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CommScope Technologies, LLC

TEST REPORT

SCOPE OF WORK
EMISSIONS TESTING – RPM-A5A11-B025 w/ 5G NR w/ OneCell® RP5100

REPORT NUMBER
105029958BOX-005d

ISSUE DATE
June 9, 2022

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Original Issue

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EMISSIONS TEST REPORT
(Class II Permissive Change)

Report Number: 105029958BOX-005d
Project Number: G105029958

Report Issue Date: June 9, 2022

Model(s) Tested: RPM-A5A11-B025 w/ 5G NR w/ OneCell® RP5100
Model(s) Partially Tested: None
Model(s) Not Tested but declared equivalent by the client: None

Standards: CFR47 FCC Part 24 (05/2022)

Tested by:
Intertek Testing Services NA, Inc.
70 Codman Hill Road
Boxborough, MA 01719
USA

Client:
CommScope Technologies LLC
900 Chelmsford St.
Lowell, MA 01851
USA

Report prepared by

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Report reviewed by

Vathana Ven / EMC Engineering Supervisor

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1 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 4.0. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the product tested **complies** with the requirements of the standard(s) indicated. The results obtained in this test report pertain only to the item(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

2 Test Summary

Section	Test full name	Result
3	Client Information	--
4	Description of Equipment Under Test and Variant Models	--
5	System Setup and Method	--
6	Maximum Conducted Output Power CFR47 FCC Part 24.232(a-b)	Pass
7	Peak-to-Average Power Ratio (PAPR) CFR47 FCC Part 24.232(d)	Pass
8	26 dB Bandwidth and Occupied Bandwidth CFR47 FCC Parts 2.1049 and 24.238(b)	Pass
9	Band Edge Compliance CFR47 FCC Parts 2.1051, 2.1053, and 24.238(a-b)	Pass
10	Frequency Stability CFR47 FCC Parts 2.1055 and 24.235	Pass
11	Transmitter Spurious Emissions CFR47 FCC Parts 2.1051, 2.1053, 2.1057 and 24.238(a-b)	Pass
12	Revision History	--

3 Client Information

This EUT was tested at the request of:

Client: CommScope Technologies LLC
900 Chelmsford St.
Lowell, MA 01851
USA

Contact: Zac Johnson
Telephone: (978) 250-2678
Fax: None
Email: zac.johnson@commscope.com

4 Description of Equipment Under Test and Variant Models

Manufacturer: CommScope Telecommunications (China) Ltd.
68 Su Hong Xi Lu, Suzhou Industrial Park
Suzhou, Jiangsu, 215021, China

Equipment Under Test			
Description	Manufacturer	Model Number	Serial Number
Band 25 Radio Module With OneCell® RP5100 host	CommScope Technologies LLC	RPM-A5A11-B02	20488200004
OneCell® RP5100	CommScope Technologies LLC	RP-A52xxi	T2113050973

Receive Date:	04/15/2022
Received Condition:	Good
Type:	Production

Description of Equipment Under Test (provided by client)
The Radio Module is band specific using the Analog devices RF Agile Transceiver IC, AD936x. The device combines an RF front end with a flexible mixed-signal baseband section and integrated frequency synthesizers providing a configurable digital interface to the processor. The Radio Module also contains a band specific front end, band specific antenna and required power rails. All power rails required are derived from the 12 VDC bus supplied by the Baseband card. The reference frequency for the radio IC is 38.4 MHz is derived from the from an OCXO which is disciplined from a 1588 reference clock. It supports bandwidths of 5, 10, 15, and 20 MHz with four modulations; TM1.1-QPSK, TM3.2-16QAM, TM3.1-64QAM, and TM3.1a-256QAM. The radio is fixed.

Description of Radio Host (provided by client)
The OneCell® RP5200 family is factory configurable with 2 – 4 Radios Modules mounted to a Baseband card. The same PCB's will be used in both indoor and outdoor version of the radio point. The device is fixed. The baseband card is the host for the modular radios. It contains a two ethernet PHY's with one supporting 100M/1G/2.5G/5G/10G ethernet and the other supporting 100M/1G. The main processor is Zylinx Ultrascale+ MPSoC with 2 GB DDR3 and 4 GB Flash memory. The baseband PCBA converts POE power to +12 VDC bus voltage require as input to the radio modules.

Equipment Under Test Power Configuration			
Rated Voltage	Rated Current	Rated Frequency	Number of Phases
48 VDC	0.960 mA per pair max	DC	N/A

Operating modes of the EUT:

No.	Descriptions of EUT Exercising
1	Pre-programmed to transmit at Low, Mid, and High channels at four different modulations, TM1.1-QPSK, TM3.2-16QAM, TM3.1-64QAM, and TM3.1a-256QAM.

Software used by the EUT:

No.	Descriptions of EUT Exercising
1	RP5100_B25_B2 (4/12/2022)

Radio/Receiver Characteristics	
Frequency Band(s)	1930-1995MHz
Modulation Type(s)	TM1.1-QPSK, TM3.2-16QAM, TM3.1-64 QAM, TM3.1a-256QAM
Maximum Output Power (conducted):	22.85 dBm, Conducted (worst-case)
Test Channels	Low, Middle, High Channels of 5 MHz, 10 MHz, 15 MHz, and 20 MHz Bandwidths, Single Channel operation only
Occupied Bandwidth	19.017 MHz (Worst-case)
MIMO Information (# of Transmit and Receive antenna ports)	2x2 MIMO using cross polarized antennas and uncorrelated data streams
Equipment Type	Module in a host
Antenna Type and Gain	Detachable Antenna: +4 dBi (as provided by the client. Intertek takes no responsibility for the accuracy of this information. Actual antenna gain will be determined at the time of licensing)

Variant Models:

The following variant models were not tested as Part of this evaluation, but have been identified by the manufacturer as being electrically identical models, depopulated models, or with reasonable similarity to the model(s) tested. Intertek does not make any claims of compliance for samples or variants which were not tested.

None

5 System Setup and Method

Cables					
ID	Description	Length (m)	Shielding	Ferrites	Termination
--	LAN (POE Power Cable)	2.17	None	None	POE P/S
--	LAN (Communication)	9.00	None	None	Laptop

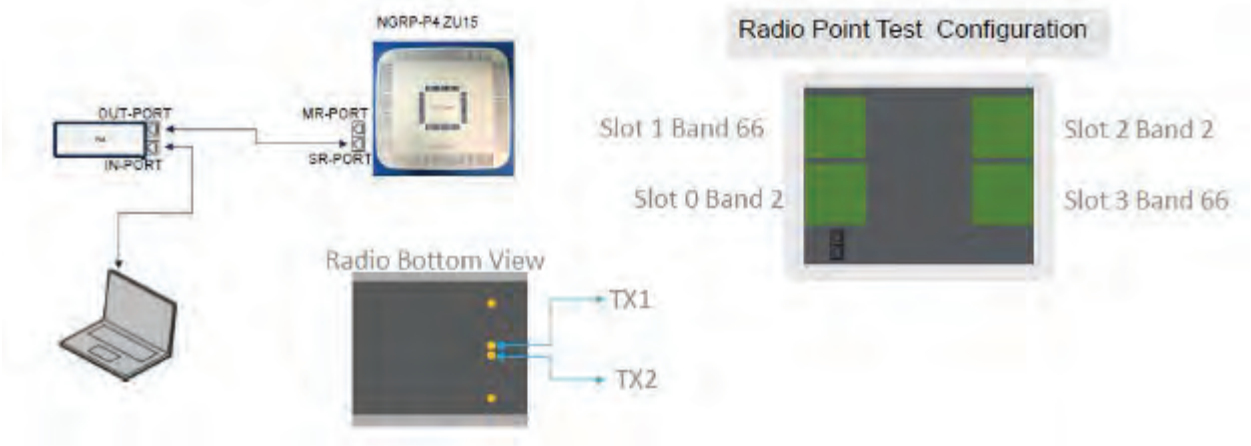
Notes: Longer cables were used to accommodate emission testing in the 10m Chamber.

Support Equipment			
Description	Manufacturer	Model Number	Serial Number
POE Power Supply	Sifos Technologies	PDA-604A	604A0107
Laptop	Dell	Latitude 3520	None

5.1 Method:

Configuration as required by ANSI C63.26-2015, KDB 662911, and CFR47 FCC Part 24 (05/2022).

5.2 EUT Block Diagram:



6 Maximum Conducted Output Power

6.1 Method

Tests are performed in accordance with CFR47 FCC Part §2.1046, CFR47 FCC Part §24, KDB662911, and ANSI C63.26 Section 5.2.4.4.

TEST SITE: EMC Lab

The EMC Lab has one Semi-anechoic Chamber and one Shielded Chamber. AC Mains Power is available at 120, 230, and 277 Single Phase; 208, 400, and 480 3-Phase. Large reference ground-planes are installed in the general lab area to facilitate EMC work not requiring a shielded environment.

6.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV005'	Weather Station	Davis	6250	MS191218083	02/11/2022	02/11/2023
ROS005-1'	Signal and Spectrum Analyzer	Rohde and Shwartz	FSW43	100646	11/02/2021	11/02/2022
CEN001'	DC-40GHz attenuator 20dB	Centric RF	C411-20	CEN001	01/26/2022	01/26/2023
CBLHF2012-2M-2'	2m 9kHz-40GHz Coaxial Cable - SET2	Huber & Suhner	SF102	252675002	02/10/2023	02/10/2023

Software Utilized:

Name	Manufacturer	Version
None	--	--

6.3 Results:

The sample tested was found to Comply. Antenna gain limitations will depend on geographical locations and Height Above Average Terrain (HAAT). Output power from the two antenna ports was not summed since the data streams are uncorrelated and the antennas are cross polarized.

Limits – The maximum EIRP output power was measured to be 26.85 dBm, which is much less than the EIRP limit of FCC Part 24.232(a) Base stations with an emission bandwidth greater than 1 MHz are limited to 1640 watts/MHz equivalent isotropically radiated power (EIRP) with an antenna height up to 300 meters HAAT.

Slot 0 (Band 25), Bandwidth: 5 MHz, Modulation: TM1.1-QPSK (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1932.50	ANT0	21.45	25.45	62.15	-36.70
		ANT1	21.44	25.44	62.15	-36.71
Mid	1962.50	ANT0	22.52	26.52	62.15	-35.63
		ANT1	22.79	26.79	62.15	-35.36
High	1992.50	ANT0	21.73	25.73	62.15	-36.42
		ANT1	22.03	26.03	62.15	-36.12

Slot 0 (Band 25), Bandwidth: 10 MHz, Modulation: TM1.1-QPSK (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1935.00	ANT0	22.39	26.39	62.15	-35.76
		ANT1	22.43	26.43	62.15	-35.72
Mid	1962.50	ANT0	22.48	26.48	62.15	-35.67
		ANT1	22.75	26.75	62.15	-35.40
High	1990.00	ANT0	22.20	26.2	62.15	-35.95
		ANT1	22.47	26.47	62.15	-35.68

Slot 0 (Band 25), Bandwidth: 15 MHz, Modulation: TM1.1-QPSK (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1937.50	ANT0	22.81	26.81	62.15	-35.34
		ANT1	22.80	26.80	62.15	-35.35
Mid	1962.50	ANT0	22.29	26.29	62.15	-35.86
		ANT1	22.46	26.46	62.15	-35.69
High	1987.50	ANT0	22.32	26.32	62.15	-35.83
		ANT1	22.48	26.48	62.15	-35.67

Slot 0 (Band 25), Bandwidth: 20 MHz, Modulation: TM1.1-QPSK (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1940.00	ANT0	22.67	26.67	62.15	-35.48
		ANT1	22.47	26.47	62.15	-35.68
Mid	1962.50	ANT0	22.42	26.42	62.15	-35.73
		ANT1	22.58	26.58	62.15	-35.57
High	1985.00	ANT0	22.45	26.45	62.15	-35.70
		ANT1	22.49	26.49	62.15	-35.66

Slot 0 (Band 25), Bandwidth: 5 MHz, Modulation: TM3.2-16QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1932.50	ANT0	22.12	26.12	62.15	-36.03
		ANT1	22.03	26.03	62.15	-36.12
Mid	1962.50	ANT0	22.31	26.31	62.15	-35.84
		ANT1	22.85	26.85	62.15	-35.30
High	1992.50	ANT0	21.75	25.75	62.15	-36.40
		ANT1	22.05	26.05	62.15	-36.10

Slot 0 (Band 25), Bandwidth: 10 MHz, Modulation: TM3.2-16QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1935.00	ANT0	22.39	26.39	62.15	-35.76
		ANT1	22.41	26.41	62.15	-35.74
Mid	1962.50	ANT0	22.46	26.46	62.15	-35.69
		ANT1	22.74	26.74	62.15	-35.41
High	1990.00	ANT0	22.15	26.15	62.15	-36.00
		ANT1	22.49	26.49	62.15	-35.66

Slot 0 (Band 25), Bandwidth: 15 MHz, Modulation: TM3.2-16QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1937.500	ANT0	22.78	26.78	62.15	-35.37
		ANT1	22.78	26.78	62.15	-35.37
Mid	1962.50	ANT0	22.79	26.79	62.15	-35.36
		ANT1	22.46	26.46	62.15	-35.69
High	1987.50	ANT0	22.34	26.34	62.15	-35.81
		ANT1	22.47	26.47	62.15	-35.68

Slot 0 (Band 25), Bandwidth: 20 MHz, Modulation: TM3.2-16QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1940	ANT0	22.62	26.62	62.15	-35.53
		ANT1	22.42	26.42	62.15	-35.73
Mid	1962.50	ANT0	22.44	26.44	62.15	-35.71
		ANT1	22.61	26.61	62.15	-35.54
High	1985.00	ANT0	22.50	26.5	62.15	-35.65
		ANT1	22.53	26.53	62.15	-35.62

Slot 0 (Band 25), Bandwidth: 5 MHz, Modulation: TM3.1-64QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1932.50	ANT0	22.10	26.1	62.15	-36.05
		ANT1	22.05	26.05	62.15	-36.10
Mid	1962.50	ANT0	22.50	26.5	62.15	-35.65
		ANT1	22.79	26.79	62.15	-35.36
High	1992.50	ANT0	21.71	25.71	62.15	-36.44
		ANT1	22.02	26.02	62.15	-36.13

Slot 0 (Band 25), Bandwidth: 10 MHz, Modulation: TM3.1-64QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1935	ANT0	22.39	26.39	62.15	-35.76
		ANT1	22.41	26.41	62.15	-35.74
Mid	1962.50	ANT0	22.48	26.48	62.15	-35.67
		ANT1	22.75	26.75	62.15	-35.40
High	1990.00	ANT0	22.15	26.15	62.15	-36.00
		ANT1	22.46	26.46	62.15	-35.69

Slot 0 (Band 25), Bandwidth: 15 MHz, Modulation: TM3.1-64QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1937.50	ANT0	22.81	26.81	62.15	-35.34
		ANT1	22.85	26.85	62.15	-35.30
Mid	1962.50	ANT0	22.28	26.28	62.15	-35.87
		ANT1	22.52	26.52	62.15	-35.63
High	1987.50	ANT0	22.36	26.36	62.15	-35.79
		ANT1	22.51	26.51	62.15	-35.64

Slot 0 (Band 25), Bandwidth: 20 MHz, Modulation: TM3.1-64QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1940	ANT0	22.66	26.66	62.15	-35.49
		ANT1	22.45	26.45	62.15	-35.70
Mid	1962.50	ANT0	22.43	26.43	62.15	-35.72
		ANT1	22.58	26.58	62.15	-35.57
High	1985.00	ANT0	22.44	26.44	62.15	-35.71
		ANT1	22.46	26.46	62.15	-35.69

Slot 0 (Band 25), Bandwidth: 5 MHz, Modulation: TM3.1a-256QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1932.50	ANT0	22.10	26.1	62.15	-36.05
		ANT1	22.04	26.04	62.15	-36.11
Mid	1962.50	ANT0	22.50	26.5	62.15	-35.65
		ANT1	22.77	26.77	62.15	-35.38
High	1992.50	ANT0	21.71	25.71	62.15	-36.44
		ANT1	22.00	26	62.15	-36.15

Slot 0 (Band 25), Bandwidth: 10 MHz, Modulation: TM3.1a-256QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1935	ANT0	22.37	26.37	62.15	-35.78
		ANT1	22.40	26.4	62.15	-35.75
Mid	1962.50	ANT0	22.45	26.45	62.15	-35.70
		ANT1	22.75	26.75	62.15	-35.40
High	1990.00	ANT0	22.07	26.07	62.15	-36.08
		ANT1	22.37	26.37	62.15	-35.78

Slot 0 (Band 25), Bandwidth: 15 MHz, Modulation: TM3.1a-256QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1937.50	ANT0	22.81	26.81	62.15	-35.34
		ANT1	22.81	26.81	62.15	-35.34
Mid	1962.50	ANT0	22.29	26.29	62.15	-35.86
		ANT1	22.52	26.52	62.15	-35.63
High	1987.50	ANT0	22.34	26.34	62.15	-35.81
		ANT1	22.51	26.51	62.15	-35.64

Slot 0 (Band 25), Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM

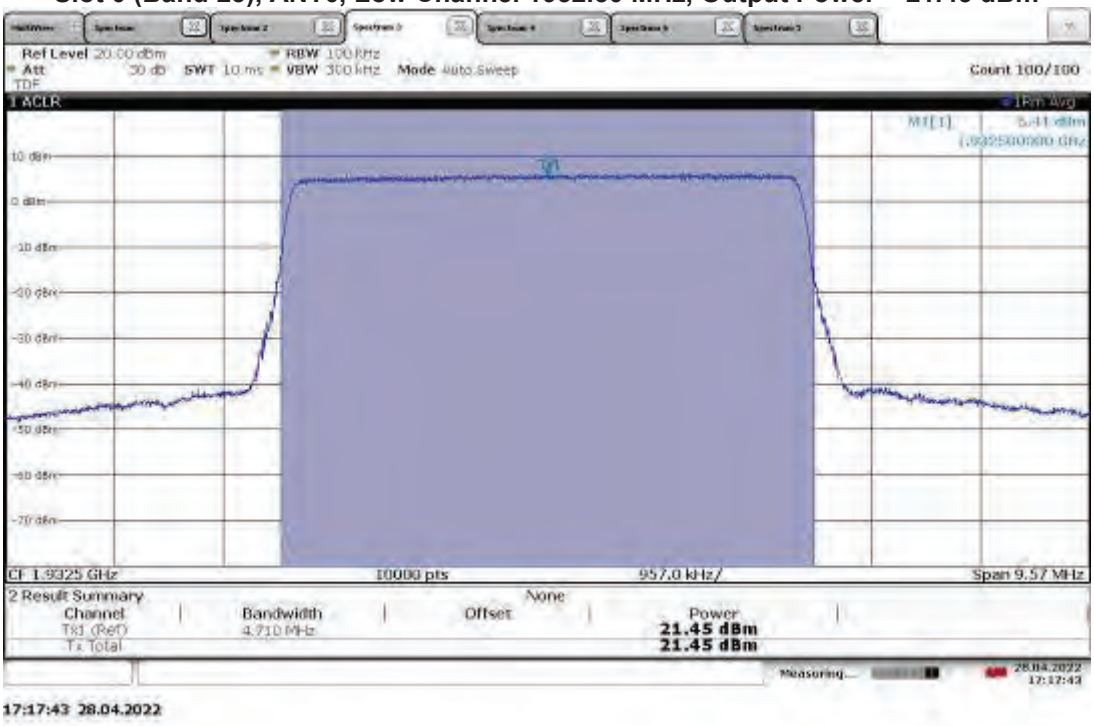
Channel	Frequency (MHz)	Antenna Port	Conducted Output Power (dBm)	EIRP (dBm)	EIRP Limit (dBm)	EIRP Margin (dB)
Low	1940	ANT0	22.68	26.68	62.15	-35.47
		ANT1	22.47	26.47	62.15	-35.68
Mid	1962.50	ANT0	22.43	26.43	62.15	-35.72
		ANT1	22.60	26.6	62.15	-35.55
High	1985.00	ANT0	22.40	26.4	62.15	-35.75
		ANT1	22.46	26.46	62.15	-35.69

6.4 Setup Photograph:

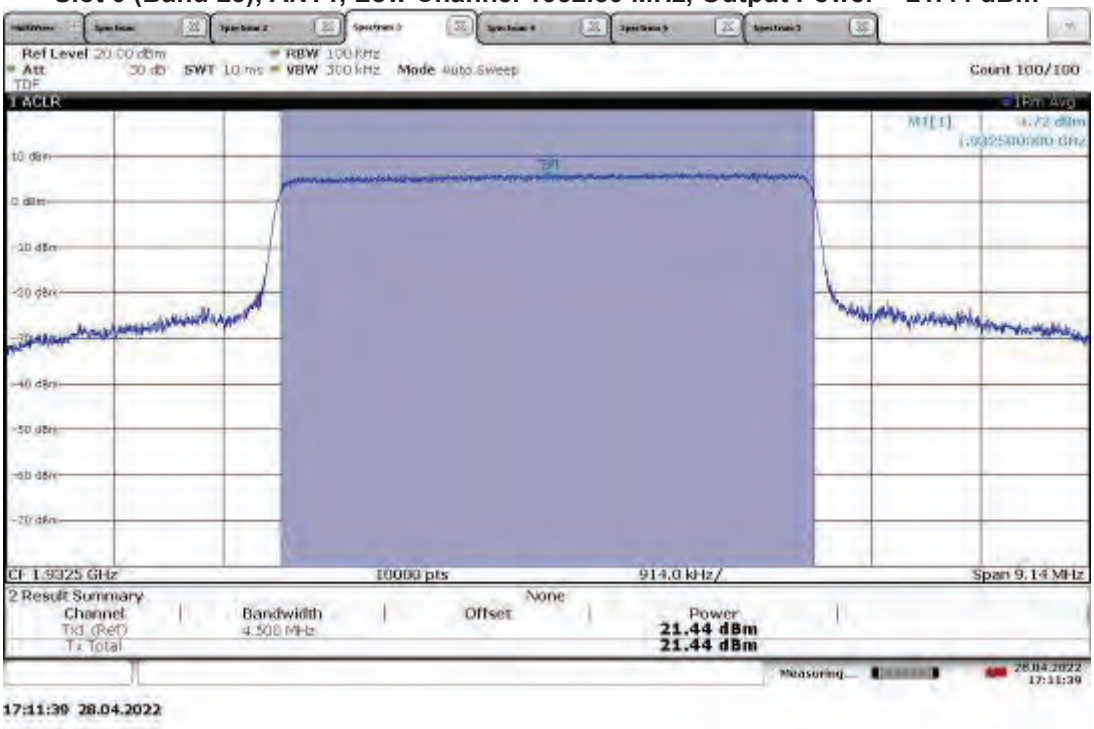
Confidential – Photos not included in this report

6.5 Plots/Data:

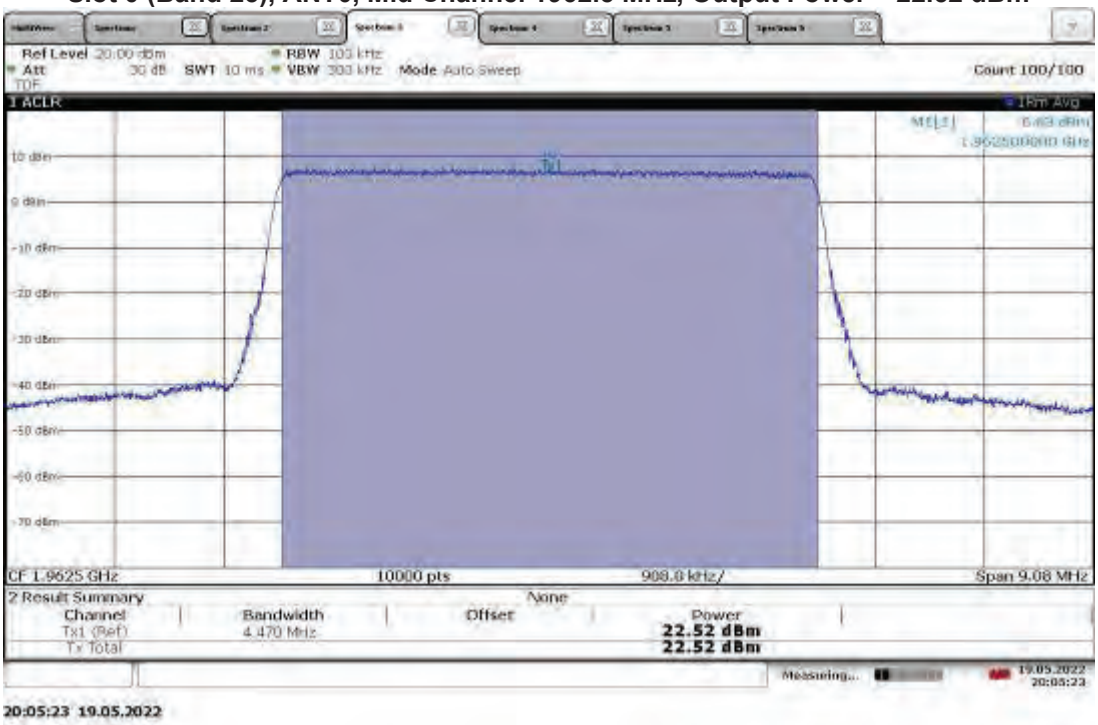
TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1932.50 MHz, Output Power = 21.45 dBm



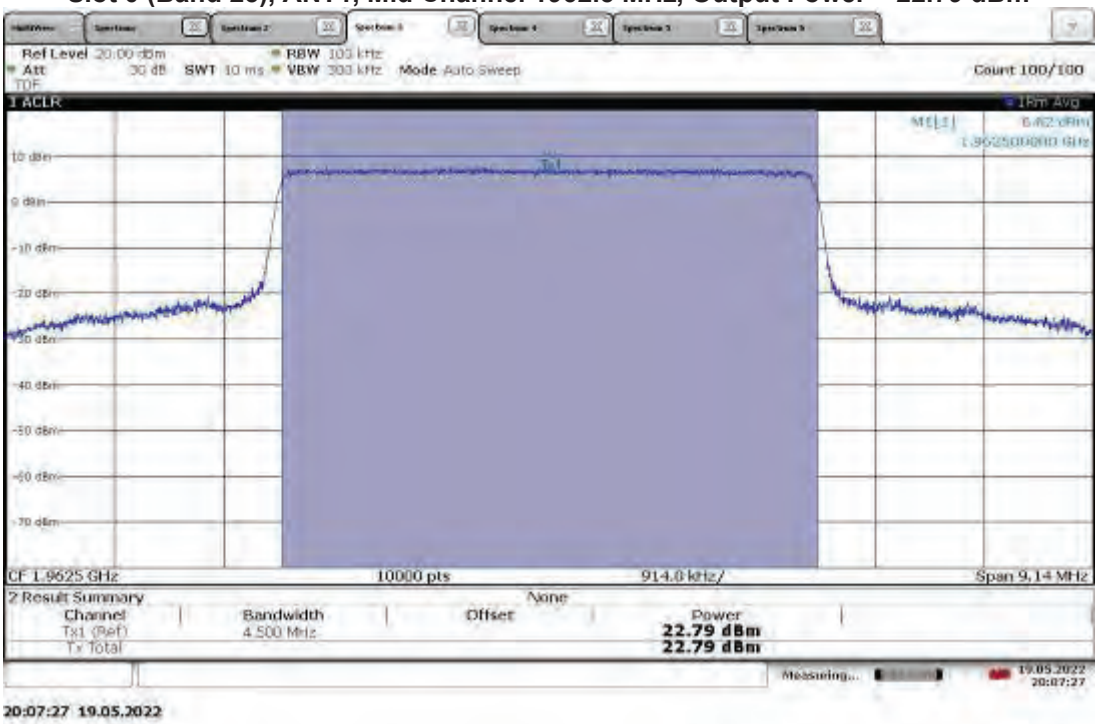
TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1932.50 MHz, Output Power = 21.44 dBm



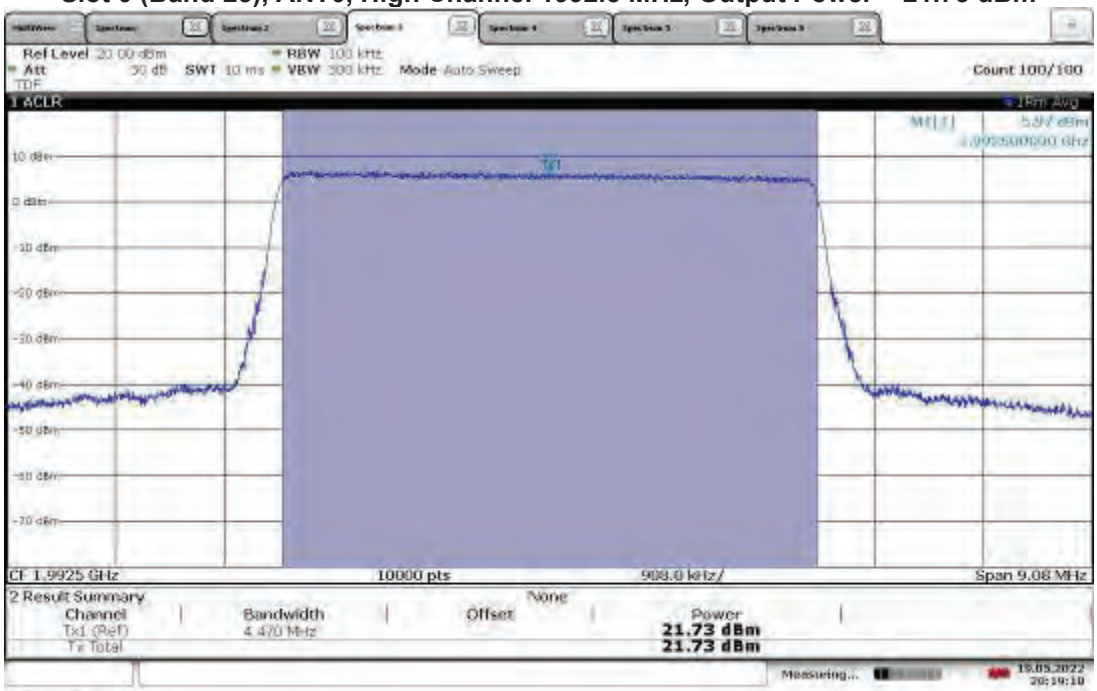
TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.5 MHz, Output Power = 22.52 dBm



TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.5 MHz, Output Power = 22.79 dBm

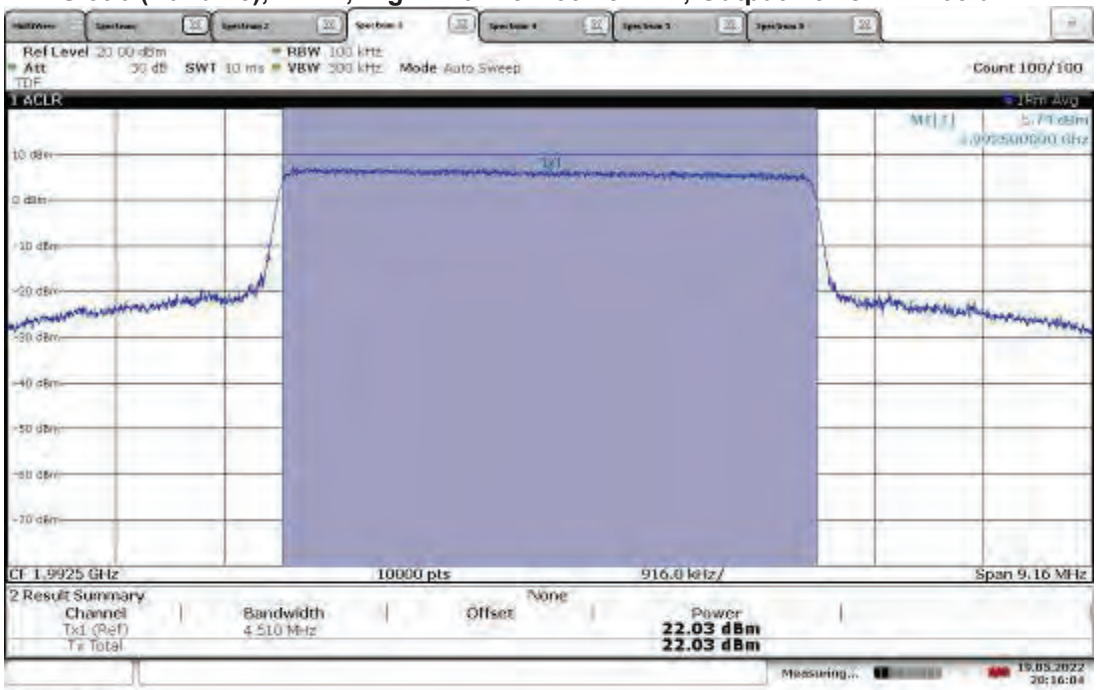


TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.5 MHz, Output Power = 21.73 dBm



20:19:18 19.05.2022

TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1992.5 MHz, Output Power = 22.03 dBm



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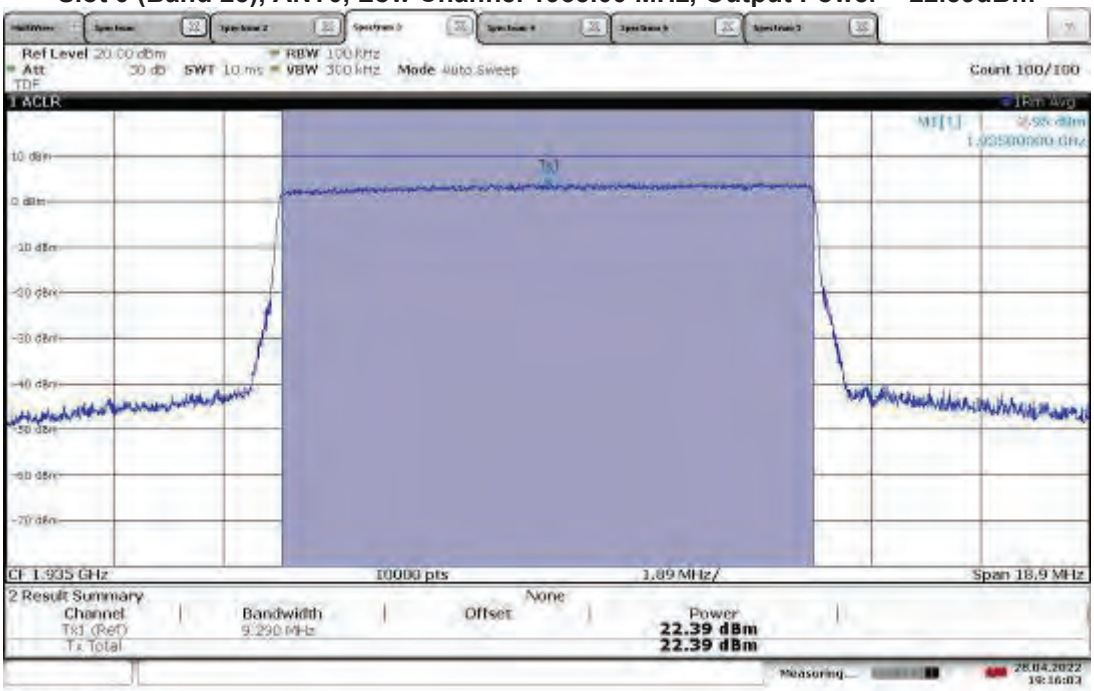
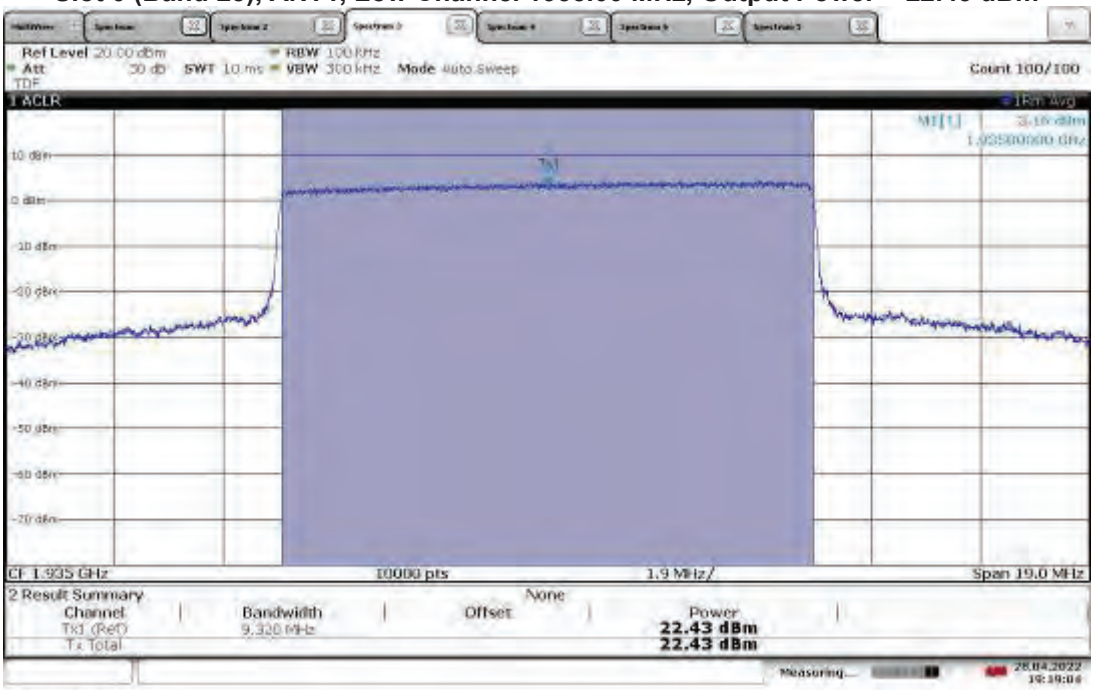
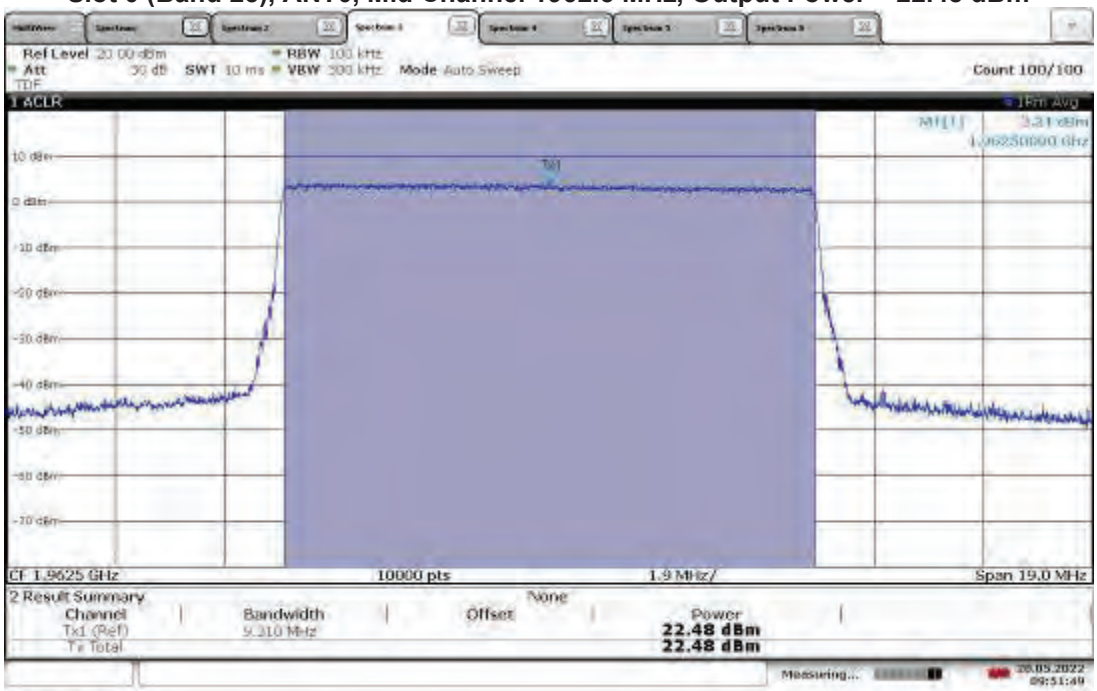
TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1935.00 MHz, Output Power = 22.39dBm



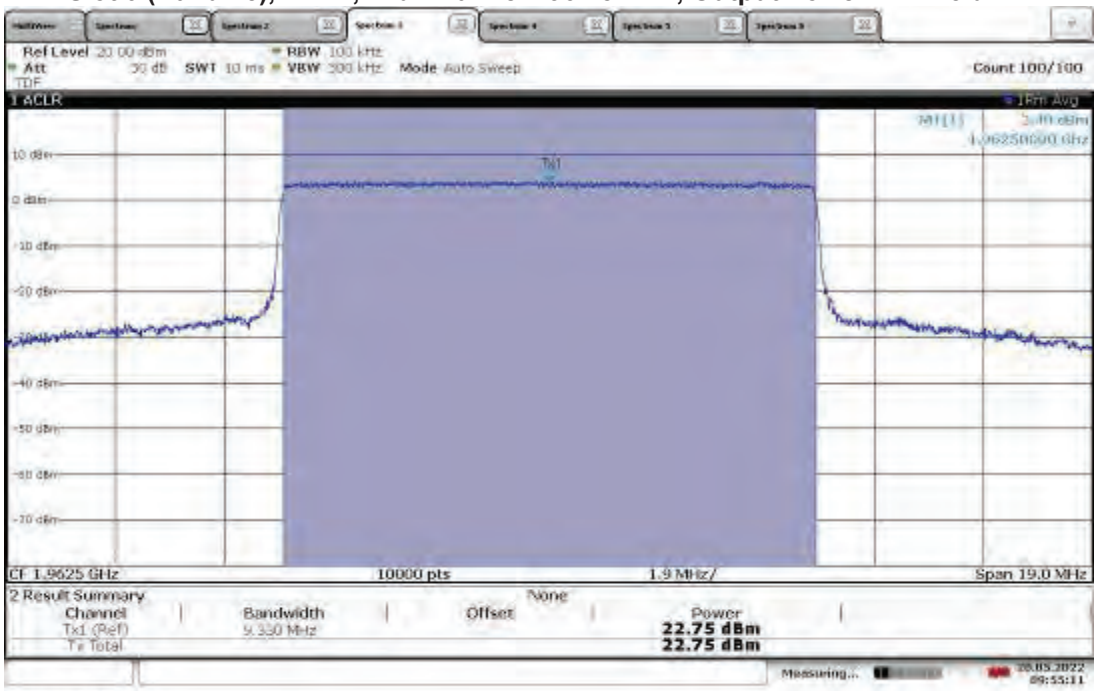
TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1935.00 MHz, Output Power = 22.43 dBm



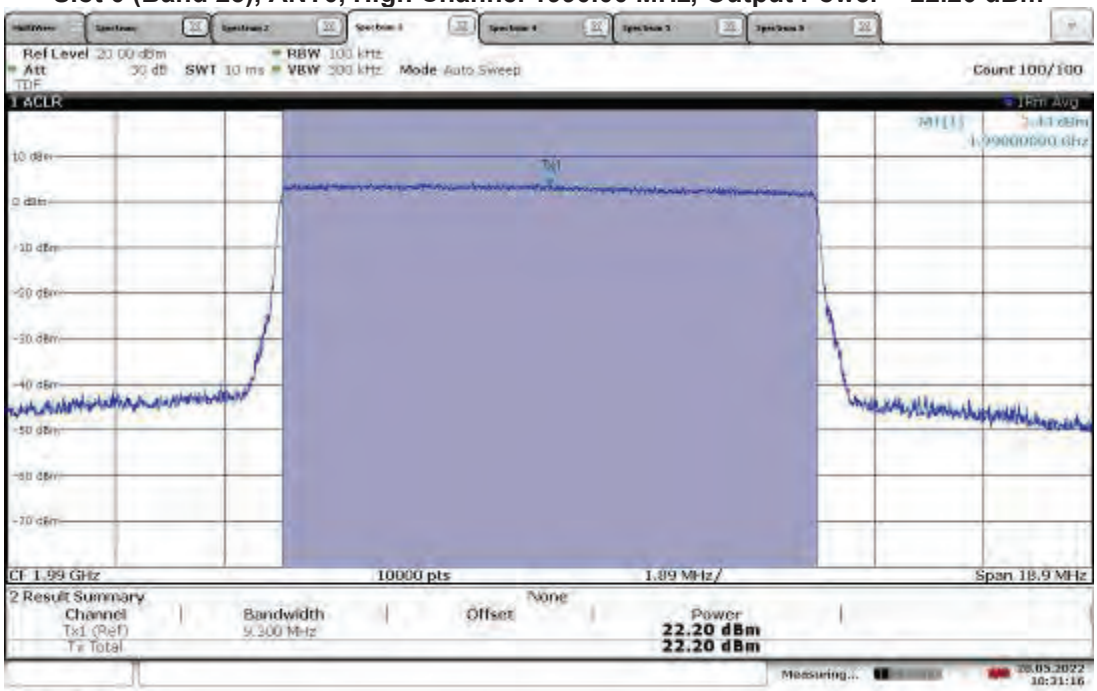
TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.5 MHz, Output Power = 22.48 dBm



TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.5 MHz, Output Power = 22.75 dBm

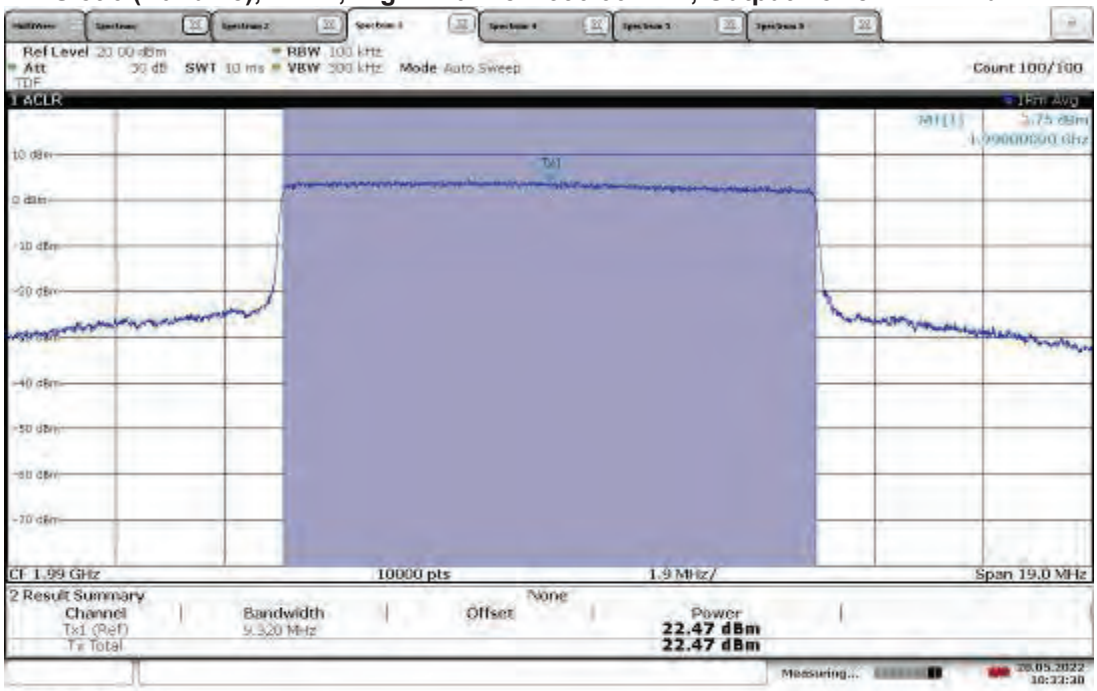


TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, Output Power = 22.20 dBm



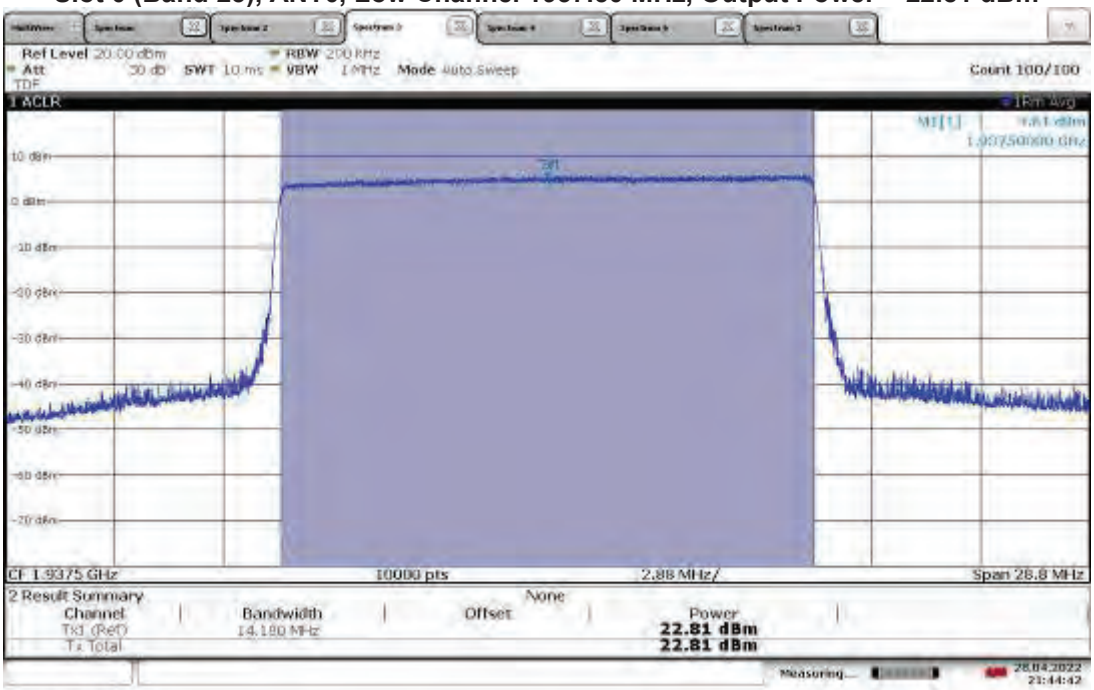
10:31:16 20.05.2022

TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1990.00 MHz, Output Power = 22.47 dBm



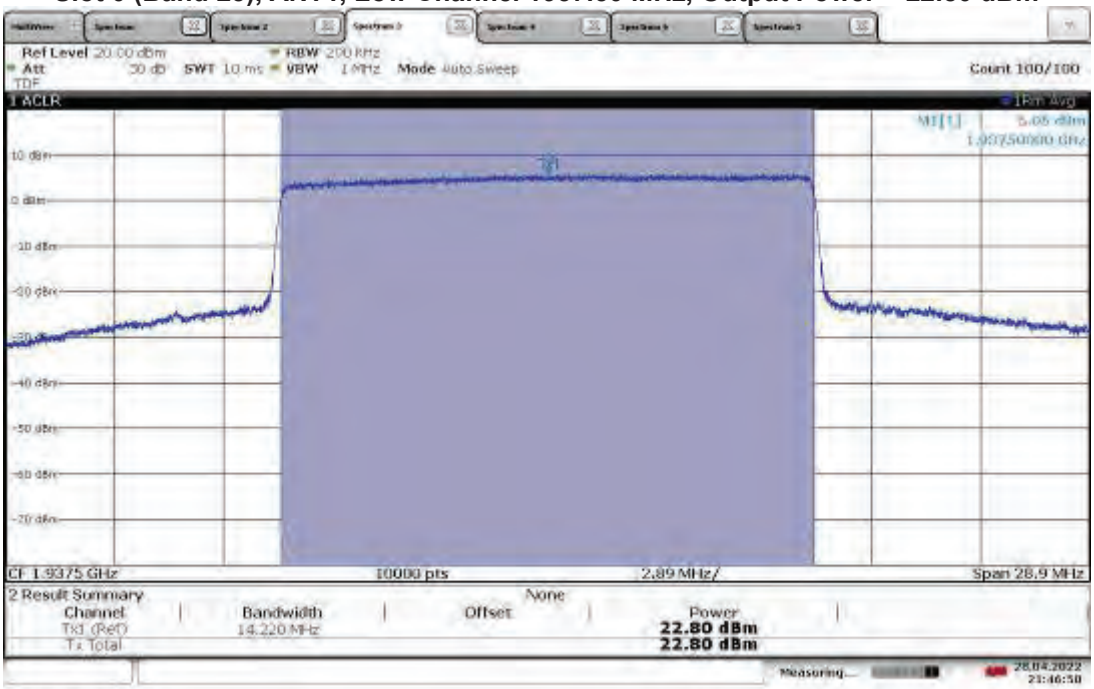
10:33:30 20.05.2022

TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1937.50 MHz, Output Power = 22.81 dBm



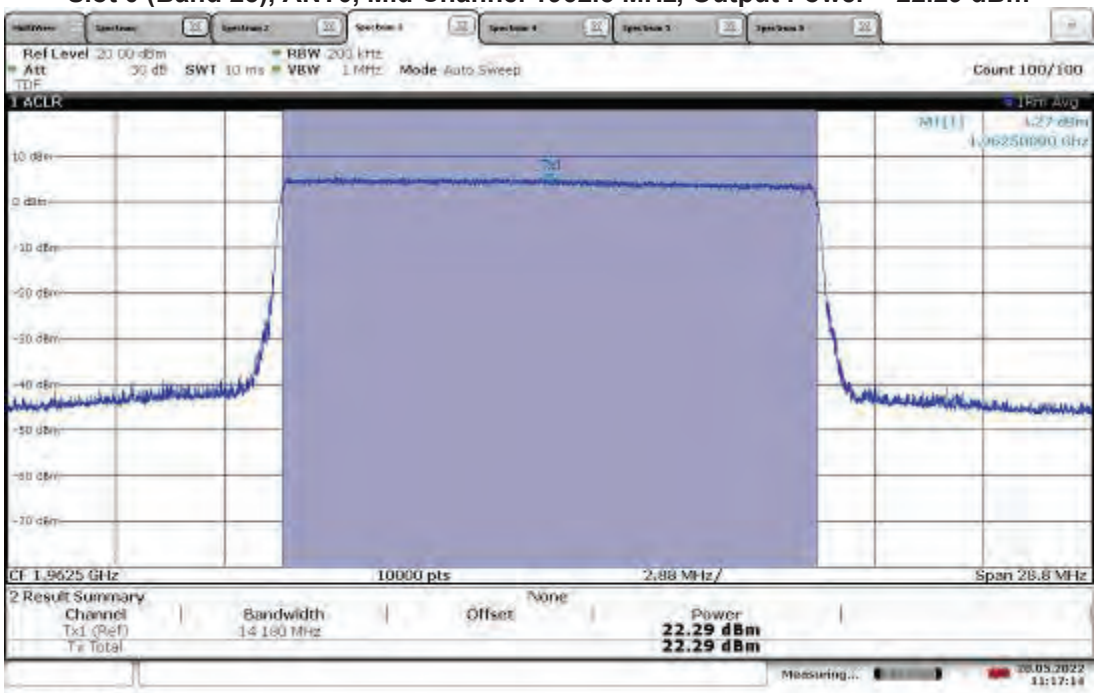
21:44:43 28.04.2022

TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1937.50 MHz, Output Power = 22.80 dBm

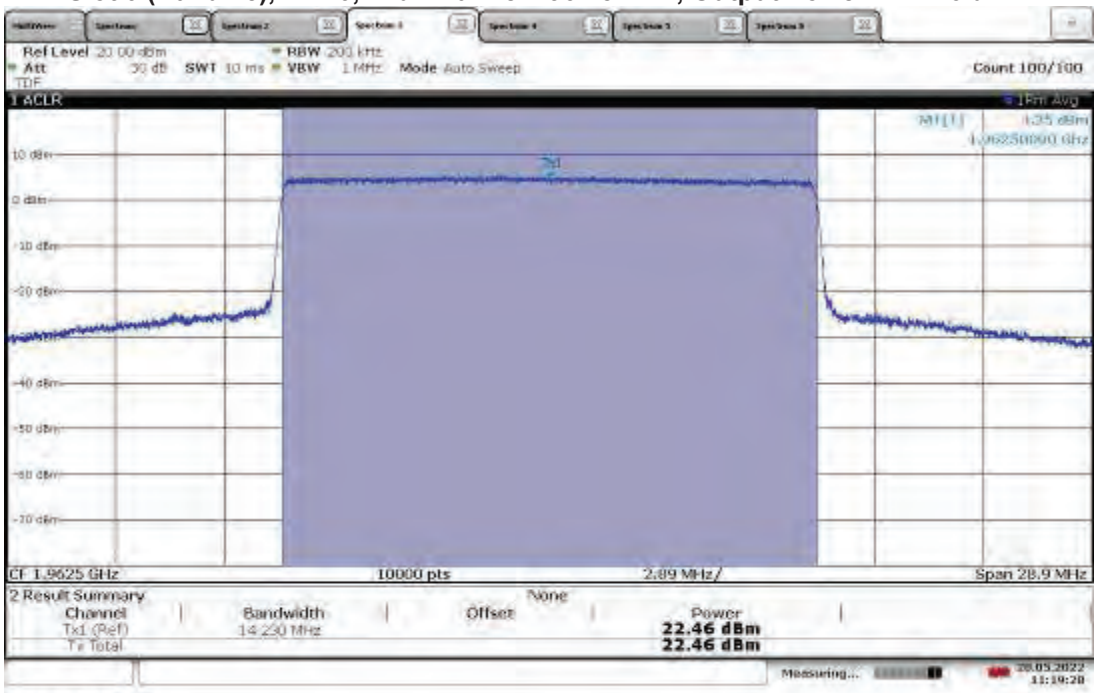


21:46:50 28.04.2022

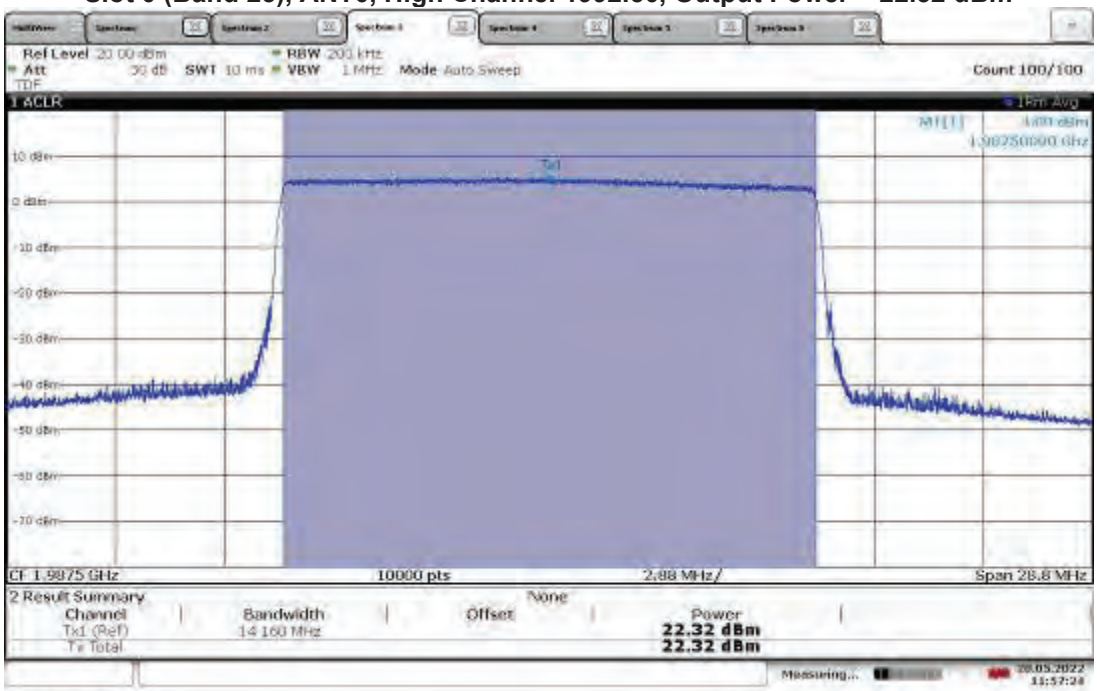
TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.5 MHz, Output Power = 22.29 dBm



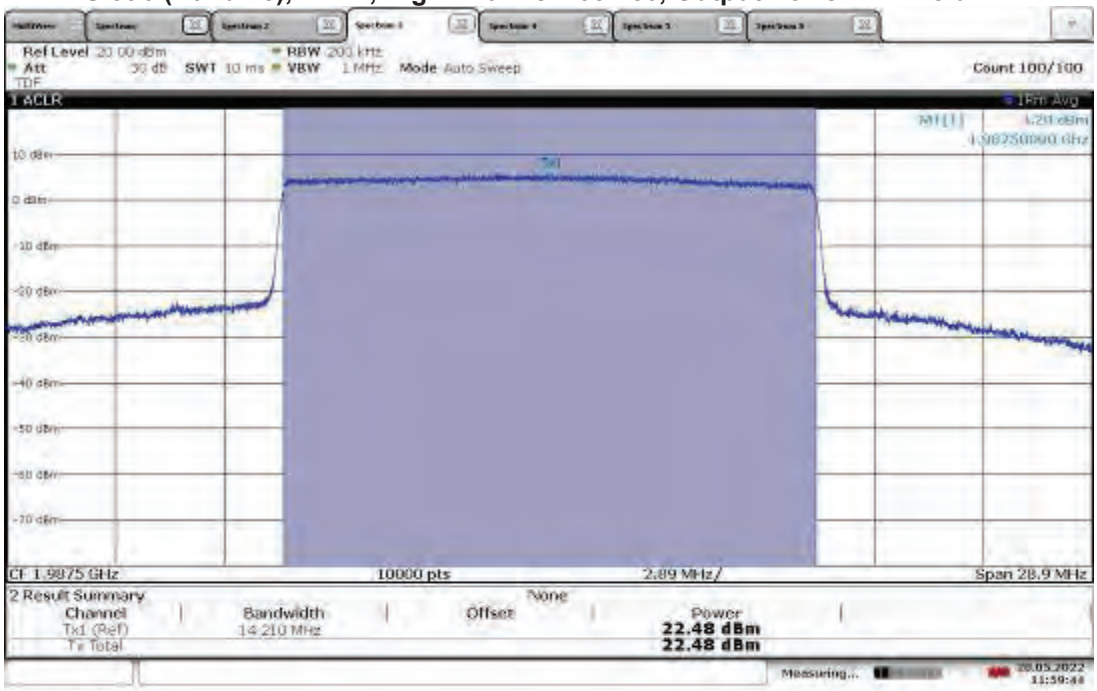
TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.5 MHz, Output Power = 22.46 dBm



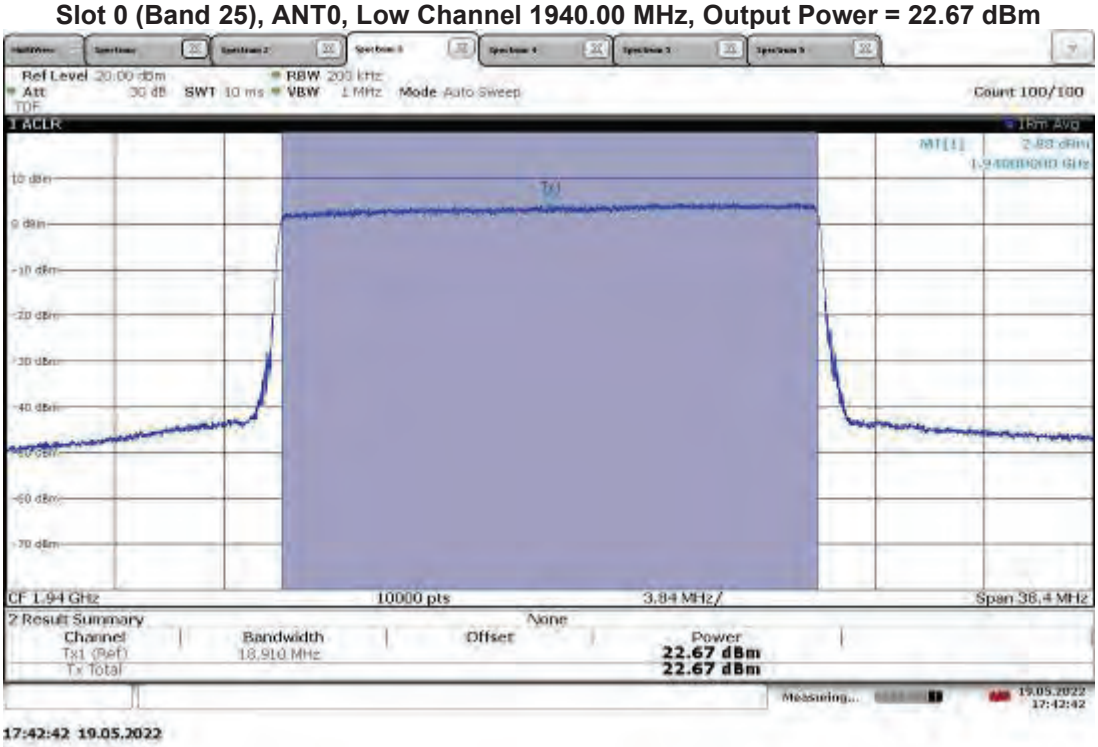
TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.50, Output Power = 22.32 dBm



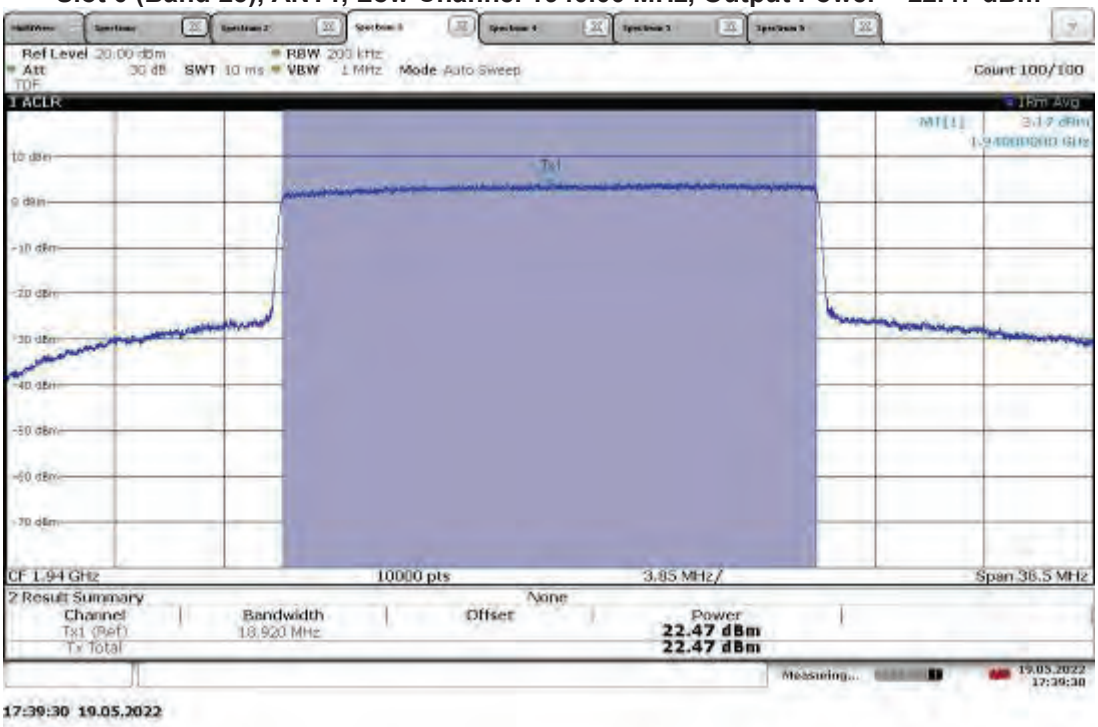
TM1.1-QPSK_15 MHz Bandwidth ((5G NR)
Slot 0 (Band 25), ANT1, High Channel 1992.50, Output Power = 22.48 dBm



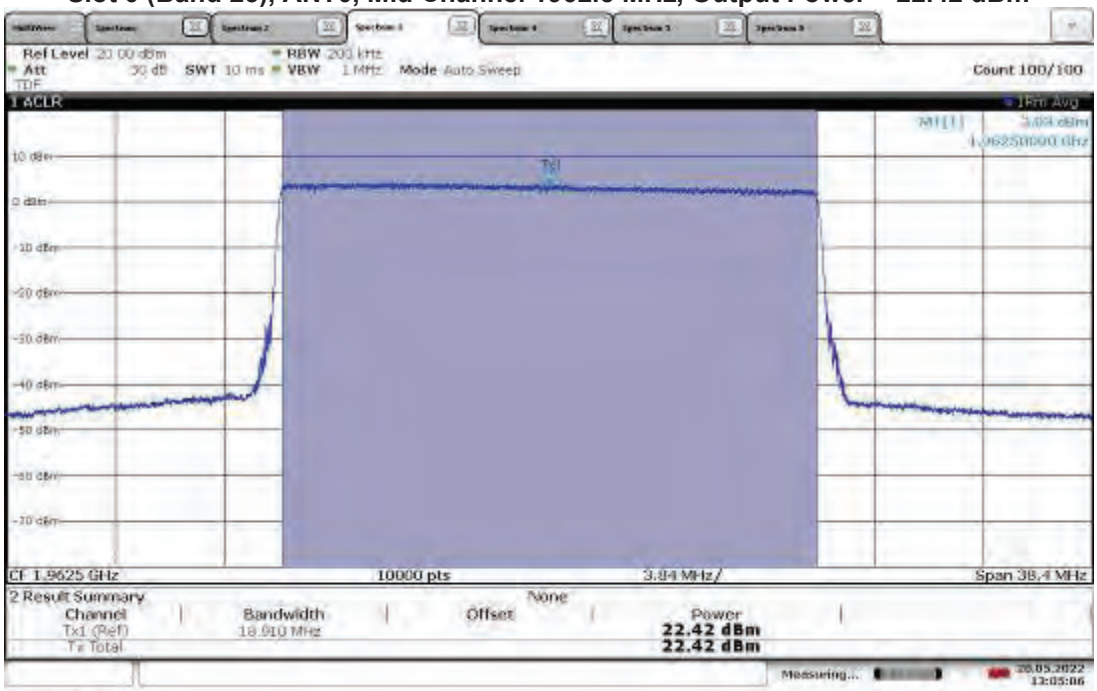
TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1940.00 MHz, Output Power = 22.67 dBm



TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1940.00 MHz, Output Power = 22.47 dBm

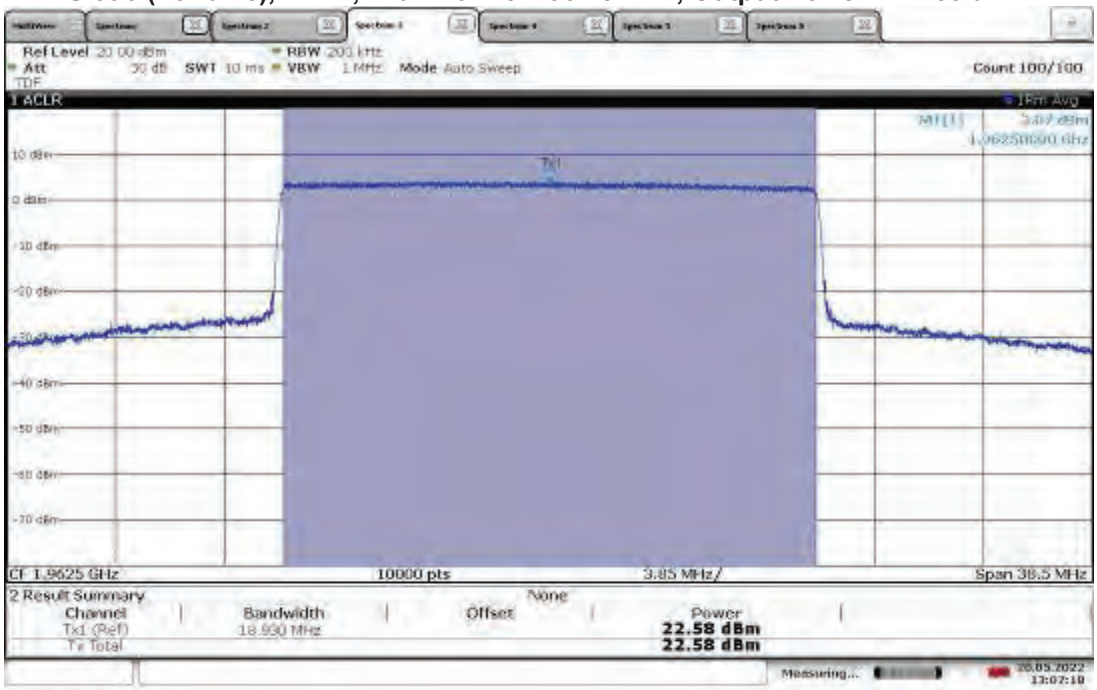


TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.5 MHz, Output Power = 22.42 dBm



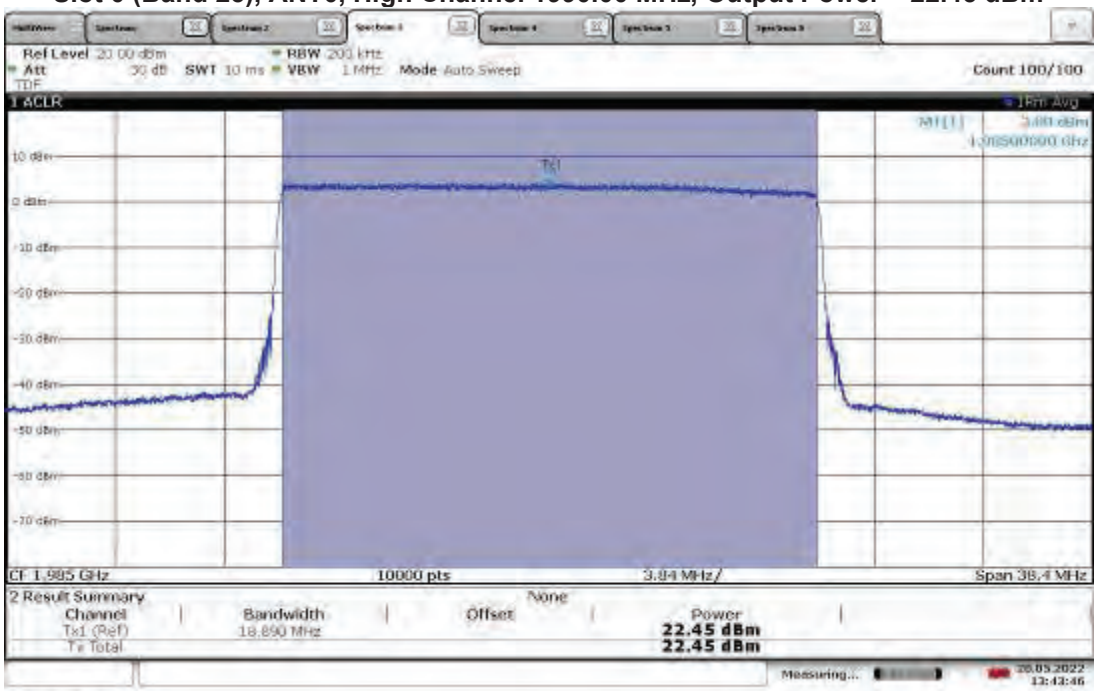
13:05:06 20.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.5 MHz, Output Power = 22.58 dBm



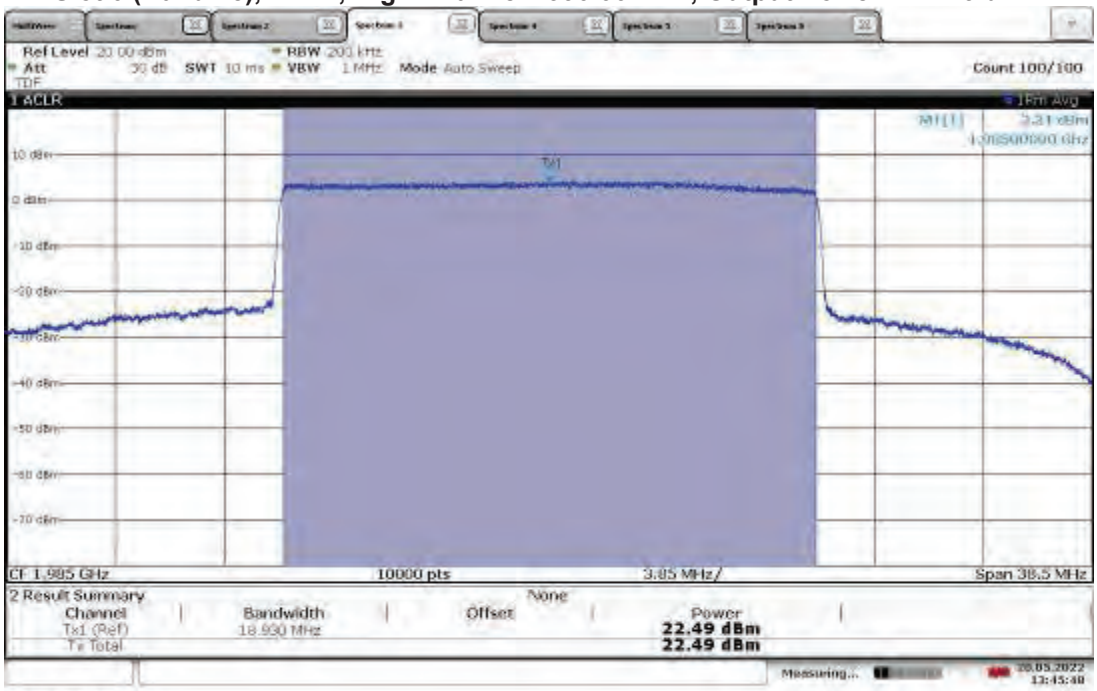
13:07:19 20.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, Output Power = 22.45 dBm



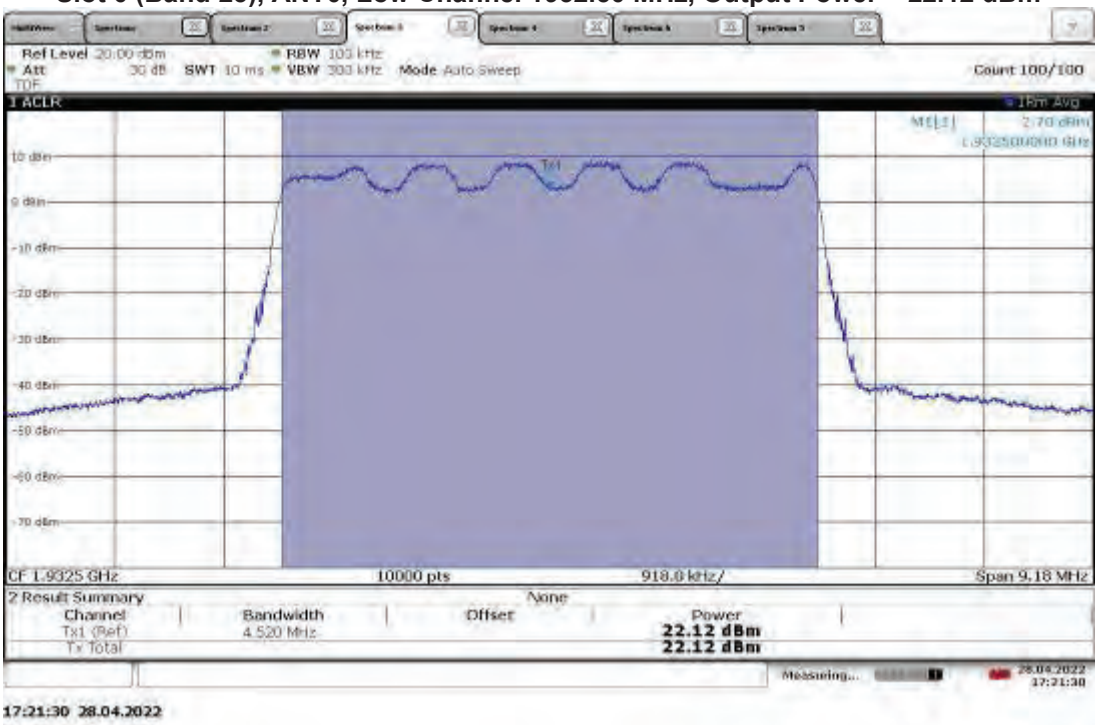
13:43:46 20.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1990.00 MHz, Output Power = 22.49 dBm

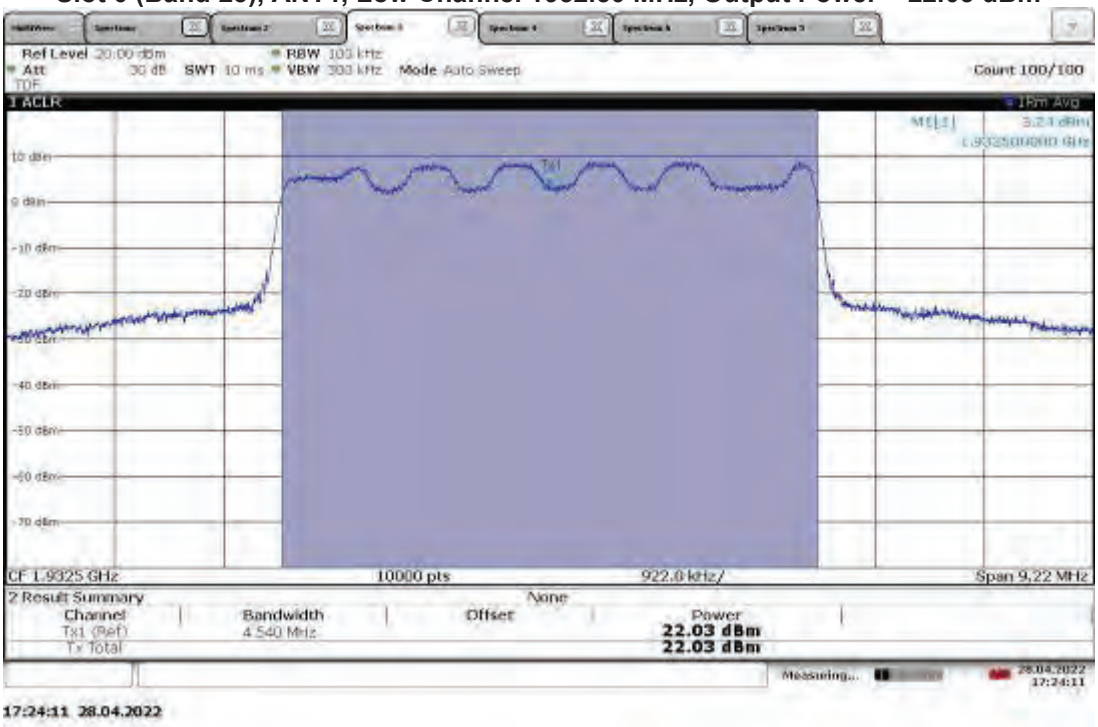


13:45:49 20.05.2022

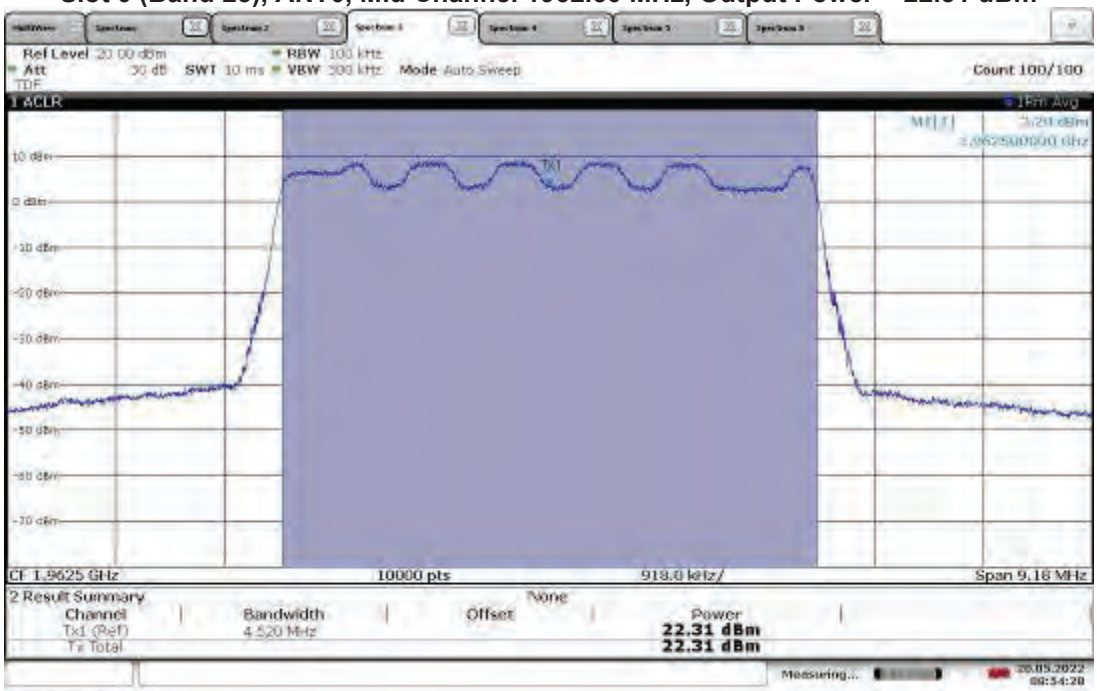
TM3.2-16QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1932.50 MHz, Output Power = 22.12 dBm



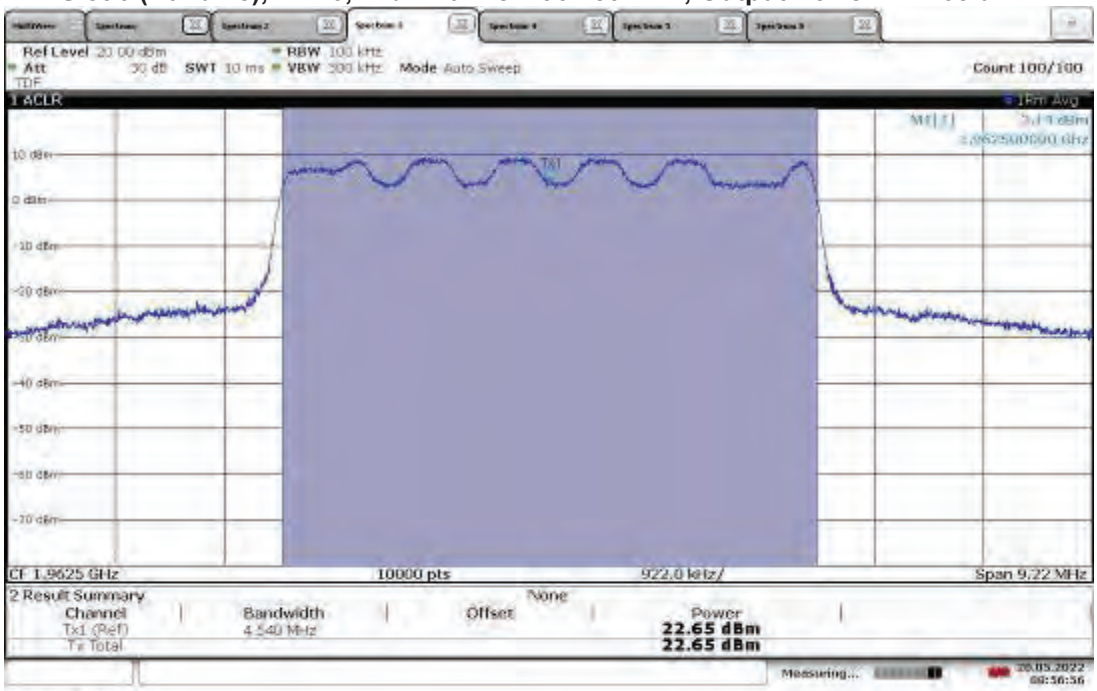
TM3.2-16QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1932.50 MHz, Output Power = 22.03 dBm



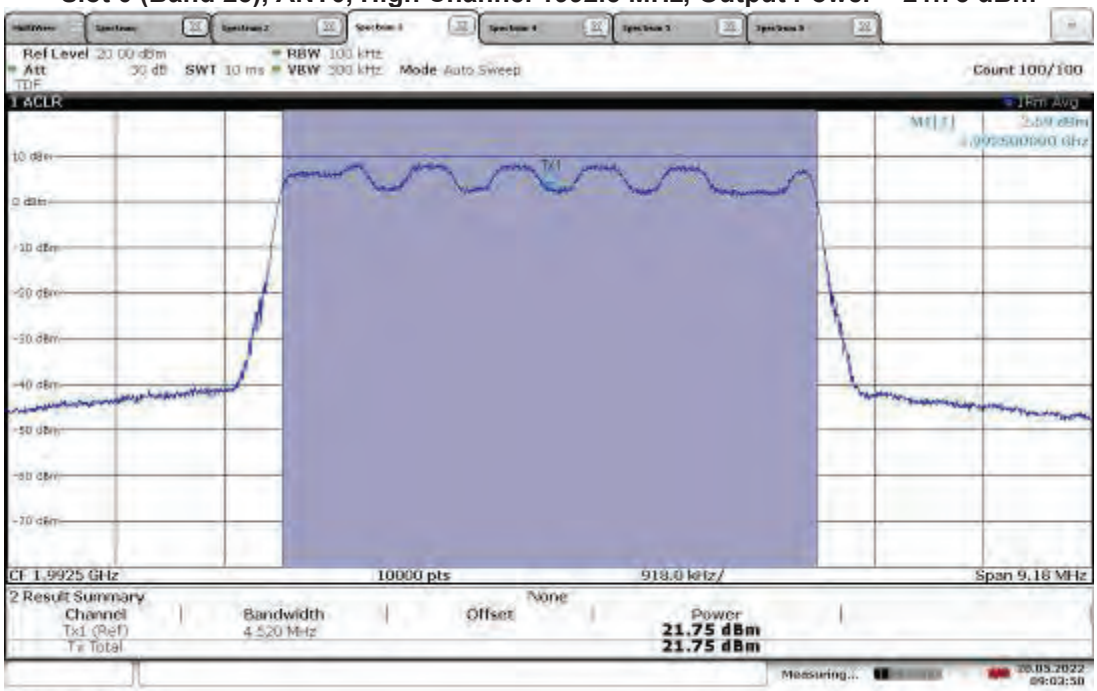
TM3.2-16QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.31 dBm



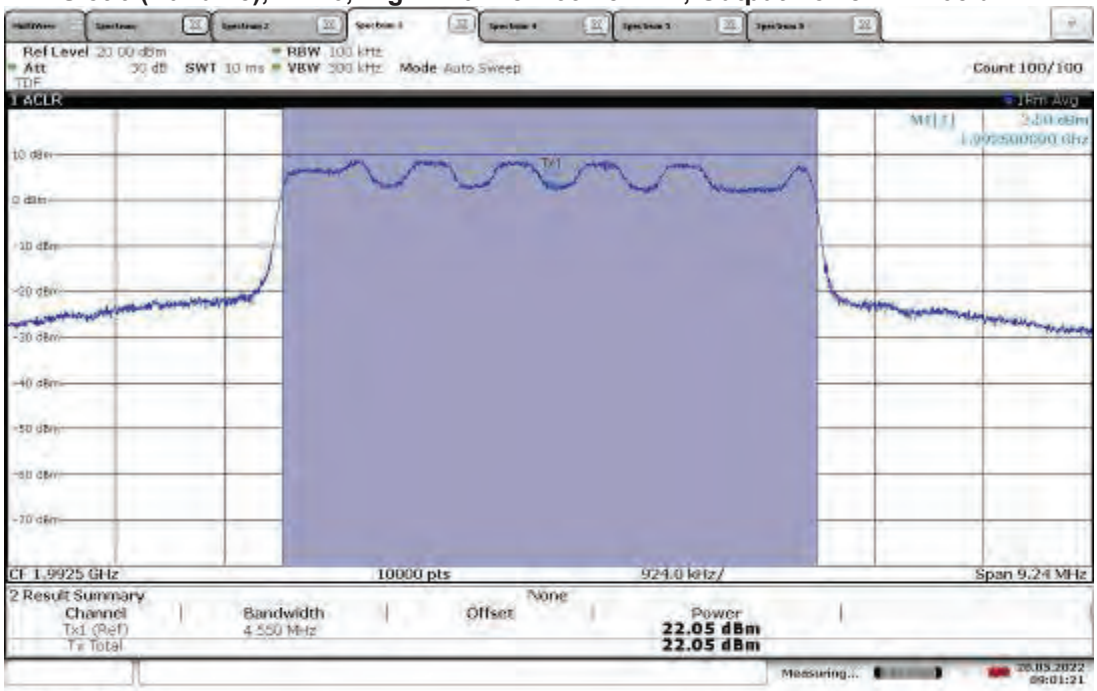
TM3.2-16QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.65 dBm



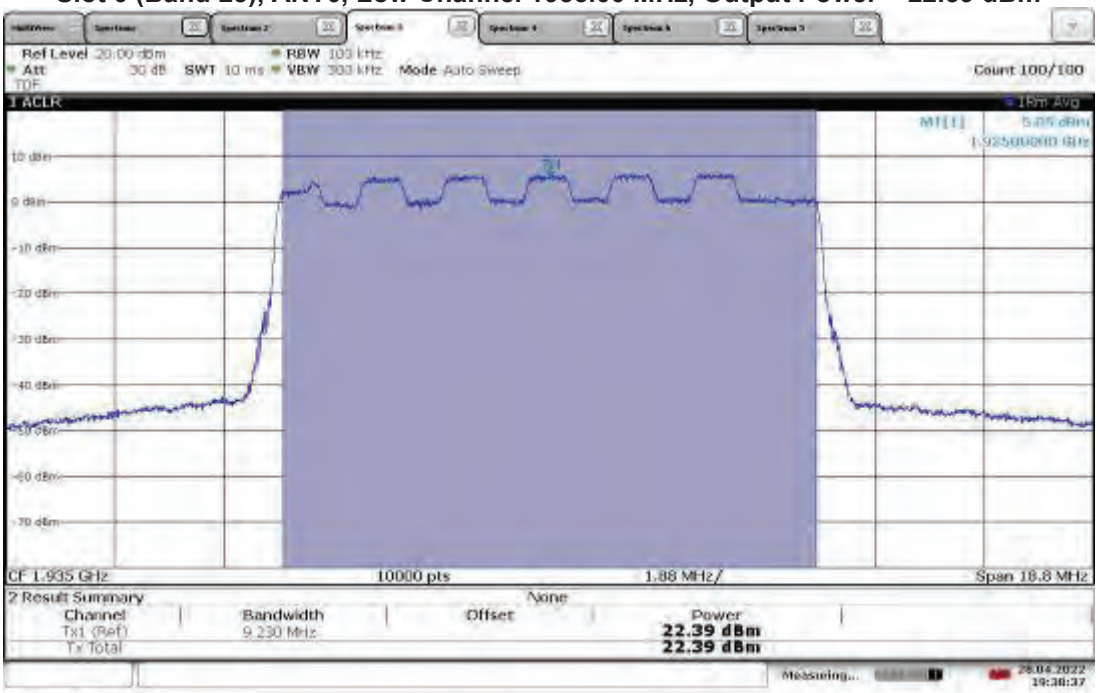
TM3.2-16QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.5 MHz, Output Power = 21.75 dBm



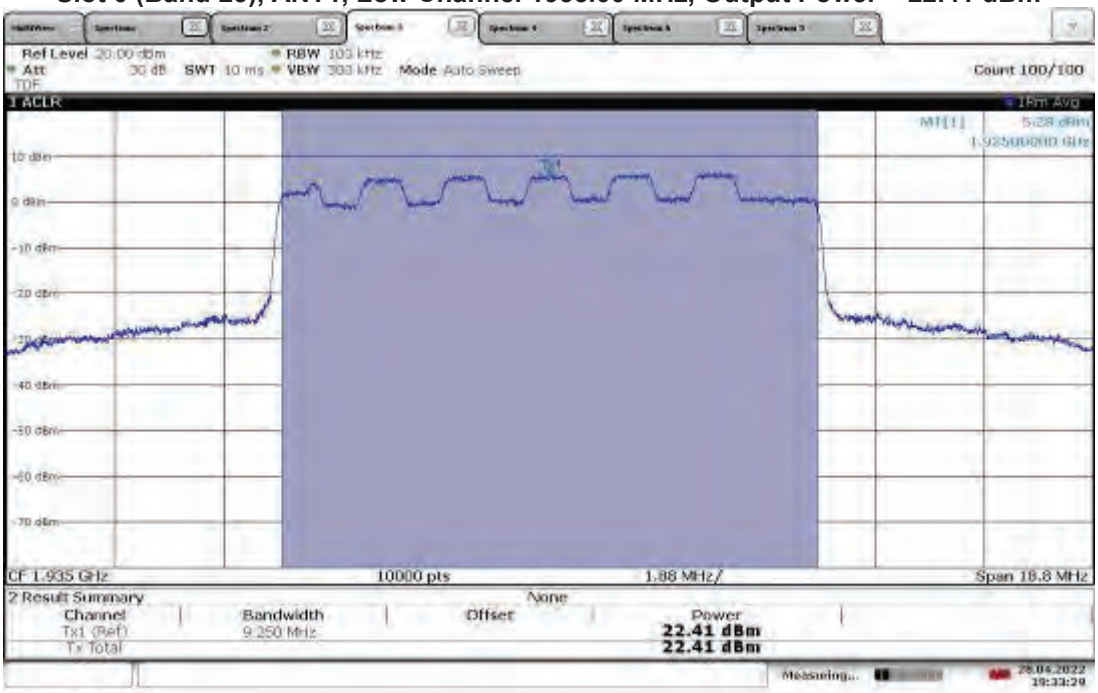
TM3.2-16QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.5 MHz, Output Power = 22.05 dBm



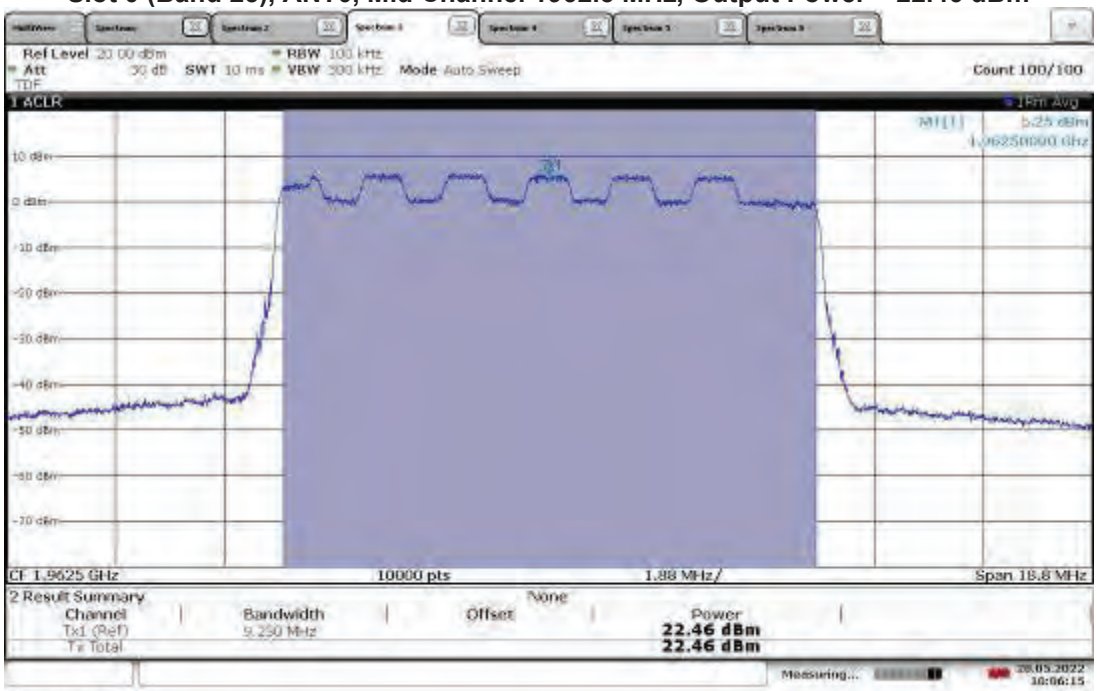
TM3.2-16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1935.00 MHz, Output Power = 22.39 dBm



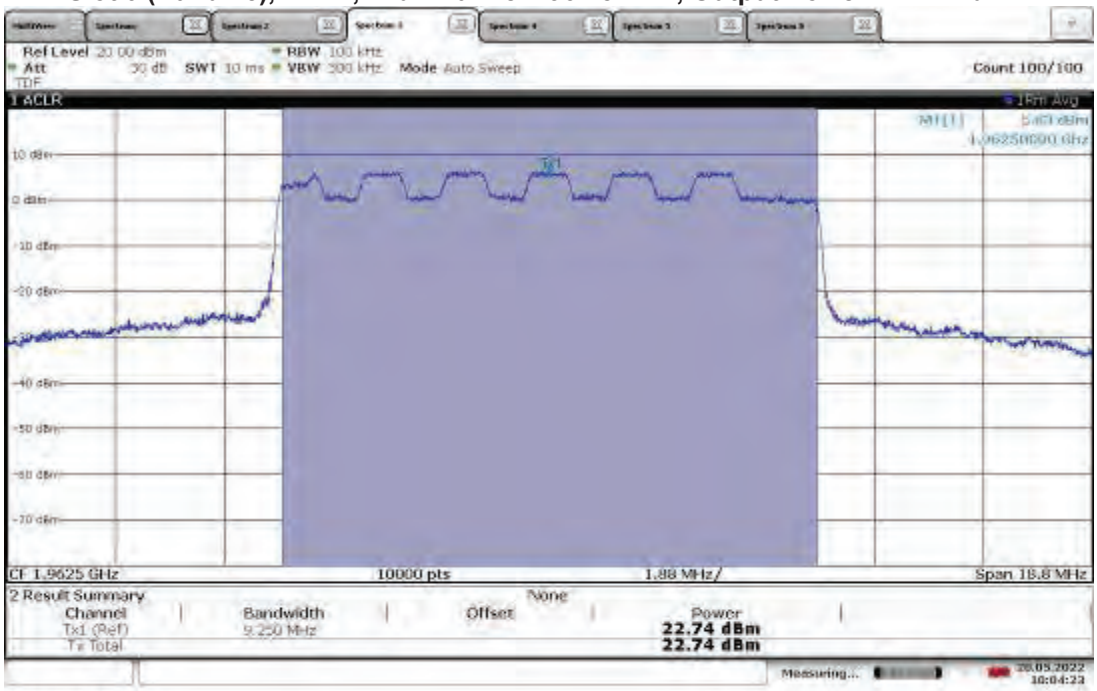
TM3.2-16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1935.00 MHz, Output Power = 22.41 dBm



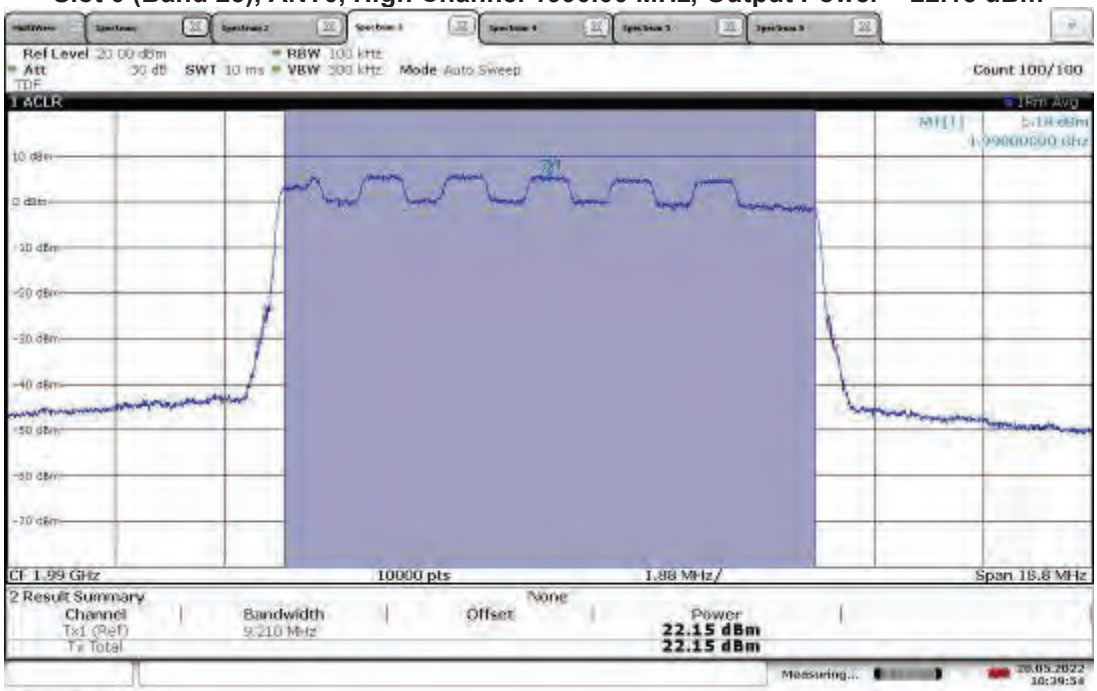
TM3.2-16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.5 MHz, Output Power = 22.46 dBm



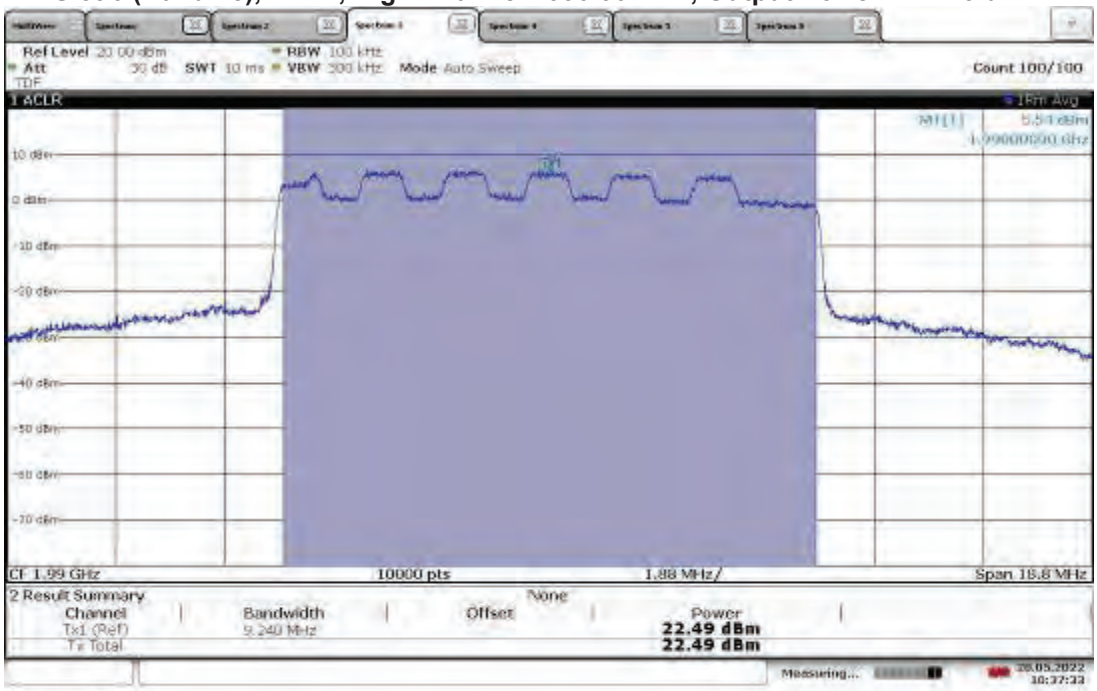
TM3.2-16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.5 MHz, Output Power = 22.74 dBm



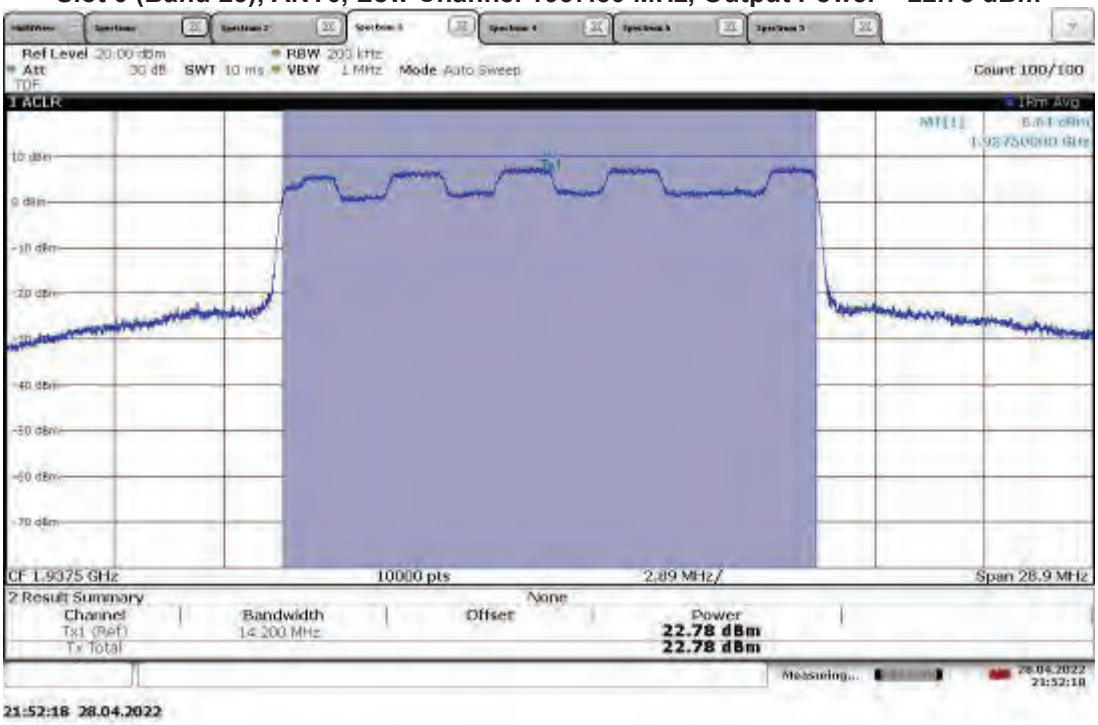
TM3.2-16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, Output Power = 22.15 dBm



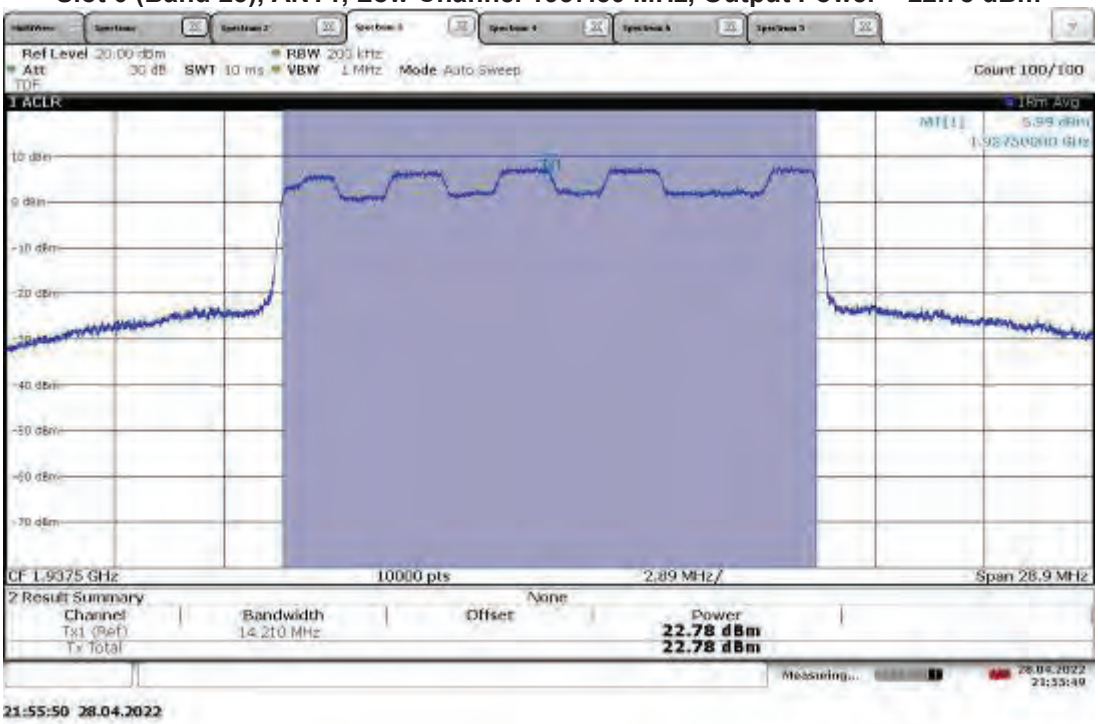
TM3.2-16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1990.00 MHz, Output Power = 22.49 dBm



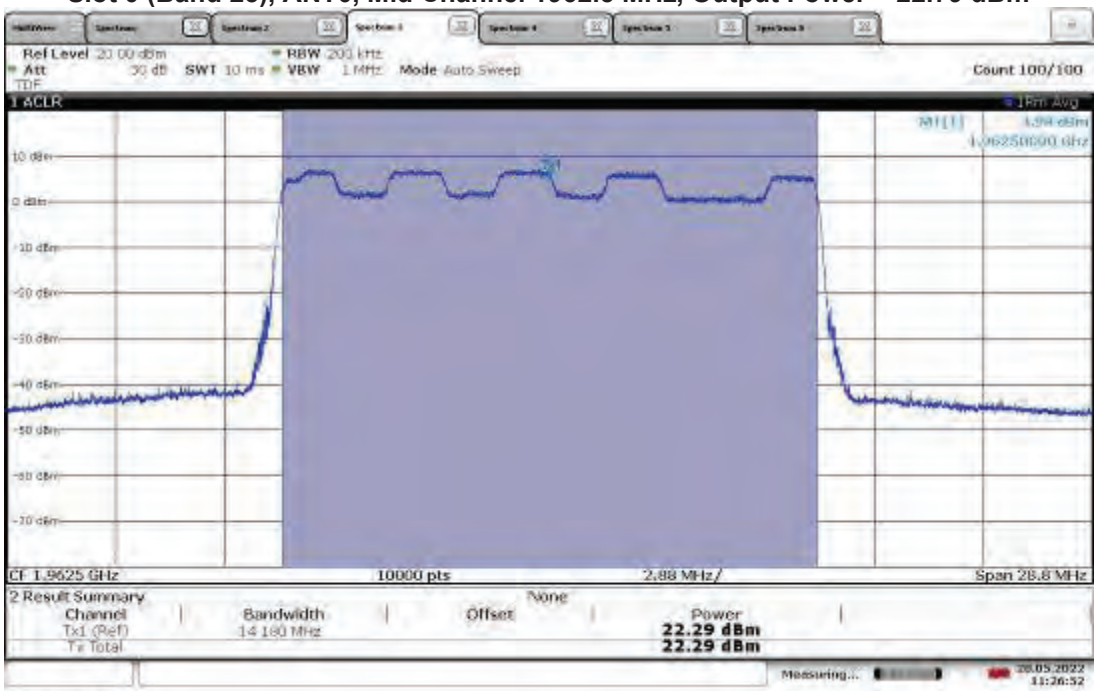
TM3.2-16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1937.50 MHz, Output Power = 22.78 dBm



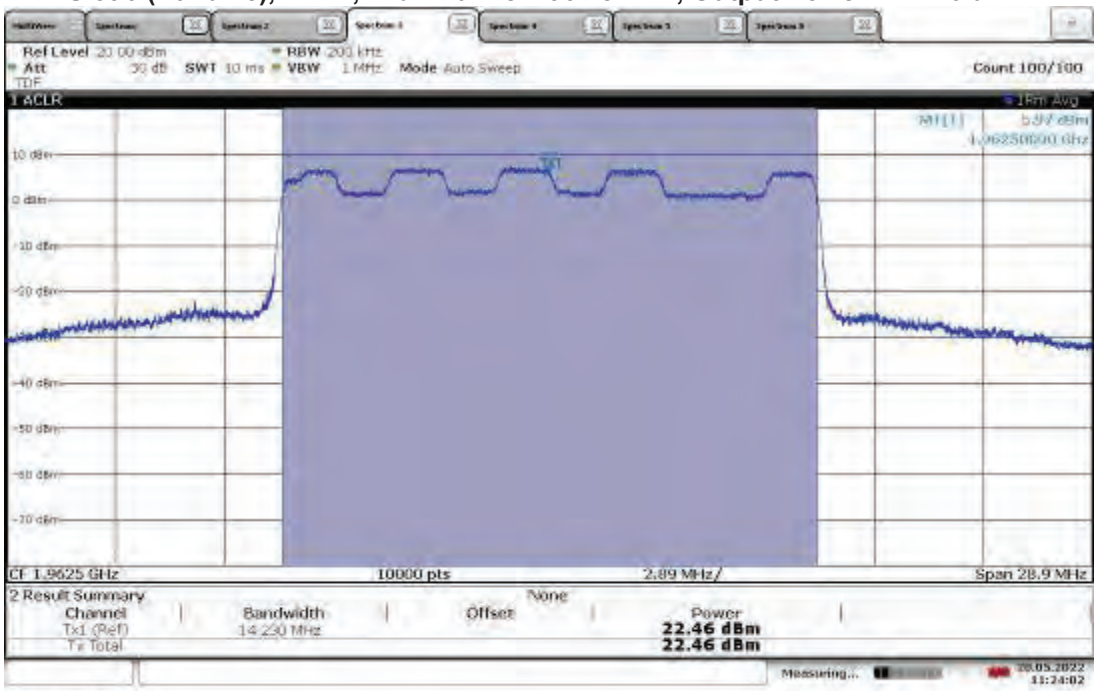
TM3.2-16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1937.50 MHz, Output Power = 22.78 dBm



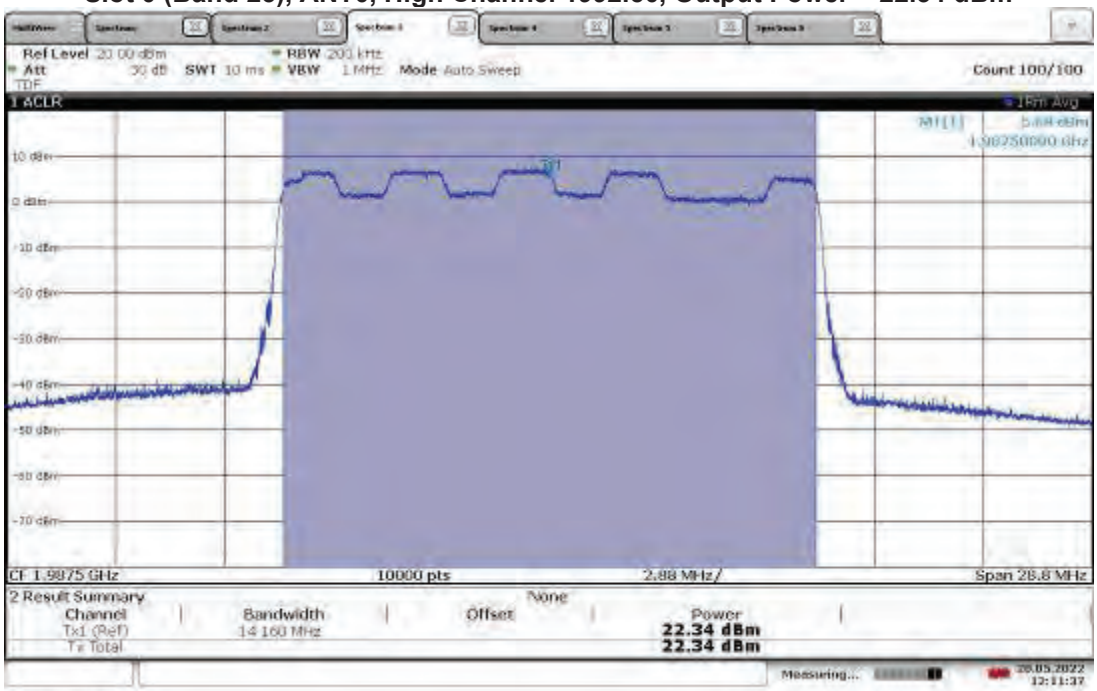
TM3.2-16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.5 MHz, Output Power = 22.79 dBm



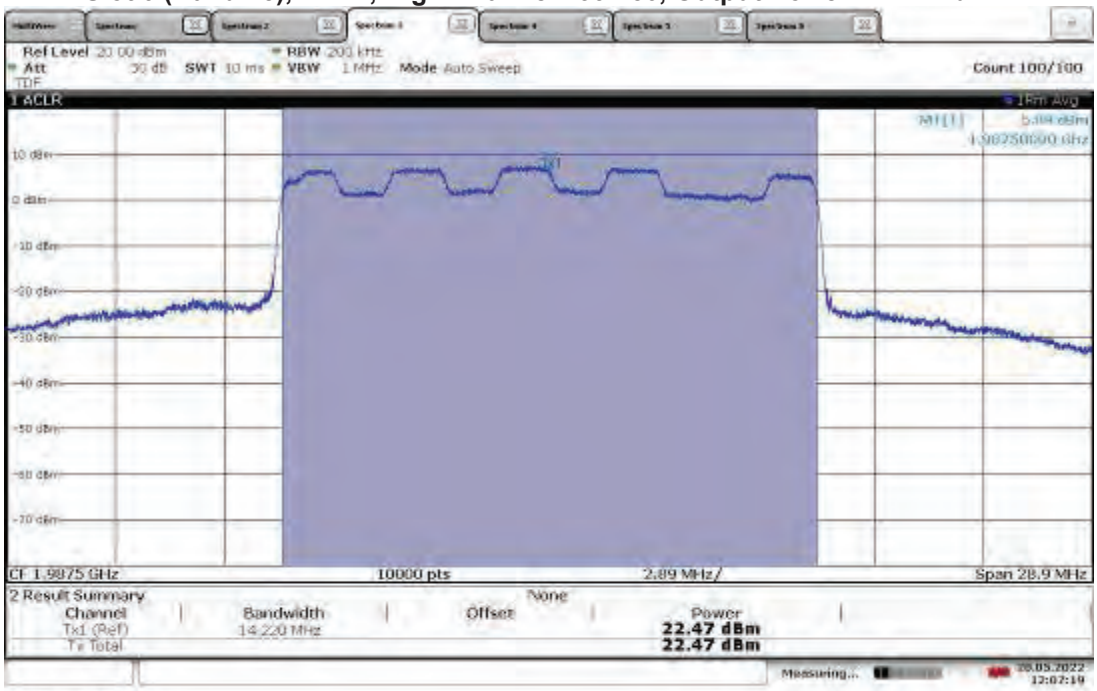
TM3.2-16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.5 MHz, Output Power = 22.46 dBm



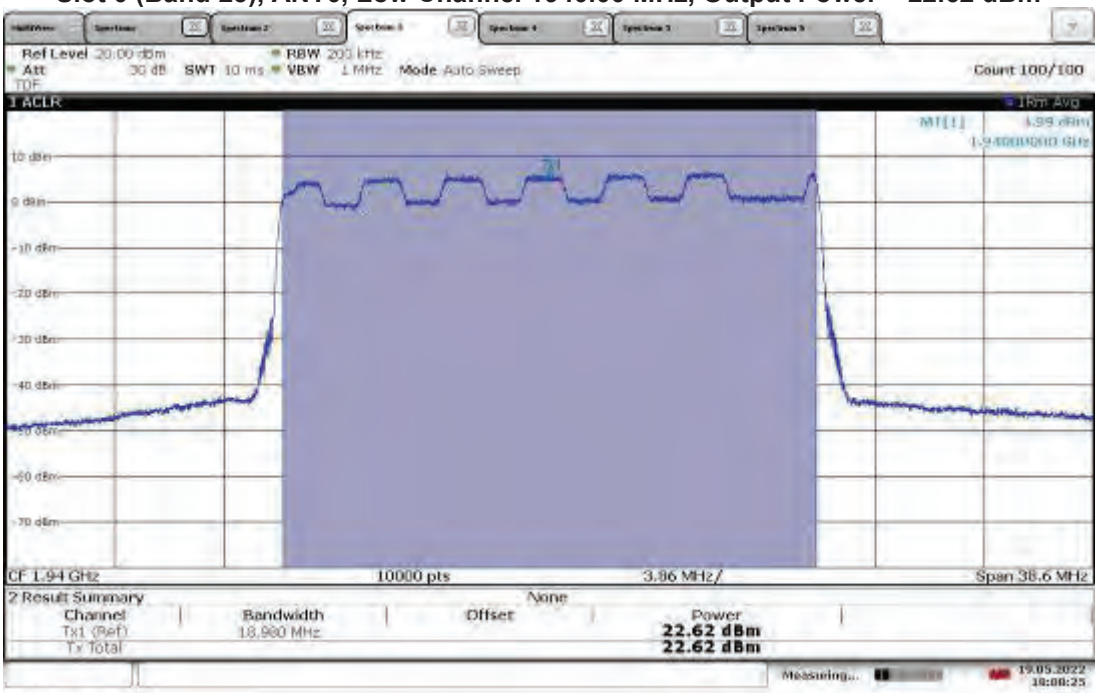
TM3.2-16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.50, Output Power = 22.34 dBm



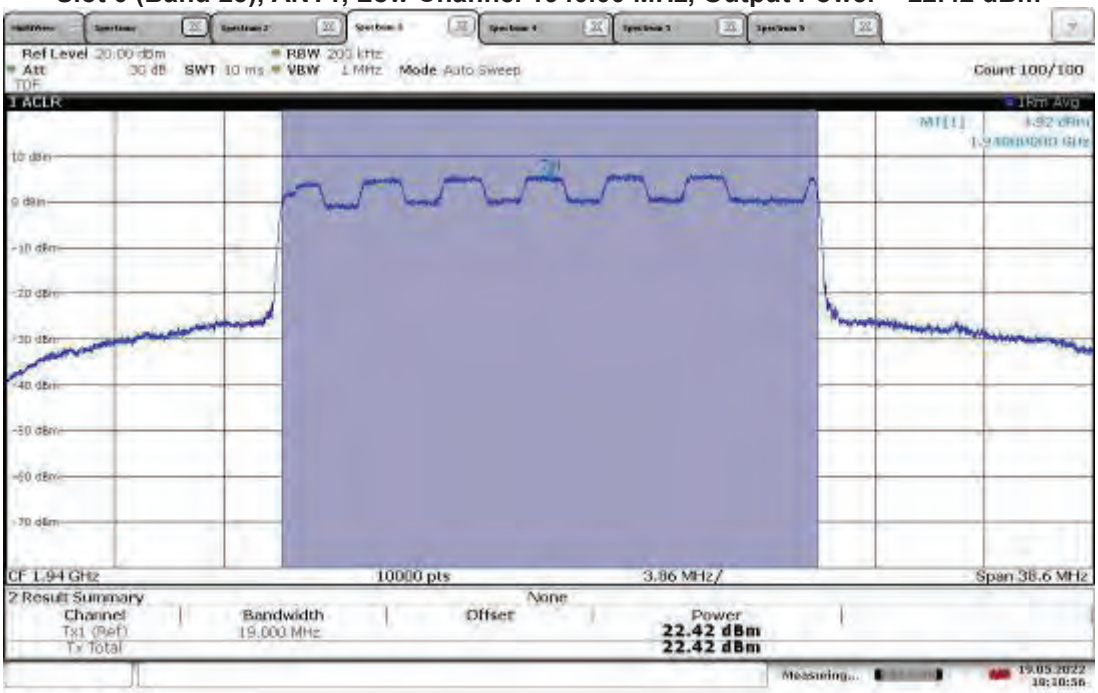
TM3.2-16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1992.50, Output Power = 22.47 dBm



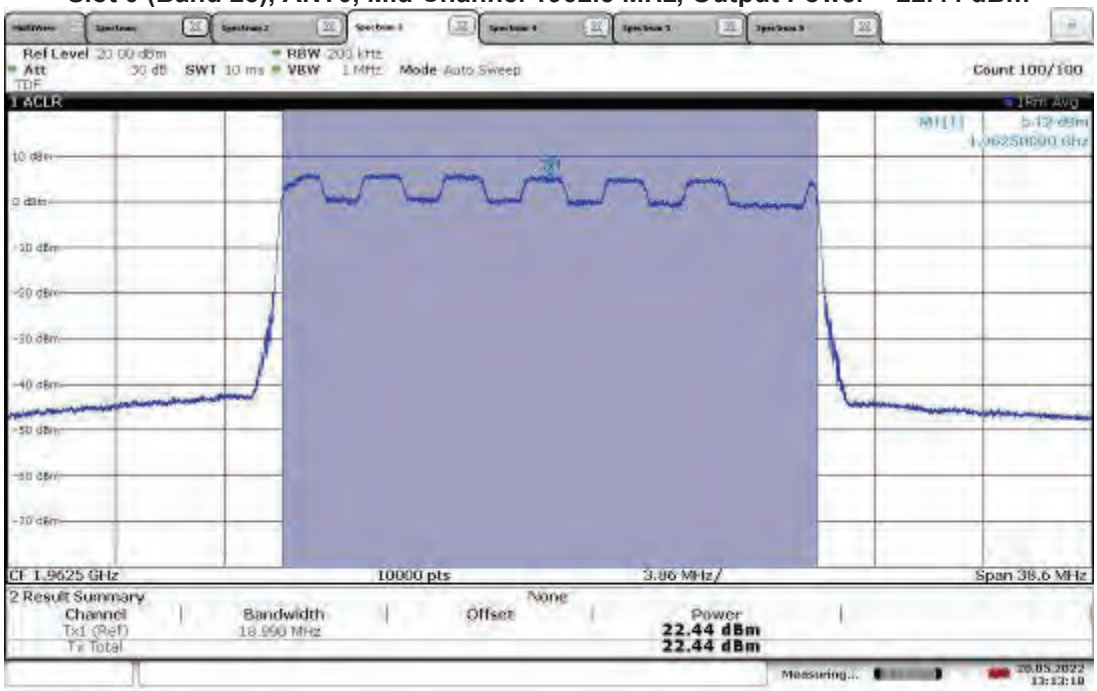
TM3.2-16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1940.00 MHz, Output Power = 22.62 dBm



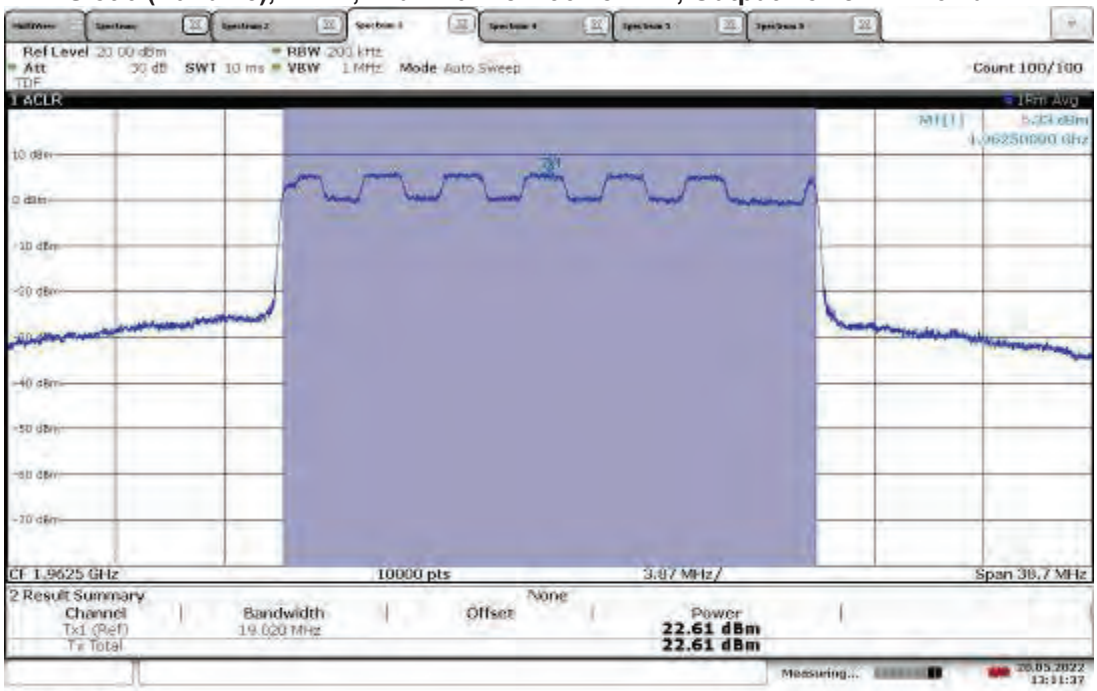
TM3.2-16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1940.00 MHz, Output Power = 22.42 dBm



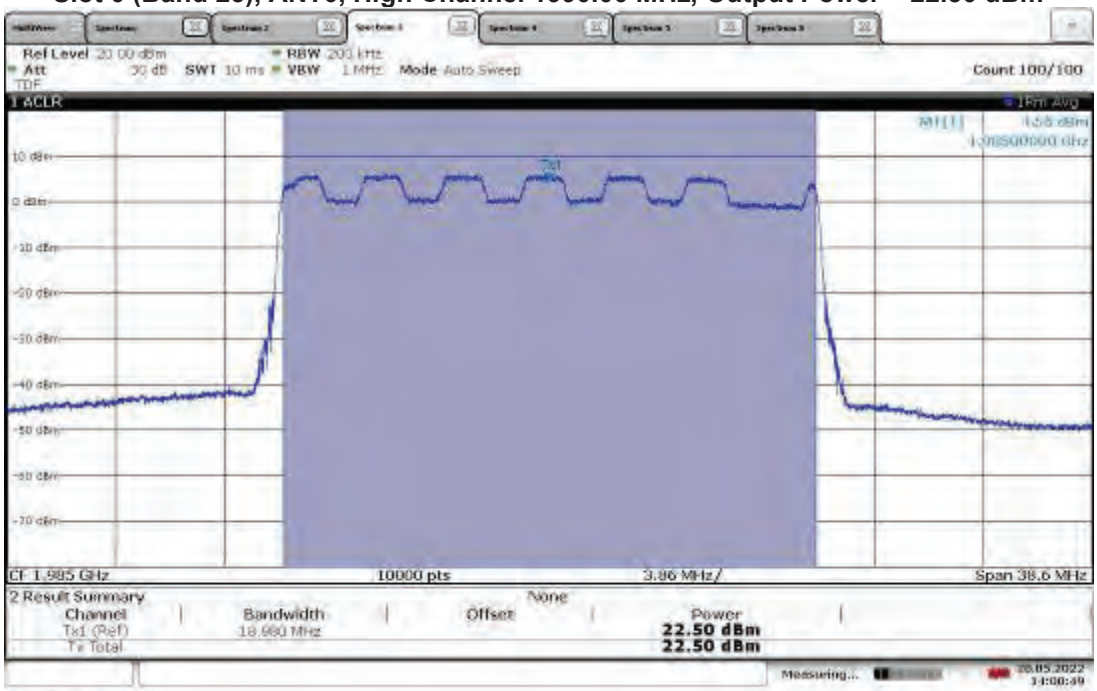
TM3.2-16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.5 MHz, Output Power = 22.44 dBm



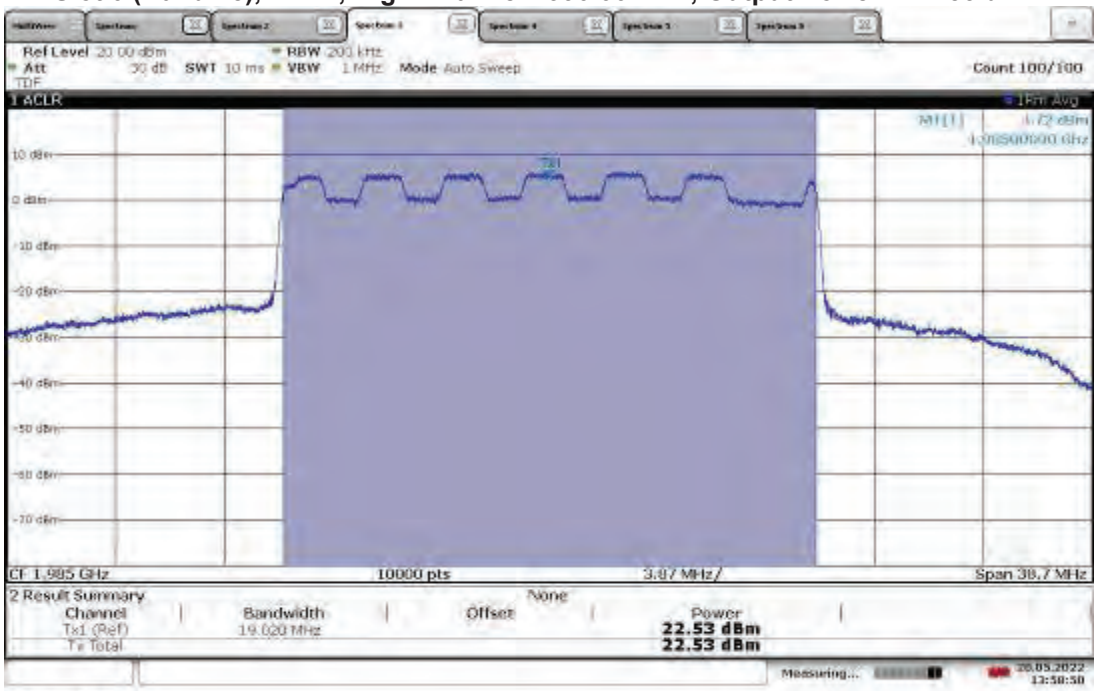
TM3.2-16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.5 MHz, Output Power = 22.61 dBm



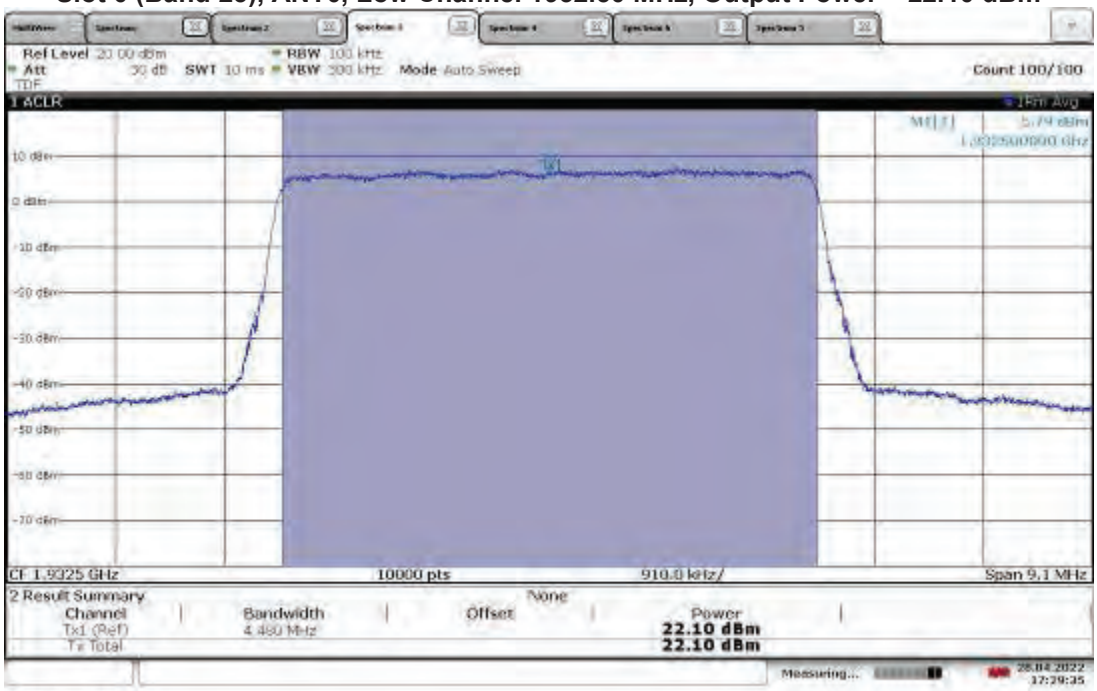
TM3.2-16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, Output Power = 22.50 dBm



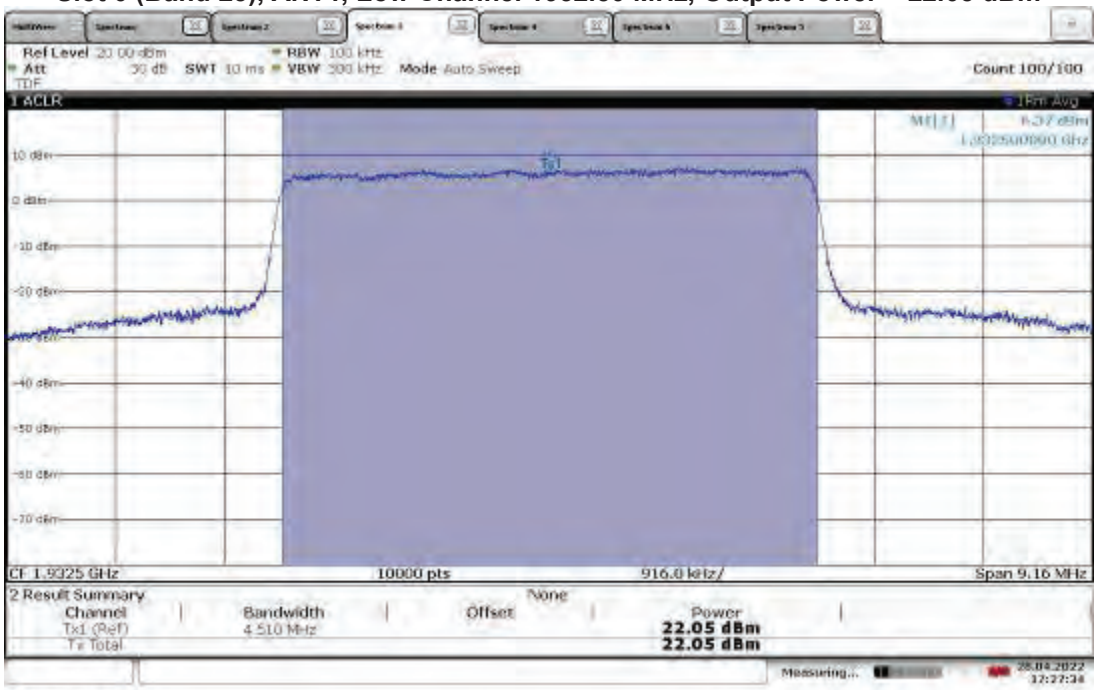
TM3.2-16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1990.00 MHz, Output Power = 22.53 dBm



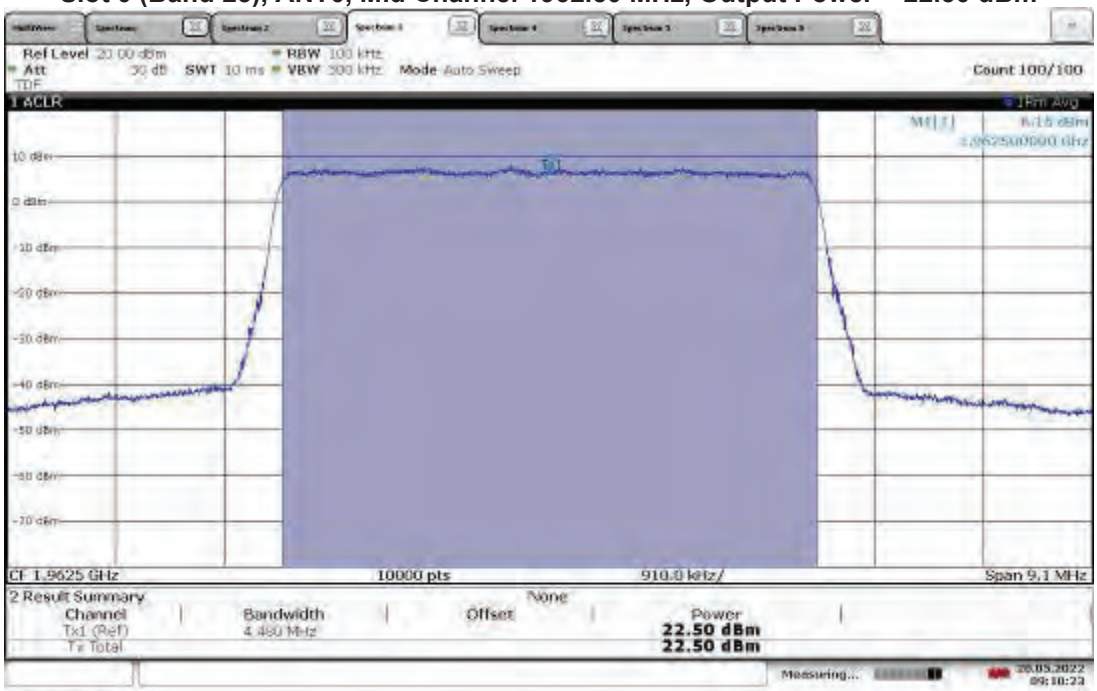
TM3.1-64QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1932.50 MHz, Output Power = 22.10 dBm



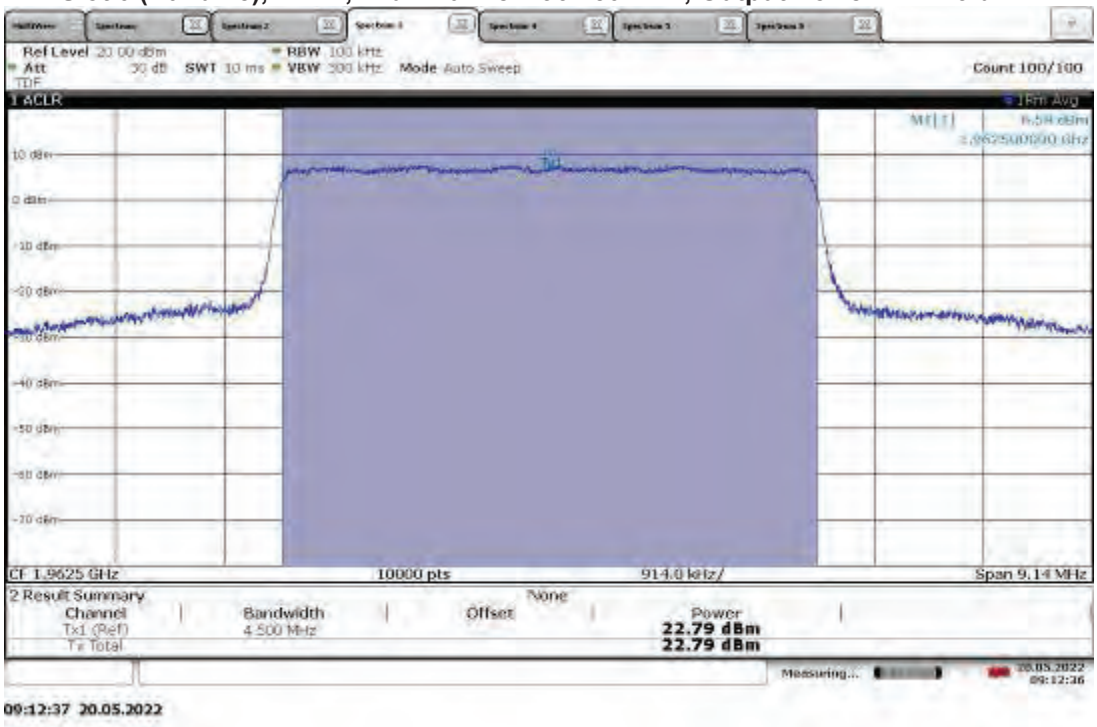
TM3.1-64QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1932.50 MHz, Output Power = 22.05 dBm



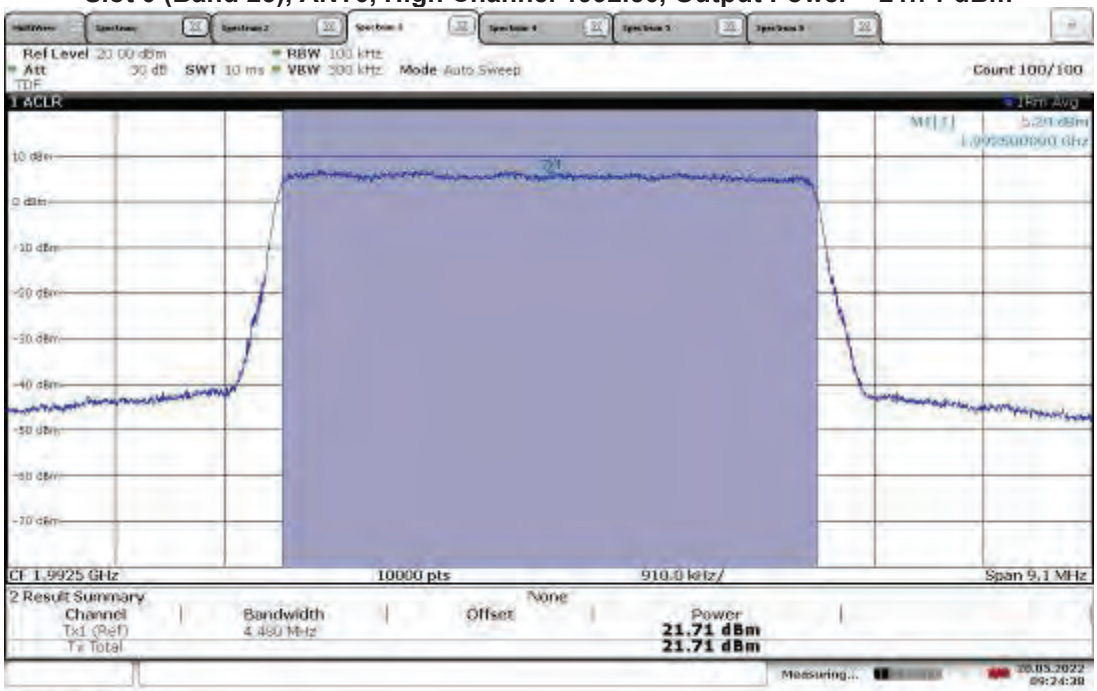
TM3.1-64QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.50 dBm



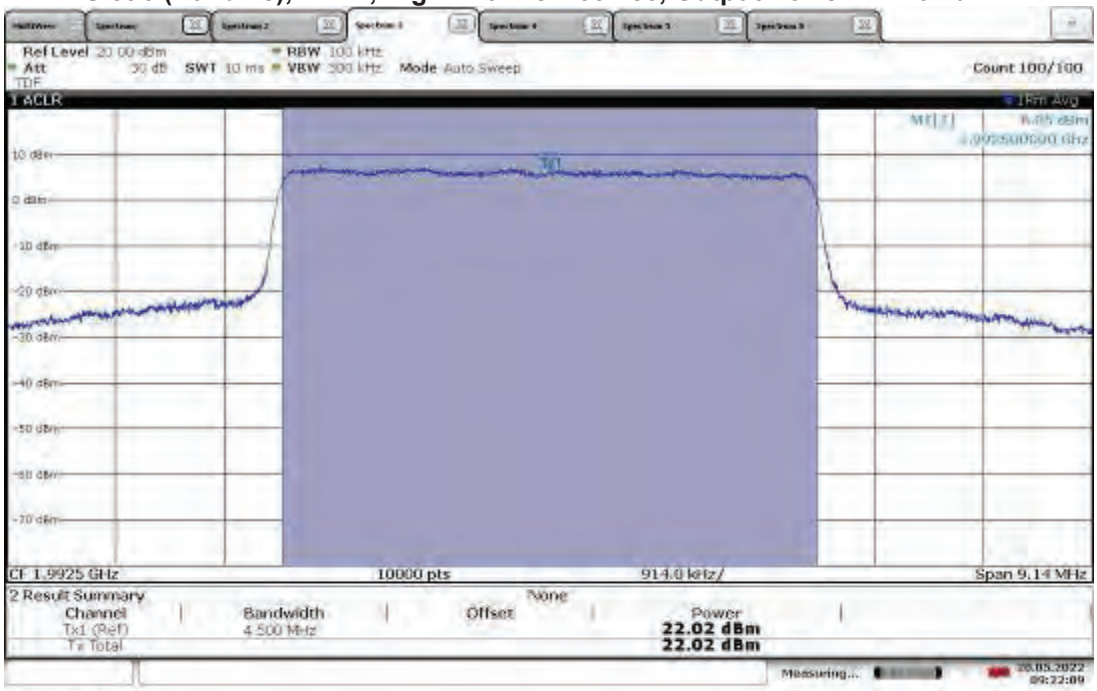
TM3.1-64QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, Output Power = 22.79 dBm



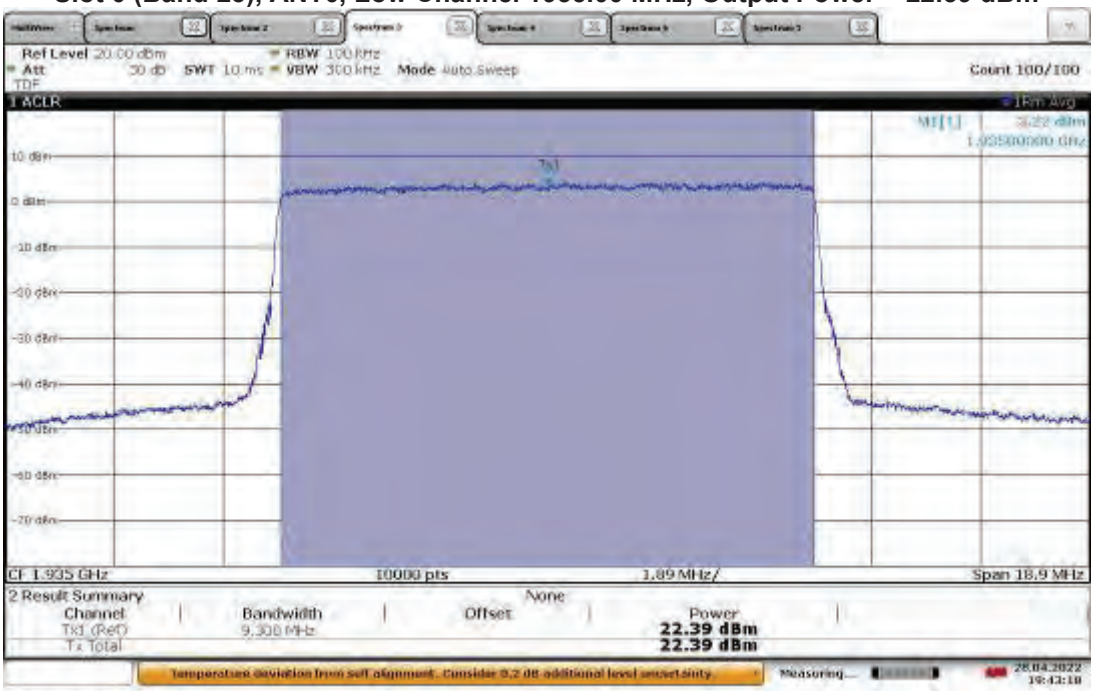
TM3.1-64QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.50, Output Power = 21.71 dBm



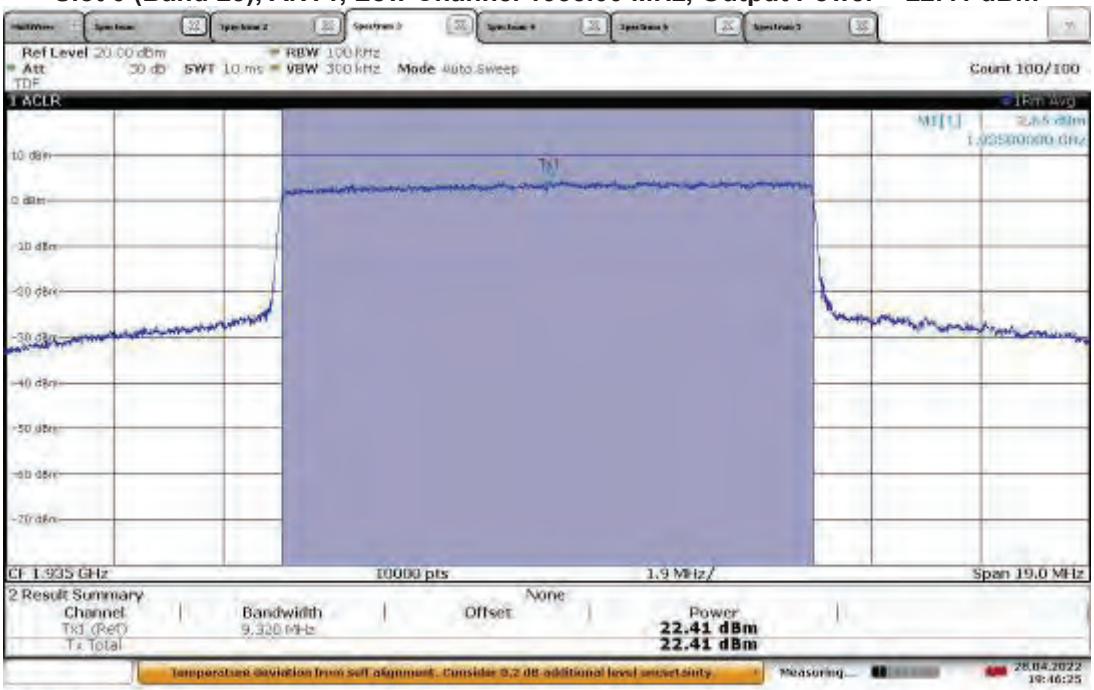
TM3.1-64QAM_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1992.50, Output Power = 22.02 dBm



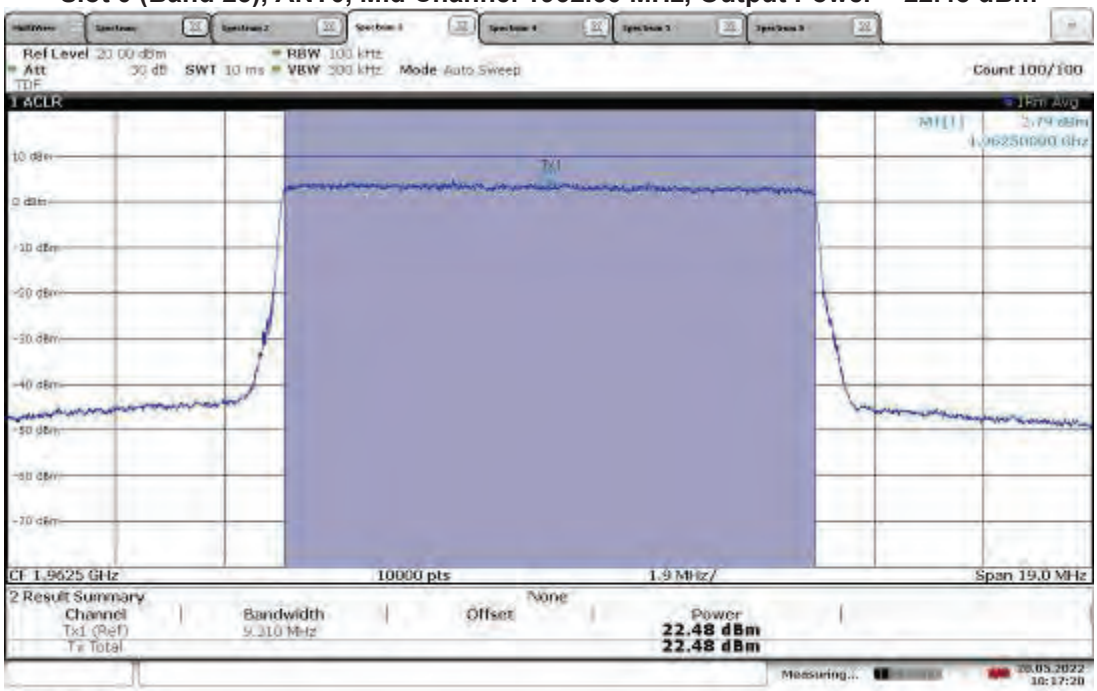
TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1935.00 MHz, Output Power = 22.39 dBm



TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1935.00 MHz, Output Power = 22.41 dBm

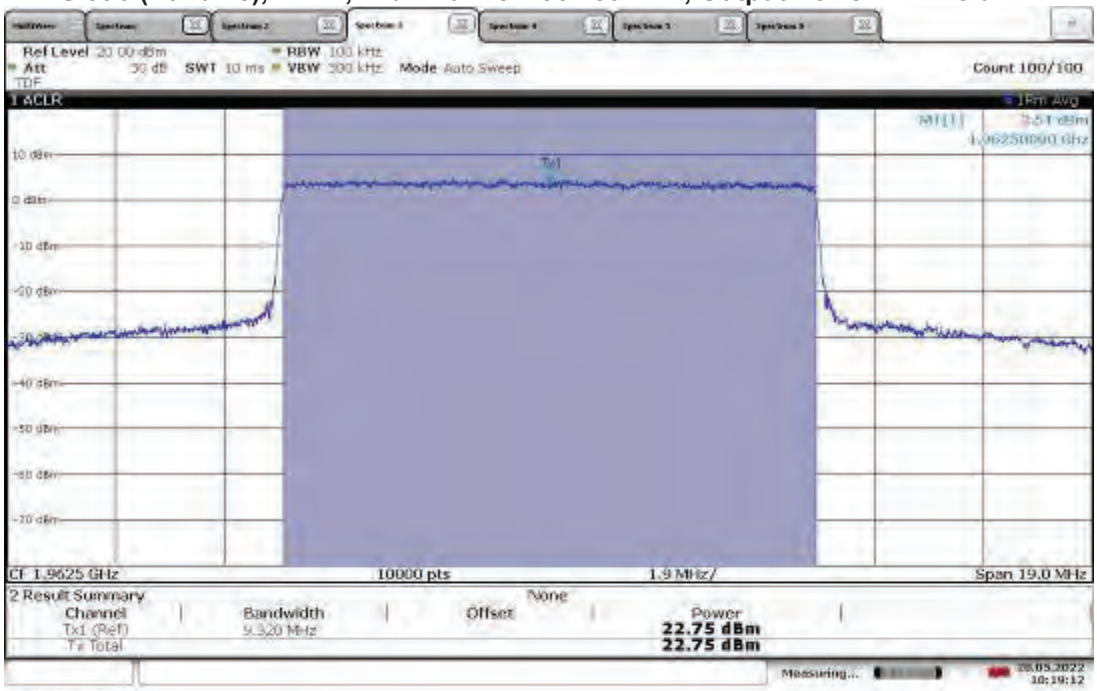


TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.48 dBm



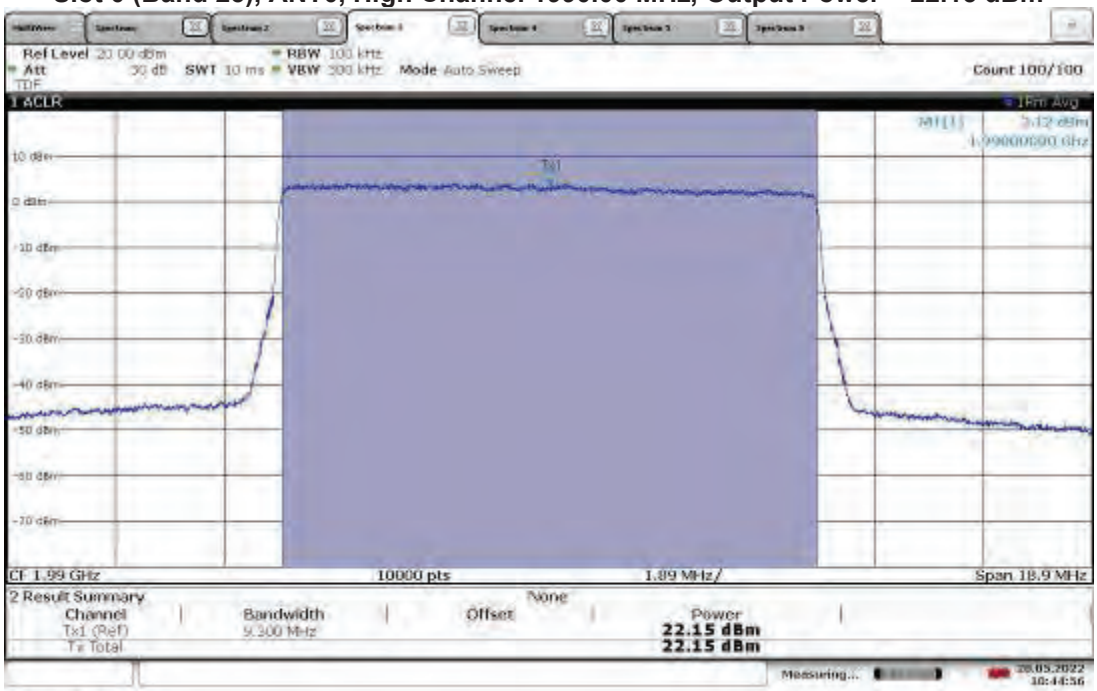
10:17:20 20.05.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, Output Power = 22.75 dBm



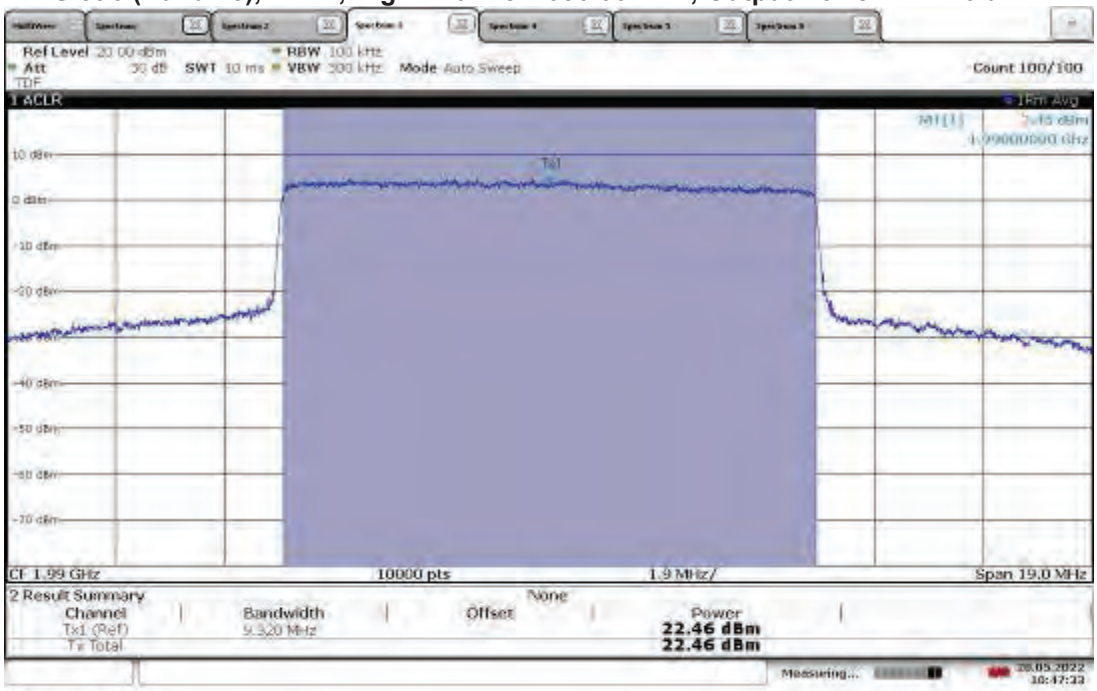
10:19:13 20.05.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, Output Power = 22.15 dBm



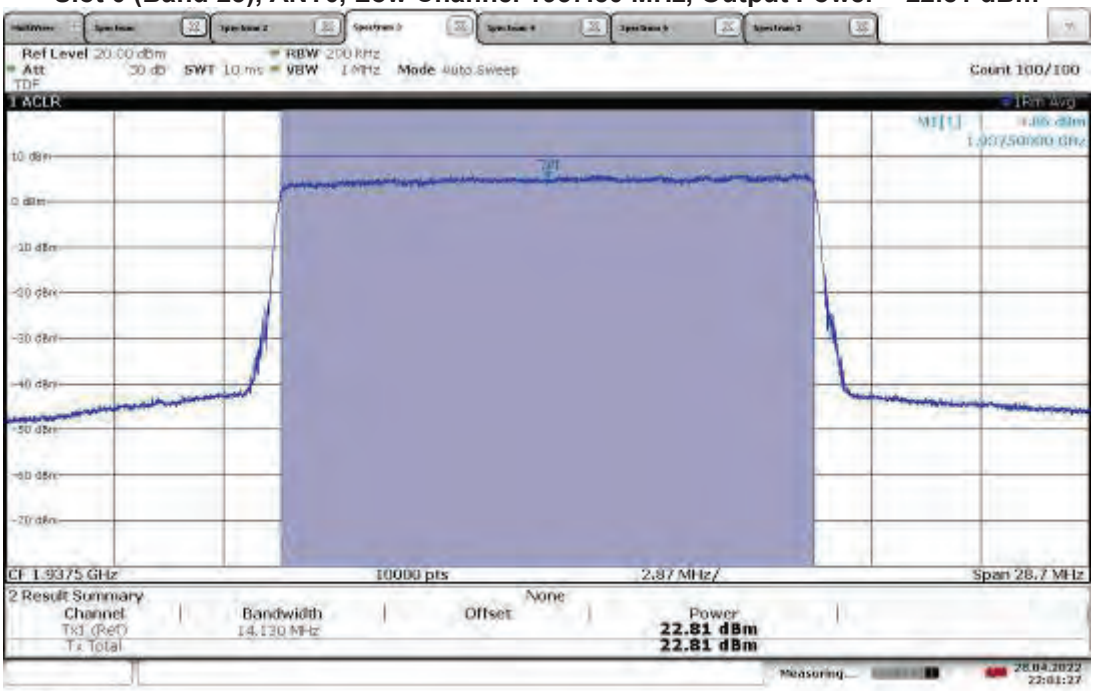
10:44:56 20.05.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1990.00 MHz, Output Power = 22.46 dBm

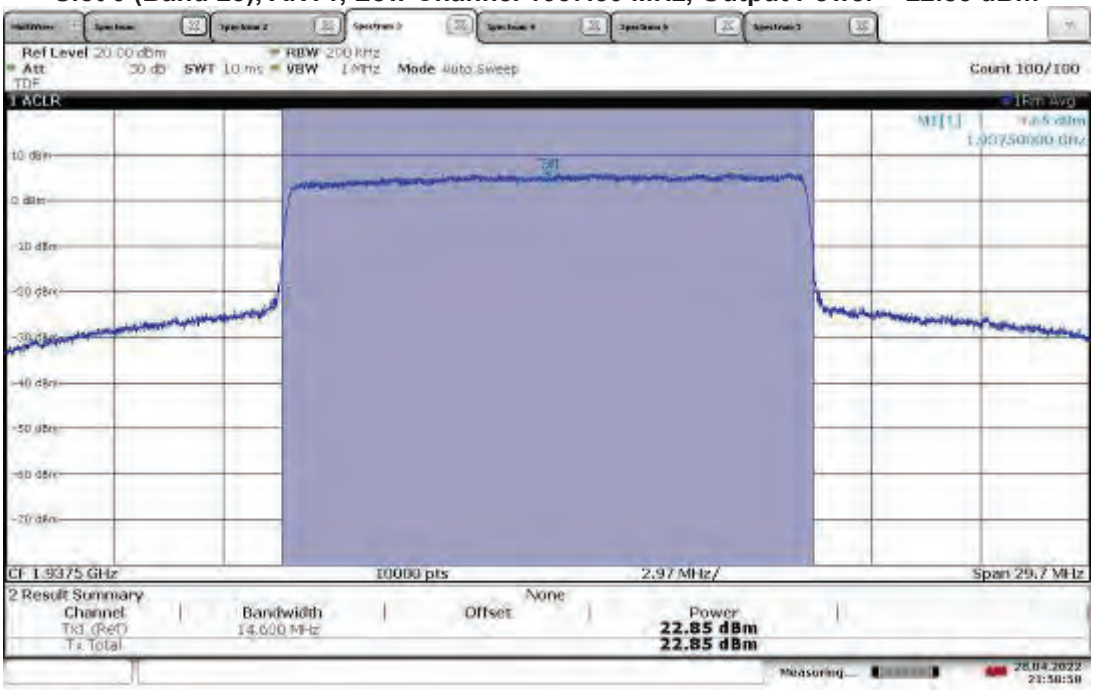


10:47:33 20.05.2022

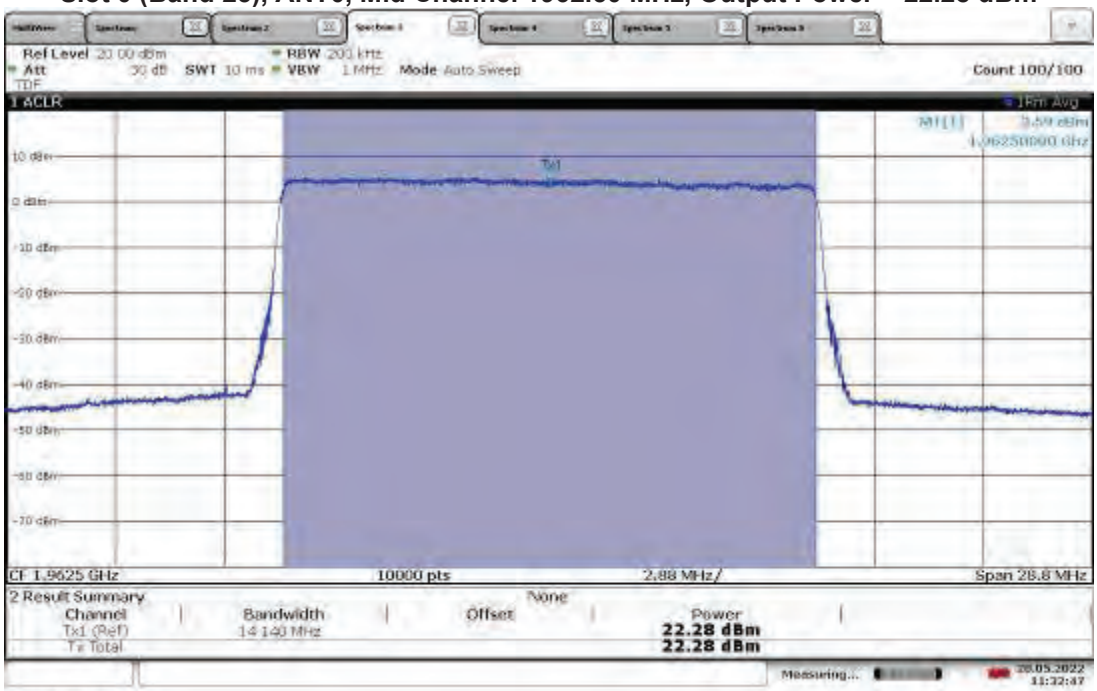
TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1937.50 MHz, Output Power = 22.81 dBm



TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1937.50 MHz, Output Power = 22.85 dBm

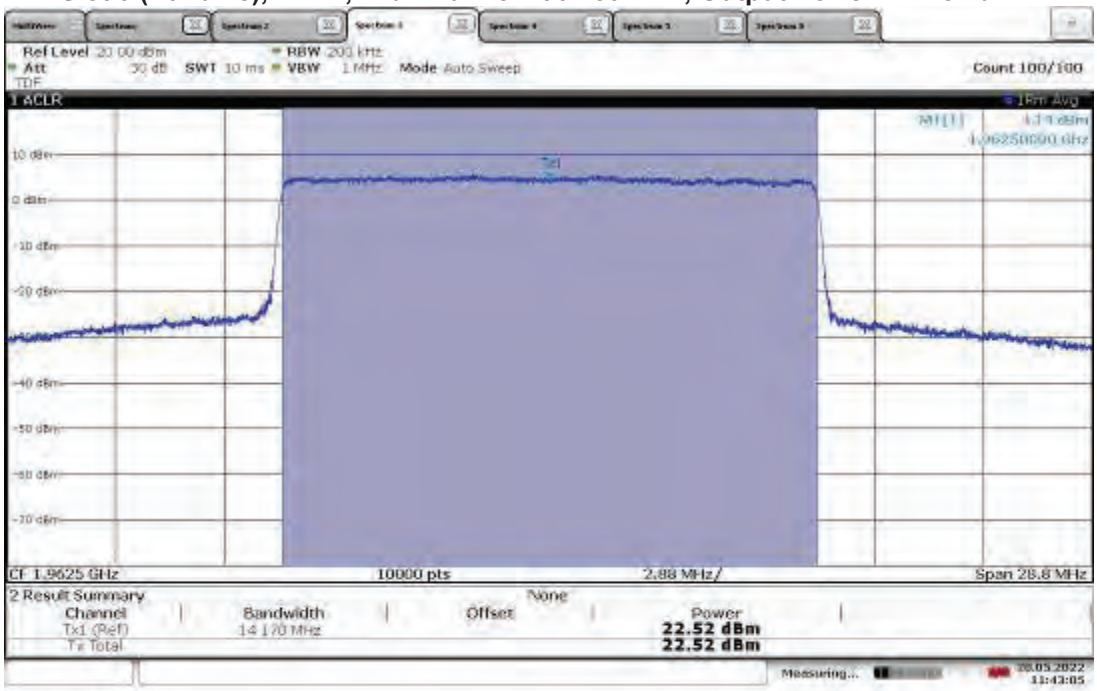


TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.28 dBm



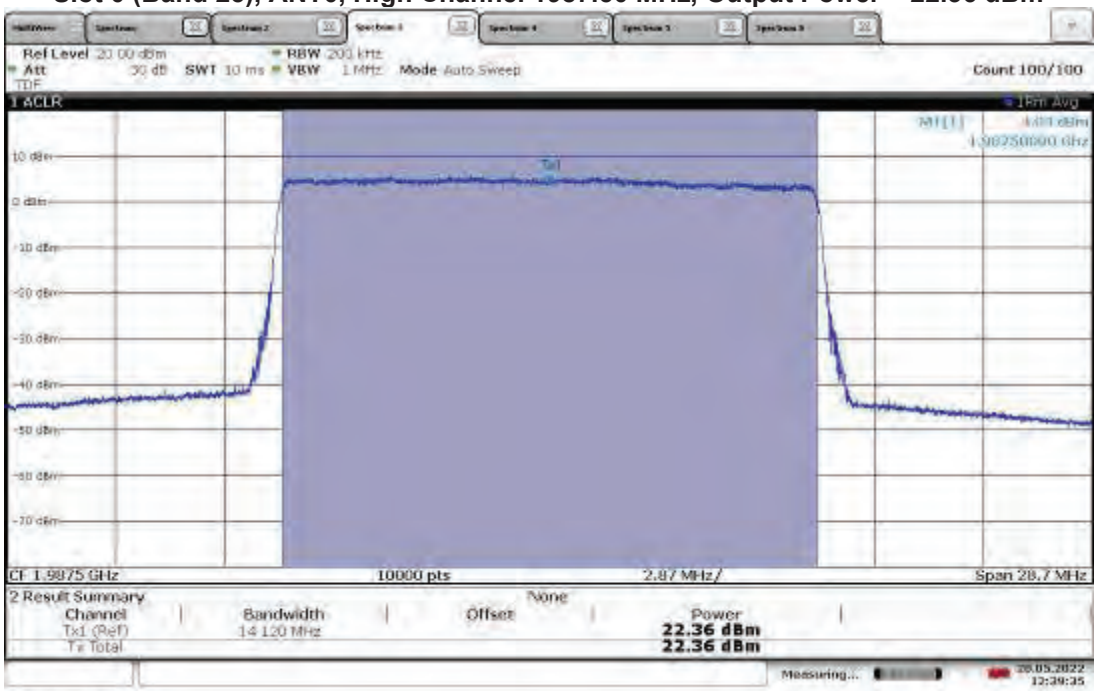
11:32:48 20.05.2022

TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, Output Power = 22.52 dBm

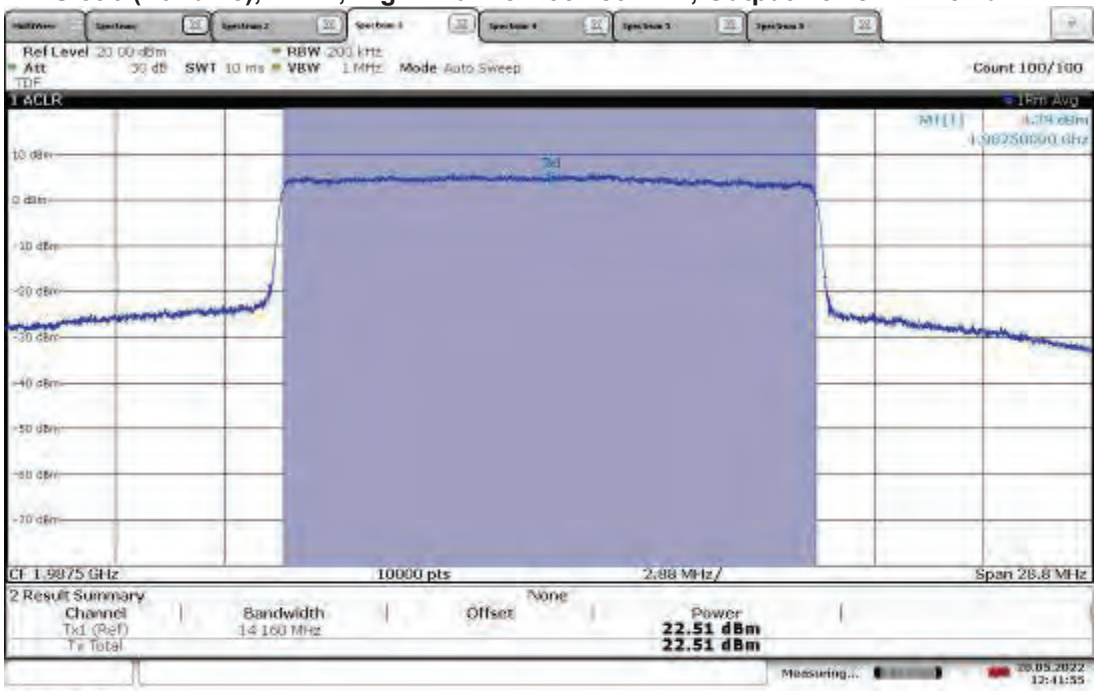


11:43:05 20.05.2022

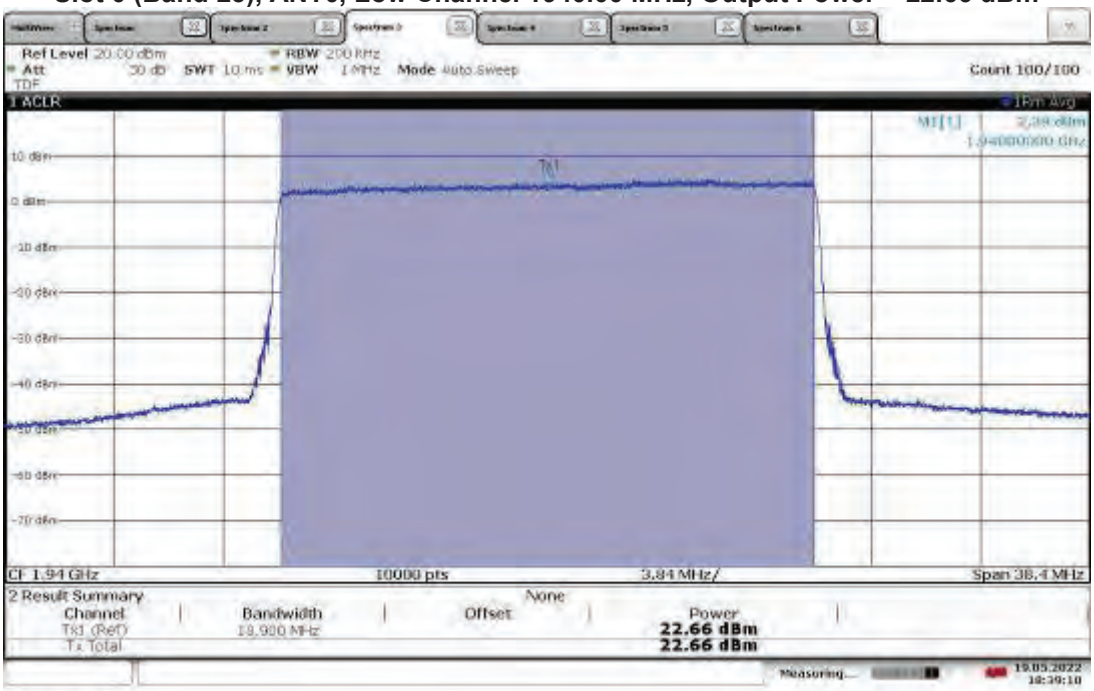
TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1987.50 MHz, Output Power = 22.36 dBm



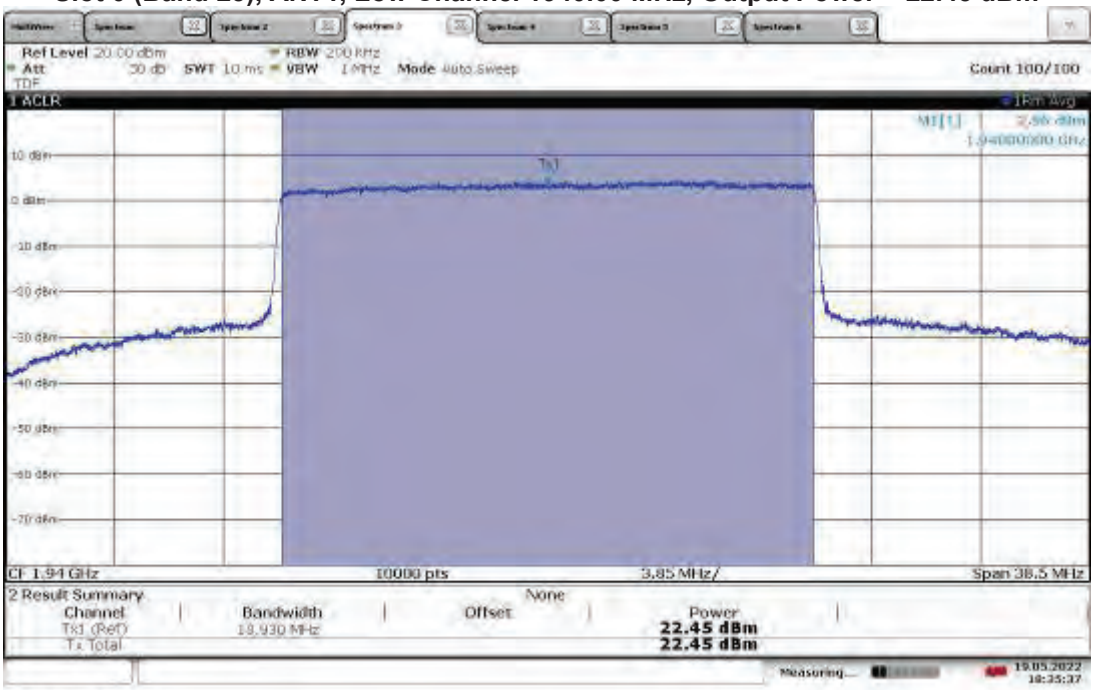
TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1987.50 MHz, Output Power = 22.51 dBm



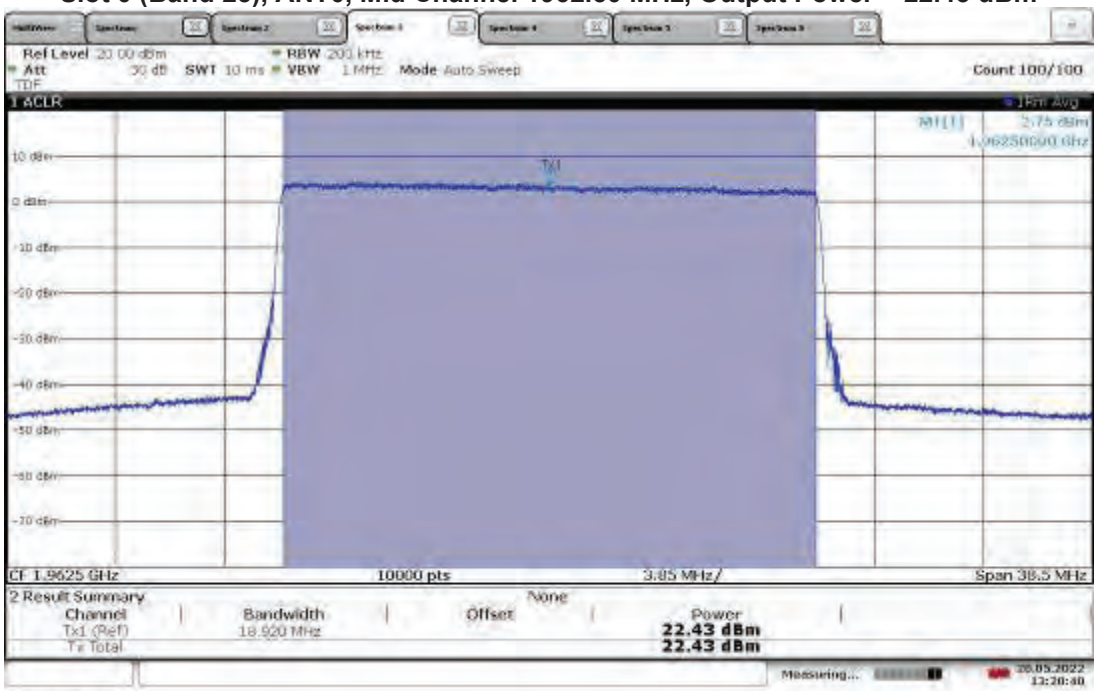
TM3.1-64QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1940.00 MHz, Output Power = 22.66 dBm



TM3.1-64QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1940.00 MHz, Output Power = 22.45 dBm

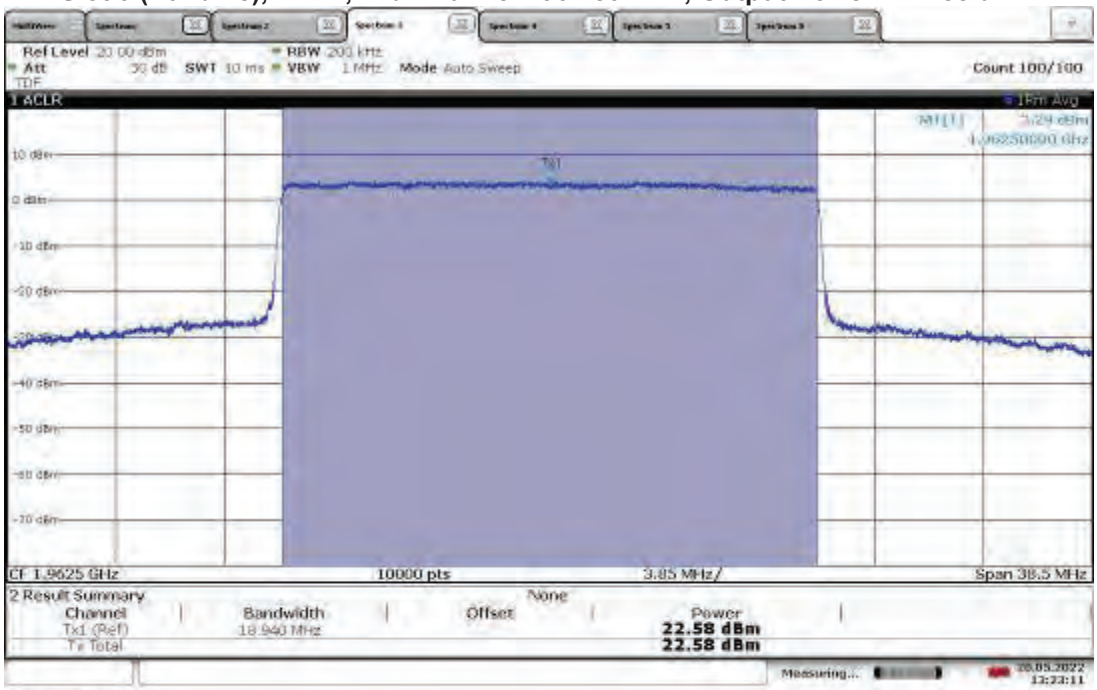


TM3.1-64QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.43 dBm



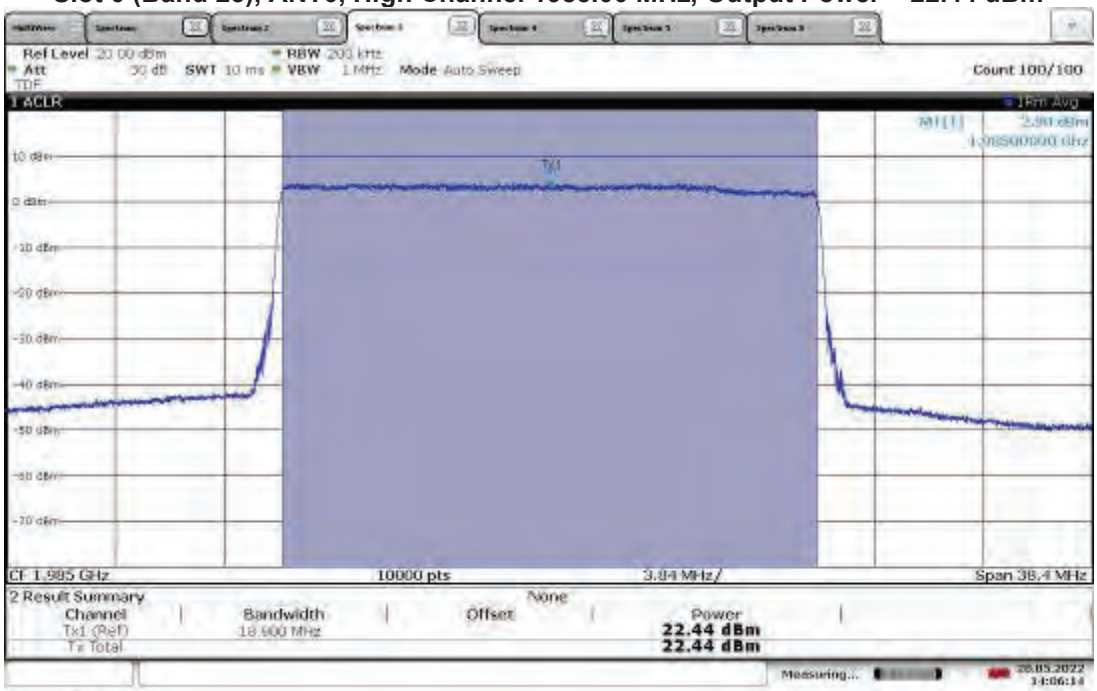
13:20:41 20.05.2022

TM3.1-64QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, Output Power = 22.58 dBm



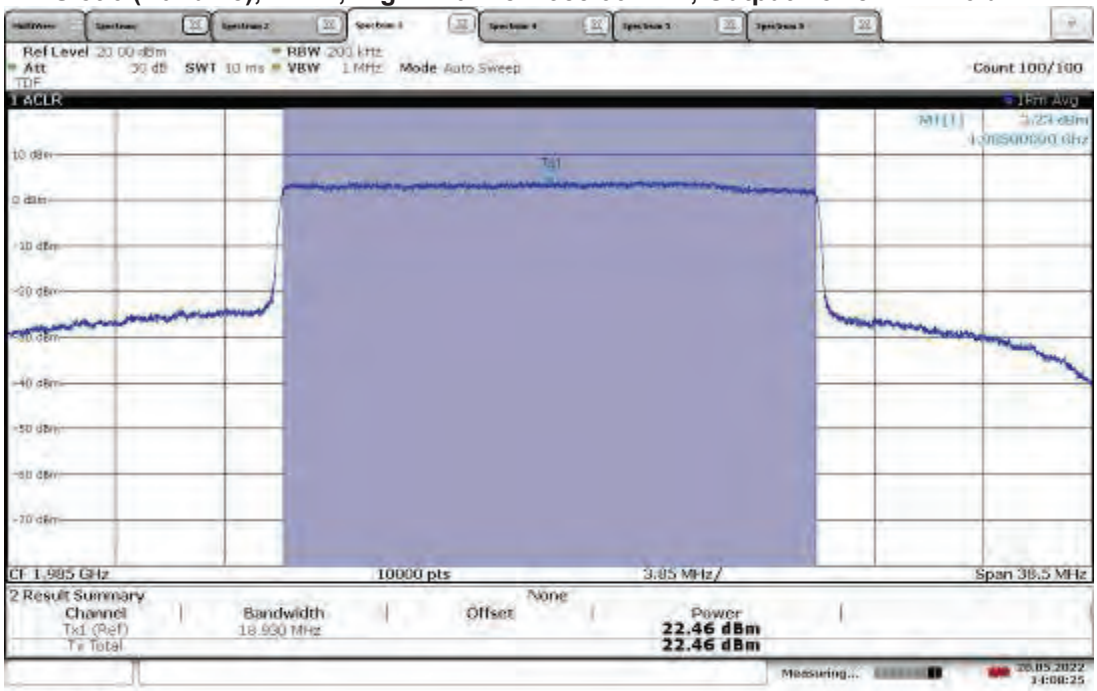
13:23:11 20.05.2022

TM3.1-64QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1985.00 MHz, Output Power = 22.44 dBm



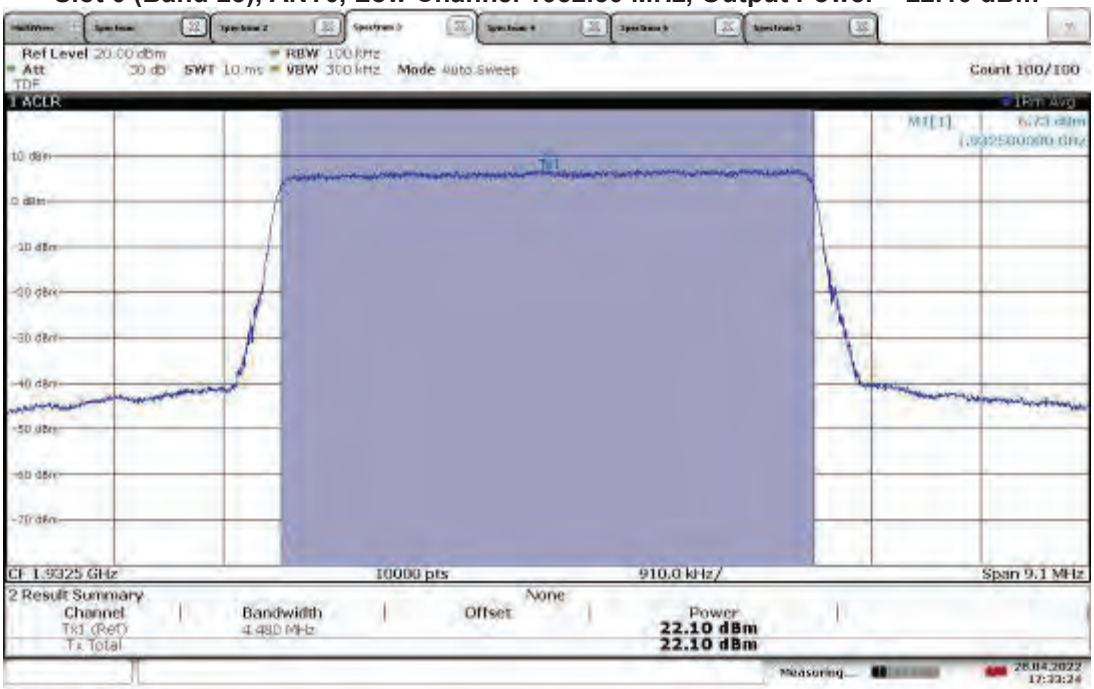
14:06:14 20.05.2022

TM3.1-64QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1985.00 MHz, Output Power = 22.46 dBm



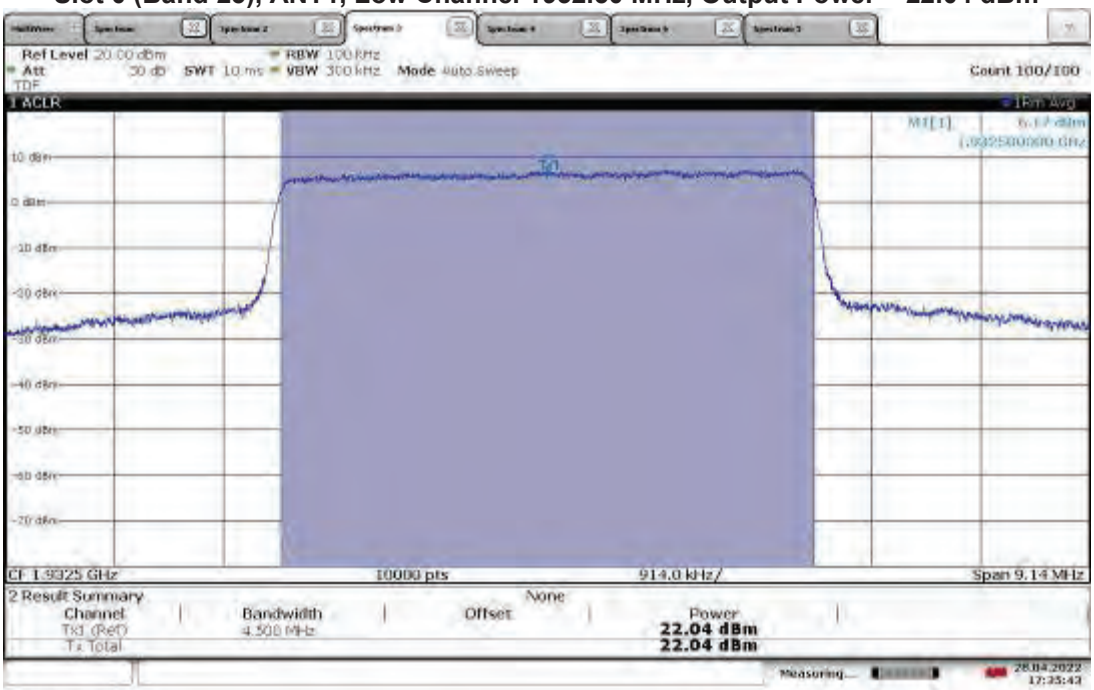
14:08:25 20.05.2022

TM3.1a-256QAM _5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1932.50 MHz, Output Power = 22.10 dBm



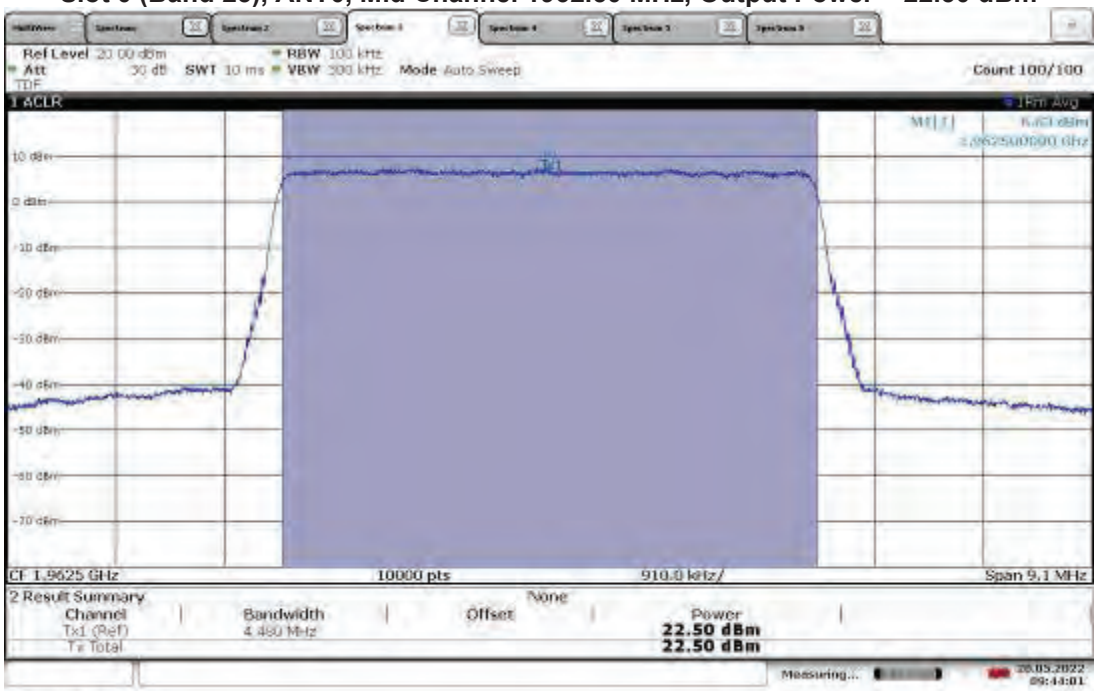
17:33:24 28.04.2022

TM3.1a-256QAM _5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1932.50 MHz, Output Power = 22.04 dBm

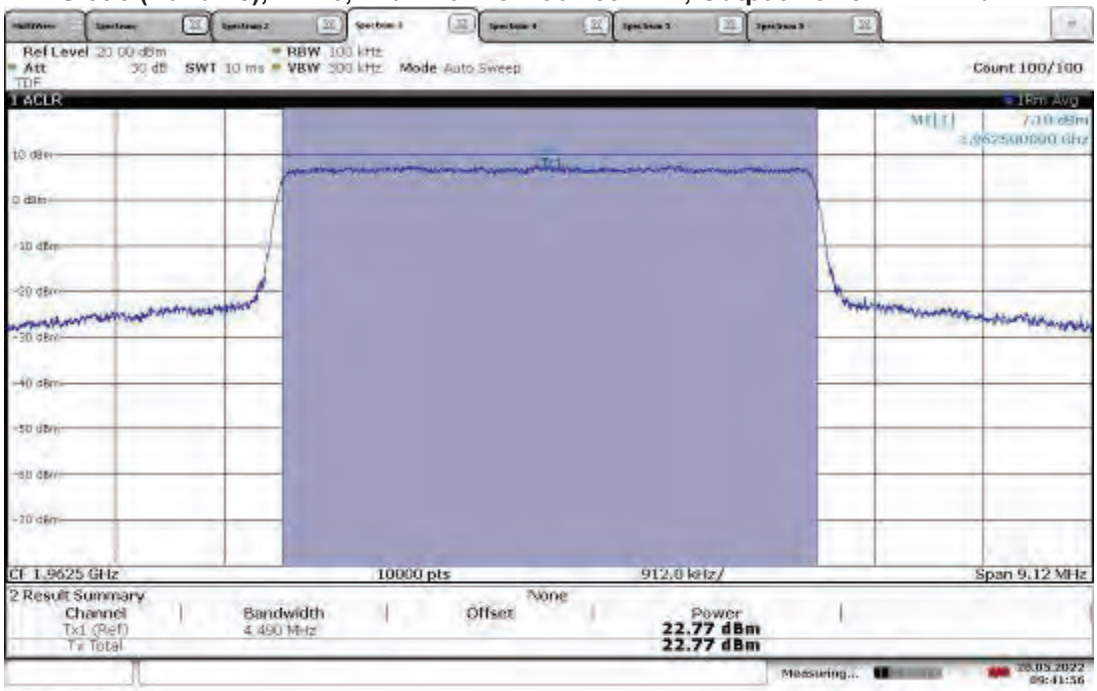


17:35:43 28.04.2022

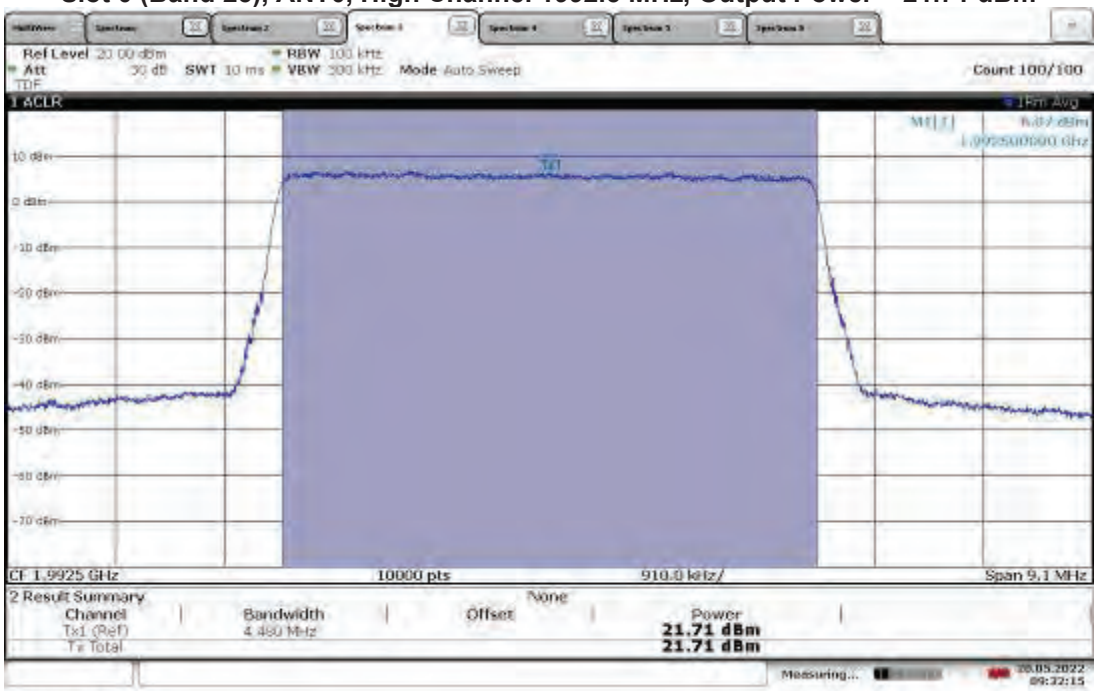
TM3.1a-256QAM _5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.50 dBm



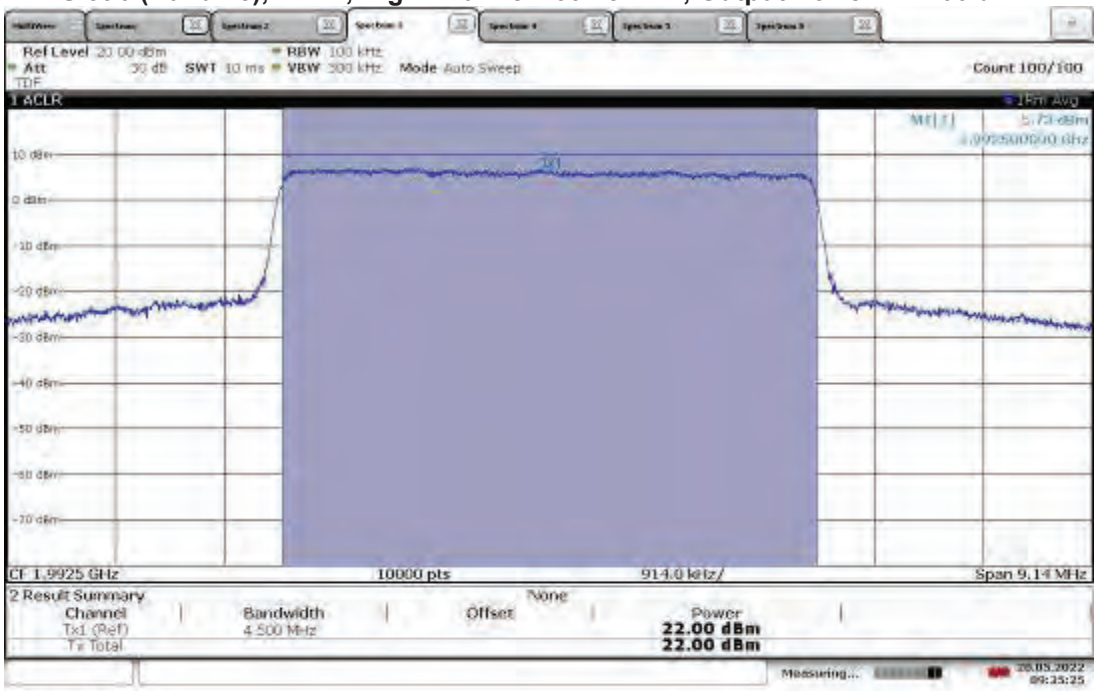
TM3.1a-256QAM _5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.77 dBm



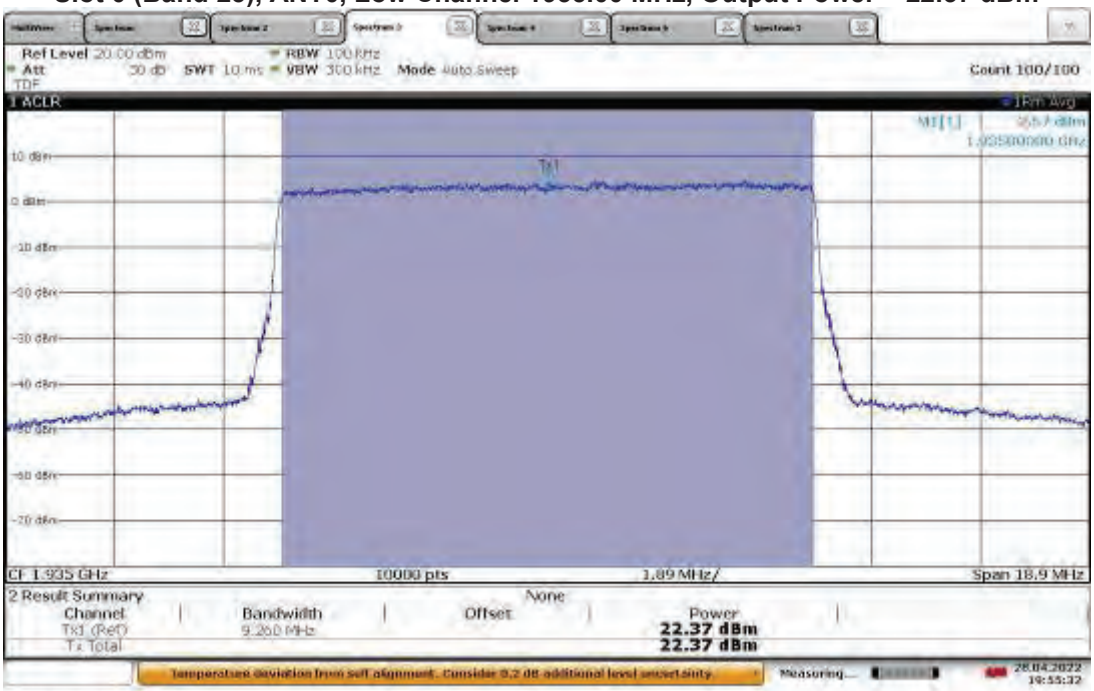
TM3.1a-256QAM _5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.5 MHz, Output Power = 21.71 dBm



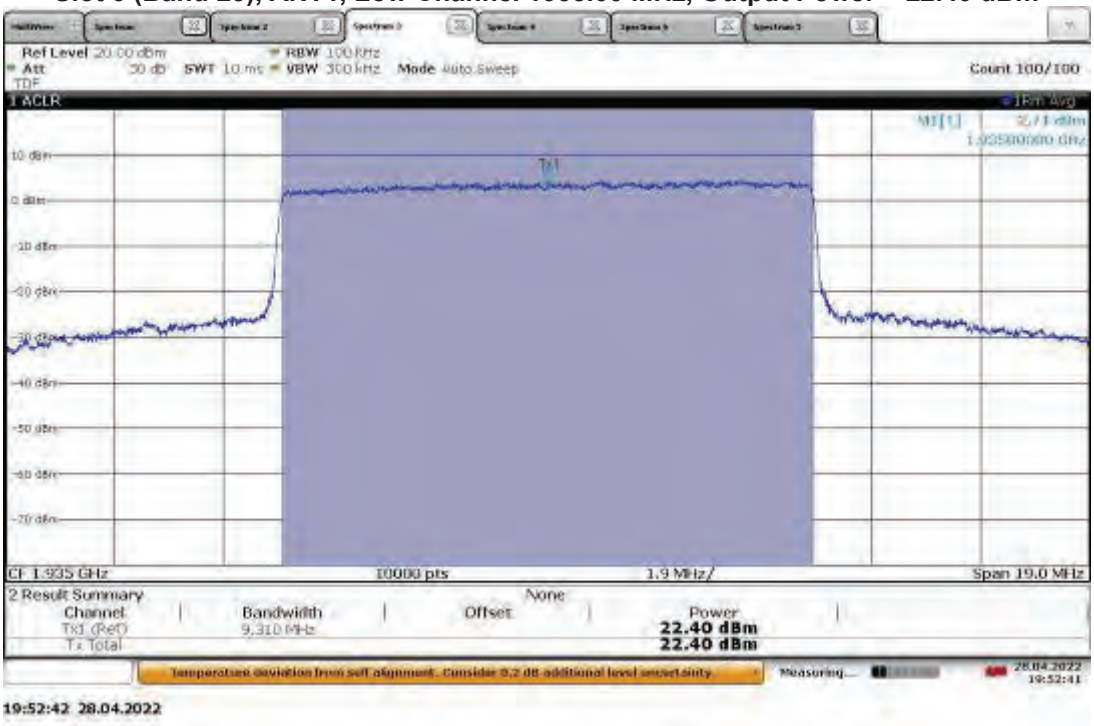
TM3.1a-256QAM _5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1992.5 MHz, Output Power = 22.00 dBm



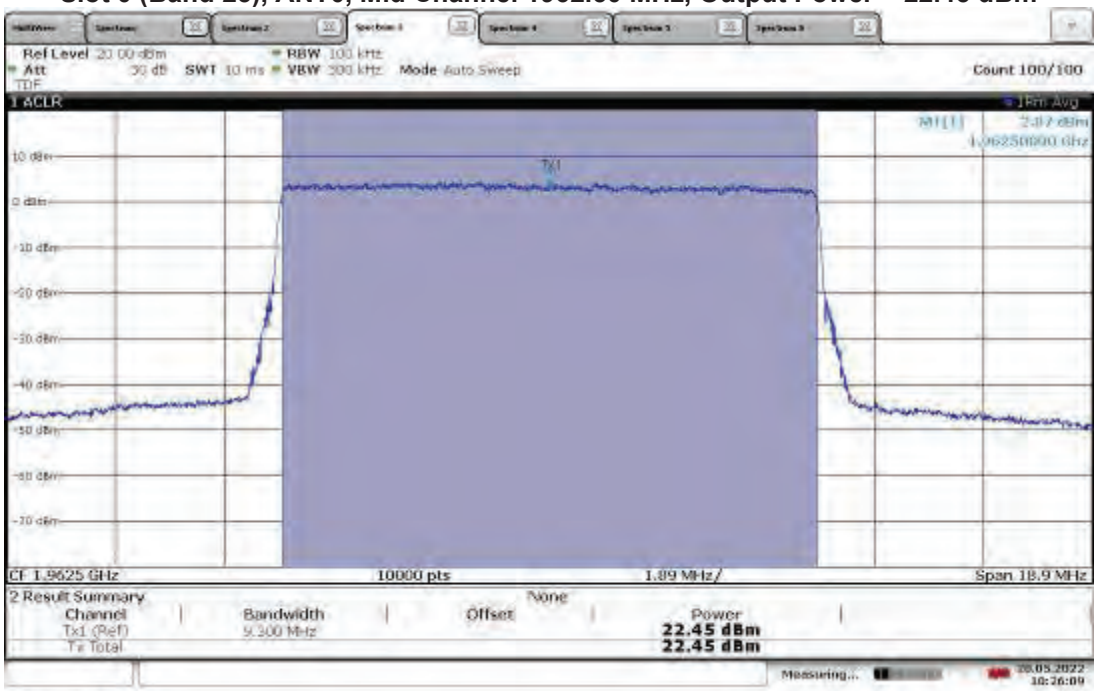
TM3.1a-256QAM _10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1935.00 MHz, Output Power = 22.37 dBm



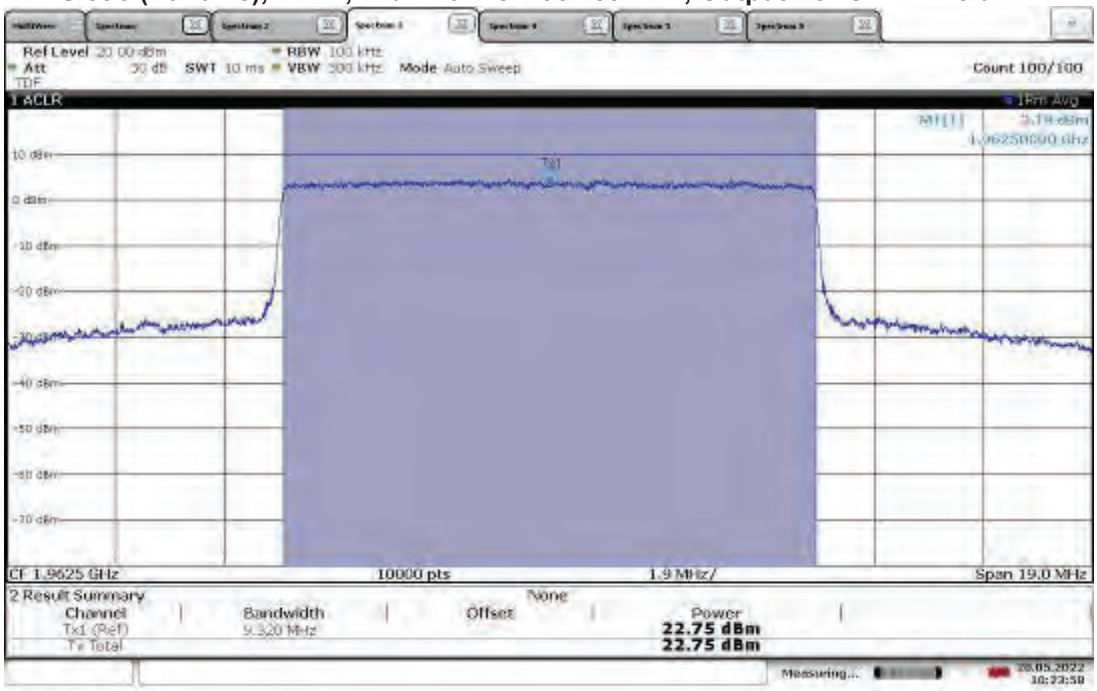
TM3.1a-256QAM _10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1935.00 MHz, Output Power = 22.40 dBm



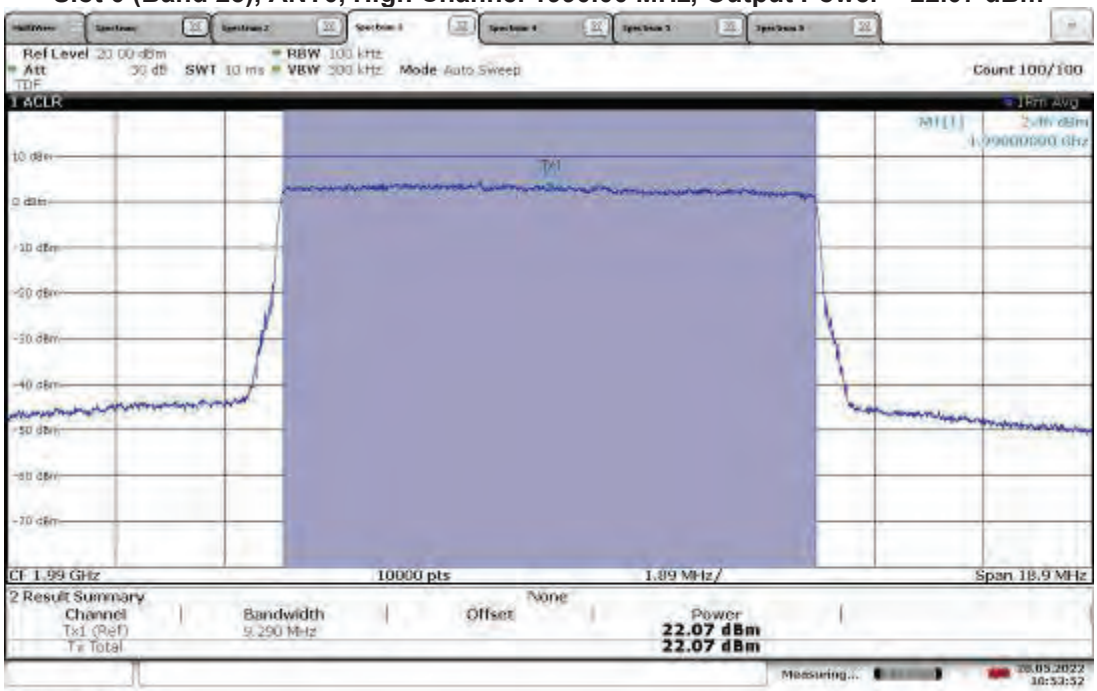
TM3.1a-256QAM _10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.45 dBm



TM3.1a-256QAM _10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, Output Power = 22.75 dBm

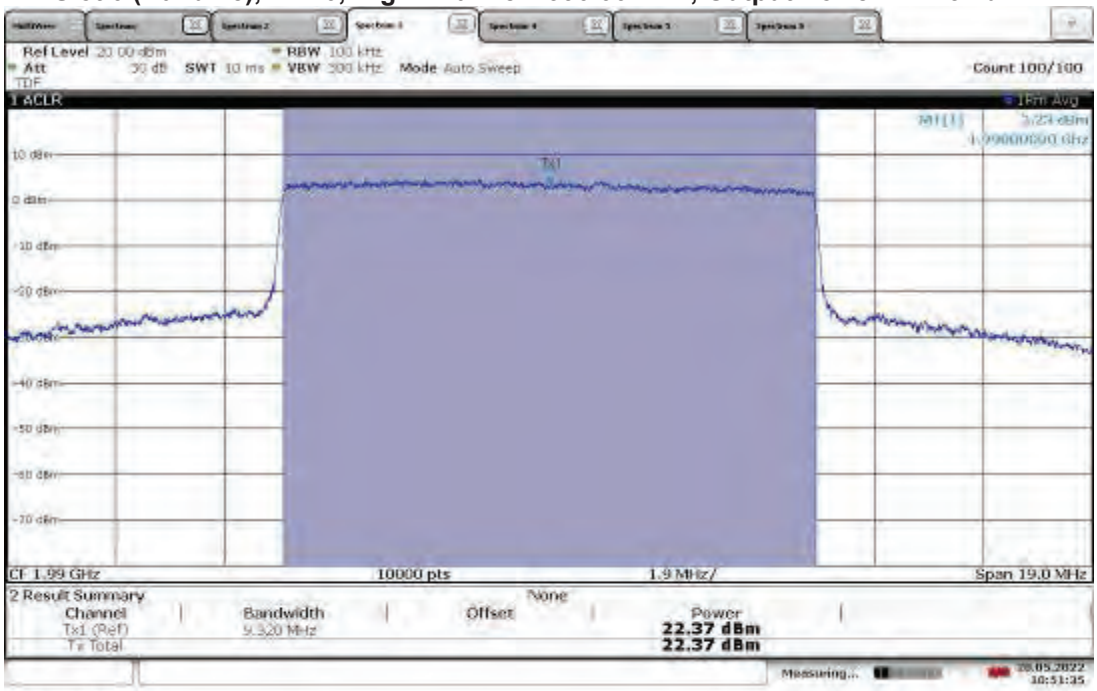


TM3.1a-256QAM _10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, Output Power = 22.07 dBm



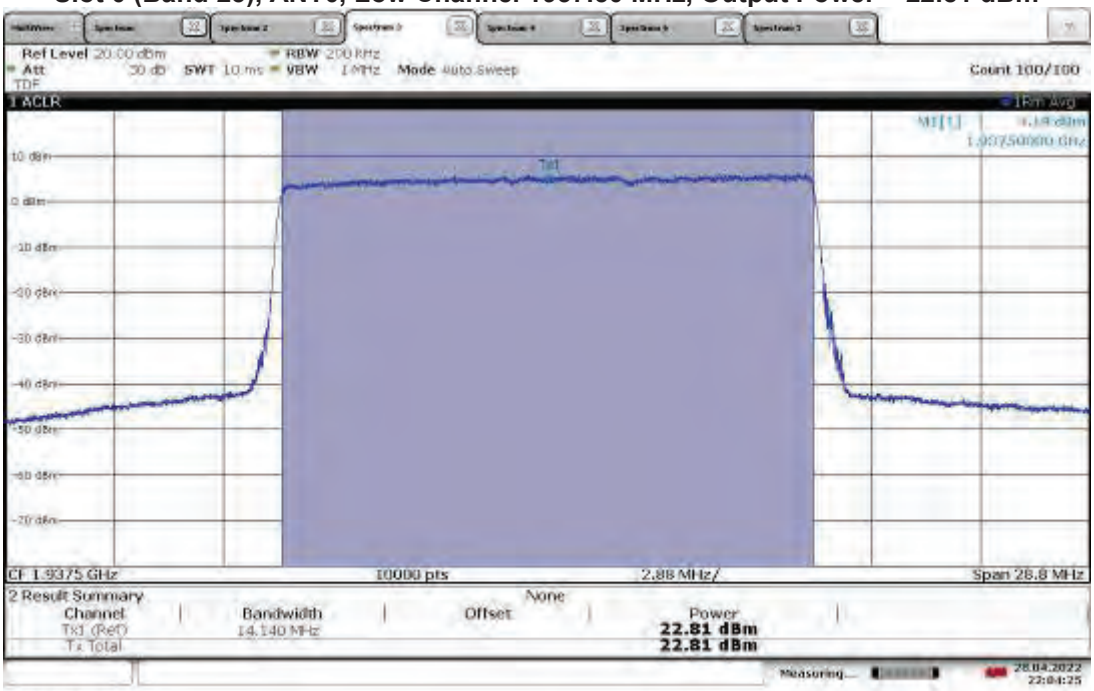
10:53:52 20.05.2022

TM3.1a-256QAM _10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, Output Power = 22.37 dBm

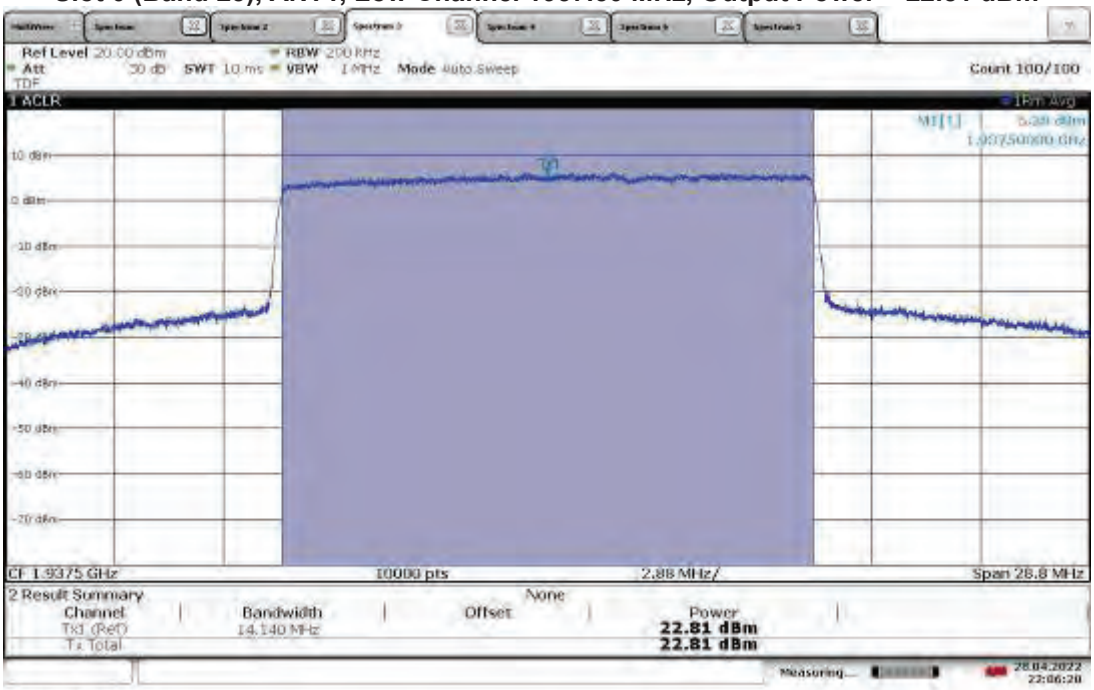


10:51:35 20.05.2022

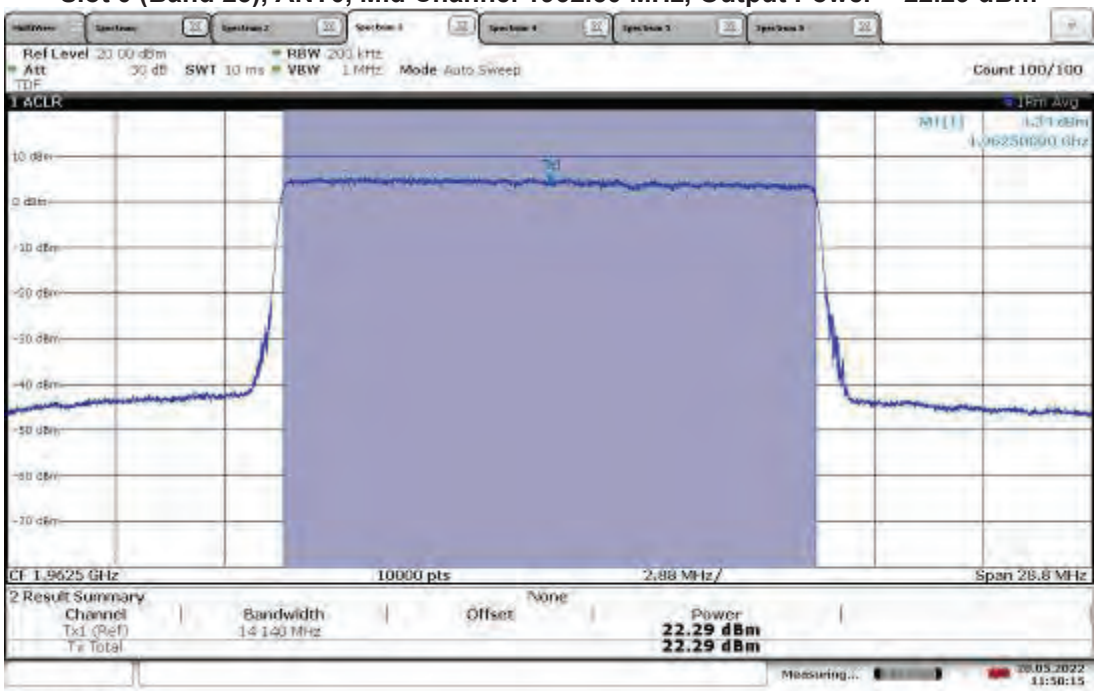
TM3.1a-256QAM _15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1937.50 MHz, Output Power = 22.81 dBm



TM3.1a-256QAM _15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1937.50 MHz, Output Power = 22.81 dBm

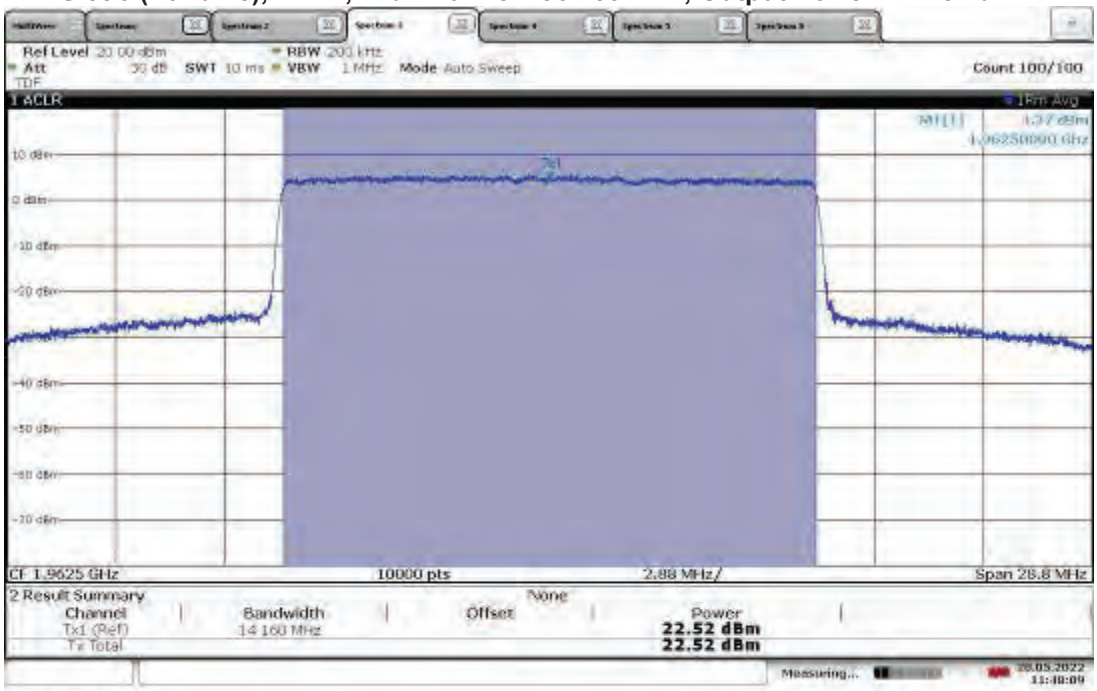


TM3.1a-256QAM _15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.29 dBm



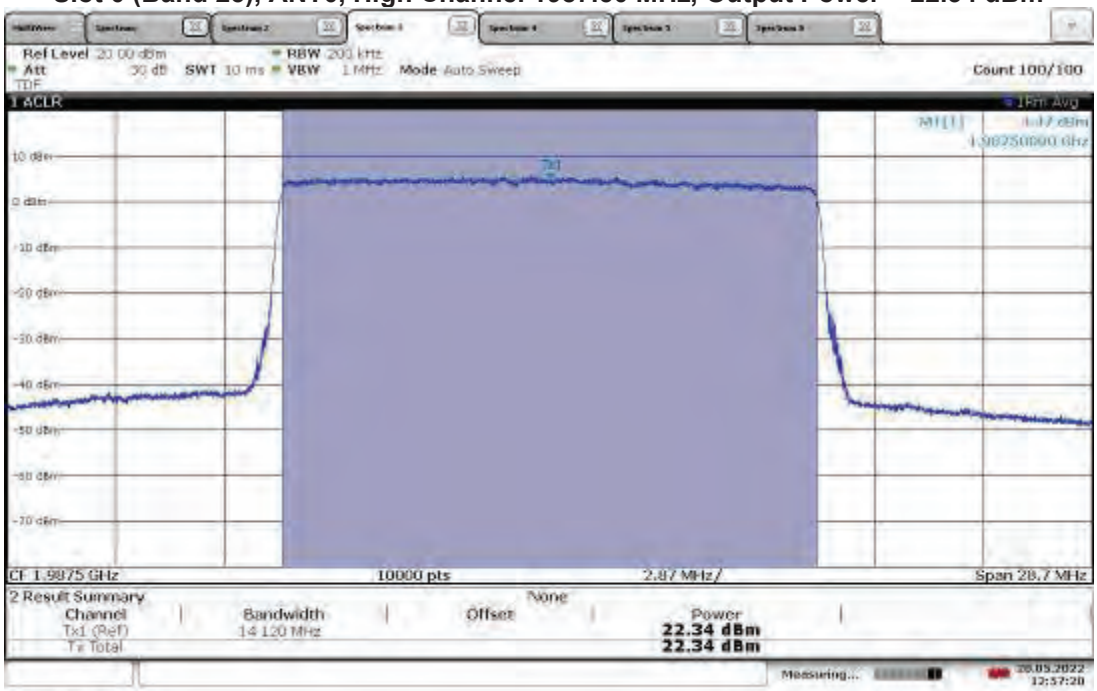
11:50:15 20.05.2022

TM3.1a-256QAM _15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, Output Power = 22.52 dBm



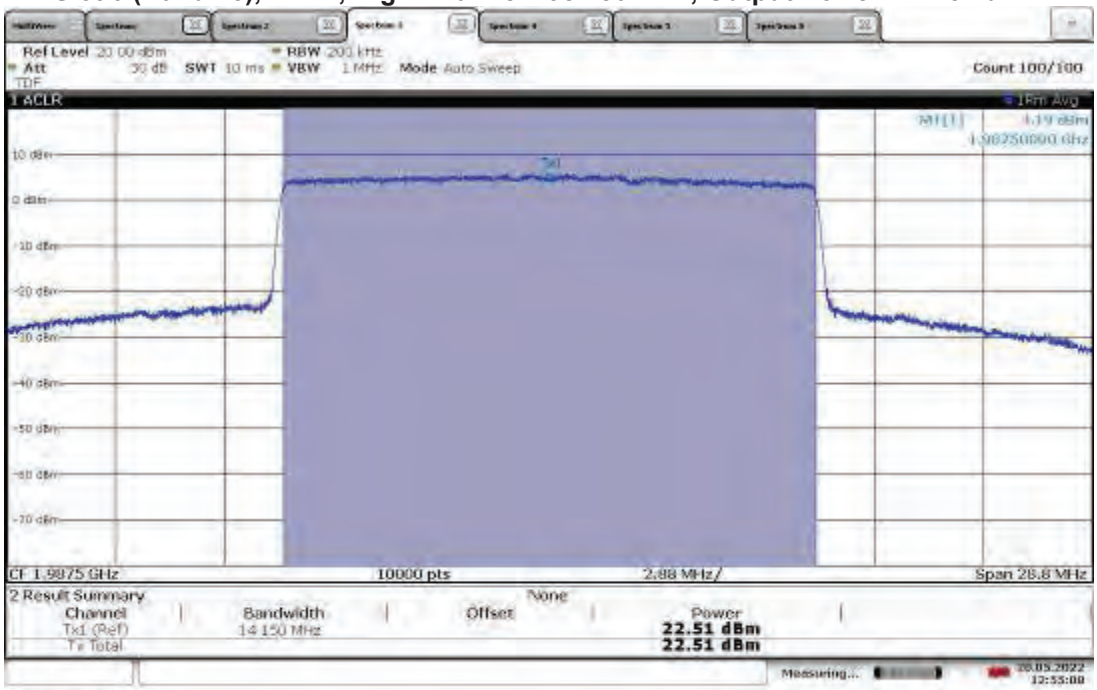
11:48:09 20.05.2022

TM3.1a-256QAM _15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1987.50 MHz, Output Power = 22.34 dBm



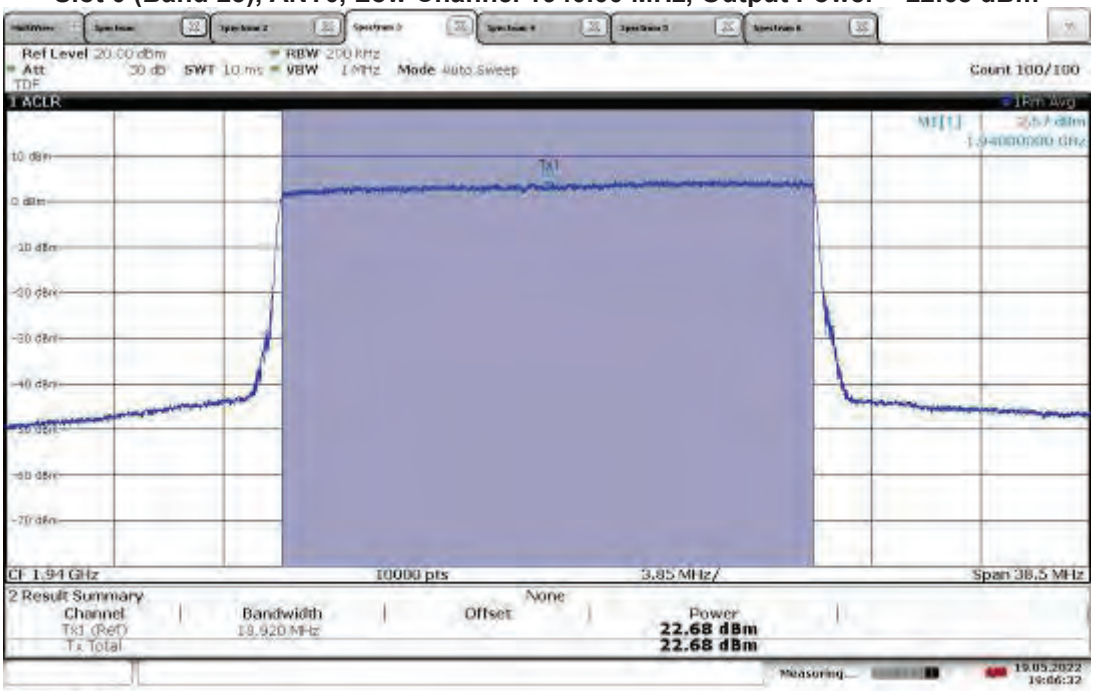
12:57:20 20.05.2022

TM3.1a-256QAM _15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1987.50 MHz, Output Power = 22.51 dBm



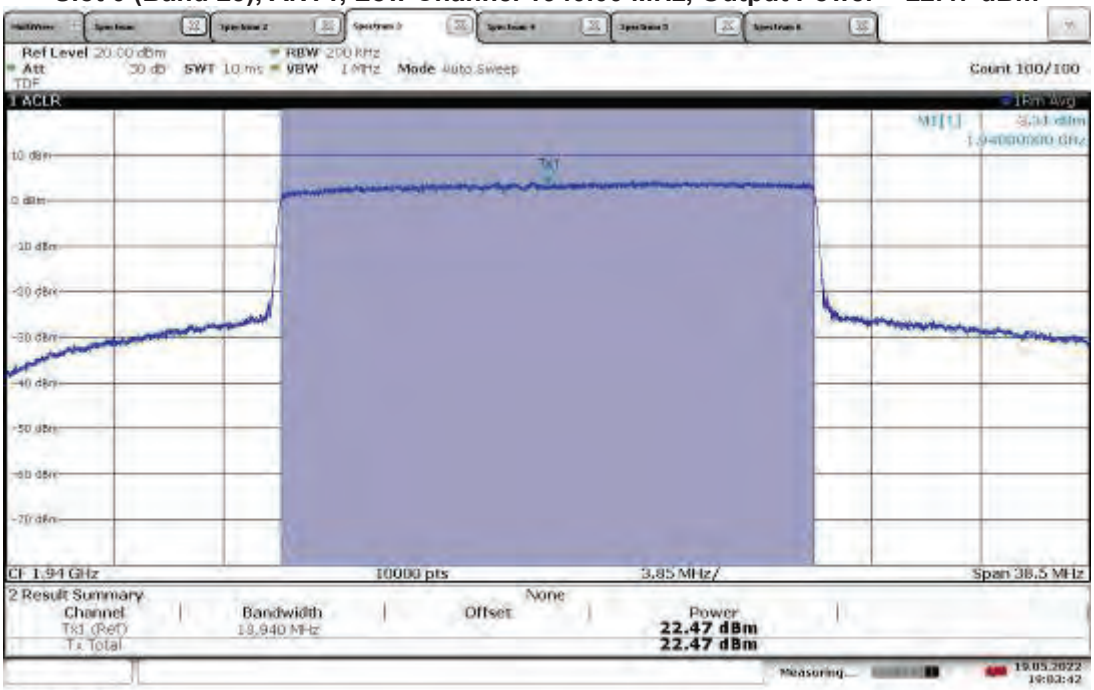
12:55:08 20.05.2022

TM3.1a-256QAM _20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1940.00 MHz, Output Power = 22.68 dBm



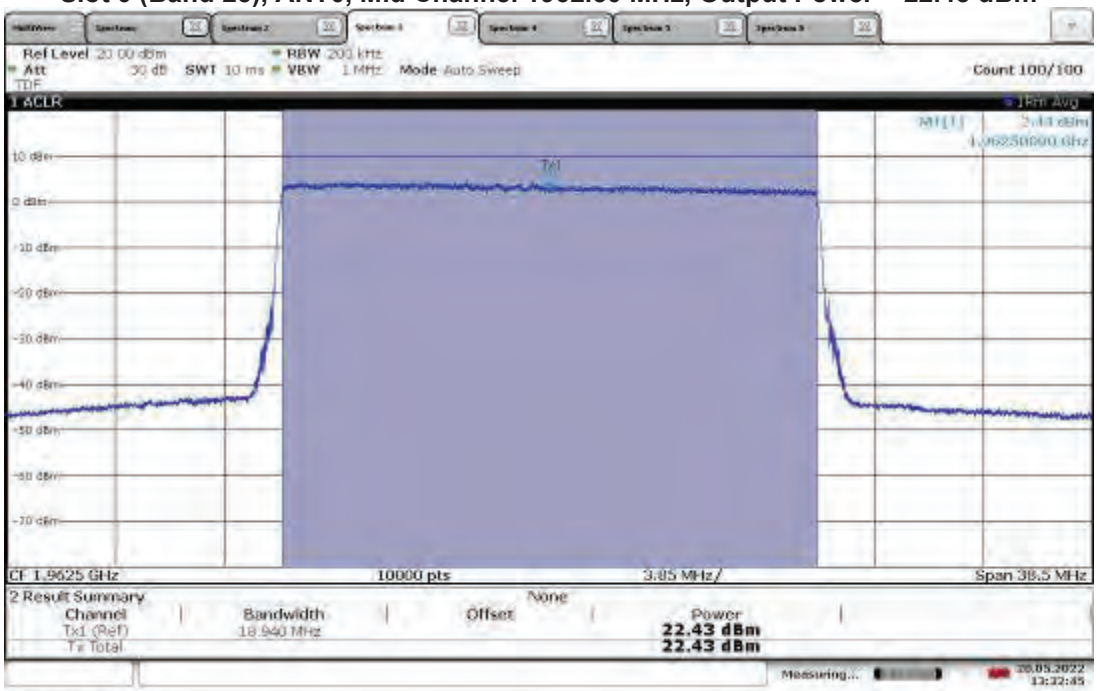
19:06:32 19.05.2022

TM3.1a-256QAM _20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1940.00 MHz, Output Power = 22.47 dBm

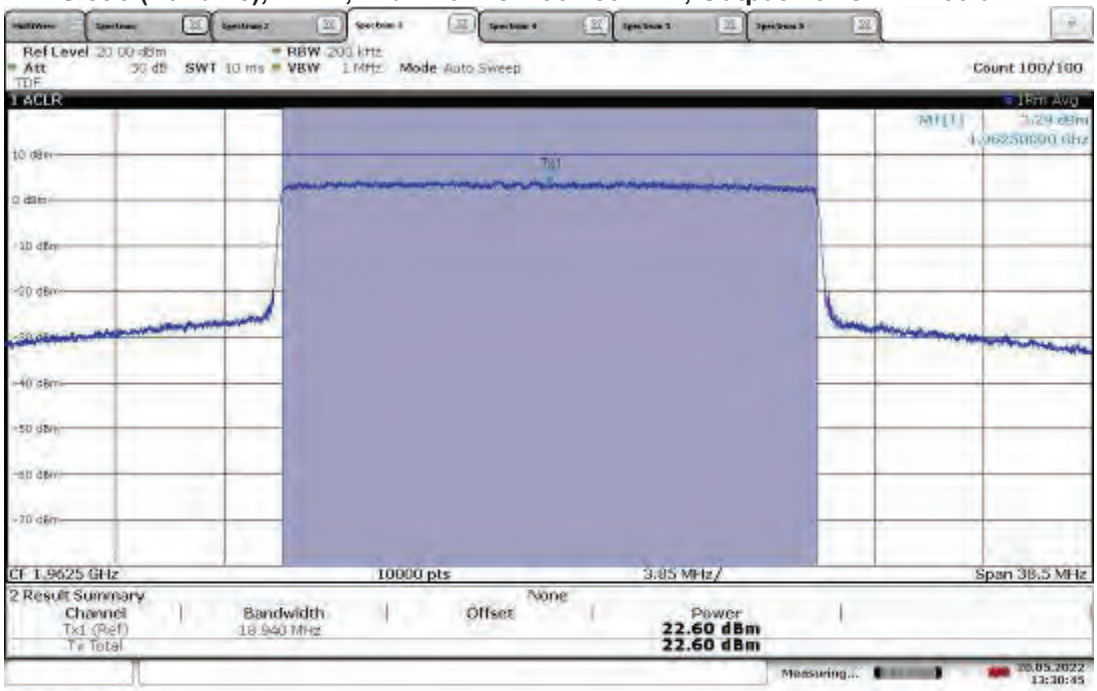


19:03:42 19.05.2022

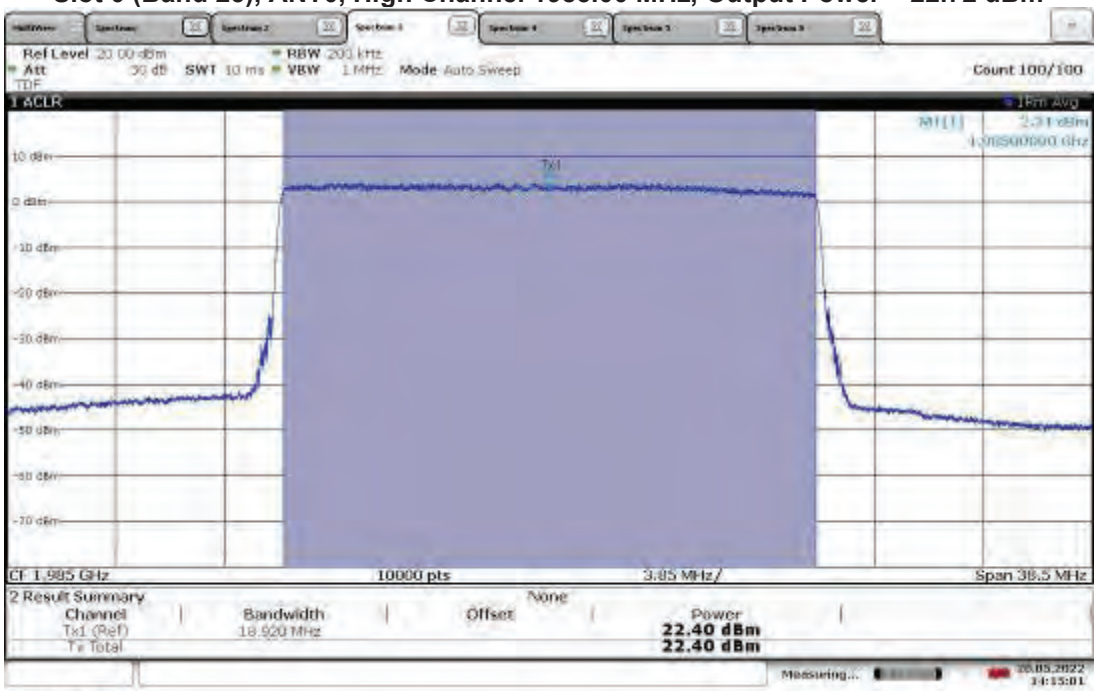
TM3.1a-256QAM _20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, Output Power = 22.43 dBm



TM3.1a-256QAM _20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, Output Power = 22.60 dBm

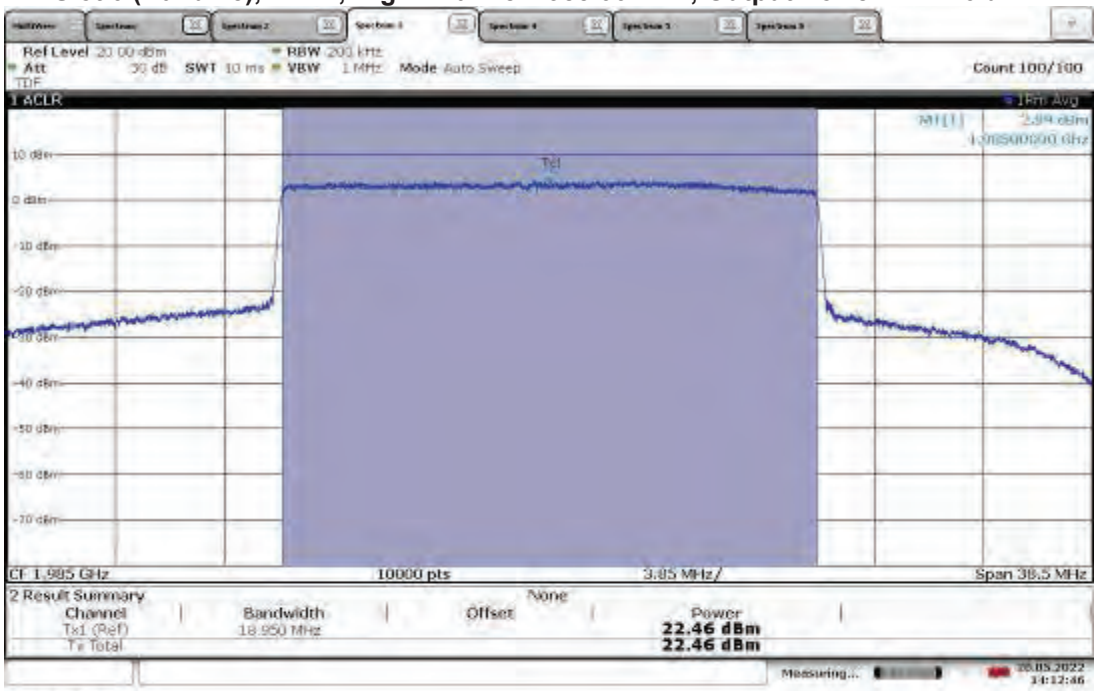


TM3.1a-256QAM _20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1985.00 MHz, Output Power = 22.72 dBm



14:15:01 20.05.2022

TM3.1a-256QAM _20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1985.00 MHz, Output Power = 22.46 dBm



14:12:46 20.05.2022

Test Personnel:	Kouma Sinn KPS	Test Date:	04/28/2022, 05/19/2022, 05/20/2022
Supervising/Reviewing Engineer: (Where Applicable)	Vathana F. Ven VFV		
Product Standard:	FCC Part 24	Limit Applied:	See report section 6.3
Input Voltage:	48 VDC (POE)		
Pretest Verification w/ Ambient Signals or BB Source:	N/A	Ambient Temperature:	24, 24, 23 ºC
		Relative Humidity:	17, 42, 45 %
		Atmospheric Pressure:	1000, 997, 1006 mbars

Deviations, Additions, or Exclusions: None

7 Peak-to-Average Power Ratio (PAPR)

7.1 Method

Tests are performed in accordance with CFR47 FCC Part §24 and ANSI C63.26.

TEST SITE: EMC Lab

The EMC Lab has one Semi-anechoic Chamber and one Shielded Chamber. AC Mains Power is available at 120, 230, and 277 Single Phase; 208, 400, and 480 3-Phase. Large reference ground-planes are installed in the general lab area to facilitate EMC work not requiring a shielded environment.

7.2 Test Equipment Used:

Asset	Description	Manufacturer	Model	Serial	Cal Date	Cal Due
DAV005'	Weather Station	Davis	6250	MS191218083	02/11/2022	02/11/2023
ROS005-1'	Signal and Spectrum Analyzer	Rohde and Shwartz	FSW43	100646	11/02/2021	11/02/2022
CEN001'	DC-40GHz attenuator 20dB	Centric RF	C411-20	CEN001	01/26/2022	01/26/2023
CBLHF2012-2M-2'	2m 9kHz-40GHz Coaxial Cable - SET2	Huber & Suhner	SF102	252675002	02/10/2023	02/10/2023

Software Utilized:

Name	Manufacturer	Version
None	--	--

7.3 Results:

The sample tested was found to Comply.

Limits – FCC Part §24.232(d) The peak-to-average ratio (PAPR) of the transmission may not exceed 13 dB.

Slot 0 (Band 25), Bandwidth: 5 MHz, Modulation: TM1.1-QPSK (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1932.50	ANT0	10.53	13	-2.47
		ANT1	7.19	13	-5.81
Mid	1962.50	ANT0	10.47	13	-2.53
		ANT1	6.85	13	-6.15
High	1992.50	ANT0	10.29	13	-2.71
		ANT1	6.52	13	-6.48

Slot 0 (Band 25), Bandwidth: 10 MHz, Modulation: TM1.1-QPSK (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1935.00	ANT0	11.23	13	-1.77
		ANT1	6.94	13	-6.06
Mid	1962.50	ANT0	11.48	13	-1.52
		ANT1	7.19	13	-5.81
High	1990.00	ANT0	11.01	13	-1.99
		ANT1	6.79	13	-6.21

Slot 0 (Band 25), Bandwidth: 15 MHz, Modulation: TM1.1-QPSK (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1937.50	ANT0	11.60	13	-1.40
		ANT1	7.12	13	-5.88
Mid	1962.50	ANT0	11.70	13	-1.30
		ANT1	7.49	13	-5.51
High	1987.50	ANT0	11.29	13	-1.71
		ANT1	7.34	13	-5.66

Slot 0 (Band 25), Bandwidth: 20 MHz, Modulation: TM1.1-QPSK (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1940.00	ANT0	10.47	13	-2.53
		ANT1	7.31	13	-5.69
Mid	1962.50	ANT0	10.73	13	-2.27
		ANT1	7.48	13	-5.52
High	1985.00	ANT0	10.37	13	-2.63
		ANT1	7.44	13	-5.56

Slot 0 (Band 25), Bandwidth: 5 MHz, Modulation: TM3.2-16QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1932.50	ANT0	9.76	13	-3.24
		ANT1	6.59	13	-6.41
Mid	1962.50	ANT0	9.76	13	-3.24
		ANT1	6.82	13	-6.18
High	1992.50	ANT0	9.63	13	-3.37
		ANT1	6.40	13	-6.6

Slot 0 (Band 25), Bandwidth: 10 MHz, Modulation: TM3.2-16QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1935.00	ANT0	10.02	13	-2.98
		ANT1	6.55	13	-6.45
Mid	1962.50	ANT0	10.21	13	-2.79
		ANT1	6.83	13	-6.17
High	1990.00	ANT0	10.05	13	-2.95
		ANT1	6.61	13	-6.39

Slot 0 (Band 25), Bandwidth: 15 MHz, Modulation: TM3.2-16QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1937.50	ANT0	10.75	13	-2.25
		ANT1	7.25	13	-5.75
Mid	1962.50	ANT0	11.84	13	-1.16
		ANT1	7.44	13	-5.56
High	1987.50	ANT0	10.60	13	-2.4
		ANT1	7.40	13	-5.6

Slot 0 (Band 25), Bandwidth: 20 MHz, Modulation: TM3.2-16QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1940.00	ANT0	10.17	13	-2.83
		ANT1	7.32	13	-5.68
Mid	1962.50	ANT0	10.64	13	-2.36
		ANT1	7.32	13	-5.68
High	1985.00	ANT0	10.61	13	-2.39
		ANT1	7.44	13	-5.56

Slot 0 (Band 25), Bandwidth: 5 MHz, Modulation: TM3.1-64QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1932.50	ANT0	10.12	13	-2.88
		ANT1	6.68	13	-6.32
Mid	1962.50	ANT0	10.16	13	-2.84
		ANT1	6.74	13	-6.26
High	1992.50	ANT0	9.92	13	-3.08
		ANT1	6.39	13	-6.61

Slot 0 (Band 25), Bandwidth: 10 MHz, Modulation: TM3.1-64QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1935.00	ANT0	9.94	13	-3.06
		ANT1	6.52	13	-6.48
Mid	1962.50	ANT0	9.99	13	-3.01
		ANT1	6.79	13	-6.21
High	1990.00	ANT0	10.04	13	-2.96
		ANT1	6.52	13	-6.48

Slot 0 (Band 25), Bandwidth: 15 MHz, Modulation: TM3.1-64QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1937.50	ANT0	10.01	13	-2.99
		ANT1	7.13	13	-5.87
Mid	1962.50	ANT0	11.09	13	-1.91
		ANT1	7.45	13	-5.55
High	1987.50	ANT0	9.69	13	-3.31
		ANT1	7.20	13	-5.8

Slot 0 (Band 25), Bandwidth: 20 MHz, Modulation: TM3.1-64QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1940.00	ANT0	9.91	13	-3.09
		ANT1	7.06	13	-5.94
Mid	1962.50	ANT0	9.92	13	-3.08
		ANT1	7.23	13	-5.77
High	1985.00	ANT0	10.34	13	-2.66
		ANT1	7.41	13	-5.59

Slot 0 (Band 25), Bandwidth: 5 MHz, Modulation: TM3.1a-256QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1932.50	ANT0	9.80	13	-3.20
		ANT1	6.57	13	-6.43
Mid	1962.50	ANT0	9.81	13	-3.19
		ANT1	6.68	13	-6.32
High	1992.50	ANT0	9.78	13	-3.22
		ANT1	6.39	13	-6.61

Slot 0 (Band 25), Bandwidth: 10 MHz, Modulation: TM3.1a-256QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1935.00	ANT0	10.28	13	-2.72
		ANT1	6.75	13	-6.25
Mid	1962.50	ANT0	10.37	13	-2.63
		ANT1	6.87	13	-6.13
High	1990.00	ANT0	10.11	13	-2.89
		ANT1	6.62	13	-6.38

Slot 0 (Band 25), Bandwidth: 15 MHz, Modulation: TM3.1a-256QAM (5G NR)

Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1937.50	ANT0	10.07	13	-2.93
		ANT1	7.08	13	-5.92
Mid	1962.50	ANT0	10.11	13	-2.89
		ANT1	7.46	13	-5.54
High	1987.50	ANT0	10.20	13	-2.8
		ANT1	7.33	13	-5.67

Slot 0 (Band 25), Bandwidth: 20 MHz, Modulation: TM3.1a-256QAM (5G NR)

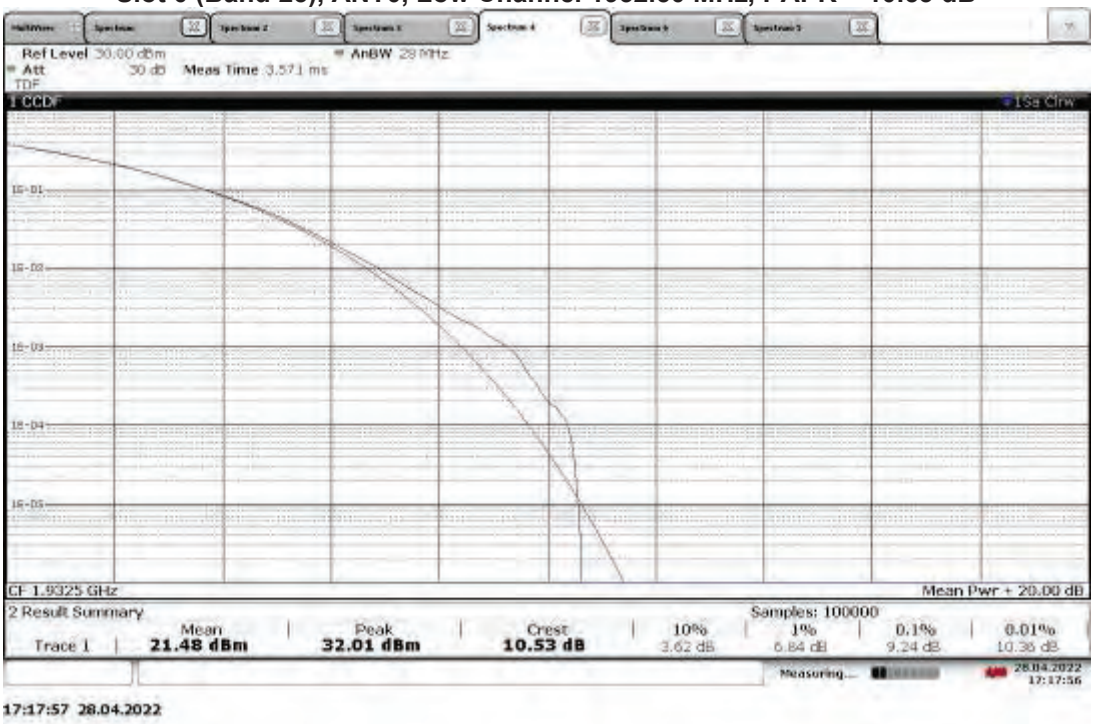
Channel	Frequency (MHz)	Antenna Port	PAPR (dB)	Limit (dB)	Margin (dB)
Low	1940.00	ANT0	10.17	13	-2.83
		ANT1	7.35	13	-5.65
Mid	1962.50	ANT0	10.33	13	-2.67
		ANT1	7.19	13	-5.81
High	1985.00	ANT0	9.99	13	-3.01
		ANT1	7.34	13	-5.66

7.4 Setup Photograph:

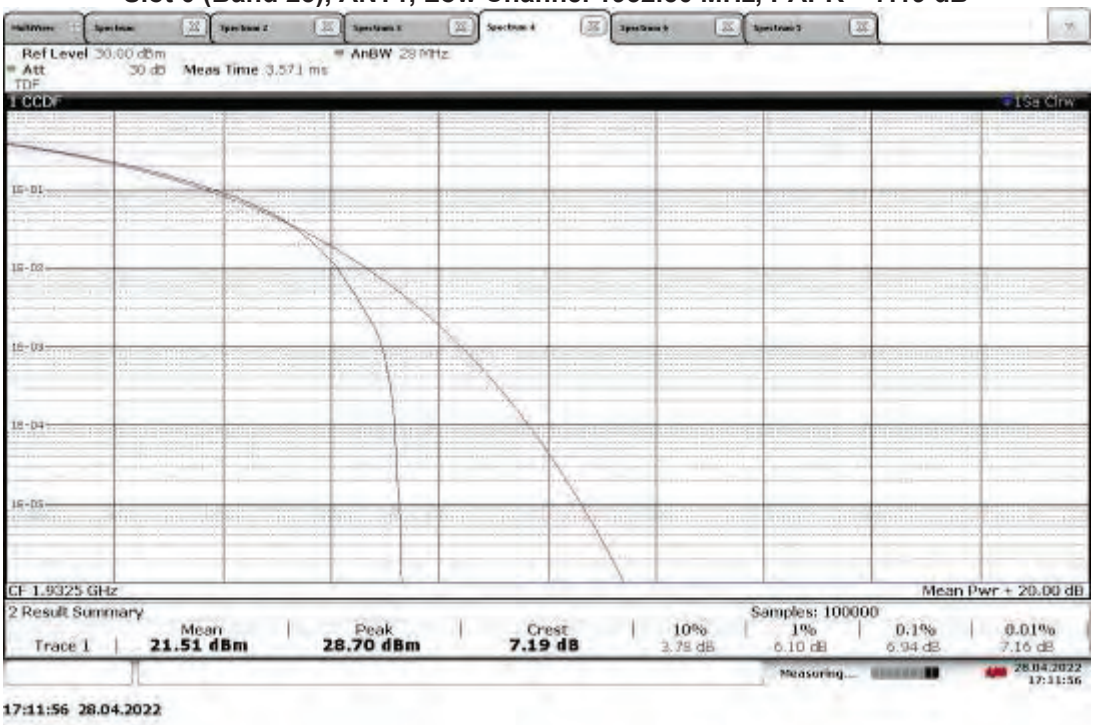
Confidential – Photos not included in this report

7.5 Plots/Data:

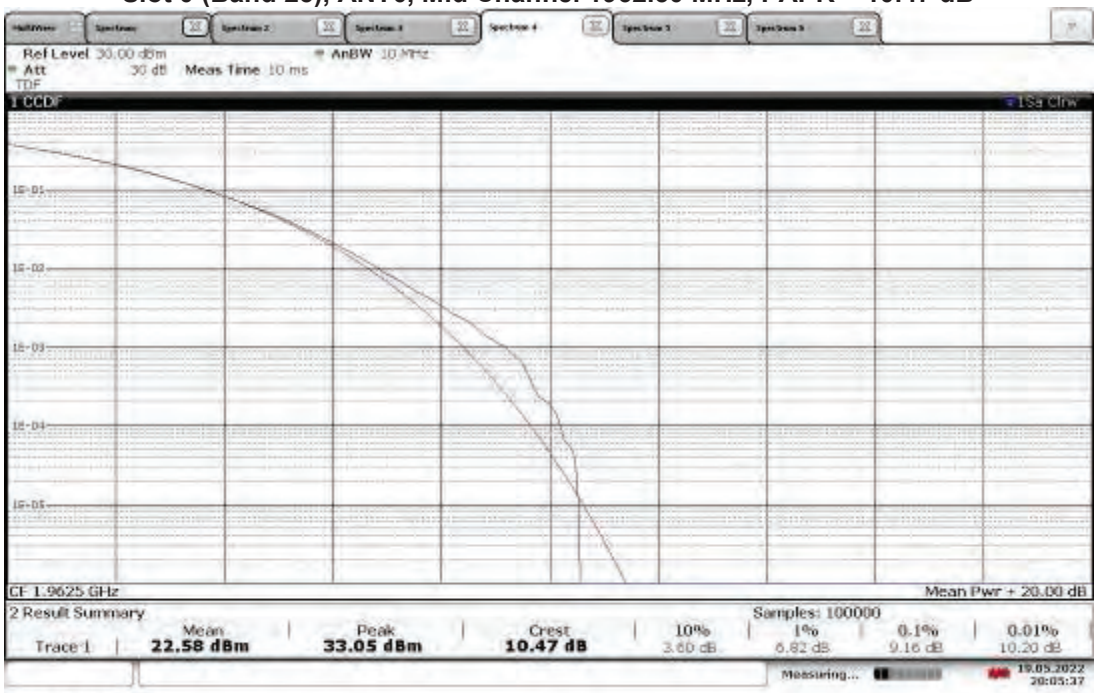
TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1932.50 MHz, PAPR = 10.53 dB



TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1932.50 MHz, PAPR = 7.19 dB



TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 10.47 dB



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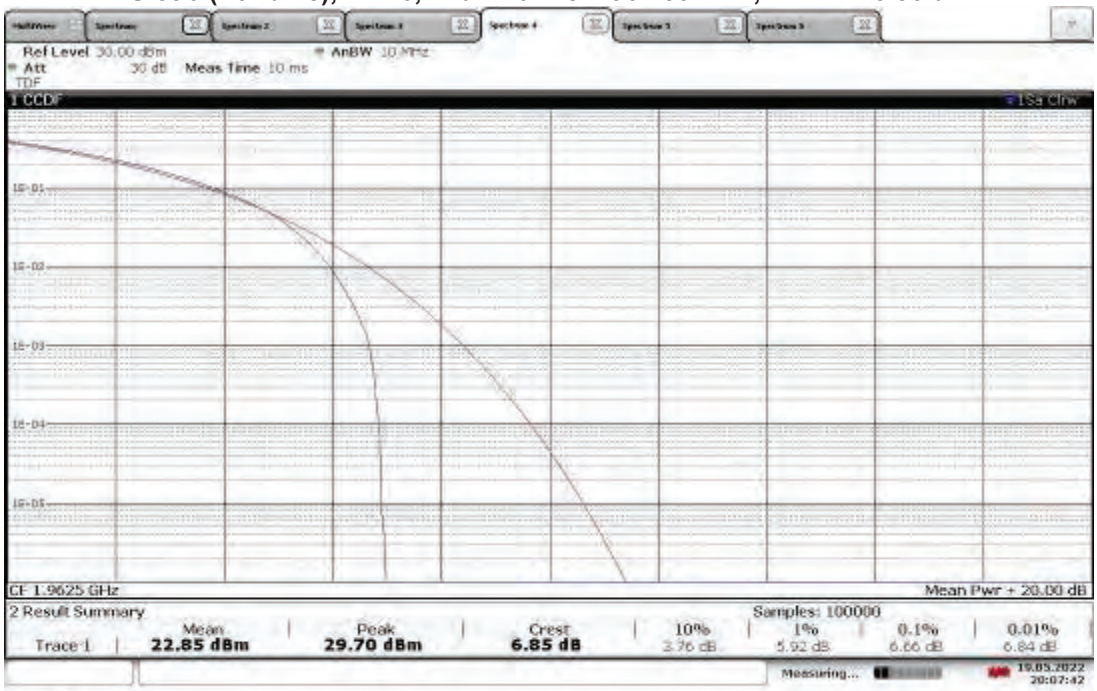
TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 6.85 dB



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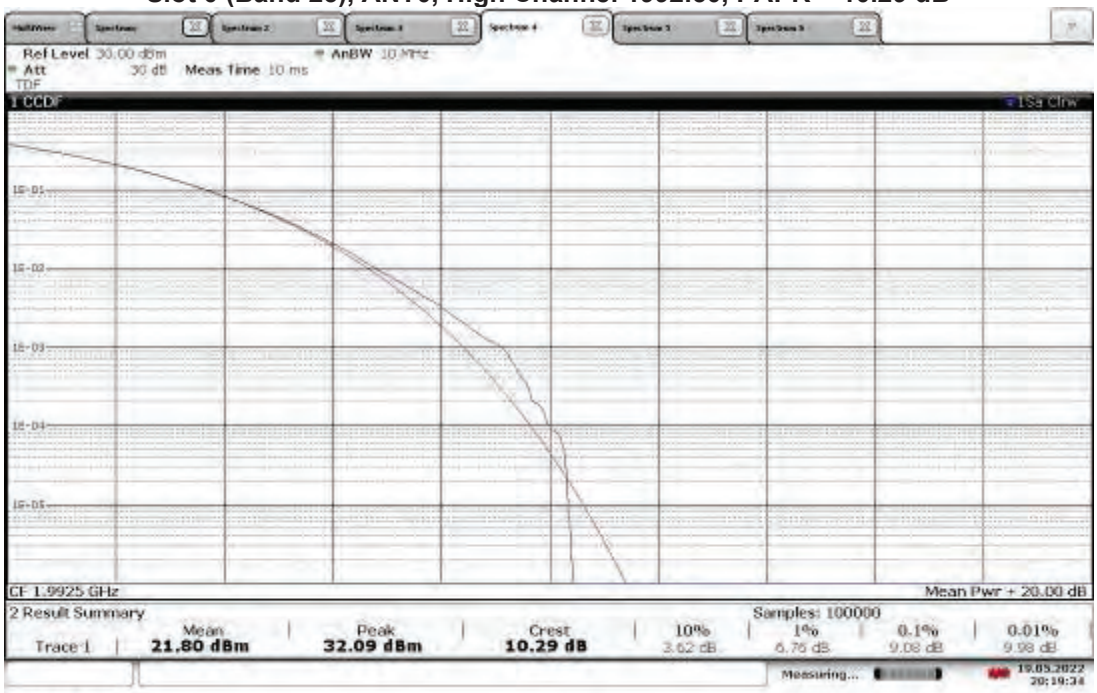
TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.50, PAPR = 10.29 dB



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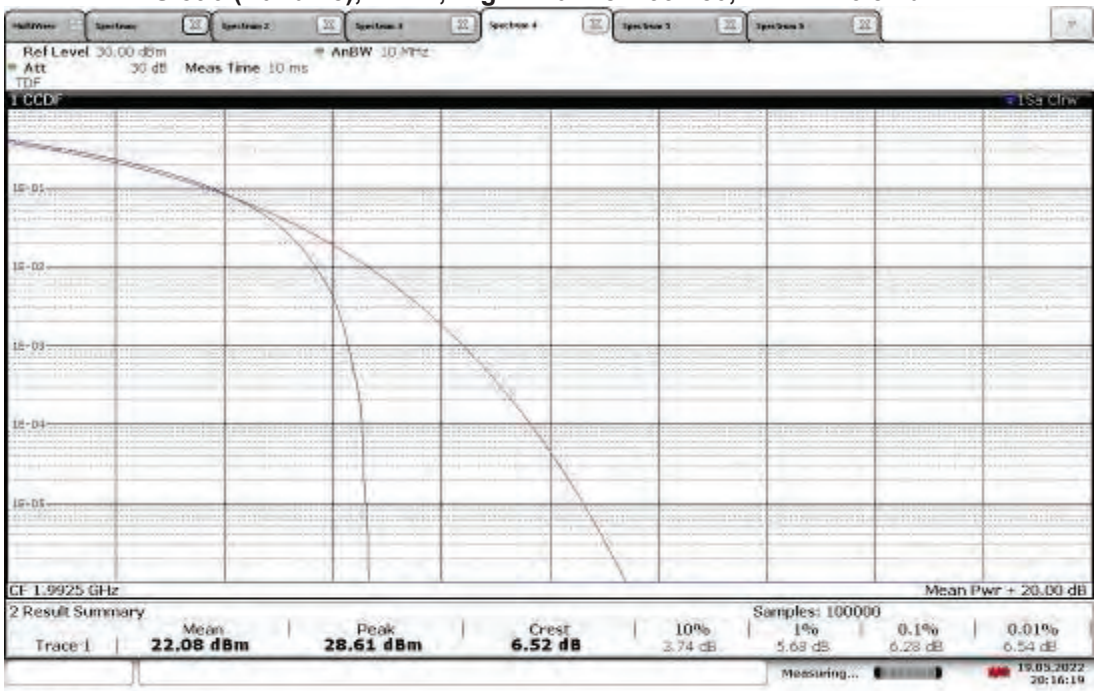
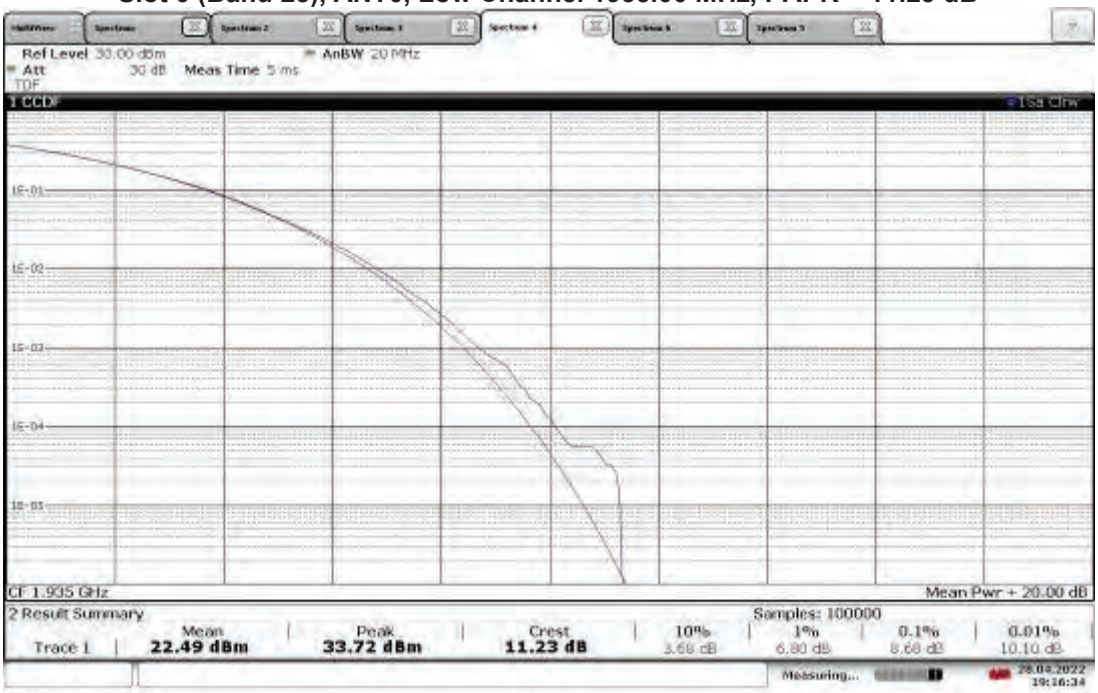
TM1.1-QPSK_5 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1992.50, PAPR = 6.52 dB



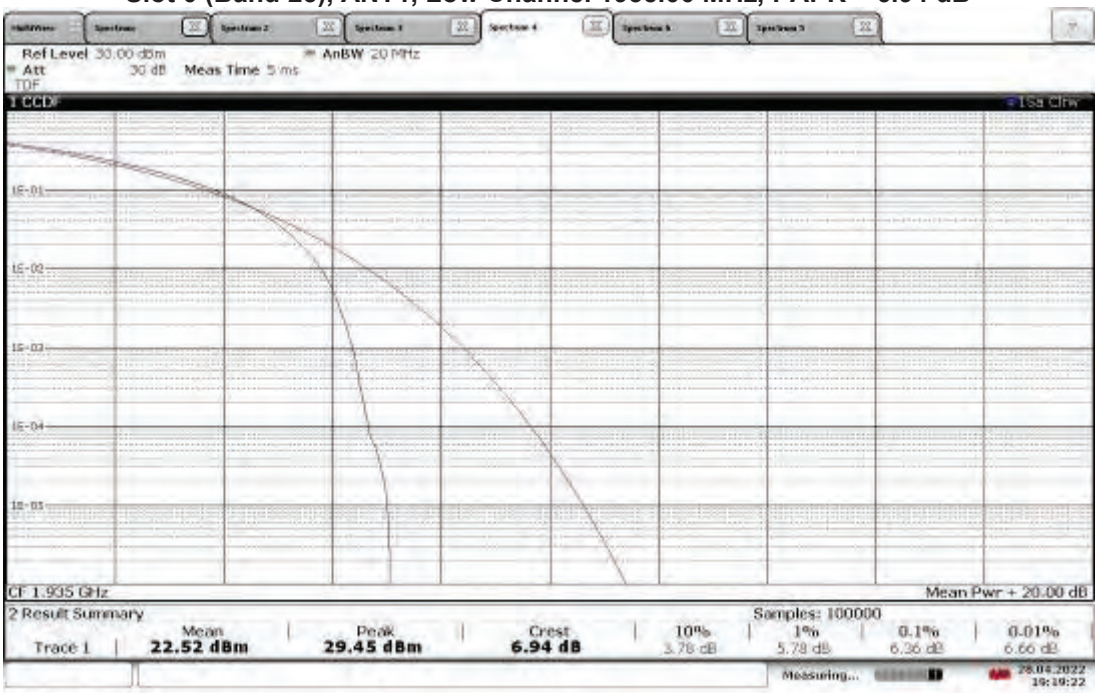
20:16:19 19.05.2022

TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1935.00 MHz, PAPR = 11.23 dB



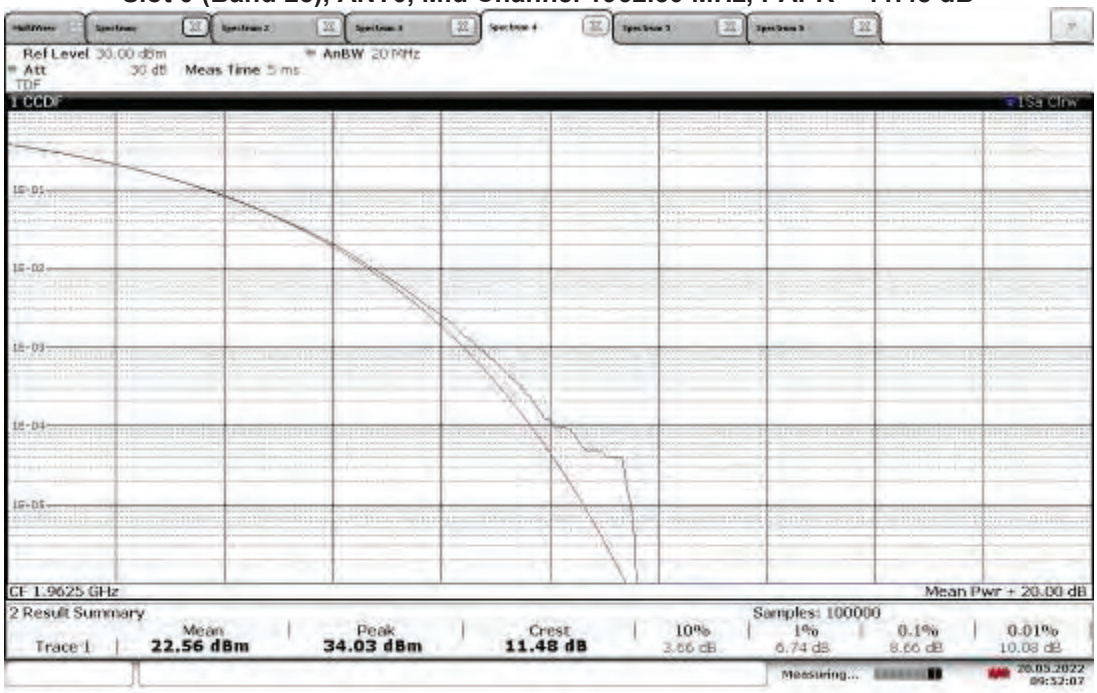
19:16:34 28.04.2022

TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1935.00 MHz, PAPR = 6.94 dB



19:19:22 28.04.2022

TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 11.48 dB



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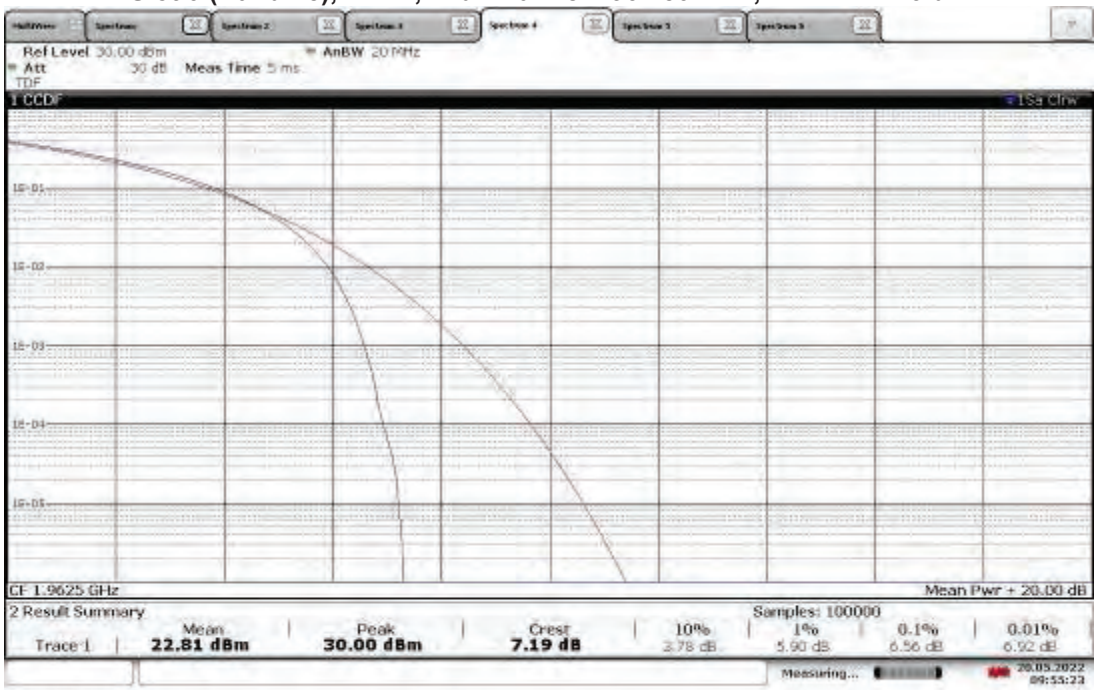
TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, PAPR = 7.19 dB



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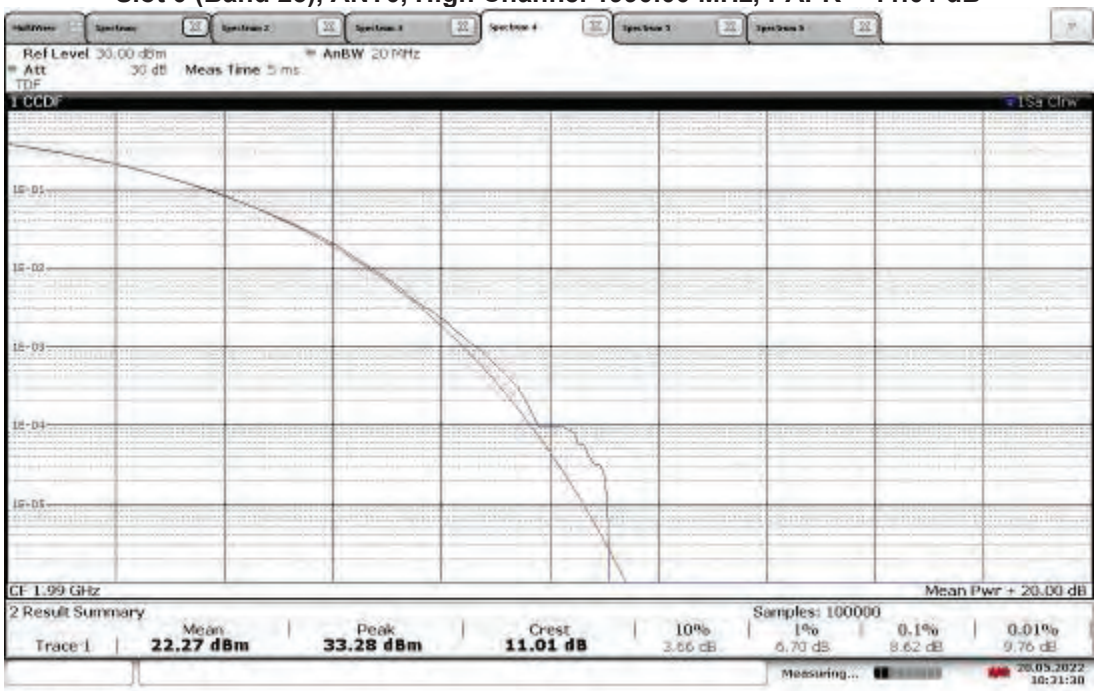
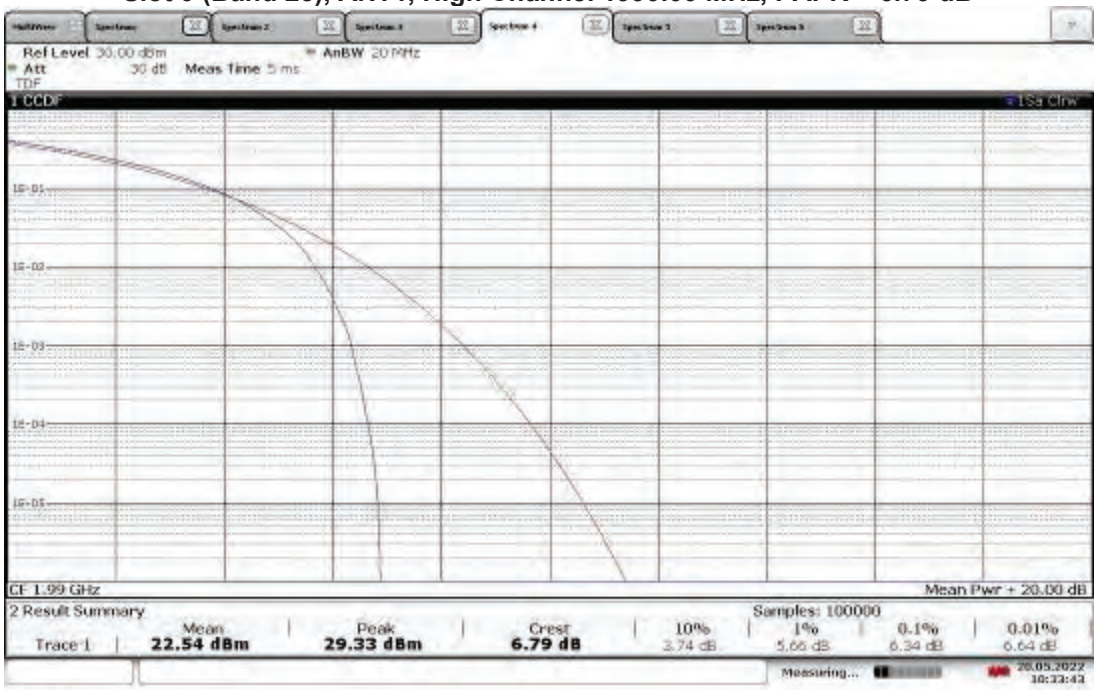
TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, PAPR = 11.01 dB



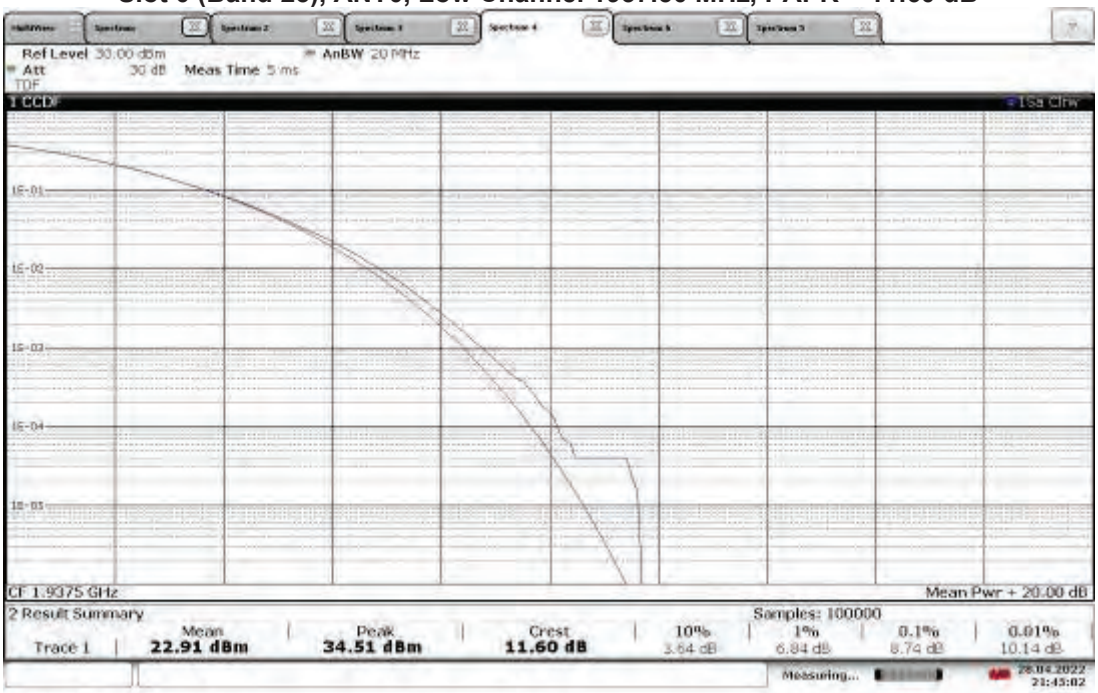
10:31:31 20.05.2022

TM1.1-QPSK_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1990.00 MHz, PAPR = 6.79 dB

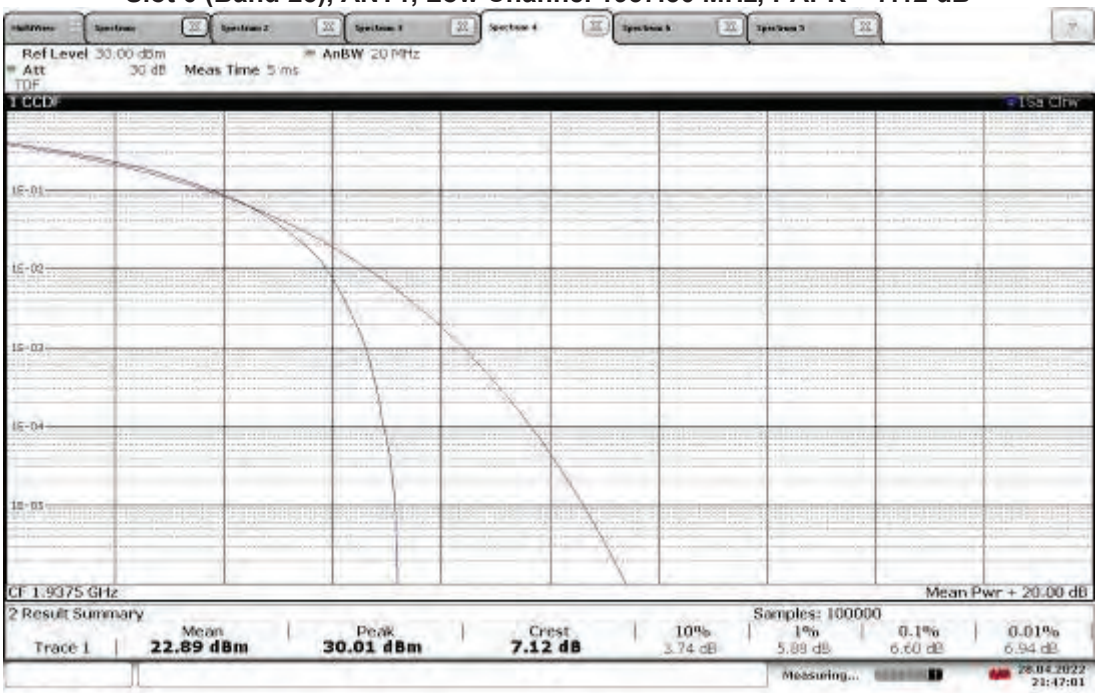


10:33:43 20.05.2022

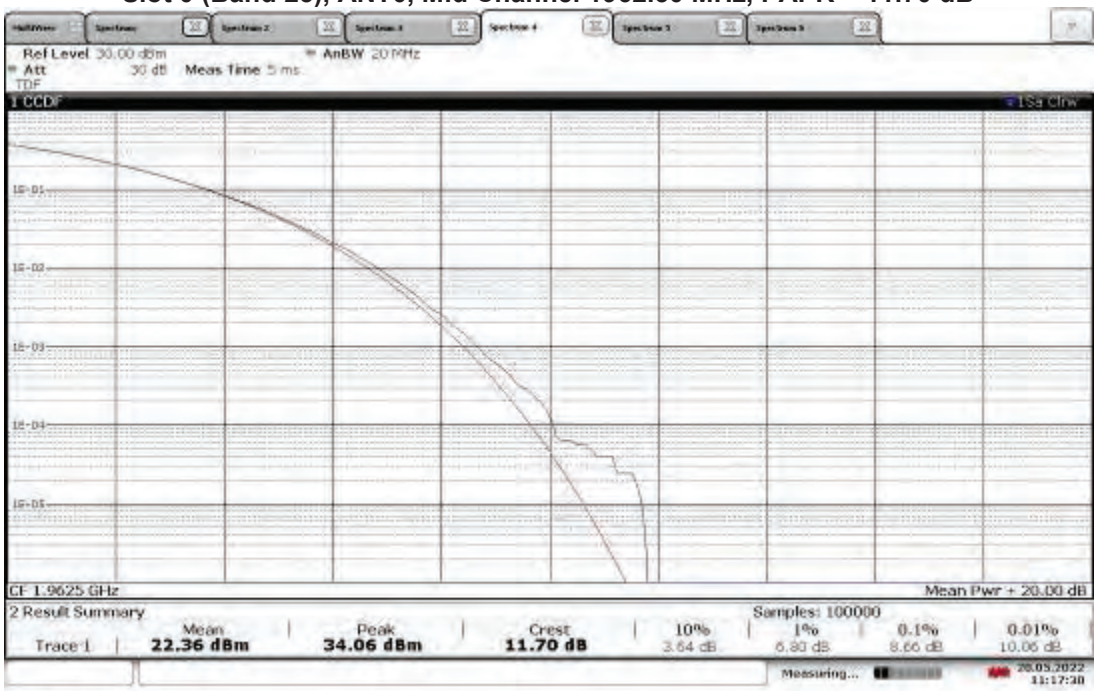
TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1937.50 MHz, PAPR = 11.60 dB



TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1937.50 MHz, PAPR = 7.12 dB



TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 11.70 dB



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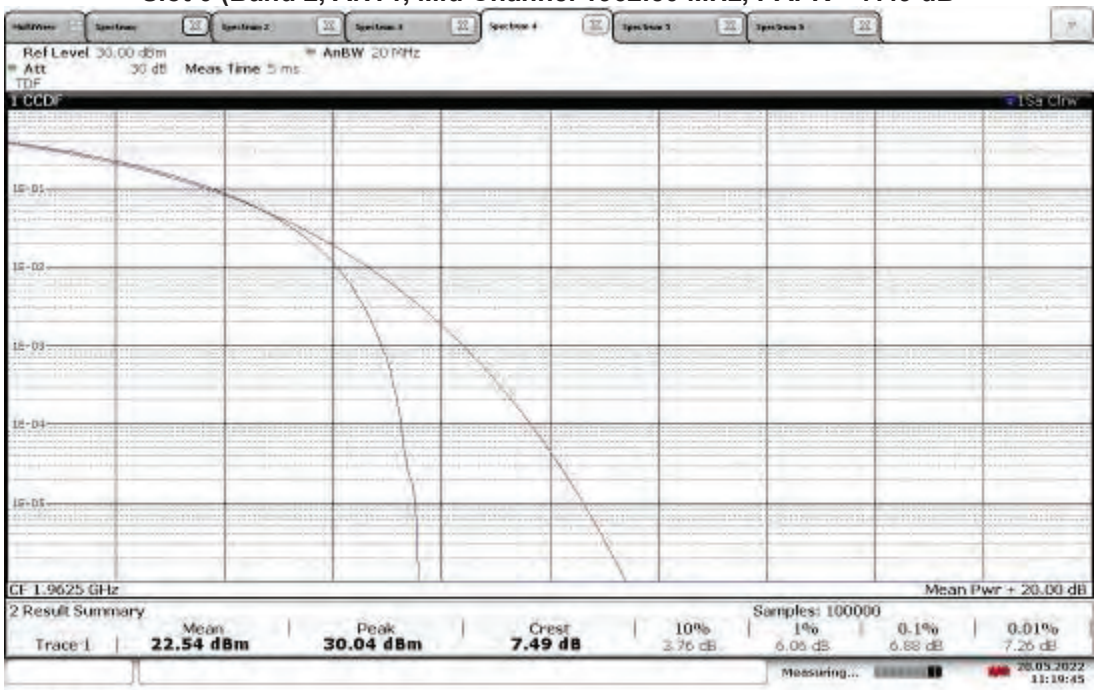
TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 2, ANT1, Mid Channel 1962.50 MHz, PAPR = 7.49 dB



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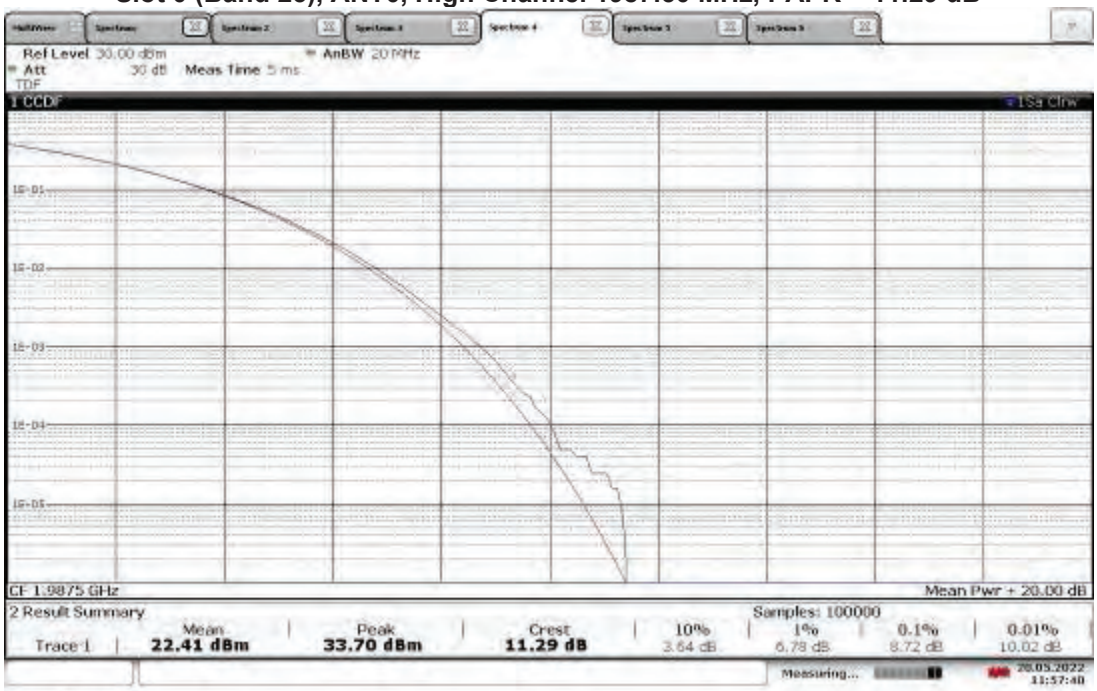
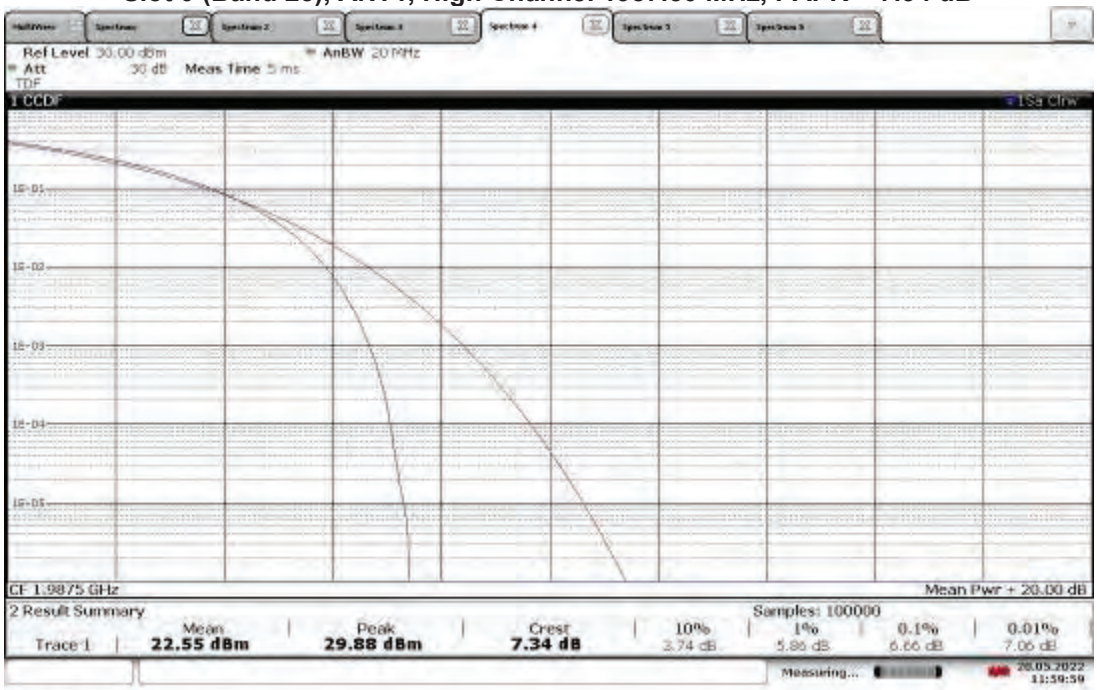
TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1987.50 MHz, PAPR = 11.29 dB



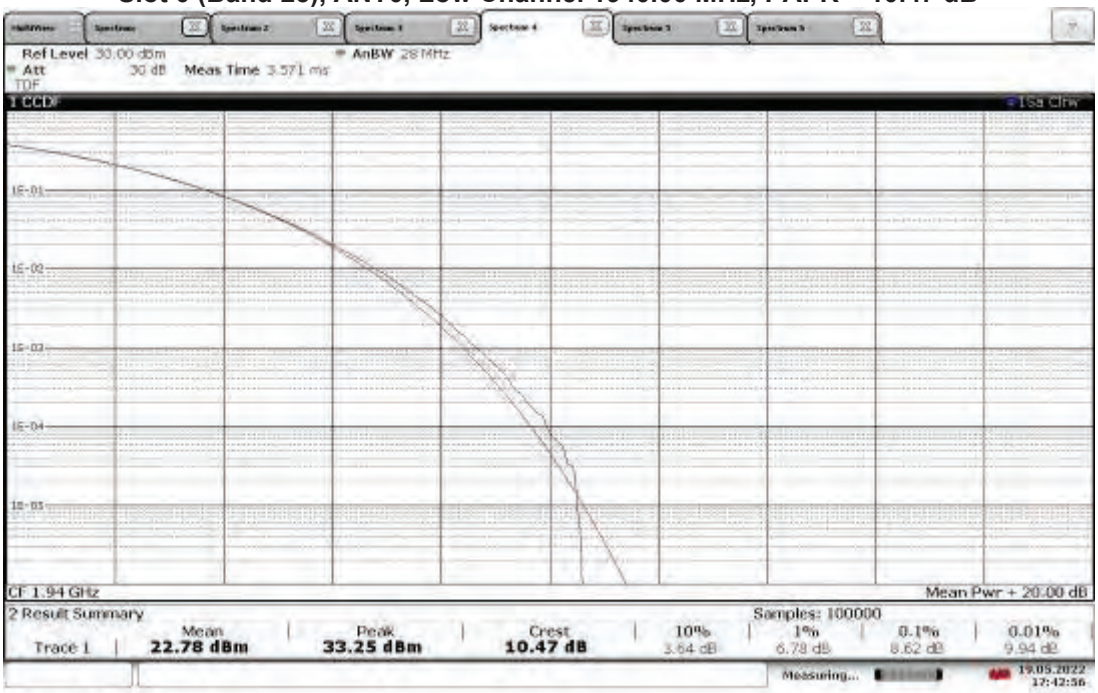
11:57:40 20.05.2022

TM1.1-QPSK_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1987.50 MHz, PAPR = 7.34 dB



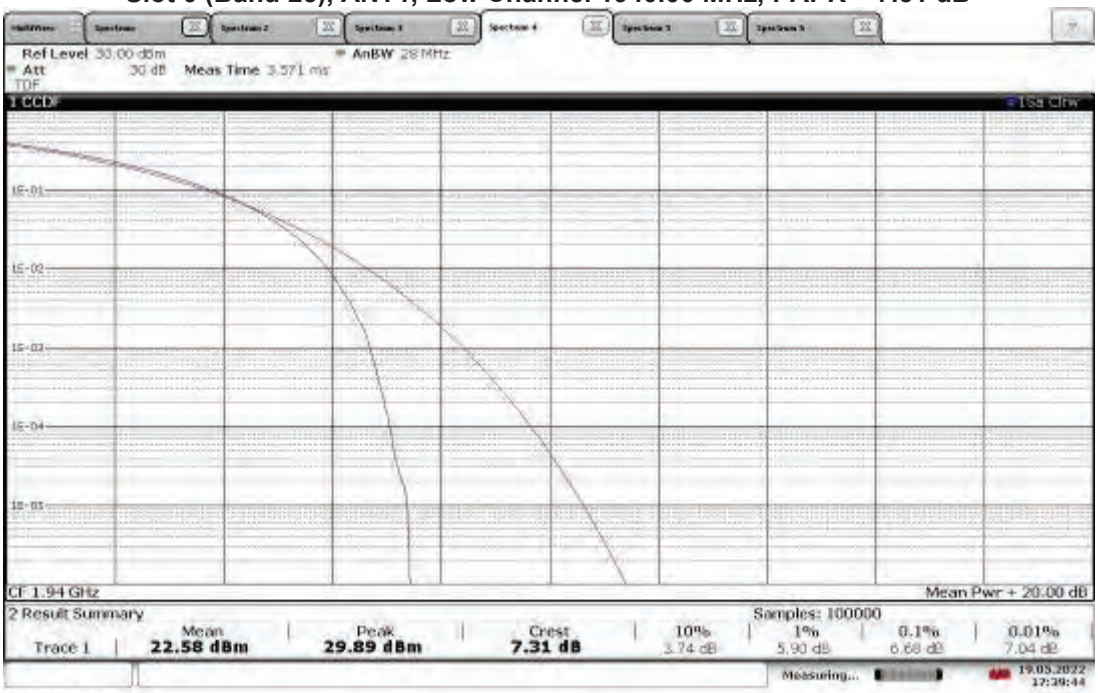
12:00:00 20.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1940.00 MHz, PAPR = 10.47 dB



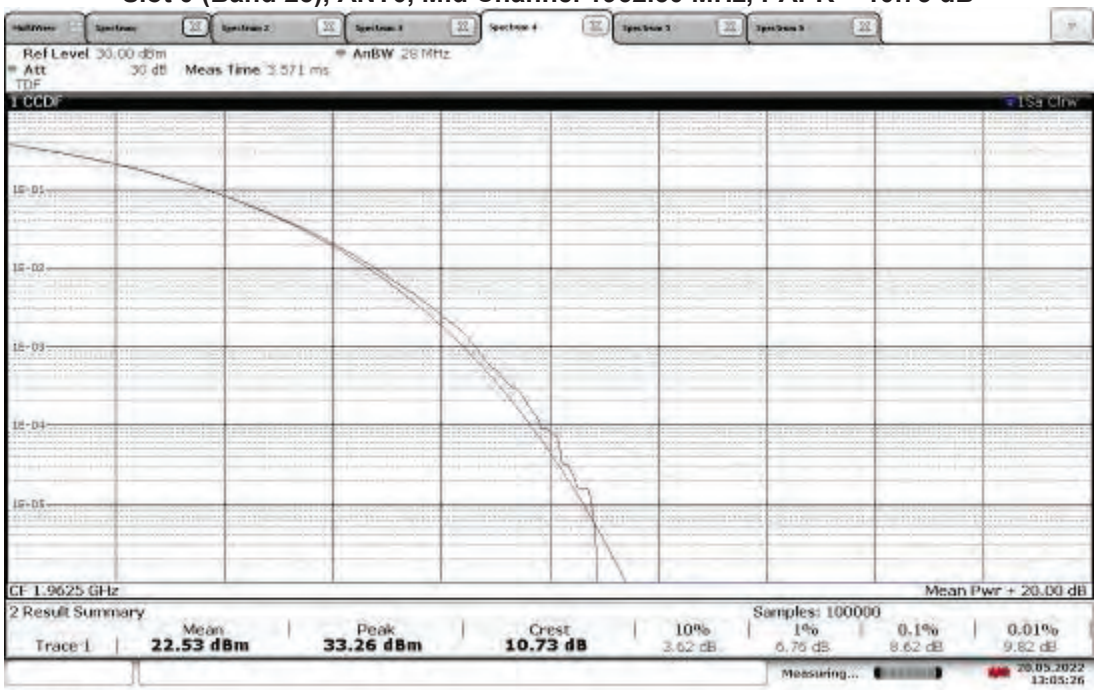
17:42:56 19.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1940.00 MHz, PAPR = 7.31 dB



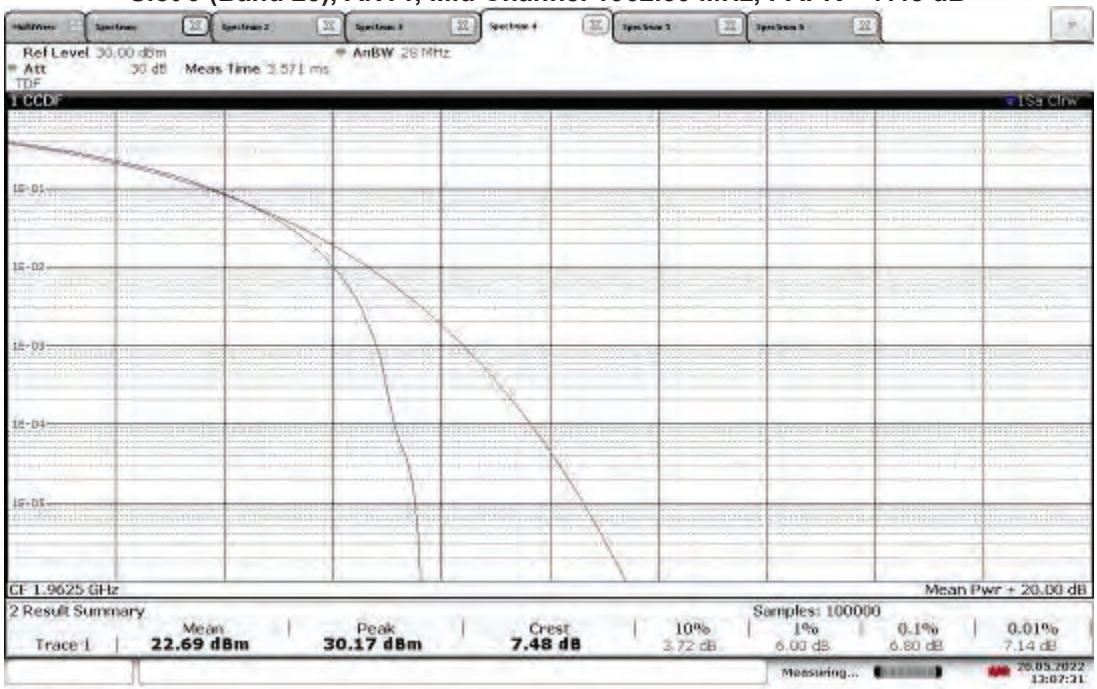
17:39:44 19.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 10.73 dB



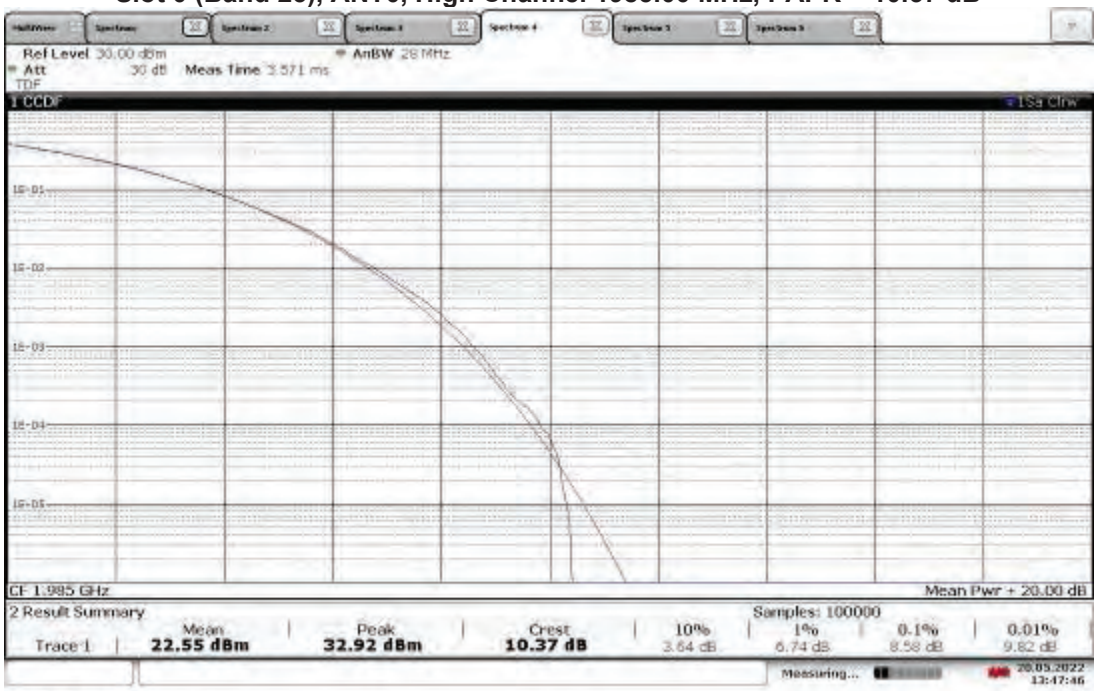
13:05:26 20.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, PAPR = 7.48 dB



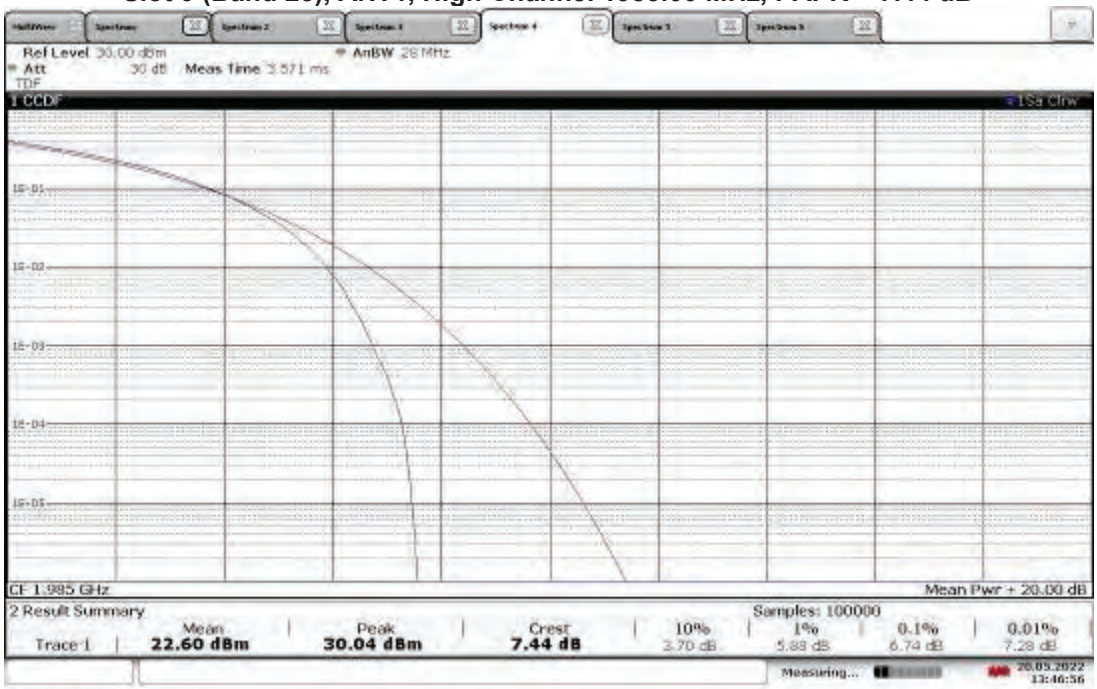
13:07:31 20.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1985.00 MHz, PAPR = 10.37 dB



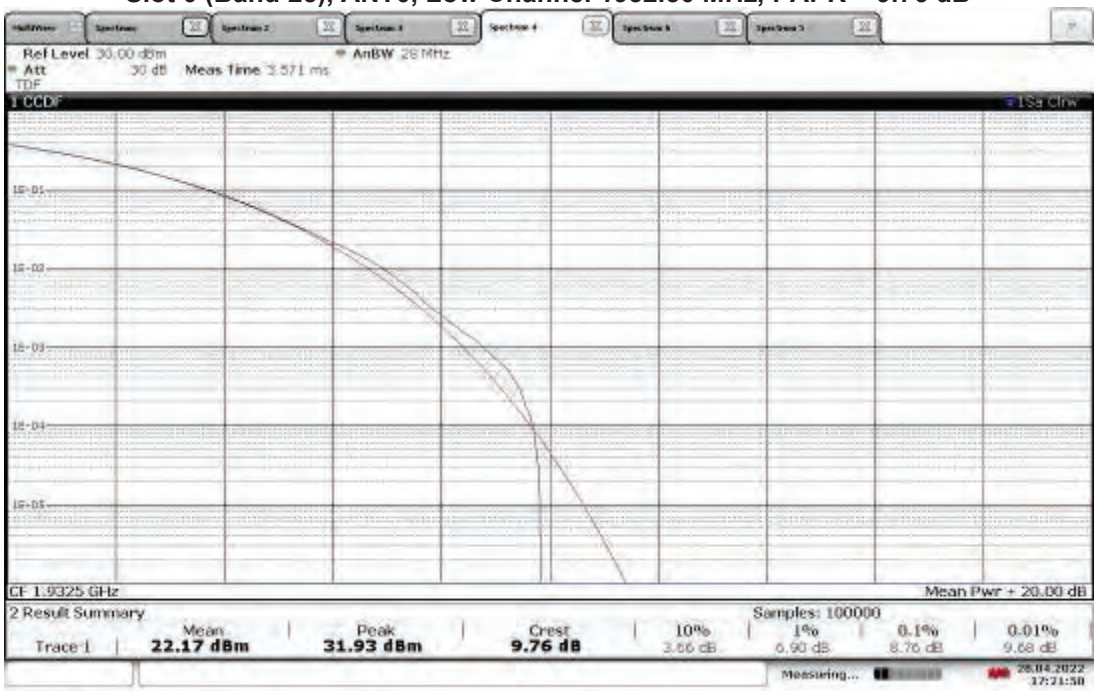
13:47:46 20.05.2022

TM1.1-QPSK_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1985.00 MHz, PAPR = 7.44 dB



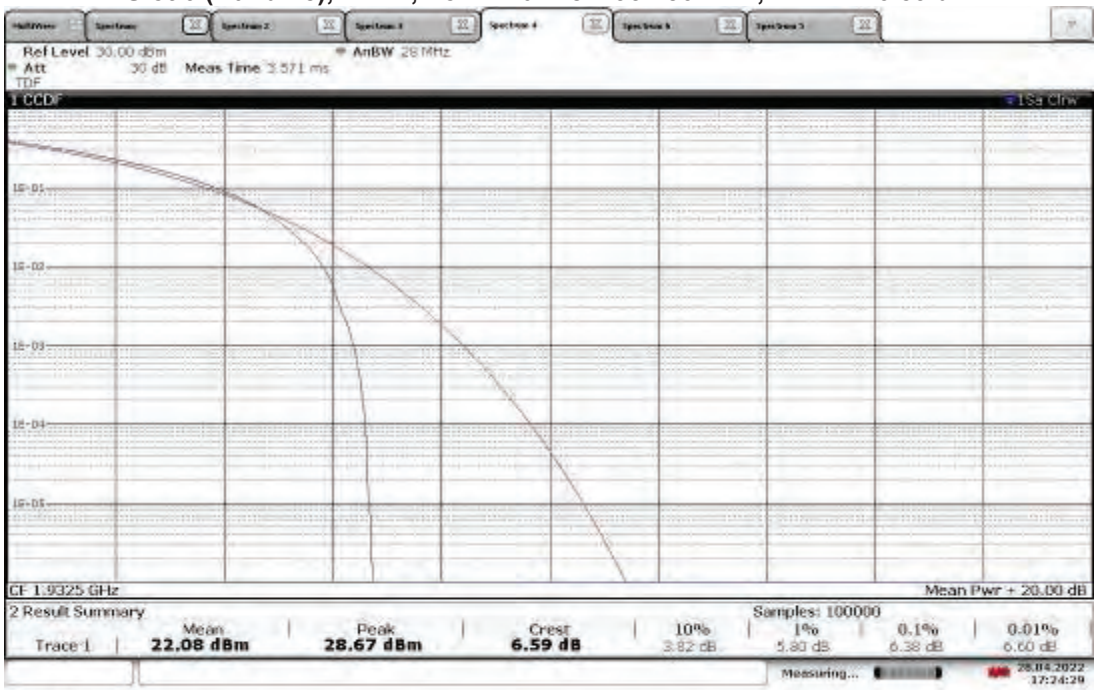
13:46:56 20.05.2022

TM3.2 - 16QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1932.50 MHz, PAPR = 9.76 dB



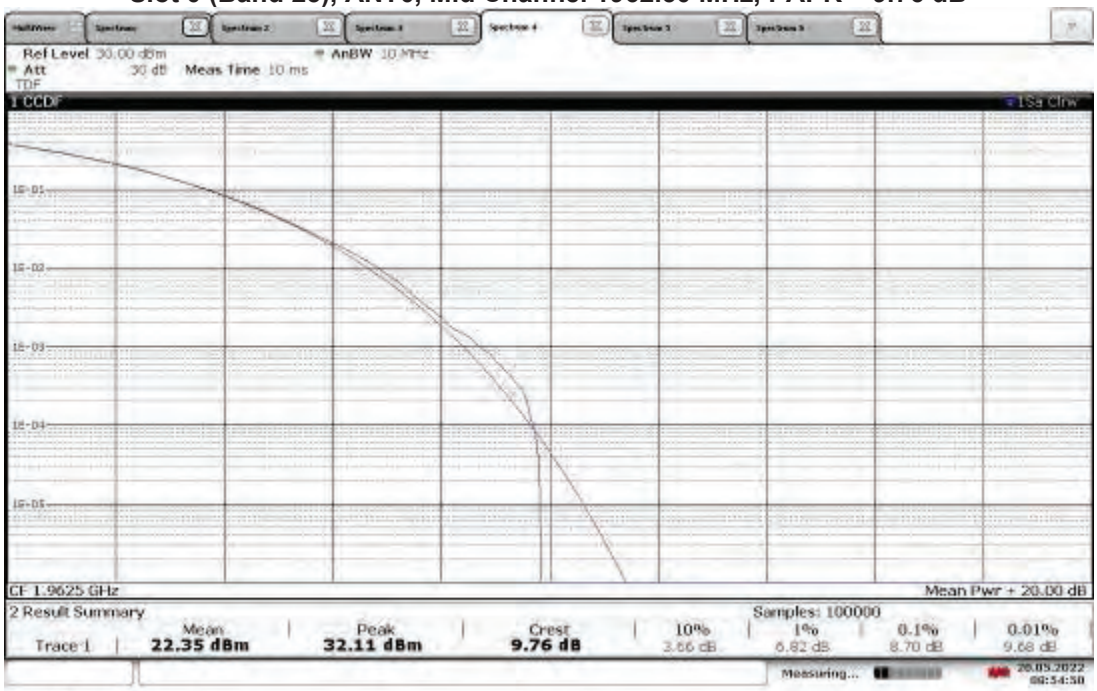
17:21:50 28.04.2022

TM3.2 - 16QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1932.50 MHz, PAPR = 6.59 dB



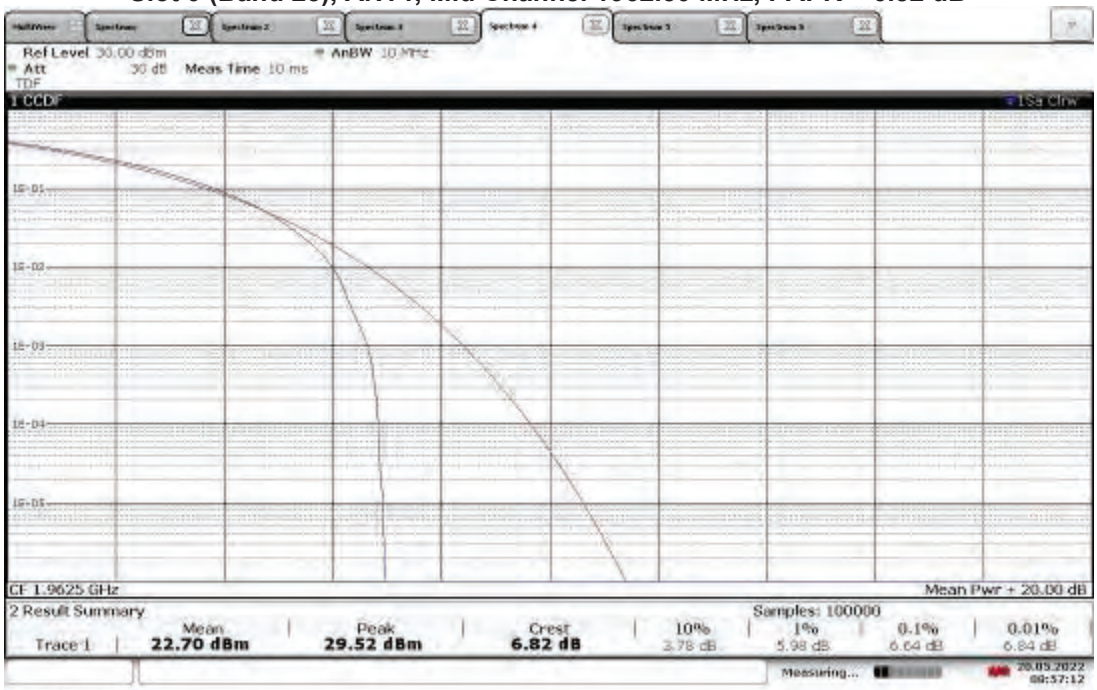
17:24:30 28.04.2022

TM3.2 - 16QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 9.76 dB



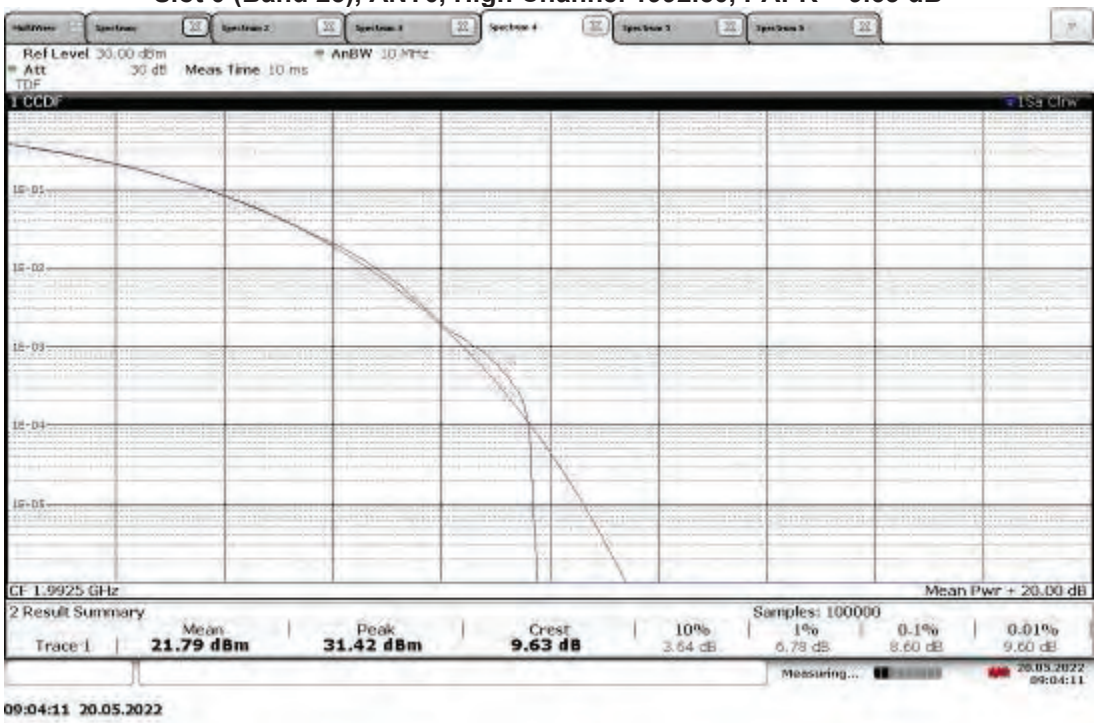
08:54:50 20.05.2022

TM3.2 - 16QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, PAPR = 6.82 dB

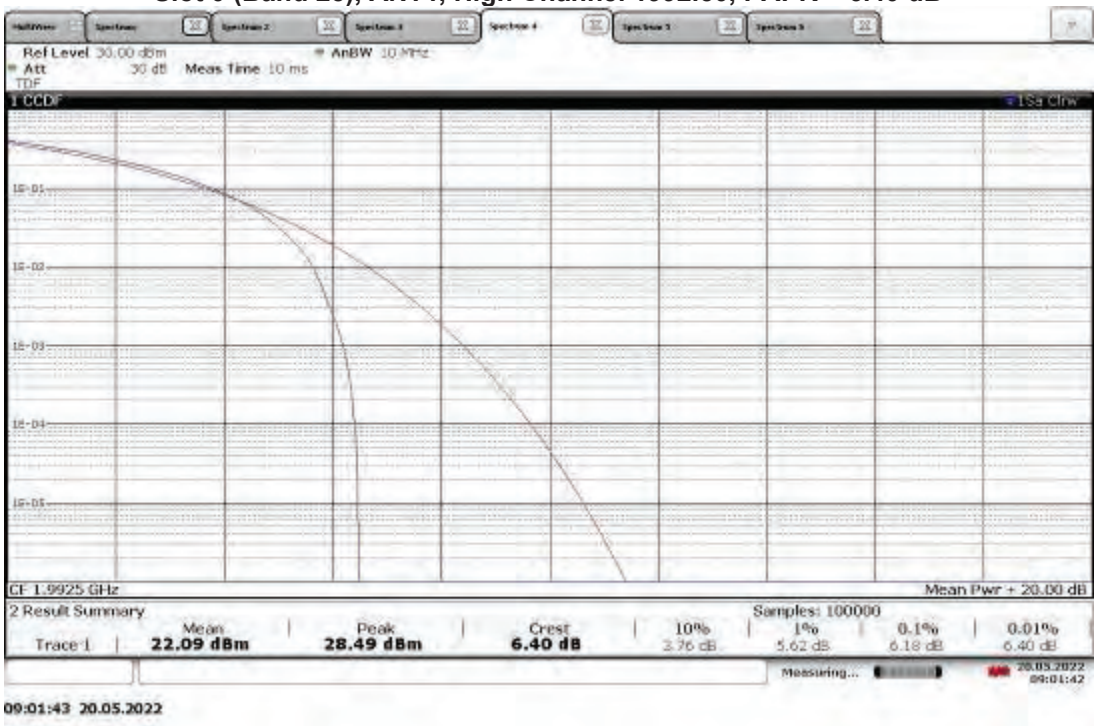


08:57:12 20.05.2022

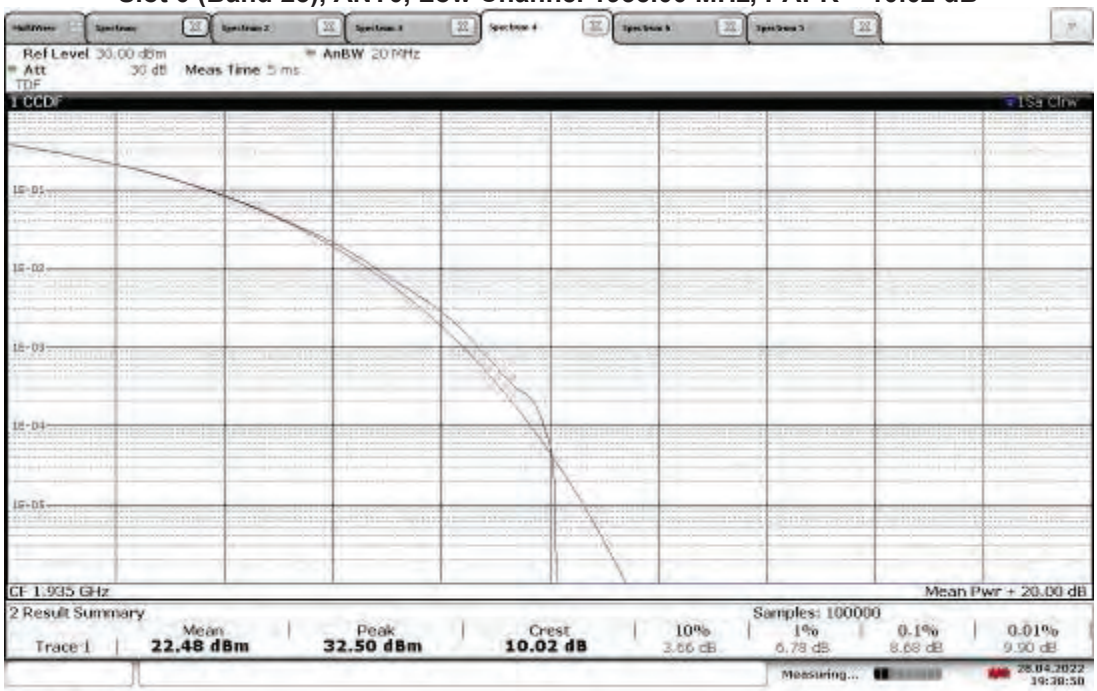
TM3.2 - 16QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.50, PAPR = 9.63 dB



TM3.2 - 16QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1992.50, PAPR = 6.40 dB

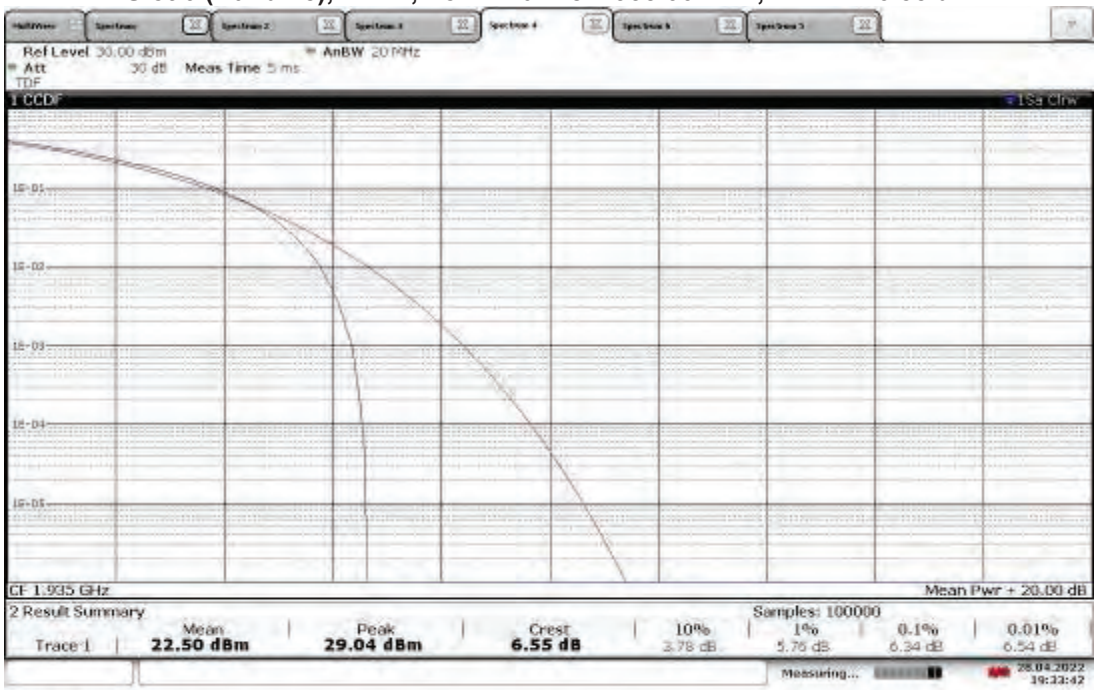


TM3.2 - 16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1935.00 MHz, PAPR = 10.02 dB



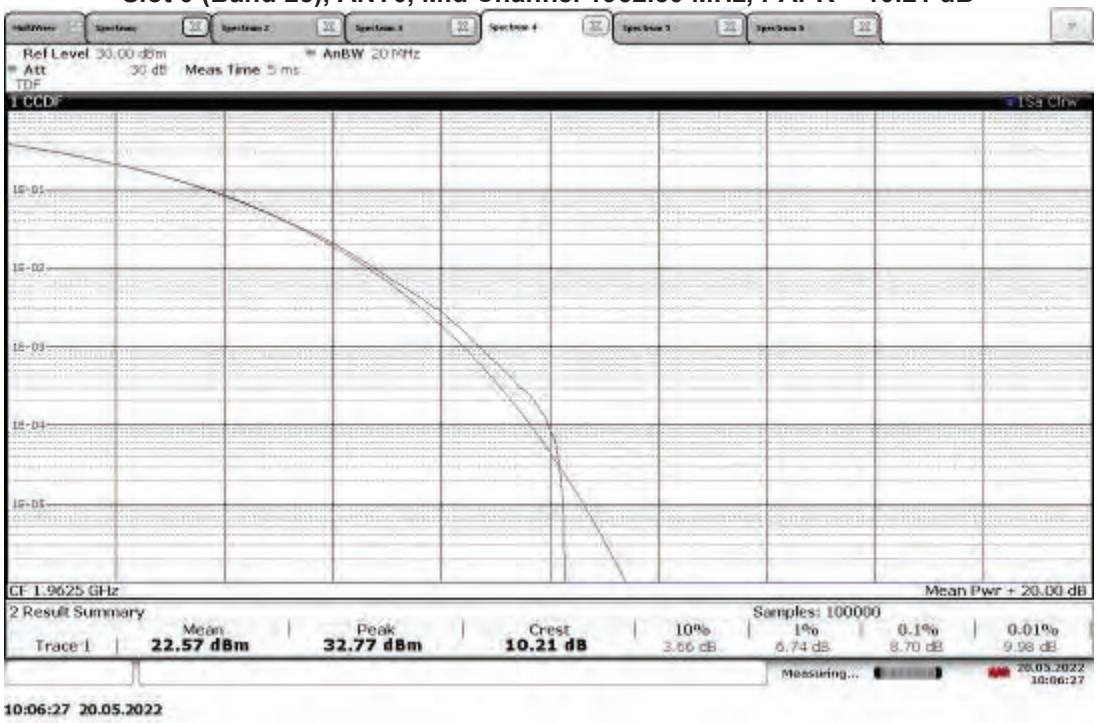
19:38:50 28.04.2022

TM3.2 - 16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1935.00 MHz, PAPR = 6.55 dB



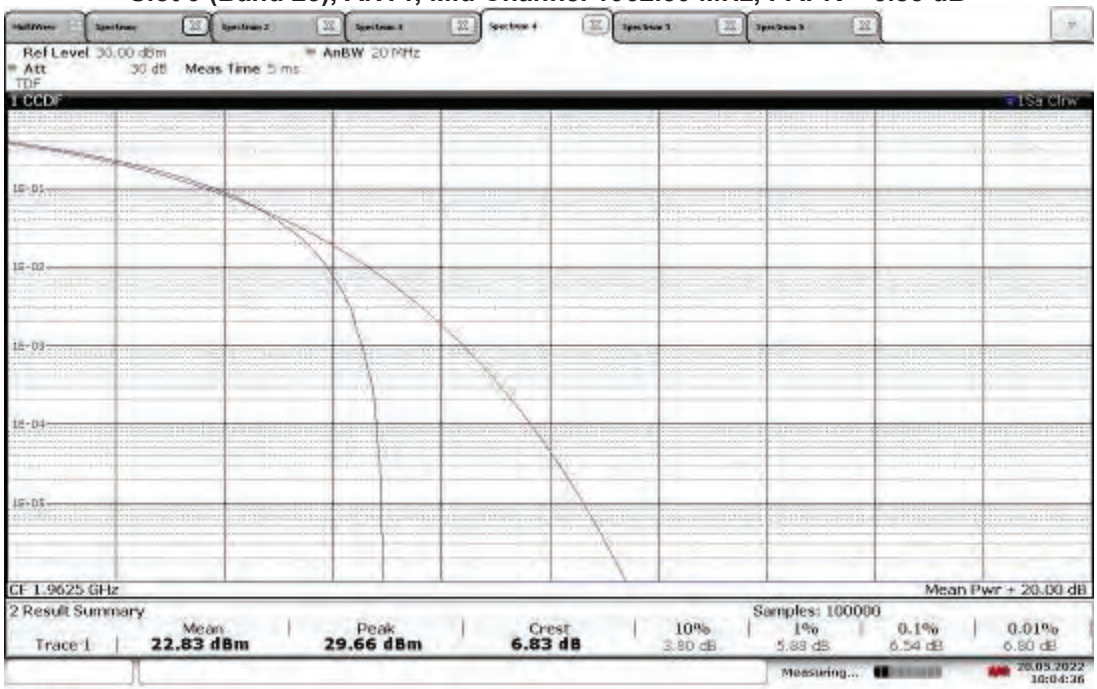
19:33:43 28.04.2022

TM3.2 - 16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 10.21 dB



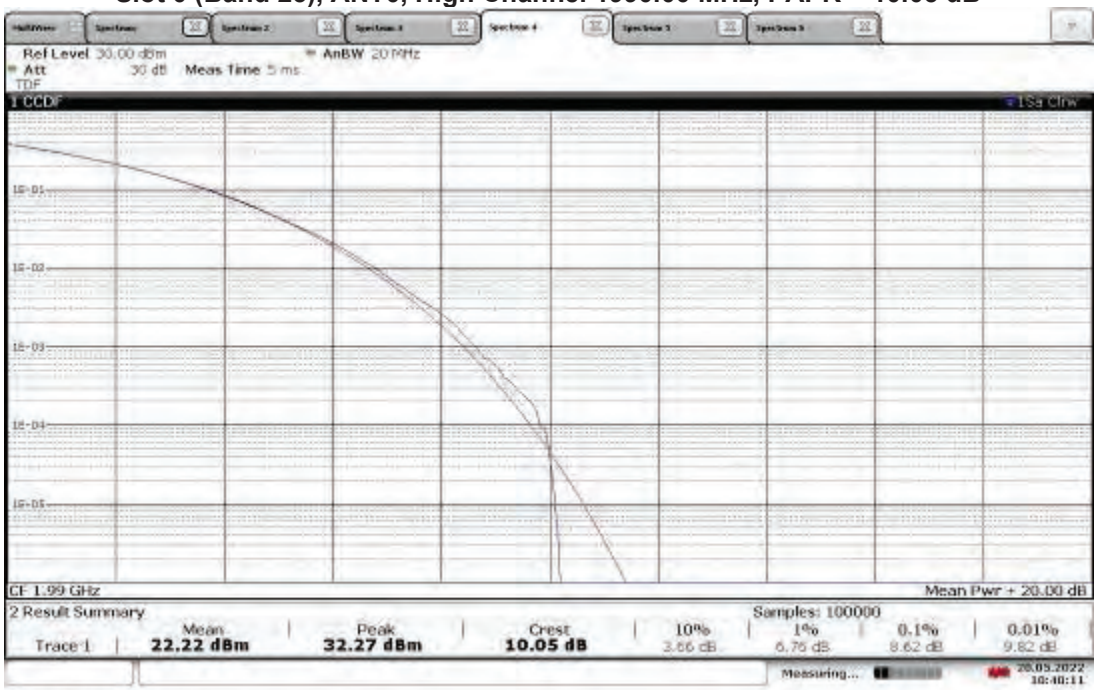
10:06:27 20.05.2022

TM3.2 - 16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, PAPR = 6.83 dB



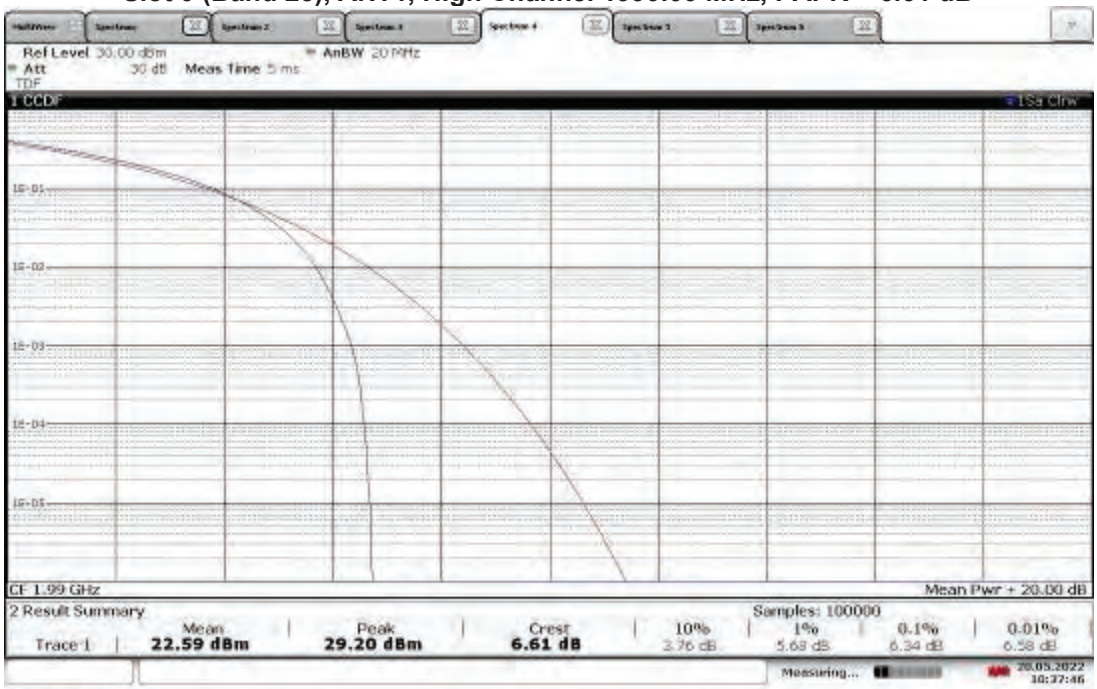
10:04:36 20.05.2022

TM3.2 - 16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, PAPR = 10.05 dB



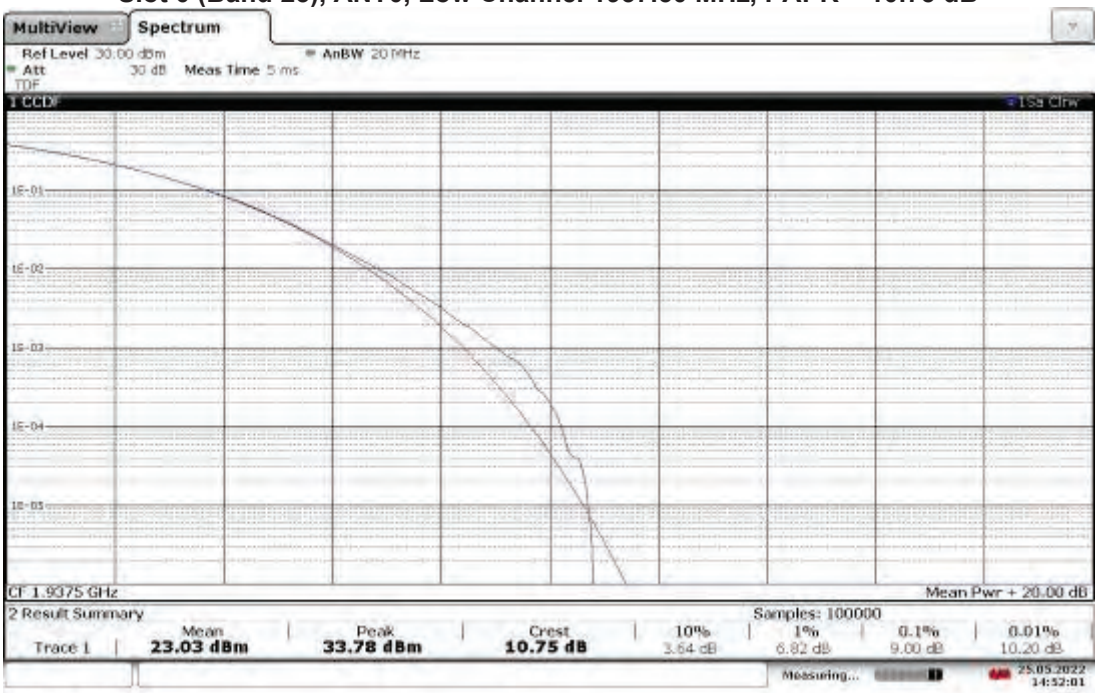
10:40:11 20.05.2022

TM3.2 - 16QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1990.00 MHz, PAPR = 6.61 dB



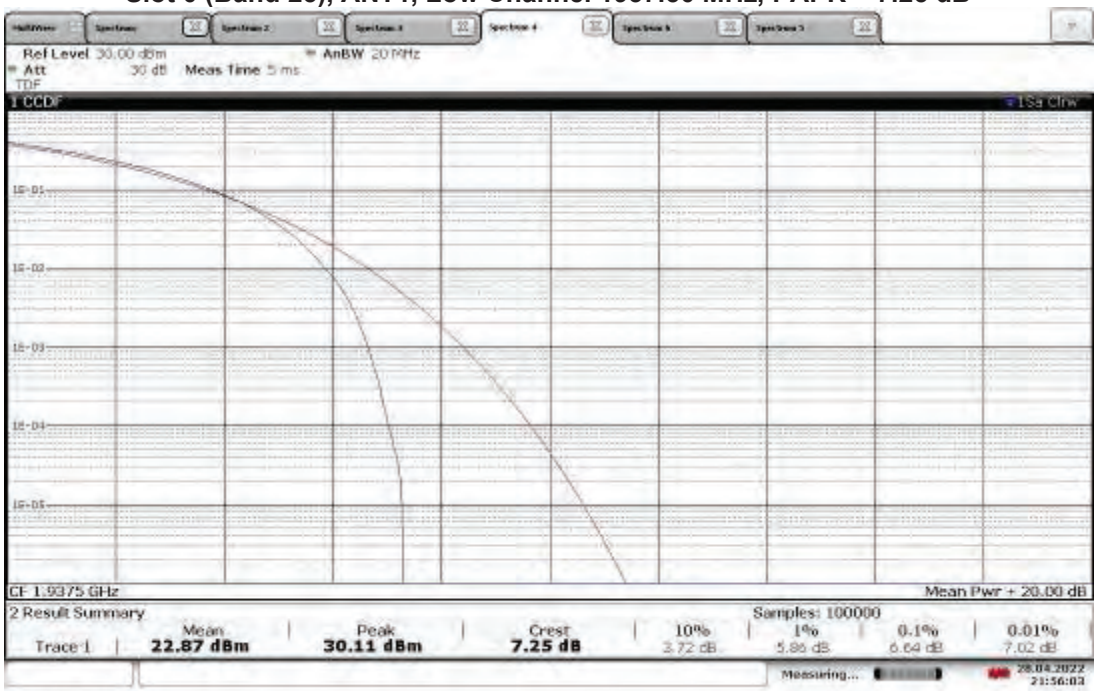
10:37:46 20.05.2022

TM3.2 - 16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1937.50 MHz, PAPR = 10.75 dB



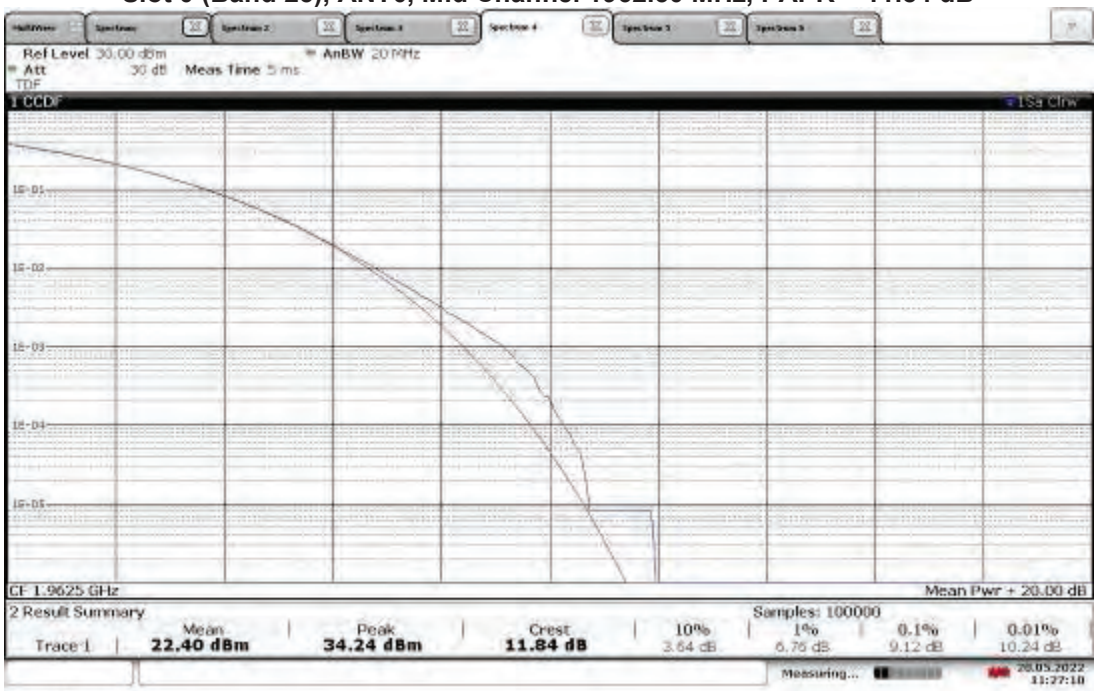
14:52:01 25.05.2022

TM3.2 - 16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1937.50 MHz, PAPR = 7.25 dB



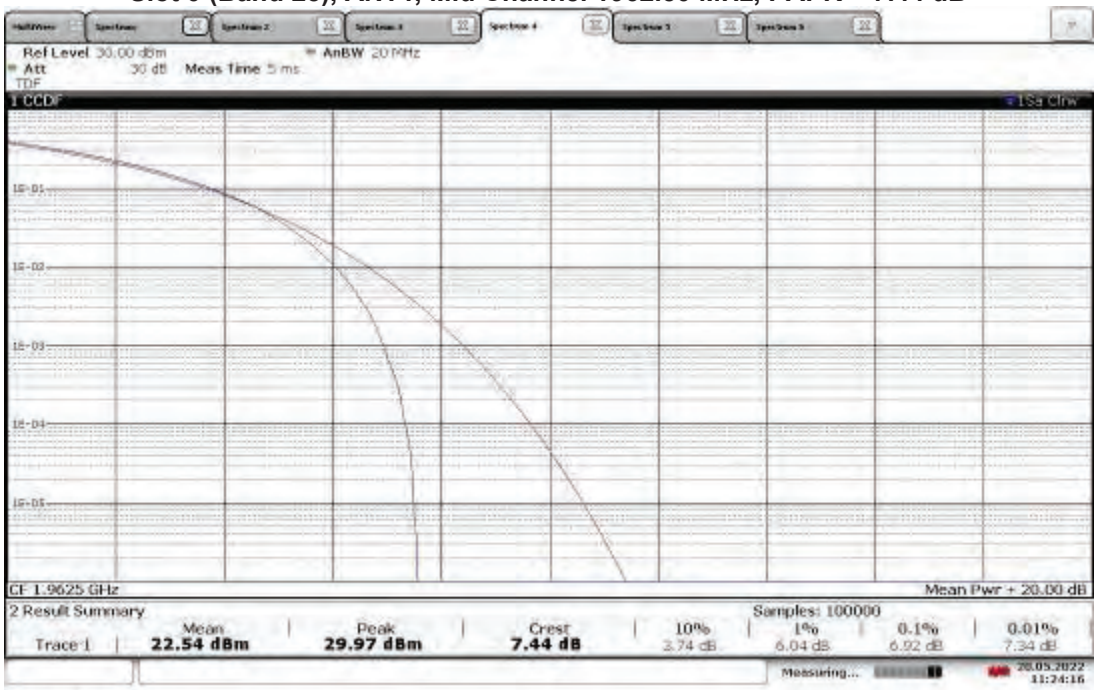
21:56:04 28.04.2022

TM3.2 - 16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 11.84 dB



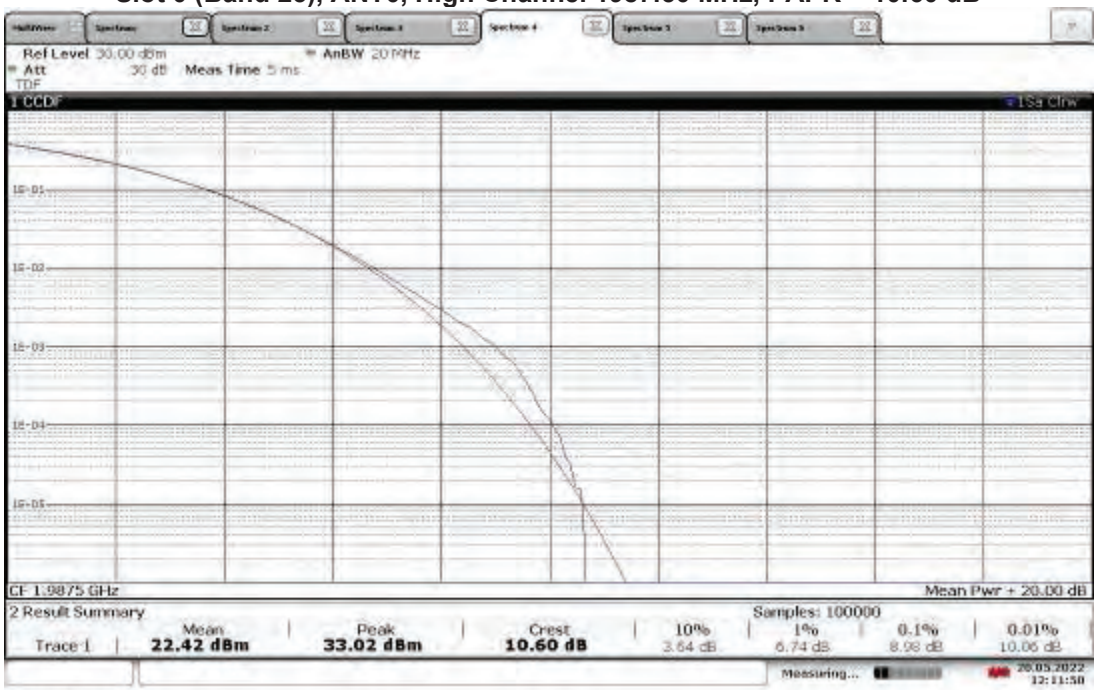
11:27:10 20.05.2022

TM3.2 - 16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, PAPR = 7.44 dB



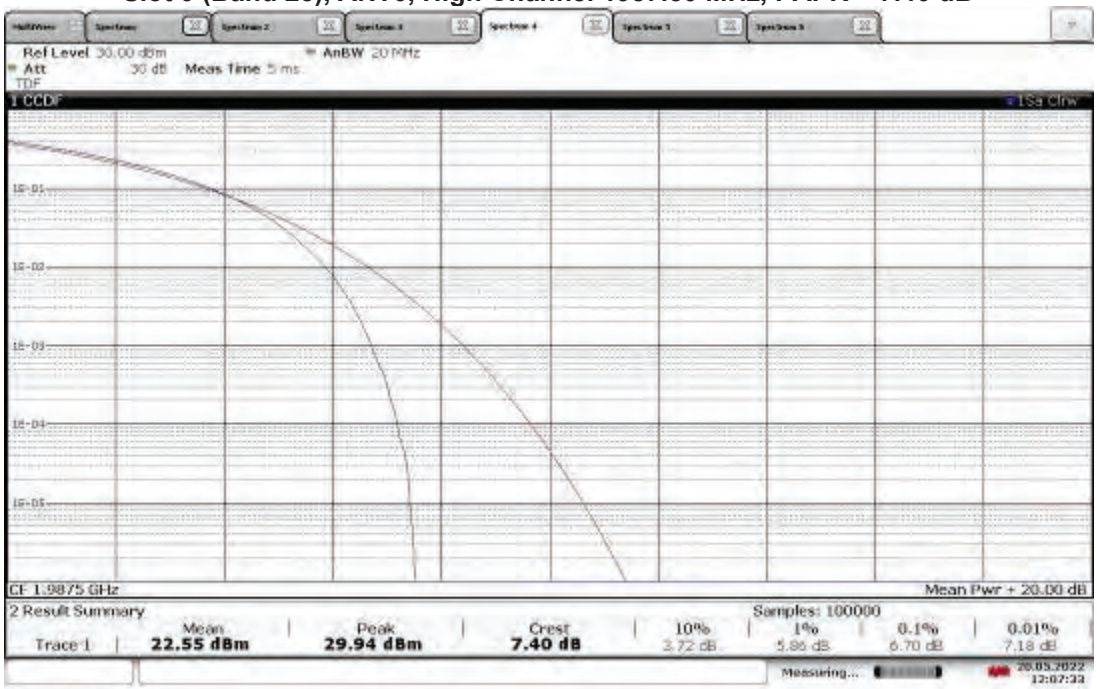
11:24:16 20.05.2022

TM3.2 - 16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1987.50 MHz, PAPR = 10.60 dB



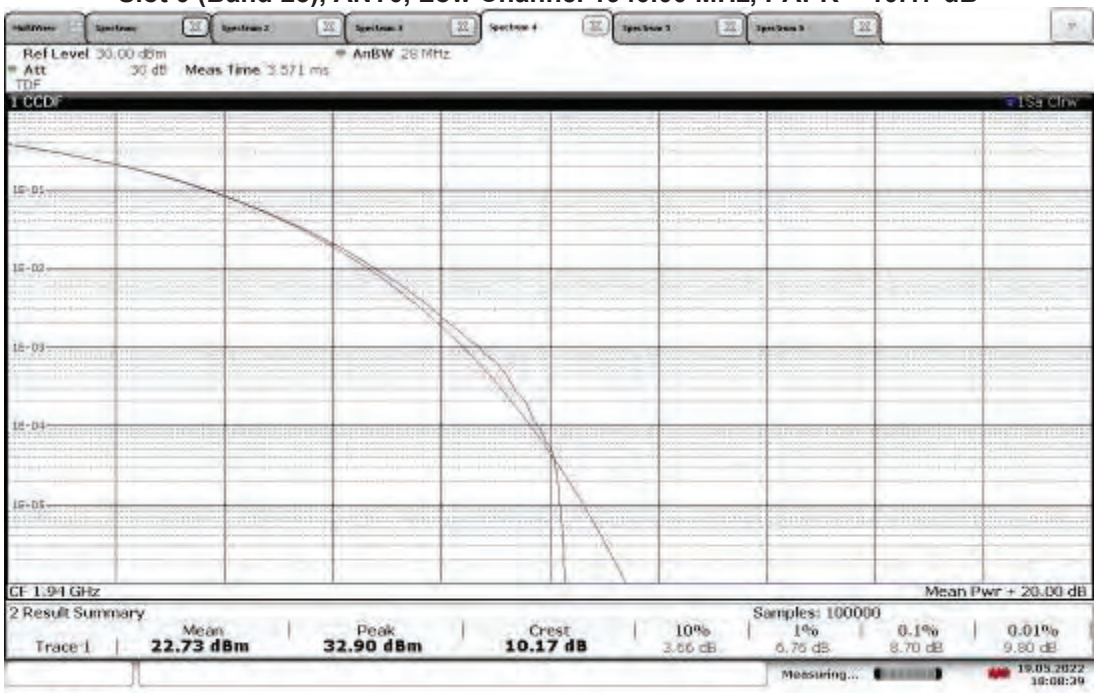
12:11:50 20.05.2022

TM3.2 - 16QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1987.50 MHz, PAPR = 7.40 dB



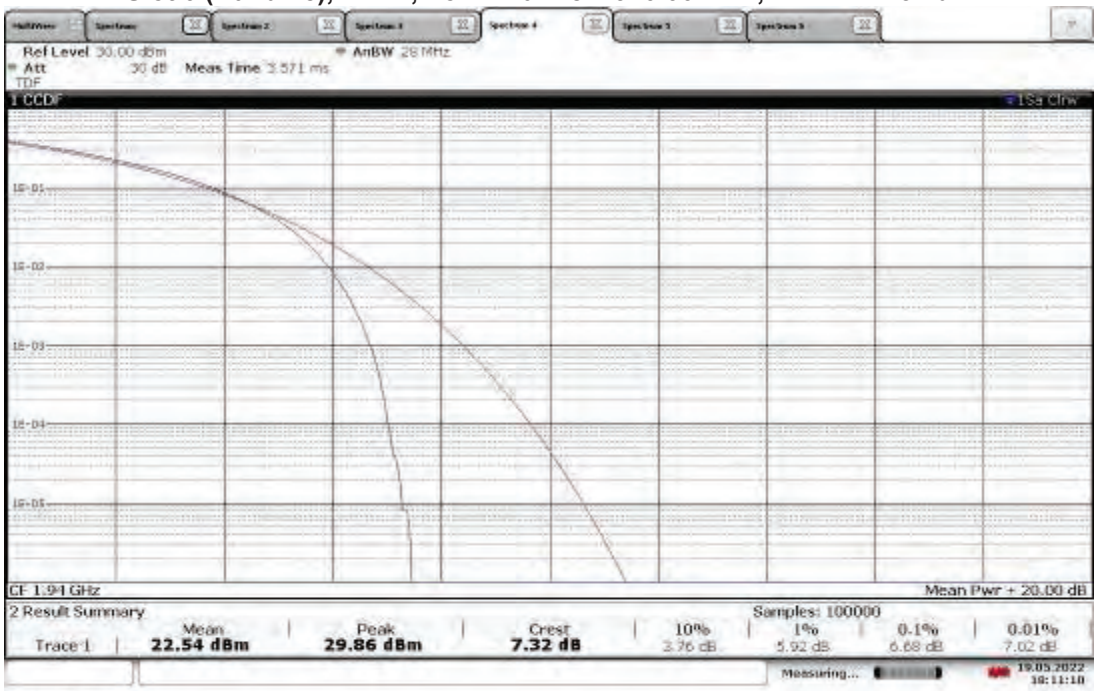
12:07:33 20.05.2022

TM3.2 - 16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1940.00 MHz, PAPR = 10.17 dB



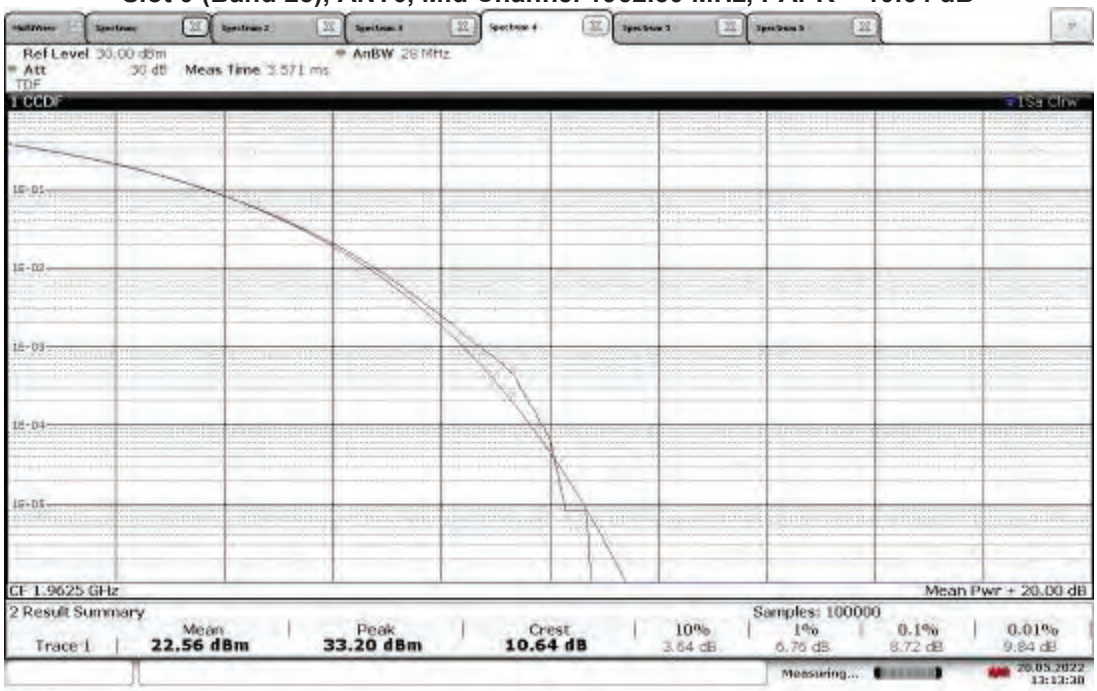
18:08:40 19.05.2022

TM3.2 - 16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1940.00 MHz, PAPR = 7.32 dB



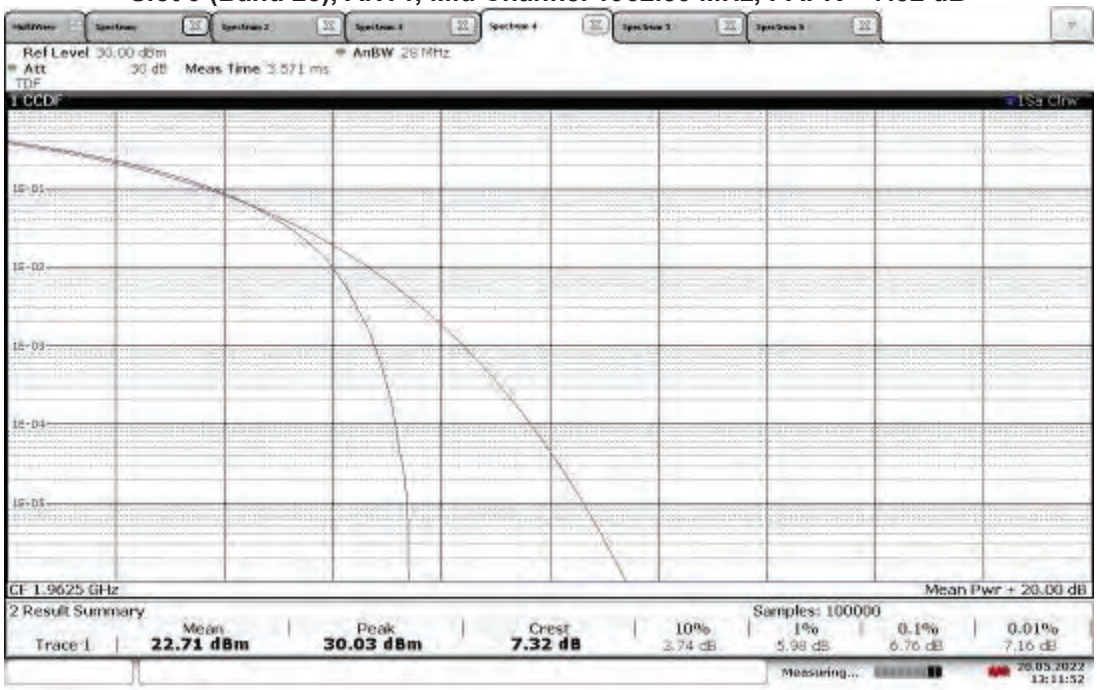
18:11:10 19.05.2022

TM3.2 - 16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 10.64 dB



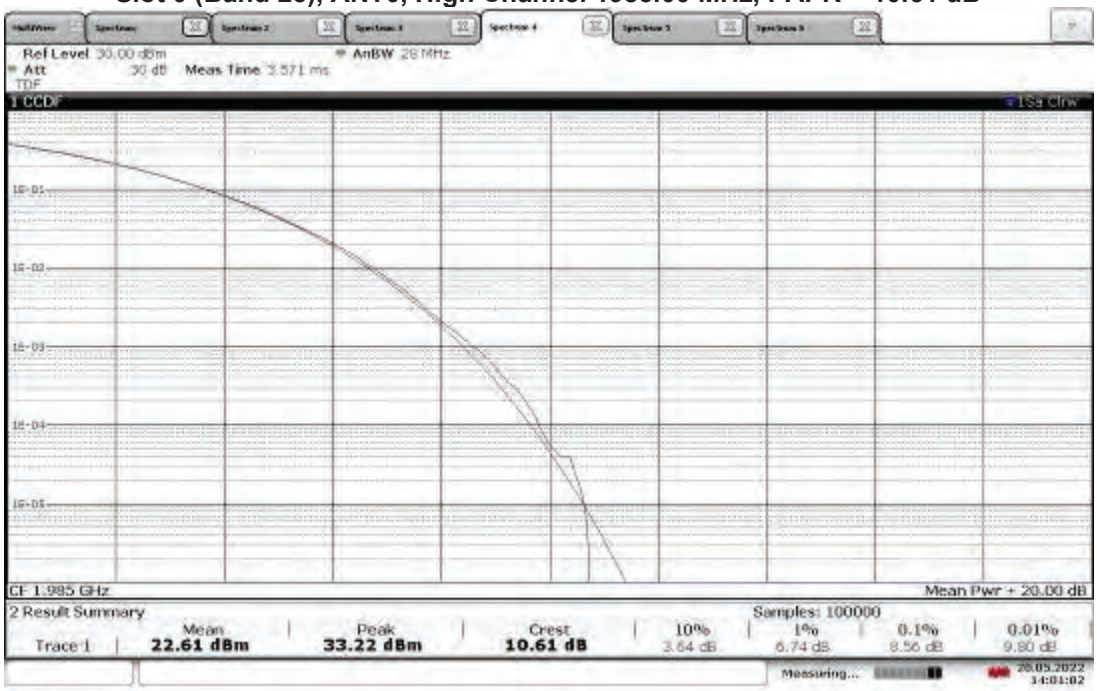
13:13:31 20.05.2022

TM3.2 - 16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, PAPR = 7.32 dB



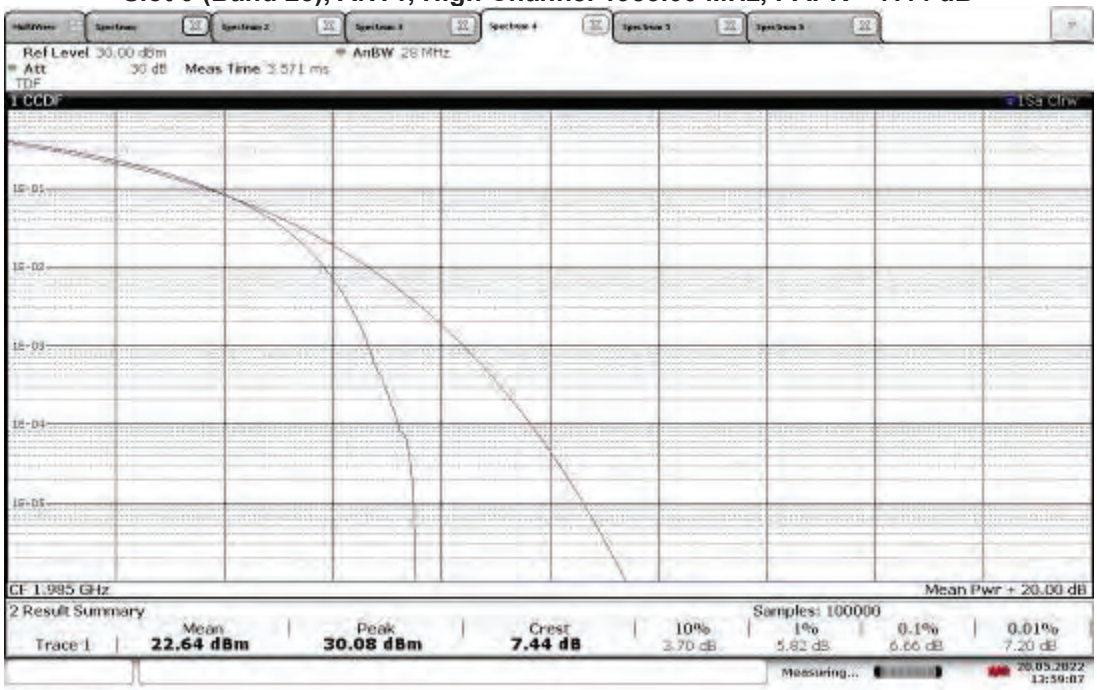
13:11:52 20.05.2022

TM3.2 - 16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1985.00 MHz, PAPR = 10.61 dB



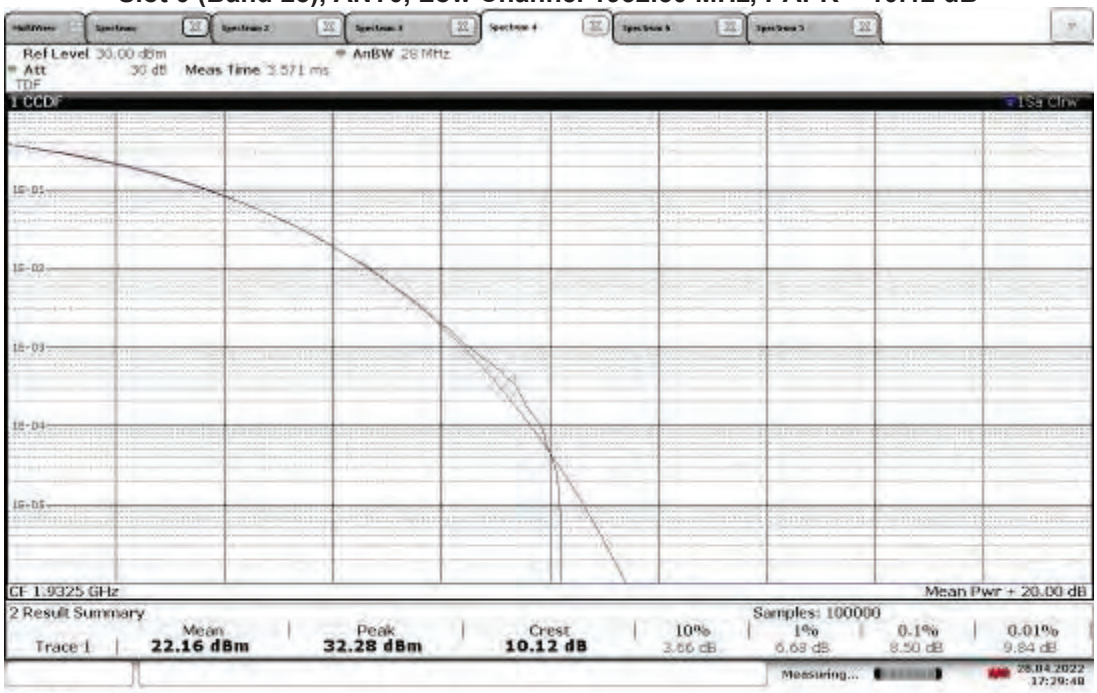
14:01:03 20.05.2022

TM3.2 - 16QAM_20 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1985.00 MHz, PAPR = 7.44 dB



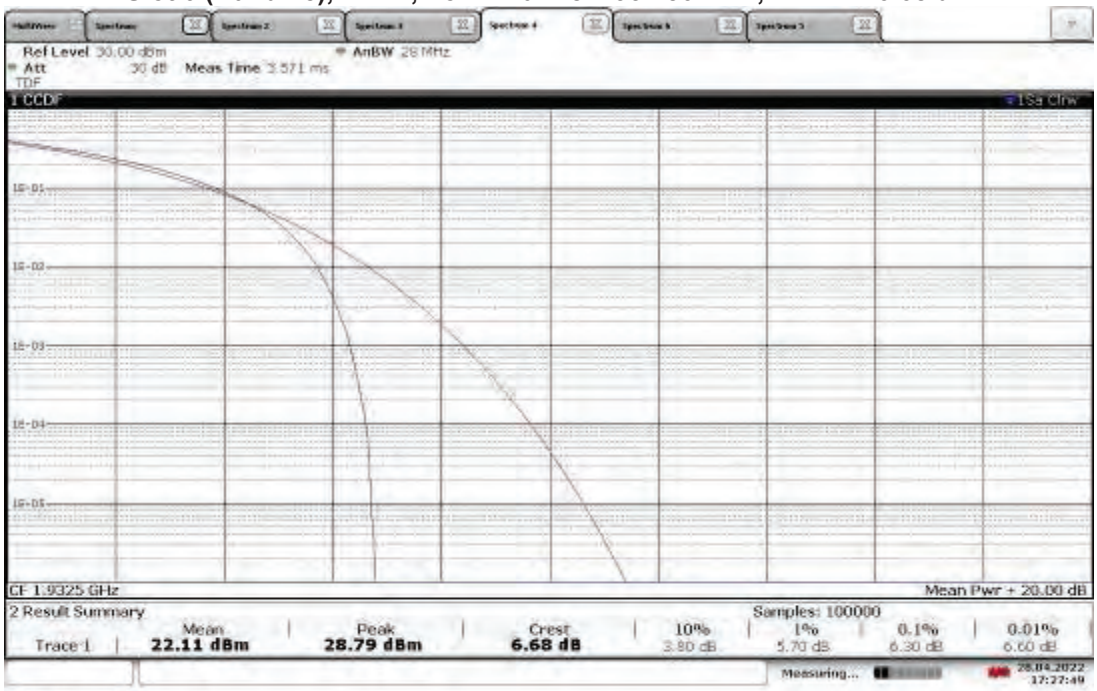
13:59:07 20.05.2022

TM3.1-64QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1932.50 MHz, PAPR = 10.12 dB



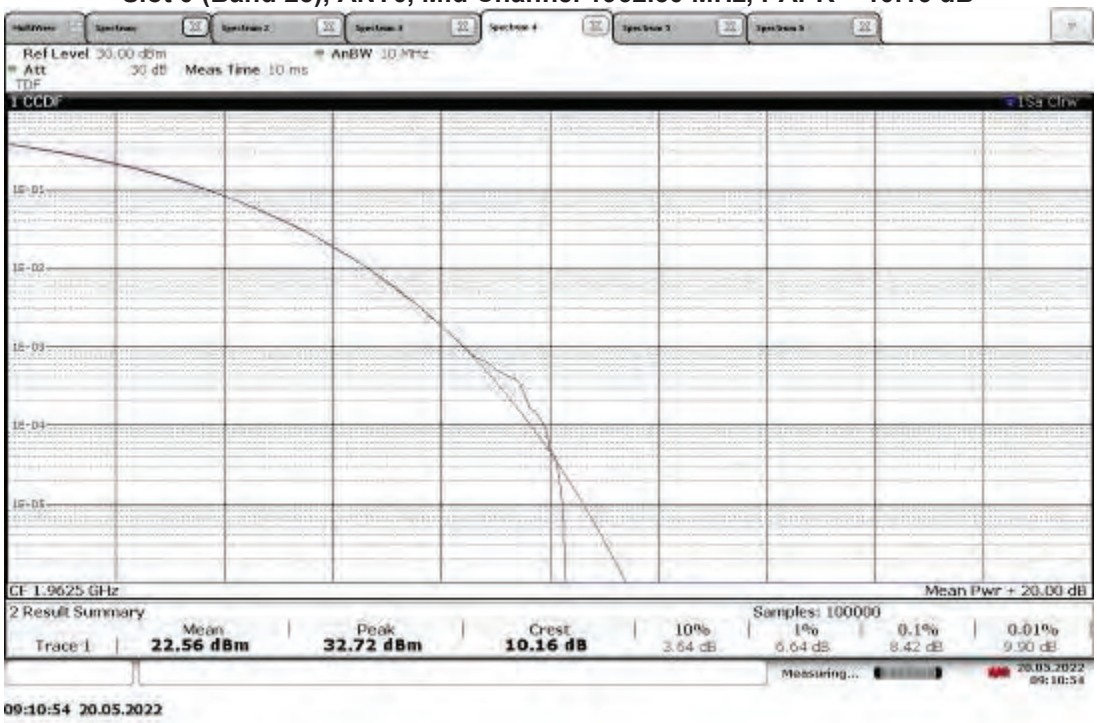
17:29:48 28.04.2022

TM3.1-64QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1932.50 MHz, PAPR = 6.68 dB



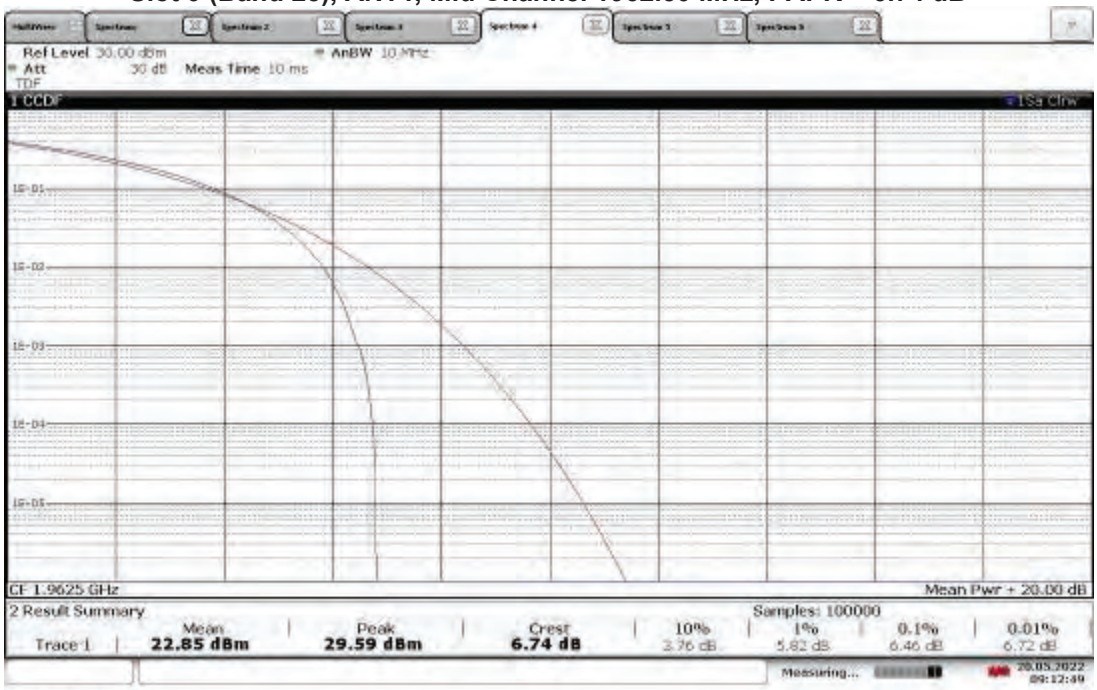
17:27:49 28.04.2022

TM3.1-64QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 10.16 dB



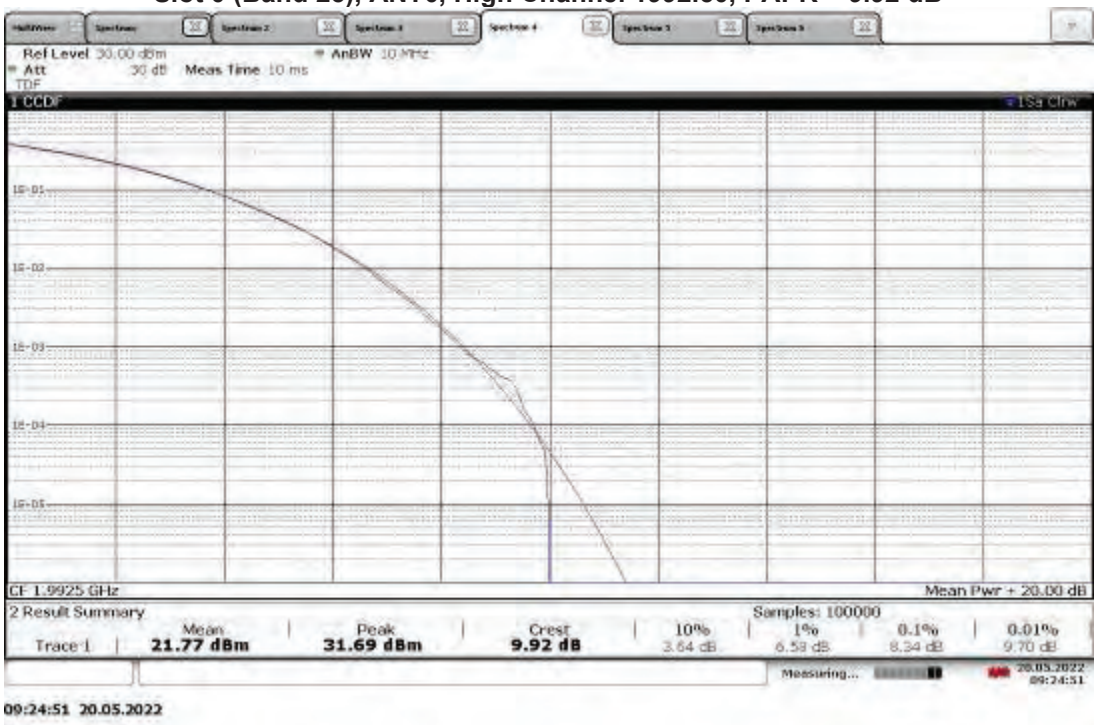
09:10:54 20.05.2022

TM3.1-64QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, PAPR = 6.74 dB



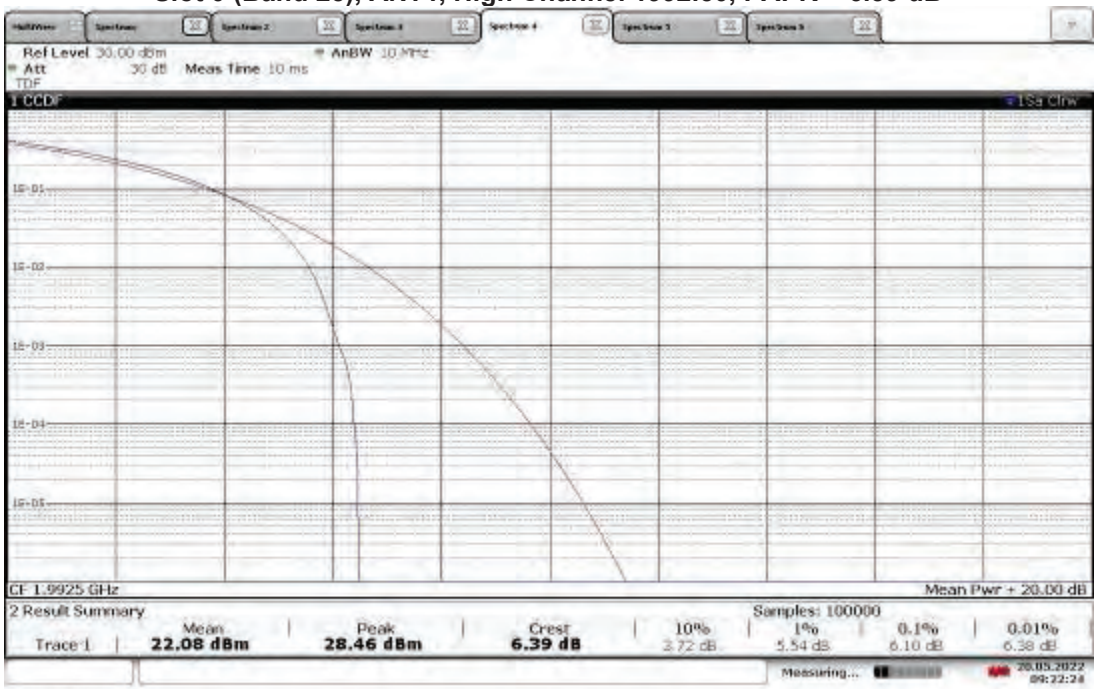
09:12:50 20.05.2022

TM3.1-64QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1992.50, PAPR = 9.92 dB



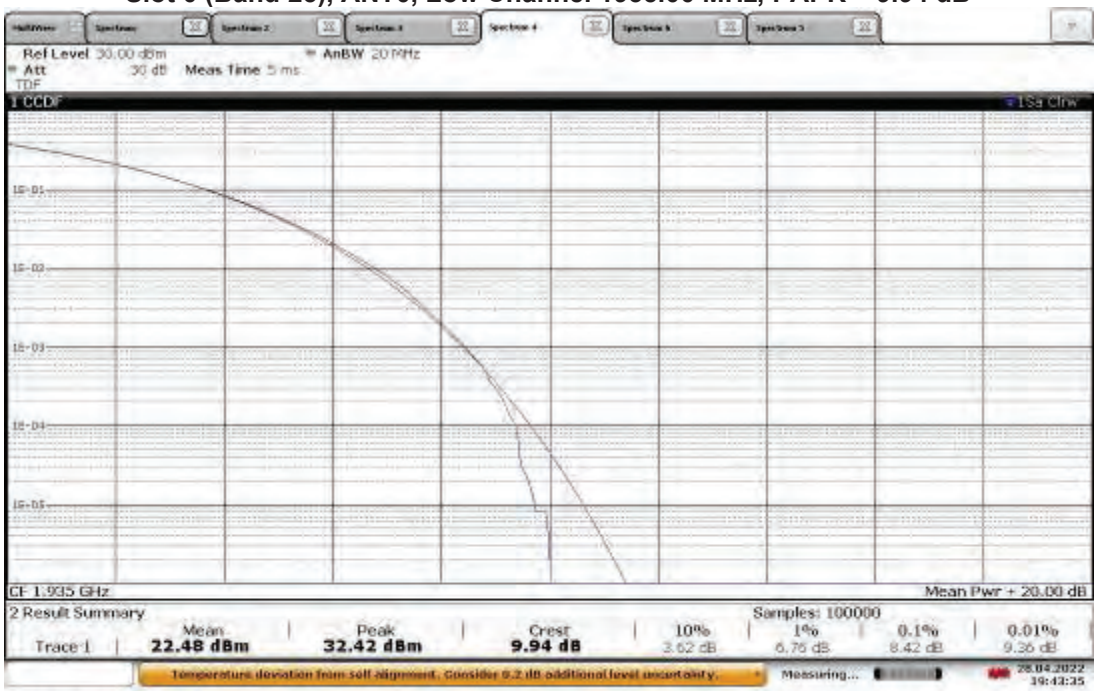
09:24:51 20.05.2022

TM3.1-64QAM_5MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1992.50, PAPR = 6.39 dB



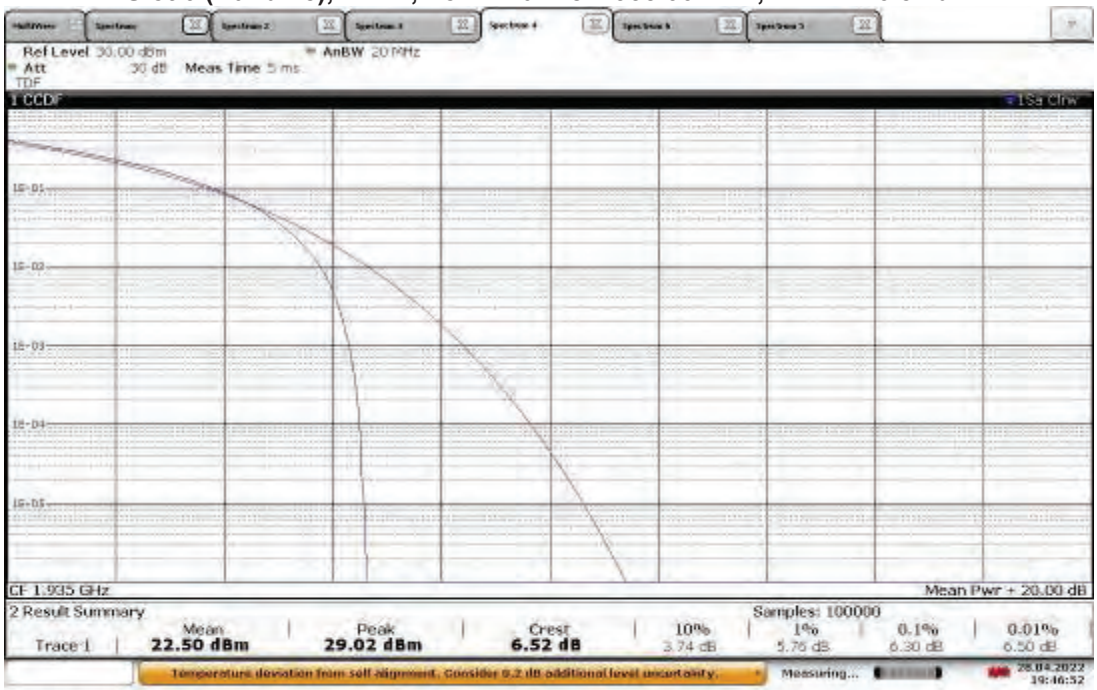
09:22:25 20.05.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1935.00 MHz, PAPR = 9.94 dB



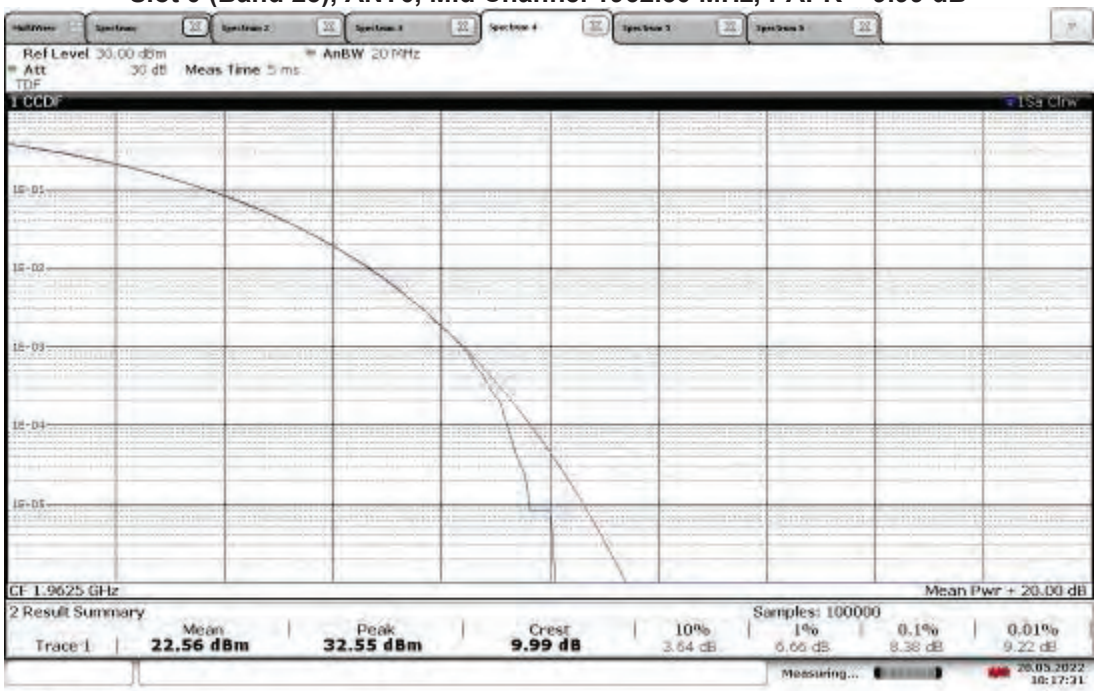
19:43:36 28.04.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1935.00 MHz, PAPR = 6.52 dB



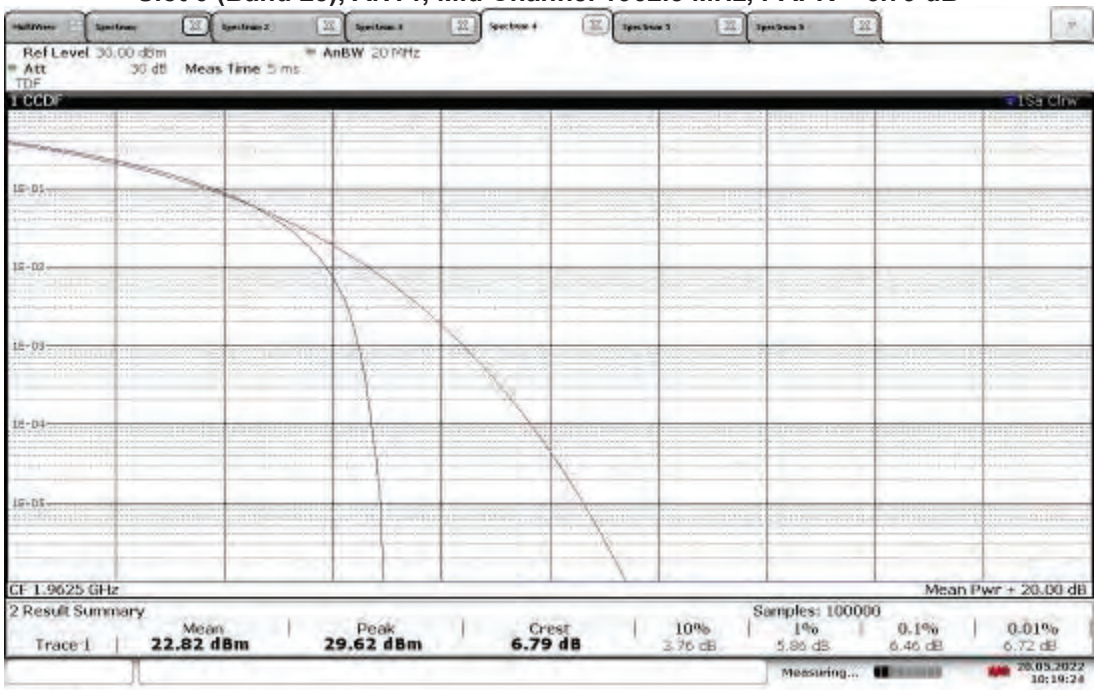
19:46:53 28.04.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 9.99 dB



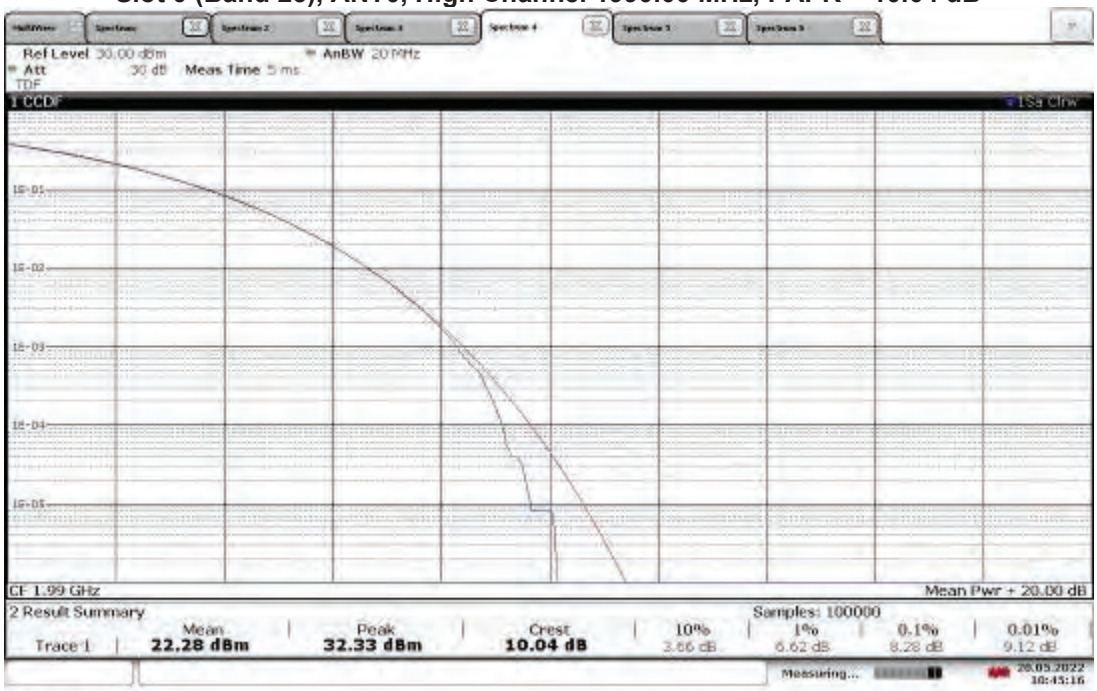
10:17:31 20.05.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.5 MHz, PAPR = 6.79 dB



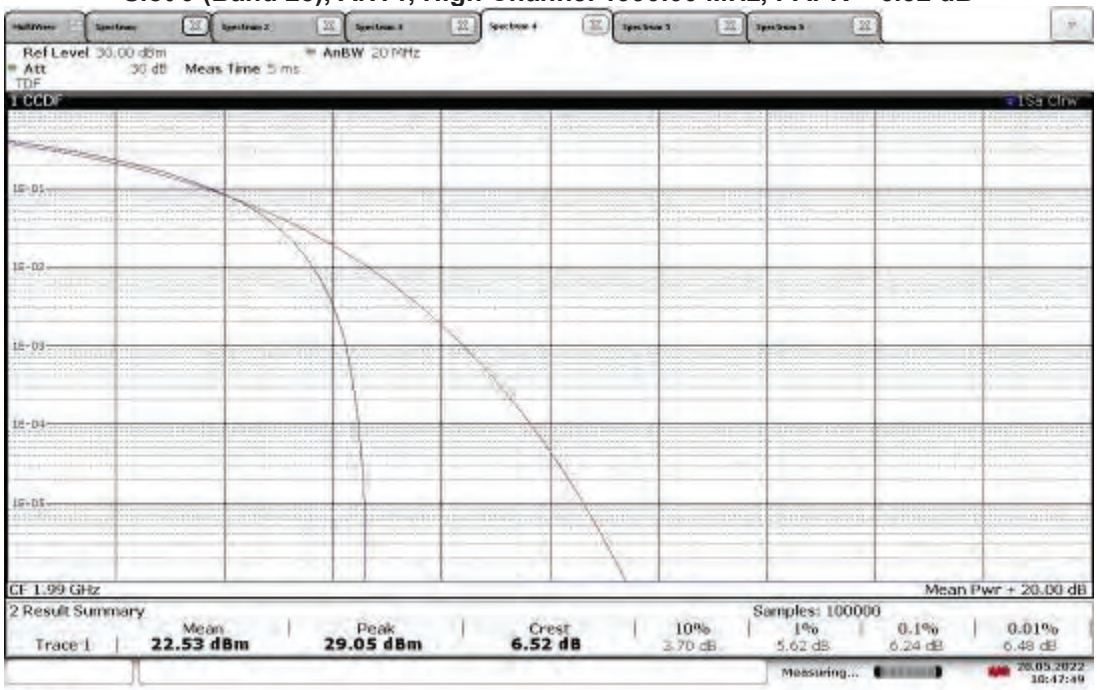
10:19:24 20.05.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1990.00 MHz, PAPR = 10.04 dB



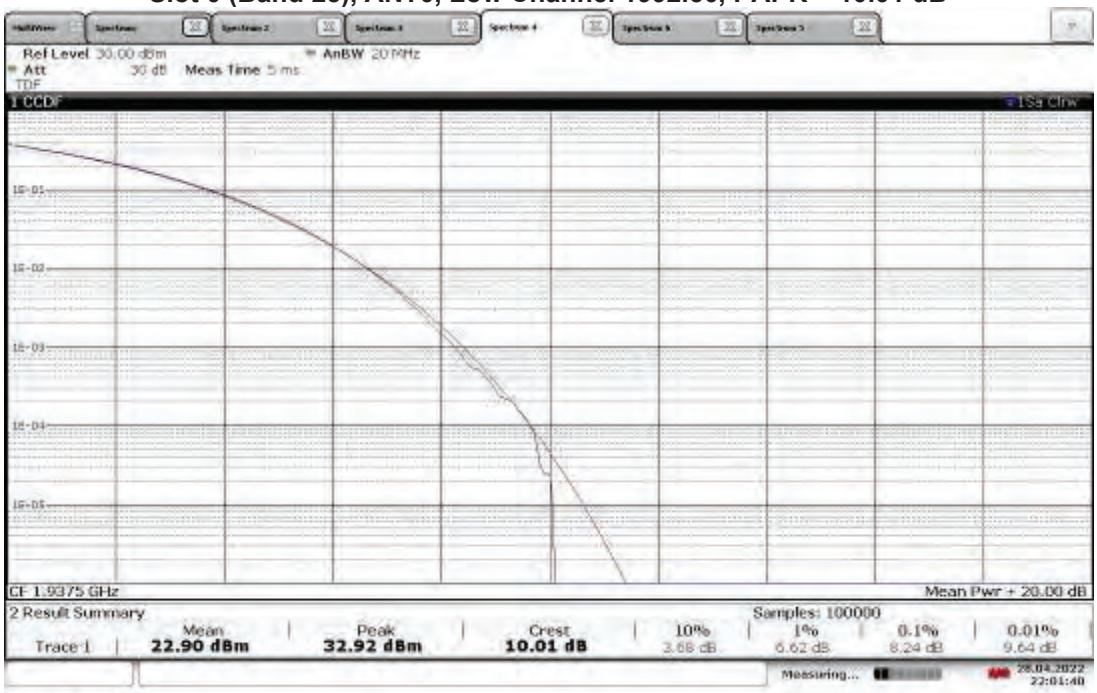
10:45:16 20.05.2022

TM3.1-64QAM_10 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1990.00 MHz, PAPR = 6.52 dB



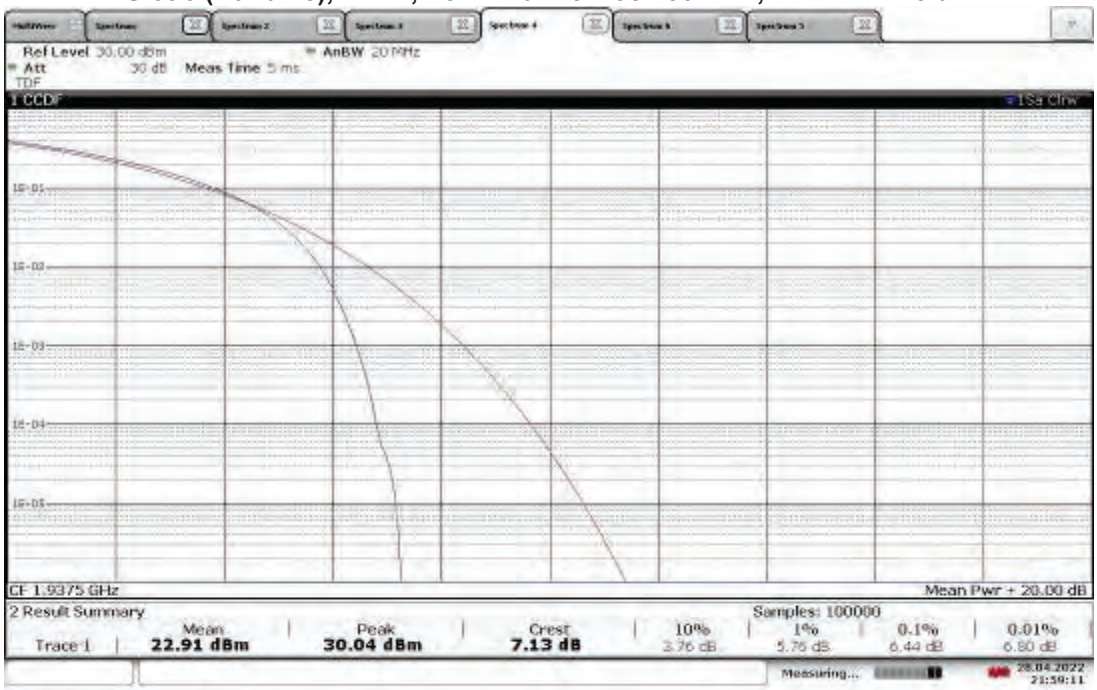
10:47:49 20.05.2022

TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Low Channel 1992.50, PAPR = 10.01 dB



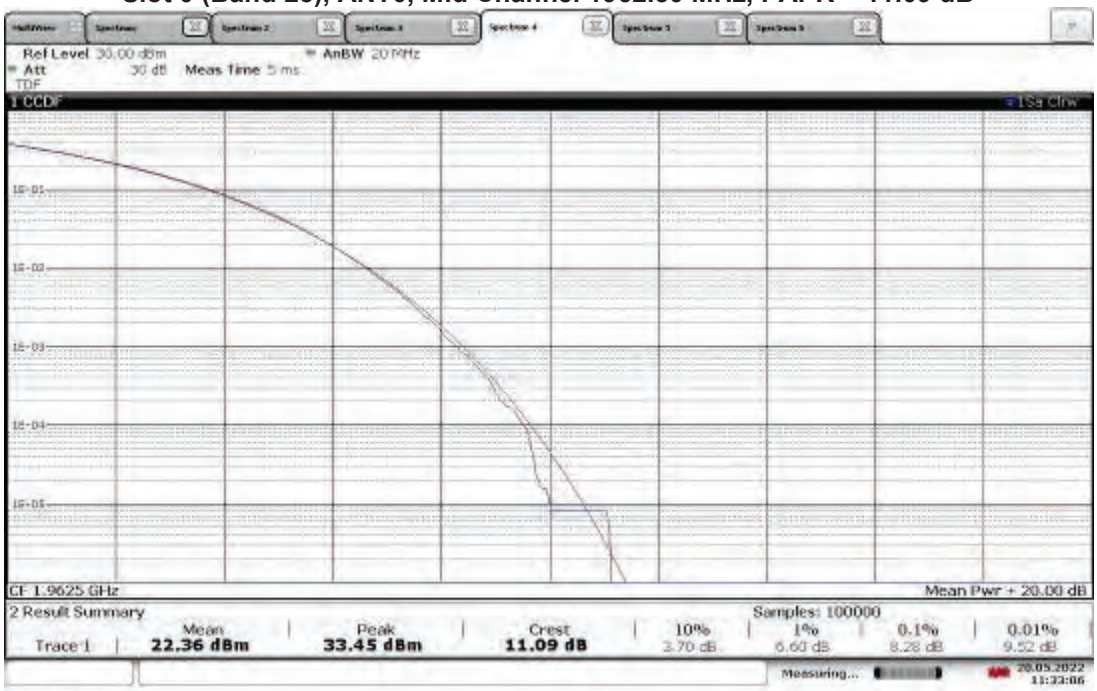
22:01:41 28.04.2022

TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Low Channel 1937.50 MHz, PAPR = 7.13 dB



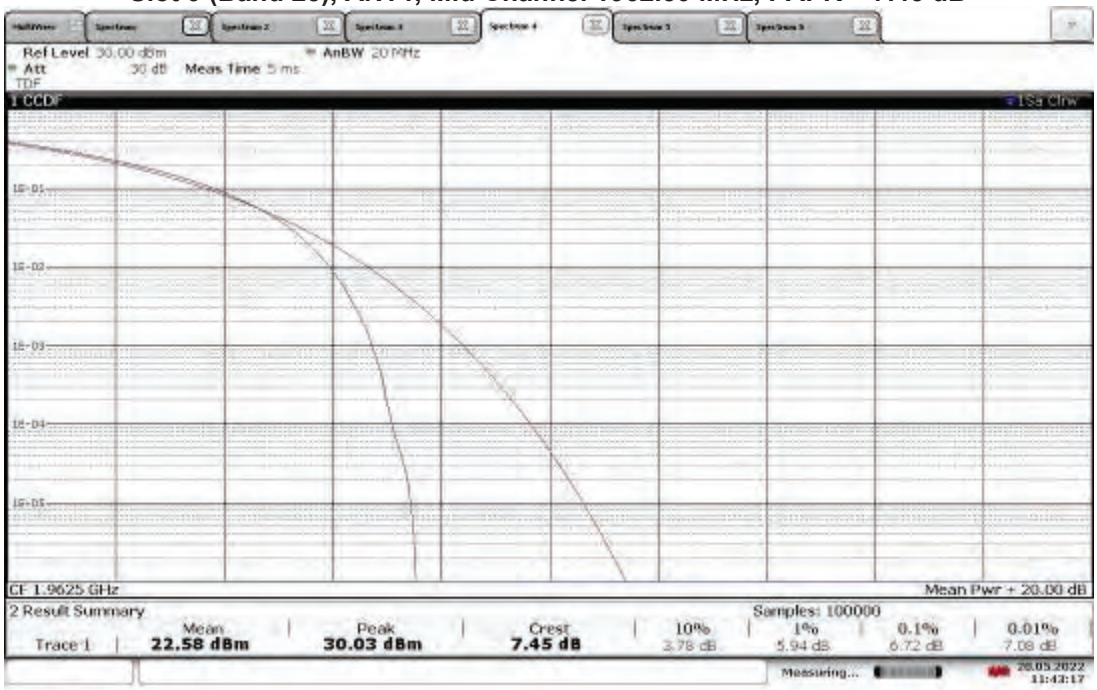
21:59:11 28.04.2022

TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, Mid Channel 1962.50 MHz, PAPR = 11.09 dB



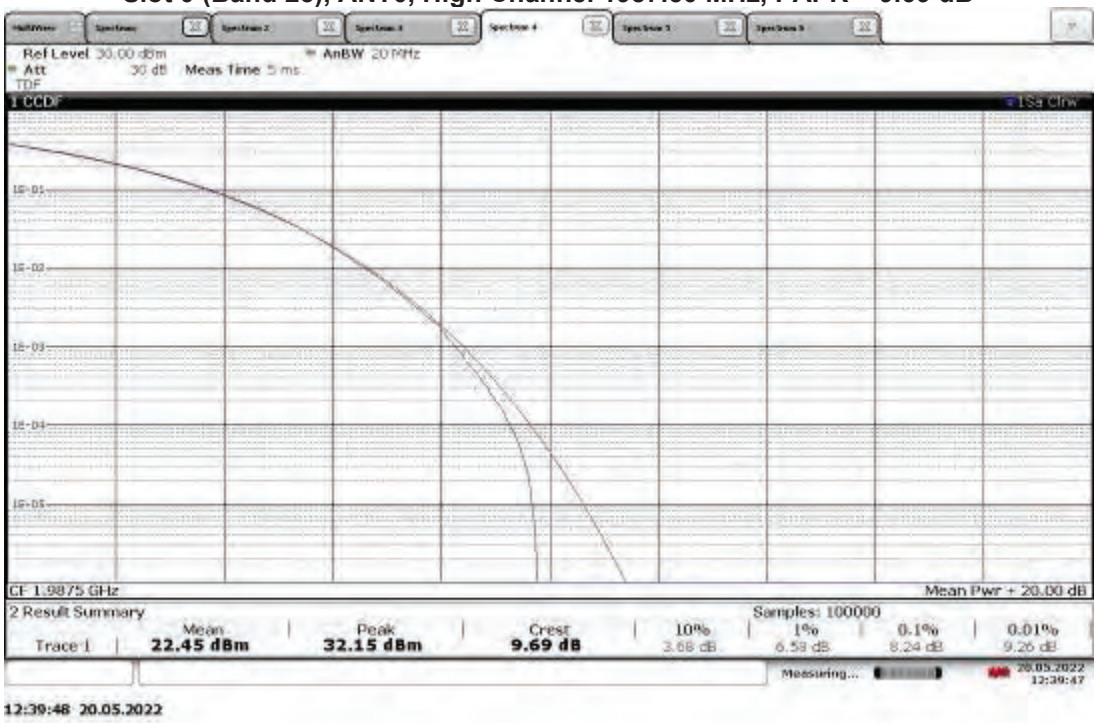
11:33:06 20.05.2022

TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, Mid Channel 1962.50 MHz, PAPR = 7.45 dB



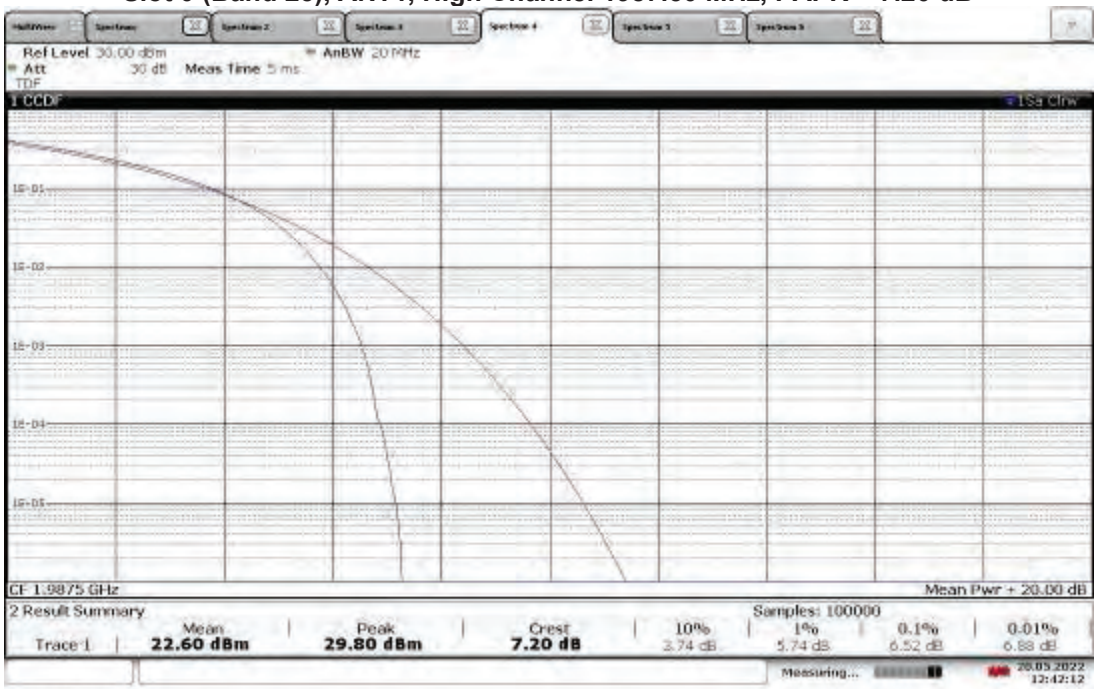
11:43:17 20.05.2022

TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT0, High Channel 1987.50 MHz, PAPR = 9.69 dB



12:39:48 20.05.2022

TM3.1-64QAM_15 MHz Bandwidth (5G NR)
Slot 0 (Band 25), ANT1, High Channel 1987.50 MHz, PAPR = 7.20 dB



12:42:13 20.05.2022