

# **TEST REPORT**

FCC Sub6 n12 Test for SM-S721U Certification

APPLICANT SAMSUNG Electronics Co., Ltd.

REPORT NO. HCT-RF-2407-FC027

DATE OF ISSUE July 19, 2024

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유전

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F-TP22-03(Rev.06)

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T E S T R E P O R T	REPORT NO. HCT-RF-2407-FC027 DATE OF ISSUE July 19, 2024 Additional Model SM-S721U1
Applicant	<b>SAMSUNG Electronics Co., Ltd.</b> 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
Product Name Model Name	Mobile Phone SM-S721U
Date of Test	May 21, 2024 ~ July 19, 2024
FCC ID	A3LSMS721U
Location of Test	■ Permanent Testing Lab □ On Site Testing (Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi- do, 17383 Republic of Korea)
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
Test Standard Used	FCC Rule Part: §27
Test Results	PASS



## **REVISION HISTORY**

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	July 19, 2024	Initial Release

## Notice

Content

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)

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked \*. Information provided by the applicant is marked \*\*. Test results provided by external providers are marked \*\*\*.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).



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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:	A3LSMS721U
Application Type:	Certification
FCC Classification:	PCS Licensed Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§ 27
EUT Type:	Mobile phone
Model(s):	SM-S721U
Additional Model(s)	SM-S721U1
SCS(kHz):	15
Bandwidth(MHz):	5, 10, 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:	May 21, 2024 ~ July 19, 2024
Serial number:	Radiated : 67d50ecc63197ece
	Conducted : R3CX40SV7PD





## **1.1. MAXIMUM OUTPUT POWER**

Mada		Emission Designator		ERP	
Mode (MHz)	Tx Frequency (MHz)		Modulation	Max. Power (W)	Max. Power (dBm)
		4M59G7D	PI/2 BPSK	0.074	18.67
		4M62G7D	QPSK	0.072	18.56
Sub6 n12 (5)	701.5 - 713.5	4M59W7D	16QAM	0.059	17.68
		4M59W7D	64QAM	0.040	16.03
		4M65W7D	256QAM	0.026	14.10
		8M98G7D	PI/2 BPSK	0.071	18.54
		9M04G7D	QPSK	0.070	18.46
Sub6 n12 (10)	704.0 - 711.0	8M99W7D	16QAM	0.058	17.64
		8M98W7D	64QAM	0.040	15.98
		9M00W7D	256QAM	0.025	14.03
		13M5G7D	PI/2 BPSK	0.070	18.46
		13M5G7D	QPSK	0.069	18.41
Sub6 n12 (15)	706.5 - 708.5	13M4W7D	16QAM	0.056	17.49
	-	13M4W7D	64QAM	0.040	16.07
		13M5W7D	256QAM	0.026	14.08





## **2. INTRODUCTION**

## 2.1. DESCRIPTION OF EUT

The EUT was a Mobile Phone with GSM/GPRS/EGPRS/UMTS and LTE, Sub 6, mmWave. It also supports IEEE 802.11 a/b/g/n/ac/ax (20/40/80/160 MHz), Bluetooth(iPA, ePA), BT LE(iPA, ePA), NFC, WPT, WIFI 6E.

## 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	- KDB 971168 D01 v03r01 – Section 6.0
Antenna Terminal	- 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/	- KDB 971168 D01 v03r01 – Section 5.2 & 5.8
Effective Isotropic Radiated Power	- 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 1 MHz
- 3. VBW  $\geq$  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 1 GHz, 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) - cable loss (dB) + 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 = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz
- 2. VBW  $\geq$  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 10<sup>th</sup> harmonics from 9 kHz.

### Test Note

 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 1 GHz, 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;

Result (dBm) = Pg (dBm) - cable loss (dB) + antenna gain (dBi)

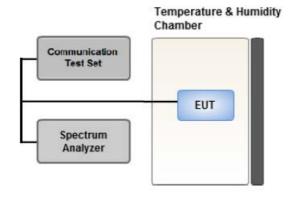
Where:  $P_g$  is the generator output power into the substitution antenna.

If the fundamental frequency is below 1 GHz, RF output power has been converted to EIRP.

EIRP (dBm) = ERP (dBm) + 2.15



## 3.4 PEAK- TO- AVERAGE RATIO



### Test setup

## ① CCDF Procedure for PAPR

### **Test Settings**

- 1. Set resolution/measurement bandwidth  $\geq$  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:

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



## **Test Settings(Peak Power)**

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  $\geq$  3 × RBW.

- 1. Set the RBW  $\geq$  OBW.
- 2. Set VBW  $\geq$  3 × RBW.
- 3. Set span  $\geq 2 \times OBW$ .
- 4. Sweep time  $\geq 10 \times (number of points in sweep) \times (transmission symbol period).$
- 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.

### **Test Settings(Average Power)**

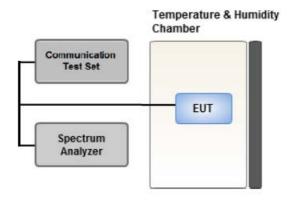
- 1. Set span to 2 × to 3 × the OBW.
- 2. Set RBW  $\geq$  OBW.
- 3. Set VBW  $\geq$  3 × RBW.
- 4. Set number of measurement points in sweep  $\geq 2 \times \text{span} / \text{RBW}$ .
- 5. Sweep time:
  - Set  $\geq$  [10 × (number of points in sweep) × (transmission period)] for single sweep

(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 26 dB 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  $\geq$  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



## Communication Test Set EUT Spectrum Analyzer

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL

## Test setup

### **Test Overview**

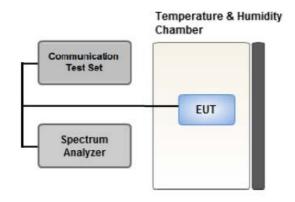
The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured 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  $\geq$  3 MHz
- 3. Detector = RMS
- 4. Trace Mode = trace average
- 5. Sweep time = auto
- 6. Number of points in sweep  $\geq 2 \times \text{Span} / \text{RBW}$



### **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  $\geq 2 \times \text{Span/RBW}$
- 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.

Where Margin < 1 dB the emission level is either corrected by 10 log(1 MHz/ RB) or the emission is integrated over a 1 MHz bandwidth to determine the final result. When using the integration method the integration window is either centered on the emission or, for emissions at the band edge, centered by an offset of 500 kHz from the block edge so that the integration window is the 1 MHz adjacent to the block edge.



## Communication Test Set EUT Spectrum Analyzer

### Test setup

### **Test Overview**

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

**3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE** 

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. Mode: NSA, SA

Worst case: NSA (2A-n12A)

Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)

- Worst case : Stand alone
- All simultaneous transmission scenarios of operation were investigated, and the test results showed no additional

significant emissions relative to the least restrictive limit were observed.

Therefore, only the worst case(stand-alone) results were 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 (=anchor) were investigated and the test results were measured No Peak Found.

The test results which are attenuated more than 20 dB below the permissible value, so it was not reported.

- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported. Please refer to the table below.
- In the case of radiated spurious emissions, all bandwidth of operation was investigated and the worst case bandwidth results are reported. (Worst case : 5 MHz)
- SM-S721U & additional models were tested and the worst case results are reported.

(Worst case : SM-S721U)

[ Worst case ]						
Test Description	Modulation	RB size	RB offset	Axis		
	PI/2 BPSK,					
	QPSK,					
Effective Radiated Power	16QAM,	See Section 8.1		Х		
	64QAM,					
	256QAM					
Radiated Spurious and Harmonic Emissions	PI/2 BPSK	See See	ction 8.1	Х		





## 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 modes of operation were investigated and the worst case configuration results are reported.

Mode: SA, NSA

Worst case: SA

- All RB sizes, offsets of operation were investigated and the worst case configuration results are reported.

Please refer to the table below.

- SM-S721U & additional models were tested and the worst case results are reported. (Worst case : SM-S721U)

[ 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	
	PI/2 BPSK	5	Low	1	0	
			High	1	24	
		10	Low	1	0	
Band Edge		10	High	1	51	
Danu Luge		15	Low	1	0	
		15	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	

#### [ Moret ca - - 1



## 4. LIST OF TEST EQUIPMENT

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
Precision Dipole Antenna	UHAP	Schwarzbeck	01273	03/10/2026	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	03/10/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	02289	02/14/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	04/27/2025	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/29/2024	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/16/2025	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/09/2025	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/24/2025	Biennial
<b>RF Switching System</b>	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/14/2025	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/14/2025	Annual
<b>RF Switching System</b>	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/14/2025	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/14/2025	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/17/2024	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/26/2025	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/25/2024	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	02/29/2025	Annual
Chamber	SU-642	ESPEC	93008124	02/19/2025	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	04/04/2025	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/17/2025	Annual
Spectrum Analyzer(10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/13/2025	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/10/2024	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/16/2025	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/14/2025	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/17/2025	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/19/2024	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

Note:

1. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

2. Especially, 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)	1.98 (Confidence level about 95 %, <i>k</i> =2)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.36 (Confidence level about 95 %, <i>k</i> =2)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.70 (Confidence level about 95 %, <i>k</i> =2)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.52 (Confidence level about 95 %, <i>k</i> =2)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.66 (Confidence level about 95 %, <i>k</i> =2)
Radiated Disturbance (Above 40 GHz)	5.58 (Confidence level about 95 %, <i>k</i> =2)



## **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	§ 2.1053,	<43 + 10log10 (P[Watts]) for	DACC
Emissions	§ 27.53(g)	all out-of band emissions	PASS

Note:

1. Radiateded tests were tested using 5G Wireless Tester.



## 7. SAMPLE CALCULATION

### 7.1 ERP Sample Calculation

Ch.	/ Freq.	Measured	Substitute	Ant. Gain	<u> </u>	Del	ERP	
channel	Freq.(MHz)	Level (dBm)	Level (dBm)	(dBd)	C.L	Pol.	w	dBm
128	824.20	-21.37	38.40	-10.61	0.95	Н	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	Substitute	Ant. Gain	<b>C</b> 1	Pol.	EIRP	
channel	Freq.(MHz)	Level (dBm)	Level (dBm)	(dBi)	C.L	Pol.	w	dBm
20175	1,732.50	-15.75	18.45	9.90	1.76	Н	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)

### **QPSK** Modulation

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

<u>QAM Modulation</u> 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	Mod/ Bandwidth	Modulation	Measured Level	Substitute Level	Ant. Gain	C.L	Pol	Limit	El	RP	RB	
(MHz)	[SCS (kHz)]		(dBm)	(dBm)	(dBd)			w	w	dBm	Size	Offset
		PI/2 BPSK	-29.60	29.35	-9.55	1.28	Н		0.071	18.52		
		QPSK	-29.71	29.24	-9.55	1.28	Н		0.069	18.41		
701.5		16-QAM	-30.60	28.35	-9.55	1.28	Н		0.057	17.52	1	12
		64-QAM	-32.13	26.82	-9.55	1.28	Н		0.040	15.99		
		256-QAM	-34.05	24.90	-9.55	1.28	Н		0.026	14.07		
		PI/2 BPSK	-29.56	29.28	-9.55	1.28	Н		0.070	18.45		
	Sub6 n12/	QPSK	-29.61	29.23	-9.55	1.28	Н		0.069	18.40	1	12
707.5	5 MHz	16-QAM	-30.54	28.30	-9.55	1.28	Н	< 3.00	0.056	6 17.47		
	[15 kHz]	64-QAM	-32.13	26.71	-9.55	1.28	Н		0.039	15.88		
		256-QAM	-34.05	24.79	-9.55	1.28	Н		0.025	13.96		
		PI/2 BPSK	-29.63	29.50	-9.55	1.28	Н		0.074	18.67		
		QPSK	-29.74	29.39	-9.55	1.28	Н		0.072	18.56		
713.5		16-QAM	-30.62	28.51	-9.55	1.28	Н		0.059	17.68	1	12
		64-QAM	-32.27	26.86	-9.55	1.28	Н	Н 0.04	0.040	16.03		
		256-QAM	-34.20	24.93	-9.55	1.28	Н		0.026	14.10		



Freq	Mod/		Measured	Substitute	Ant. Gain			Limit	EF	RP		RB
(MHz)	Bandwidth	Modulation	Level	Level	(dBd)	C.L	Pol					
(101112)	[SCS (kHz)]		(dBm)	(dBm)	(ubu)			W	W	dBm	Size	Offset
		PI/2 BPSK	-29.74	29.17	-9.55	1.28	Н		0.068	18.34		
		QPSK	-29.75	29.16	-9.55	1.28	Н		0.068	18.33		
704.0		16-QAM	-30.73	28.18	-9.55	1.28	Н		0.054	17.35	1	26
		64-QAM	-32.26	26.65	-9.55	1.28	Н		0.038	15.82		
_		256-QAM	-34.18	24.73	-9.55	1.28	Н		0.025	13.90		
		PI/2 BPSK	-29.66	29.18	-9.55	1.28	Н		0.068	18.35		
	Sub6 n12/	QPSK	-29.72	29.12	-9.55	1.28	Н	< 3.00	0.068	18.29	-	26
707.5	10 MHz	16-QAM	-30.63	28.21	-9.55	1.28	Н		0.055	17.38		
	[15 kHz]	64-QAM	-32.18	26.66	-9.55	1.28	Н		0.038	15.83		
_		256-QAM	-34.14	24.70	-9.55	1.28	Н		0.024	13.87		
		PI/2 BPSK	-29.68	29.37	-9.55	1.28	Н		0.071	18.54		
		QPSK	-29.76	29.29	-9.55	1.28	Н		0.070	18.46		
711.0		16-QAM	-30.58	28.47	-9.55	1.28	Н		17.64	1	26	
		64-QAM	-32.24	26.81	-9.55	1.28	Н		0.040	15.98	8	
		256-QAM	-34.19	24.86	-9.55	1.28	Н		0.025	14.03		



Freq	Mod/ Bandwidth	Modulation		Substitute Level	Ant. Gain	C.L	Pol	Limit	EF	RP		RB
(MHz)	[SCS (kHz)]		(dBm)	(dBm)	(dBd)			W	W	dBm	Size	Offset
		PI/2 BPSK	-29.64	29.29	-9.55	1.28	Н		0.070	18.46		
		QPSK	-29.69	29.24	-9.55	1.28	Н		0.069	18.41		
706.5		16-QAM	-30.61	28.32	-9.55	1.28	Н		0.056	17.49	1	39
		64-QAM	-32.03	26.90	-9.55	1.28	Н		0.040	16.07		
		256-QAM	-34.02	24.91	-9.55	1.28	Н		0.026	14.08		
		PI/2 BPSK	-29.63	29.21	-9.55	1.28	Н		0.069	18.38		
	Sub6 n12/	QPSK	-29.64	29.20	-9.55	1.28	Н		0.069	69 18.37		
707.5	15 MHz	16-QAM	-30.60	28.24	-9.55	1.28	Н	< 3.00	0.055	17.41	1	39
	[15 kHz]	64-QAM	-32.04	26.80	-9.55	1.28	Н		0.040	15.97		
		256-QAM	-34.05	24.79	-9.55	1.28	Н		0.025	13.96		
		PI/2 BPSK	-29.67	29.20	-9.55	1.28	Н		0.069	18.37		
		QPSK	-29.69	29.18	-9.55	1.28	Н		0.068	18.35		
708.5		16-QAM	-30.59	28.28	-9.55	1.28	Н		17.45	1	39	
		64-QAM	-32.06	26.81	-9.55	1.28	Н		0.040	15.98		
		256-QAM	-34.06	24.81	-9.55	1.28	Н		0.025	13.98		



## **8.2 RADIATED SPURIOUS EMISSIONS**

NR Band:	N12
LTE Enchor Band:	<u>B2</u>
Bandwidth:	5 MHz
Modulation:	PI/2 BPSK
Distance:	3 meters
SCS:	15 kHz

		Measured	Ant.	Substitute		_	Result	Limit		RB
Ch	Freq (MHz)	Level (dBm)	Gain (dBi)	Level (dBm)	C.L	Pol	(dBm)	(dBm)	Size	Offset
	1 403.00	-51.50	7.40	-57.11	1.80	н	-51.51	-13.00		
140300 (701.5)	2 104.50	-58.36	9.10	-64.17	2.28	н	-57.35	-13.00	1	12
(101.5)	2 806.00	-59.17	10.30	-63.12	2.69	Н	-55.51	-13.00		
	1 415.00	-54.32	7.40	-60.77	1.80	н	-55.17	-13.00		
141500 (707.5)	2 122.50	-58.55	9.10	-63.75	2.28	н	-56.93	-13.00	1	12
(101.3)	2 830.00	-58.26	10.30	-62.69	2.69	Н	-55.08	-13.00		
	1 427.00	-54.33	7.40	-61.13	1.81	н	-55.54	-13.00		
142700 (713.5)	2 140.50	-58.88	9.10	-63.65	2.30	Н	-56.85	-13.00	1	12
(113.3)	2 854.00	-59.23	10.30	-63.04	2.71	Н	-55.45	-13.00		



## 8.3 PEAK-TO-AVERAGE RATIO

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (dB )
			BPSK			3.97
			QPSK	25		4.95
	5 MHz		16-QAM			5.50
			64-QAM			5.76
			256-QAM			5.91
			BPSK			4.23
			QPSK	50		5.04
Sub6	10 MHz	707.5	16-QAM		0	5.56
n12			64-QAM			5.90
			256-QAM			6.14
			BPSK			4.01
			QPSK			5.01
	15 MHz		16-QAM	75		5.60
			64-QAM			5.91
			256-QAM			6.20

## Note:

1. Plots of the EUT's Peak- to- Average Ratio are shown Page 36  $\sim$  50.



## 8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data ( MHz )
			BPSK			4.5938
			QPSK	_		4.6160
	5 MHz		16-QAM	25		4.5934
			64-QAM			4.5925
			256-QAM			4.6495
		-	BPSK			8.9821
			QPSK	50		9.0370
Sub6	10 MHz	707.5	16-QAM		0	8.9898
n12			64-QAM			8.9794
			256-QAM			8.9954
		-	BPSK			13.445
			QPSK			13.479
	15 MHz		16-QAM	75		13.442
			64-QAM			13.442
			256-QAM			13.488

## Note:

1. Plots of the EUT's Occupied Bandwidth are shown Page 51 ~ 65.



## **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)
		701.5	3.1950	30.200	-67.459	-37.259	
	5	707.5	3.6795	30.200	-67.396	-37.196	
		713.5	3.6795	30.200	-67.416	-37.216	
CubC		704.0	3.6960	30.200	-66.878	-36.678	
Sub6	10	707.5	3.6905	30.200	-67.385	-37.185	-13.00
n12		711.0	3.7049	30.200	-67.247	-37.047	
	15	706.5	3.6686	30.200	-66.920	-36.720	
		707.5	3.6920	30.200	-67.263	-37.063	
		708.5	3.6935	30.200	-67.356	-37.156	

## Note:

1. Plots of the EUT's Conducted Spurious Emissions are shown Page 66 ~ 74.

2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)

3. Factor(dB) = Cable Loss + Attenuator + Splitter

Frequency Range (GHz)	Factor [dB]
0.03 - 1	27.494
1 - 5	30.200
5 - 10	30.815
10 - 15	31.340
15 - 20	31.713
Above 20	32.355

## 8.6 BAND EDGE

- Plots of the EUT's Band Edge are shown Page 75 ~ 95.



## 8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

BandWidth:	<u>5 MHz</u>
Voltage(100 %):	3.880 VDC
Batt. Endpoint:	3.300 VDC
Deviation Limit:	Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
	100 %	+20(Ref)	707 499 999	0.0	0.000 000	0.000
	100 %	-30	707 499 999	-0.4	0.000 000	-0.001
	100 %	-20	707 499 999	-0.2	0.000 000	0.000
	100 %	-10	707 499 999	-0.1	0.000 000	0.000
707 F	100 %	0	707 499 999	-0.4	0.000 000	-0.001
707.5	100 %	+10	707 499 999	-0.7	0.000 000	-0.001
	100 %	+30	707 499 999	-0.6	0.000 000	-0.001
	100 %	+40	707 499 999	-0.3	0.000 000	0.000
	100 %	+50	707 499 999	-0.2	0.000 000	0.000
	Batt. Endpoint	+20	707 500 000	0.1	0.000 000	0.000



BandWidth:	<u>10 MHz</u>
Voltage(100 %):	3.880 VDC
Batt. Endpoint:	3.300 VDC
Deviation Limit:	Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
707.5	100 %	+20(Ref)	707 499 999	0.0	0.000 000	0.000
	100 %	-30	707 499 999	-0.4	0.000 000	-0.001
	100 %	-20	707 500 000	0.4	0.000 000	0.001
	100 %	-10	707 500 000	0.3	0.000 000	0.000
	100 %	0	707 500 000	0.3	0.000 000	0.000
	100 %	+10	707 499 999	0.0	0.000 000	0.000
	100 %	+30	707 500 000	0.4	0.000 000	0.001
	100 %	+40	707 500 000	0.6	0.000 000	0.001
	100 %	+50	707 499 999	0.0	0.000 000	0.000
	Batt. Endpoint	+20	707 499 999	0.1	0.000 000	0.000



BandWidth:	<u>15 MHz</u>
Voltage(100 %):	3.880 VDC
Batt. Endpoint:	3.300 VDC
Deviation Limit:	Emission must remain in band

Test. Frequncy (MHz)	Voltage (%)	Temp. (°C)	Frequency (Hz)	Frequency Error (Hz)	Deviation (%)	ppm
707.5	100 %	+20(Ref)	707 499 999	0.0	0.000 000	0.000
	100 %	-30	707 499 999	-0.8	0.000 000	-0.001
	100 %	-20	707 499 999	-0.6	0.000 000	-0.001
	100 %	-10	707 500 000	0.1	0.000 000	0.000
	100 %	0	707 499 999	-0.9	0.000 000	-0.001
	100 %	+10	707 499 999	-0.3	0.000 000	0.000
	100 %	+30	707 499 999	0.0	0.000 000	0.000
	100 %	+40	707 500 000	0.1	0.000 000	0.000
	100 %	+50	707 500 000	0.3	0.000 000	0.000
	Batt. Endpoint	+20	707 499 999	-0.6	0.000 000	-0.001

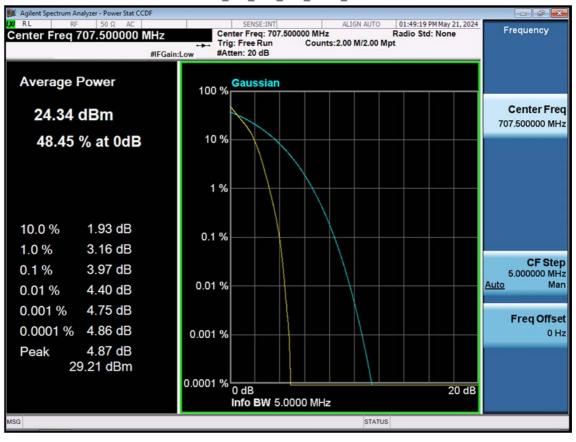


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## 9. TEST PLOTS

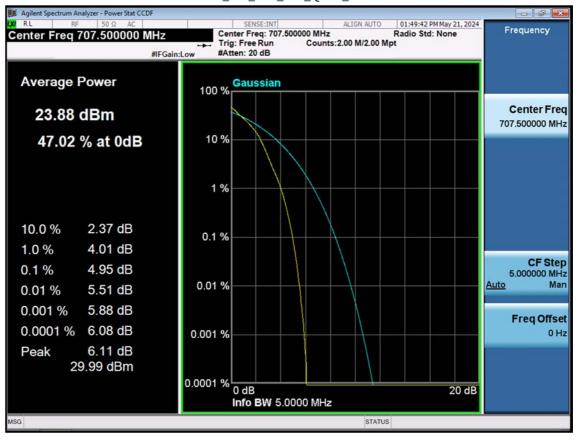






### NR12\_5 M\_PAR\_Mid\_BPSK\_FullRB

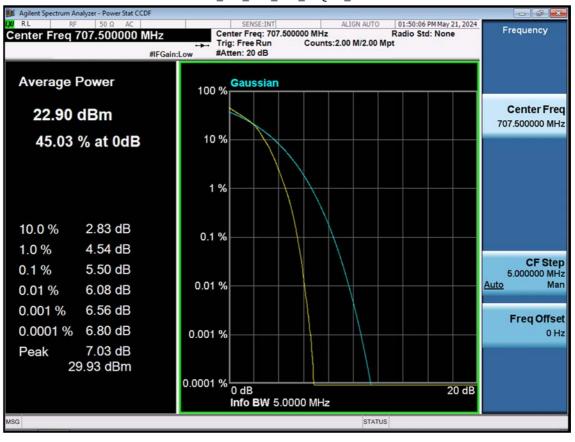




### NR12\_5 M\_PAR\_Mid\_QPSK\_FullRB

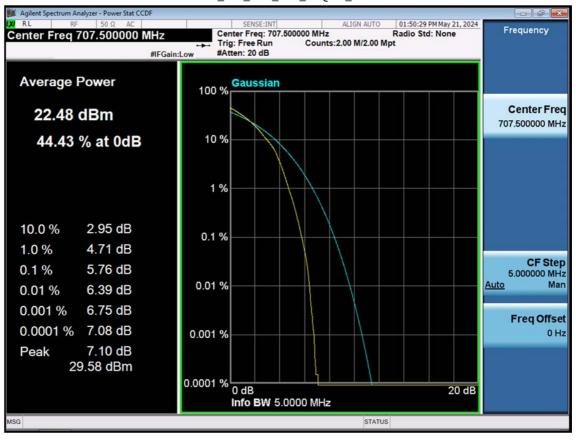






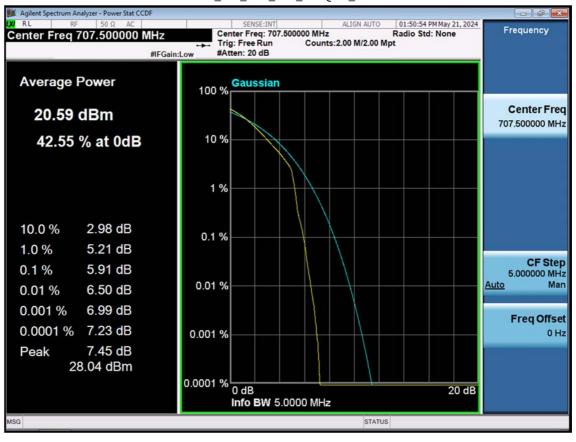
### NR12\_5 M\_PAR\_Mid\_16QAM\_FullRB





### NR12\_5 M\_PAR\_Mid\_64QAM\_FullRB

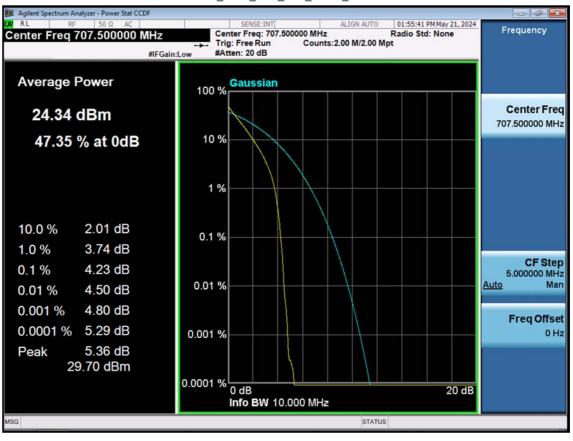




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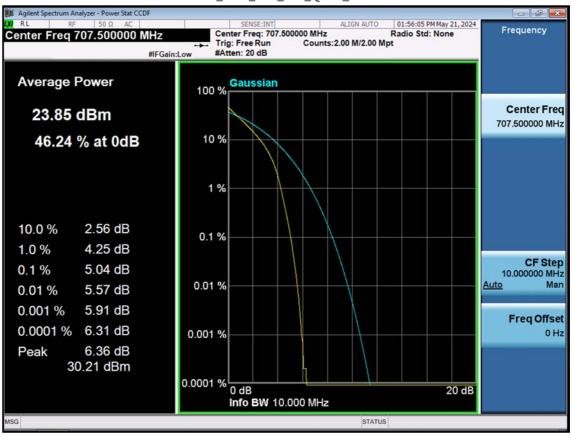




### NR12\_10 M\_PAR\_Mid\_BPSK\_FullRB



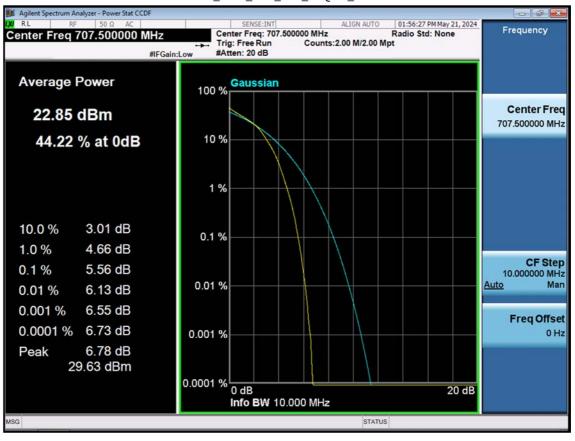




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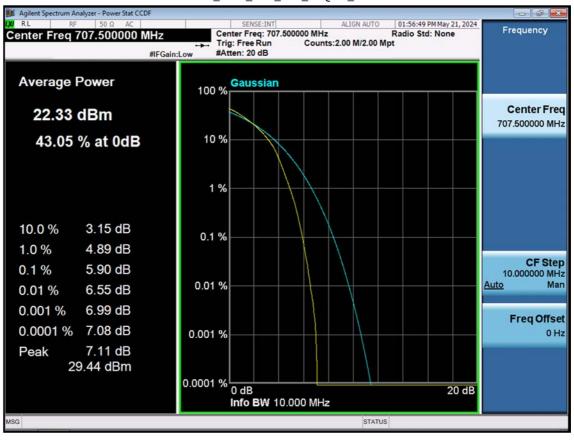




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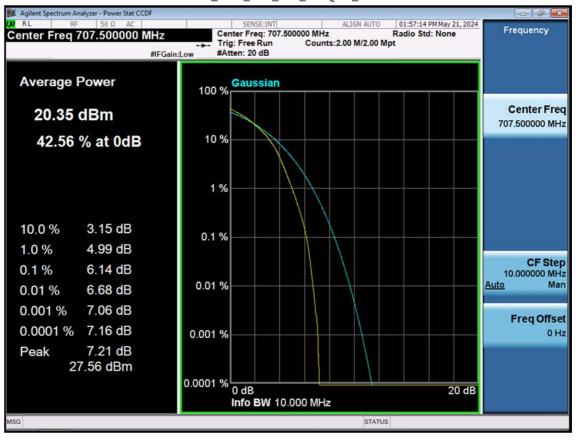






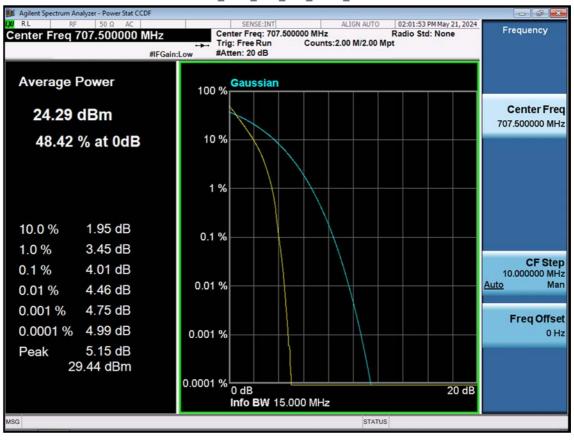
### NR12\_10 M\_PAR\_Mid\_64QAM\_FullRB





### NR12\_10 M\_PAR\_Mid\_256QAM\_FullRB



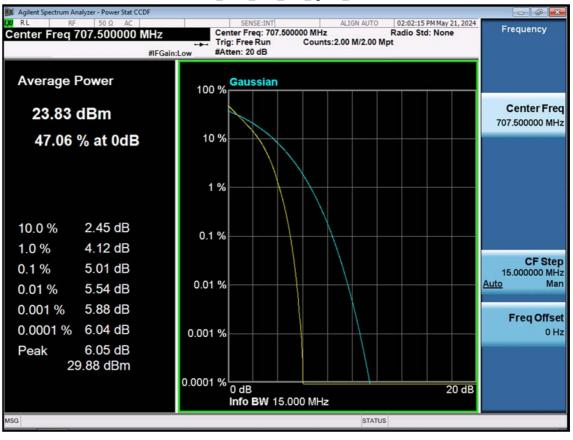


### NR12\_15 M\_PAR\_Mid\_BPSK\_FullRB

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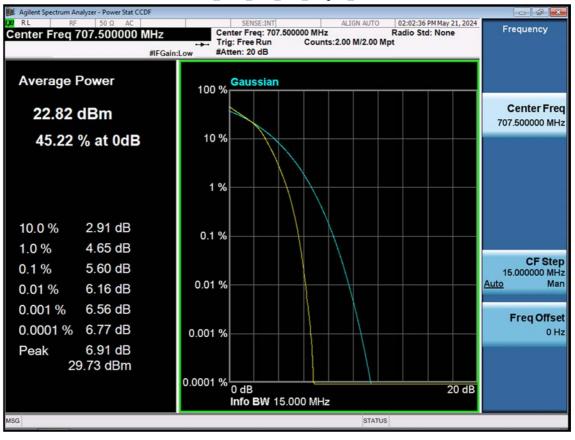




### NR12\_15 M\_PAR\_Mid\_QPSK\_FullRB



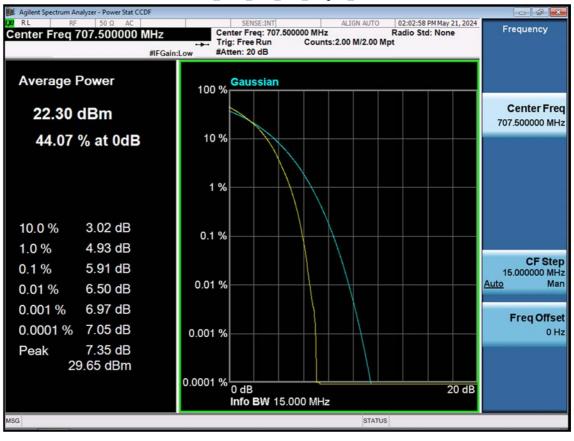




### NR12\_15 M\_PAR\_Mid\_16QAM\_FullRB

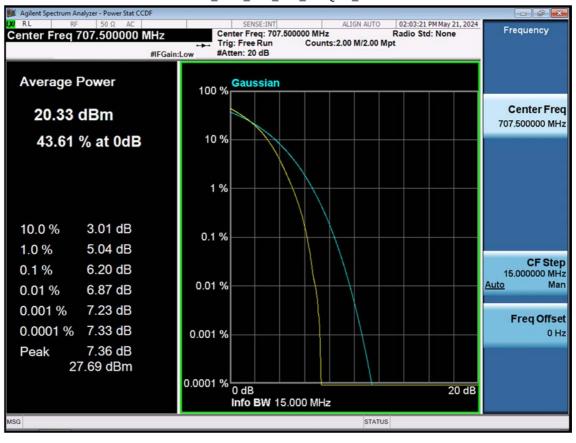






### NR12\_15 M\_PAR\_Mid\_64QAM\_FullRB





### NR12\_15 M\_PAR\_Mid\_256QAM\_FullRB

F-TP22-03 (Rev. 06)





Magilent Spectrum Analyzer - Occupied E	BW				_		
X         RL         RF         50 Ω         AC           Center Freq 707.500000         PASS         PASS	) MHz #IFGain:Low	SENSE:INT Center Freq: 707.5 Trig: Free Run #Atten: 20 dB		ALIGN AUTO	01:49:11 Radio Sto Radio De		Frequency
Ref Offset 26.8 10 dB/div Ref 40.00 dE							
30.0		mmm					Center Freq 707.500000 MHz
10.0 0.00 -10.0 -20.0				A A A A A A A A A A A A A A A A A A A	1		
-20.0 4 w ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~					- Ungungu	www.hv	CF Step
Center 707.5 MHz #Res BW 100 kHz		#VBW 390	) kHz			an 10 MHz eep 1 ms	1.000000 MHz <u>Auto</u> Man
Occupied Bandwig	ith .5938 MI		Power	34.3	3 dBm		Freq Offset 0 Hz
Transmit Freq Error x dB Bandwidth	-48.474 H 5.180 M		Power		9.00 % .00 dB		
MSG				STATU	S		

# NR12\_5 M\_OBW\_Mid\_BPSK\_FullRB





BW	- craicr and			01.40.244		
0 MHz	Center Freq: 707.	500000 MHz	un anna ann an ann an an an an an an an a	Radio Std	: None	Frequency
3 dB 3m						
$\wedge$						Center Free 707.500000 MH
mm	mmm	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	NY			
<u> </u>			<u>}</u>			
			سر ا	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
				. A. Martin	and mand	
						CF Ste
	#VBW 39	0 kHz				1.000000 MH
dth	Total	Power	34.2	2 dBm		Freq Offse
.6160 MI	Hz					0 H
-53.235	kHz OBW	Power	99	9.00 %		
5.114 N	/Hz x dB		-26.	00 dB		
			07171	e		
	D MHz #IFGain:Low 3 dB 3 m 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	SENSE:INT Center Freq: 707. Trig: Free Run #Atten: 20 dB 3 dB 3 dB 3 dB 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	SENSE:INT Center Freq: 707.500000 MHz Trig: Free Run Avg Hold #Atten: 20 dB 3 dB 3 dB 3 dB 4 4ten: 20 dB	ALIGN AUTO Center Freq: 707.500000 MHz Trig: Free Run Avg Hold: 500/500 #Atten: 20 dB 3 dB 3 dB 4 db	SENSE:INT ALIGN AUTO 01:49:341 Radio Std Trig: Free Run Avg Hold: 500/500 #Atten: 20 dB 3 dB 3 dB 4 db Std Radio Dev 3 dB 4 db Std Radio Dev 3 dB 4 db Std Radio Dev 3 dB 5	ALIGN AUTO ALIGN AUTO AUTO ALIGN AUTO AUTO ALIGN AUTO AUTO ALIGN AUTO AUTO ALIGN AUTO AUTO AUTO AUTO ALIGN AUTO

### NR12\_5 M\_OBW\_Mid\_QPSK\_FullRB





Agilent Spectrum Analyzer - Occupied B	w		augestard.		01.40.57.01		
RL         RF         50 Ω         AC           Center Freq 707.500000         PASS         AC         AC <th< th=""><th>MHz #IFGain:Low</th><th>Center F</th><th></th><th>ALIGN AUTO Iz Hold: 500/500</th><th>Radio Std: Radio Devi</th><th></th><th>Frequency</th></th<>	MHz #IFGain:Low	Center F		ALIGN AUTO Iz Hold: 500/500	Radio Std: Radio Devi		Frequency
Ref Offset 26.83 10 dB/div Ref 40.00 dB							
30.0 20.0	Ann	m	m	~~~~			Center Fred 707.500000 MHz
10.0 0.00 -10.0	h/						
-20.0					when my	m m	
50.0 Center 707.5 MHz #Res BW 100 kHz		#VI	BW 390 kHz			n 10 MHz ep 1 ms	CF Step 1.000000 MH: Auto Mar
Occupied Bandwic	Ith .5934 M		Total Power	33.	5 dBm		Freq Offse 0 H
Transmit Freq Error x dB Bandwidth	-56.178 5.189 M	kHz	OBW Power x dB		9.00 % .00 dB		
MSG				STATU	s		

# NR12\_5 M\_OBW\_Mid\_16QAM\_FullRB





Agilent Spectrum Analyzer - Occupied B	w	anner mel			
RL         RF         50 Ω         AC           Center Freq 707.500000         PASS         PASS	MHz #IFGain:Low	Center Freq: 707.50000 Trig: Free Run #Atten: 20 dB	ALIGN AUTO O MHz Avg Hold: 500/500	01:50:21 PM May 21, 2024 Radio Std: None Radio Device: BTS	Frequency
Ref Offset 26.83 10 dB/div Ref 40.00 dB					
20.0	Am	harmon	~~~~~		Center Free 707.500000 MH:
10.0 0.00 -10.0					
20.0 ppppppppppppppppppppppppppppppppppp				Mar Mary	
50.0 Center 707.5 MHz #Res BW 100 kHz		#VBW 390 kH:	2	Span 10 MHz Sweep 1 ms	CF Step 1.000000 MH <u>Auto</u> Ma
Occupied Bandwid	Ith .5925 MI	Total Pov <b>HZ</b>	ver 33.4	l dBm	<b>Freq Offse</b> 0 H
Transmit Freq Error x dB Bandwidth	-60.001 5.126 N			9.00 % 00 dB	
MSG			STATU	S	

## NR12\_5 M\_OBW\_Mid\_64QAM\_FullRB





Mailent Spectrum Analyzer - Occupied B	W		_	_				
RL         RF         50 Ω         AC           Center Freq 707.500000         PASS         PASS	MHz #IFGain:Low				ALIGN AUTO	Radio Sto	PM May 21, 2024 d: None vice: BTS	Frequency
Ref Offset 26.83 10 dB/div Ref 40.00 dB			_					
20.0	$\wedge$							Center Freq 707.500000 MHz
10.0	1 mmm	$\sim$	mm	······	m			
0.00	<b>\</b>				1			
-10.0					N.			
-20.0 -30.0 www.Myu.Mm.n.M					· · · · ·	Wm WWW	and a way and	
								I
-40.0								
-50,0								CF Step 1.000000 MHz
Center 707.5 MHz #Res BW 100 kHz		#V	BW 390 k	Hz			an 10 MHz eep 1 ms	<u>Auto</u> Man
Occupied Bandwid	lth		Total P	ower	31.	9 dBm		Freq Offset
4	.6495 MI	Ηz						0 Hz
Transmit Freq Error	-85.791	kHz	OBW P	ower	9	9.00 %		
x dB Bandwidth	5.039 N	IHz	x dB		-26	.00 dB		
MSG					STATL	20		
					STATU			

## NR12\_5 M\_OBW\_Mid\_256QAM\_FullRB





	AC		ENSE:INT	ALIGN AUTO	01:55:34 PM May 21, 20	24 Frequency
Center Freq 707.50	0000 MHz #IFGain:Low	Center F Trig: Fr #Atten:		old: 500/500	Radio Std: None Radio Device: BTS	ricqueriey
Ref Offset 10 dB/div Ref 40.0						
30.0 20.0						Center Freq 707.500000 MHz
10.0	mm	whennew	wanter and	m		
0.00	ار اگر			h		
-20.0 mal	hallon			- Not we way	-hurt-	N
-30.0						
50.0						CF Step
Center 707.5 MHz #Res BW 200 kHz		#V	BW 820 kHz		Span 20 MH Sweep 1 m	
Occupied Band	width		Total Power	32.	7 dBm	Freq Offset
	8.9821 N	IHz				0 Hz
Transmit Freq Er	ror -171.6	2 kHz	<b>OBW Power</b>	99	9.00 %	
x dB Bandwidth	9.925	MHz	x dB	-26	.00 dB	
MSG				STATU	IS	

## NR12\_10 M\_OBW\_Mid\_BPSK\_FullRB





Agilent Spectrum Analyzer - Occupied B     RL RF 50 Q AC	w	CENICE J				
RL         RF         50 Ω         AC           Center Freq         707.500000         PASS         PASS	) MHz #IFGain:Low	Center Freq: Trig: Free Ru #Atten: 20 dB	707.500000 MHz n Avg Hol	ALIGN AUTO d: 500/500	01:55:58 PM May 21, 20 Radio Std: None Radio Device: BTS	<sup>24</sup> Frequency
Ref Offset 26.8 10 dB/div Ref 40.00 dE						
20.0						Center Free 707.500000 MHz
10.0	minnin	and have not a north	rallady and and a	1		
0.00 -10.0 -20.0 profess Alman Anna Maria						
-30.0					and the second	
50.0						CF Step
Center 707.5 MHz #Res BW 200 kHz		#VBW	820 kHz		Span 20 MH Sweep 1 m	
Occupied Bandwic	ith .0370 MI		tal Power	32.3	3 dBm	Freq Offset 0 Hz
Transmit Freq Error	-169.66		BW Power	99	0.00 %	
x dB Bandwidth	9.915 N	1Hz x o	lΒ	-26.	00 dB	
MSG				STATU	s	

# NR12\_10 M\_OBW\_Mid\_QPSK\_FullRB





Agilent Spectrum Analyzer - Occupied BV	ſ	SENSE:INT	ALIGN AU	TO 01:56:20 PM May	
Center Freq 707.500000 PASS	MHz #IFGain:Low	Center Freq: 707.500		Radio Std: Nor	ne Frequency
Ref Offset 26.83 10 dB/div Ref 40.00 dB Log					
20.0					Center Free 707.500000 MH
10.0	mont	and and a second and a second and a second a	mmunn		
-10.0 -20.0 Nowamprover Myrak				mmmmmm	where .
-30.0					
Center 707.5 MHz #Res BW 200 kHz		#VBW 820 k	Hz	Span 2 Sweep	0 MHz 1 ms
Occupied Bandwid	<sup>th</sup> .9898 MI	Total P <b>- Z</b>	ower 3	1.2 dBm	Freq Offset 0 Hz
Transmit Freq Error	-166.31	KHz OBW P	ower	99.00 %	
x dB Bandwidth	9.988 N	IHz x dB	-2	26.00 dB	
ASG			ST	ATUS	

# NR12\_10 M\_OBW\_Mid\_16QAM\_FullRB





Agilent Spectrum Analyzer - Occupied		SENSE:INT		
Center Freq 707.50000 PASS		Center Freq: 707.500000 MHz	ALIGN AUTO 01:56:42 PM May Radio Std: Non old: 500/500 Radio Device: E	e Frequency
Ref Offset 26.8 10 dB/div Ref 40.00 d				
30.0 20.0				Center Free 707.500000 MH
0.00	forman	hallmannen	~m	
10.0 -20.0 many marked and part			Mary for going with a	
40,0				
50.0 Center 707.5 MHz ¢Res BW 200 kHz		#VBW 820 kHz	Span 20 Sweep	CF Ste 2.000000 MH 0 MHz 1 ms
Occupied Bandwi	dth 3.9794 MI	Total Power	30.7 dBm	Freq Offse 0 H
Transmit Freq Error	-179.82	kHz OBW Power	99.00 %	
x dB Bandwidth	9.877 N	1Hz x dB	-26.00 dB	
MSG			STATUS	

# NR12\_10 M\_OBW\_Mid\_64QAM\_FullRB





Agilent Spectrum Analyzer - Occupied E	W					
X         RL         RF         50 Ω         AC           Center Freq 707.500000         PASS         PASS	) MHz #IFGain:Low	SENSE:INT Center Freq: 707. Trig: Free Run #Atten: 20 dB	500000 MHz Avg Hold		01:57:06 PM May 21, 20 Radio Std: None Radio Device: BTS	Frequency
Ref Offset 26.8 10 dB/div Ref 40.00 dE						
30.0						Center Freq 707.500000 MHz
10.0	mannes	how have been a second	mlfmont	n -		
-10.0				Jest Services		
-20.0 -30.0					MAMARAM WAT	<u>^e</u>
-50.0						CF Step 2.000000 MHz
Center 707.5 MHz #Res BW 200 kHz		#VBW 82	0 kHz		Span 20 Mi Sweep 1 n	
Occupied Bandwid	ith .9954 MI		Power	28.6	dBm	Freq Offset 0 Hz
Transmit Freq Error	-167.20		Power	99.	00 %	
x dB Bandwidth	10.04 N	IHz x dB		-26.0	0 dB	
MSG				STATUS		

# NR12\_10 M\_OBW\_Mid\_256QAM\_FullRB





Agilent Spectrum Analyzer - Occupied B RL RF 50 Ω AC	w		SENSE:INT		ALIGN AUTO	02:01:44	PM May 21, 2024	
Center Freq 707.500000 PASS	MHz #IFGain:Low	Center Trig: F	Freq: 707.50 ree Run : 20 dB		d: 500/500	Radio Sto Radio De	I: None	Frequency
Ref Offset 26.83 10 dB/div Ref 40.00 dB					-,			
20.0								Center Free 707.500000 MH:
10.0	and ingeneeding	And the Andrews	we to make you	manumen	rm l			
-10.0	{							
-20.0 Macharter March Ma					h, Jyn	malandary	maria	
-40.0								CF Step
Center 707.5 MHz #Res BW 300 kHz		<u> </u>	VBW 1.2 M	ЛНz			an 30 MHz eep 1 ms	3.000000 MHz Auto Man
Occupied Bandwid			Total F	ower	32.0	6 dBm		Freq Offset
1	3.445 MI	ΗZ						0.112
Transmit Freq Error	-348.46	kHz	OBW P	ower	99	9.00 %		
x dB Bandwidth	14.55 N	lHz	x dB		-26.	00 dB		
MSG					STATU	S		

### NR12\_15 M\_OBW\_Mid\_BPSK\_FullRB





equency Center Freq .500000 MHz
STATES AND A STATES
CF Step
000000 MH2 Mar
Freq Offset
0 Hz

### NR12\_15 M\_OBW\_Mid\_QPSK\_FullRB





Agilent Spectrum Analyzer - Occupied B	W				- d -
RL         RF         50 Ω         AC           Center Freq 707.500000         PASS         Ref Offset 26.8         Ref Offset 26.8	#IFGain:Low	SENSE:INT Center Freq: 707.500000 MH Trig: Free Run Avg #Atten: 20 dB	Iz Ra Hold: 500/500	12:02:29 PM May 21, 2024 Idio Std: None Idio Device: BTS	Frequency
10 dB/div Ref 40.00 dE		ty/100			Center Free 707.500000 MH
10.0 0.00 10.0 20.0 ppm/conclus///www.www.ww 30.0			Contraction of the contraction o	mallingtoning	
40.0 50.0 Center 707.5 MHz #Res BW 300 kHz		#VBW 1.2 MHz		Span 30 MHz Sweep 1 ms	CF Ste 3.000000 MH <u>Auto</u> Ma
Occupied Bandwic	<sup>ith</sup> 3.442 MH	Total Power	31.2 dl	Зm	Freq Offset 0 Hz
Transmit Freq Error x dB Bandwidth	-357.61 k 14.74 M		99.00 -26.00		
ISG			STATUS		

## NR12\_15 M\_OBW\_Mid\_16QAM\_FullRB





Agilent Spectrum Analyzer - Occupied BV	1				
RL         RF         50 Ω         AC           Center Freq 707.500000         PASS         PASS	MHz #IFGain:Low	SENSE:INT Center Freq: 707.500 Trig: Free Run #Atten: 20 dB	ALIGN AUT 0000 MHz Avg Hold: 500/500	Radio Std: None	Frequency
Ref Offset 26.83 10 dB/div Ref 40.00 dB Log					1
30.0		~many many many many many many many many			Center Freq 707.500000 MHz
0.00	prover tradition	- Cond and - all and a construction of the second sec	hanna		
-10.0 -20.0			- Ym	mar and so all from the second	
-40.0					CF Step
Center 707.5 MHz #Res BW 300 kHz		#VBW 1.2 M	IHz	Span 30 MHz Sweep 1 ms	
Occupied Bandwid	<sup>th</sup> 3.442 MH	Total P	ower 30	).7 dBm	Freq Offset 0 Hz
Transmit Freq Error	-353.55 k	Hz OBW P	ower	99.00 %	
x dB Bandwidth	14.52 M	lHz x dB	-2	6.00 dB	
MSG			STA	TUS	

# NR12\_15 M\_OBW\_Mid\_64QAM\_FullRB





Agilent Spectrum Analyzer - Occupied BV	/			
RL         RF         50 Ω         AC           Center Freq 707.500000         PASS	MHz #IFGain:Low	Center Freq: 707.500000 MHz	ALIGN AUTO 02:03:14 PM May 21, 20 Radio Std: None 500/500 Radio Device: BTS	Frequency
Ref Offset 26.83 10 dB/div Ref 40.00 dB/ Log				
30.0 20.0				Center Freq 707.500000 MHz
10.0	malantinon	and a second and a s	N	
-10.0				
-20.0 -30.0 monor provident marting of			hard and a star and a	Ф.,
-40.0				CF Step
Center 707.5 MHz #Res BW 300 kHz		#VBW 1.2 MHz	Span 30 MH Sweep 1 m	
Occupied Bandwid	<sup>th</sup> 3.488 MH	Total Power	28.8 dBm	Freq Offset 0 Hz
Transmit Freq Error	-386.40 ki		99.00 %	
x dB Bandwidth	14.64 MI	Hz x dB	-26.00 dB	
MSG			STATUS	

# NR12\_15 M\_OBW\_Mid\_256QAM\_FullRB



Agilent Spectrum Analyzer - Swept SA					
RL RF 50 Ω AC Center Freq 5.015000000	GHz PNO: Fast ↔	SENSE:INT	ALIGN AUTO	01:48:39 PM May 21, 2024 TRACE 2 3 4 5 5 TYPE A WWWWW DET A A A A A A A	Frequency
10 dB/div Ref 10.00 dBm		#Atten: 20 dB	Mk	r1 3.195 0 GHz -67.459 dBm	Auto Tune
Log 2 0.00 2 .10.0					Center Fred 5.015000000 GH2
-30.0					Start Free 30.000000 MH;
-60.0 -70.0 -80.0					Stop Fred 10.00000000 GH;
Start 30 MHz #Res BW 1.0 MHz MKR MODE TRC SCL X	#VBW 3		Sweep 17	Stop 10.000 GHz .33 ms (20001 pts)	CF Step 997.000000 MH: <u>Auto</u> Mar
1 N 1 f 3.	195 0 GHz{ 700.0 MHz	67.459 dBm -2.870 dBm		II.	Freq Offse 0 H:
10 11 11		m	STATUS	•	

# NR12\_5 M\_Conducted Spurious(30 M-10 G)\_Low\_BPSK\_1RB



	Analyzer - Swept SA RF 50 Ω AC		CENICE IN	-		01.51.10.01110	21. 2024	
	RF 50 Ω AC 3 5.01500000	0 GHz PNO: Fast	Trig: Free Run #Atten: 20 dB	#Avg	ALIGN AUTO	01:51:18 PM May TRACE 12 TYPE A W DET A P	3456	Frequency
A 41 10000000000000000000000000000000000	tef 10.00 dBm	IFGain:Low	#Atten: 20 ab		MI	(r1 3.679 5 -67.396 (	GHz dBm	Auto Tun
og 0.00 10.0 20.0								Center Fre 5.015000000 GH
30.0 40.0 50.0								Start Fre 30.000000 MH
60.0 70.0 80.0					<u></u>		RMS 1	<b>Stop Fre</b> 0.000000000 G⊦
tart 30 MH: Res BW 1.0	) MHz		W 3.0 MHz	SUBJECTION.		Stop 10.000 7.33 ms (2000	1 pts)	CF Ste 997.000000 MH to Ma
NRR         MODE         TRC         S           1         N         1         1         1           2         N         1         1         1           3         3         3         3         3           4         5         5         6         6           7         8         8         1         1	f	3.679 5 GHz 706.0 MHz	-67.396 dBm -2.485 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VAL	EUE E	Freq Offs 0 ⊦
9 10 11			m		STATU		, .	

# NR12\_5 M\_Conducted Spurious(30 M-10 G)\_Mid\_BPSK\_FullRB



Agilent Spectrum Analyzer - Swept SA				
RL RF 50Ω AC Center Freq 5.015000000	PNO: Fast Trig: Free R	#Avg Type: RMS	01:53:19 PM May 21, 2024 TRACE 1 2 3 4 5 0 TYPE A WWWW DET A A A A A A A	Frequency
10 dB/div Ref 10.00 dBm	IFGain:Low #Atten: 20 c		kr1 3.679 5 GHz -67.416 dBm	Auto Tune
Log 2 0.00 2 .10.0				Center Fred 5.015000000 GH2
-30.0				Start Free 30.000000 MHz
-60.0 -70.0 -80.0			RMS	Stop Fred 10.00000000 GHz
Start 30 MHz #Res BW 1.0 MHz	#VBW 3.0 MHz	Sweep 1	Stop 10.000 GHz 7.33 ms (20001 pts)	CF Step 997.000000 MH Auto Mar
1         N         1         f         3.1           2         N         1         f         3.3         3.4           3         4         5         5.5         5.6         6.6	679 5 GHz -67.416 dBm 711.9 MHz -2.612 dBm	1	E	Freq Offse 0 H:
7 8 9 10 11 4	TH			
ISG		STAT	JS	

# NR12\_5 M\_Conducted Spurious(30 M-10 G)\_High\_BPSK\_1RB



Agilent Spectrum Analyzer - Swept SA							
RL RF 50 Ω AC enter Freq 5.015000000	PNO: Fast +>	SENSE:INT	#Avg Ty	ALIGN AUTO	01:55:02 PM M TRACE TYPE	1 2 3 4 5 6 A A A A A A A	Frequency
0 dB/div Ref 10.00 dBm	IFGain:Low	#Atten: 20 dB		Mk	(r1 3.696 ( -66.878	0 GHz	Auto Tun
							Center Fre 5.015000000 GH
000							Start Fre 30.000000 MH
	~ <sup>1</sup>					RMS	Stop Fre 10.00000000 GH
tart 30 MHz Res BW 1.0 MHz	#VBW	3.0 MHz			Stop 10.0 .33 ms (200	001 pts)	CF Ste 997.000000 Mi Auto Mi
2 N 1 f 3 4 5 4	696 0 GHz 700.0 MHz	-66.878 dBm -2.568 dBm	FUNCTION FU	INCTION WIDTH	FUNCTION	VALUE A	Freq Offs 0 F
6 7 8 9 9 0 1							
G		m		STATUS	5		

# NR12\_10 M\_Conducted Spurious(30 M-10 G)\_Low\_BPSK\_1RB



RL	RF	50 Ω AC			SENSE:INT		ALIGN AUTO	01:57:37 P	M May 21, 2024	
enter F	req 5.0	150000	00 GHz PNO: Fast IFGain:Low	Trig: F #Atten	ree Run 20 dB	#Avg	Type: RMS	TYP	E 1 2 3 4 5 6 E A MMMMM T A A A A A A A	Frequency
dB/div		0.00 dBn	n				Mk	r1 3.690 -67.38	) 5 GHz 35 dBm	Auto Tur
9 .00 .00 .0	\$ <sup>2</sup>									Center Fre 5.015000000 GI
.0 .0 .0										Start Fr 30.000000 M
).0 ).0 ).0				1	-				RMS	<b>Stop Fr</b> 10.000000000 G
art 30 I es BW	1.0 MH		#VE X	3W 3.0 MI		NCTION	Sweep 17	.33 ms (2	.000 GHz 0001 pts)	CF Sto 997.000000 M Auto M
N	1 f 1 f		3.690 5 GHz 703.5 MHz	-67.385 -3.276	dBm	NCTION		PONCHC	E	Freq Offs 0
				m			STATUS		•	
								2		

# NR12\_10 M\_Conducted Spurious(30 M-10 G)\_Mid\_BPSK\_FullRB



RL	RF	zer - Swept SA 50 Ω AC		SENSE	INT	ALIGN AUTO	01:59:39 PM	May 21, 2024	
	Freq 5.0	01500000	PNO: Fast		#Av	g Type: RMS	TRACE	<b>1 2 3 4 5 6</b> A <b>A A A A A A</b>	Frequency
0 dB/div		0.00 dBm				MI	kr1 3.704 -67.24	9 GHz 7 dBm	Auto Tun
0.00 10.0 20.0	\$ <sup>2</sup>								Center Fre 5.015000000 GH
30.0 40.0 50.0									Start Fre 30.000000 M⊦
60.0	-		~~~~		arei,arrites;ri	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	*******	RMS	Stop Fre 10.00000000 GF
tart 30 Res BV	V 1.0 MH	lz ×	#VE	W 3.0 MHz	FUNCTION	Sweep 17		0001 pts)	CF Ste 997.000000 MH <u>Auto</u> Ma
1 N	1 f 1 f		8.704 9 GHz 707.5 MHz	-67.247 dBm -2.866 dBm		PONCTION WIDTH	FONCTIO	E	Freq Offs 0 F
7 8									
9 10 11				ш				-	

# NR12\_10 M\_Conducted Spurious(30 M-10 G)\_High\_BPSK\_1RB



Agilent Spectrum Analyzer - Swept SA					- d ×
Center Freq 5.015000000	GHz PNO: Fast ↔	SENSE:INT	#Avg Type: RMS	TO 02:01:14 PM May 21, 2024 TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A A A A A A	Frequency
IO dB/div Ref 10.00 dBm	IFGain:Low	#Atten: 20 dB	1	Mkr1 3.668 6 GHz -66.920 dBm	Auto Tun
• g 2 0.00 10.0 20.0					Center Fre 5.015000000 GH
40.0					Start Fre 30.000000 M⊦
50.0				RMS	Stop Fre 10.000000000 GF
tart 30 MHz Res BW 1.0 MHz	#VBW	3.0 MHz		Stop 10.000 GHz 17.33 ms (20001 pts)	CF Ste 997.000000 MH <u>Auto</u> Ma
2 N 1 f 3 4 5 5 6 8	668 6 GHz 700.5 MHz	-66.920 dBm -3.116 dBm	FUNCTION FUNCTION WI	FUNCTION VALUE	Freq Offso 0 H
7 8 9 10 11 11 12 12 12 12 12 12 12 12 12 12 12		m			
SG			ST	ATUS	

# NR12\_15 M\_Conducted Spurious(30 M-10 G)\_Low\_BPSK\_1RB



RL	RF	50 Ω AC		SI	NSE:INT		ALIGN AUTO	02:03:45 PM	May 21, 2024	
enter F	req 5.0	01500000	DO GHz PNO: Fast IFGain:Low	Trig: Fre #Atten:		#Avg Ty	pe: RMS	TYP	E 1 2 3 4 5 6 A WWWWW T A A A A A A A	Frequency
dB/div		0.00 dBm	1				M	r1 3.692 -67.26	0 GHz 63 dBm	Auto Tur
og 1.00 0.0 0.0	\$ <sup>2</sup>									Center Fre 5.015000000 GH
0.0 0.0 0.0										Start Fr 30.000000 M
60.0 70.0 60.0				1			*****		RMS	Stop Fre 10.000000000 GF
tart 30 I Res BW	1.0 MH		#VE	W 3.0 MH			Sweep 17	Stop 10. .33 ms (20		CF Ste 997.000000 MI <u>Auto</u> M
1 N 2 2 N 2 3 4 5 5 6	1 f 1 f		3.692 0 GHz 701.5 MHz	-67.263 d -2.761 d	Bm Bm				11	Freq Offs 01
7 8 9 0				ш					-	
G	_						STATU	1		

### NR12\_15 M\_Conducted Spurious(30 M-10 G)\_Mid\_BPSK\_FullRB



Agilent Spectrum Analy	50 Q AC	1	SENSE:IN	T	ALIGN AUTO	02:05:45 PM	May 21, 2024	
enter Freq 5.0	015000000	PNO: Fast IFGain:Low		#Avg	Type: RMS	TRACE	<b>1 2 3 4 5 6</b> A MARAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	Frequency
	0.00 dBm				Mk	r1 3.693 -67.35	5 GHz 6 dBm	Auto Tun
og 2.00 10.0 20.								Center Fre 5.015000000 GH
0.0								Start Fre 30.000000 Mi
50.0 70.0 50.0		<sup>1</sup>			<u> </u>		RMS	<b>Stop Fre</b> 10.000000000 GF
tart 30 MHz Res BW 1.0 MH	lz X	#VBV	∜ 3.0 MHz	FUNCTION	Sweep 17	Stop 10.0 .33 ms (20	001 pts)	CF Ste 997.000000 Mi <u>Auto</u> Ma
1 N 1 F 2 N 1 F 3 4 5 5	3.6	93 5 GHz 02.5 MHz	-67.356 dBm -3.087 dBm	PONCTION	PONCTION WIDTH	PONCHOI	E	Freq Offs 0 F
6 7 8 9 0 1							-	
			m				- F	

### NR12\_15 M\_Conducted Spurious(30 M-10 G)\_High\_BPSK\_1RB



						_			Agilent Spectru
Frequency	PM May 21, 2024 ACE 1 2 3 4 5 6 YPE A ********	TR	ALIGN AUTO	#Avg Ty	e Run			50 Ω AC 98.000000 M	enter Fre
Auto Tune	085 MHz 981 dBm		Mki			#Atten: 20	PNO: Fast	ffset 26.83 dB 26.83 dBm	
Center Freq 698.000000 MHz									6.8
Start Free 690.500000 MHz									.17
Stop Fred 705.500000 MHz	-13.00 dBm								3.2
CF Step 1.500000 MH: Auto Mar				4		<b>↓</b> 1			3.2
Freq Offsel 0 Hz	Warmerton	en de	Alve	- Jun	- A	nMu	have about	Merman	3.2
	15.00 MHz (1001 pts)	Span 1.000 s	#Sweep			V 1.0 MHz	#VBM		enter 698. Res BW 30
			STATUS						G

#### NR12\_5 M\_Band Edge\_Low\_BPSK\_1RB



Ref Offset 26.83 dB       Center Freq         0 dB/div       Ref 26.83 dB       Center Freq         683       0 dB/div       Center Freq         168       0 dB/div       Center Freq         683       0 dB/div       Center Freq         112       0 dB/div       Center Freq         122       0 dB/div       Center Freq         132       0 dB/div       Center Freq         132       0 dB/div       CF Step         133       0 dB/div       CF Step         140       0 dB/div       Man         Freq Offset       0 Hz         0 Hz       Span 15.00 MHz         FRes BW 51 kHz       #VBW 160 kHz       #Sweep		ctrum Analyzer - Swept SA							
Ref Offset 26.83 dBm       Mkr1 696.755 MHz       Auto Tune         0.0 dB/d/v       Ref 26.83 dBm       .33.746 dBm       Center Freq         15.8			MHz				TRAC	E 1 2 3 4 5 6	Frequency
Center Freq Center Freq 633 643 643 643 643 643 643 643	10 dB/div		IFGain:Low			Mki	DE		Auto Tune
Start Freq Stop Freq 705.50000 MHz Stop Freq 705.50000 MHz CF Step 1.50000 MHz Man Freq Offset 0 Hz Center 698.000 MHz #VBW 160 kHz #Sweep 1.000 s (1001 pts)	Log								Second Contract of Contract
Stop Freq 705.50000 MHz 43.2 43.2 53.2 53.2 53.2 53.2 53.2 53.2 53.2 5	6.83 -3.17				 ~~~~~~~	a for the second se			
Auto 1.500000 MHz 432 432 432 432 432 432 432 432	-13.2							-13.00 dBm	
53.2 63.2 Center 698.000 MHz #Res BW 51 kHz #VBW 160 kHz #VBW 160 kHz #Sweep 1.000 s (1001 pts) Freq Offset 0 Hz #Span 15.00 MHz #Sweep 1.000 s (1001 pts)	-33.2		Jamas	1 mmennen				A A	1.500000 MHz
Center 698.000 MHz Span 15.00 MHz #Res BW 51 kHz #VBW 160 kHz #Sweep 1.000 s (1001 pts)	-53.2								
	-63.2 Center 69	98.000 MHz	#) (P)4			#Duvo or	Span 1	5.00 MHz	
	#Res BW	51 KHZ	#VBM	TOU KHZ		#Sweep		Too r pts)	

### NR12\_5 M\_Band Edge\_Low\_BPSK\_FullRB



	ectrum Analyzer - Swept SA						- d ×
Center F	RF 50 Ω AC req 695.000000	MHz	SENSE:INT	#Avg Type: RM	IS TRAC	May 21, 2024	Frequency
10 dB/div	Ref Offset 26.83 dE Ref 26.83 dBm	PNO: Wide ↔ IFGain:Low	#Atten: 20 dB			AAAAA	Auto Tune
16.8							Center Freq 695.000000 MHz
6.83 -3.17							Start Freq 693.000000 MHz
-13.2						-13.00 dBm	Stop Freq 697.000000 MHz
-33.2		and and an an an and a second second second			<u></u>	1	CF Step 400.000 kHz <u>Auto</u> Man
-43.2							<b>Freq Offset</b> 0 Hz
-63.2	95.000 MHz				Span 4.	000 MHz	
#Res BW		#VBW	/ 300 kHz	#S1	veep 1.000 s (	1001 pts)	
MSG					STATUS		

### NR12\_5 M\_Extended Band Edge\_Low\_BPSK\_FullRB



					_	m Analyzer - Swept SA	
Frequency	52:43 PM May 21, 2024 TRACE 2 3 4 5 6 TYPE A WWWWW DET A A A A A A A	ALIGN AUTO	#Avg Ty	SENSE:INT	PNO: Wide ->	RF 50 Ω AC q 716.050000 M	Center F
Auto Tune	6.000 0 MHz 28.273 dBm	Mkr1		#Atten: 20 dB	IFGain:Low	Ref Offset 26.83 dB Ref 26.83 dBm	10 dB/div
Center Freq 716.050000 MHz							16.8
Start Freq 716.000000 MHz							6.83 -3.17
Stop Freq 716.100000 MHz	-13.00 dBm						-13.2 -23.2 <b>1</b> —
CF Step 10.000 kHz Auto Man	RMS		to a standard and a s	His baad are a fair and a fair and a fair			-33.2
<b>Freq Offset</b> 0 Hz							-53.2
	16.10000 MHz 00 s (1001 pts)	Sto #Sweep		100 kHz	#VBW	0000 MHz 0 KHz	-63.2 Start 716 #Res BW
		STATUS					MSG

### NR12\_5 M\_Band Edge\_High\_BPSK\_1RB(1)



Agilent Spectrum Analyzer - Swept SA					
RL RF 50 Ω AC Center Freq 717.050000	MHz	SENSE:INT	#Avg Type: RMS	01:53:01 PM May 21, 2024 TRACE 2 3 4 5 6 TYPE A WWWWW	Frequency
Ref Offset 26.83 dl 0 dB/div Ref 26.83 dBm	IFGain:Low #Atte	en: 20 dB	Mkr1	716.100 0 MHz -30.552 dBm	Auto Tune
16.8					Center Freq 717.050000 MHz
3.17					Start Freq 716.100000 MHz
23.2				-13.00 dBm	Stop Freq 718.000000 MHz
33.2					<b>CF Step</b> 190.000 kHz <u>Auto</u> Man
53.2		****		RMS	Freq Offset 0 Hz
53.2 Start 716.1000 MHz Res BW 100 kHz	#VBW 3001	<u>لالم</u>	#Swoon	top 718.0000 MHz 1.000 s (1001 pts)	
SG	#VBVV 5001	N112	#Sweep		

### NR12\_5 M\_Band Edge\_High\_BPSK\_1RB(2)



					_	-		trum Analyzer - Swept SA	
Frequency	M May 21, 2024	TRAC	ALIGN AUTO	#Avg Ty	SENSE:INT	1000	MHz	RF 50 Ω AC req 716.000000 M	Center F
Auto Tun	000 MHz 36 dBm	DE	Mki		Free Run n: 20 dB	Atten:	PNO: Fast ↔ IFGain:Low	Ref Offset 26.83 dB Ref 26.83 dBm	10 dB/div
Center Fre 716.000000 MH									16.8
Start Fre 708.500000 MH						~~~~~	**************************************		6.83 3.17
Stop Fre 723.500000 MH	-13.00 dBm				1				13.2 23.2
CF Ste 1.500000 MH <u>Auto</u> Ma			han	m				~~	33.2 43.2
Freq Offse 0 H	RMS	mm	X						53.2
	5.00 MHz (1001 pts)	Span 1	#Sween		H7	W 160 kH	#\/B\/	6.000 MHz	Center 71
	1001 pts)	1.000-5 (	STATUS				<i>"</i> vDv	OT MILE	ISG

### NR12\_5 M\_Band Edge\_High\_BPSK\_FullRB



Inter Freq 719.000000 MHz       PN0: Wide ++-       Trig: Free Run       #Avg Type: RMS       TRACE 12.3.4.3.5       IPPE Automatic transmission of the second secon		Analyzer - Swept SA					
PNO: Wide       Trig: Pree kun       Mikr1       PT17: Pree kun       Auto         Ref Offset 26.83 dB       Mikr1       717.956 MHz       31.939 dBm       Center         3       3       31.939 dBm       31.939 dBm       Start       719.000000         3       3       31.939 dBm       31.939 dBm       Start       717.00000         3			ЛНz			TRACE 1 2 3 4 5 6	Frequency
Center 719.00000 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Re	ef Offset 26.83 dB	PNO: Wide		Mk	DET A A A A A A	Auto Tune
Start 71.00000 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2							Center Freq 719.000000 MHz
Stop 721.00000 CF 400.00 Freq O	6.83 3.17						Start Freq 717.000000 MHz
CF 400.00 Preq O	-13.2					-13.00 dBm	Stop Fred 721.000000 MHz
Freq O	43.2	<b>1</b>	name and a second second			RMS	CF Step 400.000 kH Auto Mar
	53.2						<b>Freq Offse</b> 0 H
nter 719.000 MHz Span 4.000 MHz es BW 100 kHz #VBW 300 kHz #Sweep 1.000 s (1001 pts)			#\/B\// 3	00 kHz	#Sween	Span 4.000 MHz	
status	ISG	V N112	#4D44 J		in the second		

### NR12\_5 M\_Extended Band Edge\_High\_BPSK\_FullRB



						_			rum Analyzer - Swej				
Frequency	44 PM May 21, 2024 TRACE 1 2 3 4 5 6 TYPE A WWWWWW DET A A A A A A A	01:54	ALIGN AUTO	#Avg T		Trig: Fre	PNO: Fast ↔	0000 MI	RF 50 Ω eq 698.000	Center F			
Auto Tune	4.730 MHz 1.309 dBm	kr1 69 -4	Mk		20 dB	#Atten: 2	IFGain:Low	5.83 dB	Ref Offset 26.83 dB 3/div Ref 26.83 dBm				
Center Freq 698.000000 MHz				ſ.						16.8			
Start Freq 690.500000 MHz										-3.17			
<b>Stop Freq</b> 705.500000 MHz	-13.00 dBm									-13.2			
CF Step 1.500000 MHz <u>Auto</u> Mar	RMS						▲1			-33.2			
Freq Offse 0 Hz	we welling out	hund	and the second		and a	Munn	Murray	apresent wheel	Augure Marson	-53.2			
	n 15.00 MHz s (1001 pts)	Spa	#Sween			V 1.0 MHz	#VBV		8.000 MHz	-63.2 Center 69 #Res BW			
			STATU							ISG			

### NR12\_10 M\_Band Edge\_Low\_BPSK\_1RB



						-		and the state of the	trum Analyzer - Swe	
Frequency	PM May 21, 2024           ACE         1 2 3 4 5 6           TYPE A         ************************************	TRA	ALIGN AUTO	#A	SENSE:INT		Hz PNO: Fast ↔		req 698.00	Center F
Auto Tune	900 MHz 681 dBm		Mk			#Atten: 2	IFGain:Low		Ref Offset 26 Ref 26.83	10 dB/div
Center Freq 698.000000 MHz										16.8
Start Free 690.500000 MHz	RMS									-3.17
Stop Freq 705.500000 MHz	-13.00 dBm				)					-13.2 -23.2
CF Step 1.500000 MH Auto Mar						hann				-33.2
Freq Offse 0 H										-63.2
	15.00 MHz (1001 pts)	Span 1	#Sweep		Hz	/ 300 kHz	#VBW		8.000 MHz 100 kHz	Center 69
	(1001 pt0)		STATUS				(A.A.*A.A.			MSG

#### NR12\_10 M\_Band Edge\_Low\_BPSK\_FullRB



Agilent Spectrum Analyzer	C 1 2 2 4 4 5 C 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			_					-   #   X
RL RF Center Freq 695.	50 Ω AC 000000 MHz	Tric	SENSE:INT	#Avg Ty	ALIGN AUTO	TRACE	May 21, 2024	Fre	equency
Ref Offse 0 dB/div Ref 26.3	IFG t 26.83 dB		ten: 20 dB		Mk	1 695.89	2 MHz 9 dBm		Auto Tune
16.8									enter Fred 000000 MH:
3.17								693.	Start Free
23.2							-13.00 dBm	697.	Stop Fre
43.2	~~~~				1	and the manufacture of the second	RMS	Auto	<b>CF Ste</b> 400.000 kH Ma
53.2								F	reqOffso 0⊦
63.2 Center 695.000 MH Res BW 100 kHz	Iz	#VBW 300	kHz		#Sweep	Span 4. 1.000 s (1	000 MHz 001 pts)		
SG					STATUS				

### NR12\_10 M\_Extended Band Edge\_Low\_BPSK\_FullRB



					📕 Agilent Spectrum Analyzer - Swe
Frequency	01:59:02 PM May 21, 2024 TRACE 1 2 3 4 5 6 TYPE A WWWWW	ALIGN AUTO	, Trig: Free Run	RF 50 Ω AC req 716.050000 MHz PNO: Wide ↔	
Auto Tune	DET AAAAAA 16.000 5 MHz -35.962 dBm	Mkr1	#Atten: 20 dB	Ref Offset 26.83 dB Ref 26.83 dBm	
Center Freq 716.050000 MHz					16.8
Start Freq 716.000000 MHz					3.17
Stop Freq 716.100000 MHz	-13.00 dBm				-13.2
CF Step 10.000 kHz Auto Mar	RMS			****	-33.2 <b>1</b>
Freq Offset 0 Hz					-53.2
	716.10000 MHz .000 s (1001 pts)	Ste #Sweep	100 kHz		63.2 Start 716.00000 MHz #Res BW 30 kHz
		STATUS			ISG

# NR12\_10 M\_Band Edge\_High\_BPSK\_1RB(1)



				ectrum Analyzer - Swept SA	
Frequency	01:59:20 PM May 21, 2024 TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A A A A A A	ALIGN AUTO	SENSE:INT	RF 50 Ω AC Freq 717.050000 MHz PNO: Wide ↔	Center Fr
Auto Tune	16.100 0 MHz -34.390 dBm	Mkr1	#Atten: 20 dB	Ref Offset 26.83 dB Ref 26.83 dB	10 dB/div
Center Freq 717.050000 MHz					16.8
Start Freq 716.100000 MHz					-3.17
<b>Stop Freq</b> 718.000000 MHz	-13.00 dBm				-13.2
<b>CF Step</b> 190.000 kHz <u>Auto</u> Man					-33.2
Freq Offset 0 Hz	RMS				-53.2
	op 718.0000 MHz .000 s (1001 pts)	S #Sweep	√ 300 kHz	6.1000 MHz #//B/	-63.2 Start 716. #Res BW
	.000 S (100 Pts)	STATUS	- 500 KH2	#VDV	MSG

### NR12\_10 M\_Band Edge\_High\_BPSK\_1RB(2)



	ctrum Analyzer - Swept SA	_				
XI RL Center F	RF 50 Ω AC req 716.000000 I	MHz	SENSE:INT	#Avg Type: RMS	01:58:23 PM May 21, 2024 TRACE 1 2 3 4 5 6 TYPE A ********	Frequency
10 dB/div	Ref Offset 26.83 dB Ref 26.83 dBm	PNO: Fast ↔ IFGain:Low	#Atten: 20 dB	Mk	r1 716.000 MHz -32.136 dBm	Auto Tune
16.8						Center Freq 716.000000 MHz
6.83 3.17						Start Free 708.500000 MH
-13.2					-13.00 dBm	Stop Free 723.500000 MH
43.2			1		RMS	CF Step 1.500000 MH <u>Auto</u> Ma
53.2						Freq Offse 0 H
	16.000 MHz				Span 15.00 MHz	
#Res BW	100 kHz	#VBW	/ 300 kHz	#Sweep	1.000 s (1001 pts)	
30				STATU	5	

### NR12\_10 M\_Band Edge\_High\_BPSK\_FullRB



Agilent Spectrum A						
Center Freq	50 Ω AC 719.000000 N	PNO: Wide	SENSE:INT	#Avg Type: RMS	0 01:58:41 PM May 21, 2024 TRACE 2 3 4 5 TYPE A WWWWW DET A A A A A A	Frequency
	f Offset 26.83 dB f 26.83 dBm	IFGain:Low	#Atten: 20 dB	M	kr1 717.056 MHz -37.351 dBm	Auto Tune
16.8						Center Freq 719.000000 MHz
3.17						Start Freq 717.000000 MHz
-13.2					-13.00 dBm	Stop Freq 721.000000 MHz
33.2	M <sup>an</sup> akharaka (gana ka manganga panakan dina dina dina			ang anna Palaglar All Bir di an tanàng ang bag ang bag na gang bag	RMS	CF Step 400.000 kH Auto Mar
53.2						Freq Offse 0 H:
Center 719.00		#VBW	300 kHz	#Swee	Span 4.000 MHz p 1.000 s (1001 pts)	
ISG				STA		

### NR12\_10 M\_Extended Band Edge\_High\_BPSK\_FullRB



							_	N200.000	trum Analyzer - Swe	
Frequency	M May 21, 2024	TRAC	ALIGN AUTO e: RMS	#Avg Typ	NSE:INT				RF 50 G	Center F
Auto Tune	60 MHz 07 dBm	DE 1 692.3	Mkı			. Trig: Free #Atten: 2	PNO: Fast IFGain:Low	5.83 dB	Ref Offset 26 Ref 26.83	10 dB/div
Center Freq 698.000000 MHz				^						16.8
Start Freq 690.500000 MHz										6.83 -3.17
<b>Stop Freq</b> 705.500000 MHz	-13.00 dBm									-13.2
CF Step 1.500000 MH: Auto Mar									1	-33.2
Freq Offse 0 H:	RMS N <sup>deven</sup> whenge Ter	me have	Mang	- John	and the	m.m.	manan harmen	- Marchard	Mar	-53.2
	5.00 MHz 1001 pts)	Span 1 1.000 s (	#Sweep			1.0 MHz	#VBM		8.000 MHz 30 kHz	-63.2 Center 69 #Res BW
			STATUS							ISG

### NR12\_15 M\_Band Edge\_Low\_BPSK\_1RB



		-					ctrum Analyzer - Swept SA	
Frequency	8 PM May 21, 2024 RACE 1 2 3 4 5 6 TYPE A WARNAW DET A A A A A A A	TRA TY	ALIGN AUTO	#Avg T	SENSE:INT	PNO: Fast ->	RF 50 Ω AC req 698.000000 M	Center F
Auto Tune	.955 MHz .671 dBm		Mk		#Atten: 20 dB	IFGain:Low	Ref Offset 26.83 dB Ref 26.83 dBm	10 dB/div
Center Freq 698.000000 MHz								16.8
Start Fred 690.500000 MH:	RMS	97						6.83 -3.17
Stop Free 705.500000 MH:	-13.00 dBm							-13.2
CF Step 1.500000 MH Auto Mar					1			-33.2
<b>Freq Offse</b> 0 H								53.2
	15.00 MHz s (1001 pts)	Span 1	# <b>P</b> woon		470 kHz	#1/1014	98.000 MHz	Center 69
	s (1001 pts)		SWEED		47 V KHZ	#VDV	150 KH2	ARES DW

#### NR12\_15 M\_Band Edge\_Low\_BPSK\_FullRB



	ctrum Analyzer - Swept SA						
Center F	RF 50 Ω AC req 695.000000	MHz	SENSE:INT	#Avg Type: R	MS TR	ACE 1 2 3 4 5 6	Frequency
	Ref Offset 26.83 dB	PNO: Wide ++ IFGain:Low	Trig: Free Run #Atten: 20 dB	V.a.	T		Auto Tune
10 dB/div Log	Ref 26.83 dBm				Mkr1 696. -37.	001 dBm	
16.8							Center Freq 695.000000 MHz
6.83 -3.17							Start Freq 693.000000 MHz
-13.2						-13.00 dBm	<b>Stop Freq</b> 697.000000 MHz
-33.2		مواد و الاور المراجع ا				1	CF Step 400.000 kHz <u>Auto</u> Man
-53.2							Freq Offset 0 Hz
-63.2	95.000 MHz				Span	4.000 MHz	
#Res BW		#VBW	300 kHz	#S	weep 1.000 s	(1001 pts)	
MSG					STATUS		

### NR12\_15 M\_Extended Band Edge\_Low\_BPSK\_FullRB



				rum Analyzer - Swept SA	
Frequency	02:05:09 PM May 21, 2024 TRACE 1 2 3 4 5 6 TYPE A WWWWW	ALIGN AUTO #Avg Type: RMS	SENSE:INT	RF 50 Ω AC eq 716.050000 MHz PNO: Wide ↔	Center Fre
Auto Tune	716.026 9 MHz -37.818 dBm	Mkr1	#Atten: 20 dB	IFGain:Low Ref Offset 26.83 dB Ref 26.83 dBm	
Center Freq 716.050000 MHz					16.8
Start Freq 716.000000 MHz					-3.17
<b>Stop Freq</b> 716.100000 MHz	-13.00 dBm				-13.2
CF Step 10.000 kHz <u>Auto</u> Man	RMS			1	-33.2
Freq Offsel 0 Hz					-53.2
	p 716.10000 MHz I.000 s (1001 pts)	Ste #Sweep	V 100 kHz		-63.2 Start 716.00 #Res BW 30
		STATUS			MSG

# NR12\_15 M\_Band Edge\_High\_BPSK\_1RB(1)



				Agilent Spectrum Analyzer - Swept SA
Frequency	02:05:28 PM May 21, 2024 TRACE 1 2 3 4 5 6 TYPE A WWWWW DET A A A A A A	ALIGN AUTO #Avg Type: RMS		X RL RF 50Ω AC Center Freq 717.050000 MHz PNO: Wide ↔
Auto Tune	716.100 0 MHz -36.263 dBm	Mkr1	#Atten: 20 dB	IFGain:Low           Ref Offset 26.83 dB           10 dB/div           Pg
Center Freq 717.050000 MHz				16.8
Start Freq 716.100000 MHz				-3.17
<b>Stop Freq</b> 718.000000 MHz	-13.00 dBm			-13.2
CF Step 190.000 kHz Auto Mar				-33.2 1
Freq Offset 0 Hz	RMS			-53.2
	top 718.0000 MHz 1.000 s (1001 pts)	S #Sweep	#VBW 300 kHz	-63.2 Start 716.1000 MHz #Res BW 100 kHz #VB\
		STATUS		ISG

# NR12\_15 M\_Band Edge\_High\_BPSK\_1RB(2)



Agilent Spectrum Analyzer - Swept SA					
RL RF 50 Ω AC enter Freq 716.000000	PNO: Fast +>	Trig: Free Run	#Avg Type: RMS	02:04:30 PM May 21, 2024 TRACE 1 2 3 4 5 5 TYPE A WWWWW DET A A A A A A	Frequency
Ref Offset 26.83 d dB/div Ref 26.83 dBm		#Atten: 20 dB	Mk	r1 716.105 MHz -35.729 dBm	Auto Tune
6.8					Center Freq 716.000000 MHz
.17					Start Freq 708.500000 MHz
3.2				-13.00 dBm	Stop Freq 723.500000 MHz
3.2		1		RMS	CF Step 1.500000 MHz Auto Mar
3.2					Freq Offse 0 Ha
a.2 enter 716.000 MHz				Span 15.00 MHz	
Res BW 150 kHz	#VBW	/ 470 kHz	#Sweep	1.000 s (1001 pts)	

### NR12\_15 M\_Band Edge\_High\_BPSK\_FullRB



	ctrum Analyzer - Swept SA					
Center F	RF 50 Ω AC	MHz	SENSE:INT	ALIGN AUT #Avg Type: RMS	TRACE 1 2 3 4 5 6	Frequency
	Ref Offset 26.83 dB	PNO: Wide	Trig: Free Run #Atten: 20 dB	M	Ikr1 717.068 MHz -38.640 dBm	Auto Tune
10 dB/div Log	Ref 26.83 dBm				-38.640 dBm	Center Freq 719.000000 MHz
6.83						Start Freq
-3.17					-13.00 dBm	717.000000 MHz Stop Freq
-23.2						721.000000 MH: CF Step 400.000 kH:
43.2	and and the second second		andana ang manang mang mang mang mang mang	autor differ fact on a contract of a second	RMS	Auto Mar Freq Offse
-63.2						0 Hz
Center 71 #Res BW	19.000 MHz 100 kHz	#VBW	300 kHz	#Swee	Span 4.000 MHz p 1.000 s (1001 pts)	
ISG				STA	TUS	

### NR12\_15 M\_Extended Band Edge\_High\_BPSK\_FullRB



# **10. ANNEX A\_ TEST SETUP PHOTO**

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

No.	Description
1	HCT-RF-2407-FC027-P