

	 MS ISO/IEC 17025 TESTING SAMM No. 0825																												
MOTOROLA PENANG ADV. COMM. LABORATORY Motorola Solutions Malaysia Sdn Bhd Innoplex Plot 2A, Medan Bayan Lepas, Mukim 12 S.W.D, 11900 Bayan Lepas, Penang, Malaysia.	FCC / ISED TEST REPORT Report Revision : Rev.C																												
<table><tr><td>Date/s Tested</td><td>: 24-DEC-2018 - 8-MAR-2019</td></tr><tr><td>Report Issue Date</td><td>: 13-MAR-2019</td></tr><tr><td>Manufacturer/Location</td><td>: Motorola Solutions Malaysia Sdn Bhd</td></tr><tr><td>Manufacturer Address</td><td>: Innoplex, 2A, Medan Bayan Lepas, 11900 Bayan Lepas Penang, Malaysia</td></tr><tr><td>Requestor</td><td>: HOPKINS, SEAN</td></tr><tr><td>Product Type</td><td>: Portable</td></tr><tr><td>Model Number</td><td>: H55TGT9PW8AN</td></tr><tr><td>Frequency Band</td><td>: 380-520MHz</td></tr><tr><td>Low / Max RF Output Power</td><td>: 1 Watts / 5.7 Watts</td></tr><tr><td>Application Name</td><td>: Motorola Solutions Inc</td></tr><tr><td>ISED Registrations</td><td>: 109AK</td></tr><tr><td>FCC Registrations</td><td>: 461337</td></tr><tr><td>Firmware Version</td><td>: D19.70.35</td></tr></table>  The equipment was tested accordance to the requirement listed below: <table><tr><td>(LMR) FCC 47 CFR Part 22 / 74 / 80 / 90 ISED RSS- Gen / 119</td><td>PASS</td></tr></table>		Date/s Tested	: 24-DEC-2018 - 8-MAR-2019	Report Issue Date	: 13-MAR-2019	Manufacturer/Location	: Motorola Solutions Malaysia Sdn Bhd	Manufacturer Address	: Innoplex, 2A, Medan Bayan Lepas, 11900 Bayan Lepas Penang, Malaysia	Requestor	: HOPKINS, SEAN	Product Type	: Portable	Model Number	: H55TGT9PW8AN	Frequency Band	: 380-520MHz	Low / Max RF Output Power	: 1 Watts / 5.7 Watts	Application Name	: Motorola Solutions Inc	ISED Registrations	: 109AK	FCC Registrations	: 461337	Firmware Version	: D19.70.35	(LMR) FCC 47 CFR Part 22 / 74 / 80 / 90 ISED RSS- Gen / 119	PASS
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Prepared By:  Khor Wei Loong Test Personnel	Approved By: Vincent Foong Responsible Engineer																												

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Report Revision History

Revision History	Description	Date	Originator
Rev. A	Initial Report	11-Mar-2019	Khor Wei Loong
Rev. B	Updated typo on Freq range	9-May-2019	Vincent Foong
Rev. C	Added ERP data for 80.215	25-Oct-2021	Vincent Foong

1.0 General Information

EUT Description:

Technologies	Land Mobile Radio (LMR)
Modulation Type	Analog, C4FM , Phase II

General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, the EUT is to comply with the requirements of the following standards:

ANSI C63.4-2014

ANSI C63.26-2015

2.0 Summary of Test Results

FCC General Rules Part (47CFR)	ISED General Rules Part	Test Item	Result	Remark
2.1046,22.565, 74.461,74.534, 80.215	RSS-119	RF Power Output	Pass	-
2.1055, 90.213,22.355	-	Frequency Stability	Pass	-
2.1047, 74.463, 80.213, RSS 119	RSS-119	Audio Frequency Response	Pass	-
2.1047, 74.463, 80.213, RSS 119	RSS-119	Audio Low Pass Filter Response	NA	-
2.1047, 74.463, 80.213, RSS 119	RSS-119	Modulation limiting	Pass	-
2.1049, 90.210, 22.359, 74.462, 74.535, 80.211(c), 80.211(f)	RSS-119	Occupied Bandwidth	Pass	8K10F1W – 7.7132kHz 8K10F1D – 7.9232kHz 8K10F1E – 6.4908kHz 16K0F3E – 15.0234kHz 11K0F3E – 9.9901kHz 20K0F1E – 11.9443kHz
22.359(a),(b)	RSS-119	Band Edge Conducted Spurious Emission	Pass	-
90.214	-	Transient Frequency Behavior	Pass	-
-	-	Adjacent Channel Power	NA	-
2.1051,22.359	RSS-119	Conducted Spurious Emissions	Pass	Highest Spur Level -29.95dBm
2.1053, 90.543	RSS-119	Radiated Spurious Emission	Pass	Highest Radiated Emission Level -31.74dBm
-	-	GNSS (EIRP for 1559 – 1610MHz)	NA	-
-	-	Effective Radiated Power (ERP)	NA	-

NA → Not Applicable

3.0 Measurement Uncertainty

Measurement	Frequency	Expended Uncertainty (k=1.96) (±)
AC Power Line Conducted Spurious Emission	150KHz ~ 30MHz	3.43
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	5.01
	200MHz ~ 1000MHz	5.01
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.01
	18GHz ~ 25GHz	5.01

4.0 Equipment List

FCC Analog ATE#1: (SW version: 2.4.5 & FCC_Frequency Stability 1.0.3 rev.)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
Audio Analyzer	8903B	3011A10475	9-Jul-18	9-Jul-19
SIGNAL GENERATOR	2042	203001/904	8-Mar-18	9-Mar-19
MODULATION ANALYZER	8901B	3538A03696	3-Apr-18	3-Apr-19
DSA	36570A	MY42506781	6-Jul-18	6-Jul-19
POWER SENSOR	E9031A	MY41498969	17-Apr-18	17-Apr-19
POWER METER	E4416A	MY45101016	16-Jan-18	16-Jan-19
POWER SUPPLY	6031A	2430A00146	09-Apr-18	09-Apr-19
CHAMBER	SH-641	92009188	3-Apr-18	3-Apr-19
N to N RF Cable # 1	M17/128-RG400	NA	NA	NA
BNC to N RF Cable # 1	RG 58	NA	NA	NA
BNC to BNC RF Cable # 1	RG 58	NA	NA	NA
BNC to BNC RF Cable # 2	RG 58	NA	NA	NA
BNC to BNC RF Cable # 3	RG 58	NA	NA	NA
BNC to BNC RF Cable # 4	RG 58	NA	NA	NA
BNC to BNC RF Cable # 5	RG 58	NA	NA	NA
BNC to BNC RF Cable # 6	RG 58	NA	NA	NA
BNC to BNC RF Cable # 7	RG 58	NA	NA	NA
N to SMA RF Cable # 1	RG 58	NA	NA	NA
N to SMA RF Cable # 2	RG 58	NA	NA	NA
N to SMA RF Cable # 3	RG 58	NA	NA	NA
Aeroflex Attenuator 30dB	49-30-34-LIM	NA	NA	NA

FCC Transient ATE #1: (SW version: FCC Transient ATE_R1.1.2)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
POWER SUPPLY	6032A	2818A03549	11-Jul-18	11-Jul-19
POWER SENSOR	E4412A	MY41498918	29-Jul-18	29-Jul-19
POWER METER	E4416A	GB41293240	2-Mar-18	2-Mar-19
ATTENUATORS/SWITCH DRIVER	11713A	2508A10141	CNR	CNR
STEP ATTENUATOR/11dB	8494G	MY42143006	16-Apr-18	16-Apr-19
STEP ATTENUATOR/110dB	8496G	MY421430125	16-Apr-18	16-Apr-19
OSCILLOSCOPE	MSO8104A	MY45002372	26-Jun-18	26-Jun-19
AUDIO ANALYZER	8903B	3729A17409	18-Jul-18	18-Jul-19
AUDIO ANALYZER	8903B	3413A14586	7-Jul-18	7-Jul-19
MODULATION ANALYZER	8901B	3403A04772	31-Mar-18	31-Mar-19

SIGNAL GENERATOR	8657A	3039A3205	5-Jul-18	5-Jul-19
SPECTRUM ANALYZER	E4440A	MY46185415	16-Aug-17	16-Aug-19
N to N RF Cable # 1	SF126/11N/11N	NA	NA	NA
N to N RF Cable # 2	M17/128- RG400	NA	NA	NA
N to N RF Cable # 3	M17/128- RG400	NA	NA	NA
N to N RF Cable # 4	M17/128- RG400	NA	NA	NA
N to N RF Cable # 5	M17/128- RG400	NA	NA	NA
N to N RF Cable # 6	M17/128- RG400	NA	NA	NA
N to N RF Cable # 7	M17/128- RG400	NA	NA	NA
N to N RF Cable # 8	M17/128- RG400	NA	NA	NA
N to N RF Cable # 9	M17/128- RG400	NA	NA	NA
BNC to BNC RF Cable # 1	RG 58	NA	NA	NA
BNC to BNC RF Cable # 2	RG 58	NA	NA	NA
BNC to BNC RF Cable # 3	RG 58	NA	NA	NA
BNC to BNC RF Cable # 4	RG 58	NA	NA	NA
BNC to BNC RF Cable # 5	RG 58	NA	NA	NA
BNC to BNC RF Cable # 6	RG 58	NA	NA	NA
BNC to N RF Cable # 1	RG 58	NA	NA	NA
Aeroflex Attenuator 10dB	49-10-43-LIM	NA	NA	NA
Aeroflex Attenuator 10dB	33-10-34-LIM	NA	NA	NA
SWITCH CONTROL UNIT	3488A	2719A36210	CNR	CNR

CONDUCTED SPUR EMISSION ATE # 1 (SW version: Conducted Spur ATE rev 1.23.02)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
SWITCH CONTROL UNIT	3488A	2719A32735	CNR	CNR
PSA Series Spectrum Analyzer	E4445A	MY46181732	16-Feb-17	16-Feb-19
POWER SUPPLY	6032A	3232A08203	9-Apr-18	9-Apr-19
HIGH PASS FILTER SWITCH BOX	-	CS001	5-Jul-18	5-Jul-19
N to N RF Cable # 1	SF126/11N/11N	NA	NA	NA
N to N RF Cable # 2	SF126/11N/11N	NA	NA	NA
BNC to BNC RF Cable # 1	RG 58	NA	NA	NA
Aeroflex Attenuator 30dB	49-30-43-LIM	NA	NA	NA
Aeroflex Attenuator 10dB	33-10-34-LIM	NA	NA	NA
Vector Signal Generator	SMU200A	103537	22-Jul-17	22-Jul-20

EMC Chamber 1

DESCRIPTION	MODEL	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
DRG HORN FREQ.	SAS-571	719	18-Jul-17	18-Jul-19
DRG HORN FREQ.	SAS-571	720	2-Mar-17	2-Mar-19
POWER SUPPLY	6032A	2615A-01178	13-Jun-18	13-Jun-19
MICROWAVE SIGNAL GENERATOR	SMP04	100131	12-Jul-18	11-Jul-19
EMI TEST RECEIVER	ESIB26	100017	11-Apr-18	11-Apr-19
EMI TEST RECEIVER	ESW44	101750	25-Jun-18	25-Jun-19
5m Semi-anechoic Chamber	S800-HX	J2308	CNR	CNR
BILOG ANTENNA	CBL6112D	30991	23-Apr-18	23-Apr-19
BILOG ANTENNA	CBL6112B	2964	16-Feb-18	16-Feb-20
DATA LOGGER	SDL500	A.016776	18-Mar-17	18-Mar-19
SYSTEM CONTROLLER	SC104V	050806-1	CNR	CNR
TURNTABLE FLUSH MOUNT 2M	FM2011	NA	CNR	CNR
ANTENNA POSITIONING TOWER	TLT2	NA	CNR	CNR
18 - 40GHz PREAMPLIFIER	Miteq Hi Gain Sucoflex	002	CNR	CNR
PREAMPLIFIER	PAM-0118P	361	CNR	CNR
Test Software	EMC_FCC_IC_Bluetooth_RE_Test			
Version	EMC FCC RE v1.5.1			

CNR → Calibration Not Require

5.0 Test Condition

5.1 Transmitter Test Conditions

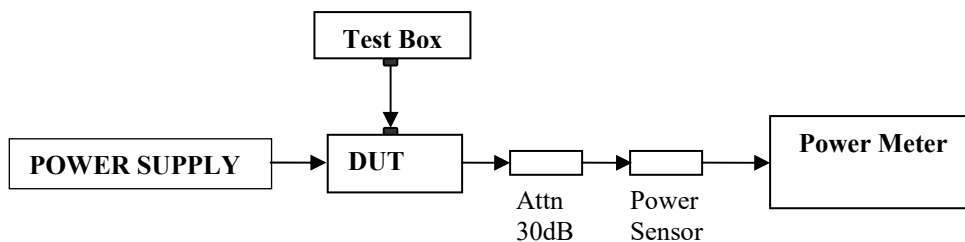
Test Item, (Channel Spacing)	Power (W)	Modulation	Test Frequency (MHz)	Tested By
RF Output Power	Low & Max	Analog	380.0125, 406.2, 450.025, 459.125, 467.775, 469.9875, 485.0125, 511.9875, 519.9875	Khor Wei Loong
Frequency Stability	Max	Analog	467.775	Khor Wei Loong
Audio Frequency Response (12.5kHz / 25kHz)	Max	Analog	467.775, 459.125, 511.9875	Khor Wei Loong
Audio Low Pass Filter Response (12.5kHz / 25kHz)	Max	Analog	467.775, 459.125, 511.9875	Khor Wei Loong
Modulation limiting (12.5kHz / 25kHz)	Max	Analog	467.775, 511.9875	Khor Wei Loong
Occupied Bandwidth (12.5kHz / 25kHz)	Max	Analog	406.2, 450.025, 467.775, 473.0125, 511.9875	Khor Wei Loong
Band Edge Conducted Spurious Emissions (Part 22) (12.5kHz / 20kHz / 25kHz)	Max	Analog	459.025, 459.65, 473.0125, 479.2875	Khor Wei Loong
Transient Frequency Behavior (UHF & VHF Band) (12.5kHz / 25kHz)	Max	Analog	467.775	Khor Wei Loong
Adjacent Channel Power (700MHz Band) (12.5kHz)	Max	Analog	NA	NA
Conducted Spurious Emissions- (12.5kHz / 25kHz)	Low / Max	Analog	380.0125, 406.2, 450.025, 459.125, 467.775, 469.9875, 511.9875	Khor Wei Loong
Radiated Spurious Emission (12.5kHz / 25kHz)	Low / Max	Analog	380.0125, 406.2, 450.025, 459.125, 467.775, 469.9875	Nazrin & Qawiman
GNSS (EIRP for 1559 - 1610MHz) (12.5kHz / 25kHz)	Max	Analog	NA	NA
Effective Radiated Power (ERP) (12.5kHz / 25kHz)	Max	Analog	NA	NA

NA → Not Applicable

6.0 Transmitter Test Parameters

6.1. RF Output Power

6.1.1. Test Setup



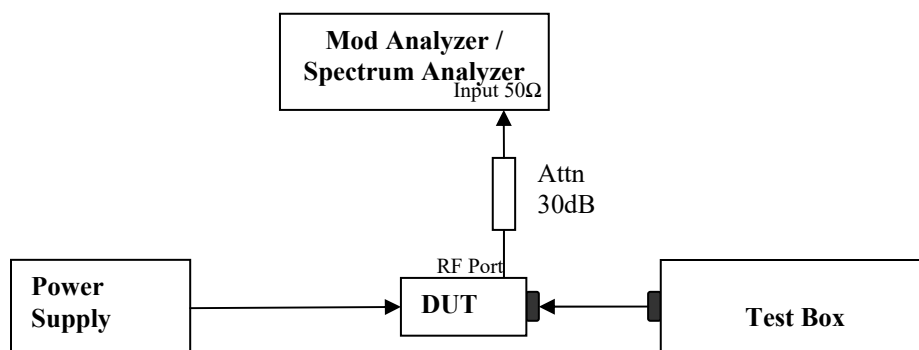
- 1) The DUT transmitter connected to Power Meter using the 30 dB attenuator and power sensor with above setup.
- 2) Path loss for the measurement included.
- 3) All the measurement was done at low, mid, high frequency for each band.
- 4) Record the power into the test report.

6.1.2. Test Result

Temperature	25°C				Remarks
Voltage (V)	7.5V				
Frequency (MHz)	Low Power (W)	Current (A)	Max Power (W)	Current (A)	
380.0125	1.06	0.8	5.59	1.3	
406.2	1.06	0.83	5.54	1.21	
450.025	1.06	0.83	5.58	1.26	
459.125	1.05	0.82	5.62	1.25	
467.775	1.06	0.77	2.00	0.95	Part 80
469.9875	1.06	0.81	5.7	1.19	
485.0125	1.08	0.79	5.56	1.24	
511.9875	1.08	0.84	5.59	1.25	
519.9875	1.08	0.83	5.58	1.28	

6.2. Frequency Stability

6.2.1. Test Setup

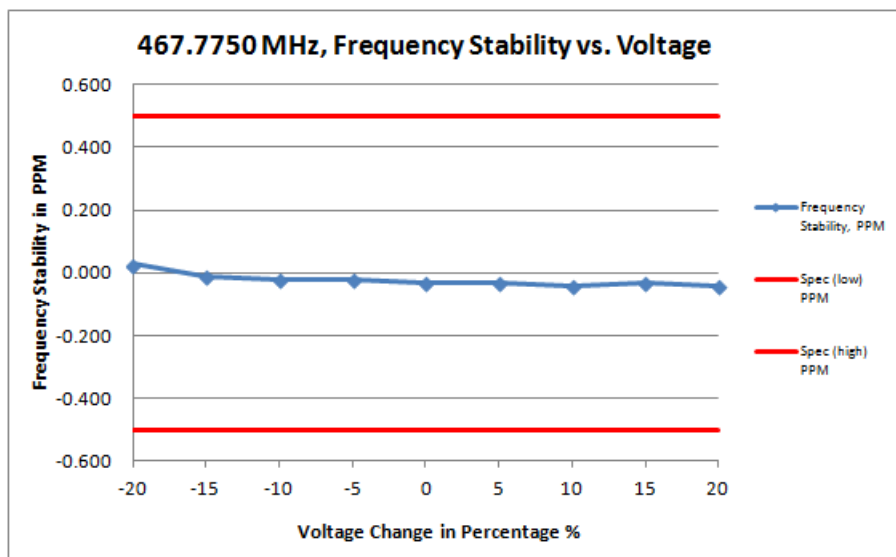


- 1) The DUT transmitter output port was connected to Modulation / Spectrum Analyzer.
- 2) Path loss for the measurement included.
- 3) Transmit the DUT and record the freq in MCF_{MHz} .
- 4) Test in 2 conditions:
 - Temperature: The frequency of the transmitter was measured from -30°C to 50°C.
 - Supply Voltage:
 - Mobile: The frequency of the transmitter was measured from 85% to 115% of the nominal operating input voltage.
 - Portable: The frequency of the transmitter was measured from nominal $\pm x\%$ as specified by the manufacturer
- 5) Calculate the ppm frequency error by the following:

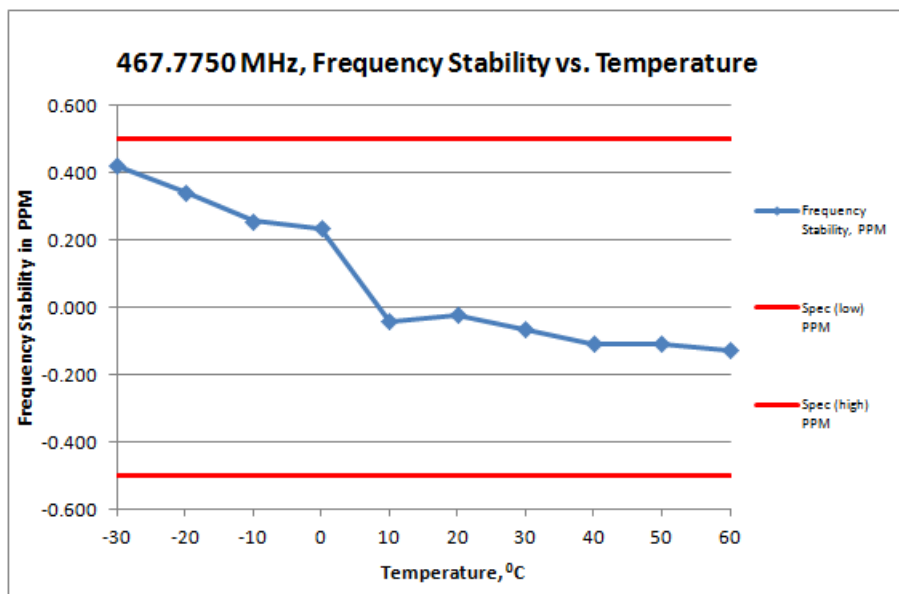
$$ppm\ error = \left(\frac{MCF_{MHz}}{ACF_{MHz}} - 1 \right) * 10^6$$

Where: MCF_{MHz} is the Measured Carrier Frequency in MHz
 ACF_{MHz} is the Assigned Carrier Frequency in MHz

6.2.2. Test Result



Frequency / Channel Spacing	467.7750 MHz / 12.5 kHz				
Temperature, °C	25				
Voltage %	Voltage, V	Frequency, MHz	Frequency Stability, PPM	Spec (low) PPM	Spec (high) PPM
-20	6.000	467.775014	0.030	-0.500	0.500
-15	6.370	467.774995	-0.010	-0.500	0.500
-10	6.750	467.774991	-0.020	-0.500	0.500
-5	7.120	467.774991	-0.020	-0.500	0.500
0	7.500	467.774986	-0.030	-0.500	0.500
5	7.870	467.774986	-0.030	-0.500	0.500
10	8.250	467.774981	-0.040	-0.500	0.500
15	8.620	467.774986	-0.030	-0.500	0.500
20	9.000	467.774981	-0.040	-0.500	0.500



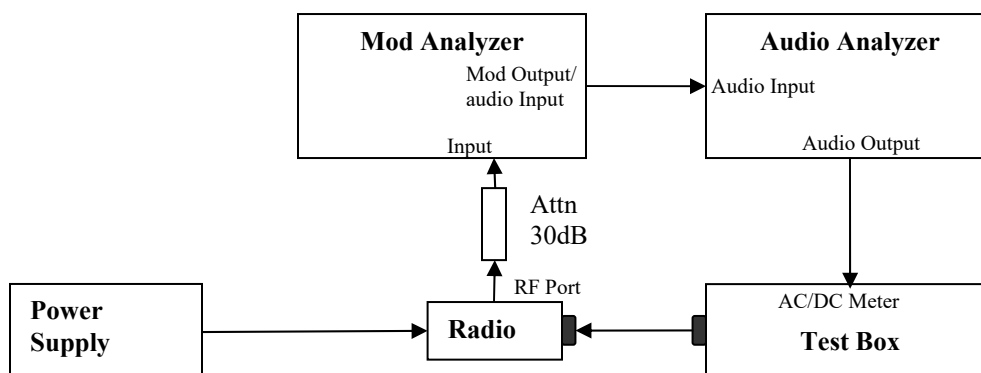
Frequency / Channel Spacing	467.7750 MHz / 12.5 kHz			
Voltage, V	7.5			
Temperature, °C	Frequency, MHz	Frequency Stability, PPM	Spec (low) PPM	Spec (high) PPM
-30	467.775280	0.422	-0.500	0.500
-20	467.775160	0.342	-0.500	0.500
-10	467.775120	0.257	-0.500	0.500
0	467.775110	0.235	-0.500	0.500
10	467.774980	-0.043	-0.500	0.500
20	467.774990	-0.021	-0.500	0.500
30	467.774970	-0.064	-0.500	0.500
40	467.774950	-0.107	-0.500	0.500
50	467.774950	-0.107	-0.500	0.500
60	467.774940	-0.128	-0.500	0.500

6.2.3. Test Limit

As per manufacturer declared spec +/- 0.5ppm

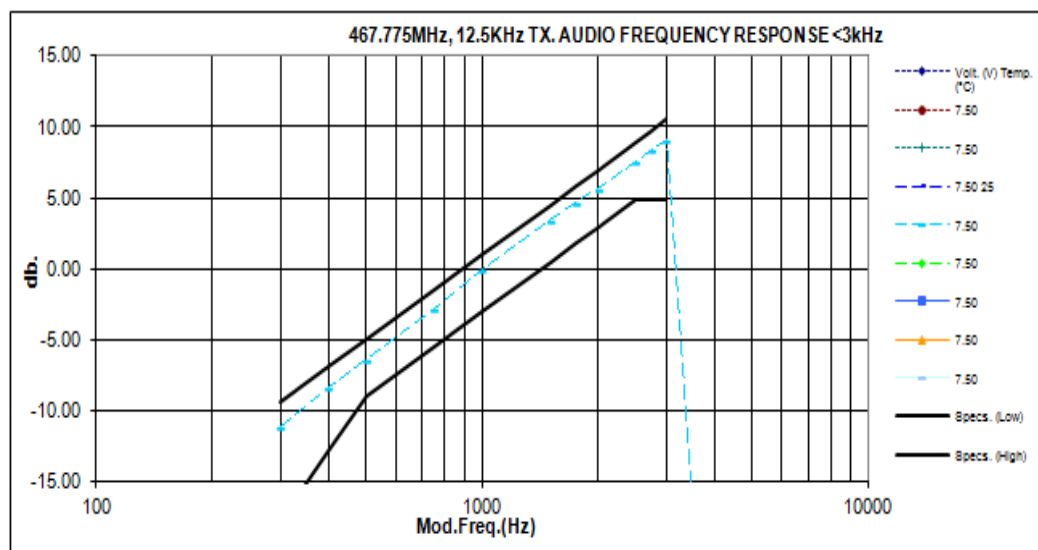
6.3. Audio Frequency Response

6.3.1. Test Setup

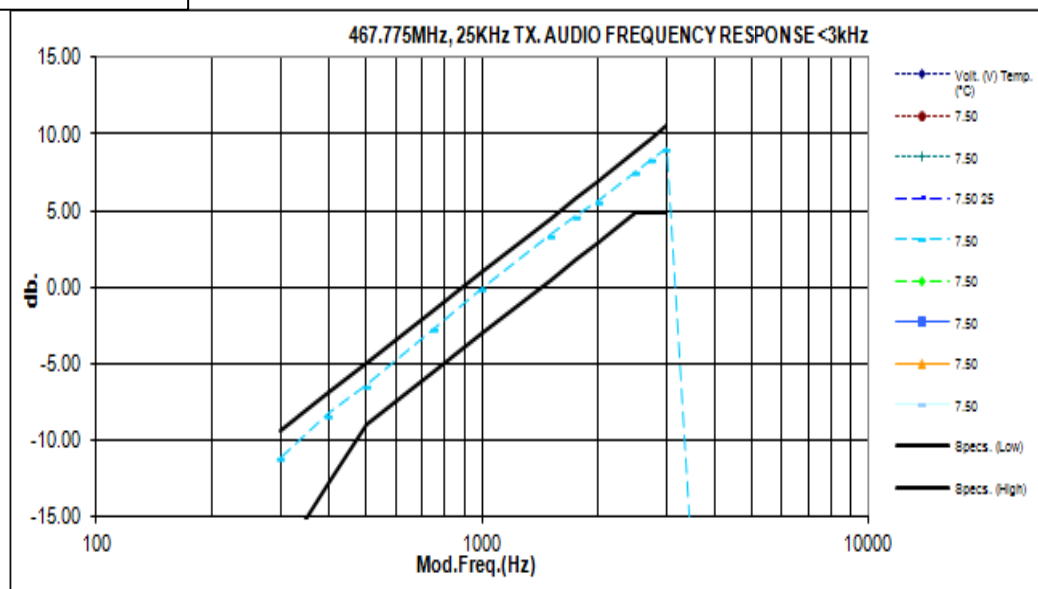


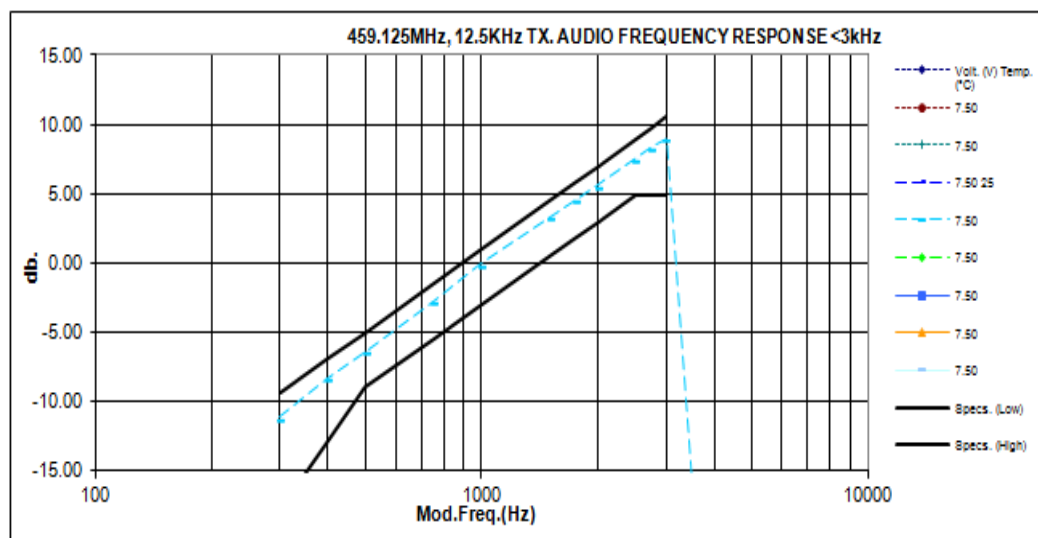
- 1) The DUT transmitter output port was connected to Modulation Analyzer.
- 2) Path loss for the measurement included.
- 3) Set the audio bandwidth filter to 15 kHz and 50 kHz.
- 4) Transmit the radio and set the audio analyzer to 1 kHz audio frequency and 20% of the Full rated system deviation.
- 5) On audio analyzer, set the rated level as reference to zero.
- 6) Vary the audio frequency from 300 Hz to 3 kHz. Record the change in dB on the audio analyzer.

6.3.2. Test Result

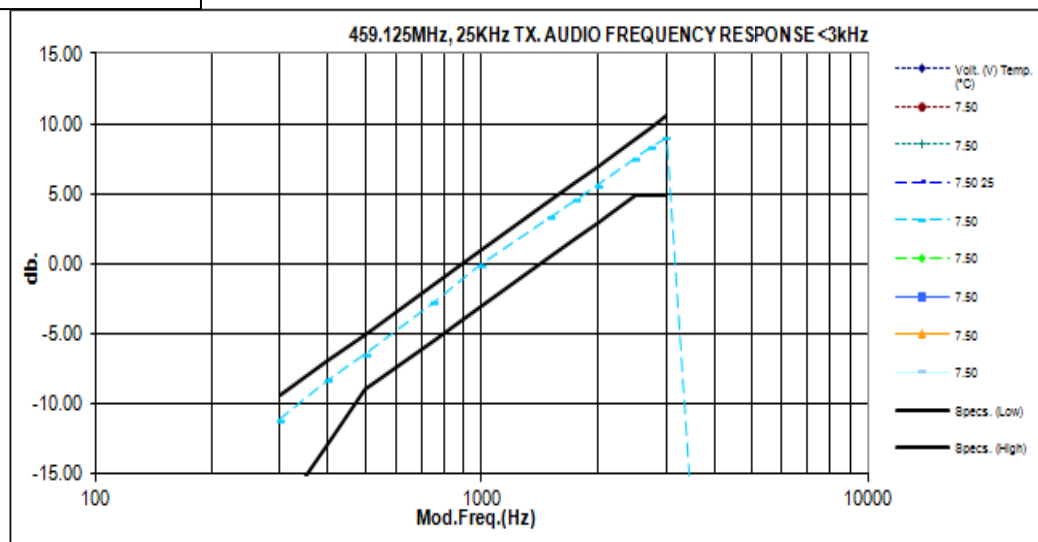


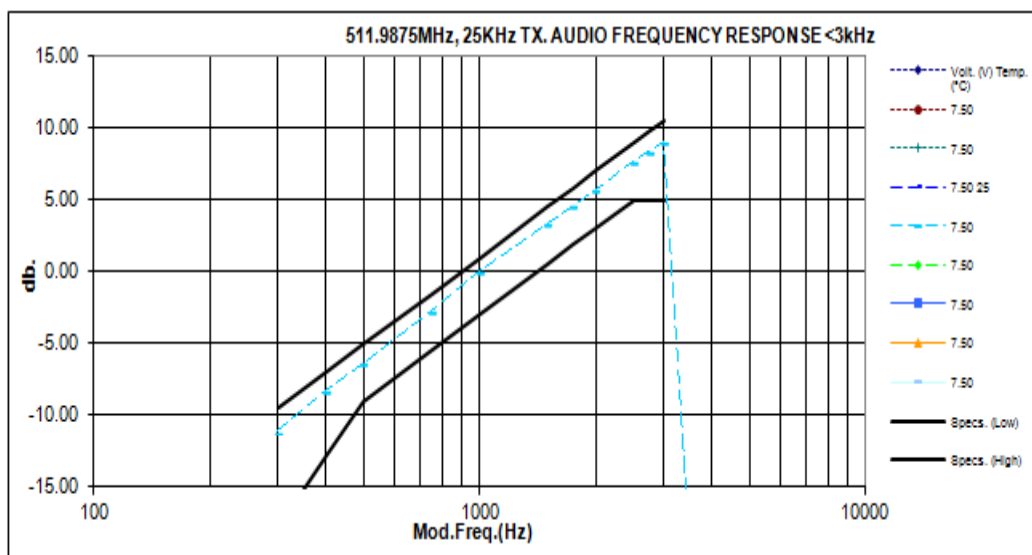
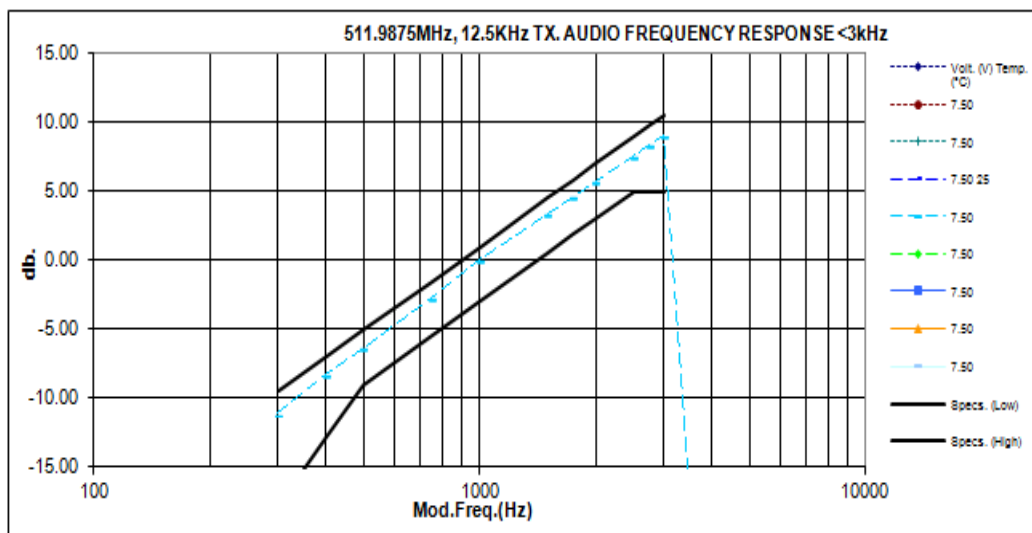
Not For FCC Review



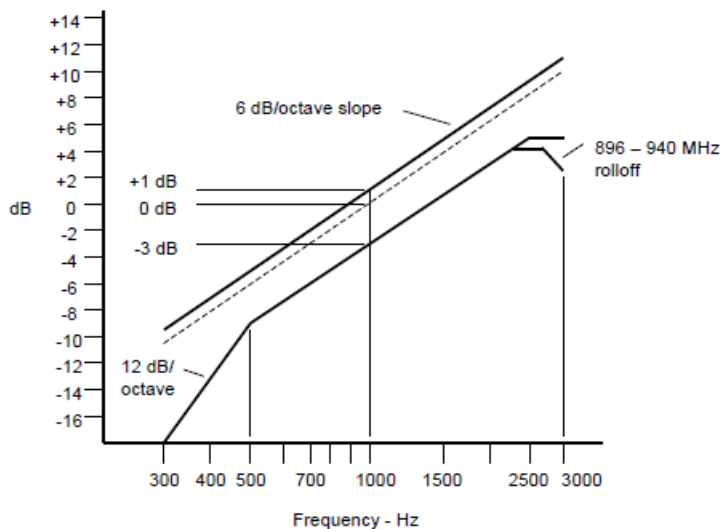


Not For FCC Review





6.3.3. Test Limit

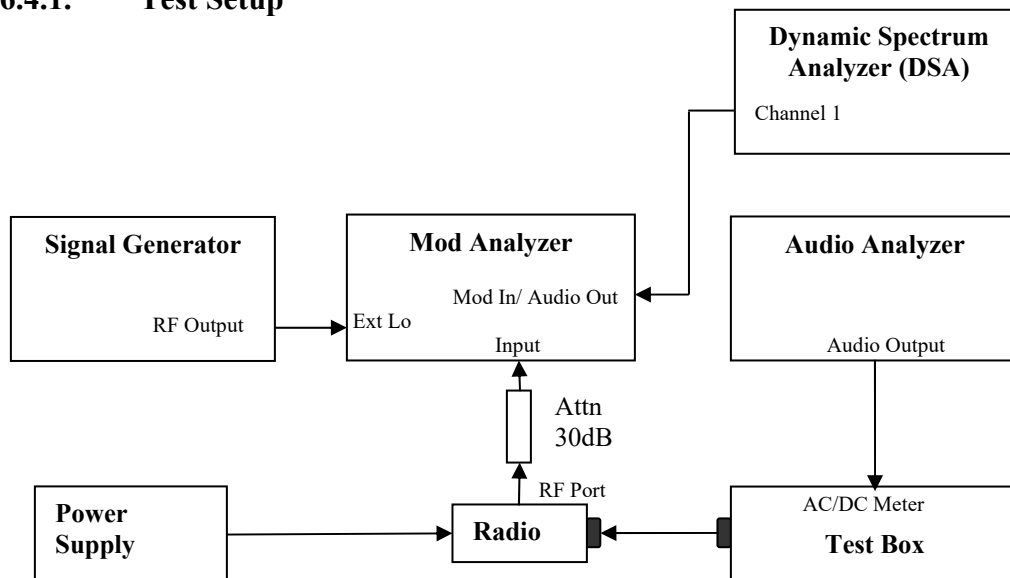


Note:

- o There are additional 6 dB per octave attenuation is allowed from 2.5KHz to 3KHz in equipment 25MHz to 869MHz radio.
- o Additional 6 dB per octave attenuation is allowed from 2.3KHz to 2.7KHz & additional 12 dB per octave attenuation is allowed from 2.7KHz to 3KHz in equipment 896MHz to 940MHz radio.

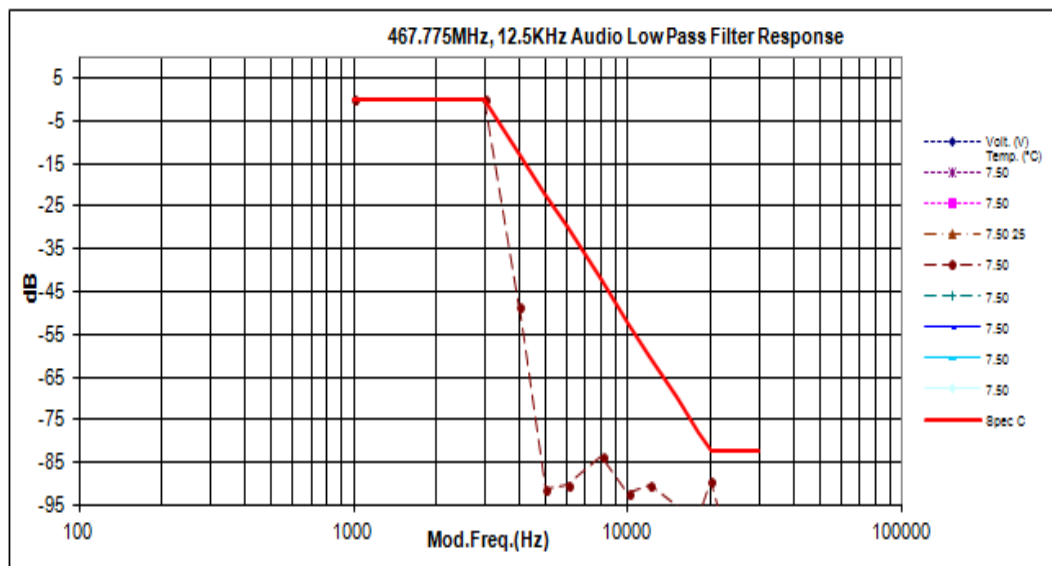
6.4. Audio Low Pass Filter Response

6.4.1. Test Setup

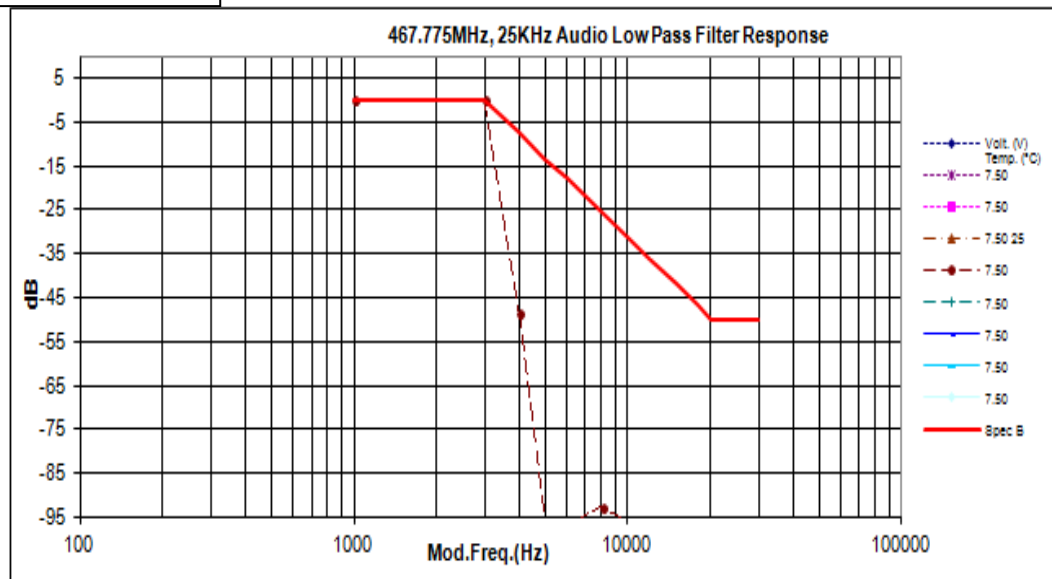


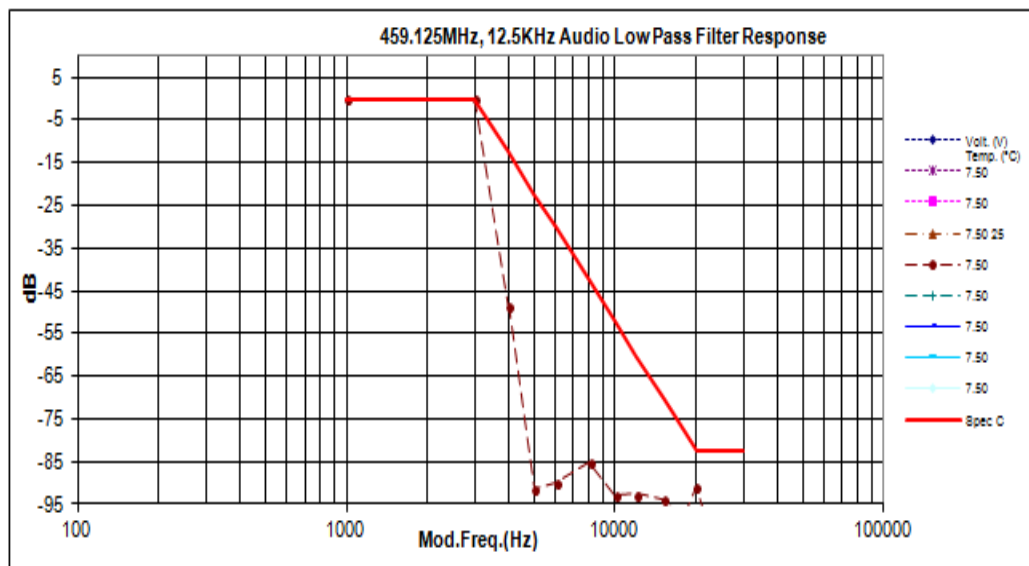
- 1) The DUT transmitter output port was connected to Modulation Analyzer.
- 2) Path loss for the measurement included.
- 3) Press 23.1SPCL on modulation analyzer to enable the external LO from Sigen.
- 4) Set the Sigen frequency to $F_c + 1.5$ MHz, RF output level to 0dBm without modulation.
- 5) Transmit the radio and set the audio analyzer to 1 kHz audio frequency and 60% of the Full rated system deviation.
- 6) Up the amplitude by 20dB.
- 7) On DSA, get the reference point to 0dB.
- 8) Vary the frequency on audio analyzer from 3 kHz to 20 kHz, record the audio tone from DSA.

6.4.2. Test Result

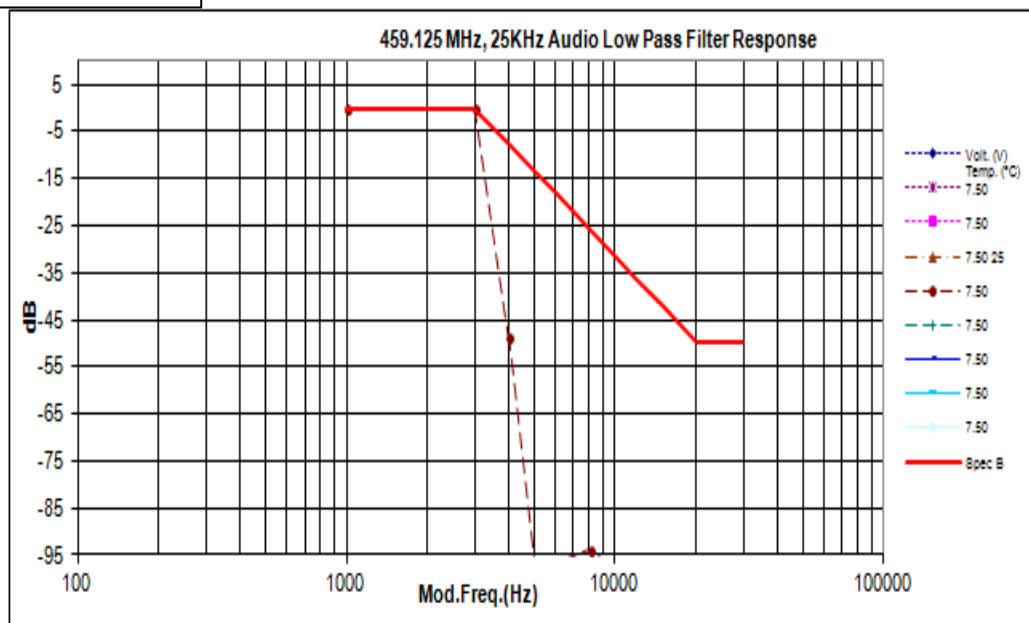


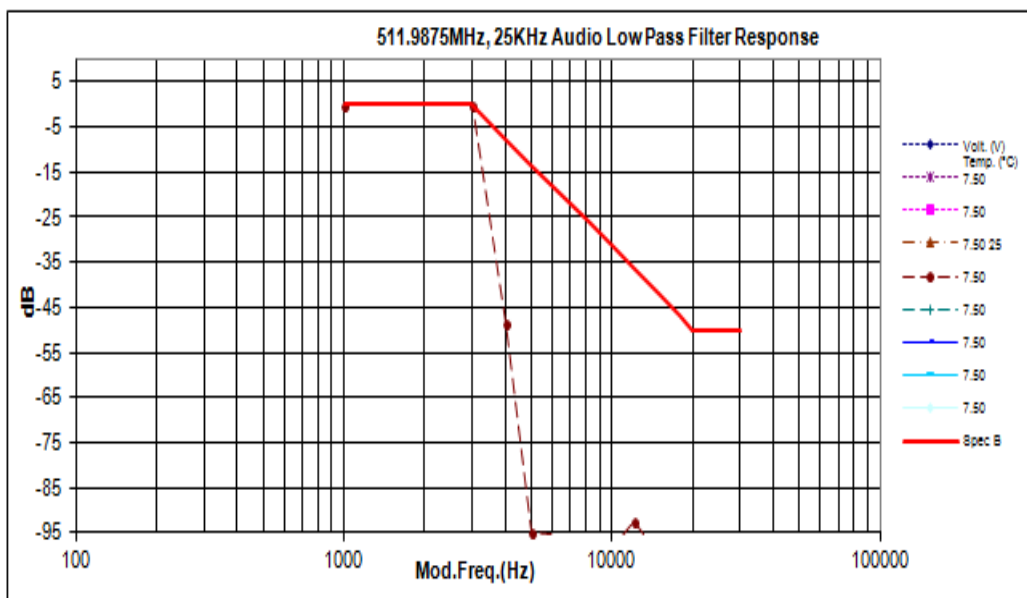
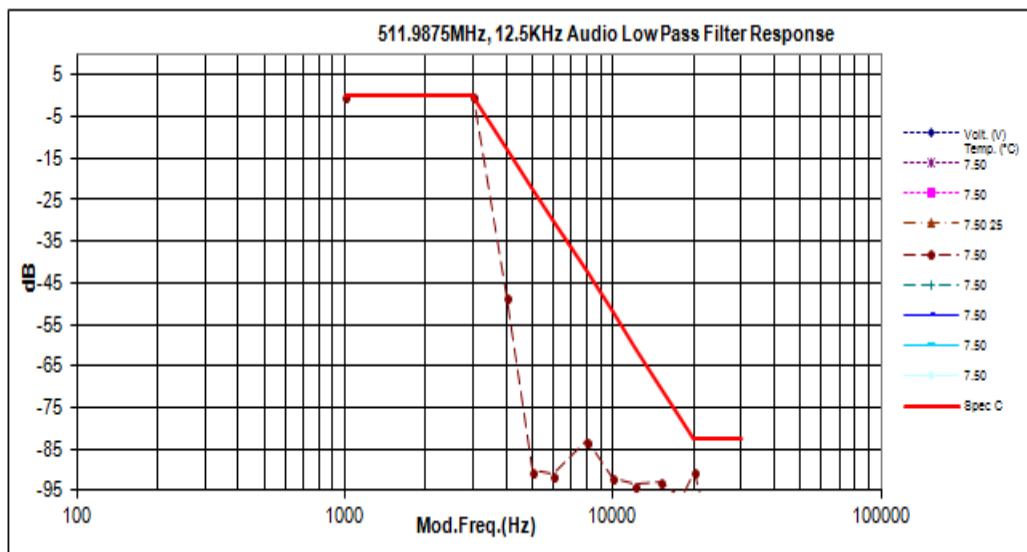
Not For FCC Review



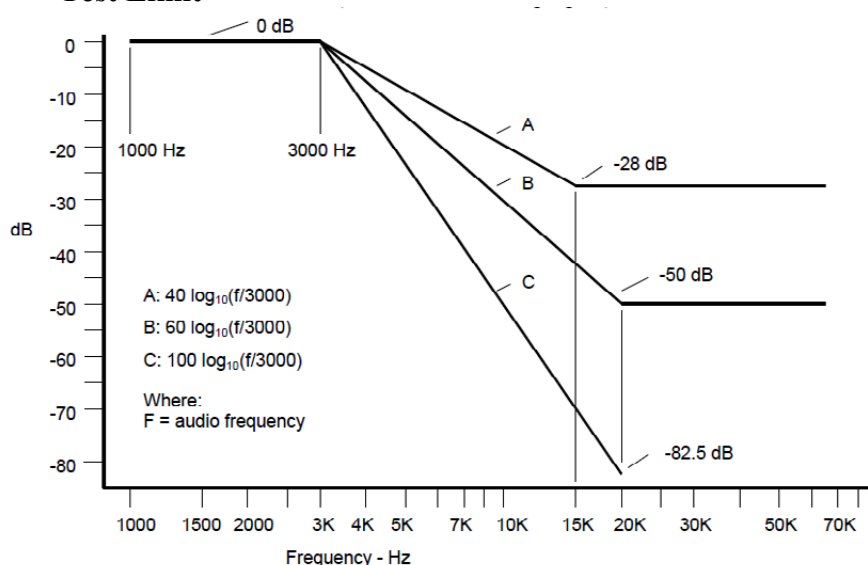


Not For FCC Review





6.4.3. Test Limit



For audio frequencies above 3000 Hz, the audio response of the post limiter low-pass filter shall meet or exceed the following requirements:

- a) For equipment operating on 20, 25 or 30 kHz channel bandwidth in the 25 MHz to 174 MHz range:

At frequencies from 3000 Hz through 15,000 Hz the attenuation shall be greater than the attenuation at 1000 Hz by at least: $40 \log_{10}(f/3000)$ dB

where: f is the audio frequency in Hz.

At frequencies above 15,000 Hz, the attenuation shall be greater than the attenuation at 1000 Hz, by at least: 28 dB.

- b) For equipment operating with 25 kHz bandwidth channels between 406 and 512 MHz through 896 MHz, and between 929 MHz through 930 MHz:

At frequencies from 3000 Hz through 20,000 Hz, the attenuation shall be greater than the attenuation at 1000 Hz by at least: $60 \log_{10}(f/3000)$ dB

where: f is the audio frequency in Hz.

At frequencies above 20,000 Hz the attenuation shall be greater than the attenuation at 1000 Hz by at least: 50 dB.

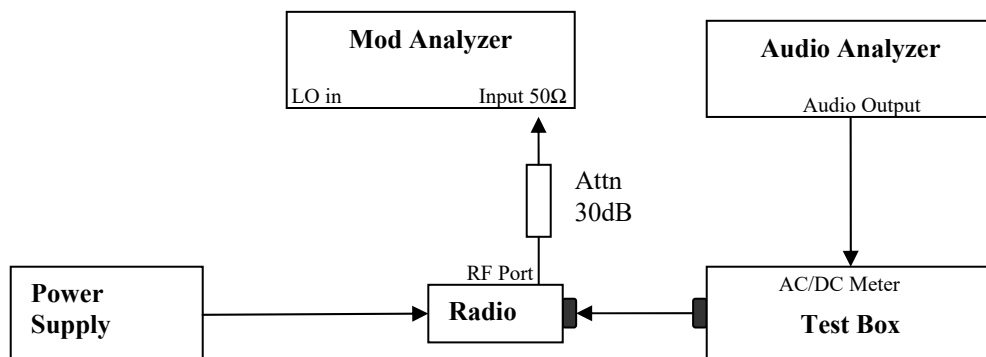
- c) For equipment operating on channels between 896 MHz through 901 MHz, between 935 MHz through 940 MHz, and 12.5 or 15 kHz spaced channels in the frequency range 138-174 MHz and 406-512 MHz.

At frequencies from 3000 Hz through 20,000 Hz the attenuation shall be greater than the attenuation at 1000 Hz by at least: $100 \log_{10}(f/3000)$ dB

where: f is the audio frequency in Hz.

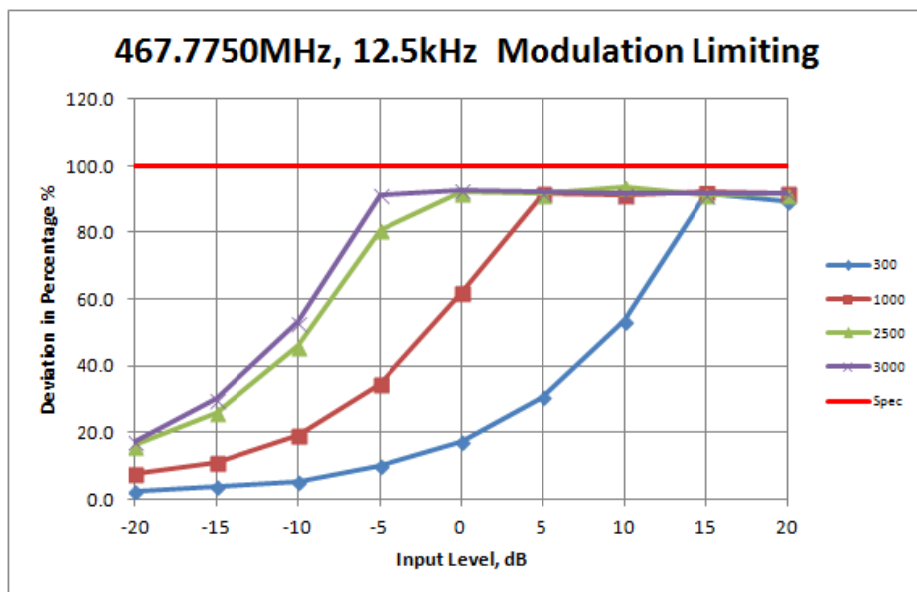
6.5. Modulation Limiting

6.5.1. Test Setup

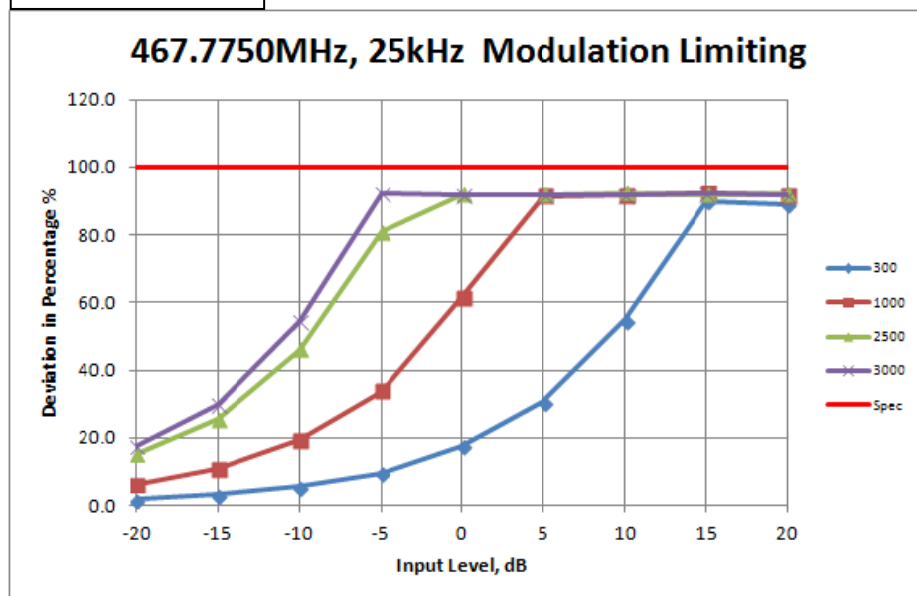


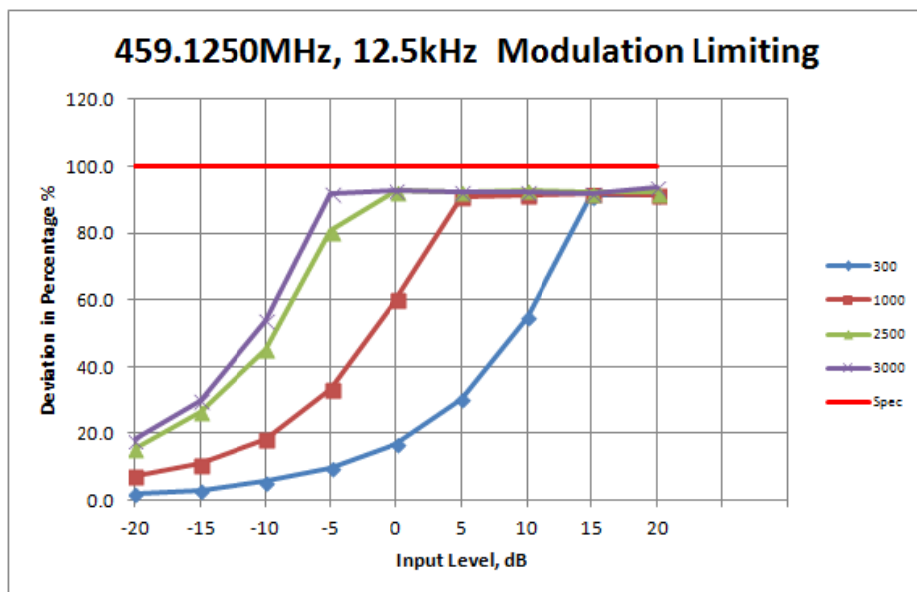
- 1) The DUT transmitter output port was connected to Modulation Analyzer.
- 2) Path loss for the measurement included.
- 3) Set the audio bandwidth filter to 15 kHz.
- 4) Transmit the radio and set the audio analyzer to 1 kHz audio frequency and 60% of the Full rated system deviation.
- 5) Record the frequency deviation as 0dB input level at 1kHz audio frequency.
- 6) Repeat the step and record the frequency deviation from -20 dB to 20dB by 5 dB increments and different audio freq 300 Hz, 2.5 kHz and 3 kHz.

6.5.2. Test Result

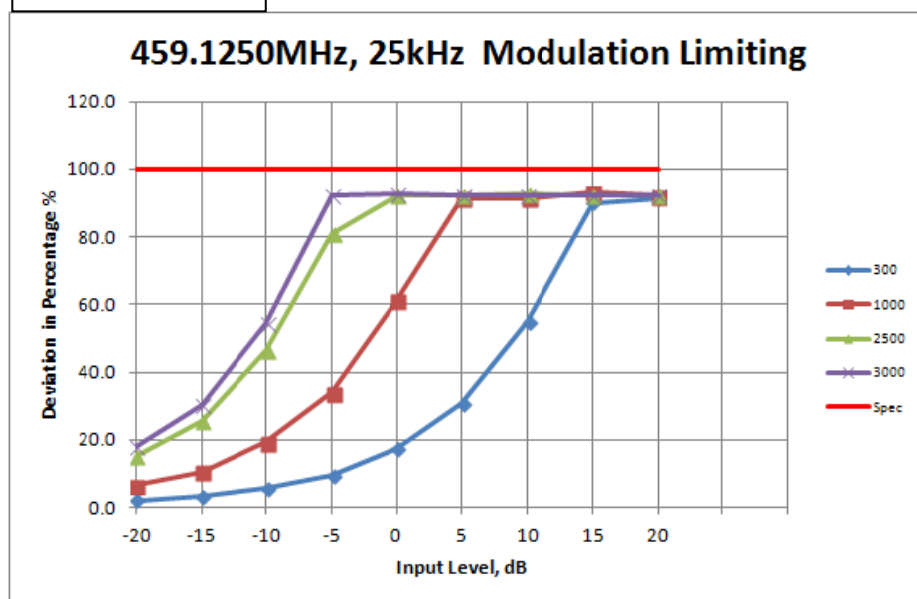


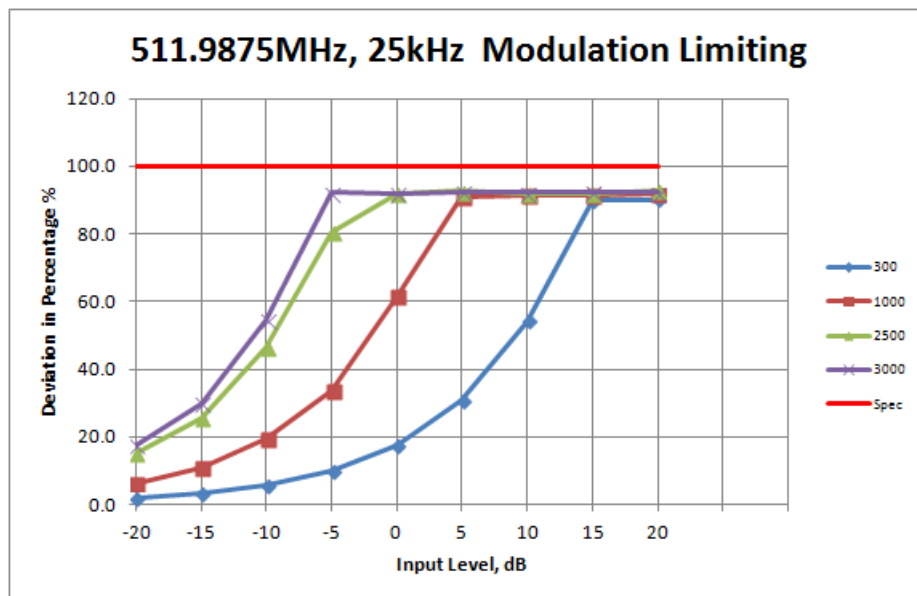
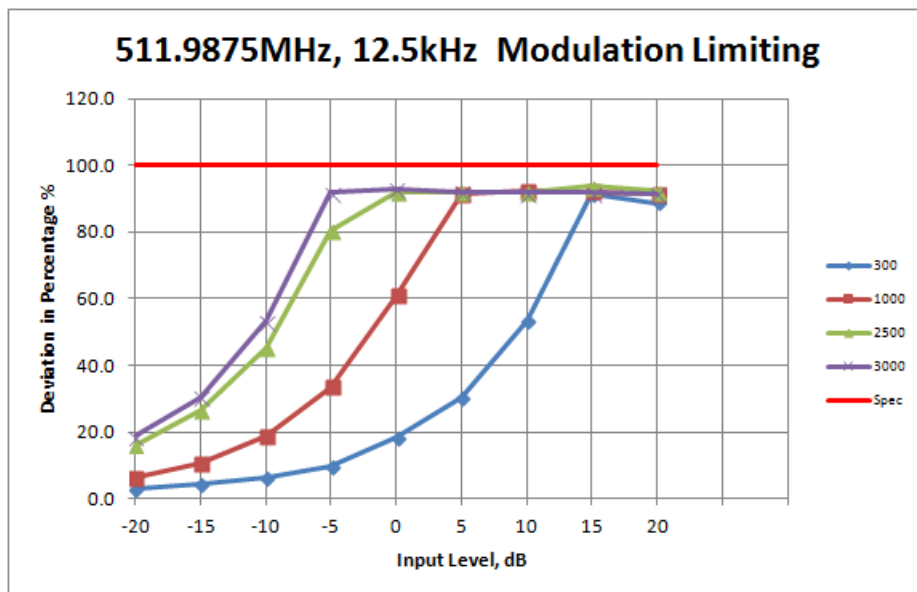
Not For FCC Review





Not For FCC Review



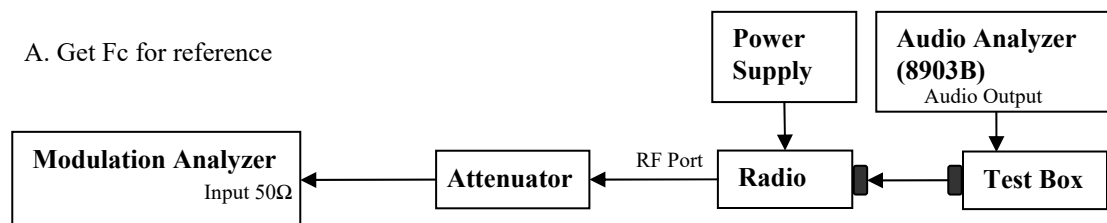


- 6.5.3. Test Limit**
Modulation Limiting shall not exceed 100 percent.

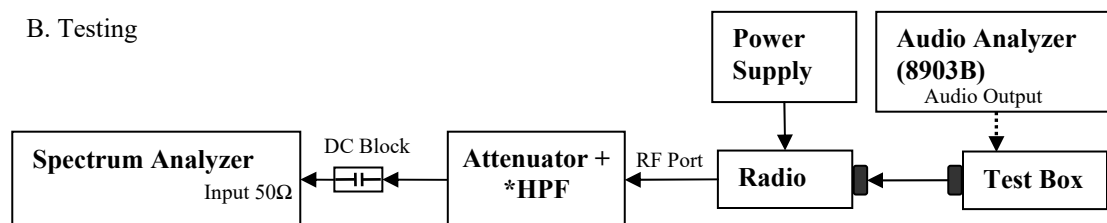
6.6. Occupied Bandwidth

6.6.1. Test Setup (Analog)

A. Get Fc for reference



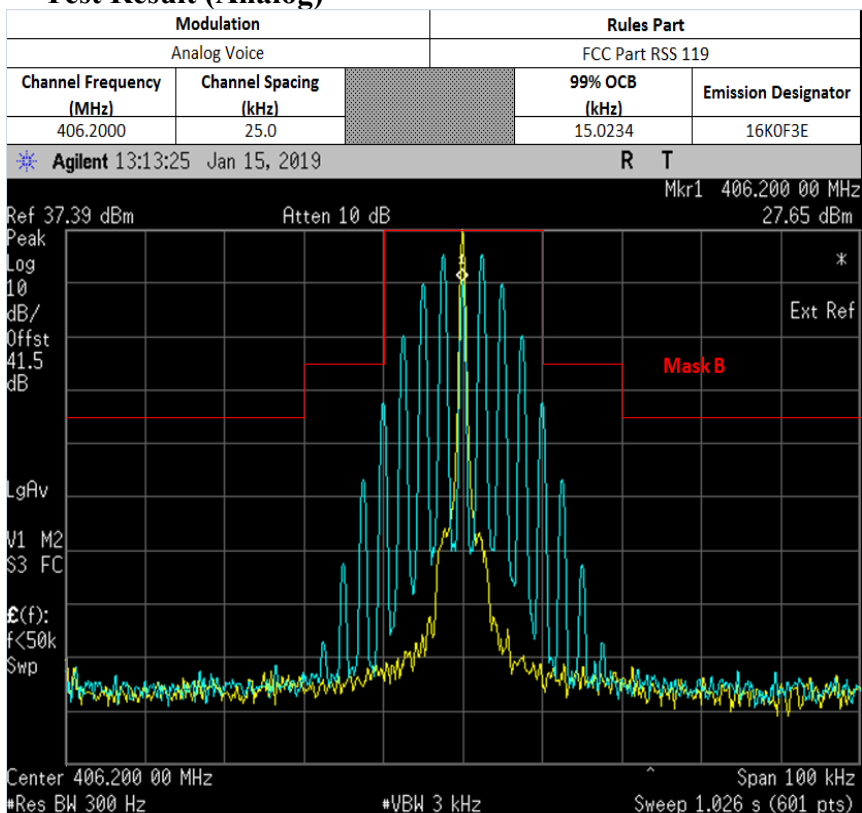
B. Testing



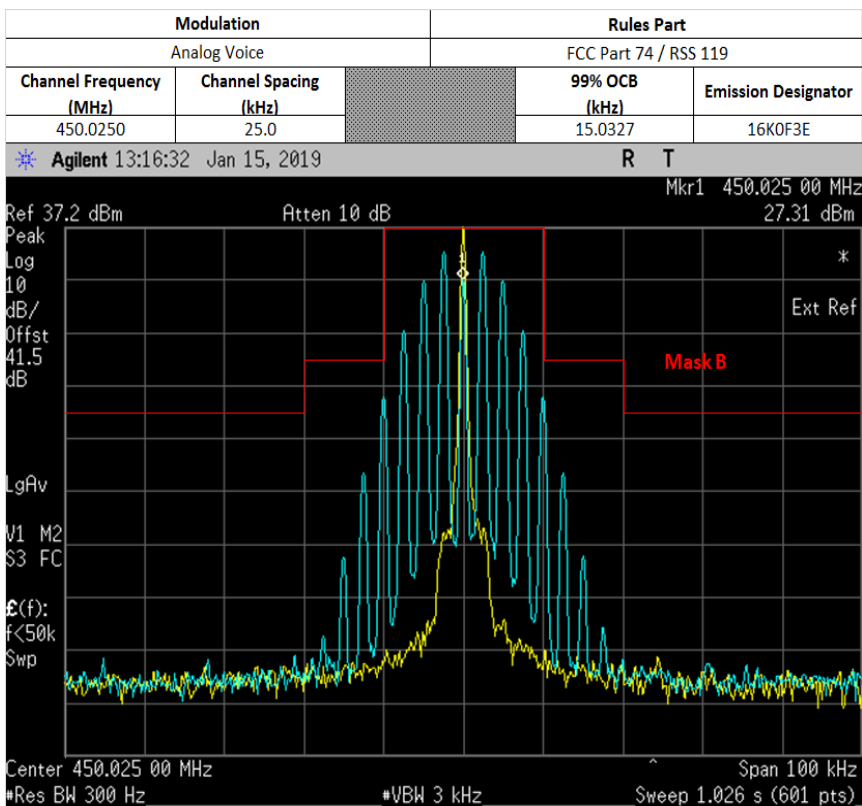
- 1) The DUT transmitter output port was connected to Modulation Analyzer.
- 2) Set the audio bandwidth filter to 15 kHz low pass filter and 50 kHz high pass filter.
- 3) Transmit the radio and set the audio analyzer to 2.5 kHz audio frequency and 50% of the rated deviation. Up the amplitude by 16 dB. Dekey the DUT.
- 4) Path loss for the measurement included.
- 5) Select the Occupied Bandwidth measurement for 99% Emissions Bandwidth Measurement.
- 6) Key in the Fc and Resolution Bandwidth (1 ~ 5 % of emission designator).
- 7) Transmit the DUT and record the occupied Bandwidth frequency.
- 8) Preset the spectrum analyzer for sideband spectrum measurement.
- 9) Set the span and Resolution Bandwidth (according to FCC/ ISED standard).
- 10) Save the screen shot as modulated signal
- 11) Remove the audio tone from audio analyzer to capture unmodulated signal.

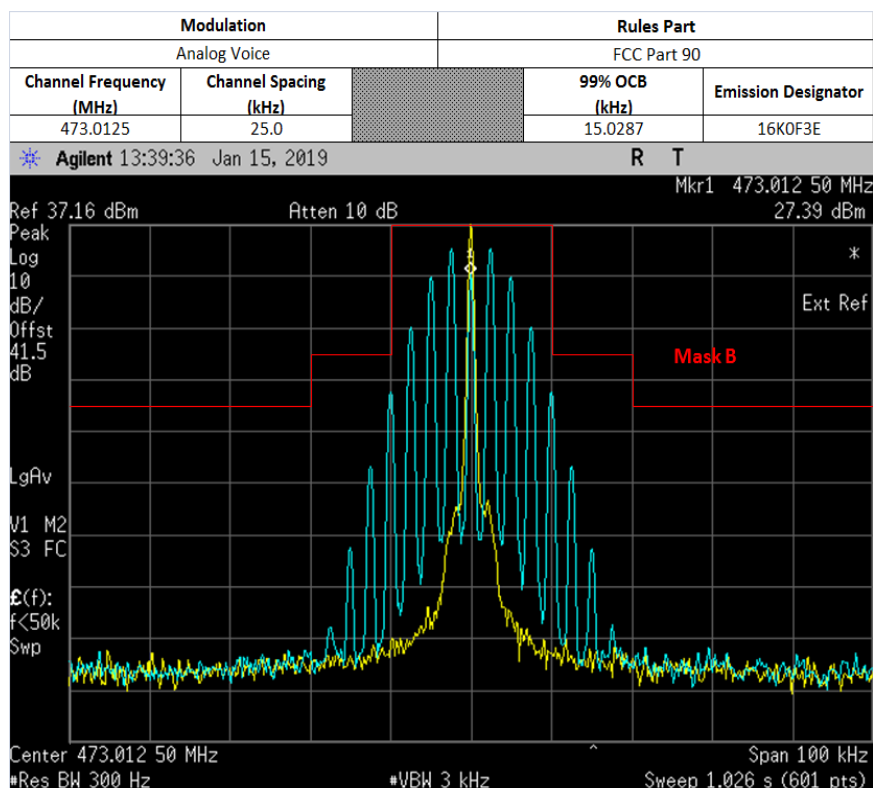
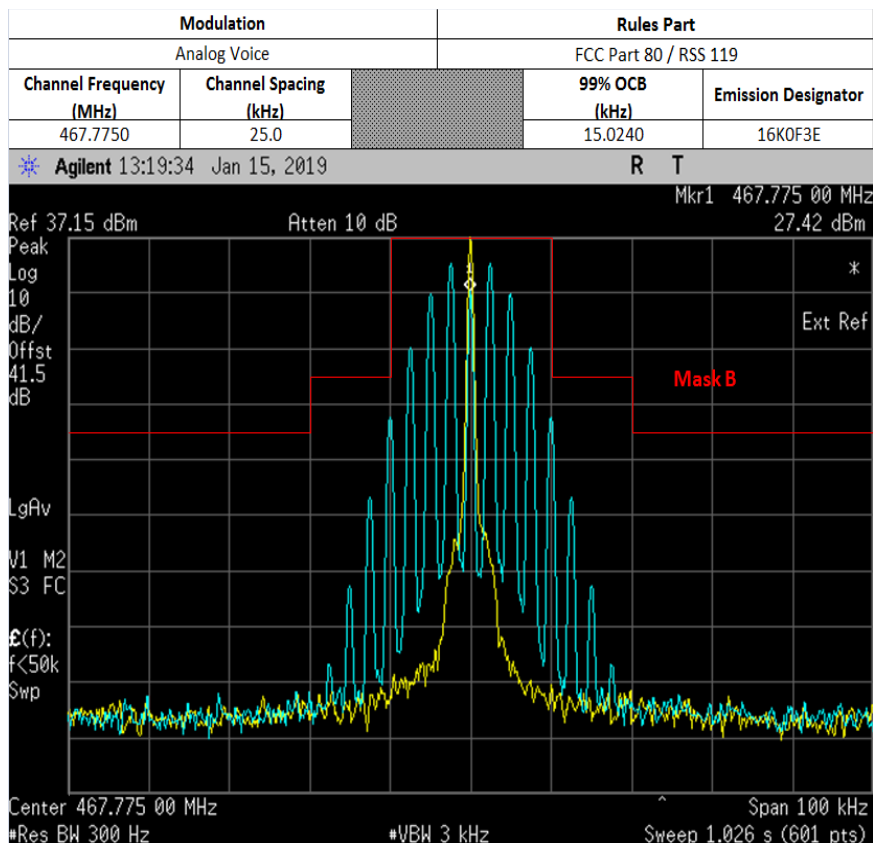
* Only HPF added for Mask 80.211 measurement with attenuator.

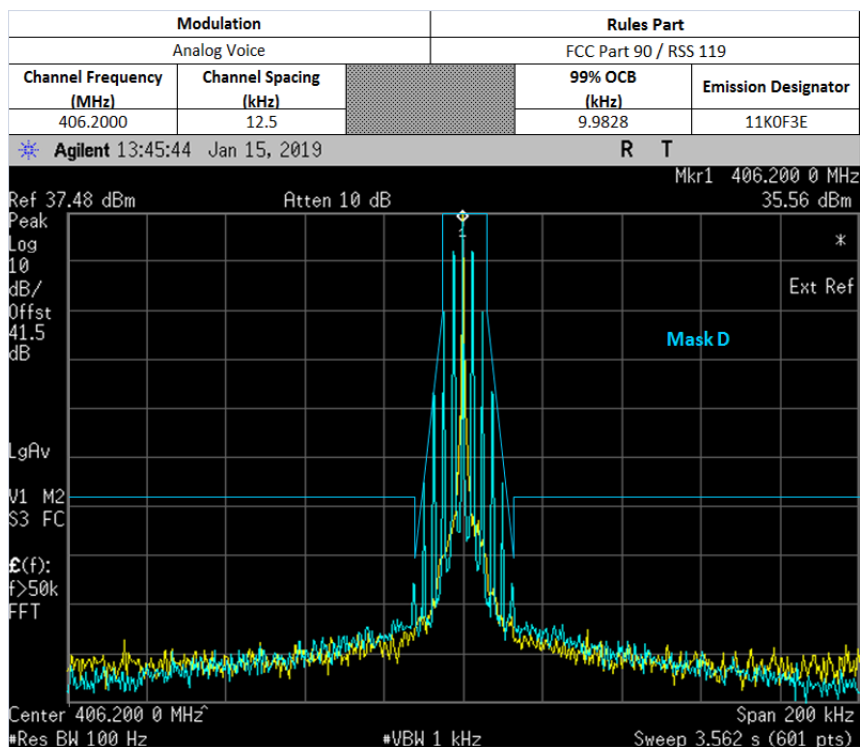
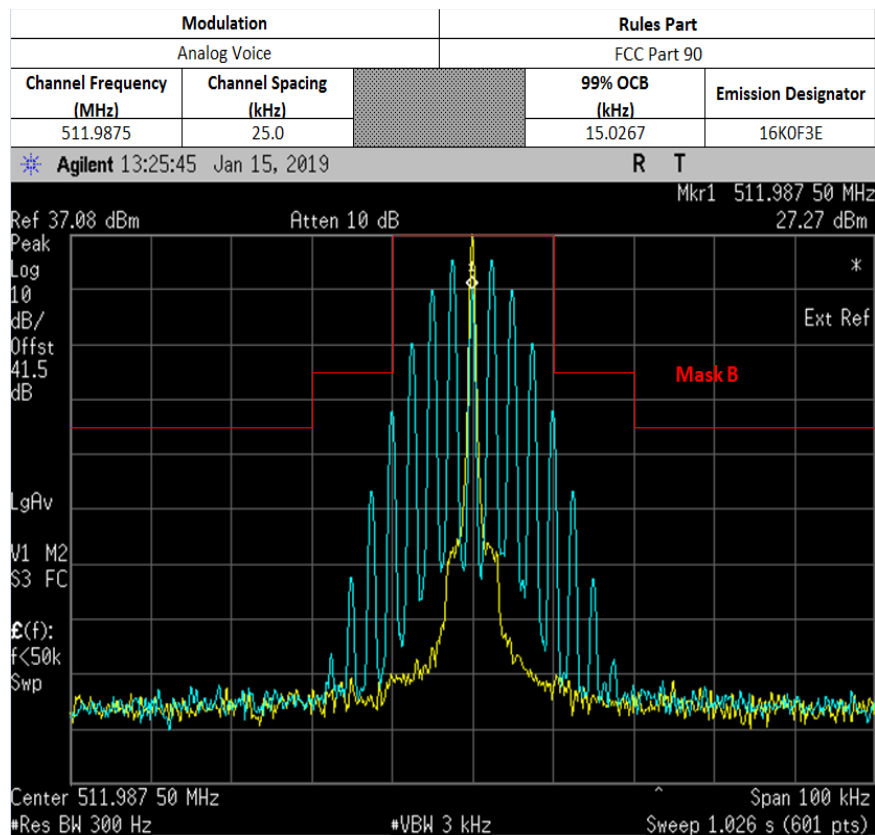
6.6.2. Test Result (Analog)

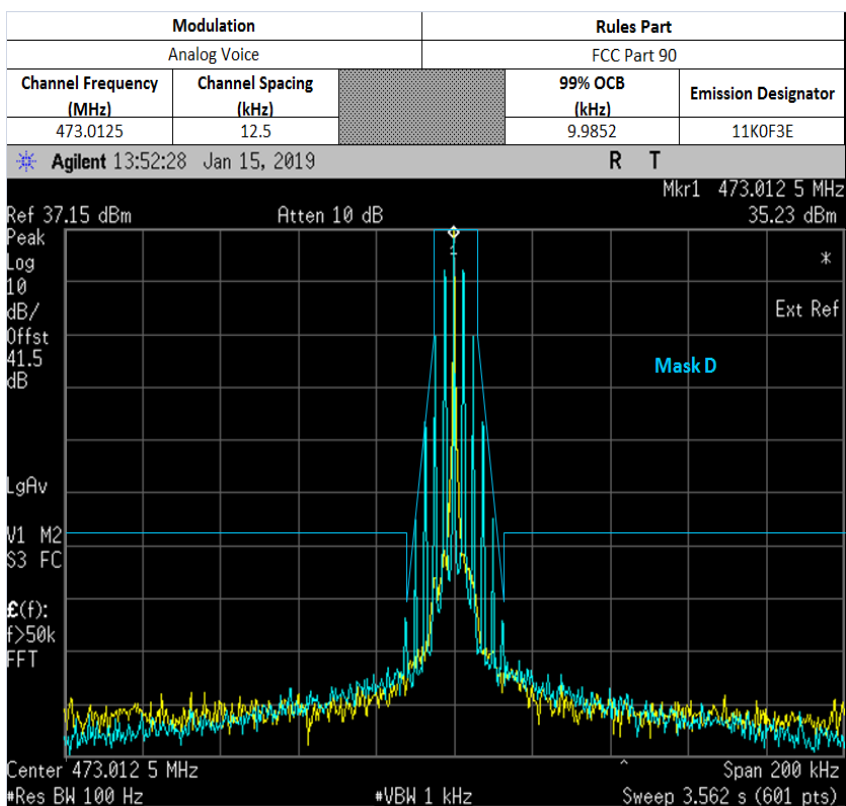
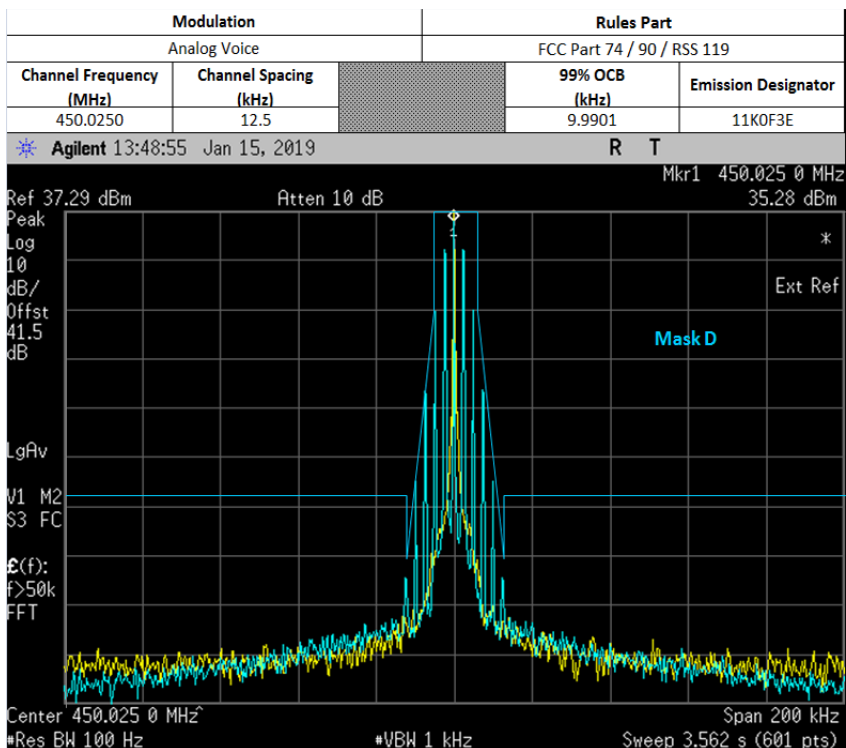


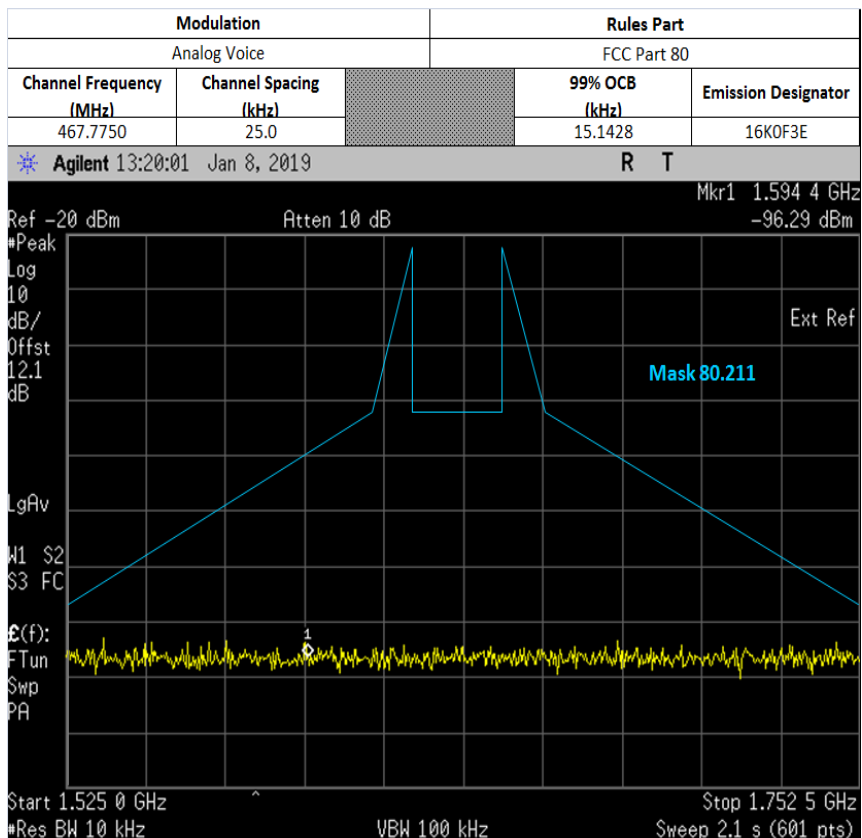
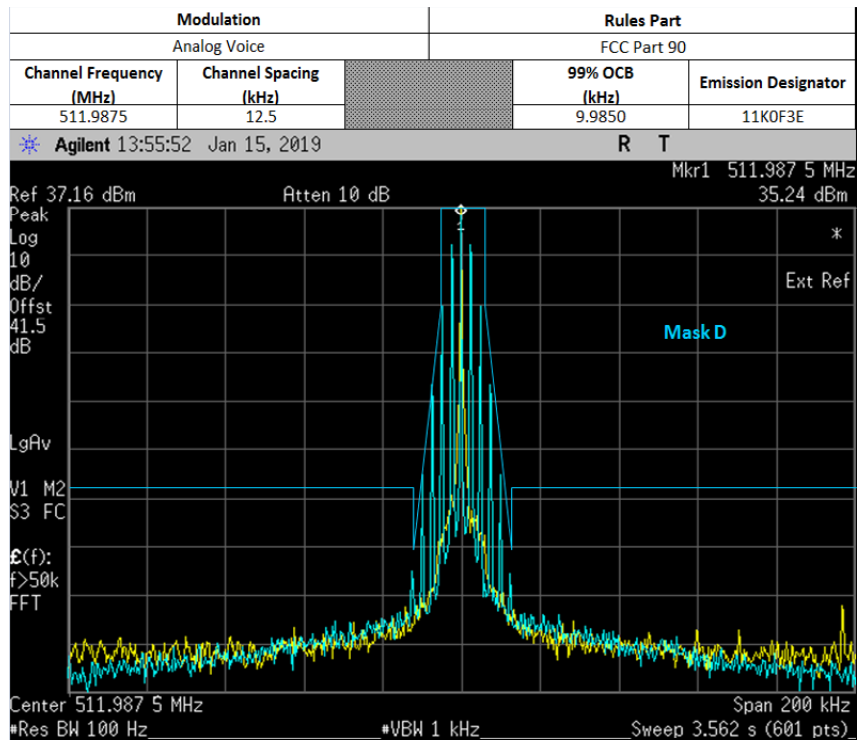
NOT FOR FCC REVIEW

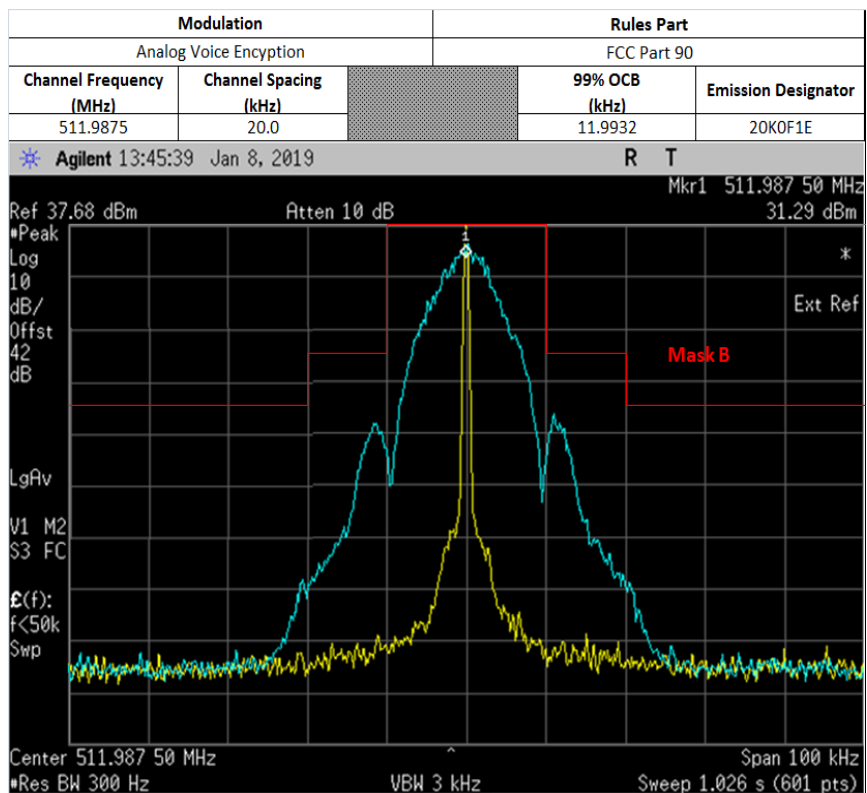
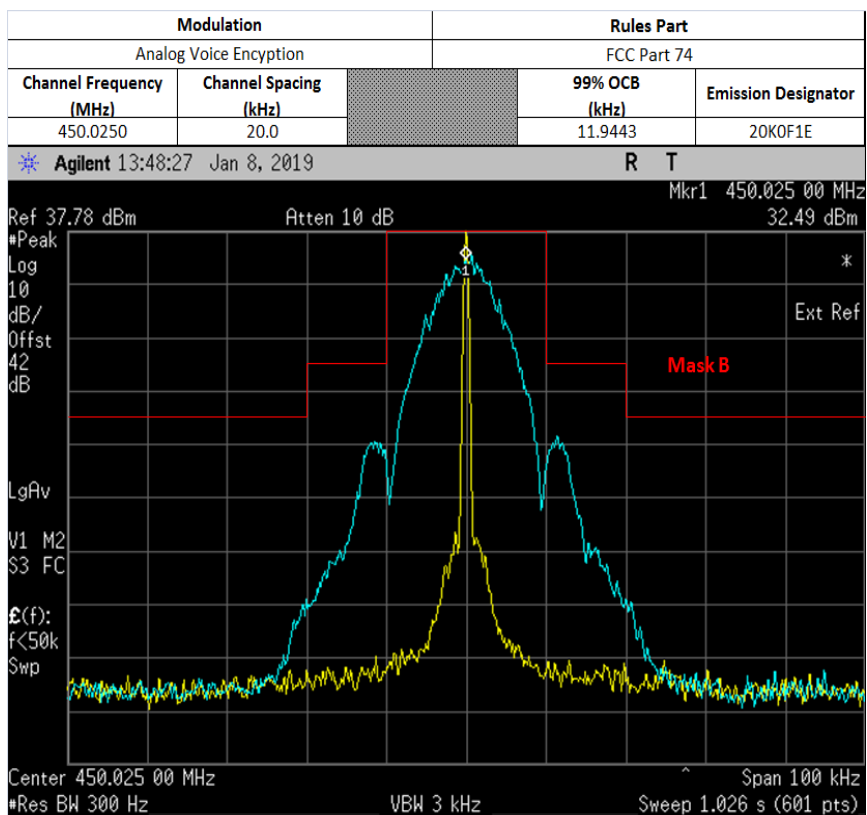


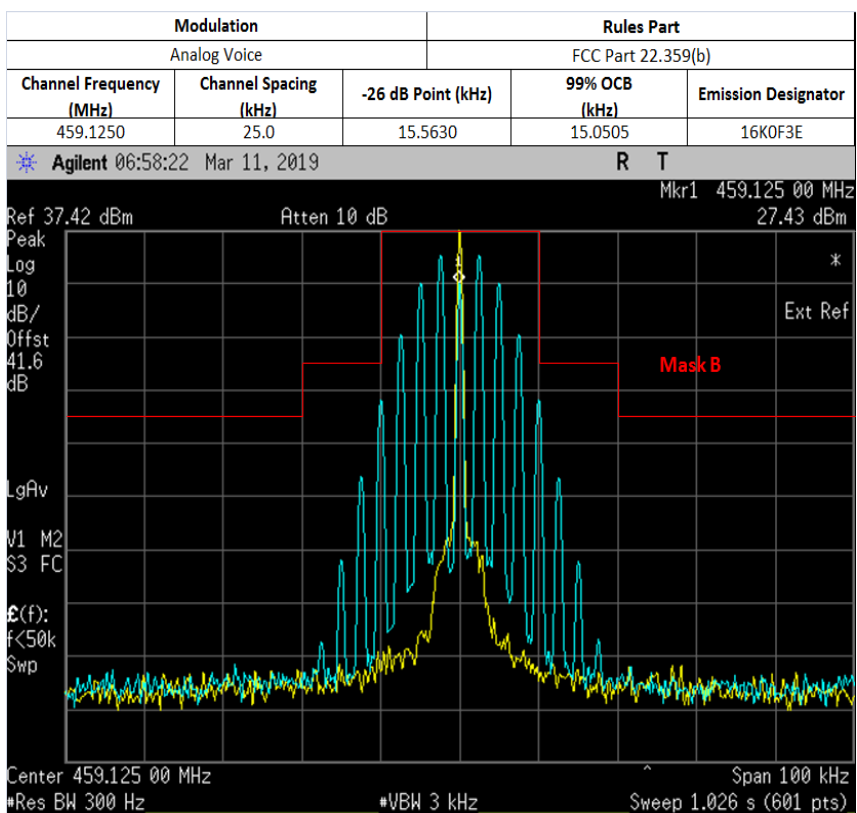


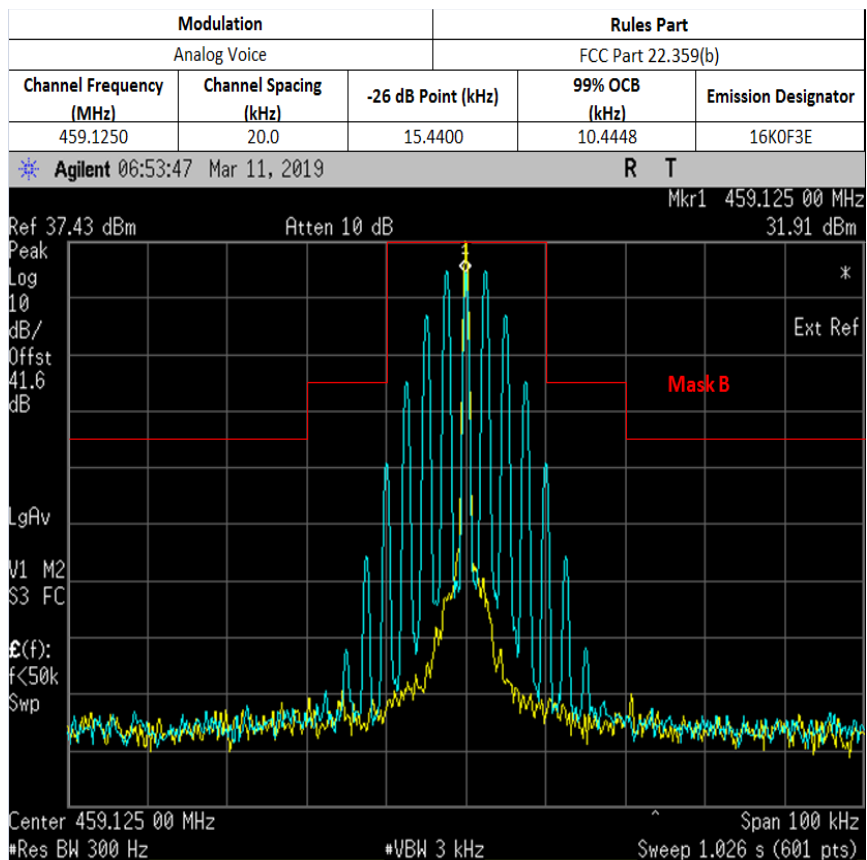




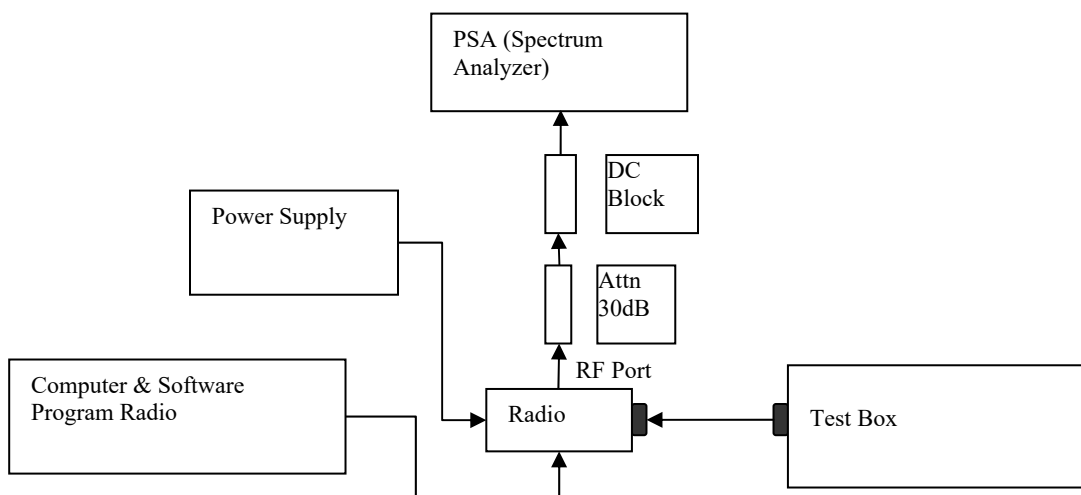








6.6.3. Test Setup (Digital)

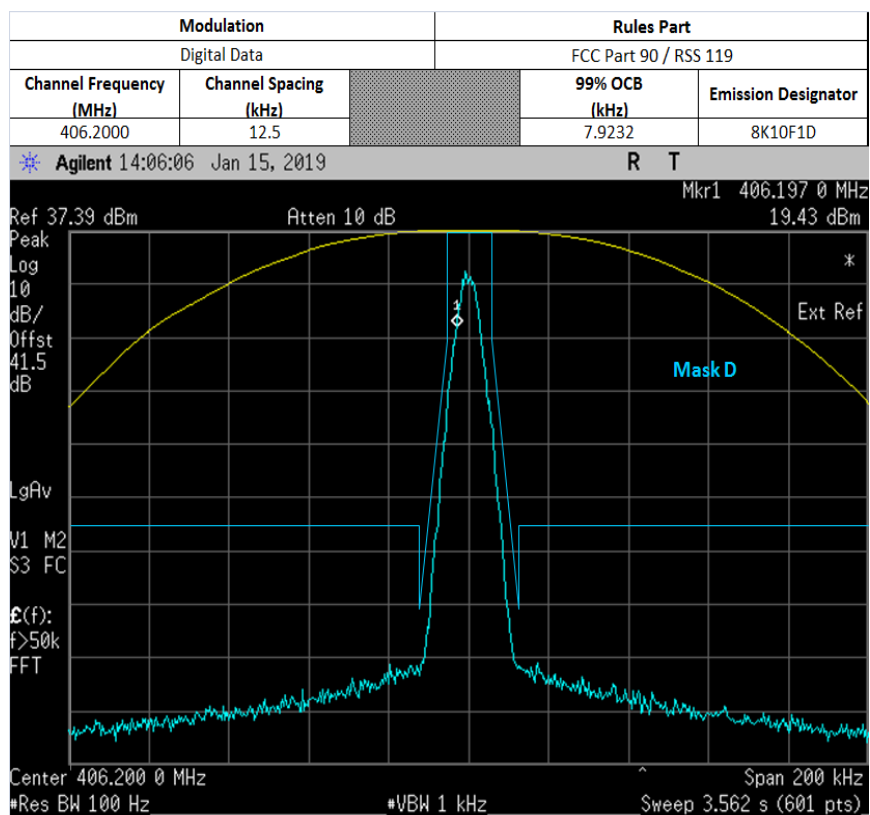


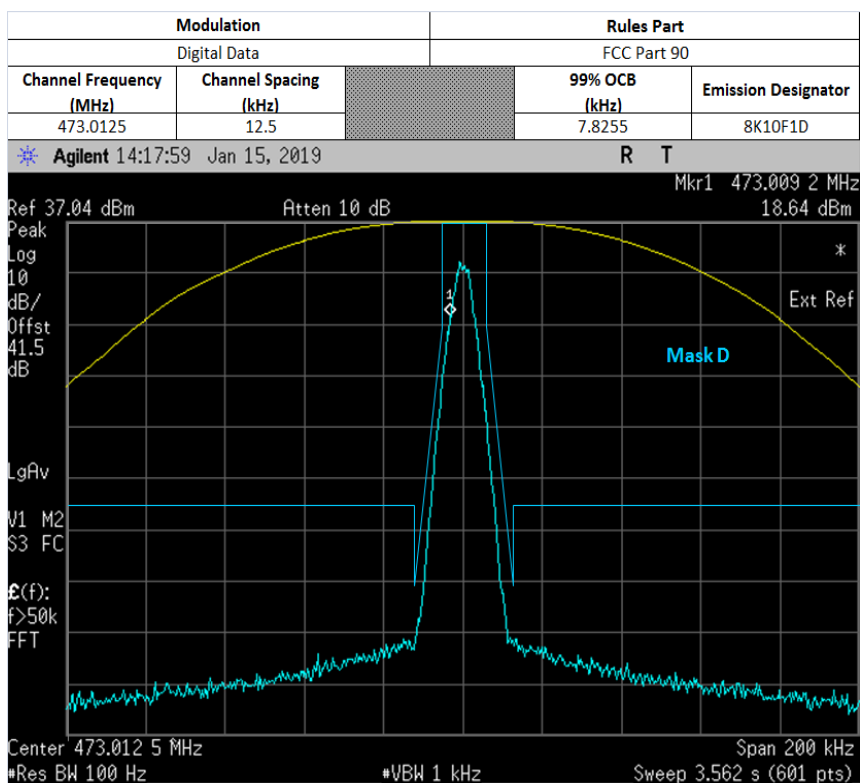
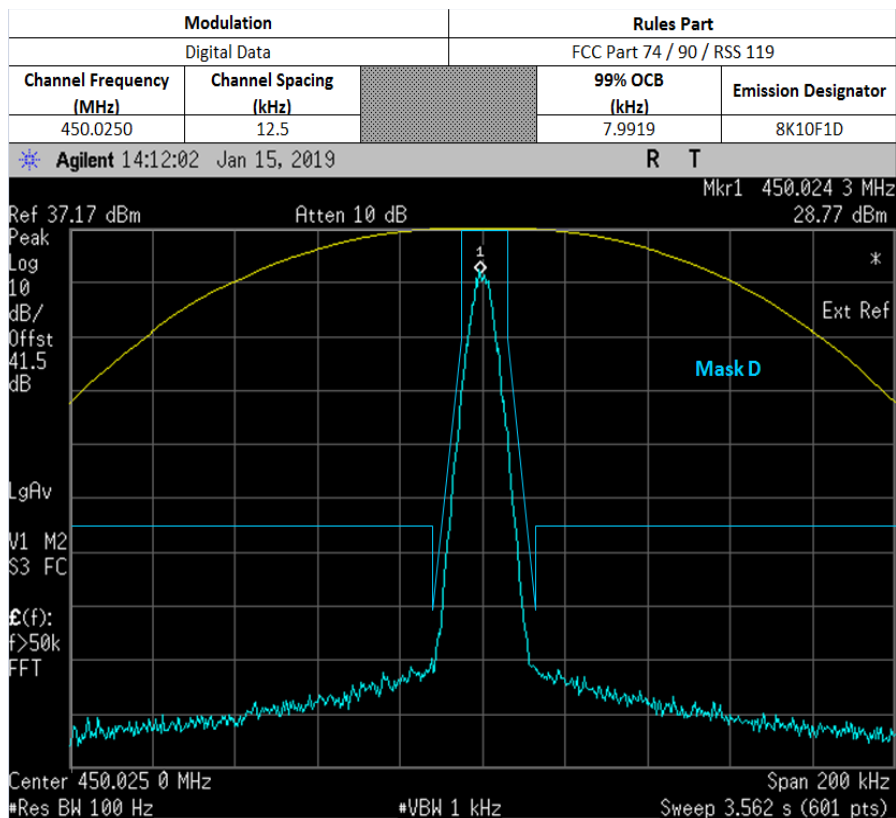
- 1) Program and set radio to operate in desire test frequency and digital mode with modulation. (*4FSK, C4FM or other digital modulation form).
- 2) Path loss for the measurement included.
- 3) Select the Occupied Bandwidth measurement for 99% Emissions Bandwidth Measurement.
- 4) Key in the Fc and Resolution Bandwidth (1 ~ 5 % of emission designator).
- 5) Transmit the DUT and record the occupied Bandwidth frequency.
- 6) Preset the spectrum analyzer for modulation emission spectrum measurement.
- 7) Set the span and Resolution Bandwidth (according to FCC/ ISED standard).
- 8) Capture the screen shot as modulated signal.

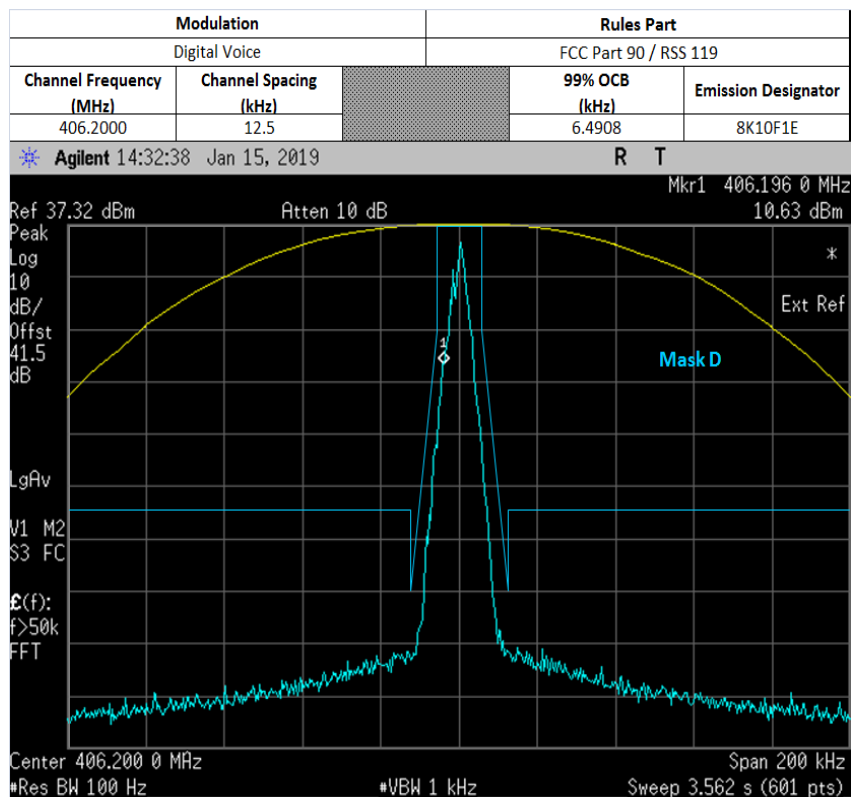
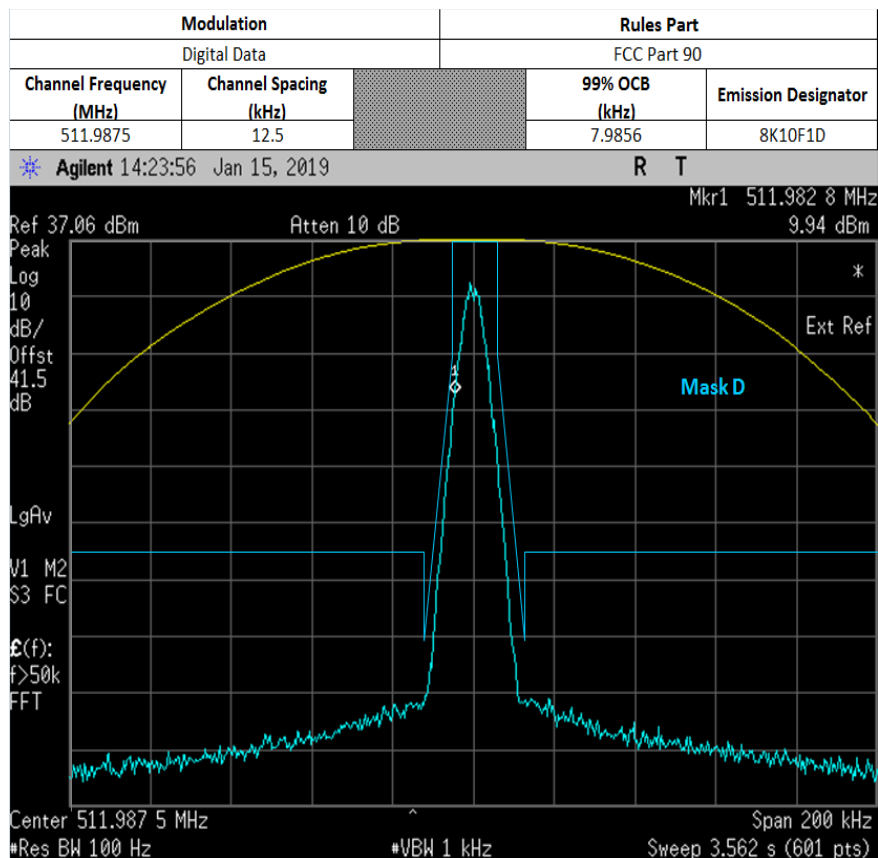
*Note:

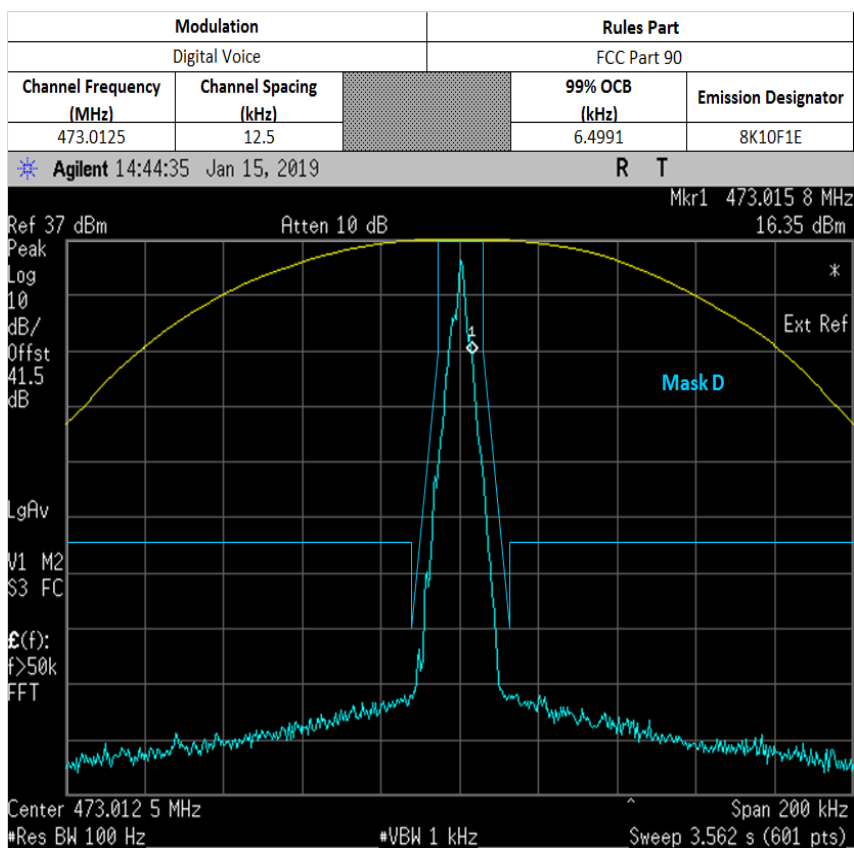
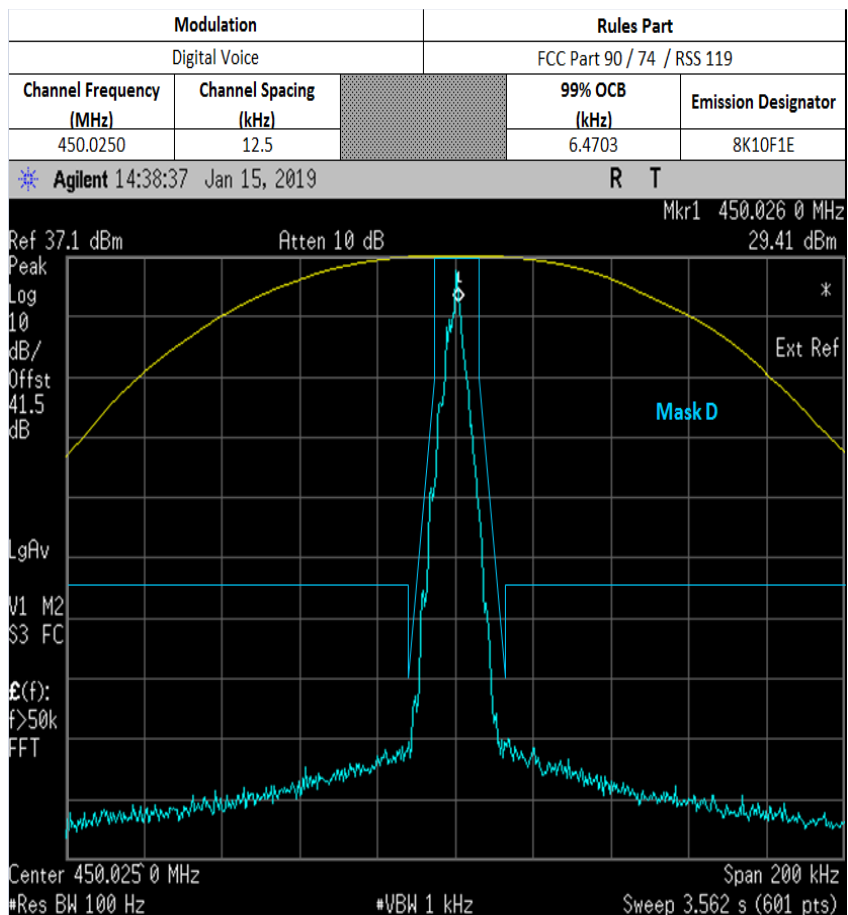
- For Digital Modulation, 12.5 kHz Data F1D & FXD would be the same. Therefore only measurements with F1D modulation shown below.
- For Digital Modulation, 12.5 kHz Data F1E & FXE would be the same. Therefore only measurements with F1E modulation shown below.

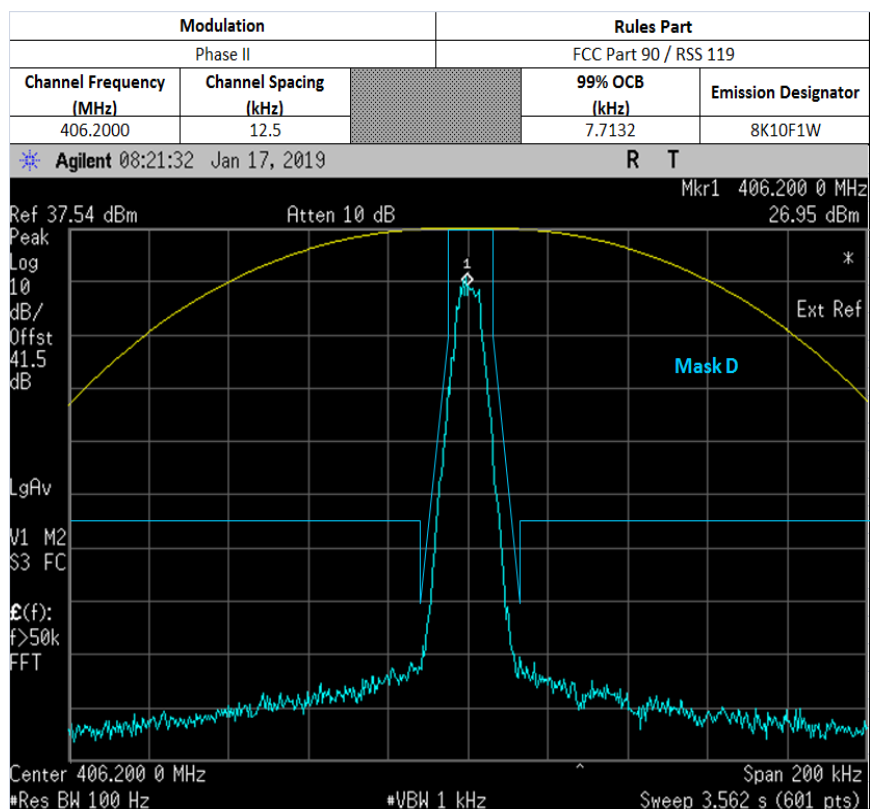
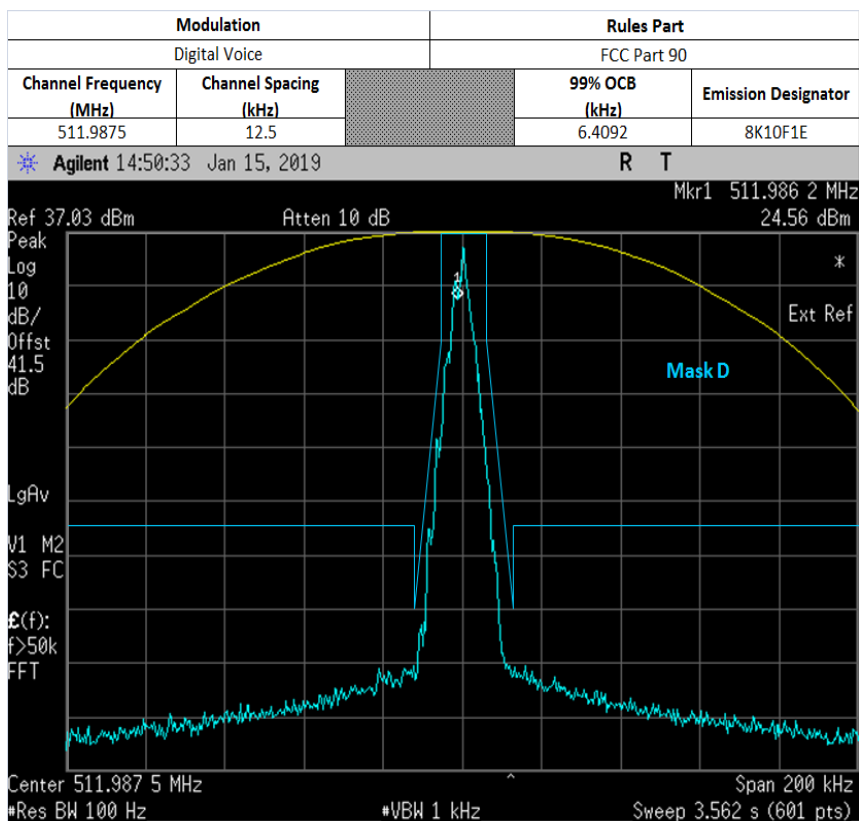
6.6.4. Test Result (Digital)

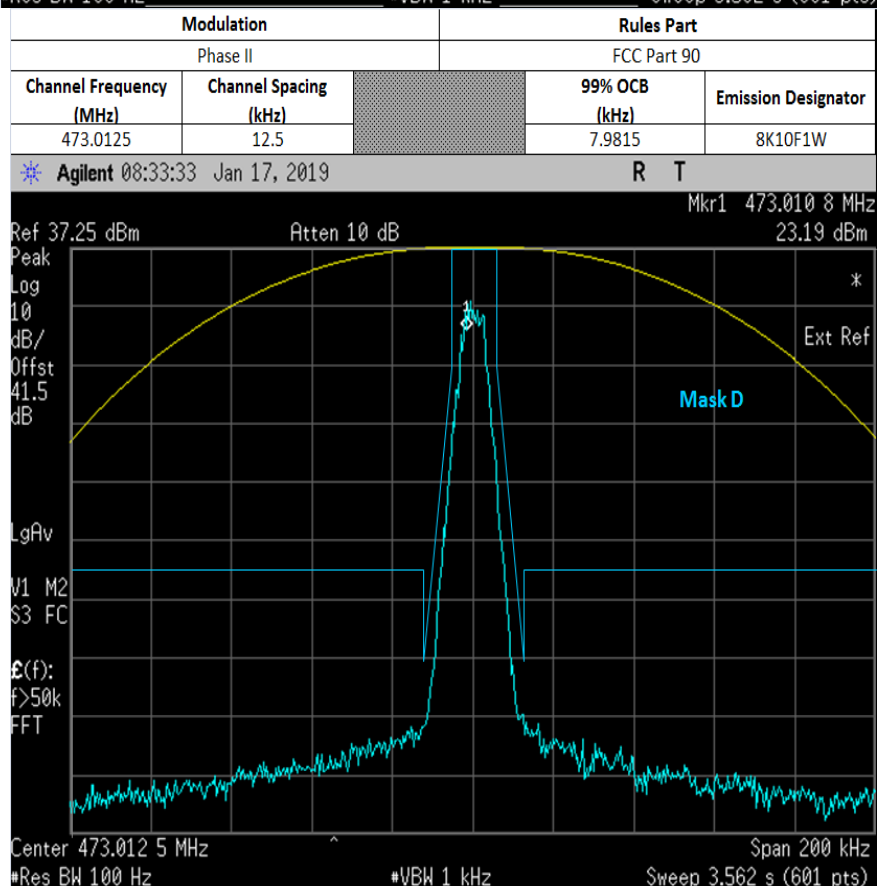
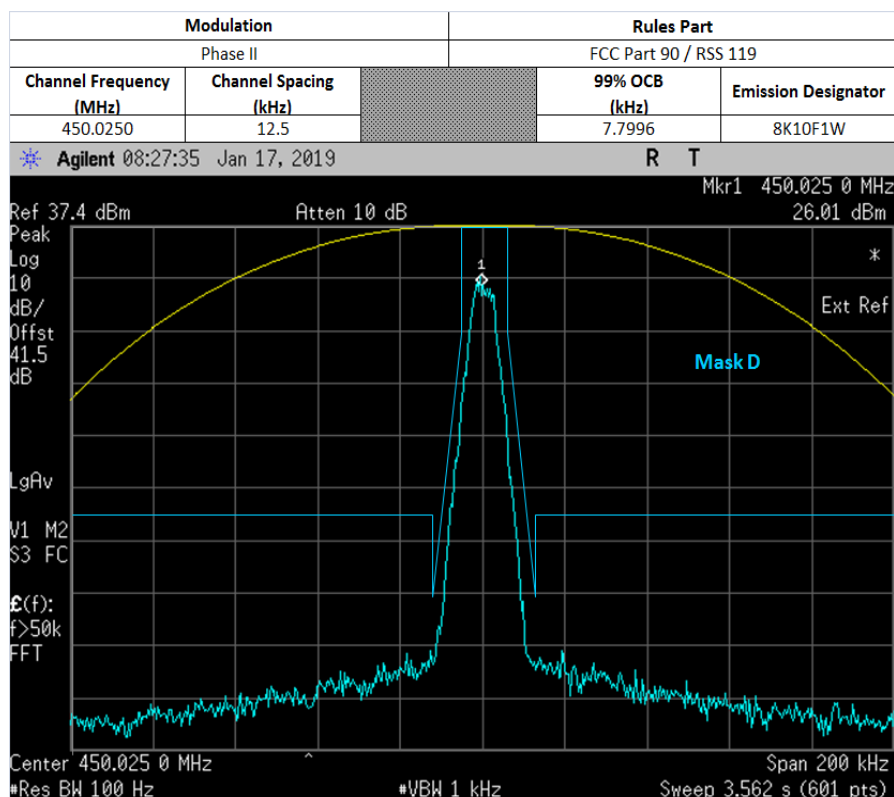


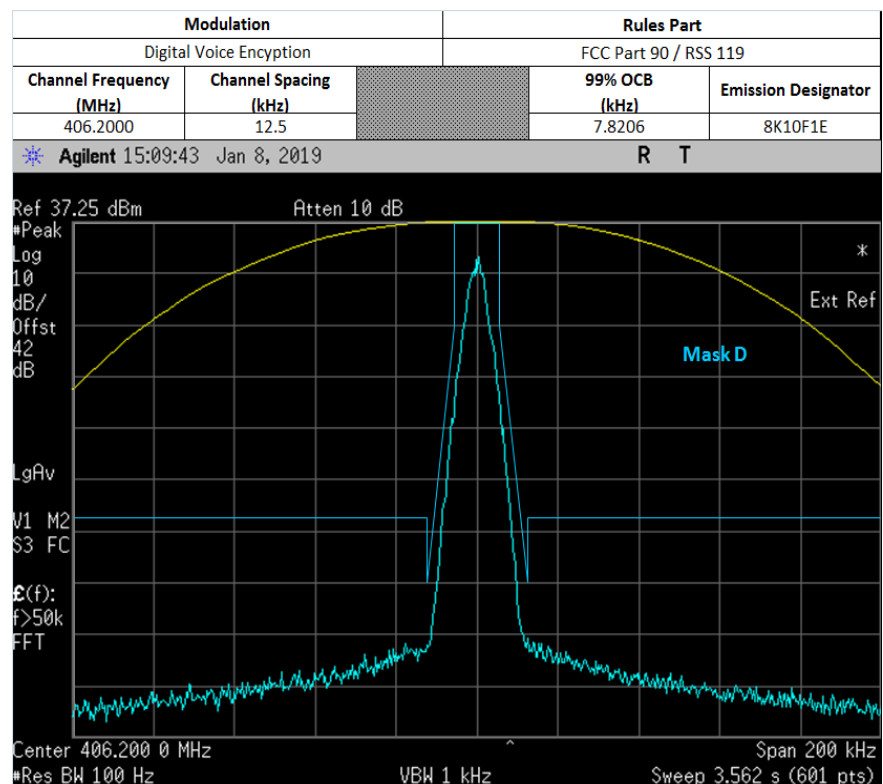
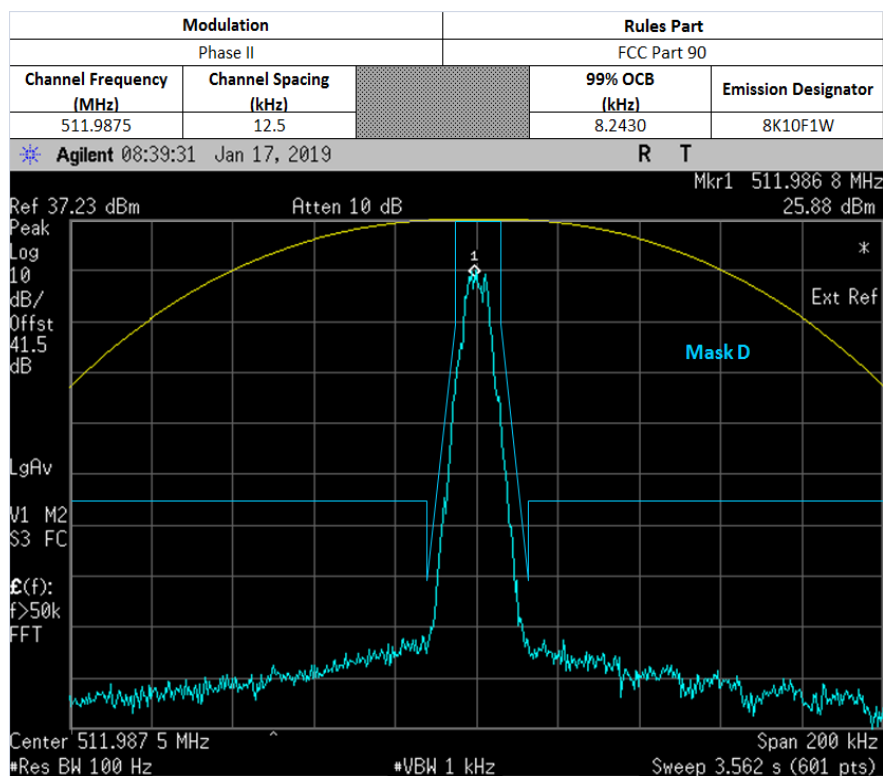


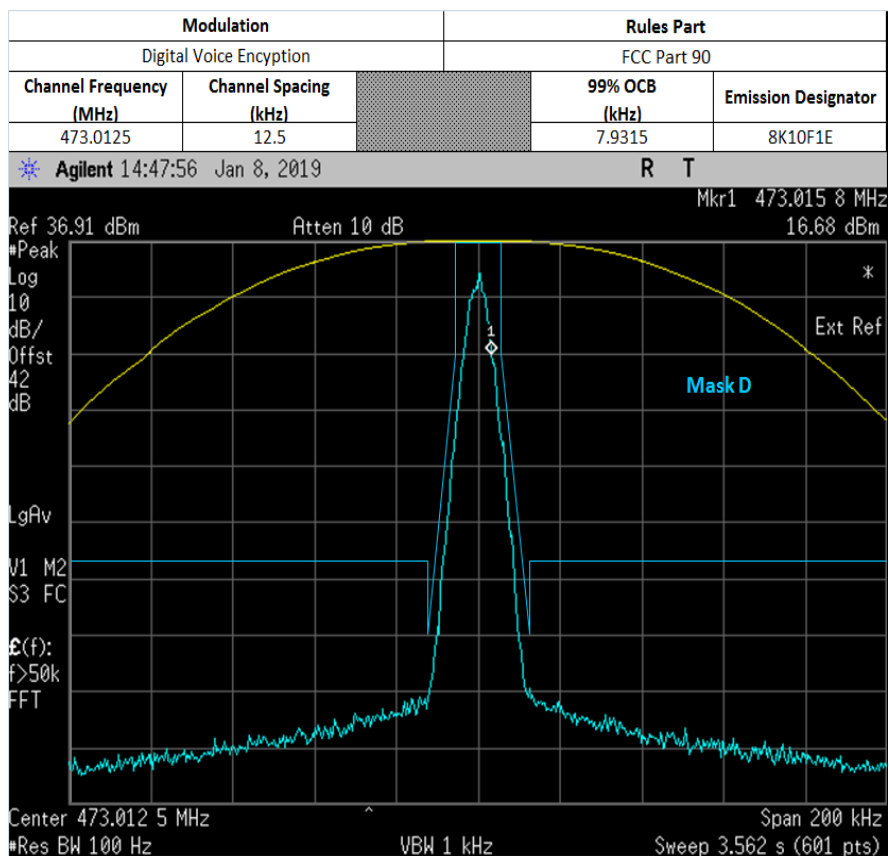
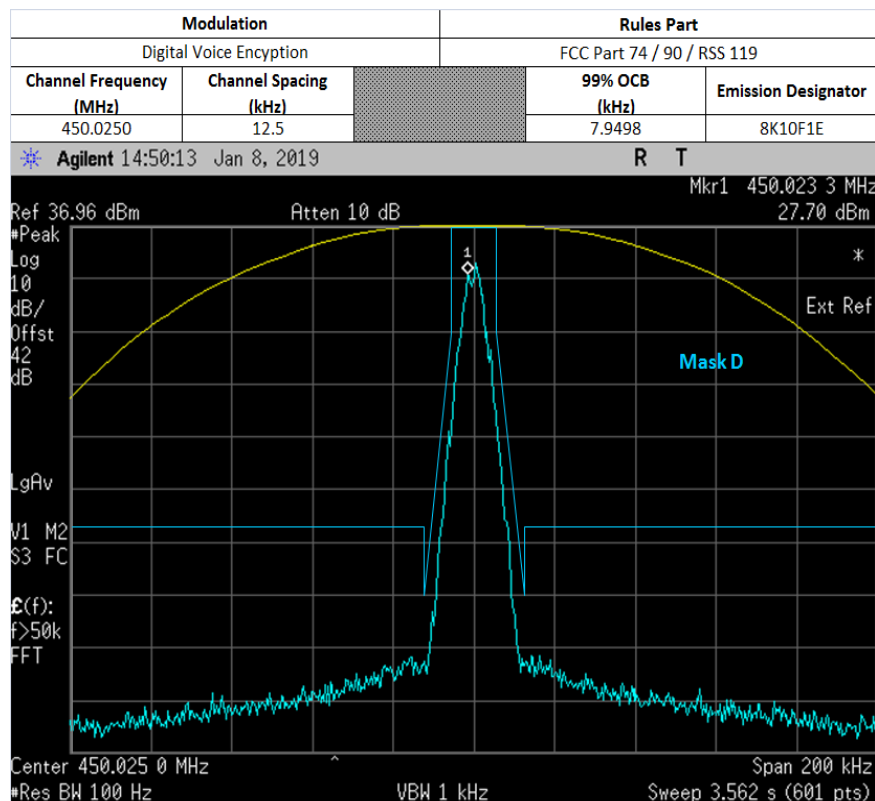


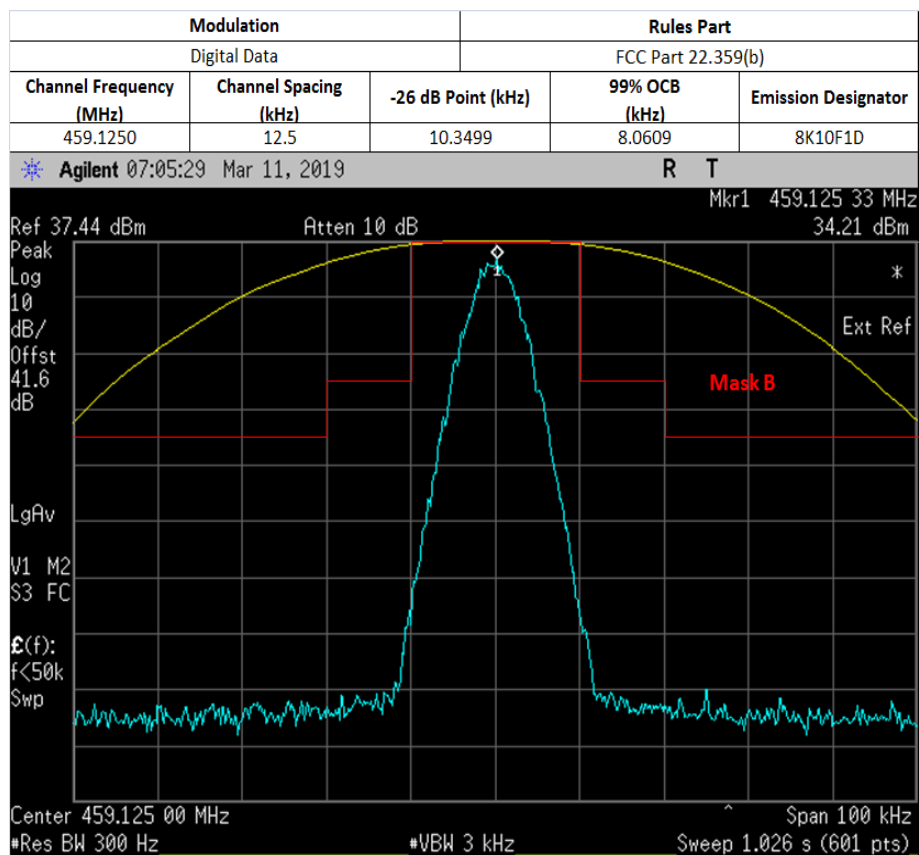
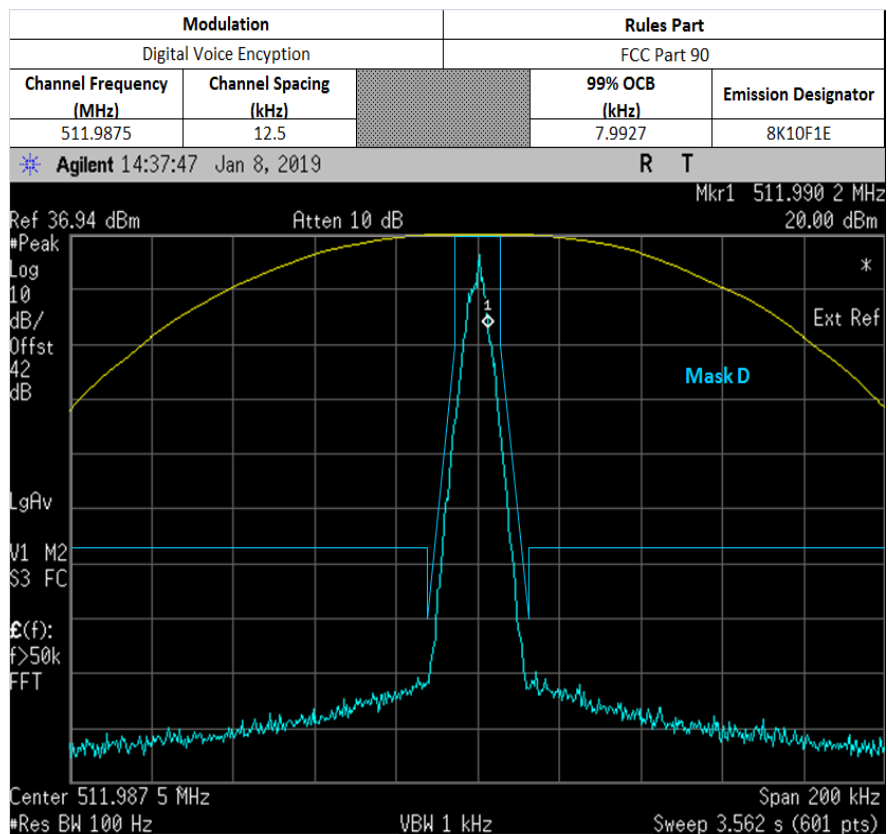


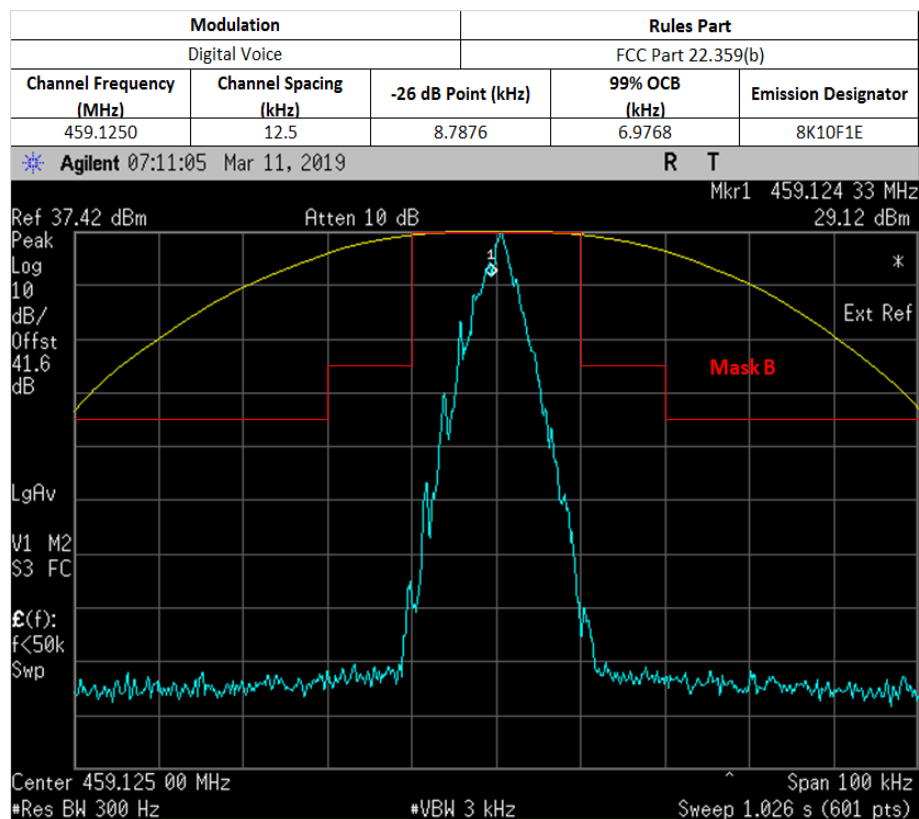


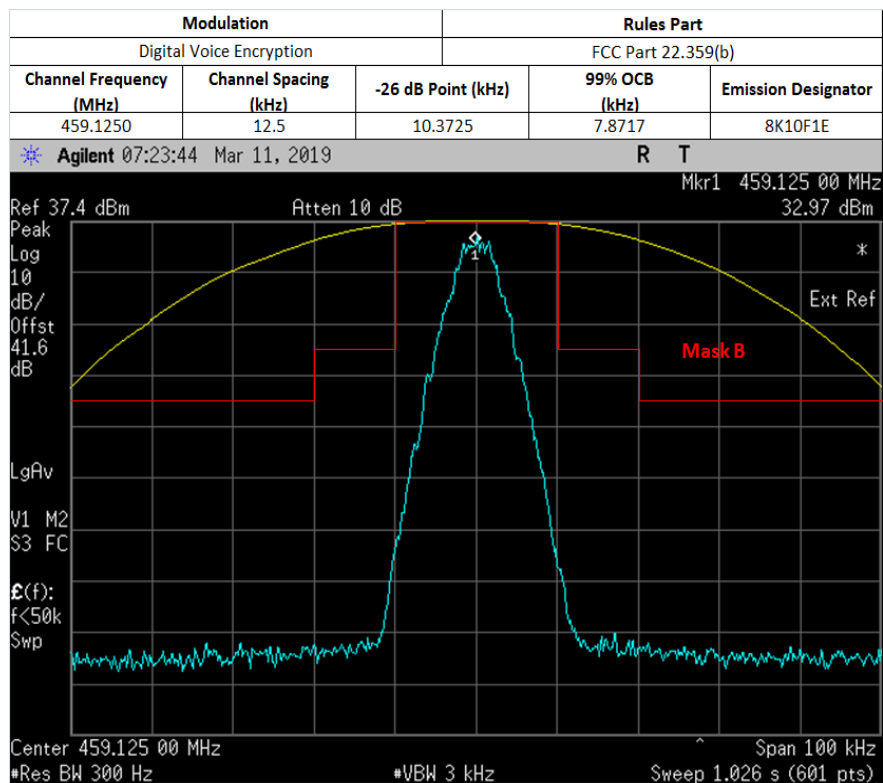
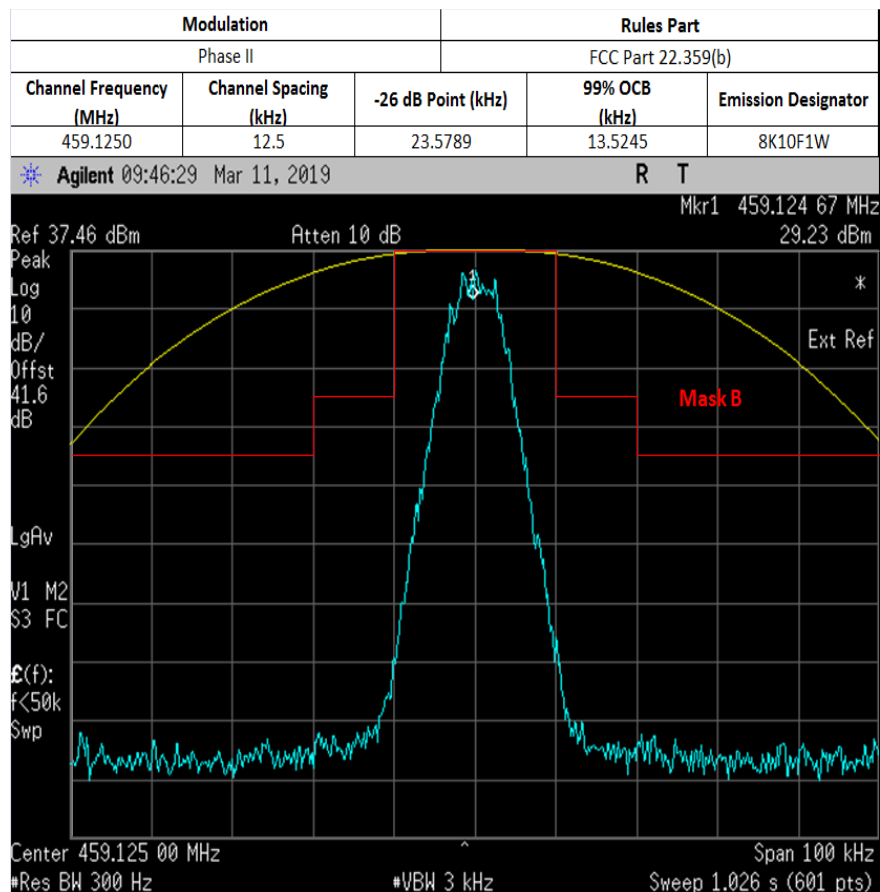












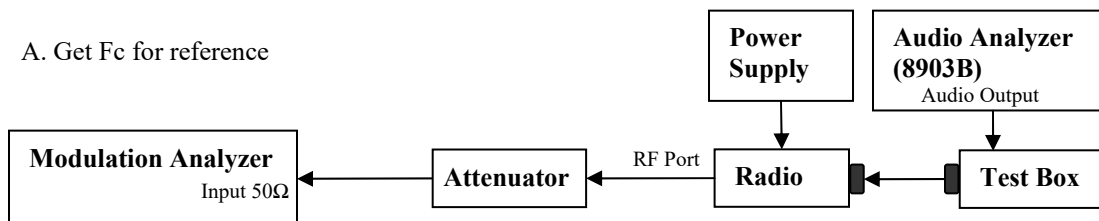
6.7. Test Limit

The 99% occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

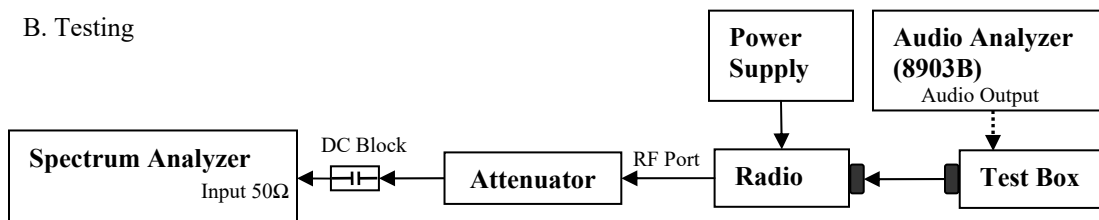
6.8. Band Edge Conducted Spurious Emission (Part 22)

6.8.1. Test Setup (Analog)

A. Get Fc for reference



B. Testing

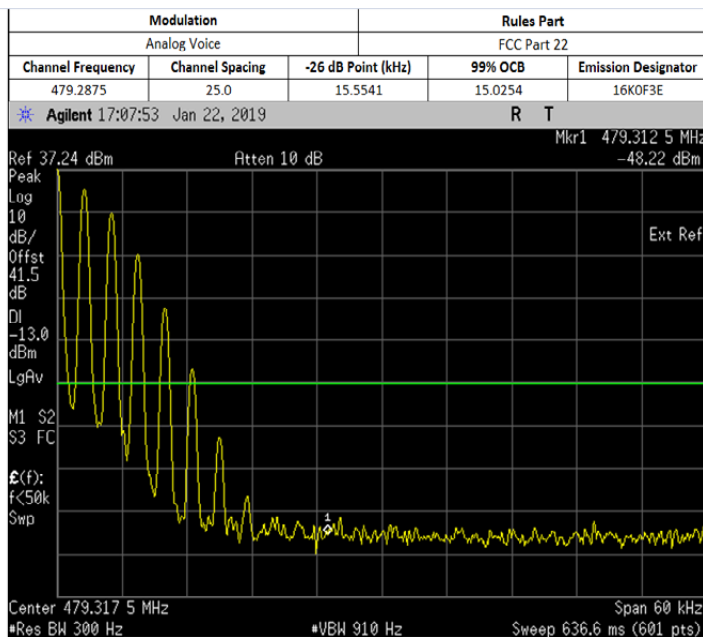
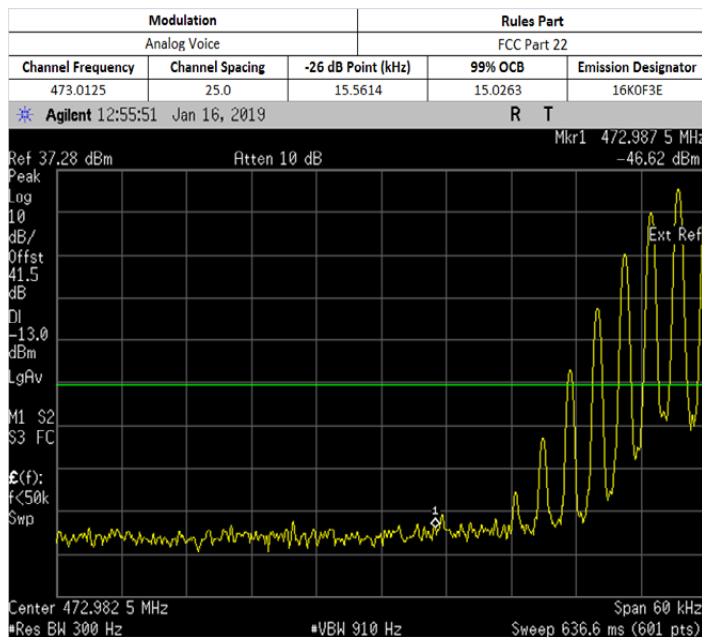
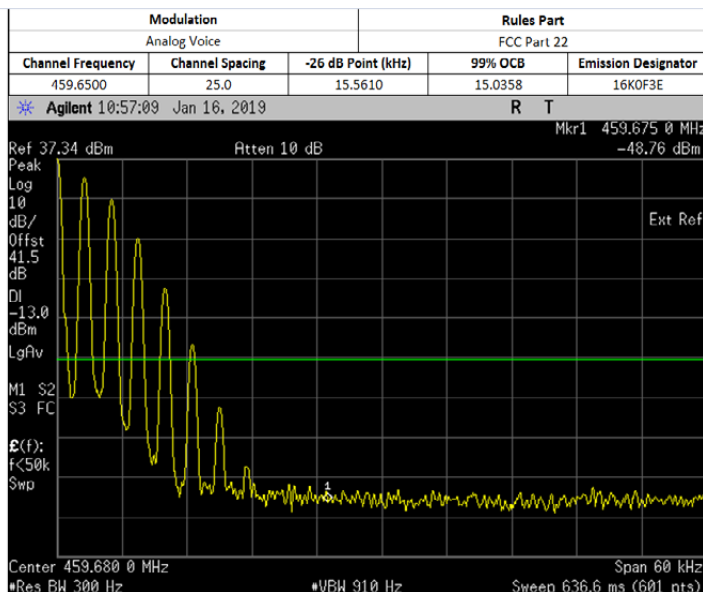
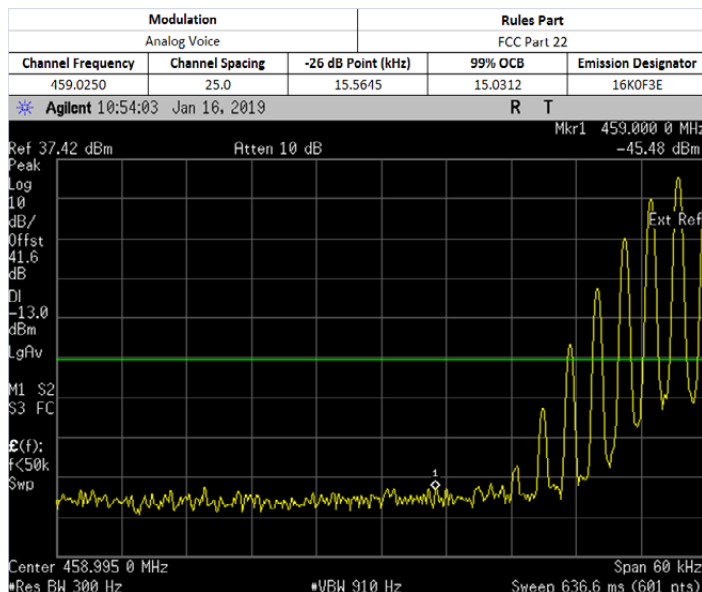


- 1) The DUT transmitter output port was connected to Modulation Analyzer.
- 2) Set the audio bandwidth filter to 15 kHz low pass filter and 50 kHz high pass filter.
- 3) Transmit the radio and set the audio analyzer to 2.5 kHz audio frequency and 50% of the rated deviation. Up the amplitude by 16 dB. Dekey the DUT.
- 4) Path loss for the measurement included.
- 5) Select the Occupied Bandwidth measurement for 99% and 26dB Emissions Bandwidth Measurement.
- 6) Key in the Fc and Resolution Bandwidth.
- 7) Transmit the DUT and record the occupied Bandwidth frequencies.
- 8) Preset the spectrum analyzer for band edge measurement.
- 9) The band edges of lowest and highest channels were measured.
- 10) Key in the Lowest and highest channel frequency, span is 60 kHz and Resolution Bandwidth is at least 1% of Emission Bandwidth.
- 11) Save the screen shot as modulated signal.
- 12) Remove the audio tone from audio analyzer to capture unmodulated signal.

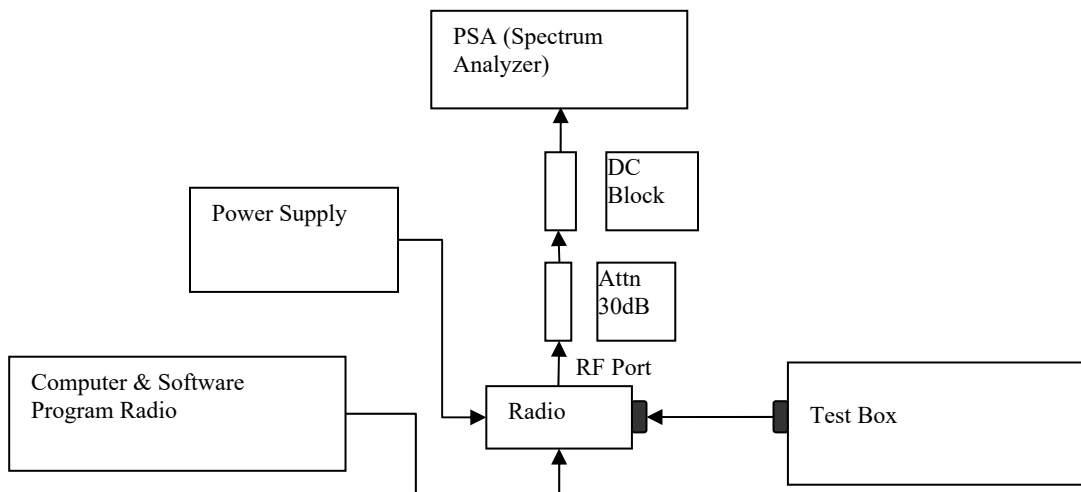
*Note:

- For emission designator ending with F3E, 16K0F3E is the worst case and therefore only 16K0F3E will be shown.

6.8.2. Test Result (Analog)



6.8.3. Test Setup (Digital)



- 1) Program and set radio to operate in desire test frequency and digital mode with modulation. (*4FSK, C4FM or other digital modulation form).
- 2) Path loss for the measurement included.
- 3) Select the Occupied Bandwidth measurement for 99% and 26dB Emissions Bandwidth Measurement.
- 4) Key in the Fc and Resolution Bandwidth.
- 5) Transmit radio record the occupied Bandwidth frequencies.
- 6) Preset the spectrum analyzer for band edge measurement.
- 7) Key in the lowest and highest channels frequency, span is 60 kHz and Resolution Bandwidth is at least 1% of Emission Bandwidth.
- 8) Save the screen shot.

*Note:

- All digital modulation modes utilize the same high deviation test pattern, and they are therefore identical. Hence, only F1D and F1W plots will be shown.

6.8.4. Test Result (Digital)

