FCC Sub6 REPORT

Certification

Applicant Name: SAMSUNG Electronics Co., Ltd.	**Date of Issue:** February 25, 2021
Address: 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea	**Location:** HCT CO., LTD., 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA **Report No.:** HCT-RF-2102-FC057

FCC ID: **A3LSMA526U**

APPLICANT: **SAMSUNG Electronics Co., Ltd.**

Model(s):	SM-A526U
Additional Model(s):	SM-A526U1
EUT Type:	Mobile Phone
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27, §2

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	ERP Max. Power (W)	ERP Max. Power (dBm)
Sub6 n12 (5)	701.5 – 713.5	4M50G7D	PI/2 BPSK	0.079	18.95
		4M49G7D	QPSK	0.077	18.84
		4M50W7D	16QAM	0.064	18.08
		4M49W7D	64QAM	0.040	16.03
		4M48W7D	256QAM	0.026	14.15
Sub6 n12 (10)	704.0 – 711.0	8M96G7D	PI/2 BPSK	0.076	18.79
		8M96G7D	QPSK	0.075	18.77
		8M95W7D	16QAM	0.062	17.92
		8M96W7D	64QAM	0.041	16.15
		8M96W7D	256QAM	0.026	14.12
Sub6 n12 (15)	706.5 – 708.5	13M4G7D	PI/2 BPSK	0.071	18.51
		13M5G7D	QPSK	0.071	18.49
		13M5W7D	16QAM	0.059	17.71
		13M4W7D	64QAM	0.047	16.76
		13M5W7D	256QAM	0.025	14.04

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section §2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.
HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)

REVIEWED BY

Report prepared by : Jae Ryang Do
Engineer of Telecommunication Testing Center

Report approved by : Jong Seok Lee
Manager of Telecommunication Testing Center

This test results were applied only to the test methods required by the standard.

This laboratory is not accredited for the test results marked *.
The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (HCT Accreditation No.: KT197)

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2102-FC057	February 25, 2021	- First Approval Report

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Applicant Name:	SAMSUNG Electronics Co., Ltd.
Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
FCC ID:	A3LSMA526U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§27, §2
EUT Type:	Mobile Phone
Model(s):	SM-A526U
Additional Model(s):	SM-A526U1
SCS(kHz):	15
Waveform:	CP-OFDM, DFT-S-OFDM
Modulation:	DFT-S-OFDM: PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
Tx Frequency:	701.5 MHz – 713.5 MHz (Sub6 n12 (5 MHz)) 704.0 MHz – 711.0 MHz (Sub6 n12 (10 MHz)) 706.5 MHz – 708.5 MHz (Sub6 n12 (15 MHz))
Date(s) of Tests:	January 19, 2021 ~ February 24, 2021
Serial number:	Radiated: R3CR10BEAAB Conducted: R3CR10BBDLY

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

The EUT was a Mobile Phone with GSM/GPRS/EGPRS/UMTS, CDMA(BC0, 1, 10) and LTE, Sub6.

It also supports IEEE 802.11 a/b/g/n/ac (HT20/40/80), Bluetooth, BT LE, NFC.

2.2. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.3. TEST FACILITY

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the **74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA**.

3. DESCRIPTION OF TESTS

3.1 TEST PROCEDURE

Test Description	Test Procedure Used
Occupied Bandwidth	- KDB 971168 D01 v03r01 – Section 4.3 - ANSI C63.26-2015 – Section 5.4.4
Band Edge	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Spurious and Harmonic Emissions at Antenna Terminal	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Conducted Output Power	- N/A (See SAR Report)
Peak- to- Average Ratio	- KDB 971168 D01 v03r01 – Section 5.7 - ANSI C63.26-2015 – Section 5.2.3.4
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Effective Radiated Power/ Effective Isotropic Radiated Power	- KDB 971168 D01 v03r01 – Section 5.2 & 5.8 - ANSI/TIA-603-E-2016 – Section 2.2.17
Radiated Spurious and Harmonic Emissions	- KDB 971168 D01 v03r01 – Section 6.2 - ANSI/TIA-603-E-2016 – Section 2.2.12

3.2 RADIATED POWER

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna in accordance with ANSI/TIA-603-E-2016 Clause 2.2.17.

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW ≥ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points > 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

Test Note

1. The turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission.
2. A half wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

   The power is calculated by the following formula;

   $$P_{d(dBm)} = Pg_{(dBm)} - \text{cable loss}_{(dB)} + \text{antenna gain}_{(dB)}$$

   Where: $P_d$is the dipole equivalent power and $P_g$is the generator output power into the substitution antenna.
3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference

   between the gain of the horn and an isotropic antenna are taken into consideration
4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

3.3 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method according to ANSI/TIA-603-E-2016.

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW ≥ 3 x RBW
3. Span = 1.5 times the OBW
4. No. of sweep points > 2 x span / RBW
5. Detector = Peak
6. Trace mode = Max Hold
7. The trace was allowed to stabilize
8. Test channel : Low/ Middle/ High
9. Frequency range : We are performed all frequency to 10th harmonics from 9 kHz.

Test Note

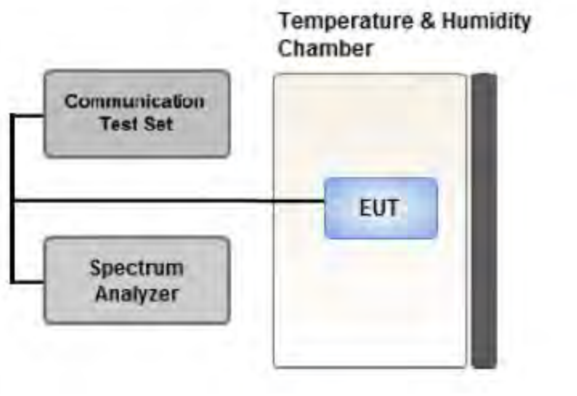
1. Measurements value show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
2. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the test data
3. For spurious emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.
   The spurious emissions is calculated by the following formula;

$$\text{Result}_{(\text{dBm})} = \text{Pg}_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

   Where: $P_g$is the generator output power into the substitution antenna.
   If the fundamental frequency is below 1GHz, RF output power has been converted to EIRP.

$$\text{EIRP}_{(\text{dBm})} = \text{ERP}_{(\text{dBm})} + 2.15$$

3.4 PEAK- TO- AVERAGE RATIO



Test setup

① CCDF Procedure for PAPR

Test Settings

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

2. Set the number of counts to a value that stabilizes the measured CCDF curve;

3. Set the measurement interval as follows:

.- for continuous transmissions, set to 1 ms,

.- or burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.

4. Record the maximum PAPR level associated with a probability of 0.1%.

② Alternate Procedure for PAPR

Use one of the procedures presented in 5.2(ANSI C63.26-2015) to measure the total peak power and record as P_{Pk}.

Use one of the applicable procedures presented 5.2(ANSI C63.26-2015) to measure the total average power and record as P_{Avg}. Determine the P.A.R. from:

$$P.A.R_{(dB)} = P_{Pk\ (dBm)} - P_{Avg\ (dBm)}\ (P_{Avg} = \text{Average Power + Duty cycle Factor})$$

<u>Test Settings(Peak Power)</u>

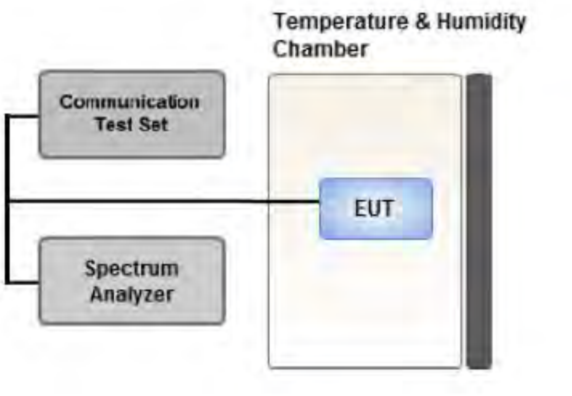
The measurement instrument must have a RBW that is greater than or equal to the OBW of the signal to be measured and a VBW ≥ 3 × RBW.

1. Set the RBW ≥ OBW.
2. Set VBW ≥ 3 × RBW.
3. Set span ≥ 2 × OBW.
4. Sweep time ≥ 10 × (number of points in sweep) × (transmission symbol period).
5. Detector = peak.
6. Trace mode = max hold.
7. Allow trace to fully stabilize.
8. Use the peak marker function to determine the peak amplitude level.

<u>Test Settings(Average Power)</u>

1. Set span to 2 × to 3 × the OBW.
2. Set RBW ≥ OBW.
3. Set VBW ≥ 3 × RBW.
4. Set number of measurement points in sweep ≥ 2 × span / RBW.
5. Sweep time:
   Set ≥ [10 × (number of points in sweep) × (transmission period)] for single sweep (automation-compatible) measurement. The transmission period is the (on + off) time.
6. Detector = power averaging (rms).
7. Set sweep trigger to “free run.”
8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. (To accurately determine the average power over the on and off period of the transmitter, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.)
9. Use the peak marker function to determine the maximum amplitude level.
10. Add [10 log (1/duty cycle)] to the measured maximum power level to compute the average power during continuous transmission. For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is a constant 25%.

3.5 OCCUPIED BANDWIDTH.



Test setup

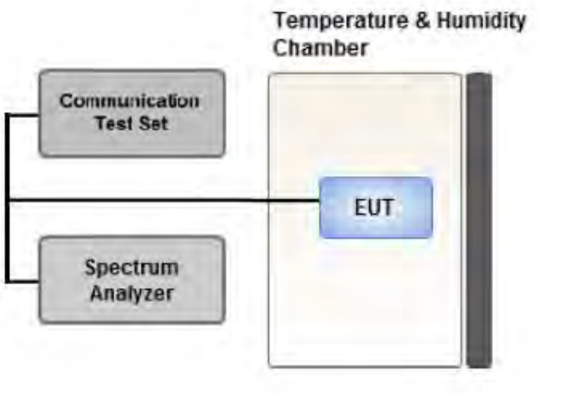
The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

The EUT makes a call to the communication simulator.
The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

Test Settings

1. The signal analyzer’s automatic bandwidth measurement capability was used to perform the 99% occupied bandwidth and the 26dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5% of the expected OBW
3. VBW ≥ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5% of the 99% occupied bandwidth observed in Step 7

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

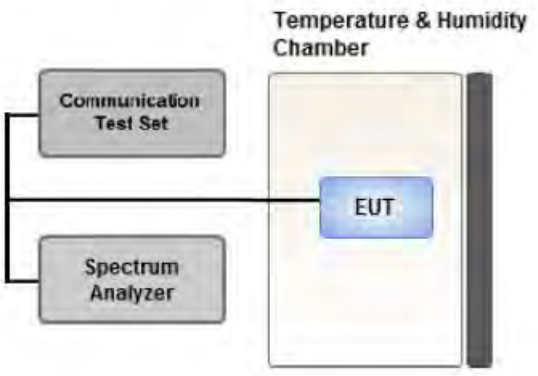
Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

1. RBW = 1 MHz
2. VBW ≥ 3 MHz
3. Detector = RMS
4. Trace Mode = trace average
5. Sweep time = auto
6. Number of points in sweep ≥ 2 * Span / RBW

3.7 BAND EDGE



Test setup

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW > 1% of the emission bandwidth
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points ≥ 2 x Span/RBW
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

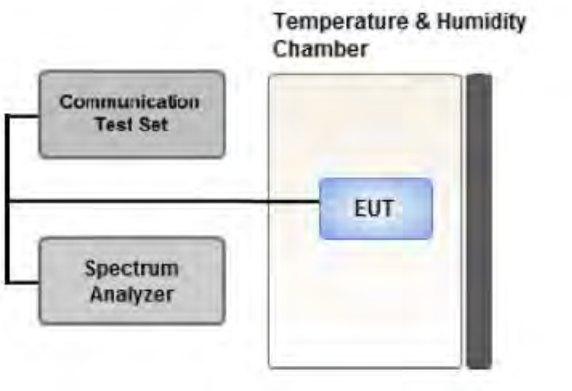
Test Notes

According to FCC 22.917, 24.238, 27.53 specified that 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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

All measurements were done at 2 channels(low and high operational frequency range.)

The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015.

The frequency stability of the transmitter is measured by:

1. Temperature:

   The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

2. Primary Supply Voltage:

   .- Unless otherwise specified, vary primary supply voltage from 85% to 115% of the nominal value for other than hand carried battery equipment.

   .- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

3.9 WORST CASE(RADIATED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All modes of operation were investigated and the worst case configuration results are reported.

(In the case of radiated spurious emissions, only the B.W result that confirmed the maximum radiated power was reported.)

- Radiated Spurious emissions are measured while operating in EN-DC mode with Sub 6 NR carrier as well as an LTE carrier (anchor).
  All EN-DC mode of operation were investigated and the worst case configuration results are reported.
  (Worst case: 2A-n12A(5MHz))
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-A526U & additional models were tested and the worst case results are reported.
  (Worst case : SM-A526U)

[Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Radiated Power	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1	1	Y
Radiated Spurious and Harmonic Emissions	QPSK	1	1	Z

3.10 WORST CASE(CONDUCTED TEST)

- Waveform : All Waveform of operation were investigated and the worst case configuration results are reported.
  (Worst case: DFT-S-OFDM)
- Modulation : All Modulation of operation were investigated and the worst case configuration results are reported.
  (Worst case: PI/2 BPSK)
- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.
  Please refer to the table below.
- SM-A526U & additional models were tested and the worst case results are reported.
  (Worst case : SM-A526U)

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth **Peak- to- Average Ratio**	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	5, 10, 15	Mid	Full RB	0
Band Edge	PI/2 BPSK	5	Low	1	0
			High	1	24
		10	Low	1	0
			High	1	51
		15	Low	1	0
			High	1	78
		5, 10, 15	Low, High	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	PI/2 BPSK	5, 10, 15	Low, Mid, High	1	1

4. LIST OF TEST EQUIPMENT

Manufacture	Model/ Equipment	Serial Number	Calibration Date	Calibration Interval	Calibration Due
Wainwright Instruments	WHKX10-900-1000-15000-40SS/ High Pass Filter	5	07/13/2020	Annual	07/13/2021
Wainwright Instruments	WHKX10-2700-3000-18000-40SS/ High Pass Filter	145	09/03/2020	Annual	09/03/2021
Wainwright Instruments	WHNX6-4740-6000-26500-40CC/ High Pass Filter	11	09/03/2020	Annual	09/03/2021
Hewlett Packard	11667B / Power Splitter(DC~26.5 GHz)	11275	04/27/2020	Annual	04/27/2021
CERNEX	LOW NOISE AMP (100MHz ~ 18GHz)	26822	06/04/2020	Annual	06/04/2021
CERNEX	CBL18265035 / Power Amplifier	22966	12/04/2020	Annual	12/04/2021
CERNEX	CBL26405040 / Power Amplifier	25956	03/23/2020	Annual	03/23/2021
Hewlett Packard	E3632A/DC Power Supply	MY40004427	09/16/2020	Annual	09/16/2021
Schwarzbeck	UHAP / Precision Dipole Antenna	01273	05/30/2020	Biennial	05/30/2022
Schwarzbeck	UHAP / Precision Dipole Antenna	01274	05/30/2020	Biennial	05/30/2022
ESPEC	SU-642 / Chamber	93008124	03/18/2020	Annual	03/18/2021
Schwarzbeck	BBHA 9120D/ Horn Antenna(1~18GHz)	02289	05/08/2020	Biennial	05/08/2022
Schwarzbeck	BBHA 9120D/ Horn Antenna(1~18GHz)	9120D-1299	05/10/2019	Biennial	05/10/2021
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	BBHA9170342	04/29/2019	Biennial	04/29/2021
Schwarzbeck	BBHA 9170/ Horn Antenna(15~40GHz)	BBHA9170124	02/11/2020	Biennial	02/11/2022
Agilent	N9020A/Signal Analyzer(10Hz~26.5GHz)	MY51110063	04/27/2020	Annual	04/27/2021
Hewlett Packard	8493C/ATTENUATOR(20dB)	17280	06/04/2020	Annual	06/04/2021
REOHDE & SCHWARZ	FSV40/Spectrum Analyzer(10Hz~40GHz)	101436	03/16/2020	Annual	03/16/2021
Rohde & Schwarz	FMZB1513/ Loop Antenna(9kHz~30MHz)	1513-175	05/18/2020	Biennial	05/18/2022
Schwarzbeck	VULB9160/ Bilog Antenna	3150	03/12/2019	Biennial	03/12/2021
Schwarzbeck	VULB9160/ Hybrid Antenna	760	03/22/2019	Biennial	03/22/2021
Anritsu Corp.	MT8821C/Wideband Radio Communication Tester	6262116770	07/22/2020	Annual	07/22/2021
REOHDE & SCHWARZ	SMB100A/ SIGNAL GENERATOR (100kHz~40GHz)	177633	07/13/2020	Annual	07/13/2021
KEYSIGHT	N9030B / Signal Analyzer(5Hz~40.0GHz)	MY55480167	06/04/2020	Annual	06/04/2021
KEYSIGHT	E7515B / 5G Wireless Tester	MY60101126	05/28/2020	Annual	05/28/2021
Mini-Circuits	ZC4PD-K1844+ / 4-Way Divider	942907	09/14/2020	Annual	09/14/2021
HCT CO., LTD.,	FCC LTE Mobile Conducted RF Automation Test Software	-	-	-	-

Note:

1. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
2. Espectially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4:2014. All measurement uncertainty values are shown with a coverage factor of *k* = 2 to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (±dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70
Radiated Disturbance (18 GHz ~ 40 GHz)	5.05

6. SUMMARY OF TEST RESULTS

6.1 Test Condition : Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§2.1049	N/A	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§2.1051, §27.53(g)	< 43 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions	PASS
Conducted Output Power	§2.1046	N/A	See Note1
Frequency stability / variation of ambient temperature	§2.1055, §27.54	Emission must remain in band	PASS

Note:

1. See SAR Report
2. Conducted test were tested using 5G Wireless Tester.

6.2 Test Condition : Radiated Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Effective Radiated Power	§27.50(c)(10)	< 3 Watts max. ERP	PASS
Radiated Spurious and Harmonic Emissions	§2.1053, §27.53(g)	< 43 + 10log10 (P[Watts]) for all out-of band emissions	PASS

Note:

1. Radiateded test was tested using 5G Wireless Tester.

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

Ch./ Freq.		Measured Level(dBm)	Substitute Level(dBm)	Ant. Gain (dBd)	C.L	Pol.	ERP	
channel	Freq.(MHz)						W	dBm
128	824.20	-21.37	38.40	-10.61	0.95	H	0.483	26.84

ERP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.

2) During the test , the turn table is rotated until the maximum signal is found.

3) Record the field strength meter's level.

4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.

5) Increase the signal generator output till the field strength meter's level is equal to the item (3).

6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

7.2 EIRP Sample Calculation

Ch./ Freq.		Measured Level(dBm)	Substitute Level(dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
20175	1,732.50	-15.75	18.45	9.90	1.76	H	0.456	26.59

EIRP = Substitute LEVEL(dBm) + Ant. Gain – CL(Cable Loss)

1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.

2) During the test , the turn table is rotated until the maximum signal is found.

3) Record the field strength meter's level.

4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.

5) Increase the signal generator output till the field strength meter's level is equal to the item (3).

6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

7.3. Emission Designator

GSM Emission Designator

Emission Designator = 249KGXW
GSM BW = 249 kHz
G = Phase Modulation
X = Cases not otherwise covered
W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W
GSM BW = 249 kHz
G = Phase Modulation
7 = Quantized/Digital Info
W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W
WCDMA BW = 4.17 MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination (Audio/Data)

PSK Modulation

Emission Designator = 4M48G7D
LTE BW = 4.48 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D
LTE BW = 4.48 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

8. TEST DATA

8.1 EFFECTIVE RADIATED POWER

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBd)	C.L	Pol	Limit	ERP	
								W	W	dBm
701.5	Sub6 n12/ 5 MHz [15 kHz]	PI/2 BPSK	-28.56	29.35	-9.75	1.17	V	< 3.00	0.070	18.43
		QPSK	-28.64	29.27	-9.75	1.17	V		0.068	18.35
		16-QAM	-29.46	28.45	-9.75	1.17	V		0.057	17.53
		64-QAM	-31.38	26.53	-9.75	1.17	V		0.036	15.61
		256-QAM	-33.19	24.72	-9.75	1.17	V		0.024	13.80
707.5		PI/2 BPSK	-28.50	29.60	-9.77	1.18	V		0.073	18.65
		QPSK	-28.54	29.56	-9.77	1.18	V		0.073	18.61
		16-QAM	-29.30	28.80	-9.77	1.18	V		0.061	17.85
		64-QAM	-31.30	26.80	-9.77	1.18	V		0.038	15.85
		256-QAM	-33.16	24.94	-9.77	1.18	V		0.025	13.99
713.5		PI/2 BPSK	-28.48	29.93	-9.80	1.18	V		0.079	18.95
		QPSK	-28.59	29.82	-9.80	1.18	V		0.077	18.84
		16-QAM	-29.35	29.06	-9.80	1.18	V		0.064	18.08
		64-QAM	-31.40	27.01	-9.80	1.18	V		0.040	16.03
		256-QAM	-33.28	25.13	-9.80	1.18	V		0.026	14.15

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBd)	C.L	Pol	Limit	ERP	
								W	W	dBm
704.0	Sub6 n12/ 10 MHz [15 kHz]	PI/2 BPSK	-28.53	29.56	-9.76	1.18	V	< 3.00	0.073	18.63
		QPSK	-28.63	29.46	-9.76	1.18	V		0.071	18.53
		16-QAM	-29.41	28.68	-9.76	1.18	V		0.059	17.75
		64-QAM	-31.01	27.08	-9.76	1.18	V		0.041	16.15
		256-QAM	-33.19	24.90	-9.76	1.18	V		0.025	13.97
707.5		PI/2 BPSK	-28.47	29.63	-9.77	1.18	V		0.074	18.68
		QPSK	-28.61	29.49	-9.77	1.18	V		0.071	18.54
		16-QAM	-29.31	28.79	-9.77	1.18	V		0.061	17.84
		64-QAM	-31.07	27.03	-9.77	1.18	V		0.041	16.08
		256-QAM	-33.18	24.92	-9.77	1.18	V		0.025	13.97
711.0		PI/2 BPSK	-28.51	29.75	-9.78	1.18	V		0.076	18.79
		QPSK	-28.53	29.73	-9.78	1.18	V		0.075	18.77
		16-QAM	-29.38	28.88	-9.78	1.18	V		0.062	17.92
		64-QAM	-31.22	27.04	-9.78	1.18	V		0.041	16.08
		256-QAM	-33.18	25.08	-9.78	1.18	V		0.026	14.12

Freq (MHz)	Mod/ Bandwidth [SCS (kHz)]	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain(dBd)	C.L	Pol	Limit	ERP	
								W	W	dBm
706.5	Sub6 n12/ 15 MHz [15 kHz]	PI/2 BPSK	-28.66	29.34	-9.77	1.18	V	< 3.00	0.069	18.40
		QPSK	-28.67	29.33	-9.77	1.18	V		0.069	18.39
		16-QAM	-29.48	28.52	-9.77	1.18	V		0.057	17.58
		64-QAM	-31.14	26.86	-9.77	1.18	V		0.039	15.92
		256-QAM	-33.29	24.71	-9.77	1.18	V		0.024	13.77
707.5		PI/2 BPSK	-28.69	29.41	-9.77	1.18	V		0.070	18.46
		QPSK	-28.73	29.37	-9.77	1.18	V		0.070	18.42
		16-QAM	-29.44	28.66	-9.77	1.18	V		0.059	17.71
		64-QAM	-31.46	26.64	-9.77	1.18	V		0.037	15.69
		256-QAM	-33.28	24.82	-9.77	1.18	V		0.024	13.87
708.5		PI/2 BPSK	-28.70	29.47	-9.78	1.18	V		0.071	18.51
		QPSK	-28.72	29.45	-9.78	1.18	V		0.071	18.49
		16-QAM	-29.52	28.65	-9.78	1.18	V		0.059	17.69
		64-QAM	-30.45	27.72	-9.78	1.18	V		0.047	16.76
		256-QAM	-33.17	25.00	-9.78	1.18	V		0.025	14.04

8.2 RADIATED SPURIOUS EMISSIONS

▣ NR Band:	N12
▣ LTE Band(Anchor):	B2
▣ Bandwidth:	5 MHz
▣ Modulation:	QPSK
▣ Distance:	3 meters
▣ SCS:	15 kHz

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
140300 (701.5)	1 403.00	-55.47	7.60	-63.84	1.69	V	-57.93	-13.00
	2 104.50	-57.09	8.77	-63.82	2.09	V	-57.14	-13.00
	2 806.00	-58.14	10.67	-64.74	2.45	V	-56.52	-13.00
141500 (707.5)	1 415.00	-55.62	7.61	-63.41	1.69	V	-57.49	-13.00
	2 122.50	-56.26	8.98	-63.32	2.09	H	-56.43	-13.00
	2 830.00	-58.40	10.52	-63.37	2.43	H	-55.28	-13.00
	3 537.50	-58.94	11.66	-62.86	2.76	H	-53.96	-13.00
142700 (713.5)	1 427.00	-55.74	7.66	-64.64	1.69	H	-58.67	-13.00
	2 140.50	-56.66	9.26	-62.58	2.11	V	-55.43	-13.00
	2 854.00	-55.06	10.42	-60.11	2.45	H	-52.14	-13.00
	3 567.50	-55.21	11.78	-58.94	2.77	V	-49.93	-13.00

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Limit (dBm)
18900 (1880.0)	3,760.00	-58.19	11.64	-61.18	2.85	V	-52.39	-13.00
	5,640.00	-58.31	12.00	-55.09	3.54	V	-46.63	-13.00
	7,520.00	-59.25	11.54	-46.90	4.12	V	-39.48	-13.00

8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB)
Sub6 n12	5 MHz	707.5	BPSK	25	0	4.00
			QPSK			4.68
			16-QAM			5.77
			64-QAM			5.89
			256-QAM			6.26
	10 MHz		BPSK	52		3.76
			QPSK			4.46
			16-QAM			5.62
			64-QAM			6.03
			256-QAM			6.43
	15 MHz		BPSK	79		3.87
			QPSK			4.71
			16-QAM			5.69
			64-QAM			6.07
			256-QAM			6.51

Note:

1. Plots of the EUT’s Peak- to- Average Ratio are shown Page 49 ~ 63.

2. Peak- to- Average Ratio is not required. These values are reported for information only.

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
Sub6 n12	5 MHz	707.5	BPSK	25	0	4.4992
			QPSK			4.4939
			16-QAM			4.5044
			64-QAM			4.4909
			256-QAM			4.4788
	10 MHz		BPSK	52		8.9552
			QPSK			8.9572
			16-QAM			8.9543
			64-QAM			8.9570
			256-QAM			8.9624
	15 MHz		BPSK	79		13.424
			QPSK			13.452
			16-QAM			13.455
			64-QAM			13.435
			256-QAM			13.446

Note:

1. Plots of the EUT’s Occupied Bandwidth are shown Page 34 ~ 48.

8.5 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
Sub6 n12	5	701.5	1.3989	29.101	-73.273	-44.172	-13.00
		707.5	1.4108	29.101	-75.467	-46.366	
		713.5	1.4228	29.101	-73.853	-44.752	
	10	704.0	1.3989	29.101	-72.635	-43.534	
		707.5	1.4064	29.101	-76.854	-47.753	
		711.0	1.4128	29.101	-75.714	-46.613	
	15	706.5	1.3994	29.101	-73.327	-44.226	
		707.5	1.4014	29.101	-73.869	-44.768	
		708.5	1.4034	29.101	-75.445	-46.344	

Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 85 ~ 93.
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor(dB) = Cable Loss + Attenuator + Divider

Frequency Range (GHz)	Factor [dB]
0.03 – 1	26.613
1 – 5	29.101
5 – 10	29.711
10 – 15	30.236
15 – 20	30.609
Above 20(26.5)	31.251

8.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 64 ~ 84.

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

▣ BandWidth:	5 MHz
▣ Voltage(100%):	3.860 VDC
▣ Batt. Endpoint:	3.400 VDC
▣ Limit:	± 0.000 25 % or 2.5 ppm

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
707.5	100%	+20(Ref)	707 500 011	0.0	0.000 000	0.000
	100%	-30	707 500 024	13.2	0.000 002	0.019
	100%	-20	707 500 016	5.2	0.000 001	0.007
	100%	-10	707 500 021	10.1	0.000 001	0.014
	100%	0	707 500 020	8.6	0.000 001	0.012
	100%	+10	707 500 025	14.0	0.000 002	0.020
	100%	+30	707 500 016	5.2	0.000 001	0.007
	100%	+40	707 500 025	13.7	0.000 002	0.019
	100%	+50	707 500 020	8.9	0.000 001	0.013
	Batt. Endpoint	+20	707 500 022	10.4	0.000 001	0.015

▣ BandWidth: 10 MHz

▣ Voltage(100%): 3.860 VDC

▣ Batt. Endpoint: 3.400 VDC

▣ Limit: ± 0.000 25 % or 2.5 ppm

Test. Frequncy (MHz)	**Voltage (%)**	**Temp. (℃)**	**Frequency (Hz)**	**Frequency Error (Hz)**	**Deviation (%)**	**ppm**
707.5	100%	+20(Ref)	707 500 014	0.0	0.000 000	0.000
	100%	-30	707 500 020	5.4	0.000 001	0.008
	100%	-20	707 500 018	3.6	0.000 001	0.005
	100%	-10	707 500 022	7.8	0.000 001	0.011
	100%	0	707 500 028	14.1	0.000 002	0.020
	100%	+10	707 500 027	12.4	0.000 002	0.018
	100%	+30	707 500 031	16.6	0.000 002	0.023
	100%	+40	707 500 031	16.4	0.000 002	0.023
	100%	+50	707 500 028	13.6	0.000 002	0.019
	Batt. Endpoint	+20	707 500 022	7.8	0.000 001	0.011

▣ BandWidth: 15 MHz

▣ Voltage(100%): 3.860 VDC

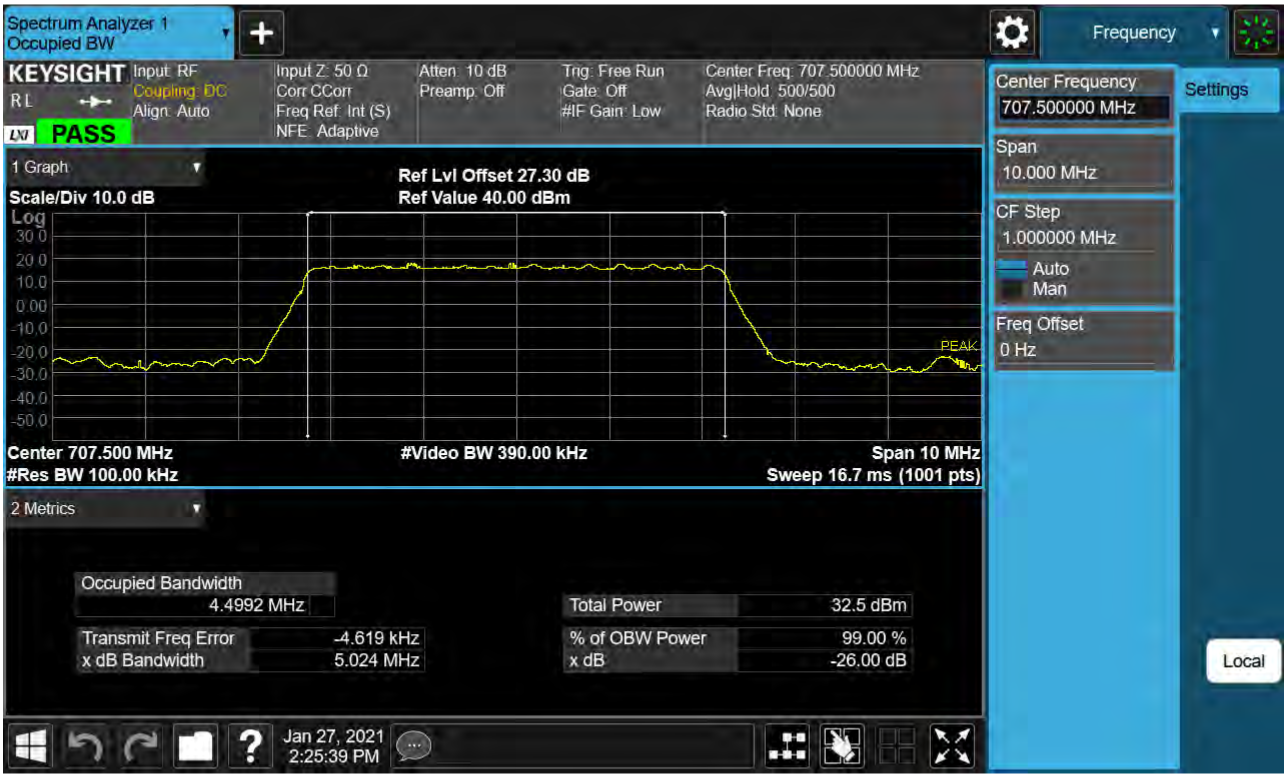
▣ Batt. Endpoint: 3.400 VDC

▣ Limit: ± 0.000 25 % or 2.5 ppm

Test. Frequncy (MHz)	Voltage (%)	Temp. (℃)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
707.5	100%	+20(Ref)	707 500 009	0.0	0.000 000	0.000
	100%	-30	707 500 024	14.7	0.000 002	0.021
	100%	-20	707 500 019	9.9	0.000 001	0.014
	100%	-10	707 500 022	12.6	0.000 002	0.018
	100%	0	707 500 021	12.2	0.000 002	0.017
	100%	+10	707 500 018	9.0	0.000 001	0.013
	100%	+30	707 500 020	11.3	0.000 002	0.016
	100%	+40	707 500 021	12.0	0.000 002	0.017
	100%	+50	707 500 016	7.5	0.000 001	0.011
	Batt. Endpoint	+20	707 500 024	15.3	0.000 002	0.022

9. TEST PLOTS

Sub6 n12. Occupied Bandwidth Plot (5M BW Ch.141500 BPSK_RB25_0)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Scale/Div 10.0 dB
Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm

Center 707.500 MHz
#Res BW 100.00 kHz
#Video BW 390.00 kHz
Span 10 MHz
Sweep 16.7 ms (1001 pts)

Occupied Bandwidth	4.4992 MHz	Total Power	32.5 dBm
Transmit Freq Error	-4.619 kHz	% of OBW Power	99.00 %
x dB Bandwidth	5.024 MHz	x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
10.000 MHz
CF Step
1.000000 MHz
Freq Offset
0 Hz

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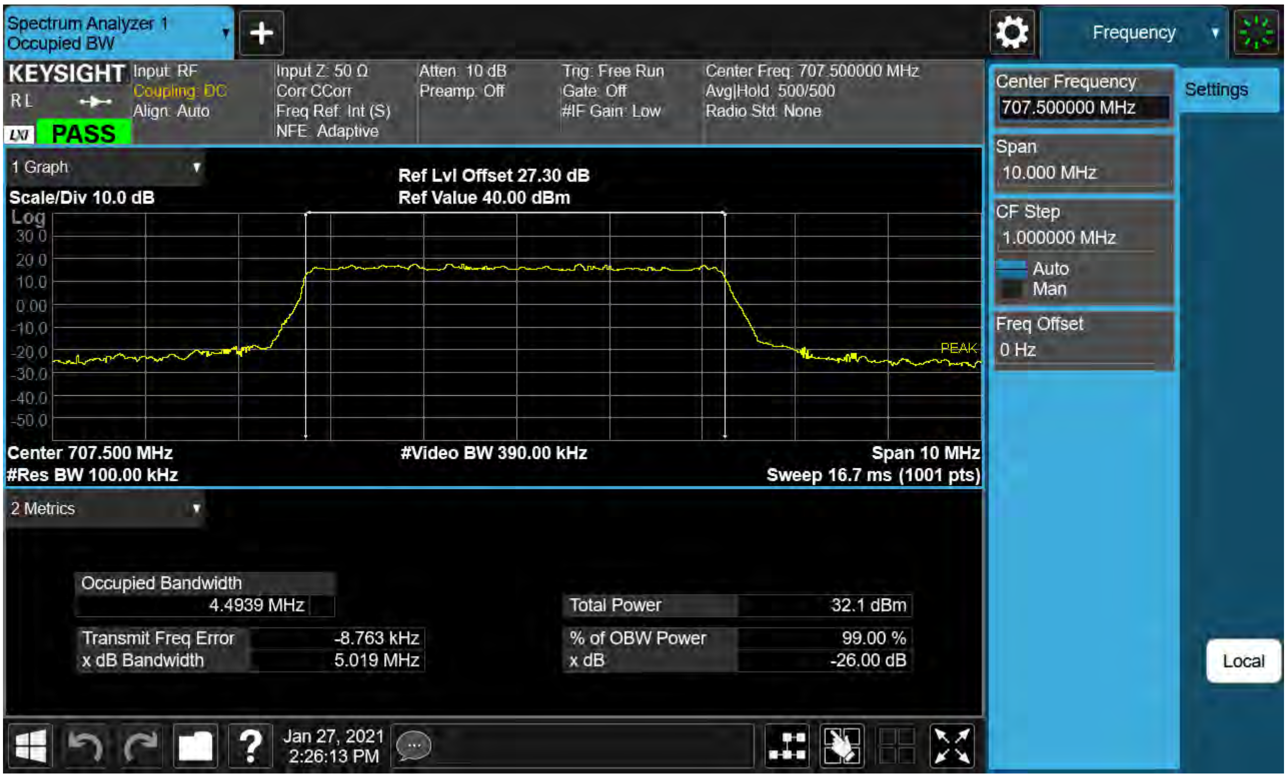
Sub6 n12. Occupied Bandwidth Plot (5M BW Ch.141500 QPSK_RB25_0)



Input: RF
Coupling: DC
Align: Auto

Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive

Atten: 10 dB
Preamp: Off

Trig: Free Run
Gate: Off
#IF Gain: Low

Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Scale/Div 10.0 dB

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm

Center 707.500 MHz
#Res BW 100.00 kHz

#Video BW 390.00 kHz

Span 10 MHz
Sweep 16.7 ms (1001 pts)

Occupied Bandwidth
4.4939 MHz

Transmit Freq Error	-8.763 kHz	Total Power	32.1 dBm
x dB Bandwidth	5.019 MHz	% of OBW Power	99.00 %
		x dB	-26.00 dB

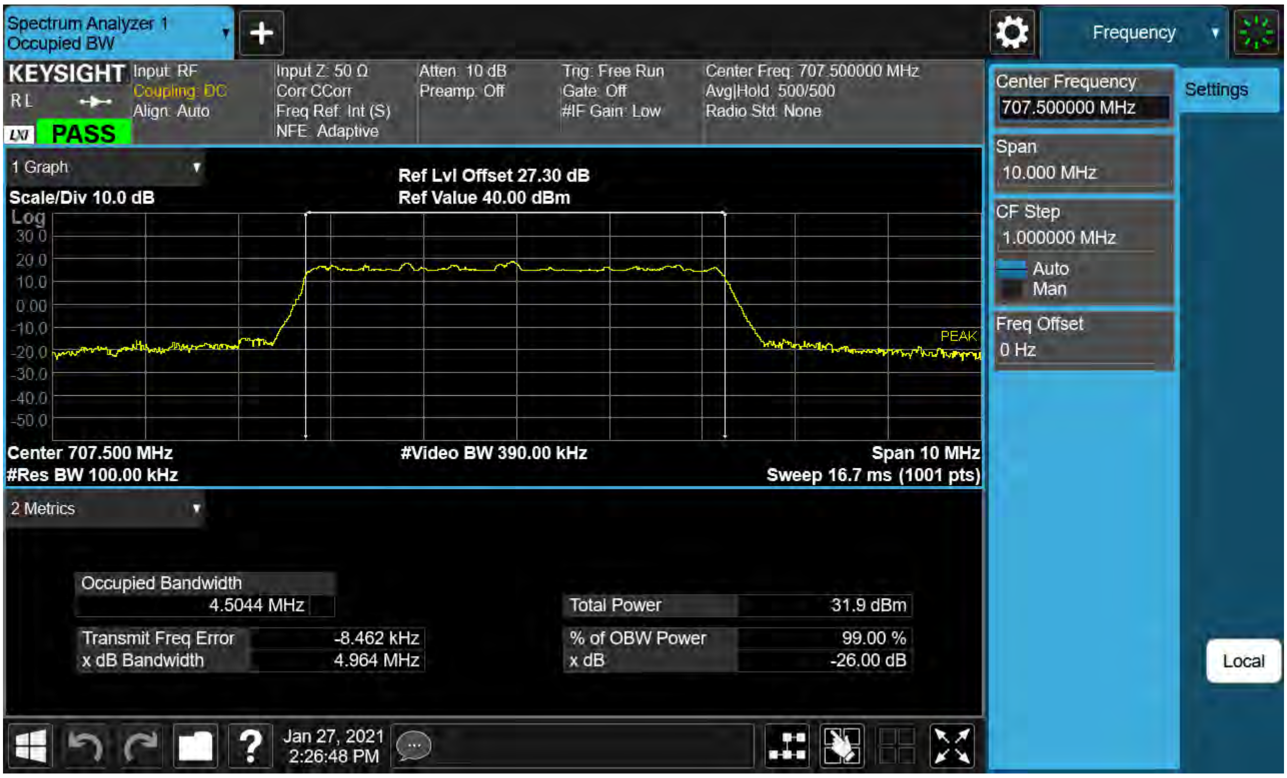
Center Frequency
707.500000 MHz

Span
10.000 MHz

CF Step
1.000000 MHz
Auto
Man

Freq Offset
0 Hz

Sub6 n12. Occupied Bandwidth Plot (5M BW Ch.141500 16QAM_RB25_0)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.500 MHz
#Res BW 100.00 kHz
#Video BW 390.00 kHz
Span 10 MHz
Sweep 16.7 ms (1001 pts)

Occupied Bandwidth	4.5044 MHz	Total Power	31.9 dBm
Transmit Freq Error	-8.462 kHz	% of OBW Power	99.00 %
x dB Bandwidth	4.964 MHz	x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
10.000 MHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

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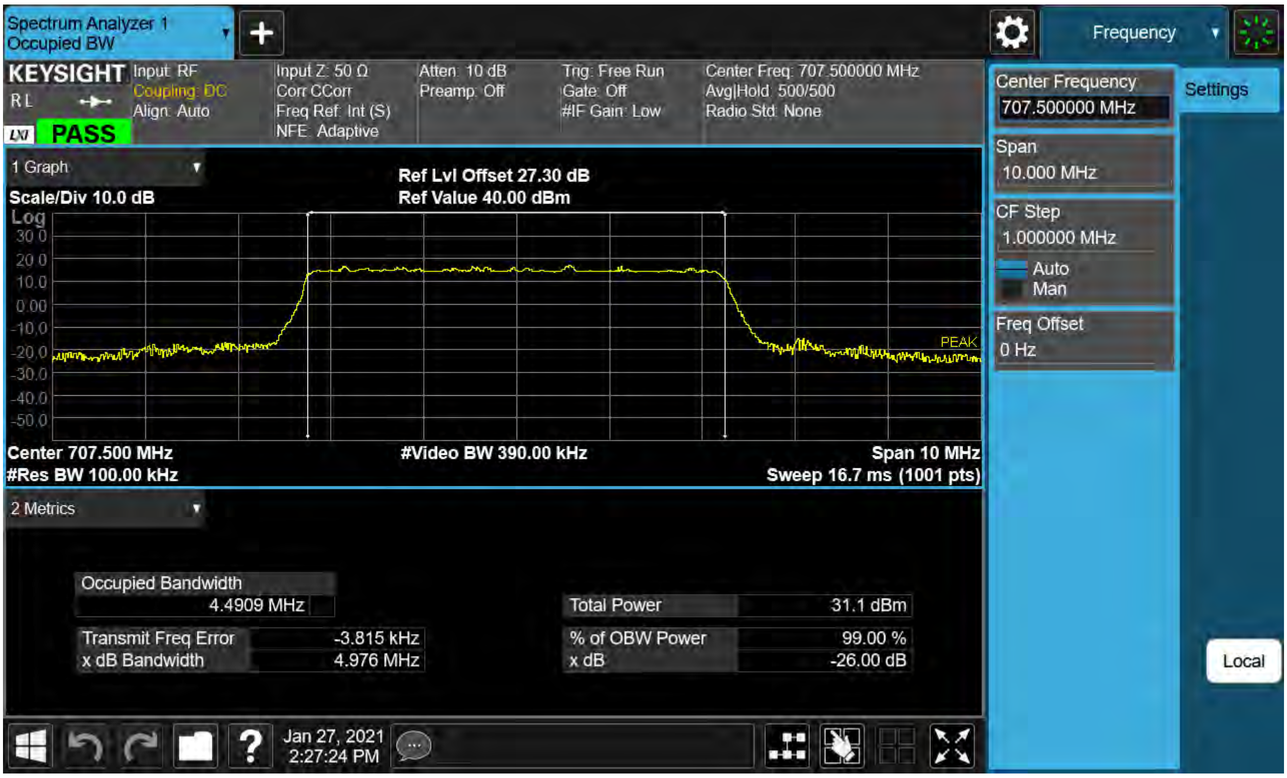
Sub6 n12. Occupied Bandwidth Plot (5M BW Ch.141500 64QAM_RB25_0)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Center Frequency 707.500000 MHz
Span 10.000 MHz
CF Step 1.000000 MHz
Auto
Man
Freq Offset 0 Hz

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.500 MHz
#Res BW 100.00 kHz
#Video BW 390.00 kHz
Span 10 MHz
Sweep 16.7 ms (1001 pts)

Occupied Bandwidth	4.4909 MHz	Total Power	31.1 dBm
Transmit Freq Error	-3.815 kHz	% of OBW Power	99.00 %
x dB Bandwidth	4.976 MHz	x dB	-26.00 dB

Sub6 n12. Occupied Bandwidth Plot (5M BW Ch.141500 256QAM_RB25_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Scale/Div 10.0 dB
Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm

Center 707.500 MHz
#Res BW 100.00 kHz
#Video BW 390.00 kHz
Span 10 MHz
Sweep 16.7 ms (1001 pts)

Occupied Bandwidth
4.4788 MHz

Transmit Freq Error	-10.982 kHz	Total Power	28.5 dBm
x dB Bandwidth	4.960 MHz	% of OBW Power	99.00 %
		x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
10.000 MHz
CF Step
1.000000 MHz
Auto
Man
Freq Offset
0 Hz

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Sub6 n12. Occupied Bandwidth Plot (10M BW Ch.141500 BPSK_RB52_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.50 MHz
#Res BW 200.00 kHz
#Video BW 820.00 kHz
Span 20 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth	8.9552 MHz	Total Power	32.5 dBm
Transmit Freq Error	-203.55 kHz	% of OBW Power	99.00 %
x dB Bandwidth	9.613 MHz	x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
20.000 MHz
CF Step
2.000000 MHz
Auto
Man
Freq Offset
0 Hz

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Sub6 n12. Occupied Bandwidth Plot (10M BW Ch.141500 QPSK_RB52_0)

Spectrum Analyzer 1
Occupied BW

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

PASS

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.50 MHz
#Res BW 200.00 kHz
#Video BW 820.00 kHz
Span 20 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth	8.9572 MHz	Total Power	32.0 dBm
Transmit Freq Error	-190.10 kHz	% of OBW Power	99.00 %
x dB Bandwidth	9.623 MHz	x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
20.000 MHz
CF Step
2.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:34:55 PM

Sub6 n12. Occupied Bandwidth Plot (10M BW Ch.141500 16QAM_RB52_0)

Spectrum Analyzer 1
Occupied BW

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

PASS

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.50 MHz
#Res BW 200.00 kHz
#Video BW 820.00 kHz
Span 20 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth	
8.9543 MHz	
Transmit Freq Error	-192.77 kHz
x dB Bandwidth	9.629 MHz

Total Power	31.0 dBm
% of OBW Power	99.00 %
x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
20.000 MHz
CF Step
2.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:35:20 PM

Sub6 n12. Occupied Bandwidth Plot (10M BW Ch.141500 64QAM_RB52_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Center Frequency: 707.500000 MHz
Span: 20.000 MHz
CF Step: 2.000000 MHz
Auto
Man
Freq Offset: 0 Hz

Scale/Div 10.0 dB
Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Center 707.50 MHz
#Res BW 200.00 kHz
#Video BW 820.00 kHz
Span 20 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth	8.9570 MHz	Total Power	30.5 dBm
Transmit Freq Error	-185.85 kHz	% of OBW Power	99.00 %
x dB Bandwidth	9.652 MHz	x dB	-26.00 dB

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Sub6 n12. Occupied Bandwidth Plot (10M BW Ch.141500 256QAM_RB52_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Center Frequency: 707.500000 MHz
Span: 20.000 MHz
CF Step: 2.000000 MHz
Auto
Man
Freq Offset: 0 Hz

Scale/Div 10.0 dB
Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Center 707.50 MHz
#Res BW 200.00 kHz
#Video BW 820.00 kHz
Span 20 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth	8.9624 MHz	Total Power	28.4 dBm
Transmit Freq Error	-187.98 kHz	% of OBW Power	99.00 %
x dB Bandwidth	9.614 MHz	x dB	-26.00 dB

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Sub6 n12. Occupied Bandwidth Plot (15M BW Ch.141500 BPSK_RB79_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.50 MHz
#Res BW 300.00 kHz
#Video BW 1.2000 MHz
Span 30 MHz
Sweep 1.00 ms (1001 pts)

Center Frequency
707.500000 MHz
Span
30.000 MHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

Occupied Bandwidth
13.424 MHz

Transmit Freq Error -373.22 kHz
x dB Bandwidth 14.27 MHz

Total Power 32.4 dBm

% of OBW Power 99.00 %
x dB -26.00 dB

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Sub6 n12. Occupied Bandwidth Plot (15M BW Ch.141500 QPSK_RB79_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Scale/Div 10.0 dB
Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm

Center 707.50 MHz
#Res BW 300.00 kHz
#Video BW 1.2000 MHz
Span 30 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth
13.452 MHz

Total Power	31.9 dBm
Transmit Freq Error	-385.13 kHz
x dB Bandwidth	14.42 MHz
% of OBW Power	99.00 %
x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
30.000 MHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

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Sub6 n12. Occupied Bandwidth Plot (15M BW Ch.141500 16QAM_RB79_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.50 MHz
#Res BW 300.00 kHz
#Video BW 1.2000 MHz
Span 30 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth	13.455 MHz	Total Power	31.1 dBm
Transmit Freq Error	-368.46 kHz	% of OBW Power	99.00 %
x dB Bandwidth	14.38 MHz	x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
30.000 MHz
CF Step
3.000000 MHz
Freq Offset
0 Hz

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Sub6 n12. Occupied Bandwidth Plot (15M BW Ch.141500 64QAM_RB79_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.50 MHz
#Res BW 300.00 kHz
#Video BW 1.2000 MHz
Span 30 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth
13.435 MHz

Transmit Freq Error	-363.41 kHz	Total Power	30.5 dBm
x dB Bandwidth	14.32 MHz	% of OBW Power	99.00 %
		x dB	-26.00 dB

Center Frequency: 707.500000 MHz
Span: 30.000 MHz
CF Step: 3.000000 MHz
Auto
Man
Freq Offset: 0 Hz

Jan 27, 2021
2:54:36 PM

Sub6 n12. Occupied Bandwidth Plot (15M BW Ch.141500 256QAM_RB79_0)


Spectrum Analyzer 1
Occupied BW
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
Atten: 10 dB
Preamp: Off
Trig: Free Run
Gate: Off
#IF Gain: Low
Center Freq: 707.500000 MHz
Avg|Hold: 500/500
Radio Std: None
PASS

Ref Lvl Offset 27.30 dB
Ref Value 40.00 dBm
Scale/Div 10.0 dB

Center 707.50 MHz
#Res BW 300.00 kHz
#Video BW 1.2000 MHz
Span 30 MHz
Sweep 1.00 ms (1001 pts)

Occupied Bandwidth	13.446 MHz	Total Power	28.6 dBm
Transmit Freq Error	-351.36 kHz	% of OBW Power	99.00 %
x dB Bandwidth	14.28 MHz	x dB	-26.00 dB

Center Frequency
707.500000 MHz
Span
30.000 MHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:55:02 PM

Sub6 n12. PAR Plot (5M BW Ch.141500 BPSK_RB25_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Average Power	
	24.41 dBm
	49.87 % at 0 dB
10.0 %	1.84 dB
1.0 %	3.26 dB
0.1 %	4.00 dB
0.01 %	4.19 dB
0.001 %	4.24 dB
0.0001 %	4.27 dB
Peak	4.27 dB 28.68 dBm

0.00 dB 20.00 dB
Info BW 5.0000 MHz

Center Frequency
707.500000 MHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:25:46 PM

Sub6 n12. PAR Plot (5M BW Ch.141500 QPSK_RB25_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Average Power	
	23.89 dBm
	49.35 % at 0 dB
10.0 %	2.35 dB
1.0 %	4.03 dB
0.1 %	4.68 dB
0.01 %	4.76 dB
0.001 %	4.80 dB
0.0001 %	4.85 dB
Peak	4.86 dB 28.75 dBm

Info BW 5.0000 MHz

Center Frequency
707.500000 MHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:26:20 PM

Sub6 n12. PAR Plot (5M BW Ch.141500 16QAM_RB25_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Average Power	
	22.95 dBm
	45.72 % at 0 dB

10.0 %	2.86 dB
1.0 %	4.82 dB
0.1 %	5.77 dB
0.01 %	6.09 dB
0.001 %	6.39 dB
0.0001 %	6.52 dB

Peak	6.57 dB 29.52 dBm

0.00 dB 20.00 dB
Info BW 5.0000 MHz

Center Frequency
707.500000 MHz
CF Step
5.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:26:56 PM

Sub6 n12. PAR Plot (5M BW Ch.141500 64QAM_RB25_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Center Frequency: 707.500000 MHz
CF Step: 5.000000 MHz
● Auto
○ Man
Freq Offset: 0 Hz

Average Power	
	22.34 dBm
	45.11 % at 0 dB
10.0 %	2.89 dB
1.0 %	4.98 dB
0.1 %	5.89 dB
0.01 %	6.53 dB
0.001 %	6.89 dB
0.0001 %	7.14 dB
Peak	7.20 dB 29.54 dBm

Sub6 n12. PAR Plot (5M BW Ch.141500 256QAM_RB25_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Center Frequency: 707.500000 MHz
CF Step: 5.000000 MHz
Auto ●
Man
Freq Offset: 0 Hz

Average Power	
	20.35 dBm
	44.87 % at 0 dB
10.0 %	2.85 dB
1.0 %	5.06 dB
0.1 %	6.26 dB
0.01 %	6.77 dB
0.001 %	7.13 dB
0.0001 %	7.20 dB
Peak	7.21 dB
	27.56 dBm

Info BW 5.0000 MHz

Sub6 n12. PAR Plot (10M BW Ch.141500 BPSK_RB52_0)

Input: RF
Coupling: DC
Align: Auto

Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)

Atten: 10 dB
Preamp: Off

Trig: Free Run
#IF Gain: Low

Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Average Power
24.44 dBm
49.36 % at 0 dB

10.0 %	1.88 dB
1.0 %	3.14 dB
0.1 %	3.76 dB
0.01 %	4.02 dB
0.001 %	4.15 dB
0.0001 %	4.20 dB

Peak	4.25 dB 28.69 dBm

Info BW 10.000 MHz

Center Frequency
707.500000 MHz

CF Step
10.000000 MHz
Auto
Man

Freq Offset
0 Hz

Sub6 n12. PAR Plot (10M BW Ch.141500 QPSK_RB52_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Average Power	
	23.95 dBm
	49.10 % at 0 dB

10.0 %	2.34 dB
1.0 %	3.96 dB
0.1 %	4.46 dB
0.01 %	4.64 dB
0.001 %	4.70 dB
0.0001 %	4.80 dB

Peak	4.84 dB 28.79 dBm

Info BW 10.000 MHz

Center Frequency: 707.500000 MHz
CF Step: 10.000000 MHz
Freq Offset: 0 Hz

Sub6 n12. PAR Plot (10M BW Ch.141500 16QAM_RB52_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Average Power	
	22.96 dBm
	45.85 % at 0 dB

10.0 %	2.82 dB
1.0 %	4.82 dB
0.1 %	5.62 dB
0.01 %	5.83 dB
0.001 %	5.90 dB
0.0001 %	5.95 dB

Peak	6.01 dB 28.97 dBm

Info BW 10.000 MHz

Center Frequency
707.500000 MHz
CF Step
10.000000 MHz
Auto
Man
Freq Offset
0 Hz

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Sub6 n12. PAR Plot (10M BW Ch.141500 64QAM_RB52_0)

Input: RF
Coupling: DC
Align: Auto

Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)

Atten: 10 dB
Preamp: Off

Trig: Free Run
#IF Gain: Low

Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Average Power	
	22.43 dBm
	44.81 % at 0 dB
10.0 %	2.89 dB
1.0 %	5.00 dB
0.1 %	6.03 dB
0.01 %	6.34 dB
0.001 %	6.44 dB
0.0001 %	6.49 dB
Peak	6.52 dB
	28.95 dBm

Info BW 10.000 MHz

Center Frequency
707.500000 MHz

CF Step
10.000000 MHz
Auto
Man

Freq Offset
0 Hz

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Sub6 n12. PAR Plot (10M BW Ch.141500 256QAM_RB52_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Center Frequency
707.500000 MHz
CF Step
10.000000 MHz
Auto
Man
Freq Offset
0 Hz

Average Power	
	20.41 dBm
	44.02 % at 0 dB
10.0 %	2.90 dB
1.0 %	5.23 dB
0.1 %	6.43 dB
0.01 %	7.58 dB
0.001 %	8.19 dB
0.0001 %	8.24 dB
Peak	8.25 dB
	28.66 dBm

Info BW 10.000 MHz

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Sub6 n12. PAR Plot (15M BW Ch.141500 BPSK_RB75_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Average Power
24.32 dBm
48.63 % at 0 dB

10.0 %	1.78 dB
1.0 %	3.09 dB
0.1 %	3.87 dB
0.01 %	4.13 dB
0.001 %	4.27 dB
0.0001 %	4.32 dB
Peak	4.33 dB 28.65 dBm

0.00 dB
20.00 dB
Info BW 15.000 MHz

Center Frequency
707.500000 MHz
CF Step
15.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:53:27 PM

Sub6 n12. PAR Plot (15M BW Ch.141500 QPSK_RB79_0)

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

1 Metrics

Average Power
23.82 dBm
47.85 % at 0 dB

10.0 %	2.22 dB
1.0 %	4.05 dB
0.1 %	4.71 dB
0.01 %	4.95 dB
0.001 %	5.18 dB
0.0001 %	5.22 dB
Peak	5.23 dB 29.05 dBm

2 Graph

Info BW 15.000 MHz

Center Frequency
707.500000 MHz
CF Step
15.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:53:52 PM

Sub6 n12. PAR Plot (15M BW Ch.141500 16QAM_RB79_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

Center Frequency
707.500000 MHz
CF Step
15.000000 MHz
Freq Offset
0 Hz

Average Power	
	22.86 dBm
	45.67 % at 0 dB
10.0 %	2.77 dB
1.0 %	4.74 dB
0.1 %	5.69 dB
0.01 %	6.00 dB
0.001 %	6.10 dB
0.0001 %	6.14 dB
Peak	6.23 dB
	29.09 dBm

Info BW 15.000 MHz

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Sub6 n12. PAR Plot (15M BW Ch.141500 64QAM_RB79_0)

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

1 Metrics

Average Power	
	22.34 dBm
	44.79 % at 0 dB

10.0 %	2.83 dB
1.0 %	4.90 dB
0.1 %	6.07 dB
0.01 %	6.50 dB
0.001 %	6.78 dB
0.0001 %	6.83 dB

Peak	6.84 dB
	29.18 dBm

Info BW 15.000 MHz

Center Frequency
707.500000 MHz
CF Step
15.000000 MHz
Auto
Man
Freq Offset
0 Hz

Jan 27, 2021
2:54:44 PM

Sub6 n12. PAR Plot (15M BW Ch.141500 256QAM_RB79_0)

Spectrum Analyzer 1
Power Stat CCDF

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
Atten: 10 dB
Preamp: Off
Trig: Free Run
#IF Gain: Low
Center Freq: 707.500000 MHz
Counts: 2.00 M/2.00 Mpt
Radio Std: None

1 Metrics

Average Power	
	20.29 dBm
	43.91 % at 0 dB

10.0 %	2.82 dB
1.0 %	5.18 dB
0.1 %	6.51 dB
0.01 %	7.32 dB
0.001 %	7.70 dB
0.0001 %	7.78 dB

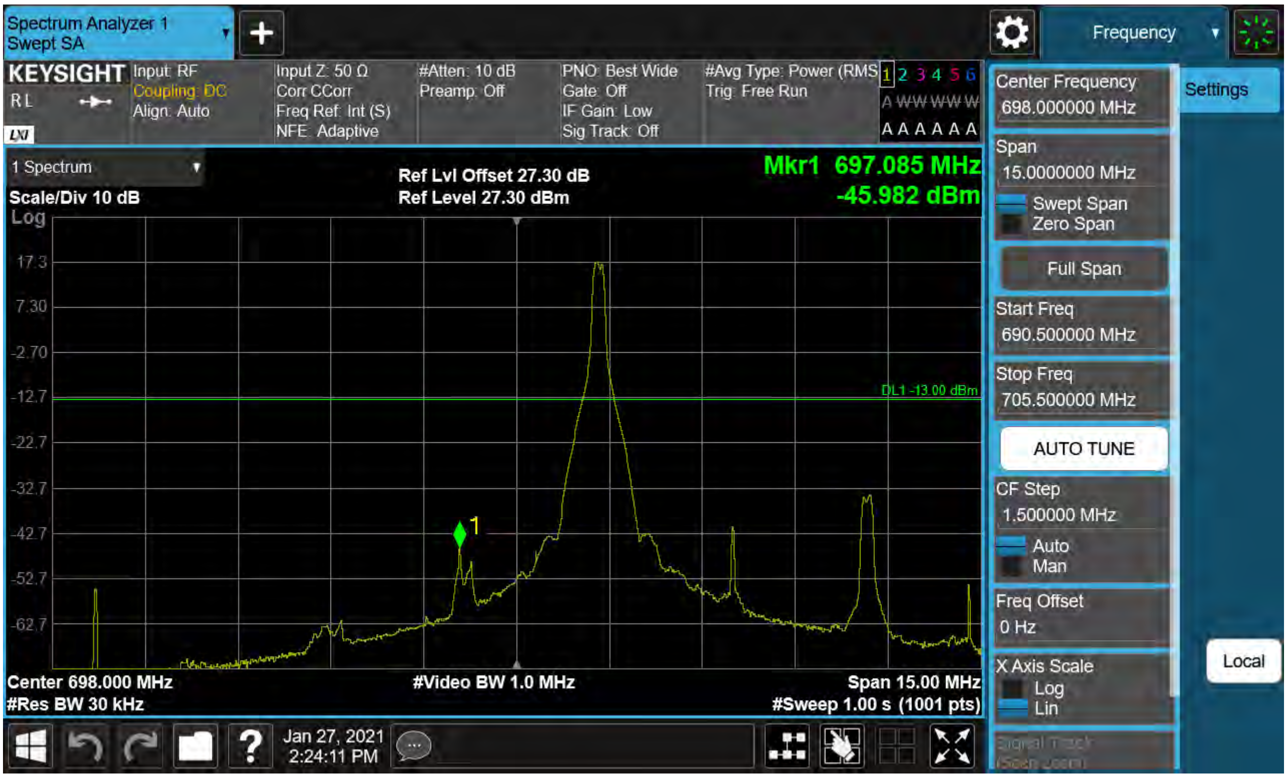
Peak	7.78 dB 28.07 dBm

Center Frequency
707.500000 MHz
CF Step
15.000000 MHz
Auto
Man
Freq Offset
0 Hz

Info BW 15.000 MHz

Jan 27, 2021
2:55:10 PM

Sub6 n12. Lower Band Edge Plot (5M BW Ch.140300 BPSK_RB1_Offset 0)



Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 697.085 MHz
-45.982 dBm

Center 698.000 MHz
#Res BW 30 kHz
#Video BW 1.0 MHz
Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency
698.000000 MHz
Span
15.0000000 MHz
Start Freq
690.500000 MHz
Stop Freq
705.500000 MHz
CF Step
1.500000 MHz
Freq Offset
0 Hz

Jan 27, 2021
2:24:11 PM

Sub6 n12. Lower Band Edge Plot (5M BW Ch.140300 BPSK_RB25_Offset 0)

Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 697.295 MHz
-38.734 dBm

Center 698.000 MHz
#Res BW 51 kHz
#Video BW 160 kHz
Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency
698.000000 MHz
Span
15.0000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
690.500000 MHz
Stop Freq
705.500000 MHz
AUTO TUNE
CF Step
1.500000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Jan 27, 2021
2:23:27 PM

Sub6 n12. Lower Extended Band Edge Plot (5M BW Ch.140300 BPSK_RB25_0)

Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

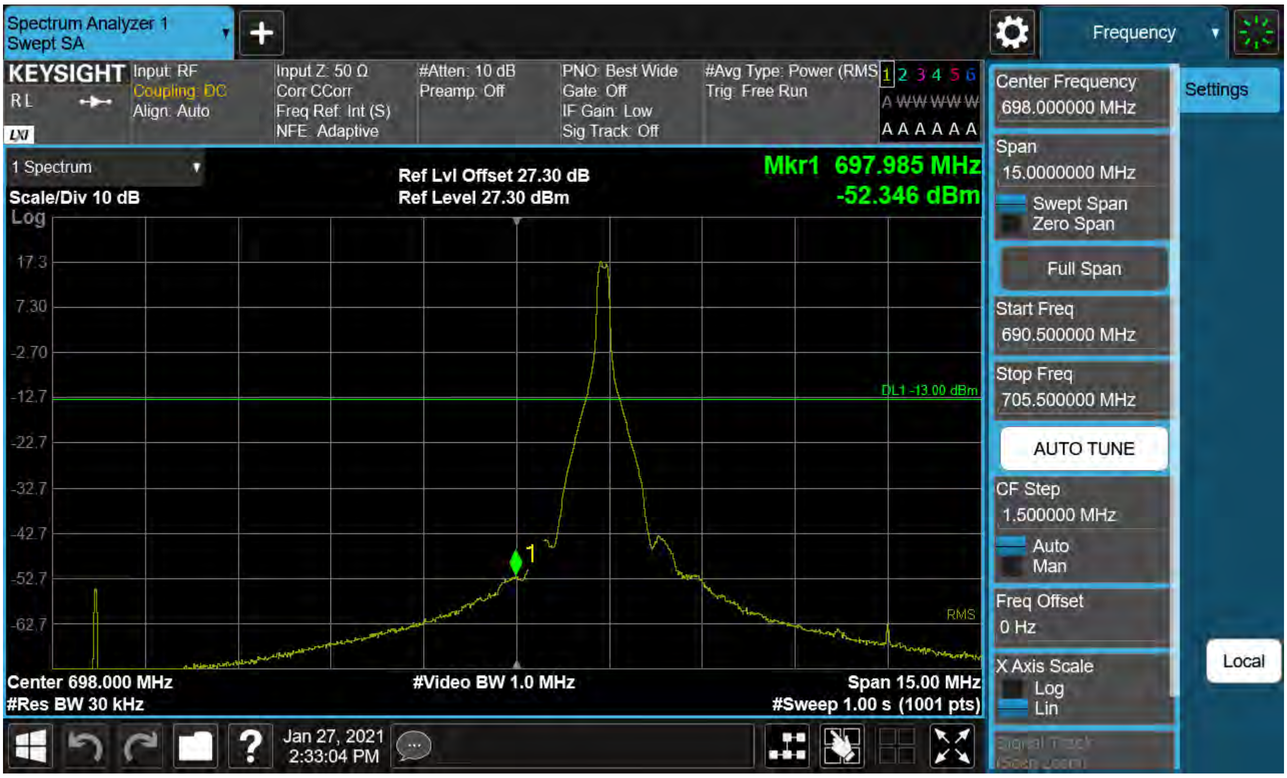
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 694.796 MHz
-37.138 dBm
DL1 -13.00 dBm

Center 695.000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Span 4.000 MHz
#Sweep ~1.01 s (1001 pts)

Center Frequency
695.000000 MHz
Span
4.00000000 MHz
Start Freq
693.000000 MHz
Stop Freq
697.000000 MHz
CF Step
400.000 kHz
Freq Offset
0 Hz

Jan 27, 2021
2:23:46 PM

Sub6 n12. Lower Band Edge Plot (10M BW Ch.140800 BPSK_RB1_Offset 0)



Spectrum Analyzer 1
Swept SA

KEYSIGHT

Input: RF
Coupling: DC
Align: Auto

Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive

#Atten: 10 dB
Preamp: Off

PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off

#Avg Type: Power (RMS)
Trig: Free Run

Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm

Scale/Div 10 dB

Mkr1 697.985 MHz
-52.346 dBm

DL1 -13.00 dBm

Center 698.000 MHz
#Res BW 30 kHz

#Video BW 1.0 MHz

Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency
698.000000 MHz

Span
15.0000000 MHz

Start Freq
690.500000 MHz

Stop Freq
705.500000 MHz

CF Step
1.500000 MHz

Freq Offset
0 Hz

Jan 27, 2021
2:33:04 PM

Sub6 n12. Lower Band Edge Plot (10M BW Ch.140800 BPSK_RB52_Offset 0)

Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 697.130 MHz
-37.408 dBm

Center 698.000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency
698.000000 MHz
Span
15.0000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
690.500000 MHz
Stop Freq
705.500000 MHz
AUTO TUNE
CF Step
1.500000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Jan 27, 2021
2:32:20 PM

Sub6 n12. Lower Extended Band Edge Plot (10M BW Ch.140800 BPSK_RB52_0)

Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 696.996 MHz
-38.381 dBm
DL1 -13.00 dBm

Center 695.000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Span 4.000 MHz
#Sweep ~1.01 s (1001 pts)

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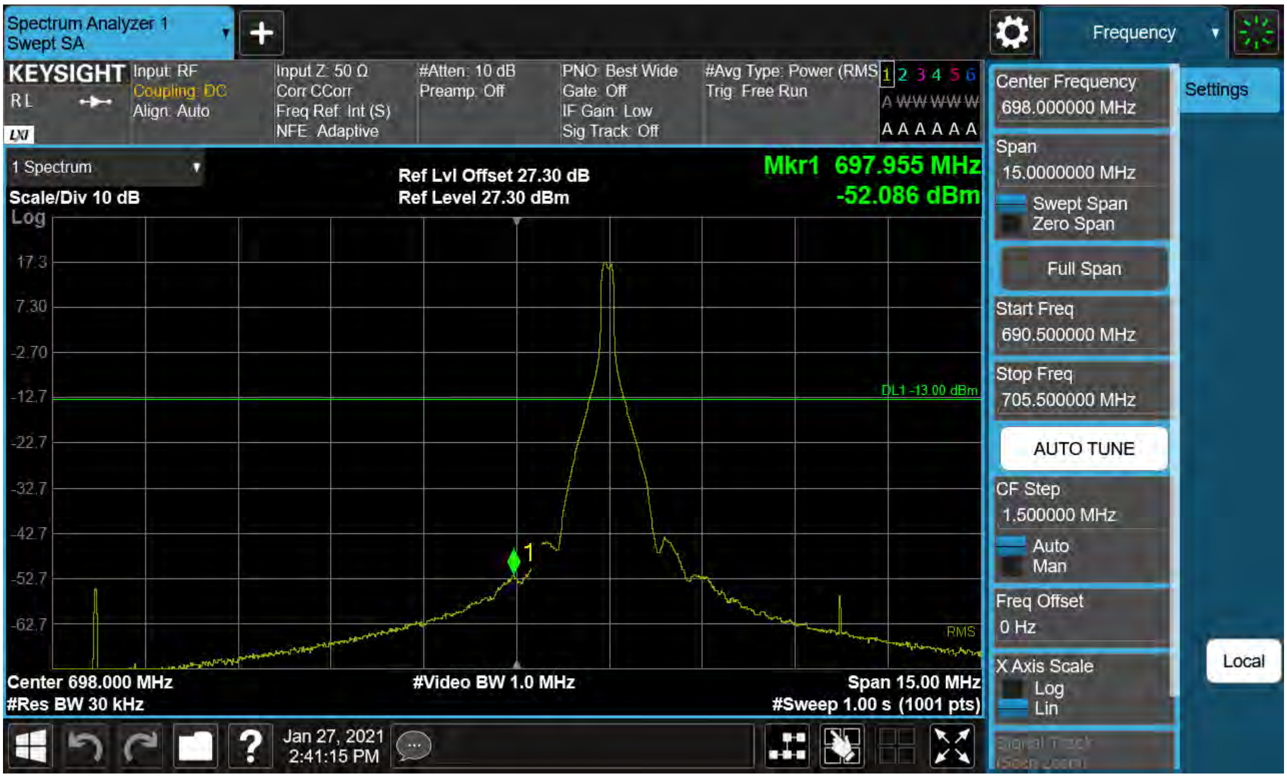
2:32:39 PM

Center Frequency
695.000000 MHz
Span
4.00000000 MHz
Swept Span
Zero Span
Start Freq
693.000000 MHz
Stop Freq
697.000000 MHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Sub6 n12. Lower Band Edge Plot (15M BW Ch.141300 BPSK_RB1_Offset 0)



Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 697.955 MHz
-52.086 dBm

DL1 -13.00 dBm

Center 698.000 MHz
#Res BW 30 kHz
#Video BW 1.0 MHz
Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

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2:41:15 PM

Center Frequency
698.000000 MHz
Span
15.0000000 MHz
Swept Span
Zero Span
Start Freq
690.500000 MHz
Stop Freq
705.500000 MHz
CF Step
1.500000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Sub6 n12. Lower Band Edge Plot (15M BW Ch.141300 BPSK_RB79_Offset 0)

Spectrum Analyzer 1
Swept SA

KEYSIGHT

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 697.580 MHz
-39.075 dBm

Center 698.000 MHz
#Res BW 150 kHz
#Video BW 470 kHz
Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

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2:40:32 PM

Center Frequency
698.000000 MHz
Span
15.0000000 MHz
Start Freq
690.500000 MHz
Stop Freq
705.500000 MHz
CF Step
1.500000 MHz
Freq Offset
0 Hz

Sub6 n12. Lower Extended Band Edge Plot (15M BW Ch.141300 BPSK_RB79_0)


Spectrum Analyzer 1
Swept SA

KEYSIGHT

Input: RF
Coupling: DC
Align: Auto

Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive

#Atten: 10 dB
Preamp: Off

PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off

#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum

Scale/Div 10 dB

Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm

Mkr1 695.768 MHz
-41.023 dBm

Center 695.000 MHz
#Res BW 100 kHz

#Video BW 300 kHz

Span 4.000 MHz
#Sweep ~1.01 s (1001 pts)

Center Frequency
695.000000 MHz

Span
4.00000000 MHz

Swept Span
Zero Span

Full Span

Start Freq
693.000000 MHz

Stop Freq
697.000000 MHz

AUTO TUNE

CF Step
400.000 kHz

Auto
Man

Freq Offset
0 Hz

X Axis Scale
Log
Lin

Jan 27, 2021
2:40:50 PM

Sub6 n12. Upper Band Edge Plot (5M BW Ch.142700 BPSK_RB1_Offset 24)_1

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Close
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS
Trig: Free Run

Scale/Div 10 dB
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 716.000 0 MHz
-17.081 dBm

Start 716.00000 MHz
#Res BW 30 kHz
#Video BW 100 kHz
Stop 716.10000 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency
716.050000 MHz
Span
100.000000 kHz
Swept Span
Zero Span
Start Freq
716.000000 MHz
Stop Freq
716.100000 MHz
CF Step
10.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Jan 27, 2021
2:30:40 PM

Sub6 n12. Upper Band Edge Plot (5M BW Ch.142700 BPSK_RB1_Offset 24)_2

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Scale/Div 10 dB
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 716.100 0 MHz
-17.681 dBm

Start 716.1000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Stop 718.0000 MHz
#Sweep 1.00 s (1001 pts)

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2:30:59 PM

Center Frequency
717.050000 MHz
Span
1.90000000 MHz
Swept Span
Zero Span
Start Freq
716.100000 MHz
Stop Freq
718.000000 MHz
CF Step
190.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Sub6 n12. Upper Band Edge Plot (5M BW Ch.142700 BPSK_RB25_Offset 0)

Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 716.000 MHz
-25.538 dBm

Center 716.000 MHz
#Res BW 51 kHz
#Video BW 160 kHz
Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

Jan 27, 2021
2:29:53 PM

Center Frequency
716.000000 MHz
Span
15.0000000 MHz
Start Freq
708.500000 MHz
Stop Freq
723.500000 MHz
CF Step
1.500000 MHz
Freq Offset
0 Hz

Sub6 n12. Upper Extended Band Edge Plot (5M BW Ch.142700 BPSK_RB25_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Scale/Div 10 dB
Mkr1 718.164 MHz
-31.026 dBm

Center 719.000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Span 4.000 MHz
#Sweep ~1.01 s (1001 pts)

Center Frequency
719.000000 MHz
Span
4.00000000 MHz
Swept Span
Zero Span
Start Freq
717.000000 MHz
Stop Freq
721.000000 MHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Sub6 n12. Upper Band Edge Plot (10M BW Ch.142200 BPSK_RB1_Offset 51)_1

Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Close
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 716.000 0 MHz
-19.213 dBm

Start 716.00000 MHz
#Res BW 30 kHz
#Video BW 100 kHz
Stop 716.10000 MHz
#Sweep 1.00 s (1001 pts)

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2:38:51 PM

Center Frequency
716.050000 MHz
Span
100.000000 kHz
Start Freq
716.000000 MHz
Stop Freq
716.100000 MHz
CF Step
10.000 kHz
Freq Offset
0 Hz

Sub6 n12. Upper Band Edge Plot (10M BW Ch.142200 BPSK_RB1_Offset 51)_2

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Scale/Div 10 dB
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 716.100 0 MHz
-18.606 dBm

Start 716.1000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Stop 718.0000 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency
717.050000 MHz
Span
1.90000000 MHz
Swept Span
Zero Span
Start Freq
716.100000 MHz
Stop Freq
718.000000 MHz
CF Step
190.000 kHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Sub6 n12. Upper Band Edge Plot (10M BW Ch.142200 BPSK_RB52_Offset 0)

Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 716.000 MHz
-33.316 dBm

Center 716.000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

Jan 27, 2021
2:38:05 PM

Frequency
Settings
Center Frequency
716.000000 MHz
Span
15.0000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
708.500000 MHz
Stop Freq
723.500000 MHz
AUTO TUNE
CF Step
1.500000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Local

Sub6 n12. Upper Extended Band Edge Plot (10M BW Ch.142200 BPSK_RB52_0)


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run
1 Spectrum
Scale/Div 10 dB
Log
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 717.064 MHz
-35.539 dBm
Center 719.000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Span 4.000 MHz
#Sweep ~1.01 s (1001 pts)
Center Frequency
719.000000 MHz
Span
4.00000000 MHz
Start Freq
717.000000 MHz
Stop Freq
721.000000 MHz
CF Step
400.000 kHz
Freq Offset
0 Hz
Jan 27, 2021
2:38:24 PM

Sub6 n12. Upper Band Edge Plot (15M BW Ch.141700 BPSK_RB1_Offset 78)_1

Spectrum Analyzer 1
Swept SA

Input: RF
Coupling: DC
Align: Auto

Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive

#Atten: 10 dB
Preamp: Off

PNO: Best Close
Gate: Off
IF Gain: Low
Sig Track: Off

#Avg Type: Power (RMS)
Trig: Free Run

1 Spectrum
Scale/Div 10 dB
Log

Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm

Mkr1 716.000 1 MHz
-22.355 dBm

Start 716.00000 MHz
#Res BW 30 kHz

#Video BW 100 kHz

Stop 716.10000 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency
716.050000 MHz

Span
100.000000 kHz

Start Freq
716.000000 MHz

Stop Freq
716.100000 MHz

CF Step
10.000 kHz

Freq Offset
0 Hz

Jan 27, 2021
2:49:34 PM

Sub6 n12. Upper Band Edge Plot (15M BW Ch.141700 BPSK_RB1_Offset 78)_2

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Scale/Div 10 dB
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 716.100 0 MHz
-22.310 dBm

Start 716.1000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Stop 718.0000 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency 717.050000 MHz
Span 1.90000000 MHz
Start Freq 716.100000 MHz
Stop Freq 718.000000 MHz
CF Step 190.000 kHz
Freq Offset 0 Hz

Jan 27, 2021
2:49:54 PM

Sub6 n12. Upper Band Edge Plot (15M BW Ch.141700 BPSK_RB79_Offset 0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Scale/Div 10 dB
Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Mkr1 716.600 MHz
-34.363 dBm

Center 716.000 MHz
#Res BW 150 kHz
#Video BW 470 kHz
Span 15.00 MHz
#Sweep 1.00 s (1001 pts)

Center Frequency
716.000000 MHz
Span
15.0000000 MHz
Start Freq
708.500000 MHz
Stop Freq
723.500000 MHz
CF Step
1.500000 MHz
Freq Offset
0 Hz

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2:48:47 PM

Sub6 n12. Upper Extended Band Edge Plot (15M BW Ch.141700 BPSK_RB79_0)

Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Best Wide
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Ref Lvl Offset 27.30 dB
Ref Level 27.30 dBm
Scale/Div 10 dB

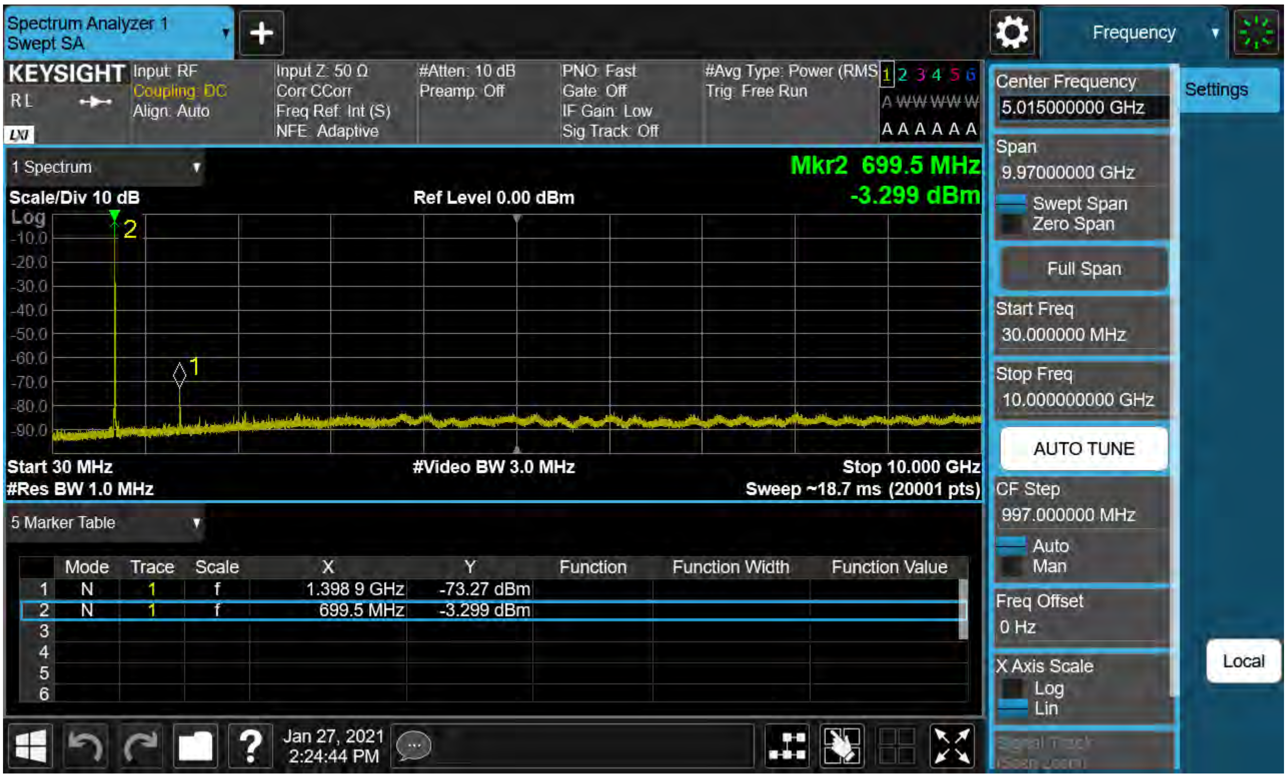
Mkr1 717.112 MHz
-37.748 dBm

Center 719.000 MHz
#Res BW 100 kHz
#Video BW 300 kHz
Span 4.000 MHz
#Sweep ~1.01 s (1001 pts)

Center Frequency 719.000000 MHz
Span 4.00000000 MHz
Start Freq 717.000000 MHz
Stop Freq 721.000000 MHz
CF Step 400.000 kHz
Freq Offset 0 Hz

Jan 27, 2021
2:49:07 PM

Sub6 n12. Conducted Spurious Plot _ (140300ch_5MHz_BPSK_RB 1_1)



Spectrum Analyzer 1
Swept SA

KEYSIGHT
Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Mkr2 699.5 MHz
-3.299 dBm

Scale/Div 10 dB
Ref Level 0.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

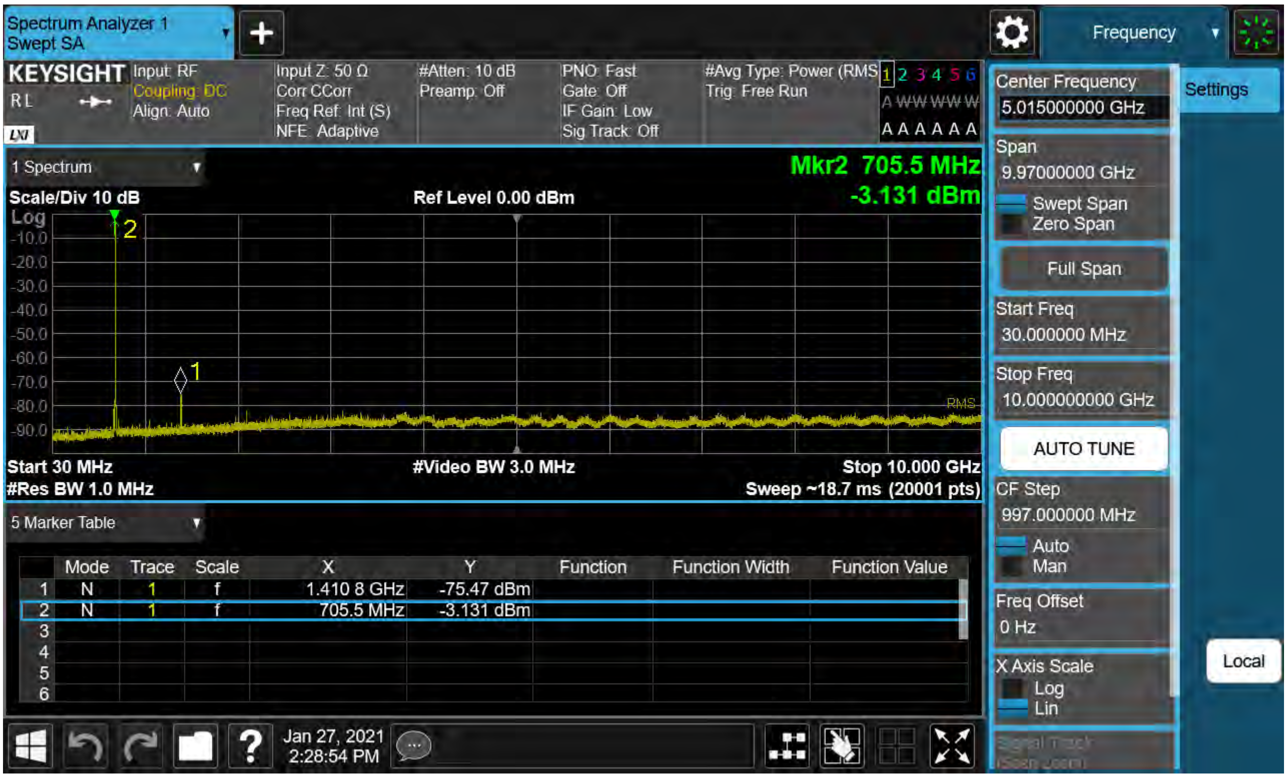
5 Marker Table

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.398 9 GHz	-73.27 dBm			
2	N	1	f	699.5 MHz	-3.299 dBm			
3								
4								
5								
6								

Center Frequency
5.015000000 GHz
Span
9.97000000 GHz
Start Freq
30.000000 MHz
Stop Freq
10.000000000 GHz
CF Step
997.000000 MHz
Freq Offset
0 Hz

Jan 27, 2021
2:24:44 PM

Sub6 n12. Conducted Spurious Plot _ (141500ch_5MHz_BPSK_RB 1_1)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Mkr2 705.5 MHz
-3.131 dBm

Scale/Div 10 dB
Ref Level 0.00 dBm

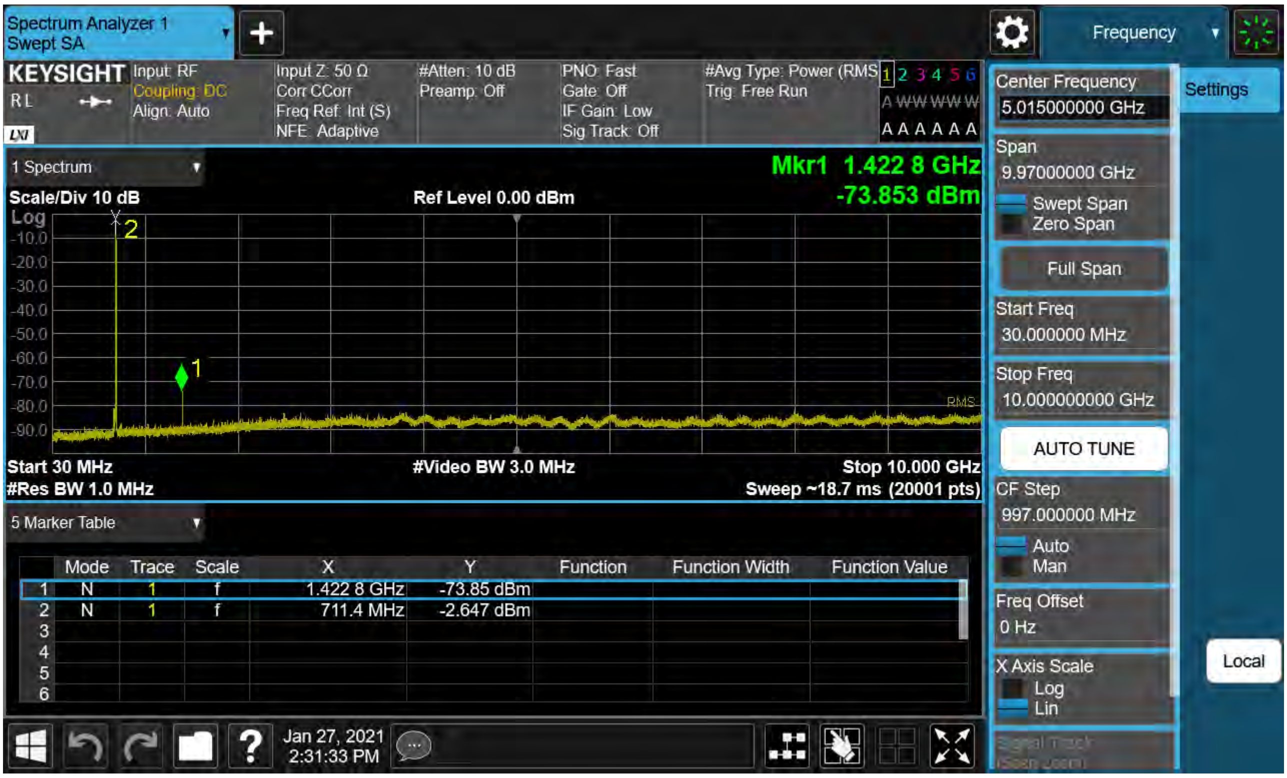
Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.410 8 GHz	-75.47 dBm			
2	N	1	f	705.5 MHz	-3.131 dBm			
3								
4								
5								
6								

Jan 27, 2021
2:28:54 PM

Center Frequency
5.015000000 GHz
Span
9.97000000 GHz
Swept Span
Zero Span
Start Freq
30.000000 MHz
Stop Freq
10.000000000 GHz
CF Step
997.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Sub6 n12. Conducted Spurious Plot _ (142700ch_5MHz_BPSK_RB 1_1)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Mkr1 1.422 8 GHz
-73.853 dBm

Scale/Div 10 dB
Ref Level 0.00 dBm

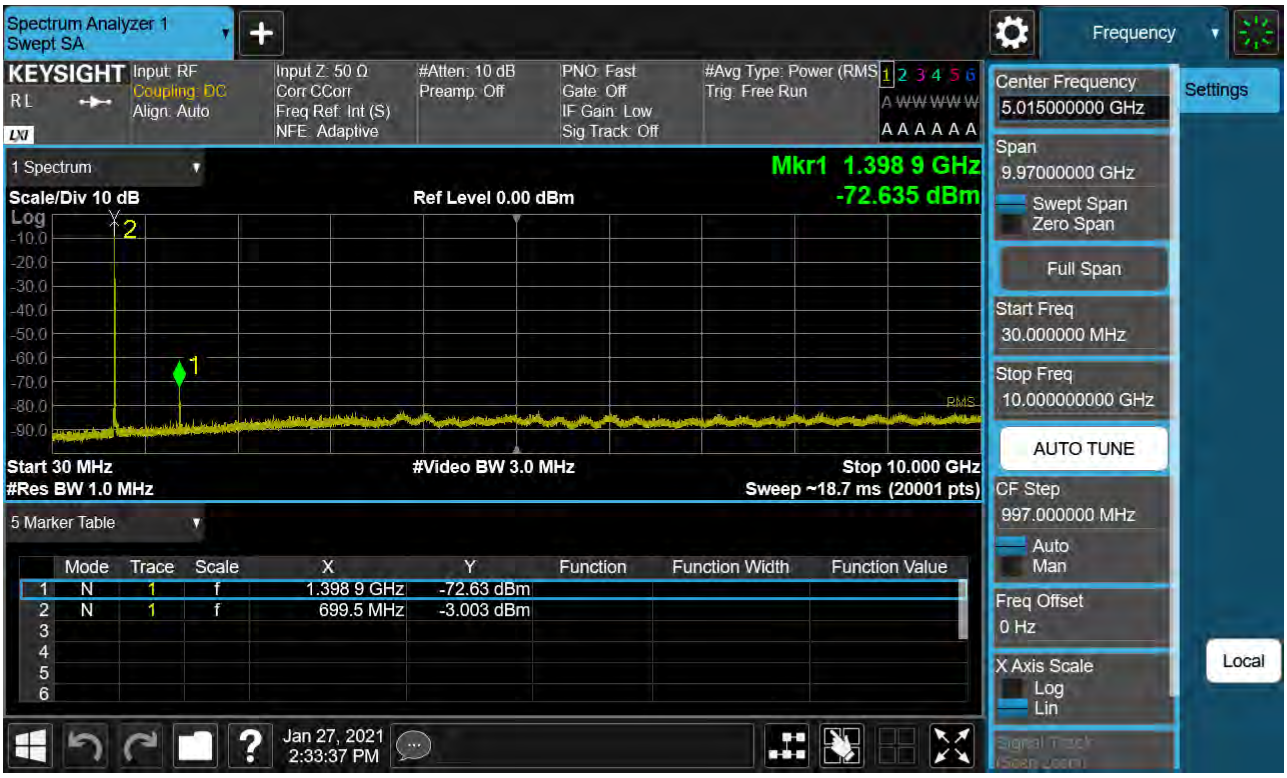
Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.422 8 GHz	-73.85 dBm			
2	N	1	f	711.4 MHz	-2.647 dBm			
3								
4								
5								
6								

Center Frequency
5.015000000 GHz
Span
9.97000000 GHz
Swept Span
Zero Span
Start Freq
30.000000 MHz
Stop Freq
10.000000000 GHz
CF Step
997.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Jan 27, 2021
2:31:33 PM

Sub6 n12. Conducted Spurious Plot _ (140800ch_10MHz_BPSK_RB 1_1)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Mkr1 1.398 9 GHz
-72.635 dBm

Scale/Div 10 dB
Ref Level 0.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.398 9 GHz	-72.63 dBm			
2	N	1	f	699.5 MHz	-3.003 dBm			
3								
4								
5								
6								

Center Frequency
5.015000000 GHz
Span
9.97000000 GHz
Swept Span
Zero Span
Start Freq
30.000000 MHz
Stop Freq
10.000000000 GHz
CF Step
997.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

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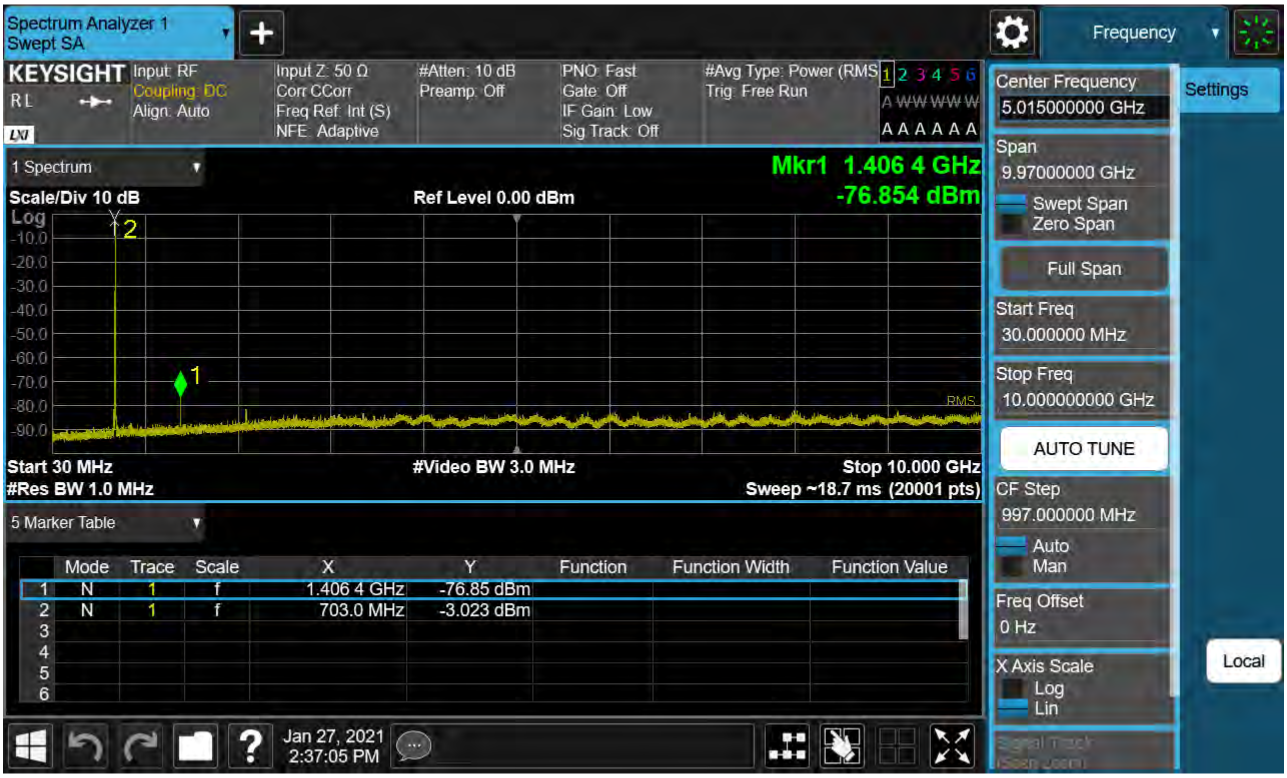
Sub6 n12. Conducted Spurious Plot _ (141500ch_10MHz_BPSK_RB 1_1)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Mkr1 1.406 4 GHz
-76.854 dBm

Scale/Div 10 dB
Ref Level 0.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.406 4 GHz	-76.85 dBm			
2	N	1	f	703.0 MHz	-3.023 dBm			
3								
4								
5								
6								

Center Frequency
5.015000000 GHz
Span
9.97000000 GHz
Start Freq
30.000000 MHz
Stop Freq
10.000000000 GHz
CF Step
997.000000 MHz
Freq Offset
0 Hz
X Axis Scale

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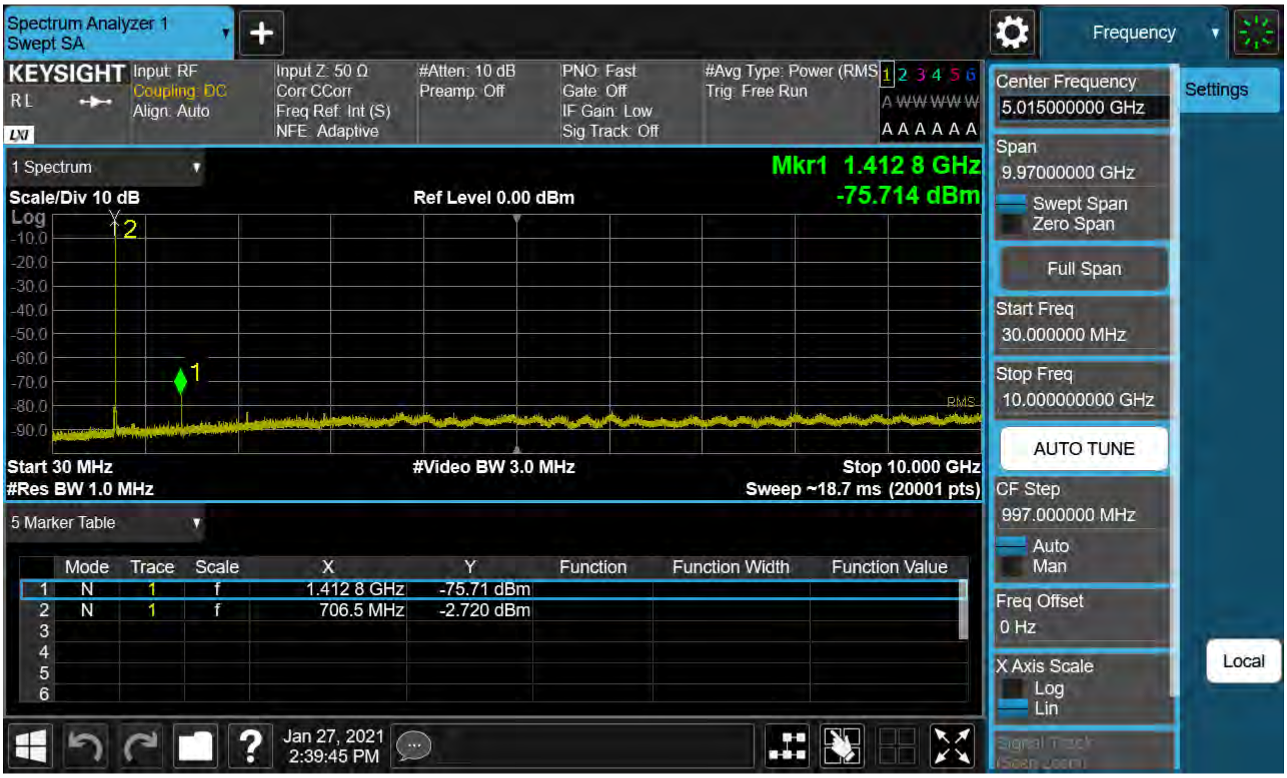
Sub6 n12. Conducted Spurious Plot _ (142200ch_10MHz_BPSK_RB 1_1)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Mkr1 1.412 8 GHz
-75.714 dBm

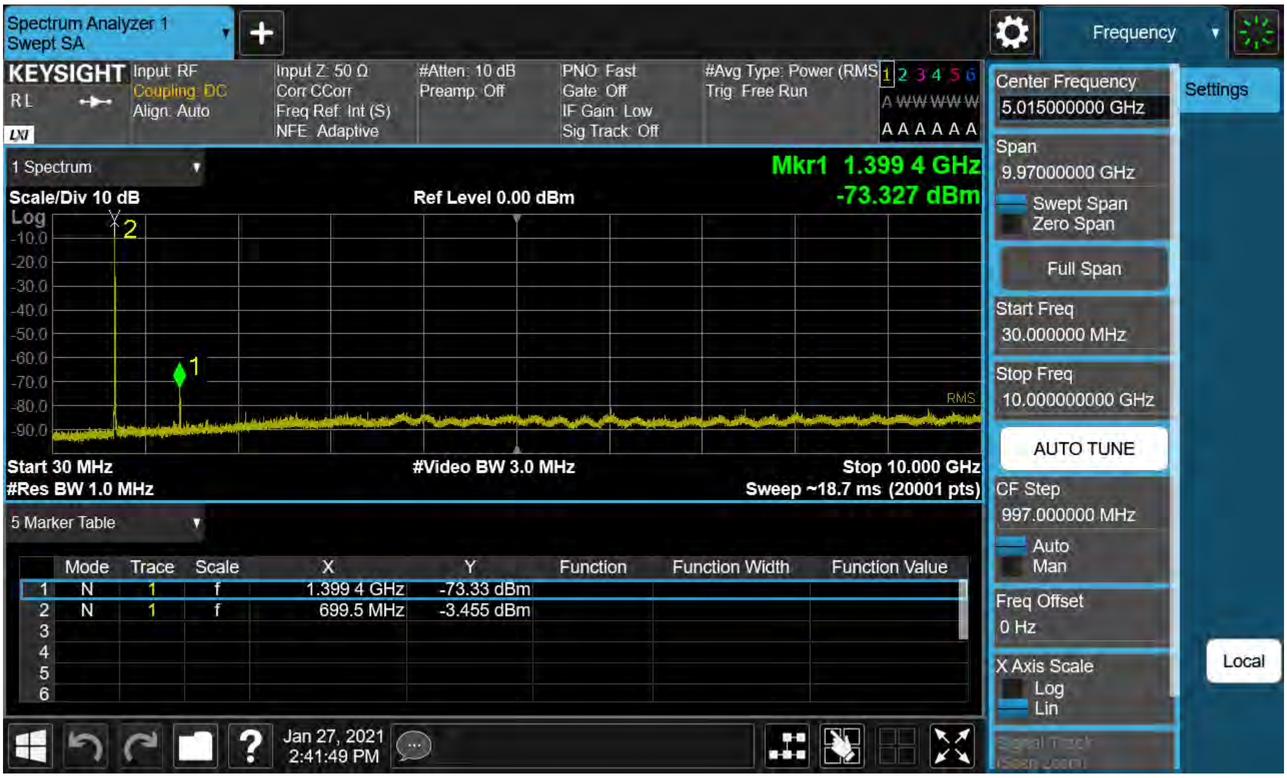
Scale/Div 10 dB
Ref Level 0.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

Center Frequency
5.015000000 GHz
Span
9.97000000 GHz
Start Freq
30.000000 MHz
Stop Freq
10.000000000 GHz
CF Step
997.000000 MHz
Freq Offset
0 Hz
X Axis Scale

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.412 8 GHz	-75.71 dBm			
2	N	1	f	706.5 MHz	-2.720 dBm			
3								
4								
5								
6								

Sub6 n12. Conducted Spurious Plot _ (141300ch_15MHz_BPSK_RB 1_1)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run
1 2 3 4 5 6
A WWWWW
A A A A A A

Mkr1 1.399 4 GHz
-73.327 dBm

Scale/Div 10 dB
Ref Level 0.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.399 4 GHz	-73.33 dBm			
2	N	1	f	699.5 MHz	-3.455 dBm			
3								
4								
5								
6								

Center Frequency
5.015000000 GHz
Span
9.97000000 GHz
Swept Span
Zero Span
Start Freq
30.000000 MHz
Stop Freq
10.000000000 GHz
CF Step
997.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

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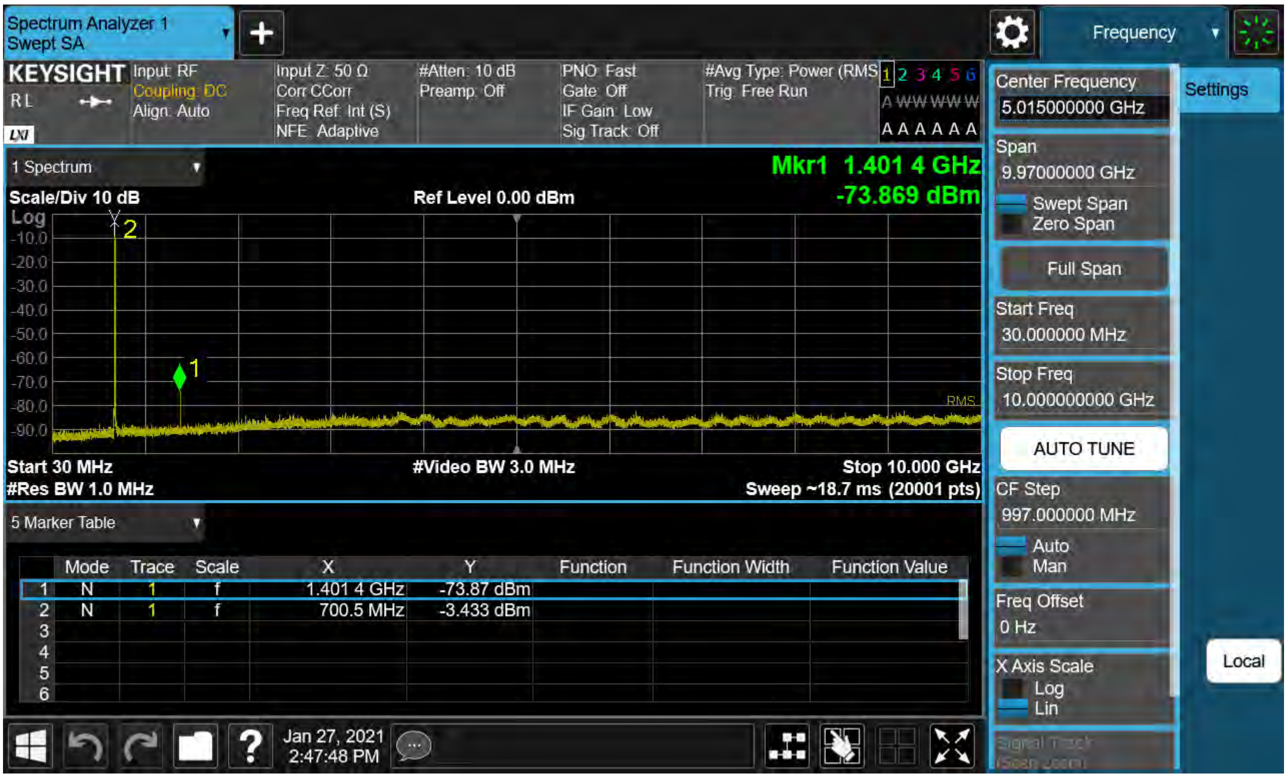
Sub6 n12. Conducted Spurious Plot _ (141500ch_15MHz_BPSK_RB 1_1)



Input: RF
Coupling: DC
Align: Auto
Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 10 dB
Preamp: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
#Avg Type: Power (RMS)
Trig: Free Run

Mkr1 1.401 4 GHz
-73.869 dBm

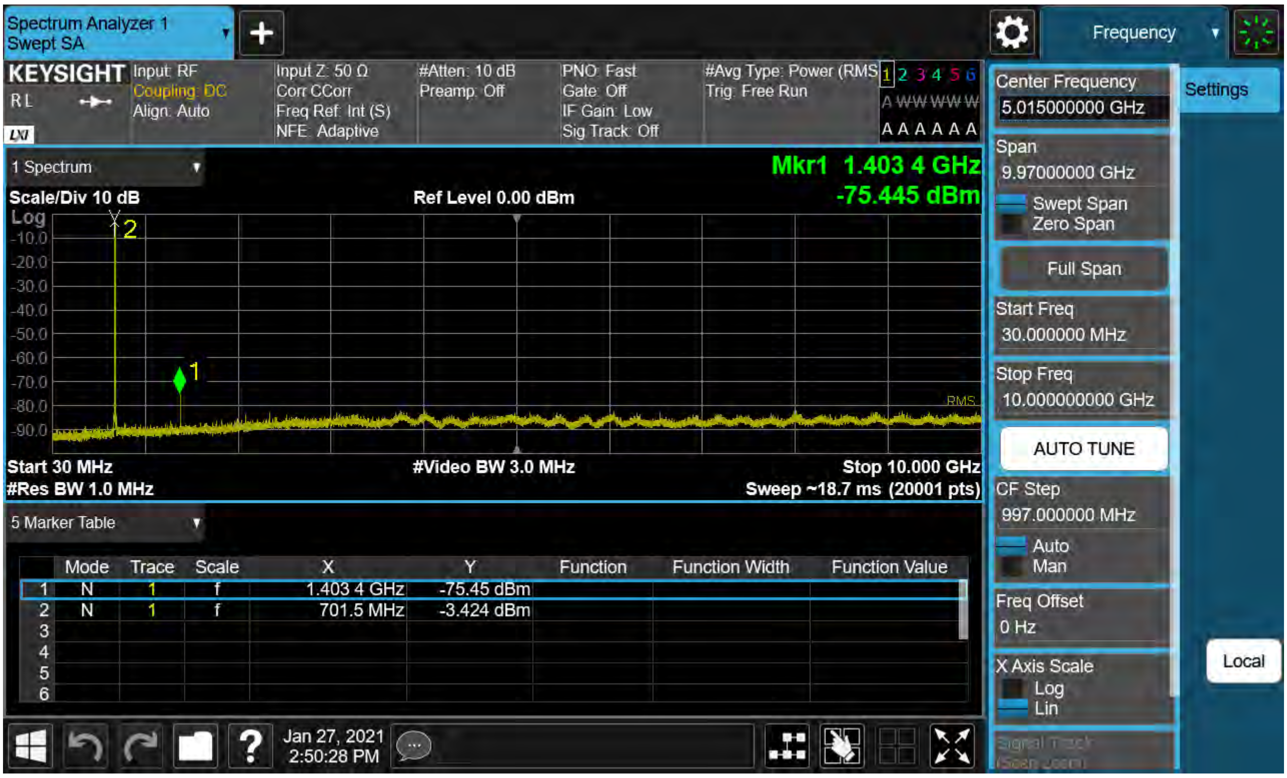
Scale/Div 10 dB
Ref Level 0.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.401 4 GHz	-73.87 dBm			
2	N	1	f	700.5 MHz	-3.433 dBm			
3								
4								
5								
6								

Center Frequency
5.015000000 GHz
Span
9.97000000 GHz
Swept Span
Zero Span
Start Freq
30.000000 MHz
Stop Freq
10.000000000 GHz
CF Step
997.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin

Sub6 n12. Conducted Spurious Plot _ (141700ch_15MHz_BPSK_RB 1_1)



Input: RF
Coupling: DC
Align: Auto

Input Z: 50 Ω
Corr CCorr
Freq Ref: Int (S)
NFE: Adaptive

#Atten: 10 dB
Preamp: Off

PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off

#Avg Type: Power (RMS)
Trig: Free Run

Mkr1 1.403 4 GHz
-75.445 dBm

Scale/Div 10 dB
Ref Level 0.00 dBm

Start 30 MHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz
Stop 10.000 GHz
Sweep ~18.7 ms (20001 pts)

Center Frequency
5.015000000 GHz

Span
9.97000000 GHz

Start Freq
30.000000 MHz

Stop Freq
10.000000000 GHz

CF Step
997.000000 MHz

Freq Offset
0 Hz

X Axis Scale

	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	N	1	f	1.403 4 GHz	-75.45 dBm			
2	N	1	f	701.5 MHz	-3.424 dBm			
3								
4								
5								
6								

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10. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2102-FC057-P