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Report No.: SZEM130500239201
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FCC REPORT

Application No: SZEM1305002392RF(GZEM1305002011RF)
Applicant: Mizco International Inc.
Manufacturer: Shenzhen Onuoda Electronics Technology Co., Ltd
Factory: Shenzhen Onuoda Electronics Technology Co., Ltd
Product Name: FM-transmitter
Model No.(EUT): MZ-JAM10TD
FCC ID: RZO-MZJAM10TD
Standards: 47 CFR Part 15, Subpart C (2012)
Date of Receipt: 2013-05-15
Date of Test: 2013-05-16 to 2013-05-20
Date of Issue: 2013-08-26

Test Result:	PASS *
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* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Jack Zhang
EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.

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2 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203	ANSI C63.10 (2009)	PASS
Field Strength of the Fundamental Signal	47 CFR Part 15, Subpart C Section 15.239 (a)	ANSI C63.10 (2009)	PASS
Spurious Emissions	47 CFR Part 15, Subpart C Section 15.239 (c)/15.209	ANSI C63.10 (2009)	PASS
20dB Bandwidth	47 CFR Part 15, Subpart C Section 15.239 (a)	ANSI C63.10 (2009)	PASS

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4 General Information

4.1 Client Information

Applicant:	Mizco International Inc.
Address of Applicant:	80 Essex Avenue East Avenel, NJ07001, USA
Manufacturer:	Shenzhen Onuoda Electronics Technology Co., Ltd
Address of Manufacturer:	3F D Building jingfu industry zone Airway(west) Gushu village xixiang town Bao'an district Shenzhen
Factory:	Shenzhen Onuoda Electronics Technology Co., Ltd
Address of Factory:	3F D Building jingfu industry zone Airway(west) Gushu village xixiang town Bao'an district Shenzhen

4.2 General Description of EUT

Name:	FM-transmitter
Model No.:	MZ-JAM10TD
Sample Type:	Portable production
Operation Frequency:	88.1MHz~107.9MHz
Channel Numbers:	199
Channel Separation:	100KHz
Modulation Type:	FM
Antenna Type:	Integral
Antenna Gain:	0dBi
AC adapter:	Input Voltage: DC 12V-24V Output Voltage: DC 5V 800mA
Aux in line:	24.5cm

Remark:

1:The device doesn't any tune outside of the 88.1MHz~107.9MHz band and the tuning controls were manually adjusted to verify maximum tuning range.

2: The device can work after testing.



Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	88.1MHz	48	92.8MHz	98	97.8MHz	148	102.8MHz
2	88.2MHz	49	92.9MHz	99	97.9MHz	149	102.9MHz
3	88.3MHz	50	93MHz	100	98MHz	150	103MHz
4	88.4MHz	51	93.1MHz	101	98.1MHz	151	103.1MHz
5	88.5MHz	52	93.2MHz	102	98.2MHz	152	103.2MHz
6	88.6MHz	53	93.3MHz	103	98.3MHz	153	103.3MHz
7	88.7MHz	54	93.4MHz	104	98.4MHz	154	103.4MHz
8	88.8MHz	55	93.5MHz	105	98.5MHz	155	103.5MHz
9	88.9MHz	56	93.6MHz	106	98.6MHz	156	103.6MHz
10	89MHz	57	93.7MHz	107	98.7MHz	157	103.7MHz
11	89.1MHz	58	93.8MHz	108	98.8MHz	158	103.8MHz
12	89.2MHz	59	93.9MHz	119	98.9MHz	159	103.9MHz
.....
46	92.6MHz	96	97.6MHz	146	102.6MHz	199	107.9MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel	88.1MHz
The Middle channel	98.1MHz
The Highest channel	107.9MHz

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4.3 Test Environment and Mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	52 % RH
Atmospheric Pressure:	1005 mbar
Test mode:	
Transmitter mode:	Set the EUT Transmitting at 88.1MHz, 98.1MHz, 107.9MHz.
Audio Input Signal	A typical audio with maximum audio input.

4.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.
iPod	Apple	A1199

4.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch E&E Lab,

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China.
518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **CNAS (No. CNAS L2929)**

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

- **VCCI**

The 3m Semi-anechoic chamber, Full-anechoic Chamber and Shielded Room (7.5m x 4.0m x 3.0m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-2197, G-416, T-1153 and C-2383 respectively.

- **FCC – Registration No.: 556682**

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

- **Industry Canada (IC)**

Two 3m Semi-anechoic chambers of SGS-CSTC Standards Technical Services Co., Ltd. have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1 & 4620C-2.

4.7 Deviation from Standards

None.

4.8 Abnormalities from Standard Conditions

None.

4.9 Other Information Requested by the Customer

None.

4.10 Equipment List

RE in Chamber					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2013-06-10
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2013-05-16
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2013-10-24
5	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2013-10-24
6	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEL0076	2013-10-24
7	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2013-05-16
8	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2013-10-24
9	Coaxial cable	SGS	N/A	SEL0027	2013-05-29
10	Coaxial cable	SGS	N/A	SEL0189	2013-05-29
11	Coaxial cable	SGS	N/A	SEL0121	2013-05-29
12	Coaxial cable	SGS	N/A	SEL0178	2013-05-29
13	Band filter	Amindeon	82346	SEL0094	2013-05-16
14	Barometer	Chang Chun	DYM3	SEL0088	2013-05-24
15	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2013-10-24
16	Humidity/ Temperature Indicator	Shanghai Qixiang	ZJ1-2B	SEL0103	2013-10-24
17	Signal Generator (10M-27GHz)	Rohde & Schwarz	SMR27	SEL0067	2013-05-16
18	Signal Generator	Rohde & Schwarz	SMY01	SEL0155	2013-10-24
19	Loop Antenna	Beijing Daze	ZN30401	SEL0203	2013-06-04



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RE in Chamber					
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1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEL0017	2014-06-10
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEL0023	2014-05-16
3	EMI Test software	AUDIX	E3	SEL0050	N/A
4	Coaxial cable	SGS	N/A	SEL0027	2014-05-29
5	Coaxial cable	SGS	N/A	SEL0189	2014-05-29
6	Coaxial cable	SGS	N/A	SEL0121	2014-05-29
7	Coaxial cable	SGS	N/A	SEL0178	2014-05-29
8	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEL0015	2013-10-24
9	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEL0006	2013-10-24
10	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEL0053	2014-05-16
11	Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	SEL0168	2013-10-24
12	Barometer	ChangChun	DYM3	SEL0088	2014-05-24
13	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2013-10-24
14	Humidity/ Temperature Indicator	Shanghai Qixiang	ZJ1-2B	SEL0103	2013-10-24
15	Signal Generator	Rohde & Schwarz	SMY01	SEL0155	2013-10-24
16	Signal Generator (10M-27GHz)	Rohde & Schwarz	SMR27	SEL0067	2014-05-16
17	Loop Antenna	Beijing Daze	ZN30401	SEL0203	2014-06-04

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RF connected test					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2013-10-24
2	Humidity/ Temperature Indicator	HYGRO	ZJ1-2B	SEL0033	2013-10-24
3	Spectrum Analyzer	Rohde & Schwarz	FSP	SEL0154	2013-10-24
4	Coaxial cable	SGS	N/A	SEL0178	2013-05-29
5	Coaxial cable	SGS	N/A	SEL0179	2013-05-29
6	Barometer	ChangChun	DYM3	SEL0088	2013-05-24
7	Signal Generator	Rohde & Schwarz	SML03	SEL0068	2013-05-16
8	Band filter	amideon	82346	SEL0094	2013-05-16
9	POWER METER	R & S	NRVS	SEL0144	2013-10-24
10	Attenuator	Beijin feihang taida	TST-2-6dB	SEL0205	2013-05-16
11	Power Divider(splitter)	Agilent Technologies	11636B	SEL0130	2013-10-24

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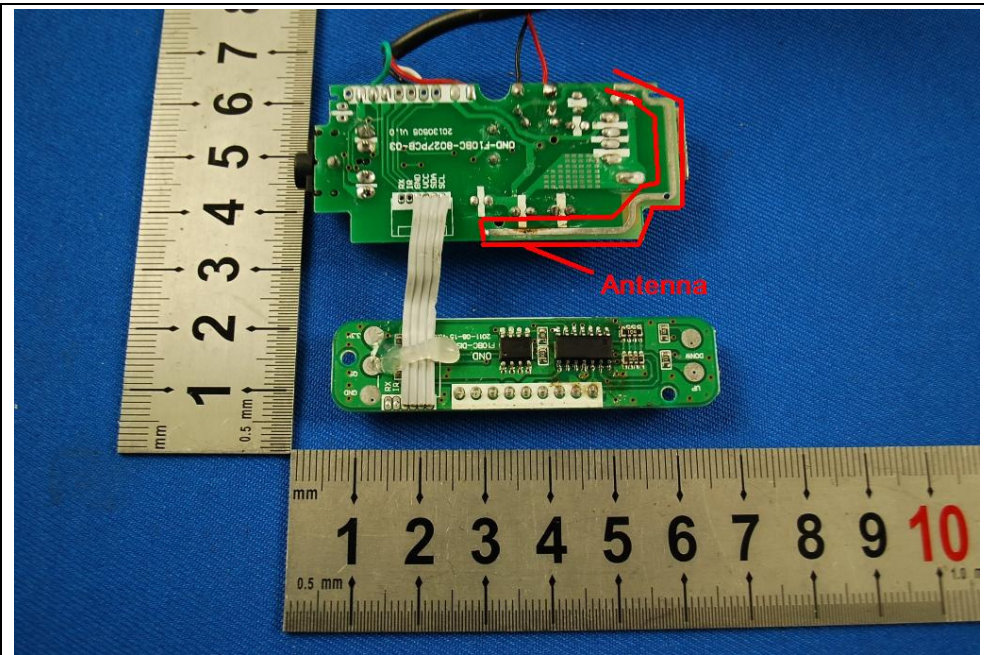
RF connected test					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Due date (yyyy-mm-dd)
1	DC Power Supply	Zhao Xin	RXN-305D	SEL0117	2013-10-24
2	Humidity/ Temperature Indicator	HYGRO	ZJ1-2B	SEL0033	2013-10-24
3	Spectrum Analyzer	Rohde & Schwarz	FSP	SEL0154	2013-10-24
4	Coaxial cable	SGS	N/A	SEL0178	2014-05-29
5	Coaxial cable	SGS	N/A	SEL0179	2014-05-29
6	Barometer	ChangChun	DYM3	SEL0088	2014-05-24
7	Signal Generator	Rohde & Schwarz	SML03	SEL0068	2014-05-16
8	Band filter	amideon	82346	SEL0094	2014-05-16
9	POWER METER	R & S	NRVS	SEL0144	2014-10-24
10	Attenuator	Beijin feihang taida	TST-2-6dB	SEL0205	2014-05-16
11	Power Divider(splitter)	Agilent Technologies	11636B	SEL0130	2013-10-24

Note: The calibration interval is one year, all the instruments are valid.

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5 Test results and Measurement Data

5.1 Antenna requirement:

Standard requirement:	47 CFR Part 15C Section 15.203
<p>15.203 Requirement:</p> <p>An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.</p>	
EUT Antenna:	



5.2 Radiated Emission

Test Requirement:	47 CFR Part 15C Section 15.239 and 15.209				
Test Method:	ANSI C63.10: 2009				
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)				
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100 kHz	300kHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
Peak		1MHz	10Hz	Average	
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz-88MHz	100	40.0	Quasi-peak	3
	88MHz-216MHz	150	43.5	Quasi-peak	3
	216MHz-960MHz	200	46.0	Quasi-peak	3
	960MHz-1GHz	500	54.0	Quasi-peak	3
	Above 1GHz	500	54.0	Average	3
Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.					
Limit: (Field strength of The fundamental signal)	Frequency	Limit (dBuV/m @3m)		Remark	
	88MHz-108MHz	48.0		Average Value	
		68.0		Peak Value	

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<p>Test Procedure:</p>	<ol style="list-style-type: none"> a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading. e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. g. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
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<p>Test Setup:</p>	
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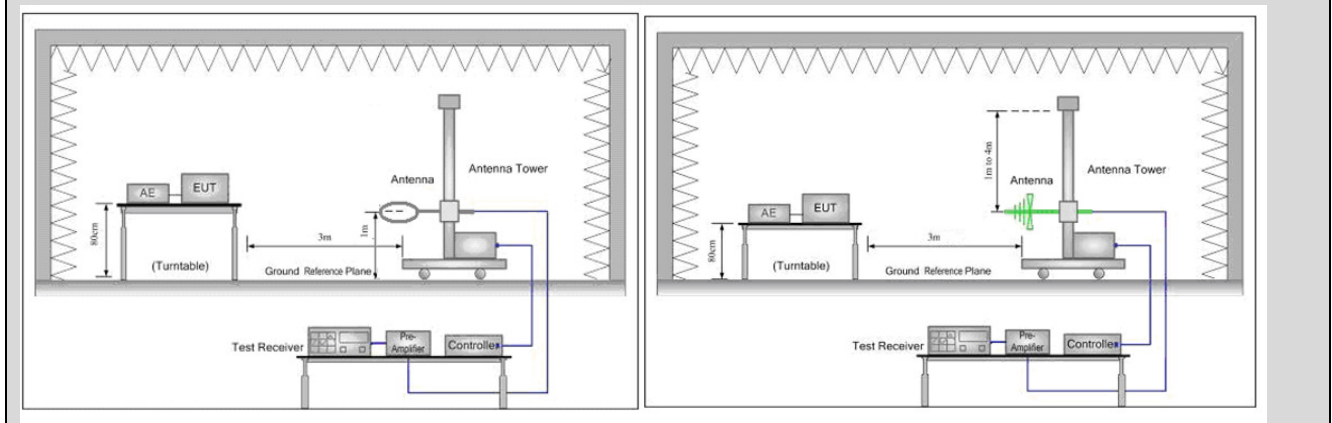


Figure 1. Below 30MHz Figure 2. 30MHz to 1GHz

<p>Test Mode:</p>	<p>Transmitting mode</p>
<p>Instruments Used:</p>	<p>Refer to section 4.10 for details</p>
<p>Test Results:</p>	<p>Pass</p>

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5.2.1 Field Strength Of The Fundamental Signal

Frequency (MHz)	Cable Loss (dB)	Antenna Factor (dB/m)	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
88.10	1.10	6.02	27.22	55.20	35.10	47.95	-12.85	Horizontal
88.10	1.10	6.02	27.22	58.00	37.90	47.95	-10.05	Vertical
98.10	1.18	6.30	27.20	59.00	39.28	47.95	-8.67	Horizontal
98.10	1.18	6.30	27.20	56.50	36.78	47.95	-11.17	Vertical
107.90	1.22	7.28	27.15	62.00	43.35	47.95	-4.60	Horizontal
107.90	1.22	7.28	27.15	56.00	37.35	47.95	-10.60	Vertical

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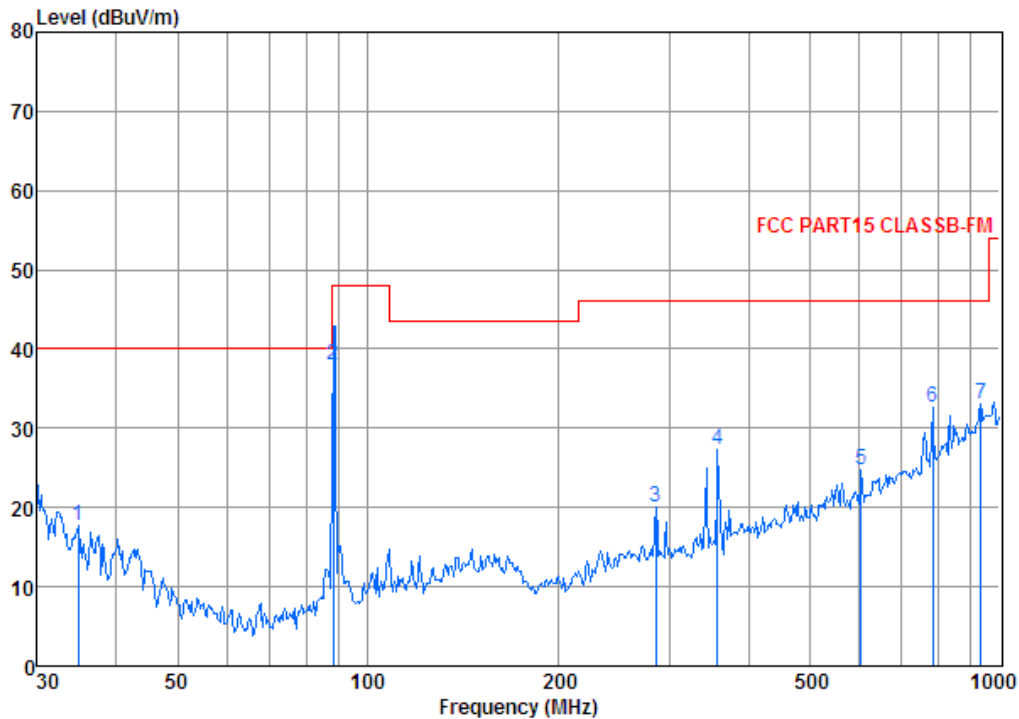


5.2.2 Spurious Emissions

Horizontal:

Test mode:	Transmitter	Test channel:	Lowest	Remark:	Vertical
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Data: 293



Condition: FCC PART15 CLASSB-FM 3m 3142C NEW VERTICAL

EUT : F10 #2

mode: : 88.1M

: HORIZONTAL

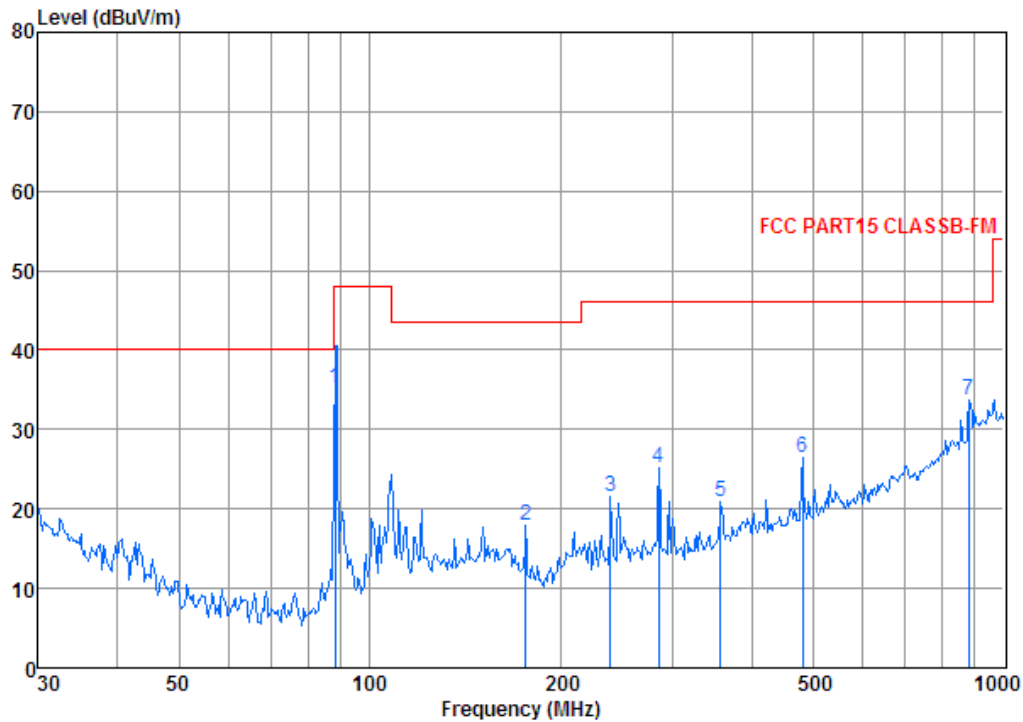
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Limit Level	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dB
1	34.760	0.60	14.12	27.34	30.43	17.81	40.00 -22.19
2 a	88.100	1.10	6.02	27.22	58.00	37.90	47.95 -10.05
3	285.978	1.84	9.23	26.44	35.38	20.01	46.00 -25.99
4	357.929	2.08	10.47	26.85	41.71	27.41	46.00 -18.59
5	603.539	2.71	15.27	27.54	34.38	24.82	46.00 -21.18
6	782.345	3.15	17.80	27.32	39.06	32.69	46.00 -13.31
7	932.272	3.63	20.67	26.61	35.35	33.04	46.00 -12.96

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Test mode:	Transmitter	Test channel:	Lowest	Remark:	Horizontal
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Data: 288



Condition: FCC PART15 CLASSB-FM 3m 3142C NEW HORIZONTAL

EUT : F10 #2

mode: : 88.1M

: HORIZONTAL

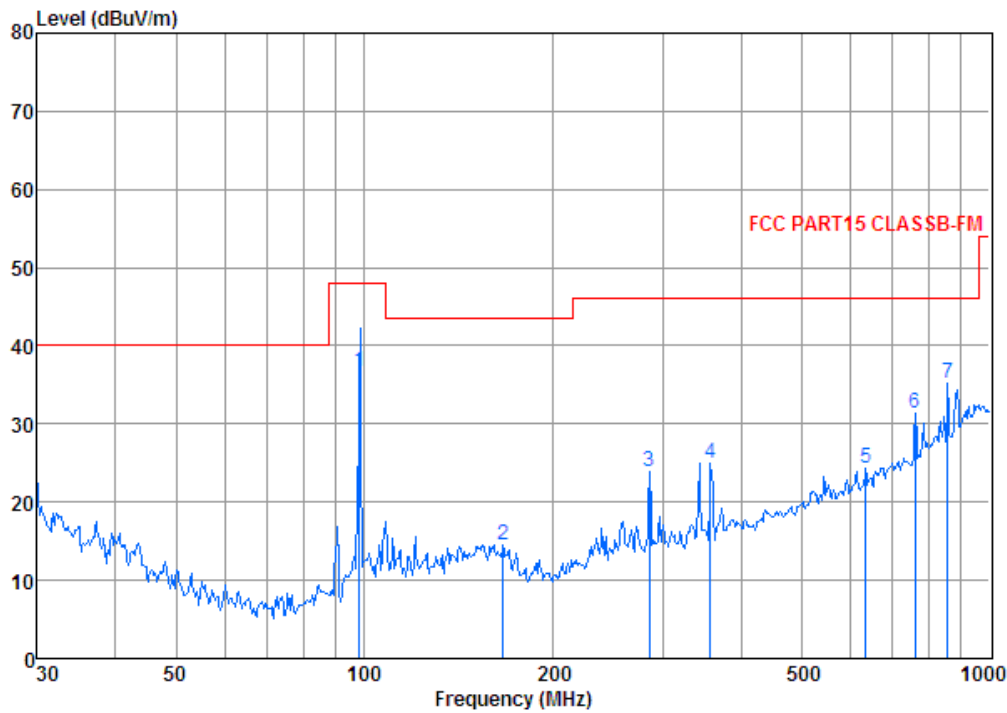
		Cable	Antenna	Preamp	Read	Limit	Over
	Freq	Loss	Factor	Factor	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m
1 a	88.100	1.10	6.02	27.22	55.20	35.10	47.95 -12.85
2	176.269	1.36	7.73	26.79	35.69	17.99	43.50 -25.51
3	239.987	1.62	8.00	26.57	38.53	21.58	46.00 -24.42
4	285.978	1.84	9.23	26.44	40.46	25.09	46.00 -20.91
5	357.929	2.08	10.47	26.85	35.19	20.89	46.00 -25.11
6	482.216	2.53	13.42	27.62	38.06	26.39	46.00 -19.61
7	881.407	3.53	19.87	26.85	37.19	33.74	46.00 -12.26

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Test mode:	Transmitter	Test channel:	Middle	Remark:	Vertical
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Data: 292



Condition: FCC PART15 CLASSB-FM 3m 3142C NEW VERTICAL

EUT : F10 #2

mode: : 98.1M

: HORIZONTAL

	Freq	Cable Loss	Antenna Factor	Preamp	Read Level	Level	Limit	Over
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 a	98.100	1.18	6.30	27.20	56.50	36.78	47.95	-11.17
2	166.651	1.35	9.38	26.83	30.67	14.57	43.50	-28.93
3	285.978	1.84	9.23	26.44	39.32	23.95	46.00	-22.05
4	357.929	2.08	10.47	26.85	39.25	24.95	46.00	-21.05
5	633.907	2.77	15.65	27.49	33.44	24.37	46.00	-21.63
6	760.704	3.09	18.10	27.34	37.42	31.27	46.00	-14.73
7	857.025	3.43	18.97	26.99	39.81	35.22	46.00	-10.78

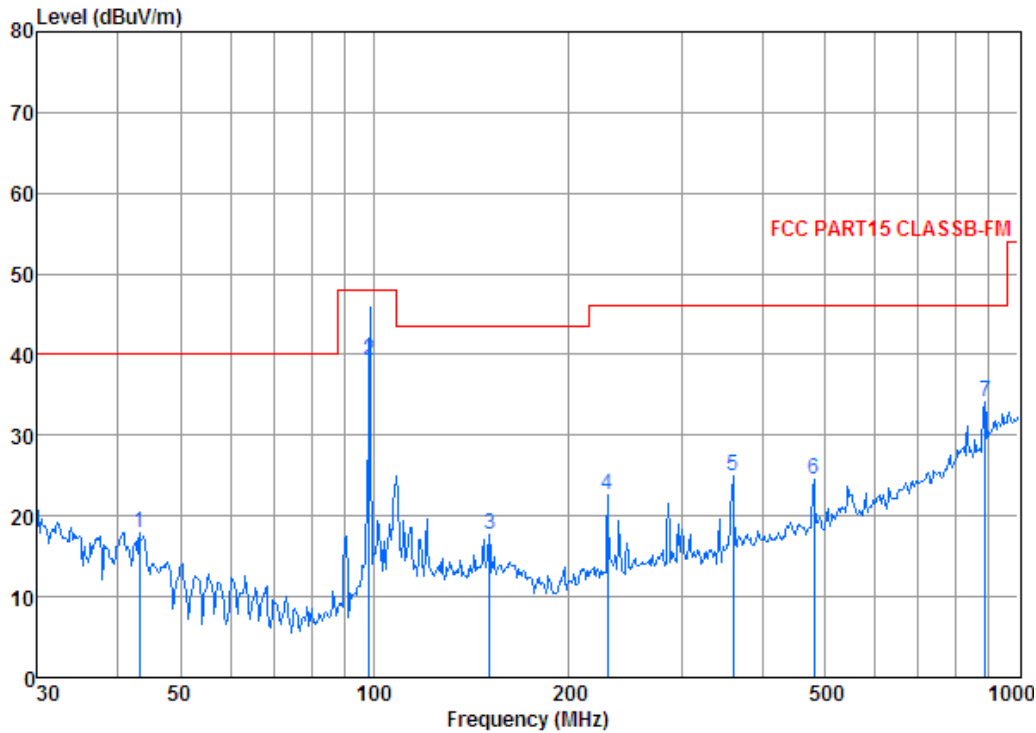


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Test mode:	Transmitter	Test channel:	Middle	Remark:	Horizontal
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Data: 289



Condition: FCC PART15 CLASSB-FM 3m 3142C NEW HORIZONTAL
EUT : F10 #2
mode: : 98.1M
: HORIZONTAL

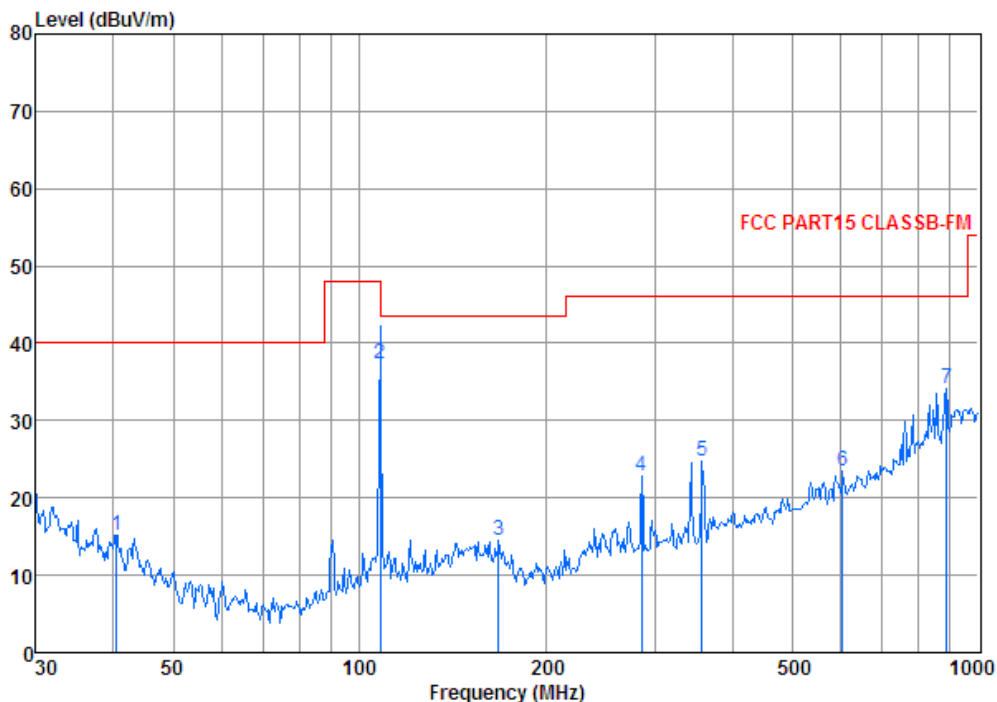
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit	Over
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	43.202	0.68	10.47	27.31	34.11	17.95	40.00	-22.05
2 a	98.100	1.18	6.30	27.20	59.00	39.28	47.95	-8.67
3	151.067	1.32	9.37	26.90	33.83	17.62	43.50	-25.88
4	230.099	1.57	8.10	26.59	39.48	22.56	46.00	-23.44
5	360.448	2.09	10.40	26.87	39.33	24.95	46.00	-21.05
6	482.216	2.53	13.42	27.62	36.26	24.59	46.00	-21.41
7	887.610	3.56	20.80	26.85	36.71	34.22	46.00	-11.78

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Test mode:	Transmitter	Test channel:	Highest	Remark:	Vertical
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Data: 291



Condition: FCC PART15 CLASSB-FM 3m 3142C NEW VERTICAL

EUT : F10 #2

mode: : 107.9M

: HORIZONTAL

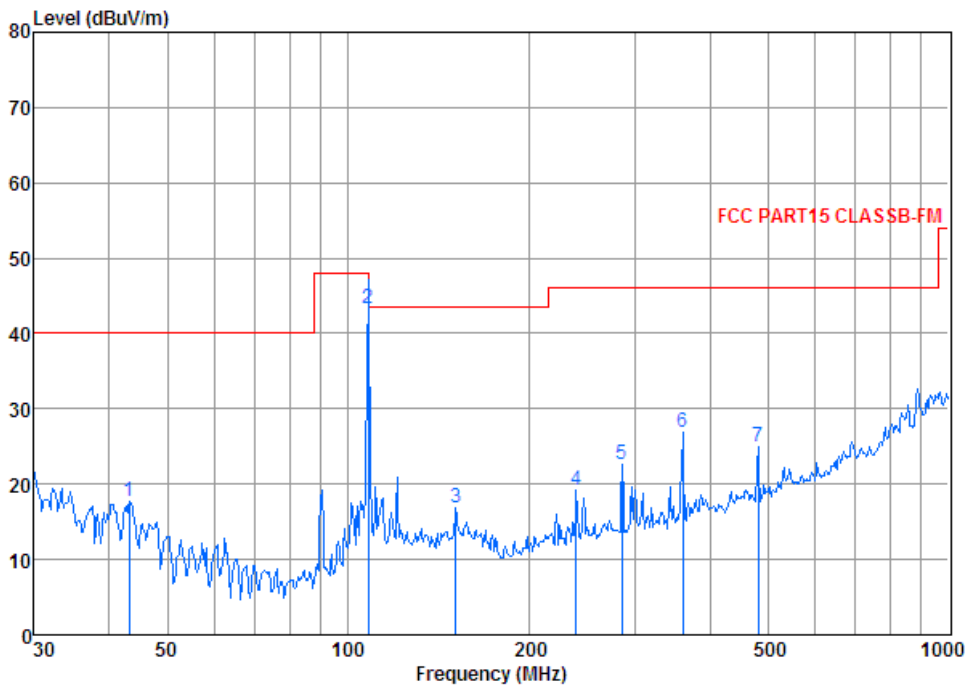
	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Limit Level	Over Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	40.417	0.61	11.09	27.32	30.70	15.08	40.00	-24.92
2 a	107.900	1.22	7.28	27.15	56.00	37.35	47.95	-10.60
3	167.824	1.35	9.25	26.82	30.79	14.57	43.50	-28.93
4	285.978	1.84	9.23	26.44	38.10	22.73	46.00	-23.27
5	357.929	2.08	10.47	26.85	38.96	24.66	46.00	-21.34
6	603.539	2.71	15.27	27.54	32.98	23.42	46.00	-22.58
7	887.610	3.56	20.80	26.85	36.67	34.18	46.00	-11.82

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Test mode:	Transmitter	Test channel:	Highest	Remark:	Horizontal
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Data: 290



Condition: FCC PART15 CLASSB-FM 3m 3142C NEW HORIZONTAL
 EUT : F10 #2
 mode: : 107.9M
 : HORIZONTAL

	Freq	Cable Loss	Antenna Factor	Preamp Factor	Read Level	Level	Limit Line	Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1	43.202	0.68	10.47	27.31	33.82	17.66	40.00	-22.34
2 a	107.900	1.22	7.28	27.15	62.00	43.35	47.95	-4.60
3	151.067	1.32	9.37	26.90	33.03	16.82	43.50	-26.68
4	239.987	1.62	8.00	26.57	36.07	19.12	46.00	-26.88
5	285.978	1.84	9.23	26.44	37.93	22.56	46.00	-23.44
6	360.448	2.09	10.40	26.87	41.23	26.85	46.00	-19.15
7	482.216	2.53	13.42	27.62	36.55	24.88	46.00	-21.12

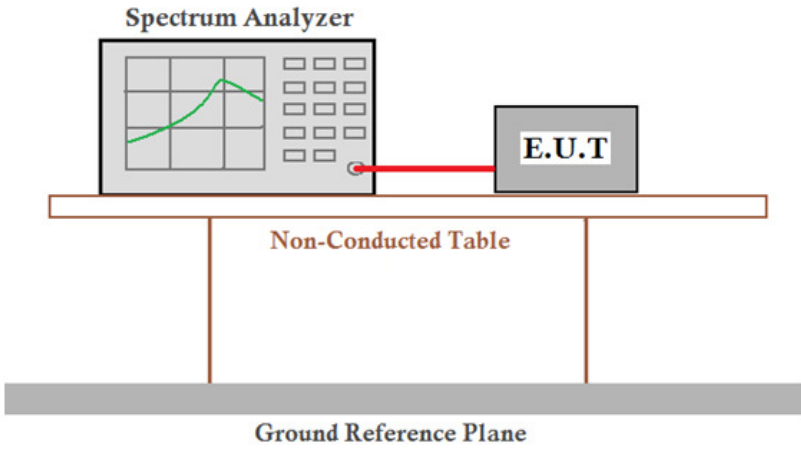
Note:

Remark:

- 1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
 Final Test Level = Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor
- 2) Scan from 9kHz to 2GHz, The disturbance below 30MHz and above 1GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

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5.3 20dB Bandwidth

Test Requirement:	47 CFR Part 15C Section 15.239 (a)
Test Method:	ANSI C63.10:2009
Limit:	Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the frequency range of 88-108 MHz.
Test Setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Mode:	Transmitting mode
Audio Input Signal	A typical audio with maximum audio input.
Instruments Used:	Refer to section 4.10 for details
Test Results:	Pass

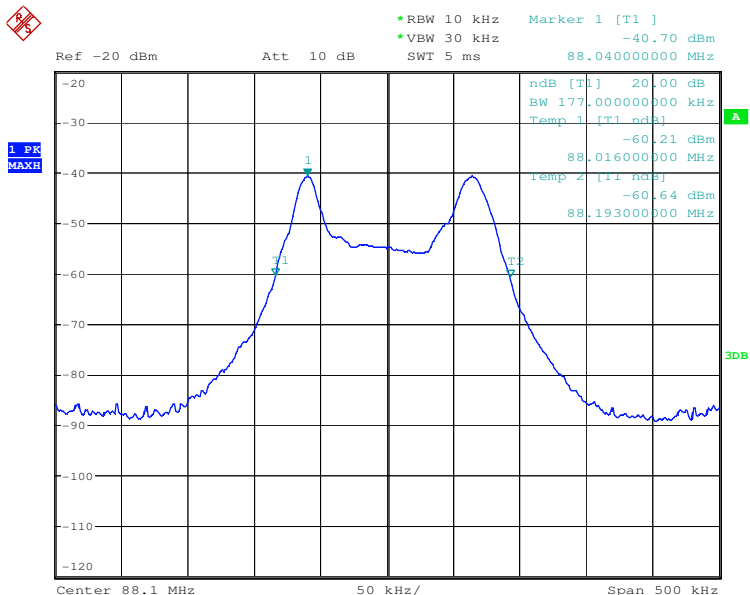
Measurement Data

Test channel	20dB bandwidth(kHz)	Limit(kHz)	Result
Lowest	177	200	Pass
Middle	178	200	Pass
Highest	178	200	Pass

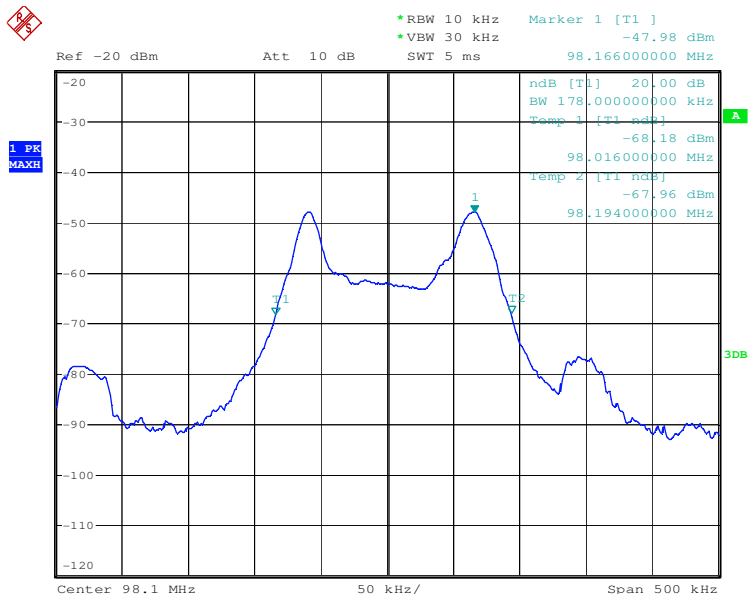


Test plot as follows:

Test channel:	Lowest
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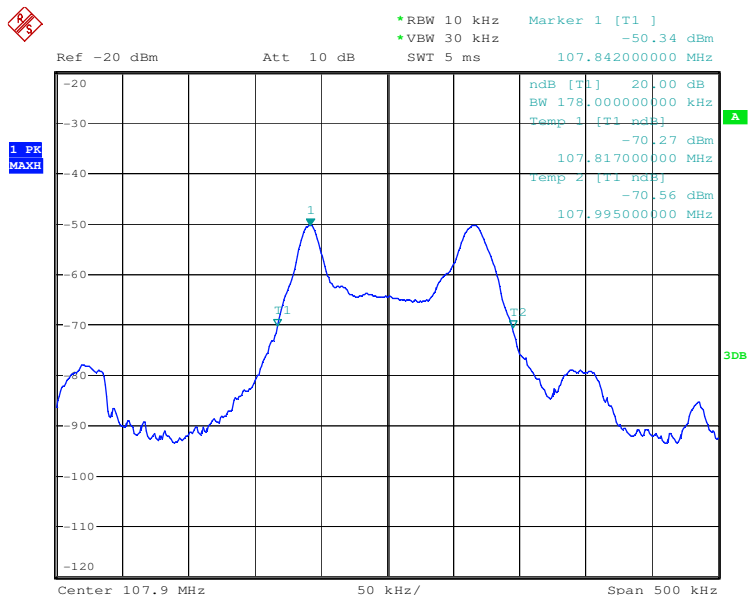
Test channel:	Middle
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Test channel:	Highest
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