

FCC RF Test Report

(Booster/LTE)

Applicant: Nextivity, Inc.

Address of Applicant: 16550 West Bernardo Drive, Building 5, Suite 550, San Diego, CA 92127 USA

Product Name: Cellphone Signal Booster

Model No.: NU: Q51-SXNU, CU: Q51-SXCU

Brand Name: CEL-FI

FCC ID: NU: YETQ51-SXNU, CU: YETQ51-SXCU

Test Standards: FCC CFR Title 47 Part 2, Part 20 (§20.21), Part 22H, Part 24E, Part 27H, Part 27L, Part 27M, Part 90R

Date of Sample Receipt: May. 10, 2026

Date of Test: May. 10, 2026 to Jul. 30, 2026

Date of Report Issue:
Jul. 31, 2026

Prepared By:

Shenzhen Acote Technology Co., Ltd.

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Winner Zhang / Manager Testing Service Aron Wu / Senior Engineer

Approved by Reviewed by

Report Revision History

Rev.	Issue Date	Description
V00	Jul. 17, 2026	Initial Release
V01	Jul. 31, 2026	1. Added Noise Figure on page 7. 2. Added Noise Figure test data on page 120~121. 3. Updated Remark on Page 111~119.



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1 Laboratory Introduction

1.1 Laboratory Location

Company Name:	Shenzhen Acote Technology Co., Ltd.
Address of Laboratory:	Room 719, Excellence Times Building, No. 27, Xinqiao 3rd Road, Xinqiao Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong Province, China.
	101, F1, building 15, zhongda 365, Xincheng Road No.9, Songshanhu, Dongguan, Guangdong, China.
Website:	www.acotelabs.com
Email:	Service@acotelabs.com
Tel.:	+86-0755-2788 9963

1.2 Laboratory Facility

Our company's laboratory facilities have received accreditation, certification, or authorization from the following organizations:

- **FCC - Designation No.: CN1450**
Shenzhen Acote Technology Co., Ltd. has been certified by the FCC (Federal Communications Commission) as a testing laboratory. Test Firm Registration Number: **832670**.
- **ISED - CAB Identifier: CN0202**
Shenzhen Acote Technology Co., Ltd. is registered with ISED (Innovation, Science and Economic Development Canada) as a Conformity Assessment Body (CAB) for radio equipment testing.
- **A2LA - Accreditation Number: 7697.01**
Shenzhen Acote Technology Co., Ltd. has been accredited by A2LA (American Association for Laboratory Accreditation) in compliance with the internationally recognized standard ISO/IEC 17025:2017, "General Requirements for the Competence of Testing and Calibration Laboratories."

1.3 Announcement

Shenzhen Acote Technology Co., Ltd. tested the equipment in accordance with the requirements set forth in the test standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by Shenzhen Acote Technology Co., Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Shenzhen Acote Technology Co., Ltd. will constitute fraud and shall nullify the document.

1.4 Disclaimer

For the information or data provided by the client in this report, the relevant results or conclusions of this report are only made for these data or information. The testing laboratory is not responsible for the authenticity and accuracy of these data or information.

2 Equipment Under Test Information

2.1 Application Information

Applicant:	Nextivity, Inc.
Address of Applicant:	16550 West Bernardo Drive, Building 5, Suite 550, San Diego, CA 92127 USA
Manufacturer:	Nextivity, Inc.
Address of Manufacturer:	16550 West Bernardo Drive, Building 5, Suite 550, San Diego, CA 92127 USA

2.2 Product Information

Product Name:	Cellphone Signal Booster
Model No.:	NU: Q51-SXNU, CU: Q51-SXCU
Models of Product Family:	N/A
Description of Model Differentiation:	N/A
Hardware Version:	B
Software Version:	6_3_43

2.3 EUT Technical Parameters

Operation Frequency:	LTE B2: 1850MHz ~ 1910MHz (UL), 1930MHz ~ 1990MHz (DL) LTE B4: 1710MHz ~ 1755MHz (UL), 2110MHz ~ 2155MHz (DL) LTE B5: 824MHz ~ 849MHz (UL), 869MHz ~ 894MHz (DL) LTE B7: 2500MHz ~ 2570MHz (UL), 2620MHz ~ 2690MHz (DL) LTE B12: 699MHz ~ 716MHz (UL), 729MHz ~ 746MHz (DL) LTE B14: 788MHz ~ 798MHz (UL), 758MHz ~ 768MHz (DL) LTE B17: 704MHz ~ 716MHz (UL), 734MHz ~ 746MHz (DL) LTE B25: 1850MHz ~ 1915MHz (UL), 1930MHz ~ 1995MHz (DL) LTE B66: 1710MHz ~ 1780MHz (UL), 2110MHz ~ 2200MHz (DL)	
Antenna Type:	External Antenna Q51-FXNU: LPDA Antenna(A62-V44-200) Q51-FXCU: Omni Whip Antenna(A21-ML3-600)	
Antenna Gain:	Frequency Range	LPDA Antenna A62-V44-200 (with 65 cm Separation)
	617 - 960 MHz	12dBi
	1710 - 2700MHz	14dBi
	3300 – 4000MHz	12dBi
	Frequency Range (Service Bands)	Whip Antenna A21-ML3-600 (with 20 cm Separation)
	600, 700, 800, 850, 900	0.5dBi
	1500, 1600, 1700, 1800, 1900, 2000, 2100, 2300, 2500, 2600	2.1dBi
	3300, 3500, 3600, 3700, 3450	1.5dBi
(declare by Applicant)		

Power Supply:	DC 48V (via EPS - POE)
AC/DC Adapter:	Model No.:Q50-XEPU Input: AC90-264V, 50/60Hz 4.85A Output: DC 57V, 1.9A 90W MAX
Test Sample Condition:	The test samples were provided in good working order with no visible defects.



3 Test Information

3.1 Test Methodology

The tests documented in this report were performed in accordance with:

- FCC CFR Title 47 Part 2
- FCC CFR Title 47 Part 20 (§20.21)
- FCC CFR Title 47 Part 22H
- FCC CFR Title 47 Part 24E
- FCC CFR Title 47 Part 27H, 27L, 27M
- FCC CFR Title 47 Part 90R
- ANSI C63.26:2015
- KDB 935210 D03 Signal Booster Measurements v04r04
- KDB 935210 D05 Indus Booster Basic Meas v01r04

3.2 Test Result Summary

Report Section	Test Items	Frequency Band	Standard Clause	Test Result
5.1	AGC Threshold Level	/	KDB 935210 D05 (v01r04) Section 3.2	Pass
5.2	Out-of-band Rejection	/	KDB 935210 D05 (v01r04) Section 3.3	Pass
5.3	Input-versus-output Signal Comparison	/	§2.1049 KDB 935210 D05 (v01r04) Section 3.4	Pass
5.4	Mean Output Power and Amplifier/Booster Gain	/	§2.1046 KDB 935210 D05 (v01r04) Section 3.5	Pass
		B2, B25	§24.232	
		B4, B66	§27.50 (d)	
		B5	§22.913 (a)	
		B7	§27.50 (h)	
		B12, B17	§27.50 (c)	
		B14	§90.541 (a)	
5.5	Noise Figure	B14	§90.219 (e)(2)	Pass
5.6	Out-of-Band/Out-of-Block (Including Intermodulation) Emissions and Spurious Emissions	/	§2.1051 KDB 935210 D05 (v01r04) Section 3.6	Pass
		B2, B25	§24.238 (a)	
		B4, B66	§27.53 (h)	
		B5	§22.917 (a)	
		B7	§27.53 (m)	
		B12, B17	§27.53 (g)	
		B14	§90.543 (e)	

Report Section	Test Items	Frequency Band	Standard Clause	Test Result
5.7	Frequency Stability	/	§2.1055 KDB 935210 D05 (v01r04) Section 3.7	Pass
		B2, B25	§24.235	
		B4, B7, B12, B17, B66	§27.54	
		B5	§22.355	
		B14	§90.539	
5.8	Radiated Spurious Emissions	/	§2.1053 KDB 935210 D05 (v01r04) Section 3.8	Pass
		B2, B25	§24.238 (a)	
		B4, B66	§27.53 (h)	
		B5	§22.917 (a)	
		B7	§27.53 (m)	
		B12, B17	§27.53 (g)	
		B14	§90.543 (e)	
Remark: a) Pass: The EUT complies with the essential requirements in the standard. b) N/A: Not applicable. c) The test cable insertion loss used for RF output power and other conducted measurements is provided by the applicant.				

3.3 Environment of Test

Temperature:	Normal: 15 ~ 35°C Extreme: -35°C(Low), +50°C(High)
Humidity:	20 ~ 75% RH
Atmospheric Pressure:	990 ~ 1010 mbar
Voltage:	Normal: DC 48V Extreme: DC 43.2V(Low), DC 52.8V(High)

3.4 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
Radio Frequency	$\pm 2 \times 10^{-8}$
RF Power, Conducted	± 0.78 dB
Spurious emission, Conducted	± 2.28 dB
Bandwidth, Conducted	$\pm 4\%$
Temperature	± 0.3 °C
Voltage	± 0.1 %
Humidity	± 2 %
Radiated Emission (30MHz ~ 1000MHz) (3m SAC)	± 4.78 dB
Radiated Emission (1GHz ~ 6GHz) (3m SAC)	± 5.16 dB
Radiated Emission (6GHz ~ 18GHz) (3m SAC)	± 5.48 dB
Radiated Emission (18GHz ~ 40GHz) (3m SAC)	± 5.48 dB
Note: All the measurement uncertainty value were shown with a coverage $k=2$ to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.	

3.5 Description of Support Units

Description	Model	Manufacturer	Serial Number
/	/	/	/

3.6 Additions to, Deviations, or Exclusions from the Method

None

3.7 Test Instruments List

Radiated Emission (3m SAC)				
Test Equipment	Manufacturer	Model	Serial No.	Cal Due
3m SAC	YiHeng	9m*6m*6m	20250422	2028/05/28
EMI Test Receiver	Rohde & Schwarz	ESR7	101542	2026/08/31
TRILOG Broad Band Antenna (30MHz – 1000MHz)	Schwarzbeck	VULB 9168	9168-771	2026/09/08
6dB Attenuator	SRTechnology Corporate	N-ATTENUATOR(6dB)	311248	2026/08/31
Preamplifier (30MHz – 1000MHz)	TESTEK	TK-PA06S	190014-L	2026/08/31
Broadband Horn Antenna (1GHz – 18GHz)	Gwave Technology	GHA0118A-11	20251014010	2026/11/16
Preamplifier (1GHz – 18GHz)	Gwave Technology	GWLAN008018-50	20251014010	2026/10/23
Broadband Horn Antenna (18GHz – 40GHz)	Gwave Technology	GHA180400-292F-20	20251014010	2026/11/16
Preamplifier (18GHz – 40GHz)	Gwave Technology	GWLAN018040-45	20251014010	2026/10/23
RF Cable (9kHz – 18GHz)	REBES	SF104/10000MM	805225/4	2026/08/31
RF Cable (9kHz – 18GHz)	REBES	SF104/10000MM	805226/4	2026/08/31
RF Cable (18GHz – 40GHz)	MWRFTTest	UCA400-2.92M2092M-1.5M	004	2026/10/23
RF Cable (18GHz – 40GHz)	Gwave Technology	GAU3-292M292M-3000A1	20251021001-01-01	2026/10/23
RF Cable (18GHz – 40GHz)	Gwave Technology	GAU3-292M292M-600A1	20251021001-01-01	2026/10/23
High-pass filter (1GHz – 18GHz)	K&L MICROWAVE	11SH10-2000/U1800-O/O	350	2026/10/23
High-pass filter (3GHz – 18GHz)	UIY	UIYHPF3025A4T18SF	DL0019131	2026/10/23
High-pass filter (7GHz – 18GHz)	Narda	F4036A	1572	2026/10/23
Spectrum Analyzer	Rohde & Schwarz	FSP40	102129	2027/07/03
Test Software	Frad	EZ EMC	Version: EMEC-3A1	N/A

RF Conducted Measurement				
Test Equipment	Manufacturer	Model	Serial No.	Cal Due
Spectrum Analyzer	Keysight	N9020A	MY56060179	2026/11/13
Spectrum Analyzer	Keysight	N9020B	MY57431500	2027/6/10
Vector Signal Generator	Agilent	N5182A	MY49060467	2026/11/13
Vector Signal Generator	Keysight	N5182B	MY59101242	2027/04/28
Vector Signal Generator	Keysight	N5182B	MY59101235	2027/04/28
DC Power Supply	Agilent	E3632A	MY40026044	2026/11/14
High and low temperature test chamber	TPS	TJR	0806000098	2026/11/14
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	123351	2026/11/13
Automatic control unit	MWRFTest	MW500-RFCB	MW250801ACT	2026/11/13
Filter box	MWRFTest	MW500-SFCB-1	MW250802ACT-1	2026/10/13
Filter box	MWRFTest	MW500-SFCB-2	MW250802ACT-2	2026/10/13
Mobile phone automated testing software	MWRFTest	MTS8200	Version: 2.0.0.0	N/A

4 Test Configuration of EUT

4.1 Channels Selected to Perform the Tests

According to ANSI C63.26-2015 chapter 5.1.2.1 Table 2 requirement, select lowest channel, middle channel, and highest channel in the frequency range in which device operates for testing.

LTE band 2 Uplink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	18625	1852.5	Lowest channel	18650	1855.0
Middle channel	18900	1880.0	Middle channel	18900	1880.0
Highest channel	19175	1907.5	Highest channel	19150	1905.0
15 MHz			20 MHz		
Lowest channel	18675	1857.5	Lowest channel	18700	1860.0
Middle channel	18900	1880.0	Middle channel	18900	1880.0
Highest channel	19125	1902.5	Highest channel	19100	1900.0
LTE band 2 Downlink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	625	1932.5	Lowest channel	650	1935.0
Middle channel	900	1960.0	Middle channel	900	1960.0
Highest channel	1175	1987.5	Highest channel	1150	1985.0
15 MHz			20 MHz		
Lowest channel	675	1937.5	Lowest channel	700	1940.0
Middle channel	900	1960.0	Middle channel	900	1960.0
Highest channel	1150	1985.0	Highest channel	1100	1980.0

LTE band 4 Uplink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	19975	1712.5	Lowest channel	20000	1715.0
Middle channel	20175	1732.5	Middle channel	20175	1732.5
Highest channel	20375	1752.5	Highest channel	20350	1750.0
15 MHz			20 MHz		
Lowest channel	20025	1717.5	Lowest channel	20050	1720.0
Middle channel	20175	1732.5	Middle channel	20175	1732.5
Highest channel	20325	1747.5	Highest channel	20300	1745.0
LTE band 4 Downlink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	1975	2112.5	Lowest channel	2000	2115.0
Middle channel	2175	2132.5	Middle channel	2175	2132.5
Highest channel	2375	2152.5	Highest channel	2350	2150.0
15 MHz			20 MHz		
Lowest channel	2025	2117.5	Lowest channel	2050	2120.0
Middle channel	2175	2132.5	Middle channel	2175	2132.5
Highest channel	2325	2147.5	Highest channel	2300	2145.0

LTE band 5 Uplink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	20425	826.5	Lowest channel	20450	829.0
Middle channel	20525	836.5	Middle channel	20525	836.5
Highest channel	20625	846.5	Highest channel	20600	844.0
LTE band 5 Downlink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	2425	871.5	Lowest channel	2450	874.0
Middle channel	2525	881.5	Middle channel	2525	881.5
Highest channel	2625	891.5	Highest channel	2600	889.0

LTE band 7 Uplink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	20775	2502.5	Lowest channel	20800	2505.0
Middle channel	21100	2535.0	Middle channel	21100	2535.0
Highest channel	21425	2567.5	Highest channel	21400	2565.0
15 MHz			20 MHz		
Lowest channel	20825	2507.5	Lowest channel	20850	2510.0
Middle channel	21100	2535.0	Middle channel	21100	2535.0
Highest channel	21375	2562.5	Highest channel	21350	2560.0
LTE band 7 Downlink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	2775	2622.5	Lowest channel	2800	2625.0
Middle channel	3100	2655.0	Middle channel	3100	2655.0
Highest channel	3425	2687.5	Highest channel	3400	2685.0
15 MHz			20 MHz		
Lowest channel	2825	2627.5	Lowest channel	2850	2630.0
Middle channel	3100	2655.0	Middle channel	3100	2655.0
Highest channel	3375	2682.5	Highest channel	3350	2680.0

LTE band 12 Uplink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	23035	701.50	Lowest channel	23060	704.00
Middle channel	23095	707.50	Middle channel	23095	707.50
Highest channel	23155	713.50	Highest channel	23130	711.00
LTE band 12 Downlink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	5035	731.5	Lowest channel	5060	734.0
Middle channel	5095	737.5	Middle channel	5095	737.5
Highest channel	5155	743.5	Highest channel	5130	741.0
LTE band 14 Uplink					
5 MHz			10 MHz		
Lowest channel	23305	790.5	Lowest channel	/	/
Middle channel	23330	793.0	Middle channel	23330	793.0
Highest channel	23355	795.5	Highest channel	/	/
LTE band 14 Downlink					
5 MHz			10 MHz		
Lowest channel	5305	760.5	Lowest channel	/	/
Middle channel	5330	763.0	Middle channel	5330	763.0
Highest channel	5355	765.5	Highest channel	/	/

LTE band 17 Uplink					
5 MHz			10 MHz		
Lowest channel	23755	706.50	Lowest channel	23780	709.00
Middle channel	23790	710.00	Middle channel	23790	710.00
Highest channel	23825	713.50	Highest channel	23800	711.00
LTE band 17 Downlink					
5 MHz			10 MHz		
Lowest channel	5755	736.5	Lowest channel	5780	739.0
Middle channel	5790	740.0	Middle channel	5790	740.0
Highest channel	5825	743.5	Highest channel	5800	741.0
LTE band 25 Uplink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	26065	1852.50	Lowest channel	26090	1855.00
Middle channel	26365	1882.50	Middle channel	26365	1882.50
Highest channel	26665	1912.50	Highest channel	26640	1910.00
15 MHz			20 MHz		
Lowest channel	26115	1857.50	Lowest channel	26140	1860.00
Middle channel	26365	1882.50	Middle channel	26365	1882.50
Highest channel	26615	1907.50	Highest channel	26590	1905.00
LTE band 25 Downlink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	8065	1932.5	Lowest channel	8090	1935.0
Middle channel	8365	1962.5	Middle channel	8365	1962.5
Highest channel	8665	1992.5	Highest channel	8640	1990.0
15 MHz			20 MHz		
Lowest channel	8115	1937.5	Lowest channel	8140	1940.0
Middle channel	8365	1962.5	Middle channel	8365	1962.5
Highest channel	8615	1987.5	Highest channel	8590	1985.0

LTE band 66 Uplink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	131997	1712.5	Lowest channel	132022	1715.0
Middle channel	132422	1755.0	Middle channel	132422	1755.0
Highest channel	132647	1777.5	Highest channel	132622	1775.0
15 MHz			20 MHz		
Lowest channel	132047	1717.5	Lowest channel	132072	1720.0
Middle channel	132422	1755.0	Middle channel	132422	1755.0
Highest channel	132597	1772.5	Highest channel	132572	1770.0
LTE band 66 Downlink					
Channels		Frequency (MHz)	Channels		Frequency (MHz)
5 MHz			10 MHz		
Lowest channel	66461	2112.5	Lowest channel	66486	2115.0
Middle channel	66886	2155.0	Middle channel	66786	2145.0
Highest channel	67111	2177.5	Highest channel	67086	2175.0
15 MHz			20 MHz		
Lowest channel	66511	2117.5	Lowest channel	66536	2120.0
Middle channel	66886	2155.0	Middle channel	66886	2155.0
Highest channel	67061	2172.5	Highest channel	67036	2170.0

4.2 Test Mode

TM 1:	Keep the EUT in uplink mode. Apply the input signal to the antenna port of the CU, and monitor the output signal at the antenna port of the NU.
TM 2:	Keep the EUT in downlink mode. Apply the input signal to the antenna port of the NU, and monitor the output signal at the antenna port of the CU.

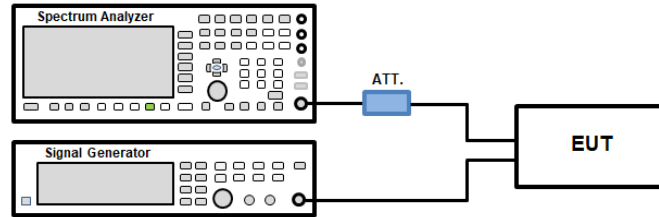
4.3 Worst-case Configuration

The test was performed using a representative band-limited AWGN signal. The AWGN test signal must have a 4.1 MHz 99 % occupied bandwidth (OBW) (representative of a 5 MHz LTE channel). Narrowband test signals shall use a representative MSK modulated signal, with a Gaussian Filter of 0.3 and a data rate of 270 kbps (representative of a GSM-TDMA signal).

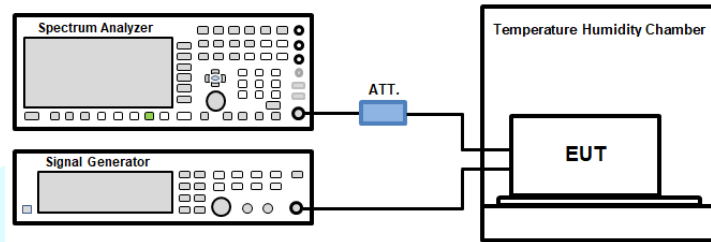
For Radiated Spurious Emissions, measurements were performed from 9 kHz up to the 10th harmonic of the fundamental frequency (or up to 40 GHz, whichever is lower). Frequencies with emission levels at least 20 dB below the applicable limit are not presented in this test report.

4.4 Test Setup Block

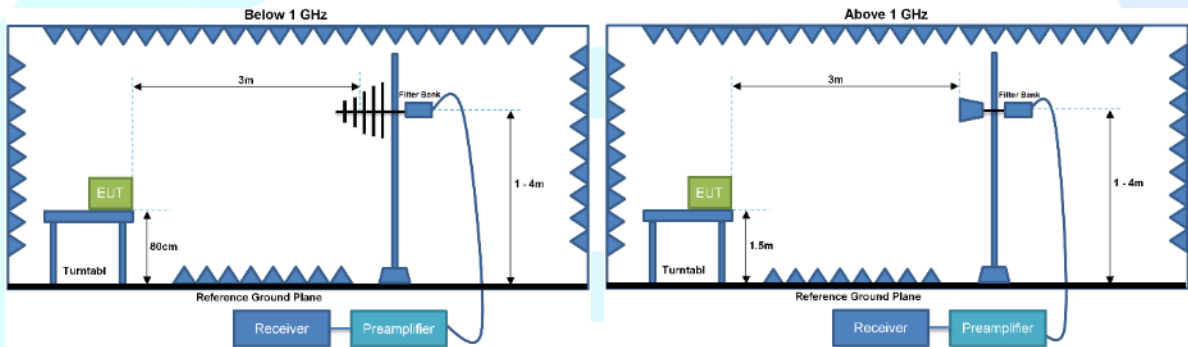
Setup 1:



Setup 2:



Setup 3:



5 Technical requirements specification

5.1 AGC Threshold Level

5.1.1 Limits

N/A

5.1.2 Test Procedure

- a) Connect a signal generator to the input of the EUT.
- b) Connect a spectrum analyzer or power meter to the output of the EUT using appropriate attenuation as necessary.
- c) The signal generator should initially be configured to produce either of the required test signals (i.e., broadband or narrowband).
- d) Set the signal generator frequency to the center frequency of the EUT operating band.
- e) While monitoring the output power of the EUT, increase the input level until a 1 dB increase in the input signal power no longer causes a 1 dB increase in the output signal power.
- f) Record this level as the AGC threshold level.
- g) Repeat the procedure with the remaining test signal.

5.1.3 Test Setup

See setup 1 in section 4.4.

5.1.4 Test Instruments

Refer to section 3.7.

5.1.5 Test Results

Pass.

5.1.6 Test Data

Frequency Band: LTE B2			
Mode	BW(MHz)	Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-73.0
		Middle	-73.0
		Highest	-73.0
	20	Lowest	-74.5
		Middle	-74.5
		Highest	-74.5
Downlink (CU)	5	Lowest	-78.0
		Middle	-78.0
		Highest	-78.0
	20	Lowest	-78.0
		Middle	-78.0
		Highest	-78.0
Frequency Band: LTE B4			
Mode	BW(MHz)	Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-74.2
		Middle	-74.2
		Highest	-74.2
	20	Lowest	-74.2
		Middle	-74.2
		Highest	-74.2
Downlink (CU)	5	Lowest	-78.4
		Middle	-78.4
		Highest	-78.4
	20	Lowest	-78.4
		Middle	-78.4
		Highest	-78.4
Frequency Band: LTE B5			
Mode	BW(MHz)	Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-78.5
		Middle	-78.5
		Highest	-78.5
	10	Lowest	-78.5
		Middle	-78.5
		Highest	-78.5
Downlink (CU)	5	Lowest	-79.2
		Middle	-79.2
		Highest	-79.2
	10	Lowest	-79.2
		Middle	-79.2
		Highest	-79.2

Frequency Band: LTE B7			
Mode	BW(MHz)	Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-76.0
		Middle	-76.0
		Highest	-73.5
	20	Lowest	-75.0
		Middle	-76.5
		Highest	-73.5
Downlink (CU)	5	Lowest	-78.0
		Middle	-78.0
		Highest	-78.0
	20	Lowest	-77.5
		Middle	-77.5
		Highest	-77.5
Frequency Band: LTE B12			
Mode		Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-79.0
		Middle	-79.0
		Highest	-79.0
	10	Lowest	-78.8
		Middle	-78.8
		Highest	-78.8
Downlink (CU)	5	Lowest	-79.2
		Middle	-79.2
		Highest	-79.2
	10	Lowest	-79.2
		Middle	-79.2
		Highest	-79.2
Frequency Band: LTE B14			
Mode		Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-78.6
		Middle	-78.6
		Highest	-78.6
	10	Middle	-78.6
Downlink (CU)	5	Lowest	-79.2
		Middle	-79.2
		Highest	-79.2
	10	Middle	-79.2

Frequency Band: LTE B17			
Mode	BW(MHz)	Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-78.4
		Middle	-78.4
		Highest	-78.4
	10	Lowest	-78.4
		Middle	-78.4
		Highest	-78.4
Downlink (CU)	5	Lowest	-78.6
		Middle	-78.6
		Highest	-78.6
	10	Lowest	-78.6
		Middle	-78.6
		Highest	-78.6
Frequency Band: LTE B25			
Mode	BW(MHz)	Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-76.0
		Middle	-76.0
		Highest	-75.0
	20	Lowest	-74.5
		Middle	-74.5
		Highest	-74.5
Downlink (CU)	5	Lowest	-78.4
		Middle	-78.4
		Highest	-78.4
	20	Lowest	-78.0
		Middle	-78.0
		Highest	-78.0
Frequency Band: LTE B66			
Mode	BW(MHz)	Channel	AGC Threshold Level (dBm)
Uplink (NU)	5	Lowest	-75.0
		Middle	-75.0
		Highest	-75.0
	20	Lowest	-74.5
		Middle	-74.5
		Highest	-74.5
Downlink (CU)	5	Lowest	-78.6
		Middle	-78.6
		Highest	-78.6
	20	Lowest	-78.5
		Middle	-79.0
		Highest	-78.5

5.2 Out-of-band Rejection

5.2.1 Limits

N/A

5.2.2 Test Procedure

- a) Connect a signal generator to the input of the EUT.
- b) Configure a swept CW signal with the following parameters:
 - 1) Frequency range = $\pm 250\%$ of the passband, for each applicable CMRS band (see also KDB Publication 935210 D02 [R7] and KDB Publication 634817 [R5] about selection of frequencies for testing and for grant listings).
 - 2) Level = a sufficient level to affirm that the out-of-band rejection is > 20 dB above the noise floor and will not engage the AGC during the entire sweep.
 - 3) Dwell time = approximately 10 ms.
 - 4) Number of points = $\text{SPAN}/(\text{RBW}/2)$.
- c) Connect a spectrum analyzer to the output of the EUT using appropriate attenuation.
- d) Set the span of the spectrum analyzer to the same as the frequency range of the signal generator.
- e) Set the resolution bandwidth (RBW) of the spectrum analyzer to be 1 % to 5 % of the EUT passband, and the video bandwidth (VBW) shall be set to $\geq 3 \times \text{RBW}$.
- f) Set the detector to Peak Max-Hold and wait for the spectrum analyzer's spectral display to fill.
- g) Place a marker to the peak of the frequency response and record this frequency as f_0 .
- h) Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the -20 dB down amplitude, to determine the 20 dB bandwidth.
- i) Capture the frequency response of the EUT.
- j) Repeat for all frequency bands applicable for use by the EUT.

5.2.3 Test Setup

See setup 1 in section 4.4.

5.2.4 Test Instruments

Refer to section 3.7.

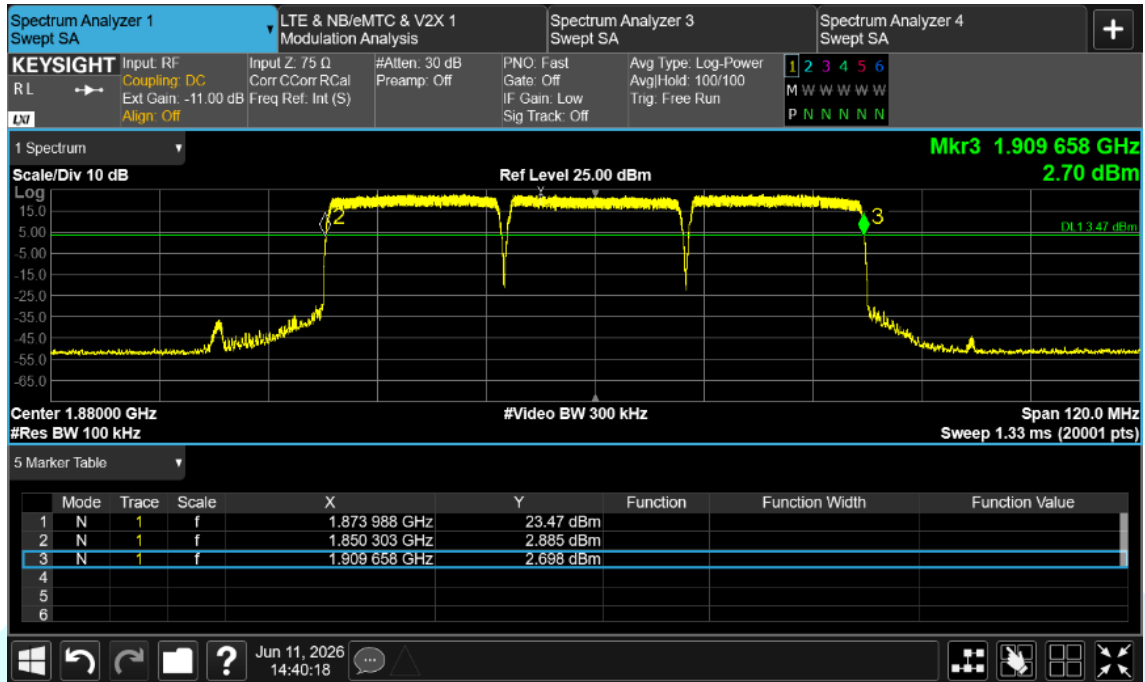
5.2.5 Test Results

Pass.

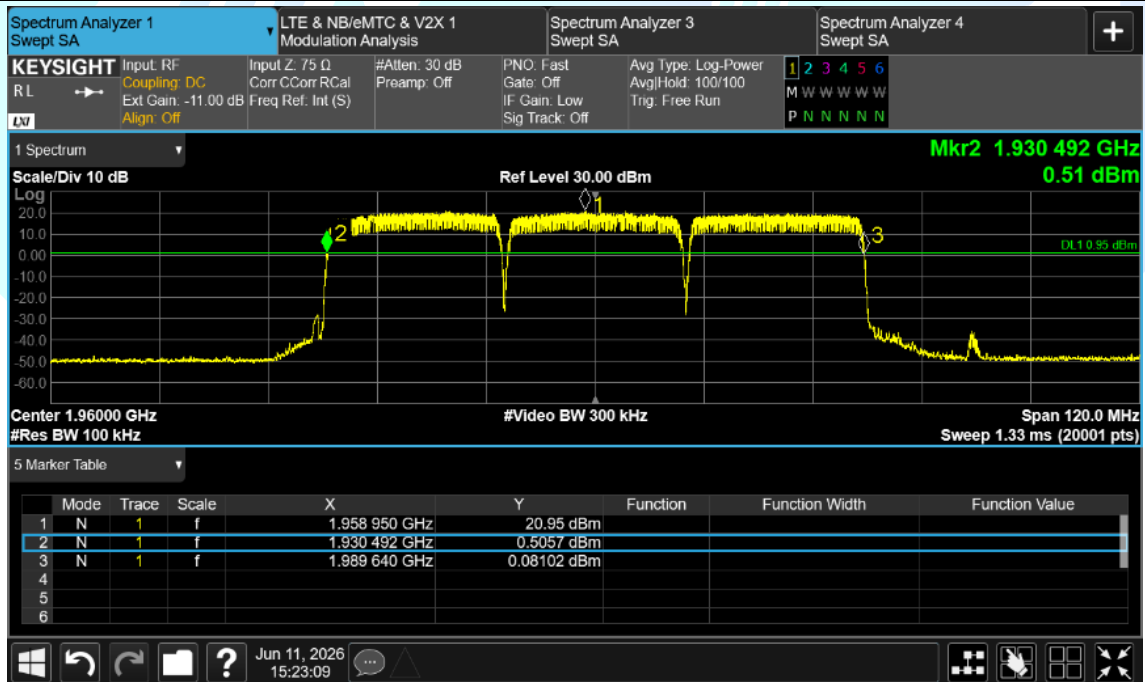
5.2.6 Test Data

Frequency Band: LTE B2

Uplink (for NU)

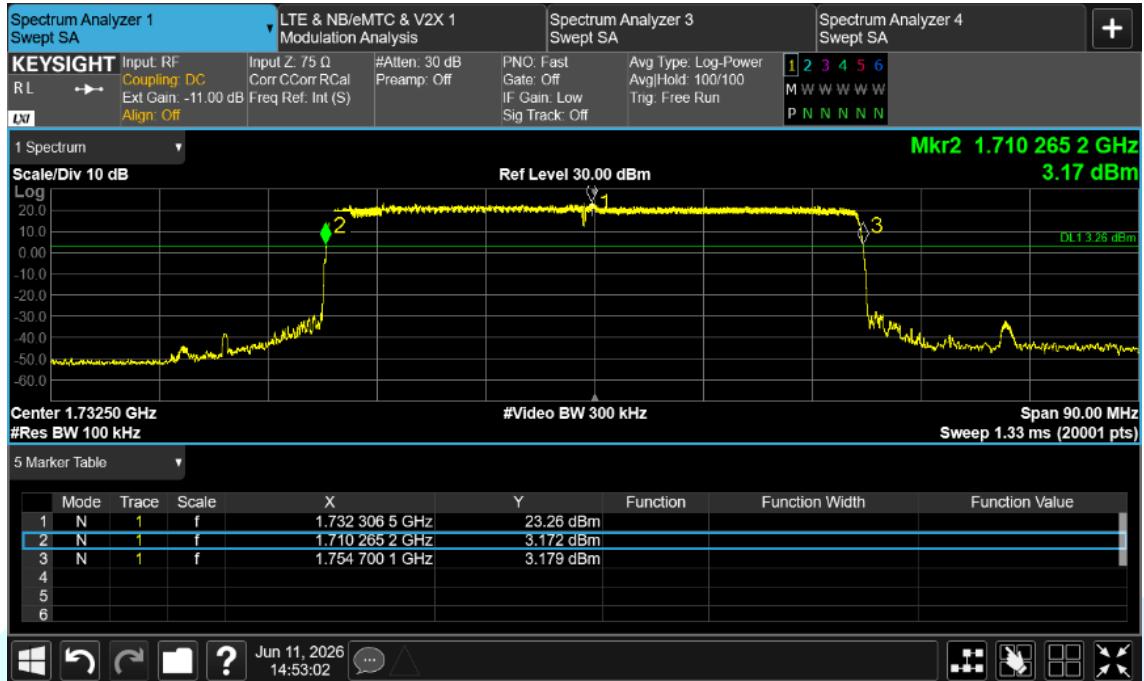


Downlink (for CU)

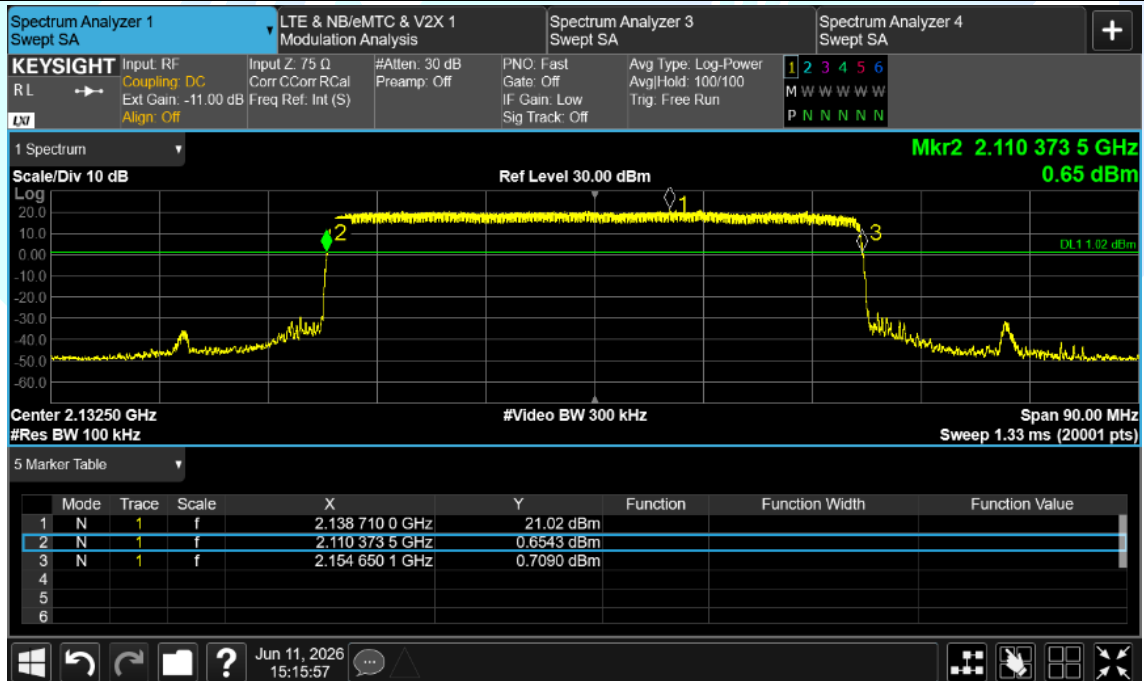


Frequency Band: LTE B4

Uplink (for NU)

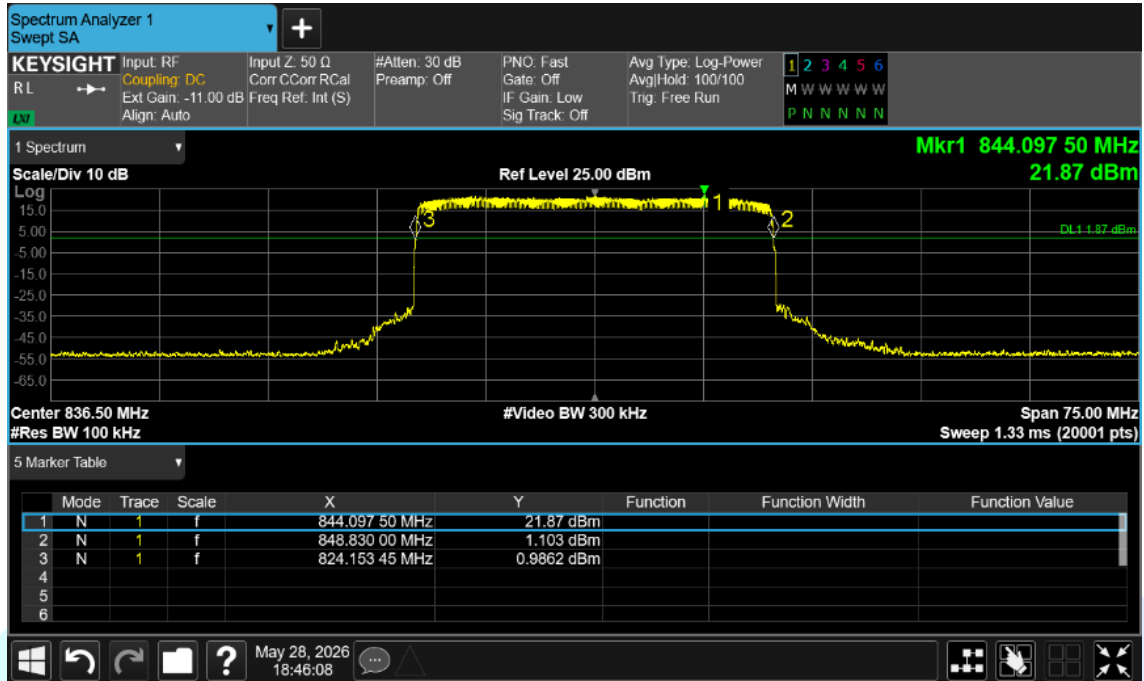


Downlink (for CU)

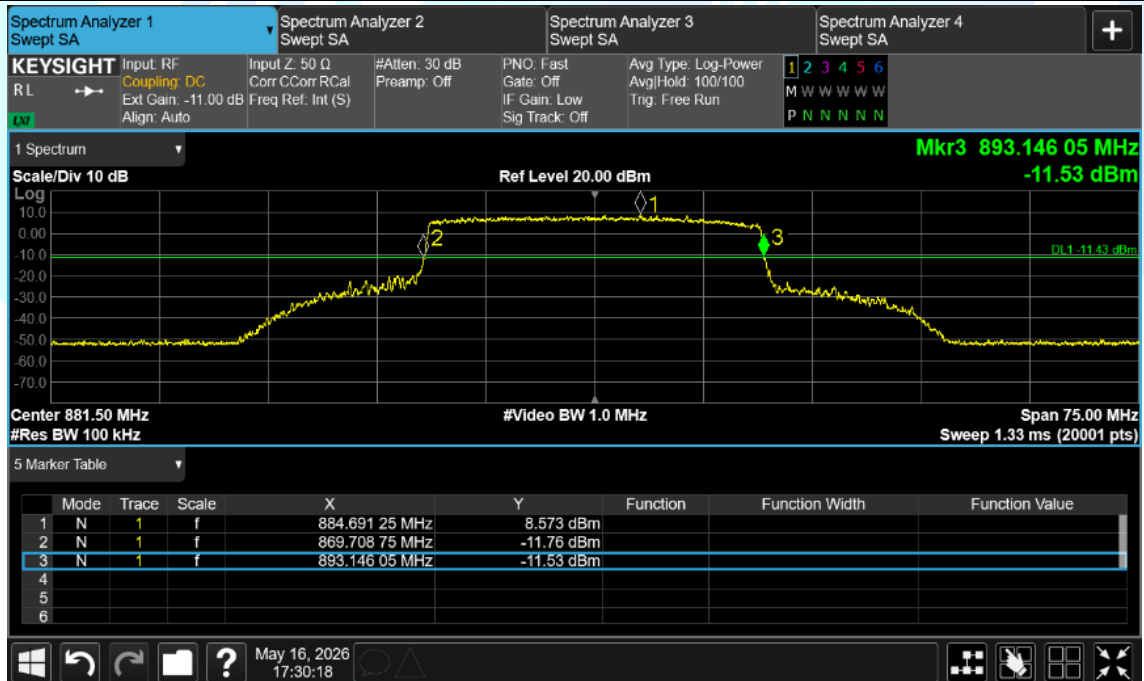


Frequency Band: LTE B5

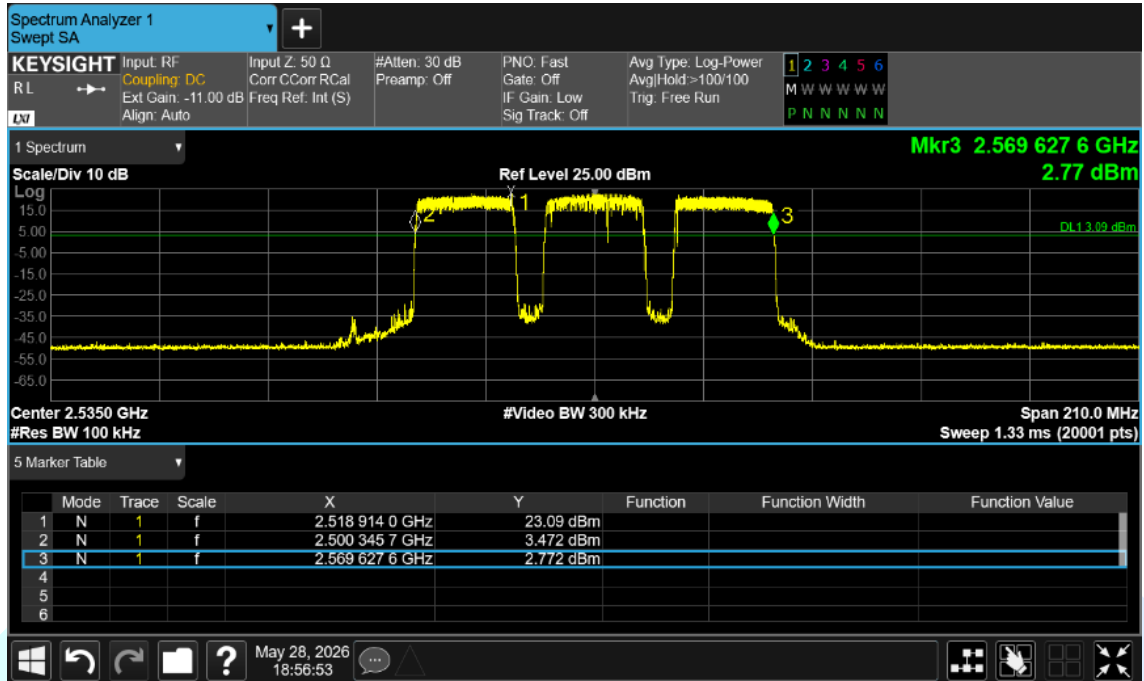
Uplink (for NU)



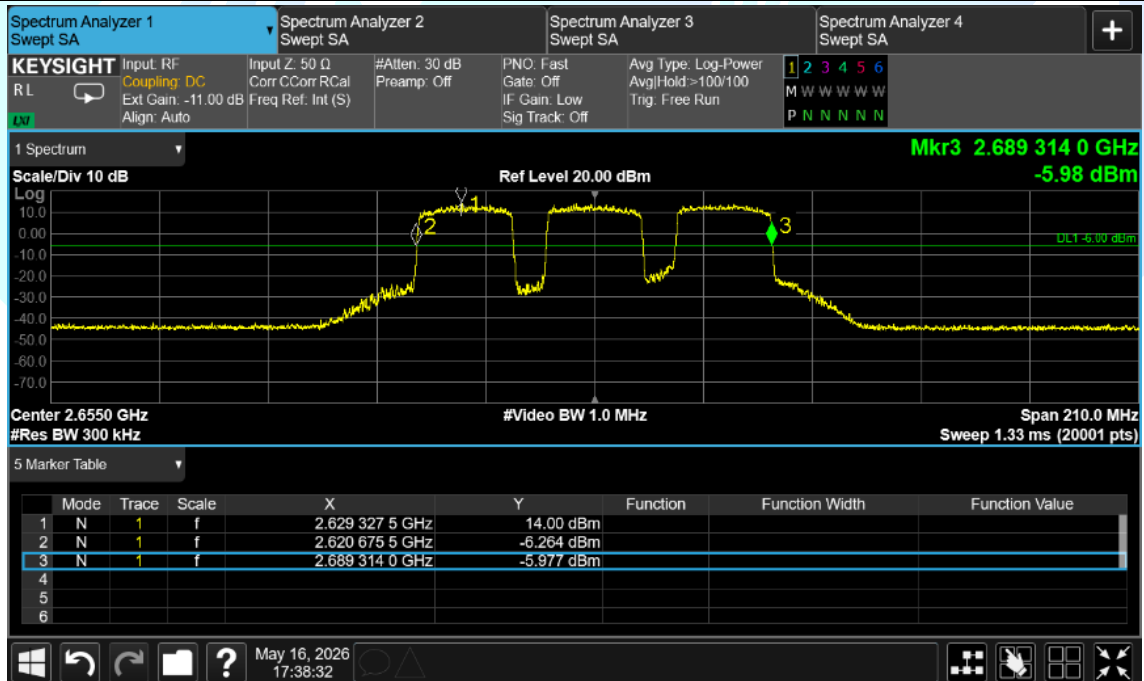
Downlink (for CU)



Frequency Band: LTE B7 Uplink (for NU)



Downlink (for CU)

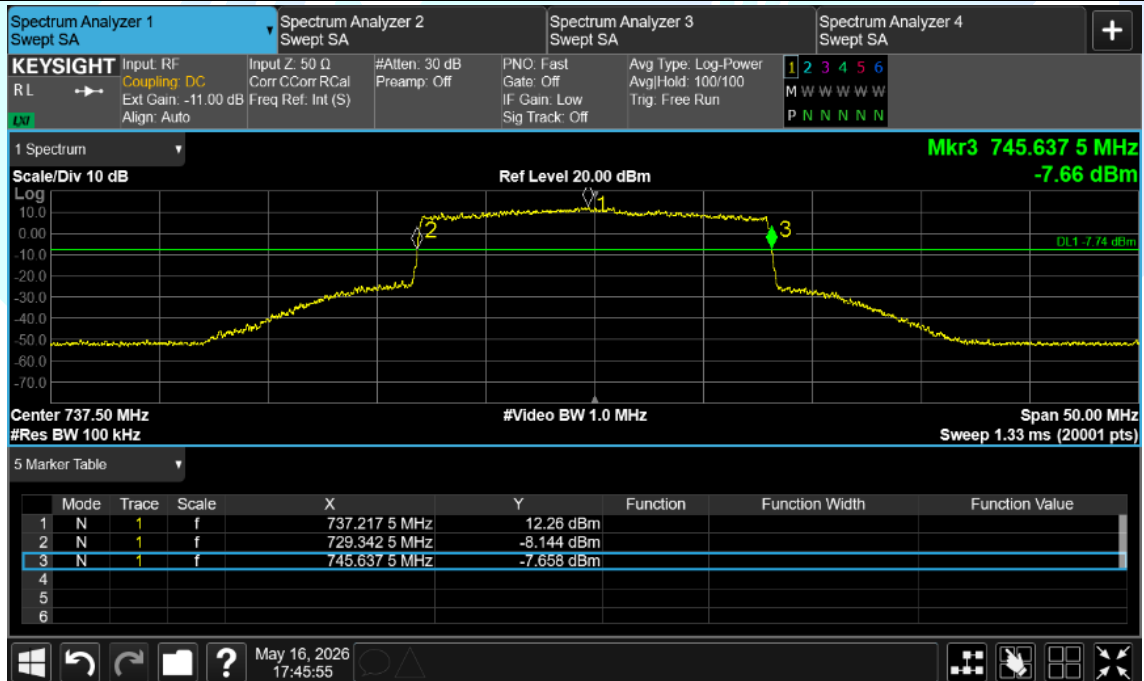


Frequency Band: LTE B12

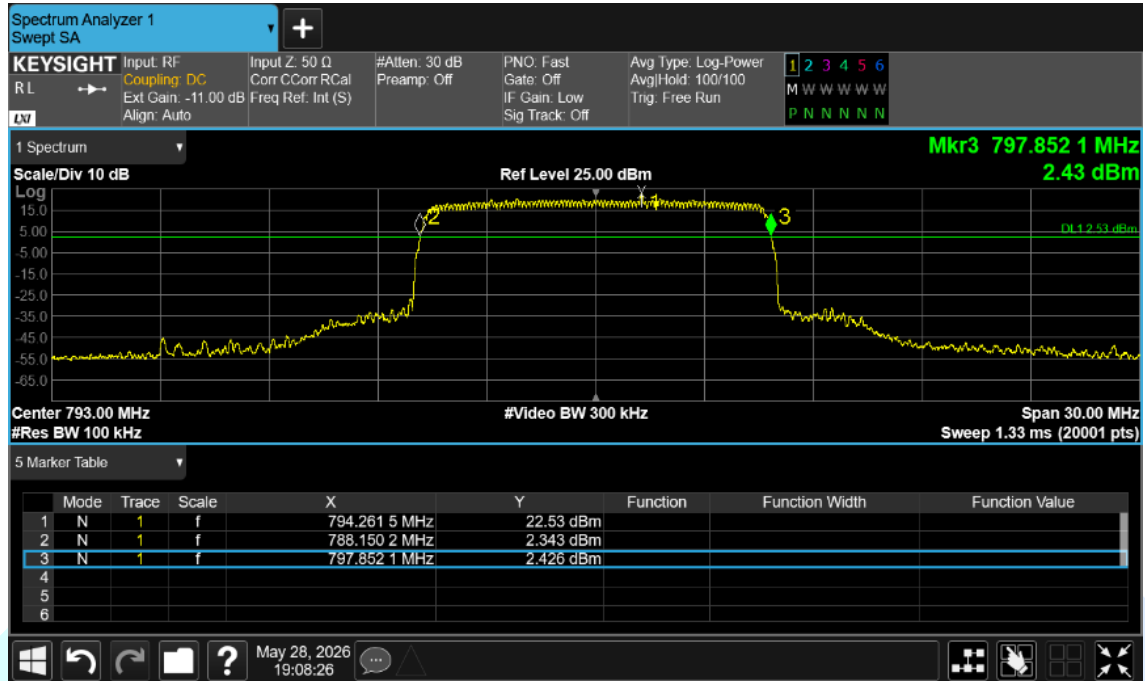
Uplink (for NU)



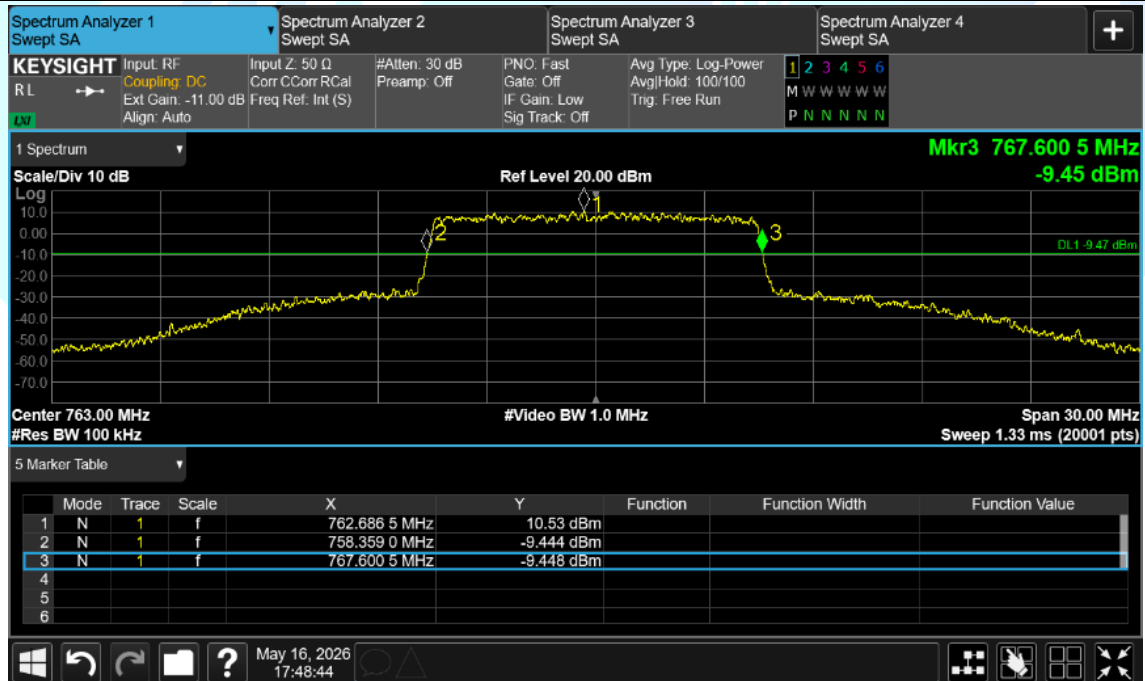
Downlink (for CU)



Frequency Band: LTE B14 Uplink (for NU)

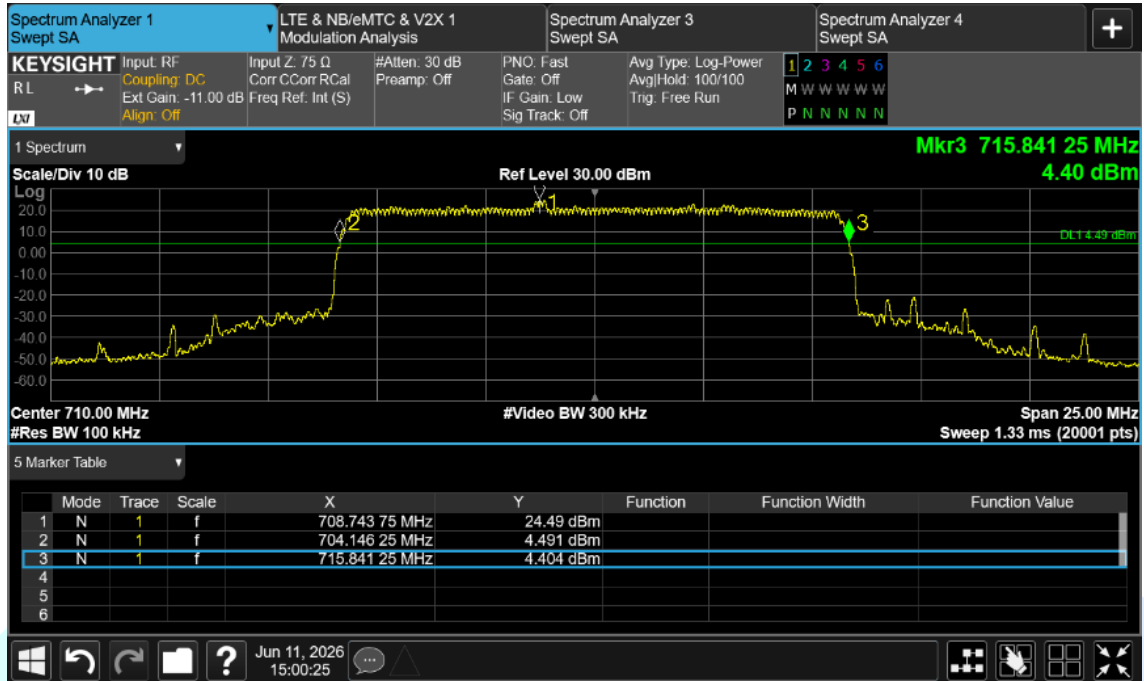


Downlink (for CU)

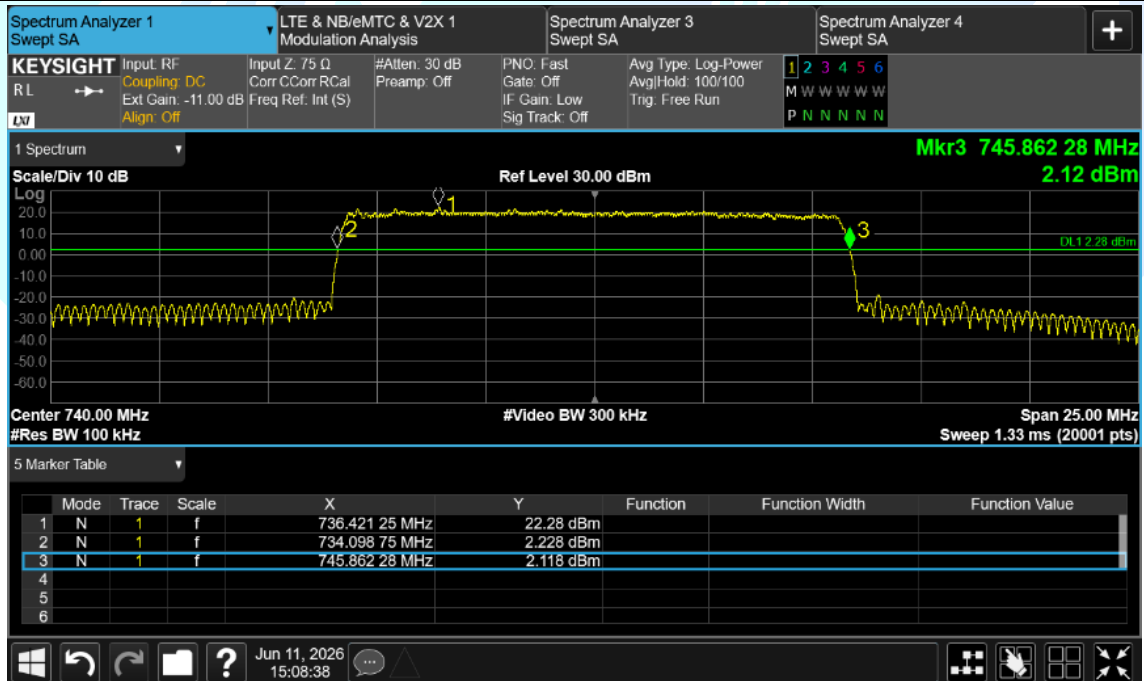


Frequency Band: LTE B17

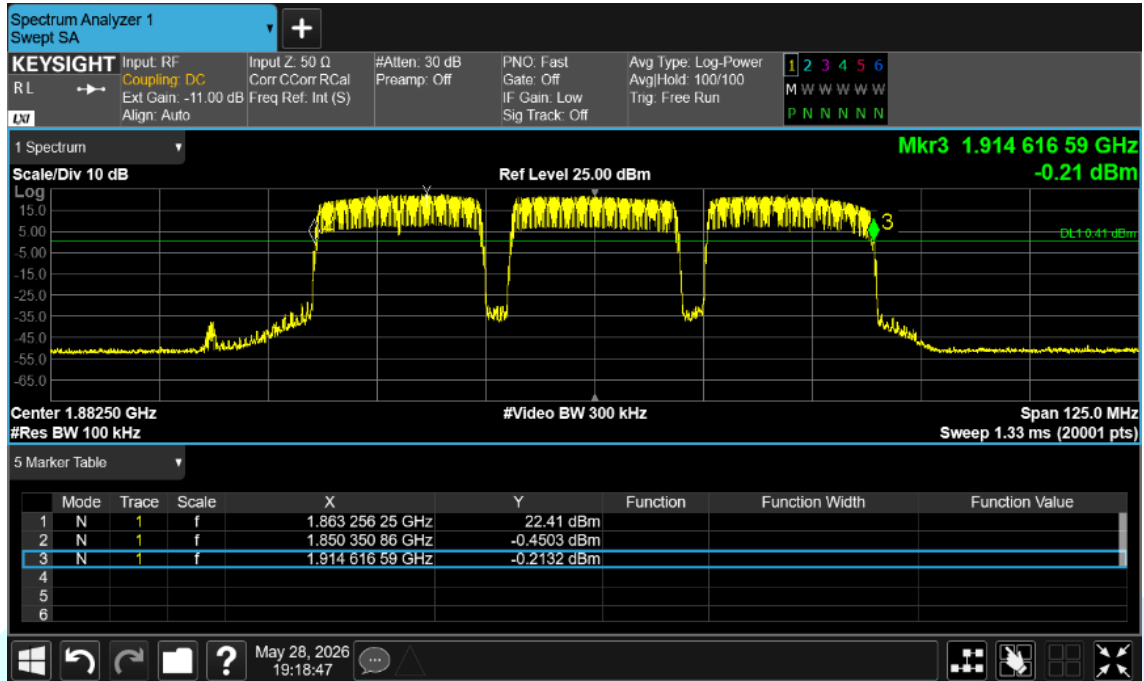
Uplink (for NU)



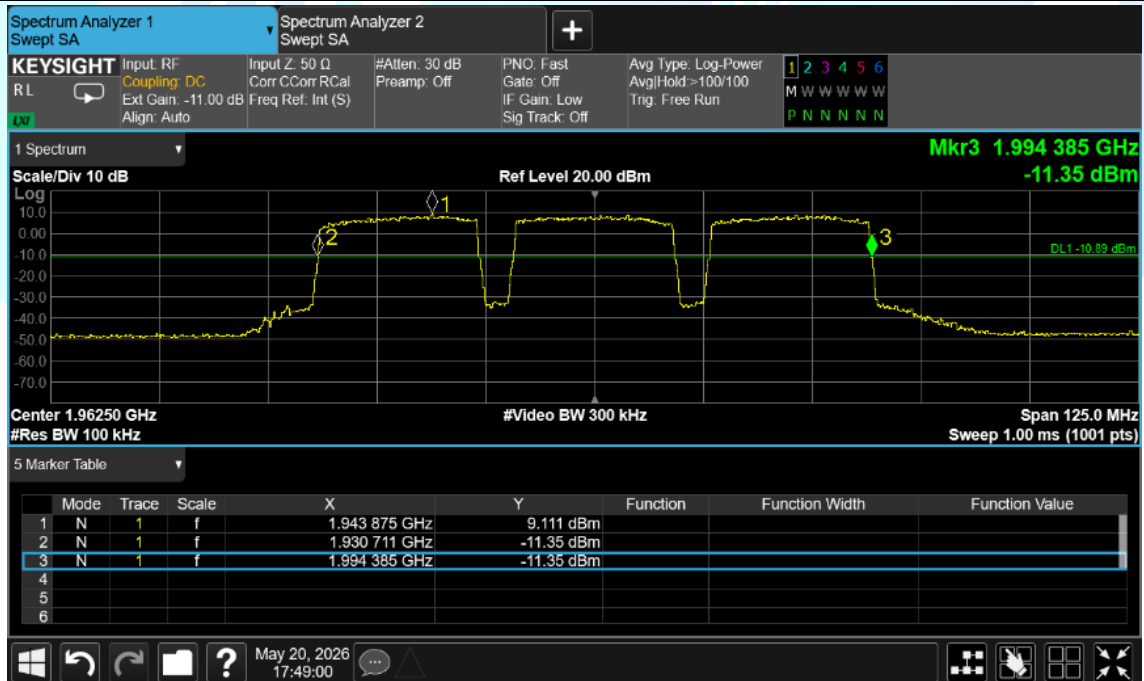
Downlink (for CU)



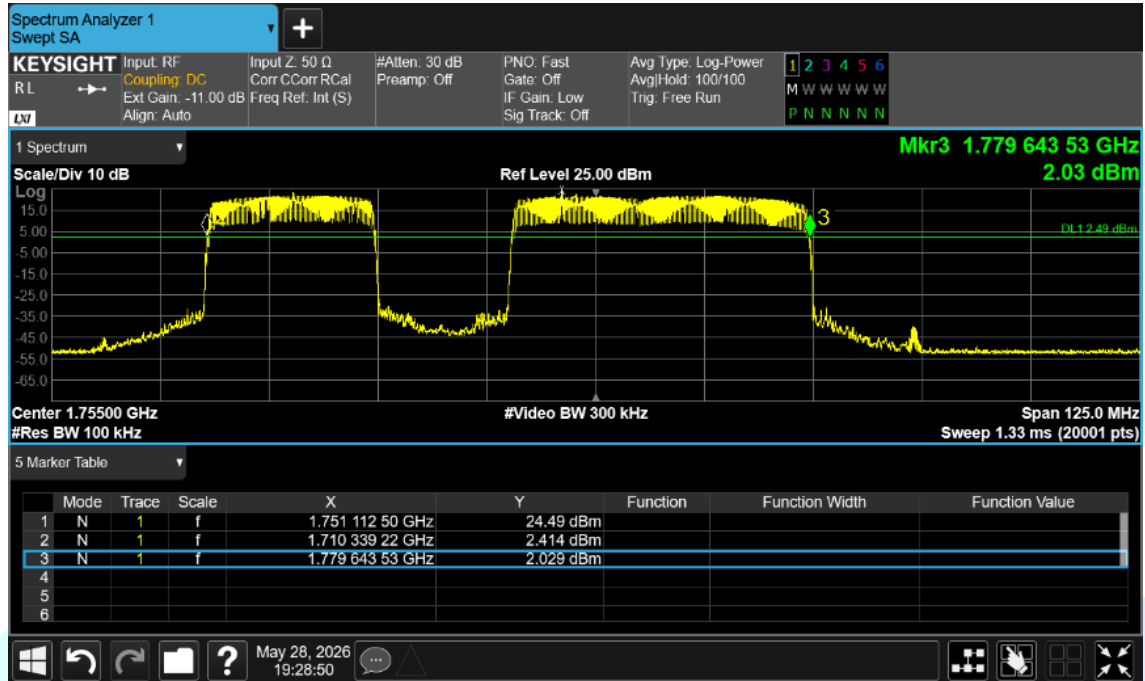
Frequency Band: LTE B25 Uplink (for NU)



Downlink(for CU)



Frequency Band: LTE B66 Uplink (for NU)



Downlink (for CU)



5.3 Input-versus-output Signal Comparison

5.3.1 Limits

N/A

5.3.2 Test Procedure

- a) Connect a signal generator to the input of the EUT.
- b) Configure the signal generator to transmit the AWGN signal.
- c) Configure the signal amplitude to be just below the AGC threshold level (see 3.2), but not more than 0.5 dB below.
- d) Connect a spectrum analyzer to the output of the EUT using appropriate attenuation.
- e) Set the spectrum analyzer center frequency to the center frequency of the operational band under test. The span range of the spectrum analyzer shall be between $2 \times$ to $5 \times$ the emission bandwidth (EBW) or alternatively, the OBW.
- f) The nominal RBW shall be in the range of 1 % to 5 % of the anticipated OBW, and the VBW shall be $\geq 3 \times$ RBW.
- g) Set the reference level of the instrument as required to preclude the signal from exceeding the maximum spectrum analyzer input mixer level for linear operation. In general, the peak of the spectral envelope must be more than $[10 \log (\text{OBW} / \text{RBW})]$ below the reference level. Steps f) and g) may require iteration to enable adjustments within the specified tolerances.
- h) The noise floor of the spectrum analyzer at the selected RBW shall be at least 36 dB below the reference level.
- i) Set spectrum analyzer detection function to positive peak.
- j) Set the trace mode to max hold.
- k) Determine the reference value: Allow the trace to stabilize. Set the spectrum analyzer marker to the highest amplitude level of the displayed trace (this is the reference value) and record the associated frequency.
- l) Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the -26 dB down amplitude. The 26 dB EBW (alternatively OBW) is the positive frequency difference between the two markers. If the spectral envelope crosses the -26 dB down amplitude at multiple points, the lowest or highest frequency shall be selected as the frequencies that are the furthest removed from the center frequency at which the spectral envelope crosses the -26 dB down amplitude point.
- m) Repeat steps e) to l) with the input signal connected directly to the spectrum analyzer (i.e., input signal measurement).
- n) Compare the spectral plot of the input signal (determined from step m) to the output signal (determined from step l) to affirm that they are similar (in passband and roll off characteristic features and relative spectral locations), and include plot(s) and descriptions in test report.
- o) Repeat the procedure [steps e) to n)] with the input signal amplitude set to 3 dB above the AGC threshold.
- p) Repeat steps e) to o) with the signal generator set to the narrowband signal.
- q) Repeat steps e) to p) for all frequency bands authorized for use by the EUT.

5.3.3 Test Setup

See setup 1 in section 4.4.

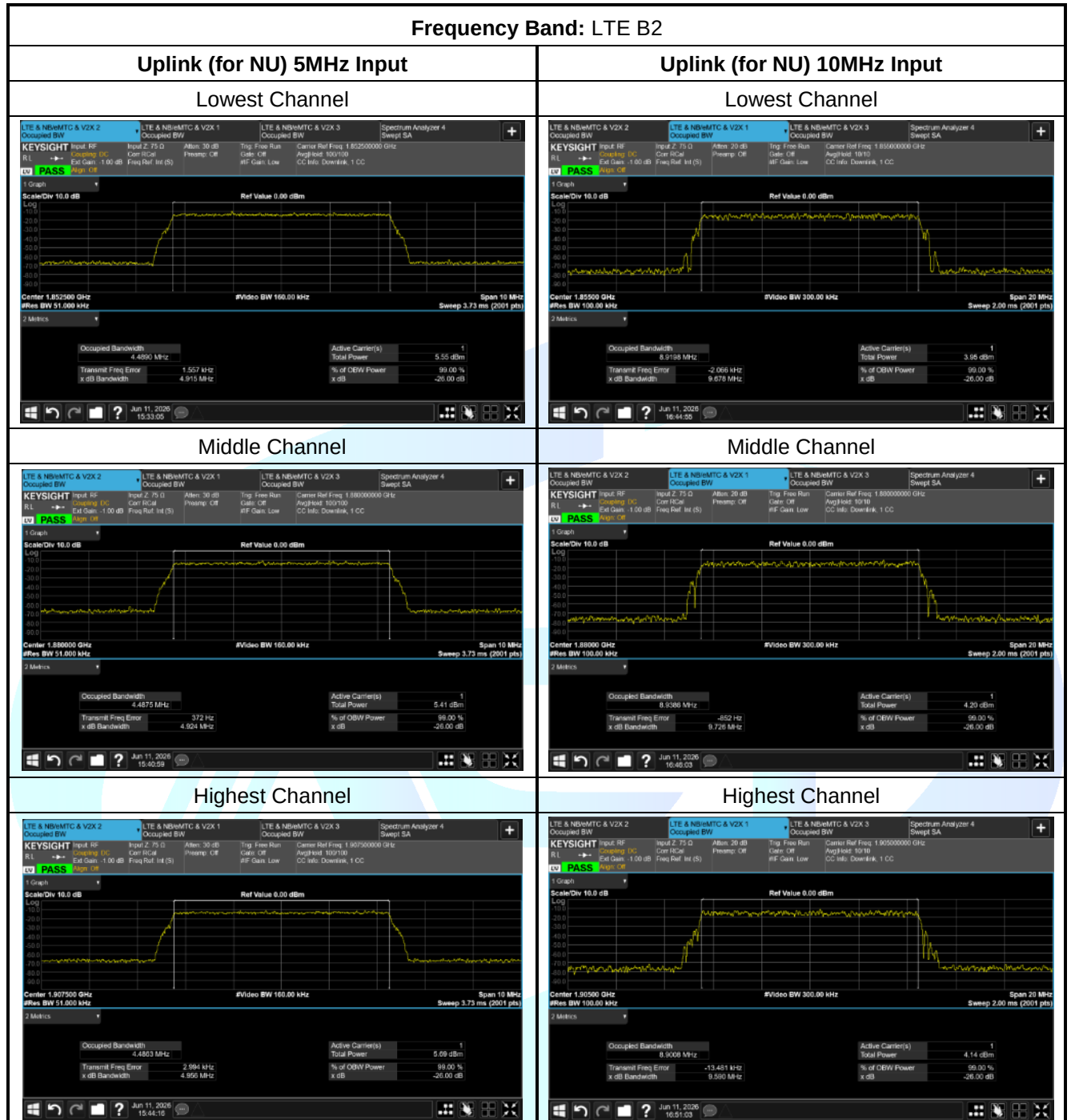
5.3.4 Test Instruments

Refer to section 3.7.

5.3.5 Test Results

Pass.

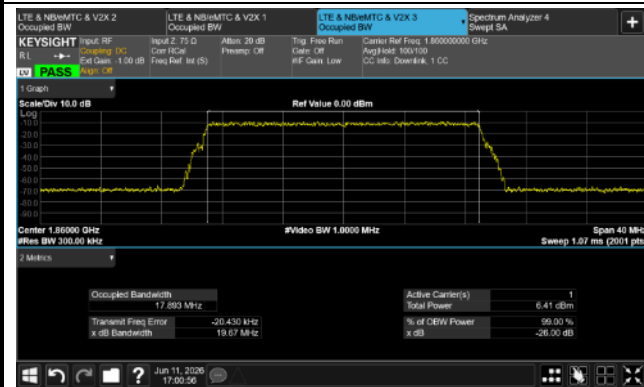
5.3.6 Test Data



Frequency Band: LTE B2

Uplink (for NU) 20MHz Input

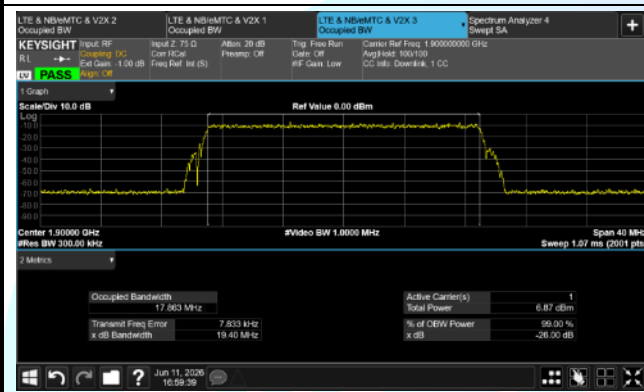
Lowest Channel



Middle Channel



Highest Channel

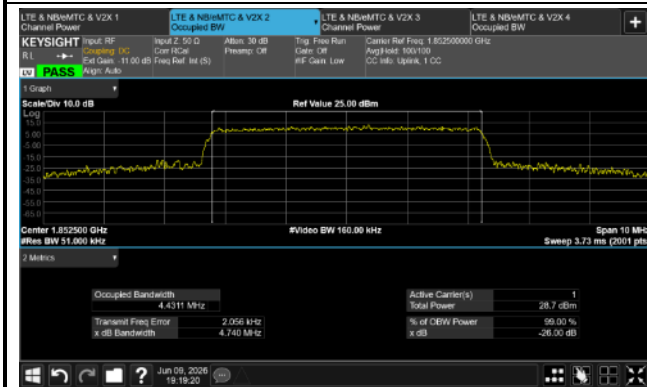


Intentionally Blank

Frequency Band: LTE B2

Uplink (for NU) 5MHz Output

Lowest Channel

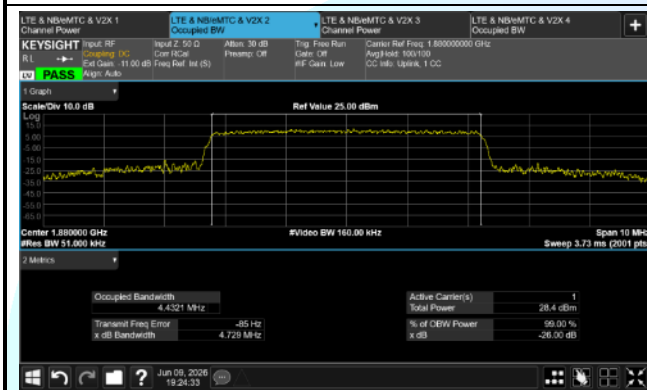


Uplink (for NU) 5MHz Output (AGC+3dB)

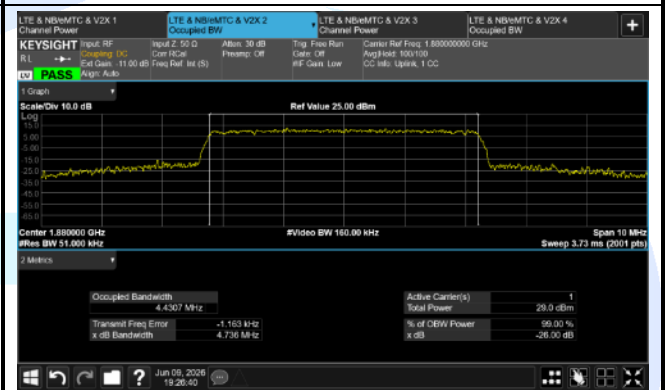
Lowest Channel



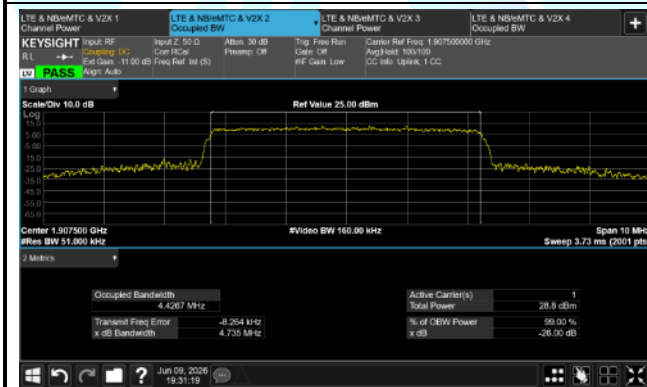
Middle Channel



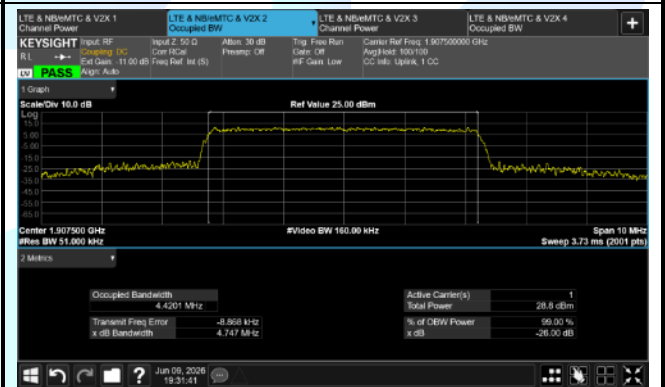
Middle Channel



Highest Channel



Highest Channel



Frequency Band: LTE B2

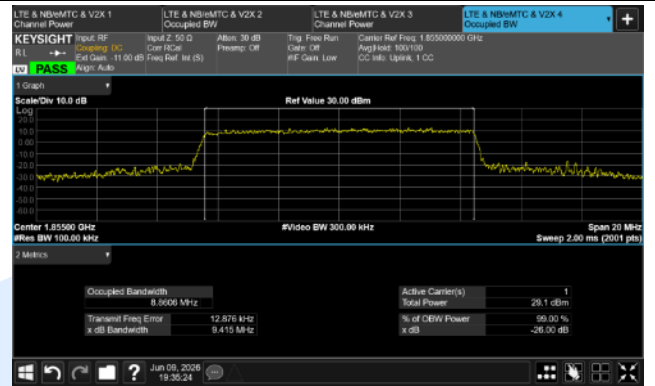
Uplink (for NU) 10MHz Output

Lowest Channel

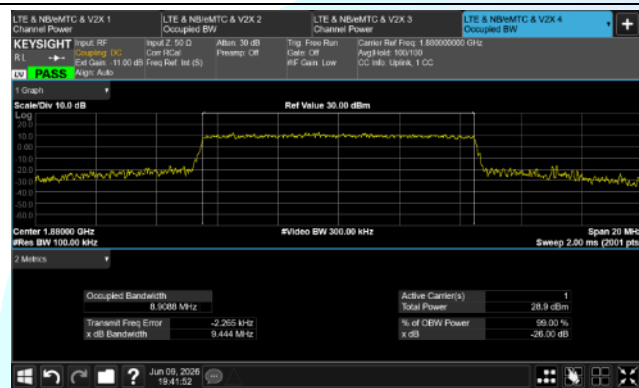


Uplink (for NU) 10MHz Output (AGC+3dB)

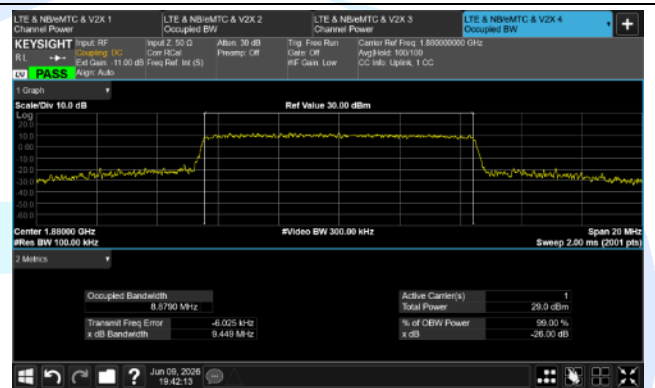
Lowest Channel



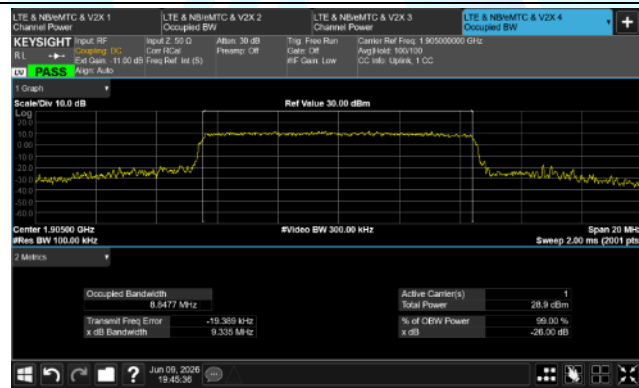
Middle Channel



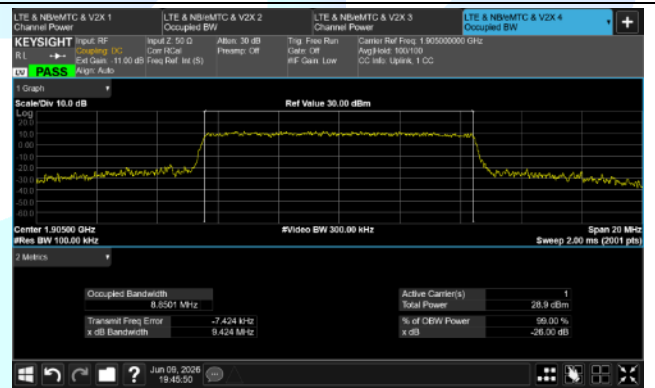
Middle Channel



Highest Channel



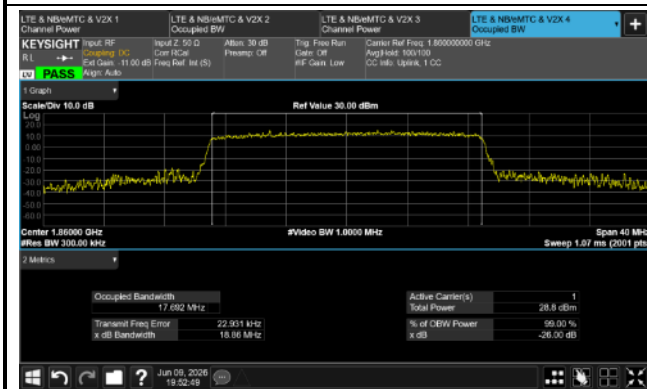
Highest Channel



Frequency Band: LTE B2

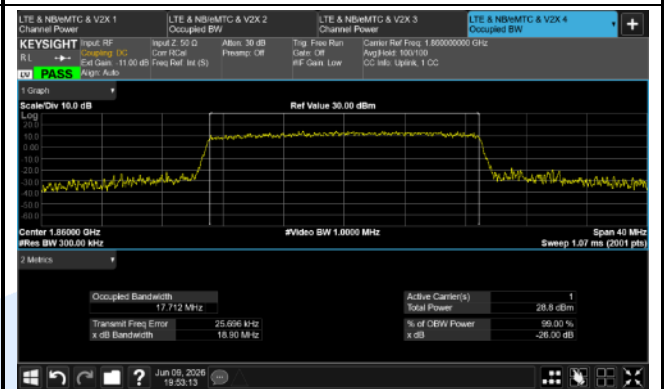
Uplink (for NU) 20MHz Output

Lowest Channel

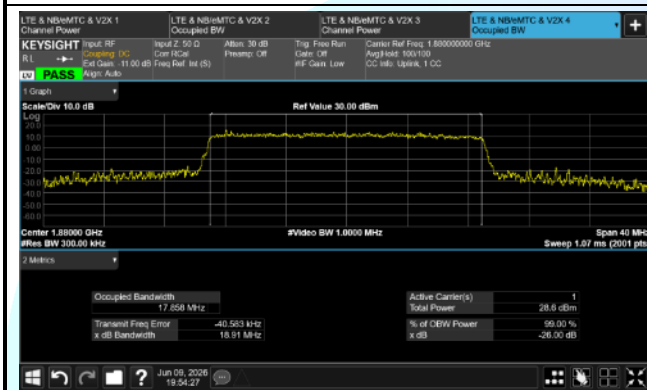


Uplink (for NU) 20MHz Output (AGC+3dB)

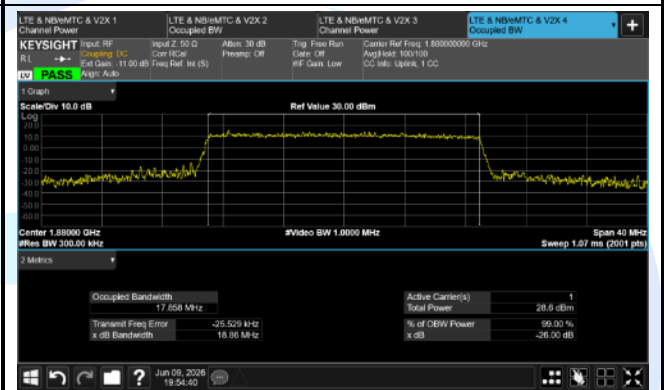
Lowest Channel



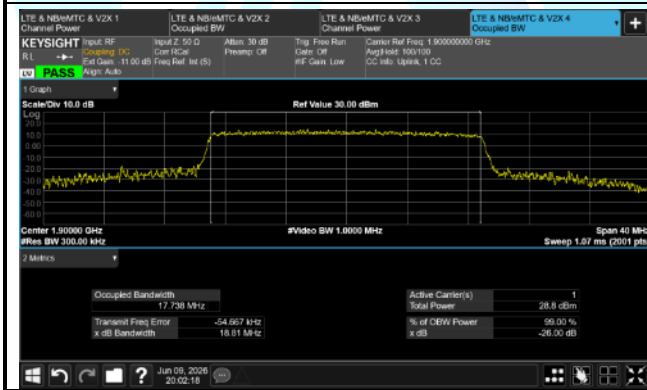
Middle Channel



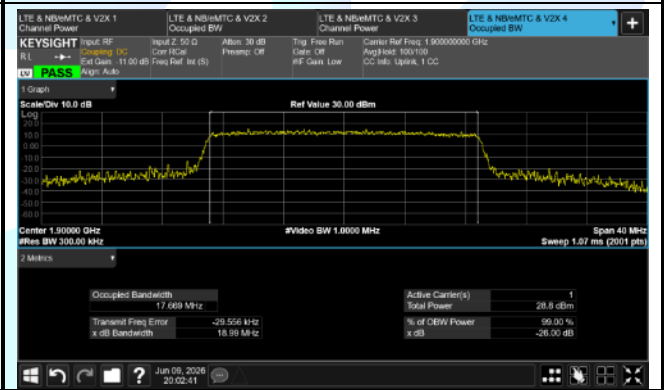
Middle Channel



Highest Channel



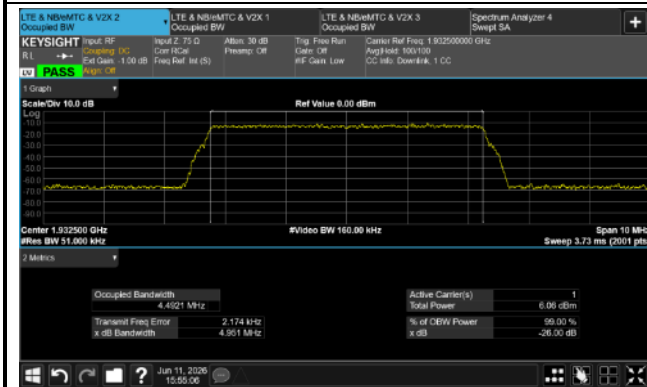
Highest Channel



Frequency Band: LTE B2

Downlink (for CU) 5MHz Input

Lowest Channel

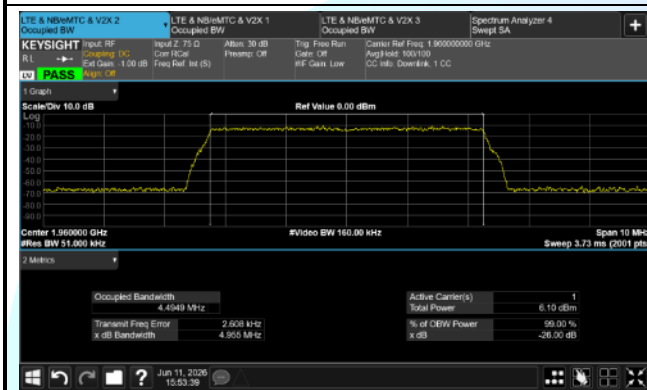


Downlink (for CU) 10MHz Input

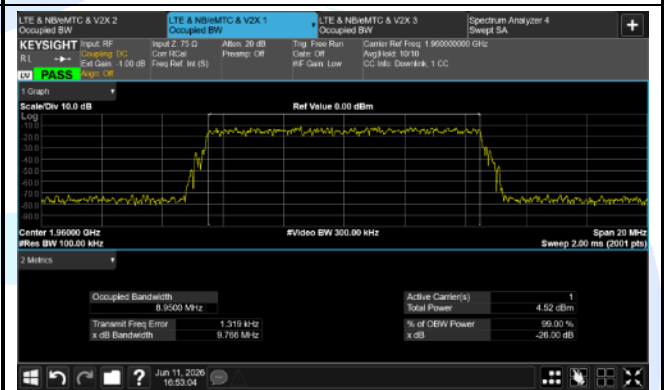
Lowest Channel



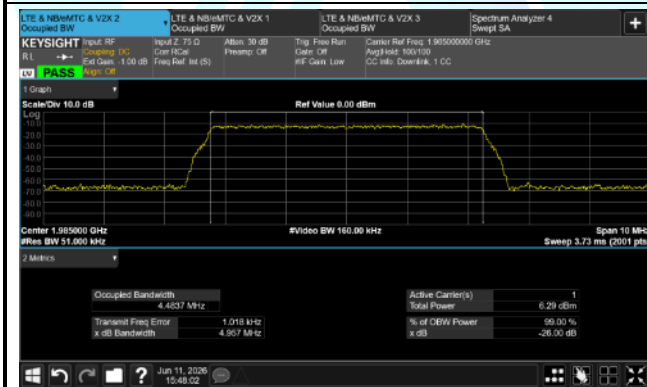
Middle Channel



Middle Channel



Highest Channel



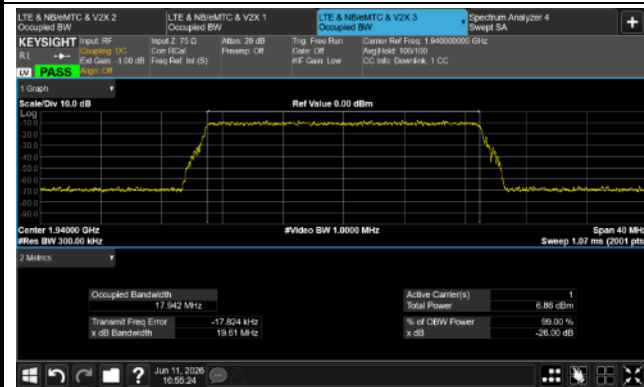
Highest Channel



Frequency Band: LTE B2

Downlink (for CU) 20MHz Input

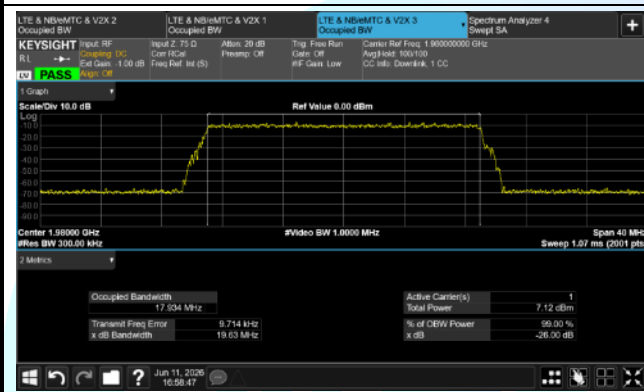
Lowest Channel



Middle Channel



Highest Channel

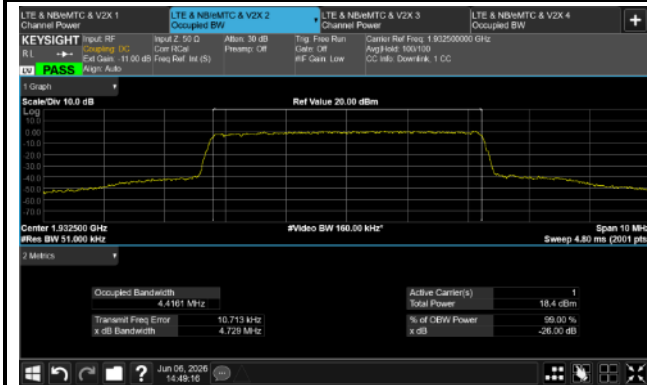


Intentionally Blank

Frequency Band: LTE B2

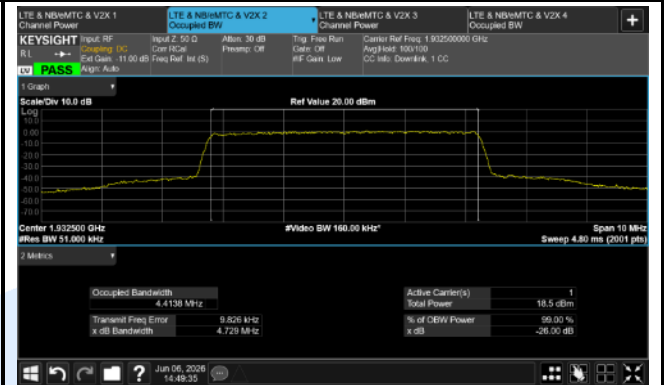
Downlink (for CU) 5MHz Output

Lowest Channel

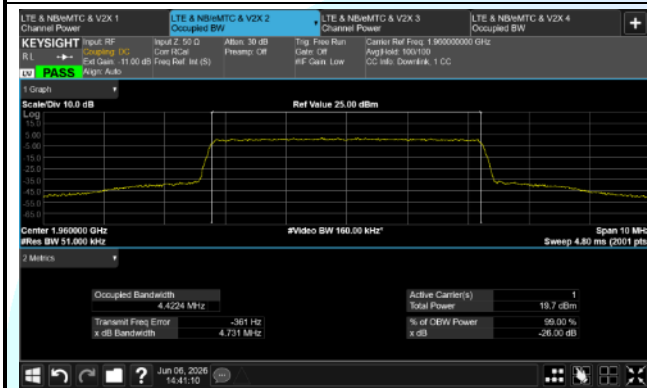


Downlink (for CU) 5MHz Output (AGC+3dB)

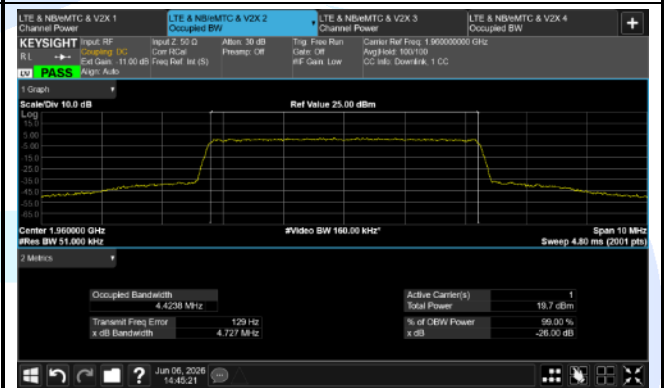
Lowest Channel



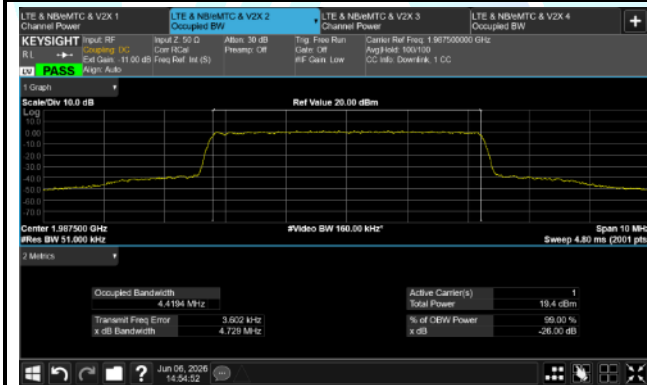
Middle Channel



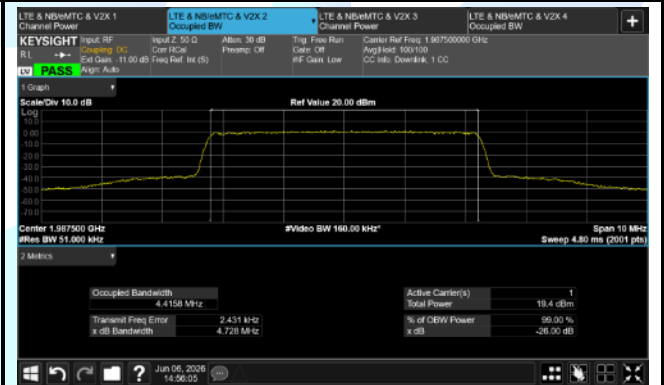
Middle Channel



Highest Channel



Highest Channel



Frequency Band: LTE B2

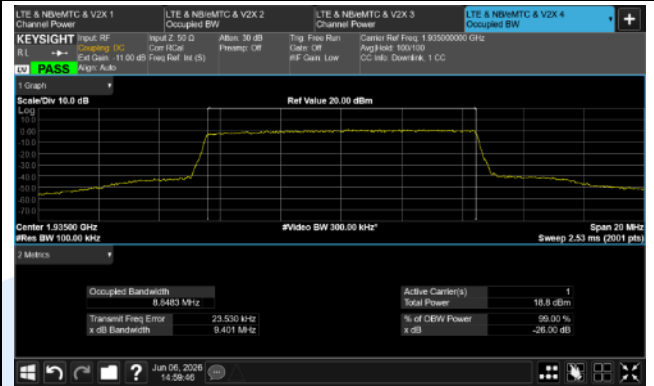
Downlink (for CU) 10MHz Output

Lowest Channel

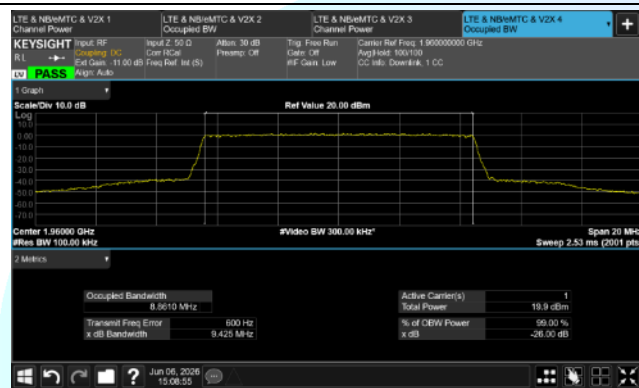


Downlink (for CU) 10MHz Output (AGC+3dB)

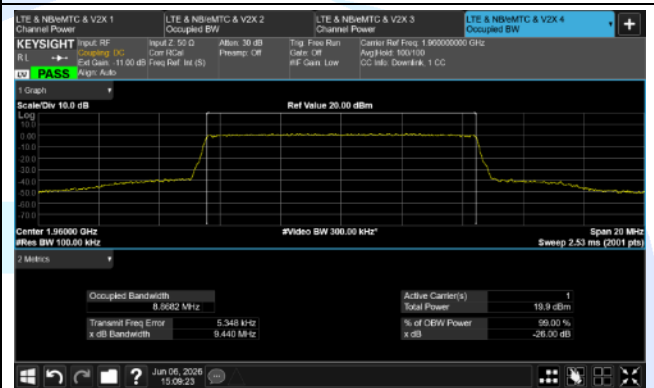
Lowest Channel



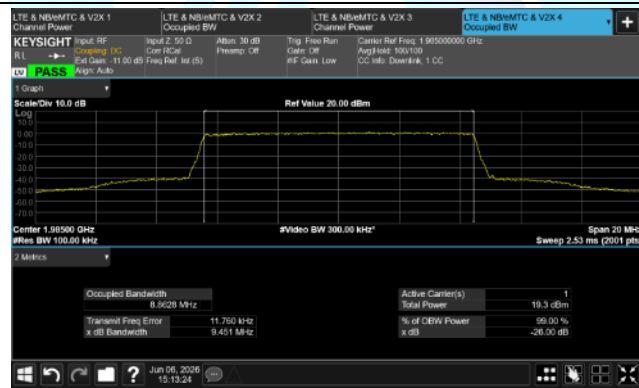
Middle Channel



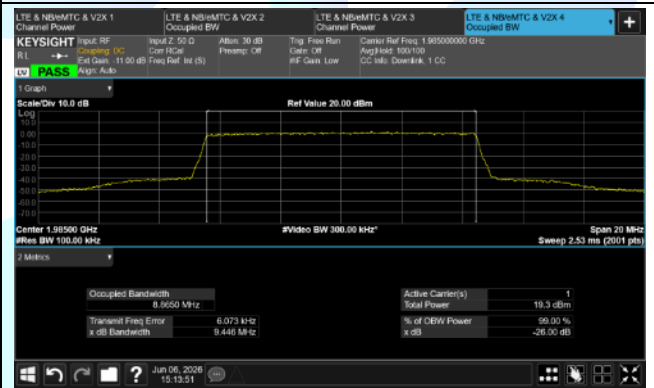
Middle Channel

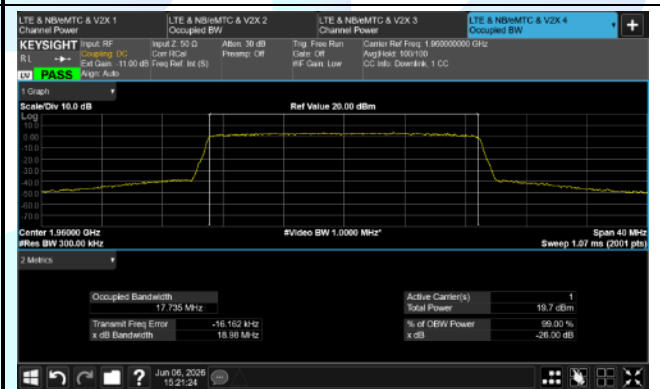
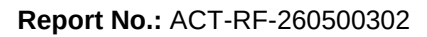


Highest Channel



Highest Channel

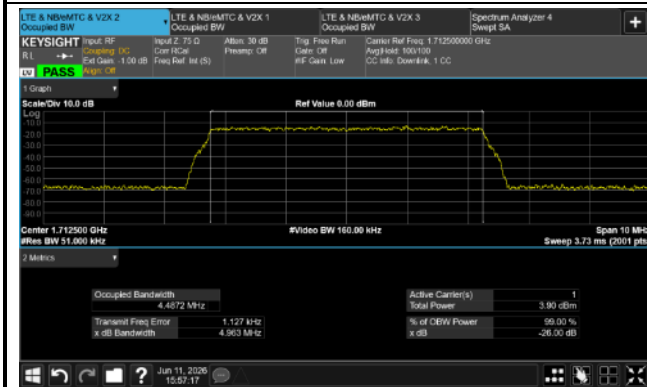




Frequency Band: LTE B4

Uplink (for NU) 5MHz Input

Lowest Channel

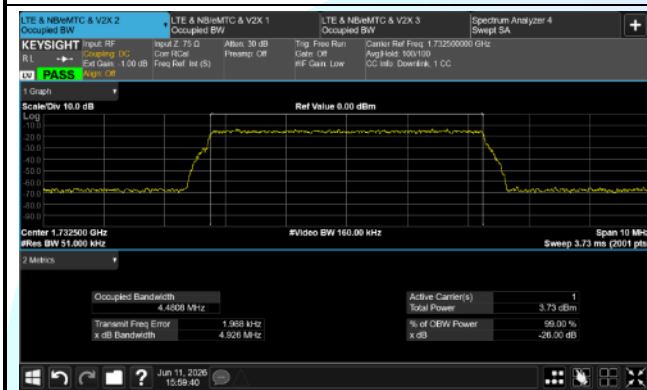


Uplink (for NU) 10MHz Input

Lowest Channel



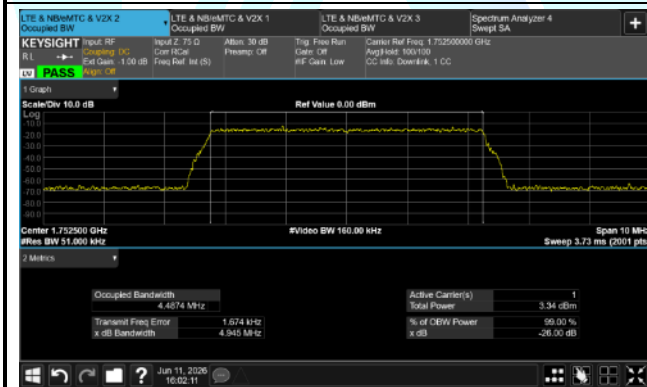
Middle Channel



Middle Channel



Highest Channel



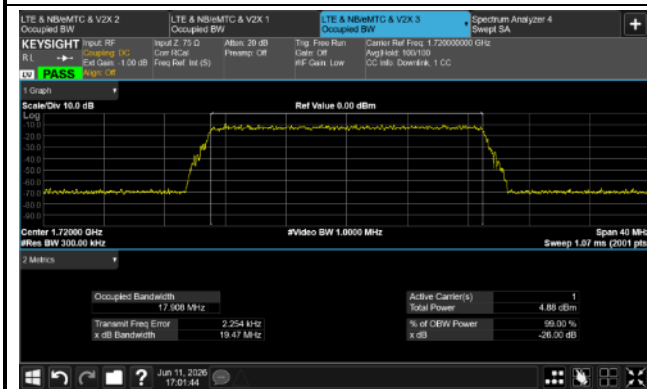
Highest Channel



Frequency Band: LTE B4

Uplink (for NU) 20MHz Input

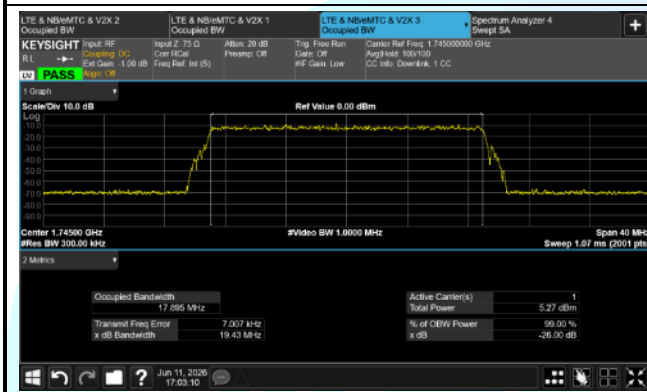
Lowest Channel



Middle Channel



Highest Channel



Intentionally Blank

Frequency Band: LTE B4

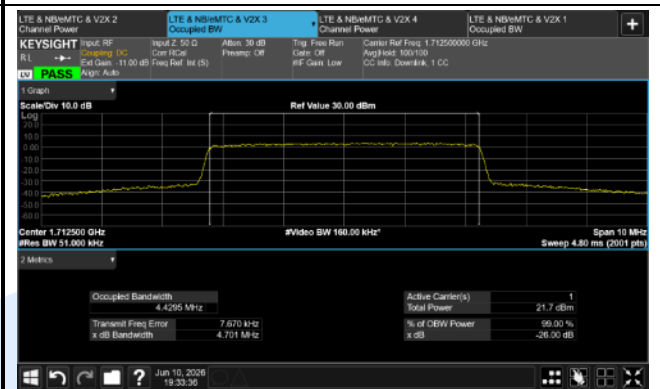
Uplink (for NU) 5MHz Output

Lowest Channel

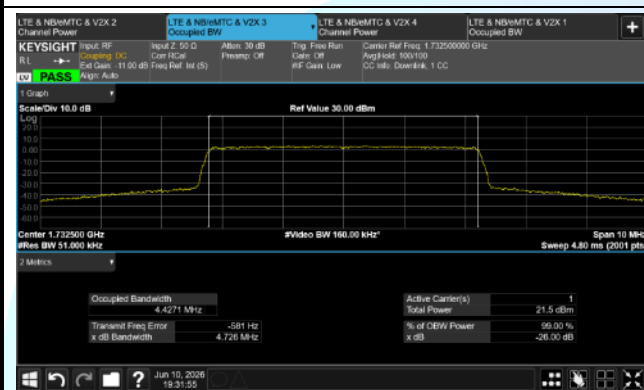


Uplink (for NU) 5MHz Output (AGC+3dB)

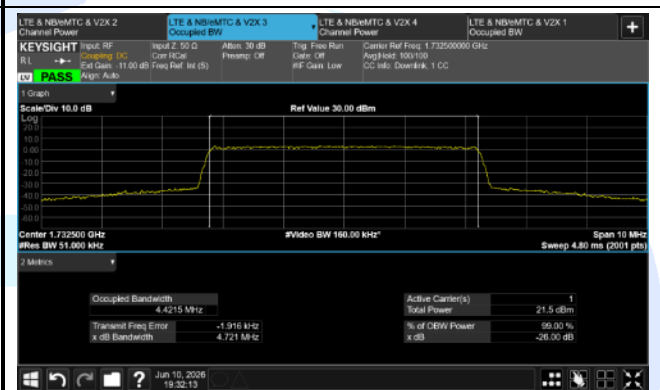
Lowest Channel



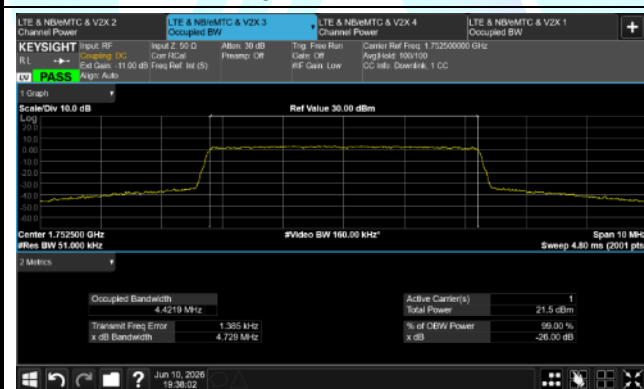
Middle Channel



Middle Channel



Highest Channel



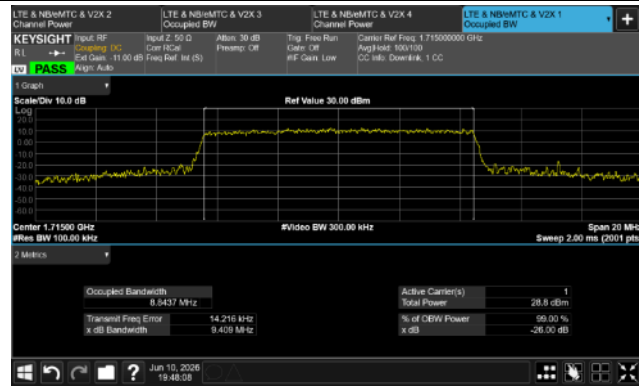
Highest Channel



Frequency Band: LTE B4

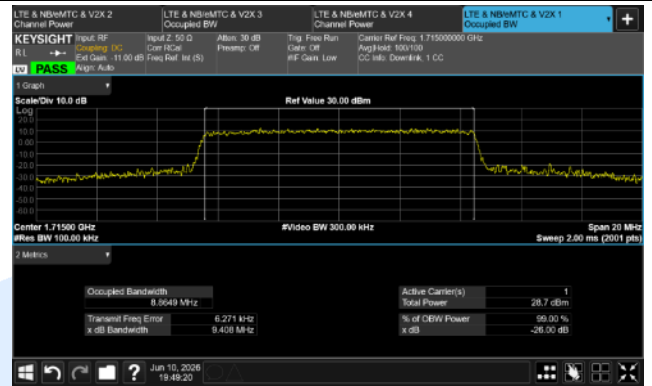
Uplink (for NU) 10MHz Output

Lowest Channel

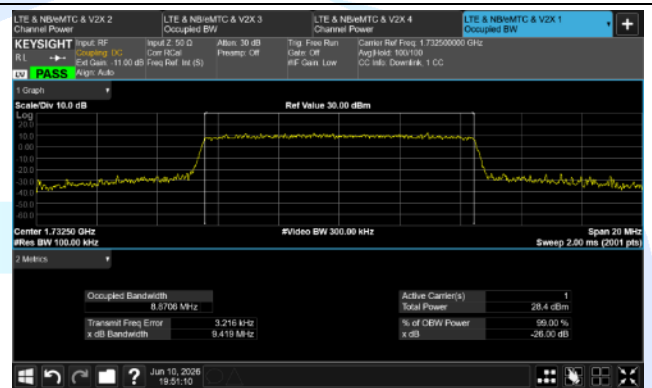
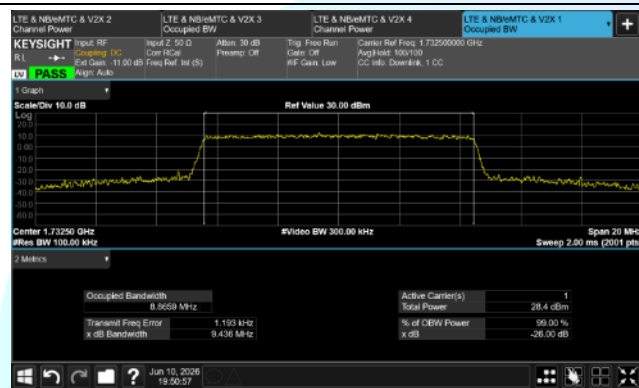


Uplink (for NU) 10MHz Output (AGC+3dB)

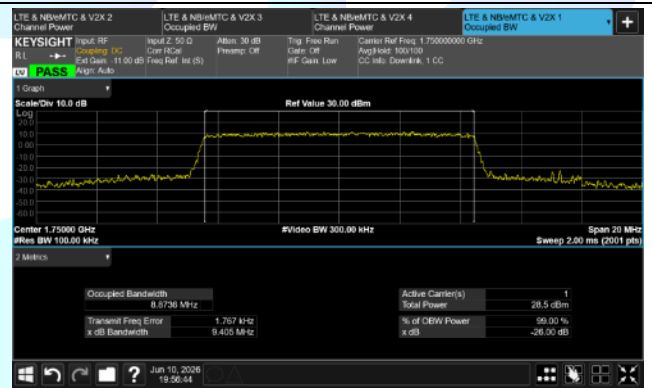
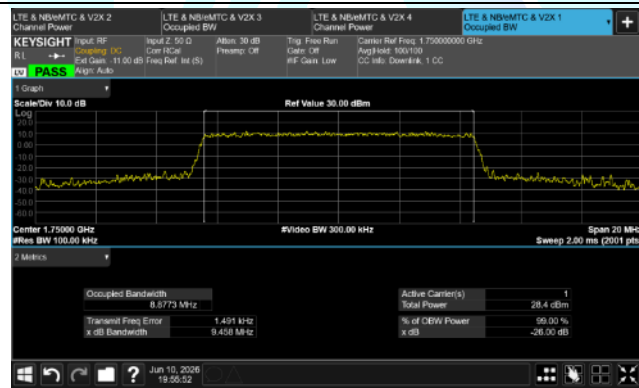
Lowest Channel



Middle Channel



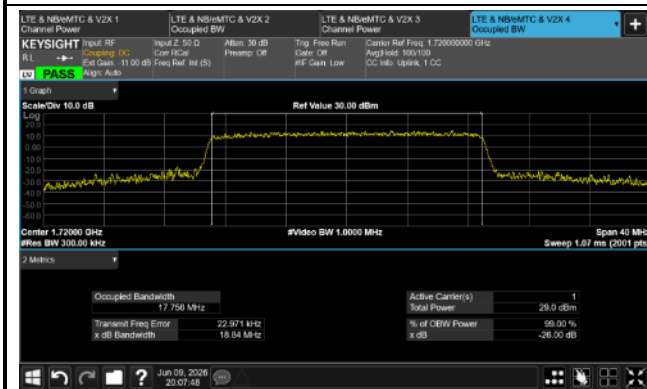
Highest Channel



Frequency Band: LTE B4

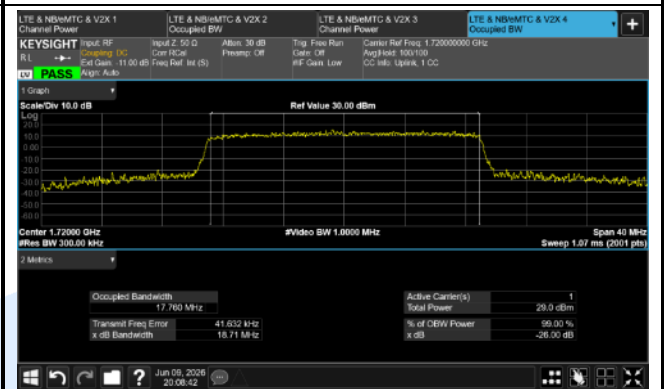
Uplink (for NU) 20MHz Output

Lowest Channel

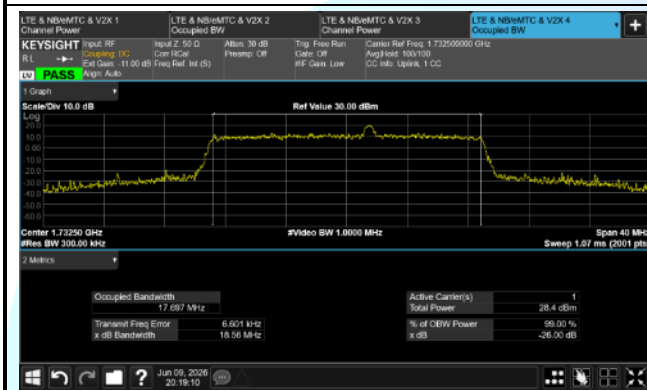


Uplink (for NU) 20MHz Output (AGC+3dB)

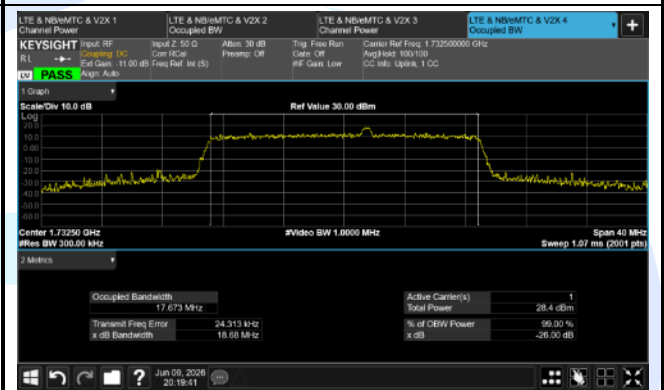
Lowest Channel



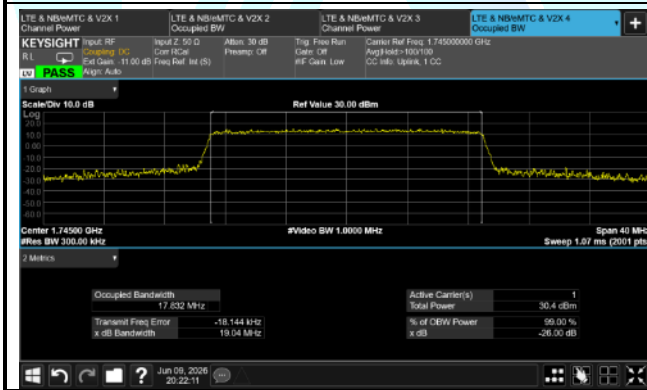
Middle Channel



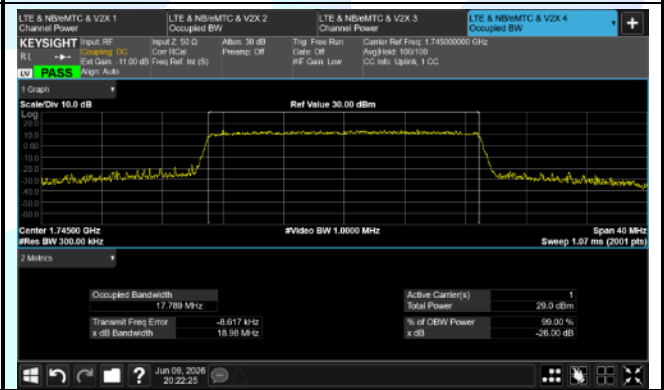
Middle Channel

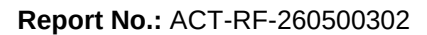


Highest Channel



Highest Channel

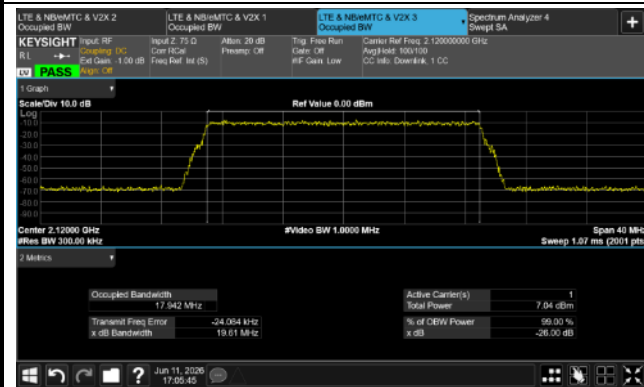




Frequency Band: LTE B4

Downlink (for CU) 20MHz Input

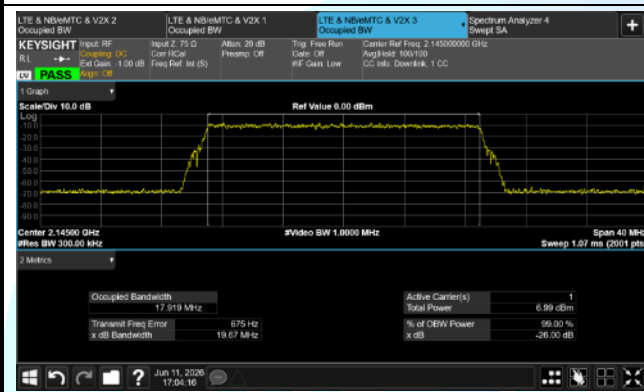
Lowest Channel



Middle Channel



Highest Channel



Intentionally Blank