



## FCC PART 90

## TEST REPORT

For

### Northfield Telecommunications, Inc. d/b/a Advanced Wireless Communications

20809 Kensington Blvd, Lakeville, Minnesota, 55044 ,United States

**FCC ID: Q9SAWR391V4**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Two-way radio
<b>Report Number:</b> RDG180523001-00A	
<b>Report Date:</b> 2018-06-25	
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“\*”

## TABLE OF CONTENTS

<b>GENERAL INFORMATION</b> .....	<b>4</b>
PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) .....	4
OBJECTIVE .....	4
RELATED SUBMITTAL(S)/GRANT(S).....	4
TEST METHODOLOGY .....	4
MEASUREMENT UNCERTAINTY.....	5
TEST FACILITY .....	5
<b>SYSTEM TEST CONFIGURATION</b> .....	<b>6</b>
DESCRIPTION OF TEST CONFIGURATION .....	6
EUT EXERCISE SOFTWARE .....	6
SPECIAL ACCESSORIES.....	6
EQUIPMENT MODIFICATIONS .....	6
SUPPORT EQUIPMENT LIST AND DETAILS .....	6
BLOCK DIAGRAM OF TEST SETUP .....	7
<b>SUMMARY OF TEST RESULTS</b> .....	<b>8</b>
<b>TEST EQUIPMENT LIST</b> .....	<b>9</b>
<b>FCC §1.1310 &amp; §2.1093 - RF EXPOSURE</b> .....	<b>10</b>
APPLICABLE STANDARD .....	10
TEST RESULT .....	10
<b>FCC §2.1046 &amp; §90.205 - RF OUTPUT POWER</b> .....	<b>11</b>
APPLICABLE STANDARD .....	11
TEST PROCEDURE .....	11
TEST DATA .....	11
<b>FCC §2.1047 - MODULATION CHARACTERISTIC</b> .....	<b>12</b>
APPLICABLE STANDARD .....	12
TEST PROCEDURE .....	12
TEST DATA .....	12
<b>FCC §2.1049 &amp; §90.209 &amp; §90.210 – OCCUPIED BANDWIDTH &amp; EMISSION MASK</b> .....	<b>19</b>
APPLICABLE STANDARD .....	19
TEST PROCEDURE .....	19
TEST DATA .....	19
<b>FCC §2.1051 &amp; §90.210 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS</b> .....	<b>24</b>
APPLICABLE STANDARD .....	24
TEST PROCEDURE .....	24
TEST DATA .....	24
<b>FCC §2.1053 §90.210 - RADIATED SPURIOUS EMISSIONS</b> .....	<b>27</b>
APPLICABLE STANDARD .....	27
TEST PROCEDURE .....	27
TEST DATA .....	27
<b>FCC §2.1055 &amp; §90.213 - FREQUENCY STABILITY</b> .....	<b>29</b>
APPLICABLE STANDARD .....	29
TEST PROCEDURE .....	29
TEST DATA .....	29

**FCC §90.214 - TRANSIENT FREQUENCY BEHAVIOR.....31**  
APPLICABLE STANDARD .....31  
TEST PROCEDURE .....31  
TEST DATA .....32

## GENERAL INFORMATION

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### Product Description for Equipment under Test (EUT)

<b>EUT Name:</b>		Two-way radio
<b>EUT Model:</b>		AWR391V4
<b>FCC ID:</b>		Q9SAWR391V4
<b>Rated Input Voltage:</b>		3.7V <sub>DC</sub> from battery
<b>Adapter Information</b>	<b>Model:</b>	KT05W059080USD
	<b>Input:</b>	100-240VAC, 50/60Hz, 0.2A
	<b>Output:</b>	5.9VDC, 0.8A
<b>External Dimension:</b>		122mm(L)*43 mm(W)* 21mm(H)
<b>Serial Number:</b>		180523001
<b>EUT Received Date:</b>		2018.05.28

### Objective

This test report is prepared on behalf of *Northfield Telecommunications, Inc. d/b/a Advanced Wireless Communications* in accordance with Part 2, and Part 90 of the Federal Communication Commissions rules.

### Related Submittal(s)/Grant(s)

No related submittal(s)/grant(s).

### Test Methodology

All tests and measurements indicated in this document were performed in accordance with the Code of federal Regulations Title 47 Part 2, Sub-part J as well as the following individual parts:

Part 90 – Private Land Mobile Radio Service

Applicable Standards: TIA 603-D.

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Dongguan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

### Measurement Uncertainty

Parameter	Measurement Uncertainty
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±0.61dB
Unwanted Emissions, radiated	30MHz ~ 1GHz: 5.85 dB 1G~26.5GHz: 5.23 dB
Unwanted Emissions, conducted	±1.5 dB
Temperature	±1 °C
Humidity	±5%
DC and low frequency voltages	±0.4%
Duty Cycle	1%

### Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.69 Pulongcun, Puxinhu Industry Area, Tangxia, Dongguan, Guangdong, China

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062D.

## SYSTEM TEST CONFIGURATION

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### Description of Test Configuration

The system was configured for testing in a test mode which has been done in the factory.

### EUT Specification:

<b>Operating Frequency Band:</b>	450-470MHz
<b>Modulation Mode:</b>	FM
<b>Channel Spacing:</b>	6.25/12.5kHz
<b>Rated Output Power:</b>	High: 1W Low: 0.5W

### EUT Exercise Software

No exercise software was used.

### Special Accessories

No special accessory was used.

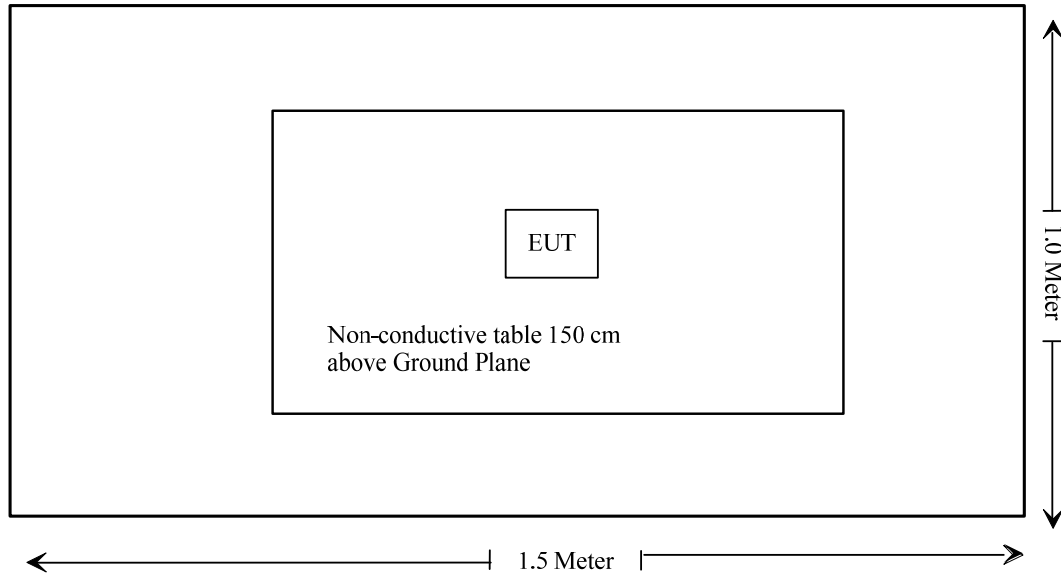
### Equipment Modifications

No modification was made to the EUT tested.

### Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
HP	RF Communications Test Set	8920A	00 247

**Block Diagram of Test Setup**



**SUMMARY OF TEST RESULTS**

<b>FCC Rules</b>	<b>Description of Test</b>	<b>Results</b>
§1.1310 and §2.1093	RF Exposure	Compliance
§2.104;§90.205	RF Output Power	Compliance
§2.1047	Modulation Characteristic	Compliance
§2.1049; §90.209; §90.210	Occupied Bandwidth & Emission Mask	Compliance
§2.1051; §90.210	Spurious Emission at Antenna Terminal	Compliance
§2.1053; §90.210	Spurious Radiated Emissions	Compliance
§2.1055; §90.213	Frequency Stability	Compliance
§90.214	Transient Frequency Behavior	Compliance



**TEST EQUIPMENT LIST**

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
<b>Radiated Emission Test</b>					
R&S	EMI Test Receiver	ESCI	100224	2017-12-11	2018-12-11
Sunol Sciences	Antenna	JB3	A060611-1	2017-11-10	2020-11-10
EMCO	Adjustable Dipole Antenna	3121C	9109-753	N/A	N/A
Unknown	Coaxial Cable	C-NJNJ-50	C-0400-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0075-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-1000-01	2017-09-05	2018-09-05
Unknown	Coaxial Cable	C-NJNJ-50	C-0200-02	2017-09-05	2018-09-05
HP	Amplifier	8447D	2727A05902	2017-09-05	2018-09-05
Agilent	Signal Generator	E8247C	MY43321350	2017-12-11	2018-12-11
Agilent	Spectrum Analyzer	E4440A	SG43360054	2018-01-04	2019-01-04
TDK RF	Horn Antenna	HRN-0118	130 084	2016-01-05	2019-01-04
ETS-Lindgren	Horn Antenna	3115	000 527 35	2016-01-05	2019-01-04
Unknown	Coaxial Cable	C-SJSJ-50	C-0800-01	2017-09-05	2018-09-05
MITEQ	Amplifier	AFS42-00101800-25-S-42	2001271	2017-09-05	2018-09-05
<b>RF Conducted Test</b>					
HP	RF Communications Test Set	8920A	00 235	2017-7-11	2018-7-11
Rohde & Schwarz	Signal Analyzer	FSIQ26	831929/005	2017-8-31	2018-8-31
Dongzhixu	High Temperature Test Chamber	DP1000	201105083-4	2017-8-28	2018-8-28
N/A	Coaxial Cable	C-SJ00-0010	C0010/02	Each time	N/A
E-Microwave	Blocking Control	EMDCB-00036	0E01201047	2017-5-6	2018-5-6
E-Microwave	Coaxial Attenuators	EMCA10-5RN-6	OE01203239	2017-9-5	2018-9-5

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

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## **FCC §1.1310 & §2.1093 - RF EXPOSURE**

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### **Applicable Standard**

FCC§1.1310 and §2.1093.

### **Test Result**

Compliance, please refer to the SAR report: RDG180523001-20A.

**FCC §2.1046 & §90.205 - RF OUTPUT POWER**

**Applicable Standard**

FCC §2.1046, §90.205

**Test Procedure**

Conducted RF Output Power:

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

Spectrum Analyzer Setting:

R B/W      Video B/W  
 100 kHz    300 kHz

**Test Data**

**Environmental Conditions**

<b>Temperature:</b>	26.3 °C
<b>Relative Humidity:</b>	54 %
<b>ATM Pressure:</b>	101.3 kPa

*The testing was performed by Swim Lv on 2018-05-31.*

*Test Mode: Transmitting*

**Test Result:** Compliance. Please refer to following table.

Modulation Mode	Channel Separation (kHz)	f <sub>c</sub> (MHz)	Reading (W)	
			High Power Level	Low Power Level
FM	6.25	450.0125	1.06	0.51
		460.0125	0.96	0.59
		469.9875	0.86	0.52
		453.2125	1.05	0.52
	12.5	450.0125	1.06	0.55
		460.0125	0.96	0.56
		469.9875	0.87	0.53
		453.2125	1.04	0.52

Note: The high rated power level is 1W, and low rated power level is 0.5W.

## **FCC §2.1047 - MODULATION CHARACTERISTIC**

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### **Applicable Standard**

FCC §2.1047

- (a) Equipment which utilizes voice modulated communication shall show the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz. for equipment which is required to have a low pass filter, the frequency response of the filter, or all of the circuitry installed between the modulation limited and the modulated stage shall be supplied.
- (b) Equipment which employs modulation limiting, a curve showing the percentage of modulation versus the modulation input voltage shall be supplied.

### **Test Procedure**

Test Method: TIA/EIA-603 2.2.3

### **Test Data**

#### **Environmental Conditions**

<b>Temperature:</b>	26.3 °C
<b>Relative Humidity:</b>	54 %
<b>ATM Pressure:</b>	101.3 kPa

*The testing was performed by Swim Lv on 2018-05-31.*

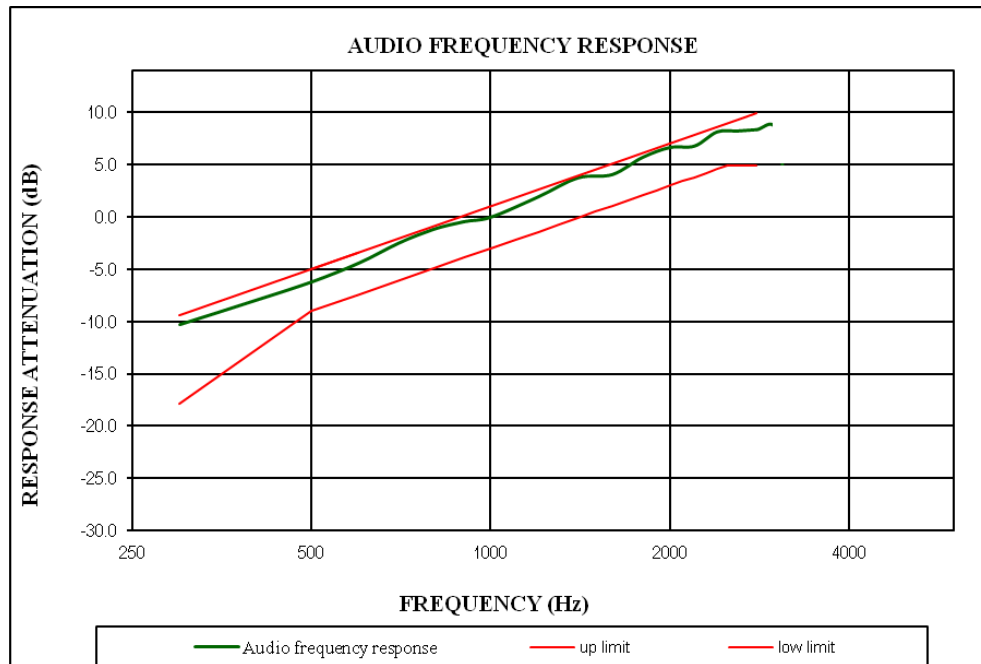
*Test Mode: Transmitting*

**Result:** Compliance.

**Audio Frequency Response – High Power,12.5kHz**

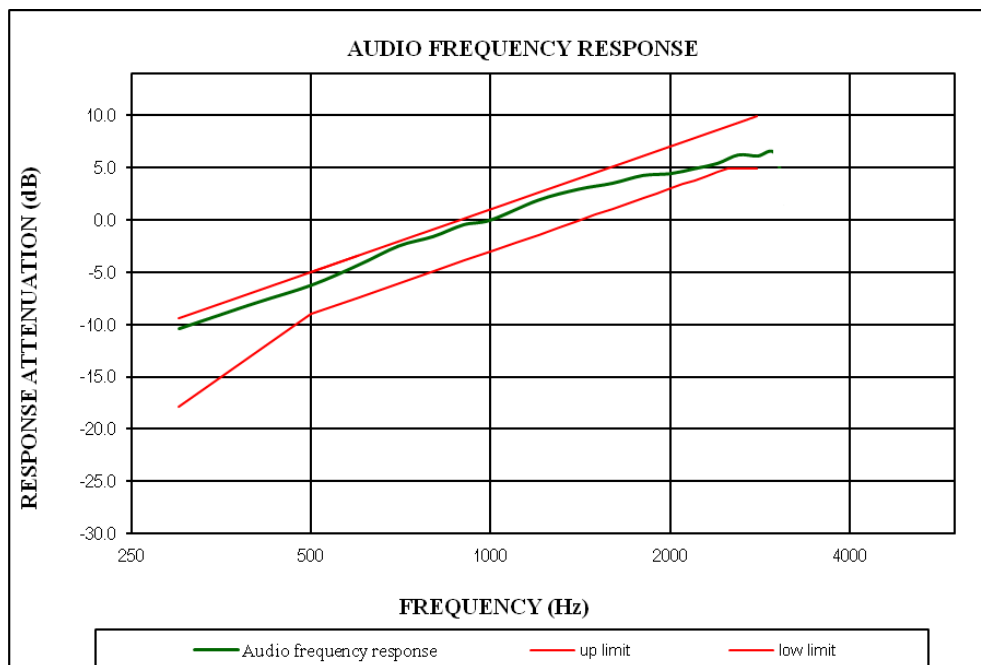
Carrier Frequency: 460.0125 MHz, Channel Separation:12.5kHz

Modulation Frequency (Hz)	Response data (dB)
300	-10.26
400	-7.99
500	-6.18
600	-4.38
700	-2.48
800	-1.17
900	-0.44
1000	0.00
1200	1.93
1400	3.75
1600	4.07
1800	5.72
2000	6.65
2200	6.79
2400	8.14
2600	8.23
2800	8.36
3000	8.59



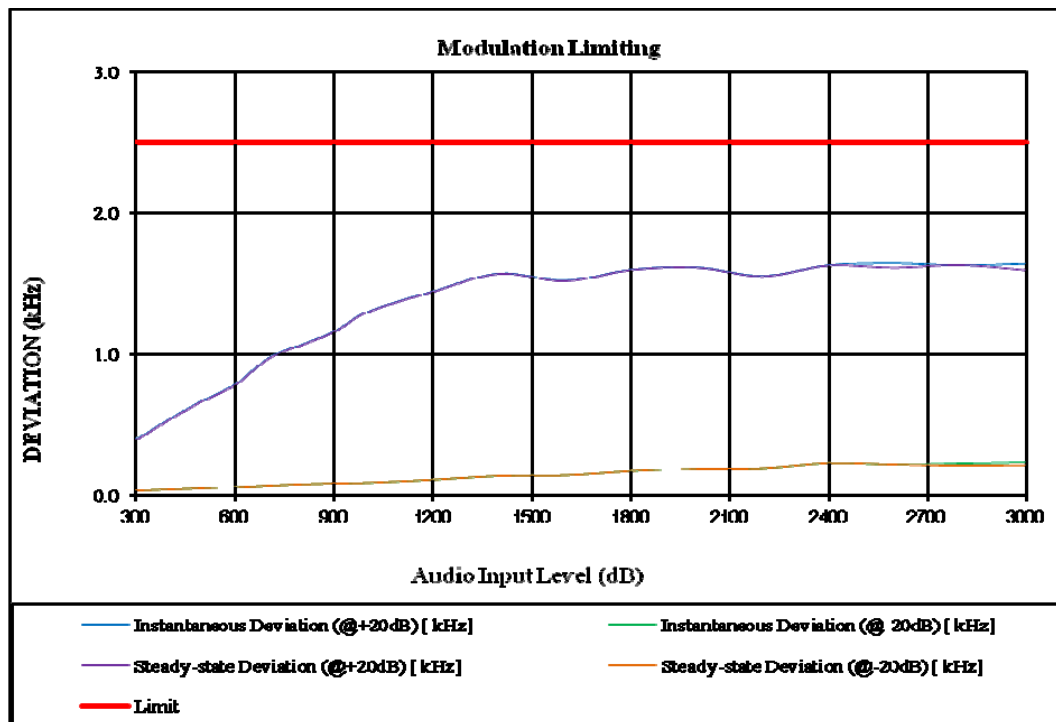
Carrier Frequency: 460.0125 MHz, Channel Separation:6.25kHz

Modulation Frequency (Hz)	Response data (dB)
300	-10.42
400	-8.01
500	-6.25
600	-4.31
700	-2.50
800	-1.59
900	-0.46
1000	0.00
1200	1.89
1400	2.93
1600	3.52
1800	4.27
2000	4.44
2200	4.93
2400	5.42
2600	6.23
2800	6.13
3000	6.32



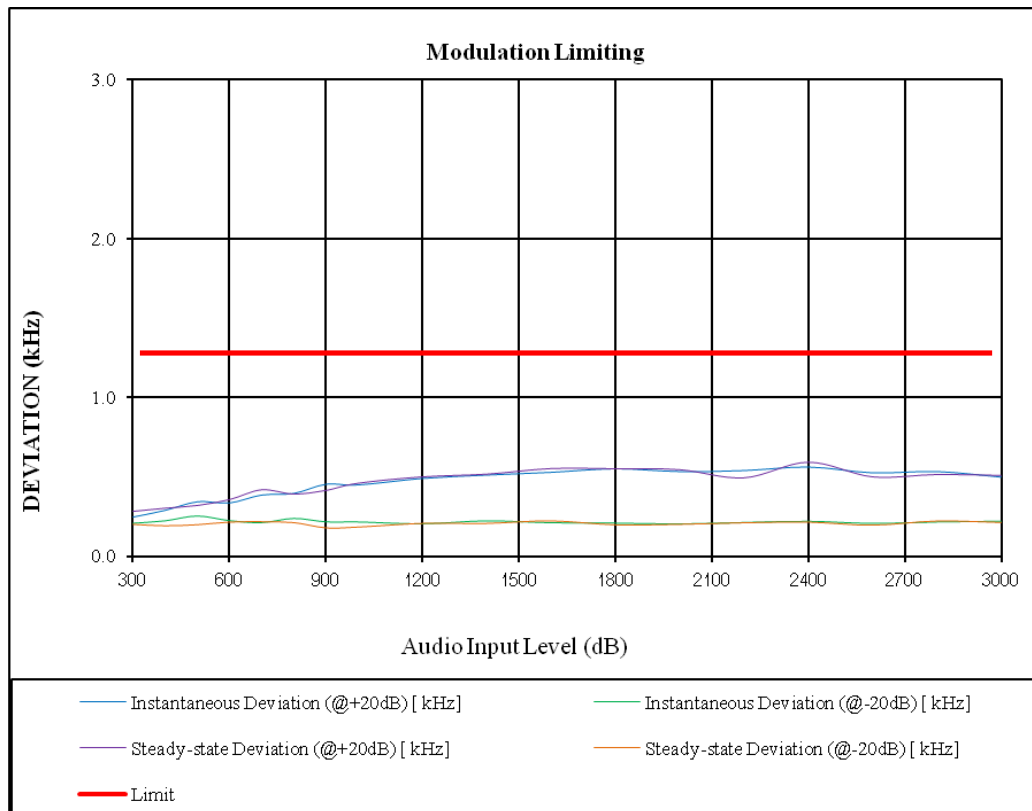
**MODULATION LIMITING – High Power**  
 Carrier Frequency: 460.0125 MHz, Channel Separation:12.5kHz

Audio Frequency (Hz)	Instantaneous		Steady-state		Limit [KHz]
	Deviation (@+20dB) [KHz]	Deviation (@-20dB) [KHz]	Deviation (@+20dB) [KHz]	Deviation (@-20dB) [KHz]	
300	0.395	0.029	0.393	0.028	2.5
400	0.539	0.037	0.538	0.036	2.5
500	0.669	0.045	0.668	0.044	2.5
600	0.785	0.056	0.784	0.055	2.5
700	0.970	0.067	0.968	0.066	2.5
800	1.066	0.076	1.065	0.075	2.5
900	1.159	0.082	1.158	0.081	2.5
1000	1.298	0.086	1.297	0.085	2.5
1200	1.444	0.107	1.443	0.106	2.5
1400	1.571	0.134	1.570	0.133	2.5
1600	1.520	0.138	1.518	0.137	2.5
1800	1.597	0.167	1.596	0.166	2.5
2000	1.614	0.186	1.613	0.185	2.5
2200	1.554	0.190	1.553	0.189	2.5
2400	1.628	0.226	1.627	0.225	2.5
2600	1.642	0.217	1.612	0.215	2.5
2800	1.627	0.224	1.631	0.207	2.5
3000	1.639	0.231	1.595	0.211	2.5



Carrier Frequency: 460.0125 MHz, Channel Separation:6.25kHz

Audio Frequency (Hz)	Instantaneous		Steady-state		Limit [KHz]
	Deviation (@+20dB) [KHz]	Deviation (@-20dB) [KHz]	Deviation (@+20dB) [KHz]	Deviation (@-20dB) [KHz]	
300	0.248	0.207	0.281	0.202	1.25
400	0.290	0.222	0.301	0.193	1.25
500	0.343	0.252	0.318	0.200	1.25
600	0.336	0.223	0.355	0.216	1.25
700	0.385	0.211	0.417	0.219	1.25
800	0.395	0.237	0.390	0.213	1.25
900	0.452	0.216	0.413	0.180	1.25
1000	0.448	0.215	0.458	0.185	1.25
1200	0.488	0.204	0.498	0.208	1.25
1400	0.509	0.222	0.515	0.208	1.25
1600	0.526	0.210	0.550	0.224	1.25
1800	0.548	0.208	0.549	0.199	1.25
2000	0.531	0.203	0.543	0.202	1.25
2200	0.537	0.212	0.492	0.212	1.25
2400	0.559	0.219	0.590	0.216	1.25
2600	0.523	0.206	0.498	0.197	1.25
2800	0.531	0.215	0.513	0.223	1.25
3000	0.496	0.220	0.507	0.214	1.25

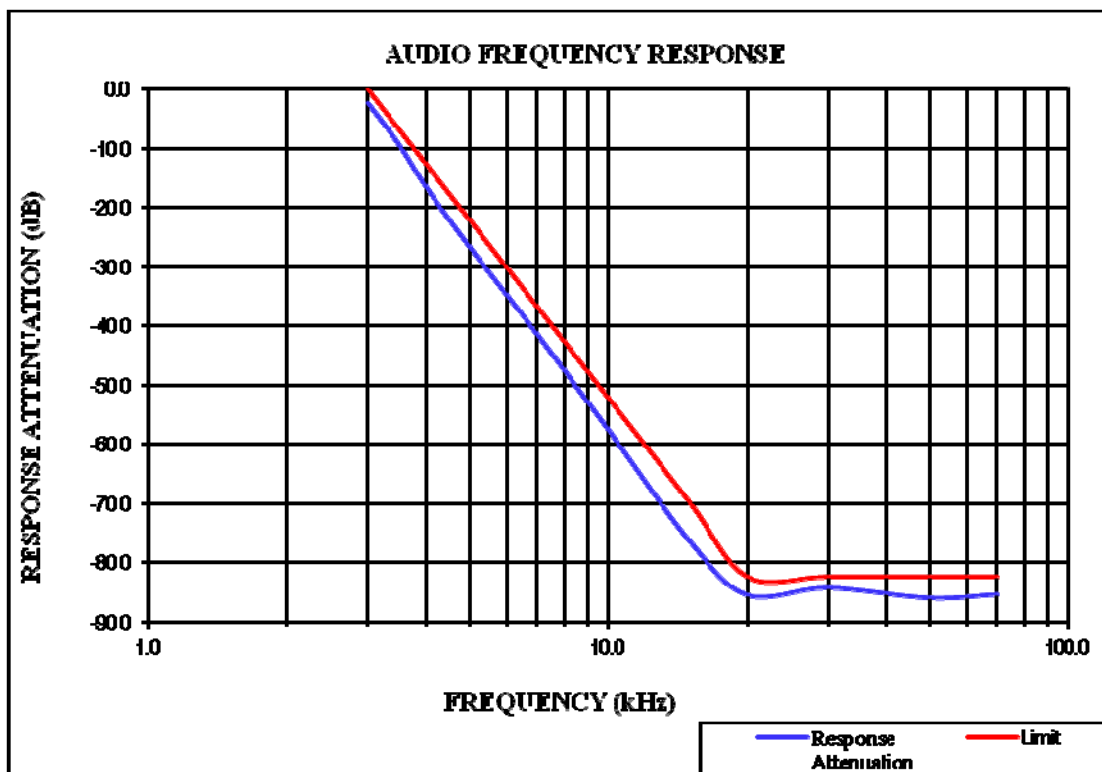




**Audio Frequency Low Pass Filter Response – High Power**

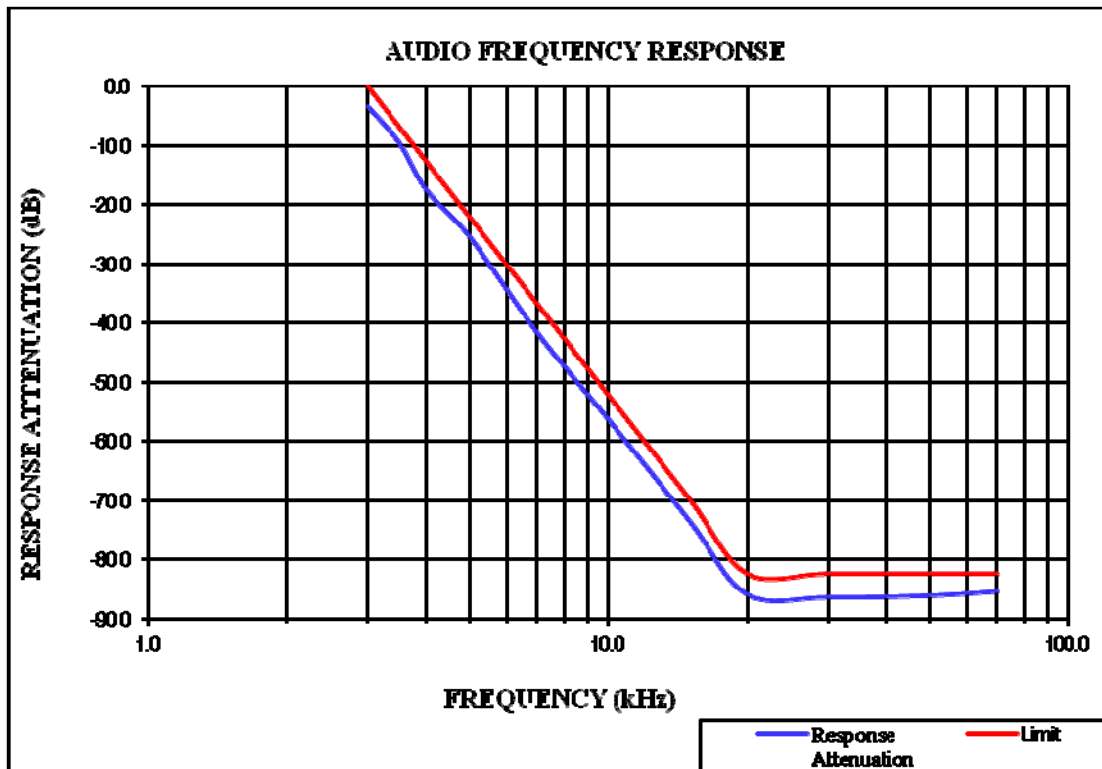
Carrier Frequency: 460.0125 MHz, Channel Spacing = 12.5 kHz

Audio Frequency	Response Attenuation	Limit
kHz	dB	dB
3.0	-2.4	0.0
3.5	-9.4	-6.7
4.0	-16.4	-12.5
5.0	-26.8	-22.2
7.0	-41.4	-36.8
10.0	-57.6	-52.3
15.0	-76.3	-69.9
20.0	-85.4	-82.5
30.0	-84.2	-82.5
50.0	-85.9	-82.5
70.0	-85.3	-82.5



Carrier Frequency: 460.0125 MHz, Channel Spacing =6.25 kHz, high power level

Audio Frequency	Response Attenuation	Limit
kHz	dB	dB
3.0	-3.5	0.0
3.5	-9.5	-6.7
4.0	-17.4	-12.5
5.0	-25.6	-22.2
7.0	-41.7	-36.8
10.0	-56.4	-52.3
15.0	-73.5	-69.9
20.0	-85.9	-82.5
30.0	-86.4	-82.5
50.0	-86.1	-82.5
70.0	-85.4	-82.5



**FCC §2.1049 & §90.209 & §90.210 – OCCUPIED BANDWIDTH & EMISSION MASK**

**Applicable Standard**

FCC §2.1049, §90.209 and §90.210

**Test Procedure**

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The resolution bandwidth of the spectrum analyzer was set at 100 Hz or 300 Hz and the spectrum was recorded in the frequency band.

**Test Data**

**Environmental Conditions**

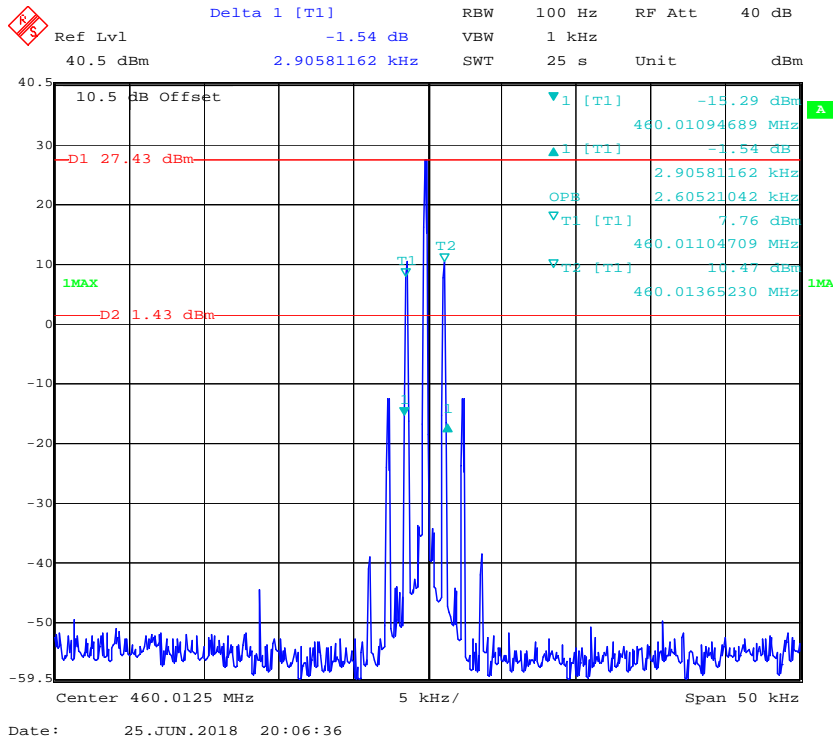
<b>Temperature:</b>	26.1 °C
<b>Relative Humidity:</b>	56 %
<b>ATM Pressure:</b>	101.4 kPa

*The testing was performed by Swim Lv on 2018-06-25.*

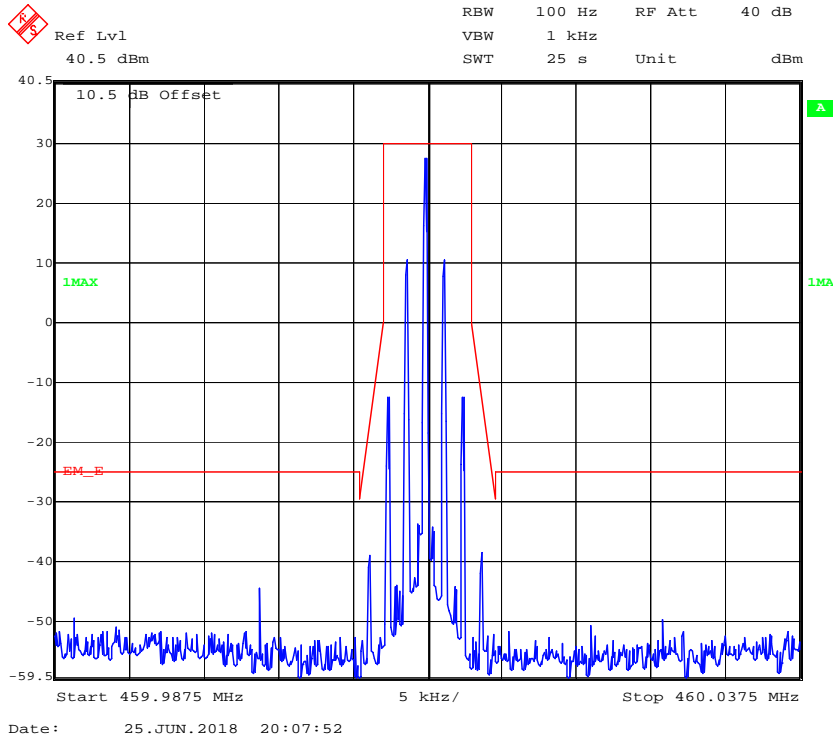
*Test mode: transmitting*

<b>Test Frequency (MHz)</b>	<b>Channel Separation</b>	<b>Power Level</b>	<b>99% Occupied Bandwidth (kHz)</b>	<b>26 dB Bandwidth (kHz)</b>
460.0125	6.25kHz	High	2.605	2.906
		Low	2.505	2.906
	12.5kHz	High	10.020	10.421
		Low	10.020	10.421

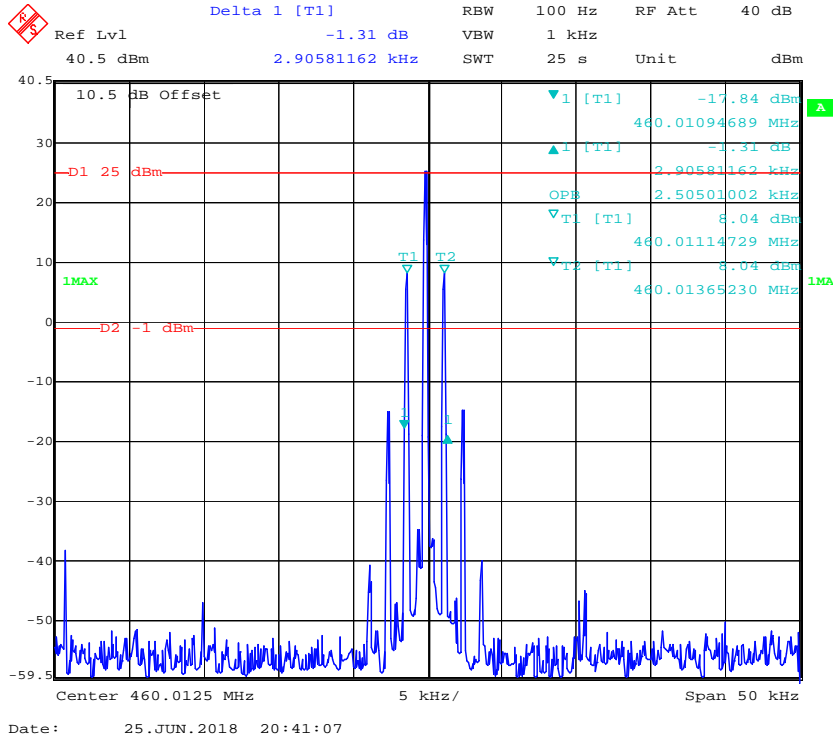
**FM,6.25kHz,High Power - Frequency 460.0125MHz: 99% Occupied & 26 dB Bandwidth**



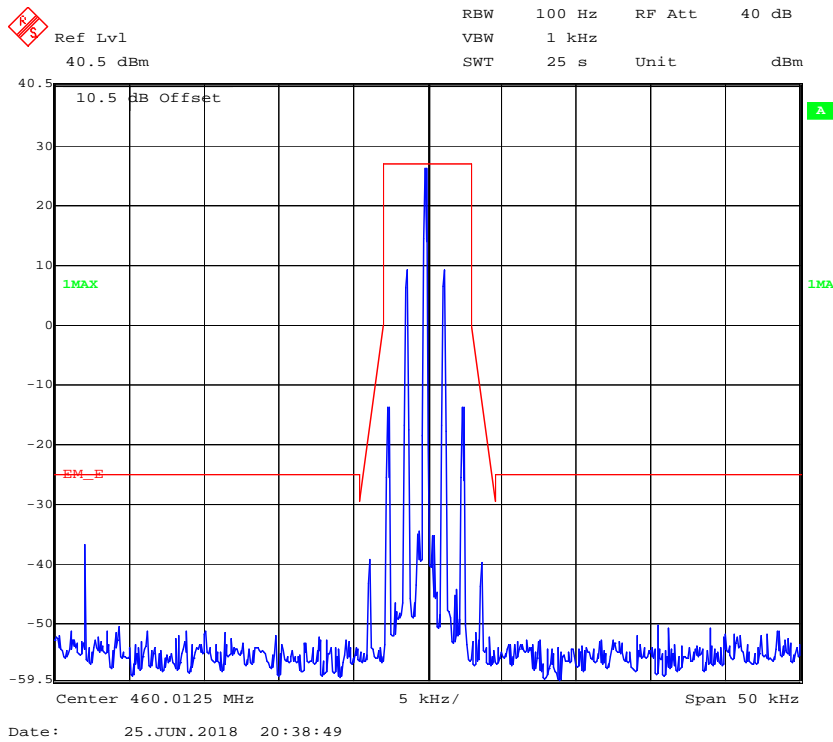
**Emission Mask E**



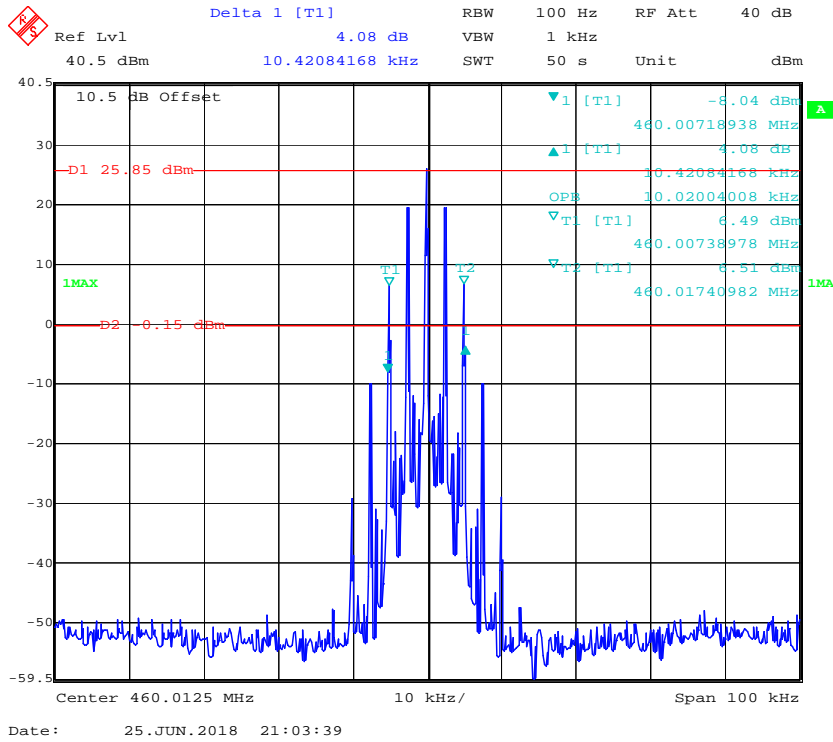
**FM,6.25kHz,Low Power - Frequency 460.0125MHz: 99% Occupied & 26 dB Bandwidth**



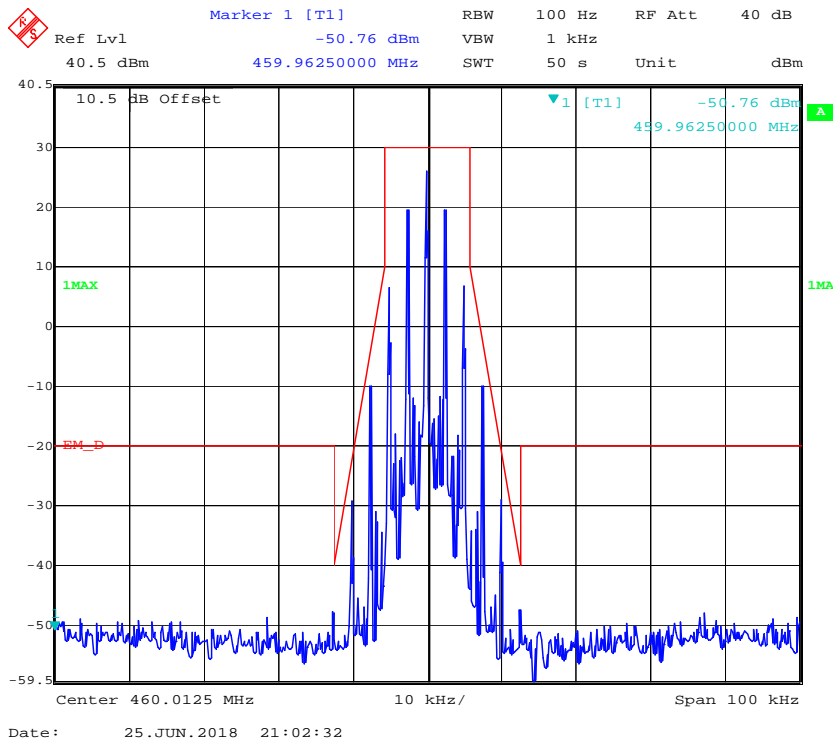
**Emission Mask E**



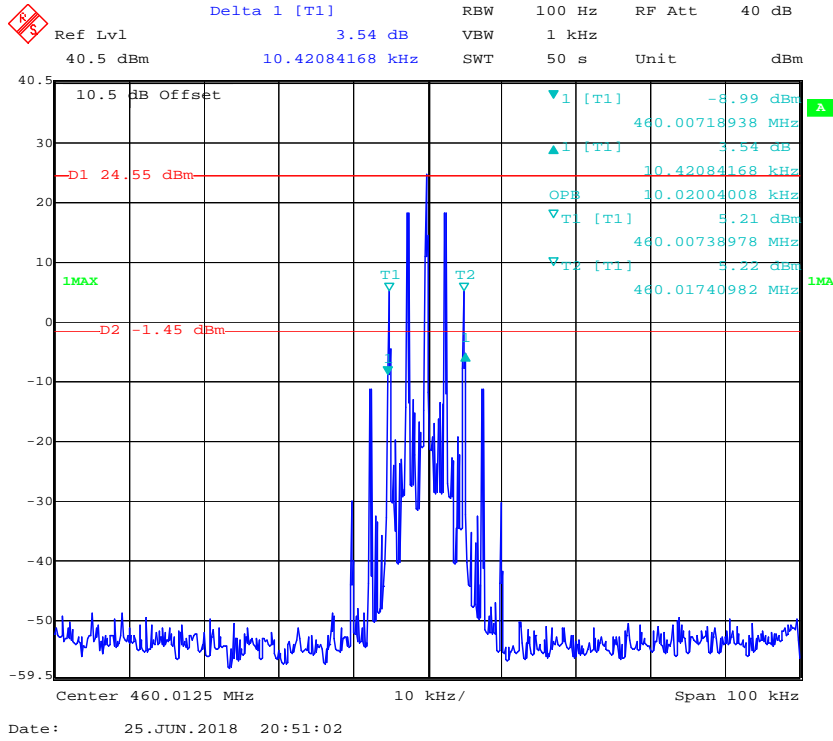
**FM,12.5kHz,High Power - Frequency 460.0125 MHz: 99% Occupied & 26 dB Bandwidth**



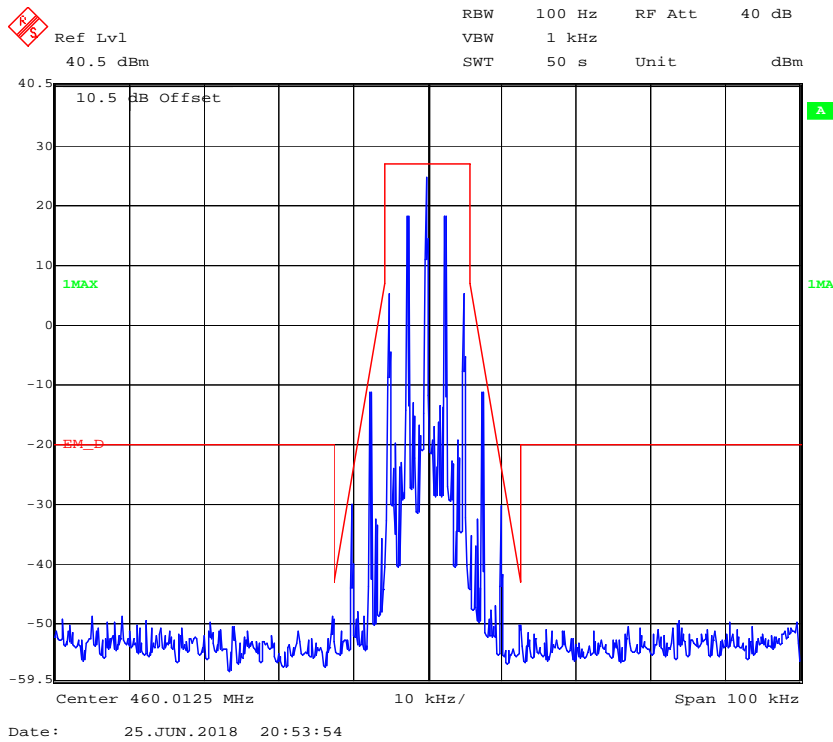
**Emission Mask D**



**FM,12.5kHz,Low Power - Frequency 460.0125 MHz: 99% Occupied & 26 dB Bandwidth**



**Emission Mask D**



## FCC §2.1051 & §90.210 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS

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### Applicable Standard

FCC §2.1051, §90.210

### Test Procedure

The RF output of the EUT was connected to a spectrum analyzer through appropriate attenuation. The resolution bandwidth of the spectrum analyzer was set at 100 kHz for below 1GHz, and 1MHz for above 1GHz. Sufficient scans were taken to show any out of band emissions up to 10<sup>th</sup> harmonic.

### Test Data

#### Environmental Conditions

<b>Temperature:</b>	26.3°C
<b>Relative Humidity:</b>	54 %
<b>ATM Pressure:</b>	101.3 kPa

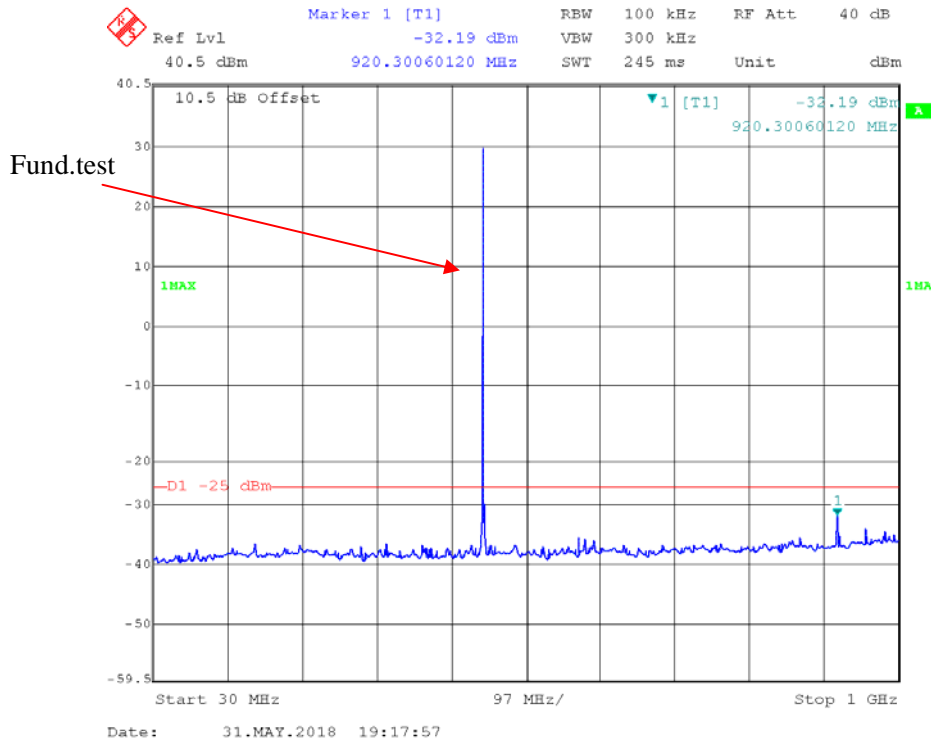
*The testing was performed by Swim Lv on 2018-05-31.*

*Test Mode: Transmitting, please refer to the following plots.*

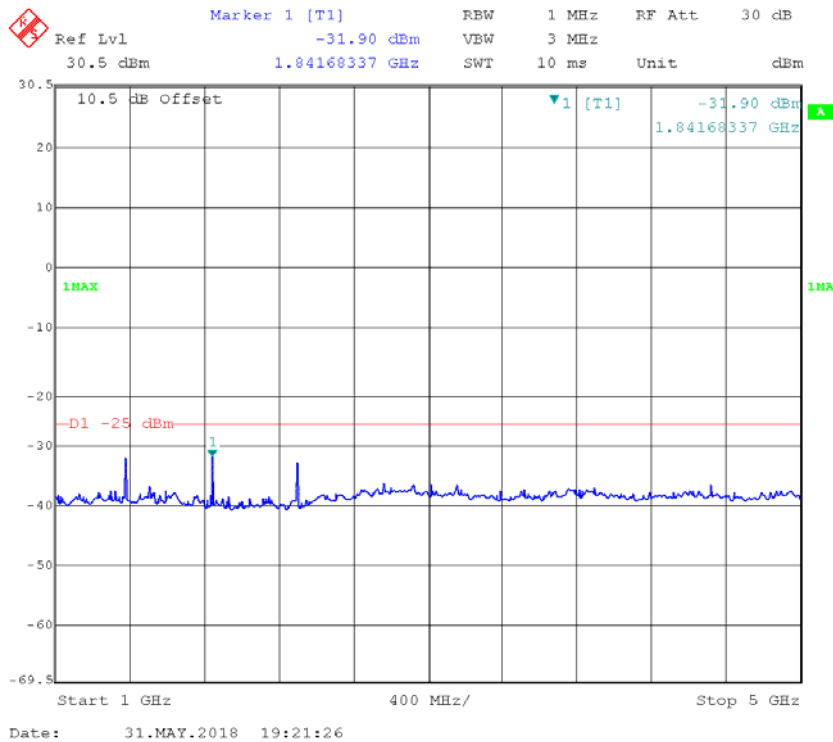


**6.25kHz,FM, High power:**

**30MHz – 1 GHz, Channel Spacing 6.25 kHz, 460.0125 MHz**

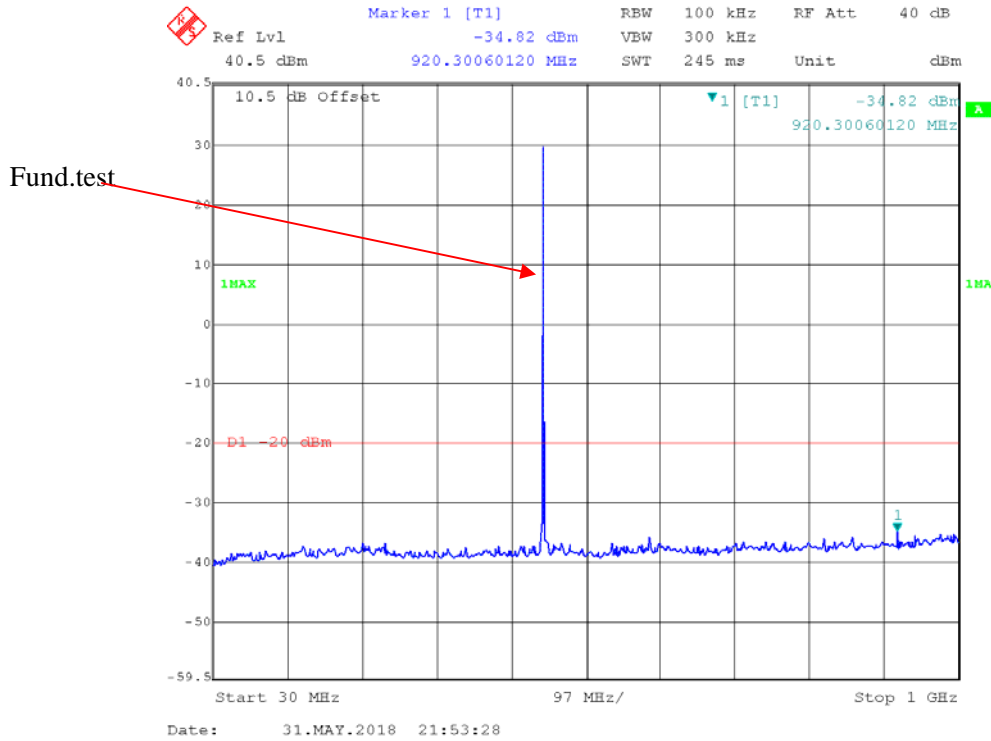


**1 GHz – 5 GHz, Channel Spacing 6.25 kHz, 460.0125 MHz**

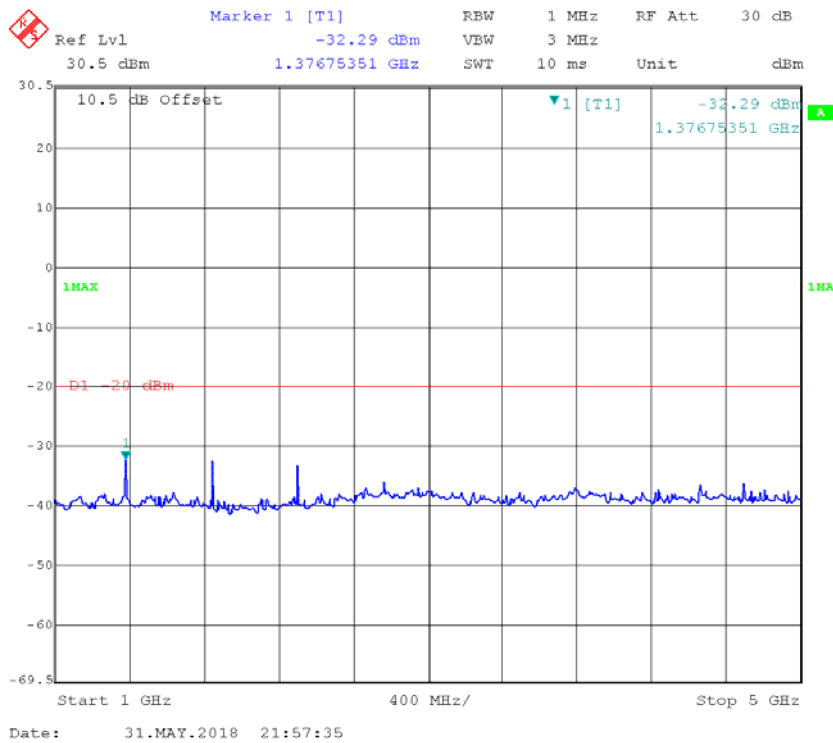


**12.5kHz, FM, High power:**

**30MHz – 1 GHz, Channel Spacing 12.5 kHz, 460.0125 MHz**



**1 GHz – 5 GHz, Channel Spacing 12.5 kHz, 460.0125 MHz**



## FCC §2.1053 §90.210 - RADIATED SPURIOUS EMISSIONS

### Applicable Standard

FCC §2.1053, §90.210

### Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load, which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to teeth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TXpwr in Watts/0.001)-the absolute level

### Test Data

#### Environmental Conditions

<b>Temperature:</b>	29.9 °C
<b>Relative Humidity:</b>	36 %
<b>ATM Pressure:</b>	101.2 kPa

*The testing was performed by Vern Shen and Blake Yang on 2018-06-04.*

*Test Mode: Transmitting*

**30MHz - 5GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
FM, Frequency: 460.0125MHz-6.25 kHz								
920.025	H	67.88	-28.4	0.0	1	-29.4	-25.0	4.4
920.025	V	68.55	-29.6	0.0	1	-30.6	-25.0	5.6
1380.038	H	72.31	-41	8.9	1.2	-33.3	-25.0	8.3
1380.038	V	80.46	-33.5	8.9	1.2	-25.8	-25.0	0.8
1840.050	H	66.04	-47.7	11.4	0.8	-37.1	-25.0	12.1
1840.050	V	71.02	-43.2	11.4	0.8	-32.6	-25.0	7.6
2300.063	H	62.35	-49.9	11.2	1.2	-39.9	-25.0	14.9
2300.063	V	67.50	-44.6	11.2	1.2	-34.6	-25.0	9.6
2760.075	H	62.94	-49.3	13.1	1.3	-37.5	-25.0	12.5
2760.075	V	64.83	-47.6	13.1	1.3	-35.8	-25.0	10.8
3220.088	H	60.51	-49.5	13.6	1.6	-37.5	-25.0	12.5
3220.088	V	63.38	-46.6	13.6	1.6	-34.6	-25.0	9.6
3680.100	H	64.91	-44.4	14.0	1.8	-32.2	-25.0	7.2
3680.100	V	62.85	-46.5	14.0	1.8	-34.3	-25.0	9.3
FM, Frequency: 460.0125MHz-12.5 kHz								
920.025	H	69.27	-27	0.0	1	-28.0	-20.0	8.0
920.025	V	69.33	-28.8	0.0	1	-29.8	-20.0	9.8
1380.038	H	73.60	-39.7	8.9	1.2	-32.0	-20.0	12.0
1380.038	V	79.77	-34.2	8.9	1.2	-26.5	-20.0	6.5
1840.050	H	66.45	-47.3	11.4	0.8	-36.7	-20.0	16.7
1840.050	V	70.50	-43.7	11.4	0.8	-33.1	-20.0	13.1
2300.063	H	60.32	-51.9	11.2	1.2	-41.9	-20.0	21.9
2300.063	V	67.18	-44.9	11.2	1.2	-34.9	-20.0	14.9
2760.075	H	63.25	-49	13.1	1.3	-37.2	-20.0	17.2
2760.075	V	65.13	-47.3	13.1	1.3	-35.5	-20.0	15.5
3220.088	H	58.33	-51.6	13.6	1.6	-39.6	-20.0	19.6
3220.088	V	64.99	-45	13.6	1.6	-33.0	-20.0	13.0
3680.100	H	64.90	-44.4	14.0	1.8	-32.2	-20.0	12.2
3680.100	V	63.02	-46.3	14.0	1.8	-34.1	-20.0	14.1

**Note:**

Absolute Level = Substituted Level - Cable loss + Antenna Gain

Margin = Limit- Absolute Level

## **FCC §2.1055 & §90.213 - FREQUENCY STABILITY**

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### **Applicable Standard**

FCC §2.1055, §90.213

### **Test Procedure**

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to a frequency counter via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the counter.

### **Test Data**

#### **Environmental Conditions**

<b>Temperature:</b>	26.3°C
<b>Relative Humidity:</b>	54 %
<b>ATM Pressure:</b>	101.3 kPa

*The testing was performed by Swim Lv on 2018-05-31.*

*Test Mode: Transmitting*

<b>FM,6.25kHz, Reference Frequency: 460.0125 MHz, Limit: ±1.0 ppm</b>			
<b>Temperature (°C)</b>	<b>Voltage Supplied (V<sub>DC</sub>)</b>	<b>Measured Frequency (MHz)</b>	<b>Frequency Error (ppm)</b>
-30	3.7	460.01224	-0.57
-20		460.01219	-0.67
-10		460.01234	-0.35
0		460.01233	-0.37
10		460.01235	-0.33
20		460.01228	-0.48
30		460.01218	-0.70
40		460.01222	-0.61
50		460.01220	-0.65
25		3.0	460.01227
25	4.2	460.01238	-0.26

<b>FM, 12.5kHz, Reference Frequency: 460.0125 MHz, Limit: ±2.5 ppm</b>			
<b>Temperature (°C)</b>	<b>Voltage Supplied (V<sub>DC</sub>)</b>	<b>Measured Frequency (MHz)</b>	<b>Frequency Error (ppm)</b>
-30	3.7	460.01215	-0.76
-20		460.01237	-0.28
-10		460.01224	-0.57
0		460.01236	-0.30
10		460.01218	-0.70
20		460.01229	-0.46
30		460.01221	-0.63
40		460.01227	-0.50
50		460.01218	-0.70
25		3.0	460.01227
25	4.2	460.01235	-0.33

Note: the operation voltage is declared by manufacturer.

## FCC §90.214 - TRANSIENT FREQUENCY BEHAVIOR

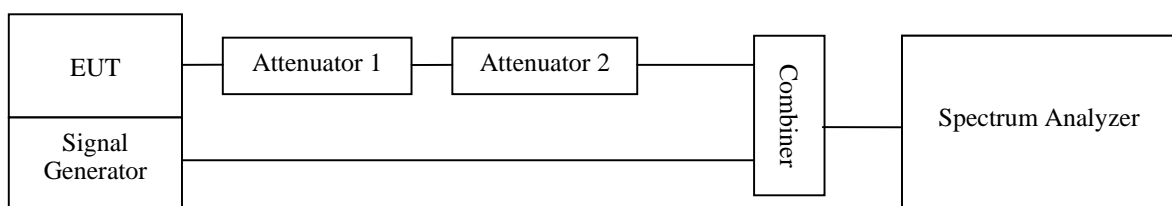
### Applicable Standard

Regulations: FCC §90.214

Test method: ANSI/TIA-603-D 2010, section 2.2.19.3

### Test Procedure

- a) Connect the EUT and test equipment as shown on the following block diagram.
- b) Set the Spectrum Analyzer to measure FM deviation, and tune the RF frequency to the transmitter assigned frequency.
- c) Set the signal generator to the assigned transmitter frequency and modulate it with a 1 kHz tone at  $\pm 12.5$  kHz deviation and set its output level to -100dBm.
- d) Turn on the transmitter.
- e) Supply sufficient attenuation via the RF attenuator to provide an input level to the Spectrum Analyzer that is 40 dB below the maximum allowed input power when the transmitter is operating at its rated power level. Note this power level on the Spectrum Analyzer as  $P_0$ .
- f) Turn off the transmitter.
- g) Adjust the RF level of the signal generator to provide RF power equal to  $P_0$ . This signal generator RF level shall be maintained throughout the rest of the measurement.
- h) Remove the attenuation 1, so the input power to the Spectrum Analyzer is increased by 30 dB when the transmitter is turned on.
- i) Adjust the vertical amplitude control of the spectrum analyzer to display the 1000 Hz at  $\pm 4$  divisions vertically centered on the display. Set trigger mode of the Spectrum Analyzer to "Video", and tune the "trigger level" on suitable level. Then set the "trigger offset" to -10ms for turn on and -15ms for turn off.
- j) Turn on the transmitter and the transient wave will be captured on the screen of Spectrum Analyzer. Observe the stored display. The instant when the 1 kHz test signal is completely suppressed is considered to be  $t_{on}$ . The trace should be maintained within the allowed divisions during the period  $t_1$  and  $t_2$ .
- k) Then turn off the transmitter, and another transient wave will be captured on the screen of Spectrum Analyzer. The trace should be maintained within the allowed divisions during the period  $t_3$ .



**Test Data****Environmental Conditions**

<b>Temperature:</b>	26.1 °C
<b>Relative Humidity:</b>	56 %
<b>ATM Pressure:</b>	101.4 kPa

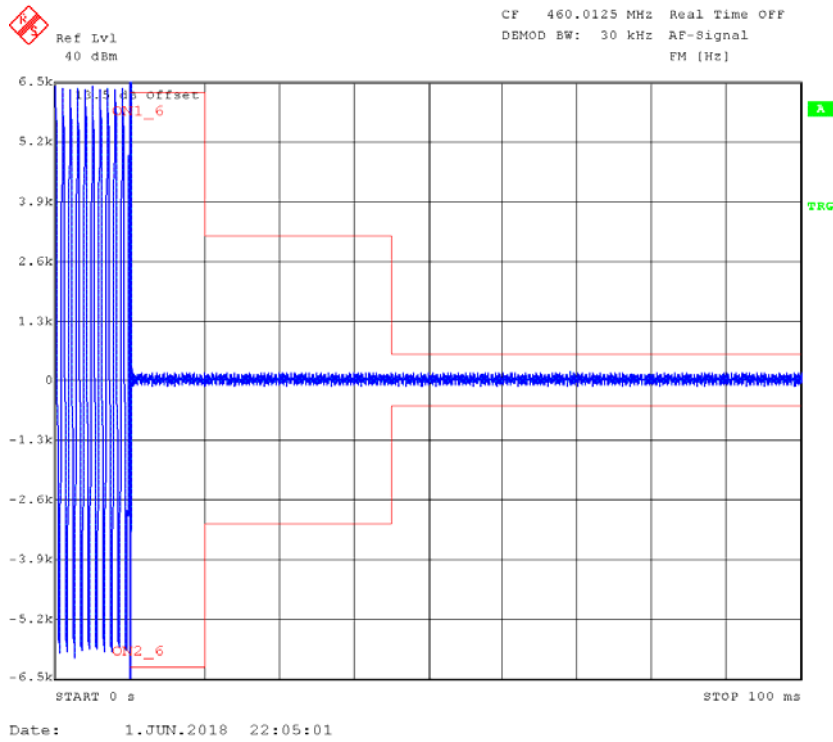
*The testing was performed by Swim Lv on 2018-06-01.*

<b>Channel Spacing (kHz)</b>	<b>Transient Period (ms)</b>	<b>Transient Frequency</b>	<b>Result</b>
12.5	<10(t <sub>1</sub> )	±12.5 kHz	Pass
	<25(t <sub>2</sub> )	±6.25 kHz	
	<10(t <sub>3</sub> )	±12.5 kHz	
6.25	<10(t <sub>1</sub> )	±6.25 kHz	Pass
	<25(t <sub>2</sub> )	±3.125 kHz	
	<10(t <sub>3</sub> )	±6.25 kHz	

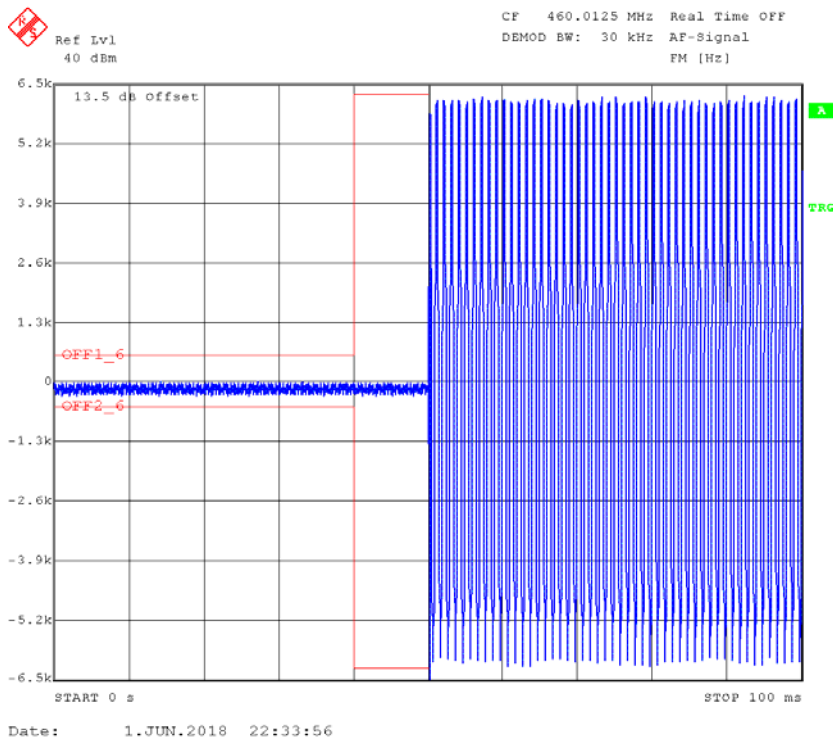
Please refer to the following plots.



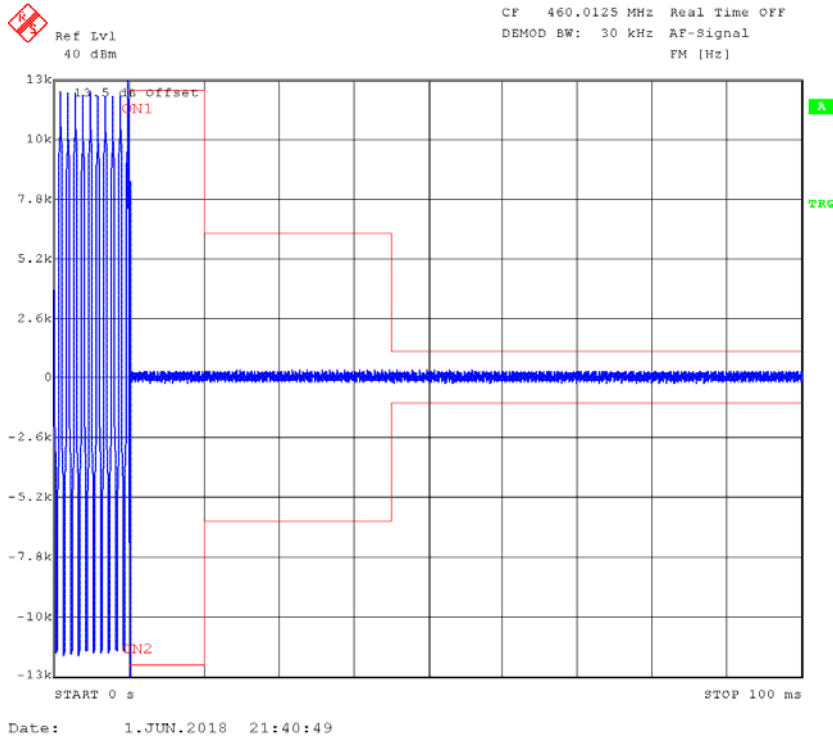
### High Power Channel: 460.0125 MHz, 6.25kHz Turn on



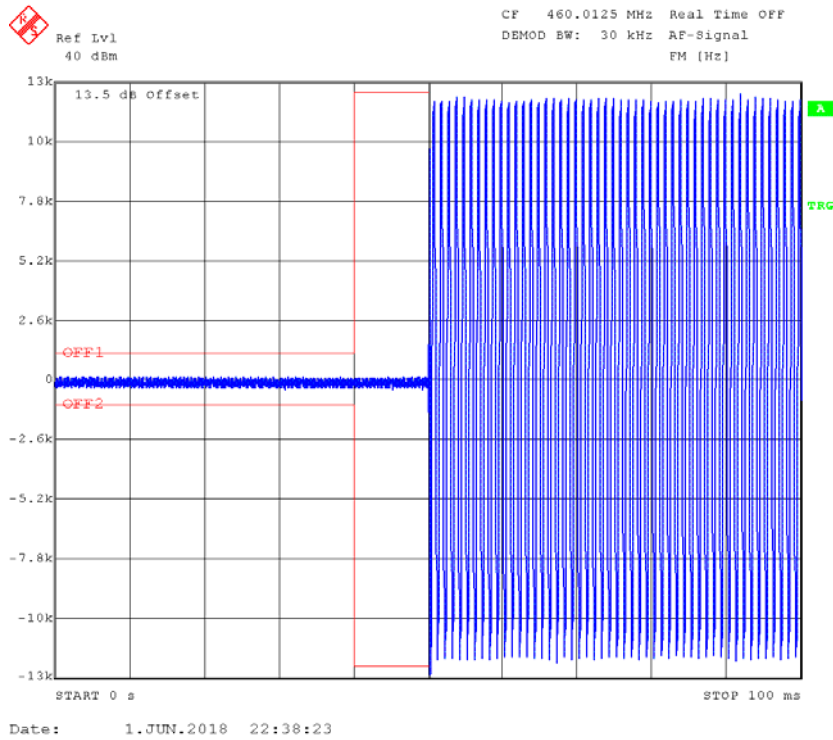
### Turn off



### High Power Channel: 460.0125 MHz,12.5kHz Turn on



### Turn off



\*\*\*\*\* END OF REPORT \*\*\*\*\*