MOTOROLA SOLUTIONS

CERTIFICATE 2518.08

MS ISO/IEC 17025
TESTING
SAMM NO. 0825

MOTOROLA PENANG ADV. COMM. LABORATORY
Motorola Solutions Malaysia SDN BHD,
Plot 2A, Medan Bayan Lepas,
Mukim 12 S.W.D, 11900 Bayan Lepas,
Penang, Malaysia.

FCC/ISED TEST REPORT
Report Revision : Rev.A

Date/s Tested	:	12-NOV-2021 - 26-NOV-2021
Report Issue Date	:	30-Nov-2021
Manufacturer	:	Motorola Solutions Malaysia SDN BHD
Manufacturer Address	:	Plot 2A, Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia
Requestor	:	SOH LEY KOON
Product Type	:	Hand-held
Product Version (PMN)	:	XPR 7550e
Model Number (HVIN)	:	AAH56RDN9RA1AN (IC MODEL: PMUE3675DBCNAA)
Frequency Band	:	403-527MHz
Max RF Output Power	:	4.8 Watts
Applicant Name	:	Motorola Solutions Inc
Applicant Address	:	8000 West Sunrise Boulevard, Fort Lauderdale, Florida 33322
ISED Registrations	:	MY0001
FCC Registrations	:	461337
Firmware Version (FVIN)	:	D02.21.06.0036

The equipment was tested accordance to the requirement listed below:

(LMR)
FCC 47 CFR Part 2/ 22 / 74 / 80 / 90 **PASS**
ISED RSS- Gen Issue 5 / 119 Issue 12

Prepared By:

Putri Nur Sarah Sofia
Test Personnel

Approved Signatory:

Soon Oi May
Responsible Engineer

Table of Contents

Report Revision History

Revision History	Description	Date	Originator
Rev. A	Initial Report	16-Nov-2021	Putri

1.0 General Information

EUT Description:

Technologies	Land Mobile Radio (LMR)
Modulation Type	Analog, 4FSK

The EUT contains following accessory devices and data cable:

Item	Brand	Model or P/N
IMPRES Li-Ion, 2900 mAh TIA 4950 HAZLOC IP68 Battery	MOTOROLA	PMNN4489B

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 C63.26-2015

No modifications were done to the UUT to facilitate the tests in this report.

Deviation from standard

Not applicable as no deviation from standard test method

Antenna gain disclaimer

Antenna gain information is provided by customer. The validity of the results is dependent upon this information. The lab will not be held accountable in the event the supplied information affects compliance.

Test configuration of EUT

All relevant configurations involving radio models and accessories (including chargers, batteries, and antennas) were assessed. Only worst case configurations will be included in this report.

2.0 Summary of Test Results

FCC General Rules Part (47CFR)	ISED General Rules Part	Test Item	Result	Remarks	Serial number tested
2.1046(a), 22.565(f), 74.461, 80.215,90.205	RSS-119	RF Power Output	Pass		871TXVC359
2.1055, 22.355, 90.213, 74.464, 80.209	RSS-119	Frequency Stability	Pass		871TXVC359
-	-	Audio Frequency Response	NA		See NOTE1
-	-	Audio Low Pass Filter Response	NA		See NOTE1
-	-	Modulation limiting	NA		See NOTE1
-	-	Occupied Bandwidth	NA		See NOTE1
2.1051, 22.359 (a), (b)	RSS-119	Band Edge Conducted Spurious Emission	Pass		871TXVC359
-	-	Transient Frequency Behavior	NA		See NOTE1
-	-	Adjacent Channel Power	NA		
2.1051, 22.359, 90.210 74.462(c), 80.211(c)	RSS-119	Conducted Spurious Emissions	Pass	Worst case - -28.77dBm	871TXVC359
2.1051, 22.359, 74.462(c), 90.210, 80.211(c)	RSS-119	Radiated Spurious Emission	Pass	Worst case - -49.89dBm (noise floor)	871TXVC352
-	-	GNSS (EIRP for 1559 – 1610MHz)	NA		
-	-	Effective Radiated Power (ERP)	NA		See NOTE1

NA → **Not Applicable**

NOTE1: The report contain a limited number of parameters deemed to be relevant to the design changes, as agreed with the applicant.

3.0 Measurement Uncertainty

Measurement	Frequency	Expended Uncertainty (k=1.96) (±)
AC Power Line Conducted Spurious Emission	150KHz ~ 30MHz	3.48 dB
Radiated Emissions up to 1 GHz dBµV/m (Field Strength)	30MHz ~ 1000MHz	5.88 dB
Radiated Emissions above 1 GHz dBµV/m (Field Strength)	1GHz ~ 18GHz	5.84 dB
	18GHz ~ 40GHz	6.02 dB
Radiated Emissions dBm (ERP/EiRP)	30MHz ~ 18GHz	4.03 dB
Conducted Spurious Emissions	9kHz ~ 12.75GHz	2.82 dB
Frequency Stability	9kHz ~ 12.75GHz	0.0085 ppm
Audio Frequency Response / Low Pass Filter Response	300Hz – 20kHz	4.09 %
Modulation Limiting	300Hz – 3kHz	1.15 %
Occupied Bandwidth	9kHz ~ 12.75GHz	2.82 dB
Band Edge Conducted Spurious Emission	9kHz ~ 12.75GHz	2.82 dB
Transient Frequency Behavior	9kHz ~ 12.75GHz	5.4 ms
Adjacent Channel Power	9kHz ~ 12.75GHz	2.82 dB

4.0 Equipment List

FCC Analog ATE#1: (SW version: 2.4.6 & FCC_Frequency Stability 1.0.3 rev.)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
CHAMBER	SH-641	92009188	08-Mar-21	08-Mar-22
SWITCH CONTROL SYSTEM	3499B	CN40150337	CNR	CNR
POWER SENSOR	E4412A	MY50290007	15-Dec-20	15-Dec-21
POWER SUPPLY	6032A	3232A08203	14-Jun-21	14-Jun-22
POWER METER	E4416A	GB41293240	14-Mar-21	14-Mar-22
SIGNAL GENERATOR	2042	203002/747	23-Feb-21	23-Feb-22
ANALYZER SIGNAL (DYNAMIC)	35670A	MY42506847	17-Sep-21	17-Sep-22
MODULATION ANALYZER	8901B	3403A04974	06-Sep-21	06-Sep-22
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_R1.1.3)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
SWITCH CONTROL UNIT	3488A	2719A36210	CNR	CNR
ATTENUATOR / SWITCH DRIVER	11713A	2508A10141	CNR	CNR
POWER SENSOR	E9301B	MY41495393	15-May-21	15-May-22
SIGNAL GENERATOR	8657A	3039A02769	11-Jun-21	11-Jun-22
AUDIO ANALYZER	8903B	3011A10318	01-Nov-21	01-Nov-22
POWER METER	E4418B	MY45104923	20-Feb-21	20-Feb-22
STEP ATTENUATOR	8494G	MY52300967	17-Jun-21	17-Jun-22
POWER SUPPLY	6033A	3004A04987	08-Jul-21	08-Jul-22
ANALYZER SPECTRUM	E4445A	MY46181732	29-Jun-21	29-Jun-22
ATTENUATOR/110DB	8496G	MY52300176	22-Aug-21	22-Aug-22
AUDIO ANALYZER	8903B	3413A14586	13-Sep-21	13-Sep-22
ANALYZER MODULATION	8901B	2619A00845	30-Sep-21	30-Sep-22
AUDIO ANALYZER	8903B	3011A12488	13-Sep-21	13-Sep-22
N to N RF Cable # 1	SF126/11N/11N	NA	NA	NA
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

FCC CONDUCTED SPUR EMISSION ATE # 1 (SW version: Conducted Spur ATE_rev 1.23.03)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
SWITCH CONTROL UNIT	3488A	2719A32735	CNR	CNR
ANALYZER SPECTRUM	E4440A	MY46185415	10-Jan-20	10-Jan-22
POWER SUPPLY	6031A	3221A02613	25-May-21	25-May-22
INTERFACE BOX - FILTER	CNR	CS001	06-Jul-21	06-Jul-22
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

EMC Chamber 2

Description	Model #	Serial Number	Calibration Date	Calibration Due Date
EMI TEST RECEIVER	ESIB40	100307	08-Jan-21	08-Jan-22
3m Semi-anechoic Chamber	NA	888032	No Cal. Req'd	No Cal. Req'd
TURNTABLE FLUSH MOUNT 2M	T-200-S	N/A	No Cal. Req'd	No Cal. Req'd
Bore sight Antenna mast	MBS-500	N/A	No Cal. Req'd	No Cal. Req'd
PROGRAMMING CONTROLLER	MF-7802BS	N/A	No Cal. Req'd	No Cal. Req'd
POWER SUPPLY (0-60V/0-50A, 1000W)	6032A	41001736	28-Jun-21	28-Jun-22
EMI TEST RECEIVER	ESW44	101731	23-Mar-21	23-Mar-22
DATA LOGGER	SDL500	A.016776	17-Jun-21	17-Jun-22
BILOG ANTENNA	CBL6112D	55546	16-Jun-21	16-Jun-22
BILOG ANTENNA	CBL6112B	2964	4-May-21	4-May-22
DRG HORN FREQ.	SAS-571	1143	24-Feb-21	24-Feb-23
DRG HORN FREQ.	SAS-571	719	13-Sep-21	13-Sep-22
PREAMPLIFIER	PAM-0118	427	13-May-20	13-May-23
SIGNAL GENERATOR	SMB100A	180683	13-Apr-21	13-Apr-24
LOOP ANTENNA	6502	00203479	05-Feb-21	05-Feb-22
BROAD-BAND HORN ANTENNA	BBHA9170	BBHA9170255	04-Feb-21	04-Feb-22
Test Software	EMC_FCC_IC_Bluetooth_RE_Test			
Version	EMC_FCC_RE_v1.6.3			

5.0 Test Condition

5.1. Transmitter Test Conditions

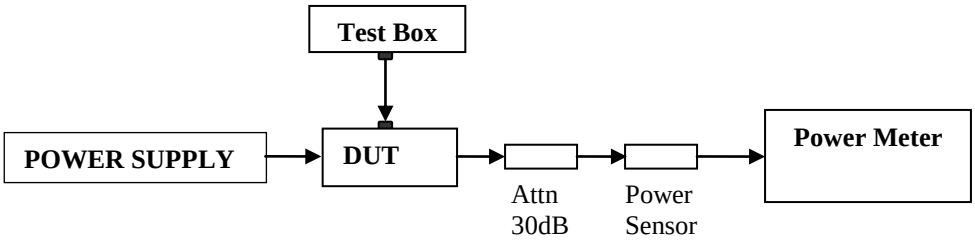
Test Item, (Channel Spacing)	Power (W)	Modulation	Test Frequency (MHz)	Tested By	Environmental conditions
RF Output Power	**Low & Max**	**Analog**	**403.0125, 406.2, 450.025, 459.125, 467.775, 469.9875, 482.0125, 511.9875, 526.9875**	**Putri**	**23.4°C, 50%RH**
Frequency Stability	**Max**	**Analog**	**467.775**	**Putri**	**25.1°C, 54.3%RH, 60.3°C, 50%RH, -30.1°C, 51.2%RH**
Audio Frequency Response (12.5kHz / 25kHz)	**Max**	**Analog**	**NA**		
Audio Low Pass Filter Response (12.5kHz / 25kHz)	**Max**	**Analog**	**NA**		
Modulation limiting (12.5kHz / 25kHz)	**Max**	**Analog**	**NA**		
Occupied Bandwidth (12.5kHz / 20kHz / 25kHz)	**Max**	**Analog, C4FM, Phase II**	**NA**		
Band Edge Conducted Spurious Emissions (Part 22) (12.5kHz / 20kHz / 25kHz)	**Max**	**Analog, 4FSK**	**459.025, 459.65, 473.0125, 479.2875**	**Putri**	**23.4°C, 50%RH**
Transient Frequency Behavior *(UHF & VHF Band)* (12.5kHz / 25kHz)	**Max**	**Analog, C4FM, Phase II**	**NA**		
Adjacent Channel Power *(700MHz Band)* (12.5kHz / 25kHz)	**Max**	**Analog, C4FM, Phase II**	**NA**		
Conducted Spurious Emissions- (12.5kHz / 25kHz)	**Low / Max**	**Analog, 4FSK**	**403.0125, 406.2, 450.025, 459.125, 467.775, 482.0125, 511.9875, 526.9875**	**Putri**	**23.4°C, 50%RH**
Radiated Spurious Emission (12.5kHz / 25kHz)	**Low / Max**	**Analog, 4FSK**	**450.025, 459.125, 467.775**	**Nazirul**	**22.2°C, 70.0%RH**
GNSS (EIRP for 1559 - 1610MHz) (12.5kHz / 25kHz)	**Max**	**Analog**	**NA**		
Effective Radiated Power (ERP) (12.5kHz / 25kHz)	**Max**	**Analog**	**NA**		

NA → Not Applicable

6.0 Transmitter Test Parameters

6.1. RF Output Power

6.1.1. Test Setup



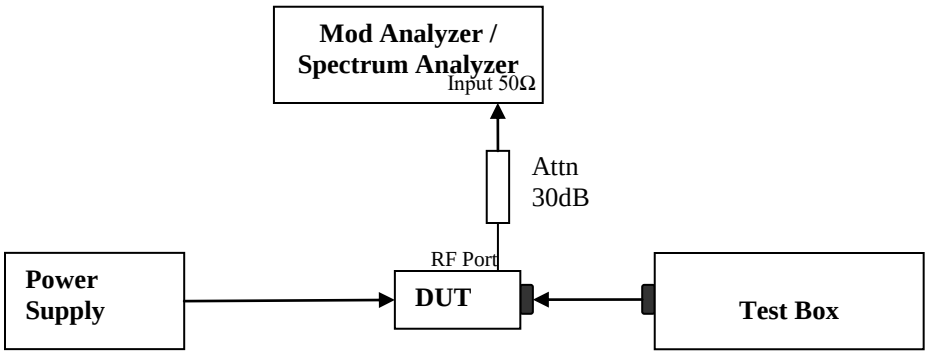
1) The DUT transmitter connected to Power Meter using the 30 dB attenuator and power sensor with above setup.
2) Path loss for the measurement included.
3) All the measurement was done at low, mid, high frequency for each band.
4) Record the power into the test report.

6.1.2. Test Result

Temperature	25˚C				
Voltage (V)	7.5V				
Frequency (MHz)	Low Power (W)	Current (A)	Max Power (W)	Current (A)	Remark
403.01250	1.00	0.75	4.70	1.55	Not for FCC review
406.20000	1.01	0.74	4.75	1.50	
450.02500	0.97	0.74	4.75	1.59	
459.12500	0.98	0.74	4.76	1.64	
467.77500	0.98	0.78	1.97	1.02	Part 80 (2W)
469.98750	0.98	0.78	4.79	1.67	
482.01250	0.97	0.74	4.78	1.65	
511.98750	0.96	0.73	4.80	1.62	
526.98750	0.97	0.78	4.77	1.65	Not for FCC review

6.2. Frequency Stability

6.2.1. Test Setup



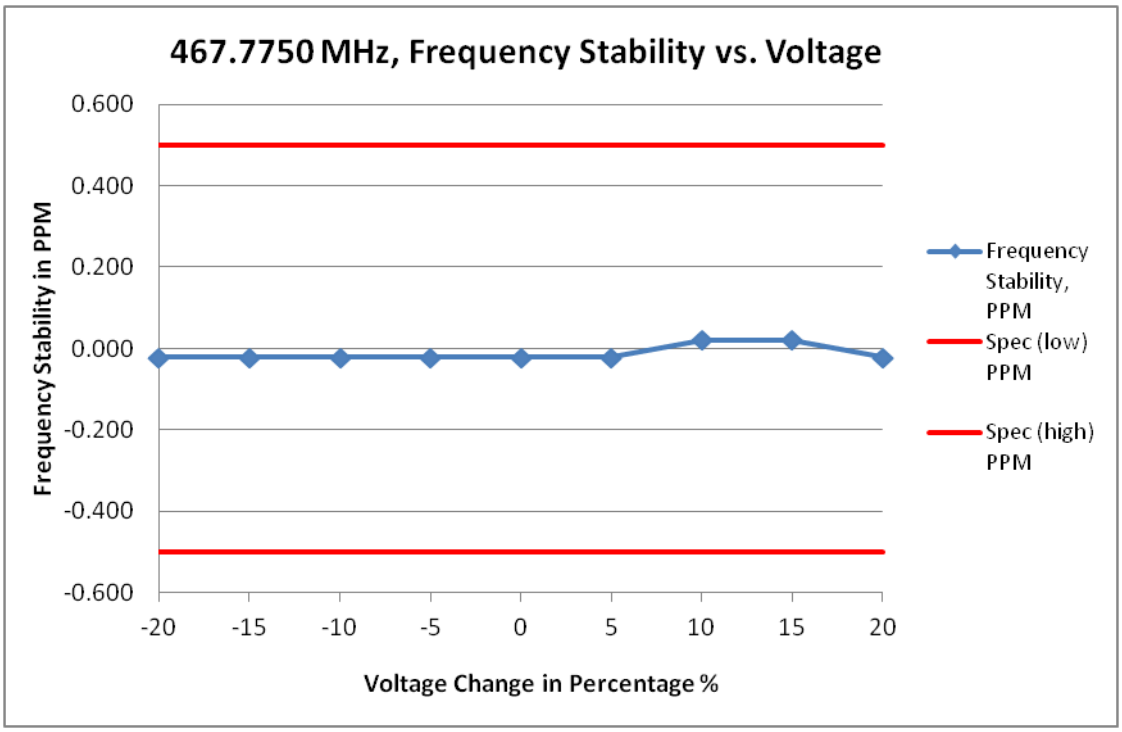
1) The DUT transmitter output port was connected to Modulation / Spectrum Analyzer.
2) Path loss for the measurement included.
3) Transmit the DUT and record the freq in MCF_{MHz}.
4) Test in 2 conditions:
   - Temperature: The frequency of the transmitter was measured from -30°C to 50°C.
   - Supply 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 ± x % as specified by the manufacturer

5) Calculate the ppm frequency error by the following:

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

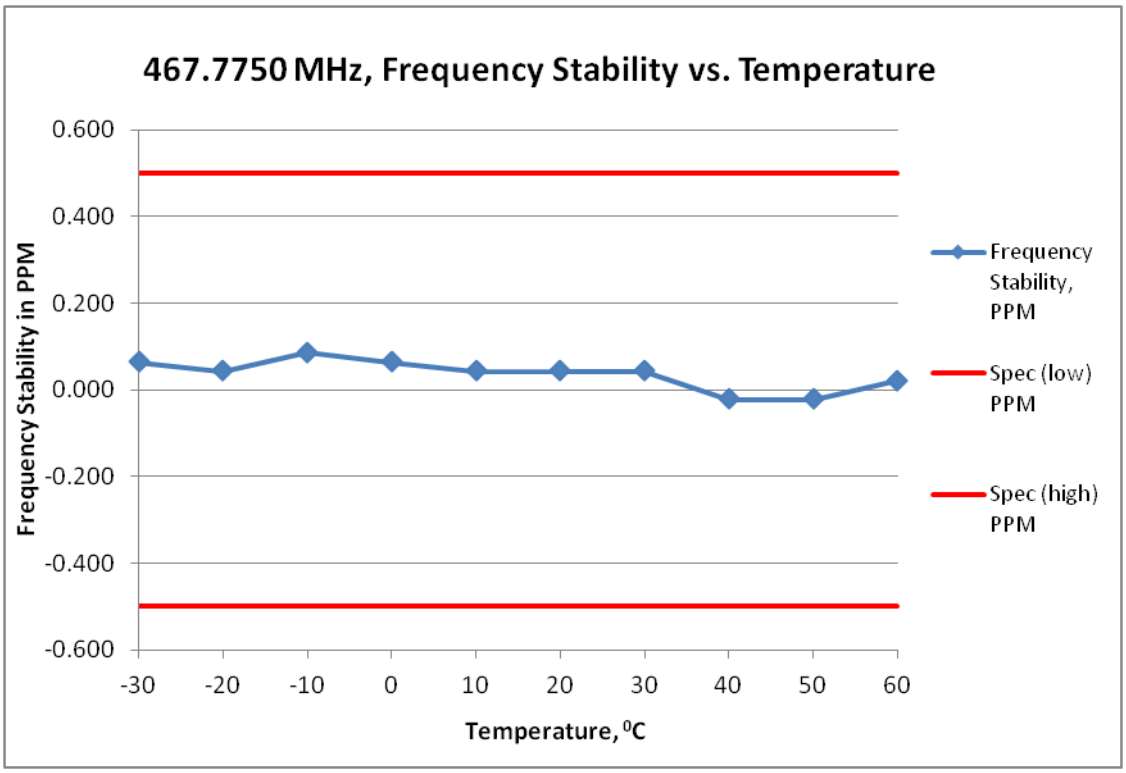
Where: MCF_{MHz} is the Measured Carrier Frequency in MHz
ACF_{MHz} is the Assigned Carrier Frequency in MHz

6.2.2. Test Result



(i) Frequency Stability VS Voltage

Frequency / Channel Spacing	467.7750 MHz / 12.5 kHz				
Temperature, ^{0}C	25				
Voltage %	Voltage, V	Frequency, MHz	Frequency Stability, PPM	Spec (low) PPM	Spec (high) PPM
-20	6.000	467.774990	-0.021	-0.500	0.500
-15	6.375	467.774990	-0.021	-0.500	0.500
-10	6.750	467.774990	-0.021	-0.500	0.500
-5	7.125	467.774990	-0.021	-0.500	0.500
0	7.500	467.774990	-0.021	-0.500	0.500
5	7.875	467.774990	-0.021	-0.500	0.500
10	8.250	467.775010	0.021	-0.500	0.500
15	8.625	467.775010	0.021	-0.500	0.500
20	9.000	467.774990	-0.021	-0.500	0.500



(ii) Frequency Stability VS temperature

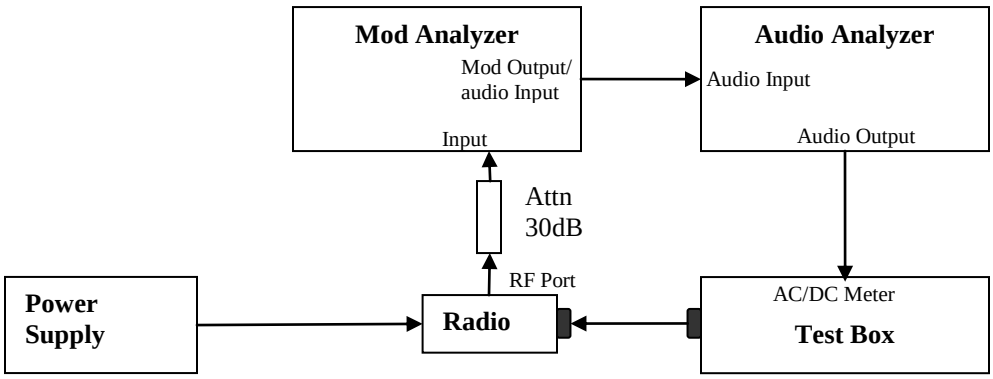
Frequency / Channel Spacing	467.7750 MHz / 12.5 kHz			
Voltage, V	7.5			
Temperature, ^{0}C	Frequency, MHz	Frequency Stability, PPM	Spec (low) PPM	Spec (high) PPM
-30	467.775030	0.064	-0.500	0.500
-20	467.775020	0.043	-0.500	0.500
-10	467.775040	0.086	-0.500	0.500
0	467.775030	0.064	-0.500	0.500
10	467.775020	0.043	-0.500	0.500
20	467.775020	0.043	-0.500	0.500
30	467.775020	0.043	-0.500	0.500
40	467.774990	-0.021	-0.500	0.500
50	467.774990	-0.021	-0.500	0.500
60	467.775010	0.021	-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

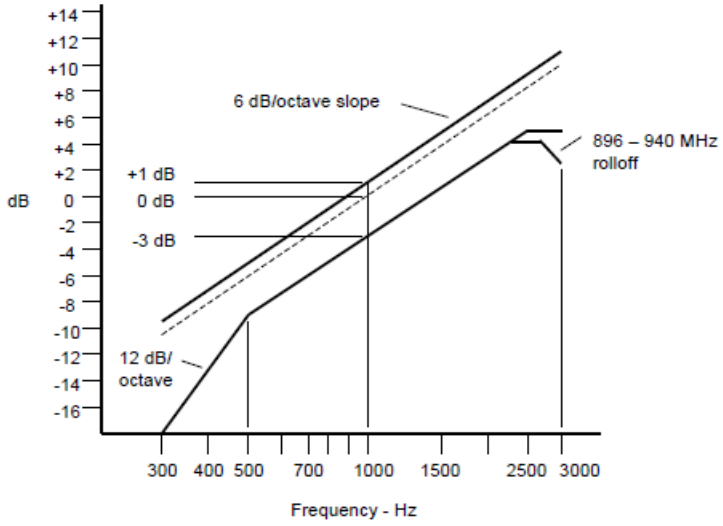


1) The DUT transmitter output port was connected to Modulation Analyzer.
2) Path loss for the measurement included.
3) Set the audio bandwidth filter to 15 kHz and 50 kHz.
4) Transmit the radio and set the audio analyzer to 1 kHz audio frequency and 20% of the Full rated system deviation.
5) On audio 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 Applicable.

6.3.3. Test Limit

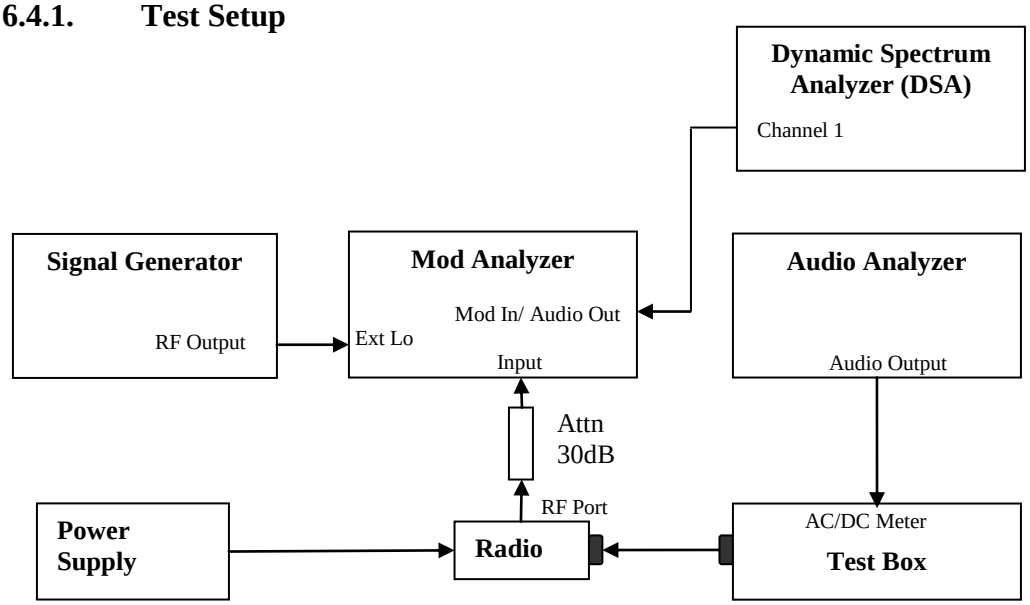


Note:

- *There are additional 6 dB per octave attenuation is allowed from 2.5KHz to 3KHz in equipment 25MHz to 869MHz radio.*
- *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

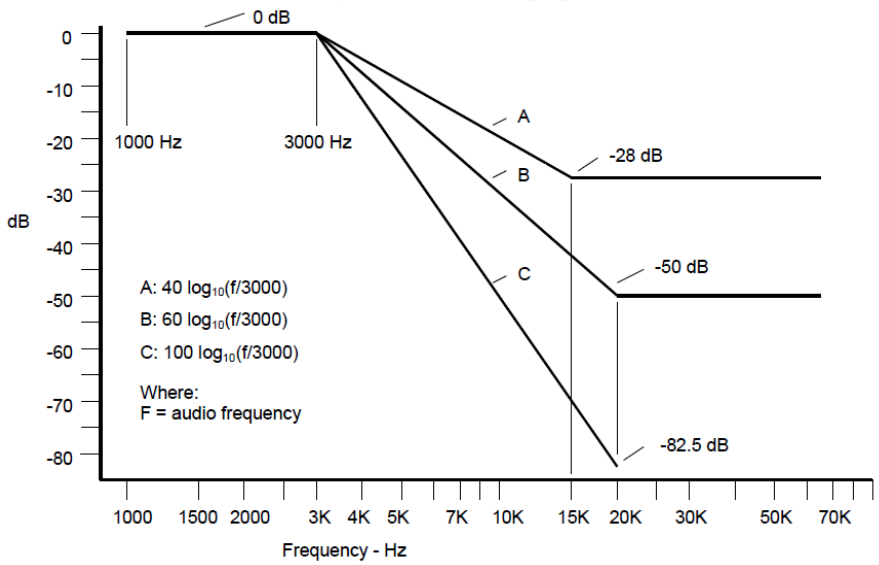


1) The DUT transmitter output port was connected to Modulation Analyzer.
2) Path loss for the measurement included.
3) Press 23.1SPCL on modulation analyzer to enable the external LO from Sigen.
4) Set the Sigen frequency to Fc + 1.5 MHz, RF output level to 0dBm without modulation.
5) Transmit the radio 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 Applicable.

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.

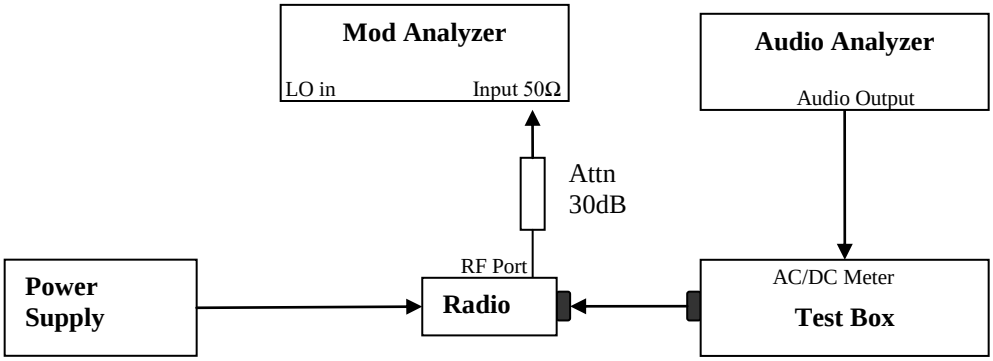
c) For equipment operating on channels between 896 MHz through 901 MHz, between 935 MHz through 940 MHz, and 12.5 or 15 kHz spaced channels in the frequency range 138-174 MHz and 406-512 MHz.

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 Applicable.

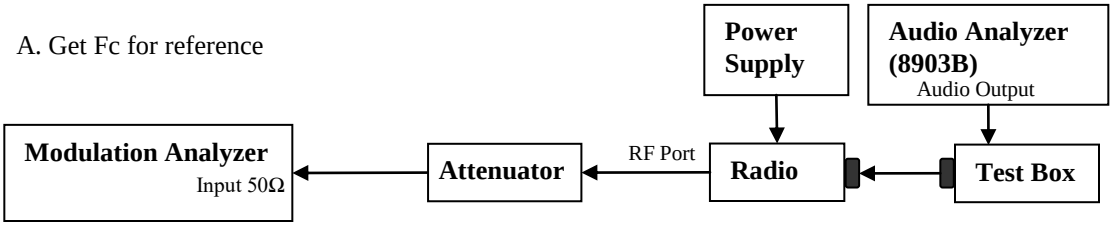
6.5.3. Test Limit

Modulation Limiting shall not exceed 100 percent.

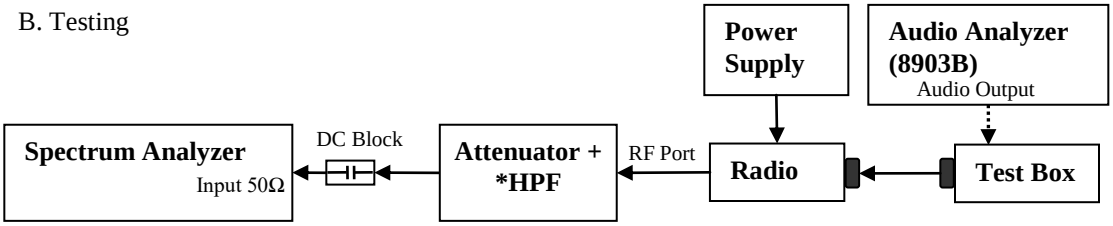
6.6. Occupied Bandwidth

6.6.1. Test Setup (Analog)

A. Get Fc for reference



B. Testing



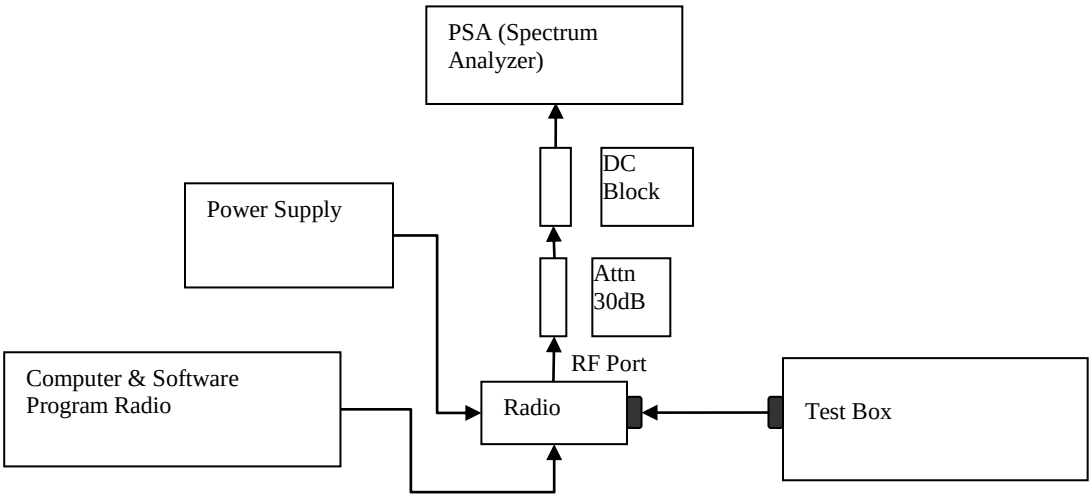
1) The DUT transmitter output port was connected to Modulation Analyzer.
2) Set the audio bandwidth filter to 15 kHz low pass filter and 50 kHz high pass filter.
3) Transmit the radio and set the audio analyzer to 2.5 kHz audio frequency and 50% of the rated deviation. Up the amplitude by 16 dB. Dekey 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.
* 99% Bandwidth measurement is computed by the spectrum analyzerand is consistent with the C63.26 5.4.4 method.

6.6.2. Test Result (Analog)

Not Applicable.

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.

* 99% Bandwidth measurement is computed by the spectrum analyzer and is consistent with the C63.26 5.4.4 method.

*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)

Not Applicable.

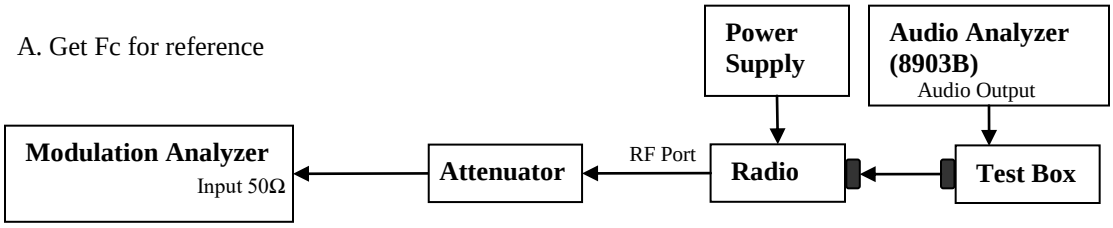
6.6.5. Test Limit

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.

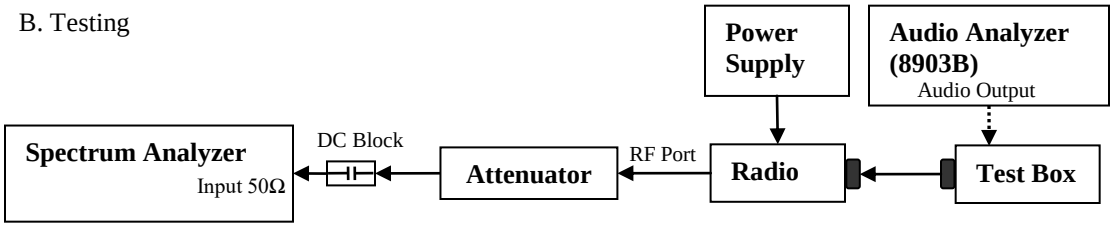
6.7. Band Edge Conducted Spurious Emission (Part 22)

6.7.1. 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.

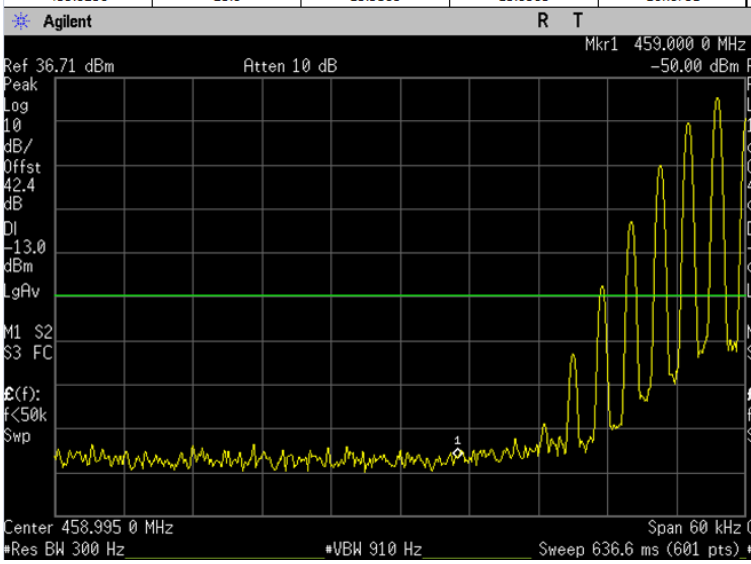
*Note:

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

6.7.2. Test Result (Analog)

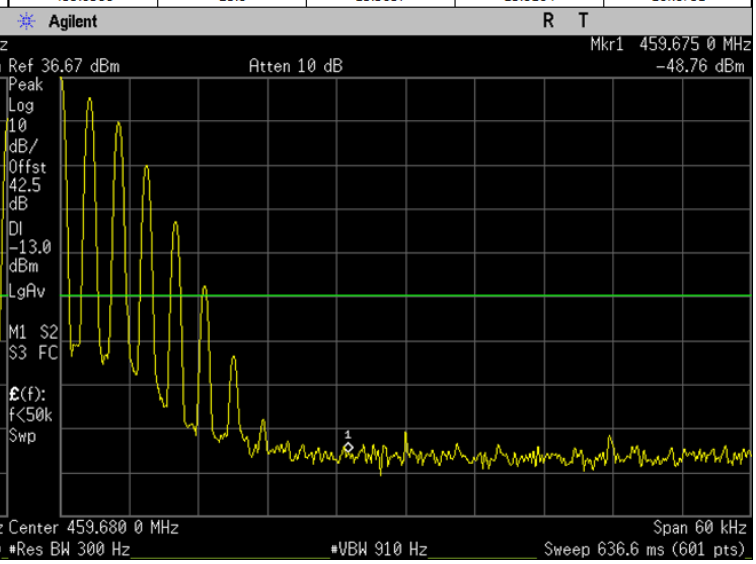
Modulation	Rules Part
Analog Voice	FCC Part 22.359(b)

Channel Frequency	Channel Spacing	-26 dB Point (kHz)	99% OCB	Emission Designator
459.0250	25.0	15.5803	15.0305	16K0F3E



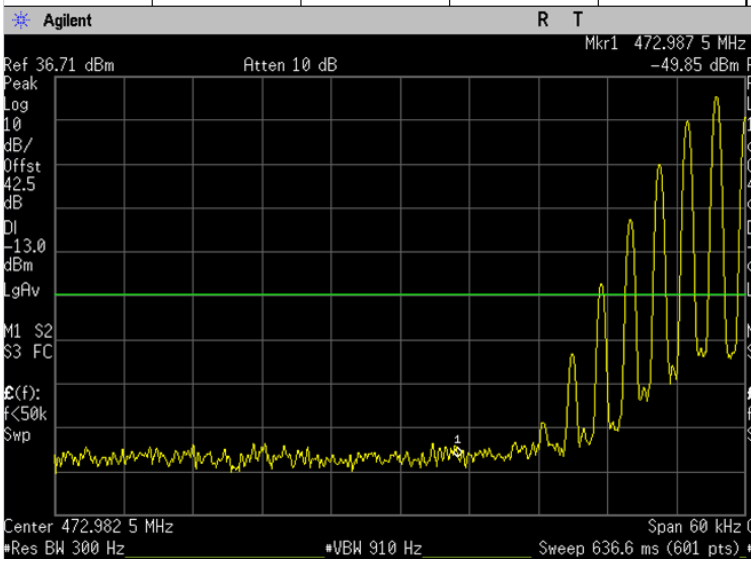
Modulation	Rules Part
Analog Voice	FCC Part 22.359(b)

Channel Frequency	Channel Spacing	-26 dB Point (kHz)	99% OCB	Emission Designator
459.6500	25.0	15.5657	15.0164	16K0F3E



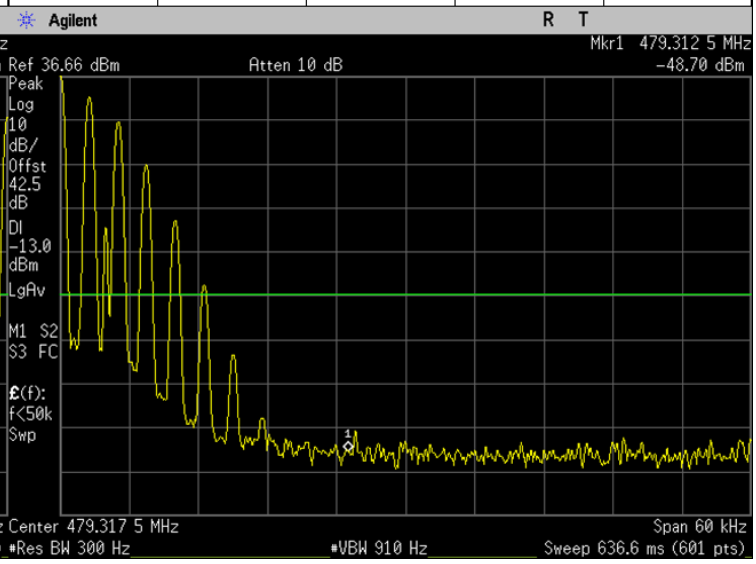
Modulation	Rules Part
Analog Voice	FCC Part 22.359(b)

Channel Frequency	Channel Spacing	-26 dB Point (kHz)	99% OCB	Emission Designator
473.0125	25.0	15.5600	15.0169	16K0F3E

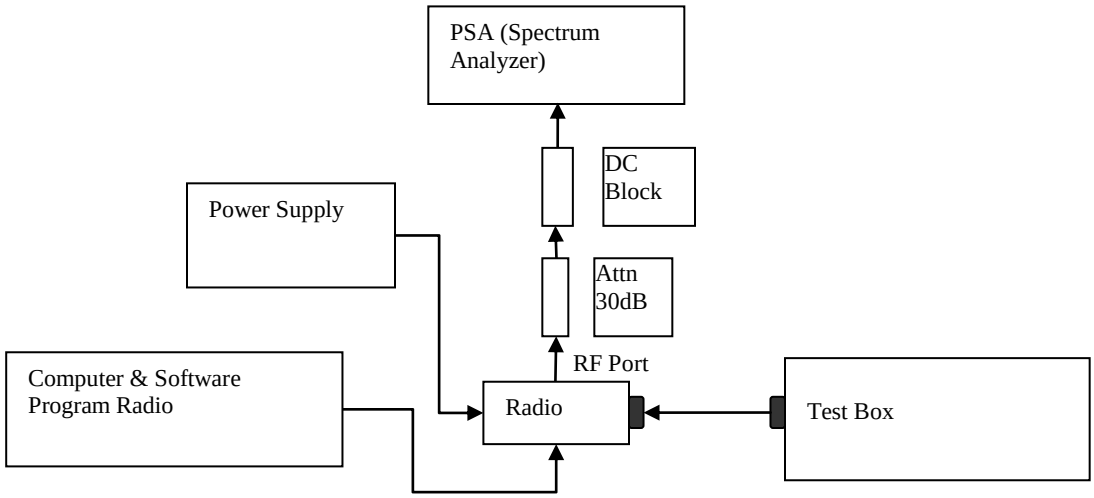


Modulation	Rules Part
Analog Voice	FCC Part 22.359(b)

Channel Frequency	Channel Spacing	-26 dB Point (kHz)	99% OCB	Emission Designator
479.2875	25.0	15.5575	15.0142	16K0F3E



6.7.3. Test Setup (Digital)



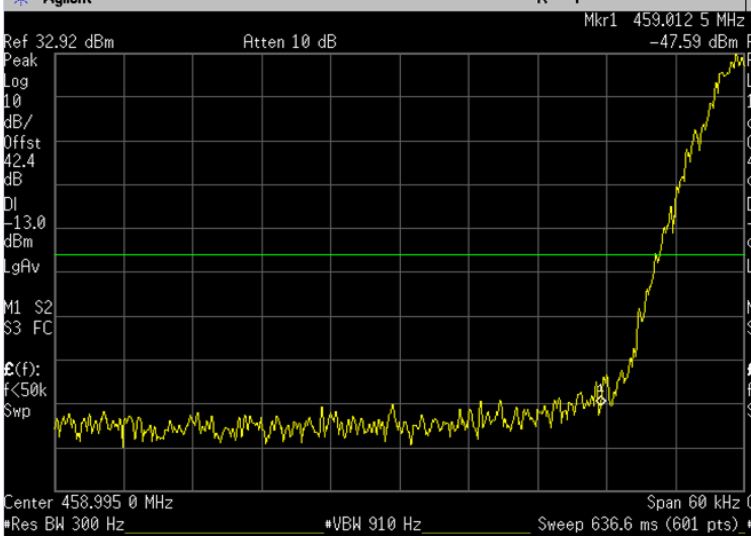
1) Program and set radio to operate in desire test frequency and digital mode with modulation. (*4FSK, C4FM or other digital modulation form).
2) Path loss for the measurement included.
3) Select the Occupied Bandwidth measurement for 99% and 26dB Emissions Bandwidth Measurement.
4) Key in the Fc and 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:

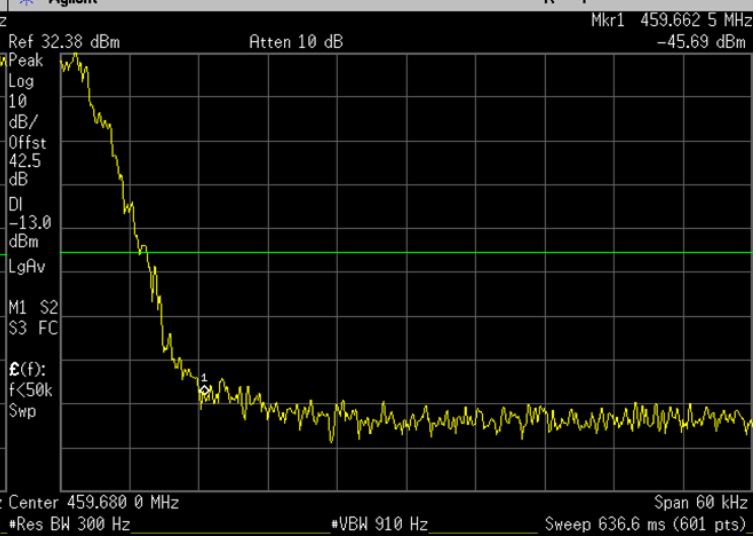
- For Digital Modulation, 12.5 kHz Data F1D & FXD would be the same. Therefore only measurements with F1D modulation shown below.
- For Digital Modulation, 12.5 kHz Data F1E & FXE would be the same. Therefore only measurements with F1E modulation shown below.

6.7.4. Test Result (Digital)

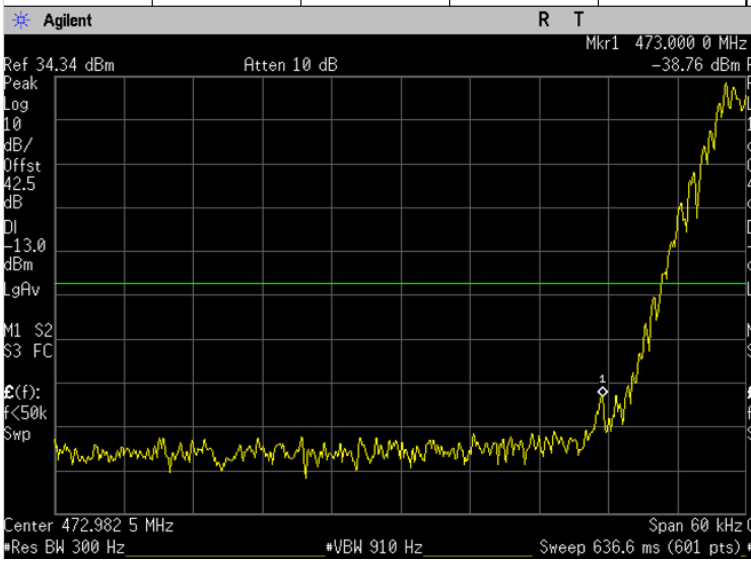
Modulation	Rules Part			
4FSK Data	FCC Part 22.359(b)			
Channel Frequency	**Channel Spacing**	**-26 dB Point (kHz)**	**99% OCB**	**Emission Designator**
459.0250	12.5	9.8872	7.2968	7K60F1D



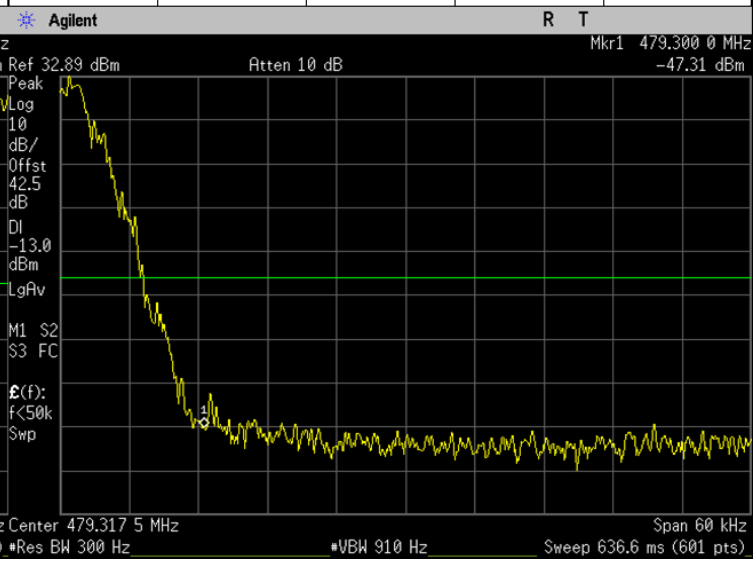
Modulation	Rules Part			
4FSK Data	FCC Part 22.359(b)			
Channel Frequency	**Channel Spacing**	**-26 dB Point (kHz)**	**99% OCB**	**Emission Designator**
459.6500	12.5	9.4832	7.4167	7K60F1D



Modulation	Rules Part			
4FSK Data	FCC Part 22.359(b)			
Channel Frequency	**Channel Spacing**	**-26 dB Point (kHz)**	**99% OCB**	**Emission Designator**
473.0125	12.5	9.5908	7.3331	7K60F1D



Modulation	Rules Part			
4FSK Data	FCC Part 22.359(b)			
Channel Frequency	**Channel Spacing**	**-26 dB Point (kHz)**	**99% OCB**	**Emission Designator**
479.2875	12.5	9.5253	7.2176	7K60F1D

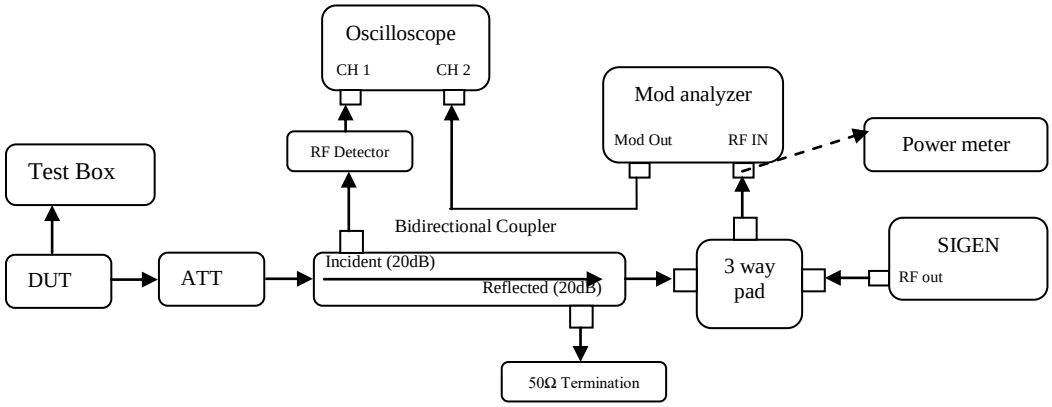


6.7.5. Test Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

6.8. Transient Frequency Behavior

6.8.1. Test Setup



1) Connect the setup as figure above.
2) Path loss for the measurement included.
3) Set on Sigen with the assigned center frequency, internal 1 kHz FM tone.
   FM Deviation: Analog 25kHz Channel Spacing = 25 kHz
   Analog 12.5 kHz Channel Spacing = 12.5 kHz
   C4FM = 12.5 kHz
4) Turn on 50 kHz high pass filter and 15 kHz low pass filter on modulation analyzer.
5) Supply sufficient attenuation ATT to provide the output power of ≤ -11dBm into power meter when DUT is keying up.
6) Note the power level on power meter and dekey the DUT.
7) Adjust the amplitude of the signal generator to the level power meter, maintained the amplitude throughout the rest of the measurement.
8) Connect the output to modulation analyzer.
9) Reduce 30dB attenuation and transmit the radio to get the trigger line.
10) Capture the screen shot for key-up (rising edge) and de-key (falling edge) mode.

6.8.2. Test Result

Not Applicable.

6.8.3. Test Limit

Transmitters designed to operate in the 150-174 MHz and 421-512 MHz frequency bands must maintain transient frequencies within the maximum frequency difference limits during the time intervals indicated:

Time intervals[1] [2]	**Maximum frequency difference[3]**	**All equipment**	
		150 to 174 MHz	**421 to 512 MHz**
Transient Frequency Behavior for Equipment Designed to Operate on 25 kHz Channels			
t_1[4]	±25.0 kHz	5.0 ms	10.0 ms
t_2	±12.5 kHz	20.0 ms	25.0 ms
t_3[4]	±25.0 kHz	5.0 ms	10.0 ms
Transient Frequency Behavior for Equipment Designed to Operate on 12.5 kHz Channels			
t_1[4]	±12.5 kHz	5.0 ms	10.0 ms
t_2	±6.25 kHz	20.0 ms	25.0 ms
t_3[4]	±12.5 kHz	5.0 ms	10.0 ms
Transient Frequency Behavior for Equipment Designed to Operate on 6.25 kHz Channels			
t_1[4]	±6.25 kHz	5.0 ms	10.0 ms
t_2	±3.125 kHz	20.0 ms	25.0 ms
t_3[4]	±6.25 kHz	5.0 ms	10.0 ms

[1] t_{on} is the instant when a 1 kHz test signal is completely suppressed, including any capture time due to phasing.
t_1 is the time period immediately following t_{on}.
t_2 is the time period immediately following t_1.
t_3 is the time period from the instant when the transmitter is turned off until t_{off}.
t_{off} is the instant when the 1 kHz test signal starts to rise.

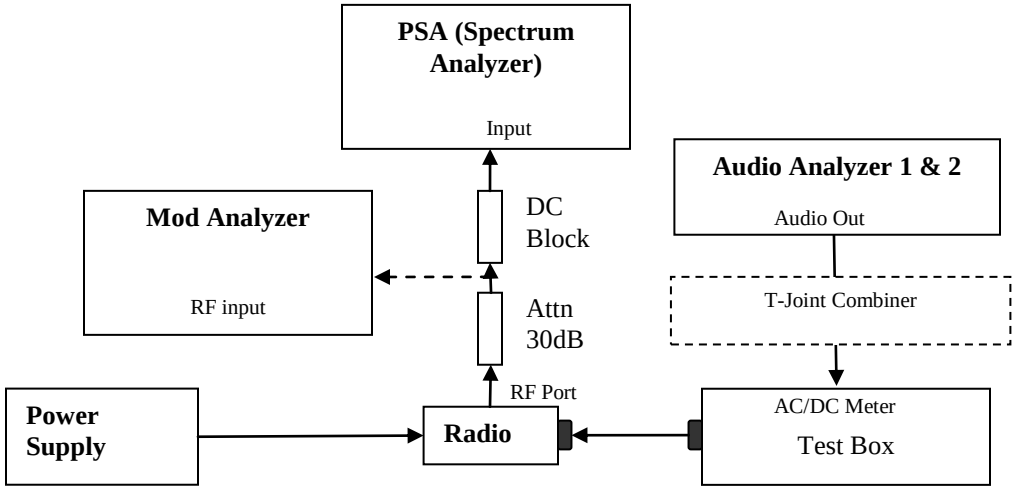
[2] During the time from the end of t_2 to the beginning of t_3, the frequency difference must not exceed the limits specified in §90.213.

[3] Difference between the actual transmitter frequency and the assigned transmitter frequency.

[4] If the transmitter carrier output power rating is 6 watts or less, the frequency difference during this time period may exceed the maximum frequency difference for this time period.

6.9. Adjacent Channel Power

6.9.1. Test Setup (Analog)

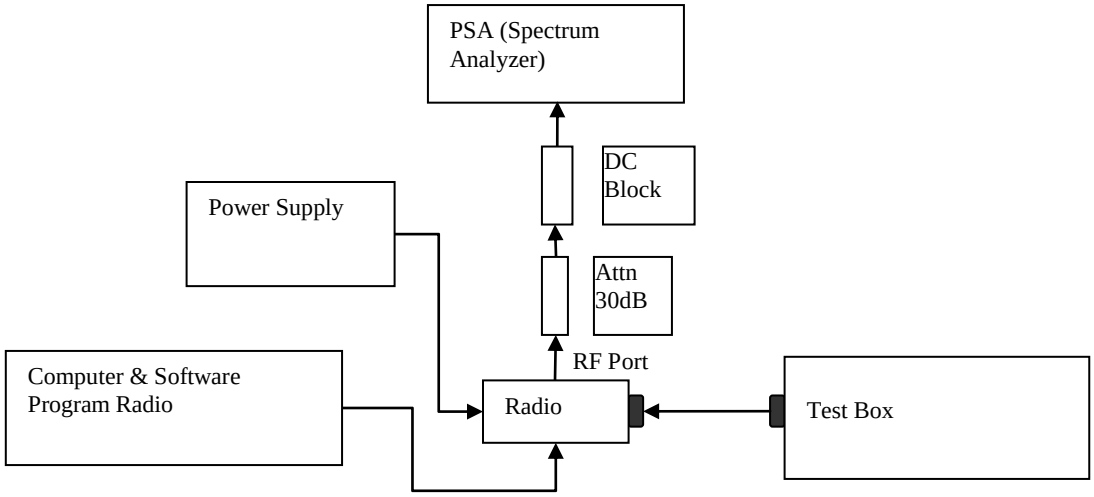


1) The DUT transmitter output port was connected to modulation analyzer.
2) Transmit the radio and turn on 1st audio analyzer with audio frequency 650Hz, 50% rated deviation, and record the amplitude value as AmpT1.
3) Turn off Audio analyzer 1 and turn on audio analyzer 2, set the audio frequency to 2.2 kHz and 50% deviation. Record the amplitude as AmpT2.
4) Turn both audio analyzers ON and up 10dB amplitude level.
5) Connect the output to PSA and set to assigned center frequency.
6) Set Span, Resolution Bandwidth and Video Bandwidth per rules part.
7) Transmit the radio and record the Adjacent Channel Power value in dBc.

6.9.2. Test Result

Not Applicable.

6.9.3. 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) Prepare setup as per picture.
3) Turn on the ACP Measurement – Press Measure, ACP.
4) Set Span, Resolution Bandwidth and Video Bandwidth as per rules part.
5) Transmit the radio and record the Adjacent Channel Power value in dBc.

6.9.4. Test Result

Not Applicable.

6.9.5. Test Limit

12.5 kHz Mobile Transmitter ACP Requirements

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP relative (dBc)
9.375	6.25	−40
15.625	6.25	−60
21.875	6.25	−60
37.50	25.00	−60
62.50	25.00	−65
87.50	25.00	−65
150.00	100	−65
250.00	100	−65
350.00	100	−65
>400 to 12 MHz	30 (s)	−75
12 MHz to paired receive band	30 (s)	−75
In the paired receive band	30 (s)	−100

25 kHz Mobile Transmitter ACP Requirements

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP relative (dBc)
15.625	6.25	−40
21.875	6.25	−60
37.50	25	−60
62.50	25	−65
87.50	25	−65
150.00	100	−65
250.00	100	−65
350.00	100	−65
>400 kHz to 12 MHz	30 (s)	−75
12 MHz to paired receive band	30 (s)	−75
In the paired receive band	30 (s)	−100

12.5 kHz Base Transmitter ACP Requirements

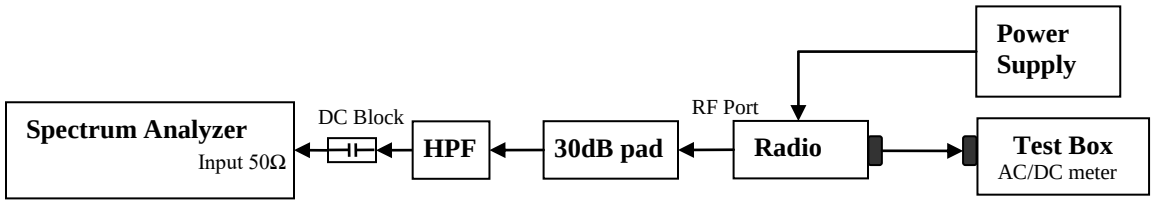
Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
9.375	6.25	−40
15.625	6.25	−60
21.875	6.25	−60
37.5	25	−60
62.5	25	−65
87.5	25	−65
150	100	−65
250	100	−65
350.00	100	−65
>400 kHz to 12 MHz	30 (s)	−80
12 MHz to paired receive band	30 (s)	−80
In the paired receive band	30 (s)	[1]-85

25 kHz Base Transmitter ACP Requirements

Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
15.625	6.25	−40
21.875	6.25	−60
37.5	25	−60
62.5	25	−65
87.5	25	−65
150	100	−65
250	100	−65
350	100.00	−65
>400 kHz to 12 MHz	30 (s)	−80
12 MHz to paired receive band	30 (s)	−80
In the paired receive band	30 (s)	[1]-85

6.10. Conducted Spurious Emission

6.10.1. Test Setup



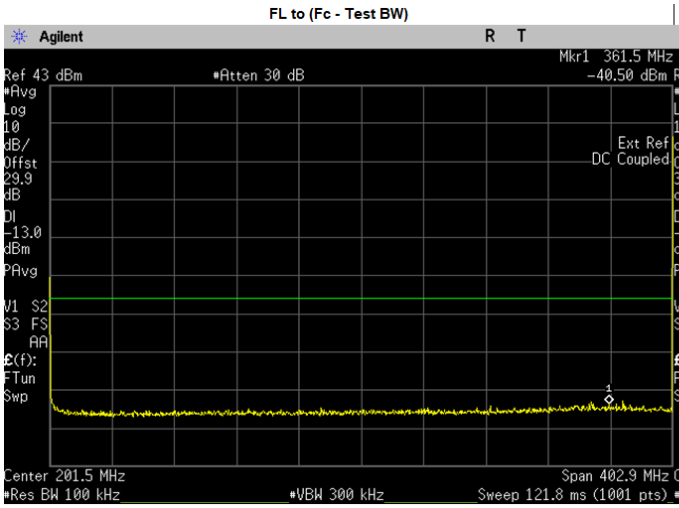
1) The DUT transmitter output port was connected to Spectrum Analyzer with above setup.
2) Program and set radio to operate in desire test frequency and mode. (Analog / digital modulation form).
3) Path loss for the measurement included.
4) Set the PSA Resolution Bandwidth as per rules part.
5) Set the Ref offset from the pathloss offset calibration file.
6) Adjust the center frequency of the spectrum analyzer for incremental coverage of the range from:
    a. 9 KHz to Fc – Test Bandwidth
    b. Fc + Test Bandwidth to 2Fc – 5MHz.
7) Key up the DUT, Peak Search the highest Spur and record the levels of spurious emissions
8) Dekey the DUT.
9) Turn On High Pass Filter path and Key up the DUT.
10) Adjust the PSA Freq for incremental coverage of range from 2Fc to 10Fc
11) Key up the DUT and record the highest spur levels of spurious emissions.

6.10.2. Test Result (Analog)

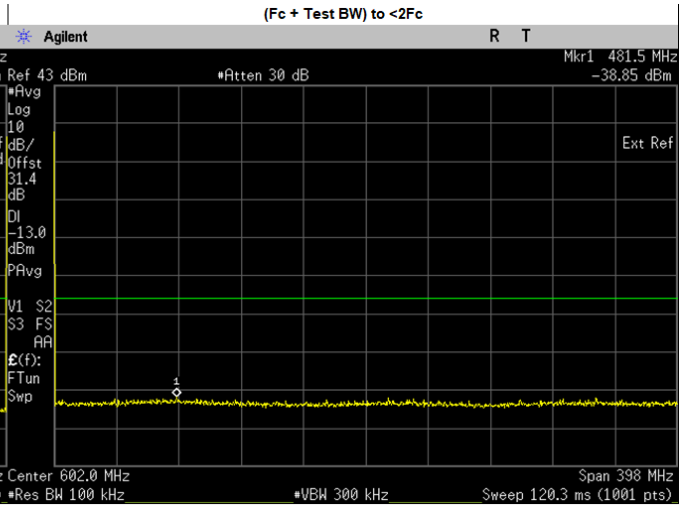
Analog: 403.0125. MHz, 25.kHz Channel Spacing, Max. Power

Not for FCC review

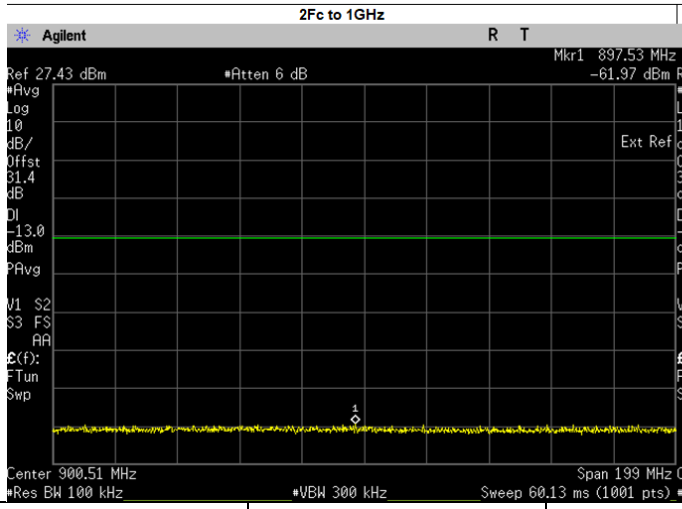
FL to (Fc - Test BW)



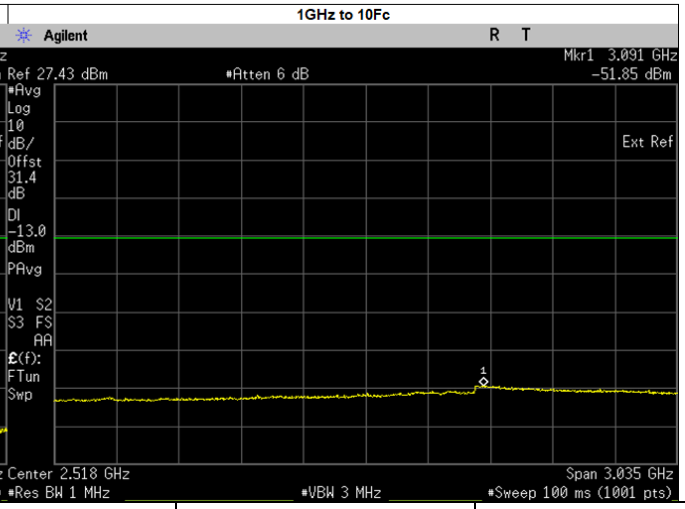
(Fc + Test BW) to <2Fc



2Fc to 1GHz



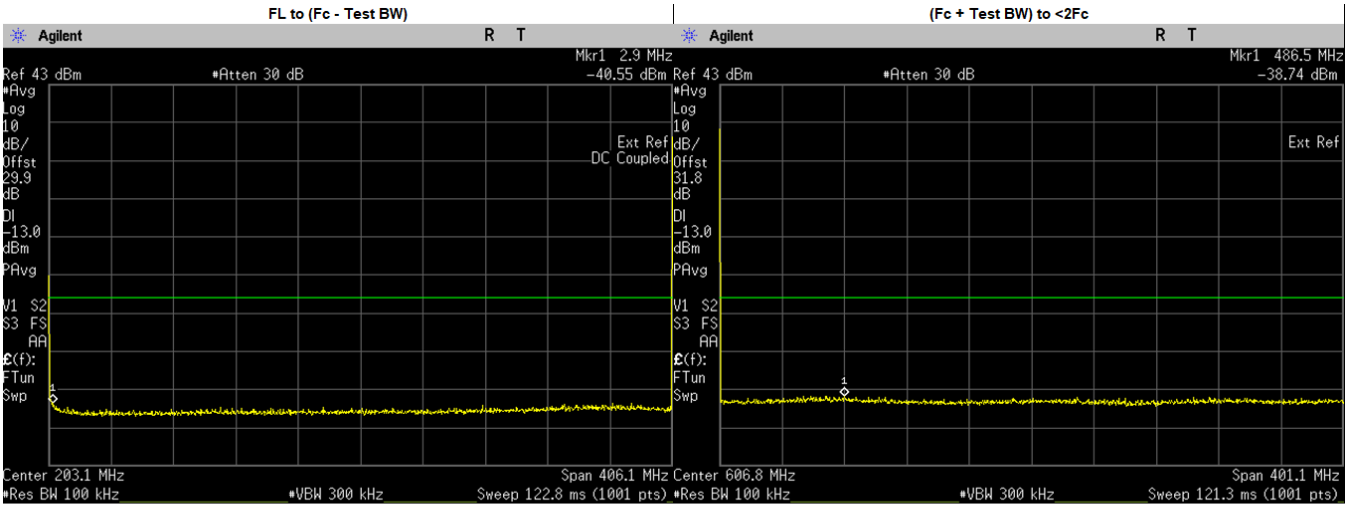
1GHz to 10Fc

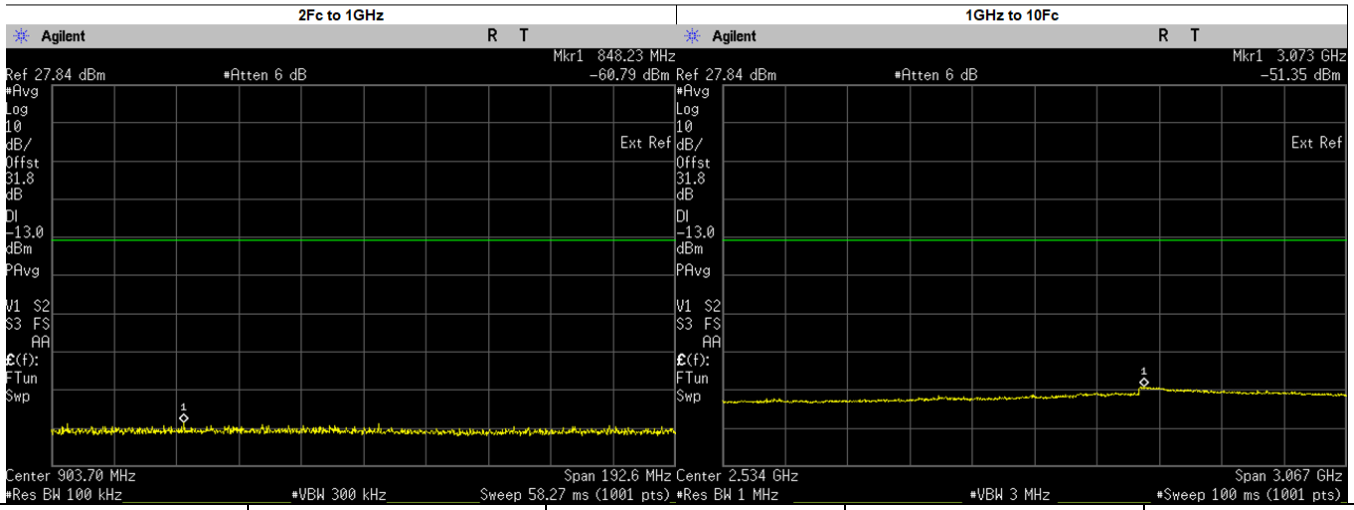


Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	361.5000	-40.4990	-13.00	PASS
(Fc + Test BW) to <2Fc	481.4656	-38.8500	-13.00	PASS
2Fc to 1GHz	897.5279	-61.9700	-13.00	PASS
	806.0250	-62.4106	-13.00	PASS
1GHz to 10Fc	3091.2010	-51.8500	-13.00	PASS
	1209.0370	-55.4687	-13.00	PASS
	1612.0500	-55.5629	-13.00	PASS
	2015.0620	-55.0640	-13.00	PASS
	2418.0750	-54.9906	-13.00	PASS
	2821.0880	-53.7164	-13.00	PASS
	3224.1000	-52.6080	-13.00	PASS
	3627.1130	-53.2374	-13.00	PASS
	4030.1250	-53.8254	-13.00	PASS

<u>Analog:</u> 406.2. MHz, 25.kHz Channel Spacing, Max. Power

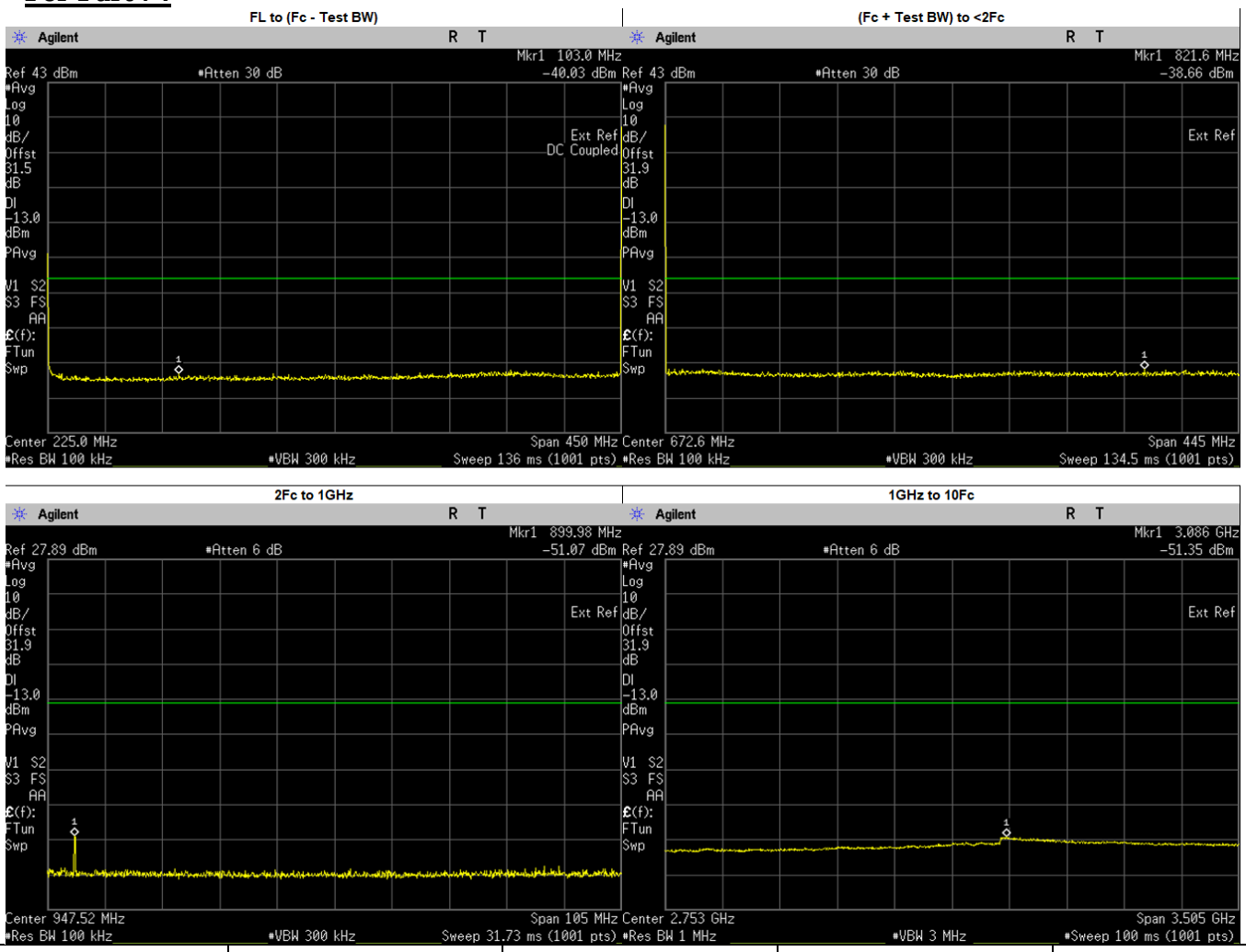
Not for FCC review





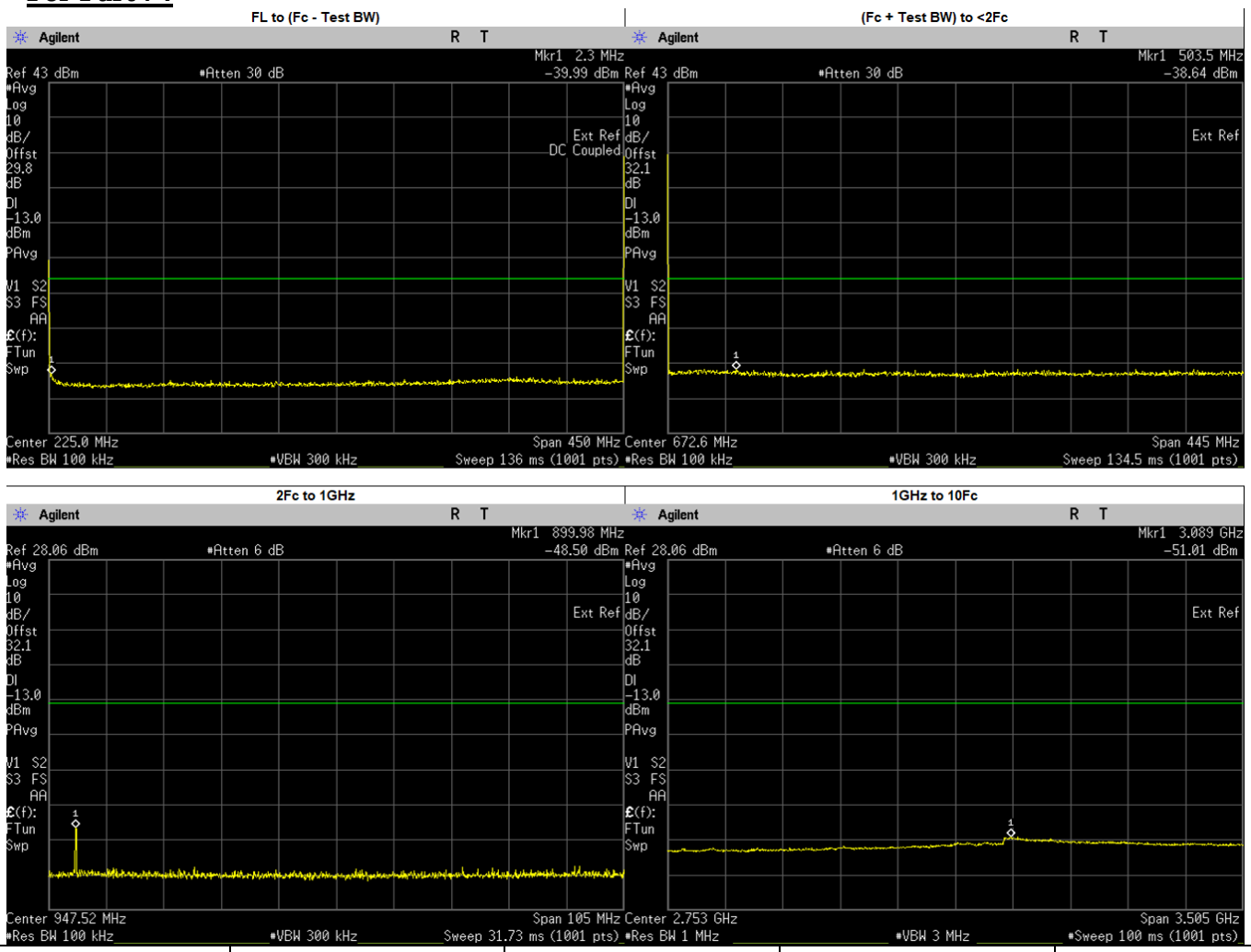
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	2.9000	-40.5540	-13.00	PASS
(Fc + Test BW) to <2Fc	486.4845	-38.7400	-13.00	PASS
2Fc to 1GHz	848.2312	-60.7900	-13.00	PASS
	812.4000	-61.0082	-13.00	PASS
1GHz to 10Fc	3073.2920	-51.3500	-13.00	PASS
	1218.6000	-54.6829	-13.00	PASS
	1624.8000	-55.1314	-13.00	PASS
	2031.0000	-54.5403	-13.00	PASS
	2437.2000	-54.4829	-13.00	PASS
	2843.4000	-53.2238	-13.00	PASS
	3249.6000	-52.3695	-13.00	PASS
	3655.8000	-52.9844	-13.00	PASS
	4062.0000	-53.4795	-13.00	PASS

Analog: 450.025. MHz, 25.kHz Channel Spacing, Max. Power For Part 74



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	103.0000	-40.0300	-13.00	PASS
(Fc + Test BW) to <2Fc	821.6302	-38.6600	-13.00	PASS
2Fc to 1GHz	899.9827	-51.0700	-13.00	PASS
	900.0500	-51.2160	-13.00	PASS
1GHz to 10Fc	3085.6240	-51.3500	-13.00	PASS
	1350.0750	-54.6417	-13.00	PASS
	1800.1000	-54.7890	-13.00	PASS
	2250.1250	-54.4141	-13.00	PASS
	2700.1500	-53.7185	-13.00	PASS
	3150.1750	-51.8036	-13.00	PASS
	3600.2000	-52.7606	-13.00	PASS
	4050.2250	-53.3337	-13.00	PASS
	4500.2500	-53.6091	-13.00	PASS

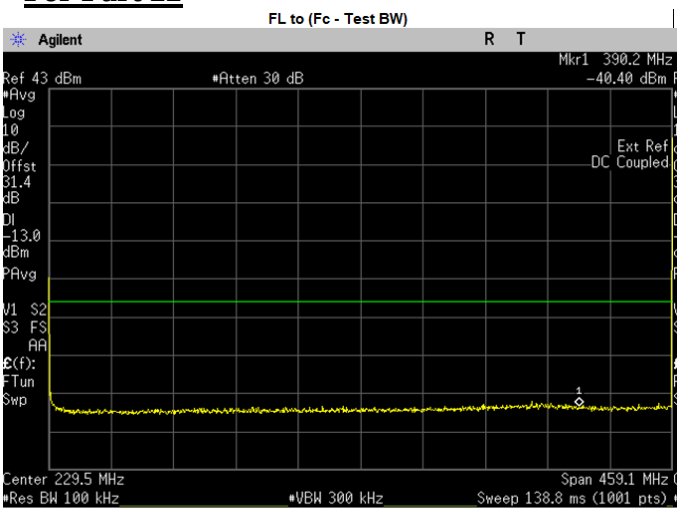
<u>Analog:</u> 450.025. MHz, 25.kHz Channel Spacing, Low. Power
For Part 74



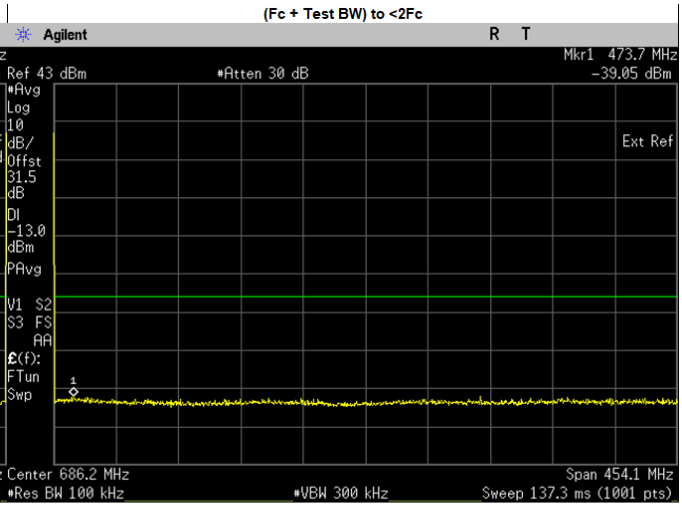
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	2.3000	-39.9920	-13.00	PASS
(Fc + Test BW) to <2Fc	503.4780	-38.6400	-13.00	PASS
2Fc to 1GHz	899.9827	-48.5000	-13.00	PASS
	900.0500	-48.6762	-13.00	PASS
1GHz to 10Fc	3089.1290	-51.0100	-13.00	PASS
	1350.0750	-54.8735	-13.00	PASS
	1800.1000	-54.5747	-13.00	PASS
	2250.1250	-54.1817	-13.00	PASS
	2700.1500	-53.6850	-13.00	PASS
	3150.1750	-51.6639	-13.00	PASS
	3600.2000	-52.5804	-13.00	PASS
	4050.2250	-53.2054	-13.00	PASS
	4500.2500	-53.3393	-13.00	PASS

Analog: 459.125. MHz, 25.kHz Channel Spacing, Max. Power For Part 22

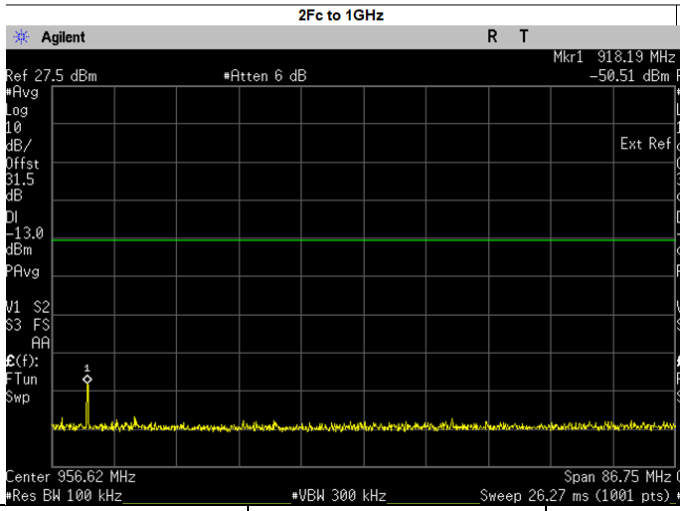
FL to (Fc - Test BW)



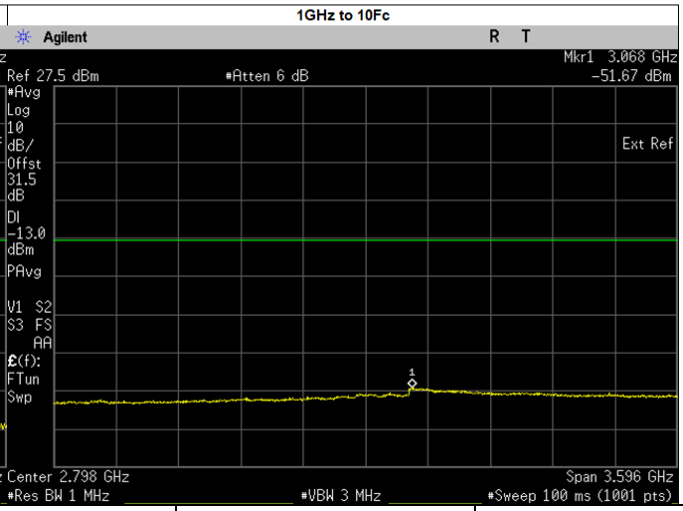
(Fc + Test BW) to <2Fc



2Fc to 1GHz

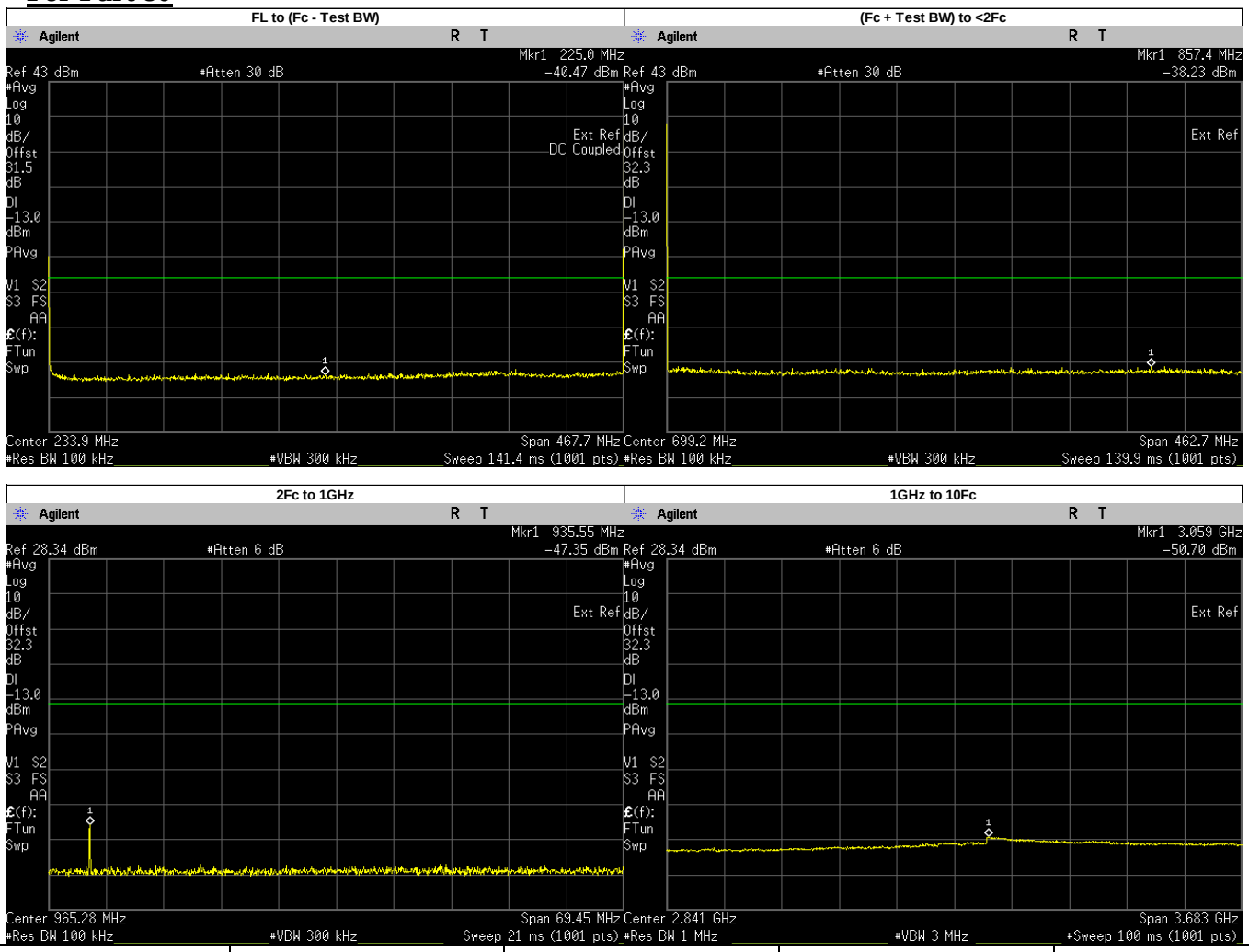


1GHz to 10Fc



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	390.2000	-40.3950	-13.00	PASS
(Fc + Test BW) to <2Fc	473.7120	-39.0500	-13.00	PASS
2Fc to 1GHz	918.1947	-50.5100	-13.00	PASS
	918.2500	-50.7621	-13.00	PASS
1GHz to 10Fc	3067.8440	-51.6700	-13.00	PASS
	1377.3750	-55.3191	-13.00	PASS
	1836.5000	-55.2837	-13.00	PASS
	2295.6250	-54.9547	-13.00	PASS
	2754.7500	-53.5036	-13.00	PASS
	3213.8750	-52.5875	-13.00	PASS
	3673.0000	-53.1716	-13.00	PASS
	4132.1250	-53.6027	-13.00	PASS
	4591.2500	-53.8199	-13.00	PASS

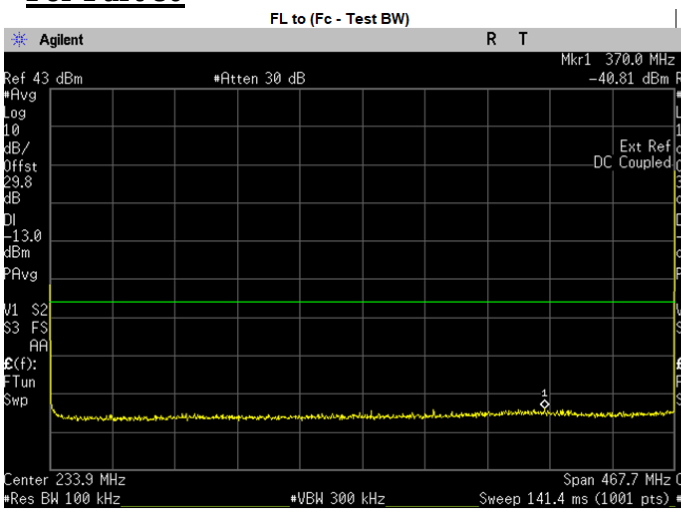
Analog: 467.775. MHz, 25.kHz Channel Spacing, Max. Power For Part 80



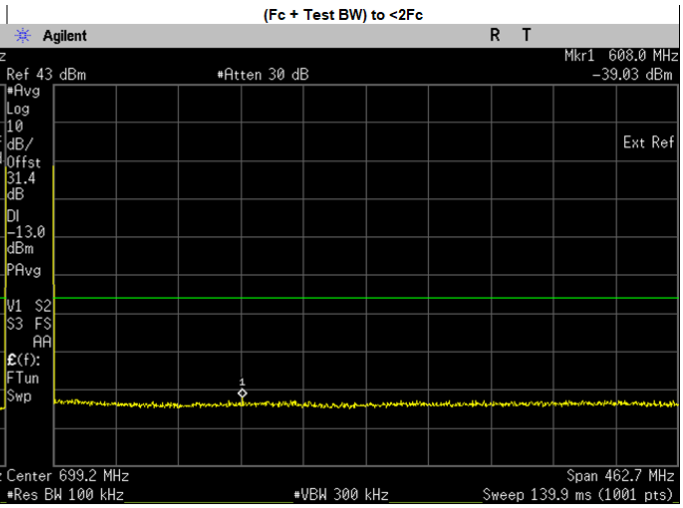
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	225.0000	-40.4690	-13.00	PASS
(Fc + Test BW) to <2Fc	857.4405	-38.2300	-13.00	PASS
2Fc to 1GHz	935.5500	-47.3500	-13.00	PASS
1GHz to 10Fc	3058.6570	-50.7000	-13.00	PASS
	1403.3250	-54.3431	-13.00	PASS
	1871.1000	-54.3528	-13.00	PASS
	2338.8750	-53.9393	-13.00	PASS
	2806.6500	-52.9069	-13.00	PASS
	3274.4250	-51.6372	-13.00	PASS
	3742.2000	-52.3127	-13.00	PASS
	4209.9750	-52.5424	-13.00	PASS
	4677.7500	-53.1301	-13.00	PASS

Analog: 467.775. MHz, 25.kHz Channel Spacing, Low. Power For Part 80

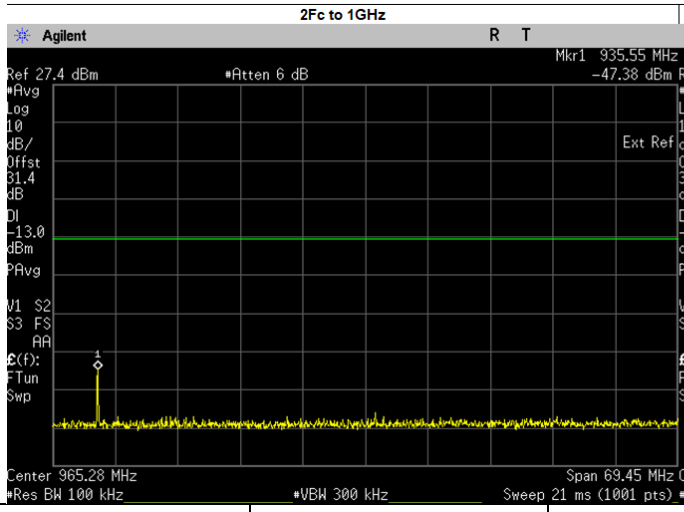
FL to (Fc - Test BW)



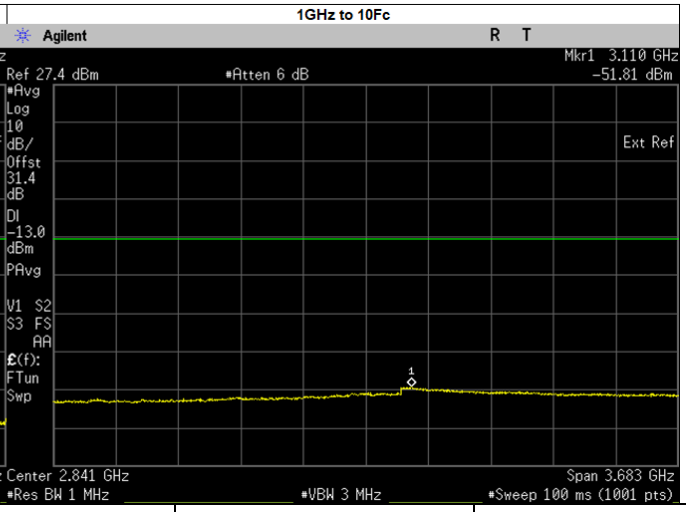
(Fc + Test BW) to <2Fc



2Fc to 1GHz

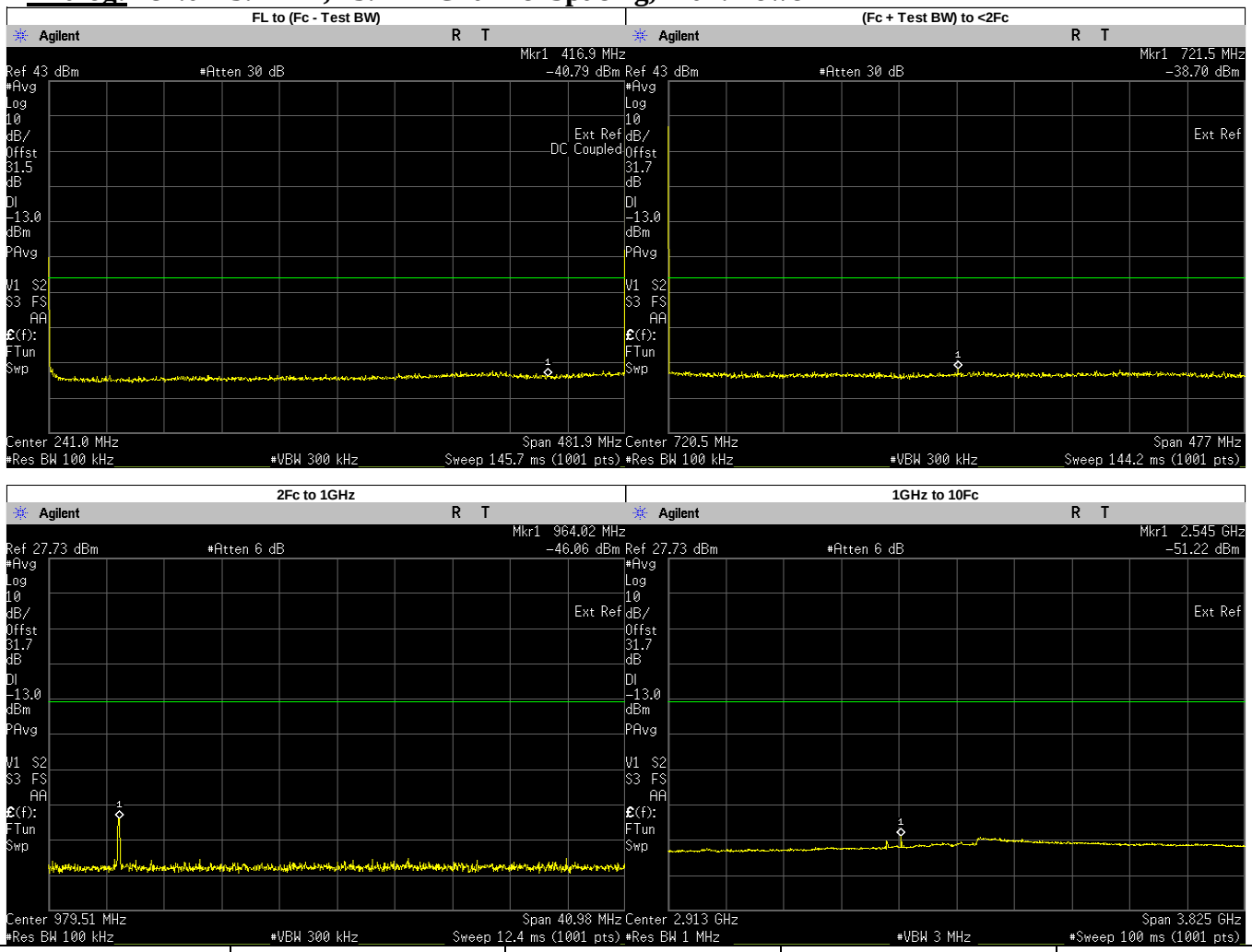


1GHz to 10Fc



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	370.0000	-40.8060	-13.00	PASS
(Fc + Test BW) to <2Fc	608.0354	-39.0300	-13.00	PASS
2Fc to 1GHz	935.5500	-47.3800	-13.00	PASS
1GHz to 10Fc	3110.2160	-51.8100	-13.00	PASS
	1403.3250	-55.5743	-13.00	PASS
	1871.1000	-55.3473	-13.00	PASS
	2338.8750	-54.8744	-13.00	PASS
	2806.6500	-53.5812	-13.00	PASS
	3274.4250	-52.7469	-13.00	PASS
	3742.2000	-53.2368	-13.00	PASS
	4209.9750	-53.6424	-13.00	PASS
	4677.7500	-54.0587	-13.00	PASS

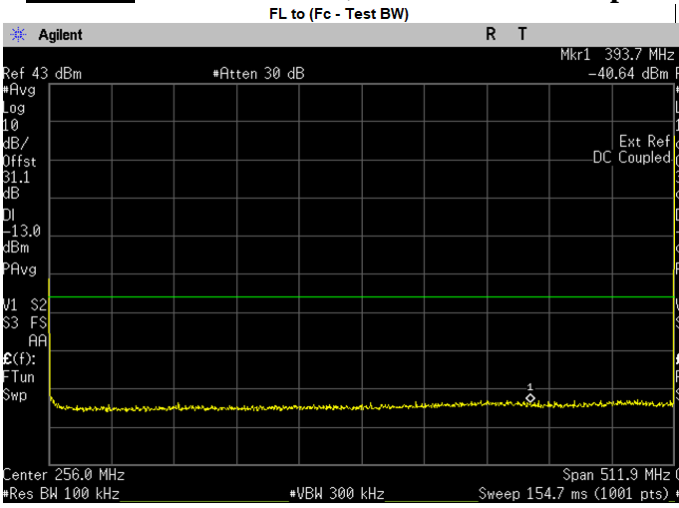
Analog: 482.0125. MHz, 25.kHz Channel Spacing, Max. Power



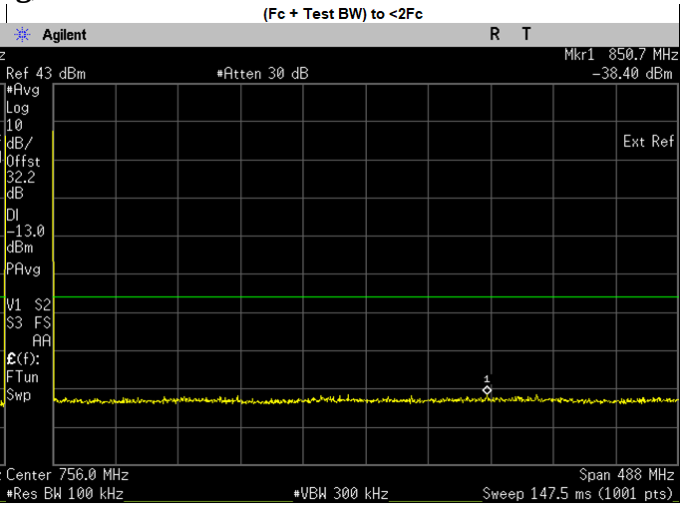
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	416.9000	-40.7900	-13.00	PASS
(Fc + Test BW) to <2Fc	721.5011	-38.7000	-13.00	PASS
2Fc to 1GHz	964.0250	-46.1233	-13.00	PASS
1GHz to 10Fc	2545.3510	-51.2200	-13.00	PASS
	1446.0370	-55.1176	-13.00	PASS
	1928.0500	-55.0932	-13.00	PASS
	2410.0620	-54.6856	-13.00	PASS
	2892.0750	-53.7799	-13.00	PASS
	3374.0880	-52.6123	-13.00	PASS
	3856.1000	-53.1011	-13.00	PASS
	4338.1130	-53.6455	-13.00	PASS
	4820.1250	-53.8885	-13.00	PASS

Analog: 511.9875. MHz, 25.kHz Channel Spacing, Max. Power

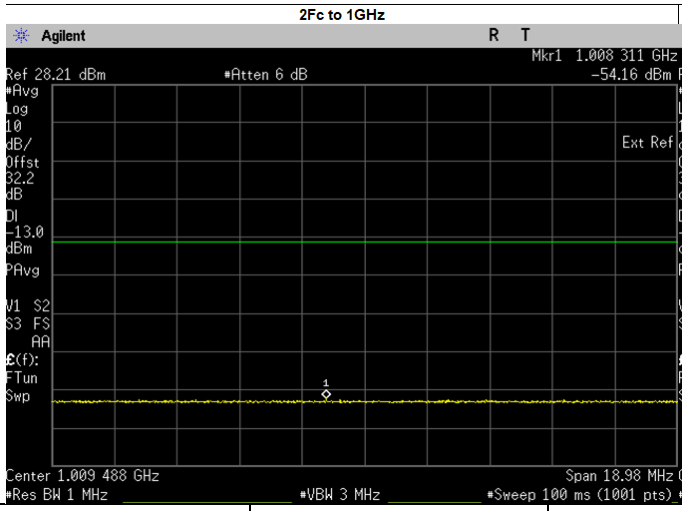
FL to (Fc - Test BW)



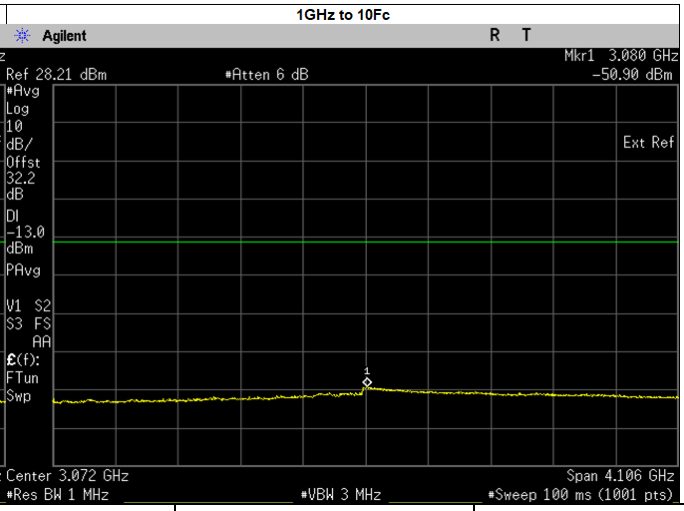
(Fc + Test BW) to <2Fc



2Fc to 1GHz

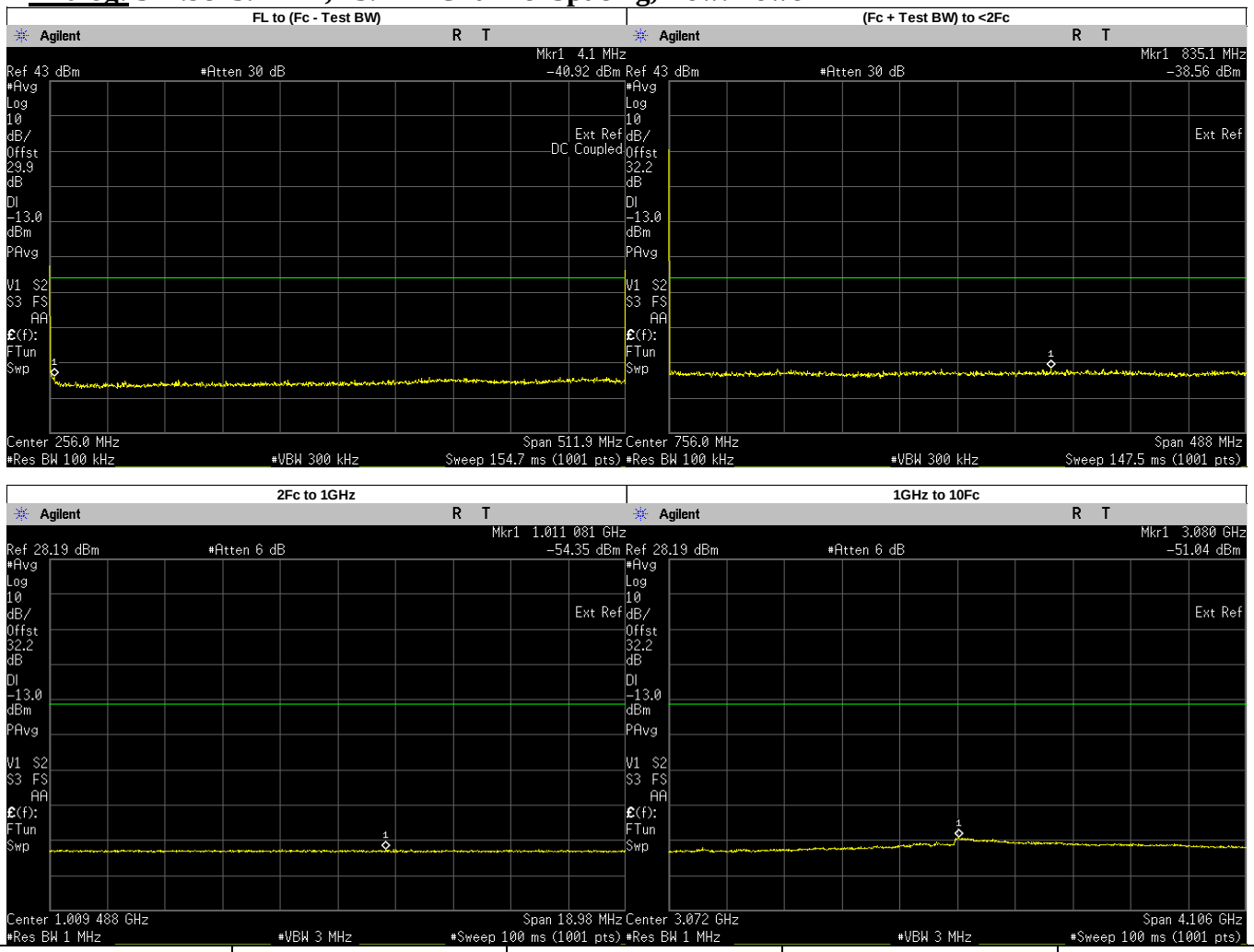


1GHz to 10Fc



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	393.7000	-40.6410	-13.00	PASS
(Fc + Test BW) to <2Fc	850.6856	-38.4000	-13.00	PASS
2Fc to 1GHz	1008.3110	-54.1600	-13.00	PASS
1GHz to 10Fc	3080.1370	-50.9000	-13.00	PASS
	1023.9750	-54.2808	-13.00	PASS
	1535.9630	-54.2902	-13.00	PASS
	2047.9500	-53.9889	-13.00	PASS
	2559.9370	-53.7624	-13.00	PASS
	3071.9250	-51.3540	-13.00	PASS
	3583.9120	-52.5889	-13.00	PASS
	4095.9000	-52.9729	-13.00	PASS
	4607.8870	-53.0710	-13.00	PASS
	5119.8750	-53.6629	-13.00	PASS

Analog: 511.9875. MHz, 25.kHz Channel Spacing, Low. Power

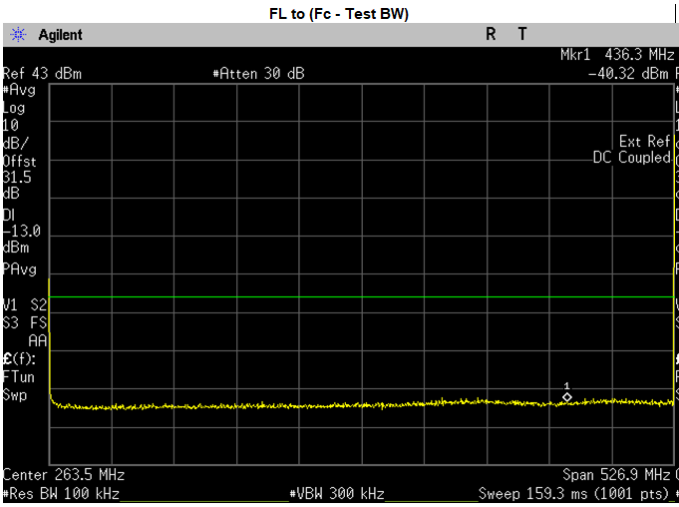


Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	4.1000	-40.9180	-13.00	PASS
(Fc + Test BW) to <2Fc	835.0710	-38.5600	-13.00	PASS
2Fc to 1GHz	1011.0810	-54.3500	-13.00	PASS
1GHz to 10Fc	3080.1370	-51.0400	-13.00	PASS
	1023.9750	-54.8690	-13.00	PASS
	1535.9630	-54.6953	-13.00	PASS
	2047.9500	-54.1938	-13.00	PASS
	2559.9370	-53.6220	-13.00	PASS
	3071.9250	-51.3240	-13.00	PASS
	3583.9120	-52.4722	-13.00	PASS
	4095.9000	-53.0558	-13.00	PASS
	4607.8870	-53.3424	-13.00	PASS
	5119.8750	-53.8481	-13.00	PASS

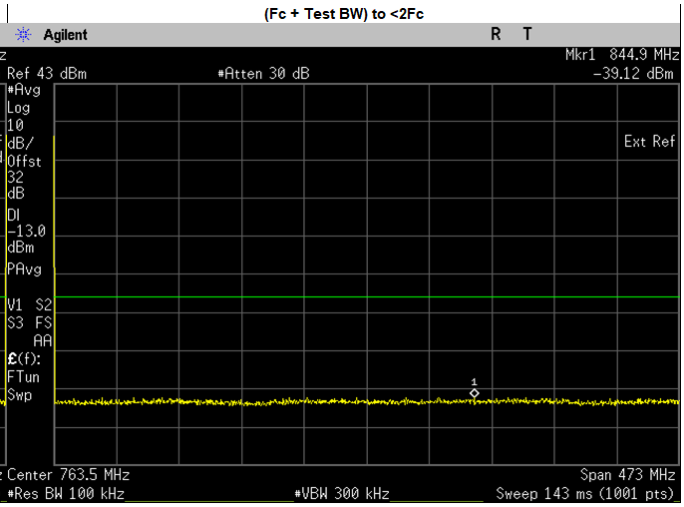
Analog: 526.9875. MHz, 25.kHz Channel Spacing, Max. Power

Not for FCC review

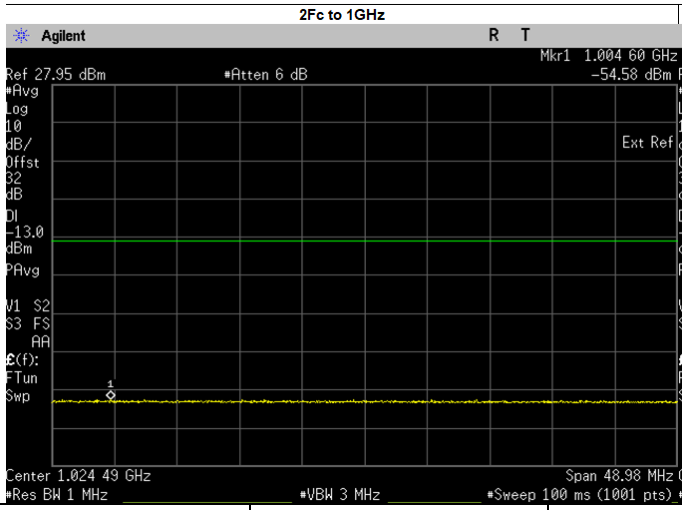
FL to (Fc - Test BW)



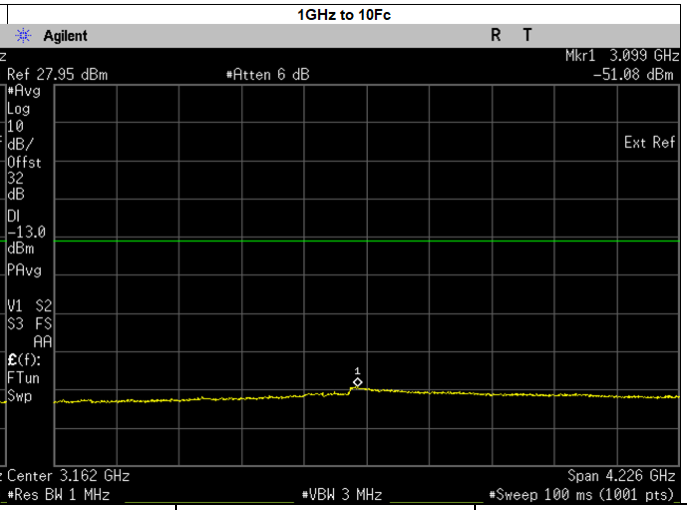
(Fc + Test BW) to <2Fc



2Fc to 1GHz



1GHz to 10Fc

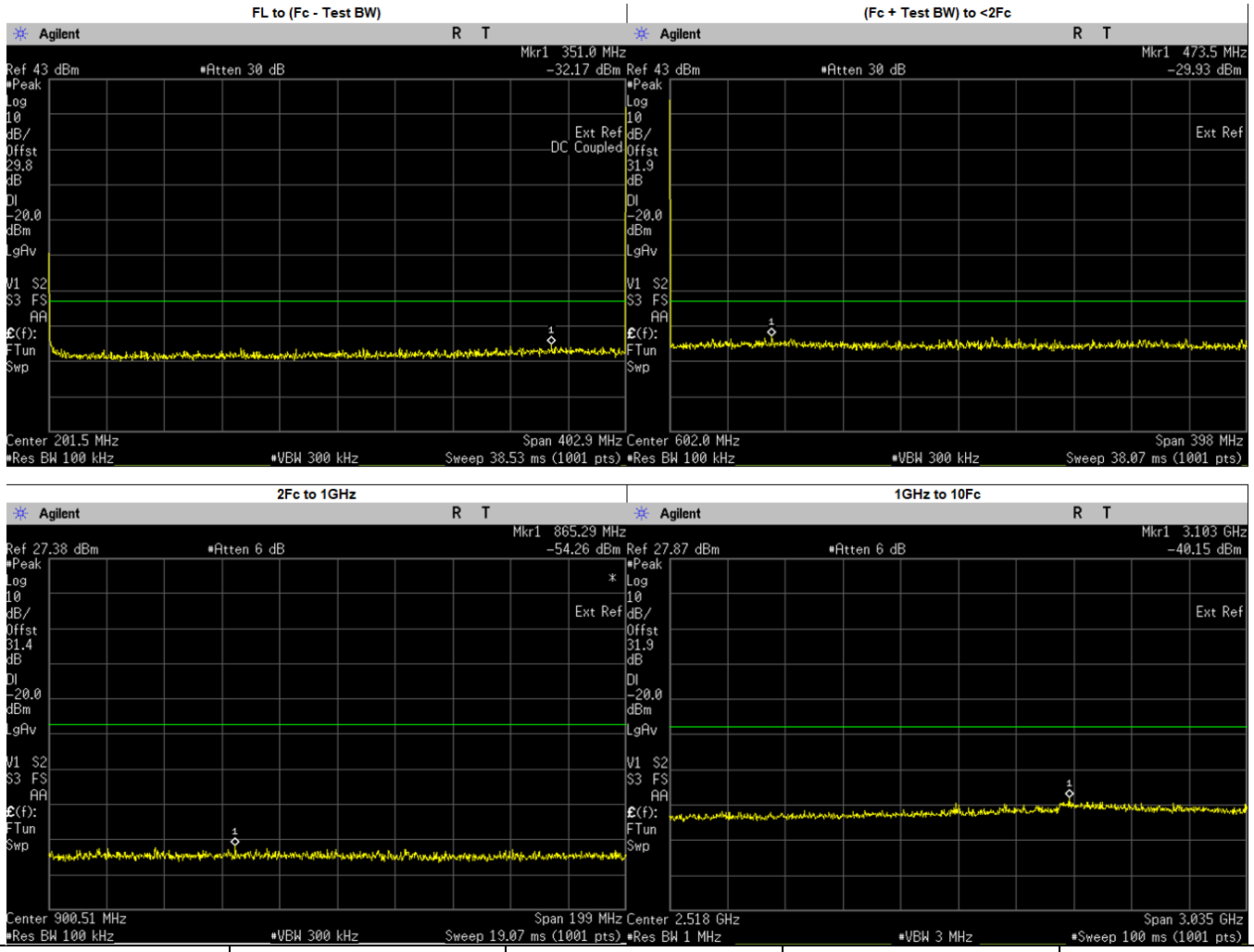


Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	436.3000	-40.3200	-13	PASS
(Fc + Test BW) to <2Fc	844.8705	-39.1200	-13	PASS
2Fc to 1GHz	1004.6040	-54.5900	-13	PASS
1GHz to 10Fc	3098.5370	-51.0800	-13	PASS
	1053.9750	-55.1017	-13	PASS
	1580.9630	-54.6388	-13	PASS
	2107.9500	-54.2576	-13	PASS
	2634.9370	-53.9785	-13	PASS
	3161.9250	-51.8590	-13	PASS
	3688.9120	-52.7047	-13	PASS
	4215.9000	-53.2563	-13	PASS
	4742.8870	-53.6536	-13	PASS
	5269.8750	-53.8372	-13	PASS

6.10.3. Test Result (Digital)

Digital.: 403.0125. MHz, 12.5 kHz Channel Spacing, Max. Power

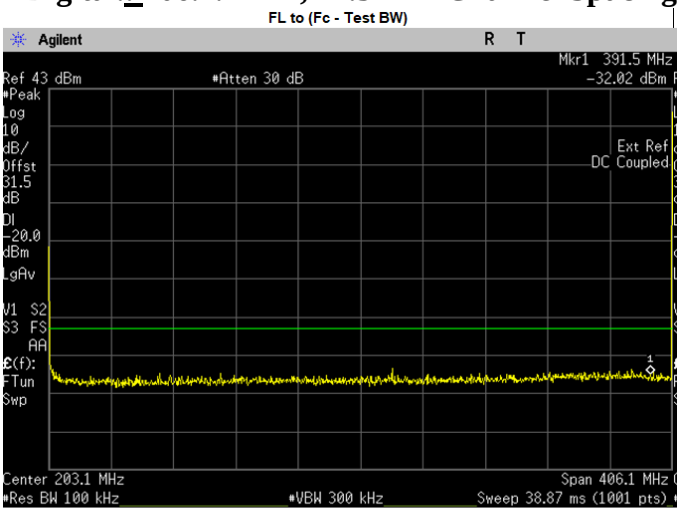
Not for FCC review



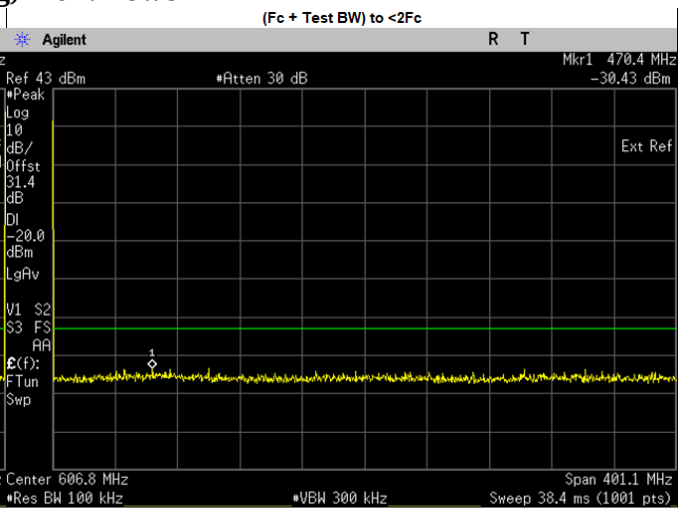
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	351.0000	-32.1740	-20.00	PASS
(Fc + Test BW) to <2Fc	473.5065	-29.9300	-20.00	PASS
2Fc to 1GHz	865.2900	-54.2600	-20.00	PASS
1GHz to 10Fc	3103.3420	-40.1500	-20.00	PASS
	1209.0370	-45.6532	-20.00	PASS
	1612.0500	-45.4066	-20.00	PASS
	2015.0620	-45.0215	-20.00	PASS
	2418.0750	-44.8705	-20.00	PASS
	2821.0880	-43.3201	-20.00	PASS
	3224.1000	-42.3200	-20.00	PASS
	3627.1130	-43.6329	-20.00	PASS
	4030.1250	-42.9702	-20.00	PASS

Digital.: 406.2. MHz, 12.5 kHz Channel Spacing, Max. Power

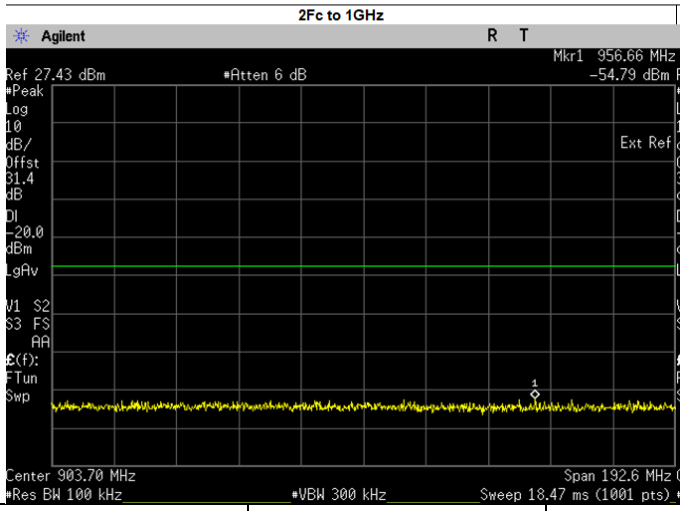
FL to (Fc - Test BW)



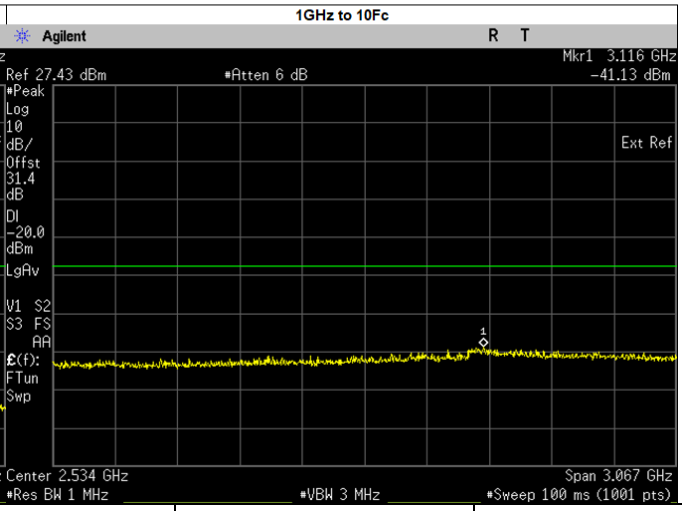
(Fc + Test BW) to <2Fc



2Fc to 1GHz

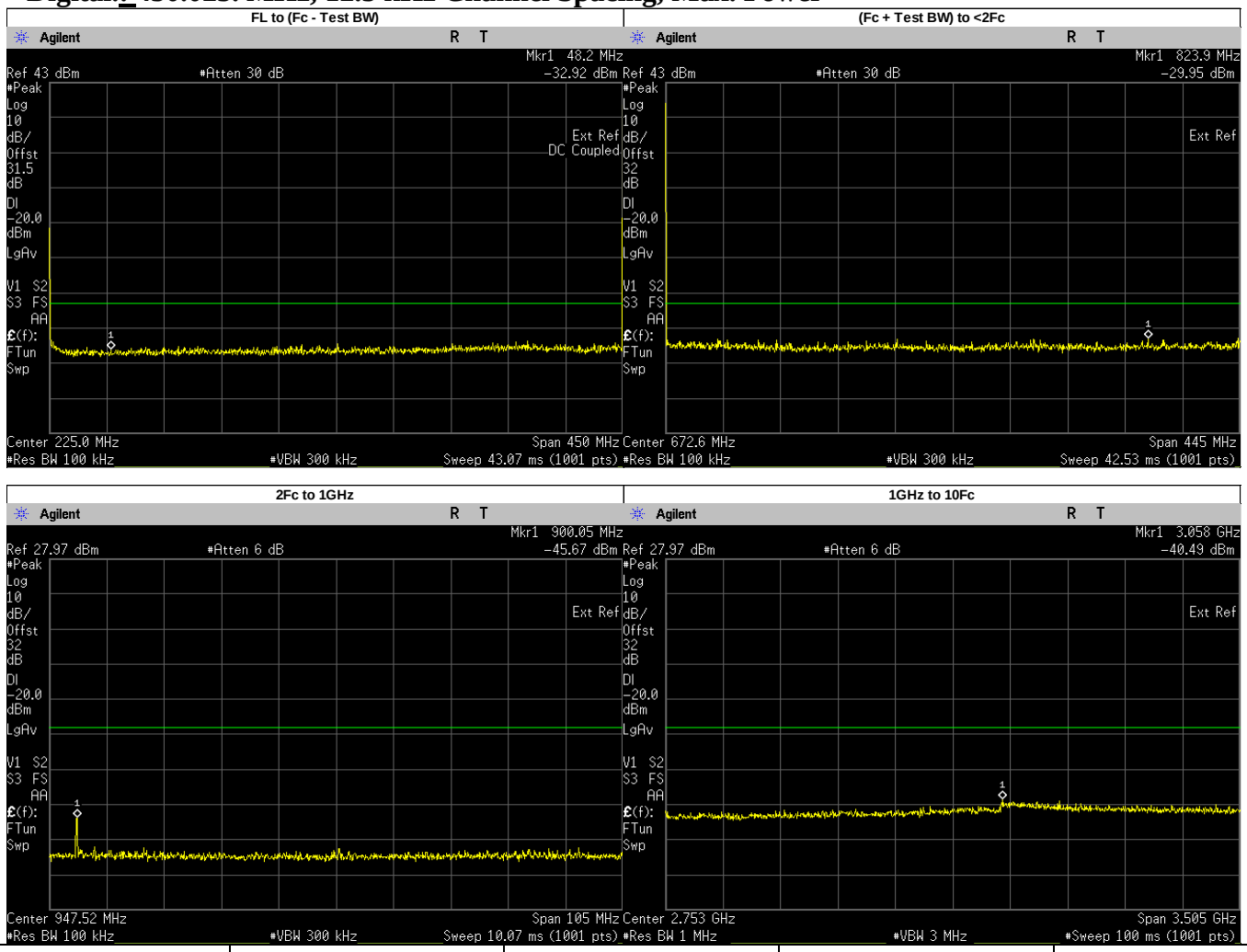


1GHz to 10Fc



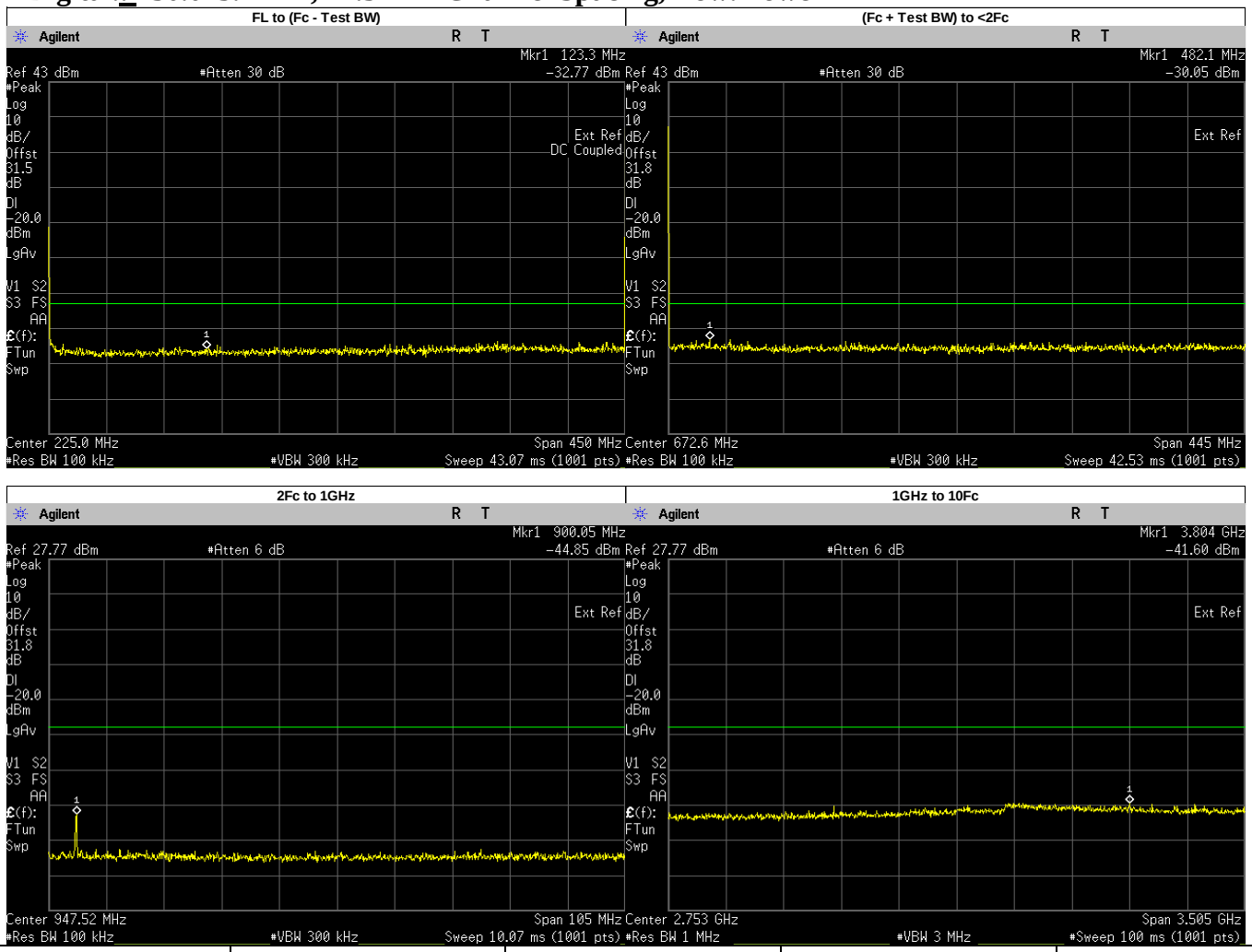
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	391.5000	-32.0240	-20.00	PASS
(Fc + Test BW) to <2Fc	470.4387	-30.4300	-20.00	PASS
2Fc to 1GHz	956.6650	-54.8000	-20.00	PASS
	812.4000	-55.5141	-20.00	PASS
1GHz to 10Fc	3116.2300	-41.1300	-20.00	PASS
	1218.6000	-45.4929	-20.00	PASS
	1624.8000	-46.0613	-20.00	PASS
	2031.0000	-45.7011	-20.00	PASS
	2437.2000	-45.1183	-20.00	PASS
	2843.4000	-44.3094	-20.00	PASS
	3249.6000	-42.3462	-20.00	PASS
	3655.8000	-43.9557	-20.00	PASS
	4062.0000	-43.9362	-20.00	PASS

Digital.: 450.025. MHz, 12.5 kHz Channel Spacing, Max. Power



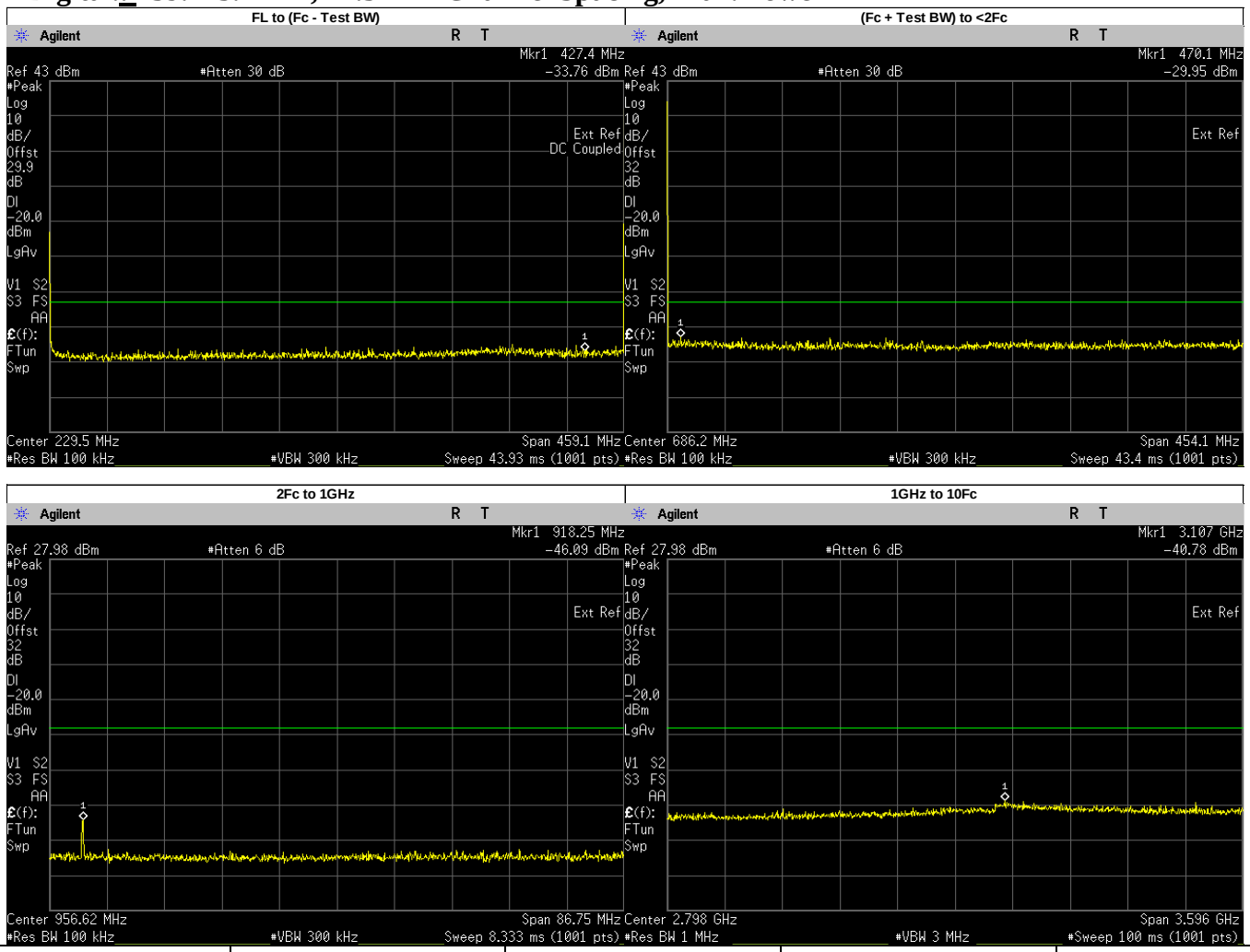
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	48.2000	-32.9240	-20.00	PASS
(Fc + Test BW) to <2Fc	823.8551	-29.9500	-20.00	PASS
2Fc to 1GHz	900.0500	-45.6700	-20.00	PASS
1GHz to 10Fc	3057.5820	-40.4900	-20.00	PASS
	1350.0750	-45.2114	-20.00	PASS
	1800.1000	-45.4696	-20.00	PASS
	2250.1250	-44.8154	-20.00	PASS
	2700.1500	-44.0610	-20.00	PASS
	3150.1750	-42.0393	-20.00	PASS
	3600.2000	-43.2412	-20.00	PASS
	4050.2250	-43.7189	-20.00	PASS
	4500.2500	-43.9207	-20.00	PASS

Digital.: 450.025. MHz, 12.5 kHz Channel Spacing, Low. Power



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	123.3000	-32.7660	-20.00	PASS
(Fc + Test BW) to <2Fc	482.1195	-30.0500	-20.00	PASS
2Fc to 1GHz	900.0500	-44.8500	-20.00	PASS
1GHz to 10Fc	3804.2000	-41.5900	-20.00	PASS
	1350.0750	-45.7527	-20.00	PASS
	1800.1000	-45.3824	-20.00	PASS
	2250.1250	-45.2369	-20.00	PASS
	2700.1500	-44.5045	-20.00	PASS
	3150.1750	-42.8890	-20.00	PASS
	3600.2000	-43.7426	-20.00	PASS
	4050.2250	-44.1497	-20.00	PASS
	4500.2500	-43.5866	-20.00	PASS

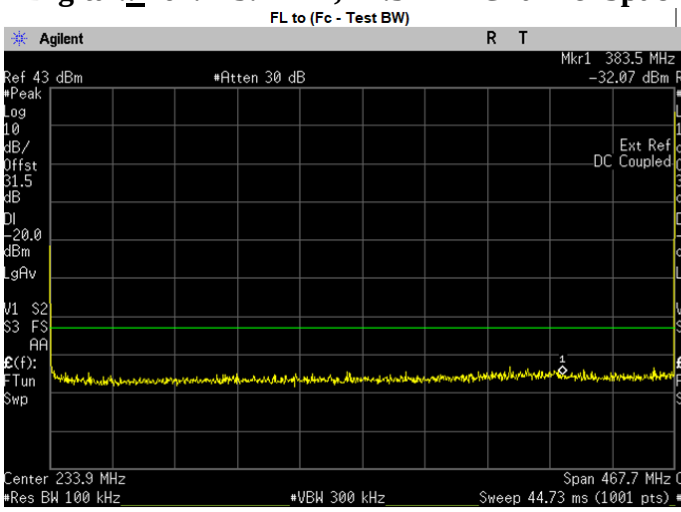
Digital.: 459.125. MHz, 12.5 kHz Channel Spacing, Max. Power



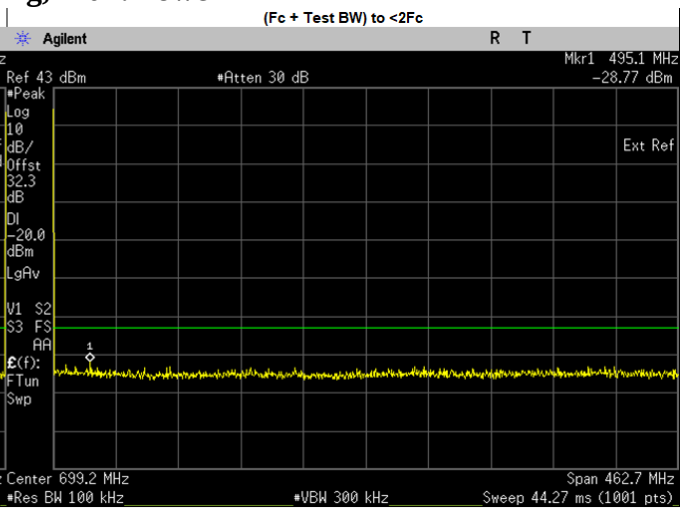
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	427.4000	-33.7640	-20.00	PASS
(Fc + Test BW) to <2Fc	470.0794	-29.9500	-20.00	PASS
2Fc to 1GHz	918.2500	-46.0900	-20.00	PASS
1GHz to 10Fc	3107.4030	-40.7800	-20.00	PASS
	1377.3750	-45.1539	-20.00	PASS
	1836.5000	-45.0075	-20.00	PASS
	2295.6250	-43.9212	-20.00	PASS
	2754.7500	-43.0237	-20.00	PASS
	3213.8750	-42.6307	-20.00	PASS
	3673.0000	-42.6283	-20.00	PASS
	4132.1250	-43.4878	-20.00	PASS
	4591.2500	-42.7319	-20.00	PASS

Digital.: 467.775. MHz, 12.5 kHz Channel Spacing, Max. Power

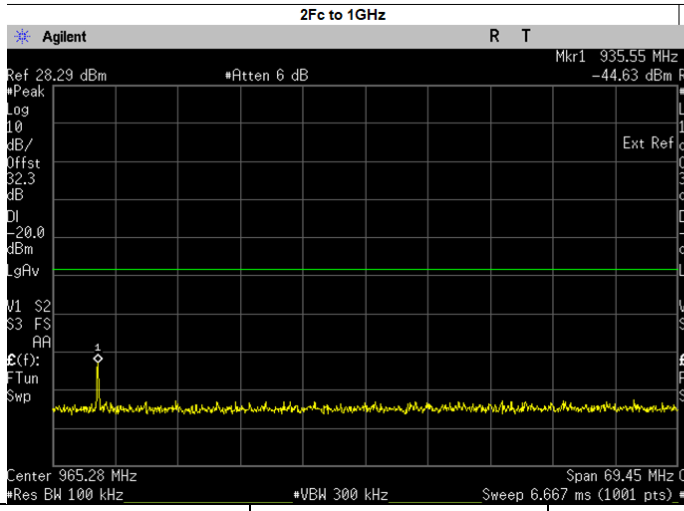
FL to (Fc - Test BW)



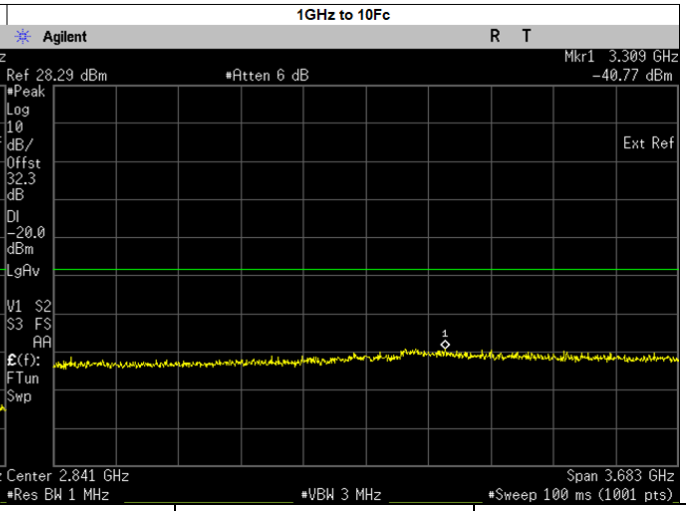
(Fc + Test BW) to <2Fc



2Fc to 1GHz

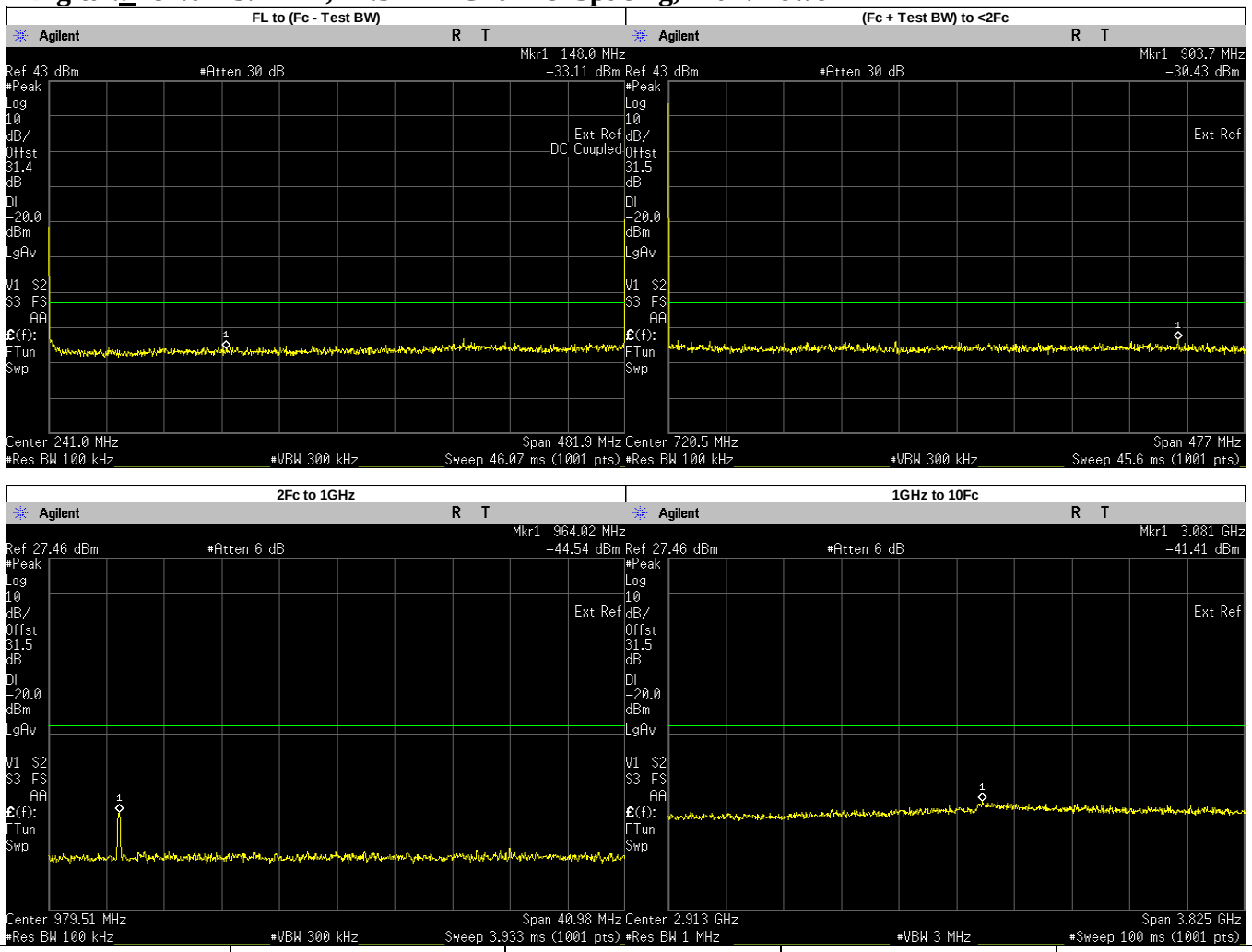


1GHz to 10Fc



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	383.5000	-32.0660	-20.00	PASS
(Fc + Test BW) to <2Fc	495.1322	-28.7700	-20.00	PASS
2Fc to 1GHz	935.5500	-44.6300	-20.00	PASS
1GHz to 10Fc	3309.0840	-40.7700	-20.00	PASS
	1403.3250	-45.0224	-20.00	PASS
	1871.1000	-45.1576	-20.00	PASS
	2338.8750	-44.4610	-20.00	PASS
	2806.6500	-43.3339	-20.00	PASS
	3274.4250	-41.8153	-20.00	PASS
	3742.2000	-43.1228	-20.00	PASS
	4209.9750	-43.3308	-20.00	PASS
	4677.7500	-43.7051	-20.00	PASS

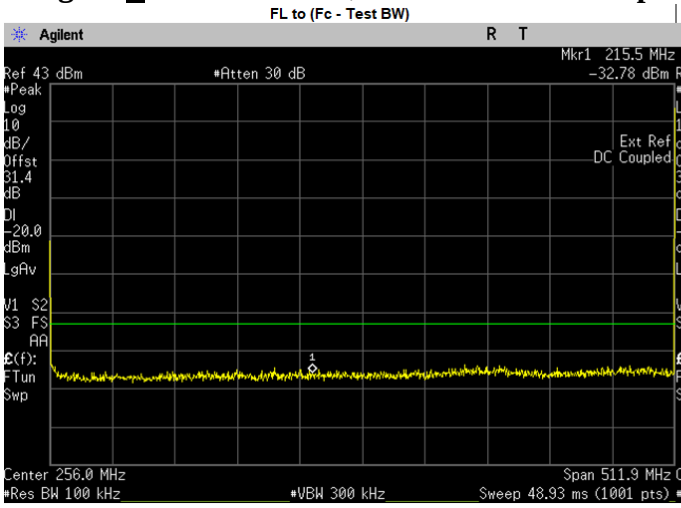
Digital.: 482.0125. MHz, 12.5 kHz Channel Spacing, Max. Power



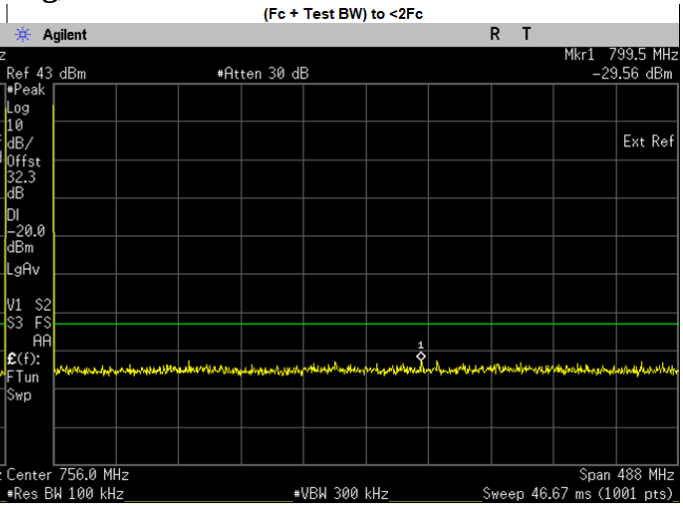
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	148.0000	-33.1090	-20.00	PASS
(Fc + Test BW) to <2Fc	903.6981	-30.4300	-20.00	PASS
2Fc to 1GHz	964.0250	-44.5400	-20.00	PASS
1GHz to 10Fc	3080.8680	-41.4100	-20.00	PASS
	1446.0370	-45.5459	-20.00	PASS
	1928.0500	-46.0383	-20.00	PASS
	2410.0620	-45.0221	-20.00	PASS
	2892.0750	-44.5027	-20.00	PASS
	3374.0880	-43.3335	-20.00	PASS
	3856.1000	-44.0113	-20.00	PASS
	4338.1130	-44.3751	-20.00	PASS
	4820.1250	-44.4151	-20.00	PASS

Digital.: 511.9875. MHz, 12.5 kHz Channel Spacing, Max. Power

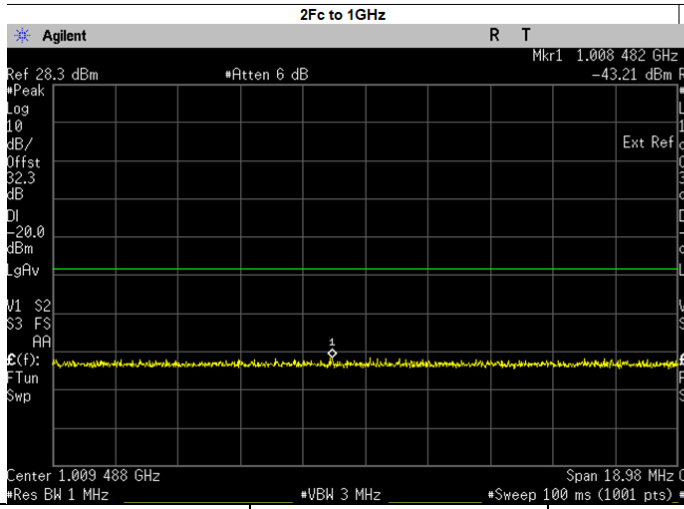
FL to (Fc - Test BW)



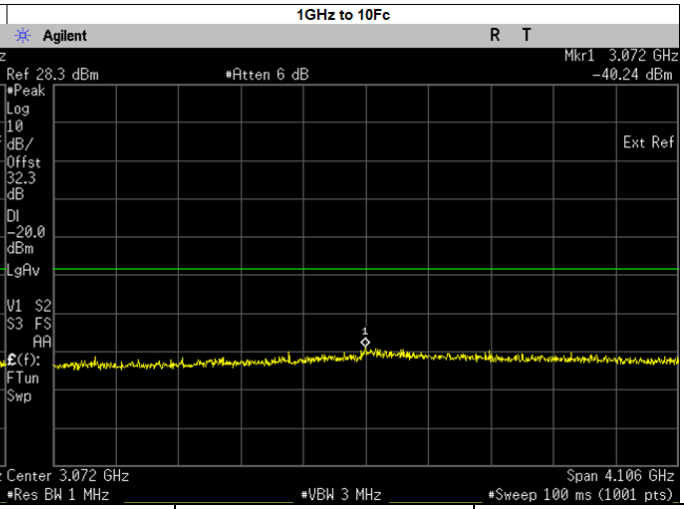
(Fc + Test BW) to <2Fc



2Fc to 1GHz

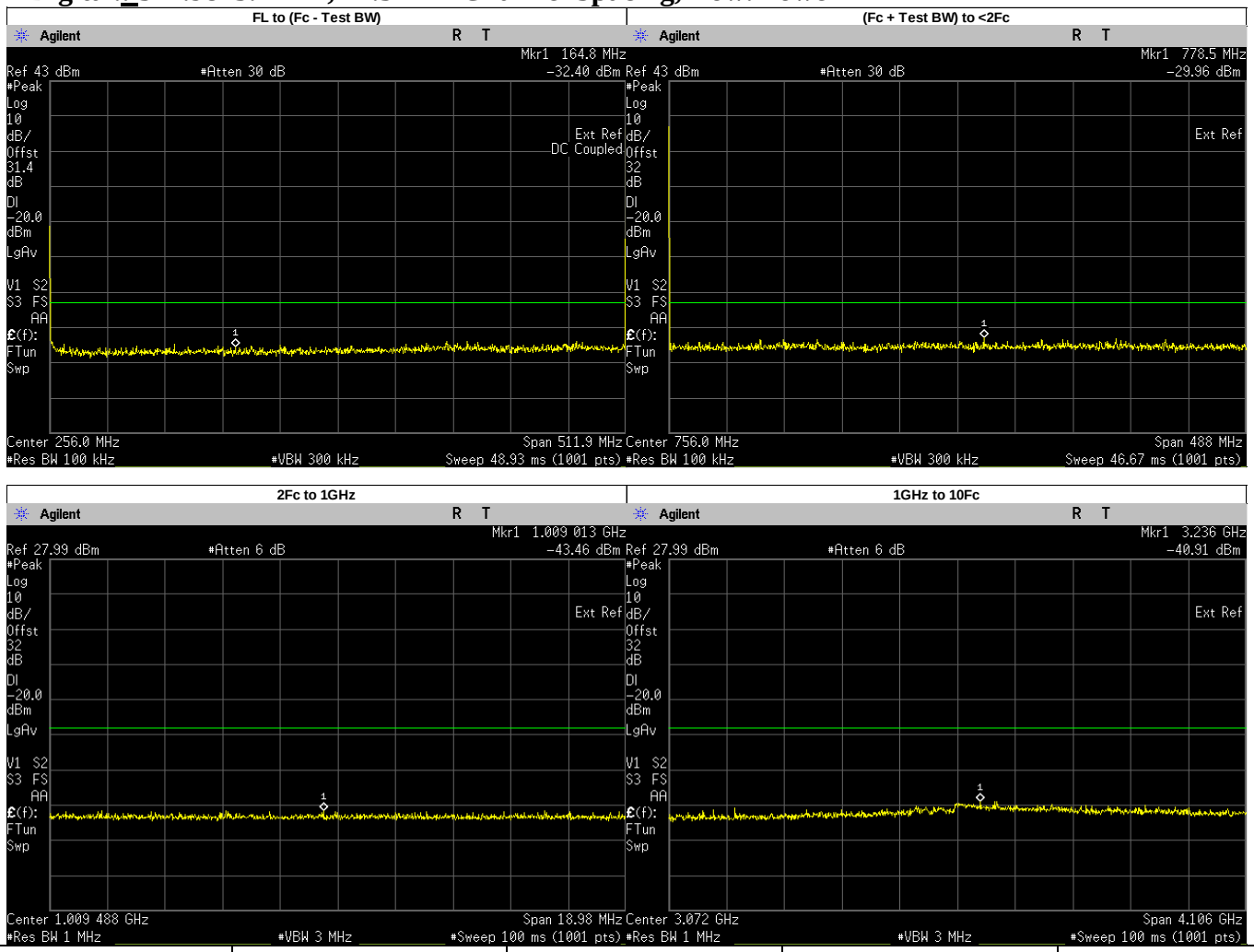


1GHz to 10Fc



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	215.5000	-32.7750	-20.00	PASS
(Fc + Test BW) to <2Fc	799.4502	-29.5600	-20.00	PASS
2Fc to 1GHz	1008.4820	-43.2100	-20.00	PASS
1GHz to 10Fc	3072.0000	-40.2400	-20.00	PASS
	1023.9750	-45.3721	-20.00	PASS
	1535.9630	-44.3495	-20.00	PASS
	2047.9500	-43.9461	-20.00	PASS
	2559.9370	-44.2246	-20.00	PASS
	3583.9120	-42.9453	-20.00	PASS
	4095.9000	-43.1800	-20.00	PASS
	4607.8870	-43.9675	-20.00	PASS
	5119.8750	-43.3848	-20.00	PASS

Digital.: 511.9875. MHz, 12.5 kHz Channel Spacing, Low. Power

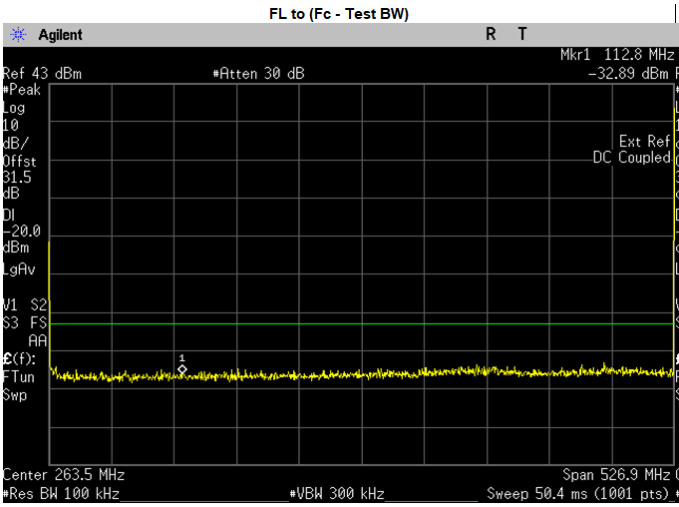


Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	164.8000	-32.3990	-20.00	PASS
(Fc + Test BW) to <2Fc	778.4681	-29.9600	-20.00	PASS
2Fc to 1GHz	1009.0130	-43.4600	-20.00	PASS
1GHz to 10Fc	3236.1610	-40.9100	-20.00	PASS
	1023.9750	-45.5799	-20.00	PASS
	1535.9630	-45.1812	-20.00	PASS
	2047.9500	-44.4864	-20.00	PASS
	2559.9370	-43.8563	-20.00	PASS
	3071.9250	-41.4330	-20.00	PASS
	3583.9120	-43.2499	-20.00	PASS
	4095.9000	-43.5645	-20.00	PASS
	4607.8870	-44.1062	-20.00	PASS
	5119.8750	-44.5416	-20.00	PASS

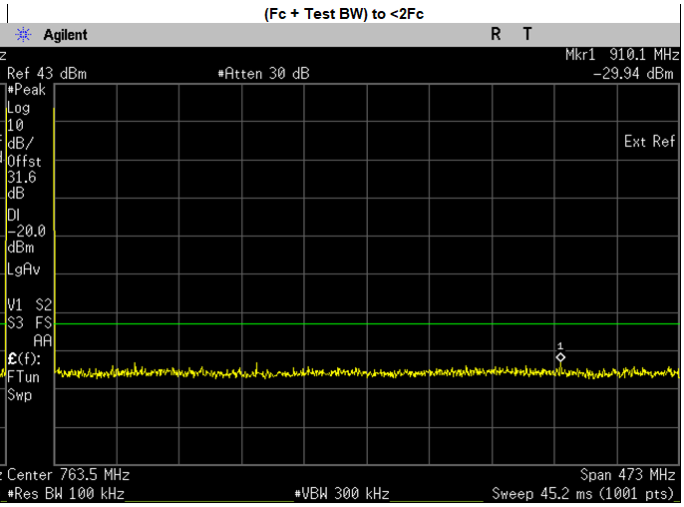
Digital.: 526.9875. MHz, 12.5 kHz Channel Spacing, Max. Power

Not for FCC review

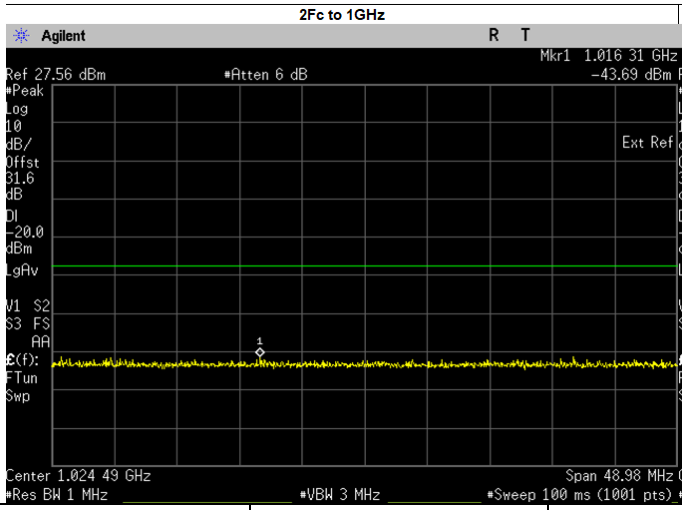
FL to (Fc - Test BW)



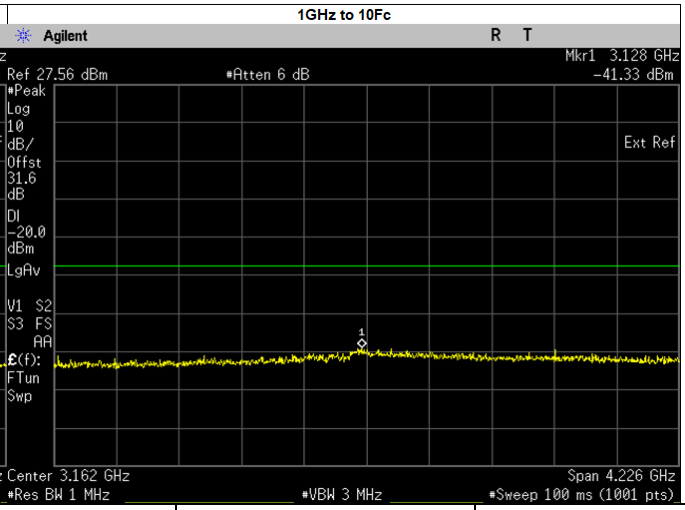
(Fc + Test BW) to <2Fc



2Fc to 1GHz



1GHz to 10Fc



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (dBm)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	112.8000	-32.8880	-20.00	PASS
(Fc + Test BW) to <2Fc	910.1384	-29.9400	-20.00	PASS
2Fc to 1GHz	1016.3090	-43.6900	-20.00	PASS
1GHz to 10Fc	3128.1180	-41.3300	-20.00	PASS
	1053.9750	-45.7540	-20.00	PASS
	1580.9630	-45.6635	-20.00	PASS
	2107.9500	-45.1521	-20.00	PASS
	2634.9370	-44.9983	-20.00	PASS
	3161.9250	-42.9540	-20.00	PASS
	3688.9120	-43.4586	-20.00	PASS
	4215.9000	-44.3368	-20.00	PASS
	4742.8870	-44.5433	-20.00	PASS
	5269.8750	-44.7739	-20.00	PASS

6.10.4. Test Limit

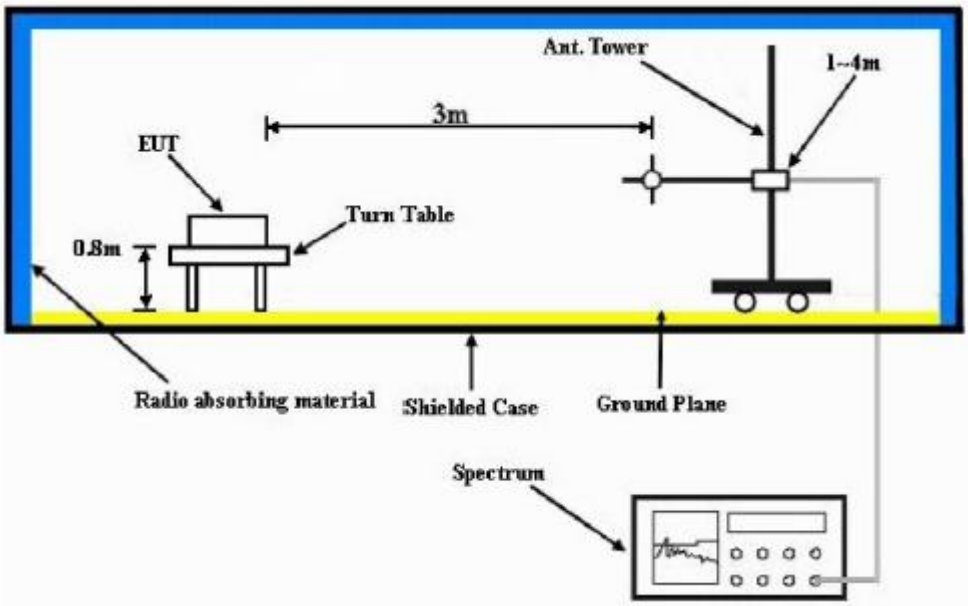
Table below summarized the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least

Channel Spacing	Part 22	Part 24D	Part 74	Part 80	Part 90 (UHF, VHF, 800, 900)	Part 90 (700)
12.5kHz	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	Not Applicable	50 + log10(P) (-20 dBm)	43 + log10(P) (-13 dBm)
25kHz		Not Applicable		43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)

Channel Spacing	RSS 134	RSS 182	RSS 119 (UHF, VHF, 800, 900)	RSS 119 (700)
12.5kHz	43 + log10(P) (-13 dBm)	Not Applicable	50 + log10(P) (-20 dBm)	43 + log10(P) (-13 dBm)
25kHz	Not Applicable	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)

6.11. Radiated Spurious Emission

6.11.1. Test Setup



1) The Resolution Bandwidth for scanning Radiated Emission below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector mode is positive peak.
2) In the semi- anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height (for Fc < 1GHz) or 1.5m height (for Fc > 1GHz) of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
3) The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.
4) Final Radiated Spurious Emission = "Read Value" + Measured substitution value.

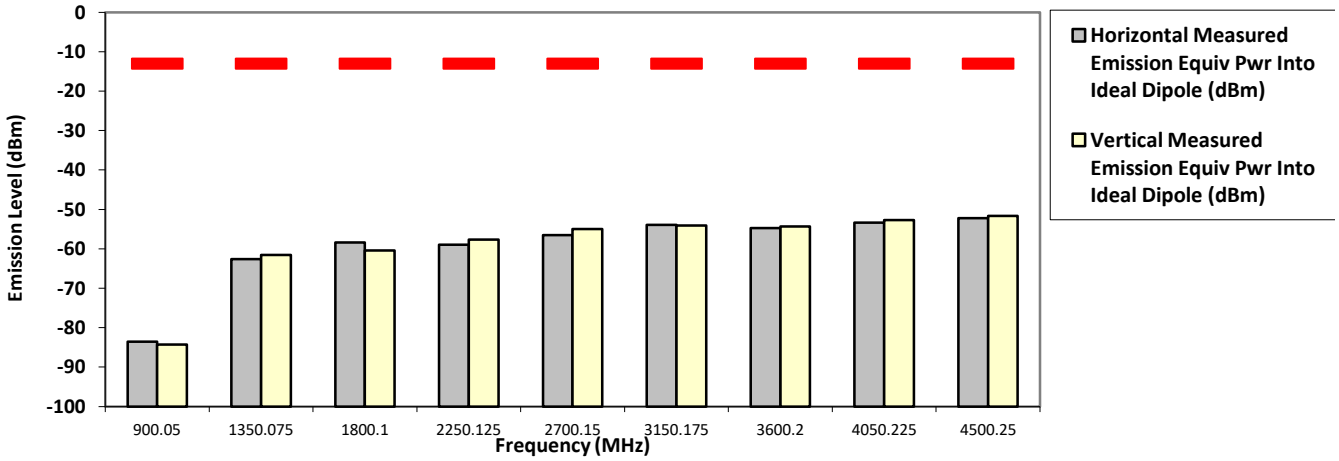
6.11.2. Test Result (Analog)

SAC Transmitter Radiated Emission:

Model Number: AAH56RDN9RA1AN **S/N: 871TXVC352** **SR:20392-EMC-00106**
Battery Part No: PMNN4489B **Accy Part No: NA**
Test Mode: TX Analog
450.025000 MHz (For Part 74) **25 kHz** **4.800 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
900.0500	-13.0000	-83.5453 **	-84.2940 **
1350.0750	-13.0000	-62.6027 **	-61.5426 **
1800.1000	-13.0000	-58.4159 **	-60.4478 **
2250.1250	-13.0000	-58.9551 **	-57.6897 **
2700.1500	-13.0000	-56.4932 **	-54.9464 **
3150.1750	-13.0000	-53.9624 **	-54.1235 **
3600.2000	-13.0000	-54.7114 **	-54.3299 **
4050.2250	-13.0000	-53.3838 **	-52.6975 **
4500.2500	-13.0000	-52.1909 **	-51.6922 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
Motorola Penang EMC Lab - Test Performed by: Nazirul **Mon, 15 Nov, 2021**

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported**
Temp(Deg): 22.2 Hum(%RH): 70.0

Remarks: Passed Results | **Marginal Results** | **Failed Results**

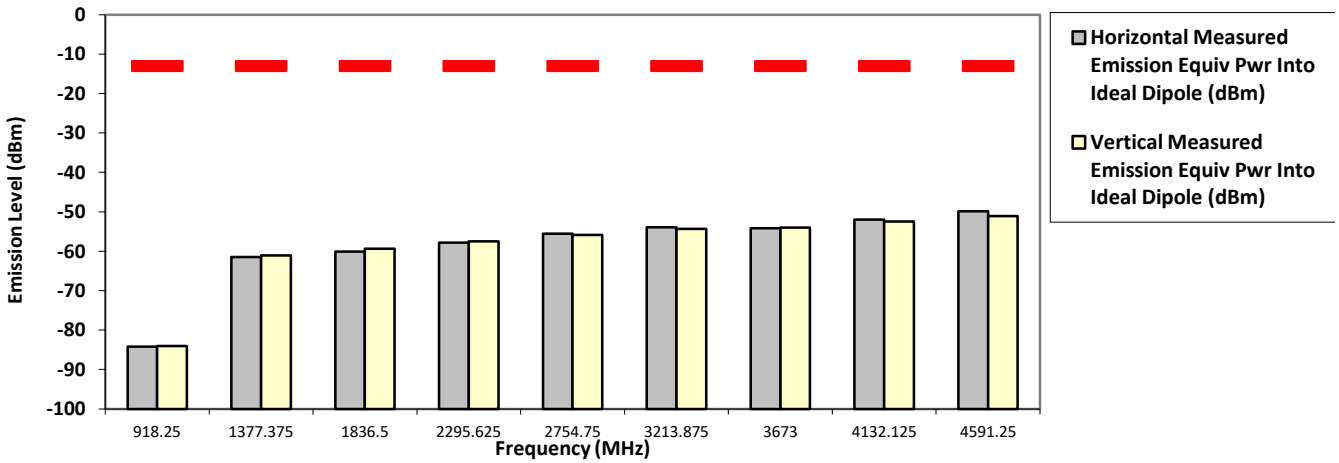
SAC Transmitter Radiated Emission:

Model Number: AAH56RDN9RA1AN **S/N: 871TXVC352** **SR:20392-EMC-00106**
Battery Part No: PMNN4489B **Accy Part No: NA**
Test Mode: TX Analog

459.125000 MHz (For Part 22) **25 kHz** **4.800 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
918.2500	-13.0000	-84.2051 **	-84.0588 **
1377.3750	-13.0000	-61.5072 **	-61.0650 **
1836.5000	-13.0000	-60.1307 **	-59.3925 **
2295.6250	-13.0000	-57.8059 **	-57.4628 **
2754.7500	-13.0000	-55.5385 **	-55.8979 **
3213.8750	-13.0000	-53.8994 **	-54.3396 **
3673.0000	-13.0000	-54.1542 **	-54.0283 **
4132.1250	-13.0000	-51.9705 **	-52.4473 **
4591.2500	-13.0000	-49.8701 **	-51.1027 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
Motorola Penang EMC Lab - Test Performed by: Nazirul **Mon, 15 Nov, 2021**

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported**
Temp(Deg): 22.2 Hum(%RH): 70.0

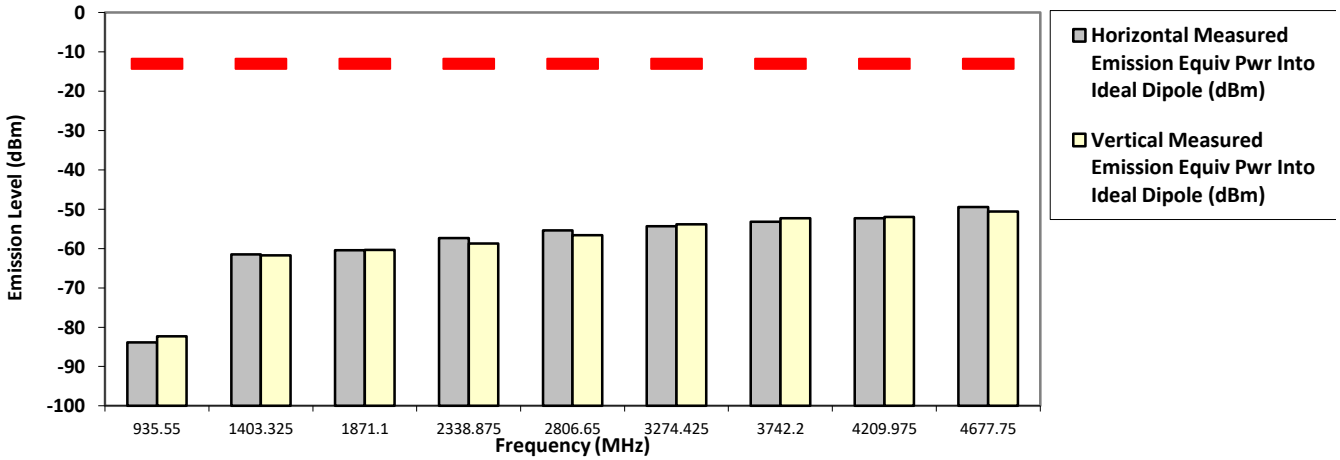
Remarks: Passed Results | **Marginal Results** | **Failed Results**

SAC Transmitter Radiated Emission:

Model Number: AAH56RDN9RA1AN **S/N: 871TXVC352** **SR:20392-EMC-00106**
Battery Part No: PMNN4489B **Accy Part No: NA**
Test Mode: TX Analog
467.775000 MHz (For Part 80) **25 kHz** **4.800 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
935.5500	-13.0000	-83.8863 **	-82.3186 **
1403.3250	-13.0000	-61.4840 **	-61.7693 **
1871.1000	-13.0000	-60.4286 **	-60.3477 **
2338.8750	-13.0000	-57.3642 **	-58.7032 **
2806.6500	-13.0000	-55.3889 **	-56.5870 **
3274.4250	-13.0000	-54.3463 **	-53.8544 **
3742.2000	-13.0000	-53.1937 **	-52.2871 **
4209.9750	-13.0000	-52.2667 **	-51.9679 **
4677.7500	-13.0000	-49.4460 **	-50.5944 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
Motorola Penang EMC Lab - Test Performed by:Nazirul **Mon, 15 Nov, 2021**

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported**
Temp(Deg): 22.2 Hum(%RH): 70.0

Remarks:

Passed Results	Marginal Results	Failed Results

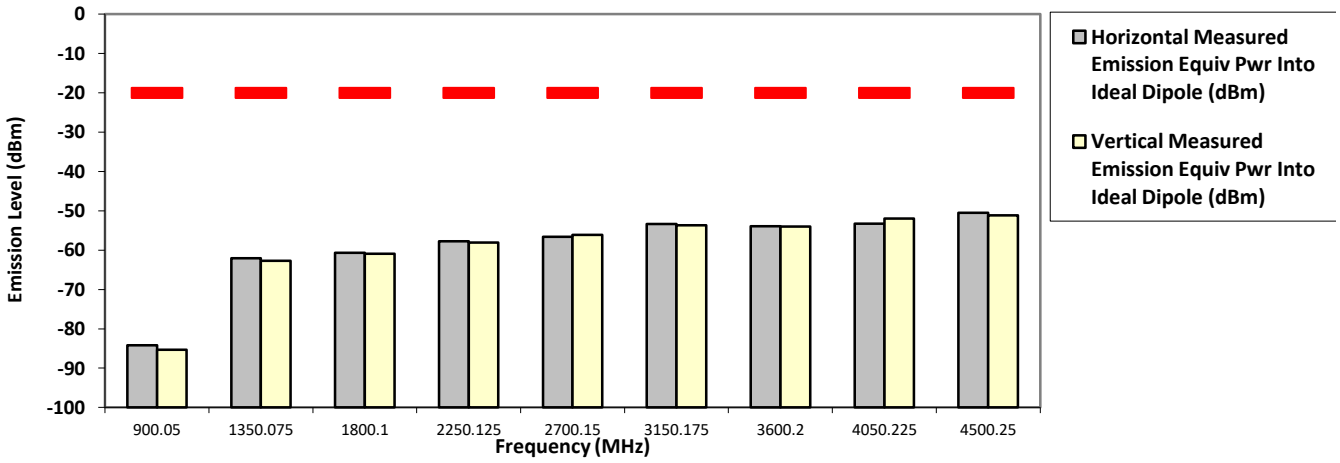
6.11.3. Test Result (Digital)

SAC Transmitter Radiated Emission:

Model Number: AAH56RDN9RA1AN **S/N: 871TXVC352** **SR:20392-EMC-00106**
Battery Part No: PMNN4489B **Accy Part No: NA**
Test Mode: TX Digital
450.025000 MHz **12.5 kHz** **4.800 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
900.0500	-20.0000	-84.1968 **	-85.3272 **
1350.0750	-20.0000	-62.0267 **	-62.7474 **
1800.1000	-20.0000	-60.7019 **	-60.9505 **
2250.1250	-20.0000	-57.7796 **	-58.1099 **
2700.1500	-20.0000	-56.5812 **	-56.0893 **
3150.1750	-20.0000	-53.3466 **	-53.7041 **
3600.2000	-20.0000	-53.9288 **	-54.0319 **
4050.2250	-20.0000	-53.2485 **	-51.9990 **
4500.2500	-20.0000	-50.5015 **	-51.1341 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
Motorola Penang EMC Lab - Test Performed by:Nazirul **Mon, 15 Nov, 2021**

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported**
Temp(Deg): 22.2 Hum(%RH): 70.0

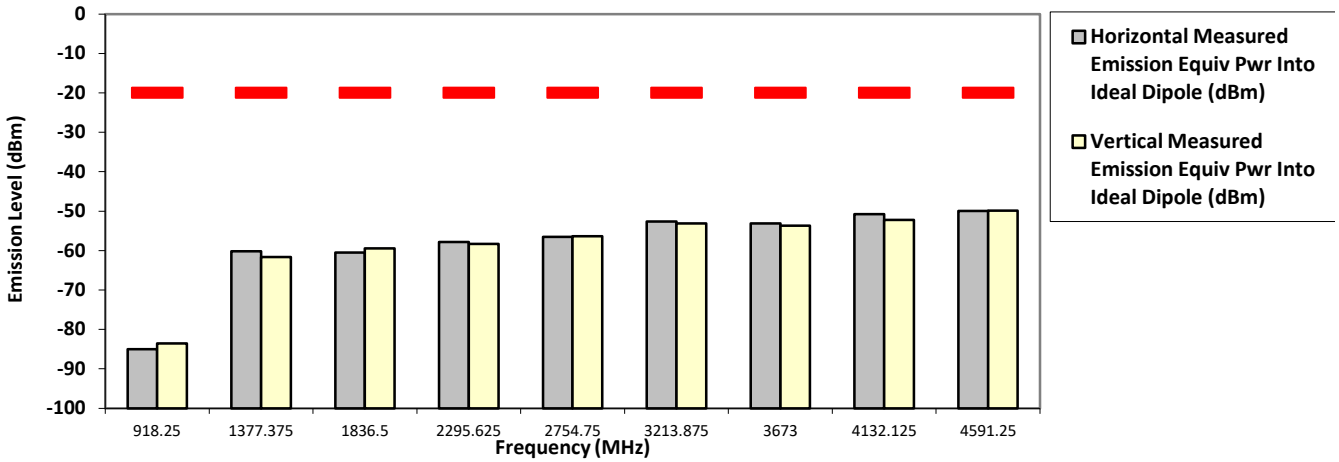
Remarks: Passed Results | **Marginal Results** | **Failed Results**

SAC Transmitter Radiated Emission:

Model Number: AAH56RDN9RA1AN **S/N: 871TXVC352** **SR:20392-EMC-00106**
Battery Part No: PMNN4489B **Accy Part No: NA**
Test Mode: TX Digital
459.125000 MHz **12.5 kHz** **4.800 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
918.2500	-20.0000	-85.0078 **	-83.5766 **
1377.3750	-20.0000	-60.2082 **	-61.6277 **
1836.5000	-20.0000	-60.5353 **	-59.4197 **
2295.6250	-20.0000	-57.7845 **	-58.2783 **
2754.7500	-20.0000	-56.5102 **	-56.3536 **
3213.8750	-20.0000	-52.6301 **	-53.1283 **
3673.0000	-20.0000	-53.1255 **	-53.6974 **
4132.1250	-20.0000	-50.7528 **	-52.1945 **
4591.2500	-20.0000	-49.9792 **	-49.8909 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
Motorola Penang EMC Lab - Test Performed by:Nazirul **Mon, 15 Nov, 2021**

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported**
Temp(Deg): 22.2 Hum(%RH): 70.0

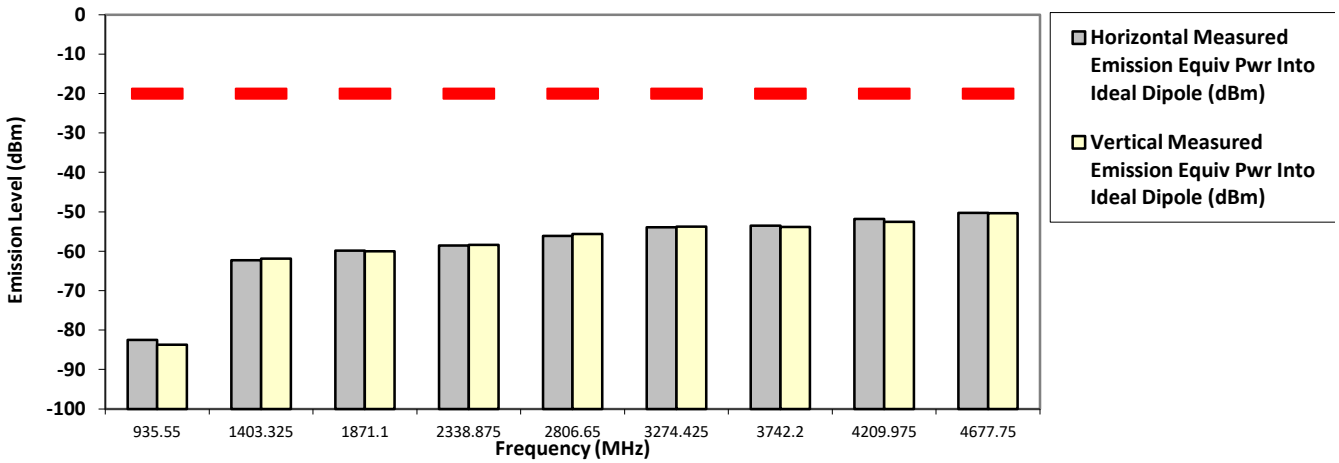
Remarks: Passed Results | **Marginal Results** | **Failed Results**

SAC Transmitter Radiated Emission:

Model Number: AAH56RDN9RA1AN **S/N: 871TXVC352** **SR:20392-EMC-00106**
Battery Part No: PMNN4489B **Accy Part No: NA**
Test Mode: TX Digital
467.775000 MHz **12.5 kHz** **4.800 Watt(s) /Max Power**

Frequency (MHz)	Limit	Horizontal Measured Emission Equiv Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into ideal Dipole (dBm)
935.5500	-20.0000	-82.4717 **	-83.7147 **
1403.3250	-20.0000	-62.2555 **	-61.8999 **
1871.1000	-20.0000	-59.8529 **	-60.0319 **
2338.8750	-20.0000	-58.5327 **	-58.4070 **
2806.6500	-20.0000	-56.0874 **	-55.6259 **
3274.4250	-20.0000	-53.8889 **	-53.7914 **
3742.2000	-20.0000	-53.5206 **	-53.8069 **
4209.9750	-20.0000	-51.8260 **	-52.5651 **
4677.7500	-20.0000	-50.2570 **	-50.3267 **

RADIATED SPURIOUS EMISSIONS



The data presented here was taken using the substitution method as found in the ANSI C63.26-2015 document.
Motorola Penang EMC Lab - Test Performed by:Nazirul **Mon, 15 Nov, 2021**

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported**
Temp(Deg): 22.2 Hum(%RH): 70.0

Remarks: Passed Results | **Marginal Results** | **Failed Results**

6.11.4. Test Limit

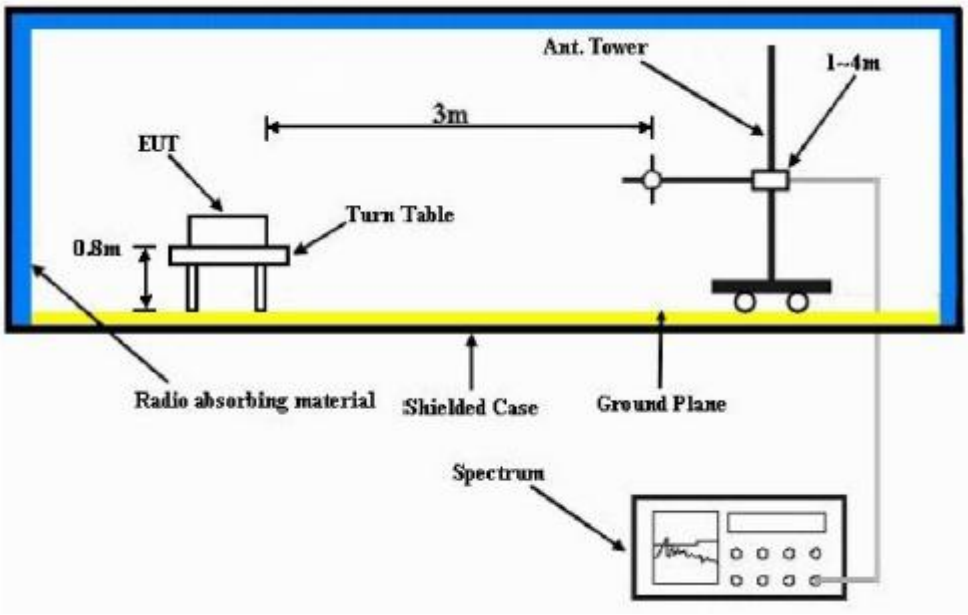
Table below summarized the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least

Channel Spacing	Part 22	Part 24D	Part 74	Part 80	Part 90 (UHF, VHF, 800, 900)	Part 90 (700)
12.5kHz	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	Not Applicable	50 + log10(P) (-20 dBm)	43 + log10(P) (-13 dBm)
25kHz		Not Applicable		43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)

Channel Spacing	RSS 134	RSS 182	RSS 119 (UHF, VHF, 800, 900)	RSS 119 (700)
12.5kHz	43 + log10(P) (-13 dBm)	Not Applicable	50 + log10(P) (-20 dBm)	43 + log10(P) (-13 dBm)
25kHz	Not Applicable	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)	43 + log10(P) (-13 dBm)

6.12. Effective Radiated Power (ERP)

6.12.1. Test Setup



1) The Resolution Bandwidth for Equivalent Radiated Power (ERP) below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for EIRP above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector Mode is RMS.
2) In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height (for Fc < 1GHz) or 1.5m (for Fc > 1GHz) of Turn Table, rotated the table 45 degree each interval to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power for each degree interval. The "Read Value" is the spectrum reading of maximum power value.
3) The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the Measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.

6.12.2. Test Result

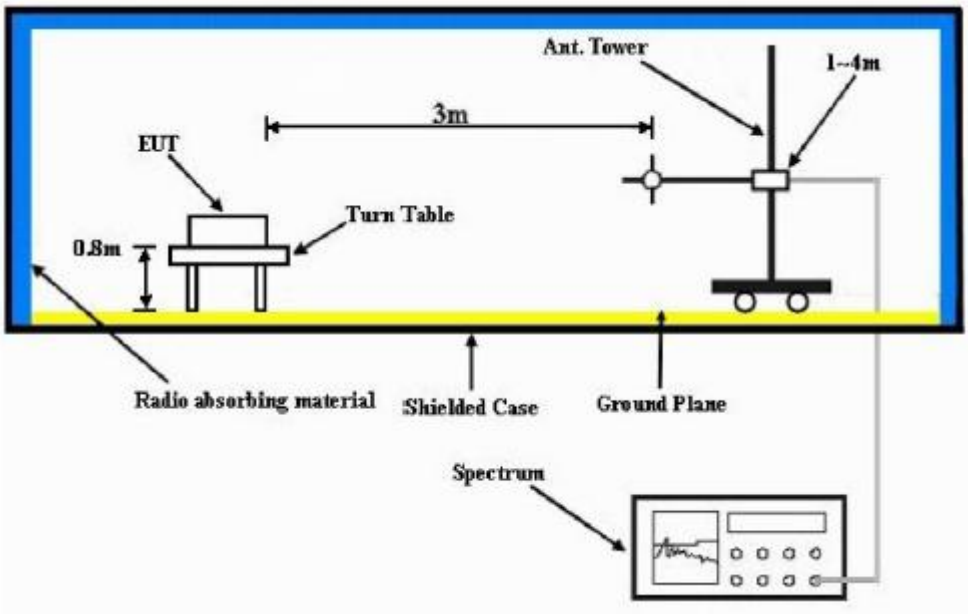
Not Applicable.

6.12.3. Test Limit

The maximum output power of the transmitter for mobile stations is 100 watts (20 dB). Power is given in terms of effective radiated power (ERP).

6.13. GNSS (EIRP for 1559 - 1610MHz)

6.13.1. Test Setup



4) The Resolution Bandwidth for Equivalent Isotropically Radiated Power (EIRP) below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for EIRP above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector Mode is RMS.
5) In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height of Turn Table, rotated the table 45 degree each interval to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power for each degree interval. The "Read Value" is the spectrum reading of maximum power value.
6) The substitution antenna is substituted for DUT at the same position and signals generator (S.G) export the CW signal to the substitution antenna via a TX cable. The receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum radiation power. Record the power level of maximum radiation power from spectrum. So, the Measured substitution value = Ref level of S.G + TX cables loss – Substituted Antenna Gain.
7) EIRP = "Read Value" + Measured substitution value + 2.15.

6.13.1. Test Result

Not Applicable

6.13.2. Test Limit

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559-1610 MHz shall be limited to −70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and −80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

~ End of Test Report ~