66	9.89	75.89
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	856.5	-63	12.43	75.43
AGC threshold		-66	11.92	77.92
		-67	11.44	78.44
4K00F1E(FM) input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	861.996875	-60	11.94	71.94
AGC threshold		-63	10.29	73.29
		-64	9.64	73.64

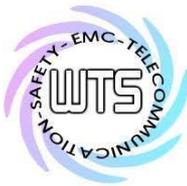


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1  
 FCC ID: LEA-BOOSTER

851MHz~862MHz Band				
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	851.003125	-62	11.86	73.86
AGC threshold		-65	10.51	75.51
		-66	9.89	75.89
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	856.5	-64	12.04	76.04
AGC threshold		-67	11.27	78.27
		-68	10.48	78.48
CW input				
note	Freq(MHz)	Input level(dBm)	Output level(dBm)	Gain
AGC threshold+3dB	861.996875	-58	12.47	70.47
AGC threshold		-61	11.61	72.61
		-62	11.13	73.13

Test equipment: ETSTW-RE 050, ETSTW-RE 055, ETSTW-RE 122



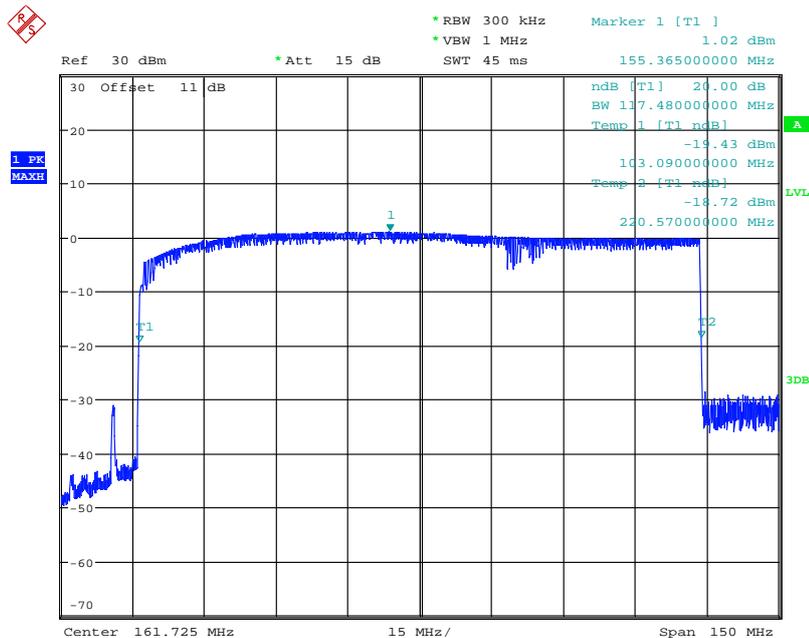
Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

## 5. Out-of-band rejection

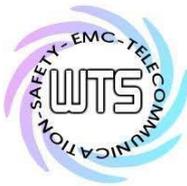
Adjust the internal gain control of the EUT to the maximum gain for which equipment certification is sought.

- a) Connect a signal generator to the input of the EUT.
- b) Configure a swept CW signal with the following parameters:
  - 1) Frequency range =  $\pm 250\%$  of the manufacturer's specified pass band.
  - 2) The CW amplitude shall be 3 dB below the AGC threshold (see 4.2), and shall not activate the AGC threshold throughout the test.
  - 3) Dwell time = approximately 10 ms.
  - 4) Frequency step = 50 kHz.
- c) Connect a spectrum analyzer to the output of the EUT using appropriate attenuation.
- d) Set the RBW of the spectrum analyzer to between 1 % and 5 % of the manufacturer's rated passband, and VBW =  $3 \times$  RBW.
- e) Set the detector to Peak and the trace to Max-Hold.
- f) After the trace is completely filled, place a marker at the peak amplitude, which is designated as  $f_0$ , and with two additional markers (use the marker-delta method) at the 20 dB bandwidth (i.e., at the points where the level has fallen by 20 dB).
- g) Capture the frequency response plot for inclusion in the test report.

### 5.1 Test Result

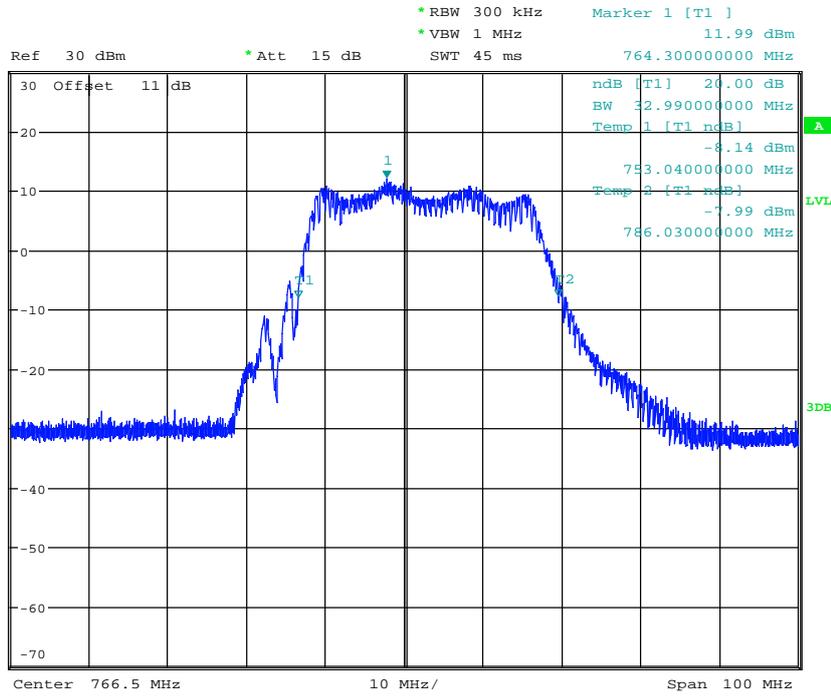


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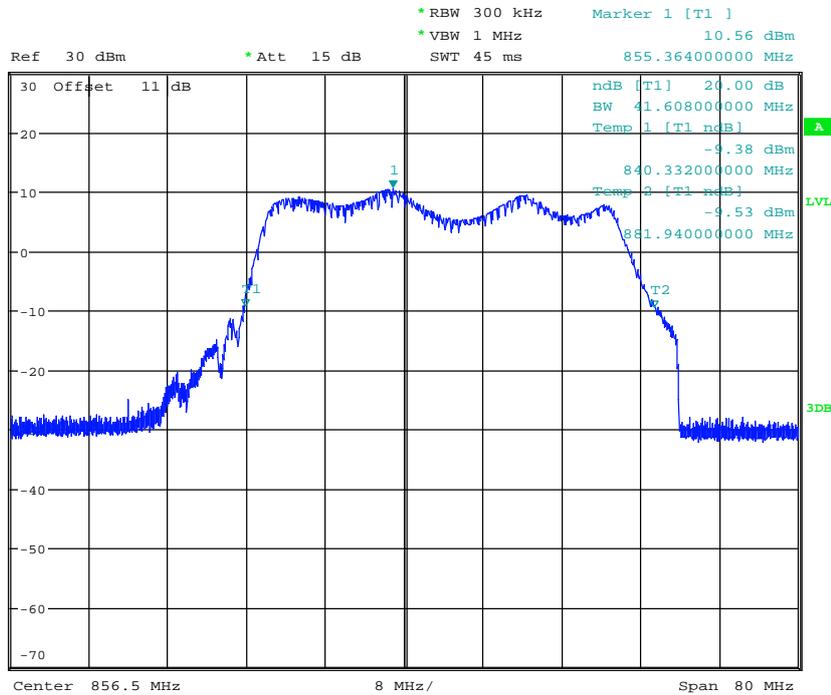


# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1  
 FCC ID: LEA-BOOSTER

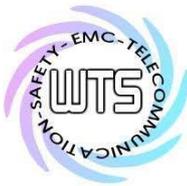


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Test equipment: ETSTW-RE 050, ETSTW-RE 055, ETSTW-RE 122



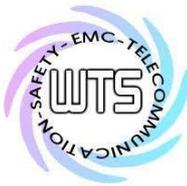
Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

## **6. Input-versus-output signal comparison**

Compliance with the emission mask of the EUT output shall be measured for the public safety service signal types as specified in 4.1.

Refer to the applicable regulatory requirements (e.g., Section 90.210) for emission mask specifications.

- a) Connect a signal generator to the input of the EUT.
- b) Configure the signal generator to transmit the appropriate test signal associated with the public safety emission designation (see Table 1).
- c) Configure the signal level to be just below the AGC threshold (see results from 4.2).
- d) Connect a spectrum analyzer to the output of the EUT using appropriate attenuation as necessary.
- e) Set the spectrum analyzer center frequency to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between  $2 \times$  to  $5 \times$  the EBW (or OBW).
- f) The nominal RBW shall be 300 Hz for 16K0F3E, and 100 Hz for all other emissions types.
- g) Set the reference level of the spectrum analyzer to accommodate the maximum input amplitude level, i.e., the level at  $f_0$  per 4.3.
- h) Set spectrum analyzer detection mode to peak, and trace mode to max hold.
- i) Allow the trace to fully stabilize.
- j) Confirm that the signal is contained within the appropriate emissions mask.
- k) Use the marker function to determine the maximum emission level and record the associated frequency.
- l) Capture the emissions mask plot for inclusion in the test report (output signal spectra).
- m) Measure the EUT input signal power (signal generator output signal) directly from the signal generator using power measurement guidance provided in KDB Publication 971168 [R8] (input signal spectra).
- n) Compare the spectral plot of the output signal (determined in step k), to the input signal (determined in step l) to affirm they are similar (in passband and rolloff characteristic features and relative spectral locations).
- o) Repeat steps d) to n) with the input signal amplitude set 3 dB above the AGC threshold.
- p) Repeat steps b) to o) for all authorized operational bands and emissions types (see applicable regulatory specifications, e.g., Section 90.210).
- q) Include all accumulated spectral plots depicting EUT input signal and EUT output signal in the test report, and note any observed dissimilarities.

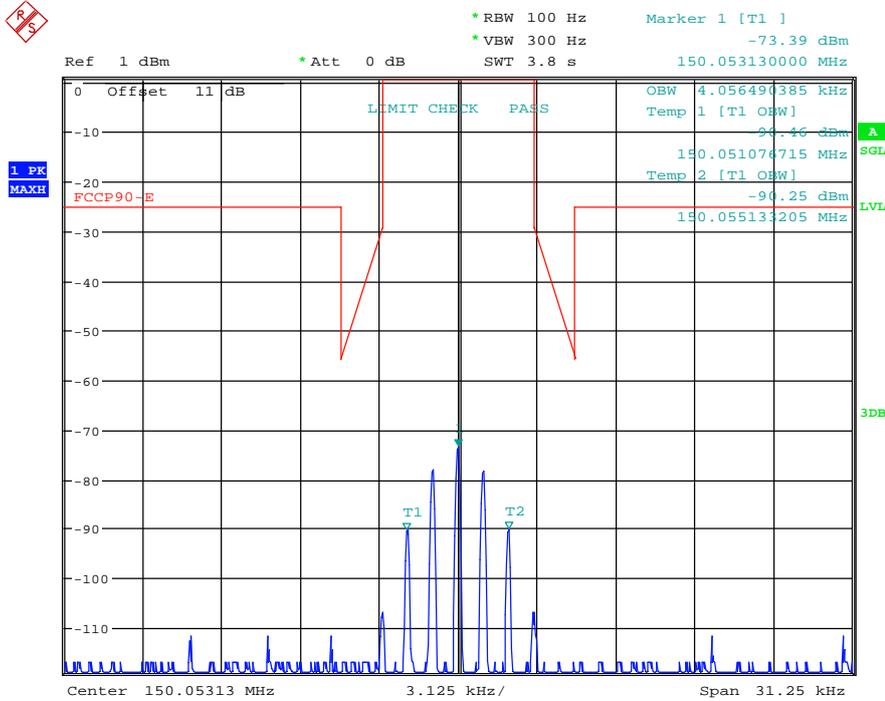


Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

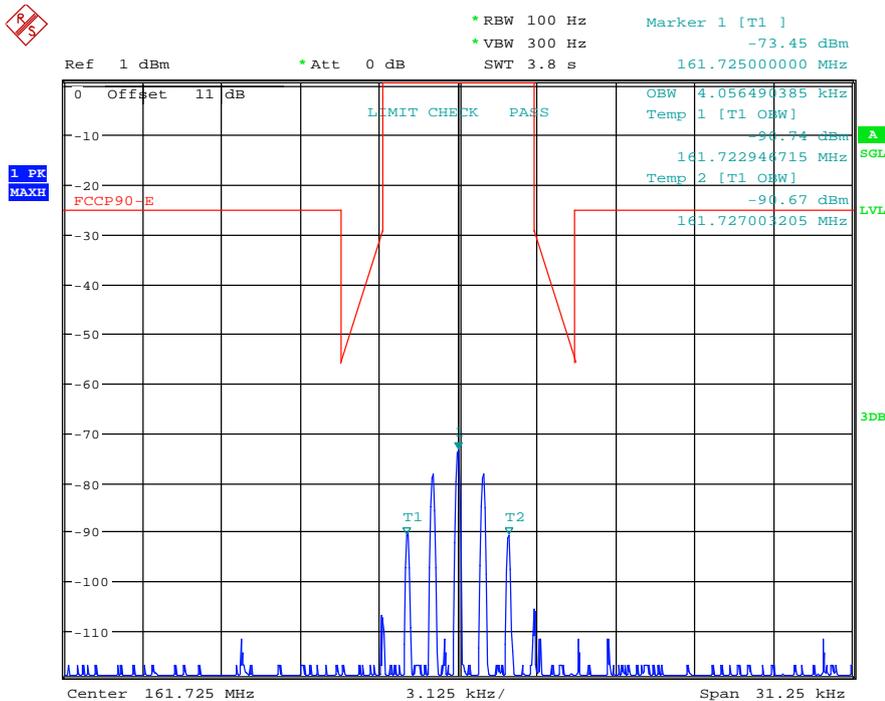
## 6.1 Test Result

### 4K00F1E

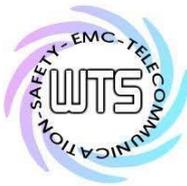
#### Input



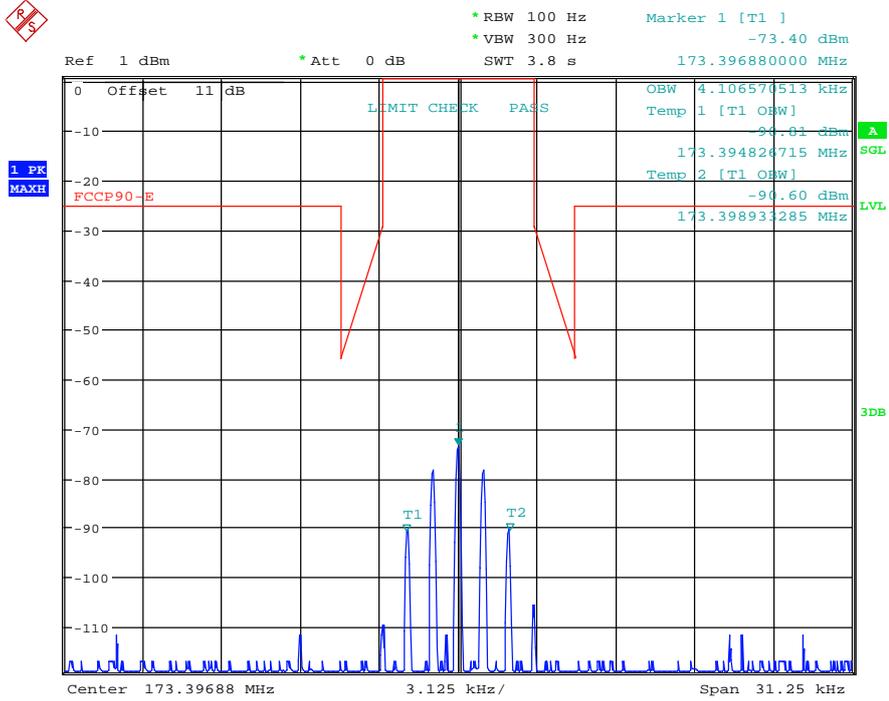
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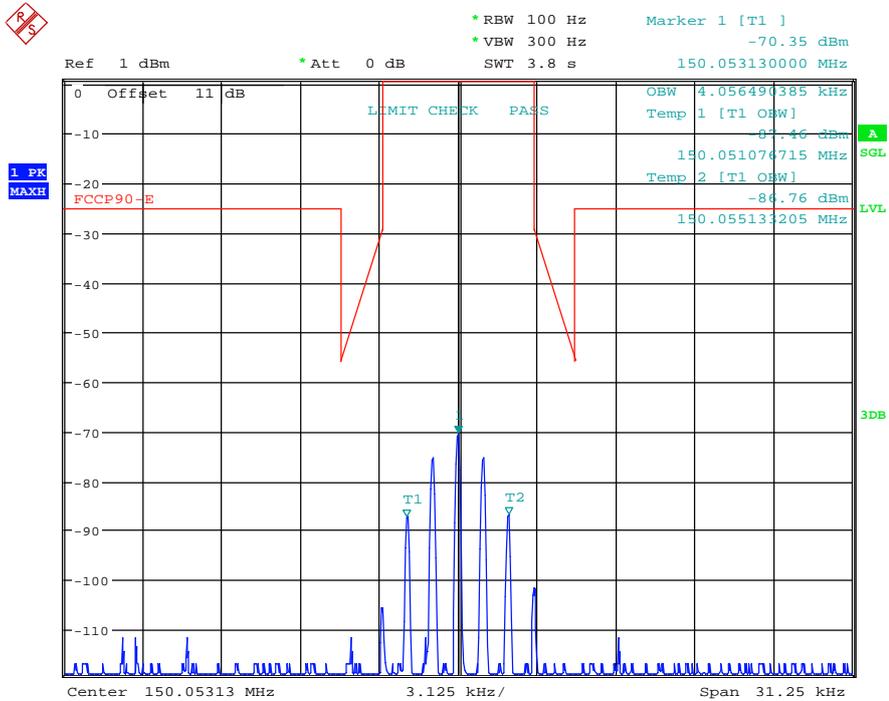


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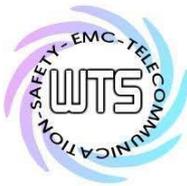


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+3dB

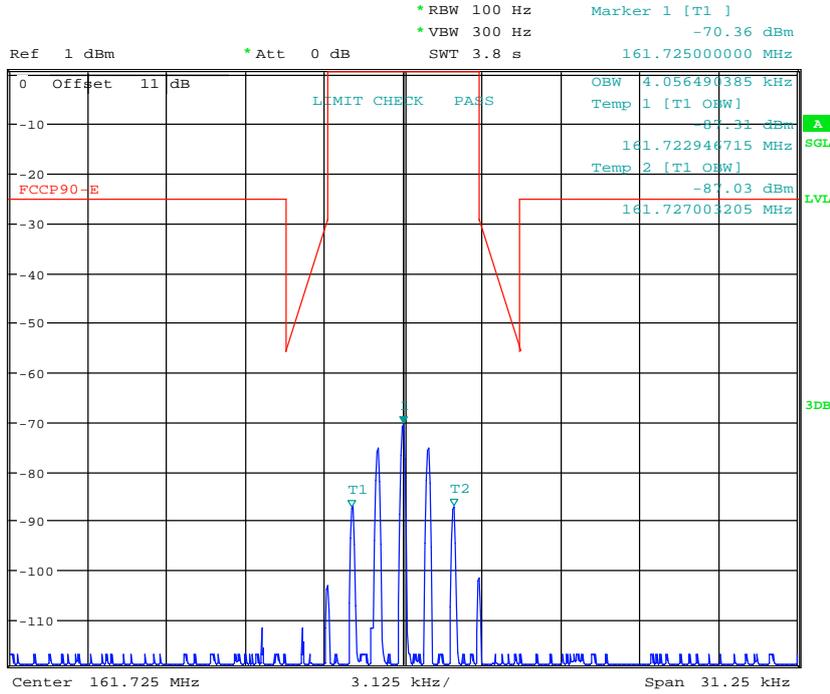


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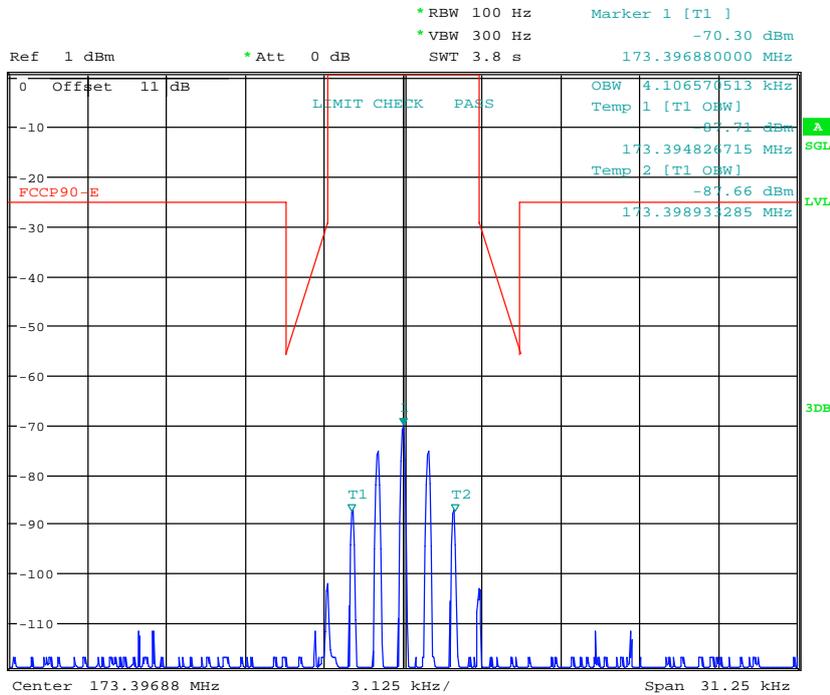


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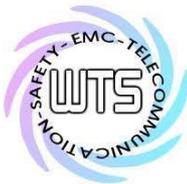
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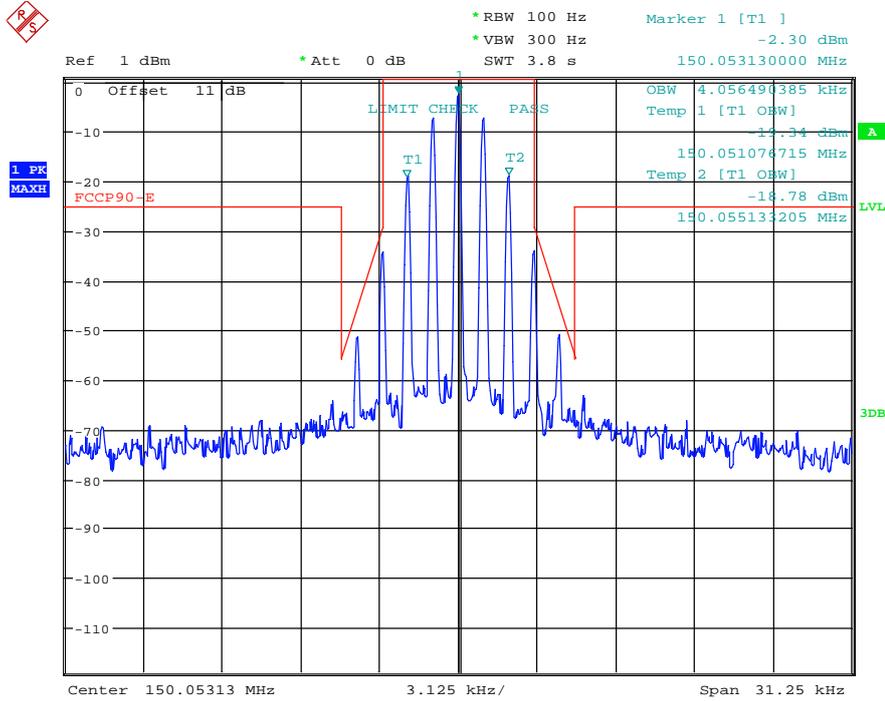


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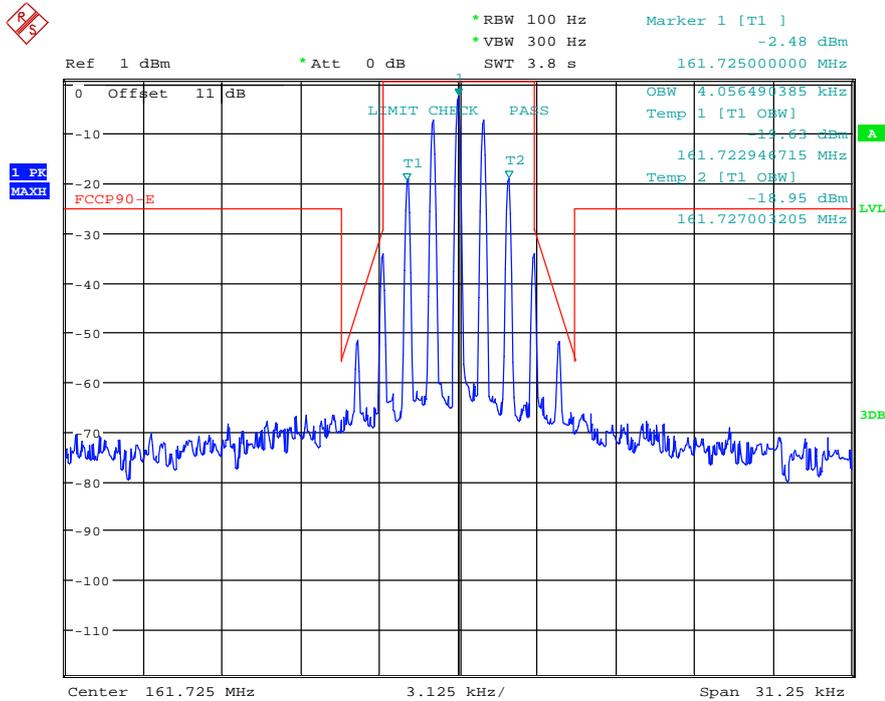


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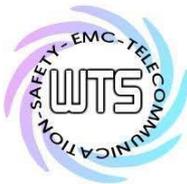
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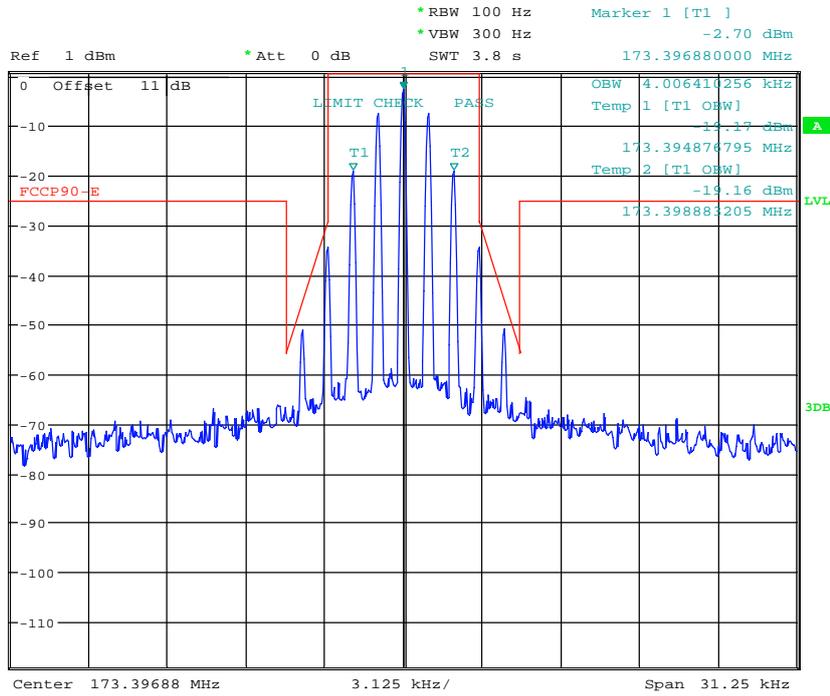


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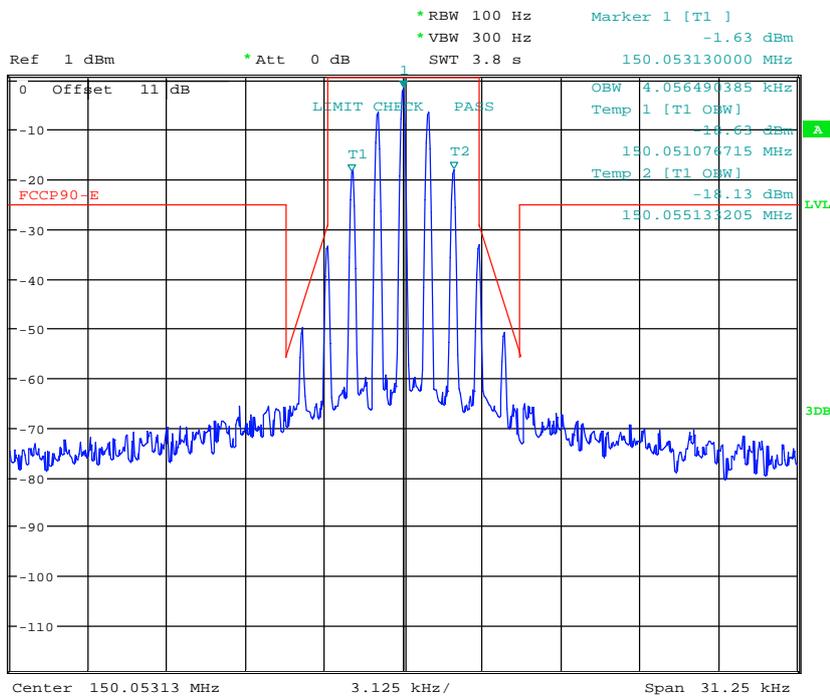
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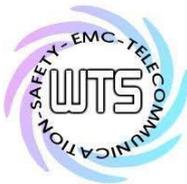


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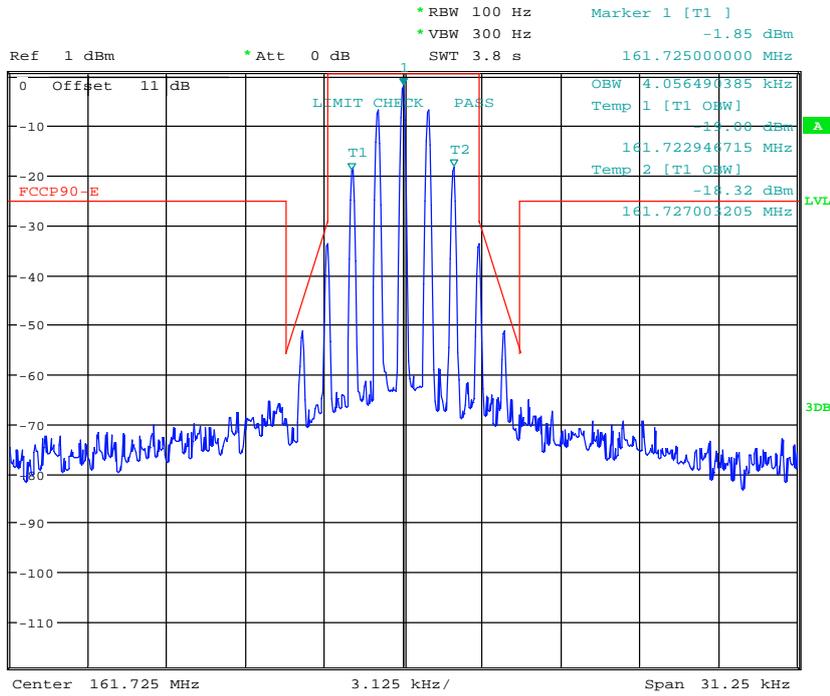


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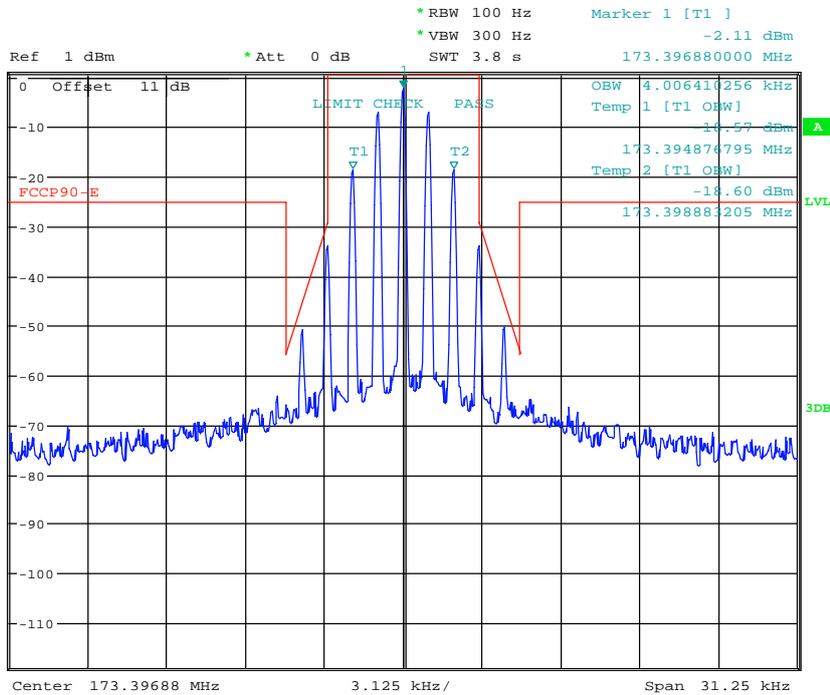


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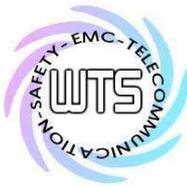
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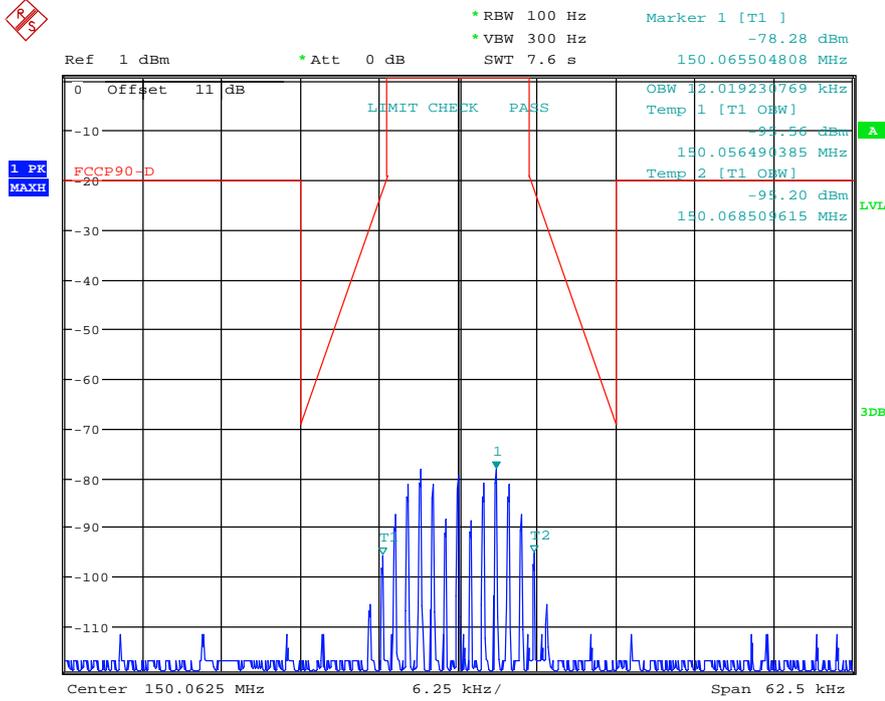
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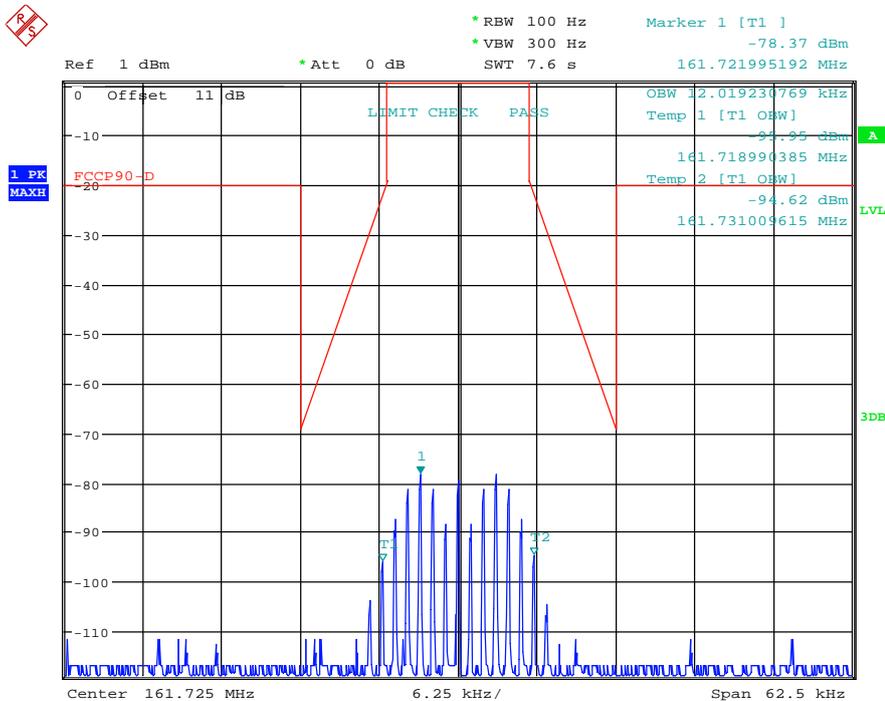
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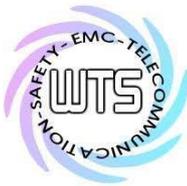


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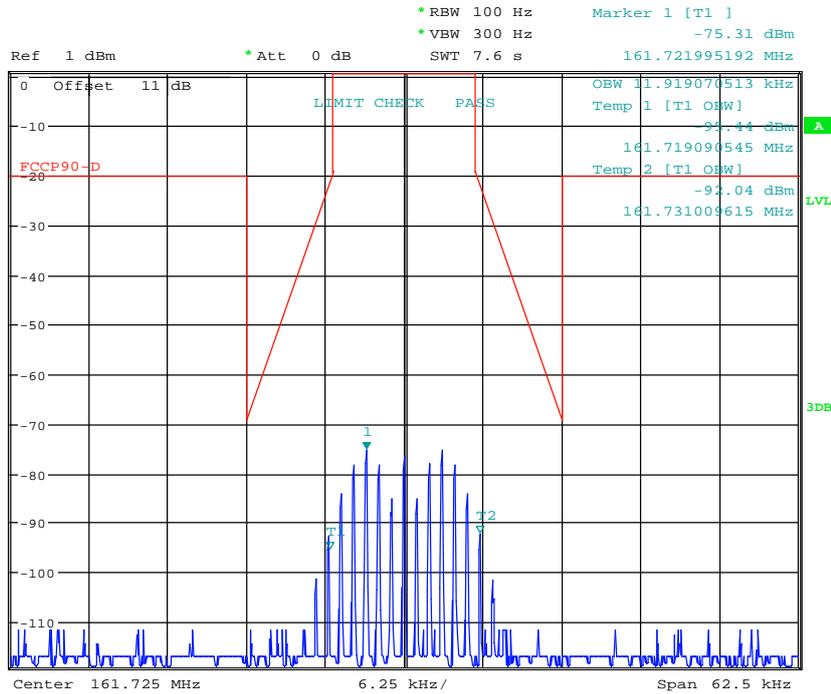
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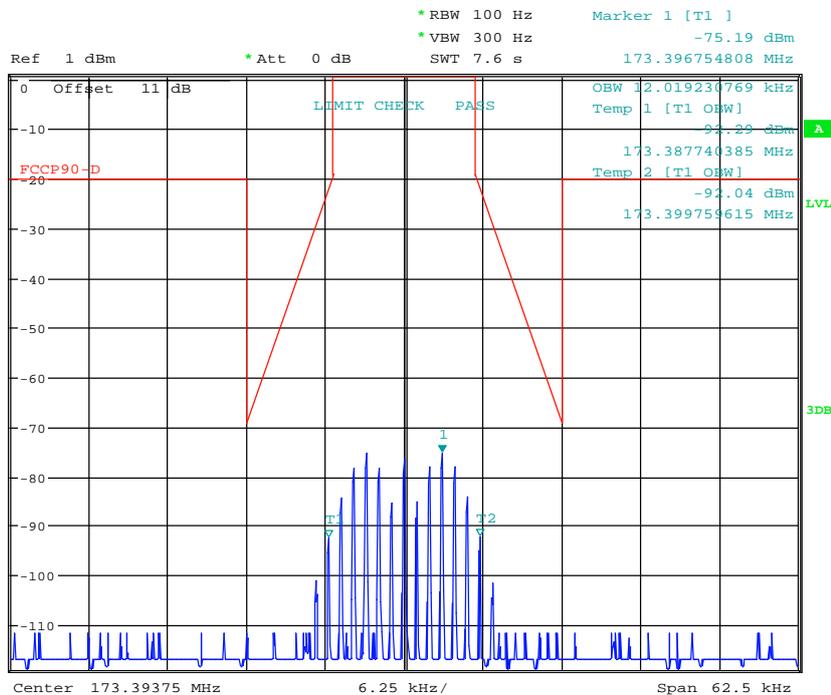


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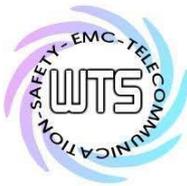
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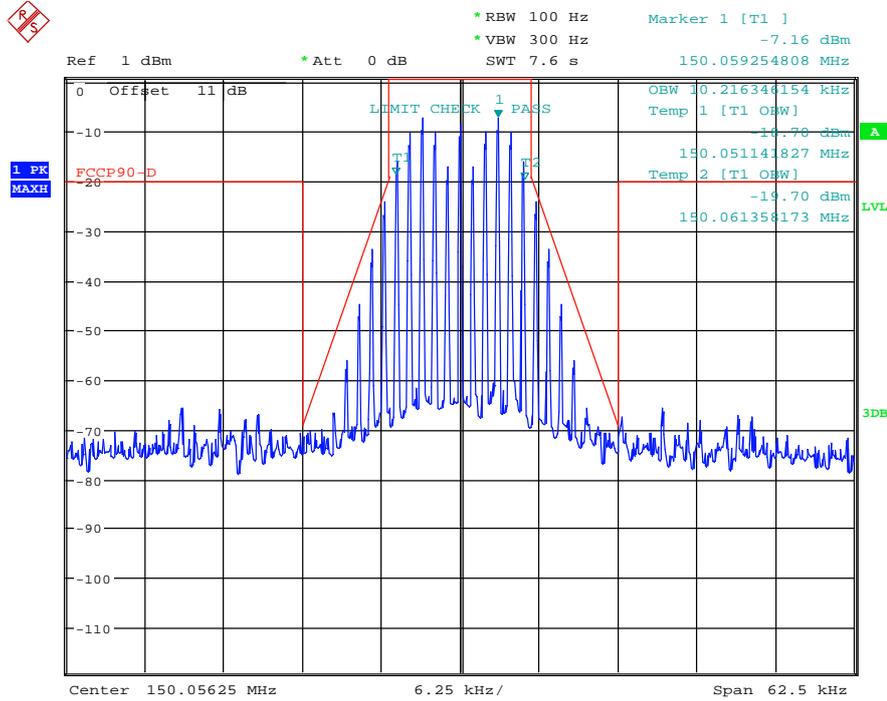


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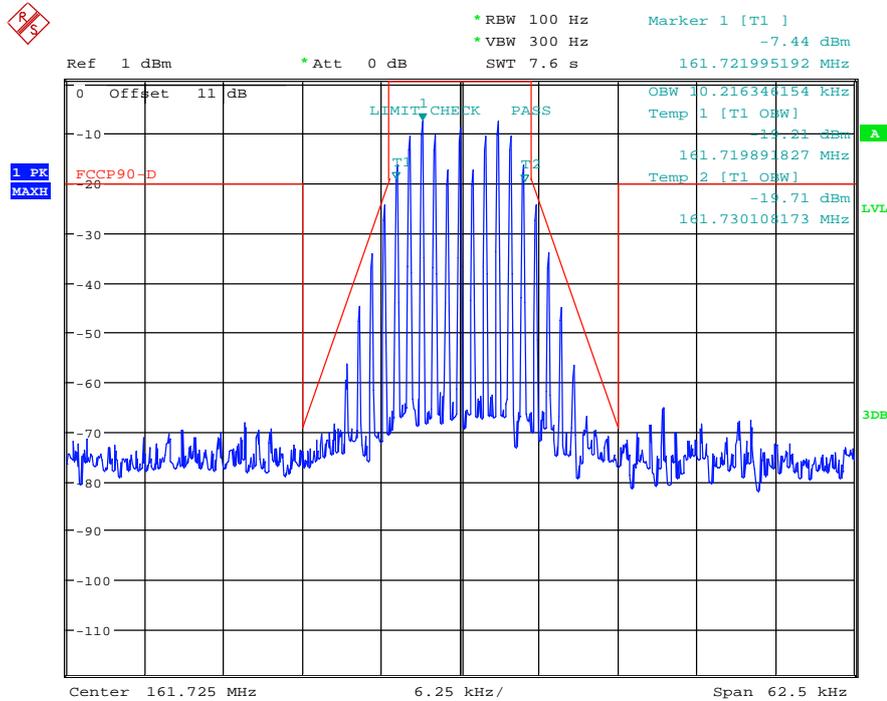


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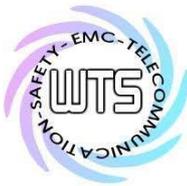
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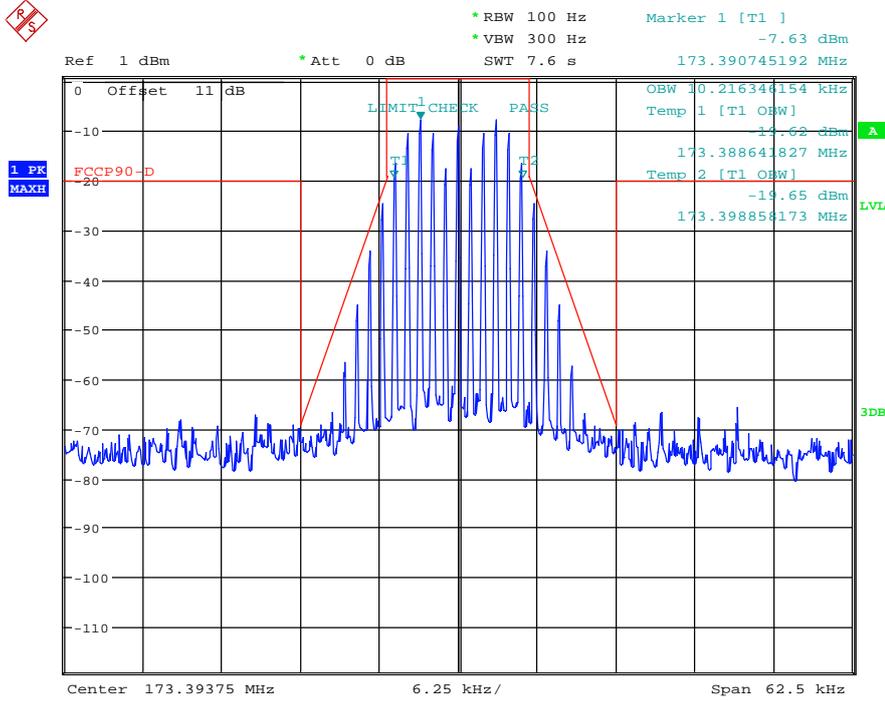
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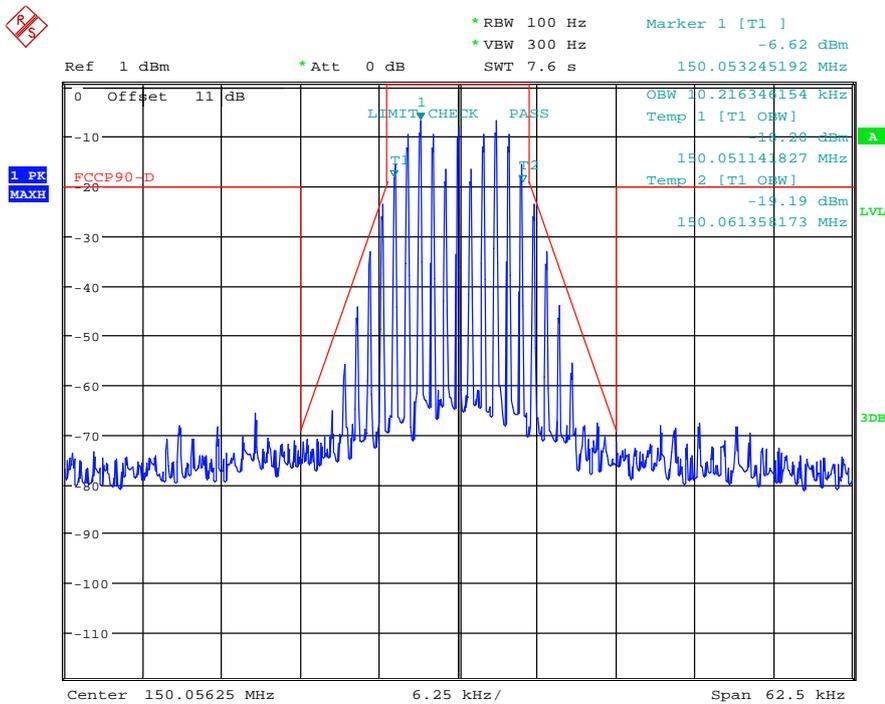


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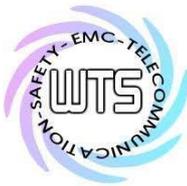


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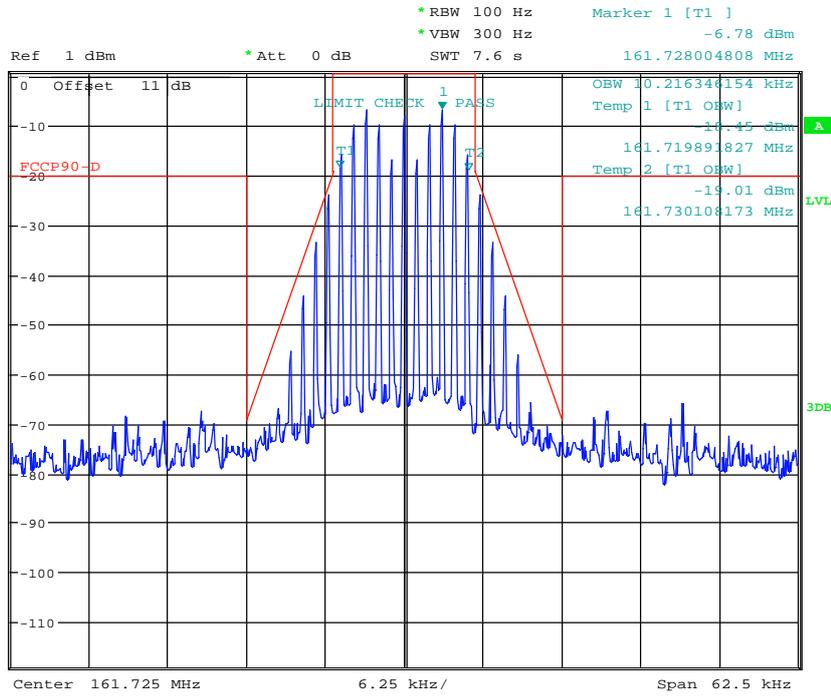
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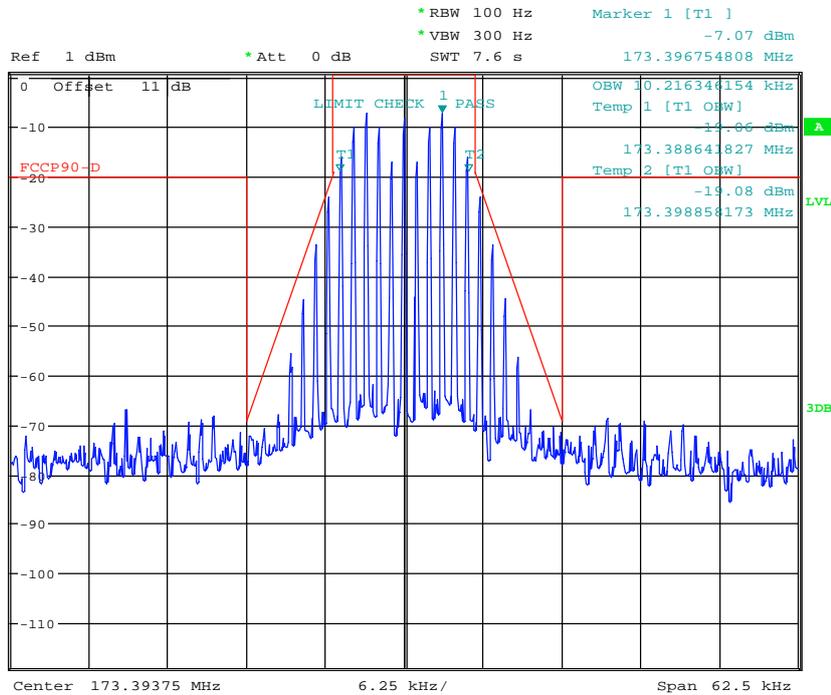
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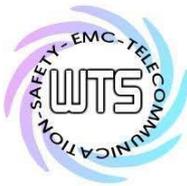
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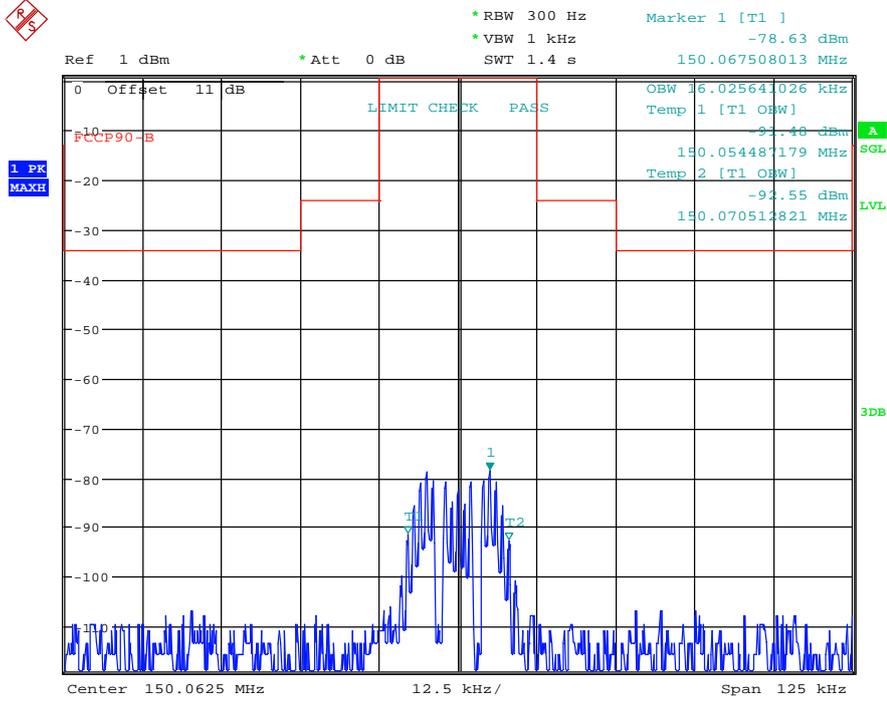
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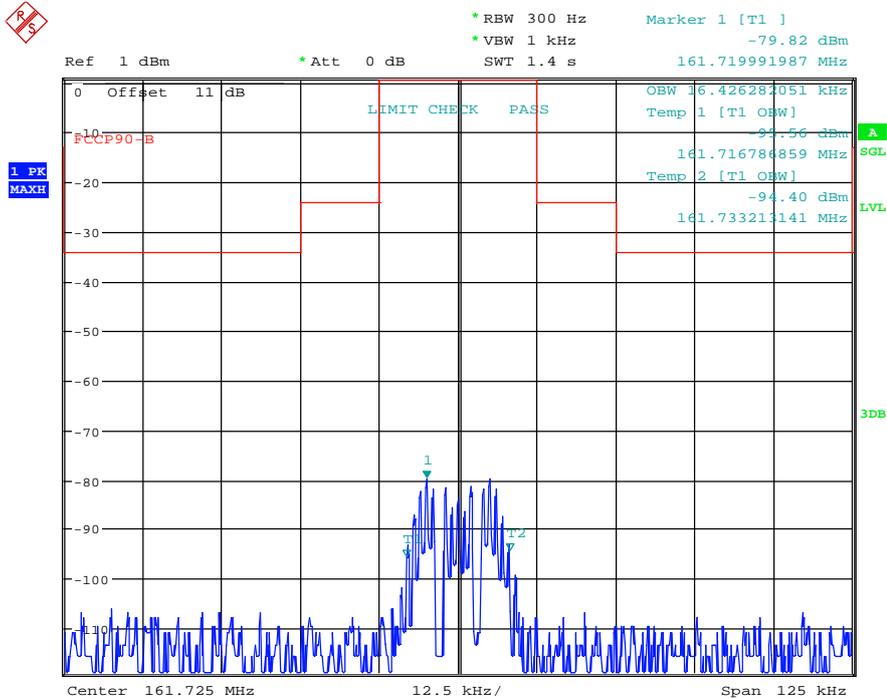
# Worldwide Testing Services(Taiwan) Co., Ltd.

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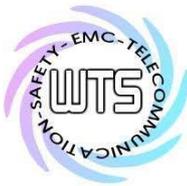
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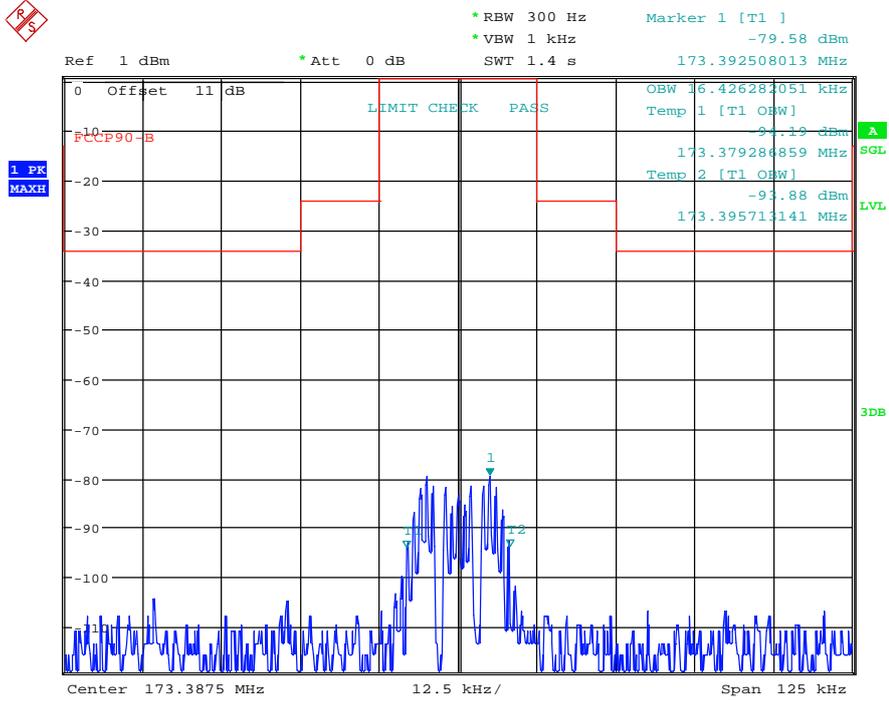
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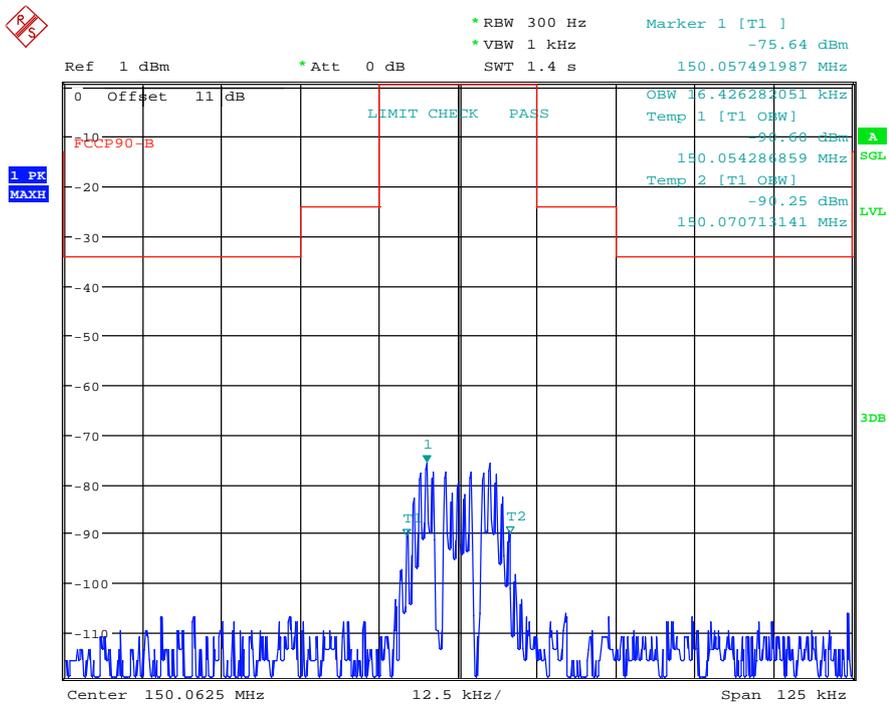


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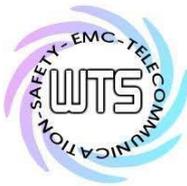


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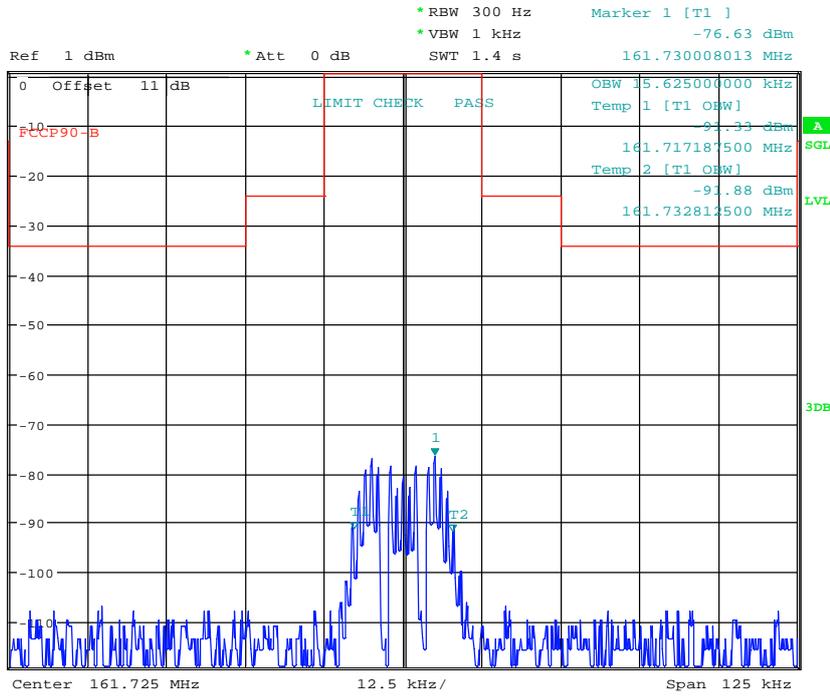


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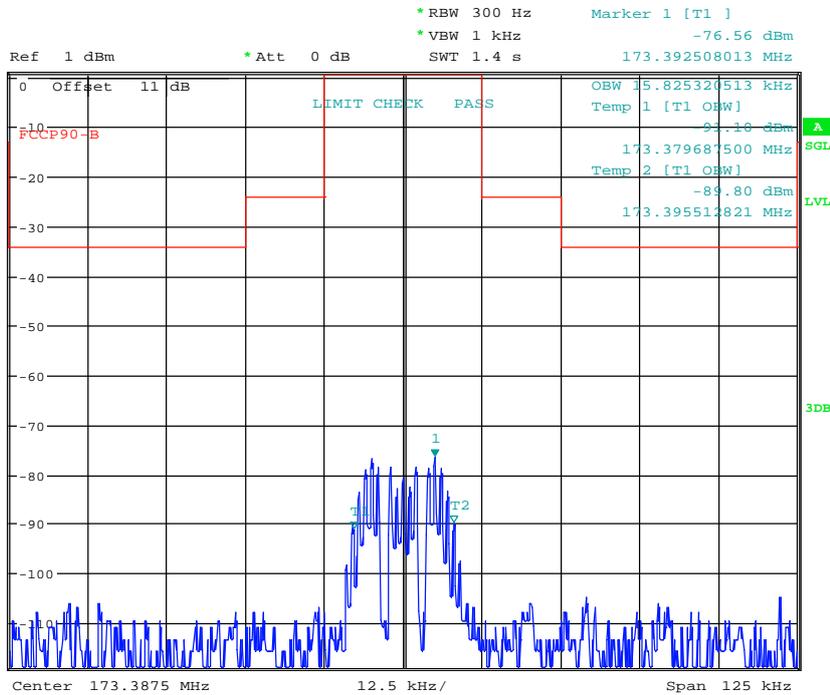


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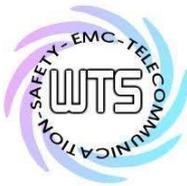
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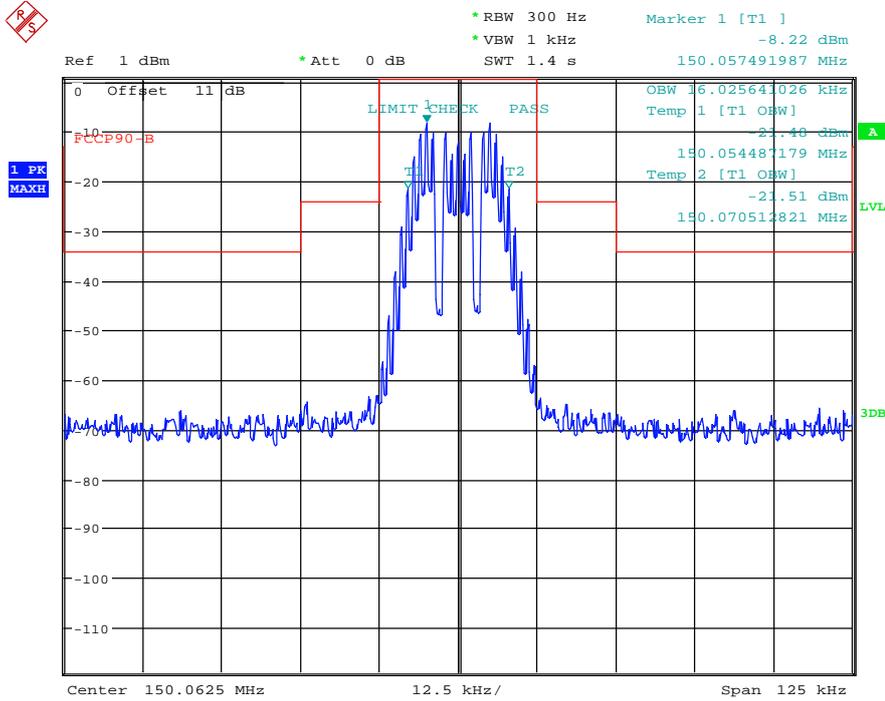


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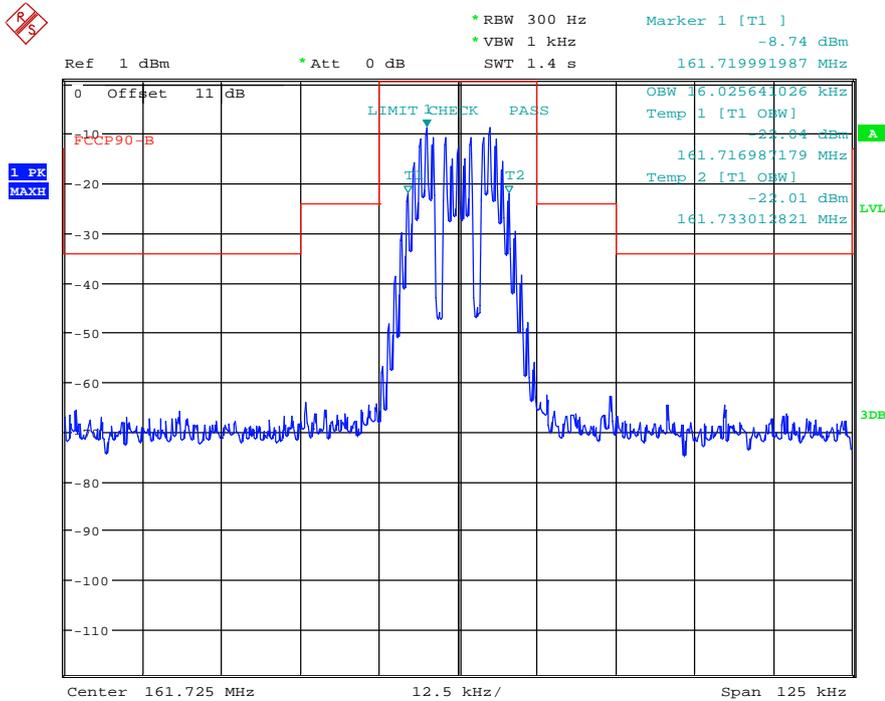


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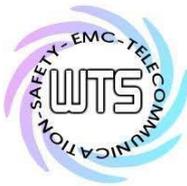
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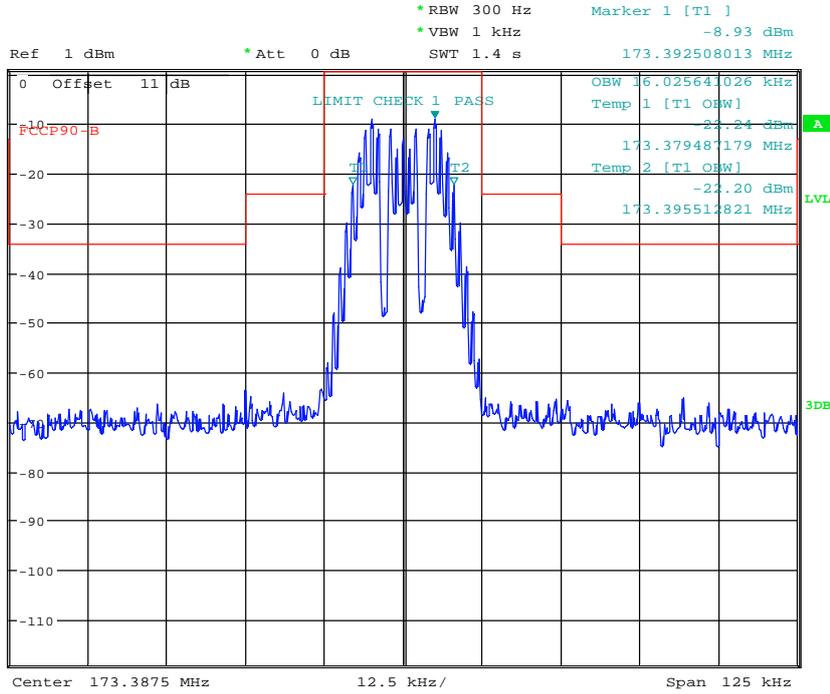
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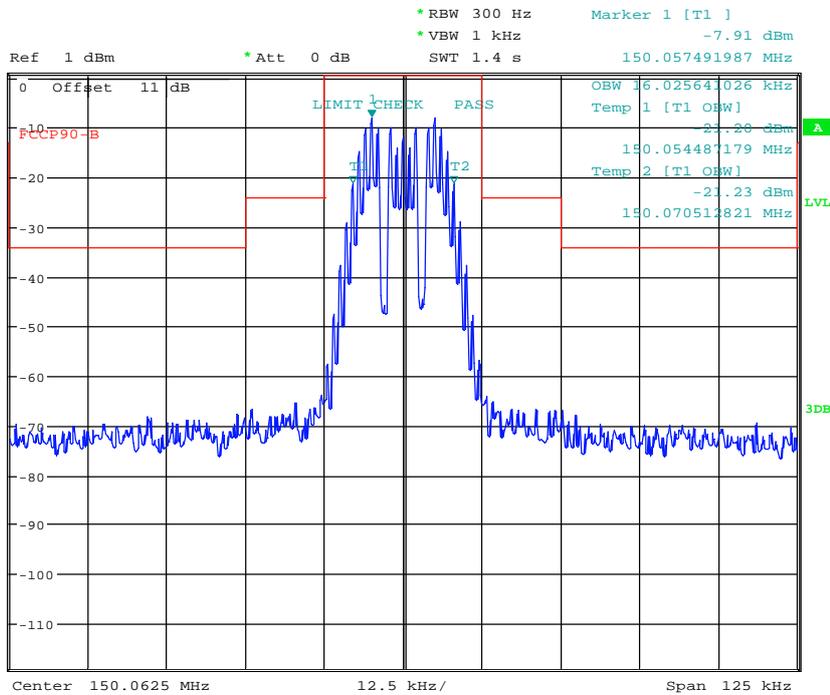


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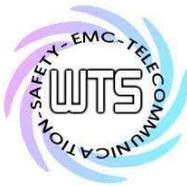


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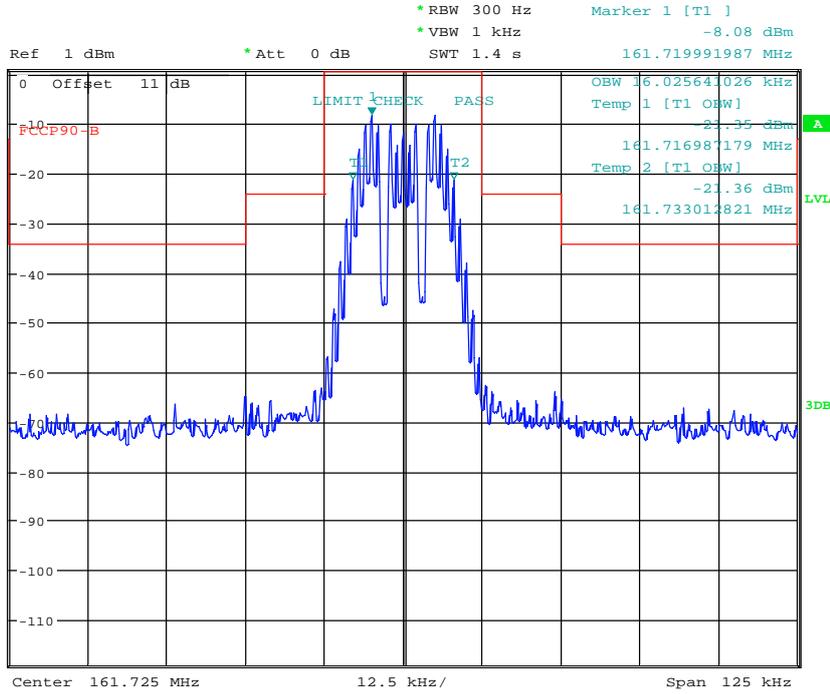
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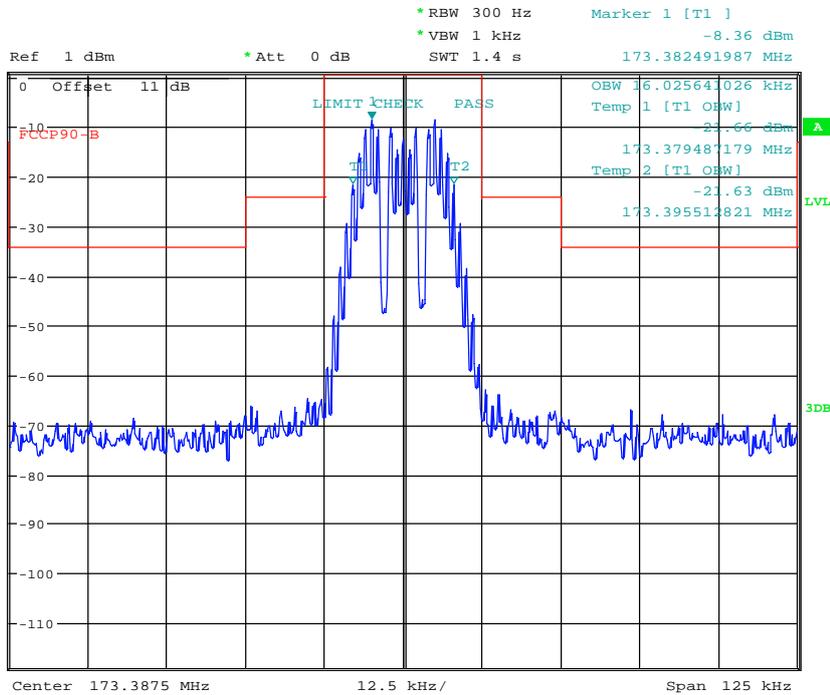
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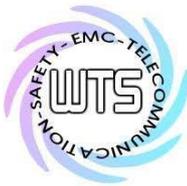
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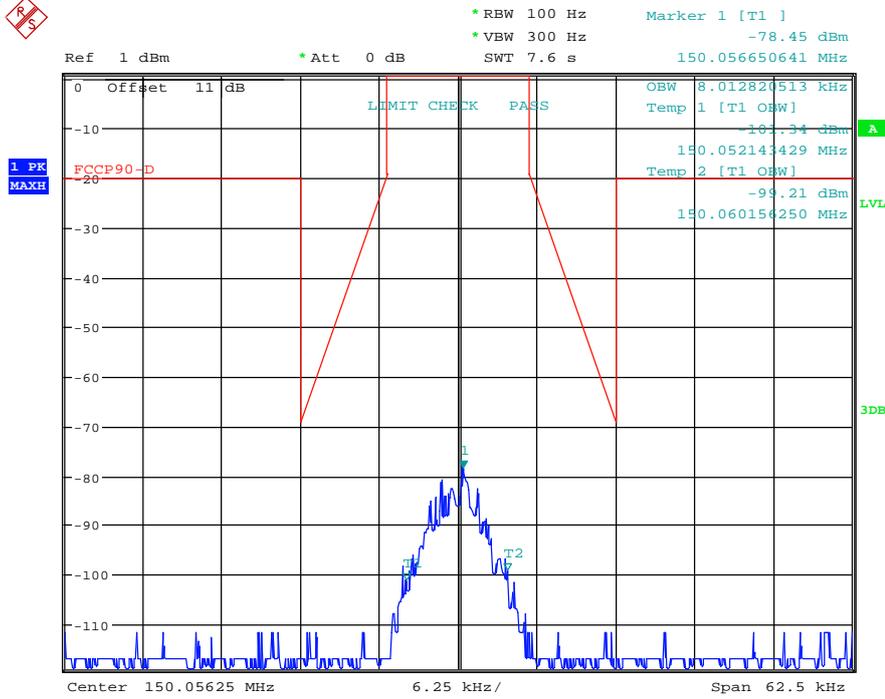
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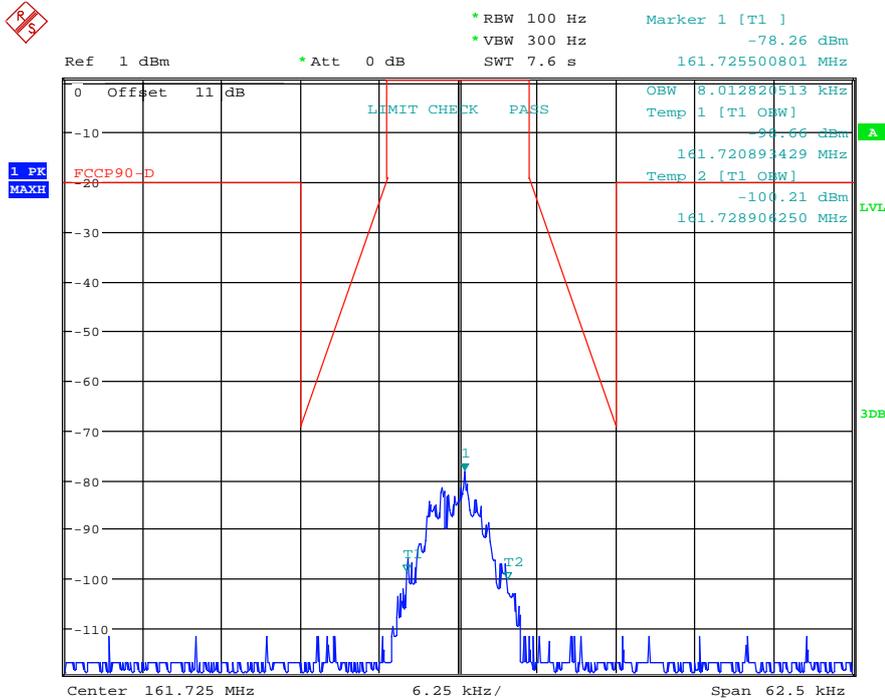
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1  
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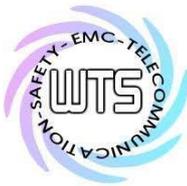
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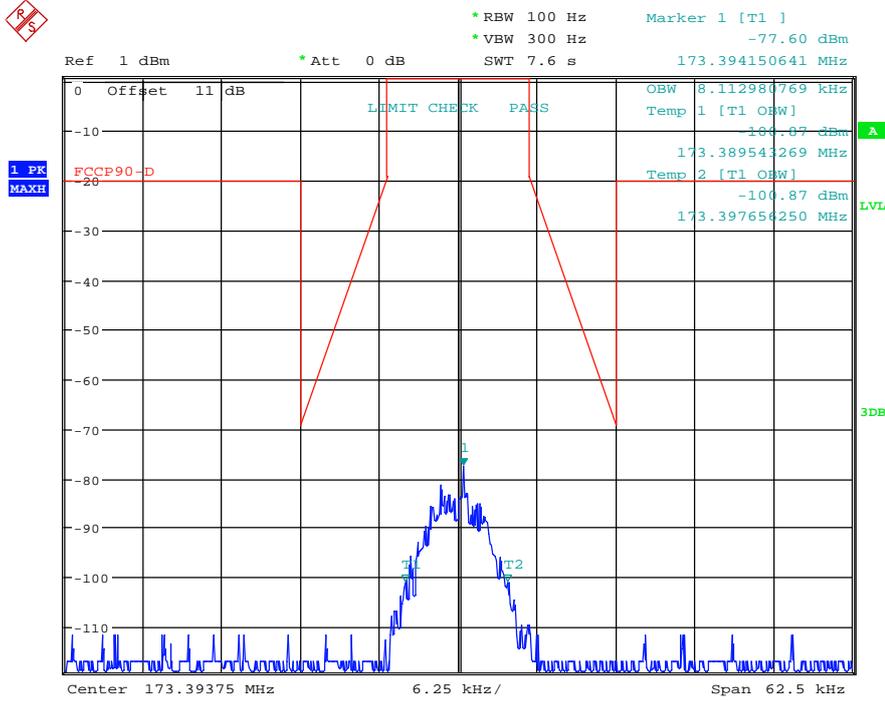
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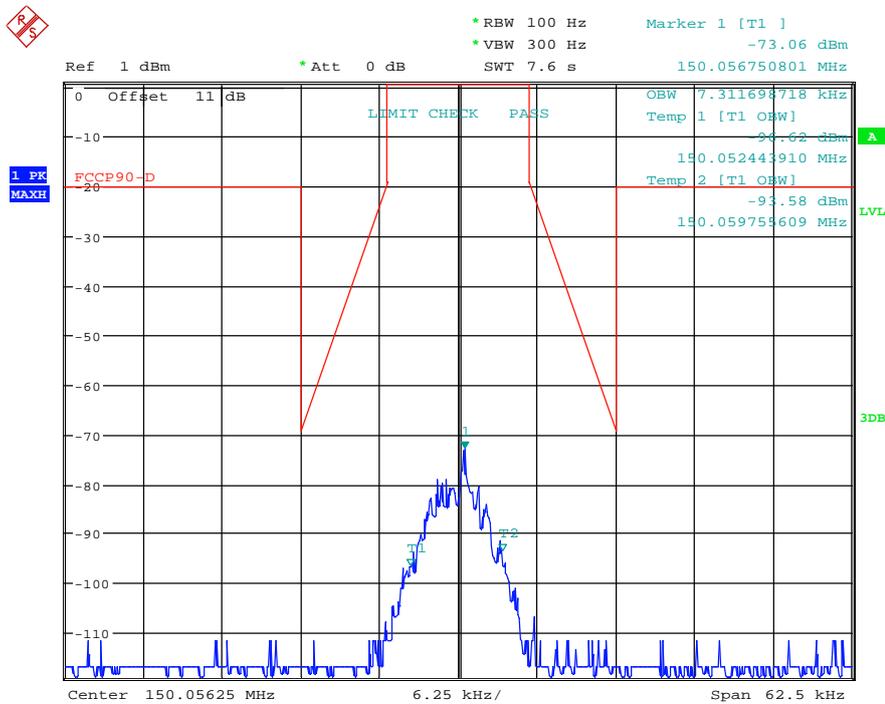


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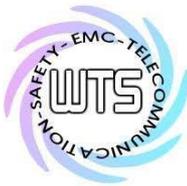


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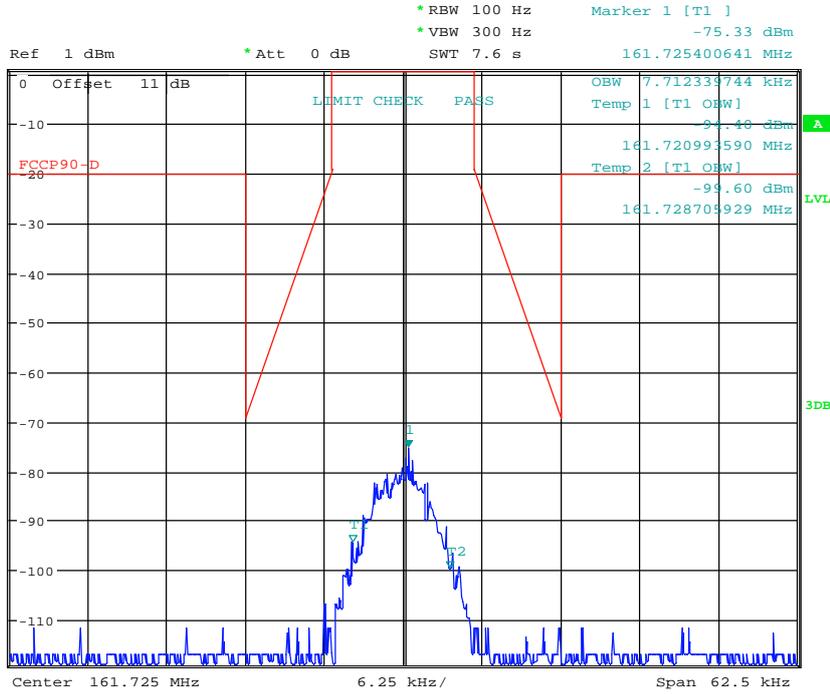
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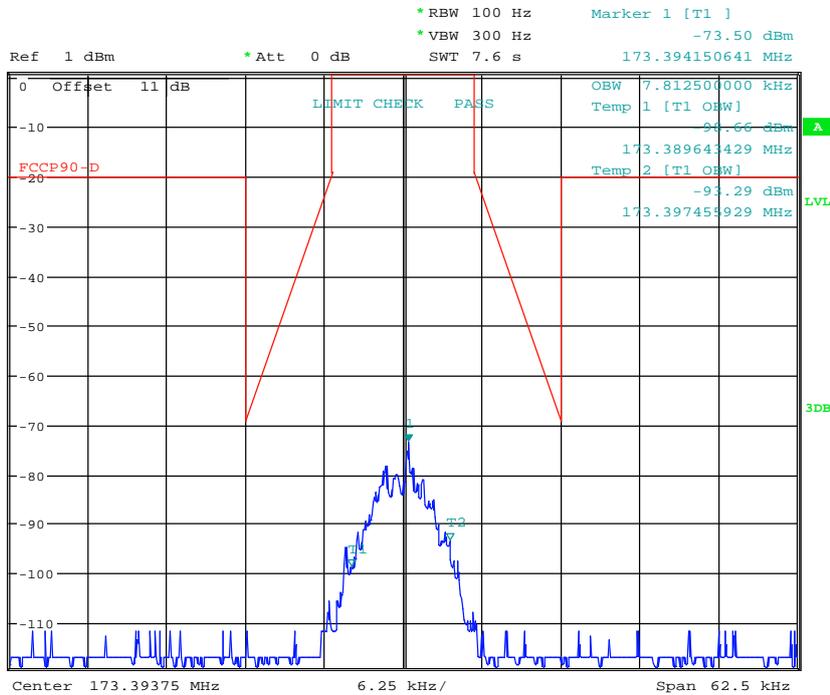
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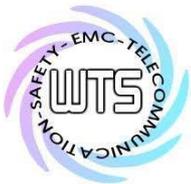
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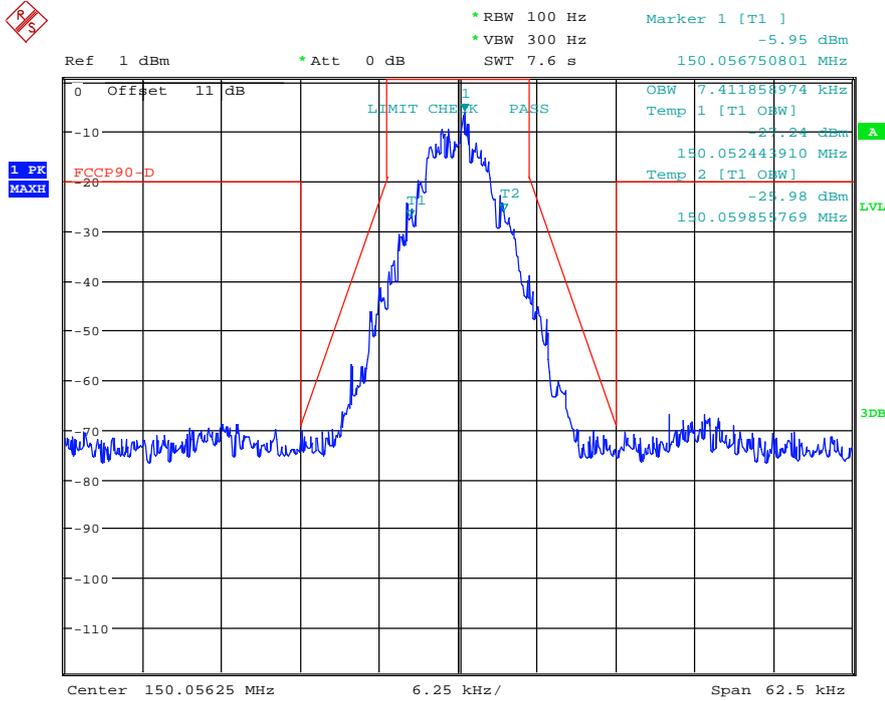
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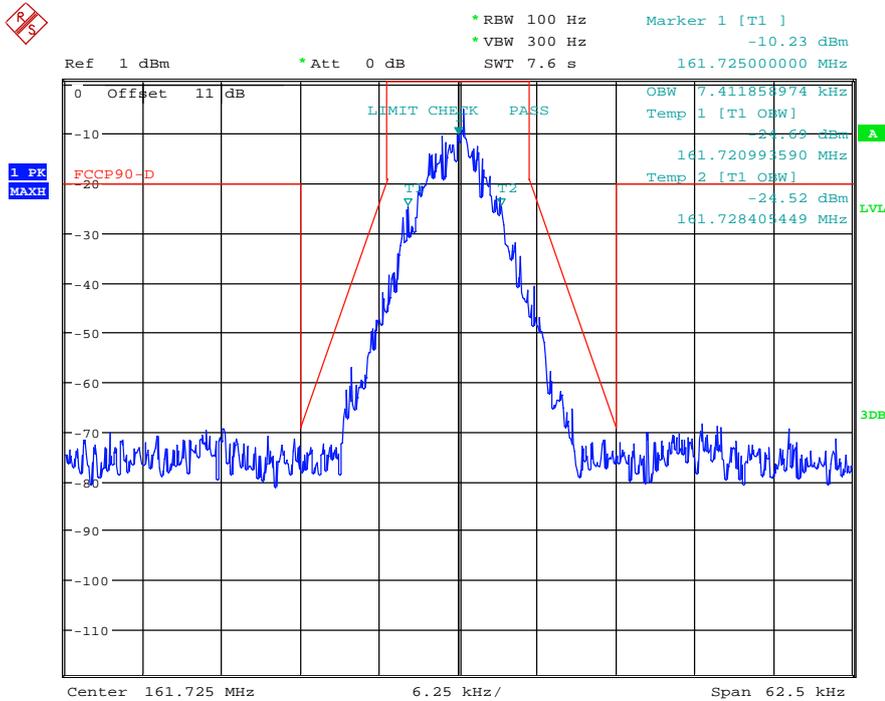
# Worldwide Testing Services(Taiwan) Co., Ltd.

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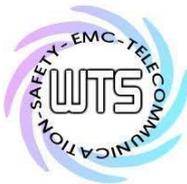
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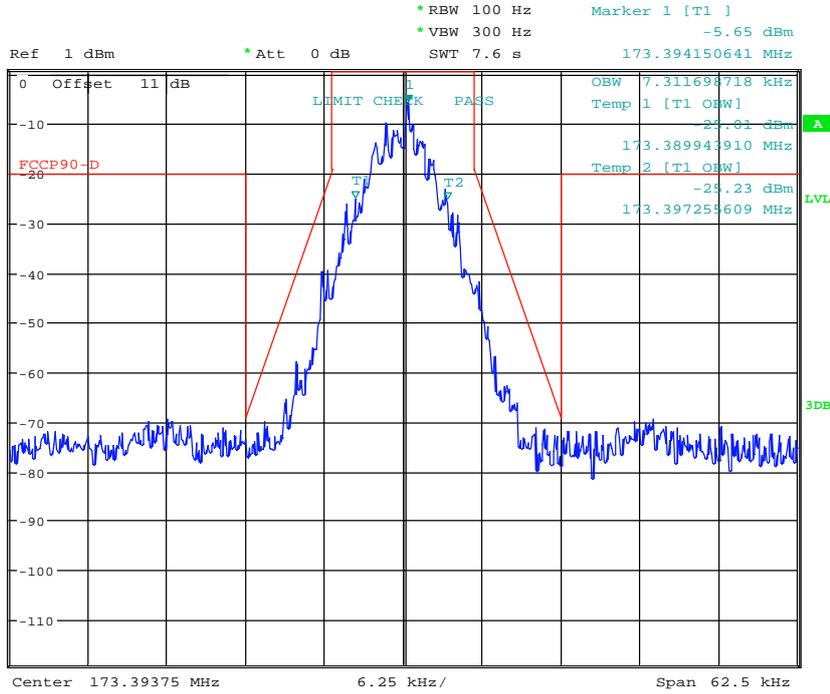


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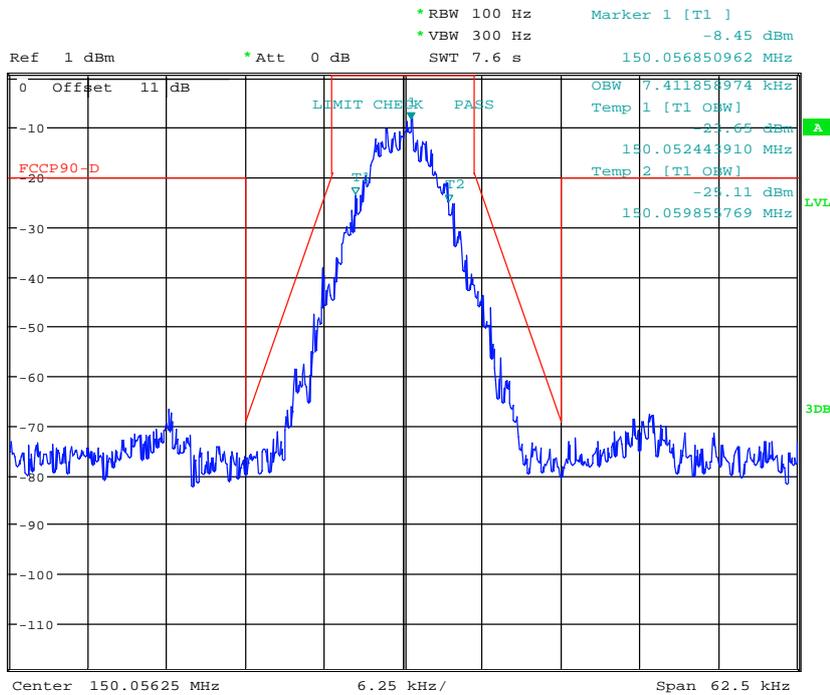
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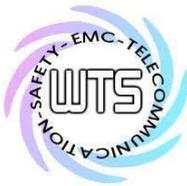


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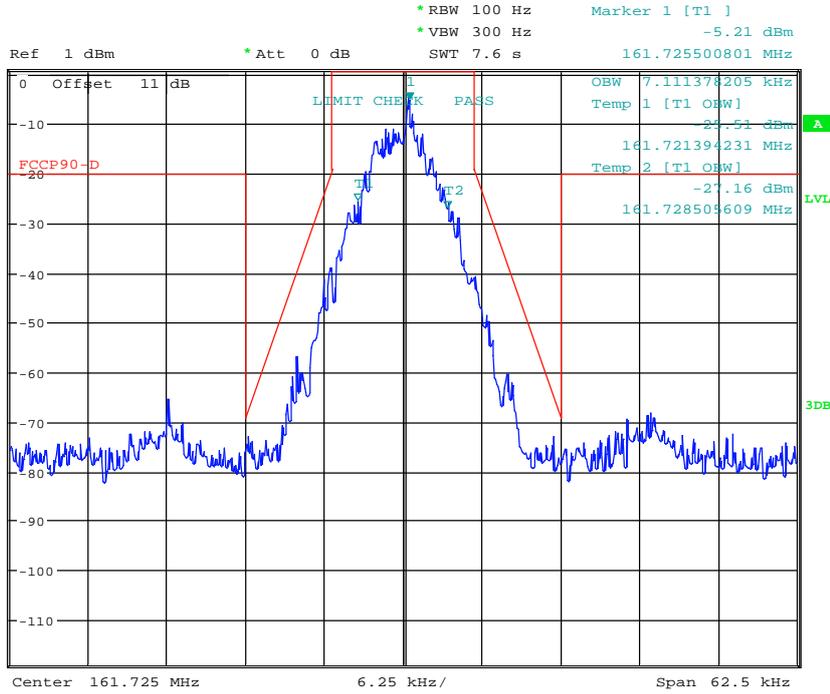
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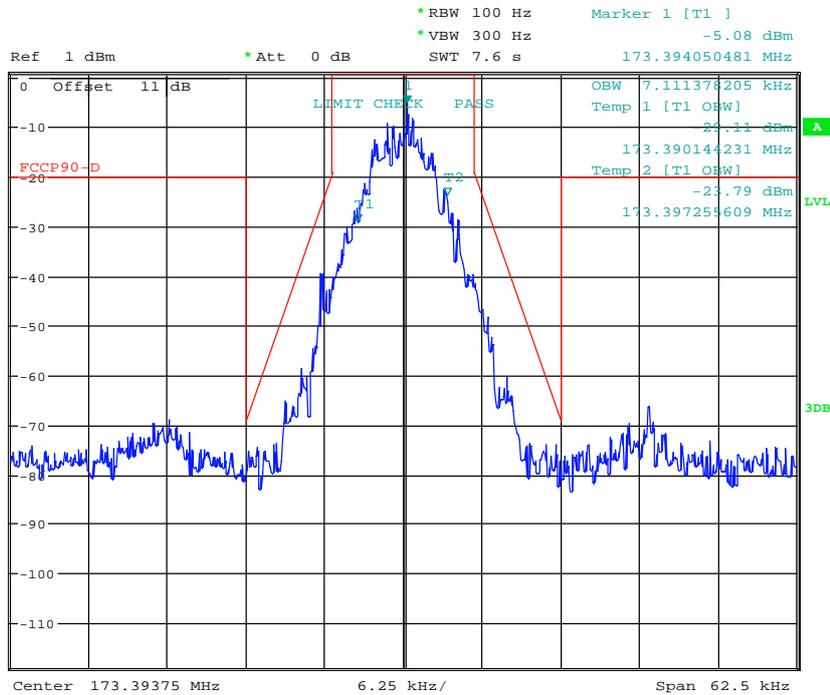
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Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER



Date: 6.DEC.2019 17:56:49



Date: 6.DEC.2019 17:58:42

Test equipment used: ETSTW-RE 050, ETSTW-RE 055, ETSTW-RE 122



Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

## **7. Input/output power and amplifier/booster gain**

### **Measuring input and output power levels for determining amplifier/booster gain**

Apply the same guidance as in 3.5.2 to measure the maximum input and output power levels necessary for computing the mean EUT gain, but with the following modifications:

- a) Configure the signal generator for CW operation, instead of AWGN,
- b) Select the spectrum analyzer positive peak detector, instead of the power averaging (rms) detector,
- c) Activate the max hold function, instead of the trace averaging function,
- d) Use in conjunction with the guidance in 4.5.3.

### **Power measurement Method 1: using a spectrum or signal analyzer**

- a) Set the frequency span to at least 1 MHz.
- b) Set RBW = 100 kHz.
- c) Set VBW  $\geq 3 \times$  RBW.
- d) Set the detector to PEAK, and trace mode to MAX HOLD.
- e) Place a marker on the peak of the signal, and record the value as the maximum power.
- f) Repeat step e) but with the EUT in place.
- g) EUT gain may be calculated as described in 4.5.5.

### **Power measurement Method 2: using a power meter**

As an alternative to measuring the input and output power levels with a spectrum or signal analyzer, a broadband RF power meter may be used with an appropriate detector. EUT gain may be calculated as described in 4.5.5.

### **Calculating amplifier, repeater, or industrial booster gain**

NOTE—Sections 90.219 and 2.1033(c) do not require gain test data; inclusion of industrial booster gain test data in test reports submitted for FCC equipment authorization is optional.

After the input and output power levels have been measured as described in the preceding subclauses, the gain of the EUT can be determined from:

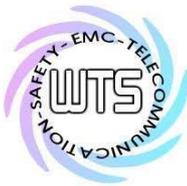
Gain (dB) = output power (dBm) – input power (dBm).

Report the gain for each authorized operating frequency band, and each test signal stimulus.

## **7.1 Test Result**

Explanation: For test results, please refer to CH 4.1.

Test equipment used: ETSTW-RE 050, ETSTW-RE 055, ETSTW-RE 122



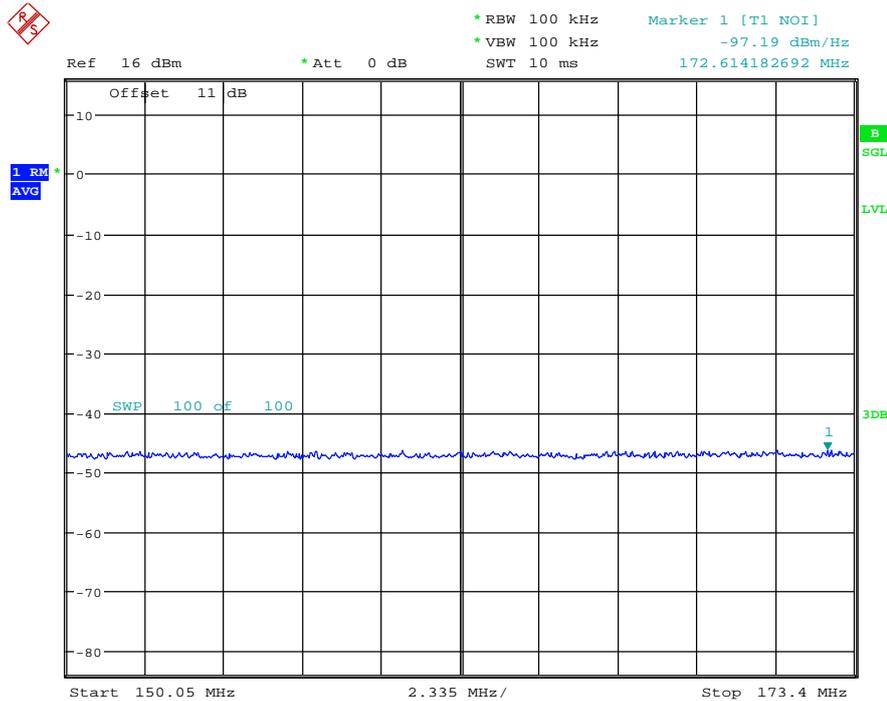
Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

## 8. Noise figure measurements

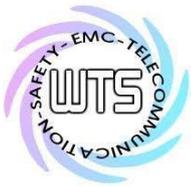
Section 90.219(e)(2) limits the noise figure of a signal booster to  $\leq 9$  dB in either direction. The following discussion provides guidance for demonstrating compliance with this requirement.

Several widely recognized methods for performing noise figure measurements are available. Some require the use of specialized equipment, such as a noise figure analyzer and/or an excess noise ratio (ENR) calibrated noise source, while others involve the use of conventional measurement instrumentation such as a spectrum analyzer. Methods that require use of a noise figure analyzer are generally accepted as producing the most accurate results, and are considered to be the reference method within this document, while others are considered to be acceptable alternative methods. Consult the relevant instrumentation application notes for detailed guidance regarding the selection and application of an appropriate methodology for performing noise figure measurements. Note also that noise figure measurements require that any AGC circuitry be disabled over the duration of the measurement.

### 8.1 Test Result

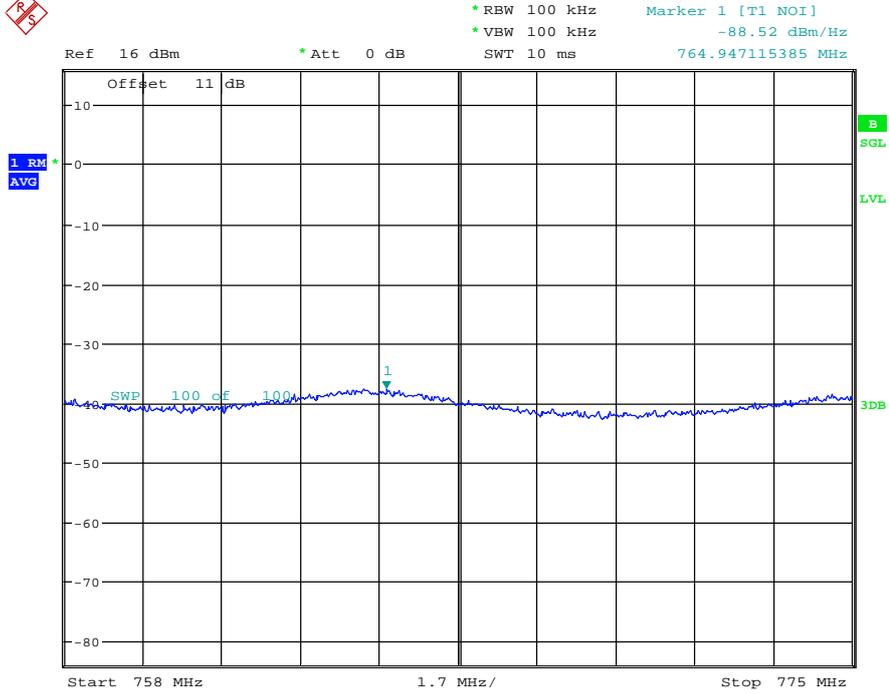


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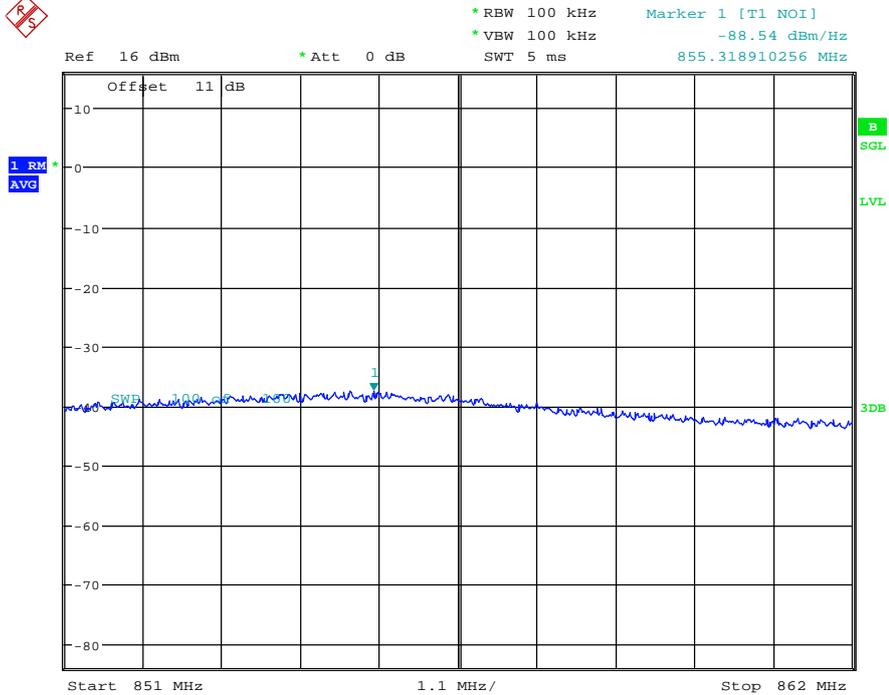


# Worldwide Testing Services(Taiwan) Co., Ltd.

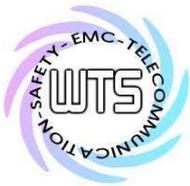
Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER



Date: 9.DEC.2019 17:18:46



Date: 9.DEC.2019 17:19:28



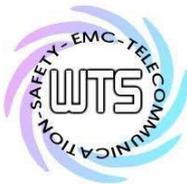
# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

Noise figure measurements				
Test Band(MHz)	Measure Value	KT0B	Gain	Noise Figure
150.05-173.4	-97.19	174	72.18	4.63
758-775	-88.52	174	77.96	7.52
851-862	-88.54	174	78.60	6.86

Limit:  $\leq 9$ dB

Test equipment used: ETSTW-RE 050, ETSTW-RE 055



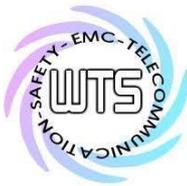
## **9. Measuring out-of-band/out-of-block (including intermodulation) and spurious emissions**

### **Out-of-band/out-of-block emissions conducted measurements**

- a) Connect a signal generator to the input of the EUT.  
If the signal generator is not capable of producing two independent modulated carriers simultaneously, then two discrete signal generators can be connected, with an appropriate combining network to support the two-signal test.
- b) Configure the two signal generators to produce CW on frequencies spaced consistent with 4.7.1, with amplitude levels set to just below the AGC threshold (see 4.2).
- c) Connect a spectrum analyzer to the EUT output.
- d) Set the span to 100 kHz.
- e) Set  $RBW = 300 \text{ Hz}$  with  $VBW \geq 3 \times RBW$ .
- f) Set the detector to power averaging (rms).
- g) Place a marker on highest intermodulation product amplitude.
- h) Capture the plot for inclusion in the test report.
- i) Repeat steps c) to h) with the composite input power level set to 3 dB above the AGC threshold.
- j) Repeat steps b) to i) for all operational bands.

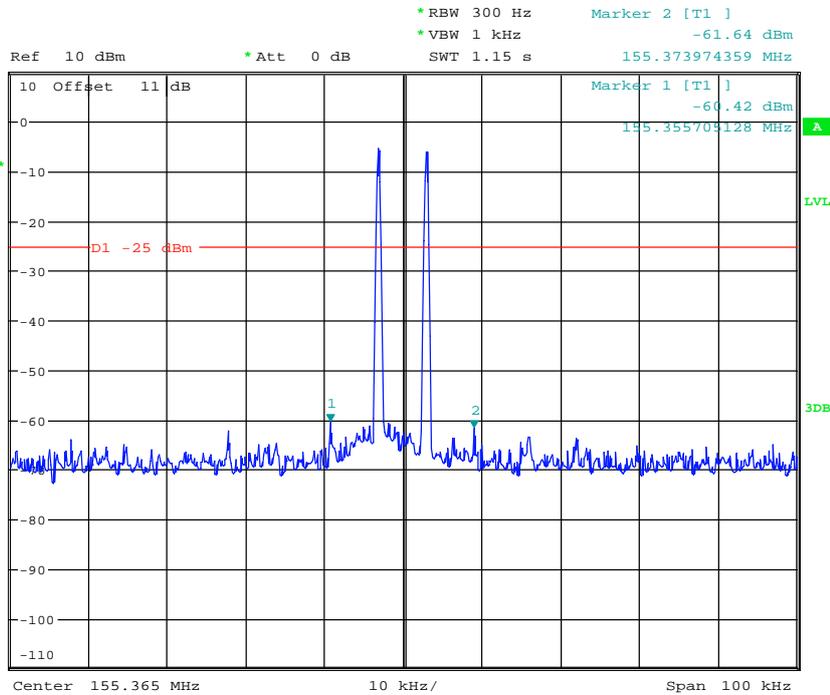
### **EUT spurious emissions conducted measurements**

- a) Connect a signal generator to the input of the EUT.
- b) Configure the signal generator to produce a CW signal.
- c) Set the frequency of the CW signal to the center channel of the EUT passband.
- d) Set the output power level so that the resultant signal is just below the AGC threshold (see 4.2).
- e) Connect a spectrum analyzer to the output of the EUT, using appropriate attenuation as necessary.
- f) Set the  $RBW = 100 \text{ kHz}$ . (i.e., for 30 MHz to 1 GHz PLMRS and/or PSRS booster devices)
- g) Set the  $VBW = 3 \times RBW$ .
- h) Set the Sweep time = auto-couple.
- i) Set the detector to PEAK.
- j) Set the spectrum analyzer start frequency to 30 MHz (or the lowest radio frequency signal generated in the EUT, without going below 9 kHz if the EUT has additional internal clock frequencies), and the stop frequency to  $10 \times$  the highest allowable frequency of the EUT passband.
- k) Select MAX HOLD, and use the marker peak function to find the highest emission(s) outside the passband. (This could be either at a frequency lesser or greater than the passband frequencies.)
- l) Capture a plot for inclusion in the test report.
- m) Repeat steps c) to l) for each authorized frequency band/block of operation.

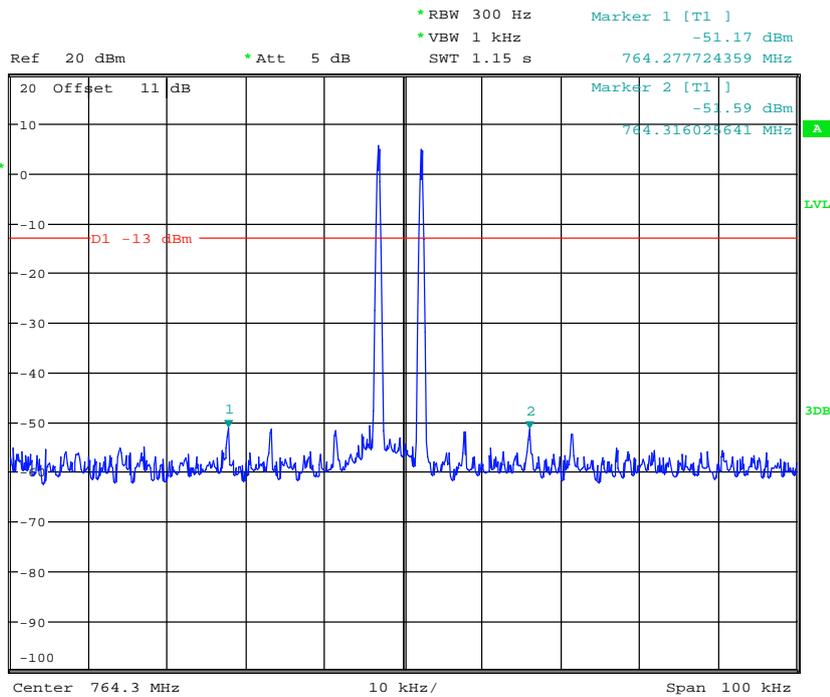


Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

## 9.1 Test Result Intermodulation 6.25 kHz



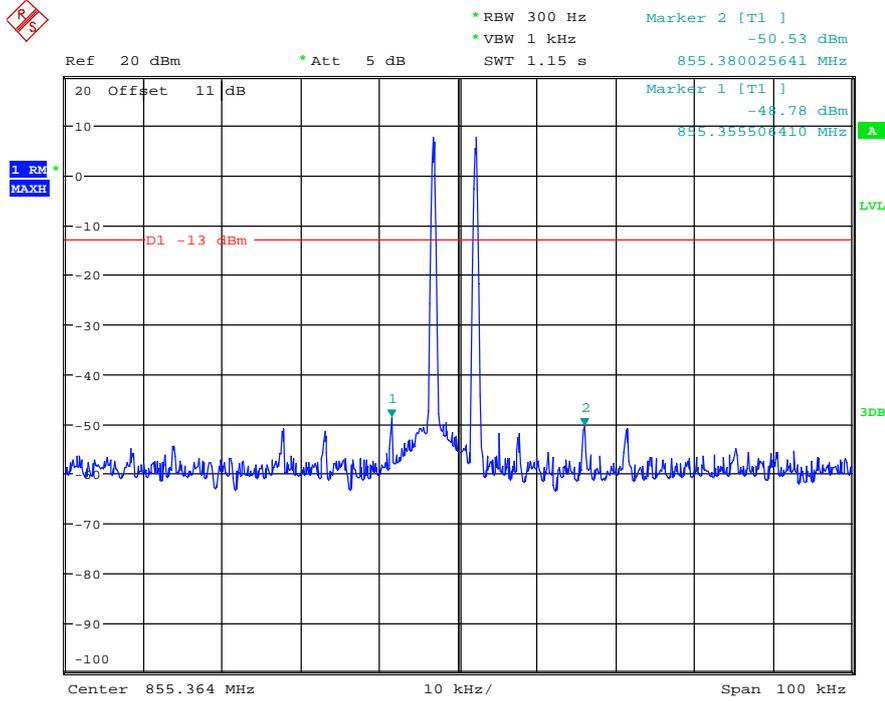
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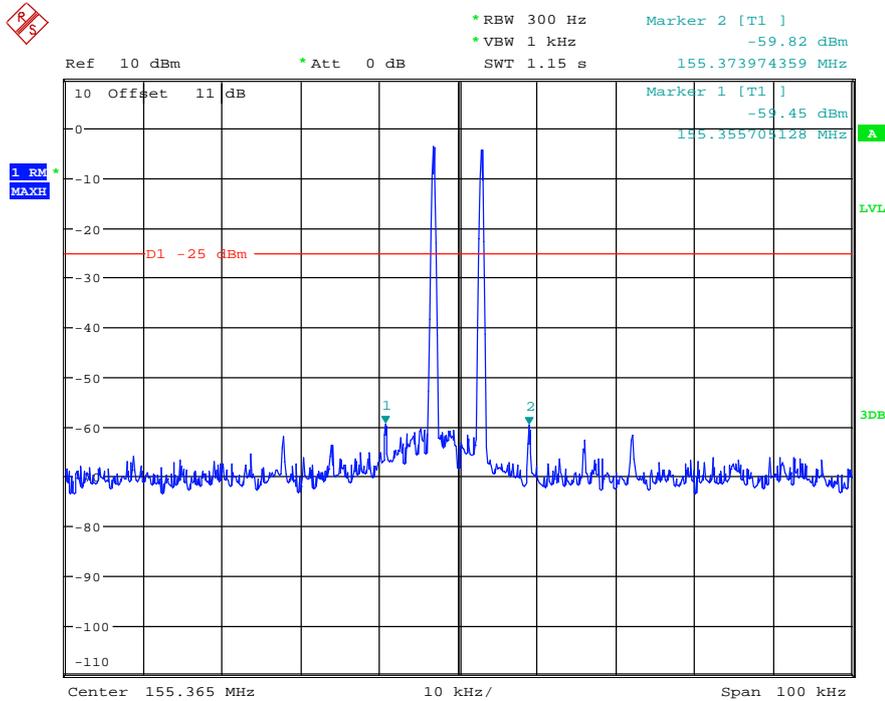


Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

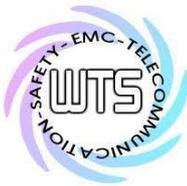


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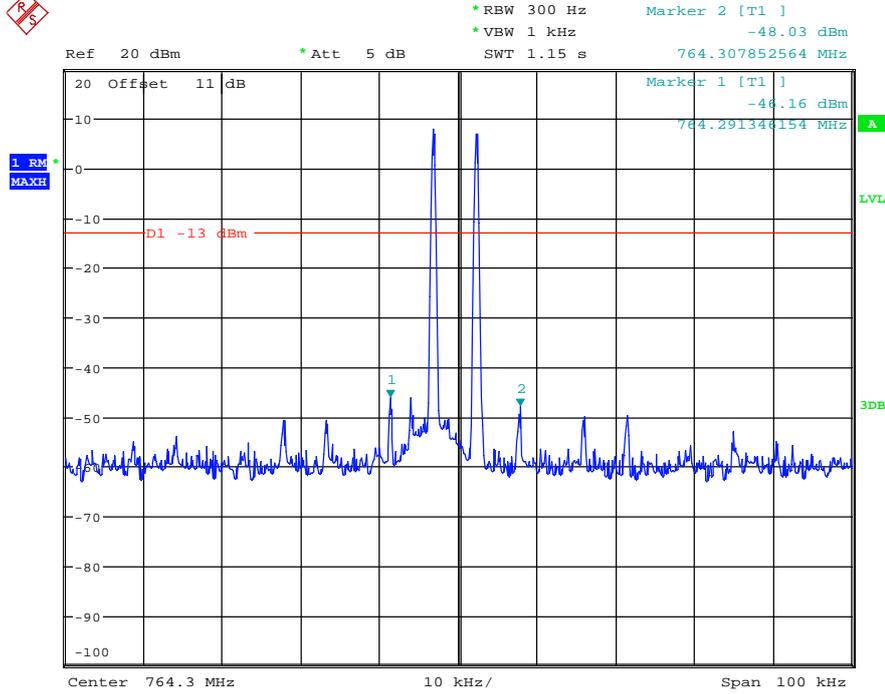
**+3dB**



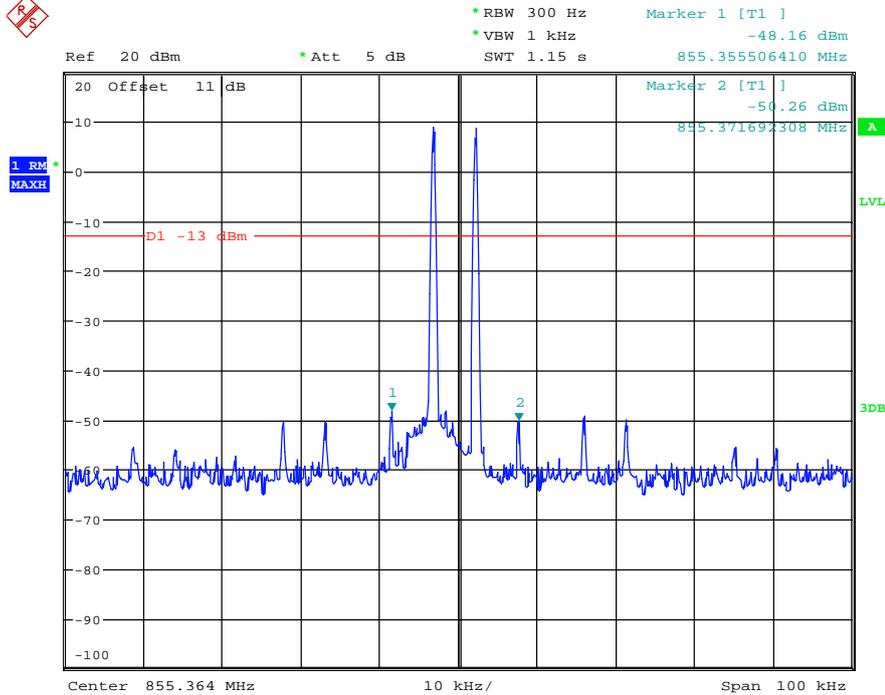
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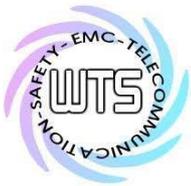
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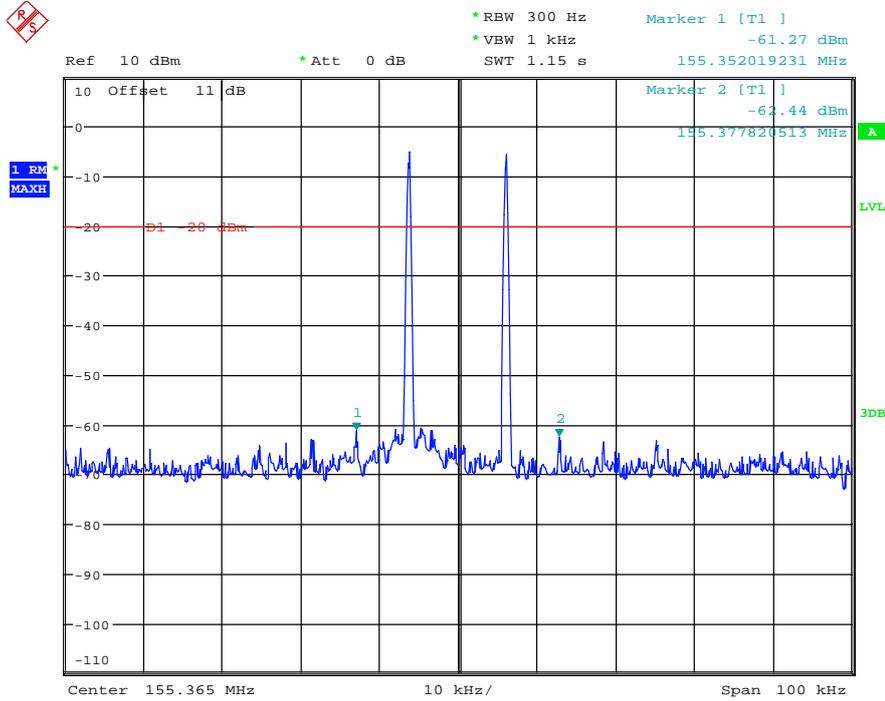


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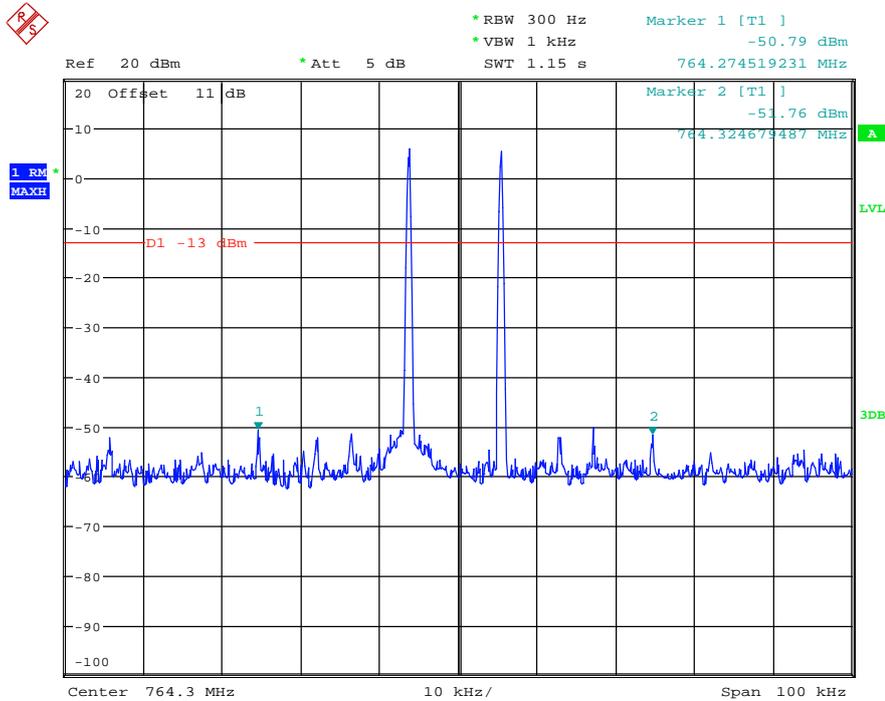


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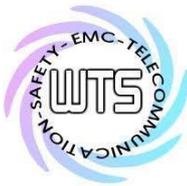
## 12.5 kHz



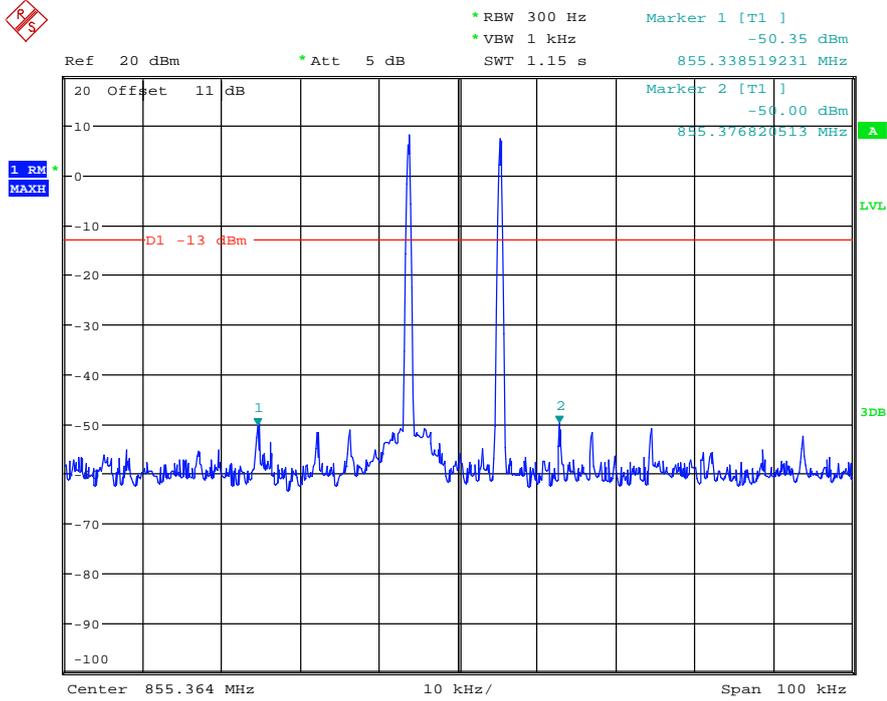
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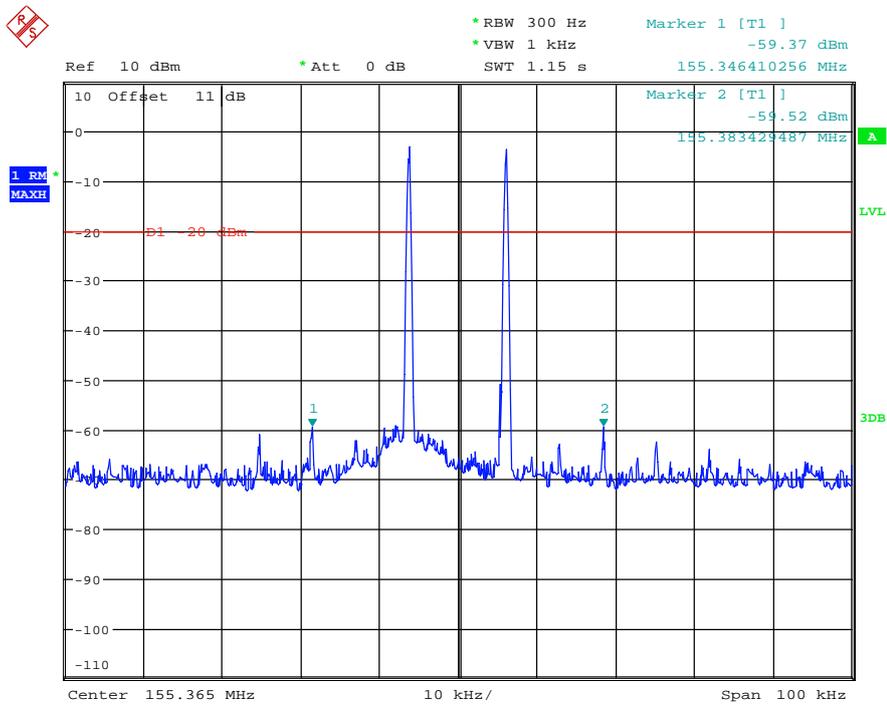


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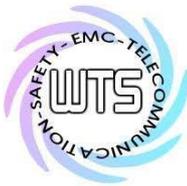


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**+3dB**

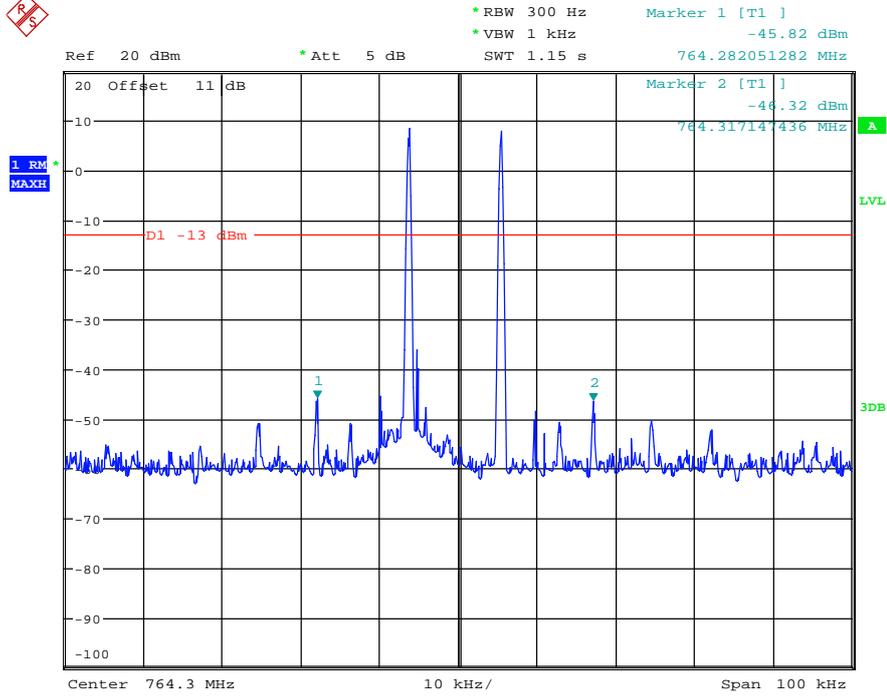


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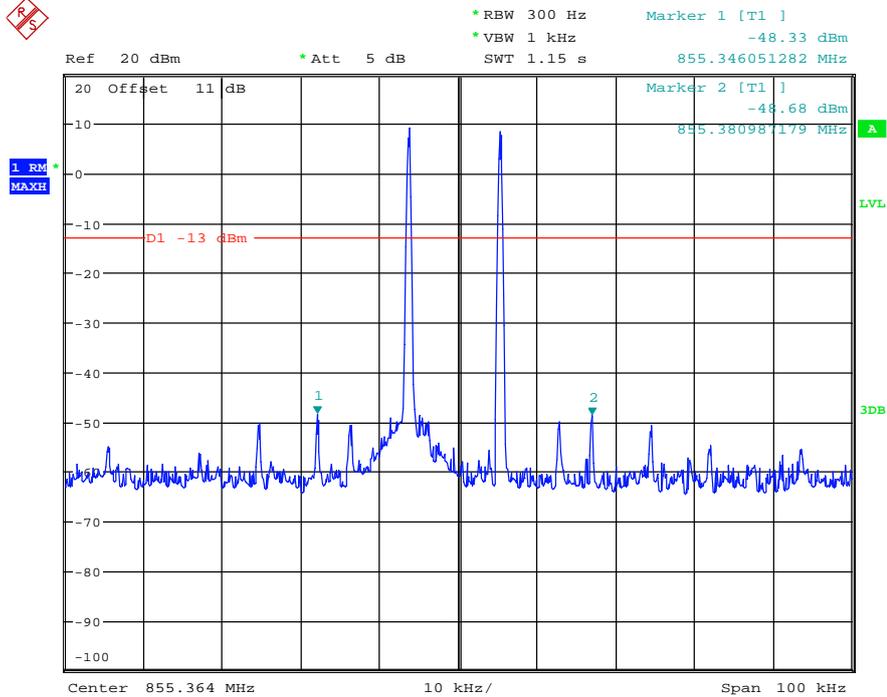


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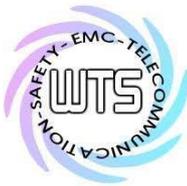
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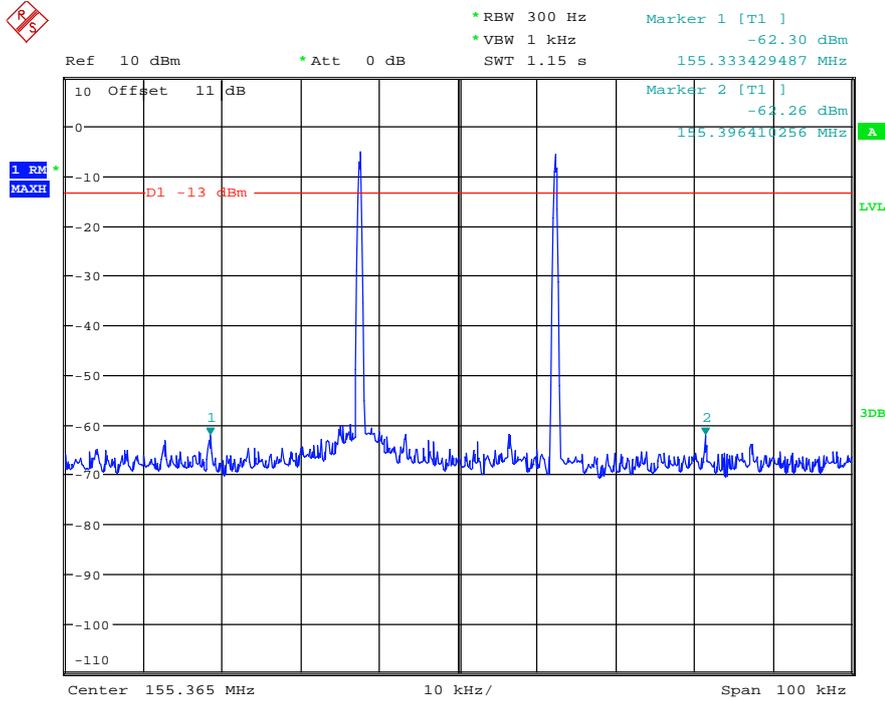


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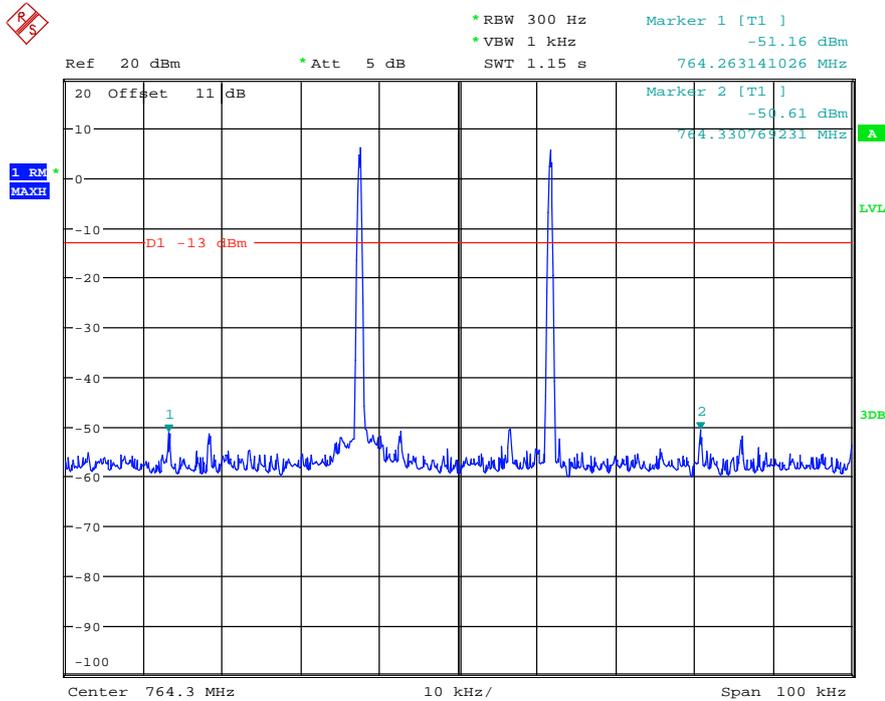


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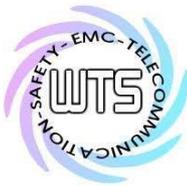
25kHz



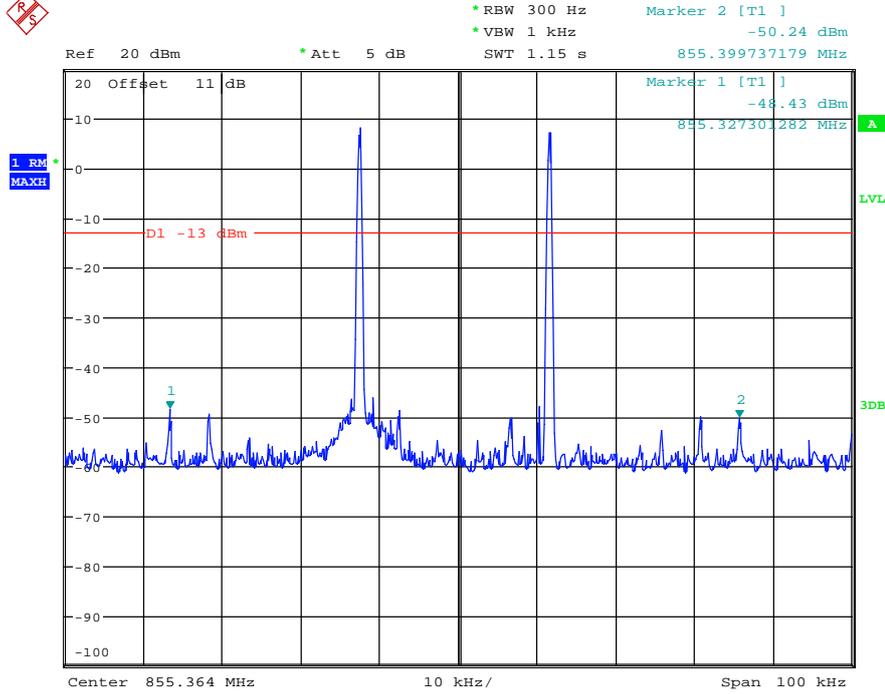
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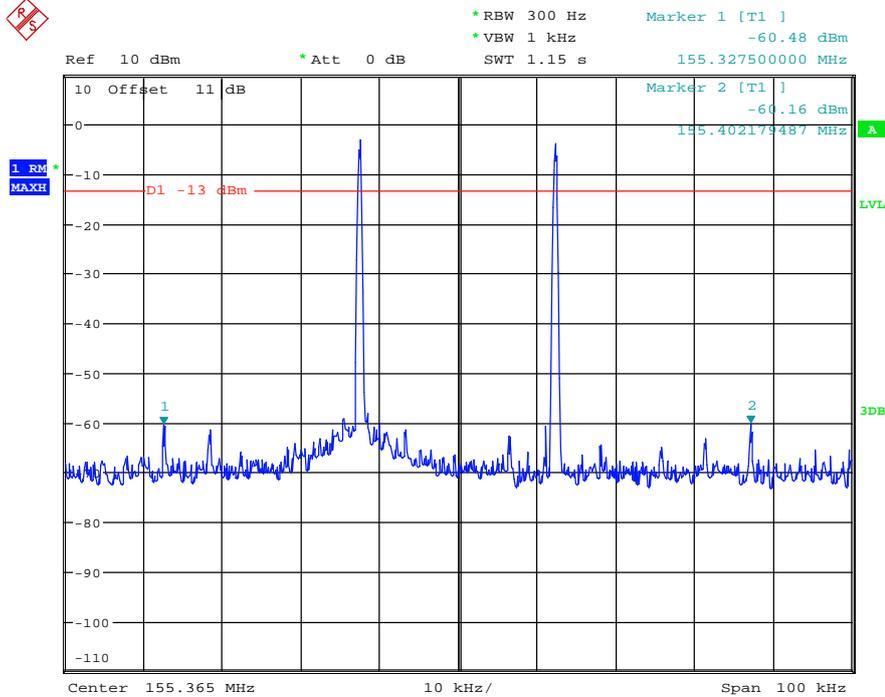


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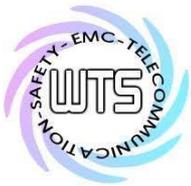
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**+3dB**



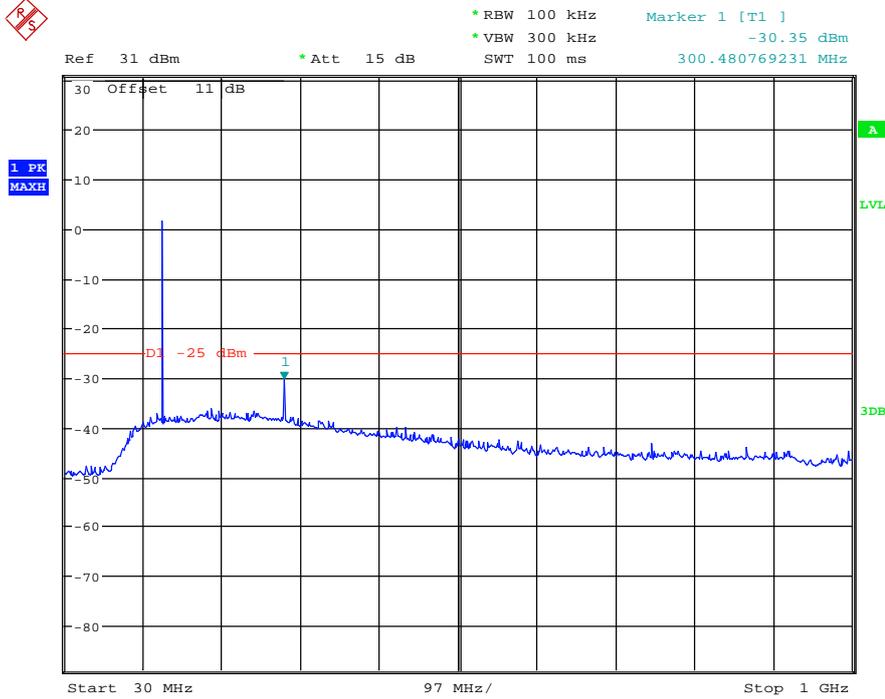
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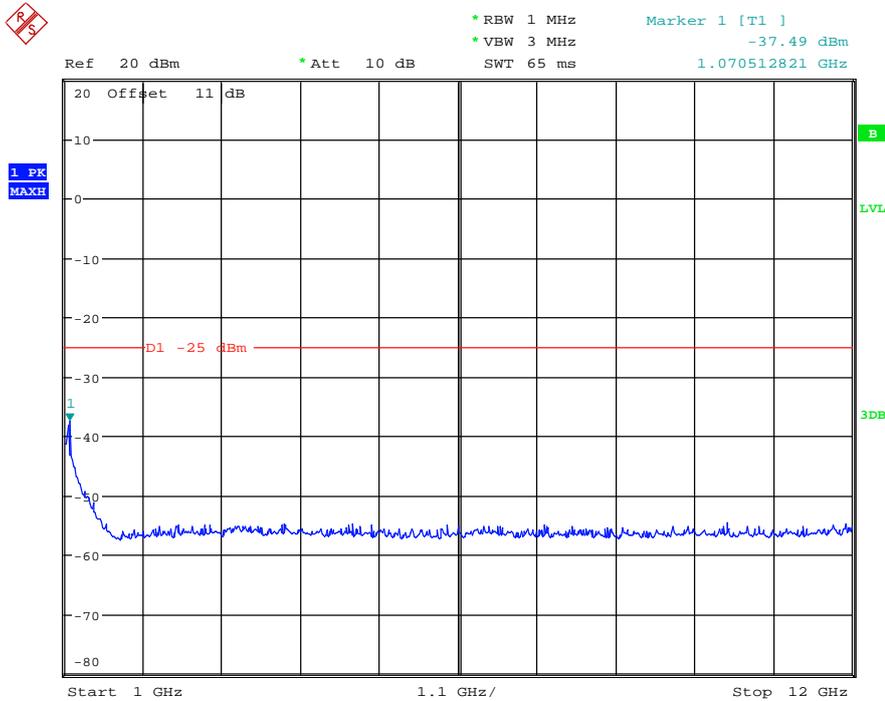


Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

## Spurious emissions conducted measurements



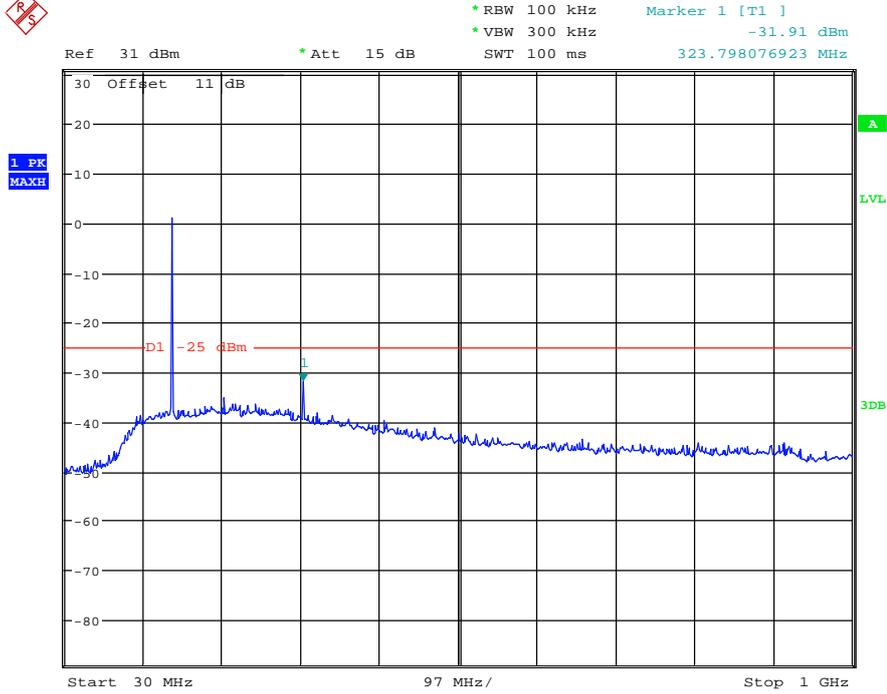
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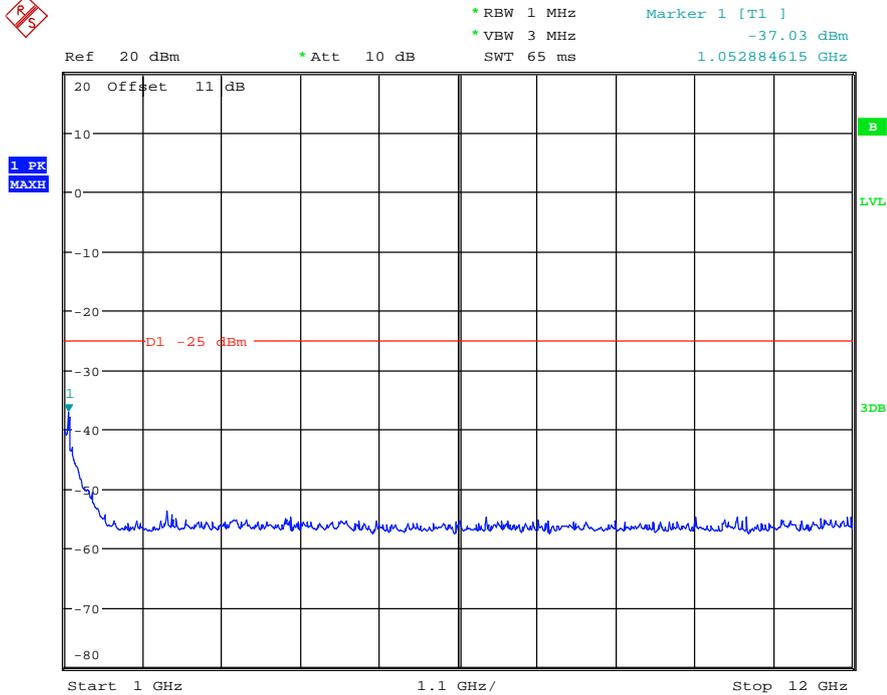
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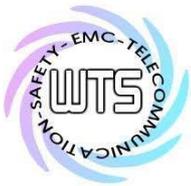
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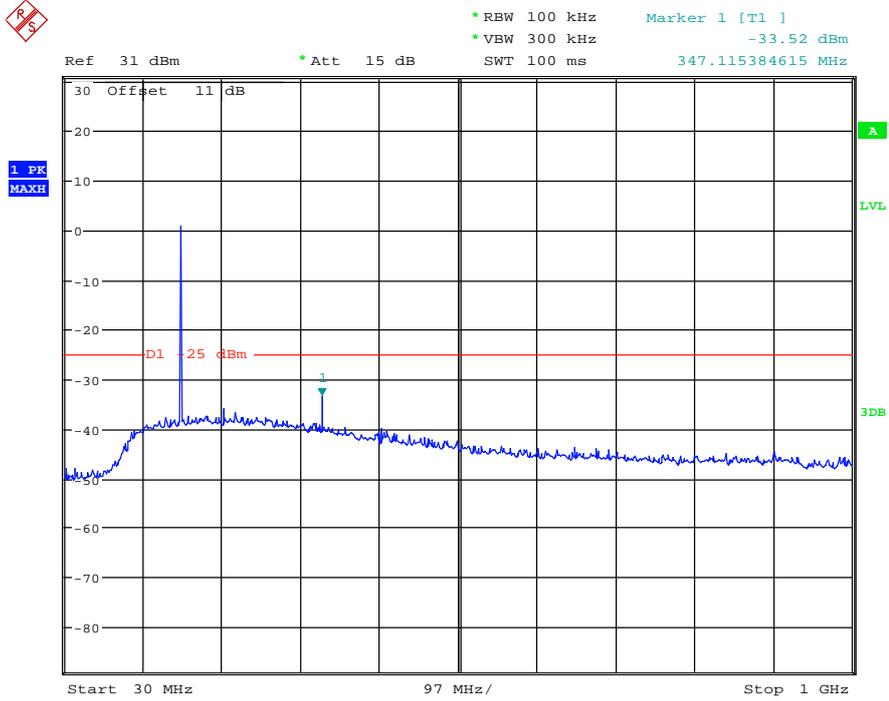
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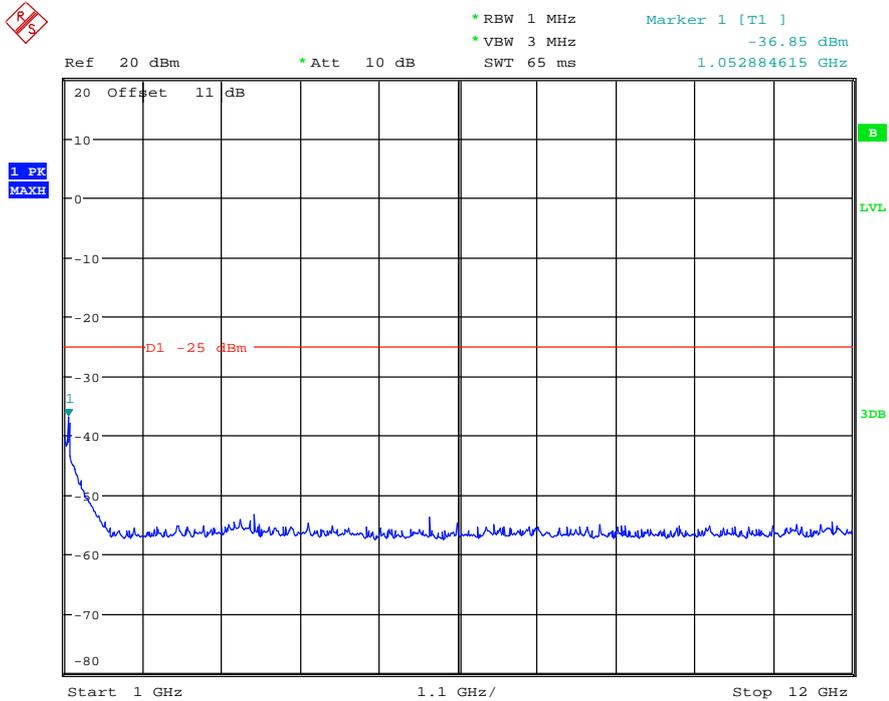
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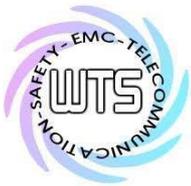


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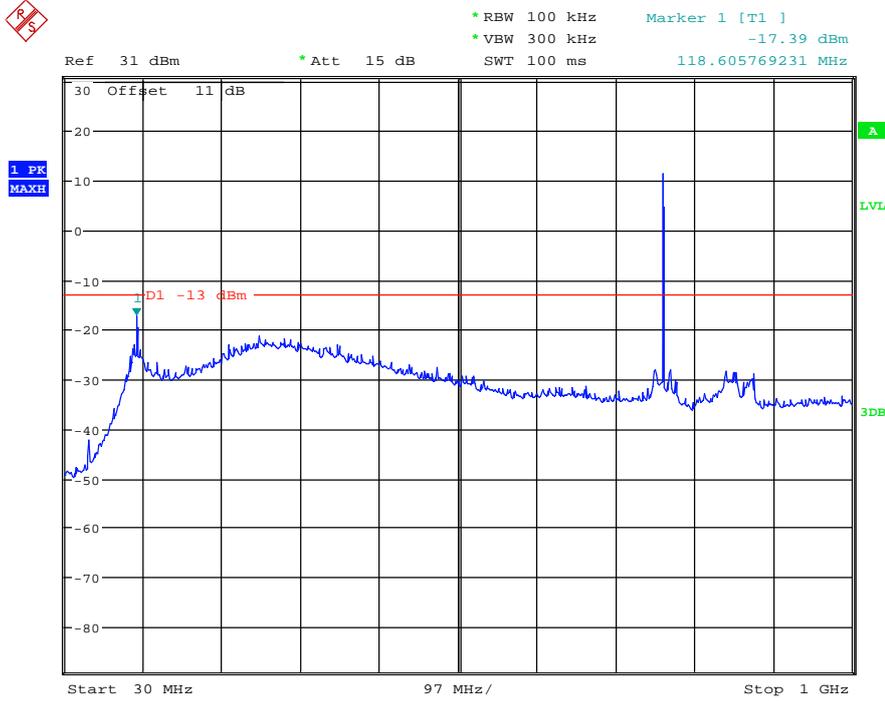


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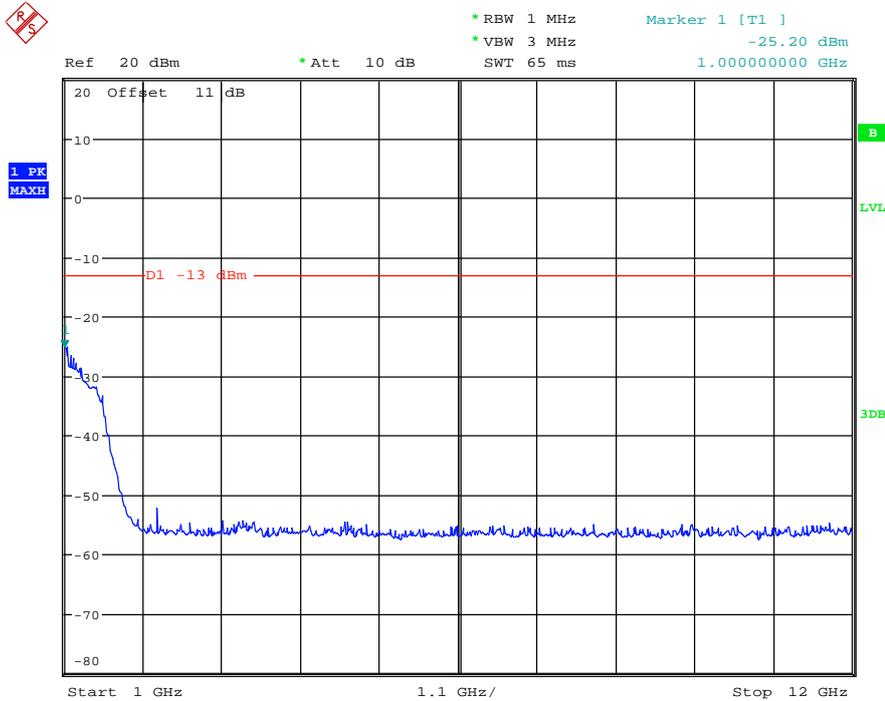




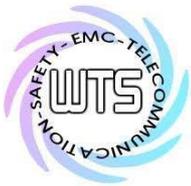
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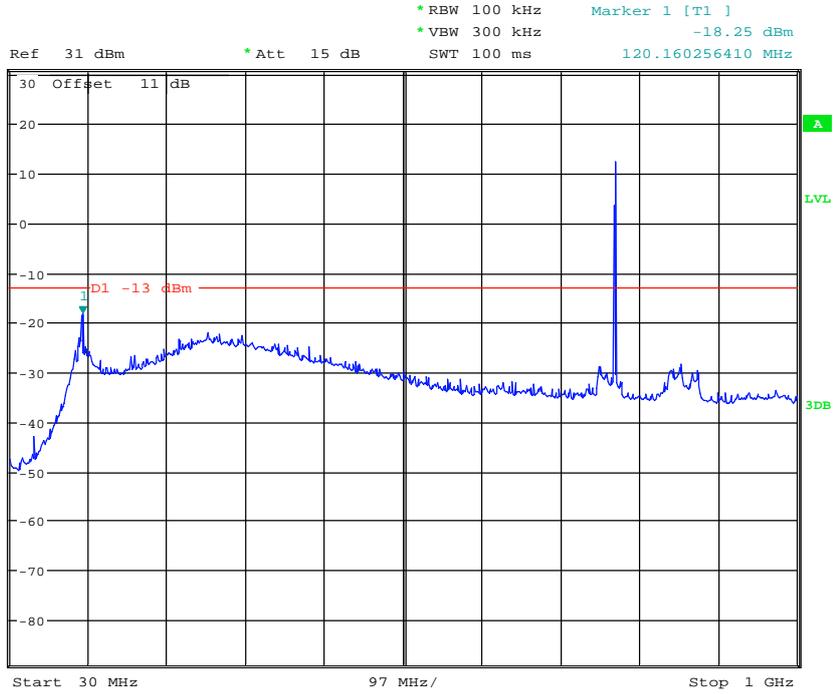
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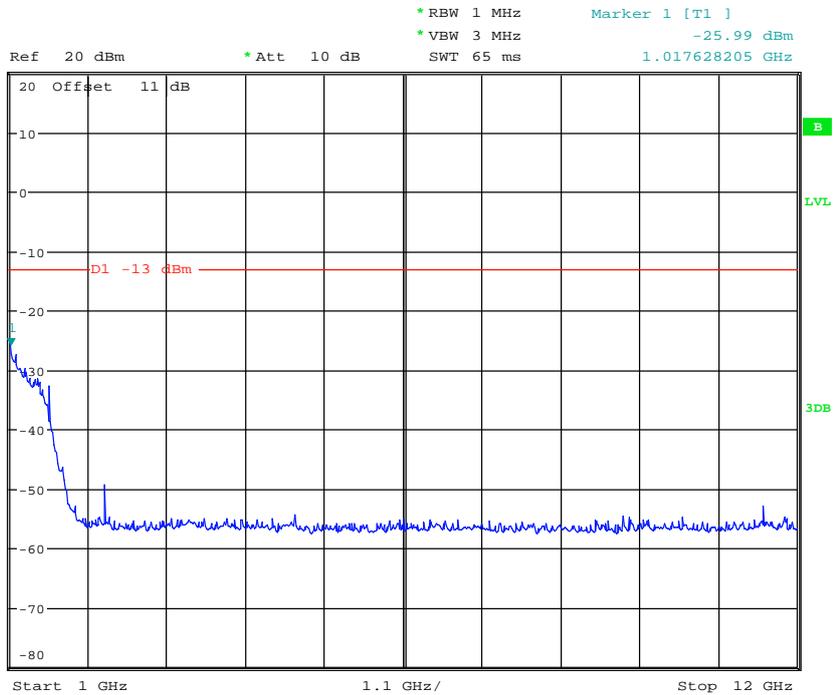
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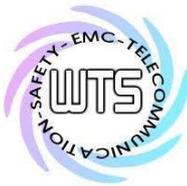
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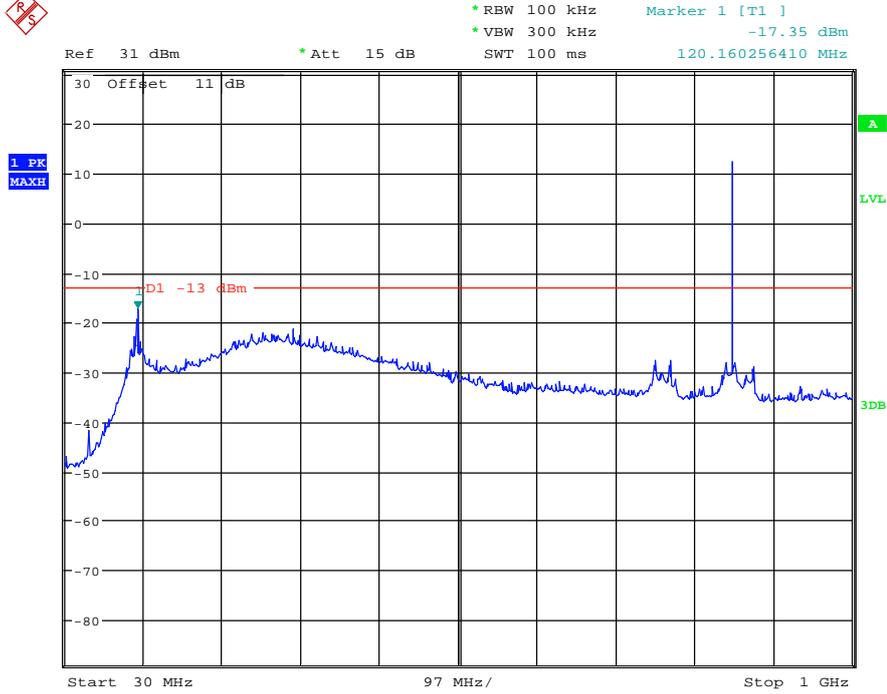
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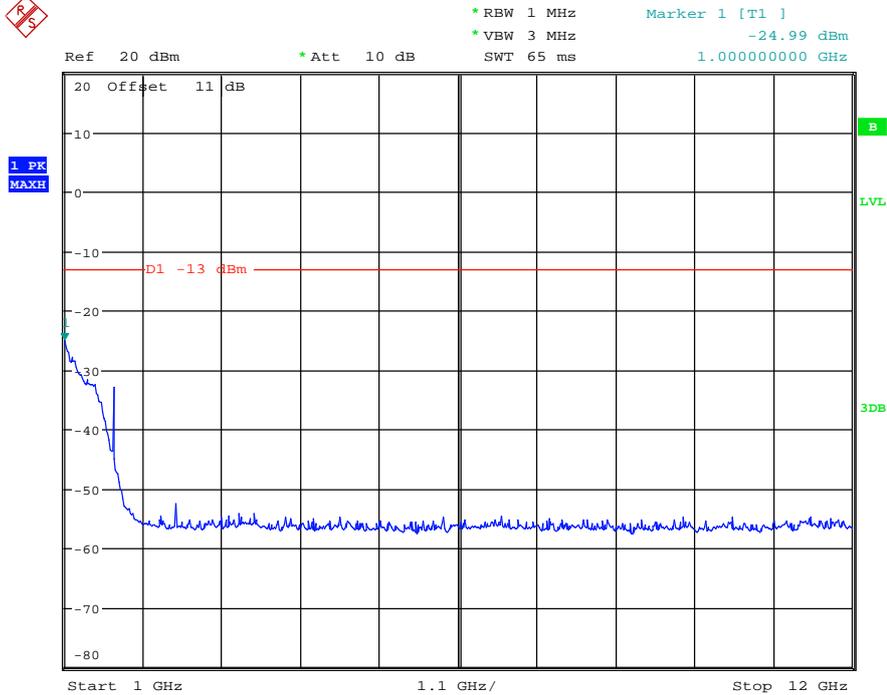
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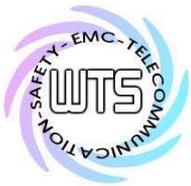
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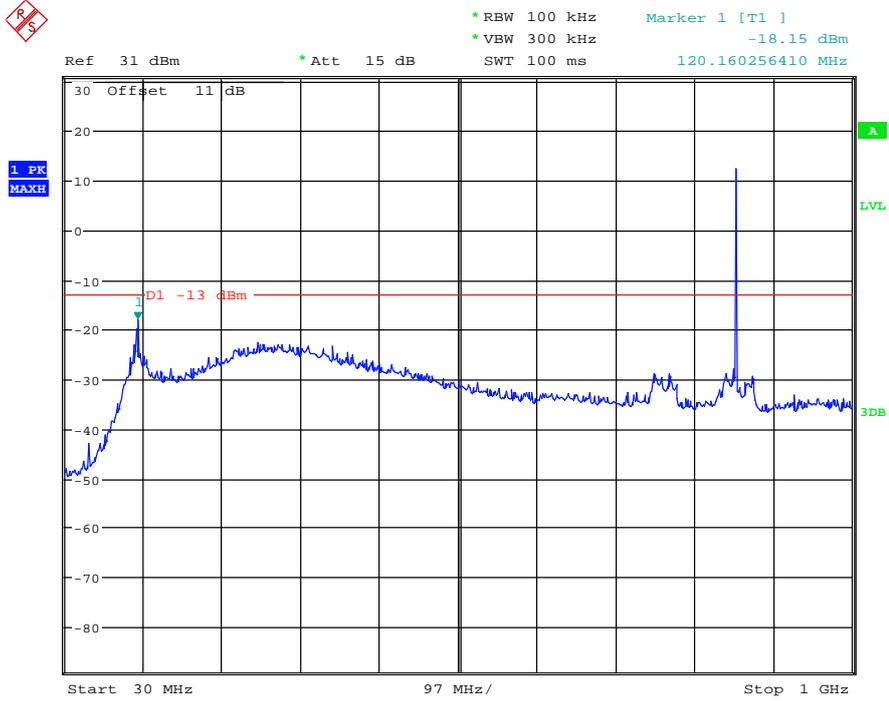
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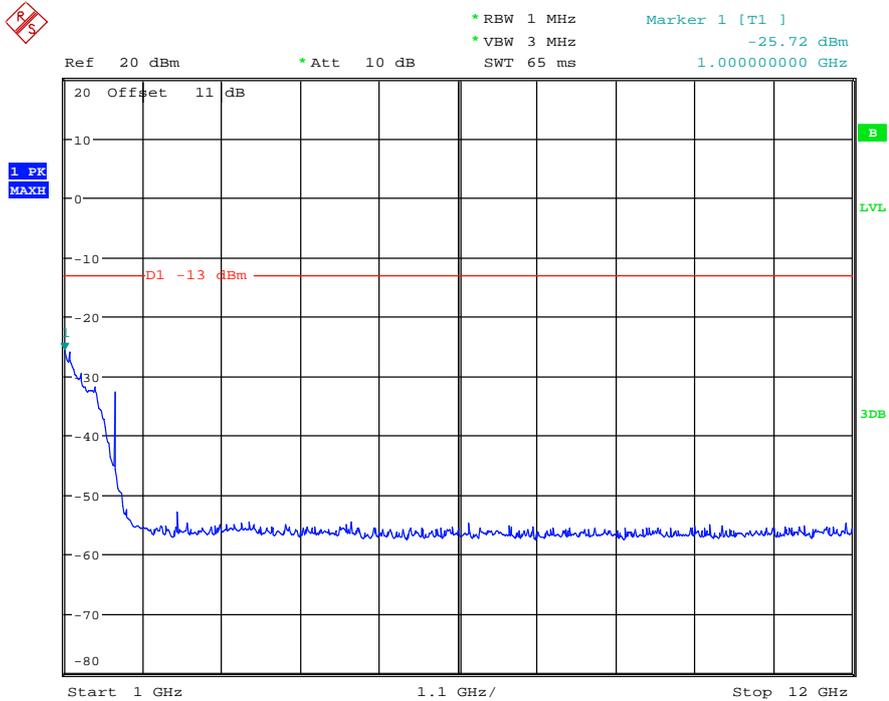
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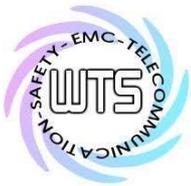
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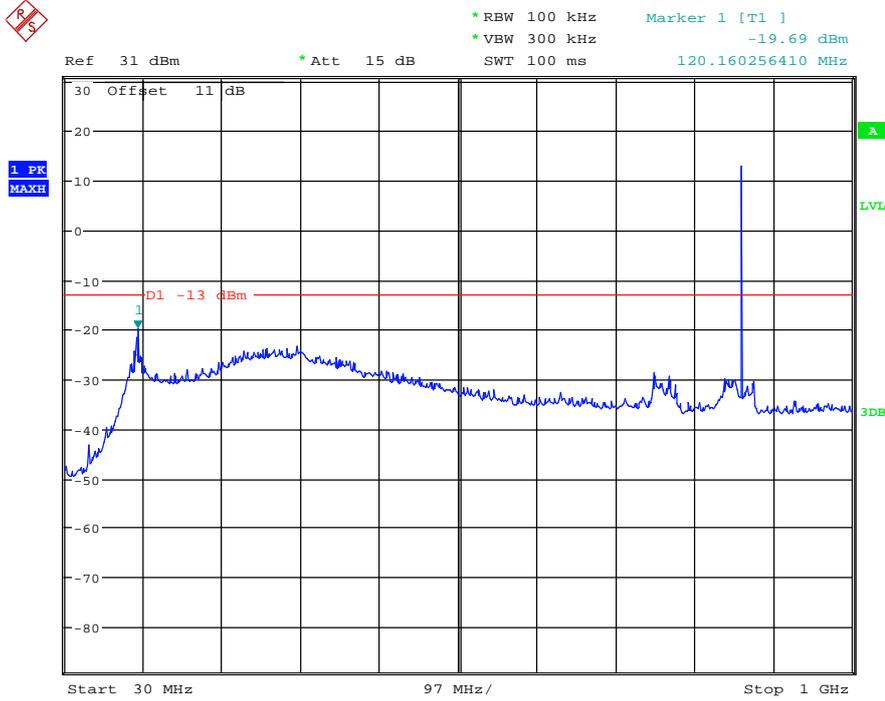
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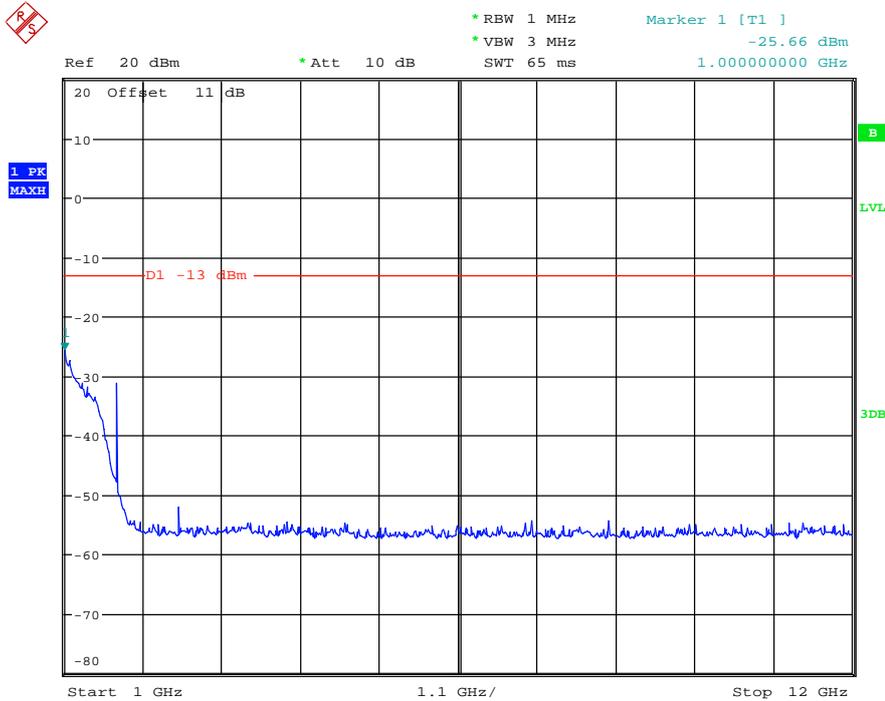
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Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

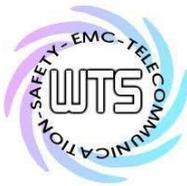


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Date: 9.DEC.2019 16:40:07

Test equipment used: ETSTW-RE 050, ETSTW-RE 055, ETSTW-RE 122



Registration number: W6M21909-19340-C-1  
 FCC ID: LEA-BOOSTER

**10. Frequency stability measurements**

Section 90.219(e)(4)(i) requires that a signal being retransmitted by an amplifier, repeater, or industrial booster meets the frequency stability requirements of Section 90.213. However, this requirement presumes that the EUT processes an input signal in ways that can influence the output signal frequency/frequencies; however, most signal boosters do not incorporate an oscillator). If the amplifier, booster, or repeater does not alter the input signal in any way, then a frequency stability test may not be required.

When performing frequency stability measurements on these types of devices, the instability associated with the EUT must be isolated from any frequency instability associated with the measurement instrumentation. One method for realizing such isolation is to connect the reference clock input of the signal generator to the reference output of the frequency counter, to confirm that any frequency instability is associated with the EUT, and is not due to differences between the reference oscillators internal to the measurement instrumentation.

**10.1 Test Result**

150.05MHz~173.4MHz Band				
Test Frequency (MHz)	Voltage (Va.c.)	Temp (°C)	Frequency (MHz)	Tolerance (ppm)
161.725	120	-30	161.724995	-0.03
		-20	161.724995	-0.03
		-10	161.724995	-0.03
		0	161.724995	-0.03
		10	161.724995	-0.03
		20(Ref)	161.724995	-0.03
		30	161.724995	-0.03
		40	161.724995	-0.03
		50	161.724995	-0.03
	102	20	161.724995	-0.03
	138	20	161.724995	-0.03



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1

FCC ID: LEA-BOOSTER

758MHz~775MHz Band				
Test Frequency (MHz)	Voltage (Va.c.)	Temp (°C)	Frequency (MHz)	Tolerance (ppm)
766.5	120	-30	766.499991	-0.01
		-20	766.499991	-0.01
		-10	766.499991	-0.01
		0	766.499991	-0.01
		10	766.499991	-0.01
		20(Ref)	766.499991	-0.01
		30	766.499991	-0.01
		40	766.499991	-0.01
		50	766.499991	-0.01
	102	20	766.499991	-0.01
	138	20	766.499991	-0.01

851MHz~862MHz Band				
Test Frequency (MHz)	Voltage (Va.c.)	Temp (°C)	Frequency (MHz)	Tolerance (ppm)
856.5	120	-30	856.499991	-0.01
		-20	856.499991	-0.01
		-10	856.499991	-0.01
		0	856.499991	-0.01
		10	856.499991	-0.01
		20(Ref)	856.499991	-0.01
		30	856.499991	-0.01
		40	856.499991	-0.01
		50	856.499991	-0.01
	102	20	856.499991	-0.01
	138	20	856.499991	-0.01

Test equipment used: ETSTW-RE 050, ETSTW-RE 055, ETSTW-RE 122



Registration number: W6M21909-19340-C-1  
 FCC ID: LEA-BOOSTER

**11. Spurious emissions radiated measurements**

This measurement is intended to produce test data necessary to demonstrate compliance to the radiated spurious emission requirements specified in Section 2.1053 of the FCC rules. This test is intended to capture any emissions that radiate directly from the case, cabinet, control circuits, etc., instead of via the antenna output port, and thus would not be captured in conducted spurious emission measurements. See KDB Publication 971168 [R8] for measurement procedure guidance.

**11.1 Test Result**

Model: Booster Date: --  
 Mode: -- Temperature: -- °C Engineer: --  
 Polarization: Horizontal Humidity: -- %

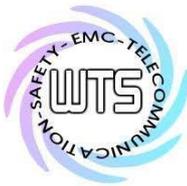
Frequency (MHz)	Reading (dBm) Peak	Factor (dB) Corr.	Result (dBm)	Limit (dBm)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--

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 - Pre-amplifier
  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 042, ETSTW-RE 043, ETSTW-RE 044, ETSTW-RE 061, ETSTW-RE 122



Registration number: W6M21909-19340-C-1  
 FCC ID: LEA-BOOSTER

**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 <sup>2</sup> )	Averaging Time (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	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 <sup>2</sup> )	Averaging Time (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	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  $\text{mW/cm}^2$ .

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



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

EIRP = max. conducted output power + antenna gain

EIRP = 12.48 dBm + (4 dBi [antenna gain claimed by manufacturer]) = 16.48 dBm = 44.4631 mW

Established separation distance is 20 cm.

Operating frequency band: 150.053125 MHz, 161.725 MHz, 173.396875 MHz, 758.003125 MHz,  
766.5 MHz, 774.996875 MHz, 851.003125MHz, 856.5MHz,  
861.996875 MHz

The product meets RF exposure requirement.

Because the power density of 0.0088 mW/cm<sup>2</sup> at 861.996875 MHz is below the power density limit of 2.87 mW/cm<sup>2</sup>.



Registration number: W6M21909-19340-C-1  
FCC ID: LEA-BOOSTER

## **Appendix**

### **Measurement diagrams**

Spurious Emissions radiated



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

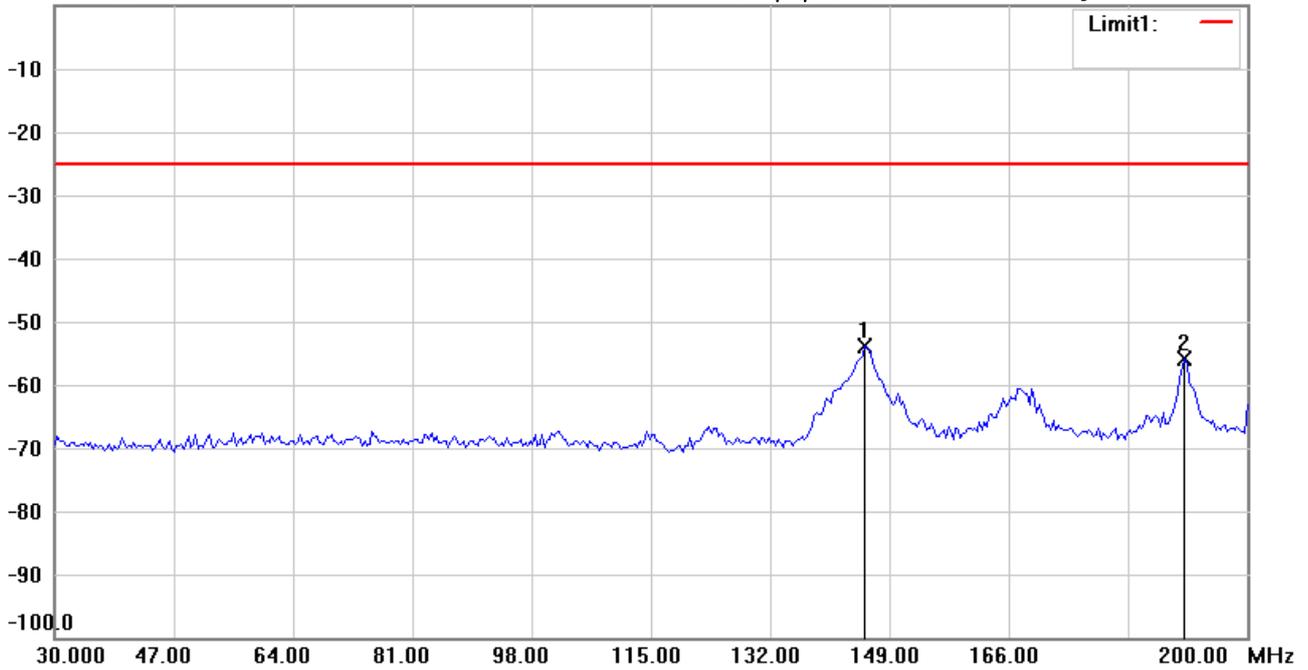
Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:39:10

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 150.053125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	145.4910	-74.44	peak	20.57	-53.87	-25.00	150	245	-28.87	
	191.1423	-77.80	peak	21.83	-55.97	-25.00	150	160	-30.97	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

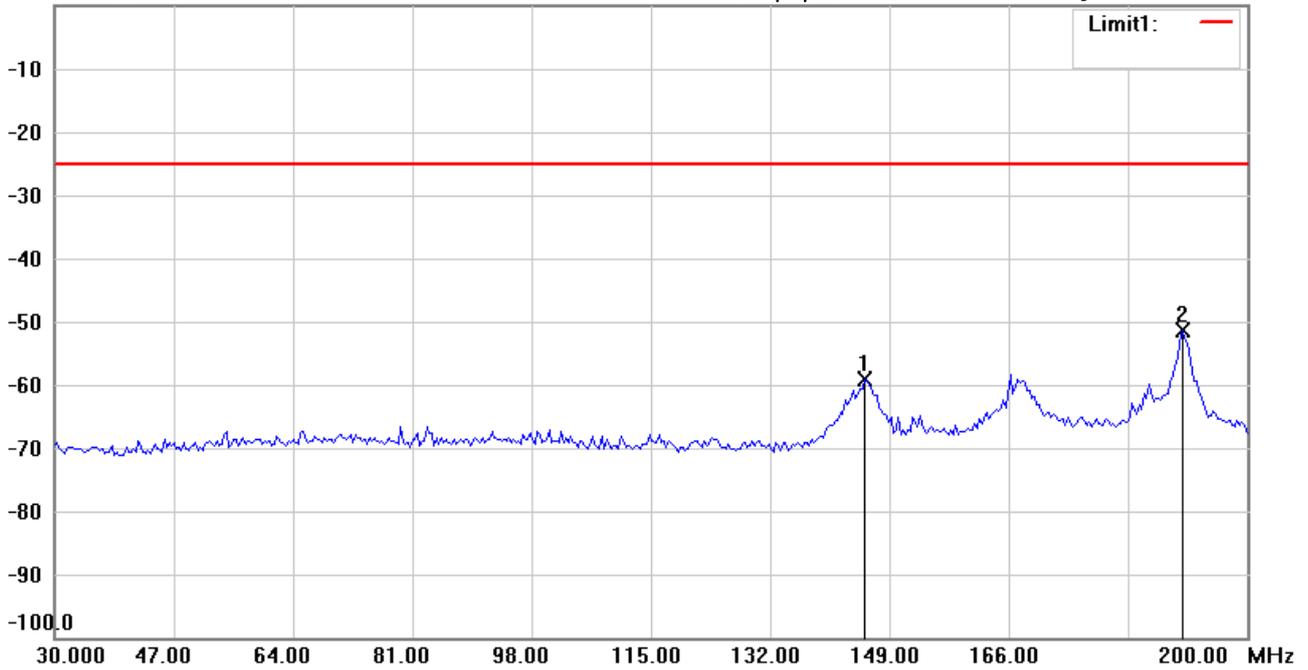
Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:40:27

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 150.053125MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	145.4910	-80.28	peak	21.13	-59.15	-25.00	150	330	-34.15	
*	190.8015	-73.62	peak	22.22	-51.40	-25.00	150	160	-26.40	



Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

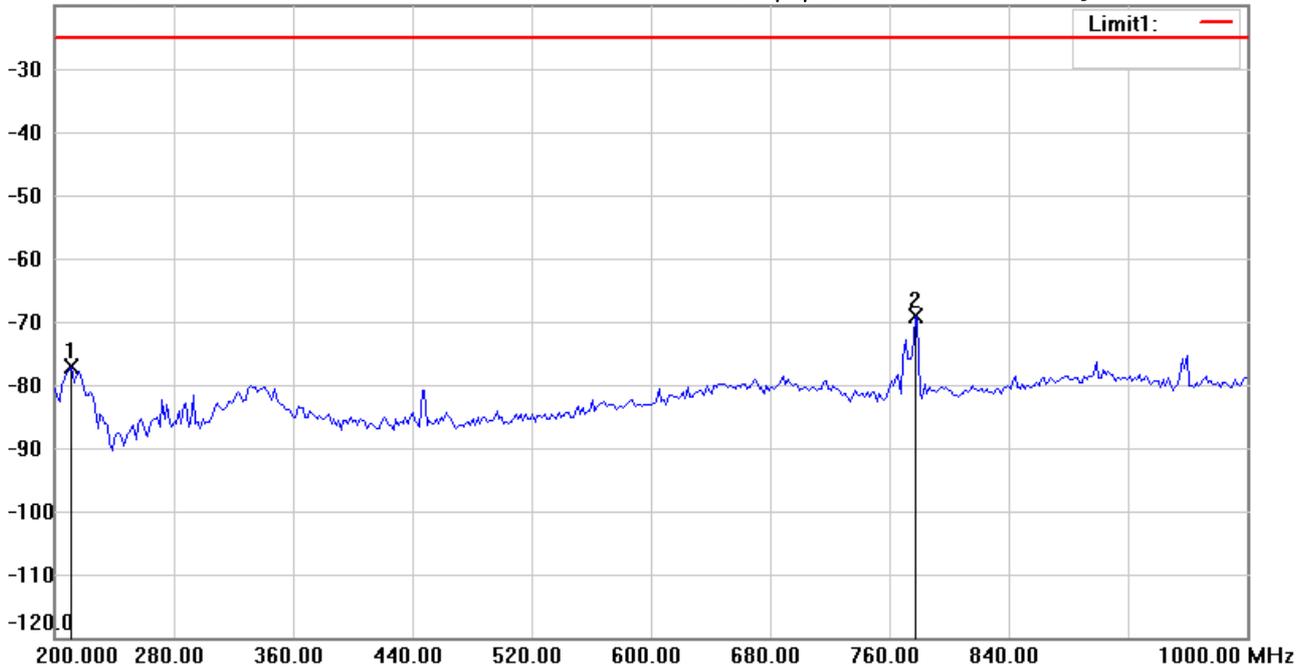
Date: 2019/12/10

Temperature:24 °C

-20.0 dBm

Time: 下午 02:18:29

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 150.053125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	211.2224	-61.95	peak	-15.21	-77.16	-25.00	150	160	-52.16	
*	777.1543	-64.84	peak	-4.39	-69.23	-25.00	150	245	-44.23	



Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

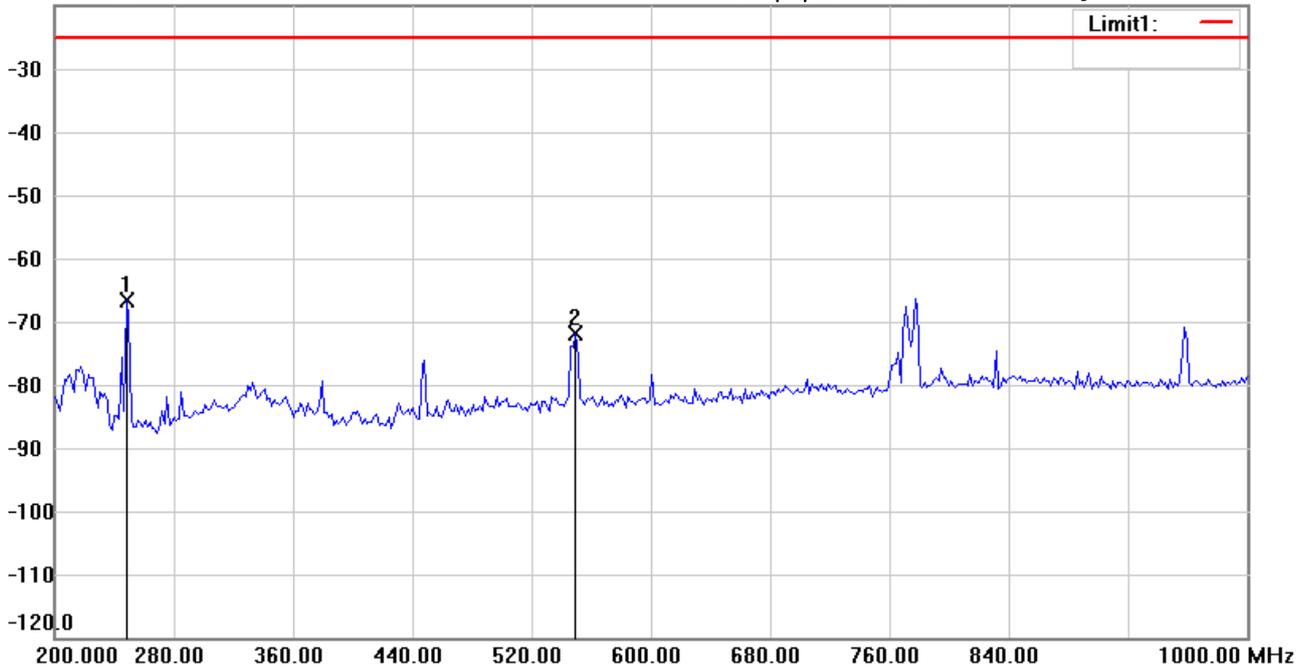
Date: 2019/12/10

Temperature:24 °C

-20.0 dBm

Time: 下午 02:19:55

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 150.053125MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
*	248.0962	-54.80	peak	-11.80	-66.60	-25.00	150	245	-41.60	
	549.4990	-65.75	peak	-6.15	-71.90	-25.00	150	160	-46.90	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

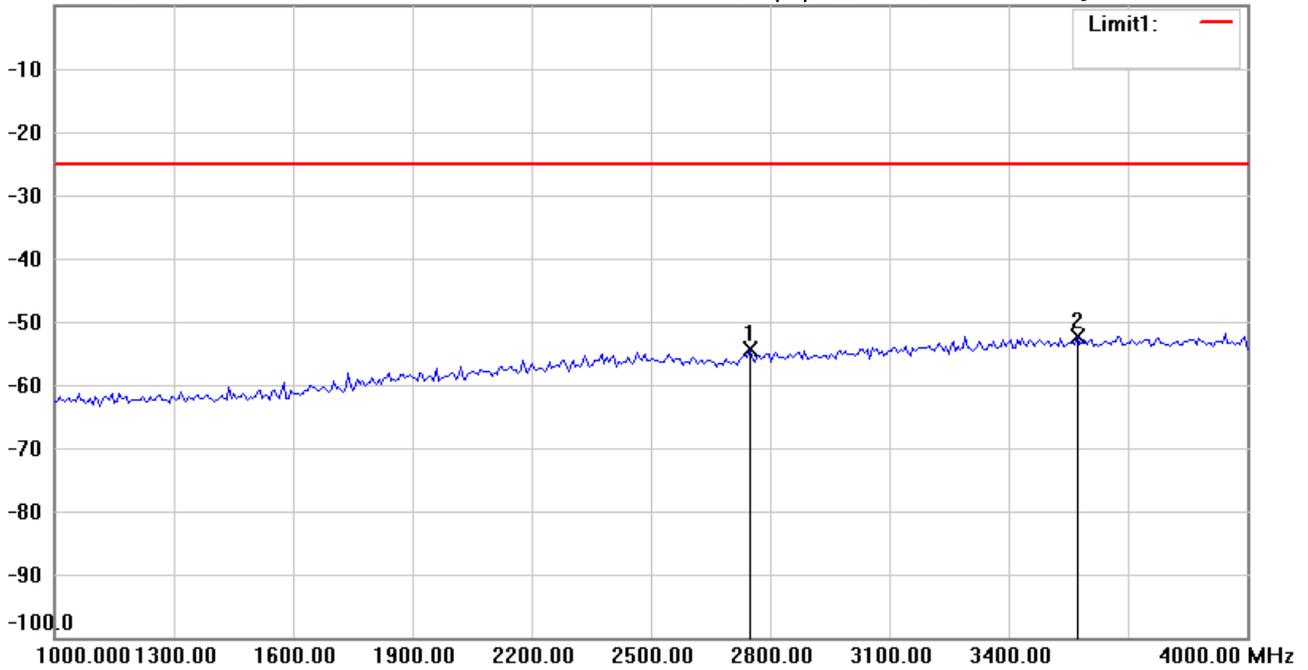
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:47:10

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 150.053125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	2749.499	-60.95	peak	6.58	-54.37	-25.00	150	145	-29.37	
*	3573.146	-61.81	peak	9.55	-52.26	-25.00	150	110	-27.26	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

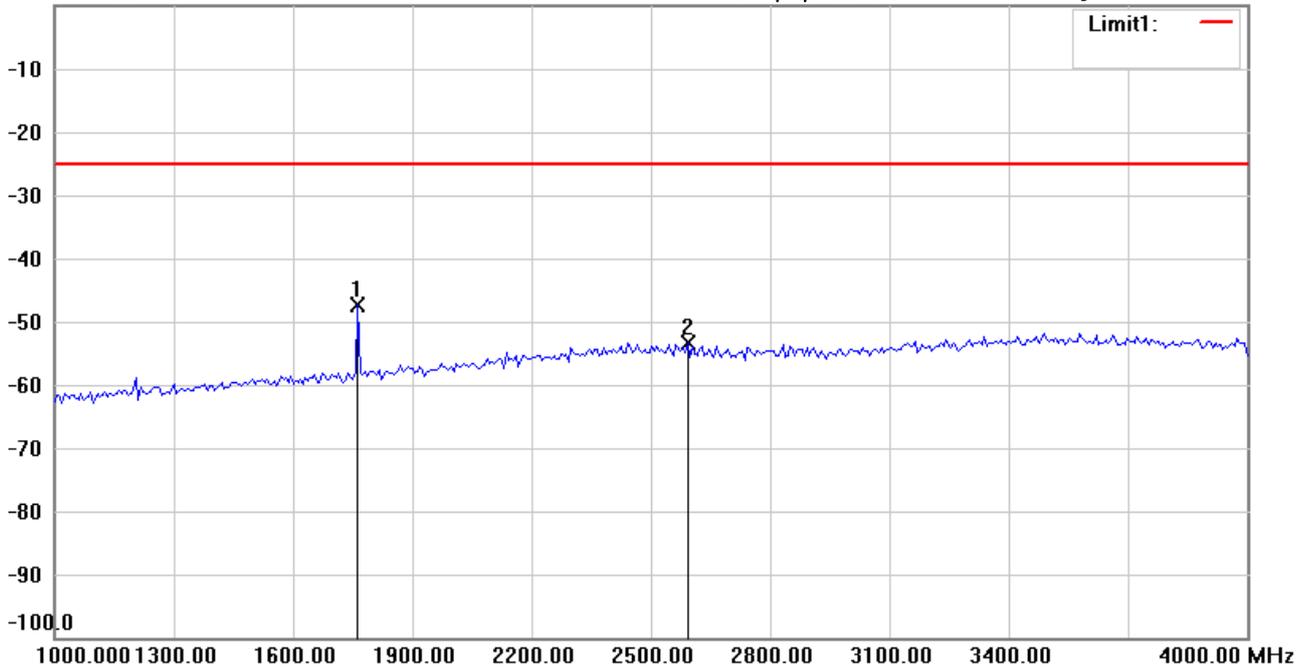
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:51:22

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 150.053125MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
*	1763.527	-50.66	peak	3.25	-47.41	-25.00	150	45	-22.41	
	2593.186	-60.92	peak	7.53	-53.39	-25.00	150	130	-28.39	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

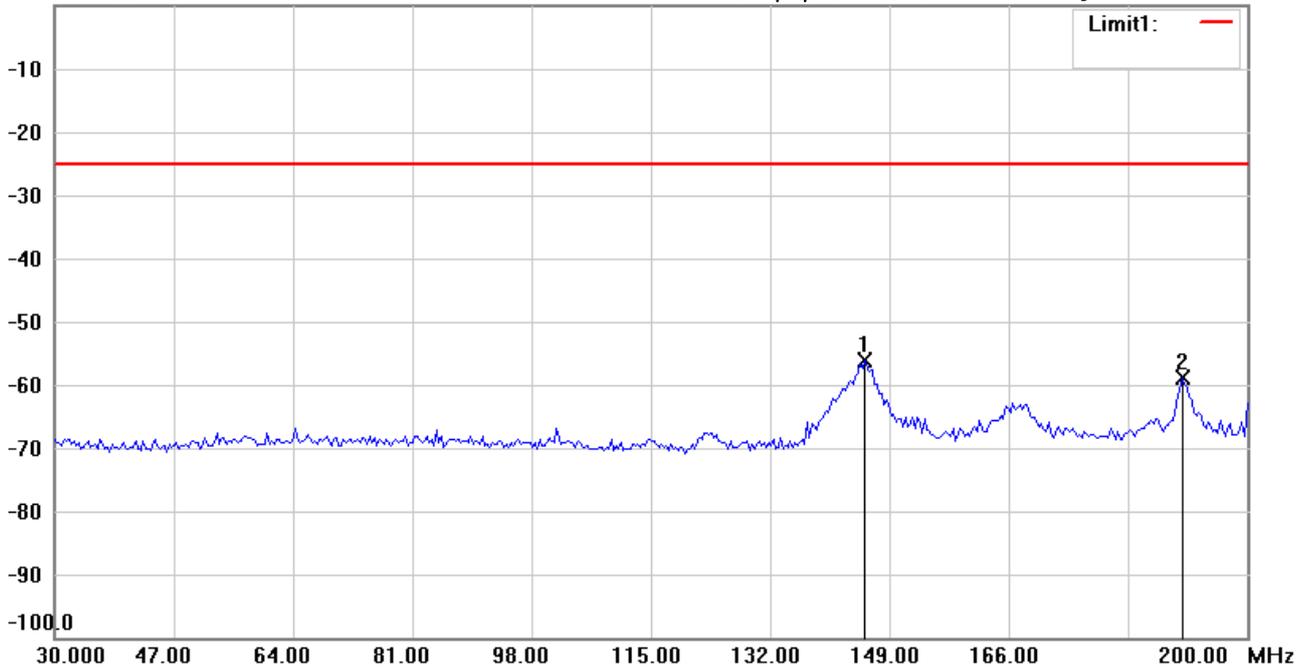
Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:43:40

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 161.725MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	145.4910	-76.66	peak	20.57	-56.09	-25.00	150	245	-31.09	
	190.8015	-80.65	peak	21.84	-58.81	-25.00	150	185	-33.81	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

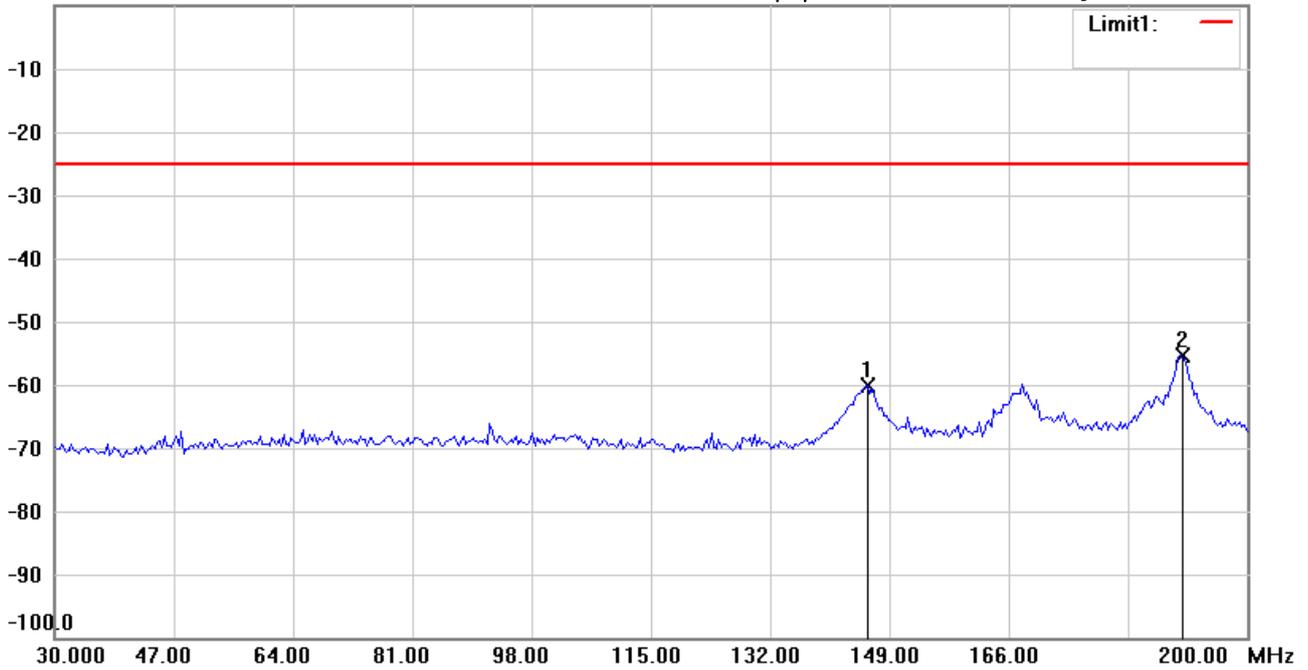
Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:45:06

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 161.725MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	145.8317	-81.39	peak	21.15	-60.24	-25.00	150	330	-35.24	
*	190.4610	-77.58	peak	22.22	-55.36	-25.00	150	45	-30.36	



Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

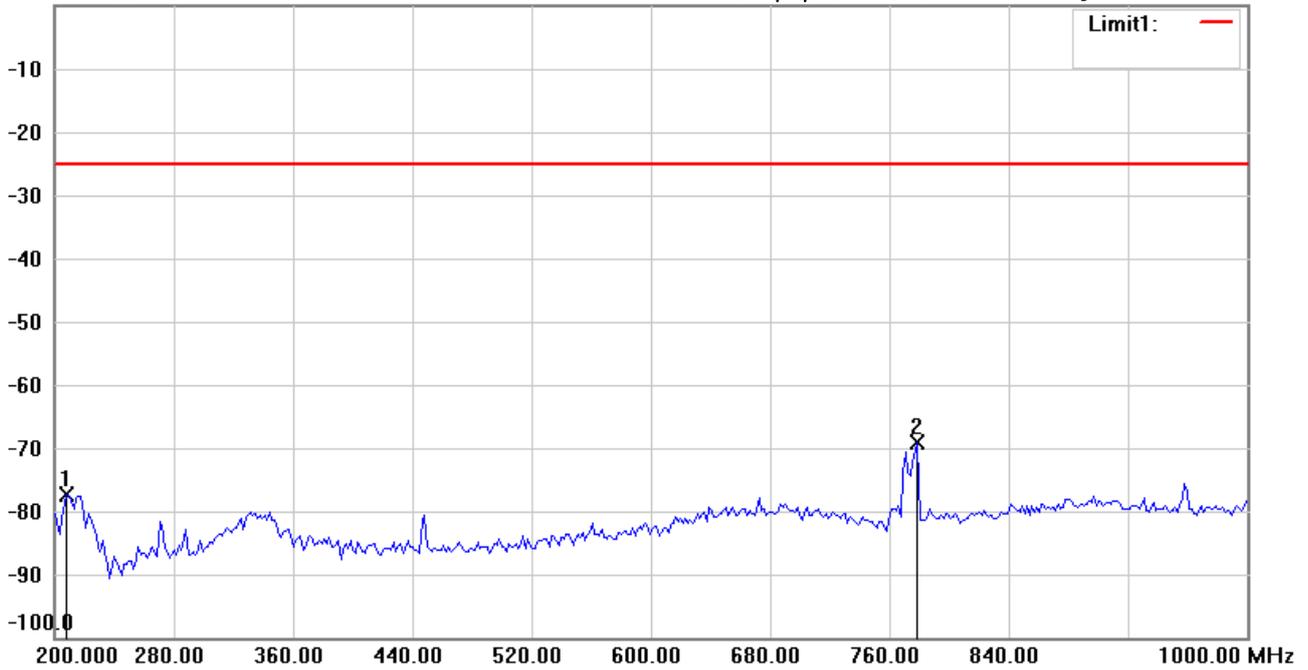
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 02:22:29

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 161.725MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	208.0160	-62.13	peak	-15.18	-77.31	-25.00	150	145	-52.31	
*	778.7575	-64.84	peak	-4.38	-69.22	-25.00	150	130	-44.22	



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 Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

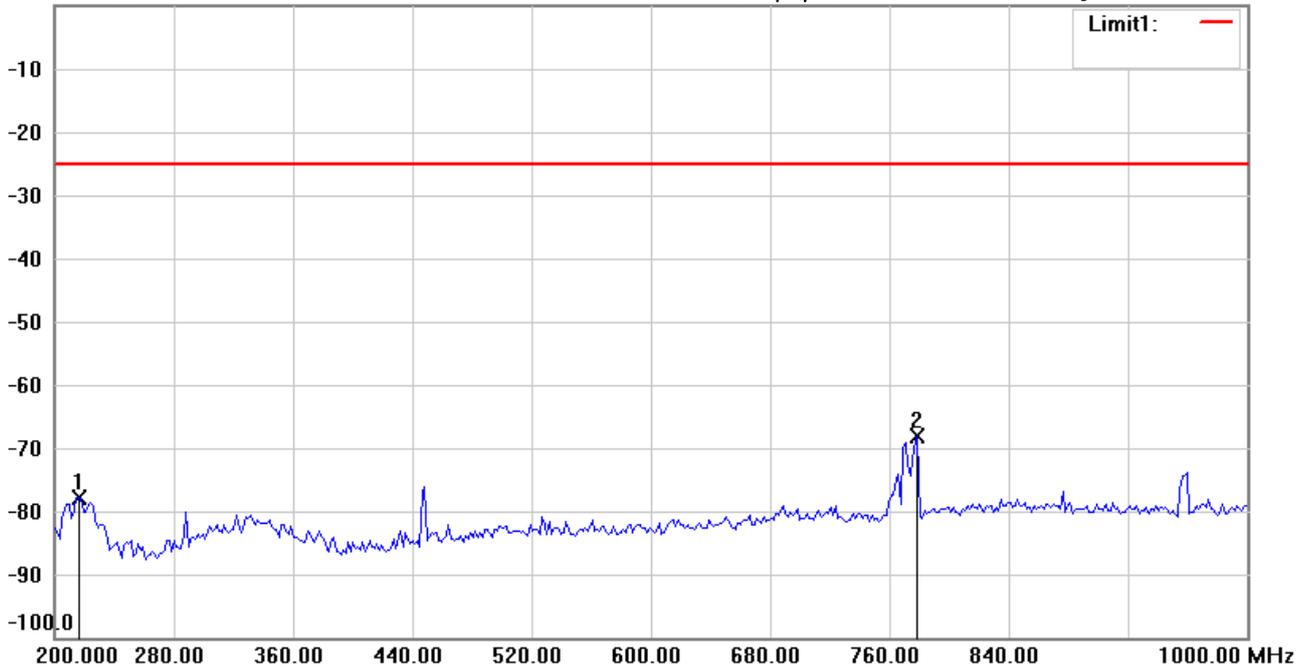
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 02:24:01

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 161.725MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	214.4290	-62.95	peak	-14.83	-77.78	-25.00	150	45	-52.78	
*	778.7575	-64.92	peak	-3.11	-68.03	-25.00	150	220	-43.03	

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



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 Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

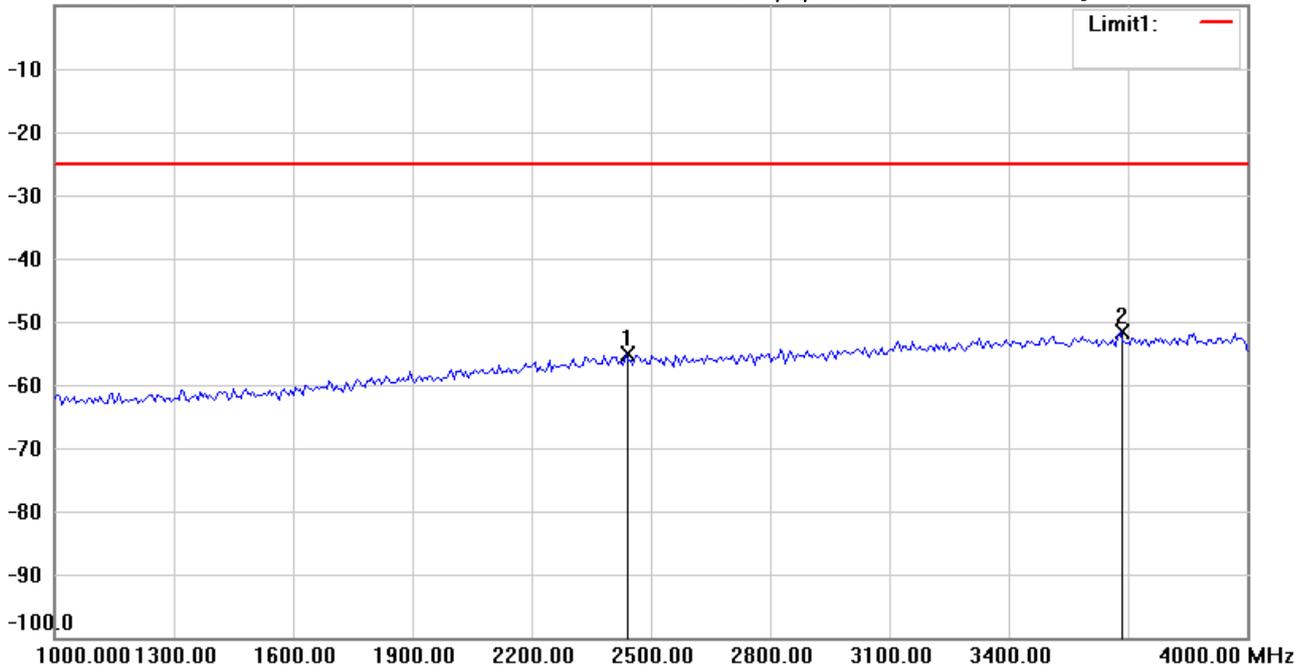
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:54:14

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 161.725MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	2436.874	-60.82	peak	5.61	-55.21	-25.00	150	145	-30.21	
*	3681.363	-61.30	peak	9.70	-51.60	-25.00	150	110	-26.60	

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



Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

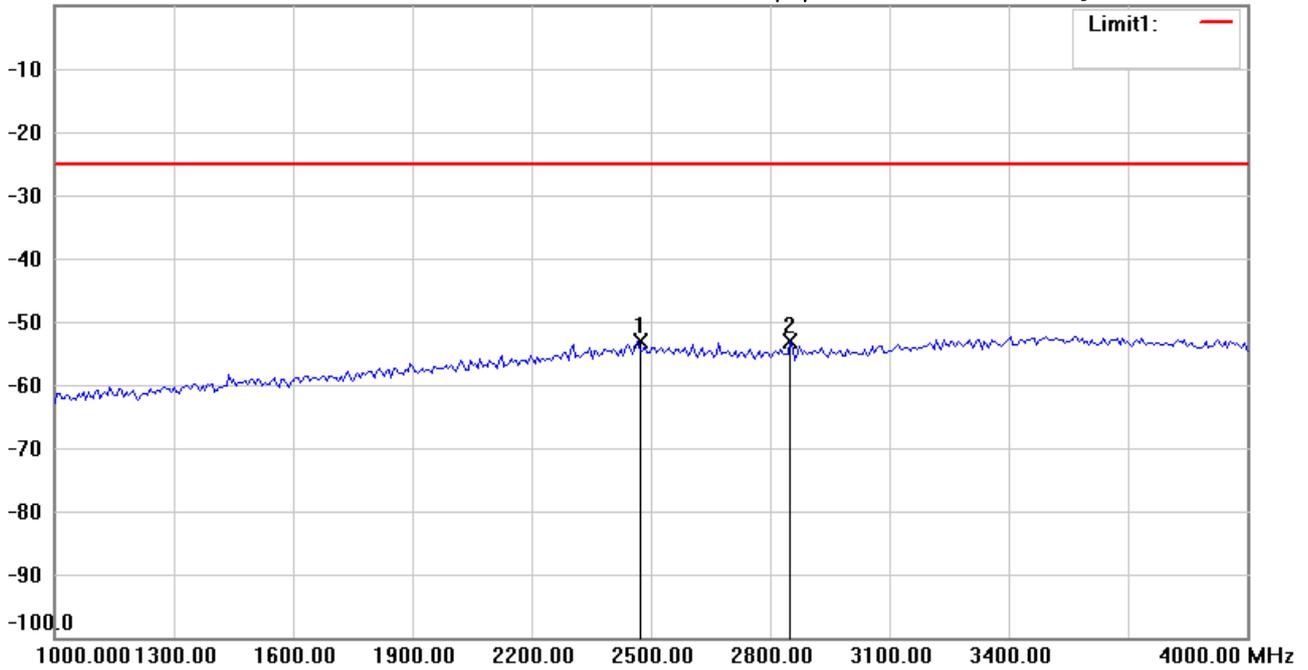
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:56:23

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 161.725MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
*	2466.934	-60.45	peak	7.37	-53.08	-25.00	150	110	-28.08	
	2851.703	-60.60	peak	7.38	-53.22	-25.00	150	305	-28.22	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:48:22

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 173.396875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	145.4910	-73.66	peak	20.57	-53.09	-25.00	150	40	-28.09	
	191.1423	-81.97	peak	21.83	-60.14	-25.00	150	115	-35.14	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

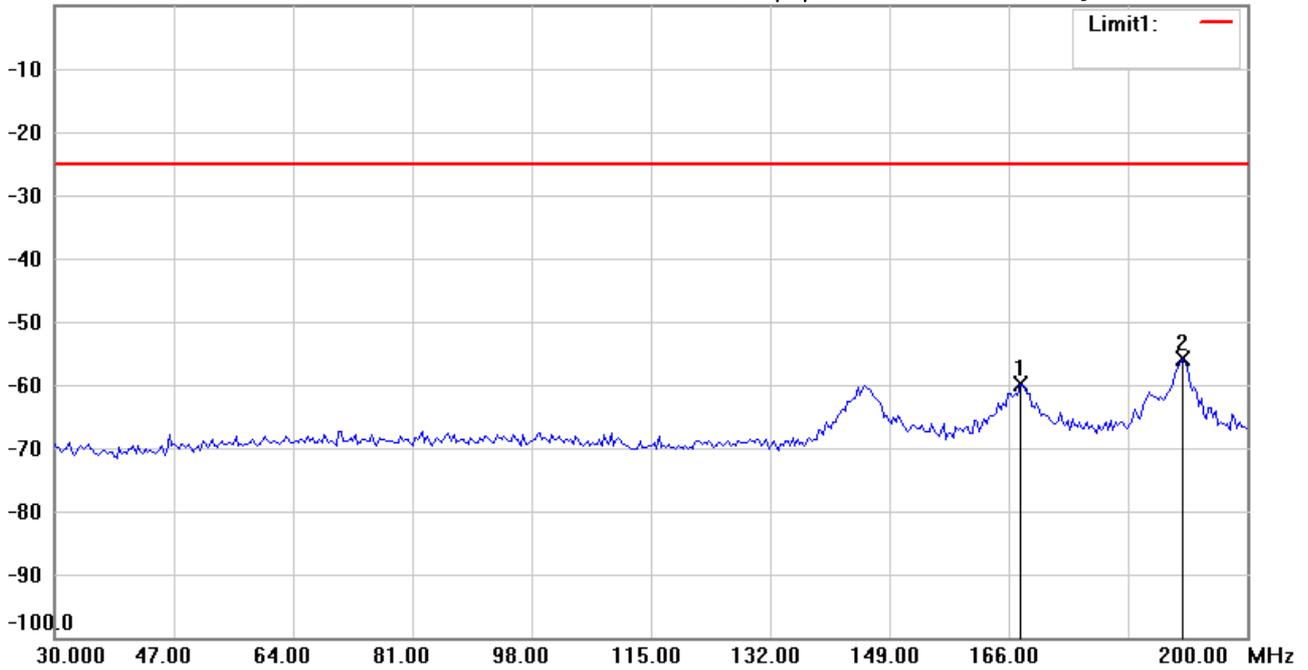
Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:49:41

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 173.396875MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
	167.6353	-82.00	peak	22.08	-59.92	-25.00	150	110	-34.92	
*	190.8015	-78.19	peak	22.22	-55.97	-25.00	150	350	-30.97	



Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

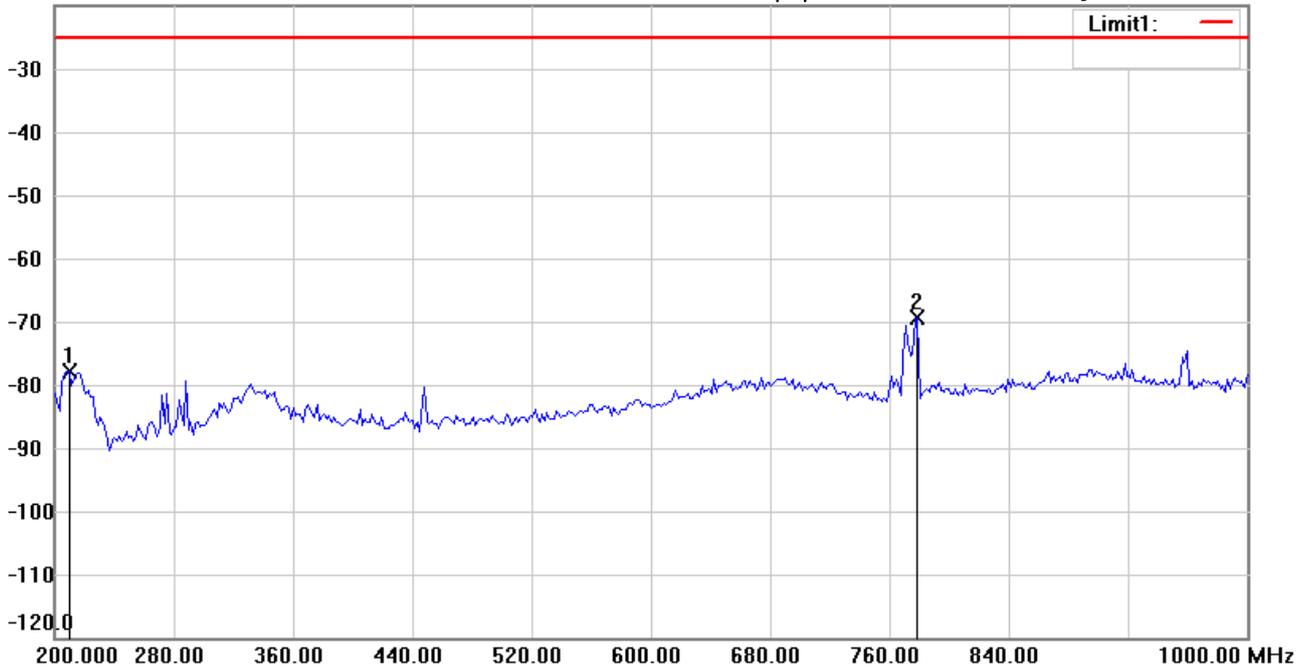
Date: 2019/12/10

Temperature:24 °C

-20.0 dBm

Time: 下午 02:26:31

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 173.396875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	209.6192	-62.67	peak	-15.20	-77.87	-25.00	150	45	-52.87	
*	778.7575	-64.95	peak	-4.38	-69.33	-25.00	150	220	-44.33	



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 Tel:+886-2-6606-8877  
 Fax:+886-2-6606-8879

Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

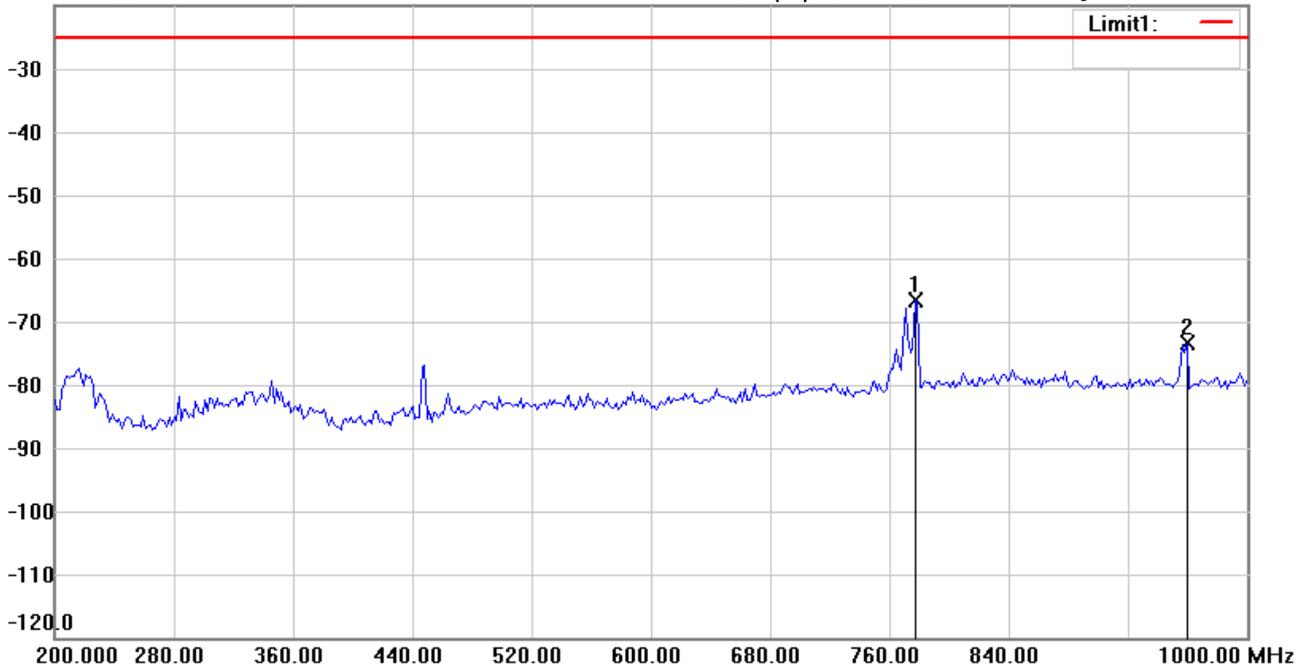
Date: 2019/12/10

Temperature:24 °C

-20.0 dBm

Time: 下午 02:27:59

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 173.396875MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
*	777.1543	-63.56	peak	-3.14	-66.70	-25.00	150	30	-41.70	
	959.9198	-70.38	peak	-2.88	-73.26	-25.00	150	110	-48.26	

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



Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

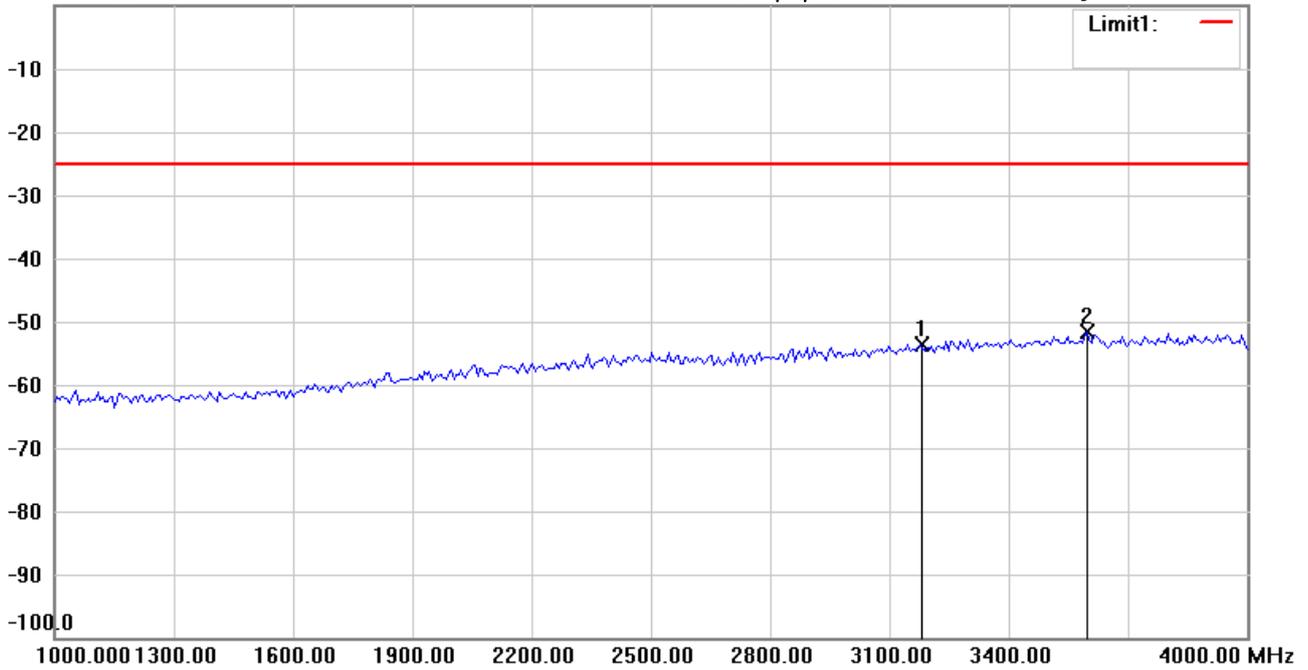
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:00:02

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 173.396875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	3176.353	-61.59	peak	8.00	-53.59	-25.00	150	45	-28.59	
*	3597.194	-61.27	peak	9.58	-51.69	-25.00	150	160	-26.69	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

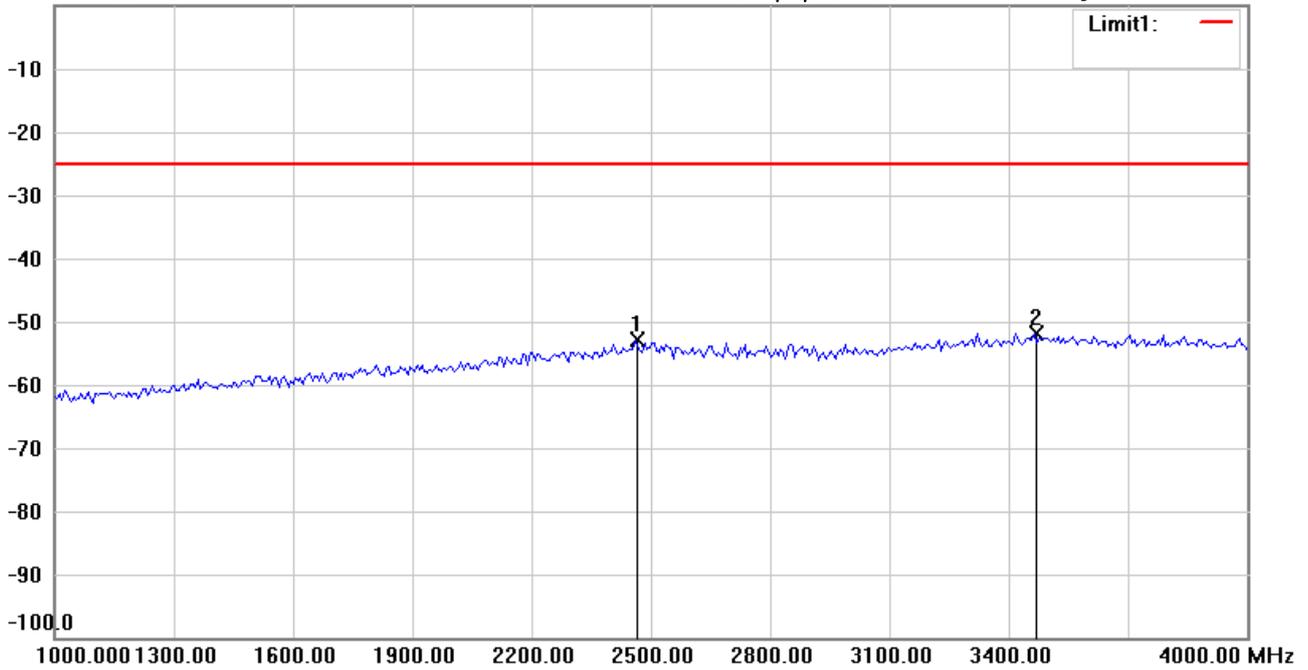
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:02:22

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 173.396875MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	2460.922	-60.29	peak	7.34	-52.95	-25.00	150	45	-27.95	
*	3464.930	-61.53	peak	9.66	-51.87	-25.00	150	130	-26.87	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

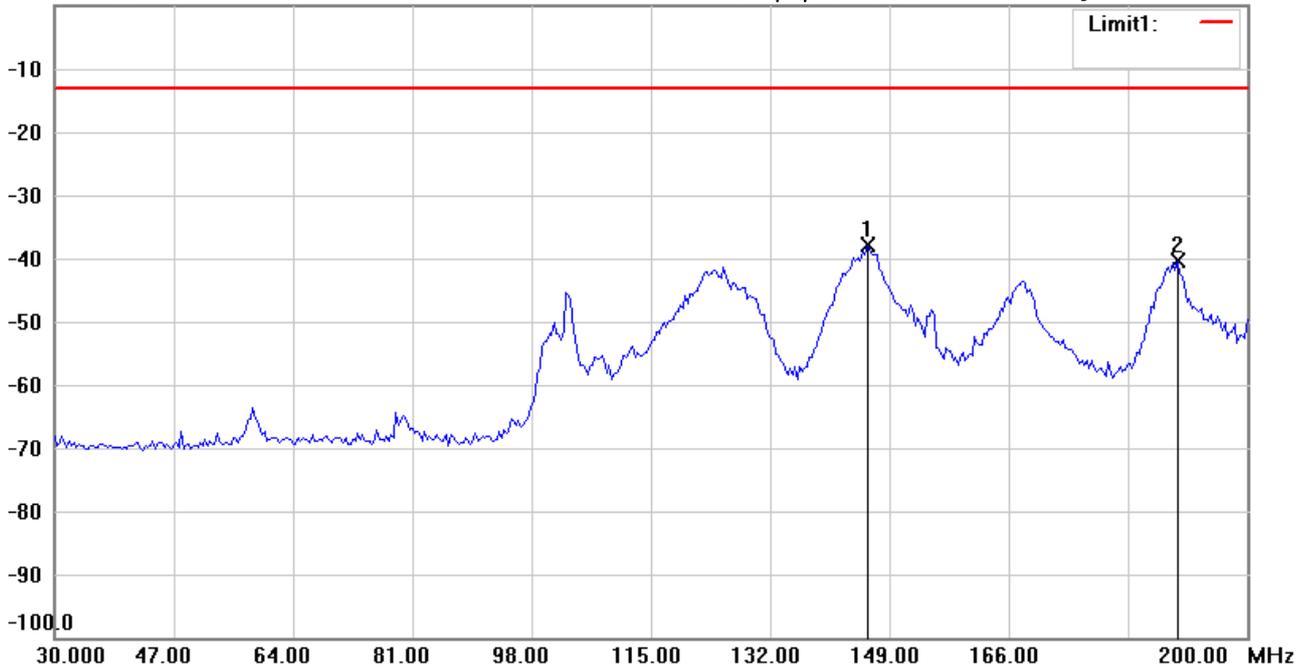
Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:54:51

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 758.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	145.8317	-58.52	peak	20.59	-37.93	-13.00	150	45	-24.93	
	190.1202	-62.29	peak	21.86	-40.43	-13.00	150	130	-27.43	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:56:20

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 758.003125MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	167.6353	-62.17	peak	22.08	-40.09	-13.00	150	160	-27.09	
*	189.4390	-56.90	peak	22.22	-34.68	-13.00	150	220	-21.68	



Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

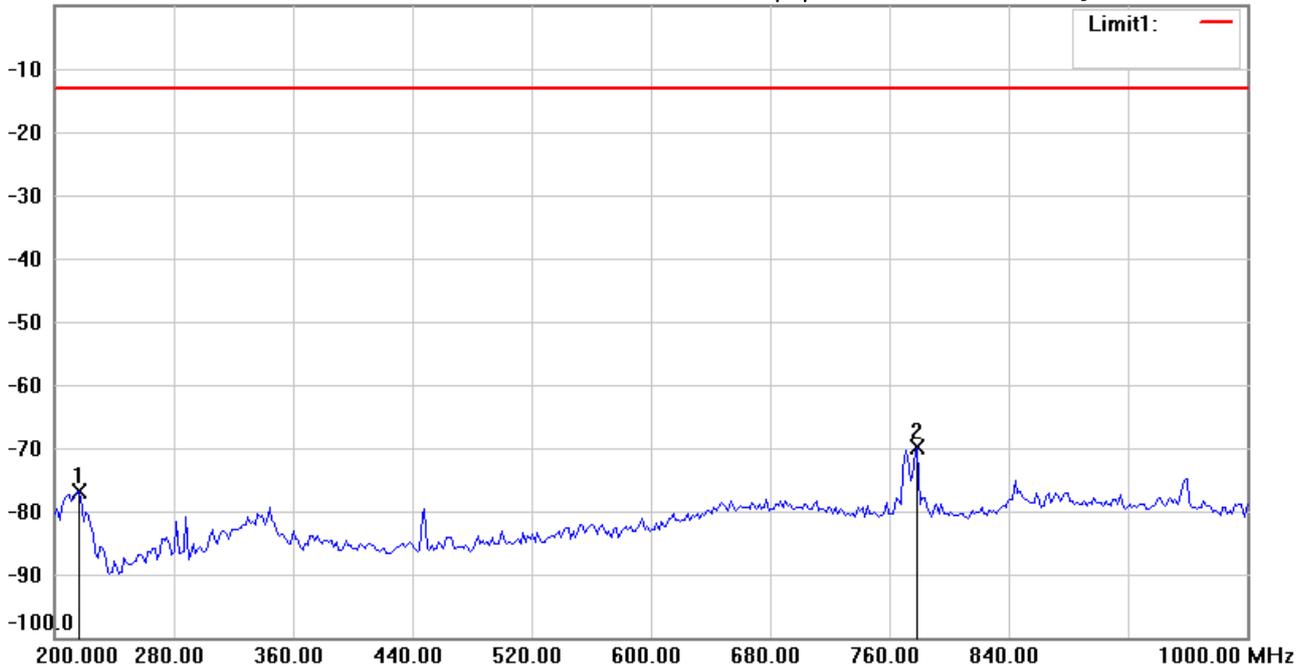
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 02:31:09

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 758.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	216.0321	-61.72	peak	-15.27	-76.99	-13.00	150	45	-63.99	
*	778.7575	-65.56	peak	-4.38	-69.94	-13.00	150	330	-56.94	



Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

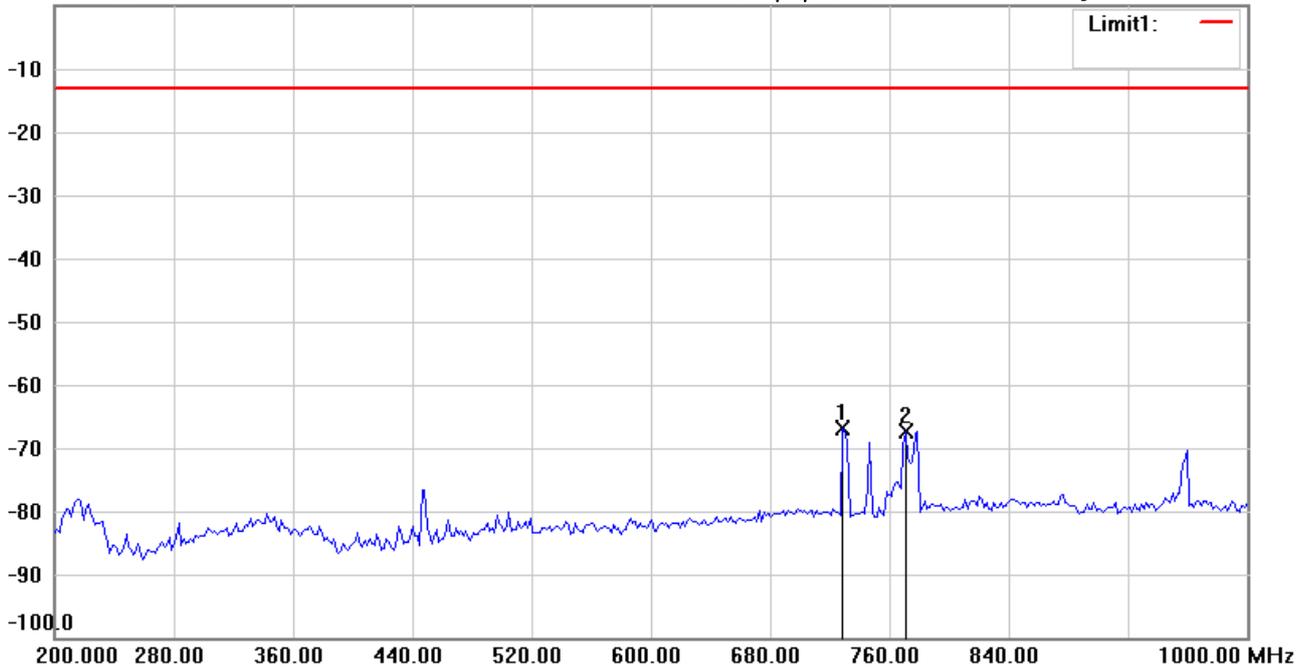
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 02:33:41

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 758.003125MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
*	729.0581	-63.52	peak	-3.44	-66.96	-13.00	150	145	-53.96	
	770.7415	-64.00	peak	-3.26	-67.26	-13.00	150	130	-54.26	



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

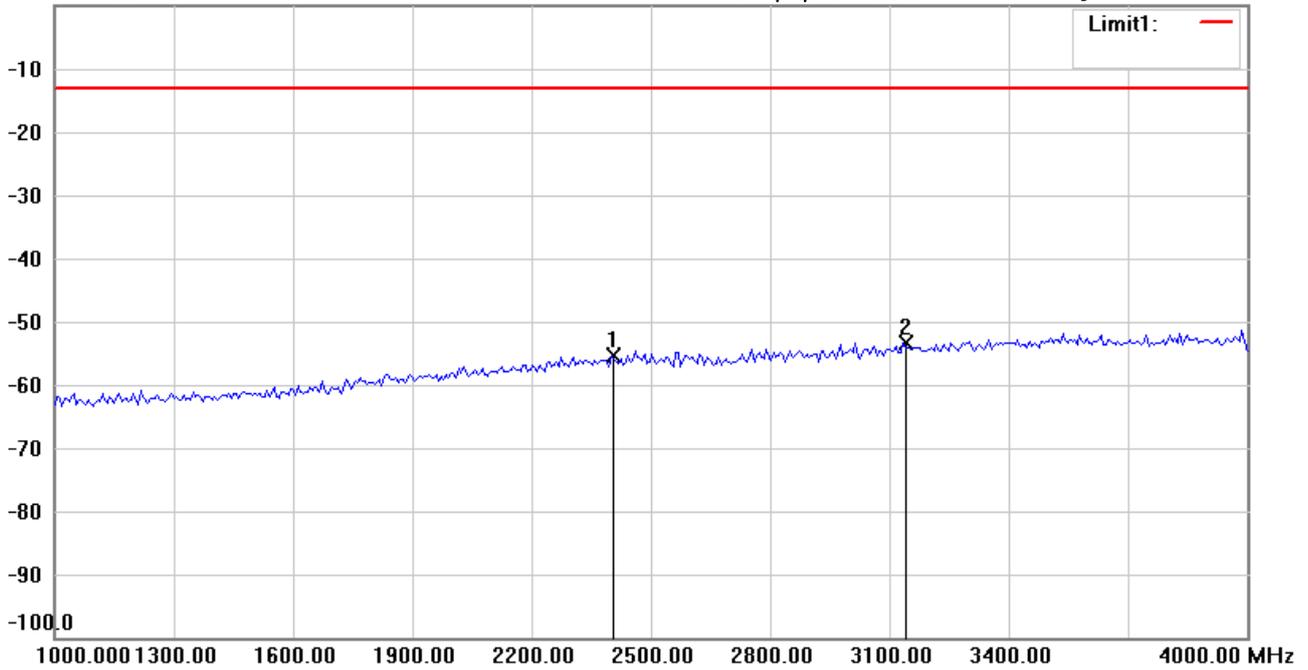
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:06:04

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 758.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	2400.802	-60.67	peak	5.42	-55.25	-13.00	150	145	-42.25	
*	3134.269	-61.22	peak	7.81	-53.41	-13.00	150	110	-40.41	

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



Radiated Emission Measurement

Operator: Kent

File :3

Data :#3

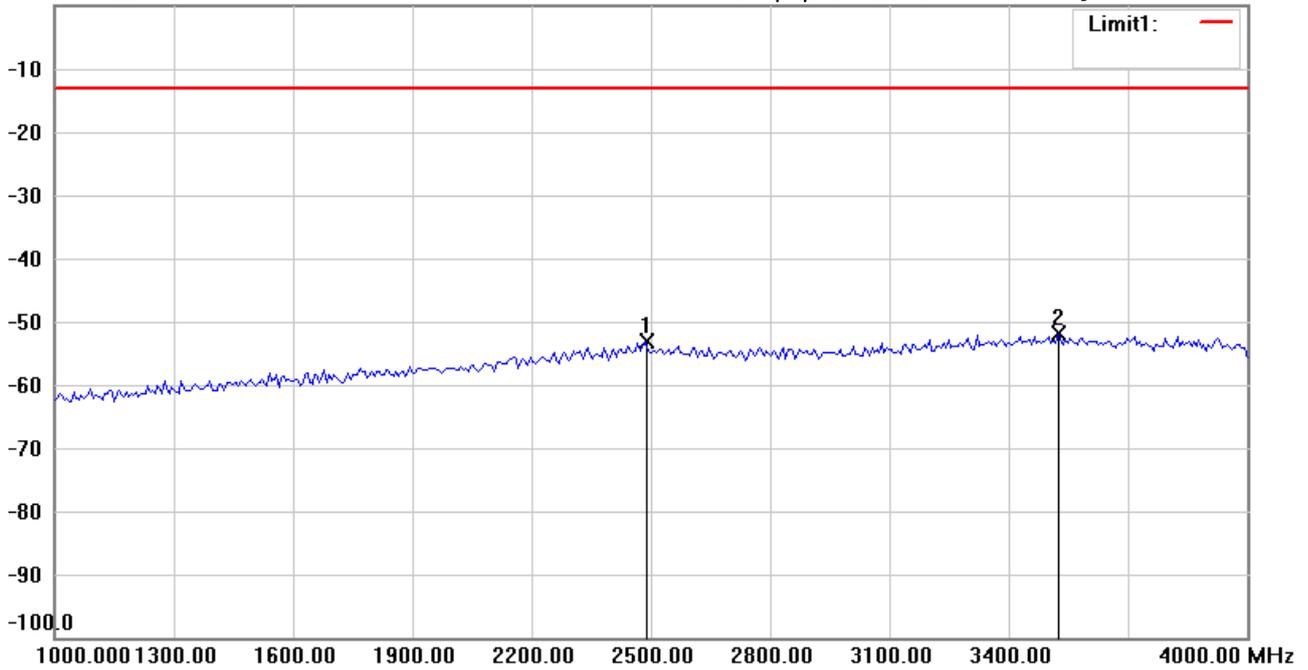
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:09:13

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 758.003125MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	2484.970	-60.72	peak	7.49	-53.23	-13.00	150	110	-40.23	
*	3525.050	-61.57	peak	9.82	-51.75	-13.00	150	305	-38.75	



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

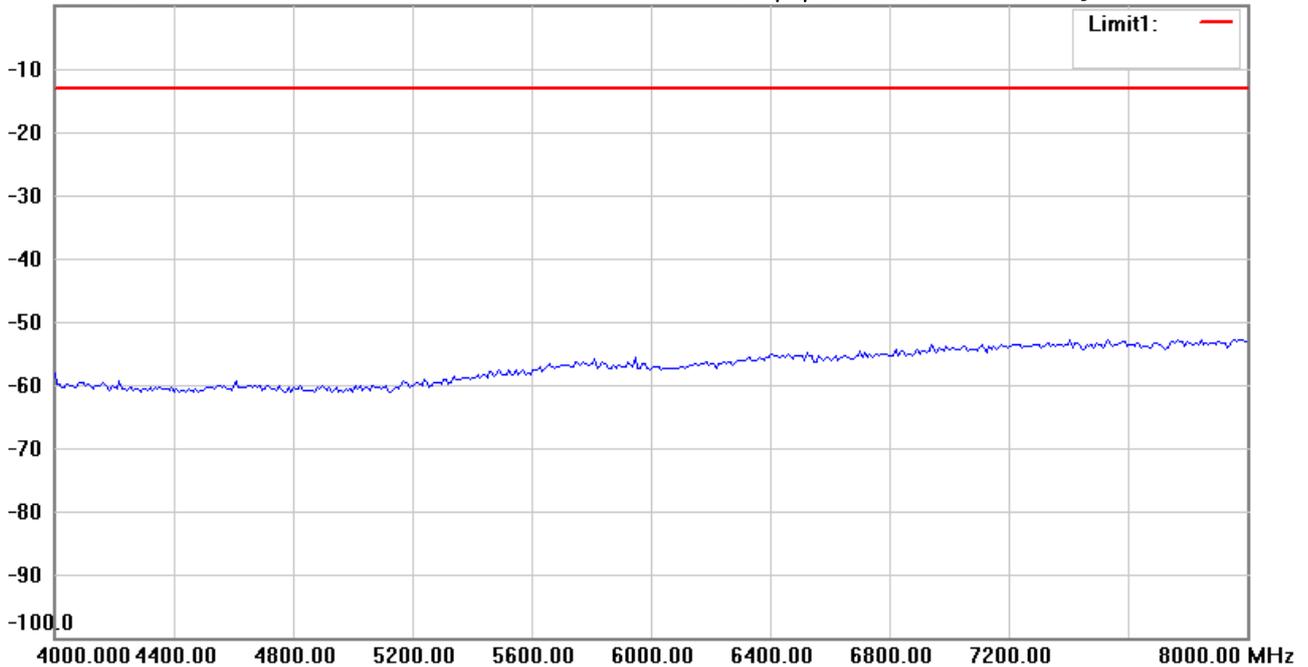
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:06:43

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 758.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#4

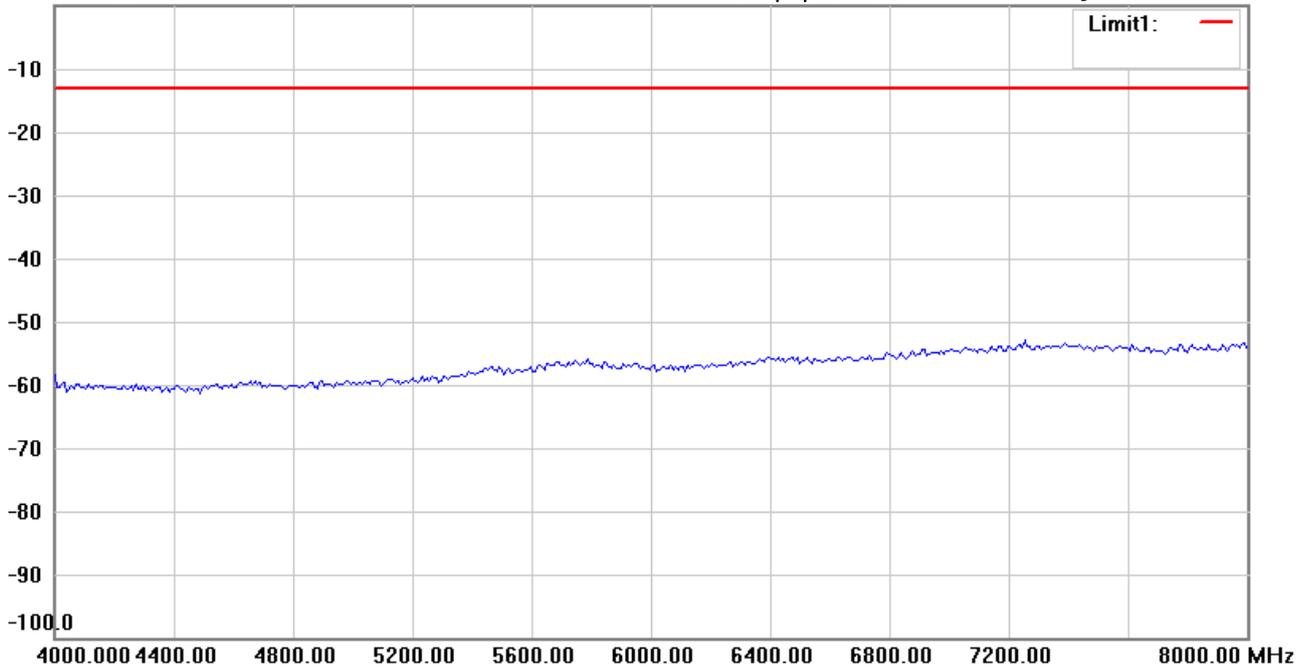
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:09:52

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 758.003125MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 07:59:07

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 766.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	145.8317	-58.01	peak	20.59	-37.42	-13.00	150	75	-24.42	
	189.4390	-59.71	peak	21.88	-37.83	-13.00	150	220	-24.83	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:00:34

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 766.5MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
	167.9760	-61.62	peak	22.08	-39.54	-13.00	150	130	-26.54	
*	189.7796	-56.70	peak	22.22	-34.48	-13.00	150	75	-21.48	



Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

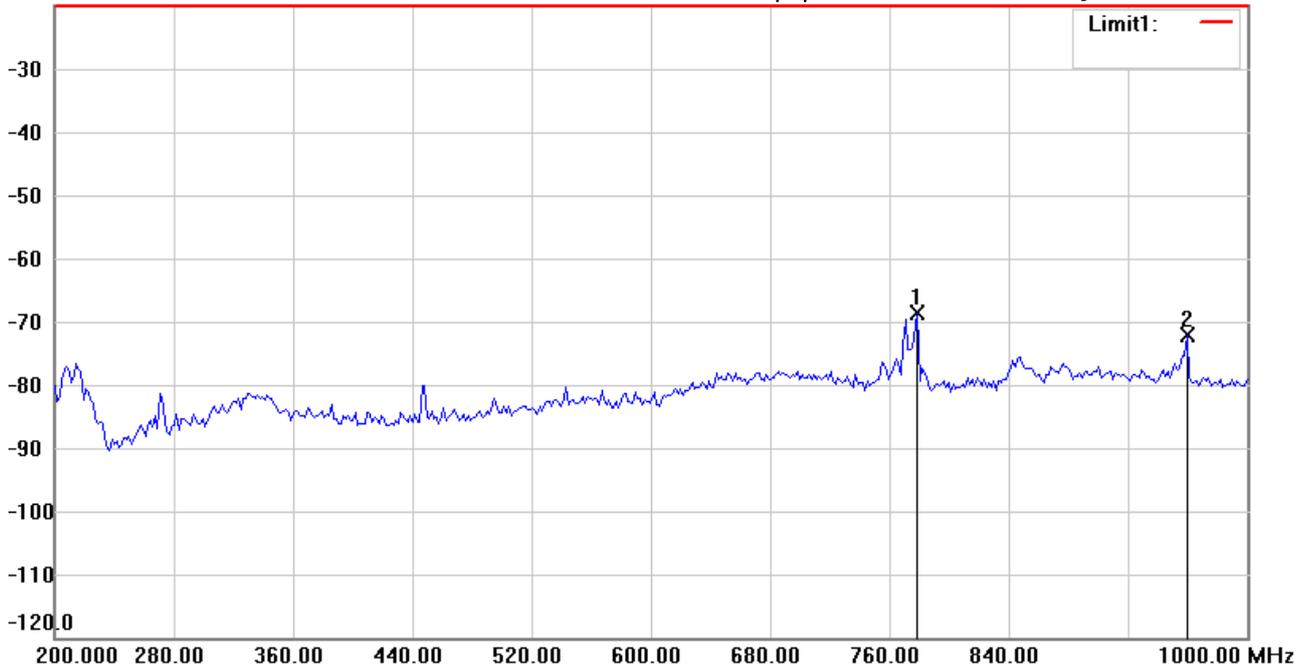
Date: 2019/12/10

Temperature:24 °C

-20.0 dBm

Time: 下午 02:36:12

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 766.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	778.7575	-64.25	peak	-4.38	-68.63	-13.00	150	40	-55.63	
	959.9198	-69.07	peak	-3.02	-72.09	-13.00	150	130	-59.09	



Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

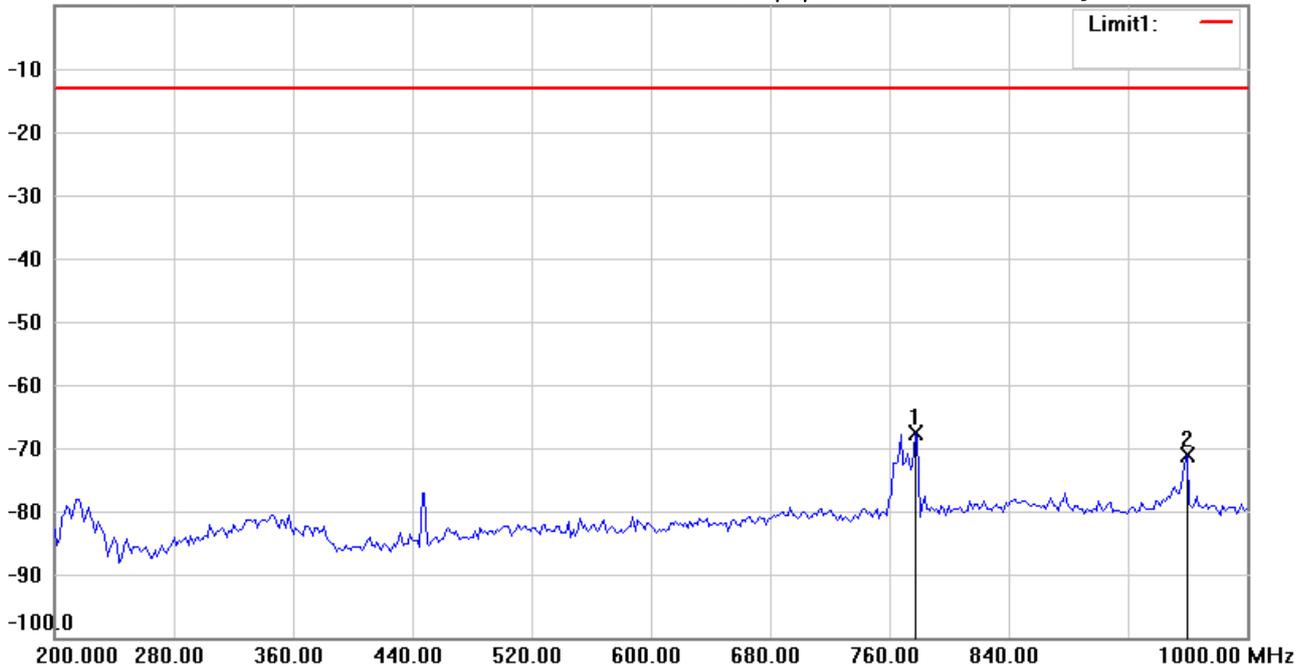
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 02:37:44

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 766.5MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
*	777.1543	-64.38	peak	-3.14	-67.52	-13.00	150	145	-54.52	
	959.9198	-68.12	peak	-2.88	-71.00	-13.00	150	110	-58.00	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

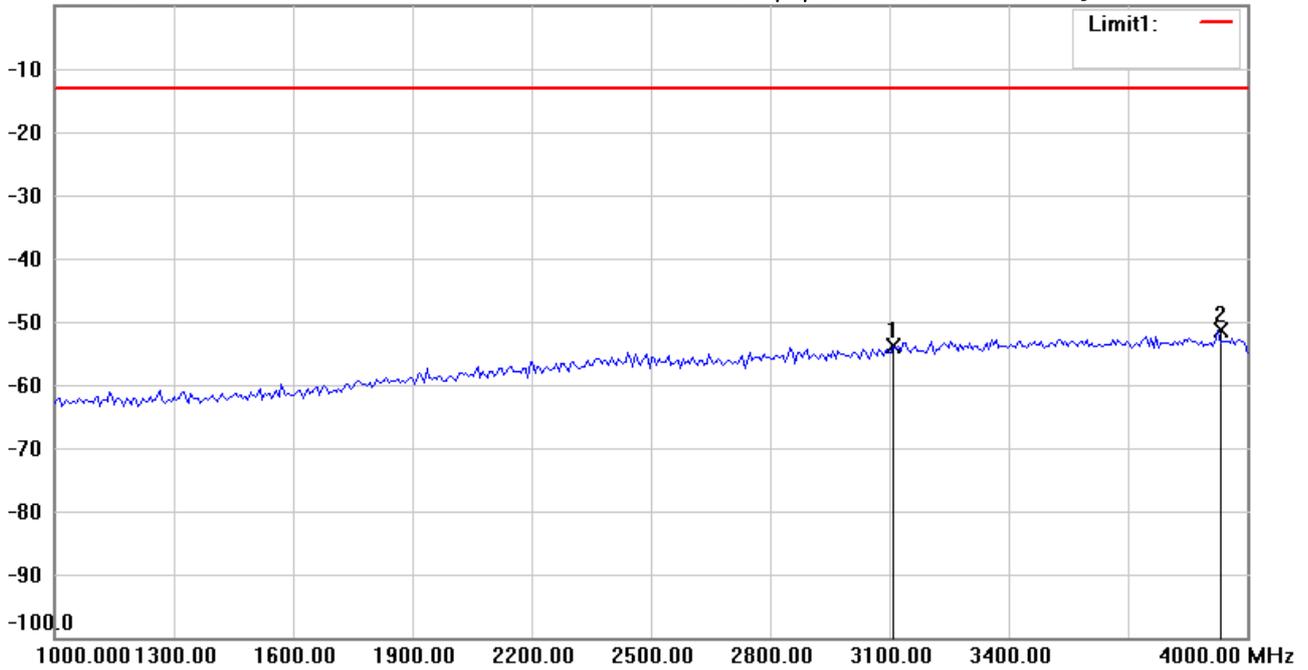
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:12:26

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 766.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	3110.220	-61.69	peak	7.70	-53.99	-13.00	150	110	-40.99	
*	3927.856	-61.47	peak	10.06	-51.41	-13.00	150	150	-38.41	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#3

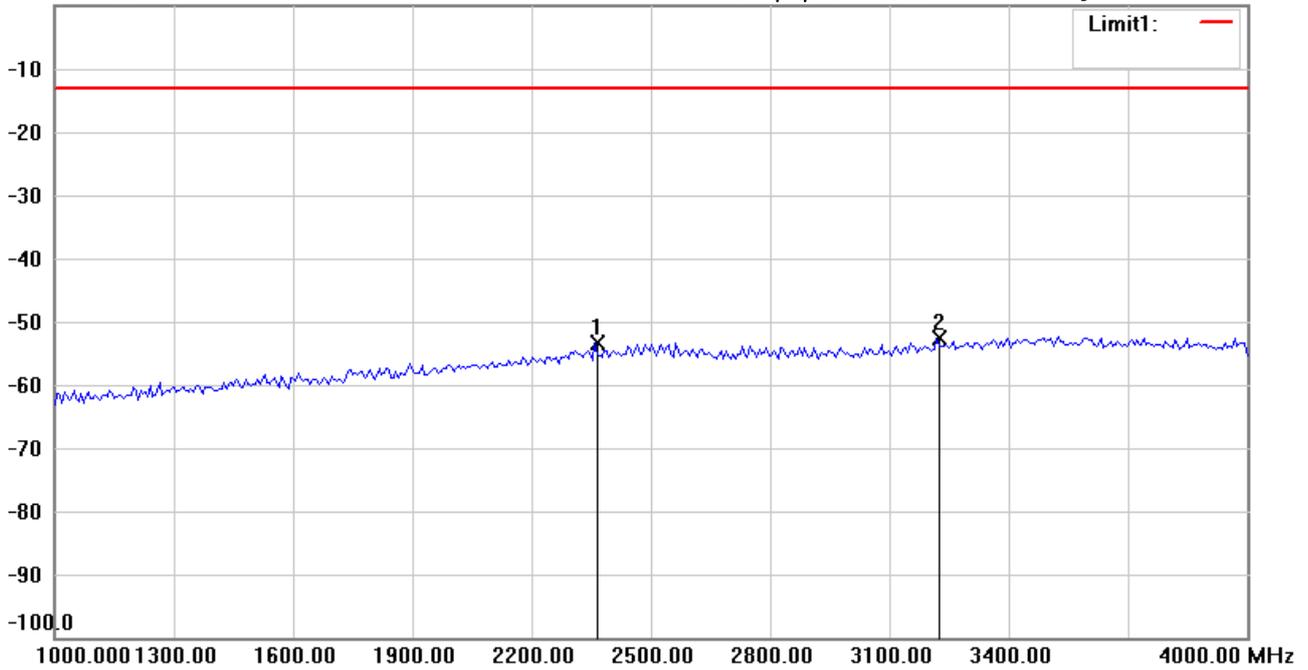
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:15:09

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 766.5MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
	2358.718	-60.09	peak	6.70	-53.39	-13.00	150	45	-40.39	
*	3218.437	-61.00	peak	8.40	-52.60	-13.00	150	110	-39.60	



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

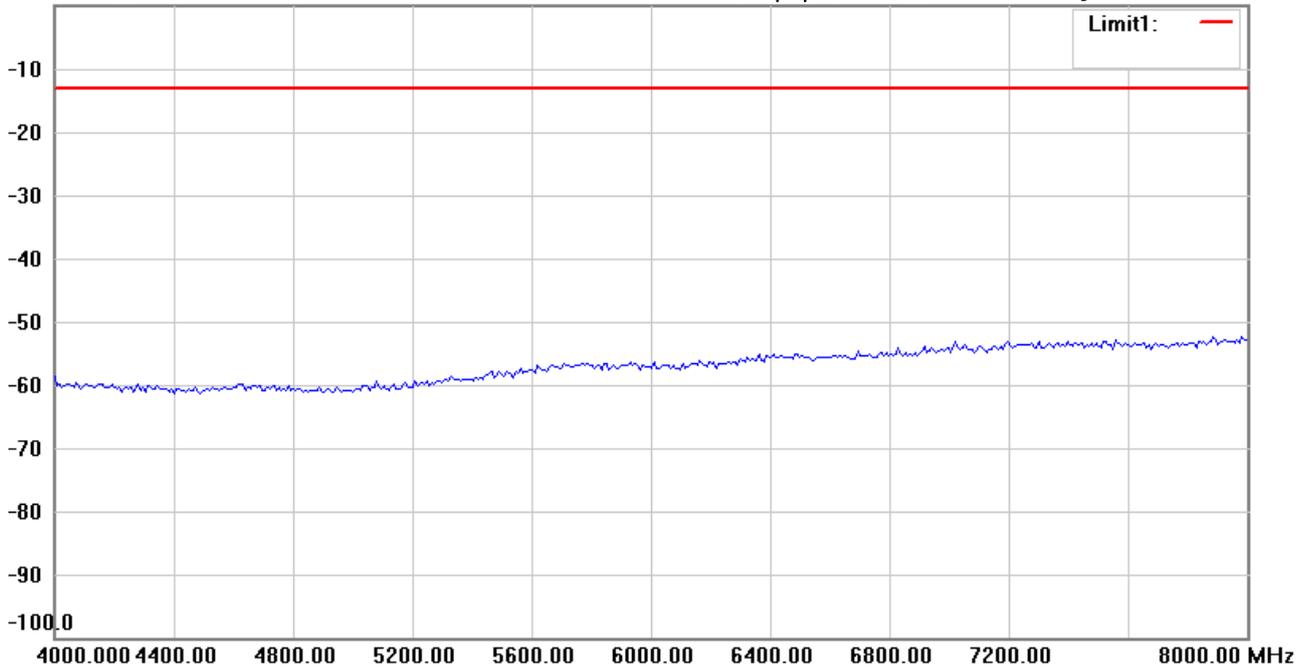
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:13:05

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 766.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#4

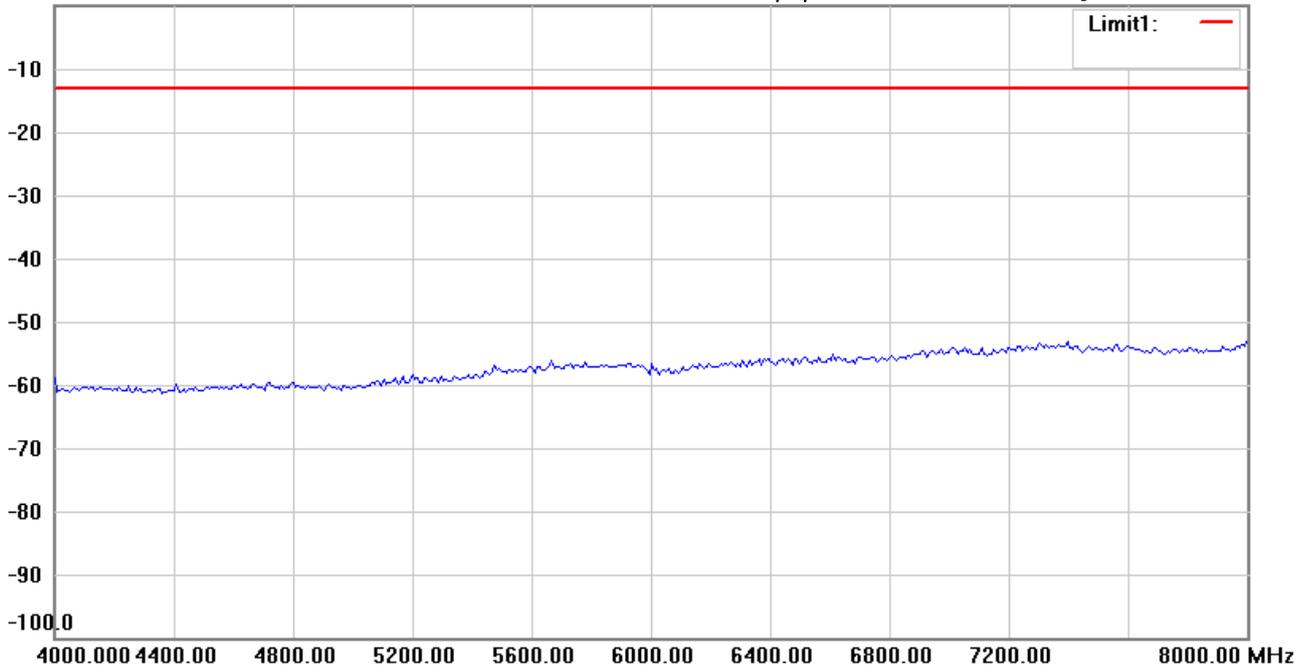
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:15:48

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 766.5MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
-----	-----------------	---------------	----------	-------------------	--------------	-------------	--------------	----------------	-------------	---------

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



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:03:27

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 774.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	145.8317	-59.49	peak	20.59	-38.90	-13.00	150	245	-25.90	
	189.0982	-60.98	peak	21.89	-39.09	-13.00	150	160	-26.09	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:05:16

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 774.996875MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
	168.3166	-61.83	peak	22.09	-39.74	-13.00	150	160	-26.74	
*	189.4390	-57.35	peak	22.22	-35.13	-13.00	150	245	-22.13	



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Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

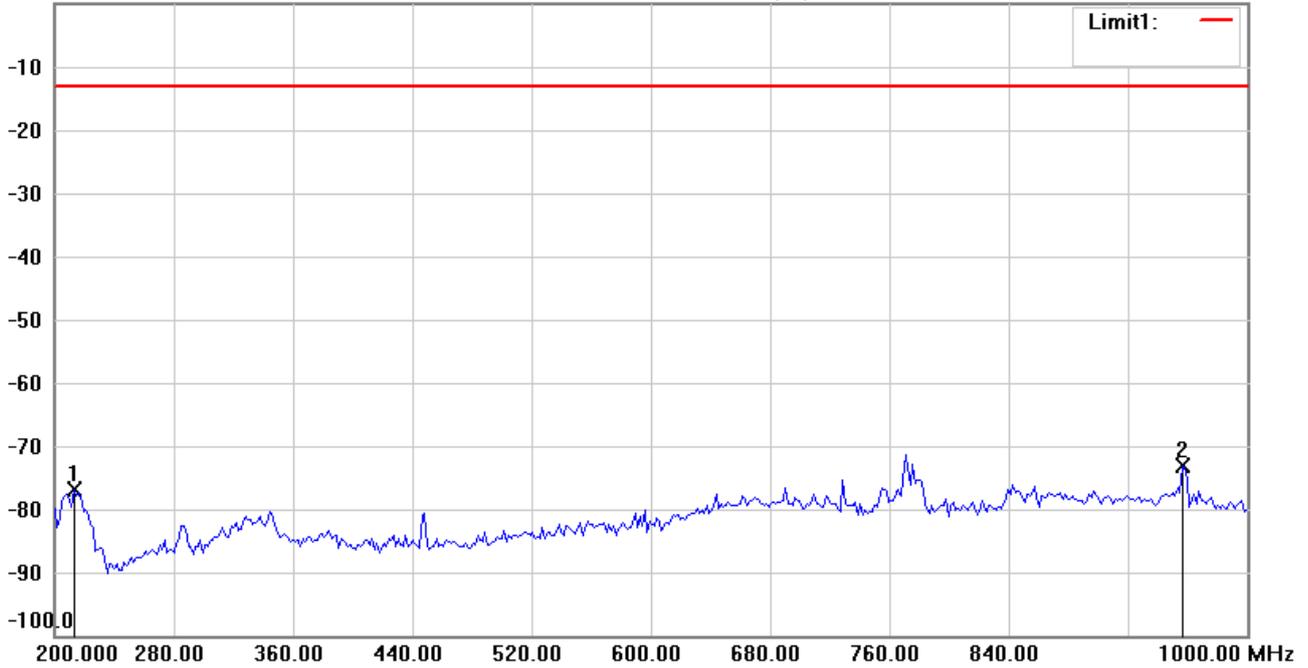
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 02:40:16

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 774.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	212.8257	-61.71	peak	-15.23	-76.94	-13.00	150	110	-63.94	
*	956.7134	-70.08	peak	-3.01	-73.09	-13.00	150	305	-60.09	

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



Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

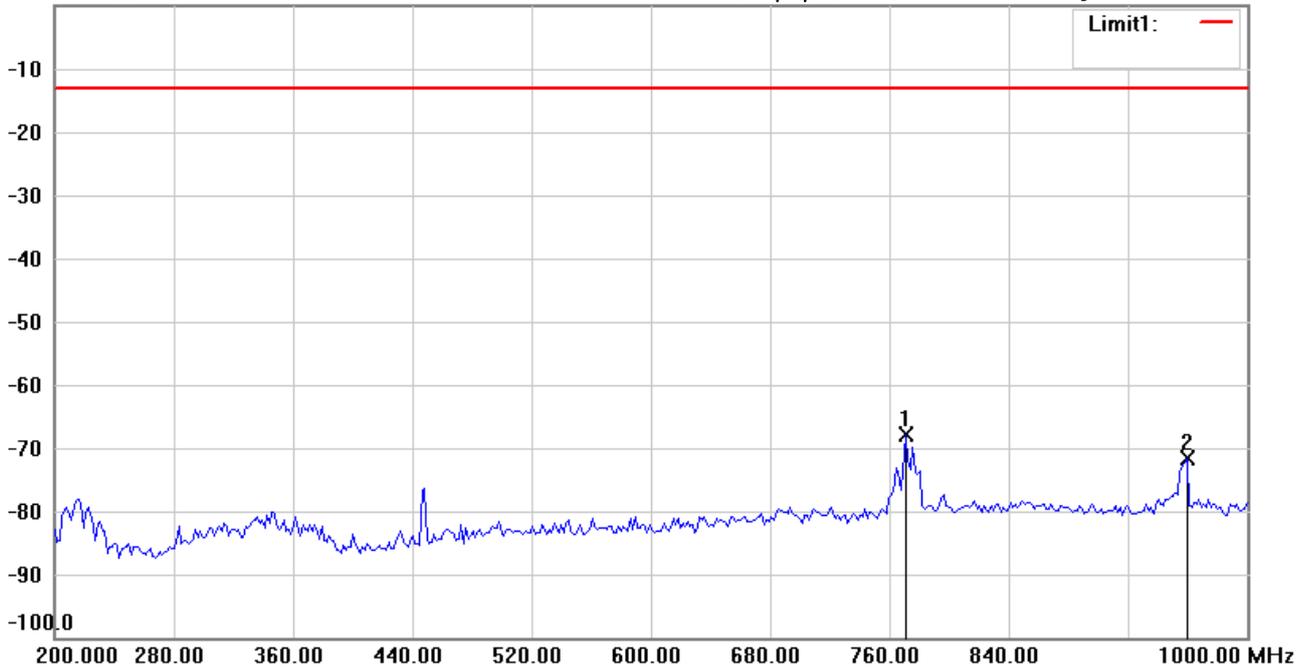
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 02:42:11

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 774.996875MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
*	770.7415	-64.73	peak	-3.26	-67.99	-13.00	150	105	-54.99	
	959.9198	-68.76	peak	-2.88	-71.64	-13.00	150	130	-58.64	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

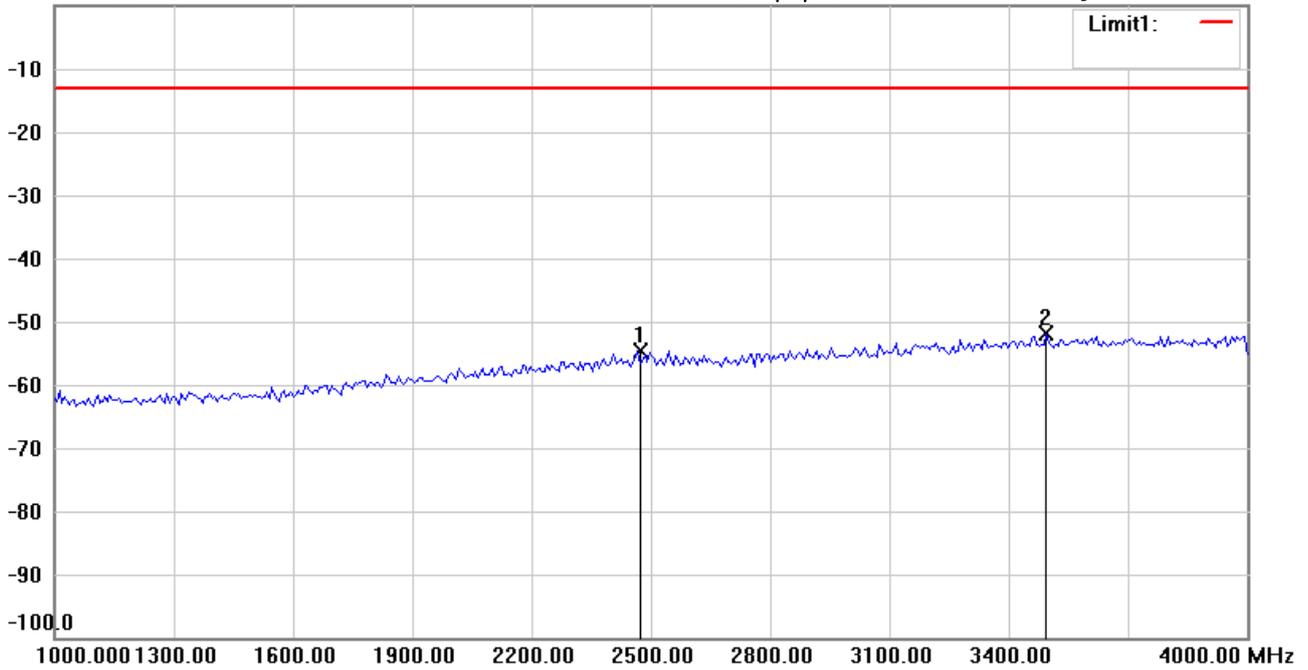
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:18:18

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 774.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	2466.934	-60.41	peak	5.77	-54.64	-13.00	150	45	-41.64	
*	3494.990	-61.19	peak	9.42	-51.77	-13.00	150	160	-38.77	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#3

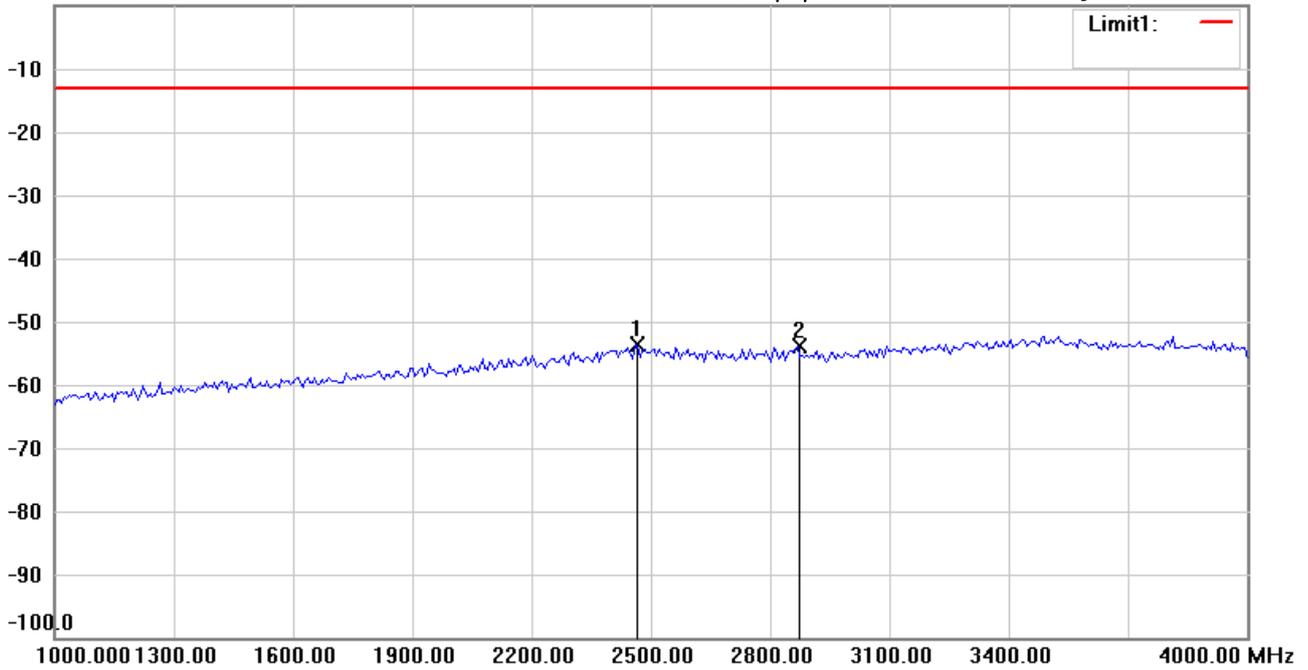
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:21:45

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 774.996875MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
*	2460.922	-60.94	peak	7.34	-53.60	-13.00	150	145	-40.60	
	2869.740	-61.28	peak	7.37	-53.91	-13.00	150	110	-40.91	



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

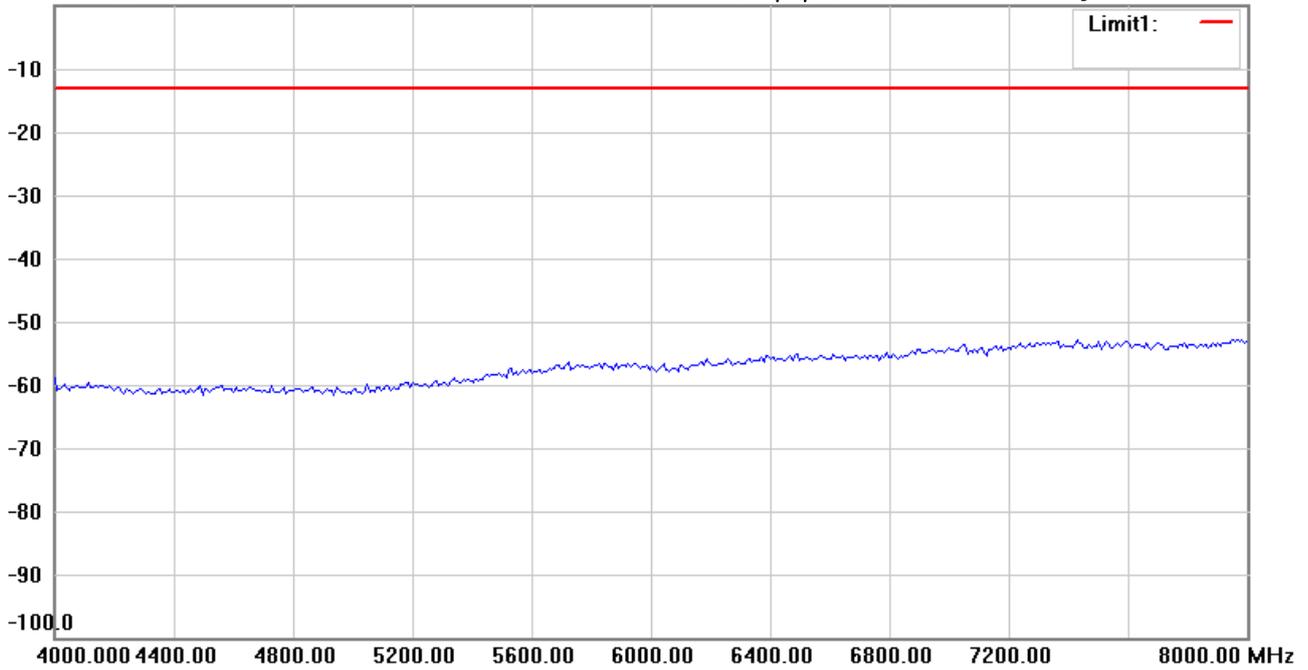
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:19:50

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 774.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#4

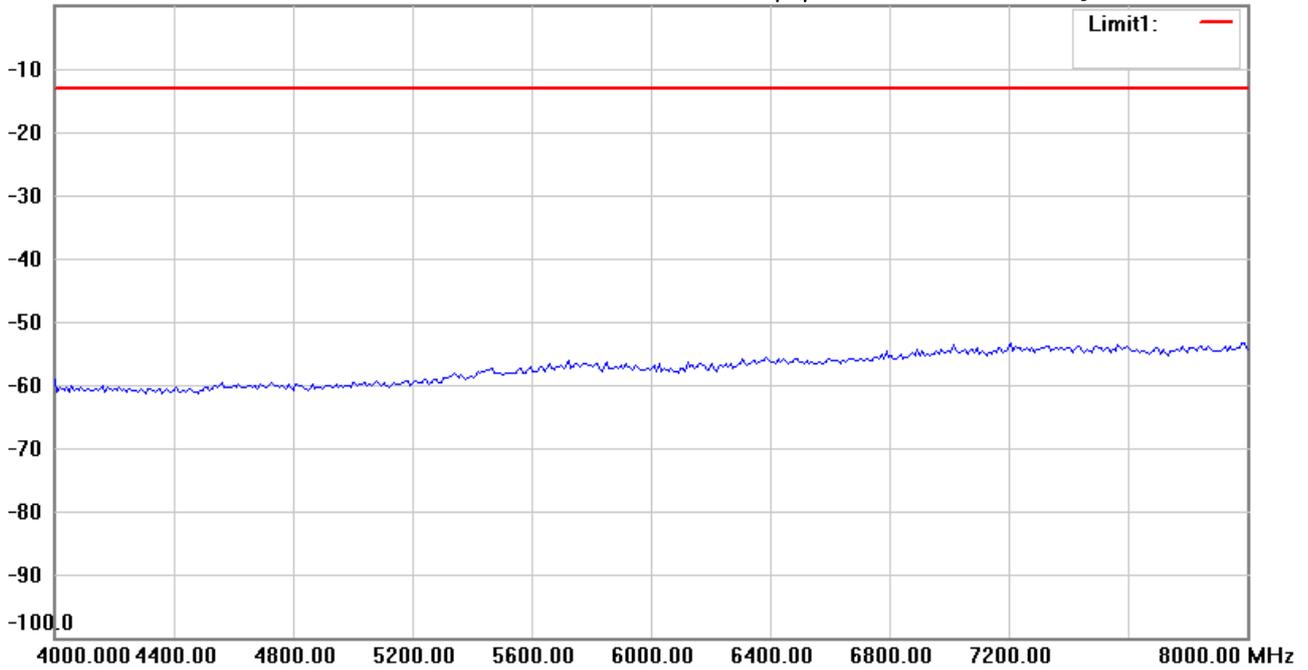
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:22:33

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 774.996875MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
-----	-----------------	---------------	----------	-------------------	--------------	-------------	--------------	----------------	-------------	---------

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



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:09:10

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	146.1723	-58.99	peak	20.61	-38.38	-13.00	150	160	-25.38	
	189.7796	-61.50	peak	21.87	-39.63	-13.00	150	330	-26.63	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:10:45

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	168.3166	-61.12	peak	22.09	-39.03	-13.00	150	110	-26.03	
*	189.0982	-57.42	peak	22.22	-35.20	-13.00	150	130	-22.20	



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Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

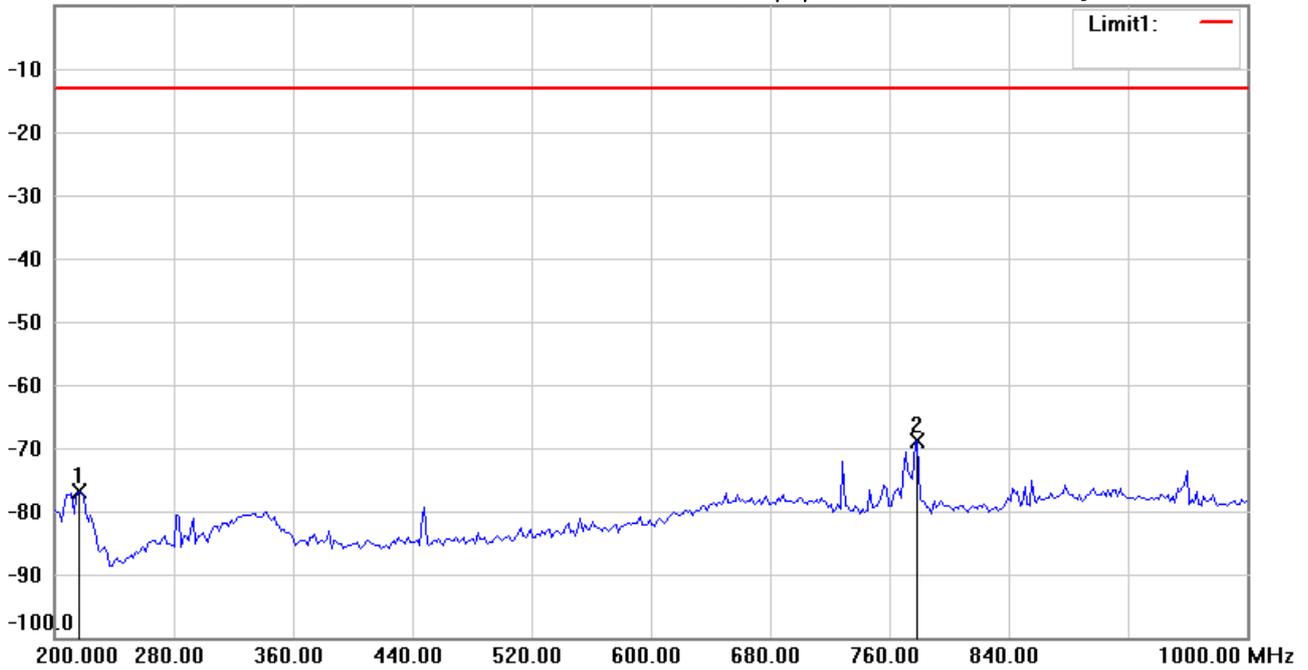
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:11:50

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	216.0321	-61.62	peak	-15.27	-76.89	-13.00	150	130	-63.89	
*	778.7575	-64.56	peak	-4.38	-68.94	-13.00	150	145	-55.94	

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



Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

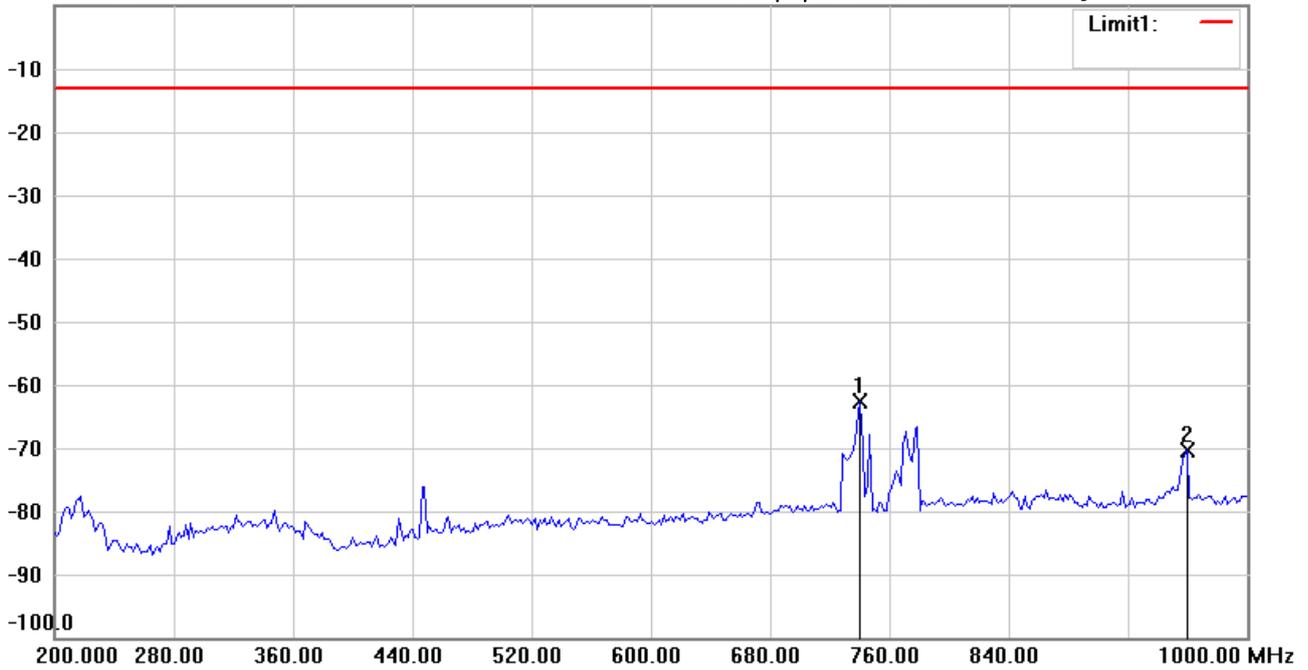
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:20:06

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
*	740.2806	-59.06	peak	-3.55	-62.61	-13.00	150	220	-49.61	
	959.9198	-67.57	peak	-2.88	-70.45	-13.00	150	130	-57.45	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

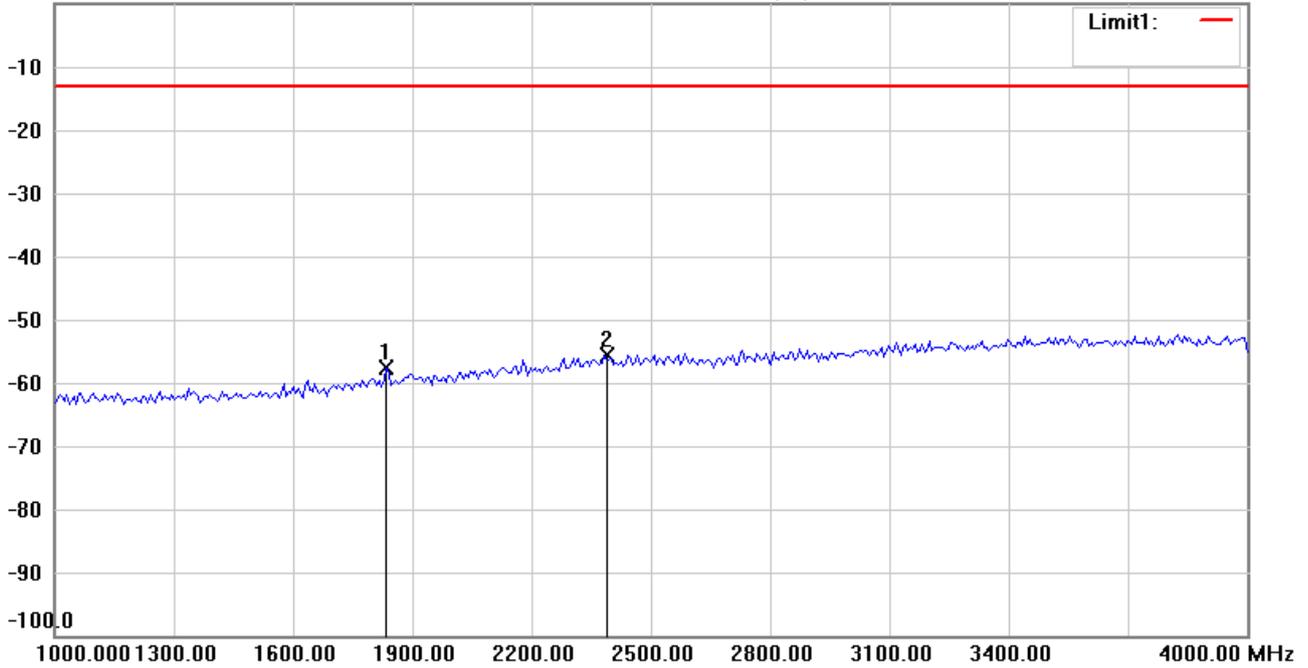
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:25:05

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	1835.671	-59.75	peak	2.17	-57.58	-13.00	150	305	-44.58	
*	2382.766	-61.06	peak	5.32	-55.74	-13.00	150	160	-42.74	



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#4

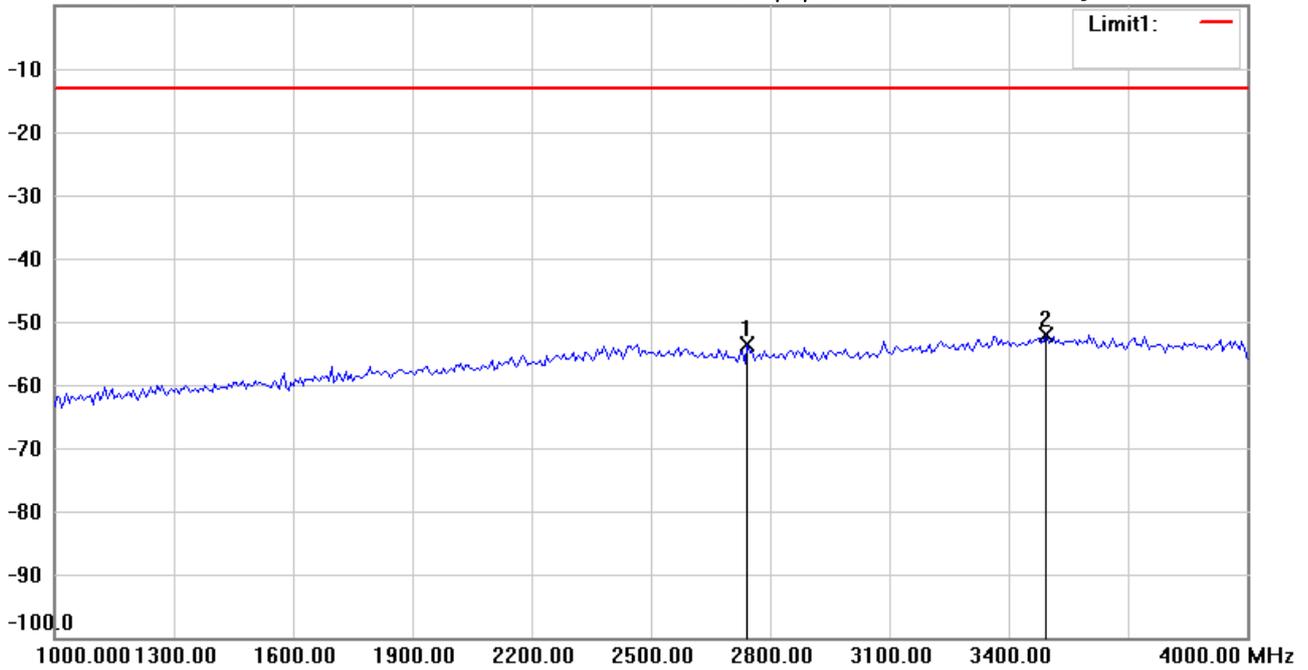
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:28:32

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	2743.487	-61.13	peak	7.44	-53.69	-13.00	150	105	-40.69	
*	3494.990	-62.04	peak	9.81	-52.23	-13.00	150	220	-39.23	

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



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

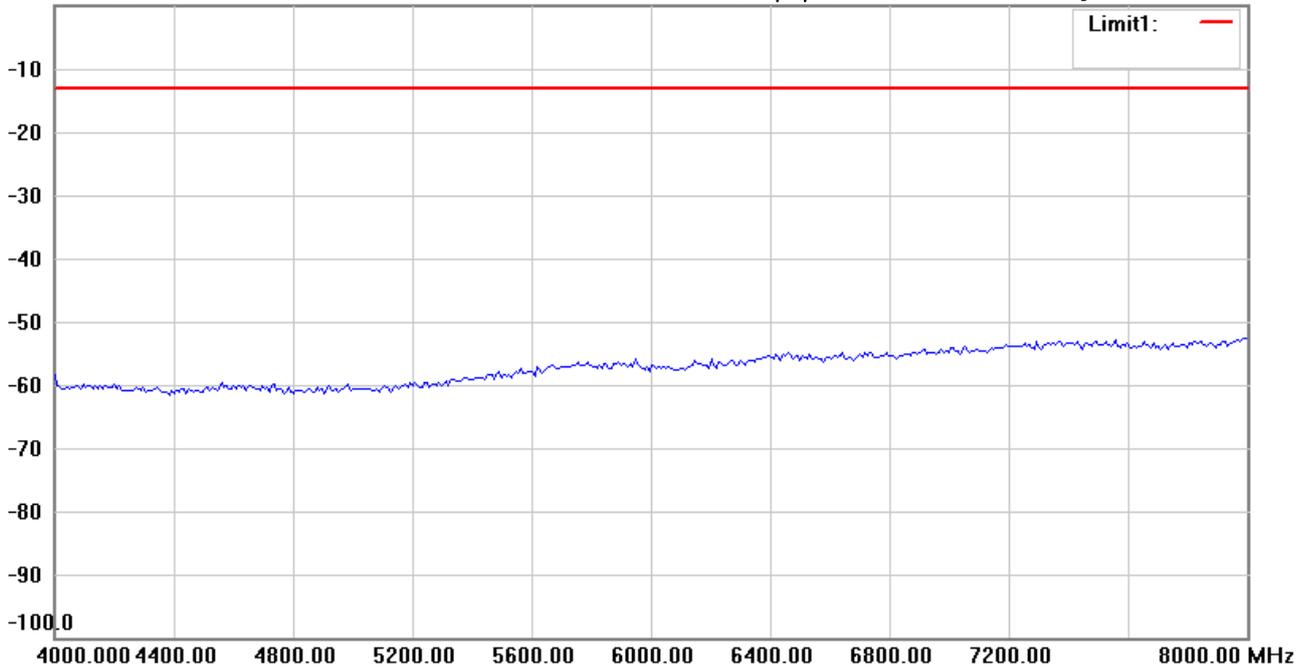
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:25:44

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#5

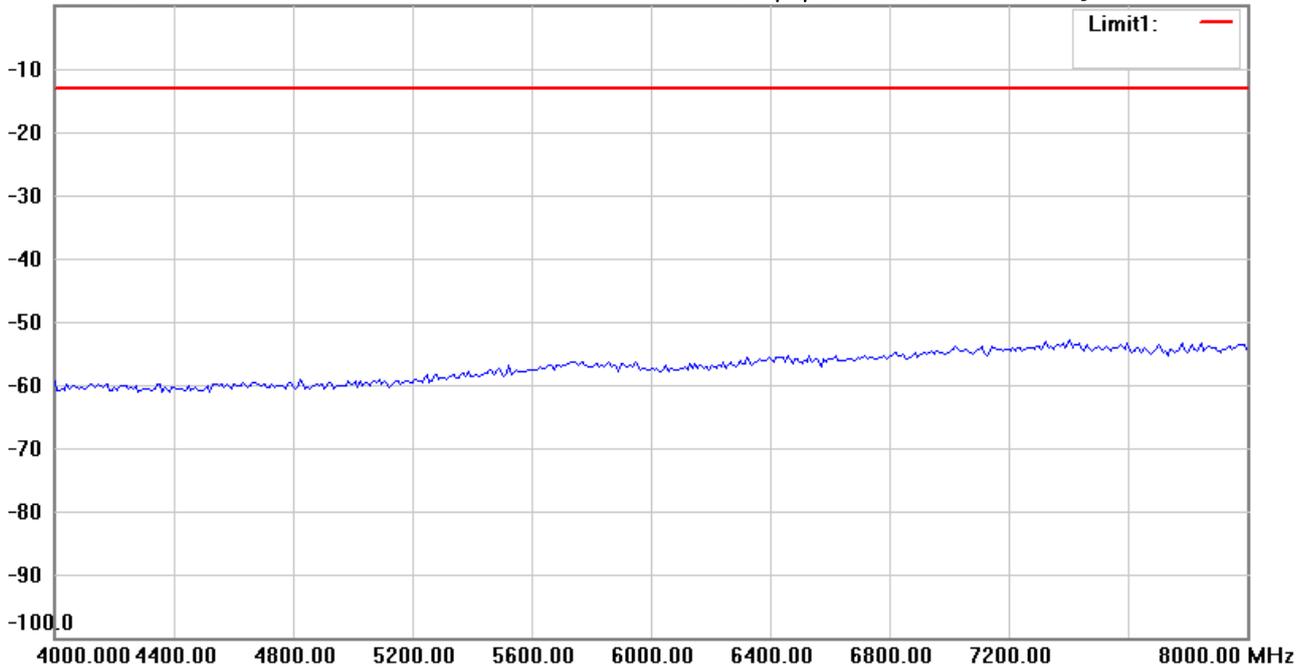
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:29:10

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#3

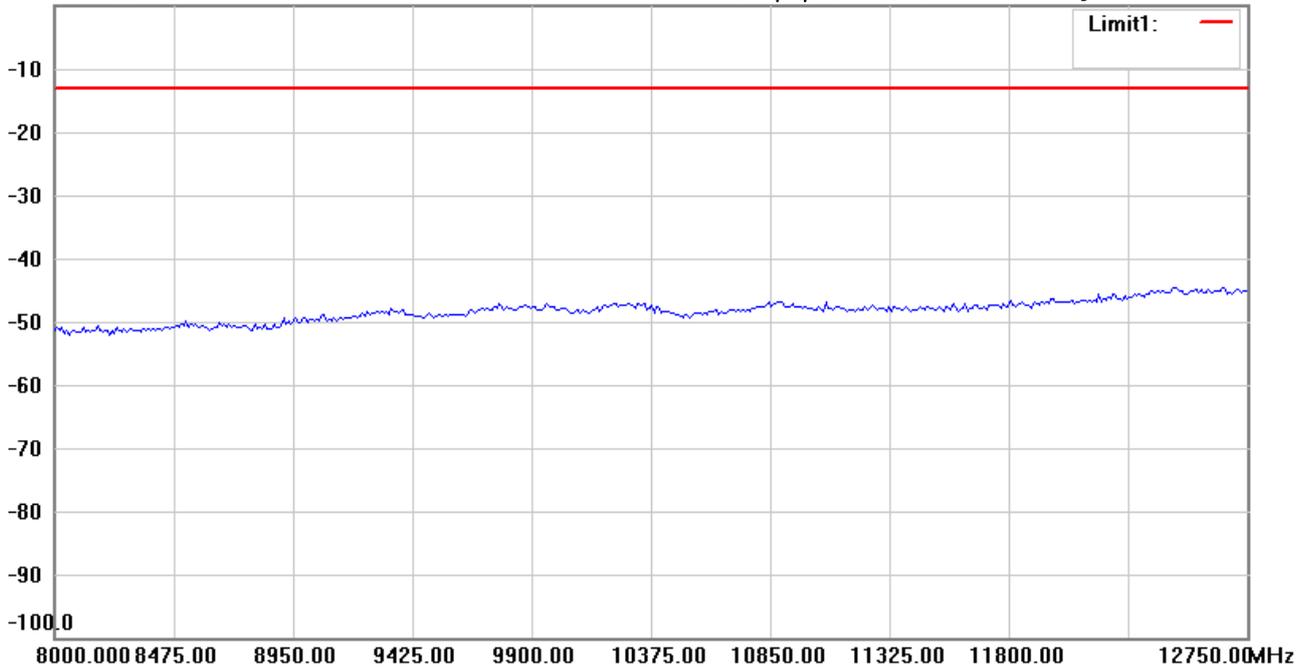
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:26:29

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#6

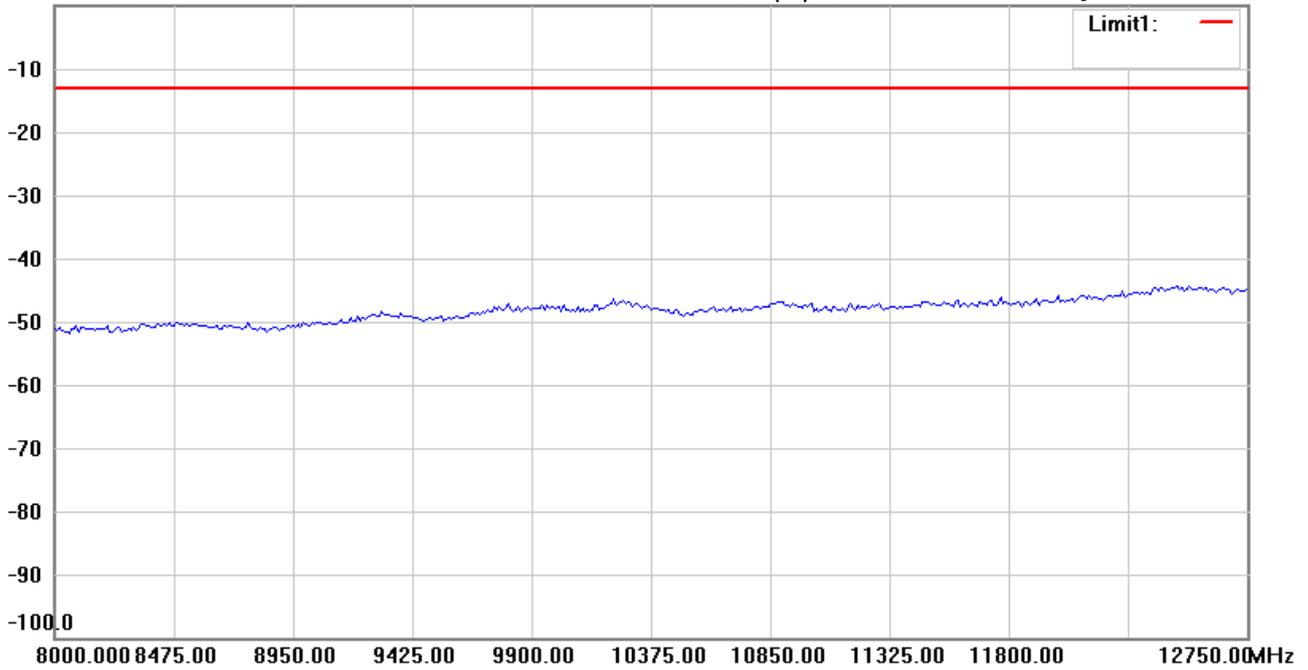
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:29:52

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 851.003125MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:13:19

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	145.8317	-59.22	peak	20.59	-38.63	-13.00	150	185	-25.63	
*	189.7796	-60.00	peak	21.87	-38.13	-13.00	150	160	-25.13	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:14:51

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	167.6353	-61.48	peak	22.08	-39.40	-13.00	150	110	-26.40	
*	189.7796	-57.88	peak	22.22	-35.66	-13.00	150	245	-22.66	



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Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

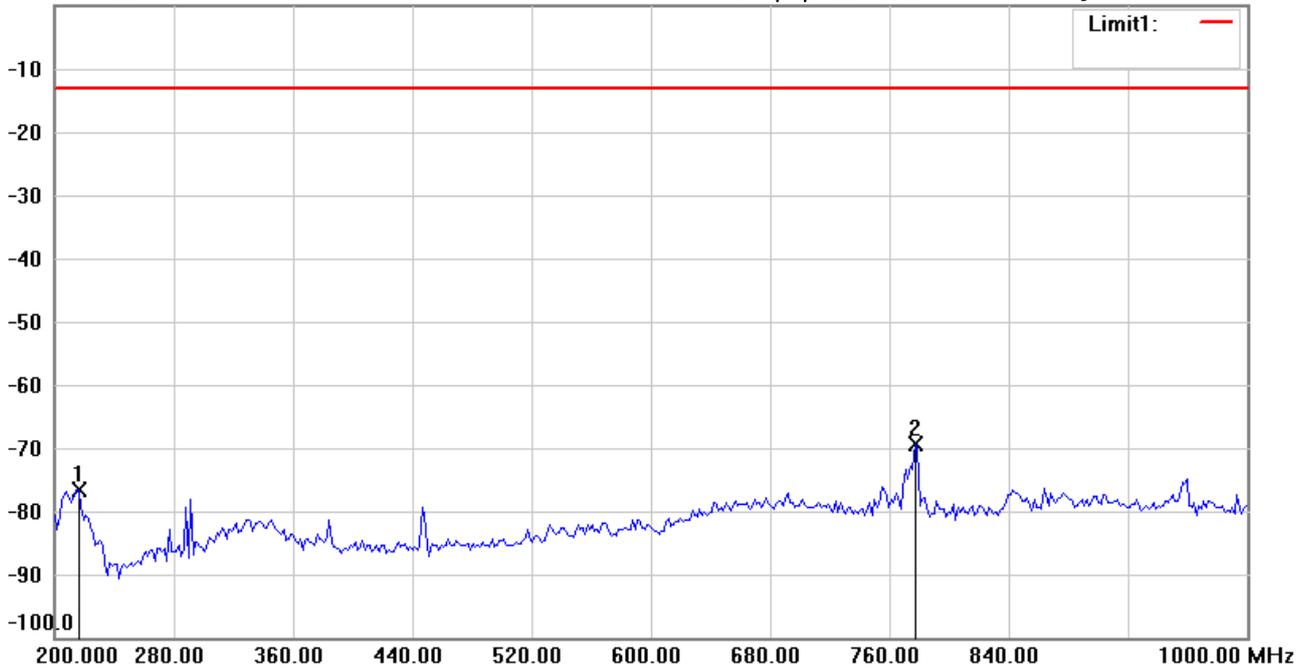
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:29:57

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	214.4290	-61.42	peak	-15.25	-76.67	-13.00	150	130	-63.67	
*	777.1543	-65.06	peak	-4.39	-69.45	-13.00	150	110	-56.45	

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



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Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

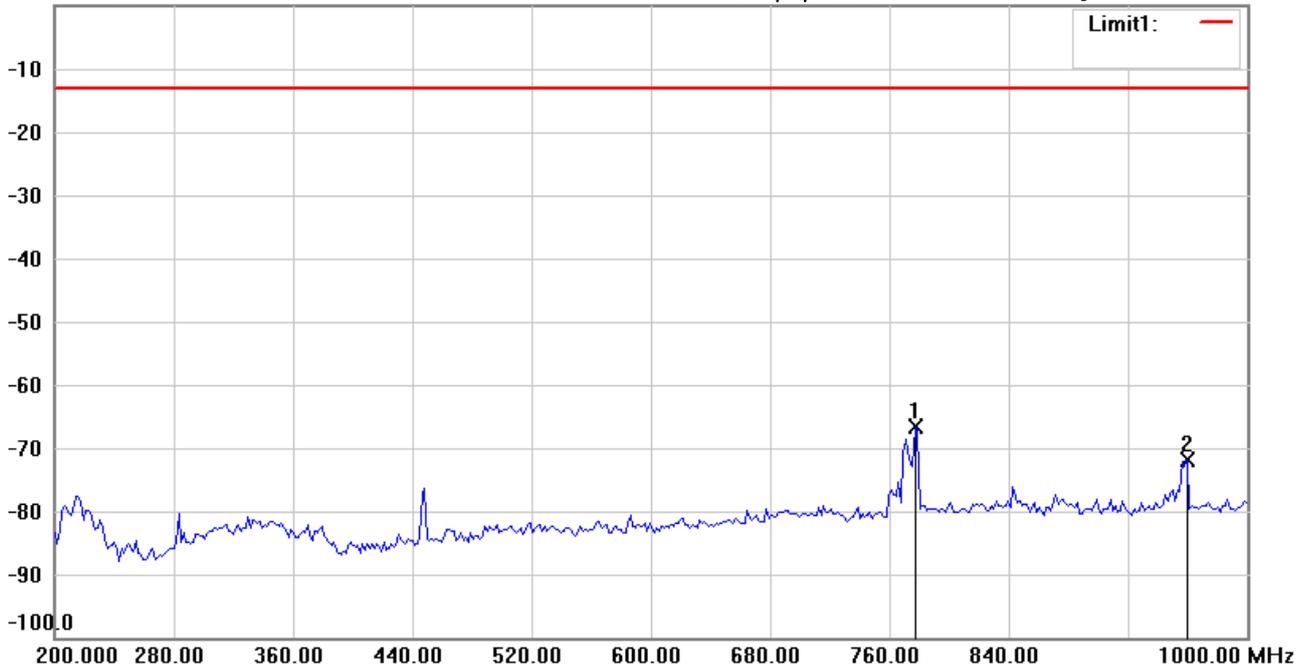
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:32:14

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
*	777.1543	-63.40	peak	-3.14	-66.54	-13.00	150	145	-53.54	
	959.9198	-68.98	peak	-2.88	-71.86	-13.00	150	110	-58.86	

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



Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

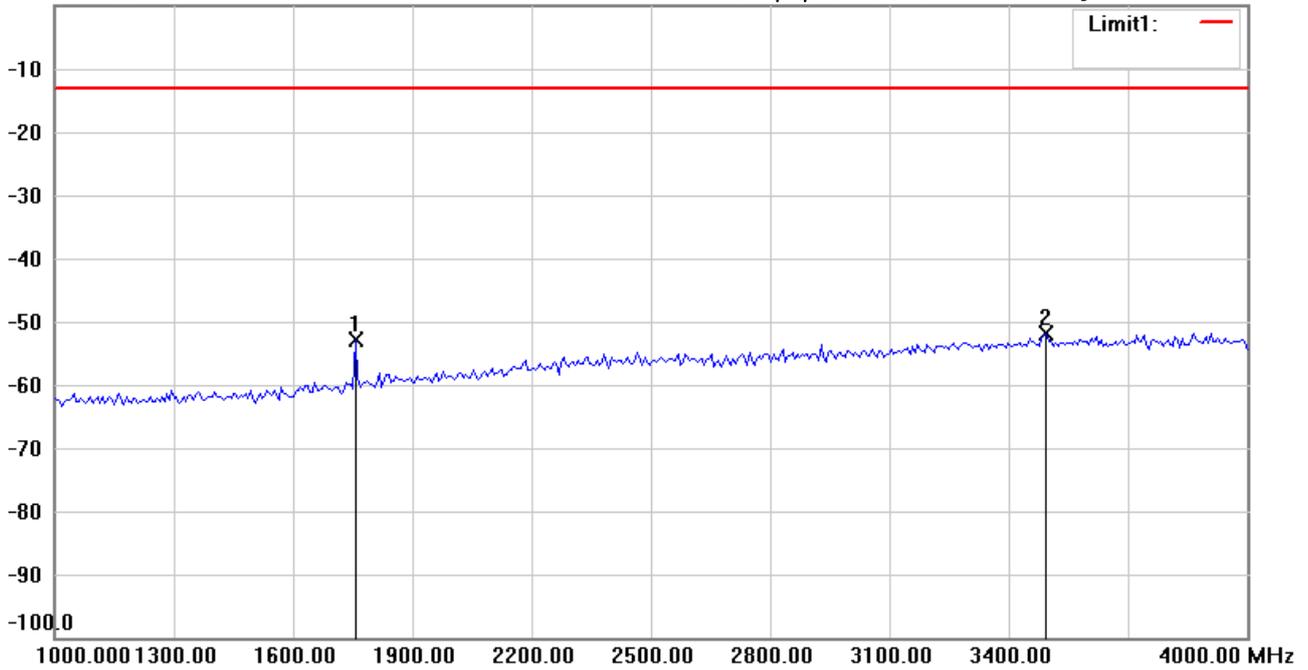
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:32:43

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	1757.515	-54.48	peak	1.65	-52.83	-13.00	150	145	-39.83	
*	3494.990	-61.40	peak	9.42	-51.98	-13.00	150	130	-38.98	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#4

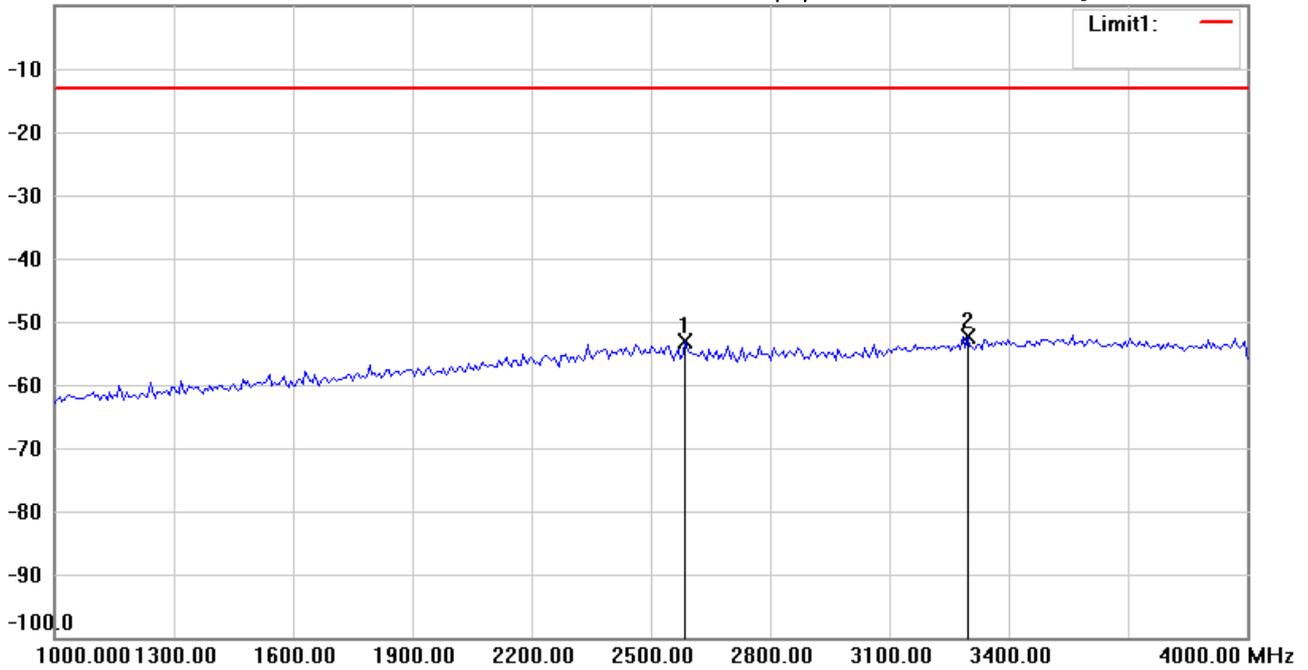
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:36:11

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	2587.174	-60.73	peak	7.53	-53.20	-13.00	150	110	-40.20	
*	3296.593	-61.09	peak	8.80	-52.29	-13.00	150	130	-39.29	



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

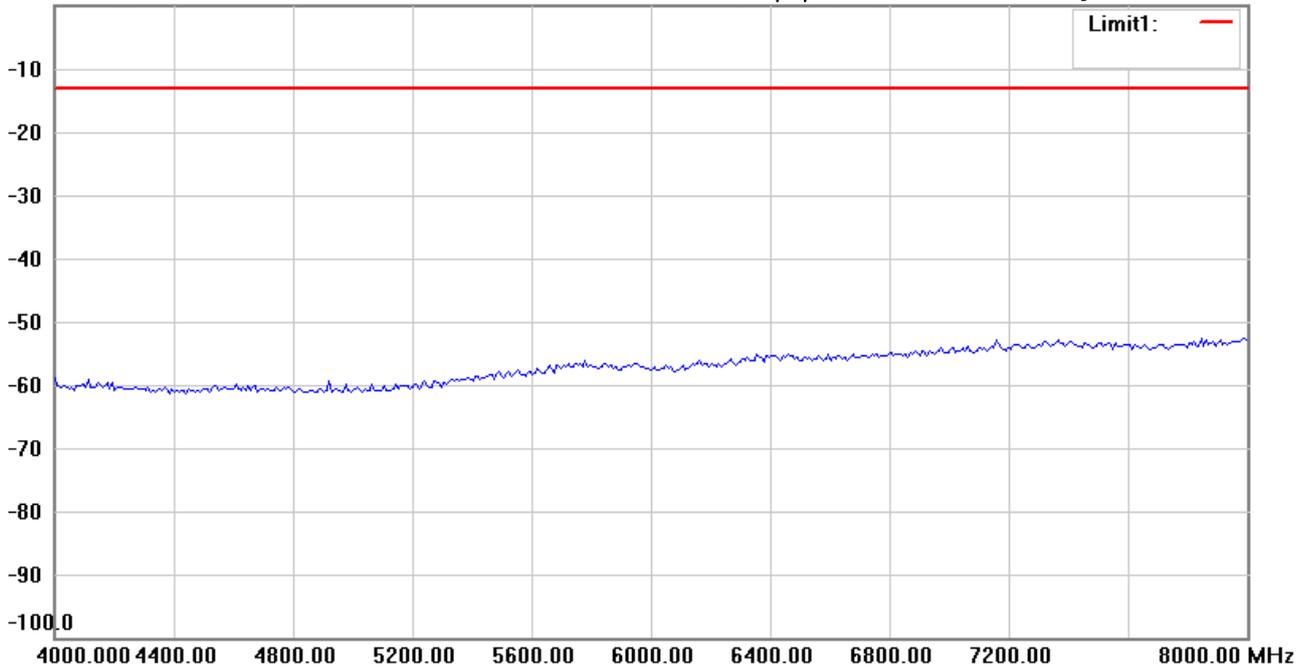
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:33:22

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#5

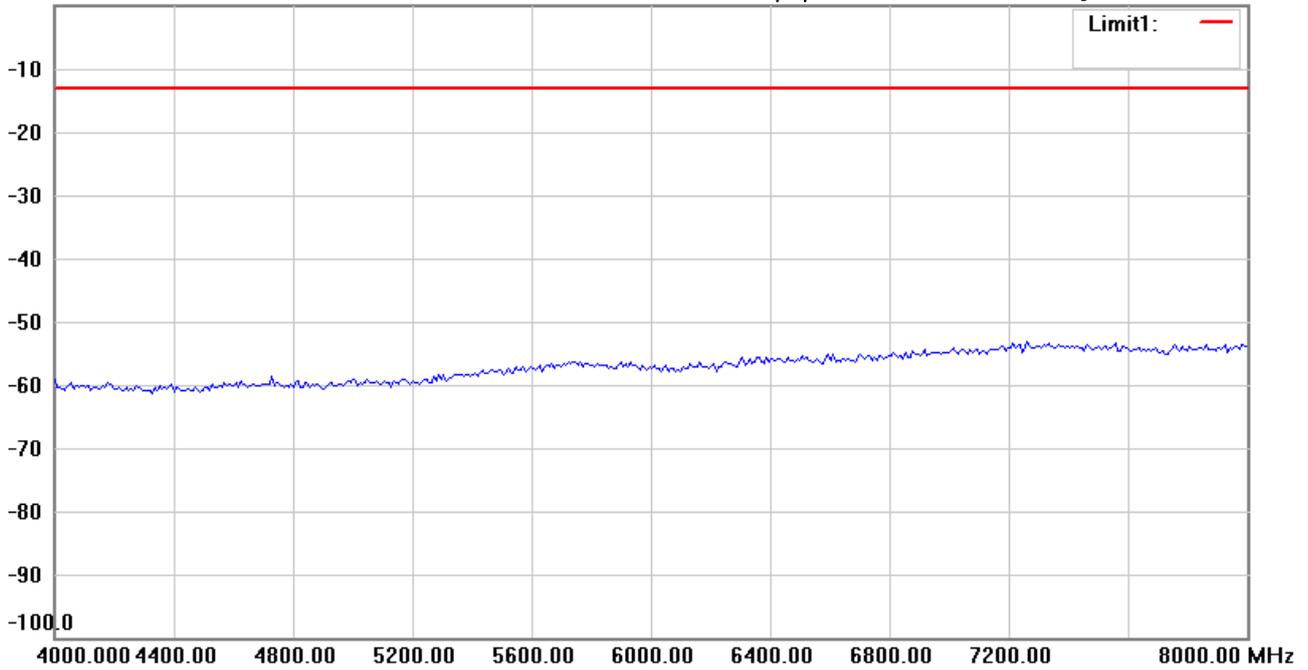
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:36:51

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
-----	-----------------	---------------	----------	-------------------	--------------	-------------	--------------	----------------	-------------	---------

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



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#3

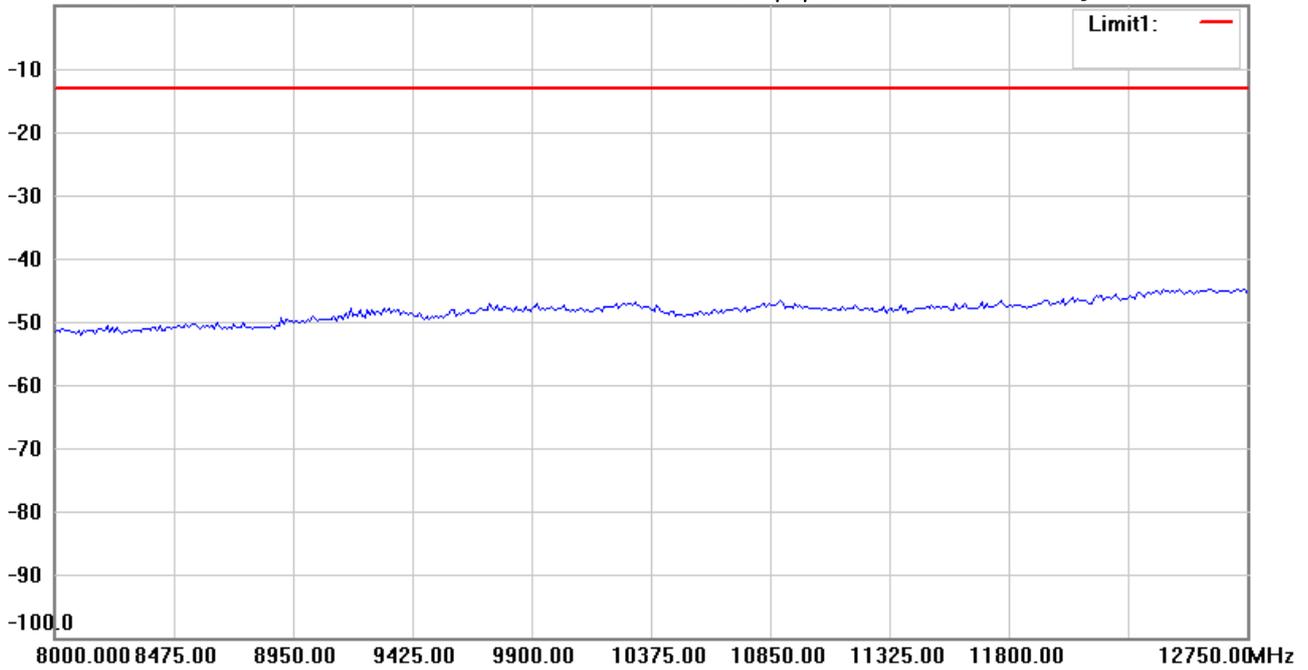
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:34:07

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
-----	-----------------	---------------	----------	-------------------	--------------	-------------	--------------	----------------	-------------	---------

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



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#6

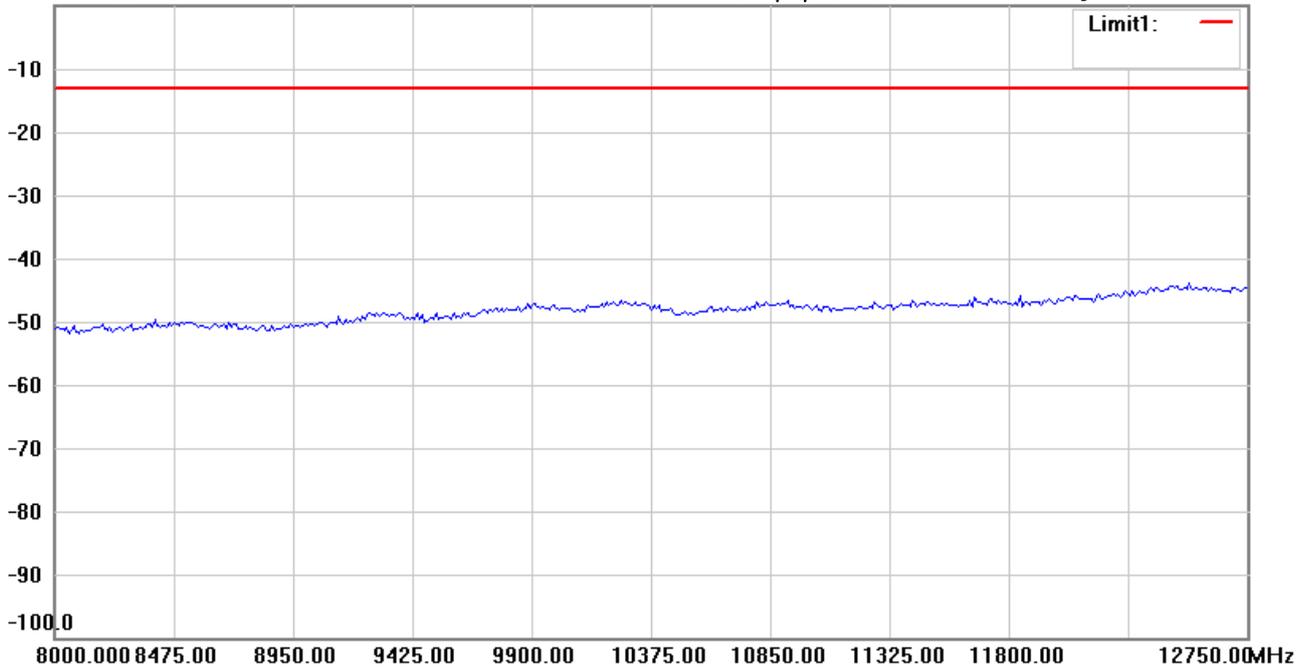
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:37:34

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 856.5MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



Radiated Emission Measurement

Operator: Kent

File :1

Data :#1

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:17:06

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
*	146.1723	-59.44	peak	20.61	-38.83	-13.00	150	140	-25.83	
	189.0982	-62.14	peak	21.89	-40.25	-13.00	150	110	-27.25	



Radiated Emission Measurement

Operator: Kent

File :1

Data :#2

Date: 2019/12/9

Temperature:24 °C

0.0 dBm

Time: 下午 08:19:24

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	166.9540	-61.45	peak	22.07	-39.38	-13.00	150	245	-26.38	
*	190.1202	-59.18	peak	22.22	-36.96	-13.00	150	185	-23.96	



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Radiated Emission Measurement

Operator: Kent

File :2

Data :#1

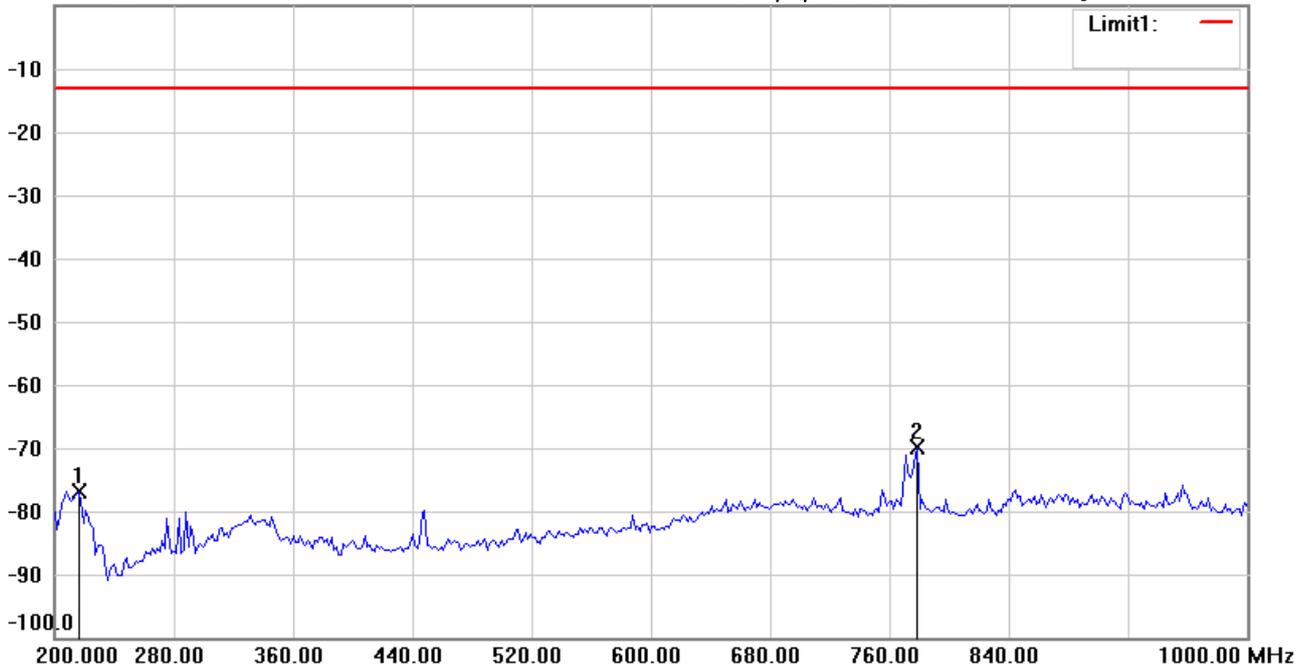
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:34:58

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	216.0321	-61.68	peak	-15.27	-76.95	-13.00	150	130	-63.95	
*	778.7575	-65.49	peak	-4.38	-69.87	-13.00	150	145	-56.87	

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



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Radiated Emission Measurement

Operator: Kent

File :2

Data :#2

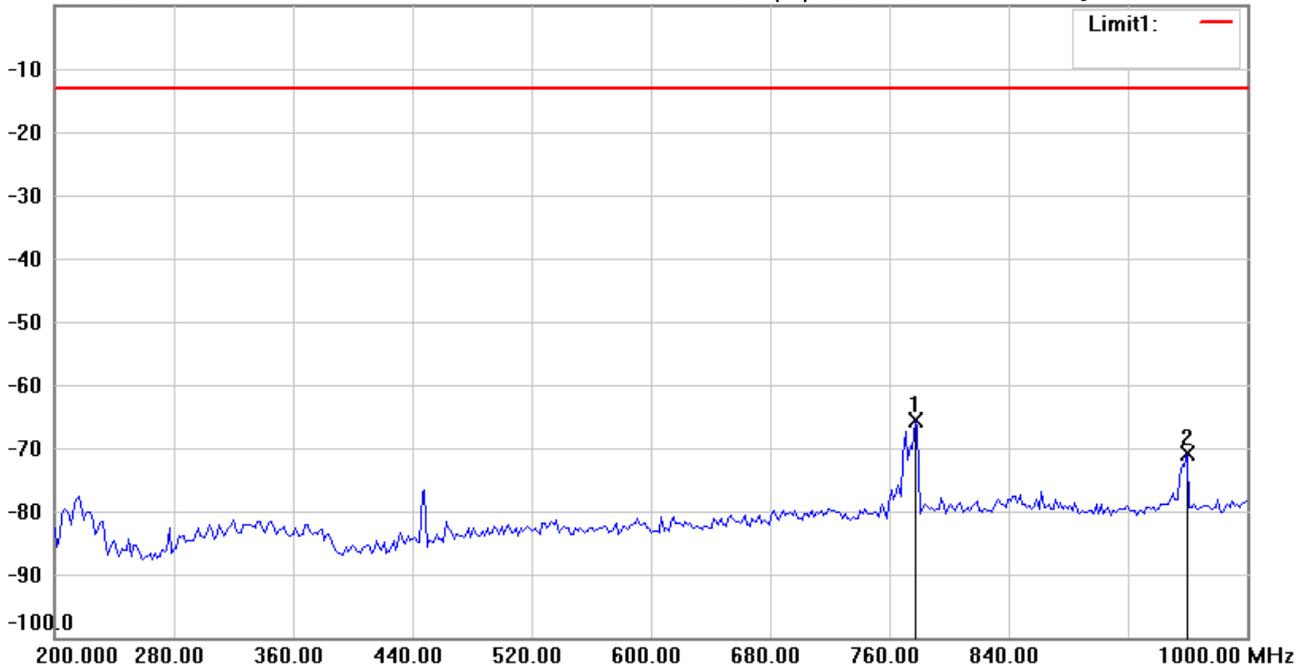
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 03:36:54

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
*	777.1543	-62.57	peak	-3.14	-65.71	-13.00	150	245	-52.71	
	959.9198	-68.06	peak	-2.88	-70.94	-13.00	150	160	-57.94	

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



Radiated Emission Measurement

Operator: Kent

File :3

Data :#1

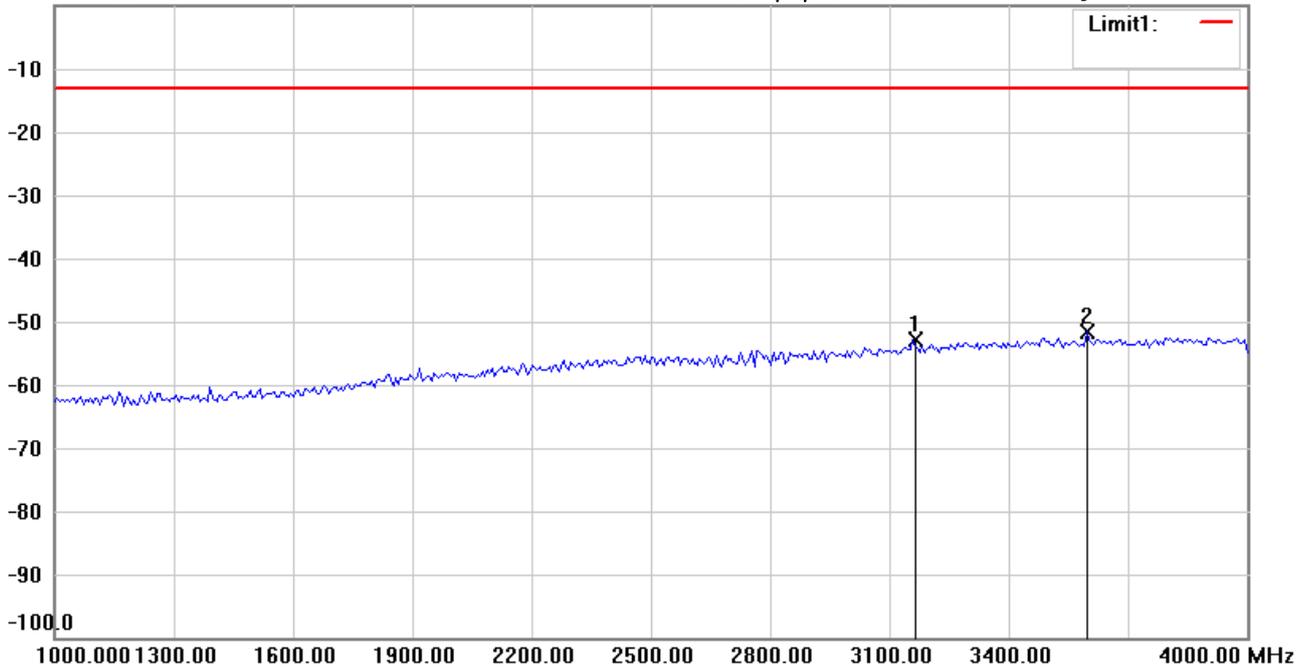
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:40:35

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
	3158.317	-60.88	peak	7.92	-52.96	-13.00	150	110	-39.96	
*	3597.194	-61.25	peak	9.58	-51.67	-13.00	150	45	-38.67	



Radiated Emission Measurement

Operator: Kent

File :3

Data :#4

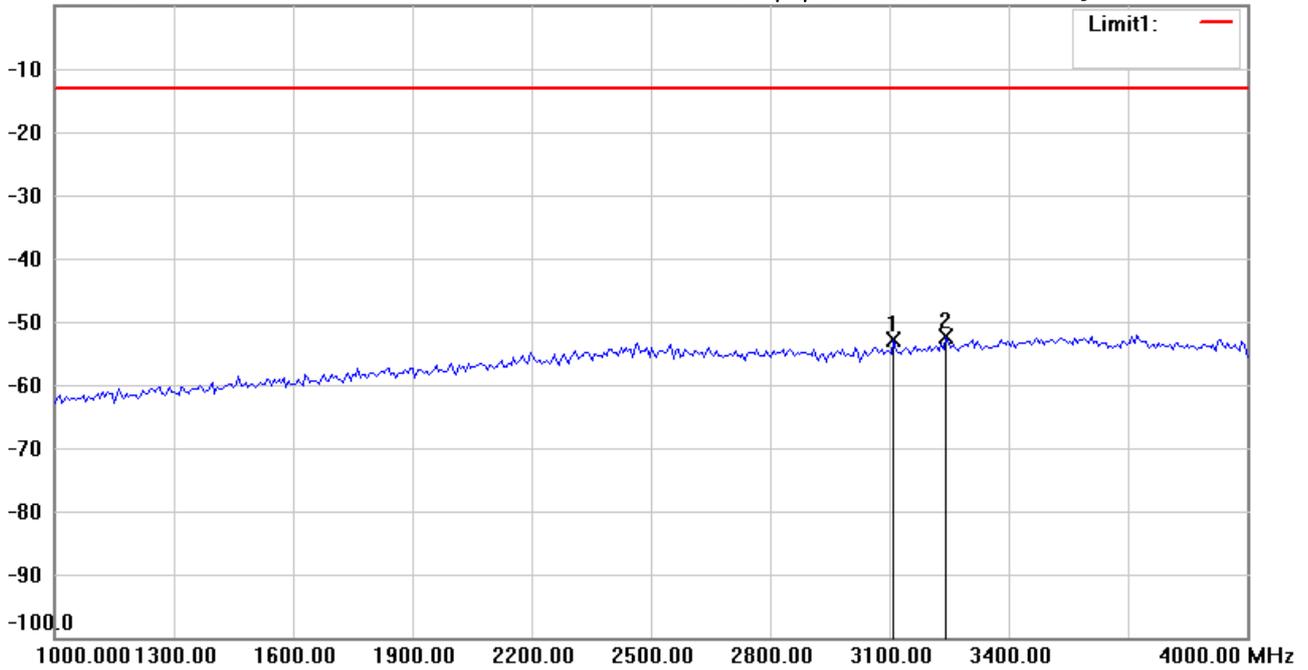
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:43:50

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: **Vertical**

Power : 120 Va.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
	3110.220	-60.64	peak	7.85	-52.79	-13.00	150	130	-39.79	
*	3242.485	-60.95	peak	8.53	-52.42	-13.00	150	110	-39.42	



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#2

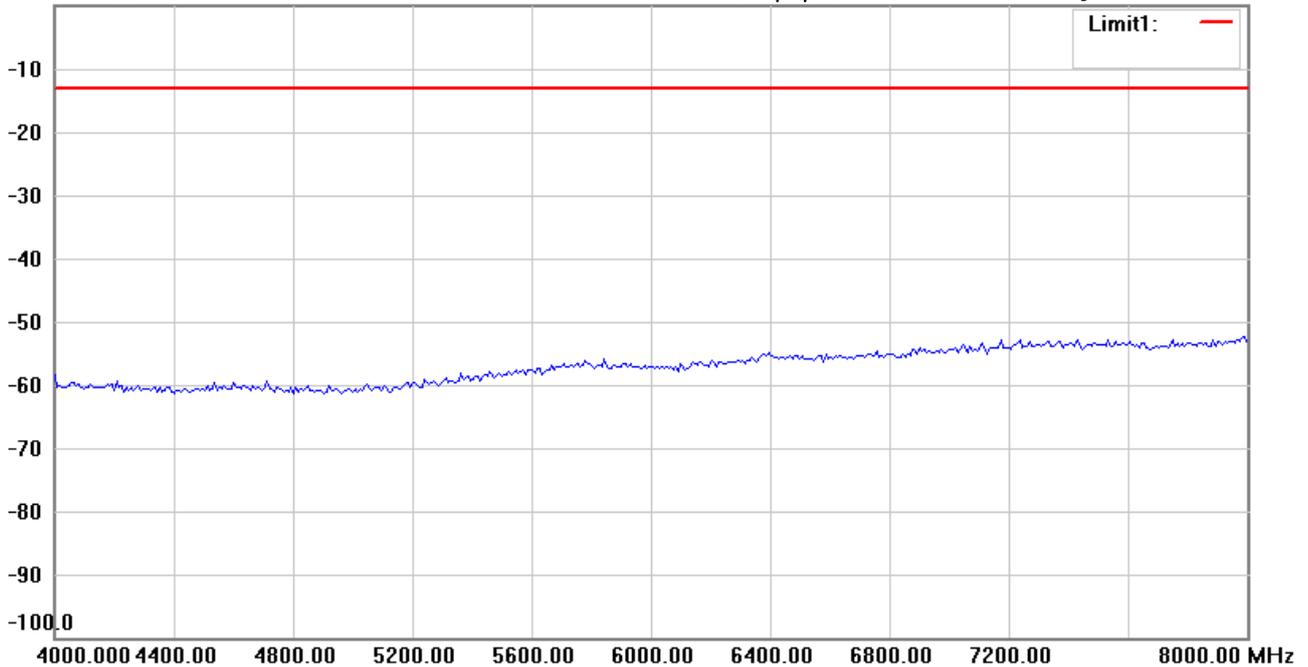
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:41:12

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#5

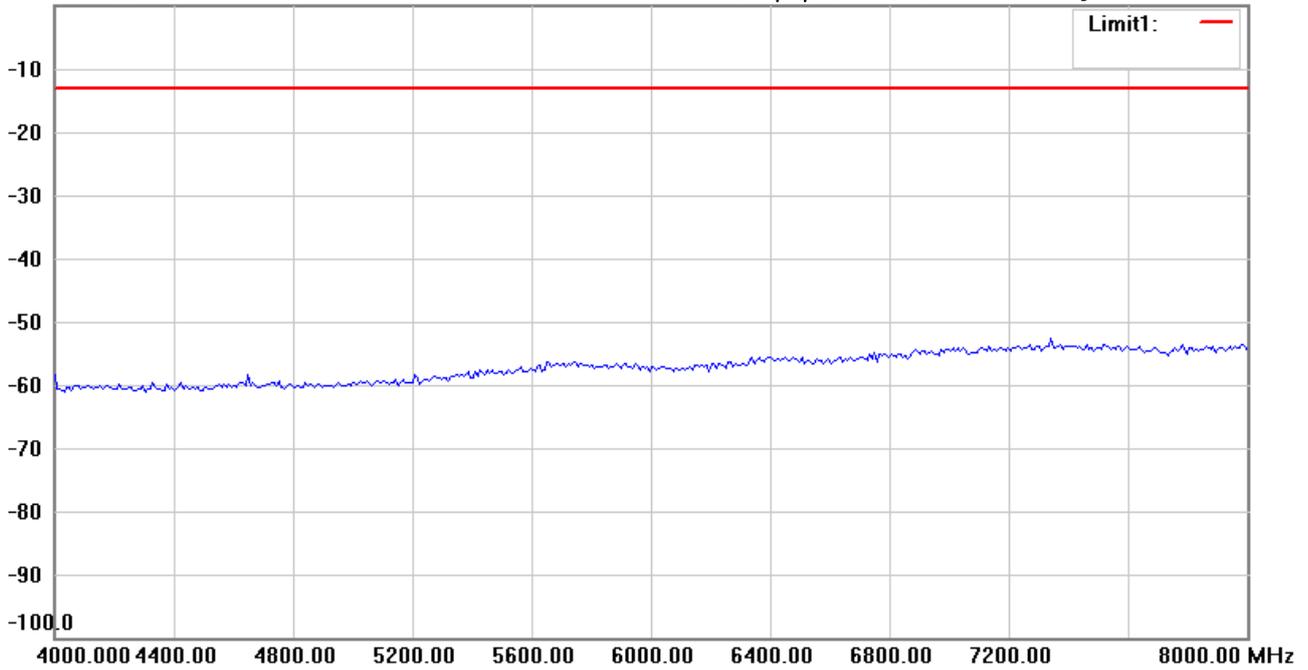
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:44:28

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#3

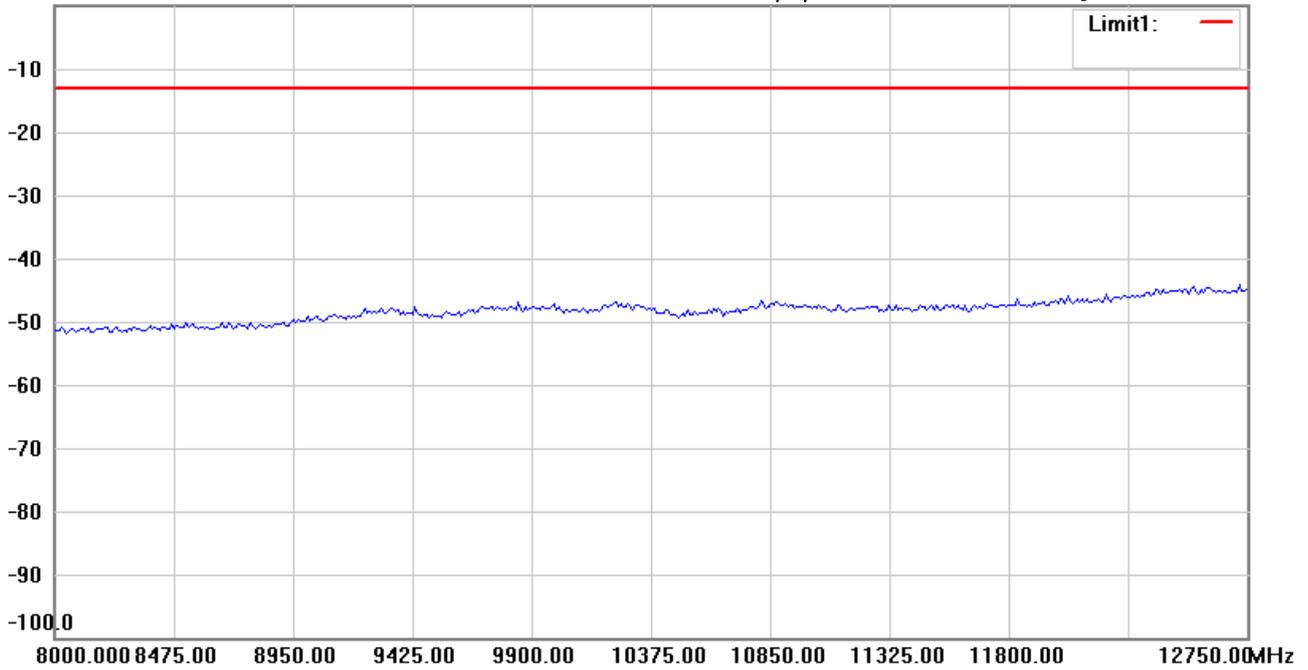
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:41:56

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: *Horizontal*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin



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Radiated Emission Measurement

Operator: Kent

File :3

Data :#6

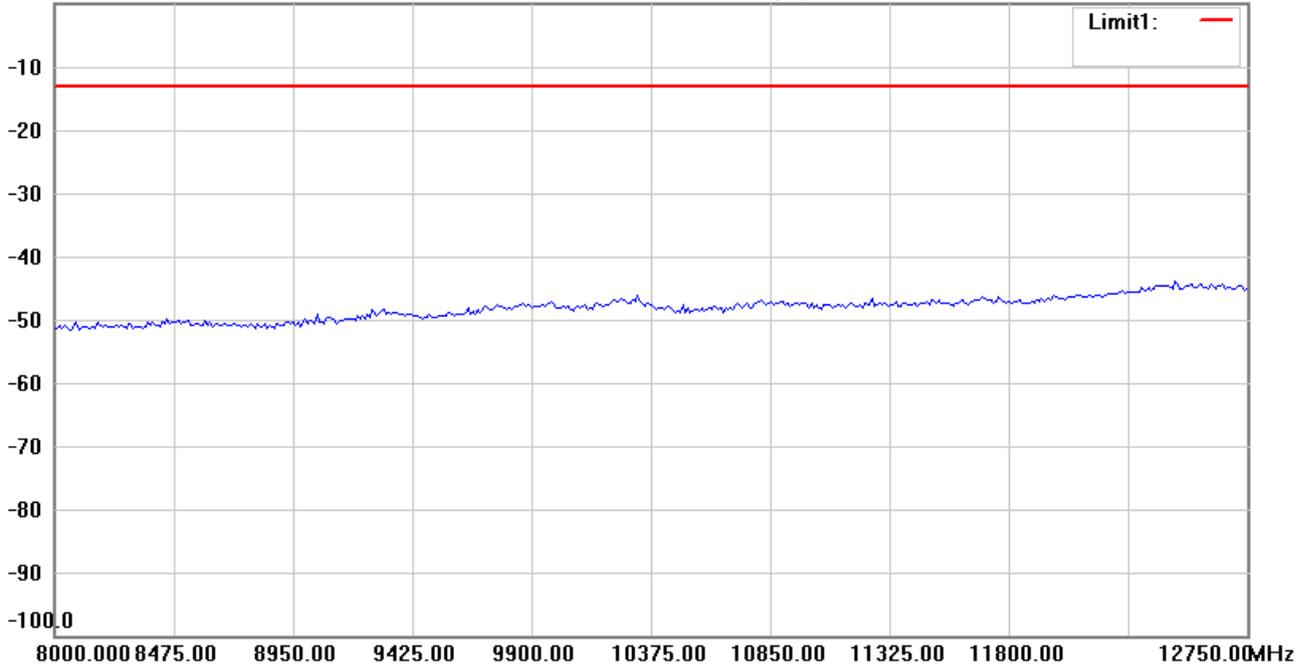
Date: 2019/12/10

Temperature:24 °C

0.0 dBm

Time: 下午 04:45:10

Humidity:60 %



Site : Chamber

Condition : FCC\_part 90 RE

EUT : W6M21909-19340

M/N:

Test Mode : TX 861.996875MHz

Note :

Polarization: *Vertical*

Power : 120 Va.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
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\*:Maximum data    x:Over limit    !:over margin