



REPORT

For

Dali Wireless, Inc.

535 Middlefield Road, Suite 280
Menlo Park, CA 94025

Date: 02 DECEMBER 2019
Report No.: 18280-2E
Revision No.: 1
Project No.: 18280
Equipment: Advanced Digital Distributed Antenna System
Model No.: AH37-3-PS-FHB-21-5N-D0
FCC ID: HCOAH373PSFHB21A

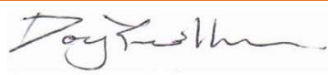

ONE STOP GLOBAL CERTIFICATION SOLUTIONS



Unit 205 – 8291 92 ST., Delta, BC
V4G 0A4, Canada
Phone: 604-247-0444
Fax: 604-247-0442
www.labtestcert.com

TABLE OF CONTENTS

TEST REPORT_FCC Part 90	3
Revision History.....	4
Device Under Test Description.....	4
Program details	5
Description of Equipment Under Test and Variant Models	6
Client Equipment Used During Test.....	7
Software and Firmware	8
Input/Output Ports	8
Power Interface	8
EUT Operation Modes.....	8
EUT Configuration Modes	8
Test Equipment Verified for function	9
Test Station Cables and Loads	9
Test Station Insertion Loss.....	9
Measurement Uncertainty	9
Result Summary.....	10
Spurious emissions radiated measurements	10
AGC Threshold.....	11
Test setup	11
Results – Output Power FCC Requirement	12
Occupied Bandwidth.....	13
Test setup	13
Results – Occupied Bandwidth (OBW)	14
Out of Band Rejection	19
Test setup	19
Results	20
Input-Versus-Output Signal Comparison.....	26
Test setup	27
Results	28
Input/output Power and Amplifier/Booster Gain	73
Test setup	73
Results	74
Noise Figure	75
Test setup	75
Results	76
Out-Of-Band / Out-Of-Block Intermodulation and Spurious Emissions	77
Test setup	77
Results Screenshots	78
Frequency Stability	90
Spurious emissions radiated measurements	91
Test setup	92
Measurement Procedure	93
Test Result	93
Graphical Representation for Emission - Radiated 30kHz to 30MHz	94
Graphical Representation for Emission - Radiated 30MHz to 1GHz	95
Graphical Representation for Emission - Radiated 1 to 10GHz	97
Table Representation for Emission - Radiated 30MHz to 10GHz	97

TEST REPORT_FCC Part 90	
Private Land Mobile Services	
Report Reference No.:	18280-2E
Report Revision History	✓ Rev. 0: 21 NOVEMBER 2019 ✓ Rev. 1: 02 DECEMBER 2019
Compiled by (+ signature).....	Daniel Lee 
Approved by (+ signature).....	Jeremy Lee 
Date of issue	02 December 2019
Total number of pages	97
FCC Site Registration No.: CA5970	
IC Site Registration No.: 5970A-2	
Testing Laboratory: LabTest Certification Inc.	
Address	
Unit 3128-20800 Westminster HWY, Richmond, B.C. V6V 2W3 Canada	
Applicant's name: Dali Wireless, Inc.	
Address	
535 Middlefield Road, Suite 280, Menlo Park, CA 94025	
Manufacturer's Name	
Dali Wireless (Canada) Inc.	
Address	
8618 Commerce Court, Burnaby, B.C. V5A 4N6, Canada	
Test specification:	
Standards	> FCC Part 2: 2019 > FCC Part 90: 2019
Test procedure	> FCC KDB 935210 D05 Indus Booster Basic Meas v01r03: April 15, 2019 > ANSI/TIA-603- E-2016 > ANSI C63.4: 2014
Non-standard test method.....:	N/A
Test Report Form(s) Originator	Jeremy Lee
Master TRF	1036_Rev2 – RF Report Template
Test item description :	
Trade Mark	AH37™
Model/Type reference	AH37-3-PS-FHB-21-5N-D0

Serial Number	10911205RA1B98001
FCC ID	HCOAH373PSFHB21A
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing:	
Date of receipt of test item	23 October 2019
Date (s) of performance of tests.....	23 October and 08 November 2019

Revision History

Revision	Date	Reason For Change	Author(s)
0	21 November 2019	Initial Data	Daniel Lee
1	02 December 2019	Corrected information on page 73 , 75	Jeremy Lee

Device Under Test Description

Application for	PS 800/450/150 Remote Unit, Tri Band Medium Power DAS
Passing Transmit Frequency	806 MHz – 816 MHz 450 MHz – 470 MHz 152 MHz – 174 MHz
Operating Transmit Frequency FCC	806 MHz – 816 MHz 450 MHz – 454 MHz 456 MHz – 462.5375 MHz 462.7375 MHz – 467.5375 MHz 467.7375 MHz – 512 MHz 150.8 MHz – 156.2475 MHz 157.1875 MHz – 161.575 MHz 161.775 MHz – 161.9625 MHz 162. 0375 MHz – 173.4 MHz
Passing Receive Frequency	851 MHz – 861 MHz 450 MHz – 470 MHz
Operating Receive Frequency FCC	450 MHz – 454 MHz 456 MHz – 462.5375 MHz 462.7375 MHz – 467.5375 MHz 467.7375 MHz – 512 MHz

Number of Channels	Up to 64 channels
Rated RF Output(e.i.r.p.)	37 dBm
Modulation Type	P25 Phase I C4FM, CQPSK; P25 Phase II HDQPSK on full band of Band 800, Band 450 and Band 150; FM on Band 800 between 851 MHz – 854 MHz only;
Equipment mobility	Fixed
Operating condition	-40 to +50 °C
Mass of equipment (g)	< 27,700g
Dimension(W X D X H)	410 mm X 230 mm X 696 mm
Nominal Voltages for:	<u>48 V</u> stand-alone equipment <u>48 V</u> combined (or host) equipment
Supply Voltage:	_____ AC _____ Amps <u>48V</u> DC <u>7.083</u> Amps
If DC Power:	<input type="checkbox"/> Internal Power Supply <input checked="" type="checkbox"/> External Power Supply <input type="checkbox"/> Battery <input type="checkbox"/> Nickel Cadmium <input type="checkbox"/> Alkaline <input type="checkbox"/> Nickel-Metal Hydride <input type="checkbox"/> Lithium-Ion <input type="checkbox"/> Other

Program details

Testing Facility by procedure:		
<input checked="" type="checkbox"/>	Radiated Measurement	LabTest Certification Inc.
Testing location/ address		Unit 3128-20800 Westminster HWY, Richmond, B.C. V6V 2W3 Canada
<input checked="" type="checkbox"/>	Conducted Measurement:	LabTest Certification Inc.
Testing location/ address		Unit 3128-20800 Westminster HWY, Richmond, B.C. V6V 2W3 Canada

Summary of testing:	
Tests performed (name of test and test clause): Conducted Measurement Radiated Emissions on Enclosure	Testing location: Bench top, Richmond In SAC, Richmond

The tests indicated in Test Summary were performed on the product constructed as described below. The test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted. Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested. LabTest does not make any claims of compliance for samples or variants which were not tested.

Description of Equipment Under Test and Variant Models

Description:

The AH37 /800PS/450PS/150 PS is a tri-band remote unit that provides at least 5 W of output power on each band. The tri-band unit supports up to 3 bands in a sealed type 2 chassis for Class A operation.

On the downlink path the hd37 PS remote receives an aggregated stream of digitized RF signals from an *airHost* PS, which it then converts into analog RF signals. Depending on the frequency band, the signal is amplified in the RF module and then sent out through simplex RF ports to an external filter.

On the UL path the hd37 PS remote receives analog RF signals for the RF band, from an external filter. The RF signals are converted into a digital data stream and then delivered over optical fiber to an *airHost* PS. The hd37 PS remote also accommodates a 1 Gbps Ethernet backhaul for transporting the data from nearby IP devices such as security cameras and Wi-Fi access points.

The intentional transmitter only exists in the uplink path and hence the EMC tests in this report dedicated to the uplink emission.

In order to build up a complete signal booster system, the *hd37* was connected as the Auxiliary device. The signal was injected and ejected via coaxial cables from the hd37 to the Equipment Under Test (EUT).



Variant Models:

The following variant models were not tested as part of this evaluation, but have been identified by the manufacturer as being electrically identical models, depopulated models, or with reasonable similarity to the model(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

AH37-3-PS-FHB-21-5N-D0 – tri band 800PS 450PS 150PS model as tested

Tri Band

1. AH37-3-PS-FHB-21-5N-D0 (airHost37 with 150,450,800PS)
2. AH33-3-PS-FHB-21-5N-D0 (airHost33 with 150,450,800PS)

Dual Band:

1. AH37-2-PS-HB-21-3N-D0 (airHost37 with 450,800PS)
2. AH33-2-PS-HB-21-3N-D0 (airHost 33 with 450,800PS)
3. AH37-2-PS-FH-21-4N-D0 (airHost 37 with 450,150PS)
4. AH33-2-PS-FH-21-4N-D0 (airHost 33 with 450,150PS)
5. AH37-2-PS-FB-21-3N-D0 (airHost 37 with 150,800PS)
6. AH33-2-PS-FB-21-3N-D0 (airHost 33 with 150,800PS)

Single Band:

1. AH37-1-PS-H-21-2N-D0 (airHost 37 with 450PS)
2. AH33-1-PS-H-21-2N-D0 (airHost 33 with 450PS)
3. AH37-1-PS-F-21-2N-D0 (airHost 37 with 150PS)
4. AH33-1-PS-F-21-2N-D0 (airHost 33 with 150PS)
5. AH37-1-PS-B-21-1N-D0 (airHost 37 with 800PS)
6. AH33-1-PS-B-21-1N-D0 (airHost 33 with 800PS)

Client Equipment Used During Test

Use*	Product Type	Manufacturer	Model	Comments
EUT	<i>airHost, 800PS, 450PS, 150PS</i>	Dali Wireless Inc.	AH37-3-PS-FHB-21-5N-D0	EUT where the RF (I/O) antenna attached via duplexers/multiplexer when necessary.
AE1	<i>hd37, 800PS, 450PS, 150PS</i>	Dali Wireless Inc.	hd37-3-PS-FHB-21-5N-D0	Auxiliary equipment, which is the back end of signal booster system air interfaced to donor Base Station.
AE2	Dali Matrix Console	Dali Wireless Inc.	hdCNSL-1-8-4-120G-AC	Auxiliary equipment provides the configuration and control interface to <i>airHost</i> and <i>hd37</i> .
AE3	Power Supply	MeanWell	HLG-480H-48	AC to DC Converter, I/P: 120VAC, 60Hz, 5.5A O/P: +48VDC, 480W

Abbreviations:

- EUT - Equipment Under Test,
- AE - Auxiliary/Associated Equipment, or
- SIM - Simulator (Not Subjected to Test)

Software and Firmware

Use*	Description	Version
EUT	Software installed	1.0.10_dev431
AE1	Software installed	1.0.10_dev431
AE2	Software installed	1.0.10_dev431

Abbreviations:
 EUT - Equipment Under Test,
 AE - Auxiliary/Associated Equipment, or
 SIM - Simulator (Not Subjected to Test)

Input/Output Ports

Port #	Name	Type*	Cable Max. >3m	Cable Shielded	Comments
1	DC Power Port	DC	No	No	Dual feed 48 VDC Assembly
2	8 * RF Input/Output Ports	I/O	No	No	N-Type Coaxial
3	2 * Optical Fibre I/O Ports	I/O	No	No	LC/UPC Duplex
4	2 * TP	TP	No	No	RJ-45

*Note: AC = AC Power Port DC = DC Power Port N/E = Non-Electrical
 I/O = Signal Input or Output Port (Not Involved in Process Control)
 TP = Telecommunication Ports

Power Interface

Mode #	Voltage (V)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
1	48	-	-	DC	-	

EUT Operation Modes

Mode #	Description
1	UL and DL transmission and receiving ON

EUT Configuration Modes

Mode #	Description
1	hd37 maximum input threshold set to -55 dBm, uplink attenuation set to 0dB; AH37 uplink and downlink attenuation set to 0dB.

Test Equipment Verified for function

Model #	Description	Checked Function	Results
N9038A	Spectrum Analyzer	Frequency and Amplitude	Connected 50MHz and -20 dBm Ref_siganl and checked OK.
JB1	Antenna, 30 to 2000MHz	Checked structure	Normal – no damage.
SAS-571	Antenna, 1 to 18GHz	Checked structure	Normal – no damage.
AL-130	Antenna, 9kHz to 30MHz	Checked structure	Normal – no damage.
KT-N5172B	Signal Generator, up to 6GHz	Frequency, Amplitude and Modulation	Within MFR Specs
KT-N9010A	Spectrum Analyzer	Frquency and Amplitude	Within MFR Specs

Test Station Cables and Loads

Model #	Manufacture	Description
3 * TM8-N1S1-59	MegaPhase	3 times N male to SMA male coaxial cable in 60 inches
TM8-N1S1-24	MegaPhase	N male to SMA male coaxial cable in 24 inches
2 * 49-30-34	Aeroflex	30dB 150W attenuators

Test Station Insertion Loss

	Band 800	Band 450	Band 150	
UL Receiver	31 dB	30.7 dB	30.3 dB	
UL Transmitter	30.9 dB	30.4 dB	30.2 dB	

Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests:

Parameter	Uncertainty
Radio Frequency	±1 ppm
Total RF Power: Conducted	±1 dB
RF Power Density: Conducted	±2.75 dB
Spurious Emissions: Conducted	±3 dB
Temperature	±1 °C
Humidity	±5 %
Radiated Emission, 30 to 300MHz	± 3.87 dB
Radiated Emission, 300 to 1,000MHz	± 4.79 dB
Radiated Emission, 1 to 10GHz	± 5.03 dB

Uncertainty figures are valid to a confidence level of 95%.

Result Summary

The Compliance Status is a judgment based on the direct measurements and calculated highest emissions to appropriate standard limits. Measurement uncertainty values, provided on calibration certificates, were not be used in the judgment of the final status of compliance.

FCC Part 2 & 90			
Test Type	Regulation	Measurement Method	Result
AGC Threshold	FCC KDB 935210 D05, v01r03, Section 4.2	ANSI TIA-603- E-2016	PASS
Out of Band Rejection	FCC KDB 935210 D05, v01r03, Section 4.3	ANSI TIA-603- E-2016	PASS
Input-versus-output Signal Comparison	FCC KDB 935210 D05, v01r03, Section 4.4	ANSI TIA-603- E-2016	PASS
Input/output Power and Amplifier/Booster Gain	FCC KDB 935210 D05, v01r03, Section 4.5	ANSI TIA-603- E-2016	PASS
Noise Figure	FCC KDB 935210 D05, v01r03, Section 4.6	ANSI TIA-603- E-2016	PASS
Measuring out-of-band/out-of-block (including intermodulation) and spurious emissions	FCC KDB 935210 D05, v01r03, Section 4.7	ANSI TIA-603- E-2016	PASS
Frequency stability	FCC KDB 935210 D05, v01r03, Section 4.8	ANSI TIA-603- E-2016	PASS
Spurious emissions radiated measurements	FCC KDB 935210 D05, v01r03, Section 4.9	ANSI C63.4:2014	PASS

AGC Threshold

Governing Doc	FCC Part 2 2.1046(a) FCC Part 90.219(d)	Room Temperature (°C)	20.5		
Test Procedure	ANSI/TIA-603- E; FCC KDB 935210 D05, v01r03;	Relative Humidity (%)	38.6		
Test Location	Richmond	Barometric Pressure (kPa)	101.8		
Test Engineer	Daniel Lee	Date	Nov. 08, 2019		
EUT Voltage	<input checked="" type="checkbox"/> +48VDC <input type="checkbox"/> 120VAC @ 60Hz				
Test Equipment Used	Manufacturer	Model	Serial Number	Calibration	Calibration due
Signal Generator	Keysight	N5172B	MY53050270	06/12/19	06/12/21
Spectrum Analyzer	Keysight	N9010A	MY50520285	07/29/19	07/23/21
Frequency Range:	<input checked="" type="checkbox"/> 806 MHz – 816 MHz <input checked="" type="checkbox"/> 450 MHz – 470 MHz <input checked="" type="checkbox"/> 152 MHz – 174 MHz				
Detector:	<input checked="" type="checkbox"/> Peak				
Type of Facility:	<input checked="" type="checkbox"/> Test bench				
Distance:	<input checked="" type="checkbox"/> Direct				
Arrangement of EUT:	<input checked="" type="checkbox"/> Table-top only <input type="checkbox"/> Floor-standing only <input type="checkbox"/> Rack Mounted				
Output Power is less than 37.8 dBm in band 800, less than 37.9 dBm in band 450, and less than 37.7 dBm in band 150.					
Compliant <input checked="" type="checkbox"/> Non-Compliant <input type="checkbox"/> Not Applicable <input type="checkbox"/>					

Test setup

Description of test set-up:

Output power is measured by connecting a spectrum analyzer to RF output connector of EUT via 30dB Attenuator. With a nominal input power and the amplifier properly adjusted the RF output is measured. The EUT was set to **Operation Mode #1 with configuration Mode #1**. The maximum output power is measured when the Automatic Level Control (ALC) starting to compress the power and hold to a constant level.

```

    graph LR
        A[Vector Signal Generator] --- B[hd37]
        B --- C(( ))
        C --- D[EUT]
        D --- E[30 dB Attenuator]
        E --- F[Spectrum Analyzer]
    
```

Results – Output Power FCC Requirement

Frequency Range (MHz)	Frequency (MHz)	Input Power Trip ALC (dBm)	Output Power (dBm)	Output Power (Watt)
806 - 816	806.0125	-54.5	37.6	5.75
	811	-54.5	37.1	5.13
	815.9875	-53.0	37.8	6.02
450 -470	450.0125	-56.5	37.7	5.89
	460	-55.5	37.4	5.50
	469.9875	-53	37.9	6.17
152 - 174	152.025	-56.5	37.7	5.89
	161.79	-56	37.4	5.50
	173.275	-57	37.2	5.25

Occupied Bandwidth

Governing Doc	FCC Part 2 2.1049	Room Temperature (°C)	20.5		
Test Procedure	ANSI/TIA-603- E; FCC KDB 935210 D05, v01r03	Relative Humidity (%)	38.6		
Test Location	Richmond	Barometric Pressure (kPa)	101.8		
Test Engineer	Daniel Lee	Date	Nov 08, 2019		
EUT Voltage	<input checked="" type="checkbox"/> +48VDC <input type="checkbox"/> 120VAC @ 60Hz				
Test Equipment Used	Manufacturer	Model	Serial Number	Calibration	Calibration due
Signal Generator	Keysight	N5172B	MY53050270	06/12/19	06/12/21
Spectrum Analyzer	Keysight	N9010A	MY50520285	07/29/19	07/29/21
Frequency Range:	<input checked="" type="checkbox"/> 806 MHz – 816 MHz <input checked="" type="checkbox"/> 450 MHz – 470 MHz <input checked="" type="checkbox"/> 152 MHz – 174 MHz				
Detector:	<input checked="" type="checkbox"/> Peak				
Type of Facility:	<input checked="" type="checkbox"/> Test bench				
Distance:	<input checked="" type="checkbox"/> Direct				
Arrangement of EUT:	<input checked="" type="checkbox"/> Table-top only <input type="checkbox"/> Floor-standing only <input type="checkbox"/> Rack Mounted				
Output signal has an occupied channel bandwidth less than the designated channel bandwidth on any location on the operating band. <ul style="list-style-type: none"> - C4FM < 12.5 kHz - CQPSK < 6.25 kHz - HDQPSK < 12.5 kHz - 4 kHz FM with 1kHz deviation < 12.5 kHz 					
Compliant <input checked="" type="checkbox"/> Non-Compliant <input type="checkbox"/> Not Applicable <input type="checkbox"/>					

Test setup

Description of test set-up:

Occupied Bandwidth is measured by connecting a Spectrum Analyzer to the RF output connector via 30dB attenuator. The required measurement resolution bandwidth (RBW) is 1% of the emission bandwidth. 99% energy rule was applied to measure the occupied channel bandwidth. The emission bandwidth is measured as the width of the signal between two frequency points on the channel edge, outside of which the transmission power is attenuated at least 26dB below the transmitter output power

The EUT was set to **Operation Mode #1 with configuration Mode #1**

The occupied bandwidth of UL output is measured under one input conditions:

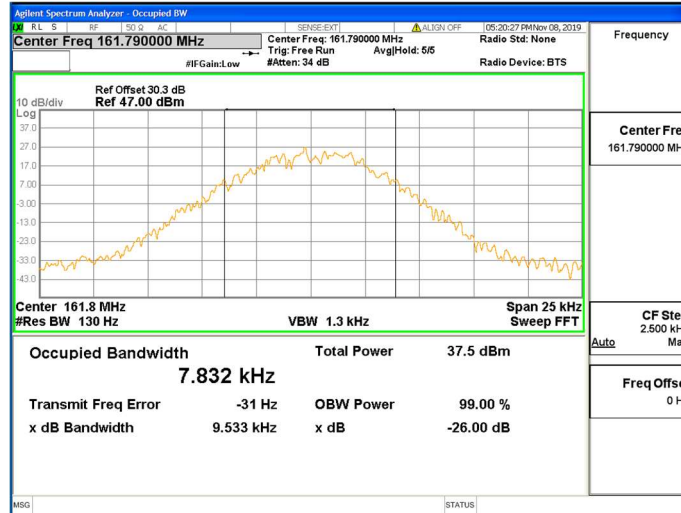
- Nominal: with input 0.5dB below AGC threshold

```

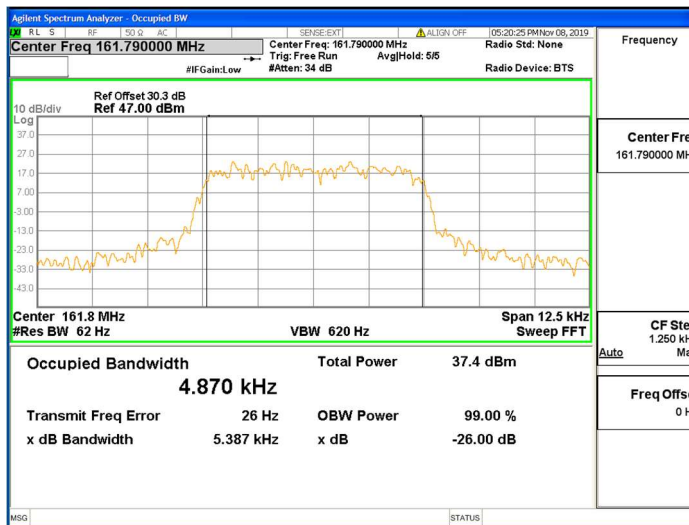
    graph LR
      A[Vector Signal Generator] --- B[hd37]
      B --- C(( ))
      C --- D[EUT]
      D --- E[30 dB Attenuator]
      E --- F[Spectrum Analyzer]
    
```

Results – Occupied Bandwidth (OBW)

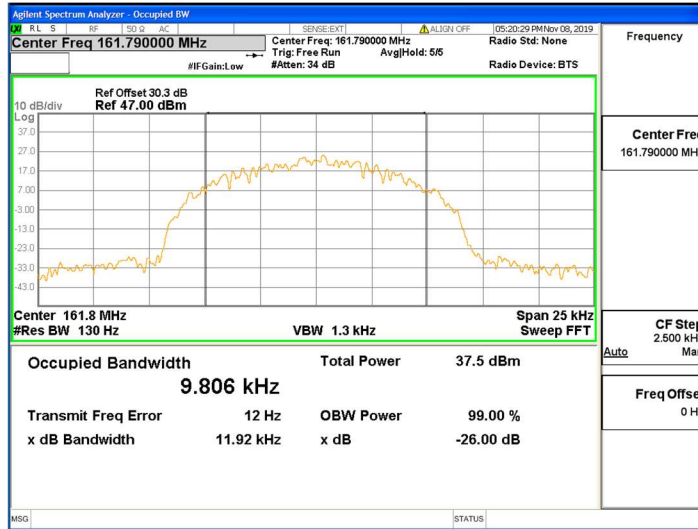
C4FM Signal at 161.79 MHz



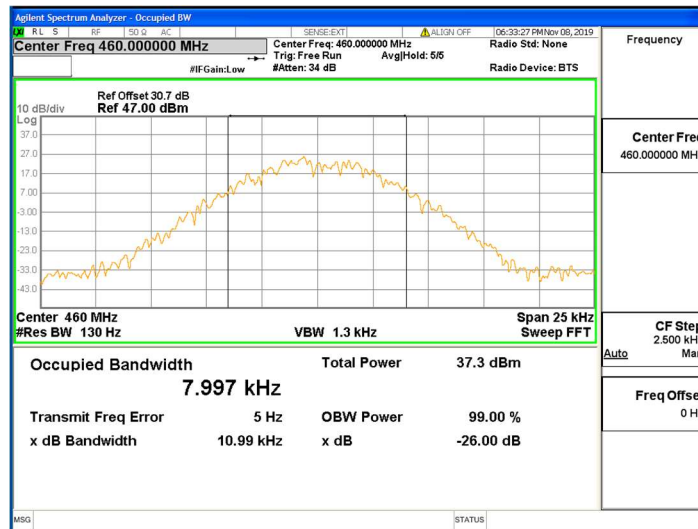
CQPSK Signal at 161.79 MHz



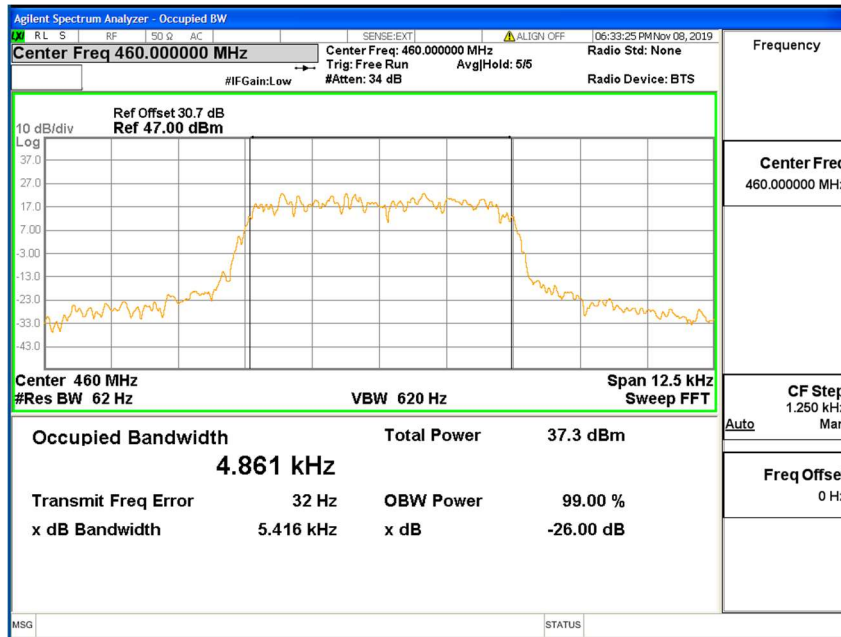
HDQPSK Signal at 161.79 MHz



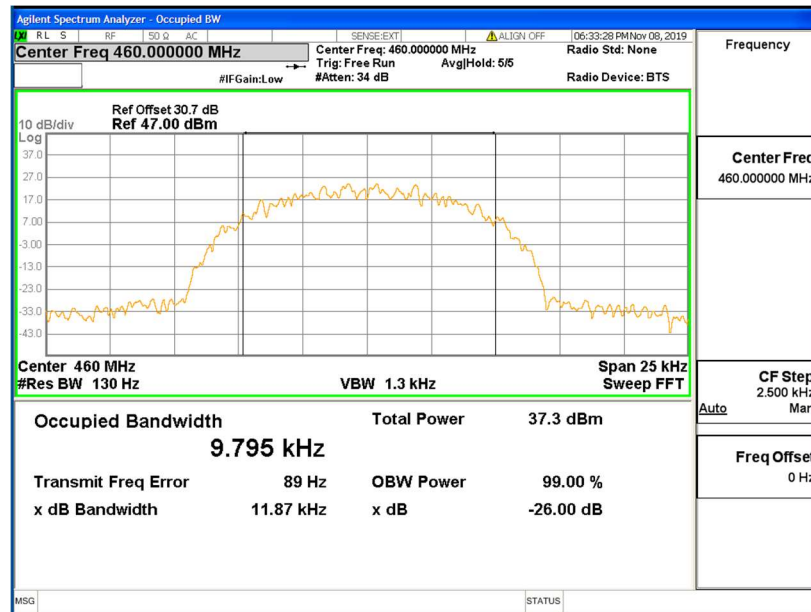
C4FM Signal at 460 MHz



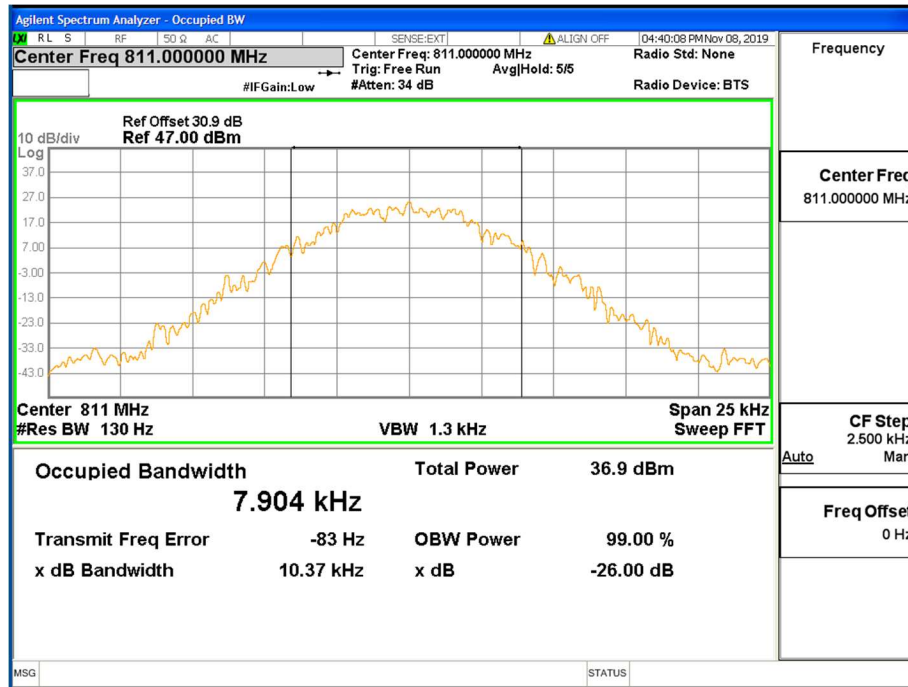
CQPSK Signal at 460 MHz



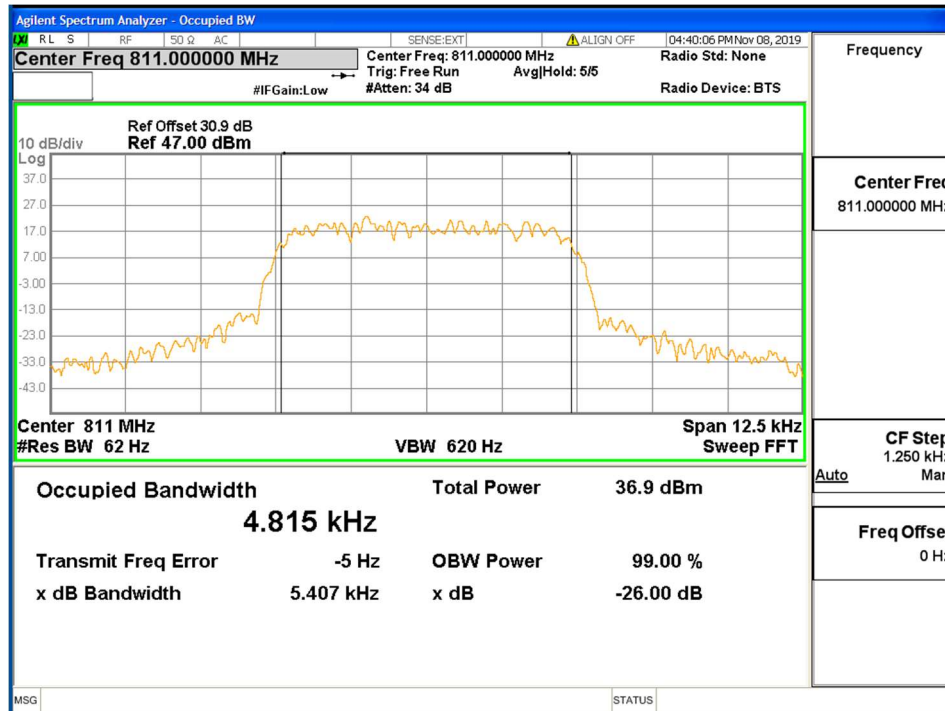
HDQPSK Signal at 460 MHz



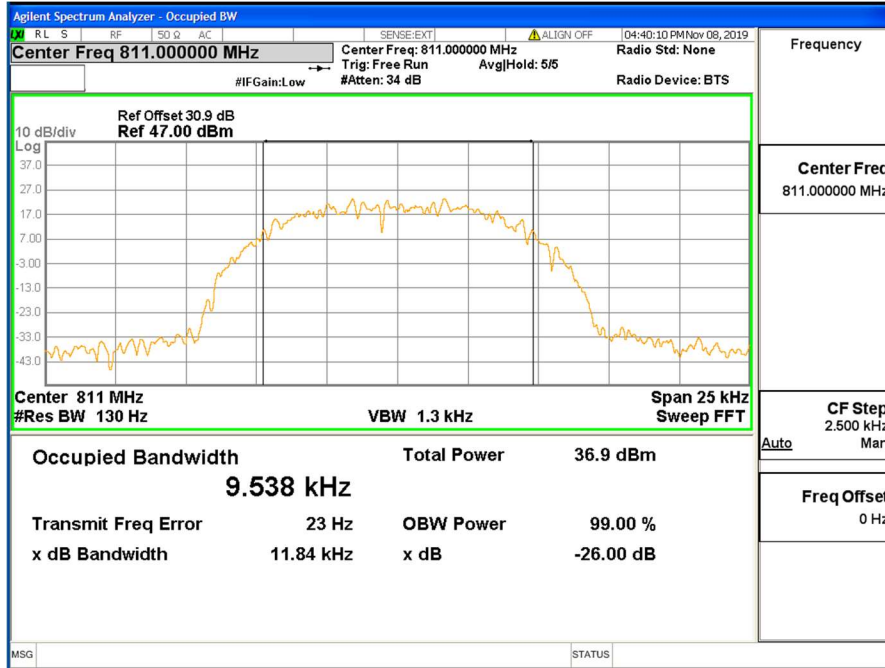
C4FM Signal at 811 MHz



CQPSK Signal at 811 MHz



HDQPSK Signal at 811 MHz



Out of Band Rejection

Governing Doc	FCC Part 2 2.1046(a) FCC Part 90.219(d)	Room Temperature (°C)	20.5		
Test Procedure	ANSI/TIA-603- E; FCC KDB 935210 D05, v01r03	Relative Humidity (%)	38.6		
Test Location	Richmond	Barometric Pressure (kPa)	101.8		
Test Engineer	Daniel Lee	Date	Nov. 08, 2019		
EUT Voltage	<input checked="" type="checkbox"/> +48VDC <input type="checkbox"/> 120VAC @ 60Hz				
Test Equipment	Manufacturer	Model	Serial Number	Calibration	Calibration due
Signal Generator	Keysight	N5172B	MY53050270	06/12/19	08/12/21
Spectrum Analyzer	Keysight	N9010A	MY50520285	07/29/19	08/23/21
Frequency	<input checked="" type="checkbox"/> Product Passband ± 250%				
Detector:	<input checked="" type="checkbox"/> Peak				
RBW/VBW:	<input checked="" type="checkbox"/> 1 to 5% of the EUT passband / ≥ 3 X RBW				
Type of Facility:	<input checked="" type="checkbox"/> Tabletop				
Distance:	<input checked="" type="checkbox"/> Direct				
<p style="text-align: center;">Compliant <input checked="" type="checkbox"/> Non-Compliant <input type="checkbox"/> Not Applicable <input type="checkbox"/></p>					

Test setup

Description of test set-up:

The procedure used was ANSI/TIA-603-E-2016 and FCC KDB 935210 D05 Indus Booster Basic Meas v01r03. The signal booster was set to maximum gain. A swept CW signal was set to the range of ±250 % of the product pass band. The CW amplitude was set to 3 dB below the AGC threshold so that the ALC should not activate throughout the test.

After the max-hold sweep trace was completed, a marker was set to the peak amplitude, and a 20dB bandwidth was measured between two additional markers fall 20 dB from the peak.

The EUT was set to **Operation Mode #1 with configuration Mode #1.**

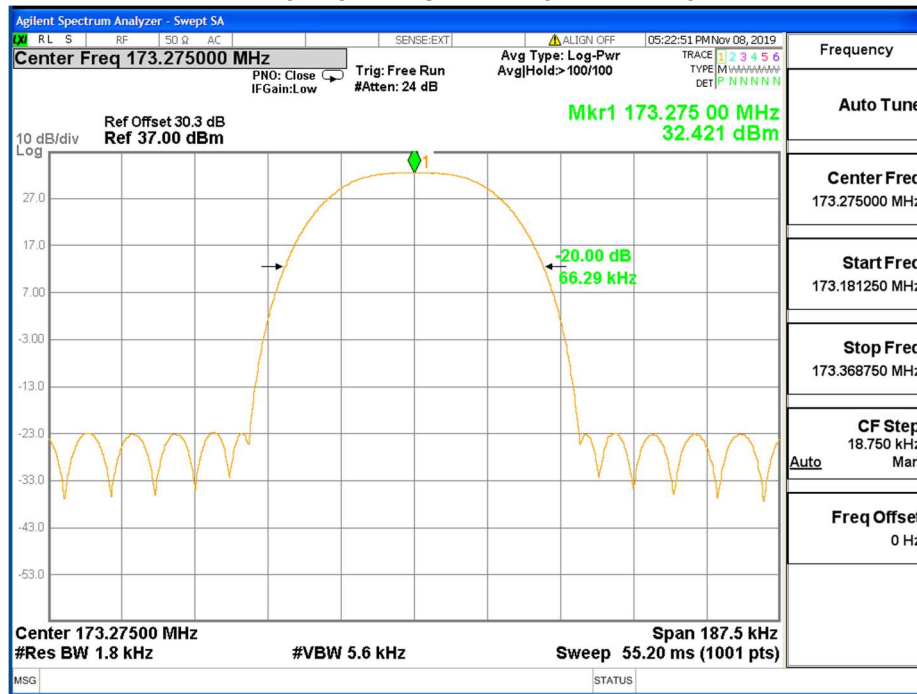
```

    graph LR
      A[Vector Signal Generator] --> B[hd37]
      B --> C(( ))
      C --> D[EUT]
      D --> E[30 dB Attenuator]
      E --> F[Spectrum Analyzer]
    
```

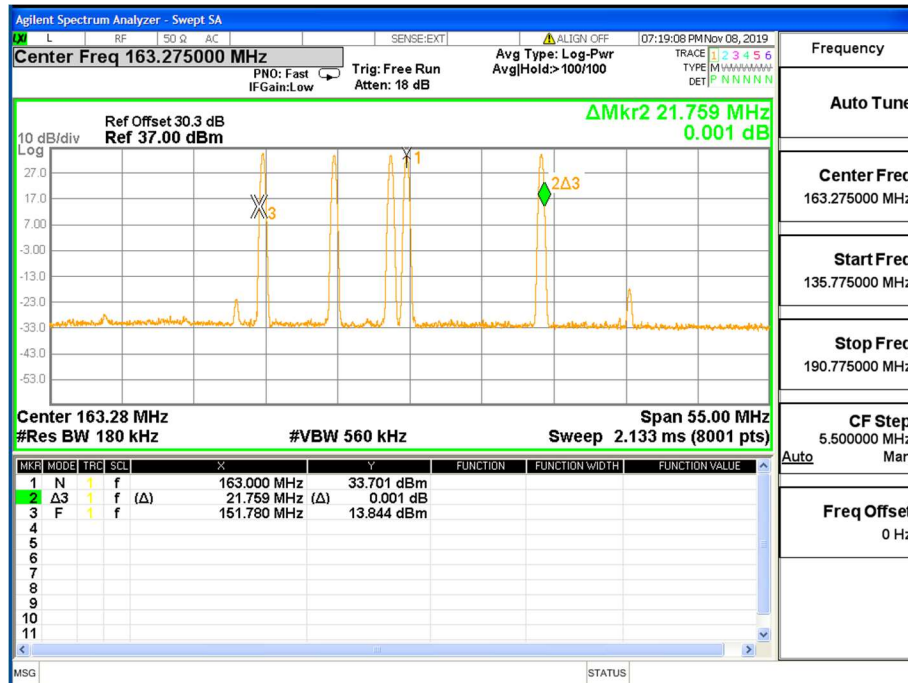
Results



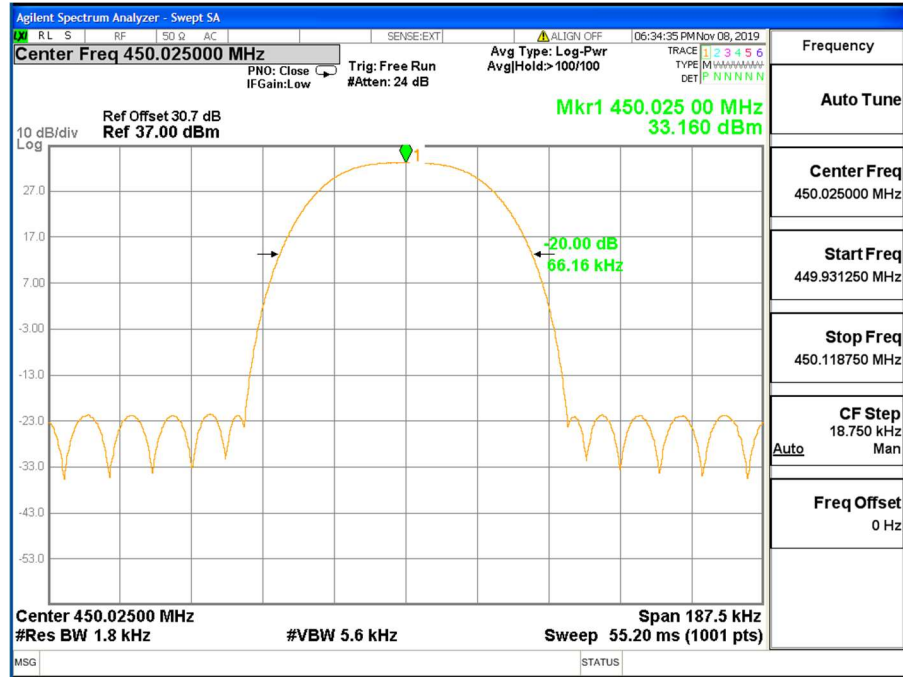
VHF 173.275 MHz Channel 20dB BW < 70kHz



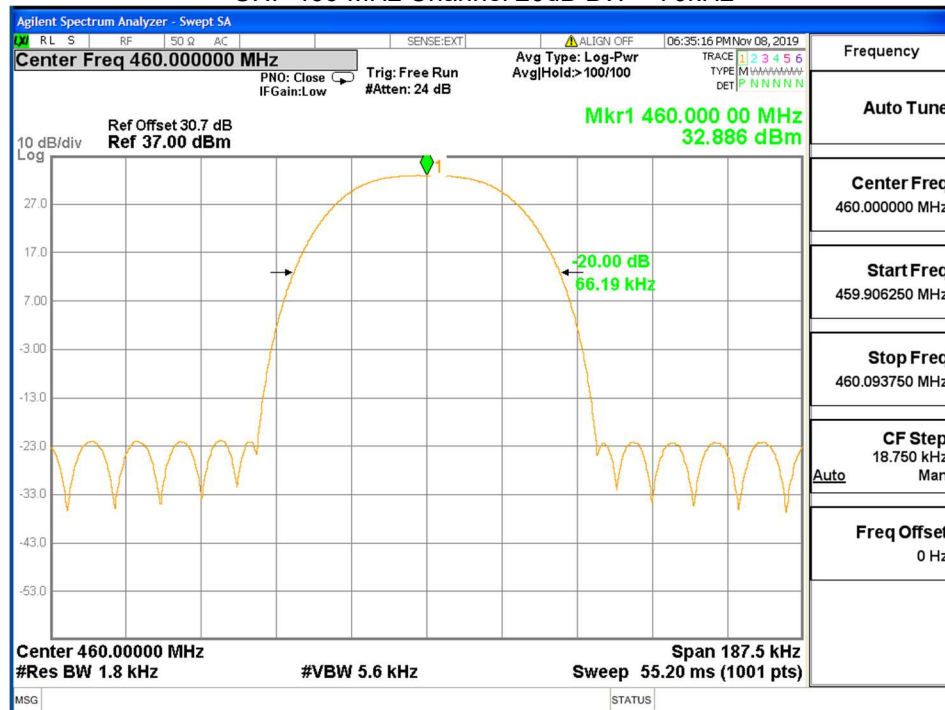
150PS Total 20dB BW < 21.8MHz



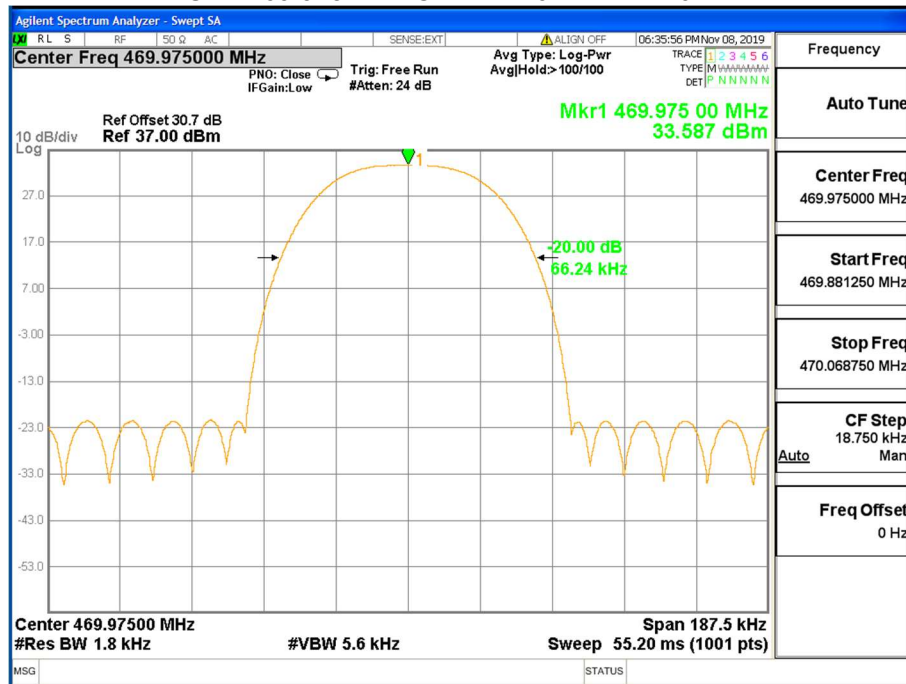
UHF 450.025 MHz Channel 20dB BW < 70kHz



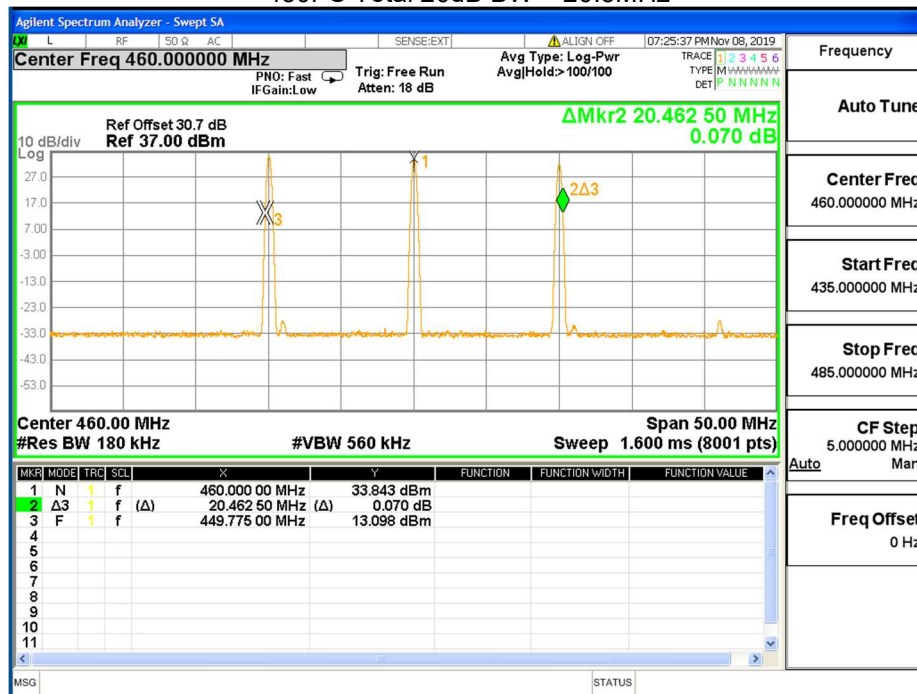
UHF 460 MHz Channel 20dB BW < 70kHz



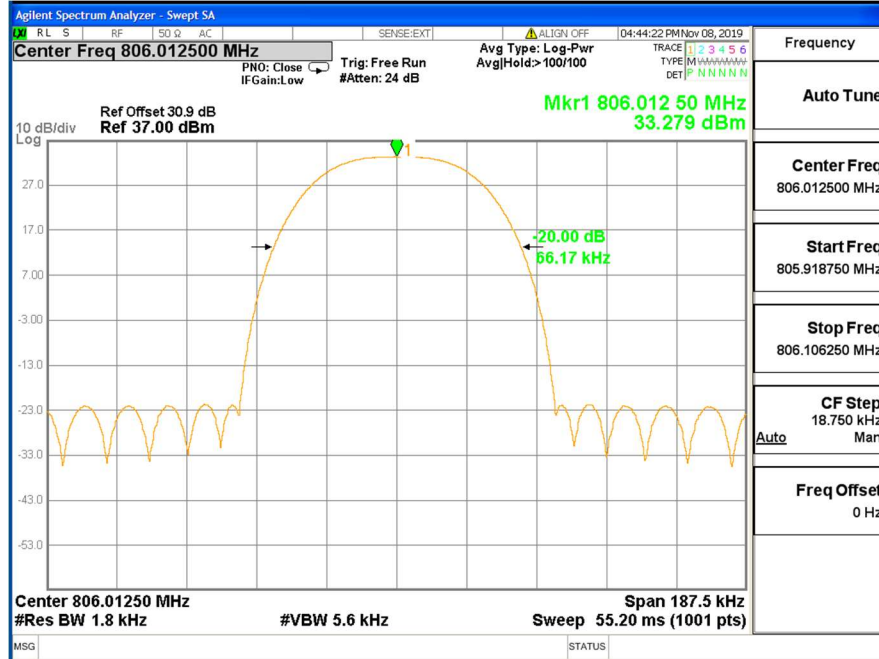
UHF 469.975 MHz Channel 20dB BW < 70kHz



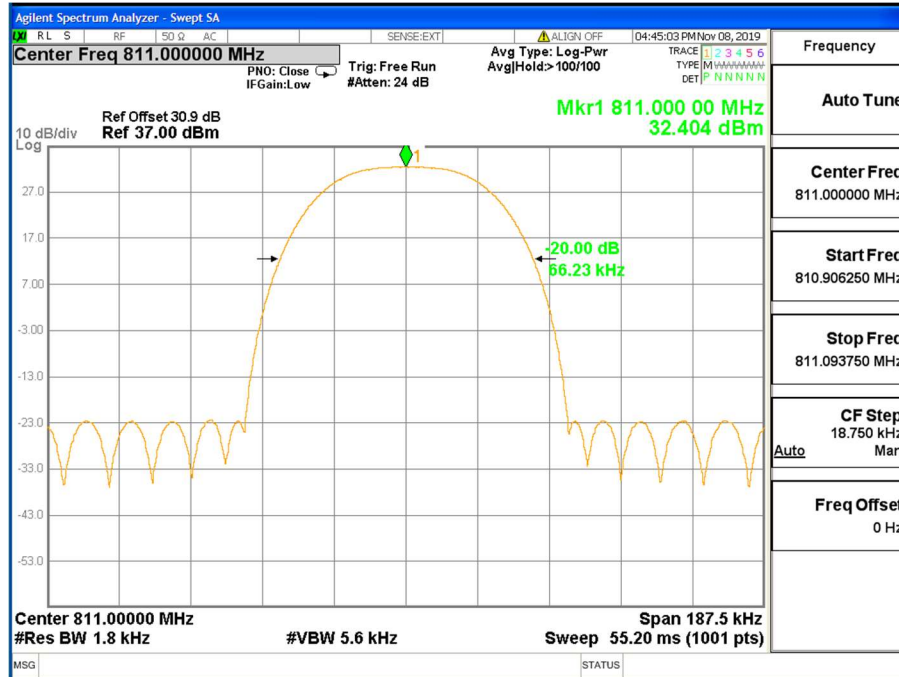
450PS Total 20dB BW < 20.5MHz



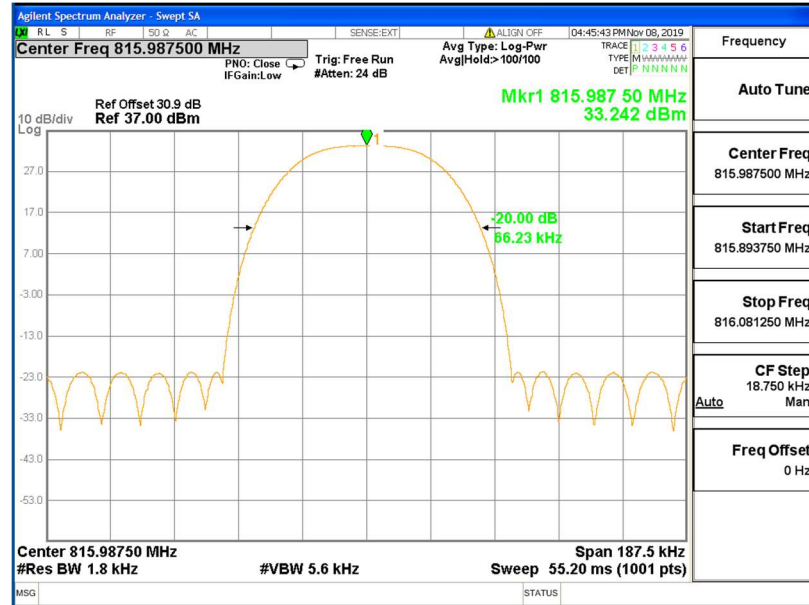
800PS 806.0125 MHz Channel 20dB BW < 70kHz



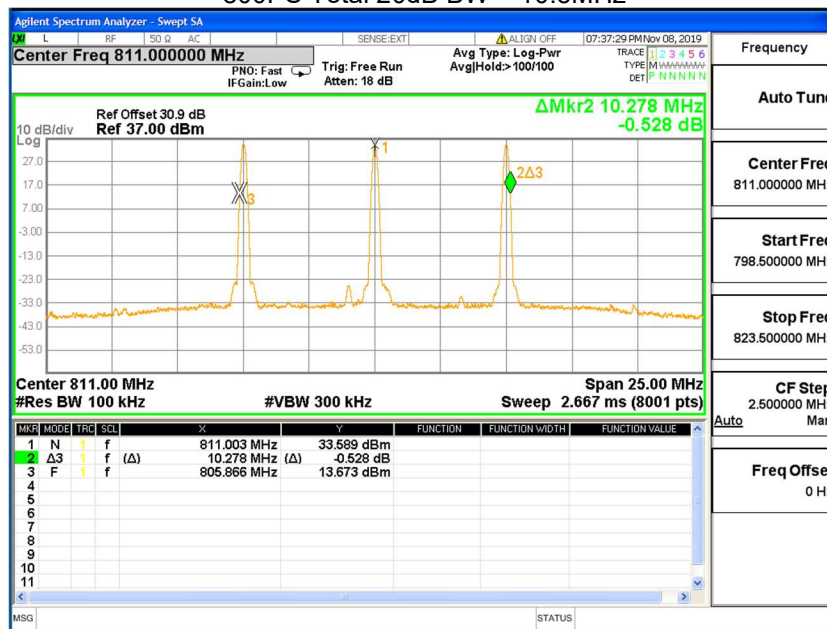
800PS 811 MHz Channel 20dB BW < 70kHz



800PS 815.9875 MHz Channel 20dB BW < 70kHz



800PS Total 20dB BW < 10.3MHz



Input-Versus-Output Signal Comparison

Governing Doc	FCC Part 90.210 (j) (h) (g) (c) (d) and (e)	Room Temperature (°C)	20.5
Test Procedure	ANSI/TIA-603- E; FCC KDB 935210 D05, v01r03	Relative Humidity (%)	38.6
Test Location	Richmond	Barometric Pressure (kPa)	101.8
Test Engineer	Daniel Lee	Date	Nov 08, 2019
EUT Voltage	<input checked="" type="checkbox"/> +48VDC <input type="checkbox"/> 120VAC @ 60Hz		
Test Equipment Used	Manufacturer	Model	Serial Number
Signal Generator	Keysight	N5172B	MY53050270
Spectrum Analyzer	Keysight	N9010A	MY50520285
Frequency Range:	<input checked="" type="checkbox"/> 806 MHz – 816 MHz <input checked="" type="checkbox"/> 450 MHz – 470 MHz <input checked="" type="checkbox"/> 152 MHz – 174 MHz		
Detector:	<input checked="" type="checkbox"/> Peak		
RBW/VBW:	<input checked="" type="checkbox"/> 100 Hz		
Type of Facility:	<input checked="" type="checkbox"/> Test bench		
Distance:	<input checked="" type="checkbox"/> direct connect		
Arrangement of EUT:	<input checked="" type="checkbox"/> Table-top only <input type="checkbox"/> Floor-standing only <input type="checkbox"/> Rack Mounted		
<p>Based on FCC Part90.210, transmitters without audio low pass filter used in frequency band 851 - 854 MHz must comply to emission mask H; 854 - 861 MHz must comply to emission mask G; 450 - 512 MHz operates with 6.25kHz channel must comply to emission mask E; 450 - 512 MHz operates with 12.5kHz channel must comply to emission mask D.</p> <p>For simplicity of the test, noting that SEM H is more stringent than SEM G and SEM C, SEM H is applied to limit check on channels operate in frequency band 854 - 861 MHz in this test report.</p> <p>SEM diagram show SEM H is more stringent than SEM G and SEM C:</p>			
Signal of all types of modulation is contained within the emission mask.			
Compliant <input checked="" type="checkbox"/> Non-Compliant <input type="checkbox"/> Not Applicable <input type="checkbox"/>			