

 MOTOROLA SOLUTIONS	    CERTIFICATE 2518.08 SAMM 825																																
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.B																																
<table><tr><td>Date/s Tested</td><td>: 06-JAN-2024 - 28-MAY-2024</td></tr><tr><td>Report Issue Date</td><td>: 12-FEB-2025</td></tr><tr><td>Manufacturer</td><td>: MOTOROLA SOLUTIONS INC (SCHAUMBURG)</td></tr><tr><td>Manufacturer/Location</td><td>: 1301 E. ALGONQUIN ROAD BLDG IL02 ROOM 3035 SCHAUMBURG, IL 60196</td></tr><tr><td>Requestor</td><td>: CEZAR NOWAKOWSKI</td></tr><tr><td>Product Type</td><td>: Vehicle Mounted</td></tr><tr><td>Product Marketing Version (PMN)</td><td>: APX 8500</td></tr><tr><td>Hardware Version Identification Number (HVIN)</td><td>: M37TSS9PW1CN</td></tr><tr><td>Frequency Band</td><td>: 806-825 MHz, 851-870 MHz</td></tr><tr><td>Max RF Output Power</td><td>: 42 Watts</td></tr><tr><td>Applicant Name</td><td>: Motorola Solutions Inc</td></tr><tr><td>Applicant Address</td><td>: Plot 2A, Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia</td></tr><tr><td>ISED Registrations</td><td>: MY0001</td></tr><tr><td>FCC Registrations</td><td>: 461337</td></tr><tr><td>Firmware Version Identification Number (FVIN)</td><td>: D32.50.27</td></tr></table> The equipment was tested accordance to the requirement listed below: <table><tr><td>(LMR) FCC 47 CFR Part 22 / 74 / 90 ISED RSS- Gen Issue 5 / 119 Issue 12</td><td>PASS</td></tr></table>		Date/s Tested	: 06-JAN-2024 - 28-MAY-2024	Report Issue Date	: 12-FEB-2025	Manufacturer	: MOTOROLA SOLUTIONS INC (SCHAUMBURG)	Manufacturer/Location	: 1301 E. ALGONQUIN ROAD BLDG IL02 ROOM 3035 SCHAUMBURG, IL 60196	Requestor	: CEZAR NOWAKOWSKI	Product Type	: Vehicle Mounted	Product Marketing Version (PMN)	: APX 8500	Hardware Version Identification Number (HVIN)	: M37TSS9PW1CN	Frequency Band	: 806-825 MHz, 851-870 MHz	Max RF Output Power	: 42 Watts	Applicant Name	: Motorola Solutions Inc	Applicant Address	: Plot 2A, Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia	ISED Registrations	: MY0001	FCC Registrations	: 461337	Firmware Version Identification Number (FVIN)	: D32.50.27	(LMR) FCC 47 CFR Part 22 / 74 / 90 ISED RSS- Gen Issue 5 / 119 Issue 12	PASS
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Prepared By:  Farah Nur Arina Test Personnel	Approved Signatory: Maheshvaran A/L Rajagopal Responsible Engineer																																

Table of Contents

Report Revision History	3
1.0 General Information	4
2.0 Summary of Test Results	5
3.0 Measurement Uncertainty	7
4.0 Equipment List.....	8
5.0 Test Condition	11
5.1. Transmitter Test Conditions.....	11
6.0 Transmitter Test Parameters	12
6.1. RF Output Power.....	12
6.1.1. Test Setup	12
6.1.2. Test Result.....	12
6.2. Frequency Stability	13
6.2.1. Test Setup	13
6.2.2. Test Result.....	13
6.2.3. Test Limit.....	13
6.3. Modulation Characteristics	14
6.3.1. Test Setup	14
6.3.2. Test Result.....	14
6.3.3. Test Limit.....	15
6.4. Modulation Limiting	16
6.4.1. Test Setup	16
6.4.2. Test Result.....	16
6.4.3. Test Limit.....	16
6.5. Occupied Bandwidth	17
6.5.1. Test Setup (Analog).....	17
6.5.2. Test Result (Analog)	17
6.5.3. Test Setup (Digital)	18
6.5.4. Test Result (Digital)	18
6.5.5. Test Limit.....	18
6.6. Band Edge Conducted Spurious Emission (Part 22)	19
6.6.1. Test Setup (Analog).....	19
6.6.2. Test Result (Analog)	19
6.6.3. Test Setup (Digital)	20
6.6.4. Test Result (Digital)	20
6.6.5. Test Limit.....	20
6.7. Transient Frequency Behavior	21
6.7.1. Test Setup	21
6.7.2. Test Result.....	21
6.7.3. Test Limit.....	22
6.8. Adjacent Channel Power.....	23
6.8.1. Test Setup (Analog).....	23

6.8.2.	Test Result.....	23
6.8.3.	Test Setup (Digital)	24
6.8.4.	Test Result.....	24
6.8.5.	Test Limit.....	25
6.9.	Conducted Spurious Emission	27
6.9.1.	Test Setup	27
6.9.2.	Test Result (Analog)	28
6.9.3.	Test Result (Digital)	40
6.9.4.	Test Limit.....	64
6.10.	Radiated Spurious Emission	65
6.10.1.	Test Setup	65
6.10.2.	Test Result (Analog)	66
6.10.3.	Test Result (Digital)	67
6.10.4.	Test Limit.....	69
6.11.	Effective Radiated Power (ERP)	70
6.11.1.	Test Setup	70
6.11.2.	Test Result.....	70
6.11.3.	Test Limit.....	70
6.12.	GNSS (EIRP for 1559 - 1610MHz)	71
6.12.1.	Test Setup	71
6.12.1.	Test Result.....	71
6.12.2.	Test Limit.....	71

Report Revision History

Revision History	Description	Date	Originator
Rev. A	Initial Report	16-Jan-2025	Farah
Rev. B	Update Product Marketing Version (PMN) and added statement for data referring	12-Feb-2025	Farah

1.0 General Information

EUT Description:

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

The EUT contains following accessory devices and data cable:

Item	Brand	Model or P/N
CABLE, ASSEMBLY,0,CABLE, DC POWER	MOTOROLA	HKN4192C
KEYPAD MICROPHONE	MOTOROLA	HMN4079G
STANDARD SPEAKER 8 OHM	MOTOROLA	HSN4031B
131 CAN CABLE REMOTE MOUNT	MOTOROLA	HKN6164B
CABLE, CH POWER AND SPEAKER	MOTOROLA	HKN6188B
CABLE, DATA, USB, 4-1/2M, XTL5000	MOTOROLA	HKN6172C
07 CONTROL HEAD (ENGLISH)	MOTOROLA	PMHN4194D
02/07 REMOTE CHIB	MOTOROLA	PMUN1057B
ASSEMBLY, TIB, REMOTE	MOTOROLA	AS000016A02

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	RSS-Gen,RSS-119	RF Power Output	Pass		681IZN6390
2.1055, 22.355, 74.464	RSS-119	Frequency Stability	References data from FCC ID AZ492FT7089 / ISED 109U-92FT7089		NA
2.1047	-	Audio Frequency Response	References data from FCC ID AZ492FT7089 / ISED 109U-92FT7089		NA
2.1047	-	Audio Low Pass Filter Response	References data from FCC ID AZ492FT7089 / ISED 109U-92FT7089		NA
2.1047, 74.463	-	Modulation limiting	References data from FCC ID AZ492FT7089 / ISED 109U-92FT7089		NA
2.1049, 22.359, 90.21, 74.462	RSS-119	Occupied Bandwidth	References data from FCC ID AZ492FT7089 / ISED 109U-92FT7089		NA
2.1051, 22.359 (a), (b)	-	Band Edge Conducted Spurious Emission	NA		NA
90.214	RSS-119	Transient Frequency Behavior	NA		NA
90.543(a), (b)	RSS-119	Adjacent Channel Power	NA		NA
2.1051, 22.359, 90.210 74.462(c)	RSS-Gen,RSS-119	Conducted Spurious Emissions	Pass	Worst case: -33.94 dBm	681IZN6390
2.1051, 22.359, 74.462(c)	RSS-Gen,RSS-119	Radiated Spurious Emission	Pass	Worst case: -47.22 dBm (margin: 34.22 dB)	681IZN6378
-	-	GNSS (EIRP for 1559 – 1610MHz)	NA		NA

-	-	Effective Radiated Power (ERP)	NA		NA
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NA → Not Applicable

NOTE: The device components and circuitry of the LMR section are identical to AZ492FT7089 / ISED 109U-92FT7089. The rest of conducted measurements are by similarity. Only worst case configuration of radiated emission based on FCC ID AZ492FT7089 / ISED 109U-92FT7089 is tested. As per KDB 484596 D01v01, the applicant takes full responsibility that data referenced represents compliance to the relevant rules for this current FCC ID.

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 FilterResponse	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: FCC_Analog_v2.5.0)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
CHAMBER	SH-641	92009188	04-Mar-24	04-Mar-25
POWER SUPPLY	6032A	3232A08410	20-Jun-23	20-Jun-24
AUDIO ANALYZER	U8903B	MY61070005	21-Jun-23	21-Jun-24
POWER SENSOR	E4412A	MY50000141	21-Aug-23	21-Aug-24
POWER METER	E4416A	GB41293747	03-Nov-23	03-Nov-24
CXA SIGNAL ANALYZER	N9000B	MY60251600	04-Aug-23	04-Aug-24
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_R1.2.1)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
SWITCH CONTROL UNIT	3488A	2719A36210	Not Required	Not Required
SWITCH DRIVER	11713A	3748A09090	Not Required	Not Required
POWER SENSOR	E9301B	MY50180003	20-Jun-23	20-Jun-24
STEP ATTENUATOR	8496G	MY52300757	20-Jun-23	20-Jun-24
SIGNAL GENERATOR	8657A	3250A05137	22-Jun-23	22-Jun-24
MODULATION ANALYZER	8901B	3749A05886	26-Sep-23	26-Sep-24
ATTENUATOR/110DB	8494G	MY52300115	20-Aug-23	20-Aug-24
POWER SUPPLY	6031A	3313A02714	04-Oct-23	04-Oct-24
SPECTRUM ANALYZER	E4443A	MY46181974	01-Dec-23	01-Dec-24
POWER METER	E4416A	GB41293866	09-Jan-24	09-Jan-25
AUDIO ANALYZER	8903B	3011A12380	29-Dec-23	29-Dec-24
CXA SIGNAL ANALYZER	N9000B	MY60250530	12-Dec-23	12-Dec-24
AUDIO ANALYZER	8903B	2836A05866	09-Feb-24	09-Feb-25
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 1.23.05)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
SWITCH CONTROL UNIT	3488A	2719A32735	Not Required	Not Required
INTERFACE BOX - FILTER	NA	CS001	Not Required	Not Required
POWER SUPPLY	6031A	3506A03271	04-Oct-23	04-Oct-24
SPECTRUM ANALYZER	E4440A	MY46186938	20-Oct-23	20-Oct-24
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

RADIATED EMISSION (CHAMBER 1)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
DRG HORN FREQ.	SAS-571	1143	08-Mar-23	08-Mar-25
DRG HORN FREQ.	SAS-571	720	18-Apr-23	18-Apr-25
DC Power Supply	NR973A	MY54180189	30-Aug-23	30-Aug-24
SIGNAL GENERATOR	SMB 100A	182511	4-Jun-21	4-Jun-24
EMI TEST RECEIVER	ESW44	101731	11-Aug-23	11-Aug-24
5m SEMI-ANECHOIC CHAMBER	S800-HX	J2308	Not Required	Not Required
BILOG ANTENNA	CBL6112B	2950	14-Dec-23	14-Dec-24
BILOG ANTENNA	CBL6112B	2964	25-Sep-23	25-Sep-24
DATA LOGGER THERMOHYGROMETER	SDL500	A.016800	21-Jun-23	21-Jun-24
SYSTEM CONTROLLER	SC104V	050806-1	Not Required	Not Required
TURNTABLE FLUSH MOUNT 2M	FM2011	NA	Not Required	Not Required
ANTENNA POSITIONING TOWER	TLT2	NA	Not Required	Not Required
BROAD-BAND HORN ANTENNA	BBHA9170	BBHA9170255	22-Feb-23	22-Feb-24
PREAMPLIFIER 18-40GHz	Miteq Hi Gain Sucoflex	002	Not Required	Not Required
PREAMPLIFIER	PAM-0118P	269	28-Mar-23	28-Mar-24
LOOP ANTENNA	6502	00203479	16-Feb-23	16-Feb-24
TEST SOFTWARE	EMC_FCC_IC_BLUETOOTH_RE_TEST			
VERSION	EMC_FCC_RE_v1.6.5			

5.0 Test Condition

5.1. Transmitter Test Conditions

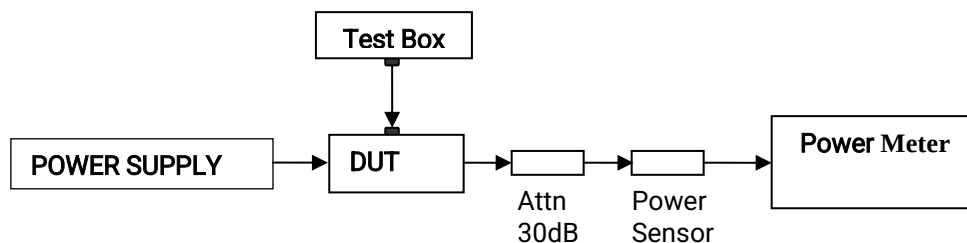
Test Item, (Channel Spacing)	Power (W)	Modulation	Test Frequency (MHz)	Tested By	Environmental conditions
RF Output Power	Low & Max	FM	806.0125, 814.9875, 823.9875, 851.0125, 860.0125, 868.8875	Farah	23.4°C, 50%RH
Frequency Stability	Max	FM	NA	NA	NA
Audio Frequency Response (12.5kHz / 25kHz)	Max	FM	NA	NA	NA
Audio Low Pass Filter Response (12.5kHz / 25kHz)	Max	FM	NA	NA	NA
Modulation limiting (12.5kHz / 25kHz)	Max	FM	NA	NA	NA
Occupied Bandwidth (12.5kHz / 20kHz / 25kHz)	Max	FM/C4FM/Phase II	NA	NA	NA
Band Edge Conducted Spurious Emissions (Part 22) (12.5kHz / 20kHz / 25kHz)	Max	FM/C4FM/Phase II	NA	NA	NA
Transient Frequency Behavior (UHF & VHF Band) (12.5kHz / 25kHz)	Max	FM/C4FM	NA	NA	NA
Adjacent Channel Power (700MHz Band) (12.5kHz / 25kHz)	Max	FM/C4FM/Phase II	NA	NA	NA
Conducted Spurious Emissions- (12.5kHz / 25kHz)	Low / Max	FM/C4FM/Phase II	806.0125, 814.9875, 823.9875, 851.0125, 860.0125, 868.8875	Farah	23.4°C, 50%RH
Radiated Spurious Emission (12.5kHz / 25kHz)	Max	FM	814.9875, 851.0125	Nazrin & Fuad	23.4°C, 50%RH
GNSS (EIRP for 1559 - 1610MHz) (12.5kHz / 25kHz)	Max	FM/C4FM/Phase II	NA	NA	NA
Effective Radiated Power (ERP) (12.5kHz / 25kHz)	Max	FM/C4FM/Phase II	NA	NA	NA

NA → Not Applicable

6.0 Transmitter Test Parameters

6.1. RF Output Power

6.1.1. Test Setup



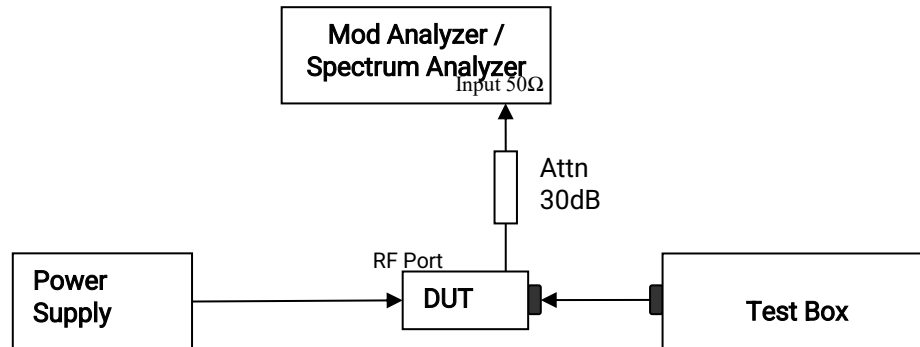
- 1) The DUT transmitter connected to Power Meter using the 30 dB attenuator and power sensor with above setup.
- 2) Path loss for the measurement included.
- 3) All the measurement was done at low, mid, high frequency for each band.
- 4) Record the power into the test report.

6.1.2. Test Result

Temperature	25°C			
Voltage (V)	13.6V			
Frequency (MHz)	Low Power (W)	Current (A)	Max Power (W)	Current (A)
806.0125	0.91	2.58	40.80	10.29
814.98750	0.92	2.61	41.00	10.65
823.98750	0.92	2.64	41.20	11.05
851.01250	0.97	2.80	41.20	11.08
860.01250	0.94	2.82	41.10	10.66
868.88750	0.93	2.76	41.20	10.09

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

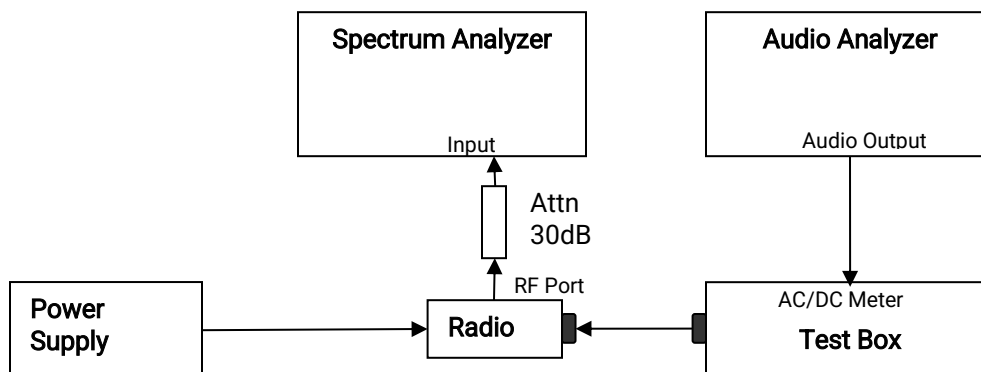
6.2.2. Test Result Not Applicable

6.2.3. Test Limit

The frequency stability limit is established as the most stringent value derived from the applicable regulatory requirements or the product-declared specifications.

6.3. Modulation Characteristics

6.3.1. Test Setup



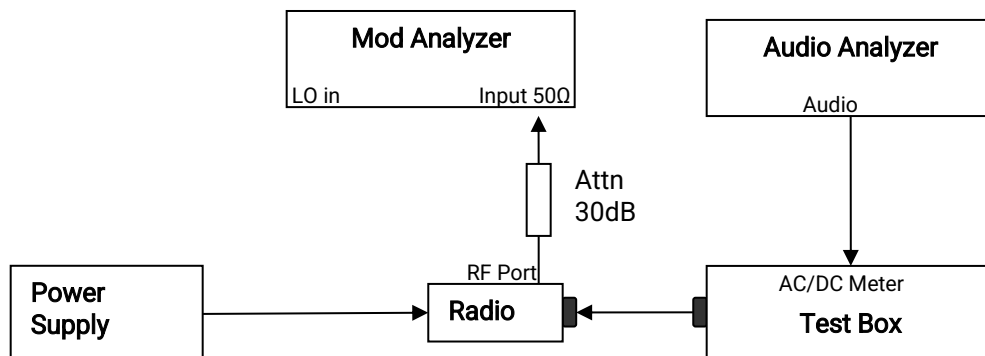
- 1) The DUT transmitter output port was connected to Modulation Analyzer.
- 2) Path loss for the measurement included.
- 3) Set the audio bandwidth filter to 15 kHz and 50 kHz.
- 4) Transmit the radio and set the audio analyzer to 1 kHz audio frequency and 20% of the Full rated system deviation.
- 5) On audio analyzer, set the rated level as 0dB reference
- 6) Vary the audio frequency from 300 Hz to 20 kHz. Record the change in modulation in reference to step 5.

6.3.2. Test Result

Not Applicable

6.4. Modulation Limiting

6.4.1. 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.

6.4.2. Test Result

Not Applicable

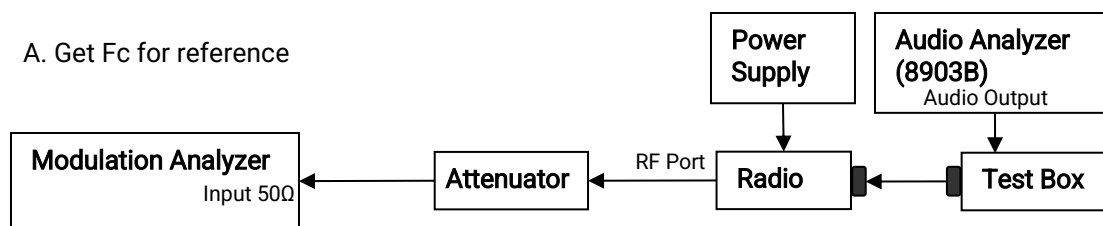
6.4.3. Test Limit

Modulation Limiting shall not exceed 100 percent.

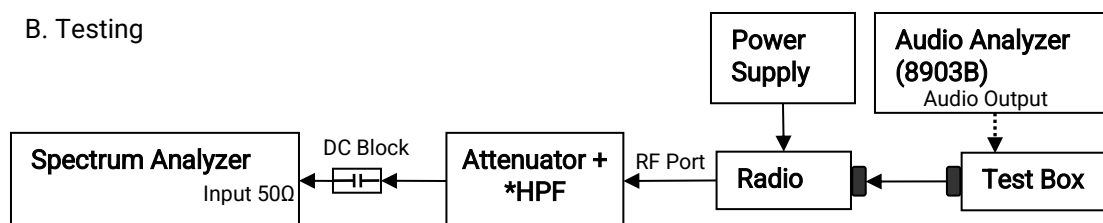
6.5. Occupied Bandwidth

6.5.1. Test Setup (Analog)

A. Get F_c 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 F_c 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.

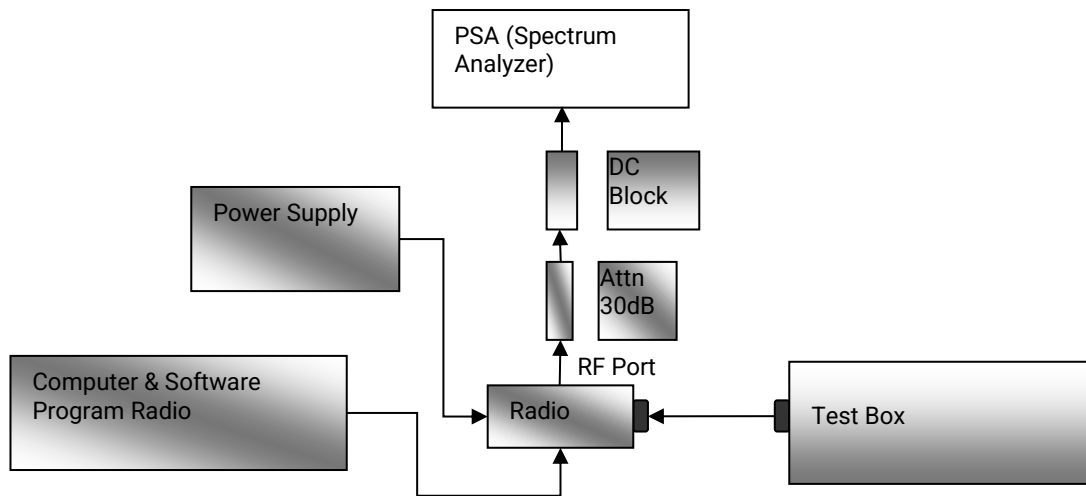
* Only HPF added for Mask 80.211 measurement with attenuator.

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

6.5.2. Test Result (Analog)

Not Applicable

6.5.3. 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.

6.5.4. Test Result (Digital)

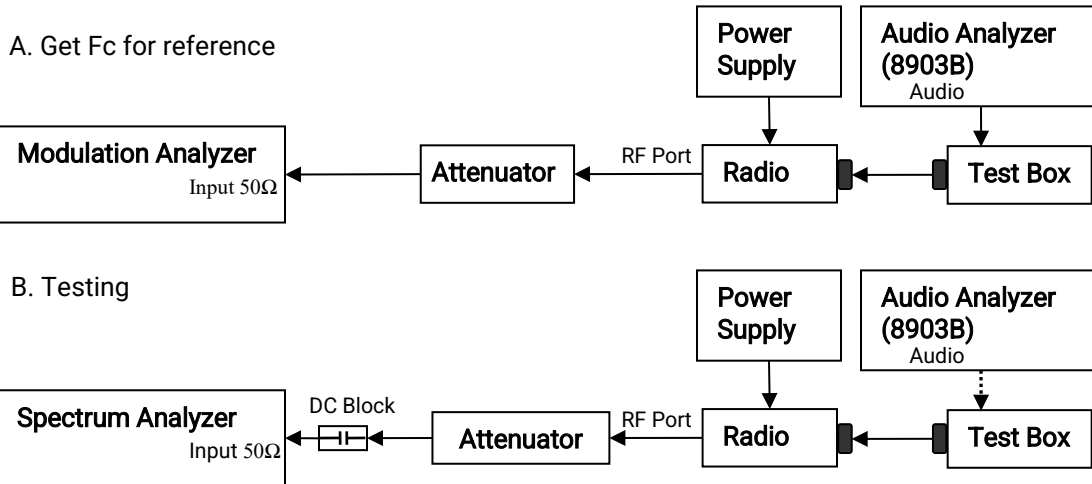
Not Applicable

6.5.5. 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.

6.6. Band Edge Conducted Spurious Emission (Part 22)

6.6.1. Test Setup (Analog)



- 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.

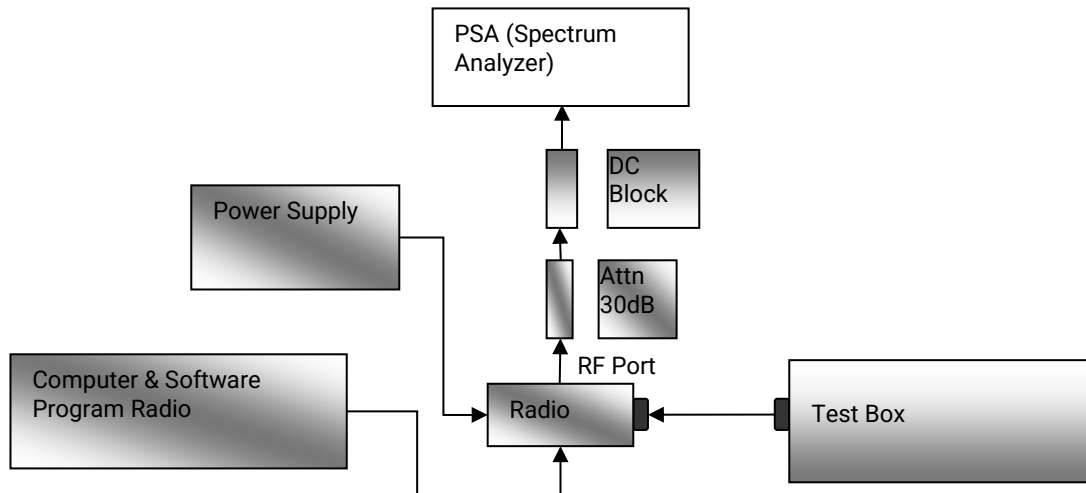
*Note:

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

6.6.2. 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% 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.

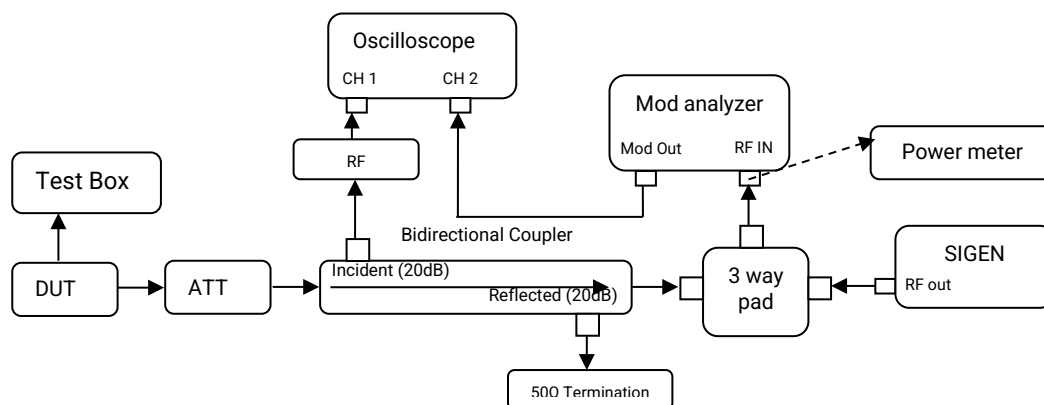
6.6.4. Test Result (Digital) Not Applicable

6.6.5. 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.

6.7. Transient Frequency Behavior

6.7.1. Test Setup



- 1) Connect the setup as figure above.
- 2) Path loss for the measurement included.
- 3) Set on Siggen 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 $\leq -11\text{dBm}$ 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.

6.7.2. Test Result Not Applicable

6.7.3. 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_{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.

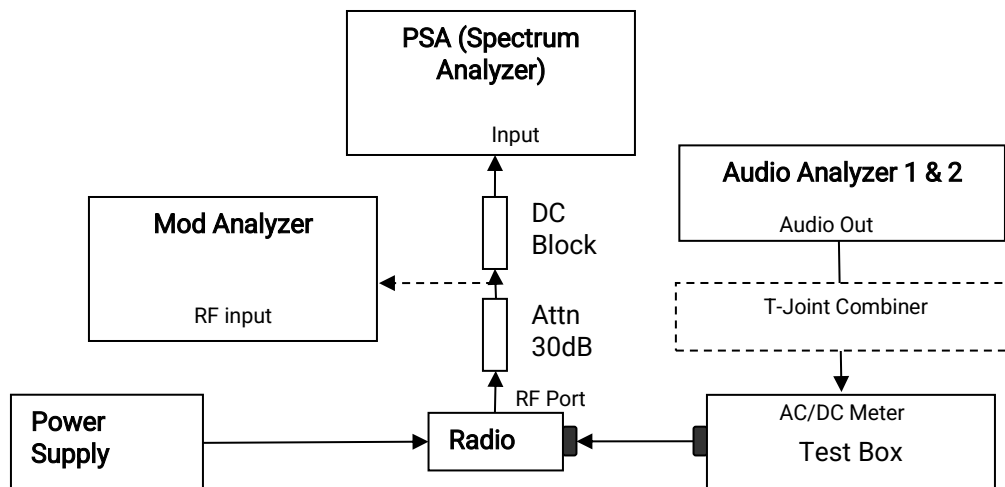
² During the time from the end of t_2 to the beginning of t_3 , the frequency difference must not exceed the limits specified in §90.213.

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.

6.8. Adjacent Channel Power

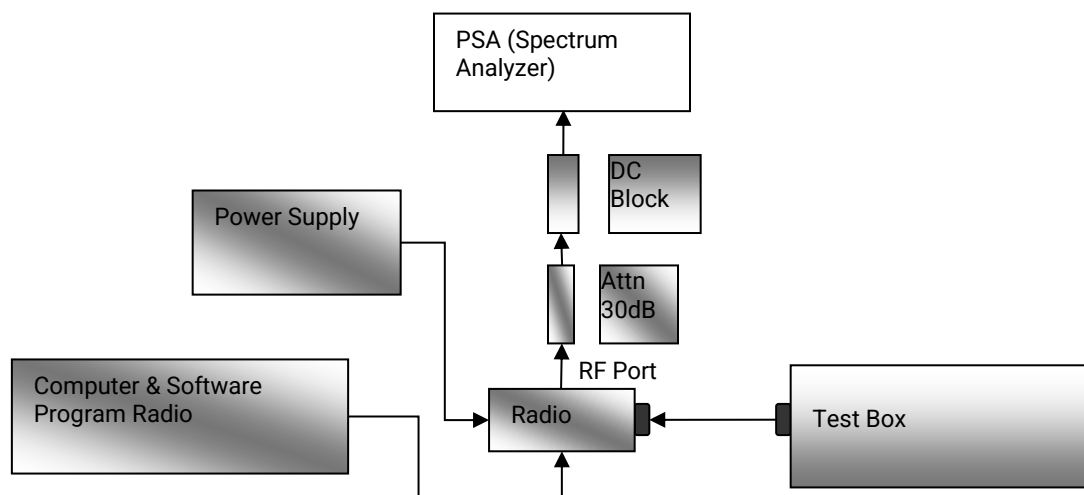
6.8.1. Test Setup (Analog)



- 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.

6.8.2. Test Result Not Applicable

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) 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.

6.8.4. Test Result Not Applicable

6.8.5. 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

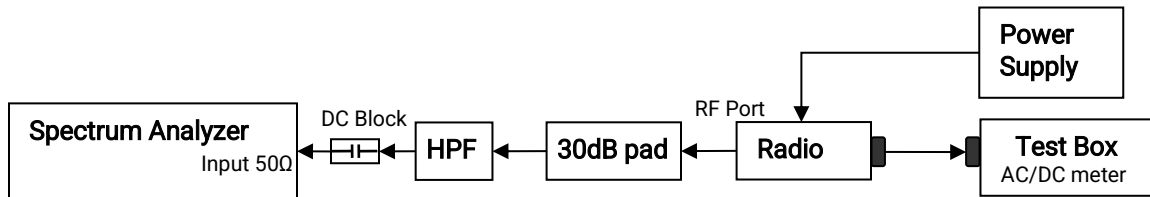
Offset from center frequency (kHz)	Measurement bandwidth (kHz)	Maximum ACP (dBc)
9.375	6.25	-40
15.625	6.25	-60
21.875	6.25	-60
37.5	25	-60
62.5	25	-65
87.5	25	-65
150	100	-65
250	100	-65
350.00	100	-65
>400 kHz to 12 MHz	30 (s)	-80
12 MHz to paired receive band	30 (s)	-80
In the paired receive band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

6.9. Conducted Spurious Emission

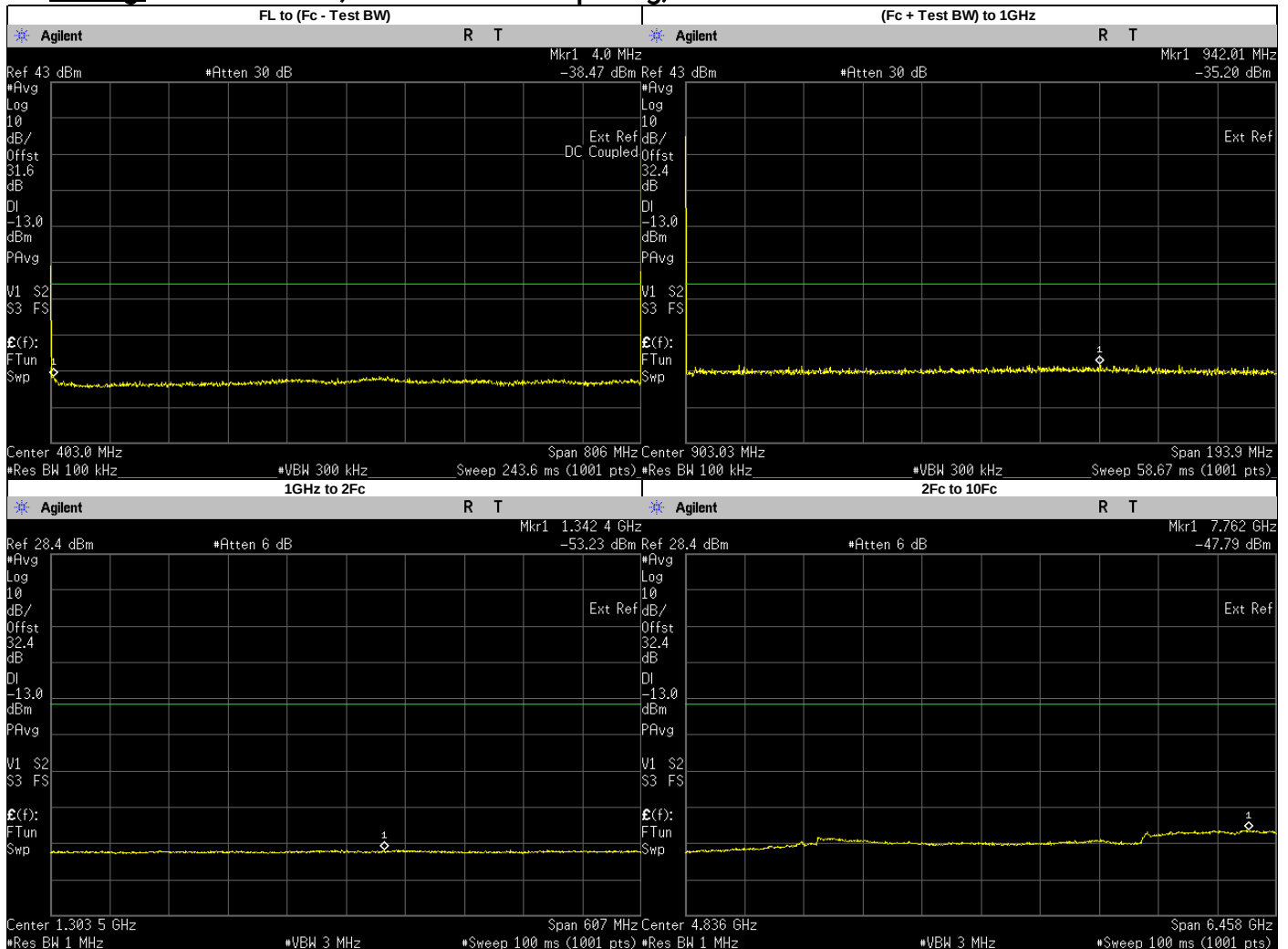
6.9.1. Test Setup



- 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 $F_c - \text{Test Bandwidth}$
 - b. $F_c + \text{Test Bandwidth}$ to $2F_c - 5\text{MHz}$.
- 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 $2F_c$ to $10F_c$
- 11) Key up the DUT and record the highest spur levels of spurious emissions.

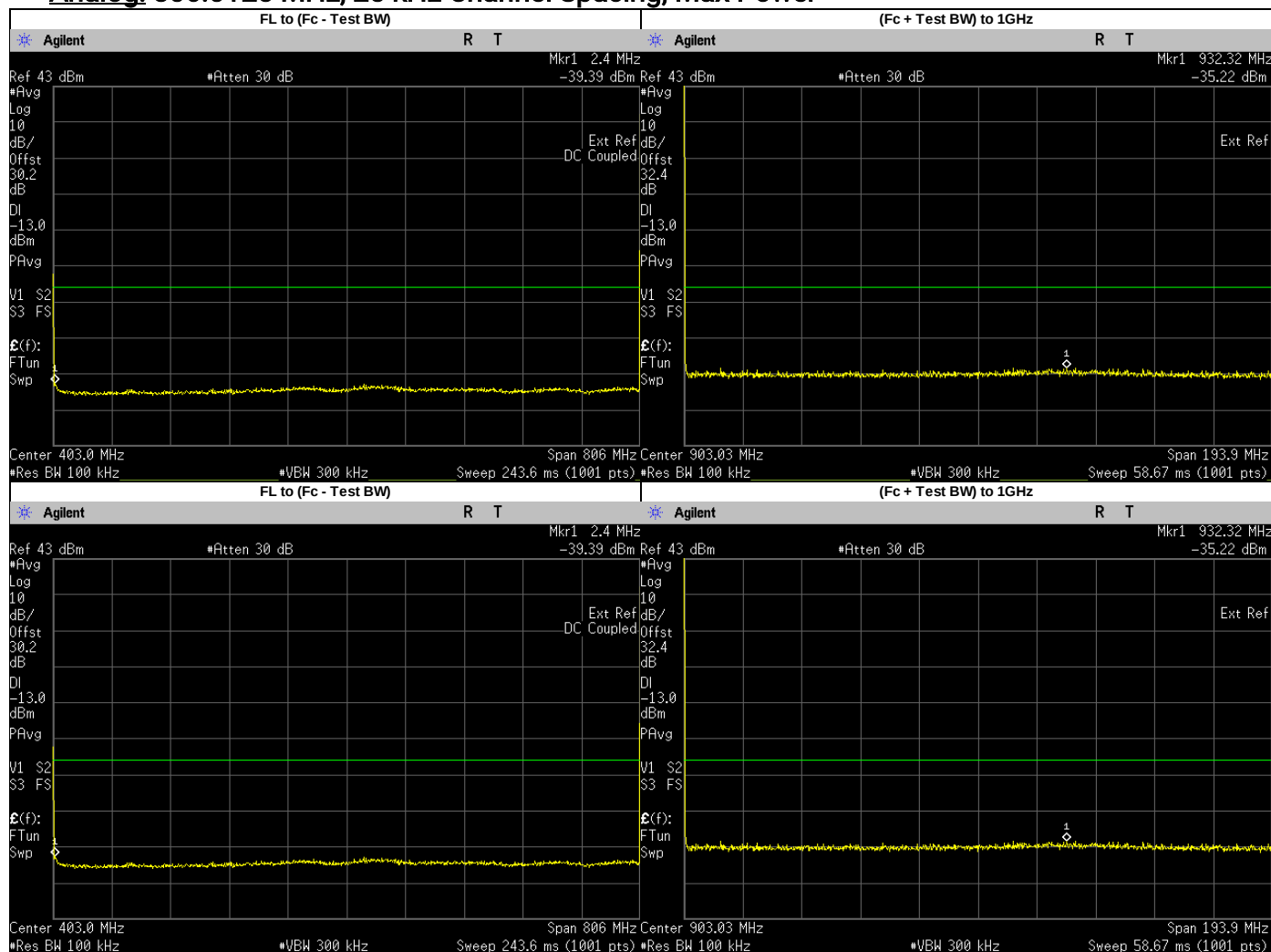
6.9.2. Test Result (Analog)

Analog: 806.0125 MHz, 25 kHz Channel Spacing, Low Power



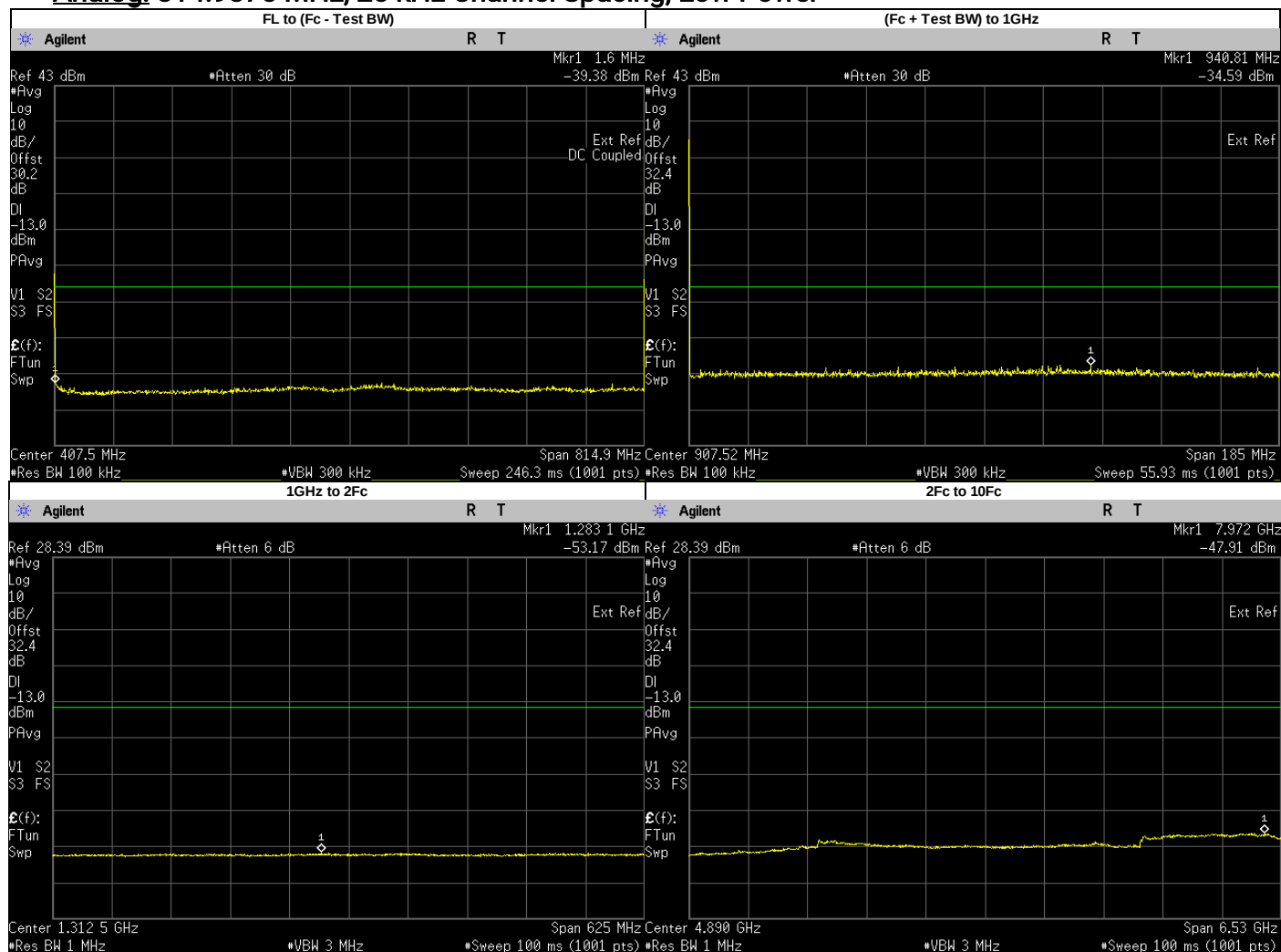
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	4.0000	-38.4700	-13	PASS
(Fc + Test BW) to 1GHz	942.0127	-35.2000	-13	PASS
1GHz to 2Fc	1342.3620	-53.2300	-13	PASS
2Fc to 10Fc	7761.5940	-47.7900	-13	PASS
	1612.0250	-54.0438	-13	PASS
	2418.0370	-53.1255	-13	PASS
	3224.0500	-50.2191	-13	PASS
	4030.0620	-51.3717	-13	PASS
	4836.0750	-51.4540	-13	PASS
	5642.0870	-51.5367	-13	PASS
	6448.1000	-51.5649	-13	PASS
	7254.1130	-48.6285	-13	PASS
	8060.1250	-48.6299	-13	PASS

Analog: 806.0125 MHz, 25 kHz Channel Spacing, Max Power



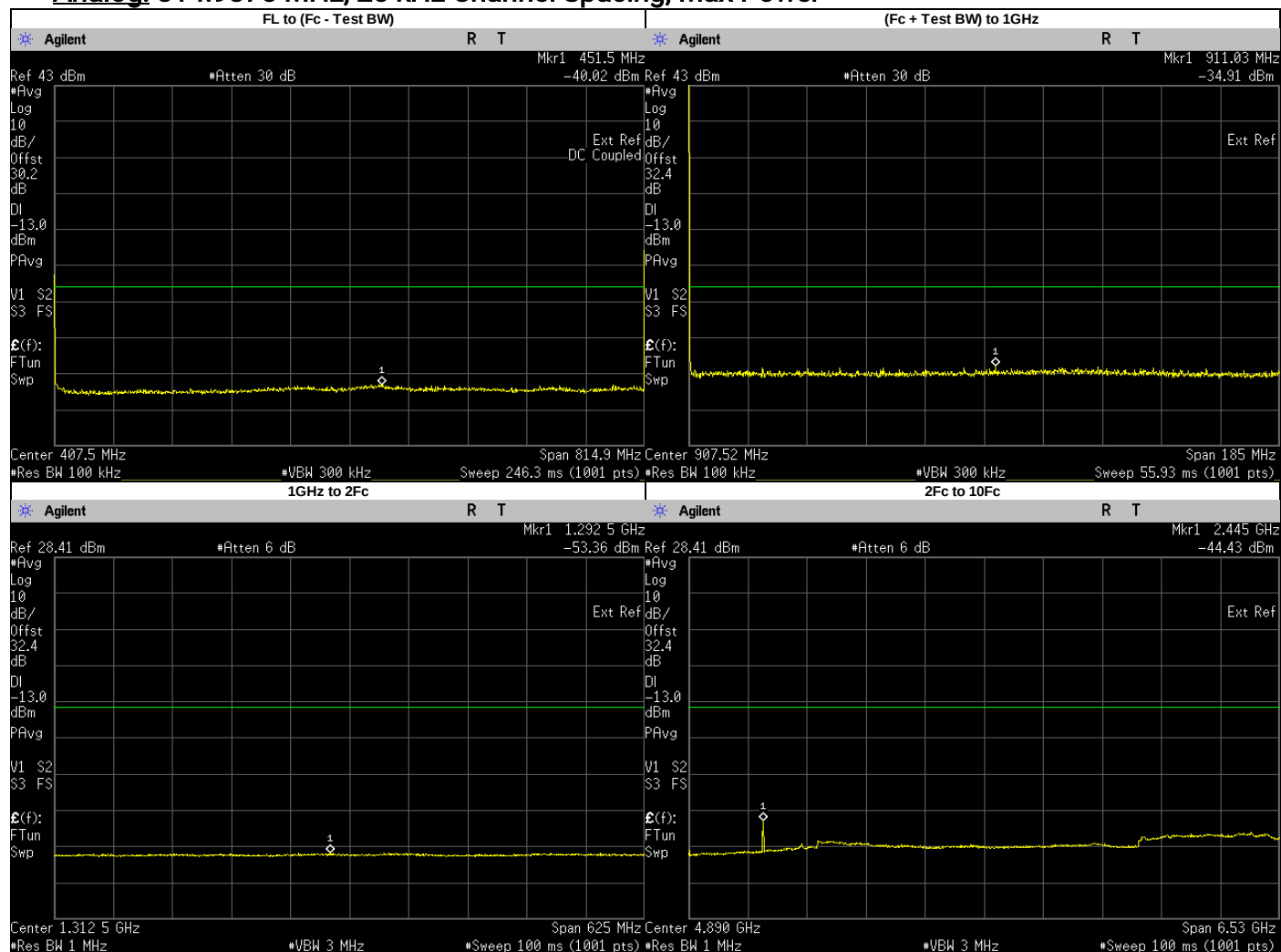
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	2.4000	-39.3860	-13	PASS
(Fc + Test BW) to 1GHz	932.3158	-35.2300	-13	PASS
1GHz to 2Fc	1593.6700	-53.2600	-13	PASS
2Fc to 10Fc	2418.0370	-46.9600	-13	PASS
	1612.0250	-53.3223	-13	PASS
	3224.0500	-50.3005	-13	PASS
	4030.0620	-51.2612	-13	PASS
	4836.0750	-51.2260	-13	PASS
	5642.0870	-51.4613	-13	PASS
	6448.1000	-51.5636	-13	PASS
	7254.1130	-48.2570	-13	PASS
	8060.1250	-48.8594	-13	PASS

Analog: 814.9875 MHz, 25 kHz Channel Spacing, Low Power



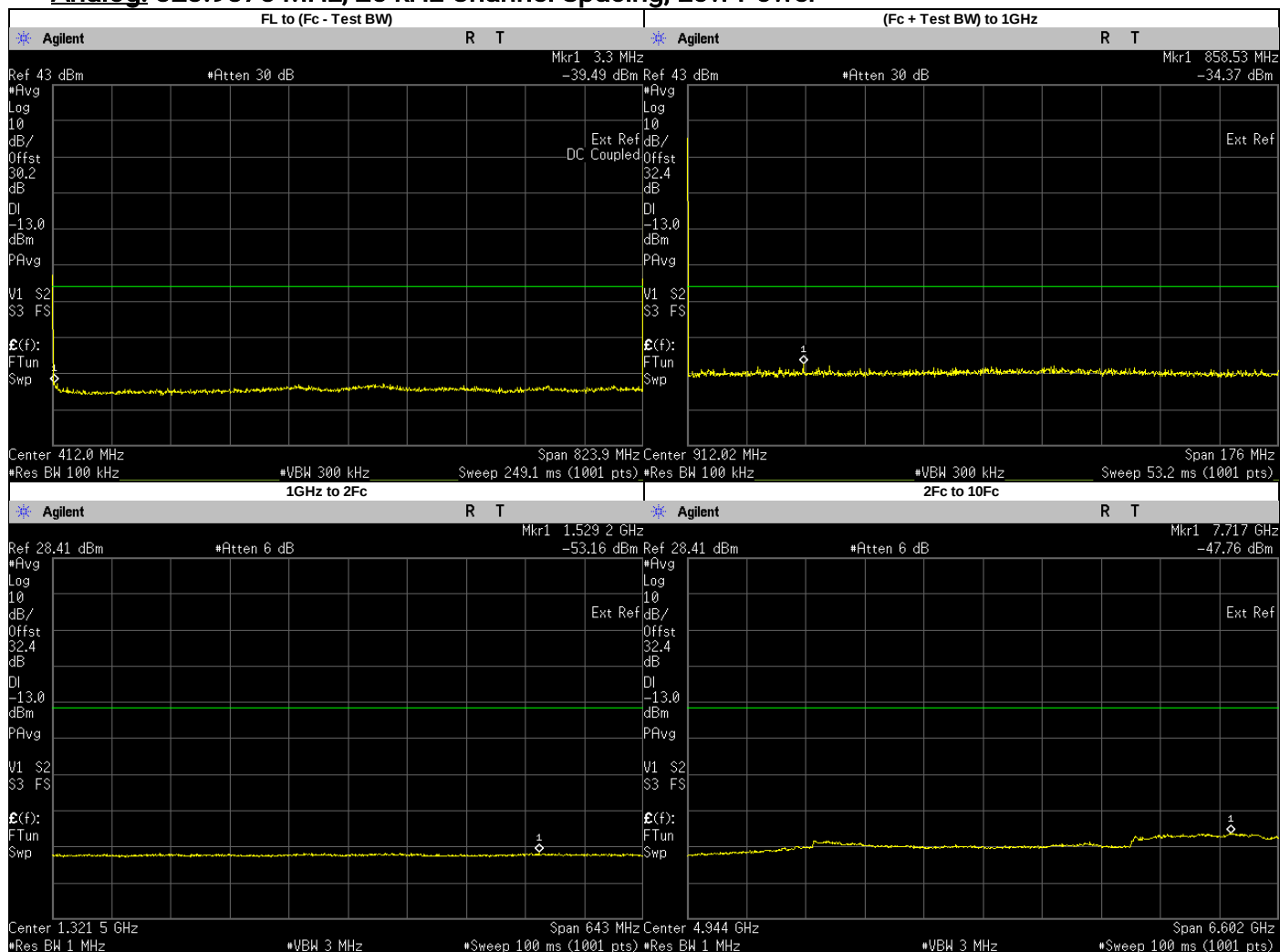
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	1.6000	-39.3800	-13	PASS
(Fc + Test BW) to 1GHz	940.8120	-34.5900	-13	PASS
1GHz to 2Fc	1283.1140	-53.1700	-13	PASS
2Fc to 10Fc	7972.0380	-47.9100	-13	PASS
	1629.9750	-53.9201	-13	PASS
	2444.9630	-52.9984	-13	PASS
	3259.9500	-50.5429	-13	PASS
	4074.9370	-51.5446	-13	PASS
	4889.9250	-51.4590	-13	PASS
	5704.9130	-51.3467	-13	PASS
	6519.9000	-51.5875	-13	PASS
	7334.8870	-48.5747	-13	PASS
	8149.8750	-49.2921	-13	PASS

Analog: 814.9875 MHz, 25 kHz Channel Spacing, Max Power



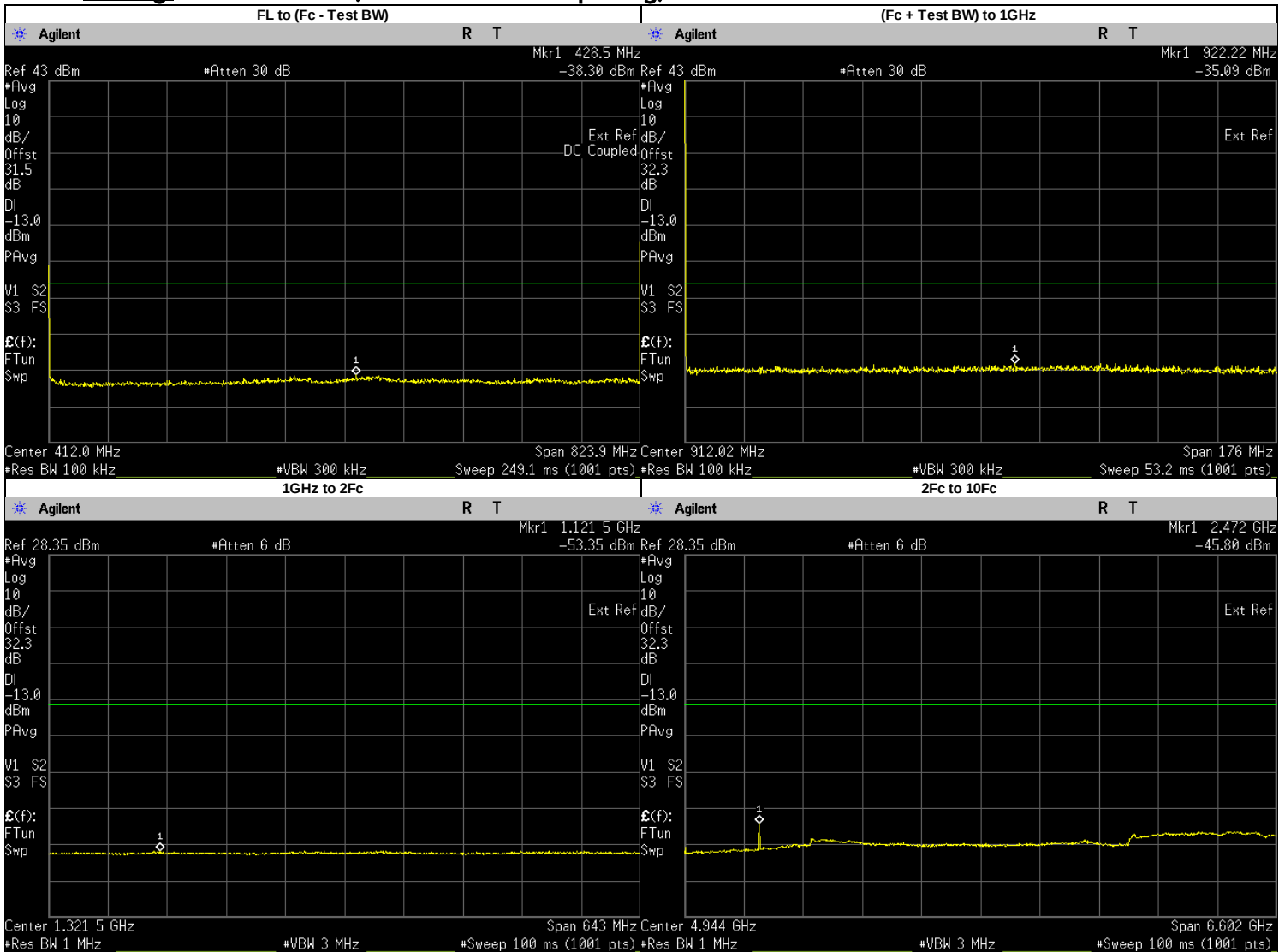
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	451.5000	-40.0180	-13	PASS
(Fc + Test BW) to 1GHz	911.0330	-34.9100	-13	PASS
1GHz to 2Fc	1292.4880	-53.3600	-13	PASS
2Fc to 10Fc	2444.9630	-46.7866	-13	PASS
	1629.9750	-52.7773	-13	PASS
	3259.9500	-50.3473	-13	PASS
	4074.9370	-51.5340	-13	PASS
	4889.9250	-51.6600	-13	PASS
	5704.9130	-51.2995	-13	PASS
	6519.9000	-51.5777	-13	PASS
	7334.8870	-48.5271	-13	PASS
	8149.8750	-49.1417	-13	PASS

Analog: 823.9875 MHz, 25 kHz Channel Spacing, Low Power



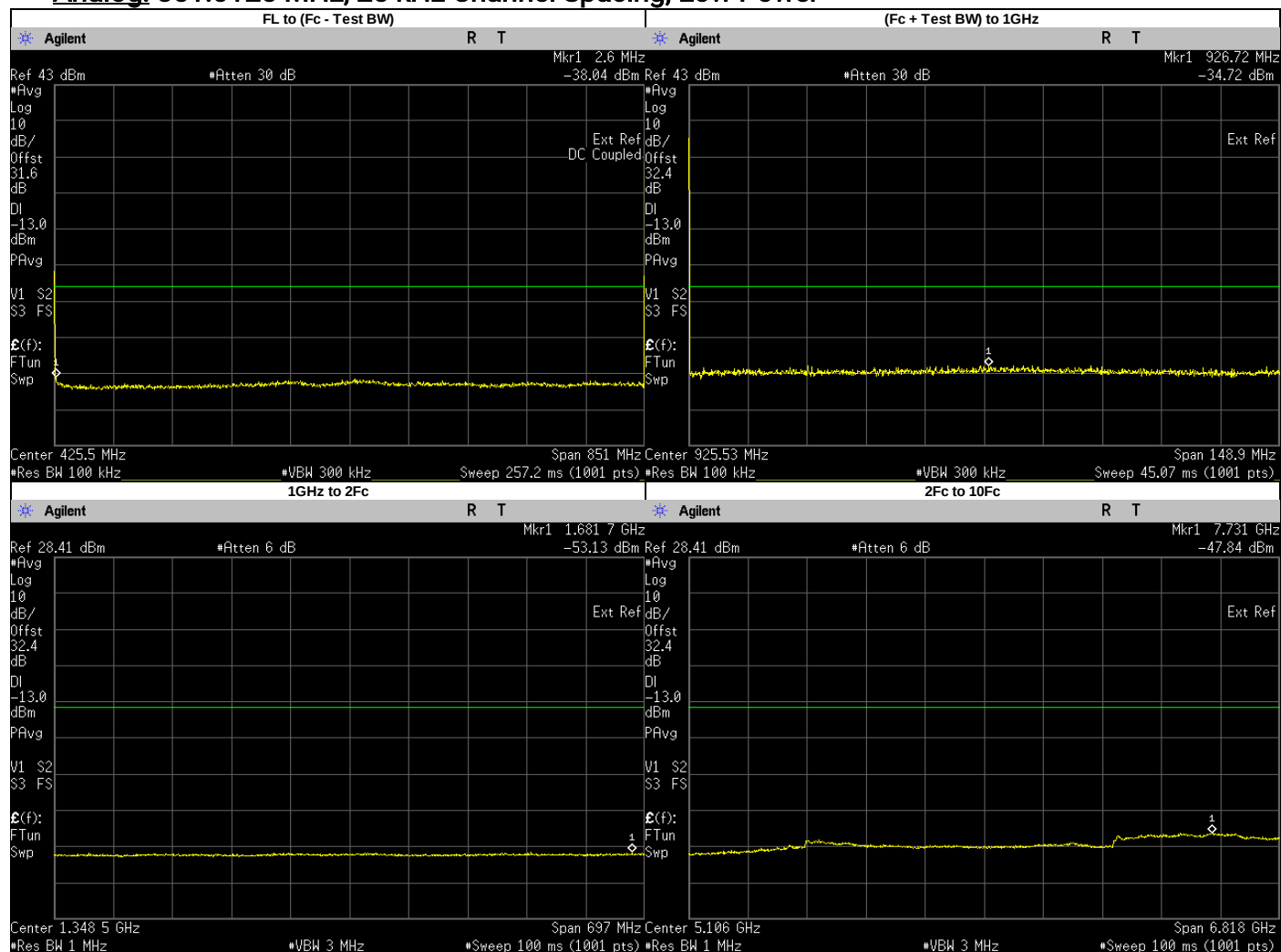
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	3.3000	-39.4850	-13	PASS
(Fc + Test BW) to 1GHz	858.5262	-34.3700	-13	PASS
1GHz to 2Fc	1529.1680	-53.1600	-13	PASS
2Fc to 10Fc	7716.7230	-47.7600	-13	PASS
	1647.9750	-53.9509	-13	PASS
	2471.9630	-52.8079	-13	PASS
	3295.9500	-50.5537	-13	PASS
	4119.9370	-51.5435	-13	PASS
	4943.9250	-51.6000	-13	PASS
	5767.9130	-51.2519	-13	PASS
	6591.9000	-51.5060	-13	PASS
	7415.8870	-48.2570	-13	PASS
	8239.8750	-48.9803	-13	PASS

Analog: 823.9875 MHz, 25 kHz Channel Spacing, Max Power



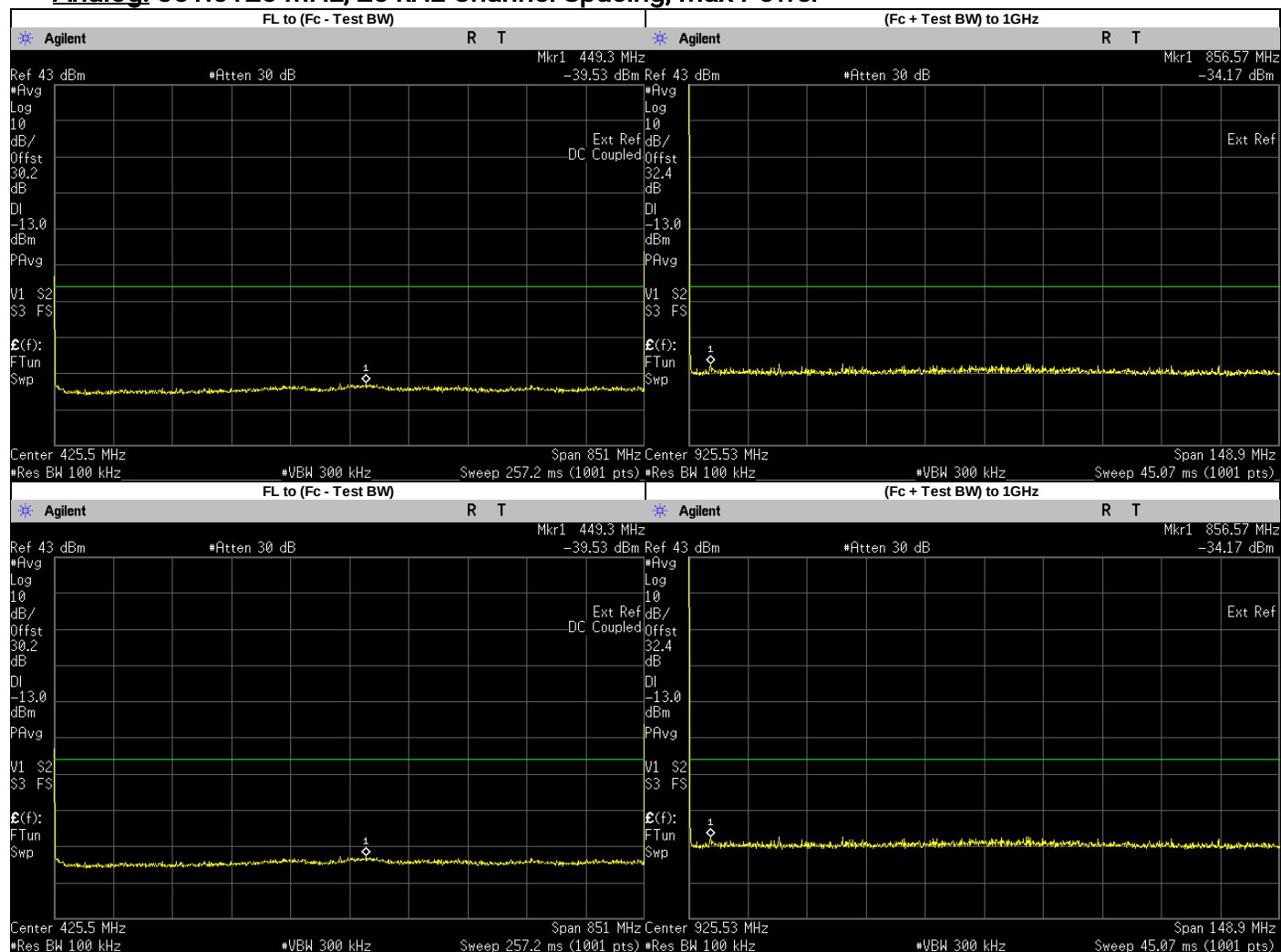
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	428.5000	-38.3000	-13	PASS
(Fc + Test BW) to 1GHz	922.2246	-35.0900	-13	PASS
1GHz to 2Fc	1121.5220	-53.3500	-13	PASS
2Fc to 10Fc	2471.9630	-45.8000	-13	PASS
	1647.9750	-52.8006	-13	PASS
	3295.9500	-50.4016	-13	PASS
	4119.9370	-51.6933	-13	PASS
	4943.9250	-51.5870	-13	PASS
	5767.9130	-51.2405	-13	PASS
	6591.9000	-51.7014	-13	PASS
	7415.8870	-48.2036	-13	PASS
	8239.8750	-49.0917	-13	PASS

Analog: 851.0125 MHz, 25 kHz Channel Spacing, Low Power



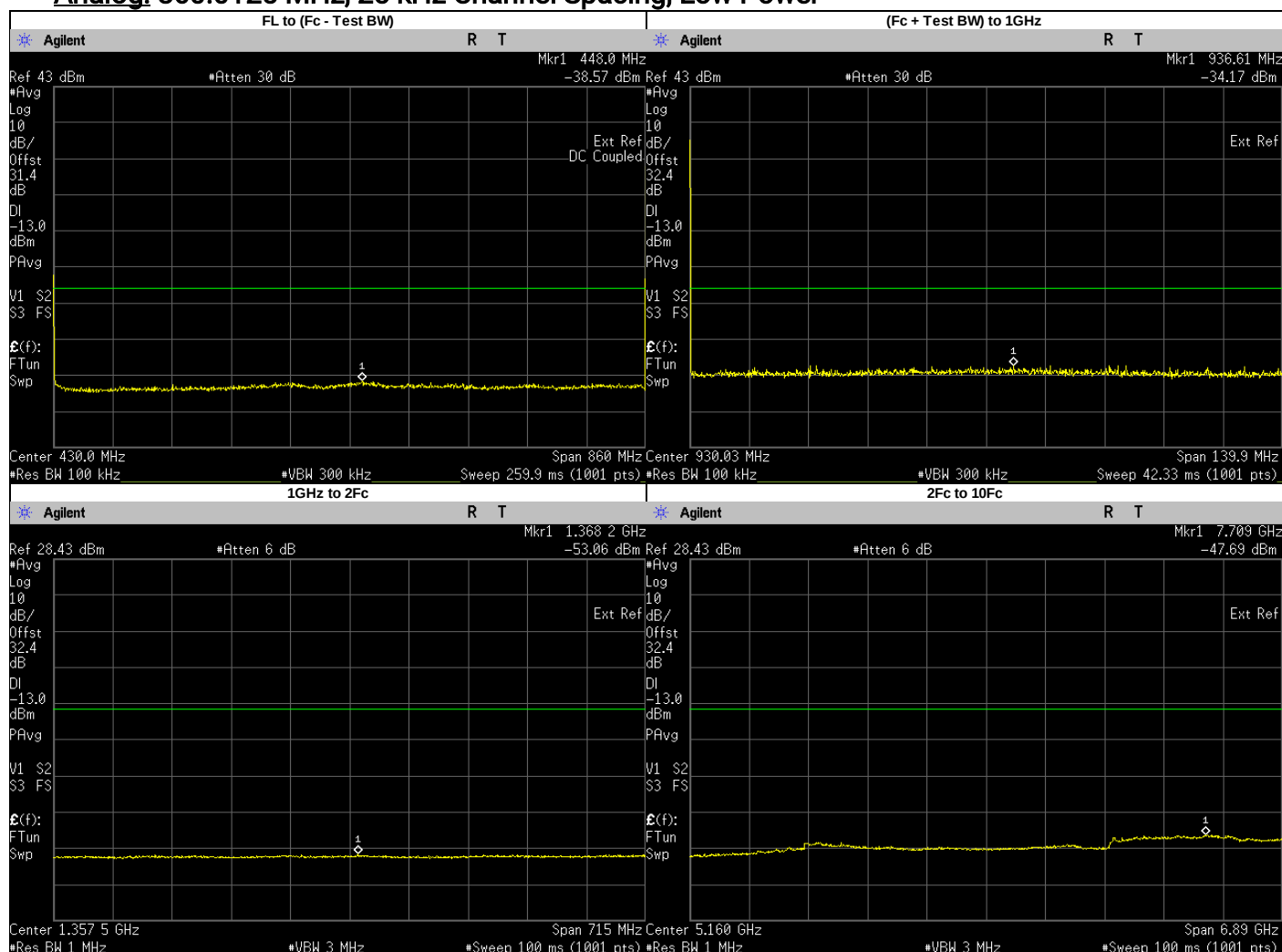
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	2.6000	-38.0420	-13	PASS
(Fc + Test BW) to 1GHz	926.7228	-34.7300	-13	PASS
1GHz to 2Fc	1681.6900	-53.1300	-13	PASS
2Fc to 10Fc	7731.0430	-47.8400	-13	PASS
	1702.0250	-53.5929	-13	PASS
	2553.0370	-52.5927	-13	PASS
	3404.0500	-50.9150	-13	PASS
	4255.0620	-51.5936	-13	PASS
	5106.0750	-51.5050	-13	PASS
	5957.0870	-51.2443	-13	PASS
	6808.1000	-49.1350	-13	PASS
	7659.1130	-48.6440	-13	PASS
	8510.1250	-49.2985	-13	PASS

Analog: 851.0125 MHz, 25 kHz Channel Spacing, Max Power



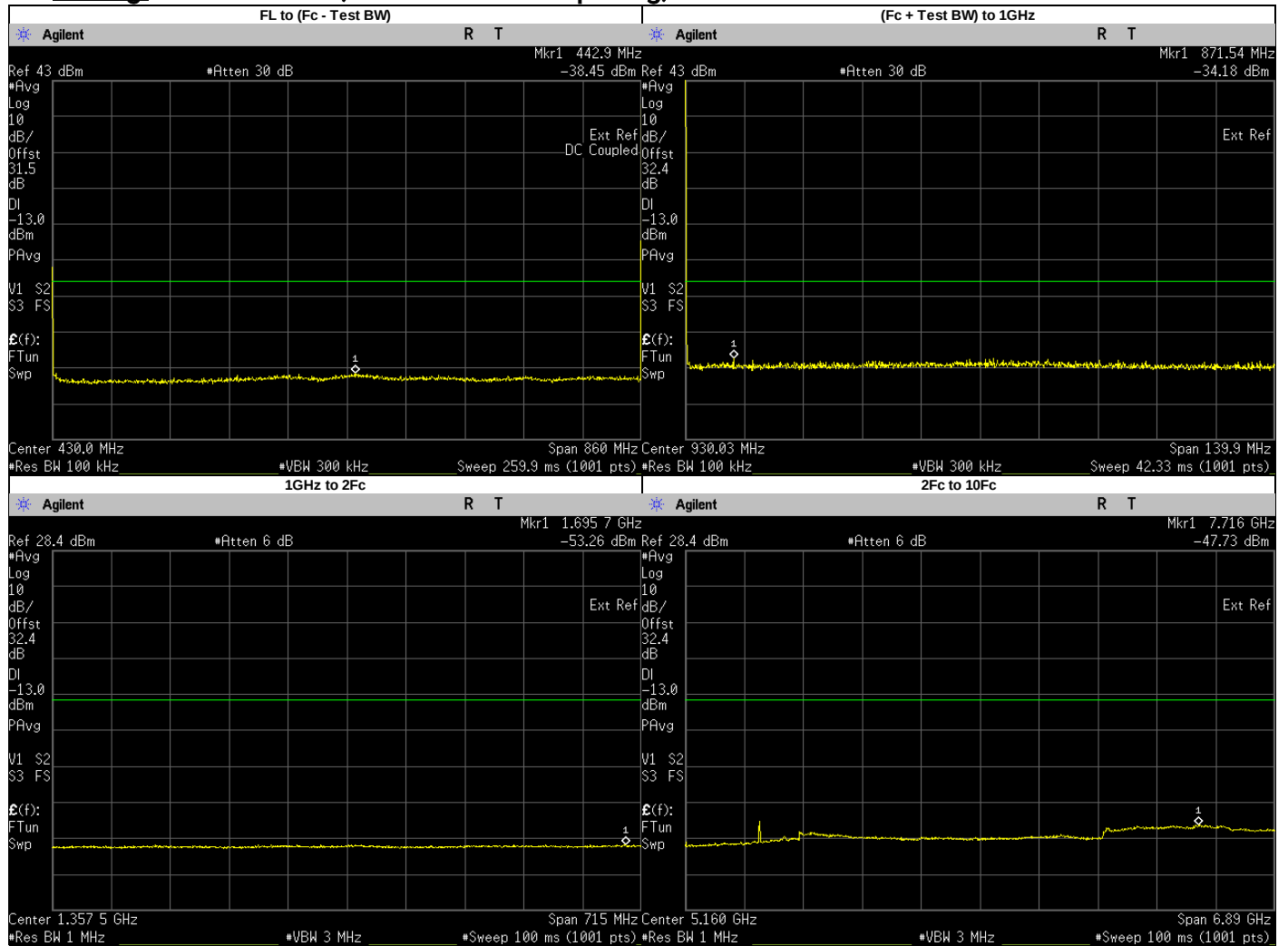
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	449.3000	-39.5340	-13	PASS
(Fc + Test BW) to 1GHz	856.5732	-34.1700	-13	PASS
1GHz to 2Fc	1695.6310	-53.0500	-13	PASS
2Fc to 10Fc	2553.0370	-46.4737	-13	PASS
	1702.0250	-51.9751	-13	PASS
	3404.0500	-50.5070	-13	PASS
	4255.0620	-51.8400	-13	PASS
	5106.0750	-51.6450	-13	PASS
	5957.0870	-51.2098	-13	PASS
	6808.1000	-49.2293	-13	PASS
	7659.1130	-48.3553	-13	PASS
	8510.1250	-49.4478	-13	PASS

Analog: 860.0125 MHz, 25 kHz Channel Spacing, Low Power



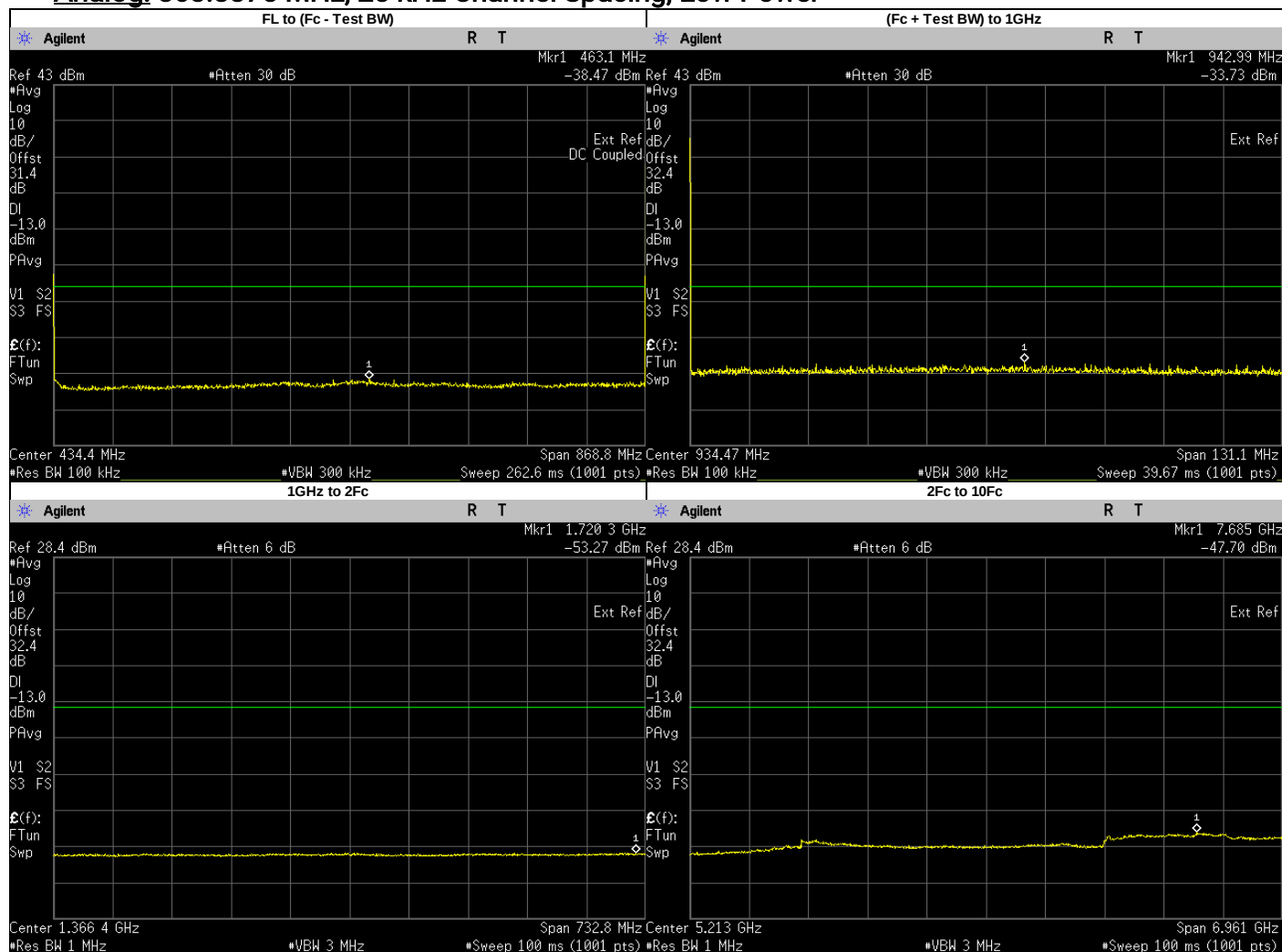
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	448.0000	-38.5740	-13	PASS
(Fc + Test BW) to 1GHz	936.6083	-34.1700	-13	PASS
1GHz to 2Fc	1368.2380	-53.0600	-13	PASS
2Fc to 10Fc	7709.4120	-47.6900	-13	PASS
	1720.0250	-53.6727	-13	PASS
	2580.0370	-52.6820	-13	PASS
	3440.0500	-50.6826	-13	PASS
	4300.0620	-51.9067	-13	PASS
	5160.0750	-51.8270	-13	PASS
	6020.0870	-51.2310	-13	PASS
	6880.1000	-48.8280	-13	PASS
	7740.1130	-47.9258	-13	PASS
	8600.1250	-49.0872	-13	PASS

Analog: 860.0125 MHz, 25 kHz Channel Spacing, Max Power



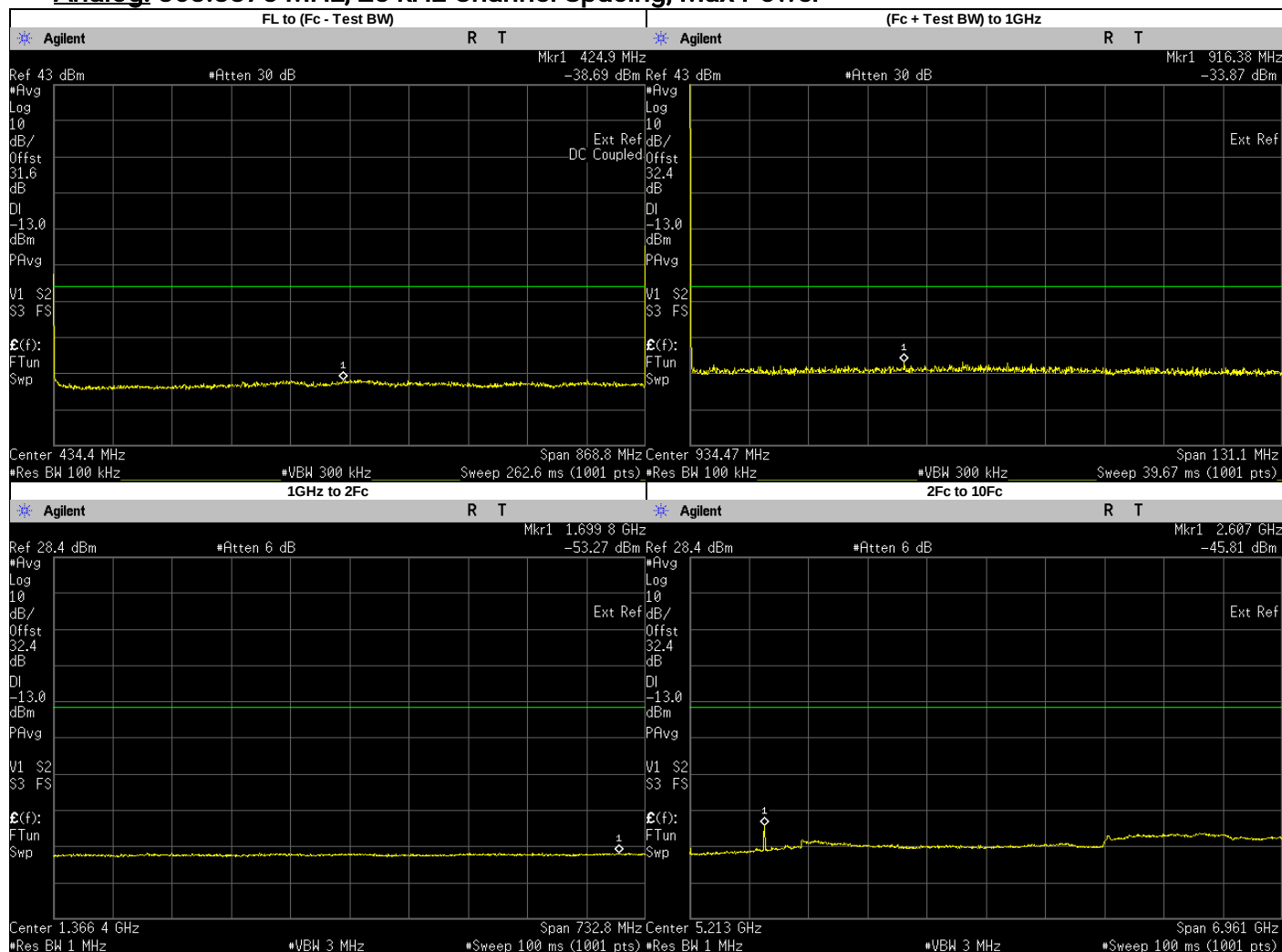
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	442.9000	-38.4540	-13	PASS
(Fc + Test BW) to 1GHz	871.5374	-34.1800	-13	PASS
1GHz to 2Fc	1695.7190	-53.2600	-13	PASS
2Fc to 10Fc	7716.3020	-47.7300	-13	PASS
	1720.0250	-52.9214	-13	PASS
	2580.0370	-47.9040	-13	PASS
	3440.0500	-50.6221	-13	PASS
	4300.0620	-51.6450	-13	PASS
	5160.0750	-51.9050	-13	PASS
	6020.0870	-50.8943	-13	PASS
	6880.1000	-49.0522	-13	PASS
	7740.1130	-48.0423	-13	PASS
	8600.1250	-49.2532	-13	PASS

Analog: 868.8875 MHz, 25 kHz Channel Spacing, Low Power



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	463.1000	-38.4730	-13	PASS
(Fc + Test BW) to 1GHz	942.9878	-33.7300	-13	PASS
1GHz to 2Fc	1720.3180	-53.2700	-13	PASS
2Fc to 10Fc	7684.5160	-47.7000	-13	PASS
	1737.7750	-53.6379	-13	PASS
	2606.6620	-52.8040	-13	PASS
	3475.5500	-50.7798	-13	PASS
	4344.4370	-52.0589	-13	PASS
	5213.3250	-51.8120	-13	PASS
	6082.2120	-51.0829	-13	PASS
	6951.1000	-48.8686	-13	PASS
	7819.9880	-48.3533	-13	PASS
	8688.8750	-49.2906	-13	PASS

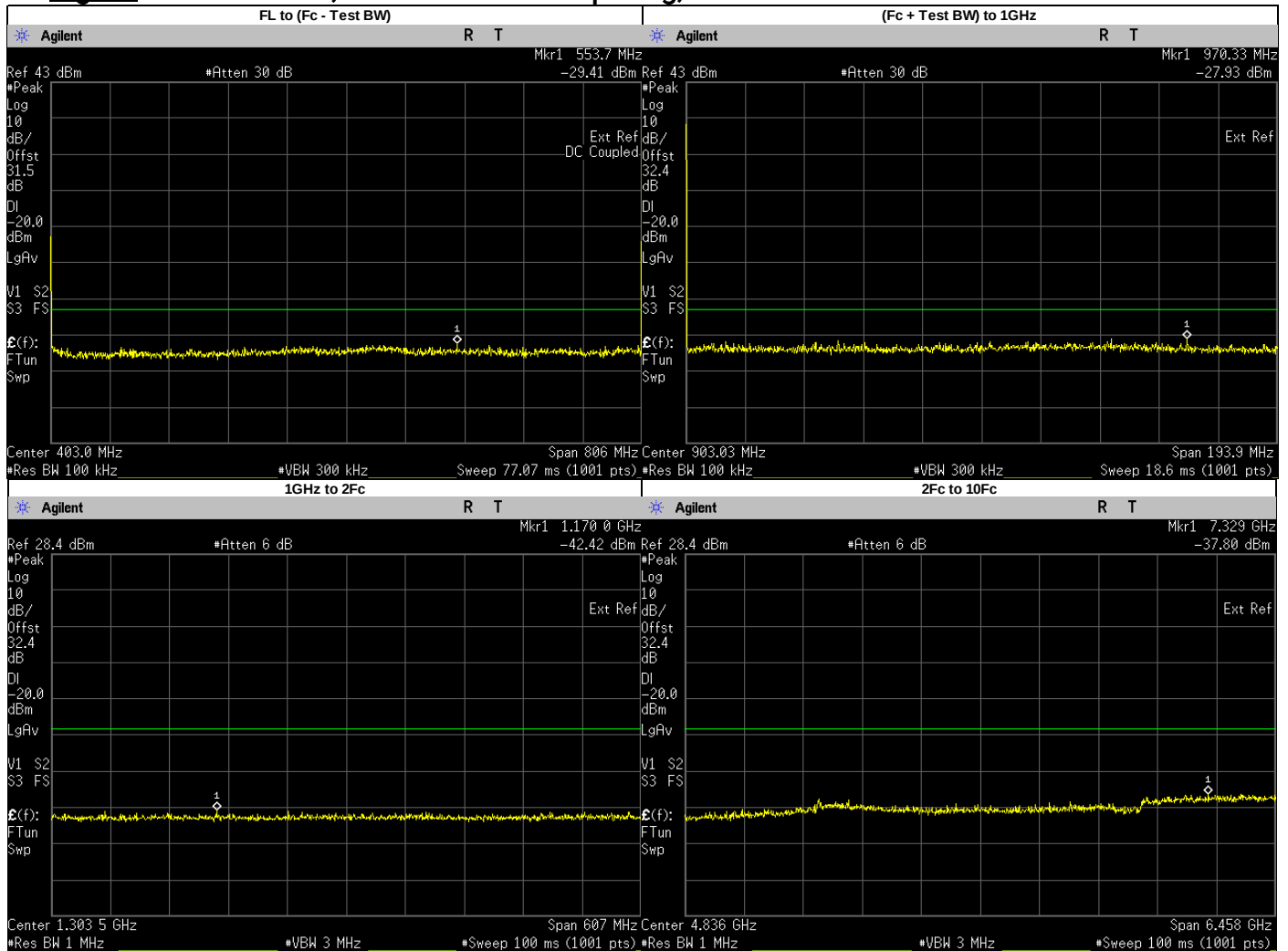
Analog: 868.8875 MHz, 25 kHz Channel Spacing, Max Power



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	424.9000	-38.6870	-13	PASS
(Fc + Test BW) to 1GHz	916.3821	-33.8700	-13	PASS
1GHz to 2Fc	1699.8000	-53.2700	-13	PASS
2Fc to 10Fc	2606.6620	-46.9436	-13	PASS
	1737.7750	-52.5210	-13	PASS
	3475.5500	-50.8124	-13	PASS
	4344.4370	-51.7843	-13	PASS
	5213.3250	-51.8740	-13	PASS
	6082.2120	-50.8507	-13	PASS
	6951.1000	-48.7618	-13	PASS
	7819.9880	-48.2226	-13	PASS
	8688.8750	-49.3476	-13	PASS

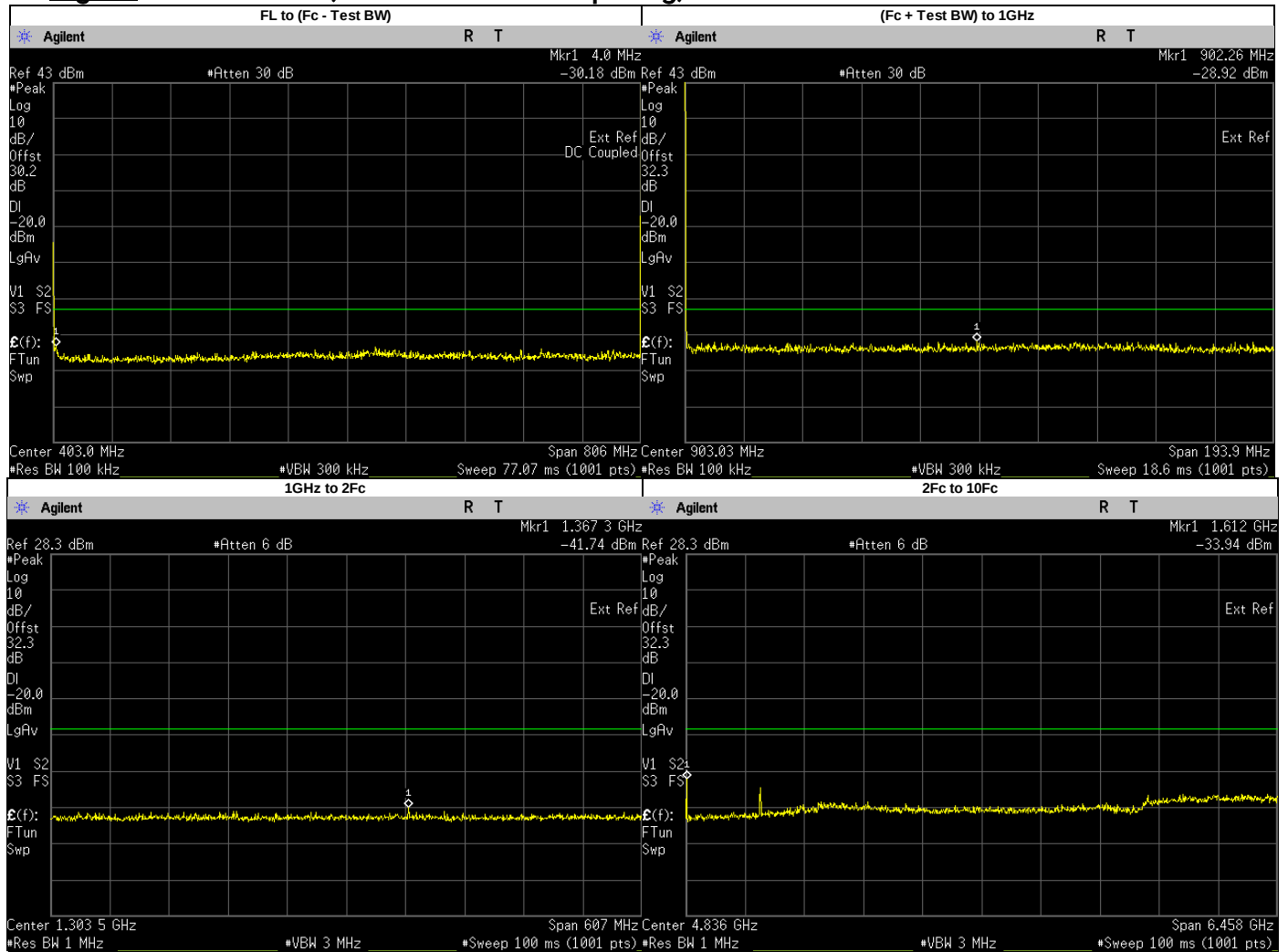
6.9.3. Test Result (Digital)

Digital: 806.0125 MHz, 12.5 kHz Channel Spacing, Low Power



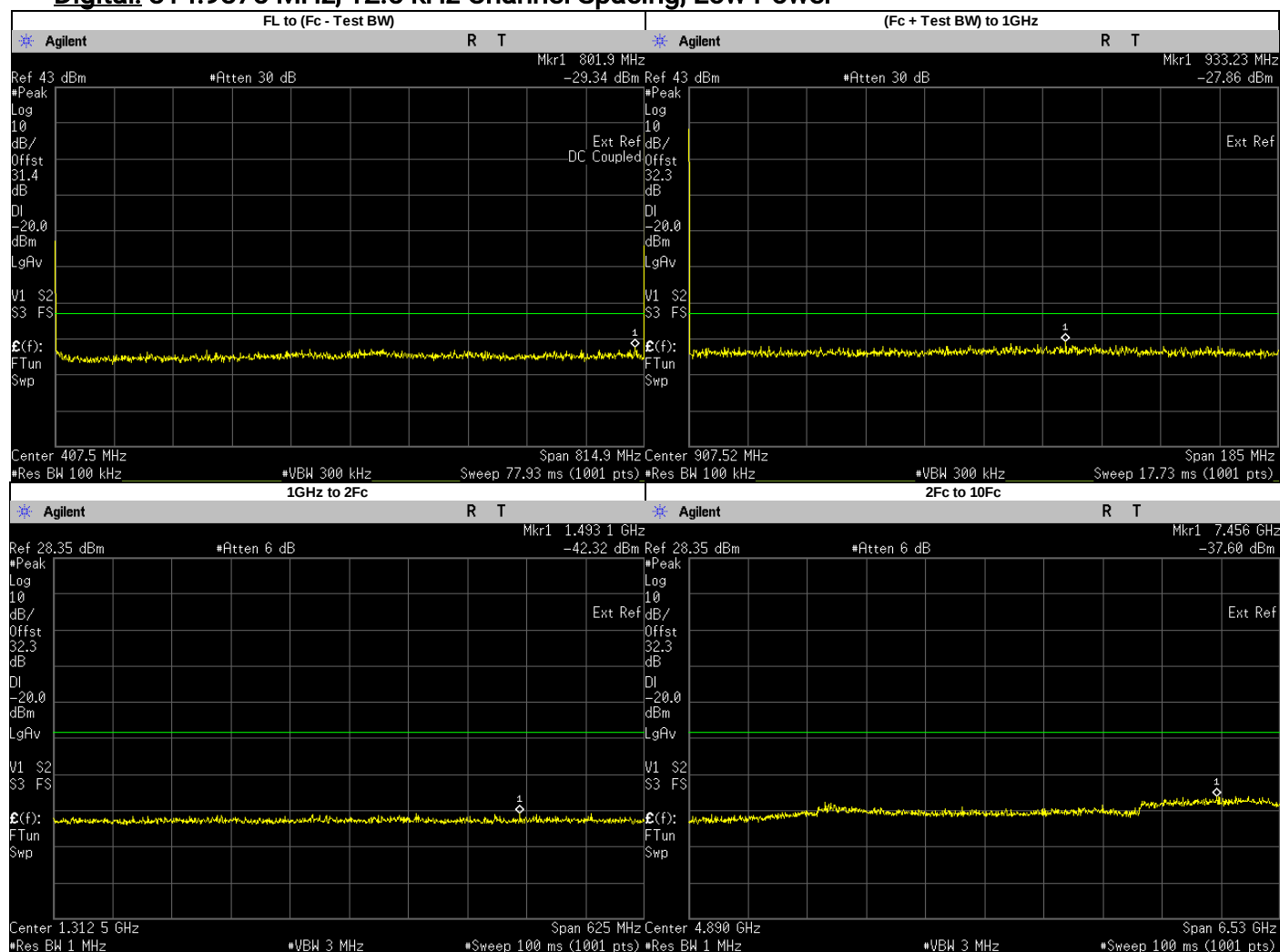
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	553.7000	-29.4120	-20	PASS
(Fc + Test BW) to 1GHz	970.3276	-27.9300	-20	PASS
1GHz to 2Fc	1169.9670	-42.4200	-20	PASS
2Fc to 10Fc	7328.9020	-37.8000	-20	PASS
	1612.0250	-44.6911	-20	PASS
	2418.0370	-43.6673	-20	PASS
	3224.0500	-40.9897	-20	PASS
	4030.0620	-41.7857	-20	PASS
	4836.0750	-42.6650	-20	PASS
	5642.0870	-41.2395	-20	PASS
	6448.1000	-42.0214	-20	PASS
	7254.1130	-39.3317	-20	PASS
	8060.1250	-38.3671	-20	PASS

Digital: 806.0125 MHz, 12.5 kHz Channel Spacing, Max Power



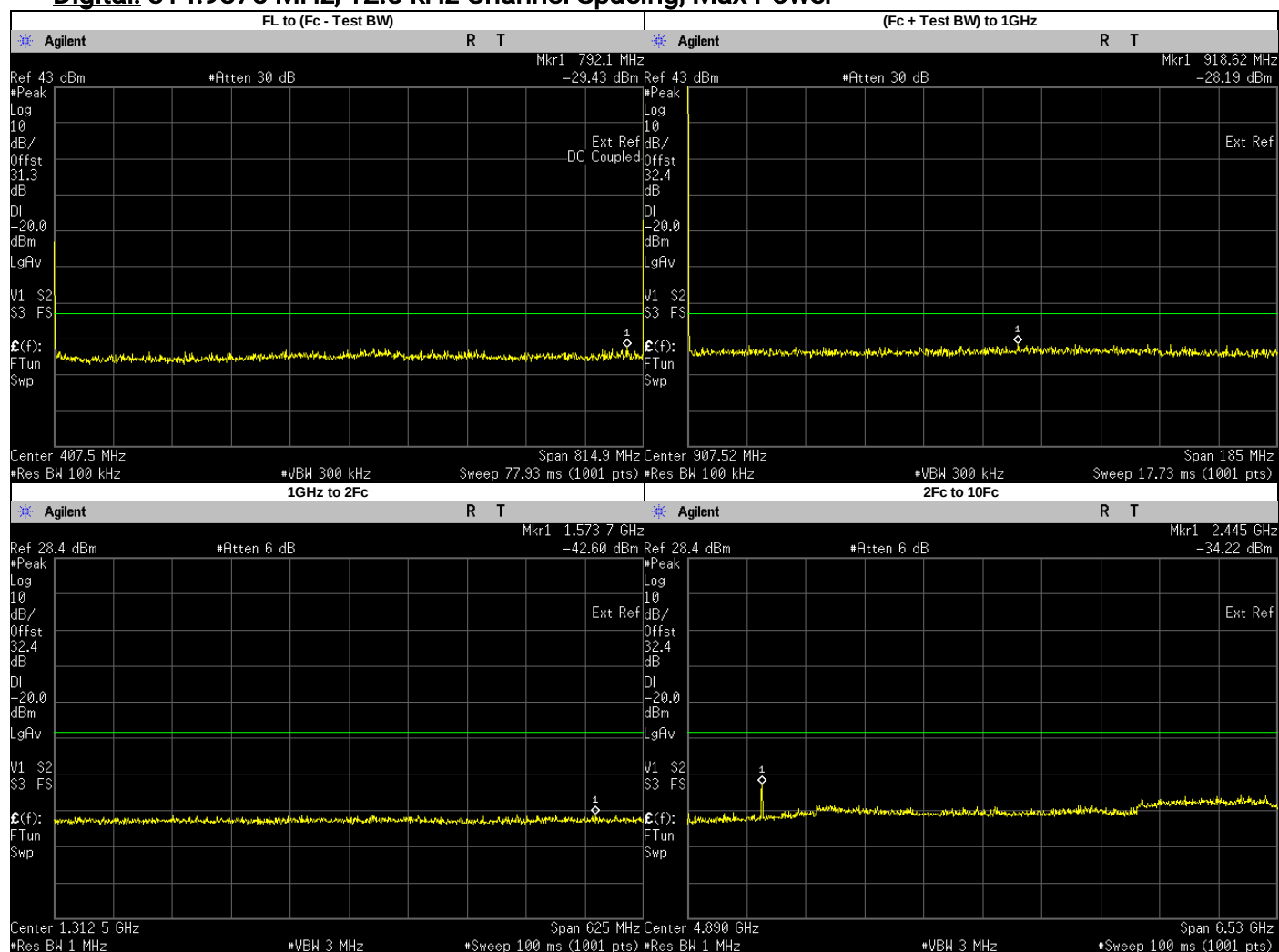
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	4.0000	-30.1800	-20	PASS
(Fc + Test BW) to 1GHz	902.2555	-28.9200	-20	PASS
1GHz to 2Fc	1367.2500	-41.7400	-20	PASS
2Fc to 10Fc	1612.0250	-33.9400	-20	PASS
	2418.0370	-37.6103	-20	PASS
	3224.0500	-40.9603	-20	PASS
	4030.0620	-42.0041	-20	PASS
	4836.0750	-42.6790	-20	PASS
	5642.0870	-42.5675	-20	PASS
	6448.1000	-42.3457	-20	PASS
	7254.1130	-39.5446	-20	PASS
	8060.1250	-39.0433	-20	PASS

Digital: 814.9875 MHz, 12.5 kHz Channel Spacing, Low Power



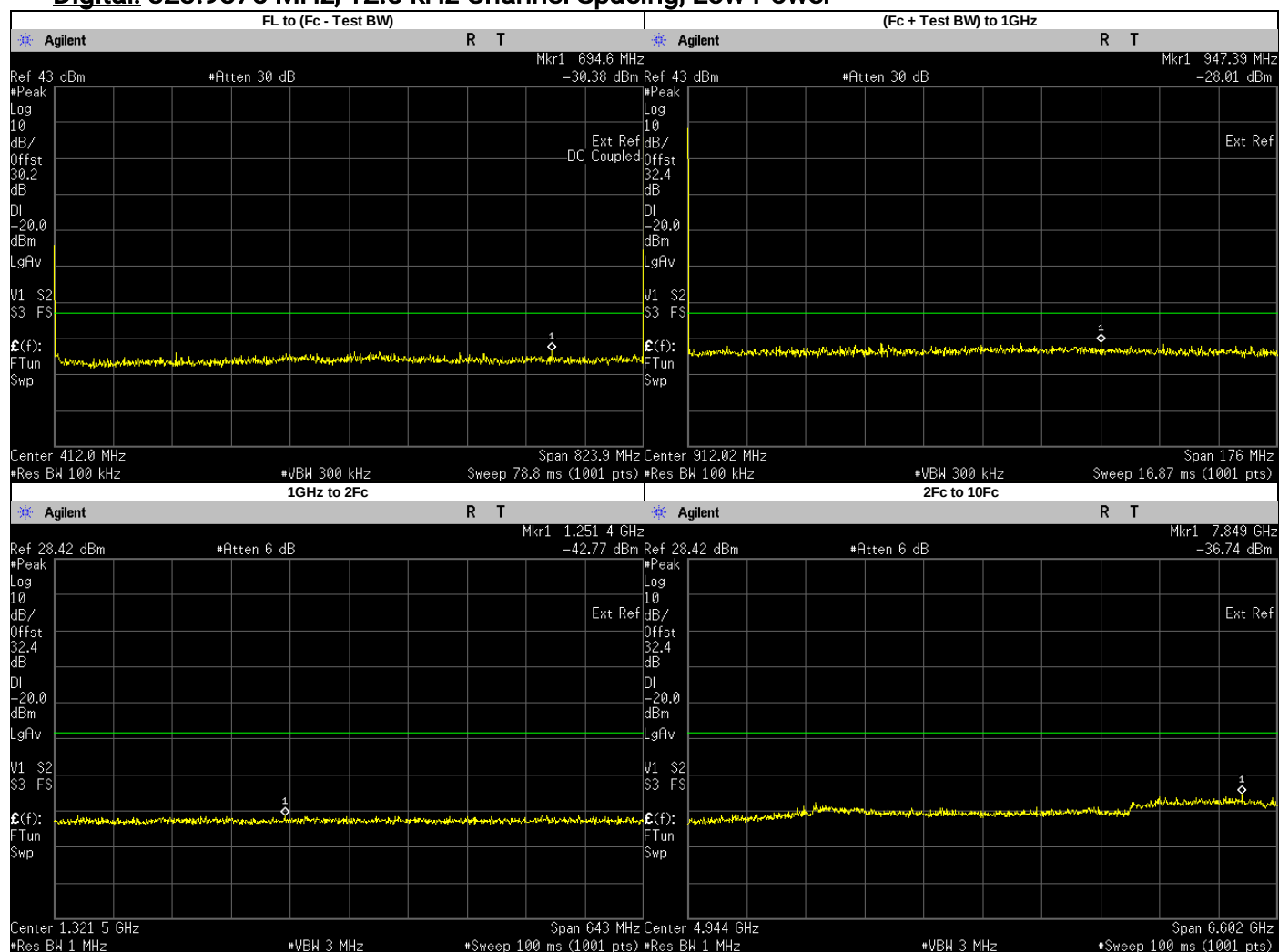
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	801.9000	-29.3370	-20	PASS
(Fc + Test BW) to 1GHz	933.2285	-27.8600	-20	PASS
1GHz to 2Fc	1493.1050	-42.3200	-20	PASS
2Fc to 10Fc	7456.1760	-37.6000	-20	PASS
	1629.9750	-45.0645	-20	PASS
	2444.9630	-44.0922	-20	PASS
	3259.9500	-41.5820	-20	PASS
	4074.9370	-42.5146	-20	PASS
	4889.9250	-42.3810	-20	PASS
	5704.9130	-41.4617	-20	PASS
	6519.9000	-41.9948	-20	PASS
	7334.8870	-38.8826	-20	PASS
	8149.8750	-39.6814	-20	PASS

Digital: 814.9875 MHz, 12.5 kHz Channel Spacing, Max Power



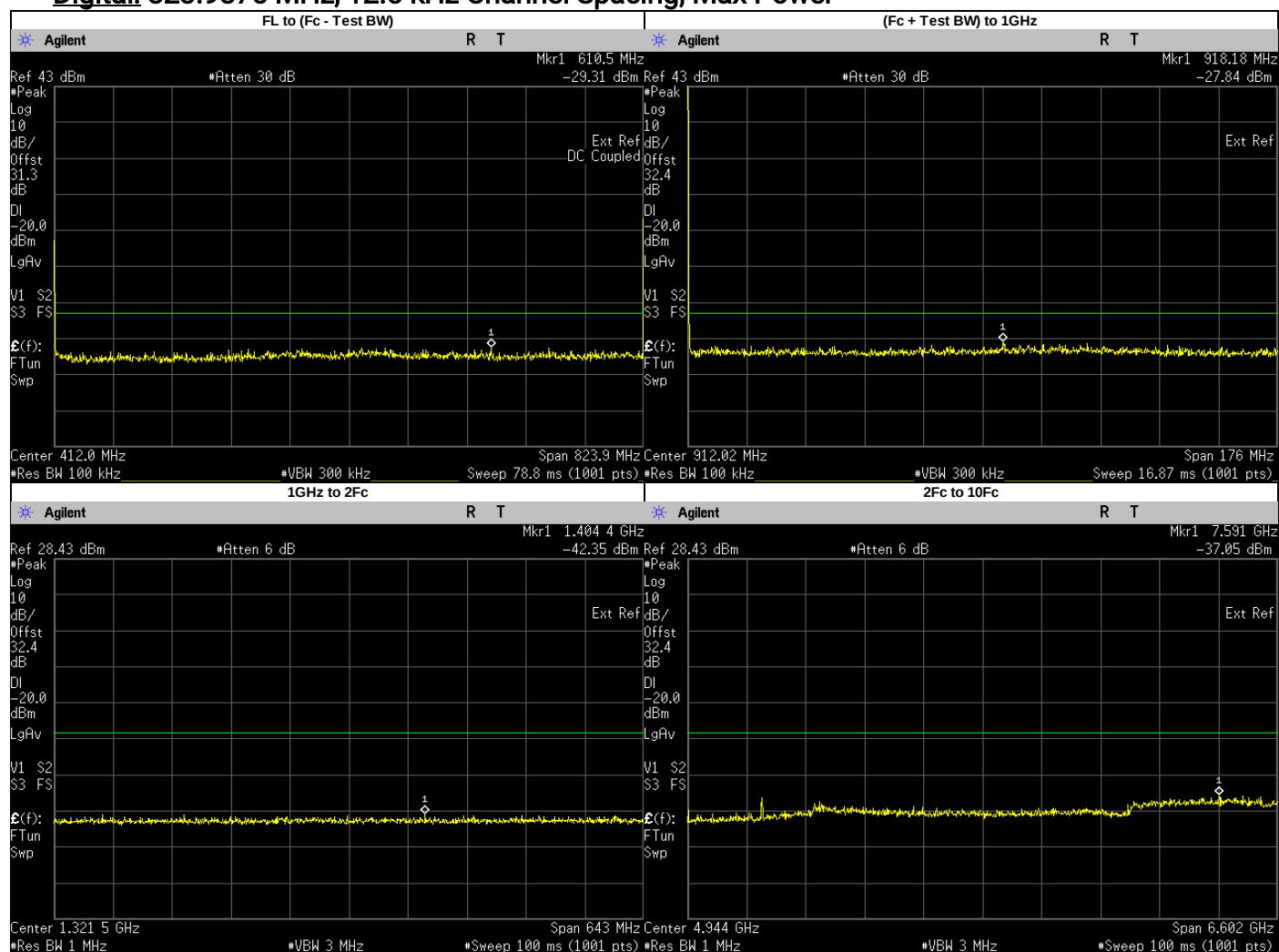
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	792.1000	-29.4280	-20	PASS
(Fc + Test BW) to 1GHz	918.6165	-28.1920	-20	PASS
1GHz to 2Fc	1573.7270	-42.6000	-20	PASS
2Fc to 10Fc	2444.9630	-35.2836	-20	PASS
	1629.9750	-43.0665	-20	PASS
	3259.9500	-41.1850	-20	PASS
	4074.9370	-41.4834	-20	PASS
	4889.9250	-41.7620	-20	PASS
	5704.9130	-41.7407	-20	PASS
	6519.9000	-42.0677	-20	PASS
	7334.8870	-39.0077	-20	PASS
	8149.8750	-40.3510	-20	PASS

Digital: 823.9875 MHz, 12.5 kHz Channel Spacing, Low Power



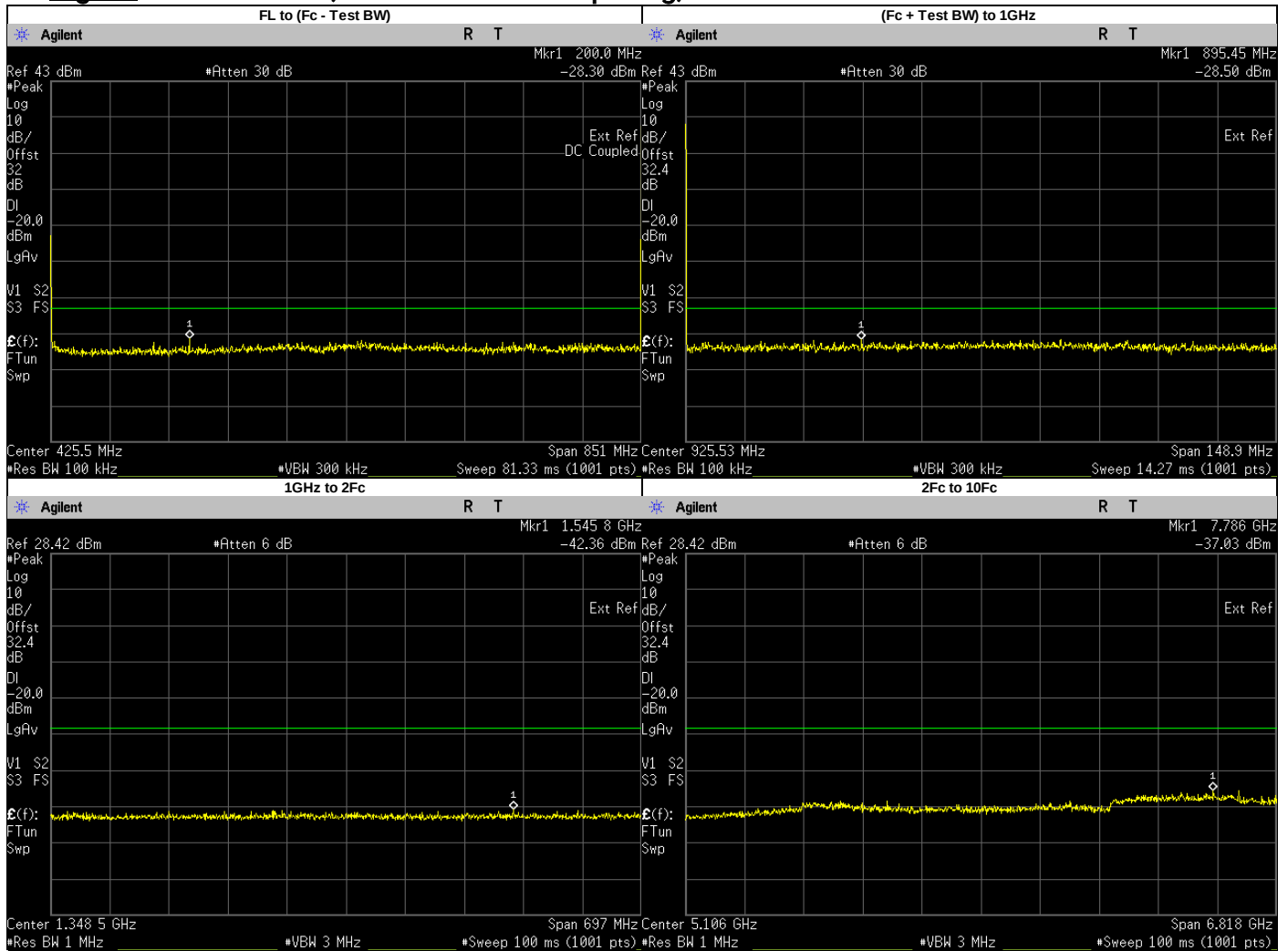
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	694.6000	-30.3830	-20	PASS
(Fc + Test BW) to 1GHz	947.3872	-28.0100	-20	PASS
1GHz to 2Fc	1251.4030	-42.7700	-20	PASS
2Fc to 10Fc	7848.7610	-36.7400	-20	PASS
	1647.9750	-45.0313	-20	PASS
	2471.9630	-43.6871	-20	PASS
	3295.9500	-40.9693	-20	PASS
	4119.9370	-43.2074	-20	PASS
	4943.9250	-42.9090	-20	PASS
	5767.9130	-42.4950	-20	PASS
	6591.9000	-41.1468	-20	PASS
	7415.8870	-39.2953	-20	PASS
	8239.8750	-39.9905	-20	PASS

Digital: 823.9875 MHz, 12.5 kHz Channel Spacing, Max Power



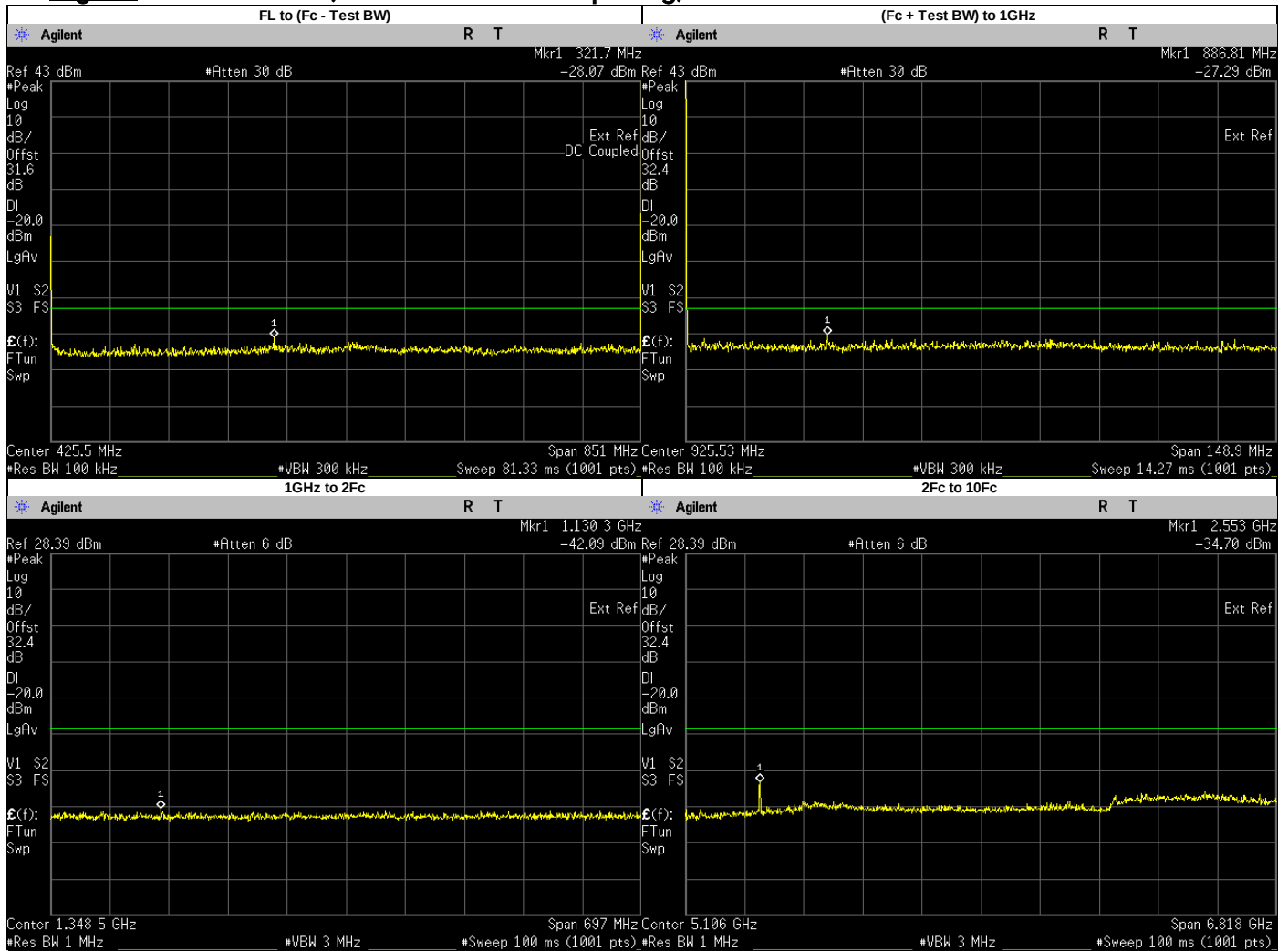
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	610.5000	-29.3090	-20	PASS
(Fc + Test BW) to 1GHz	918.1774	-27.8400	-20	PASS
1GHz to 2Fc	1404.4310	-42.3500	-20	PASS
2Fc to 10Fc	7591.2870	-37.0500	-20	PASS
	1647.9750	-42.1008	-20	PASS
	3295.9500	-40.8420	-20	PASS
	4119.9370	-42.0589	-20	PASS
	4943.9250	-42.5340	-20	PASS
	5767.9130	-42.1558	-20	PASS
	6591.9000	-42.1955	-20	PASS
	2471.9630	-38.8036	-20	PASS
	7415.8870	-38.3579	-20	PASS
	8239.8750	-39.4310	-20	PASS

Digital: 851.0125 MHz, 12.5 kHz Channel Spacing, Low Power



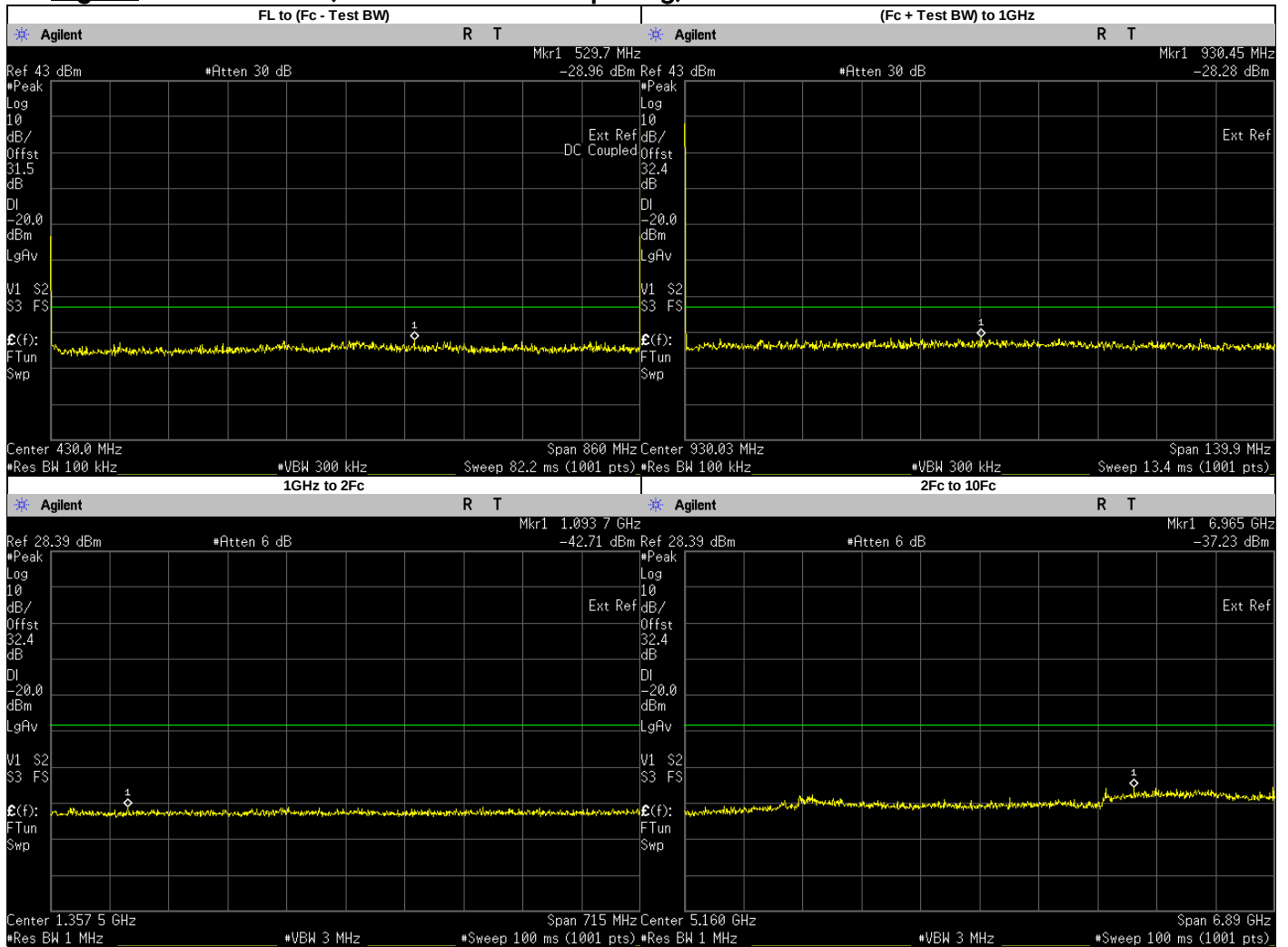
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	200.0000	-28.2970	-20	PASS
(Fc + Test BW) to 1GHz	895.4459	-28.5000	-20	PASS
1GHz to 2Fc	1545.7710	-42.3600	-20	PASS
2Fc to 10Fc	7785.5880	-37.0300	-20	PASS
	1702.0250	-44.3719	-20	PASS
	2553.0370	-43.2859	-20	PASS
	3404.0500	-42.1711	-20	PASS
	4255.0620	-42.2016	-20	PASS
	5106.0750	-42.6580	-20	PASS
	5957.0870	-42.2516	-20	PASS
	6808.1000	-39.6685	-20	PASS
	7659.1130	-39.4886	-20	PASS
	8510.1250	-39.0889	-20	PASS

Digital: 851.0125 MHz, 12.5 kHz Channel Spacing, Max Power



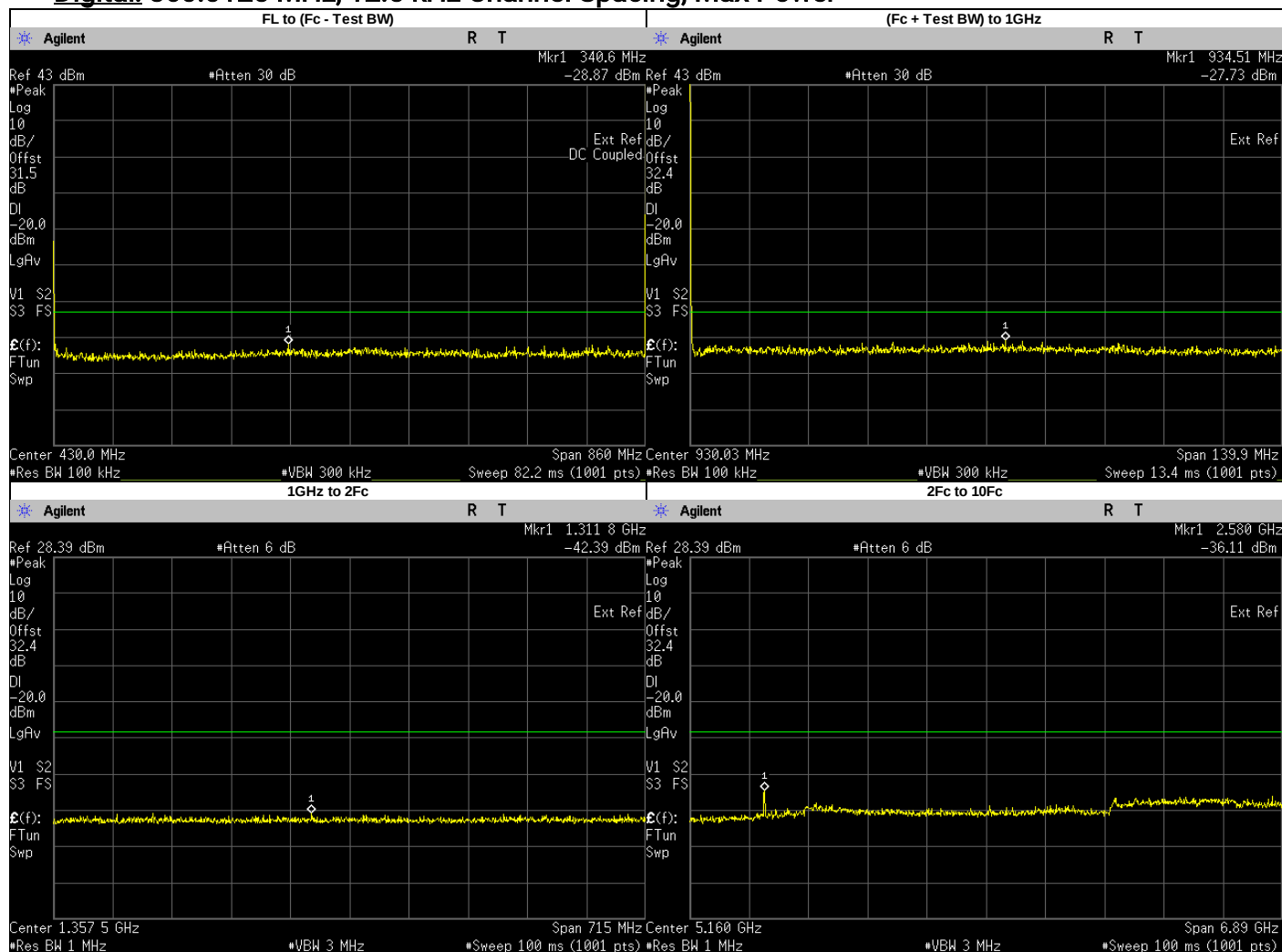
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	321.7000	-28.0730	-20	PASS
(Fc + Test BW) to 1GHz	886.8075	-27.2900	-20	PASS
1GHz to 2Fc	1130.3440	-42.0900	-20	PASS
2Fc to 10Fc	2553.0370	-35.3704	-20	PASS
	1702.0250	-42.8876	-20	PASS
	3404.0500	-40.5870	-20	PASS
	4255.0620	-42.9331	-20	PASS
	5106.0750	-42.4680	-20	PASS
	5957.0870	-41.8893	-20	PASS
	6808.1000	-39.7689	-20	PASS
	7659.1130	-38.7139	-20	PASS
	8510.1250	-40.3360	-20	PASS

Digital: 860.0125 MHz, 12.5 kHz Channel Spacing, Low Power



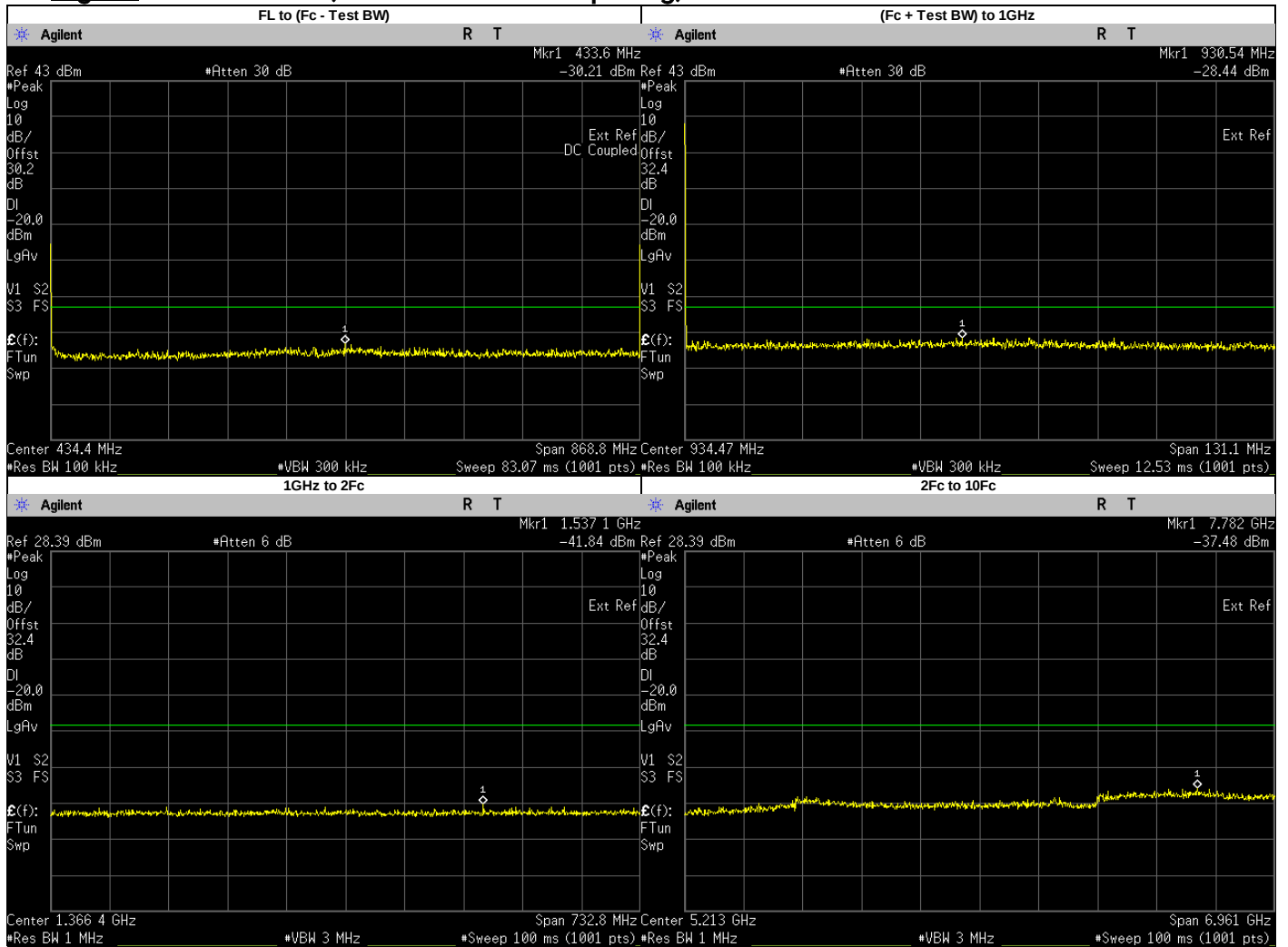
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	529.7000	-28.9570	-20	PASS
(Fc + Test BW) to 1GHz	930.4511	-28.2800	-20	PASS
1GHz to 2Fc	1093.6680	-42.7100	-20	PASS
2Fc to 10Fc	6965.2810	-37.2300	-20	PASS
	1720.0250	-43.9899	-20	PASS
	2580.0370	-43.0953	-20	PASS
	3440.0500	-41.5580	-20	PASS
	4300.0620	-42.9613	-20	PASS
	5160.0750	-42.0150	-20	PASS
	6020.0870	-41.7807	-20	PASS
	6880.1000	-39.7093	-20	PASS
	7740.1130	-38.9210	-20	PASS
	8600.1250	-40.2021	-20	PASS

Digital: 860.0125 MHz, 12.5 kHz Channel Spacing, Max Power



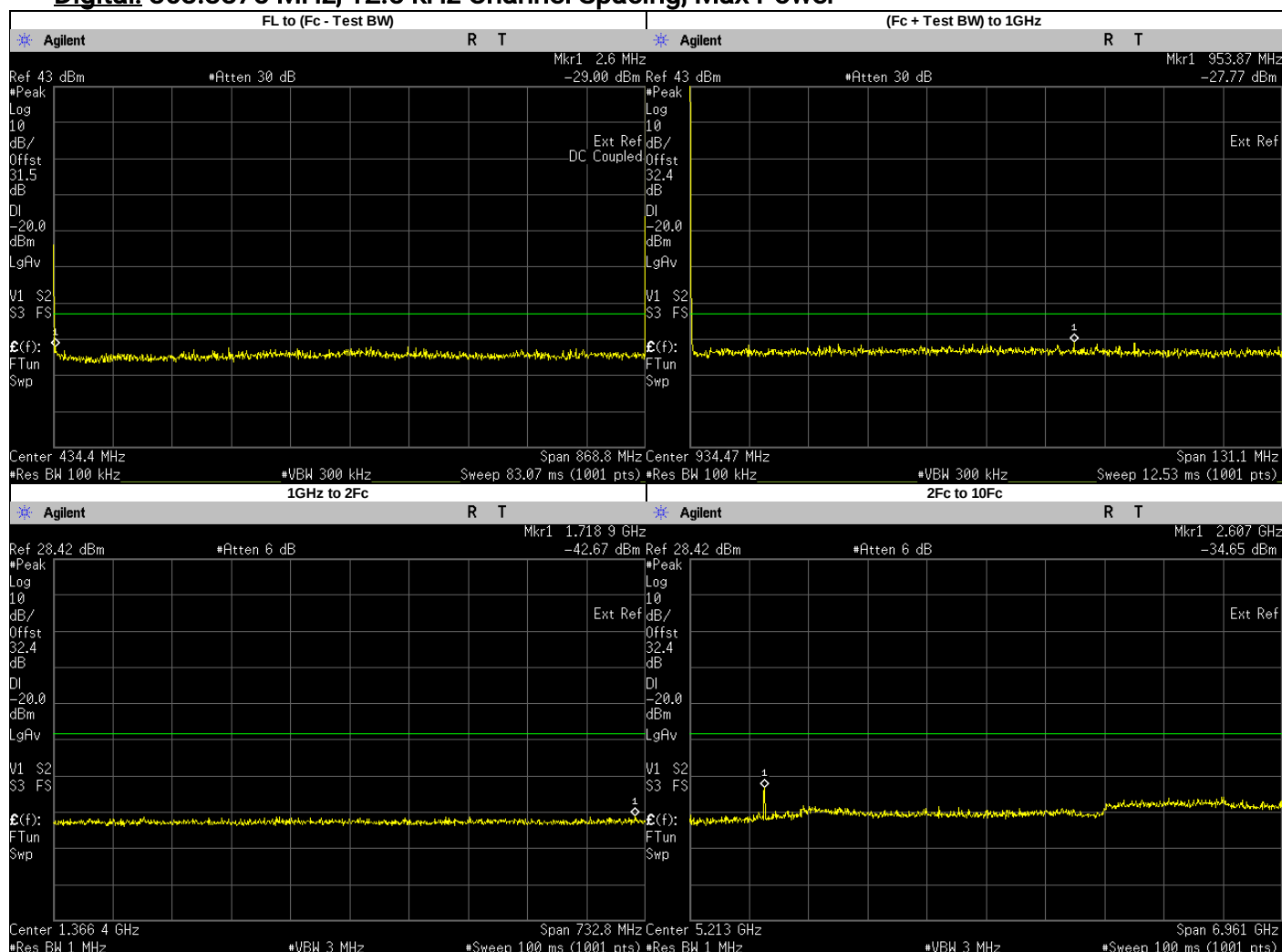
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	340.6000	-28.8730	-20	PASS
(Fc + Test BW) to 1GHz	934.5092	-27.7300	-20	PASS
1GHz to 2Fc	1311.7510	-42.3900	-20	PASS
2Fc to 10Fc	2580.0370	-36.1100	-20	PASS
	1720.0250	-43.9021	-20	PASS
	3440.0500	-41.6212	-20	PASS
	4300.0620	-42.6351	-20	PASS
	5160.0750	-43.0080	-20	PASS
	6020.0870	-42.0953	-20	PASS
	6880.1000	-39.4928	-20	PASS
	7740.1130	-38.8465	-20	PASS
	8600.1250	-40.5001	-20	PASS

Digital: 868.8875 MHz, 12.5 kHz Channel Spacing, Low Power



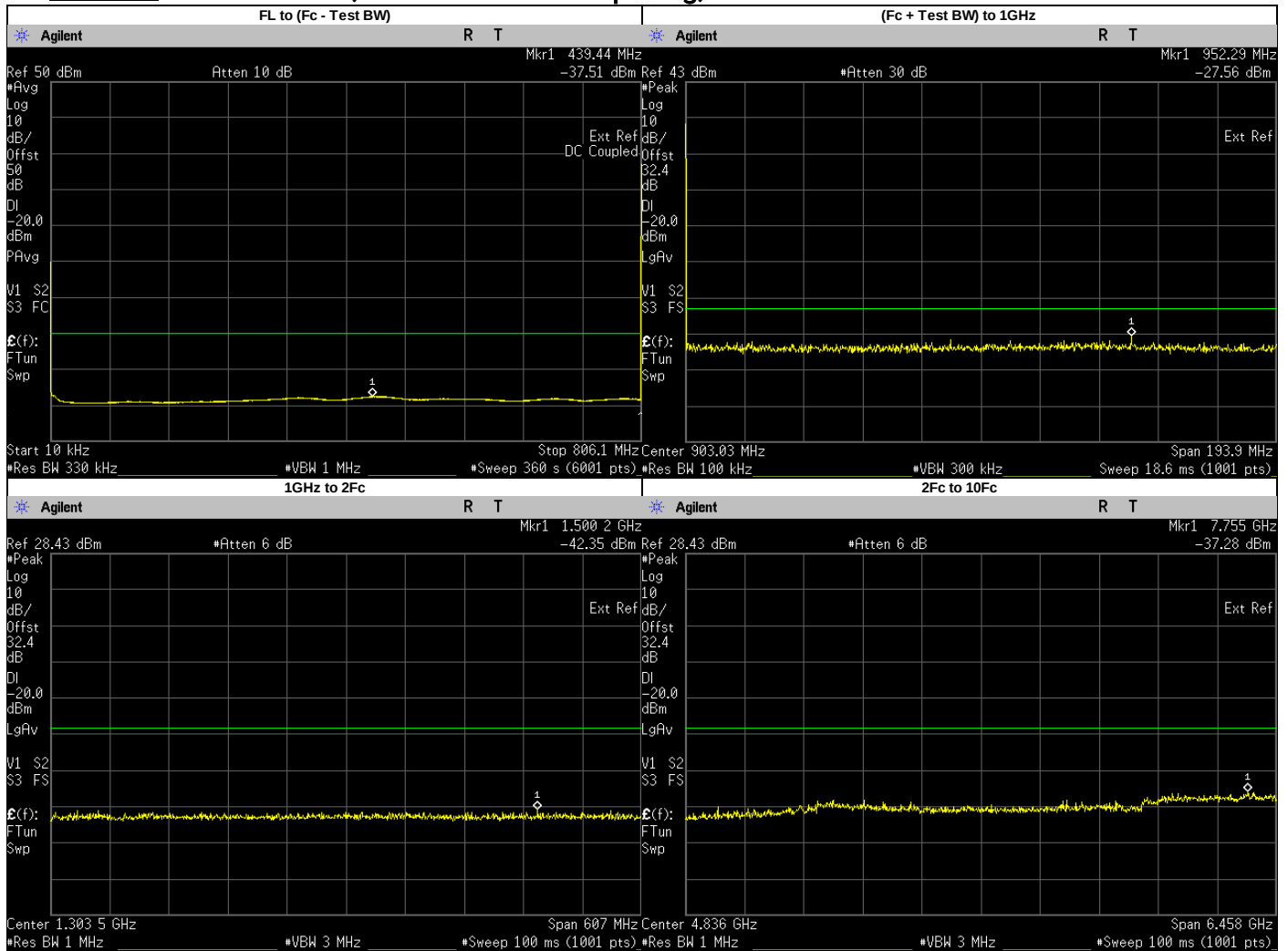
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	433.6000	-30.2140	-20	PASS
(Fc + Test BW) to 1GHz	930.5369	-28.4400	-20	PASS
1GHz to 2Fc	1537.1240	-41.8400	-20	PASS
2Fc to 10Fc	7781.9710	-37.4800	-20	PASS
	1737.7750	-44.2294	-20	PASS
	2606.6620	-42.6169	-20	PASS
	3475.5500	-41.2803	-20	PASS
	4344.4370	-42.4634	-20	PASS
	5213.3250	-41.7410	-20	PASS
	6082.2120	-41.1771	-20	PASS
	6951.1000	-39.7186	-20	PASS
	7819.9880	-38.6838	-20	PASS
	8688.8750	-40.0593	-20	PASS

Digital: 868.8875 MHz, 12.5 kHz Channel Spacing, Max Power



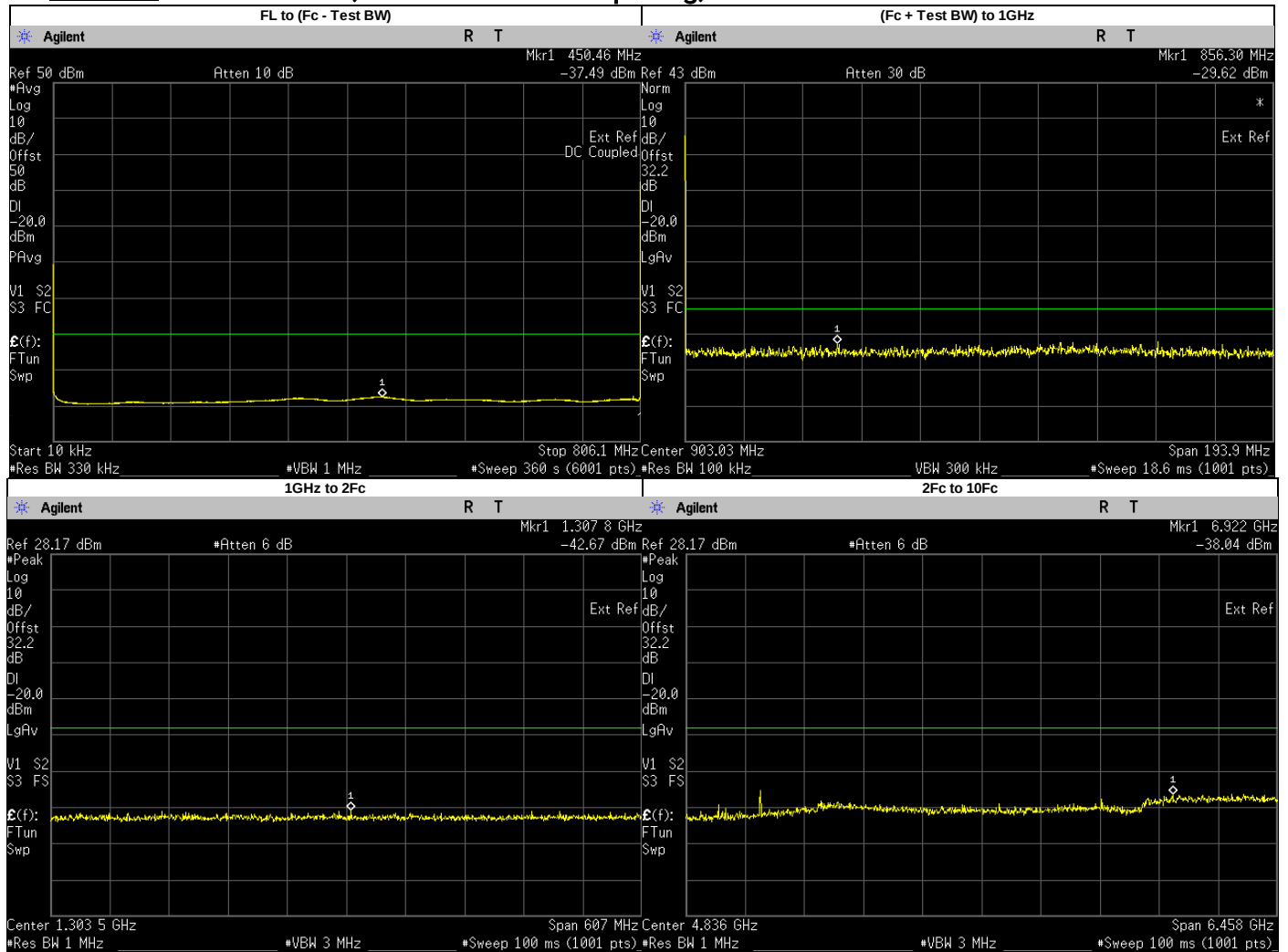
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	2.6000	-29.0030	-20	PASS
(Fc + Test BW) to 1GHz	953.8660	-27.7700	-20	PASS
1GHz to 2Fc	1718.8520	-42.6700	-20	PASS
2Fc to 10Fc	2606.6625	-34.6500	-20	PASS
	1737.7750	-42.8994	-20	PASS
	3475.5500	-41.0058	-20	PASS
	4344.4370	-41.8847	-20	PASS
	5213.3250	-42.4210	-20	PASS
	6082.2120	-41.5236	-20	PASS
	6951.1000	-39.5980	-20	PASS
	7819.9880	-38.9823	-20	PASS
	8688.8750	-38.9088	-20	PASS

Phase II: 806.0125 MHz, 12.5 kHz Channel Spacing, Low Power



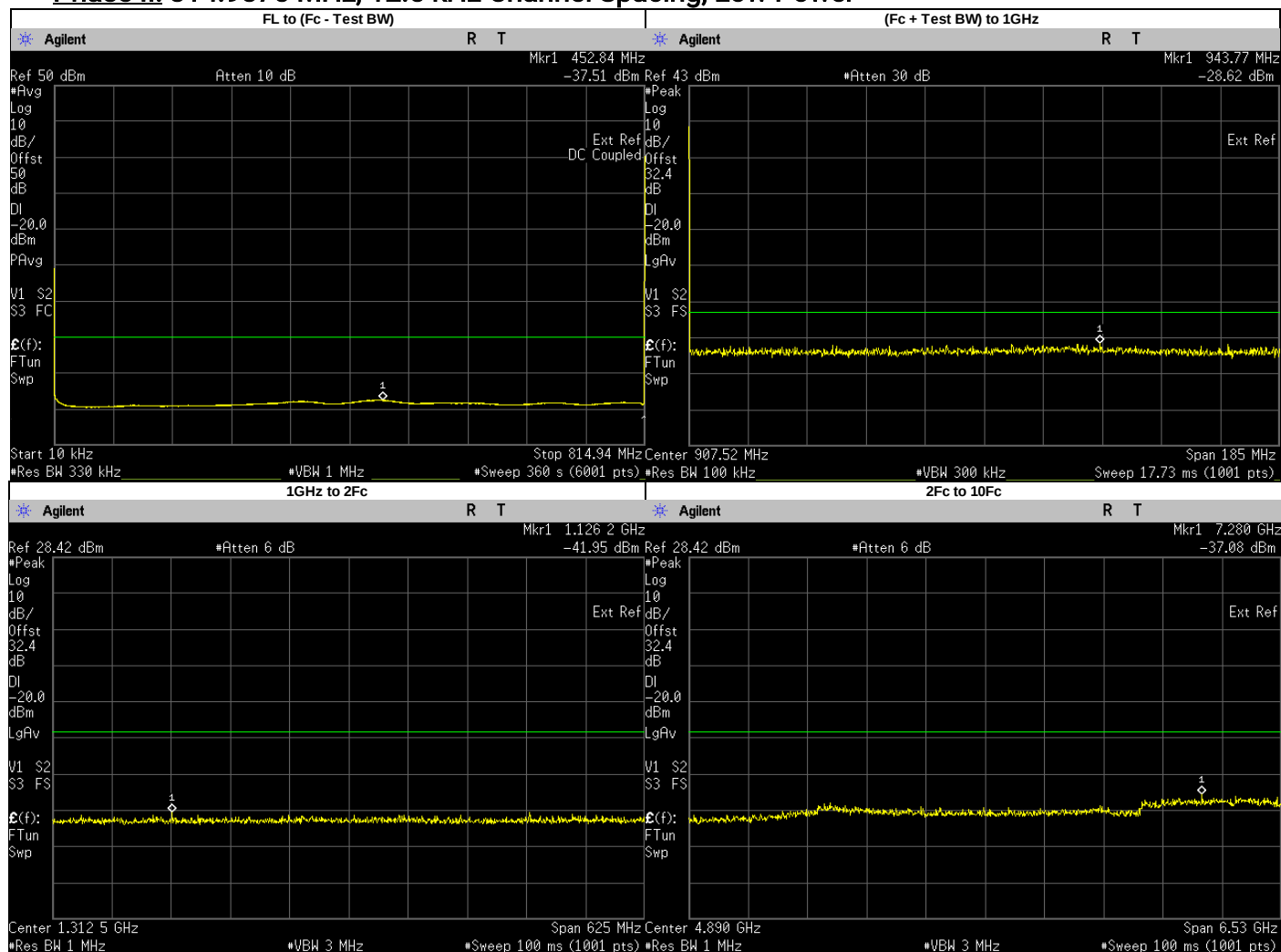
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	439.4400	-37.5100	-20	PASS
(Fc + Test BW) to 1GHz	952.2914	-27.5570	-20	PASS
1GHz to 2Fc	1500.1890	-42.3500	-20	PASS
2Fc to 10Fc	7755.1360	-37.2800	-20	PASS
	1612.0250	-44.5845	-20	PASS
	2418.0370	-44.2901	-20	PASS
	3224.0500	-40.1020	-20	PASS
	4030.0620	-42.4025	-20	PASS
	4836.0750	-43.0350	-20	PASS
	5642.0870	-42.3474	-20	PASS
	6448.1000	-42.3156	-20	PASS
	7254.1130	-39.6098	-20	PASS
	8060.1250	-39.8874	-20	PASS

Phase II: 806.0125 MHz, 12.5 kHz Channel Spacing, Max Power



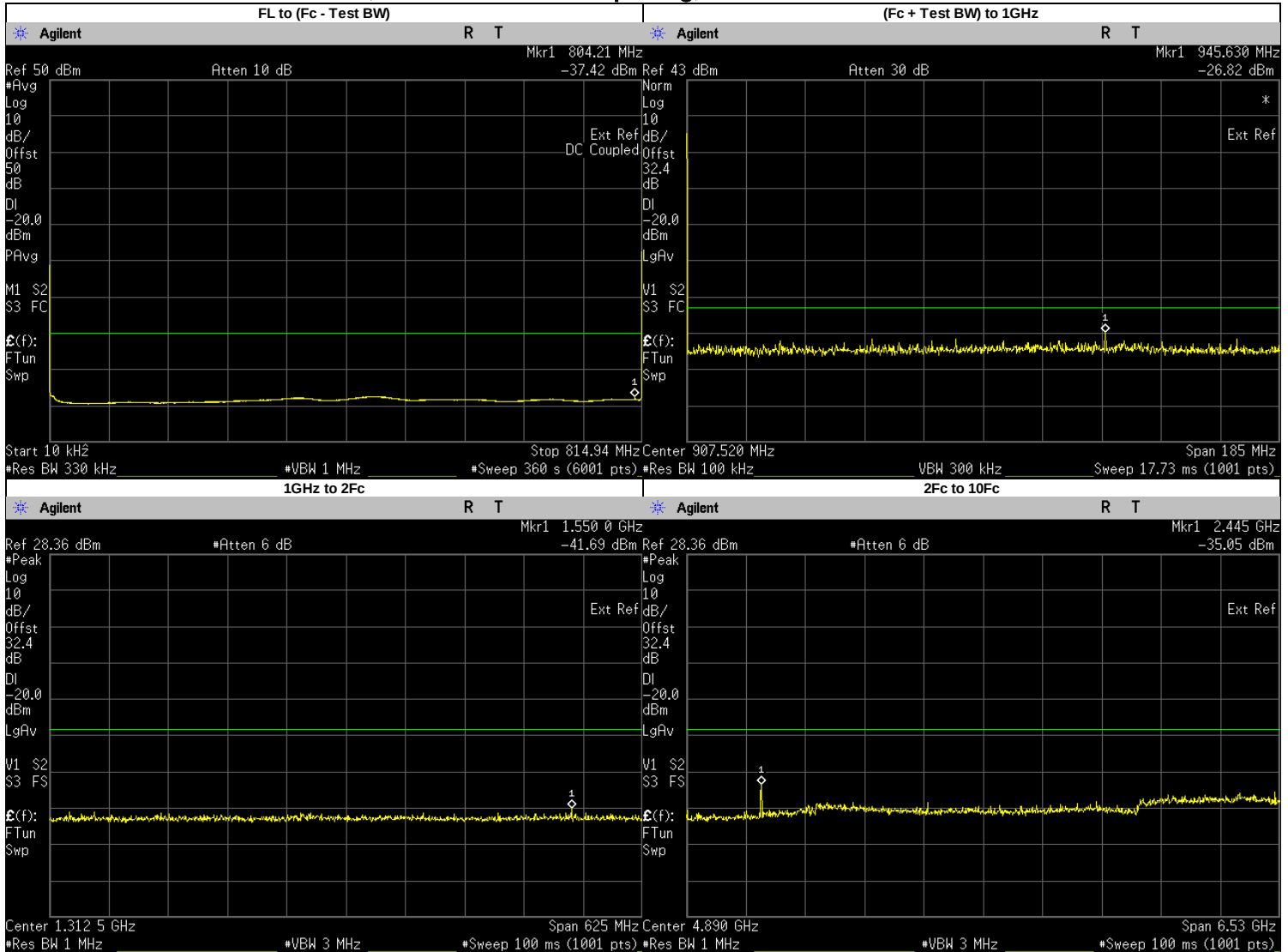
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	450.4600	-37.4900	-20	PASS
(Fc + Test BW) to 1GHz	856.3000	-29.6200	-20	PASS
1GHz to 2Fc	1307.7620	-42.6700	-20	PASS
2Fc to 10Fc	6922.0410	-38.0400	-20	PASS
	1612.0250	-43.8570	-20	PASS
	2418.0370	-38.3823	-20	PASS
	3224.0500	-41.0179	-20	PASS
	4030.0620	-42.3935	-20	PASS
	4836.0750	-42.4310	-20	PASS
	5642.0870	-42.3565	-20	PASS
	6448.1000	-42.6561	-20	PASS
	7254.1130	-38.9715	-20	PASS
	8060.1250	-40.1599	-20	PASS

Phase II: 814.9875 MHz, 12.5 kHz Channel Spacing, Low Power



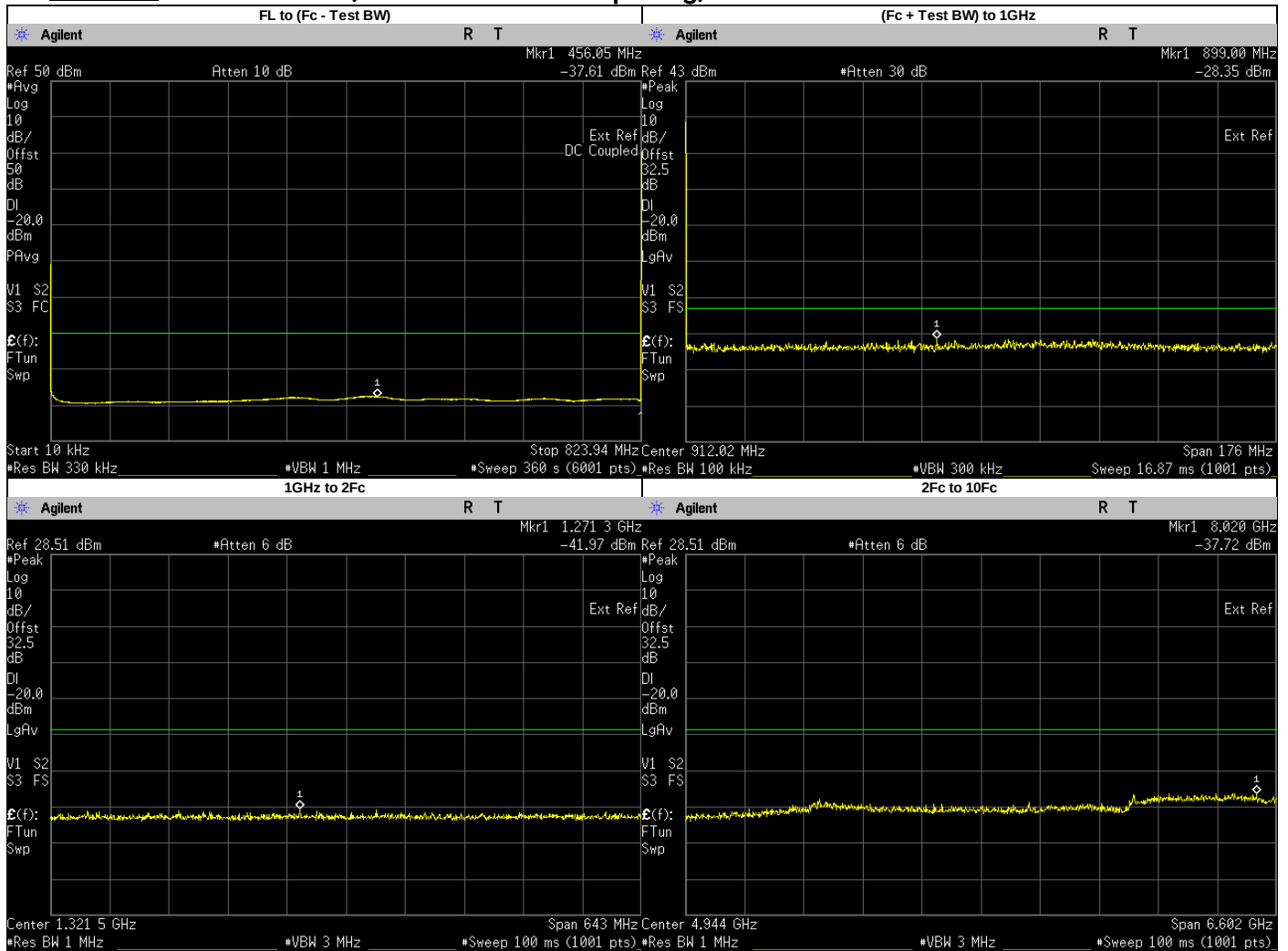
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	452.8400	-37.5100	-20	PASS
(Fc + Test BW) to 1GHz	943.7714	-28.6200	-20	PASS
1GHz to 2Fc	1126.2450	-41.9500	-20	PASS
2Fc to 10Fc	7279.8680	-37.0800	-20	PASS
	1629.9750	-44.1369	-20	PASS
	2444.9630	-43.9787	-20	PASS
	3259.9500	-40.9534	-20	PASS
	4074.9370	-41.5865	-20	PASS
	4889.9250	-42.6450	-20	PASS
	5704.9130	-42.2524	-20	PASS
	6519.9000	-42.3923	-20	PASS
	7334.8870	-39.1886	-20	PASS
	8149.8750	-39.6993	-20	PASS

Phase II: 814.9875 MHz, 12.5 kHz Channel Spacing, Max Power



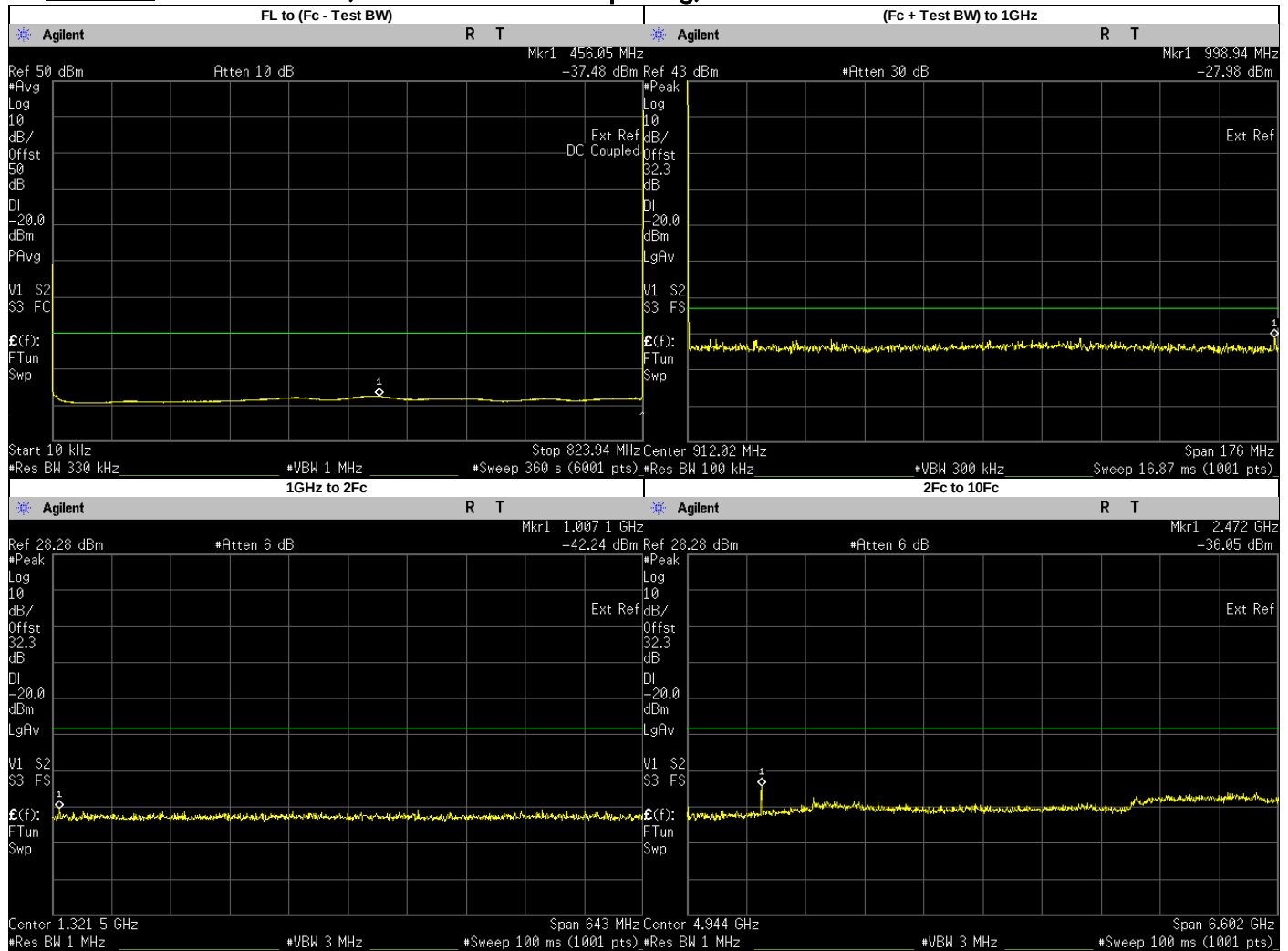
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	804.2100	-37.4200	-20	PASS
(Fc + Test BW) to 1GHz	945.6300	-36.8200	-20	PASS
1GHz to 2Fc	1549.9780	-41.6900	-20	PASS
2Fc to 10Fc	2444.9630	-35.0500	-20	PASS
	1629.9750	-42.7335	-20	PASS
	3259.9500	-41.0268	-20	PASS
	4074.9370	-42.4682	-20	PASS
	4889.9250	-42.2280	-20	PASS
	5704.9130	-41.9537	-20	PASS
	6519.9000	-42.6614	-20	PASS
	7334.8870	-38.4972	-20	PASS
	8149.8750	-39.8224	-20	PASS

Phase II: 823.9875 MHz, 12.5 kHz Channel Spacing, Low Power



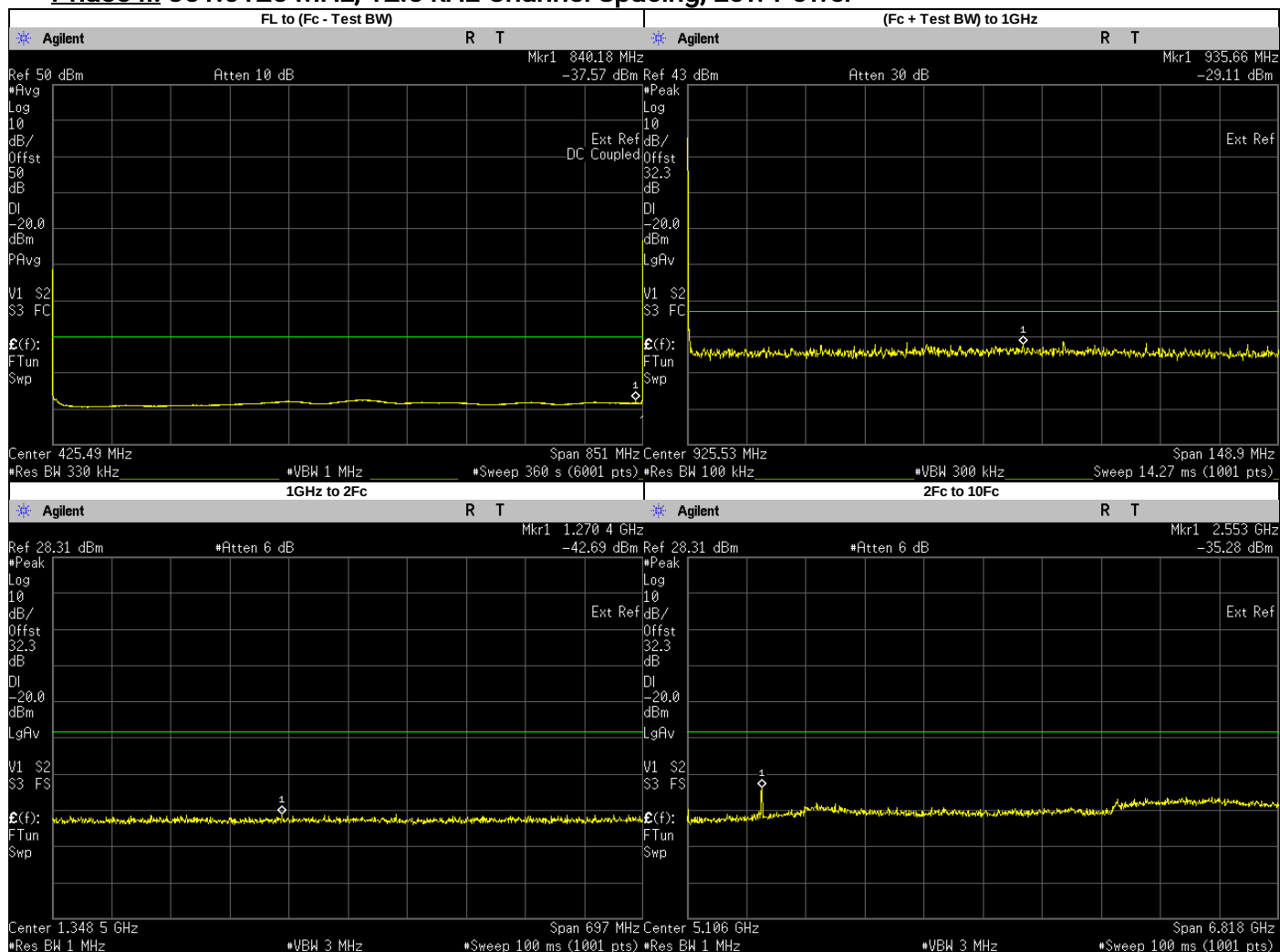
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	456.0500	-37.6100	-20	PASS
(Fc + Test BW) to 1GHz	898.9975	-28.3500	-20	PASS
1GHz to 2Fc	1271.3350	-41.9700	-20	PASS
2Fc to 10Fc	8020.4100	-37.7200	-20	PASS
	1647.9750	-44.8223	-20	PASS
	2471.9630	-43.7044	-20	PASS
	3295.9500	-40.7040	-20	PASS
	4119.9370	-41.7527	-20	PASS
	4943.9250	-41.5620	-20	PASS
	5767.9130	-41.3864	-20	PASS
	6591.9000	-42.2012	-20	PASS
	7415.8870	-38.7338	-20	PASS
	8239.8750	-39.3650	-20	PASS

Phase II: 823.9875 MHz, 12.5 kHz Channel Spacing, Max Power



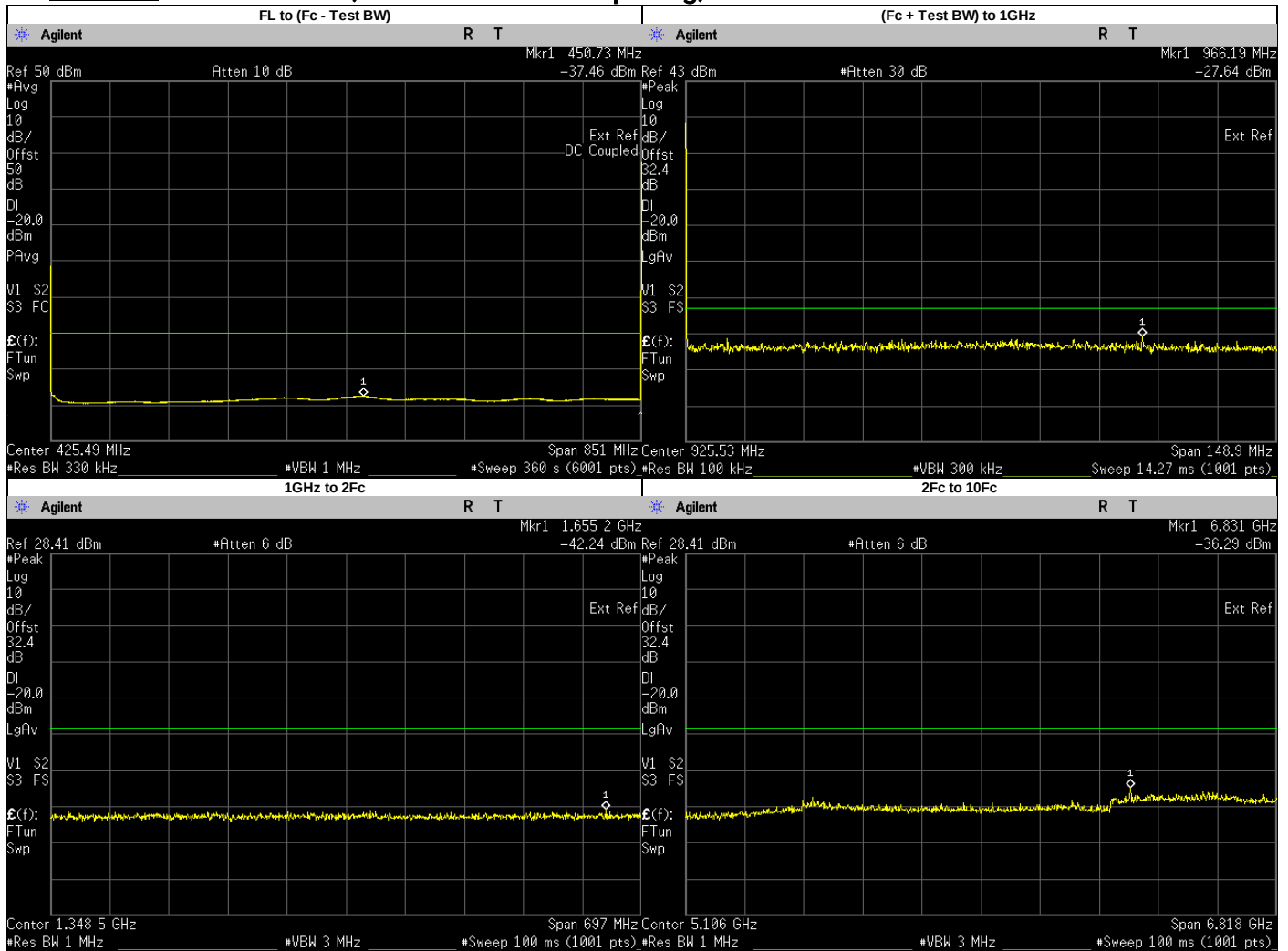
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	456.0500	-37.4800	-20	PASS
(Fc + Test BW) to 1GHz	998.9442	-27.9800	-20	PASS
1GHz to 2Fc	1007.0730	-42.2400	-20	PASS
2Fc to 10Fc	2471.9880	-36.0500	-20	PASS
	1647.9750	-42.3205	-20	PASS
	3295.9500	-41.5671	-20	PASS
	4119.9370	-41.5120	-20	PASS
	4943.9250	-41.9650	-20	PASS
	5767.9130	-41.9054	-20	PASS
	6591.9000	-42.0813	-20	PASS
	7415.8870	-39.2908	-20	PASS
	8239.8750	-40.3068	-20	PASS

Phase II: 851.0125 MHz, 12.5 kHz Channel Spacing, Low Power



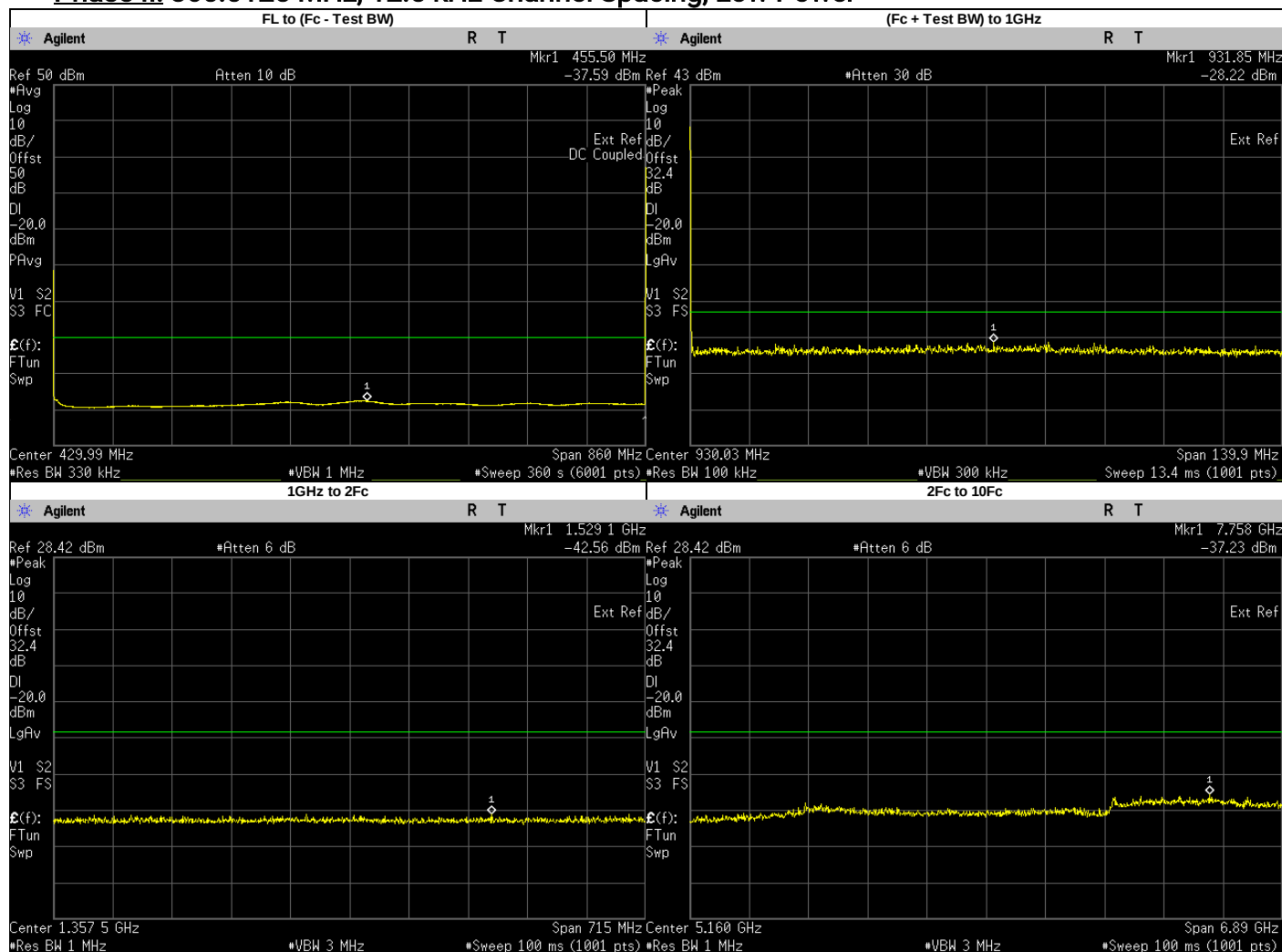
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	840.1800	-37.5700	-20	PASS
(Fc + Test BW) to 1GHz	935.6600	-29.1100	-20	PASS
1GHz to 2Fc	1270.4460	-42.6900	-20	PASS
2Fc to 10Fc	2553.0370	-35.2800	-20	PASS
	1702.0250	-42.2084	-20	PASS
	3404.0500	-40.6013	-20	PASS
	4255.0620	-43.0557	-20	PASS
	5106.0750	-42.7480	-20	PASS
	5957.0870	-42.0082	-20	PASS
	6808.1000	-40.2599	-20	PASS
	7659.1130	-38.9378	-20	PASS
	8510.1250	-40.5349	-20	PASS

Phase II: 851.0125 MHz, 12.5 kHz Channel Spacing, Max Power



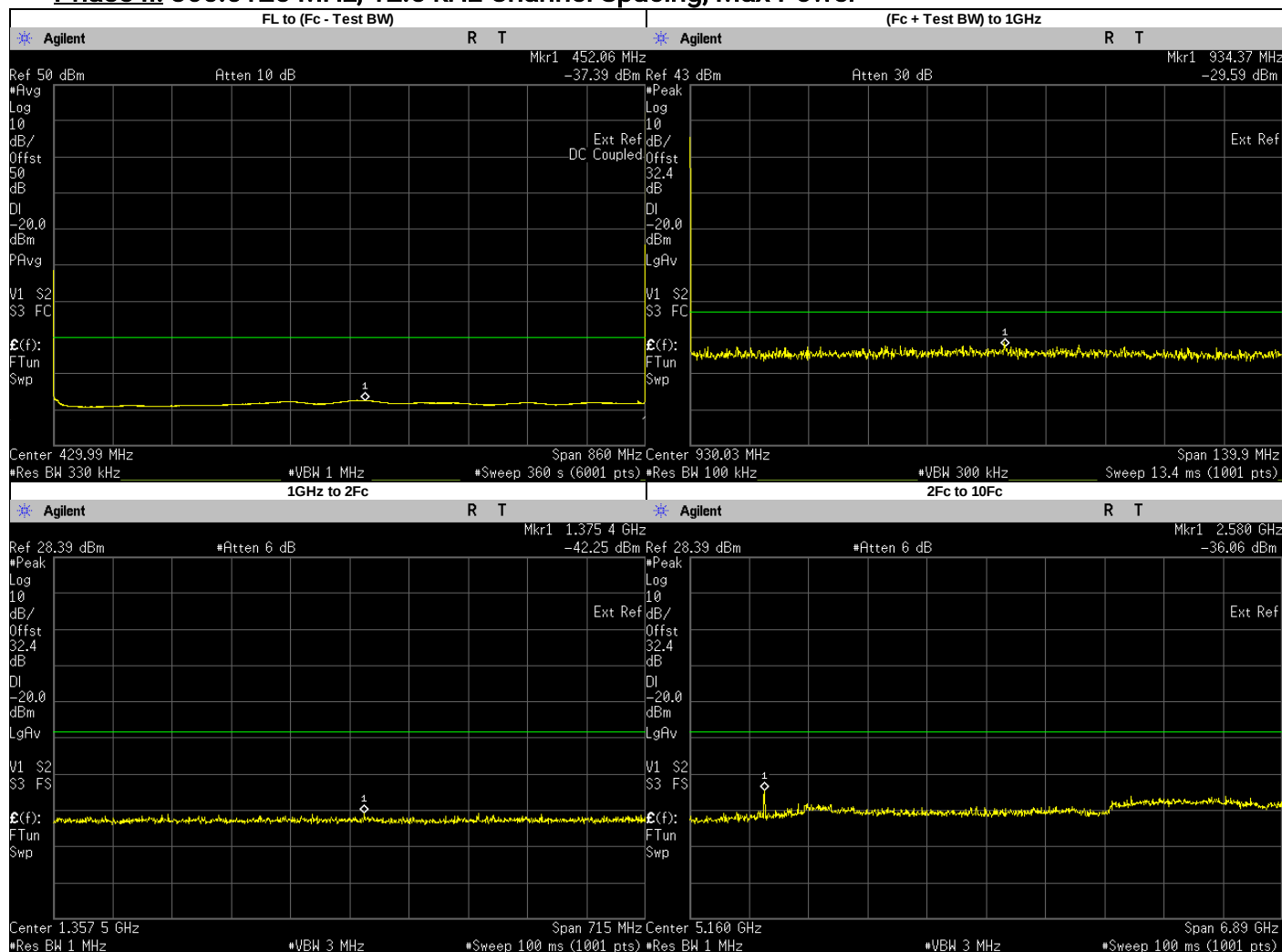
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	450.7300	-37.4600	-20	PASS
(Fc + Test BW) to 1GHz	966.1912	-27.6400	-20	PASS
1GHz to 2Fc	1655.2040	-42.2400	-20	PASS
2Fc to 10Fc	6831.0540	-36.2900	-20	PASS
	1702.0250	-44.3916	-20	PASS
	2553.0370	-43.6190	-20	PASS
	3404.0500	-41.8824	-20	PASS
	4255.0620	-42.8037	-20	PASS
	5106.0750	-43.3190	-20	PASS
	5957.0870	-41.9012	-20	PASS
	6808.1000	-39.9641	-20	PASS
	7659.1130	-38.5295	-20	PASS
	8510.1250	-39.7547	-20	PASS

Phase II: 860.0125 MHz, 12.5 kHz Channel Spacing, Low Power



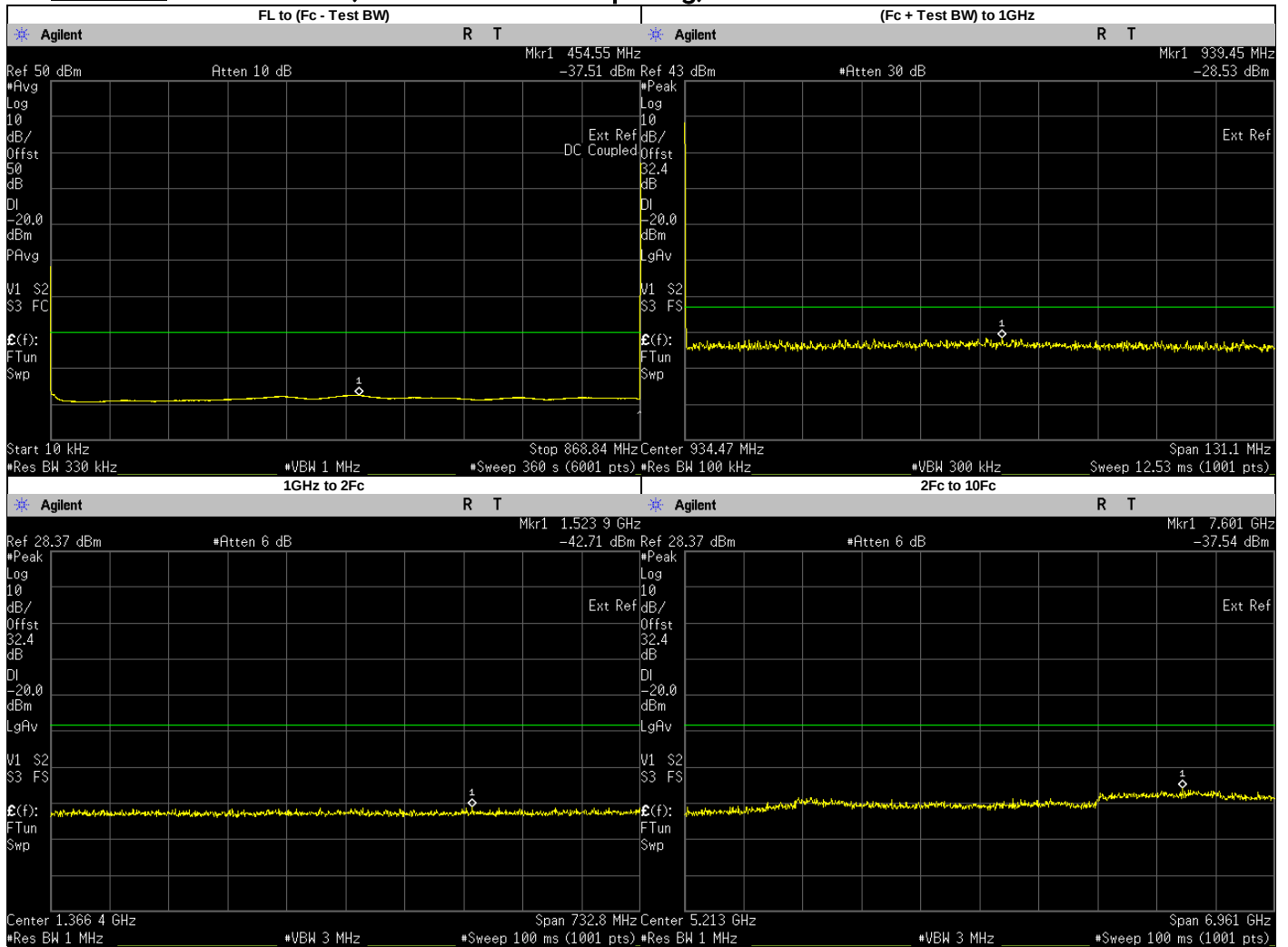
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	455.5000	-37.5900	-20	PASS
(Fc + Test BW) to 1GHz	931.8504	-28.2200	-20	PASS
1GHz to 2Fc	1529.1190	-42.5600	-20	PASS
2Fc to 10Fc	7757.6430	-37.2300	-20	PASS
	1720.0250	-44.7875	-20	PASS
	2580.0370	-43.0717	-20	PASS
	3440.0500	-41.2399	-20	PASS
	4300.0620	-42.6422	-20	PASS
	5160.0750	-42.7700	-20	PASS
	6020.0870	-41.9630	-20	PASS
	6880.1000	-39.3465	-20	PASS
	7740.1130	-38.2203	-20	PASS
	8600.1250	-39.9811	-20	PASS

Phase II: 860.0125 MHz, 12.5 kHz Channel Spacing, Max Power



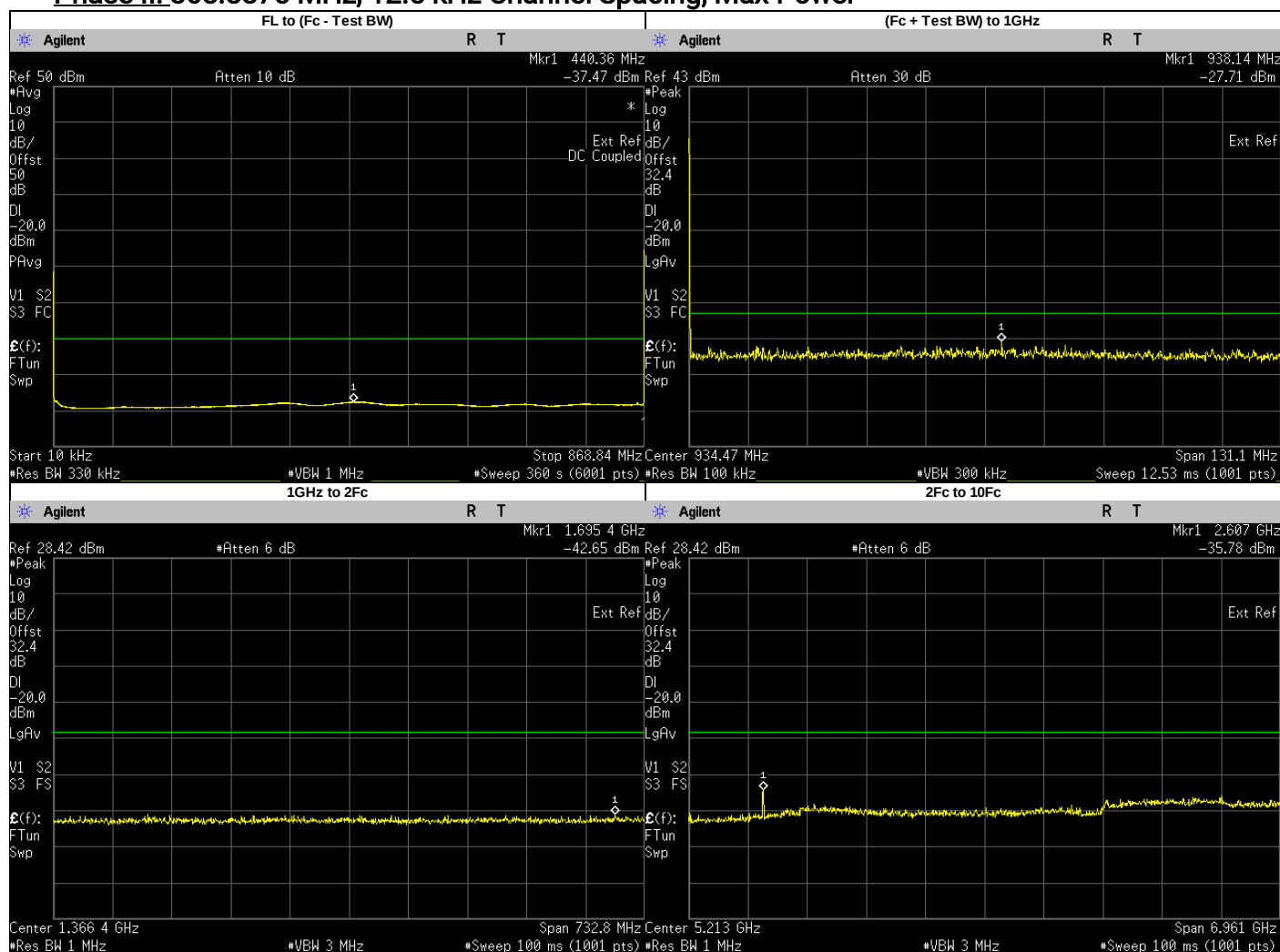
Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	452.0600	-37.3900	-20	PASS
(Fc + Test BW) to 1GHz	934.3700	-29.5900	-20	PASS
1GHz to 2Fc	1375.3880	-42.2500	-20	PASS
2Fc to 10Fc	2580.0370	-36.0600	-20	PASS
	1720.0250	-43.4991	-20	PASS
	3440.0500	-41.4149	-20	PASS
	4300.0620	-42.0286	-20	PASS
	5160.0750	-42.5950	-20	PASS
	6020.0870	-42.2929	-20	PASS
	6880.1000	-39.6368	-20	PASS
	7740.1130	-39.0370	-20	PASS
	8600.1250	-40.2719	-20	PASS

Phase II: 868.8875 MHz, 12.5 kHz Channel Spacing, Low Power



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	454.5500	-37.5100	-20	PASS
(Fc + Test BW) to 1GHz	939.4491	-28.5400	-20	PASS
1GHz to 2Fc	1523.9340	-42.7100	-20	PASS
2Fc to 10Fc	7600.9820	-37.5400	-20	PASS
	1737.7750	-44.5198	-20	PASS
	2606.6620	-43.2284	-20	PASS
	3475.5500	-41.3892	-20	PASS
	4344.4370	-41.3349	-20	PASS
	5213.3250	-42.0980	-20	PASS
	6082.2120	-41.4478	-20	PASS
	6951.1000	-39.6174	-20	PASS
	7819.9880	-39.1320	-20	PASS
	8688.8750	-40.1734	-20	PASS

Phase II: 868.8875 MHz, 12.5 kHz Channel Spacing, Max Power



Frequency Range	Highest Spur Frequency (MHz)	Spurious Level (MHz)	Failing Limit (dBm)	Results
FL to (Fc - Test BW)	440.3600	-37.4700	-20	PASS
(Fc + Test BW) to 1GHz	938.1400	-27.7100	-20	PASS
1GHz to 2Fc	1695.4030	-42.6500	-20	PASS
2Fc to 10Fc	2606.6620	-35.7800	-20	PASS
	1737.7750	-42.7991	-20	PASS
	3475.5500	-41.1604	-20	PASS
	4344.4370	-42.6592	-20	PASS
	5213.3250	-42.5240	-20	PASS
	6082.2120	-41.7309	-20	PASS
	6951.1000	-39.4619	-20	PASS
	7819.9880	-38.8172	-20	PASS
	8688.8750	-40.0640	-20	PASS

6.9.4. Test Limit

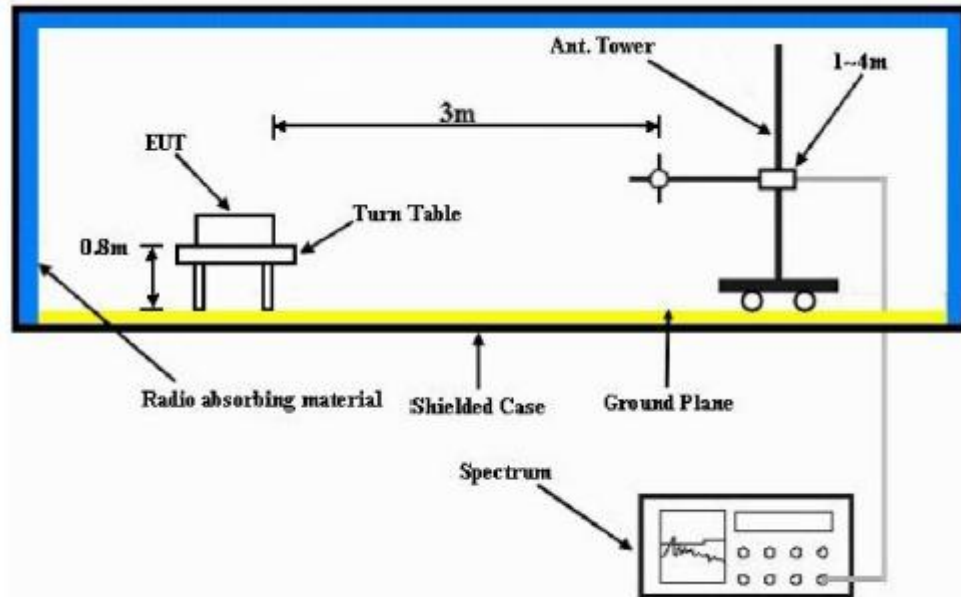
Table below summarized the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least

Channel Spacing	Part 22	Part 24D	Part 74	Part 80	Part 90 (UHF, VHF, 800, 900)	Part 90 (700)
12.5kHz	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	Not Applicable	50 + log ₁₀ (P) (-20 dBm)	43 + log ₁₀ (P) (-13 dBm)
25kHz		Not Applicable		43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)

Channel Spacing	RSS 134	RSS 182	RSS 119 (UHF, VHF, 800, 900)	RSS 119 (700)
12.5kHz	43 + log ₁₀ (P) (-13 dBm)	Not Applicable	50 + log ₁₀ (P) (-20 dBm)	43 + log ₁₀ (P) (-13 dBm)
25kHz	Not Applicable	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)

6.10. Radiated Spurious Emission

6.10.1. 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 $F_c < 1\text{GHz}$) or 1.5m height (for $F_c > 1\text{GHz}$) 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.

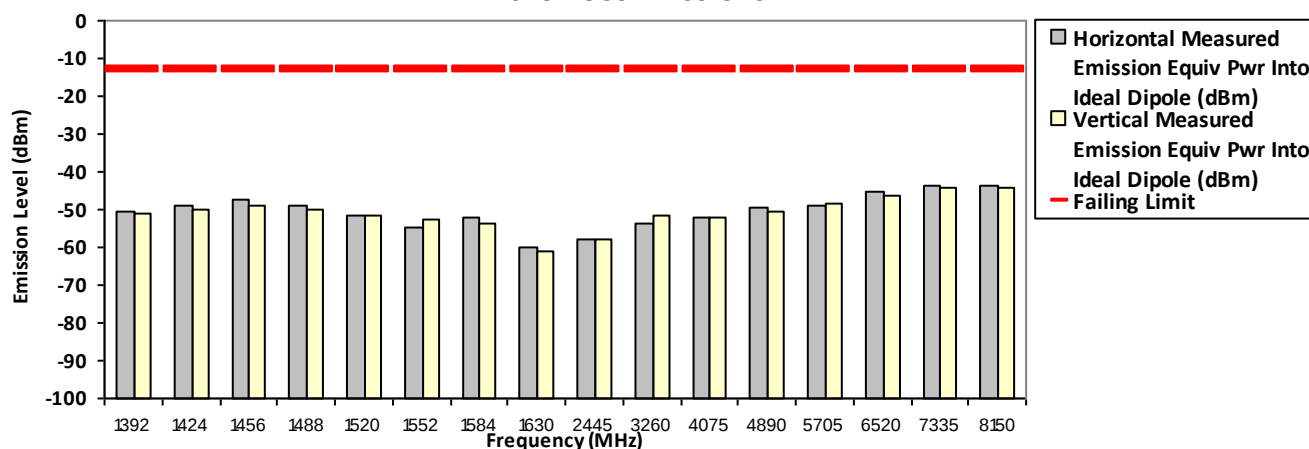
6.10.2. Test Result (Analog)

SAC Transmitter Radiated Emission:

Model Number: M37TSS9PW1CN S/N: 6811ZN6378 SR:41528-EMC-00036
Battery Part No: NA Accy Part No: HMN4079G-CF1, HSN4031B-C3, HKN4192C-CF4, HKN6164B-CF2, HKN6188B-CF3, HKN6172C-C2, PMHN4194D-CF2, 13921-PMUN1057B-2, AS000016A02-CF2
Test Mode: TX Analog
814.987500 MHz 25 kHz 42.000 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)
1392.1800	-13.0000	-50.6900 *	-51.0200 *
1424.1800	-13.0000	-48.8600 *	-49.9000 *
1455.7800	-13.0000	-47.2200 *	-48.8200 *
1487.7800	-13.0000	-48.7700 *	-50.1500 *
1520.1700	-13.0000	-51.5000 *	-51.4300 *
1552.1700	-13.0000	-54.9500 *	-52.8700 *
1583.7700	-13.0000	-52.2800 *	-53.4700 *
1629.9750	-13.0000	-59.7798 **	-61.1424 **
2444.9625	-13.0000	-57.8702 **	-57.8475 **
3259.9500	-13.0000	-53.8054 **	-51.7238 **
4074.9375	-13.0000	-52.0708 **	-51.8992 **
4889.9250	-13.0000	-49.4464 **	-50.3290 **
5704.9125	-13.0000	-49.1192 **	-48.2313 **
6519.9000	-13.0000	-45.4878 **	-46.4414 **
7334.8875	-13.0000	-43.6974 **	-43.9633 **
8149.8750	-13.0000	-43.7122 **	-43.9691 **

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: Nazrin & Fuad

Sun, 7 Jan, 2024

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): 23.6 Hum(%RH): 70.3

System MU: 4.03 dB

Remarks:

Passed Results

Marginal Results

Failed Results

SAC Transmitter Radiated Emission:

Model Number: M37TSS9PW1CN S/N: 6811ZN6378 SR:41528-EMC-00036
Battery Part No: NA Accy Part No: HMN4079G-CF1, HSN4031B-C3, HKN4192C-CF4, HKN6164B-CF2, HKN6188B-CF3, HKN6172C-C2, PMHN4194D-CF2, 13921-PMUN1057B-2, AS000016A02-CF2

Test Mode: TX Analog

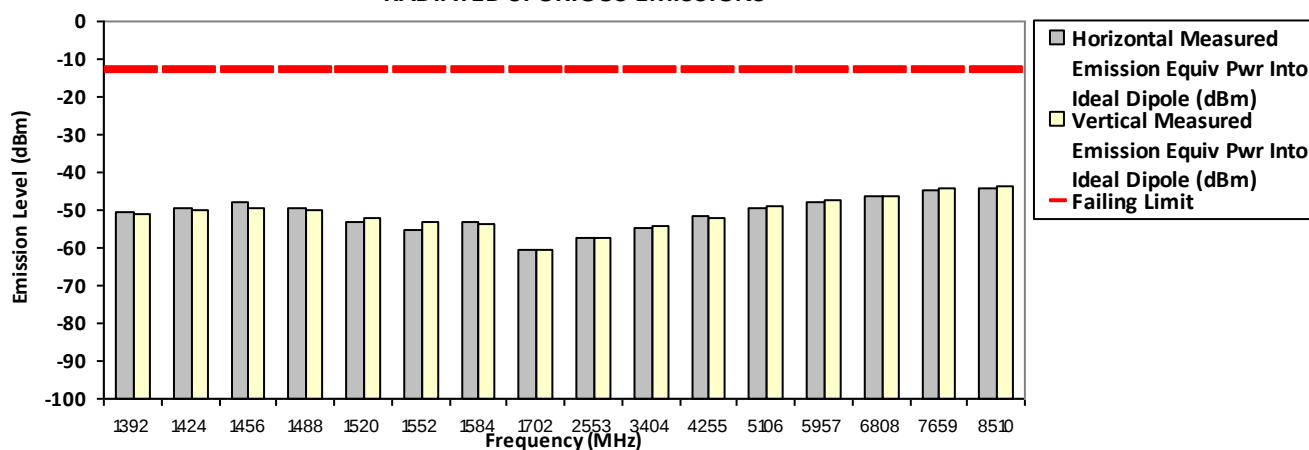
851.012500 MHz

25 kHz

42.000 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)
1391.7800	-13.0000	-50.4500 *	-50.9100 *
1423.7800	-13.0000	-49.3200 *	-50.0000 *
1455.7800	-13.0000	-47.7000 *	-49.2200 *
1488.1800	-13.0000	-49.3500 *	-50.1400 *
1519.7700	-13.0000	-53.1500 *	-52.1300 *
1552.1700	-13.0000	-55.1000 *	-53.4000 *
1584.1700	-13.0000	-53.3600 *	-53.5100 *
1702.0250	-13.0000	-60.5639 **	-60.3840 **
2553.0375	-13.0000	-57.6070 **	-57.3175 **
3404.0500	-13.0000	-54.5445 **	-54.0719 **
4255.0625	-13.0000	-51.6959 **	-52.3177 **
5106.0750	-13.0000	-49.6523 **	-48.8865 **
5957.0875	-13.0000	-47.7961 **	-47.3825 **
6808.1000	-13.0000	-46.5200 **	-46.0532 **
7659.1125	-13.0000	-44.7147 **	-44.3951 **
8510.1250	-13.0000	-44.0294 **	-43.8920 **

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: Nazrin & Fuad

Sun, 7 Jan, 2024

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): 23.6 Hum(%RH): 70.3

System MU: 4.03 dB

Remarks:

Passed Results

Marginal Results

Failed Results

6.10.3. Test Result (Digital)
Not Applicable

6.10.4. Test Limit

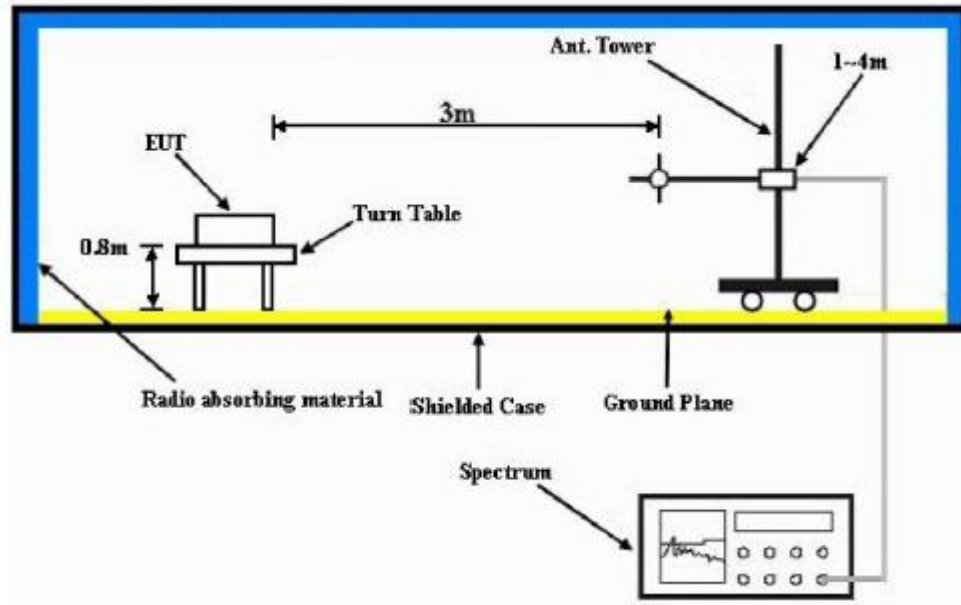
Table below summarized the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least

Channel Spacing	Part 22	Part 24D	Part 74	Part 80	Part 90 (UHF, VHF, 800, 900)	Part 90 (700)
12.5kHz	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	Not Applicable	50 + log ₁₀ (P) (-20 dBm)	43 + log ₁₀ (P) (-13 dBm)
25kHz		Not Applicable		43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)

Channel Spacing	RSS 134	RSS 182	RSS 119 (UHF, VHF, 800, 900)	RSS 119 (700)
12.5kHz	43 + log ₁₀ (P) (-13 dBm)	Not Applicable	50 + log ₁₀ (P) (-20 dBm)	43 + log ₁₀ (P) (-13 dBm)
25kHz	Not Applicable	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)	43 + log ₁₀ (P) (-13 dBm)

6.11. Effective Radiated Power (ERP)

6.11.1. Test Setup



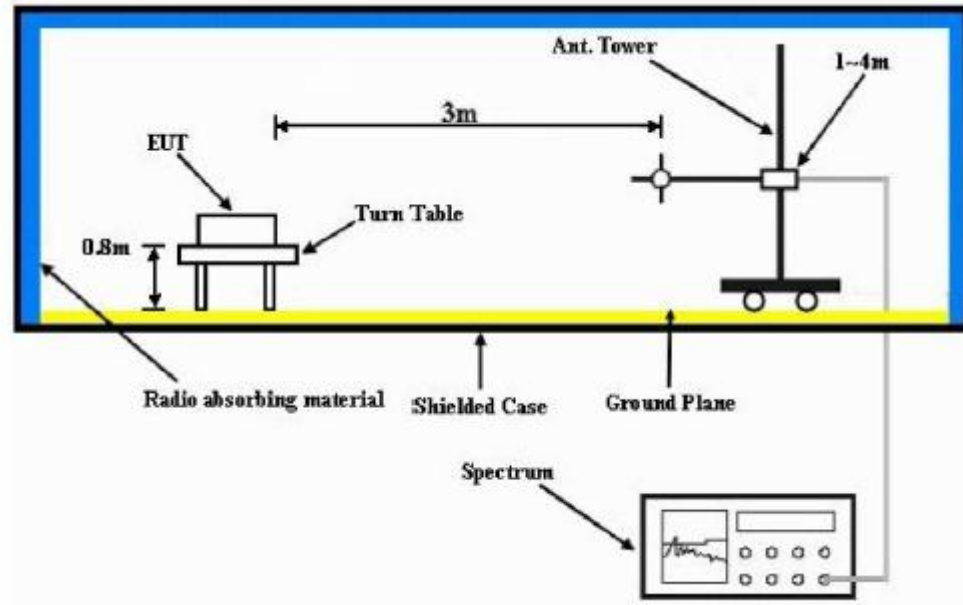
- 1) The Resolution Bandwidth for Equivalent Radiated Power (ERP) below 1 GHz is 100 kHz with Video Bandwidth = 300 kHz and Resolution Bandwidth for EIRP above 1 GHz is 1 MHz with Video Bandwidth = 3 MHz. Detector Mode is RMS.
- 2) In the semi-anechoic chamber, setup as illustrated above the DUT placed on the 0.8m height (for $F_c < 1\text{GHz}$) or 1.5m (for $F_c > 1\text{GHz}$) 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.

6.11.2. Test Result Not Applicable

6.11.3. 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).

6.12. GNSS (EIRP for 1559 - 1610MHz)

6.12.1. 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) $EIRP = \text{"Read Value"} + \text{Measured substitution value} + 2.15$.

6.12.1. Test Result Not Applicable

6.12.2. 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 ~