TEST REPORT

No. I21Z70218-WMD04

for

SAMSUNG Electronics Co., Ltd.

Multi-band GSM/WCDMA/LTE/5GNR Phone with Bluetooth,WLAN

Model Name: SM-A226BR/DSN,SM-A226BR/N

FCC ID: ZCASMA226BRN

with

Hardware Version: REV1.0

Software Version: A226BR.001

Issued Date: 2021-06-30

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S.Government.

Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I21Z70218-WMD04	Rev.0	1st edition	2021-06-28
I21Z70218-WMD04	Rev.1	2nd edition Update the results in A.1.3	2021-06-30

Note: the latest revision of the test report supersedes all previous version.

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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2005 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0 and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (CN0066). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Location 1: CTTL (huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191

Location 2: CTTL (Shouxiang)

Address: No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China 100191

1.3. Testing Environment

Normal Temperature: 15-35℃

Relative Humidity: 20-75%

1.4. Project Data

Testing Start Date: 2021-05-18

Testing End Date: 2021-06-25

1.5. Signature

Dong Yuan

(Prepared this test report)

Zhou Yu

(Reviewed this test report)

Zhao Hui Lin

Deputy Director of the laboratory

(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Samsung Electronics Co., Ltd.
Address /Post:	19 Chapin Rd.,Building D Pine Brook, NJ 07058
Contact:	Jenni Chun
Email:	j1.chun@samsung.com
Telephone:	+1-201-937-4203

2.2. Manufacturer Information

Company Name:	Samsung Electronics Co., Ltd.
Address /Post:	Samsung R5, Maetan dong 129, Samsung ro Youngtong gu, Suwon city 443 742, Korea
Contact:	Sunghoon Cho
Email:	ggobi.cho@samsung.com
Telephone:	+82-10-2722-4159

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	Multi-band GSM/WCDMA/LTE/5GNR Phone with Bluetooth,WLAN
Model Name	SM-A226BR/DSN,SM-A226BR/N
FCC ID	ZCASMA226BRN
Antenna	Embedded
Output power	21.85 dBm maximum ERP measured for NR n7
Extreme vol. Limits	3.5VDC to 4.4VDC (nominal: 3.85VDC)
Extreme temp. Tolerance	-10°C to +55°C

Note: Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN	HW Version	SW Version	Date of receipt
UT05a	2170218UT05a	REV1.0	A226BR.001	2021-05-18
UT02a	2170218UT02a	REV1.0	A226BR.001	2021-05-20

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description
AE1	Battery

AE1

Model	SCUD-WT-W1
Manufacturer	SCUD(Fujian)Electronic Co.,Ltd.
Capacitance	4900mAh

*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1. Documents supplied by applicant

EUT parameters, referring to Annex A for detailed information, is supplied by the client or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 22	PUBLIC MOBILE SERVICES	10-1-20 Edition
FCC Part 27	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES	10-1-20 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.26	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services	2015
KDB 971168 D01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS	v03r01

5. Laboratory Environment

Semi-anechoic chamber 2 / Fully-anechoic chamber 3 (10 meters×6.7 meters×6.15 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ˚C, Max. = 30 ˚C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 100 dB
Electrical insulation	>2 MΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	<±3.5 dB, 3 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

6. Summary Of Test Result

n5

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	22.913	P
2	Emission Limit	2.1051/22.917	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	22.917	P
6	Band Edge Compliance	22.917	P
7	Conducted Spurious Emission	22.917	P

n7

Items	Test Name	Clause in FCC rules	Verdict
1	Output Power	27.50	P
2	Emission Limit	2.1051/27.53	P
3	Frequency Stability	2.1055	P
4	Occupied Bandwidth	2.1049	P
5	Emission Bandwidth	27.53	P
6	Band Edge Compliance	27.53	P
7	Conducted Spurious Emission	27.53	P
8	Peak-to-Average Power Ratio	27.50	P

Terms used in Verdict column

P	Pass. The EUT complies with the essential requirements in the standard.
NP	Not Performed. The test was not performed by CTTL.
NA	Not Applicable.The test was not applicable.
BR	Re-use test data from basic model report.
F	Fail. The EUT does not comply with the essential requirements in the standard.

Explanation of worst-case configuration
NR modulation: DFT-s-OFDM pi/2 BPSK; QPSK; 16QAM; 64QAM; 256QAM
CP-OFDM QPSK; 16QAM; 64QAM; 256QAM
NR BW: 5/10/15/20MHz
The test results provided in this report represent the worst case configuration.
The EUT supports NSA NR 5-n7, 66-n7,7-n5, 66-n5.
For all the NSA cases, LTE Bands are set under the 10MHz bandwidth, middle channel, 50RB and QPSK modulation.
For all the ENDC combinations and SA mode of the same NR band, output powers of NR bands are tested under the maximum bandwidth and middle channel so that the mode with the worst value is chosen out: B66-n5, B5-n7, however, only the results of the mode with the worst value are presented in the report. Then the other output powers and other test cases of the mode which has the worst value are tested.

7. Test Equipment Utilized

Description	Type	Series Number	Manufacture	Cal Due Date	Calibration Interval
Radio Communication Test Station	MT8000A	6262093285	Anritsu	2022-01-04	1 year
Radio Communication Analyzer	MT8821C	6201763159	Anritsu	2021-08-12	1 year
Signal&Spectrum Analyzer	FSW	104038	R&S	2021-06-30	1 year
Climate chamber	SH-242	93008556	ESPEC	2023-12-23	3 years
EMI Antenna	9117	167	Schwarzbeck	2021-08-19	1 year
EMI Antenna	3117	00058889	ETS-Lindgren	2021-10-11	1 year
EMI Antenna	3117	00119021	ETS-Lindgren	2022-02-02	1 year
Test Receiver	E4440A	MY48250642	Agilent	2022-03-04	1 year
EMI Antenna	VULB9163	9163-301	Schwarzbeck	2021-08-04	1 year
Signal Generator	N5183A	MY49060052	Agilent	2021-07-01	1 year
Universal Radio Communication Tester	MT8000A	6262257899	Anritsu	2022-05-06	1 year
Universal Radio Communication Tester	MT8821C	6262261933	Anritsu	2022-05-06	1 year
Power Amplifier	N5183A	341863	AR	/	/

Annex A: Measurement Results

A.1 Output Power

A.1.1 Summary

During the process of testing, the EUT was controlled via communication tester to ensure max power transmission and proper modulation.

In all cases, output power is within the specified limits.

A.1.2 Conducted

LTE Band 66+NR n5

BAND	BW(MHz)	SCS(kHz)	FREQ(MHz)	OFDM	MODULATON	RB ALLOCATION	TOTAL POWER(dBm)
B66-n5	5	15	826.5	DFT	pi/2 BPSK	InnerFull	24.49
B66-n5	5	15	826.5	DFT	pi/2 BPSK	Edge1RBLeft	24.05
B66-n5	5	15	826.5	DFT	pi/2 BPSK	Edge1RBRight	24.12
B66-n5	5	15	826.5	DFT	pi/2 BPSK	OuterFull	24.07
B66-n5	5	15	826.5	DFT	QPSK	InnerFull	24.57
B66-n5	5	15	826.5	DFT	QPSK	Edge1RBLeft	23.45
B66-n5	5	15	826.5	DFT	QPSK	Edge1RBRight	23.50
B66-n5	5	15	826.5	DFT	QPSK	OuterFull	23.61
B66-n5	5	15	826.5	DFT	16QAM	InnerFull	23.57
B66-n5	5	15	826.5	DFT	16QAM	Edge1RBLeft	22.64
B66-n5	5	15	826.5	DFT	16QAM	Edge1RBRight	22.74
B66-n5	5	15	826.5	DFT	16QAM	OuterFull	22.55
B66-n5	5	15	826.5	DFT	64QAM	InnerFull	22.17
B66-n5	5	15	826.5	DFT	64QAM	Edge1RBLeft	22.45
B66-n5	5	15	826.5	DFT	64QAM	Edge1RBRight	22.74
B66-n5	5	15	826.5	DFT	64QAM	OuterFull	22.15
B66-n5	5	15	826.5	DFT	256QAM	InnerFull	20.08
B66-n5	5	15	826.5	DFT	256QAM	Edge1RBLeft	20.38
B66-n5	5	15	826.5	DFT	256QAM	Edge1RBRight	20.07
B66-n5	5	15	826.5	DFT	256QAM	OuterFull	20.06
B66-n5	5	15	826.5	CP	QPSK	InnerFull	23.08
B66-n5	5	15	826.5	CP	QPSK	Edge1RBLeft	21.52
B66-n5	5	15	826.5	CP	QPSK	Edge1RBRight	21.55
B66-n5	5	15	826.5	CP	QPSK	OuterFull	21.59
B66-n5	5	15	826.5	CP	16QAM	InnerFull	22.61
B66-n5	5	15	826.5	CP	16QAM	Edge1RBLeft	21.60
B66-n5	5	15	826.5	CP	16QAM	Edge1RBRight	21.69
B66-n5	5	15	826.5	CP	16QAM	OuterFull	21.50

B66-n5	5	15	826.5	CP	64QAM	InnerFull	21.26
B66-n5	5	15	826.5	CP	64QAM	Edge1RBLeft	20.83
B66-n5	5	15	826.5	CP	64QAM	Edge1RBRight	20.85
B66-n5	5	15	826.5	CP	64QAM	OuterFull	21.13
B66-n5	5	15	826.5	CP	256QAM	InnerFull	18.18
B66-n5	5	15	826.5	CP	256QAM	Edge1RBLeft	18.45
B66-n5	5	15	826.5	CP	256QAM	Edge1RBRight	18.46
B66-n5	5	15	826.5	CP	256QAM	OuterFull	18.30
B66-n5	5	15	836.5	DFT	pi/2 BPSK	InnerFull	24.60
B66-n5	5	15	836.5	DFT	pi/2 BPSK	Edge1RBLeft	24.11
B66-n5	5	15	836.5	DFT	pi/2 BPSK	Edge1RBRight	24.16
B66-n5	5	15	836.5	DFT	pi/2 BPSK	OuterFull	24.15
B66-n5	5	15	836.5	DFT	QPSK	InnerFull	24.62
B66-n5	5	15	836.5	DFT	QPSK	Edge1RBLeft	23.57
B66-n5	5	15	836.5	DFT	QPSK	Edge1RBRight	23.57
B66-n5	5	15	836.5	DFT	QPSK	OuterFull	23.70
B66-n5	5	15	836.5	DFT	16QAM	InnerFull	23.67
B66-n5	5	15	836.5	DFT	16QAM	Edge1RBLeft	22.72
B66-n5	5	15	836.5	DFT	16QAM	Edge1RBRight	22.70
B66-n5	5	15	836.5	DFT	16QAM	OuterFull	22.61
B66-n5	5	15	836.5	DFT	64QAM	InnerFull	22.18
B66-n5	5	15	836.5	DFT	64QAM	Edge1RBLeft	22.68
B66-n5	5	15	836.5	DFT	64QAM	Edge1RBRight	22.69
B66-n5	5	15	836.5	DFT	64QAM	OuterFull	22.23
B66-n5	5	15	836.5	DFT	256QAM	InnerFull	20.19
B66-n5	5	15	836.5	DFT	256QAM	Edge1RBLeft	20.63
B66-n5	5	15	836.5	DFT	256QAM	Edge1RBRight	20.46
B66-n5	5	15	836.5	DFT	256QAM	OuterFull	20.20
B66-n5	5	15	836.5	CP	QPSK	InnerFull	23.18
B66-n5	5	15	836.5	CP	QPSK	Edge1RBLeft	21.62
B66-n5	5	15	836.5	CP	QPSK	Edge1RBRight	21.51
B66-n5	5	15	836.5	CP	QPSK	OuterFull	21.69
B66-n5	5	15	836.5	CP	16QAM	InnerFull	22.68
B66-n5	5	15	836.5	CP	16QAM	Edge1RBLeft	21.71
B66-n5	5	15	836.5	CP	16QAM	Edge1RBRight	21.70
B66-n5	5	15	836.5	CP	16QAM	OuterFull	21.52
B66-n5	5	15	836.5	CP	64QAM	InnerFull	21.35
B66-n5	5	15	836.5	CP	64QAM	Edge1RBLeft	20.94
B66-n5	5	15	836.5	CP	64QAM	Edge1RBRight	20.80
B66-n5	5	15	836.5	CP	64QAM	OuterFull	21.15
B66-n5	5	15	836.5	CP	256QAM	InnerFull	18.25

B66-n5	5	15	836.5	CP	256QAM	Edge1RBLeft	18.42
B66-n5	5	15	836.5	CP	256QAM	Edge1RBRight	18.45
B66-n5	5	15	836.5	CP	256QAM	OuterFull	18.24
B66-n5	5	15	846.5	DFT	pi/2 BPSK	InnerFull	24.45
B66-n5	5	15	846.5	DFT	pi/2 BPSK	Edge1RBLeft	24.09
B66-n5	5	15	846.5	DFT	pi/2 BPSK	Edge1RBRight	23.92
B66-n5	5	15	846.5	DFT	pi/2 BPSK	OuterFull	24.04
B66-n5	5	15	846.5	DFT	QPSK	InnerFull	24.47
B66-n5	5	15	846.5	DFT	QPSK	Edge1RBLeft	23.52
B66-n5	5	15	846.5	DFT	QPSK	Edge1RBRight	23.39
B66-n5	5	15	846.5	DFT	QPSK	OuterFull	23.59
B66-n5	5	15	846.5	DFT	16QAM	InnerFull	23.69
B66-n5	5	15	846.5	DFT	16QAM	Edge1RBLeft	22.66
B66-n5	5	15	846.5	DFT	16QAM	Edge1RBRight	22.67
B66-n5	5	15	846.5	DFT	16QAM	OuterFull	22.55
B66-n5	5	15	846.5	DFT	64QAM	InnerFull	22.13
B66-n5	5	15	846.5	DFT	64QAM	Edge1RBLeft	22.70
B66-n5	5	15	846.5	DFT	64QAM	Edge1RBRight	22.58
B66-n5	5	15	846.5	DFT	64QAM	OuterFull	22.13
B66-n5	5	15	846.5	DFT	256QAM	InnerFull	20.11
B66-n5	5	15	846.5	DFT	256QAM	Edge1RBLeft	20.51
B66-n5	5	15	846.5	DFT	256QAM	Edge1RBRight	19.96
B66-n5	5	15	846.5	DFT	256QAM	OuterFull	20.09
B66-n5	5	15	846.5	CP	QPSK	InnerFull	22.95
B66-n5	5	15	846.5	CP	QPSK	Edge1RBLeft	21.54
B66-n5	5	15	846.5	CP	QPSK	Edge1RBRight	21.38
B66-n5	5	15	846.5	CP	QPSK	OuterFull	21.53
B66-n5	5	15	846.5	CP	16QAM	InnerFull	22.59
B66-n5	5	15	846.5	CP	16QAM	Edge1RBLeft	21.70
B66-n5	5	15	846.5	CP	16QAM	Edge1RBRight	21.48
B66-n5	5	15	846.5	CP	16QAM	OuterFull	21.44
B66-n5	5	15	846.5	CP	64QAM	InnerFull	21.23
B66-n5	5	15	846.5	CP	64QAM	Edge1RBLeft	20.90
B66-n5	5	15	846.5	CP	64QAM	Edge1RBRight	20.72
B66-n5	5	15	846.5	CP	64QAM	OuterFull	21.07
B66-n5	5	15	846.5	CP	256QAM	InnerFull	18.12
B66-n5	5	15	846.5	CP	256QAM	Edge1RBLeft	18.49
B66-n5	5	15	846.5	CP	256QAM	Edge1RBRight	18.30
B66-n5	5	15	846.5	CP	256QAM	OuterFull	18.16
B66-n5	10	15	829	DFT	pi/2 BPSK	InnerFull	24.39
B66-n5	10	15	829	DFT	pi/2 BPSK	Edge1RBLeft	23.88

B66-n5	10	15	829	DFT	pi/2 BPSK	Edge1RBRight	23.93
B66-n5	10	15	829	DFT	pi/2 BPSK	OuterFull	23.97
B66-n5	10	15	829	DFT	QPSK	InnerFull	24.46
B66-n5	10	15	829	DFT	QPSK	Edge1RBLeft	23.30
B66-n5	10	15	829	DFT	QPSK	Edge1RBRight	23.41
B66-n5	10	15	829	DFT	QPSK	OuterFull	23.47
B66-n5	10	15	829	DFT	16QAM	InnerFull	23.43
B66-n5	10	15	829	DFT	16QAM	Edge1RBLeft	22.43
B66-n5	10	15	829	DFT	16QAM	Edge1RBRight	22.59
B66-n5	10	15	829	DFT	16QAM	OuterFull	22.40
B66-n5	10	15	829	DFT	64QAM	InnerFull	21.95
B66-n5	10	15	829	DFT	64QAM	Edge1RBLeft	22.46
B66-n5	10	15	829	DFT	64QAM	Edge1RBRight	22.51
B66-n5	10	15	829	DFT	64QAM	OuterFull	21.97
B66-n5	10	15	829	DFT	256QAM	InnerFull	19.99
B66-n5	10	15	829	DFT	256QAM	Edge1RBLeft	20.26
B66-n5	10	15	829	DFT	256QAM	Edge1RBRight	20.45
B66-n5	10	15	829	DFT	256QAM	OuterFull	20.00
B66-n5	10	15	829	CP	QPSK	InnerFull	22.84
B66-n5	10	15	829	CP	QPSK	Edge1RBLeft	21.05
B66-n5	10	15	829	CP	QPSK	Edge1RBRight	21.23
B66-n5	10	15	829	CP	QPSK	OuterFull	21.42
B66-n5	10	15	829	CP	16QAM	InnerFull	22.34
B66-n5	10	15	829	CP	16QAM	Edge1RBLeft	21.15
B66-n5	10	15	829	CP	16QAM	Edge1RBRight	21.36
B66-n5	10	15	829	CP	16QAM	OuterFull	21.41
B66-n5	10	15	829	CP	64QAM	InnerFull	21.05
B66-n5	10	15	829	CP	64QAM	Edge1RBLeft	20.63
B66-n5	10	15	829	CP	64QAM	Edge1RBRight	20.69
B66-n5	10	15	829	CP	64QAM	OuterFull	20.94
B66-n5	10	15	829	CP	256QAM	InnerFull	18.10
B66-n5	10	15	829	CP	256QAM	Edge1RBLeft	18.22
B66-n5	10	15	829	CP	256QAM	Edge1RBRight	18.19
B66-n5	10	15	829	CP	256QAM	OuterFull	17.97
B66-n5	10	15	836.5	DFT	pi/2 BPSK	InnerFull	24.49
B66-n5	10	15	836.5	DFT	pi/2 BPSK	Edge1RBLeft	24.03
B66-n5	10	15	836.5	DFT	pi/2 BPSK	Edge1RBRight	23.95
B66-n5	10	15	836.5	DFT	pi/2 BPSK	OuterFull	24.06
B66-n5	10	15	836.5	DFT	QPSK	InnerFull	24.51
B66-n5	10	15	836.5	DFT	QPSK	Edge1RBLeft	23.50
B66-n5	10	15	836.5	DFT	QPSK	Edge1RBRight	23.44

B66-n5	10	15	836.5	DFT	QPSK	OuterFull	23.53
B66-n5	10	15	836.5	DFT	16QAM	InnerFull	23.50
B66-n5	10	15	836.5	DFT	16QAM	Edge1RBLeft	22.65
B66-n5	10	15	836.5	DFT	16QAM	Edge1RBRight	22.34
B66-n5	10	15	836.5	DFT	16QAM	OuterFull	22.54
B66-n5	10	15	836.5	DFT	64QAM	InnerFull	22.05
B66-n5	10	15	836.5	DFT	64QAM	Edge1RBLeft	22.56
B66-n5	10	15	836.5	DFT	64QAM	Edge1RBRight	22.50
B66-n5	10	15	836.5	DFT	64QAM	OuterFull	22.07
B66-n5	10	15	836.5	DFT	256QAM	InnerFull	20.03
B66-n5	10	15	836.5	DFT	256QAM	Edge1RBLeft	19.95
B66-n5	10	15	836.5	DFT	256QAM	Edge1RBRight	20.29
B66-n5	10	15	836.5	DFT	256QAM	OuterFull	20.06
B66-n5	10	15	836.5	CP	QPSK	InnerFull	22.97
B66-n5	10	15	836.5	CP	QPSK	Edge1RBLeft	21.45
B66-n5	10	15	836.5	CP	QPSK	Edge1RBRight	21.42
B66-n5	10	15	836.5	CP	QPSK	OuterFull	21.54
B66-n5	10	15	836.5	CP	16QAM	InnerFull	22.41
B66-n5	10	15	836.5	CP	16QAM	Edge1RBLeft	21.45
B66-n5	10	15	836.5	CP	16QAM	Edge1RBRight	21.27
B66-n5	10	15	836.5	CP	16QAM	OuterFull	21.48
B66-n5	10	15	836.5	CP	64QAM	InnerFull	21.09
B66-n5	10	15	836.5	CP	64QAM	Edge1RBLeft	20.82
B66-n5	10	15	836.5	CP	64QAM	Edge1RBRight	20.71
B66-n5	10	15	836.5	CP	64QAM	OuterFull	21.01
B66-n5	10	15	836.5	CP	256QAM	InnerFull	18.10
B66-n5	10	15	836.5	CP	256QAM	Edge1RBLeft	18.37
B66-n5	10	15	836.5	CP	256QAM	Edge1RBRight	17.93
B66-n5	10	15	836.5	CP	256QAM	OuterFull	18.04
B66-n5	10	15	844	DFT	pi/2 BPSK	InnerFull	24.33
B66-n5	10	15	844	DFT	pi/2 BPSK	Edge1RBLeft	23.90
B66-n5	10	15	844	DFT	pi/2 BPSK	Edge1RBRight	23.73
B66-n5	10	15	844	DFT	pi/2 BPSK	OuterFull	23.85
B66-n5	10	15	844	DFT	QPSK	InnerFull	24.36
B66-n5	10	15	844	DFT	QPSK	Edge1RBLeft	23.40
B66-n5	10	15	844	DFT	QPSK	Edge1RBRight	23.14
B66-n5	10	15	844	DFT	QPSK	OuterFull	23.40
B66-n5	10	15	844	DFT	16QAM	InnerFull	23.37
B66-n5	10	15	844	DFT	16QAM	Edge1RBLeft	22.53
B66-n5	10	15	844	DFT	16QAM	Edge1RBRight	22.43
B66-n5	10	15	844	DFT	16QAM	OuterFull	22.43

B66-n5	10	15	844	DFT	64QAM	InnerFull	21.91
B66-n5	10	15	844	DFT	64QAM	Edge6RBLeft	22.51
B66-n5	10	15	844	DFT	64QAM	Edge6RBRight	22.36
B66-n5	10	15	844	DFT	64QAM	OuterFull	21.88
B66-n5	10	15	844	DFT	256QAM	InnerFull	19.88
B66-n5	10	15	844	DFT	256QAM	Edge1RBLeft	19.98
B66-n5	10	15	844	DFT	256QAM	Edge1RBRight	20.27
B66-n5	10	15	844	DFT	256QAM	OuterFull	19.93
B66-n5	10	15	844	CP	QPSK	InnerFull	22.81
B66-n5	10	15	844	CP	QPSK	Edge1RBLeft	21.36
B66-n5	10	15	844	CP	QPSK	Edge1RBRight	21.20
B66-n5	10	15	844	CP	QPSK	OuterFull	21.31
B66-n5	10	15	844	CP	16QAM	InnerFull	22.24
B66-n5	10	15	844	CP	16QAM	Edge1RBLeft	21.38
B66-n5	10	15	844	CP	16QAM	Edge1RBRight	20.95
B66-n5	10	15	844	CP	16QAM	OuterFull	21.33
B66-n5	10	15	844	CP	64QAM	InnerFull	20.93
B66-n5	10	15	844	CP	64QAM	Edge1RBLeft	20.70
B66-n5	10	15	844	CP	64QAM	Edge1RBRight	20.50
B66-n5	10	15	844	CP	64QAM	OuterFull	20.86
B66-n5	10	15	844	CP	256QAM	InnerFull	17.99
B66-n5	10	15	844	CP	256QAM	Edge1RBLeft	18.24
B66-n5	10	15	844	CP	256QAM	Edge1RBRight	18.11
B66-n5	10	15	844	CP	256QAM	OuterFull	17.92
B66-n5	15	15	831.5	DFT	pi/2 BPSK	InnerFull	24.51
B66-n5	15	15	831.5	DFT	pi/2 BPSK	Edge1RBLeft	24.00
B66-n5	15	15	831.5	DFT	pi/2 BPSK	Edge1RBRight	24.04
B66-n5	15	15	831.5	DFT	pi/2 BPSK	OuterFull	24.08
B66-n5	15	15	831.5	DFT	QPSK	InnerFull	24.56
B66-n5	15	15	831.5	DFT	QPSK	Edge1RBLeft	23.33
B66-n5	15	15	831.5	DFT	QPSK	Edge1RBRight	23.48
B66-n5	15	15	831.5	DFT	QPSK	OuterFull	23.64
B66-n5	15	15	831.5	DFT	16QAM	InnerFull	23.62
B66-n5	15	15	831.5	DFT	16QAM	Edge1RBLeft	22.59
B66-n5	15	15	831.5	DFT	16QAM	Edge1RBRight	22.66
B66-n5	15	15	831.5	DFT	16QAM	OuterFull	22.63
B66-n5	15	15	831.5	DFT	64QAM	InnerFull	22.16
B66-n5	15	15	831.5	DFT	64QAM	Edge1RBLeft	22.50
B66-n5	15	15	831.5	DFT	64QAM	Edge1RBRight	22.58
B66-n5	15	15	831.5	DFT	64QAM	OuterFull	22.07
B66-n5	15	15	831.5	DFT	256QAM	InnerFull	20.26

B66-n5	15	15	831.5	DFT	256QAM	Edge1RBLeft	20.25
B66-n5	15	15	831.5	DFT	256QAM	Edge1RBRight	20.36
B66-n5	15	15	831.5	DFT	256QAM	OuterFull	20.16
B66-n5	15	15	831.5	CP	QPSK	InnerFull	23.07
B66-n5	15	15	831.5	CP	QPSK	Edge1RBLeft	21.35
B66-n5	15	15	831.5	CP	QPSK	Edge1RBRight	21.50
B66-n5	15	15	831.5	CP	QPSK	OuterFull	21.58
B66-n5	15	15	831.5	CP	16QAM	InnerFull	22.63
B66-n5	15	15	831.5	CP	16QAM	Edge1RBLeft	21.52
B66-n5	15	15	831.5	CP	16QAM	Edge1RBRight	21.59
B66-n5	15	15	831.5	CP	16QAM	OuterFull	21.56
B66-n5	15	15	831.5	CP	64QAM	InnerFull	21.19
B66-n5	15	15	831.5	CP	64QAM	Edge1RBLeft	20.82
B66-n5	15	15	831.5	CP	64QAM	Edge1RBRight	20.84
B66-n5	15	15	831.5	CP	64QAM	OuterFull	21.09
B66-n5	15	15	831.5	CP	256QAM	InnerFull	18.21
B66-n5	15	15	831.5	CP	256QAM	Edge1RBLeft	18.35
B66-n5	15	15	831.5	CP	256QAM	Edge1RBRight	18.29
B66-n5	15	15	831.5	CP	256QAM	OuterFull	18.16
B66-n5	15	15	836.5	DFT	pi/2 BPSK	InnerFull	24.63
B66-n5	15	15	836.5	DFT	pi/2 BPSK	Edge1RBLeft	24.13
B66-n5	15	15	836.5	DFT	pi/2 BPSK	Edge1RBRight	24.07
B66-n5	15	15	836.5	DFT	pi/2 BPSK	OuterFull	24.19
B66-n5	15	15	836.5	DFT	QPSK	InnerFull	24.65
B66-n5	15	15	836.5	DFT	QPSK	Edge1RBLeft	23.55
B66-n5	15	15	836.5	DFT	QPSK	Edge1RBRight	23.49
B66-n5	15	15	836.5	DFT	QPSK	OuterFull	23.71
B66-n5	15	15	836.5	DFT	16QAM	InnerFull	23.75
B66-n5	15	15	836.5	DFT	16QAM	Edge1RBLeft	22.70
B66-n5	15	15	836.5	DFT	16QAM	Edge1RBRight	22.62
B66-n5	15	15	836.5	DFT	16QAM	OuterFull	22.76
B66-n5	15	15	836.5	DFT	64QAM	InnerFull	22.25
B66-n5	15	15	836.5	DFT	64QAM	Edge1RBLeft	22.68
B66-n5	15	15	836.5	DFT	64QAM	Edge1RBRight	22.65
B66-n5	15	15	836.5	DFT	64QAM	OuterFull	22.21
B66-n5	15	15	836.5	DFT	256QAM	InnerFull	20.27
B66-n5	15	15	836.5	DFT	256QAM	Edge1RBLeft	20.06
B66-n5	15	15	836.5	DFT	256QAM	Edge1RBRight	20.43
B66-n5	15	15	836.5	DFT	256QAM	OuterFull	20.24
B66-n5	15	15	836.5	CP	QPSK	InnerFull	23.14
B66-n5	15	15	836.5	CP	QPSK	Edge1RBLeft	21.51

B66-n5	15	15	836.5	CP	QPSK	Edge1RBRight	21.50
B66-n5	15	15	836.5	CP	QPSK	OuterFull	21.71
B66-n5	15	15	836.5	CP	16QAM	InnerFull	22.68
B66-n5	15	15	836.5	CP	16QAM	Edge1RBLeft	21.67
B66-n5	15	15	836.5	CP	16QAM	Edge1RBRight	21.55
B66-n5	15	15	836.5	CP	16QAM	OuterFull	21.63
B66-n5	15	15	836.5	CP	64QAM	InnerFull	21.22
B66-n5	15	15	836.5	CP	64QAM	Edge1RBLeft	20.85
B66-n5	15	15	836.5	CP	64QAM	Edge1RBRight	20.78
B66-n5	15	15	836.5	CP	64QAM	OuterFull	21.20
B66-n5	15	15	836.5	CP	256QAM	InnerFull	18.32
B66-n5	15	15	836.5	CP	256QAM	Edge1RBLeft	18.48
B66-n5	15	15	836.5	CP	256QAM	Edge1RBRight	18.37
B66-n5	15	15	836.5	CP	256QAM	OuterFull	18.25
B66-n5	15	15	841.5	DFT	pi/2 BPSK	InnerFull	24.53
B66-n5	15	15	841.5	DFT	pi/2 BPSK	Edge1RBLeft	24.05
B66-n5	15	15	841.5	DFT	pi/2 BPSK	Edge1RBRight	23.80
B66-n5	15	15	841.5	DFT	pi/2 BPSK	OuterFull	24.05
B66-n5	15	15	841.5	DFT	QPSK	InnerFull	24.59
B66-n5	15	15	841.5	DFT	QPSK	Edge1RBLeft	23.49
B66-n5	15	15	841.5	DFT	QPSK	Edge1RBRight	23.28
B66-n5	15	15	841.5	DFT	QPSK	OuterFull	23.60
B66-n5	15	15	841.5	DFT	16QAM	InnerFull	23.67
B66-n5	15	15	841.5	DFT	16QAM	Edge1RBLeft	22.70
B66-n5	15	15	841.5	DFT	16QAM	Edge1RBRight	22.56
B66-n5	15	15	841.5	DFT	16QAM	OuterFull	22.67
B66-n5	15	15	841.5	DFT	64QAM	InnerFull	22.17
B66-n5	15	15	841.5	DFT	64QAM	Edge1RBLeft	22.61
B66-n5	15	15	841.5	DFT	64QAM	Edge1RBRight	22.42
B66-n5	15	15	841.5	DFT	64QAM	OuterFull	22.14
B66-n5	15	15	841.5	DFT	256QAM	InnerFull	20.28
B66-n5	15	15	841.5	DFT	256QAM	Edge1RBLeft	20.24
B66-n5	15	15	841.5	DFT	256QAM	Edge1RBRight	20.23
B66-n5	15	15	841.5	DFT	256QAM	OuterFull	20.09
B66-n5	15	15	841.5	CP	QPSK	InnerFull	23.06
B66-n5	15	15	841.5	CP	QPSK	Edge1RBLeft	21.59
B66-n5	15	15	841.5	CP	QPSK	Edge1RBRight	21.25
B66-n5	15	15	841.5	CP	QPSK	OuterFull	21.56
B66-n5	15	15	841.5	CP	16QAM	InnerFull	22.61
B66-n5	15	15	841.5	CP	16QAM	Edge1RBLeft	21.60
B66-n5	15	15	841.5	CP	16QAM	Edge1RBRight	21.36

B66-n5	15	15	841.5	CP	16QAM	OuterFull	21.59
B66-n5	15	15	841.5	CP	64QAM	InnerFull	21.14
B66-n5	15	15	841.5	CP	64QAM	Edge1RBLeft	20.81
B66-n5	15	15	841.5	CP	64QAM	Edge1RBRight	20.61
B66-n5	15	15	841.5	CP	64QAM	OuterFull	21.11
B66-n5	15	15	841.5	CP	256QAM	InnerFull	18.25
B66-n5	15	15	841.5	CP	256QAM	Edge1RBLeft	18.30
B66-n5	15	15	841.5	CP	256QAM	Edge1RBRight	18.22
B66-n5	15	15	841.5	CP	256QAM	OuterFull	18.19
B66-n5	20	15	834	DFT	pi/2 BPSK	InnerFull	24.55
B66-n5	20	15	834	DFT	pi/2 BPSK	Edge1RBLeft	23.91
B66-n5	20	15	834	DFT	pi/2 BPSK	Edge1RBRight	23.92
B66-n5	20	15	834	DFT	pi/2 BPSK	OuterFull	24.07
B66-n5	20	15	834	DFT	QPSK	InnerFull	24.62
B66-n5	20	15	834	DFT	QPSK	Edge1RBLeft	23.32
B66-n5	20	15	834	DFT	QPSK	Edge1RBRight	23.38
B66-n5	20	15	834	DFT	QPSK	OuterFull	23.62
B66-n5	20	15	834	DFT	16QAM	InnerFull	23.65
B66-n5	20	15	834	DFT	16QAM	Edge1RBLeft	22.47
B66-n5	20	15	834	DFT	16QAM	Edge1RBRight	22.52
B66-n5	20	15	834	DFT	16QAM	OuterFull	22.58
B66-n5	20	15	834	DFT	64QAM	InnerFull	22.17
B66-n5	20	15	834	DFT	64QAM	Edge1RBLeft	22.46
B66-n5	20	15	834	DFT	64QAM	Edge1RBRight	22.58
B66-n5	20	15	834	DFT	64QAM	OuterFull	22.14
B66-n5	20	15	834	DFT	256QAM	InnerFull	20.24
B66-n5	20	15	834	DFT	256QAM	Edge1RBLeft	19.71
B66-n5	20	15	834	DFT	256QAM	Edge1RBRight	20.30
B66-n5	20	15	834	DFT	256QAM	OuterFull	20.15
B66-n5	20	15	834	CP	QPSK	InnerFull	23.07
B66-n5	20	15	834	CP	QPSK	Edge1RBLeft	21.39
B66-n5	20	15	834	CP	QPSK	Edge1RBRight	21.29
B66-n5	20	15	834	CP	QPSK	OuterFull	21.49
B66-n5	20	15	834	CP	16QAM	InnerFull	22.64
B66-n5	20	15	834	CP	16QAM	Edge1RBLeft	21.37
B66-n5	20	15	834	CP	16QAM	Edge1RBRight	21.59
B66-n5	20	15	834	CP	16QAM	OuterFull	21.53
B66-n5	20	15	834	CP	64QAM	InnerFull	21.15
B66-n5	20	15	834	CP	64QAM	Edge1RBLeft	20.71
B66-n5	20	15	834	CP	64QAM	Edge1RBRight	20.72
B66-n5	20	15	834	CP	64QAM	OuterFull	21.04

B66-n5	20	15	834	CP	256QAM	InnerFull	18.35
B66-n5	20	15	834	CP	256QAM	Edge1RBLeft	18.24
B66-n5	20	15	834	CP	256QAM	Edge1RBRight	18.26
B66-n5	20	15	834	CP	256QAM	OuterFull	18.11
B66-n5	20	15	836.5	DFT	pi/2 BPSK	InnerFull	24.50
B66-n5	20	15	836.5	DFT	pi/2 BPSK	Edge1RBLeft	23.91
B66-n5	20	15	836.5	DFT	pi/2 BPSK	Edge1RBRight	23.83
B66-n5	20	15	836.5	DFT	pi/2 BPSK	OuterFull	24.05
B66-n5	20	15	836.5	DFT	QPSK	InnerFull	24.58
B66-n5	20	15	836.5	DFT	QPSK	Edge1RBLeft	23.33
B66-n5	20	15	836.5	DFT	QPSK	Edge1RBRight	23.27
B66-n5	20	15	836.5	DFT	QPSK	OuterFull	23.59
B66-n5	20	15	836.5	DFT	16QAM	InnerFull	23.56
B66-n5	20	15	836.5	DFT	16QAM	Edge1RBLeft	22.67
B66-n5	20	15	836.5	DFT	16QAM	Edge1RBRight	22.23
B66-n5	20	15	836.5	DFT	16QAM	OuterFull	22.58
B66-n5	20	15	836.5	DFT	64QAM	InnerFull	22.04
B66-n5	20	15	836.5	DFT	64QAM	Edge1RBLeft	21.52
B66-n5	20	15	836.5	DFT	64QAM	Edge1RBRight	21.81
B66-n5	20	15	836.5	DFT	64QAM	OuterFull	22.11
B66-n5	20	15	836.5	DFT	256QAM	InnerFull	20.06
B66-n5	20	15	836.5	DFT	256QAM	Edge1RBLeft	20.01
B66-n5	20	15	836.5	DFT	256QAM	Edge1RBRight	19.93
B66-n5	20	15	836.5	DFT	256QAM	OuterFull	20.08
B66-n5	20	15	836.5	CP	QPSK	InnerFull	23.10
B66-n5	20	15	836.5	CP	QPSK	Edge1RBLeft	21.56
B66-n5	20	15	836.5	CP	QPSK	Edge1RBRight	21.25
B66-n5	20	15	836.5	CP	QPSK	OuterFull	21.53
B66-n5	20	15	836.5	CP	16QAM	InnerFull	22.49
B66-n5	20	15	836.5	CP	16QAM	Edge1RBLeft	21.52
B66-n5	20	15	836.5	CP	16QAM	Edge1RBRight	21.25
B66-n5	20	15	836.5	CP	16QAM	OuterFull	21.52
B66-n5	20	15	836.5	CP	64QAM	InnerFull	21.13
B66-n5	20	15	836.5	CP	64QAM	Edge1RBLeft	21.13
B66-n5	20	15	836.5	CP	64QAM	Edge1RBRight	21.09
B66-n5	20	15	836.5	CP	64QAM	OuterFull	21.09
B66-n5	20	15	836.5	CP	256QAM	InnerFull	18.13
B66-n5	20	15	836.5	CP	256QAM	Edge1RBLeft	17.91
B66-n5	20	15	836.5	CP	256QAM	Edge1RBRight	18.01
B66-n5	20	15	836.5	CP	256QAM	OuterFull	18.21
B66-n5	20	15	839	DFT	pi/2 BPSK	InnerFull	24.59

B66-n5	20	15	839	DFT	pi/2 BPSK	Edge1RBLeft	24.04
B66-n5	20	15	839	DFT	pi/2 BPSK	Edge1RBRight	23.83
B66-n5	20	15	839	DFT	pi/2 BPSK	OuterFull	24.18
B66-n5	20	15	839	DFT	QPSK	InnerFull	24.61
B66-n5	20	15	839	DFT	QPSK	Edge1RBLeft	23.45
B66-n5	20	15	839	DFT	QPSK	Edge1RBRight	23.29
B66-n5	20	15	839	DFT	QPSK	OuterFull	23.69
B66-n5	20	15	839	DFT	16QAM	InnerFull	23.67
B66-n5	20	15	839	DFT	16QAM	Edge1RBLeft	22.59
B66-n5	20	15	839	DFT	16QAM	Edge1RBRight	22.53
B66-n5	20	15	839	DFT	16QAM	OuterFull	22.66
B66-n5	20	15	839	DFT	64QAM	InnerFull	22.14
B66-n5	20	15	839	DFT	64QAM	Edge1RBLeft	22.61
B66-n5	20	15	839	DFT	64QAM	Edge1RBRight	22.45
B66-n5	20	15	839	DFT	64QAM	OuterFull	22.25
B66-n5	20	15	839	DFT	256QAM	InnerFull	20.22
B66-n5	20	15	839	DFT	256QAM	Edge1RBLeft	20.58
B66-n5	20	15	839	DFT	256QAM	Edge1RBRight	20.36
B66-n5	20	15	839	DFT	256QAM	OuterFull	20.16
B66-n5	20	15	839	CP	QPSK	InnerFull	23.15
B66-n5	20	15	839	CP	QPSK	Edge1RBLeft	21.52
B66-n5	20	15	839	CP	QPSK	Edge1RBRight	21.22
B66-n5	20	15	839	CP	QPSK	OuterFull	21.63
B66-n5	20	15	839	CP	16QAM	InnerFull	22.67
B66-n5	20	15	839	CP	16QAM	Edge1RBLeft	21.61
B66-n5	20	15	839	CP	16QAM	Edge1RBRight	21.36
B66-n5	20	15	839	CP	16QAM	OuterFull	21.58
B66-n5	20	15	839	CP	64QAM	InnerFull	21.14
B66-n5	20	15	839	CP	64QAM	Edge1RBLeft	20.90
B66-n5	20	15	839	CP	64QAM	Edge1RBRight	20.53
B66-n5	20	15	839	CP	64QAM	OuterFull	21.08
B66-n5	20	15	839	CP	256QAM	InnerFull	18.37
B66-n5	20	15	839	CP	256QAM	Edge1RBLeft	18.37
B66-n5	20	15	839	CP	256QAM	Edge1RBRight	18.21
B66-n5	20	15	839	CP	256QAM	OuterFull	18.23

LTE Band 5+NR n7

BAND	BW(MHz)	SCS(kHz)	FREQ(MHz)	OFDM	MODULATON	RB ALLOCATION	TOTAL POWER(dBm)
B5-n7	5	15	2502.5	DFT	pi/2 BPSK	InnerFull	22.45
B5-n7	5	15	2502.5	DFT	pi/2 BPSK	Edge1RBLeft	21.85
B5-n7	5	15	2502.5	DFT	pi/2 BPSK	Edge1RBRight	22.07
B5-n7	5	15	2502.5	DFT	pi/2 BPSK	OuterFull	22.00
B5-n7	5	15	2502.5	DFT	QPSK	InnerFull	22.47
B5-n7	5	15	2502.5	DFT	QPSK	Edge1RBLeft	21.39
B5-n7	5	15	2502.5	DFT	QPSK	Edge1RBRight	21.57
B5-n7	5	15	2502.5	DFT	QPSK	OuterFull	21.53
B5-n7	5	15	2502.5	DFT	16QAM	InnerFull	21.61
B5-n7	5	15	2502.5	DFT	16QAM	Edge1RBLeft	20.99
B5-n7	5	15	2502.5	DFT	16QAM	Edge1RBRight	20.77
B5-n7	5	15	2502.5	DFT	16QAM	OuterFull	20.79
B5-n7	5	15	2502.5	DFT	64QAM	InnerFull	20.26
B5-n7	5	15	2502.5	DFT	64QAM	Edge1RBLeft	19.70
B5-n7	5	15	2502.5	DFT	64QAM	Edge1RBRight	19.90
B5-n7	5	15	2502.5	DFT	64QAM	OuterFull	20.20
B5-n7	5	15	2502.5	DFT	256QAM	InnerFull	18.25
B5-n7	5	15	2502.5	DFT	256QAM	Edge1RBLeft	18.37
B5-n7	5	15	2502.5	DFT	256QAM	Edge1RBRight	18.51
B5-n7	5	15	2502.5	DFT	256QAM	OuterFull	18.28
B5-n7	5	15	2502.5	CP	QPSK	InnerFull	20.98
B5-n7	5	15	2502.5	CP	QPSK	Edge1RBLeft	19.61
B5-n7	5	15	2502.5	CP	QPSK	Edge1RBRight	19.73
B5-n7	5	15	2502.5	CP	QPSK	OuterFull	19.64
B5-n7	5	15	2502.5	CP	16QAM	InnerFull	20.59
B5-n7	5	15	2502.5	CP	16QAM	Edge1RBLeft	20.06
B5-n7	5	15	2502.5	CP	16QAM	Edge1RBRight	20.16
B5-n7	5	15	2502.5	CP	16QAM	OuterFull	19.59
B5-n7	5	15	2502.5	CP	64QAM	InnerFull	19.04
B5-n7	5	15	2502.5	CP	64QAM	Edge1RBLeft	19.03
B5-n7	5	15	2502.5	CP	64QAM	Edge1RBRight	19.14
B5-n7	5	15	2502.5	CP	64QAM	OuterFull	19.19
B5-n7	5	15	2502.5	CP	256QAM	InnerFull	16.21
B5-n7	5	15	2502.5	CP	256QAM	Edge1RBLeft	16.31
B5-n7	5	15	2502.5	CP	256QAM	Edge1RBRight	16.45
B5-n7	5	15	2502.5	CP	256QAM	OuterFull	16.23
B5-n7	5	15	2535	DFT	pi/2 BPSK	InnerFull	22.94
B5-n7	5	15	2535	DFT	pi/2 BPSK	Edge1RBLeft	22.49
B5-n7	5	15	2535	DFT	pi/2 BPSK	Edge1RBRight	22.50

B5-n7	5	15	2535	DFT	pi/2 BPSK	OuterFull	22.50
B5-n7	5	15	2535	DFT	QPSK	InnerFull	22.95
B5-n7	5	15	2535	DFT	QPSK	Edge1RBLeft	22.02
B5-n7	5	15	2535	DFT	QPSK	Edge1RBRight	21.95
B5-n7	5	15	2535	DFT	QPSK	OuterFull	21.99
B5-n7	5	15	2535	DFT	16QAM	InnerFull	22.09
B5-n7	5	15	2535	DFT	16QAM	Edge1RBLeft	21.18
B5-n7	5	15	2535	DFT	16QAM	Edge1RBRight	21.11
B5-n7	5	15	2535	DFT	16QAM	OuterFull	21.23
B5-n7	5	15	2535	DFT	64QAM	InnerFull	20.77
B5-n7	5	15	2535	DFT	64QAM	Edge1RBLeft	20.36
B5-n7	5	15	2535	DFT	64QAM	Edge1RBRight	20.31
B5-n7	5	15	2535	DFT	64QAM	OuterFull	20.73
B5-n7	5	15	2535	DFT	256QAM	InnerFull	18.67
B5-n7	5	15	2535	DFT	256QAM	Edge1RBLeft	18.69
B5-n7	5	15	2535	DFT	256QAM	Edge1RBRight	18.97
B5-n7	5	15	2535	DFT	256QAM	OuterFull	18.82
B5-n7	5	15	2535	CP	QPSK	InnerFull	21.47
B5-n7	5	15	2535	CP	QPSK	Edge1RBLeft	20.24
B5-n7	5	15	2535	CP	QPSK	Edge1RBRight	20.20
B5-n7	5	15	2535	CP	QPSK	OuterFull	20.15
B5-n7	5	15	2535	CP	16QAM	InnerFull	21.09
B5-n7	5	15	2535	CP	16QAM	Edge1RBLeft	20.69
B5-n7	5	15	2535	CP	16QAM	Edge1RBRight	20.72
B5-n7	5	15	2535	CP	16QAM	OuterFull	20.14
B5-n7	5	15	2535	CP	64QAM	InnerFull	19.67
B5-n7	5	15	2535	CP	64QAM	Edge1RBLeft	19.69
B5-n7	5	15	2535	CP	64QAM	Edge1RBRight	19.56
B5-n7	5	15	2535	CP	64QAM	OuterFull	19.72
B5-n7	5	15	2535	CP	256QAM	InnerFull	16.88
B5-n7	5	15	2535	CP	256QAM	Edge1RBLeft	16.96
B5-n7	5	15	2535	CP	256QAM	Edge1RBRight	16.30
B5-n7	5	15	2535	CP	256QAM	OuterFull	16.72
B5-n7	5	15	2567.5	DFT	pi/2 BPSK	InnerFull	22.89
B5-n7	5	15	2567.5	DFT	pi/2 BPSK	Edge1RBLeft	22.32
B5-n7	5	15	2567.5	DFT	pi/2 BPSK	Edge1RBRight	22.41
B5-n7	5	15	2567.5	DFT	pi/2 BPSK	OuterFull	22.44
B5-n7	5	15	2567.5	DFT	QPSK	InnerFull	22.91
B5-n7	5	15	2567.5	DFT	QPSK	Edge1RBLeft	21.81
B5-n7	5	15	2567.5	DFT	QPSK	Edge1RBRight	21.94
B5-n7	5	15	2567.5	DFT	QPSK	OuterFull	21.92

B5-n7	5	15	2567.5	DFT	16QAM	InnerFull	22.01
B5-n7	5	15	2567.5	DFT	16QAM	Edge1RBLeft	20.99
B5-n7	5	15	2567.5	DFT	16QAM	Edge1RBRight	21.14
B5-n7	5	15	2567.5	DFT	16QAM	OuterFull	21.11
B5-n7	5	15	2567.5	DFT	64QAM	InnerFull	20.71
B5-n7	5	15	2567.5	DFT	64QAM	Edge1RBLeft	20.19
B5-n7	5	15	2567.5	DFT	64QAM	Edge1RBRight	20.34
B5-n7	5	15	2567.5	DFT	64QAM	OuterFull	20.69
B5-n7	5	15	2567.5	DFT	256QAM	InnerFull	18.48
B5-n7	5	15	2567.5	DFT	256QAM	Edge1RBLeft	18.78
B5-n7	5	15	2567.5	DFT	256QAM	Edge1RBRight	18.96
B5-n7	5	15	2567.5	DFT	256QAM	OuterFull	18.75
B5-n7	5	15	2567.5	CP	QPSK	InnerFull	21.53
B5-n7	5	15	2567.5	CP	QPSK	Edge1RBLeft	20.12
B5-n7	5	15	2567.5	CP	QPSK	Edge1RBRight	20.16
B5-n7	5	15	2567.5	CP	QPSK	OuterFull	20.05
B5-n7	5	15	2567.5	CP	16QAM	InnerFull	21.06
B5-n7	5	15	2567.5	CP	16QAM	Edge1RBLeft	20.04
B5-n7	5	15	2567.5	CP	16QAM	Edge1RBRight	20.16
B5-n7	5	15	2567.5	CP	16QAM	OuterFull	20.11
B5-n7	5	15	2567.5	CP	64QAM	InnerFull	19.47
B5-n7	5	15	2567.5	CP	64QAM	Edge1RBLeft	19.04
B5-n7	5	15	2567.5	CP	64QAM	Edge1RBRight	19.05
B5-n7	5	15	2567.5	CP	64QAM	OuterFull	19.67
B5-n7	5	15	2567.5	CP	256QAM	InnerFull	16.70
B5-n7	5	15	2567.5	CP	256QAM	Edge1RBLeft	16.77
B5-n7	5	15	2567.5	CP	256QAM	Edge1RBRight	16.87
B5-n7	5	15	2567.5	CP	256QAM	OuterFull	16.69
B5-n7	10	15	2505	DFT	pi/2 BPSK	InnerFull	22.29
B5-n7	10	15	2505	DFT	pi/2 BPSK	Edge1RBLeft	21.59
B5-n7	10	15	2505	DFT	pi/2 BPSK	Edge1RBRight	22.01
B5-n7	10	15	2505	DFT	pi/2 BPSK	OuterFull	21.75
B5-n7	10	15	2505	DFT	QPSK	InnerFull	22.32
B5-n7	10	15	2505	DFT	QPSK	Edge1RBLeft	21.12
B5-n7	10	15	2505	DFT	QPSK	Edge1RBRight	21.04
B5-n7	10	15	2505	DFT	QPSK	OuterFull	21.30
B5-n7	10	15	2505	DFT	16QAM	InnerFull	21.39
B5-n7	10	15	2505	DFT	16QAM	Edge1RBLeft	20.23
B5-n7	10	15	2505	DFT	16QAM	Edge1RBRight	20.63
B5-n7	10	15	2505	DFT	16QAM	OuterFull	20.48
B5-n7	10	15	2505	DFT	64QAM	InnerFull	19.99

B5-n7	10	15	2505	DFT	64QAM	Edge1RBLeft	19.45
B5-n7	10	15	2505	DFT	64QAM	Edge1RBRight	19.87
B5-n7	10	15	2505	DFT	64QAM	OuterFull	19.99
B5-n7	10	15	2505	DFT	256QAM	InnerFull	18.11
B5-n7	10	15	2505	DFT	256QAM	Edge1RBLeft	18.10
B5-n7	10	15	2505	DFT	256QAM	Edge1RBRight	18.45
B5-n7	10	15	2505	DFT	256QAM	OuterFull	18.08
B5-n7	10	15	2505	CP	QPSK	InnerFull	20.74
B5-n7	10	15	2505	CP	QPSK	Edge1RBLeft	19.22
B5-n7	10	15	2505	CP	QPSK	Edge1RBRight	19.62
B5-n7	10	15	2505	CP	QPSK	OuterFull	19.53
B5-n7	10	15	2505	CP	16QAM	InnerFull	20.43
B5-n7	10	15	2505	CP	16QAM	Edge1RBLeft	19.33
B5-n7	10	15	2505	CP	16QAM	Edge1RBRight	19.78
B5-n7	10	15	2505	CP	16QAM	OuterFull	19.54
B5-n7	10	15	2505	CP	64QAM	InnerFull	19.10
B5-n7	10	15	2505	CP	64QAM	Edge1RBLeft	18.55
B5-n7	10	15	2505	CP	64QAM	Edge1RBRight	18.90
B5-n7	10	15	2505	CP	64QAM	OuterFull	18.99
B5-n7	10	15	2505	CP	256QAM	InnerFull	16.02
B5-n7	10	15	2505	CP	256QAM	Edge1RBLeft	16.05
B5-n7	10	15	2505	CP	256QAM	Edge1RBRight	16.44
B5-n7	10	15	2505	CP	256QAM	OuterFull	15.95
B5-n7	10	15	2535	DFT	pi/2 BPSK	InnerFull	22.91
B5-n7	10	15	2535	DFT	pi/2 BPSK	Edge1RBLeft	22.46
B5-n7	10	15	2535	DFT	pi/2 BPSK	Edge1RBRight	22.33
B5-n7	10	15	2535	DFT	pi/2 BPSK	OuterFull	22.43
B5-n7	10	15	2535	DFT	QPSK	InnerFull	22.95
B5-n7	10	15	2535	DFT	QPSK	Edge1RBLeft	21.90
B5-n7	10	15	2535	DFT	QPSK	Edge1RBRight	21.32
B5-n7	10	15	2535	DFT	QPSK	OuterFull	21.97
B5-n7	10	15	2535	DFT	16QAM	InnerFull	21.89
B5-n7	10	15	2535	DFT	16QAM	Edge1RBLeft	20.67
B5-n7	10	15	2535	DFT	16QAM	Edge1RBRight	20.62
B5-n7	10	15	2535	DFT	16QAM	OuterFull	21.10
B5-n7	10	15	2535	DFT	64QAM	InnerFull	20.69
B5-n7	10	15	2535	DFT	64QAM	Edge1RBLeft	20.69
B5-n7	10	15	2535	DFT	64QAM	Edge1RBRight	20.66
B5-n7	10	15	2535	DFT	64QAM	OuterFull	20.61
B5-n7	10	15	2535	DFT	256QAM	InnerFull	18.57
B5-n7	10	15	2535	DFT	256QAM	Edge1RBLeft	18.93

B5-n7	10	15	2535	DFT	256QAM	Edge1RBRight	18.92
B5-n7	10	15	2535	DFT	256QAM	OuterFull	18.59
B5-n7	10	15	2535	CP	QPSK	InnerFull	21.43
B5-n7	10	15	2535	CP	QPSK	Edge1RBLeft	19.55
B5-n7	10	15	2535	CP	QPSK	Edge1RBRight	19.36
B5-n7	10	15	2535	CP	QPSK	OuterFull	20.15
B5-n7	10	15	2535	CP	16QAM	InnerFull	21.02
B5-n7	10	15	2535	CP	16QAM	Edge1RBLeft	19.57
B5-n7	10	15	2535	CP	16QAM	Edge1RBRight	19.40
B5-n7	10	15	2535	CP	16QAM	OuterFull	20.13
B5-n7	10	15	2535	CP	64QAM	InnerFull	19.74
B5-n7	10	15	2535	CP	64QAM	Edge1RBLeft	18.90
B5-n7	10	15	2535	CP	64QAM	Edge1RBRight	18.77
B5-n7	10	15	2535	CP	64QAM	OuterFull	19.61
B5-n7	10	15	2535	CP	256QAM	InnerFull	16.61
B5-n7	10	15	2535	CP	256QAM	Edge1RBLeft	16.86
B5-n7	10	15	2535	CP	256QAM	Edge1RBRight	16.73
B5-n7	10	15	2535	CP	256QAM	OuterFull	16.56
B5-n7	10	15	2565	DFT	pi/2 BPSK	InnerFull	22.64
B5-n7	10	15	2565	DFT	pi/2 BPSK	Edge1RBLeft	21.58
B5-n7	10	15	2565	DFT	pi/2 BPSK	Edge1RBRight	21.84
B5-n7	10	15	2565	DFT	pi/2 BPSK	OuterFull	22.21
B5-n7	10	15	2565	DFT	QPSK	InnerFull	22.72
B5-n7	10	15	2565	DFT	QPSK	Edge1RBLeft	21.19
B5-n7	10	15	2565	DFT	QPSK	Edge1RBRight	21.42
B5-n7	10	15	2565	DFT	QPSK	OuterFull	21.76
B5-n7	10	15	2565	DFT	16QAM	InnerFull	21.68
B5-n7	10	15	2565	DFT	16QAM	Edge1RBLeft	20.32
B5-n7	10	15	2565	DFT	16QAM	Edge1RBRight	20.60
B5-n7	10	15	2565	DFT	16QAM	OuterFull	20.86
B5-n7	10	15	2565	DFT	64QAM	InnerFull	20.49
B5-n7	10	15	2565	DFT	64QAM	Edge6RBLeft	20.41
B5-n7	10	15	2565	DFT	64QAM	Edge6RBRight	20.56
B5-n7	10	15	2565	DFT	64QAM	OuterFull	20.41
B5-n7	10	15	2565	DFT	256QAM	InnerFull	18.43
B5-n7	10	15	2565	DFT	256QAM	Edge1RBLeft	18.54
B5-n7	10	15	2565	DFT	256QAM	Edge1RBRight	18.83
B5-n7	10	15	2565	DFT	256QAM	OuterFull	18.45
B5-n7	10	15	2565	CP	QPSK	InnerFull	21.37
B5-n7	10	15	2565	CP	QPSK	Edge1RBLeft	19.17
B5-n7	10	15	2565	CP	QPSK	Edge1RBRight	19.36

B5-n7	10	15	2565	CP	QPSK	OuterFull	19.86
B5-n7	10	15	2565	CP	16QAM	InnerFull	20.79
B5-n7	10	15	2565	CP	16QAM	Edge1RBLeft	19.17
B5-n7	10	15	2565	CP	16QAM	Edge1RBRight	19.29
B5-n7	10	15	2565	CP	16QAM	OuterFull	19.87
B5-n7	10	15	2565	CP	64QAM	InnerFull	19.45
B5-n7	10	15	2565	CP	64QAM	Edge1RBLeft	18.49
B5-n7	10	15	2565	CP	64QAM	Edge1RBRight	18.71
B5-n7	10	15	2565	CP	64QAM	OuterFull	19.40
B5-n7	10	15	2565	CP	256QAM	InnerFull	16.34
B5-n7	10	15	2565	CP	256QAM	Edge1RBLeft	16.51
B5-n7	10	15	2565	CP	256QAM	Edge1RBRight	16.72
B5-n7	10	15	2565	CP	256QAM	OuterFull	16.32
B5-n7	15	15	2507.5	DFT	pi/2 BPSK	InnerFull	22.59
B5-n7	15	15	2507.5	DFT	pi/2 BPSK	Edge1RBLeft	21.79
B5-n7	15	15	2507.5	DFT	pi/2 BPSK	Edge1RBRight	22.34
B5-n7	15	15	2507.5	DFT	pi/2 BPSK	OuterFull	22.16
B5-n7	15	15	2507.5	DFT	QPSK	InnerFull	22.57
B5-n7	15	15	2507.5	DFT	QPSK	Edge1RBLeft	20.72
B5-n7	15	15	2507.5	DFT	QPSK	Edge1RBRight	21.20
B5-n7	15	15	2507.5	DFT	QPSK	OuterFull	21.68
B5-n7	15	15	2507.5	DFT	16QAM	InnerFull	21.69
B5-n7	15	15	2507.5	DFT	16QAM	Edge1RBLeft	20.06
B5-n7	15	15	2507.5	DFT	16QAM	Edge1RBRight	20.55
B5-n7	15	15	2507.5	DFT	16QAM	OuterFull	20.87
B5-n7	15	15	2507.5	DFT	64QAM	InnerFull	20.41
B5-n7	15	15	2507.5	DFT	64QAM	Edge1RBLeft	20.09
B5-n7	15	15	2507.5	DFT	64QAM	Edge1RBRight	20.60
B5-n7	15	15	2507.5	DFT	64QAM	OuterFull	20.31
B5-n7	15	15	2507.5	DFT	256QAM	InnerFull	18.40
B5-n7	15	15	2507.5	DFT	256QAM	Edge1RBLeft	18.29
B5-n7	15	15	2507.5	DFT	256QAM	Edge1RBRight	18.86
B5-n7	15	15	2507.5	DFT	256QAM	OuterFull	18.46
B5-n7	15	15	2507.5	CP	QPSK	InnerFull	21.15
B5-n7	15	15	2507.5	CP	QPSK	Edge1RBLeft	18.99
B5-n7	15	15	2507.5	CP	QPSK	Edge1RBRight	19.43
B5-n7	15	15	2507.5	CP	QPSK	OuterFull	19.83
B5-n7	15	15	2507.5	CP	16QAM	InnerFull	20.80
B5-n7	15	15	2507.5	CP	16QAM	Edge1RBLeft	19.06
B5-n7	15	15	2507.5	CP	16QAM	Edge1RBRight	19.38
B5-n7	15	15	2507.5	CP	16QAM	OuterFull	19.87

B5-n7	15	15	2507.5	CP	64QAM	InnerFull	19.37
B5-n7	15	15	2507.5	CP	64QAM	Edge1RBLeft	18.25
B5-n7	15	15	2507.5	CP	64QAM	Edge1RBRight	18.69
B5-n7	15	15	2507.5	CP	64QAM	OuterFull	19.36
B5-n7	15	15	2507.5	CP	256QAM	InnerFull	16.23
B5-n7	15	15	2507.5	CP	256QAM	Edge1RBLeft	16.25
B5-n7	15	15	2507.5	CP	256QAM	Edge1RBRight	16.68
B5-n7	15	15	2507.5	CP	256QAM	OuterFull	16.33
B5-n7	15	15	2535	DFT	pi/2 BPSK	InnerFull	23.10
B5-n7	15	15	2535	DFT	pi/2 BPSK	Edge1RBLeft	22.10
B5-n7	15	15	2535	DFT	pi/2 BPSK	Edge1RBRight	21.96
B5-n7	15	15	2535	DFT	pi/2 BPSK	OuterFull	22.63
B5-n7	15	15	2535	DFT	QPSK	InnerFull	23.14
B5-n7	15	15	2535	DFT	QPSK	Edge1RBLeft	21.50
B5-n7	15	15	2535	DFT	QPSK	Edge1RBRight	21.42
B5-n7	15	15	2535	DFT	QPSK	OuterFull	22.15
B5-n7	15	15	2535	DFT	16QAM	InnerFull	22.25
B5-n7	15	15	2535	DFT	16QAM	Edge1RBLeft	20.80
B5-n7	15	15	2535	DFT	16QAM	Edge1RBRight	20.75
B5-n7	15	15	2535	DFT	16QAM	OuterFull	21.38
B5-n7	15	15	2535	DFT	64QAM	InnerFull	20.89
B5-n7	15	15	2535	DFT	64QAM	Edge1RBLeft	20.61
B5-n7	15	15	2535	DFT	64QAM	Edge1RBRight	20.75
B5-n7	15	15	2535	DFT	64QAM	OuterFull	20.74
B5-n7	15	15	2535	DFT	256QAM	InnerFull	18.90
B5-n7	15	15	2535	DFT	256QAM	Edge1RBLeft	19.06
B5-n7	15	15	2535	DFT	256QAM	Edge1RBRight	18.64
B5-n7	15	15	2535	DFT	256QAM	OuterFull	18.82
B5-n7	15	15	2535	CP	QPSK	InnerFull	21.62
B5-n7	15	15	2535	CP	QPSK	Edge1RBLeft	19.74
B5-n7	15	15	2535	CP	QPSK	Edge1RBRight	19.61
B5-n7	15	15	2535	CP	QPSK	OuterFull	20.33
B5-n7	15	15	2535	CP	16QAM	InnerFull	21.34
B5-n7	15	15	2535	CP	16QAM	Edge1RBLeft	19.80
B5-n7	15	15	2535	CP	16QAM	Edge1RBRight	19.69
B5-n7	15	15	2535	CP	16QAM	OuterFull	20.33
B5-n7	15	15	2535	CP	64QAM	InnerFull	19.91
B5-n7	15	15	2535	CP	64QAM	Edge1RBLeft	19.02
B5-n7	15	15	2535	CP	64QAM	Edge1RBRight	18.85
B5-n7	15	15	2535	CP	64QAM	OuterFull	19.85
B5-n7	15	15	2535	CP	256QAM	InnerFull	16.83

B5-n7	15	15	2535	CP	256QAM	Edge1RBLeft	17.05
B5-n7	15	15	2535	CP	256QAM	Edge1RBRight	16.85
B5-n7	15	15	2535	CP	256QAM	OuterFull	16.61
B5-n7	15	15	2562.5	DFT	pi/2 BPSK	InnerFull	22.92
B5-n7	15	15	2562.5	DFT	pi/2 BPSK	Edge1RBLeft	21.79
B5-n7	15	15	2562.5	DFT	pi/2 BPSK	Edge1RBRight	22.02
B5-n7	15	15	2562.5	DFT	pi/2 BPSK	OuterFull	22.46
B5-n7	15	15	2562.5	DFT	QPSK	InnerFull	22.95
B5-n7	15	15	2562.5	DFT	QPSK	Edge1RBLeft	21.33
B5-n7	15	15	2562.5	DFT	QPSK	Edge1RBRight	21.63
B5-n7	15	15	2562.5	DFT	QPSK	OuterFull	21.95
B5-n7	15	15	2562.5	DFT	16QAM	InnerFull	21.97
B5-n7	15	15	2562.5	DFT	16QAM	Edge1RBLeft	20.49
B5-n7	15	15	2562.5	DFT	16QAM	Edge1RBRight	20.88
B5-n7	15	15	2562.5	DFT	16QAM	OuterFull	21.17
B5-n7	15	15	2562.5	DFT	64QAM	InnerFull	20.58
B5-n7	15	15	2562.5	DFT	64QAM	Edge1RBLeft	20.31
B5-n7	15	15	2562.5	DFT	64QAM	Edge1RBRight	20.54
B5-n7	15	15	2562.5	DFT	64QAM	OuterFull	20.60
B5-n7	15	15	2562.5	DFT	256QAM	InnerFull	18.77
B5-n7	15	15	2562.5	DFT	256QAM	Edge1RBLeft	18.80
B5-n7	15	15	2562.5	DFT	256QAM	Edge1RBRight	19.13
B5-n7	15	15	2562.5	DFT	256QAM	OuterFull	18.62
B5-n7	15	15	2562.5	CP	QPSK	InnerFull	21.60
B5-n7	15	15	2562.5	CP	QPSK	Edge1RBLeft	19.48
B5-n7	15	15	2562.5	CP	QPSK	Edge1RBRight	19.69
B5-n7	15	15	2562.5	CP	QPSK	OuterFull	20.16
B5-n7	15	15	2562.5	CP	16QAM	InnerFull	21.15
B5-n7	15	15	2562.5	CP	16QAM	Edge1RBLeft	19.52
B5-n7	15	15	2562.5	CP	16QAM	Edge1RBRight	19.70
B5-n7	15	15	2562.5	CP	16QAM	OuterFull	20.18
B5-n7	15	15	2562.5	CP	64QAM	InnerFull	19.74
B5-n7	15	15	2562.5	CP	64QAM	Edge1RBLeft	18.72
B5-n7	15	15	2562.5	CP	64QAM	Edge1RBRight	18.96
B5-n7	15	15	2562.5	CP	64QAM	OuterFull	19.68
B5-n7	15	15	2562.5	CP	256QAM	InnerFull	16.66
B5-n7	15	15	2562.5	CP	256QAM	Edge1RBLeft	16.73
B5-n7	15	15	2562.5	CP	256QAM	Edge1RBRight	16.76
B5-n7	15	15	2562.5	CP	256QAM	OuterFull	16.48
B5-n7	20	15	2510	DFT	pi/2 BPSK	InnerFull	22.74
B5-n7	20	15	2510	DFT	pi/2 BPSK	Edge1RBLeft	21.77

B5-n7	20	15	2510	DFT	pi/2 BPSK	Edge1RBRight	22.52
B5-n7	20	15	2510	DFT	pi/2 BPSK	OuterFull	22.26
B5-n7	20	15	2510	DFT	QPSK	InnerFull	22.78
B5-n7	20	15	2510	DFT	QPSK	Edge1RBLeft	20.69
B5-n7	20	15	2510	DFT	QPSK	Edge1RBRight	21.47
B5-n7	20	15	2510	DFT	QPSK	OuterFull	21.73
B5-n7	20	15	2510	DFT	16QAM	InnerFull	21.78
B5-n7	20	15	2510	DFT	16QAM	Edge1RBLeft	20.21
B5-n7	20	15	2510	DFT	16QAM	Edge1RBRight	20.69
B5-n7	20	15	2510	DFT	16QAM	OuterFull	20.93
B5-n7	20	15	2510	DFT	64QAM	InnerFull	20.50
B5-n7	20	15	2510	DFT	64QAM	Edge1RBLeft	20.08
B5-n7	20	15	2510	DFT	64QAM	Edge1RBRight	20.80
B5-n7	20	15	2510	DFT	64QAM	OuterFull	20.49
B5-n7	20	15	2510	DFT	256QAM	InnerFull	18.51
B5-n7	20	15	2510	DFT	256QAM	Edge1RBLeft	18.32
B5-n7	20	15	2510	DFT	256QAM	Edge1RBRight	18.60
B5-n7	20	15	2510	DFT	256QAM	OuterFull	18.52
B5-n7	20	15	2510	CP	QPSK	InnerFull	21.26
B5-n7	20	15	2510	CP	QPSK	Edge1RBLeft	19.00
B5-n7	20	15	2510	CP	QPSK	Edge1RBRight	19.65
B5-n7	20	15	2510	CP	QPSK	OuterFull	19.94
B5-n7	20	15	2510	CP	16QAM	InnerFull	20.99
B5-n7	20	15	2510	CP	16QAM	Edge1RBLeft	19.04
B5-n7	20	15	2510	CP	16QAM	Edge1RBRight	19.67
B5-n7	20	15	2510	CP	16QAM	OuterFull	19.92
B5-n7	20	15	2510	CP	64QAM	InnerFull	19.43
B5-n7	20	15	2510	CP	64QAM	Edge1RBLeft	18.28
B5-n7	20	15	2510	CP	64QAM	Edge1RBRight	18.97
B5-n7	20	15	2510	CP	64QAM	OuterFull	19.42
B5-n7	20	15	2510	CP	256QAM	InnerFull	16.34
B5-n7	20	15	2510	CP	256QAM	Edge1RBLeft	16.26
B5-n7	20	15	2510	CP	256QAM	Edge1RBRight	16.64
B5-n7	20	15	2510	CP	256QAM	OuterFull	16.40
B5-n7	20	15	2535	DFT	pi/2 BPSK	InnerFull	23.08
B5-n7	20	15	2535	DFT	pi/2 BPSK	Edge1RBLeft	22.51
B5-n7	20	15	2535	DFT	pi/2 BPSK	Edge1RBRight	22.26
B5-n7	20	15	2535	DFT	pi/2 BPSK	OuterFull	22.60
B5-n7	20	15	2535	DFT	QPSK	InnerFull	23.11
B5-n7	20	15	2535	DFT	QPSK	Edge1RBLeft	21.96
B5-n7	20	15	2535	DFT	QPSK	Edge1RBRight	21.77

B5-n7	20	15	2535	DFT	QPSK	OuterFull	22.11
B5-n7	20	15	2535	DFT	16QAM	InnerFull	22.17
B5-n7	20	15	2535	DFT	16QAM	Edge1RBLeft	21.09
B5-n7	20	15	2535	DFT	16QAM	Edge1RBRight	20.92
B5-n7	20	15	2535	DFT	16QAM	OuterFull	21.29
B5-n7	20	15	2535	DFT	64QAM	InnerFull	20.81
B5-n7	20	15	2535	DFT	64QAM	Edge1RBLeft	20.29
B5-n7	20	15	2535	DFT	64QAM	Edge1RBRight	20.09
B5-n7	20	15	2535	DFT	64QAM	OuterFull	20.82
B5-n7	20	15	2535	DFT	256QAM	InnerFull	18.81
B5-n7	20	15	2535	DFT	256QAM	Edge1RBLeft	18.78
B5-n7	20	15	2535	DFT	256QAM	Edge1RBRight	18.60
B5-n7	20	15	2535	DFT	256QAM	OuterFull	18.83
B5-n7	20	15	2535	CP	QPSK	InnerFull	21.64
B5-n7	20	15	2535	CP	QPSK	Edge1RBLeft	20.18
B5-n7	20	15	2535	CP	QPSK	Edge1RBRight	19.94
B5-n7	20	15	2535	CP	QPSK	OuterFull	20.22
B5-n7	20	15	2535	CP	16QAM	InnerFull	21.27
B5-n7	20	15	2535	CP	16QAM	Edge1RBLeft	20.15
B5-n7	20	15	2535	CP	16QAM	Edge1RBRight	19.96
B5-n7	20	15	2535	CP	16QAM	OuterFull	20.20
B5-n7	20	15	2535	CP	64QAM	InnerFull	19.79
B5-n7	20	15	2535	CP	64QAM	Edge1RBLeft	19.87
B5-n7	20	15	2535	CP	64QAM	Edge1RBRight	19.67
B5-n7	20	15	2535	CP	64QAM	OuterFull	19.79
B5-n7	20	15	2535	CP	256QAM	InnerFull	16.73
B5-n7	20	15	2535	CP	256QAM	Edge1RBLeft	16.65
B5-n7	20	15	2535	CP	256QAM	Edge1RBRight	16.51
B5-n7	20	15	2535	CP	256QAM	OuterFull	16.76
B5-n7	20	15	2560	DFT	pi/2 BPSK	InnerFull	22.86
B5-n7	20	15	2560	DFT	pi/2 BPSK	Edge1RBLeft	21.72
B5-n7	20	15	2560	DFT	pi/2 BPSK	Edge1RBRight	21.90
B5-n7	20	15	2560	DFT	pi/2 BPSK	OuterFull	22.34
B5-n7	20	15	2560	DFT	QPSK	InnerFull	22.88
B5-n7	20	15	2560	DFT	QPSK	Edge1RBLeft	21.13
B5-n7	20	15	2560	DFT	QPSK	Edge1RBRight	21.57
B5-n7	20	15	2560	DFT	QPSK	OuterFull	21.88
B5-n7	20	15	2560	DFT	16QAM	InnerFull	21.89
B5-n7	20	15	2560	DFT	16QAM	Edge1RBLeft	20.44
B5-n7	20	15	2560	DFT	16QAM	Edge1RBRight	20.77
B5-n7	20	15	2560	DFT	16QAM	OuterFull	21.04

B5-n7	20	15	2560	DFT	64QAM	InnerFull	20.61
B5-n7	20	15	2560	DFT	64QAM	Edge1RBLeft	20.29
B5-n7	20	15	2560	DFT	64QAM	Edge1RBRight	20.69
B5-n7	20	15	2560	DFT	64QAM	OuterFull	20.60
B5-n7	20	15	2560	DFT	256QAM	InnerFull	18.60
B5-n7	20	15	2560	DFT	256QAM	Edge1RBLeft	18.79
B5-n7	20	15	2560	DFT	256QAM	Edge1RBRight	19.02
B5-n7	20	15	2560	DFT	256QAM	OuterFull	18.56
B5-n7	20	15	2560	CP	QPSK	InnerFull	21.57
B5-n7	20	15	2560	CP	QPSK	Edge1RBLeft	19.45
B5-n7	20	15	2560	CP	QPSK	Edge1RBRight	19.56
B5-n7	20	15	2560	CP	QPSK	OuterFull	19.99
B5-n7	20	15	2560	CP	16QAM	InnerFull	21.11
B5-n7	20	15	2560	CP	16QAM	Edge1RBLeft	19.48
B5-n7	20	15	2560	CP	16QAM	Edge1RBRight	19.64
B5-n7	20	15	2560	CP	16QAM	OuterFull	20.06
B5-n7	20	15	2560	CP	64QAM	InnerFull	19.50
B5-n7	20	15	2560	CP	64QAM	Edge1RBLeft	18.72
B5-n7	20	15	2560	CP	64QAM	Edge1RBRight	18.91
B5-n7	20	15	2560	CP	64QAM	OuterFull	19.54
B5-n7	20	15	2560	CP	256QAM	InnerFull	16.63
B5-n7	20	15	2560	CP	256QAM	Edge1RBLeft	16.66
B5-n7	20	15	2560	CP	256QAM	Edge1RBRight	16.89
B5-n7	20	15	2560	CP	256QAM	OuterFull	16.51

A.1.3 Radiated

A.1.3.1 Description

This is the test for the maximum radiated power from the EUT.

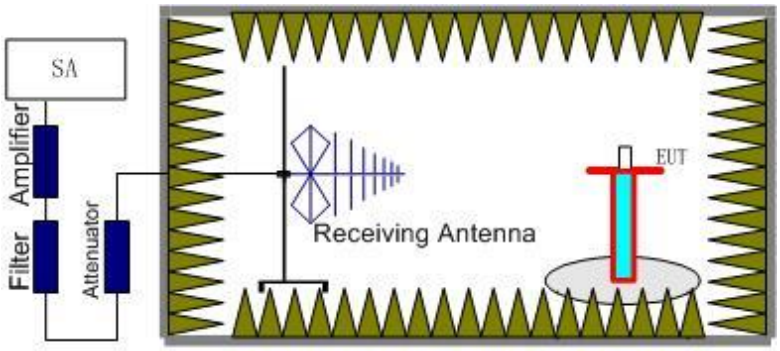
Part 22.913(a) specifies "The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts".

Part 27.50(h)(2) specifies "Mobile stations are limited to 2.0 watts EIRP".

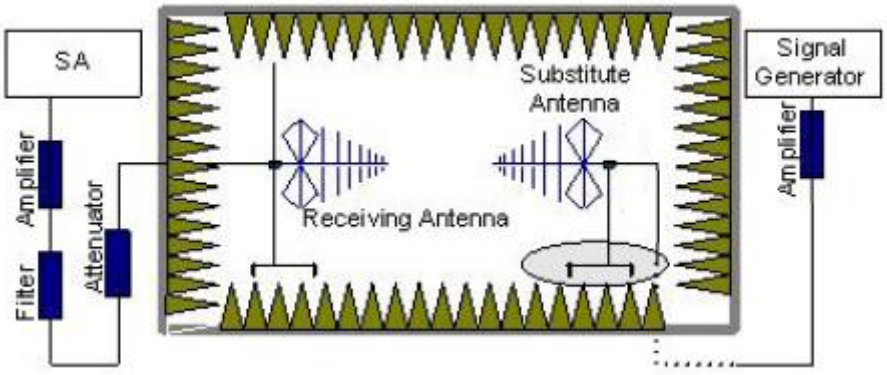
A.1.3.2 Method of Measurement

The measurements procedures in TIA-603E-2016 are used.

1. EUT was placed on a 1.5-meter-high non-conductive stand at a 3-meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360 and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.



2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.



In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the

substitution antenna. Adjust the level of the signal generator output until the value of the receiver reaches the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. An amplifier should be connected to the Signal Source output port. And the cable should be connected between the amplifier and the substitution antenna.
   The cable loss (P_{cl}), the substitution antenna Gain (G_a) and the amplifier Gain (P_{Ag}) should be recorded after test.
   The measurement results are obtained as described below:
   Power (EIRP) = P_{Mea} - P_{Ag} - P_{cl} - G_a
5. This value is EIRP since the measurement is calibrated using an antenna of known gain (unit dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP - 2.15.

A.1.3.3 Measurement result

Note: For the test results, all test configuration and test mode had been tested. But only the worst cases were shown in test report.

LTE Band 66+NR n5

DFT-OFDM PI/2 BPSK

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	Correction (dB)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	826.50	-26.24	2.25	45.77	0.93	2.15	16.06	38.45	22.39	H
	836.50	-26.36	2.26	45.66	0.82	2.15	15.71	38.45	22.74	H
	846.50	-26.94	2.26	45.56	0.82	2.15	15.03	38.45	23.42	H
5+10	829.00	-26.53	2.25	45.77	0.90	2.15	15.74	38.45	22.71	H
	836.50	-26.52	2.26	45.66	0.82	2.15	15.55	38.45	22.90	H
	844.00	-27.06	2.26	45.59	0.82	2.15	14.94	38.45	23.51	H
5+15	831.50	-29.25	2.12	45.71	0.87	2.15	13.06	38.45	25.39	V
	836.50	-28.77	2.26	45.66	0.82	2.15	13.30	38.45	25.15	V
	841.50	-29.22	2.26	45.61	0.82	2.15	12.80	38.45	25.65	V
5+20	834.00	-26.30	2.19	45.69	0.85	2.15	15.90	38.45	22.55	H
	836.50	-26.17	2.26	45.66	0.82	2.15	15.90	38.45	22.55	H
	839.00	-26.80	2.26	45.64	0.82	2.15	15.25	38.45	23.20	H

DFT-OFDM QPSK

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	Correction (dB)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	826.50	-26.81	2.25	45.77	0.93	2.15	15.49	38.45	22.96	V
	836.50	-26.47	2.26	45.66	0.82	2.15	15.60	38.45	22.85	H
	846.50	-27.23	2.26	45.56	0.82	2.15	14.74	38.45	23.71	V
5+10	829.00	-27.39	2.25	45.77	0.90	2.15	14.88	38.45	23.57	V
	836.50	-26.62	2.26	45.66	0.82	2.15	15.45	38.45	23.00	H
	844.00	-27.50	2.26	45.59	0.82	2.15	14.50	38.45	23.95	H
5+15	831.50	-27.24	2.12	45.71	0.87	2.15	15.07	38.45	23.38	V
	836.50	-26.32	2.26	45.66	0.82	2.15	15.75	38.45	22.70	H
	841.50	-27.31	2.26	45.61	0.82	2.15	14.71	38.45	23.74	H
5+20	834.00	-26.99	2.19	45.69	0.85	2.15	15.21	38.45	23.24	H
	836.50	-27.06	2.26	45.66	0.82	2.15	15.01	38.45	23.44	H
	839.00	-27.95	2.26	45.64	0.82	2.15	14.10	38.45	24.35	V

DFT-OFDM 16QAM

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	Correction (dB)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	826.50	-27.64	2.25	45.77	0.93	2.15	14.66	38.45	23.79	V
	836.50	-27.30	2.26	45.66	0.82	2.15	14.77	38.45	23.68	V
	846.50	-28.02	2.26	45.56	0.82	2.15	13.95	38.45	24.50	V
5+10	829.00	-28.16	2.25	45.77	0.90	2.15	14.11	38.45	24.34	H
	836.50	-27.84	2.26	45.66	0.82	2.15	14.23	38.45	24.22	H
	844.00	-28.61	2.26	45.59	0.82	2.15	13.39	38.45	25.06	H
5+15	831.50	-28.20	2.12	45.71	0.87	2.15	14.11	38.45	24.34	H
	836.50	-27.23	2.26	45.66	0.82	2.15	14.84	38.45	23.61	H
	841.50	-28.45	2.26	45.61	0.82	2.15	13.57	38.45	24.88	H
5+20	834.00	-28.16	2.19	45.69	0.85	2.15	14.04	38.45	24.41	H
	836.50	-27.86	2.26	45.66	0.82	2.15	14.21	38.45	24.24	V
	839.00	-28.44	2.26	45.64	0.82	2.15	13.61	38.45	24.84	H

DFT-OFDM 64QAM

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	Correction (dB)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	826.50	-29.08	2.25	45.77	0.93	2.15	13.22	38.45	25.23	V
	836.50	-28.70	2.26	45.66	0.82	2.15	13.37	38.45	25.08	H
	846.50	-29.35	2.26	45.56	0.82	2.15	12.62	38.45	25.83	H
5+10	829.00	-28.84	2.25	45.77	0.90	2.15	13.43	38.45	25.02	V
	836.50	-28.32	2.26	45.66	0.82	2.15	13.75	38.45	24.70	H
	844.00	-29.33	2.26	45.59	0.82	2.15	12.67	38.45	25.78	V
5+15	831.50	-28.84	2.12	45.71	0.87	2.15	13.47	38.45	24.98	H
	836.50	-27.75	2.26	45.66	0.82	2.15	14.32	38.45	24.13	H
	841.50	-29.09	2.26	45.61	0.82	2.15	12.93	38.45	25.52	V
5+20	834.00	-28.56	2.19	45.69	0.85	2.15	13.64	38.45	24.81	H
	836.50	-28.48	2.26	45.66	0.82	2.15	13.59	38.45	24.86	H
	839.00	-29.17	2.26	45.64	0.82	2.15	12.88	38.45	25.57	V

DFT-OFDM 256QAM

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	Correction (dB)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	826.50	-30.40	2.25	45.77	0.93	2.15	11.90	38.45	26.55	V
	836.50	-30.07	2.26	45.66	0.82	2.15	12.00	38.45	26.45	H
	846.50	-30.56	2.26	45.56	0.82	2.15	11.41	38.45	27.04	H
5+10	829.00	-30.23	2.25	45.77	0.90	2.15	12.04	38.45	26.41	H
	836.50	-29.91	2.26	45.66	0.82	2.15	12.16	38.45	26.29	H
	844.00	-30.56	2.26	45.59	0.82	2.15	11.44	38.45	27.01	H
5+15	831.50	-30.12	2.12	45.71	0.87	2.15	12.19	38.45	26.26	H
	836.50	-29.81	2.26	45.66	0.82	2.15	12.26	38.45	26.19	H
	841.50	-30.48	2.26	45.61	0.82	2.15	11.54	38.45	26.91	H
5+20	834.00	-29.67	2.19	45.69	0.85	2.15	12.53	38.45	25.92	H
	836.50	-30.34	2.26	45.66	0.82	2.15	11.73	38.45	26.72	H
	839.00	-30.42	2.26	45.64	0.82	2.15	11.63	38.45	26.82	H

LTE Band 5+NR n7

DFT-OFDM PI/2 BPSK

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	2502.50	-27.80	3.58	45.68	6.10	20.40	33.00	12.60	H
	2535.00	-26.22	3.63	44.82	6.16	21.13	33.00	11.87	H
	2567.50	-26.32	3.65	44.92	6.22	21.17	33.00	11.83	H
5+10	2505.00	-27.90	3.59	45.64	6.11	20.26	33.00	12.74	H
	2535.00	-26.42	3.63	44.82	6.16	20.93	33.00	12.07	H
	2565.00	-26.94	3.65	44.97	6.22	20.60	33.00	12.40	H
5+15	2507.50	-27.08	3.59	44.92	6.11	20.36	33.00	12.64	H
	2535.00	-26.12	3.63	44.82	6.16	21.23	33.00	11.77	H
	2562.50	-27.03	3.65	45.67	6.21	21.20	33.00	11.80	H
5+20	2510.00	-27.29	3.58	45.36	6.12	20.61	33.00	12.39	H
	2535.00	-26.61	3.63	44.82	6.16	20.74	33.00	12.26	H
	2560.00	-26.70	3.64	45.98	6.21	21.85	33.00	11.15	H

DFT-OFDM QPSK

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	2502.50	-27.85	3.58	45.68	6.10	20.35	33.00	12.65	H
	2535.00	-26.37	3.63	44.82	6.16	20.98	33.00	12.02	H
	2567.50	-27.43	3.65	44.92	6.22	20.06	33.00	12.94	H
5+10	2505.00	-28.41	3.59	45.64	6.11	19.75	33.00	13.25	H
	2535.00	-26.45	3.63	44.82	6.16	20.90	33.00	12.10	H
	2565.00	-27.07	3.65	44.97	6.22	20.47	33.00	12.53	H
5+15	2507.50	-27.78	3.59	44.92	6.11	19.66	33.00	13.34	H
	2535.00	-26.34	3.63	44.82	6.16	21.01	33.00	11.99	H
	2562.50	-28.13	3.65	45.67	6.21	20.10	33.00	12.90	H
5+20	2510.00	-28.78	3.58	45.36	6.12	19.12	33.00	13.88	H
	2535.00	-26.79	3.63	44.82	6.16	20.56	33.00	12.44	H
	2560.00	-27.63	3.64	45.98	6.21	20.92	33.00	12.08	H

DFT-OFDM 16QAM

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	2502.50	-28.71	3.58	45.68	6.10	19.49	33.00	13.51	H
	2535.00	-27.02	3.63	44.82	6.16	20.33	33.00	12.67	H
	2567.50	-27.25	3.65	44.92	6.22	20.24	33.00	12.76	H
5+10	2505.00	-28.77	3.59	45.64	6.11	19.39	33.00	13.61	H
	2535.00	-28.54	3.63	44.82	6.16	18.81	33.00	14.19	H
	2565.00	-28.86	3.65	44.97	6.22	18.68	33.00	14.32	H
5+15	2507.50	-28.20	3.59	44.92	6.11	19.24	33.00	13.76	H
	2535.00	-28.62	3.63	44.82	6.16	18.73	33.00	14.27	H
	2562.50	-28.73	3.65	45.67	6.21	19.50	33.00	13.50	H
5+20	2510.00	-29.67	3.58	45.36	6.12	18.23	33.00	14.77	H
	2535.00	-29.14	3.63	44.82	6.16	18.21	33.00	14.79	H
	2560.00	-29.38	3.64	45.98	6.21	19.17	33.00	13.83	H

DFT-OFDM 64QAM

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	2502.50	-29.89	3.58	45.68	6.10	18.31	33.00	14.69	H
	2535.00	-28.37	3.63	44.82	6.16	18.98	33.00	14.02	H
	2567.50	-28.02	3.65	44.92	6.22	19.47	33.00	13.53	H
5+10	2505.00	-30.50	3.59	45.64	6.11	17.66	33.00	15.34	H
	2535.00	-29.47	3.63	44.82	6.16	17.88	33.00	15.12	H
	2565.00	-29.76	3.65	44.97	6.22	17.78	33.00	15.22	H
5+15	2507.50	-30.05	3.59	44.92	6.11	17.39	33.00	15.61	H
	2535.00	-29.32	3.63	44.82	6.16	18.03	33.00	14.97	H
	2562.50	-30.63	3.65	45.67	6.21	17.60	33.00	15.40	H
5+20	2510.00	-30.19	3.58	45.36	6.12	17.71	33.00	15.29	H
	2535.00	-30.03	3.63	44.82	6.16	17.32	33.00	15.68	H
	2560.00	-31.27	3.64	45.98	6.21	17.28	33.00	15.72	H

DFT-OFDM 256QAM

LTE and NR Bandwidth combination (MHz)	Frequency (MHz)	Pmea (dBm)	Cable Loss(dB)	PAg (dB)	Antenna Gain(dBi)	RMS ERP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5+5	2502.50	-31.31	3.58	45.68	6.10	16.89	33.00	16.11	H
	2535.00	-29.74	3.63	44.82	6.16	17.61	33.00	15.39	H
	2567.50	-30.06	3.65	44.92	6.22	17.43	33.00	15.57	H
5+10	2505.00	-30.79	3.59	45.64	6.11	17.37	33.00	15.63	H
	2535.00	-30.82	3.63	44.82	6.16	16.53	33.00	16.47	H
	2565.00	-30.82	3.65	44.97	6.22	16.72	33.00	16.28	H
5+15	2507.50	-30.56	3.59	44.92	6.11	16.88	33.00	16.12	H
	2535.00	-30.82	3.63	44.82	6.16	16.53	33.00	16.47	H
	2562.50	-32.08	3.65	45.67	6.21	16.15	33.00	16.85	H
5+20	2510.00	-31.88	3.58	45.36	6.12	16.02	33.00	16.98	H
	2535.00	-30.69	3.63	44.82	6.16	16.66	33.00	16.34	H
	2560.00	-31.89	3.64	45.98	6.21	16.66	33.00	16.34	H

A.2 Emission Limit

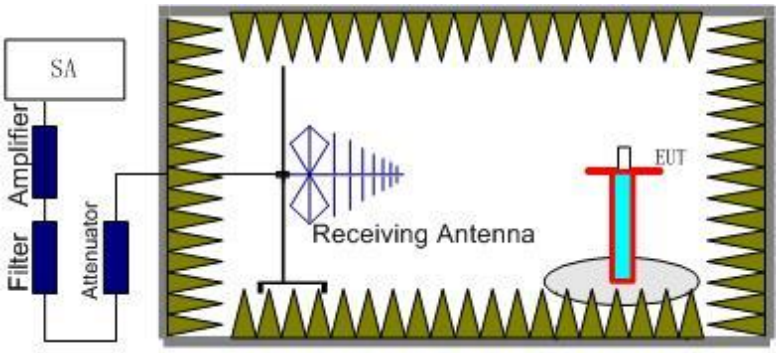
A.2.1 Measurement Method

The measurements procedures in TIA-603E-2016 are used. This measurement is carried out in fully anechoic chamber FAC-3.

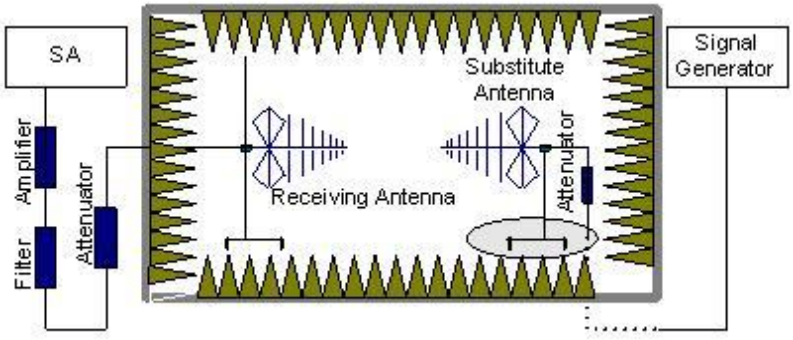
The spectrum was scanned from 30 MHz to the 10th harmonic of the highest frequency generated within the equipment, which is the transmitted carrier. The resolution bandwidth is set 1MHz. The spectrum was scanned with the mobile station transmitting at carrier frequencies that pertain to low, mid and high channels of each LTE Band.

The procedure of radiated spurious emissions is as follows:

1. EUT was placed on a 1.5-meter-high non-conductive stand at a 3-meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. The test setup refers to figure below. Detected emissions were maximized at each frequency by rotating the EUT through 360 and adjusting the receiving antenna polarization. The radiated emission measurements of all non-harmonic and harmonics of the transmit frequency through the 10th harmonic were measured with peak detector.



2. The EUT is then put into continuously transmitting mode at its maximum power level during the test. And the maximum value of the receiver should be recorded as (Pr).
3. The EUT shall be replaced by a substitution antenna. The test setup refers to figure below.



In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere

with the radiation pattern of the antenna. A power (P_{Mea}) is applied to the input of the substitution antenna. Adjust the level of the signal generator output until the value of the receiver reaches the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

4. The Path loss (P_{pl}) between the Signal Source with the Substitution Antenna and the Substitution Antenna Gain (G_a) should be recorded after test.
   An amplifier should be connected in for the test.
   The Path loss (P_{pl}) is the summation of the cable loss and the gain of the amplifier.
   The measurement results are obtained as described below:
   Power (EIRP)=P_{Mea} + P_{pl} + G_a
5. This value is EIRP since the measurement is calibrated using an antenna of known gain (unit: dBi) and known input power.
6. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP - 2.15dB.

A.2.2 Measurement Limit

Part 22.917 specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

A.2.3 Measurement Results

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of each LTE Band. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of each LTE Band into any of the other blocks. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this. The range of evaluated frequency is from 30MHz to 26GHz.

Note: For the test results, all test configuration and test mode had been tested. But only the worst cases were shown in test report.

LTE Band 7+NR n5, 5MHz+10MHz, DFT-OFDM QPSK , Channel 165300

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5083.01	-53.55	6.72	10.02	0.00	-50.25	-13.00	37.25	V
7618.51	-52.28	8.06	12.29	0.00	-48.05	-13.00	35.05	V
8885.50	-51.15	8.82	13.08	0.00	-46.89	-13.00	33.89	H
1660.51	-59.65	3.57	5.21	2.15	-60.16	-13.00	47.16	H
2473.00	-51.91	4.60	6.02	2.15	-52.64	-13.00	39.64	V
3315.02	-54.78	5.29	7.76	2.15	-54.46	-13.00	41.46	V

LTE Band 7+NR n5, 5MHz+5MHz, DFT-OFDM QPSK, Channel 167300

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5076.51	-53.95	6.71	10.01	0.00	-50.65	-13.00	37.65	H
7600.01	-52.28	7.97	12.28	0.00	-47.97	-13.00	34.97	H
8862.50	-51.31	8.78	13.07	0.00	-47.02	-13.00	34.02	H
1686.51	-59.35	3.59	5.16	2.15	-59.93	-13.00	46.93	H
2518.50	-42.96	4.64	6.13	2.15	-43.62	-13.00	30.62	V
3351.02	-53.99	5.32	7.84	2.15	-53.62	-13.00	40.62	H

LTE Band 7+NR n5, 5MHz+5MHz, DFT-OFDM QPSK, Channel 169300

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
5074.01	-53.68	6.70	10.00	0.00	-50.38	-13.00	37.38	V
7599.01	-52.38	7.98	12.28	0.00	-48.08	-13.00	35.08	V
8883.50	-51.79	8.81	13.08	0.00	-47.52	-13.00	34.52	V
1697.51	-58.97	3.60	5.14	2.15	-59.58	-13.00	46.58	H
3394.02	-54.59	5.36	7.95	2.15	-54.15	-13.00	41.15	V
4218.52	-54.46	6.25	9.12	2.15	-53.74	-13.00	40.74	H

LTE Band 66+NR n5, 5MHz+5MHz, DFT-OFDM QPSK , Channel 165300

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3504.02	-54.84	5.53	8.21	0.00	-52.16	-13.00	39.16	H
5222.51	-53.60	7.00	10.21	0.00	-50.39	-13.00	37.39	H
6966.01	-51.86	8.04	11.56	0.00	-48.34	-13.00	35.34	H
1652.01	-60.05	3.57	5.23	2.15	-60.54	-13.00	47.54	V
2483.50	-54.07	4.61	6.05	2.15	-54.78	-13.00	41.78	V
3304.52	-54.82	5.29	7.73	2.15	-54.53	-13.00	41.53	H

LTE Band 66+NR n5, 5MHz+5MHz, DFT-OFDM QPSK, Channel 167300

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3490.52	-54.97	5.50	8.18	0.00	-52.29	-13.00	39.29	H
5223.51	-54.11	7.00	10.21	0.00	-50.90	-13.00	37.90	V
6970.01	-51.84	8.07	11.56	0.00	-48.35	-13.00	35.35	H
1663.01	-59.50	3.57	5.21	2.15	-60.01	-13.00	47.01	V
2500.00	-53.75	4.62	6.10	2.15	-54.42	-13.00	41.42	V
3360.52	-53.54	5.33	7.87	2.15	-53.15	-13.00	40.15	H

LTE Band 66+NR n5, 5MHz+5MHz, DFT-OFDM QPSK, Channel 169300

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3488.52	-53.73	5.50	8.17	0.00	-51.06	-13.00	38.06	H
5244.51	-53.53	7.00	10.24	0.00	-50.29	-13.00	37.29	H
6983.01	-51.49	8.17	11.58	0.00	-48.08	-13.00	35.08	H
1702.51	-48.71	3.60	5.14	2.15	-49.32	-13.00	36.32	H
2542.50	-53.14	4.66	6.18	2.15	-53.77	-13.00	40.77	H
3371.02	-54.87	5.34	7.89	2.15	-54.47	-13.00	41.47	H

LTE Band 66+NR n7, 5MHz+5MHz, DFT-OFDM QPSK , Channel 500500

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3480.01	-56.16	5.48	8.15	-53.49	-25.00	28.49	V
5214.01	-55.33	6.98	10.20	-52.11	-25.00	27.11	V
6979.01	-54.18	8.14	11.57	-50.75	-25.00	25.75	H
5004.01	-49.72	6.60	9.91	-46.41	-25.00	21.41	V
7510.01	-44.43	8.35	12.21	-40.57	-25.00	15.57	V
10033.01	-52.73	9.27	12.91	-49.09	-25.00	24.09	H

LTE Band 66+NR n7, 5MHz+5MHz, DFT-OFDM QPSK, Channel 507000

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3478.01	-56.40	5.48	8.15	-53.73	-25.00	28.73	H
5223.01	-56.14	7.00	10.21	-52.93	-25.00	27.93	V
6950.01	-53.40	7.91	11.54	-49.77	-25.00	24.77	V
5068.01	-51.20	6.68	10.00	-47.88	-25.00	22.88	H
7608.01	-44.39	8.01	12.29	-40.11	-25.00	15.11	V
10146.01	-51.87	9.39	12.96	-48.30	-25.00	23.30	V

LTE Band 66+NR n7, 5MHz+5MHz, DFT-OFDM QPSK, Channel 513500

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
3504.01	-56.58	5.53	8.21	-53.90	-25.00	28.90	H
5261.01	-55.80	7.00	10.27	-52.53	-25.00	27.53	V
6960.01	-53.80	7.99	11.55	-50.24	-25.00	25.24	V
5134.01	-50.87	6.86	10.09	-47.64	-25.00	22.64	H
7705.01	-45.31	8.42	12.36	-41.37	-25.00	16.37	V
10281.01	-50.73	9.58	13.01	-47.30	-25.00	22.30	H

LTE Band 5+NR n7, 5MHz+5MHz, DFT-OFDM QPSK , Channel 500500

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1650.01	-59.36	3.57	5.23	2.15	-59.85	-25.00	34.85	H
3332.01	-56.47	5.30	7.80	2.15	-56.12	-25.00	31.12	V
4203.01	-56.89	6.21	9.10	2.15	-56.15	-25.00	31.15	V
5001.01	-53.80	6.60	9.90	0.00	-50.50	-25.00	25.50	V
7484.01	-54.07	8.35	12.18	0.00	-50.24	-25.00	25.24	H
10004.01	-51.82	9.19	12.90	0.00	-48.11	-25.00	23.11	V

LTE Band 5+NR n7, 5MHz+5MHz, DFT-OFDM QPSK, Channel 507000

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1669.01	-61.47	3.58	5.20	2.15	-62.00	-25.00	37.00	V
3329.01	-56.22	5.30	7.79	2.15	-55.88	-25.00	30.88	H
4210.01	-56.06	6.23	9.11	2.15	-55.33	-25.00	30.33	H
5071.01	-55.71	6.69	10.00	0.00	-52.40	-25.00	27.40	V
7598.01	-53.17	7.98	12.28	0.00	-48.87	-25.00	23.87	V
10112.01	-52.14	9.44	12.94	0.00	-48.64	-25.00	23.64	V

LTE Band 5+NR n7, 5MHz+5MHz, DFT-OFDM QPSK, Channel 513500

Frequency (MHz)	P_{Mea} (dBm)	Path Loss(dB)	Antenna Gain(dBi)	Correction	Peak EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1698.01	-61.70	3.60	5.14	2.15	-62.31	-25.00	37.31	H
2534.00	-46.55	4.66	6.16	2.15	-47.20	-25.00	22.20	H
3340.01	-55.90	5.31	7.82	2.15	-55.54	-25.00	30.54	H
5134.01	-52.27	6.86	10.09	0.00	-49.04	-25.00	24.04	H
7713.01	-54.17	8.41	12.37	0.00	-50.21	-25.00	25.21	V
10275.01	-51.10	9.56	13.01	0.00	-47.65	-25.00	22.65	V

Note2: The maximum value of expanded measurement uncertainty for this test item is U = 5.16 dB, k = 2.

A.3 Frequency Stability

A.3.1 Method of Measurement

Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20 °C and rated supply voltage. Two reference points are established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwanted emissions specification of the applicable regulatory standard. These reference points measured using the lowest and highest channel of operation shall be identified as F_L and F_H respectively.

In order to measure the carrier frequency under the condition of AFC lock, it is necessary to make measurements with the EUT in a “call mode”. This is accomplished with the use of UXM.

1. Measure the carrier frequency at room temperature.
2. Subject the EUT to overnight soak at -30℃.
3. With the EUT, powered via nominal voltage, connected to the UXM, and in a simulated call on middle channel for each NR band, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
4. Repeat the above measurements at 10℃ increments from -30℃ to +50℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
5. Re-measure carrier frequency at room temperature with nominal voltage. Vary supply voltage from minimum voltage to maximum voltage, in 0.1Volt increments re-measuring carrier frequency at each voltage. Pause at nominal voltage for 1.5 hours unpowered, to allow any self-heating to stabilize, before continuing.
6. Subject the EUT to overnight soak at +50℃.
7. With the EUT, powered via nominal voltage, connected to the UXM and in a simulated call on the center channel, measure the carrier frequency. These measurements should be made within 2 minutes of Powering up the EUT, to prevent significant self-warming.
8. Repeat the above measurements at 10 ℃increments from -30℃ to +50℃. Allow at least 1.5 hours at each temperature, unpowered, before making measurements.
9. At all temperature levels hold the temperature to +/- 0.5℃ during the measurement procedure.

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. As this transceiver is considered "Hand carried, battery powered equipment" Section 2.1055(d)(2) applies. This requires that the lower voltage for frequency stability testing be specified by the manufacturer. This transceiver is specified to operate with an input voltage of the lower, higher and nominal voltage. Operation above or below these voltage limits is prohibited by transceiver software in order to prevent improper operation as well as to protect components from overstress.

A.3.2 Measurement results

LTE Band 66+NR n5

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	824.240	847.640	-5.20	0.0062
50				-3.60	0.0043
40				-8.10	0.0097
30				-6.20	0.0074
10				-6.10	0.0073
0				-4.50	0.0054
-10				-5.10	0.0061
-20				-5.20	0.0062
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.50	20	824.240	847.640	-4.70	0.0056
4.40				-5.10	0.0061

LTE Band 5+NR n7

Frequency Error vs Temperature

Temperature(℃)	Voltage(V)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
20	3.85	2500.320	2568.600	-16.20	0.0064
50				-16.80	0.0066
40				-11.80	0.0047
30				-12.10	0.0048
10				-14.90	0.0059
0				-6.00	0.0024
-10				-10.40	0.0041
-20				-12.40	0.0049
-30					

Frequency Error vs Voltage

Voltage(V)	Temperature(℃)	F_L(MHz)	F_H(MHz)	Offset(Hz)	Frequency error(ppm)
3.50	20	2500.320	2568.600	-10.20	0.0040
4.40				-10.20	0.0040

A.4 Occupied Bandwidth

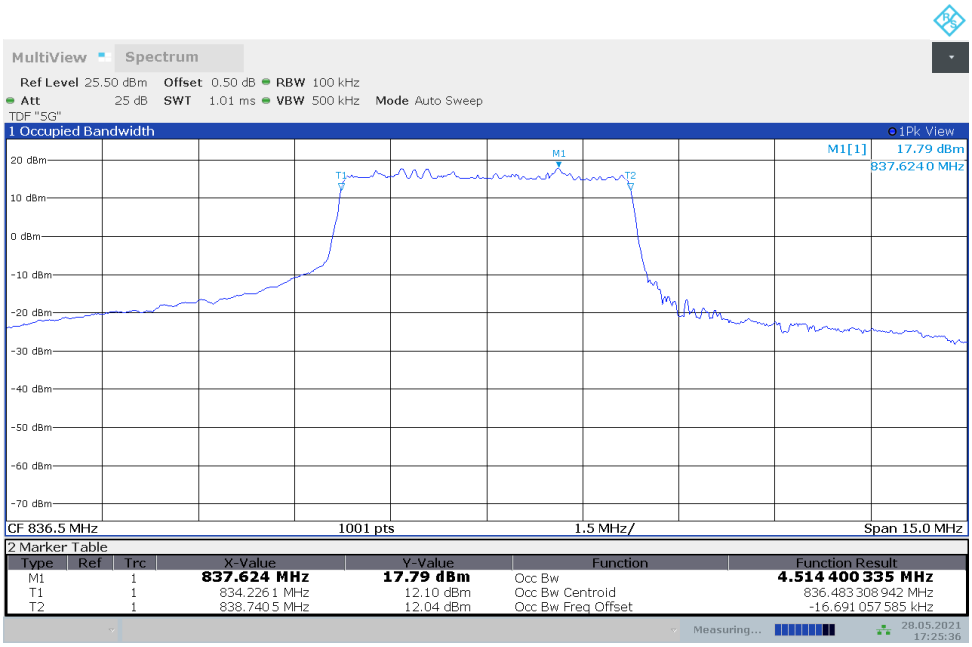
Occupied bandwidth measurements are only provided for selected frequencies in order to reduce the amount of submitted data. Data were taken at the mid frequencies frequency. The table below lists the measured 99% BW. Spectrum analyzer plots are included on the following pages.
The measurement method is from ANSI C63.26:
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts.
b) The nominal IF filter 3 dB bandwidth (RBW) shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation.
d) Set the detection mode to peak, and the trace mode to max-hold.

LTE Band 66+NR n5

n5, 5MHz (99%)

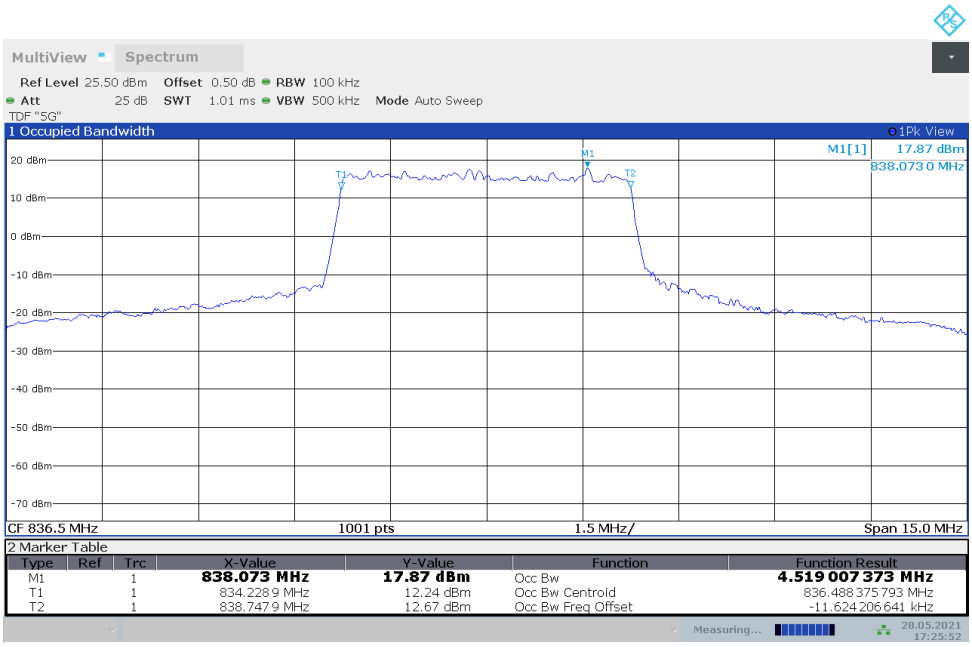
Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	4.514	4.519

n5, 5MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



Date:28.MAY.2021 17:25:37

n5, 5MHz Bandwidth,DFT-s-QPSK (99% BW)

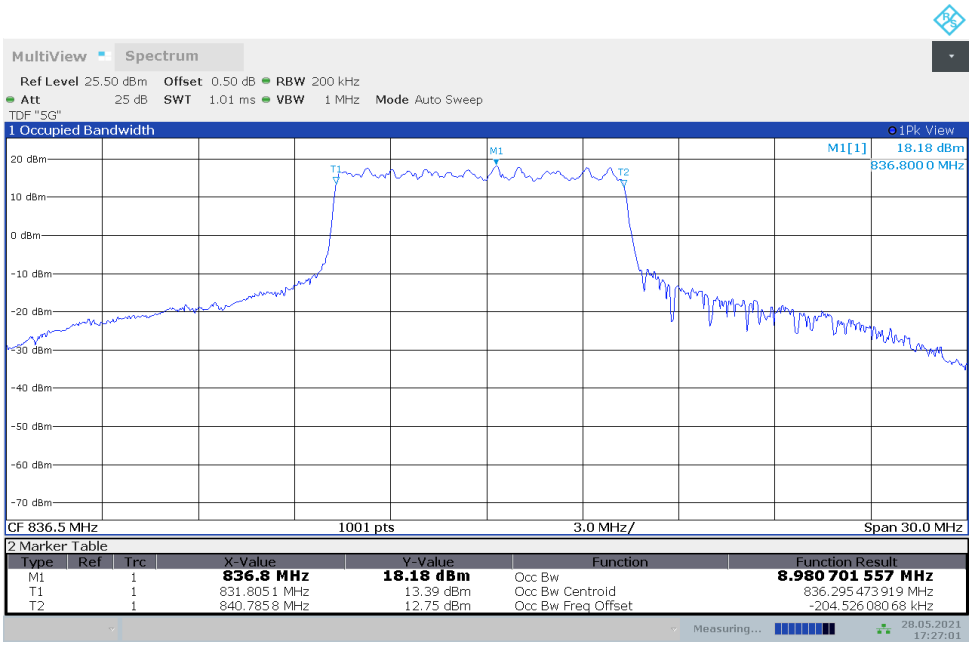


Date:28.MAY.2021 17:25:52

n5, 10MHz (99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	8.981	8.988

n5, 10MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



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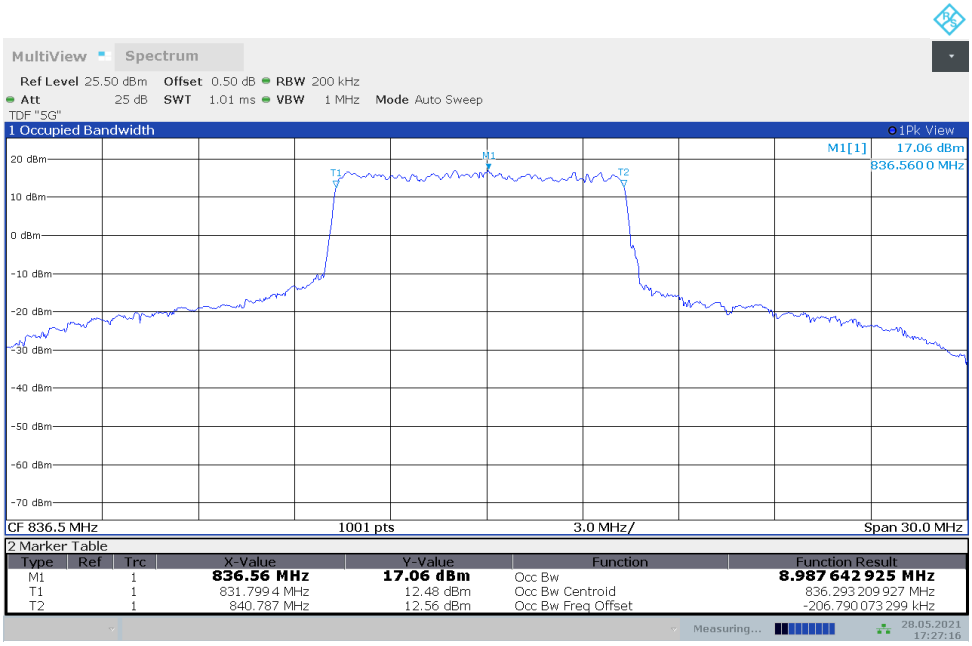
n5, 10MHz Bandwidth,DFT-s-QPSK (99% BW)

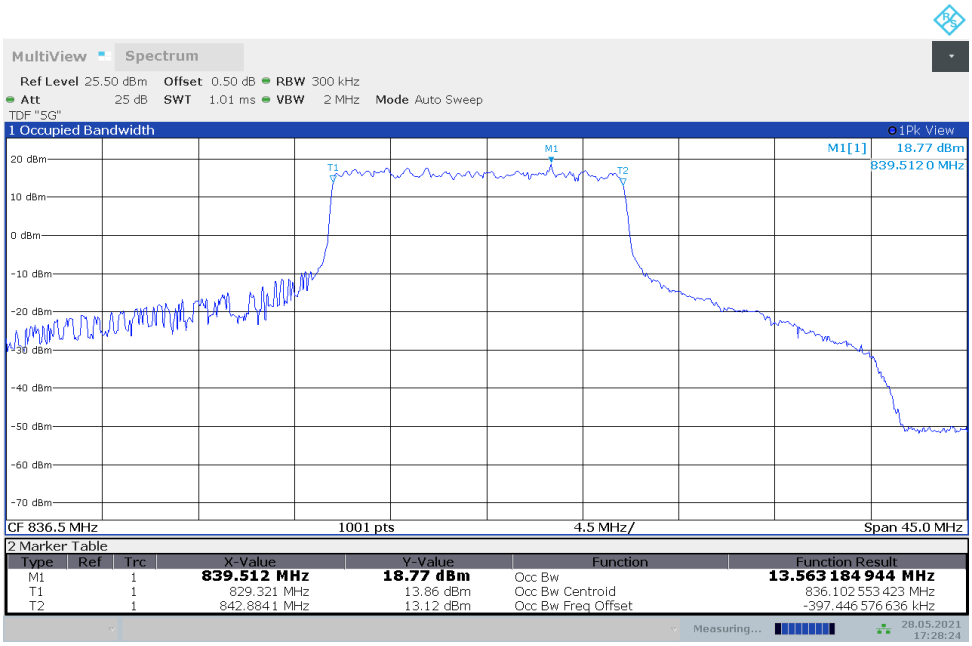


Date:28.MAY.2021 17:27:16

n5, 15MHz (99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	13.563	13.493

n5, 15MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



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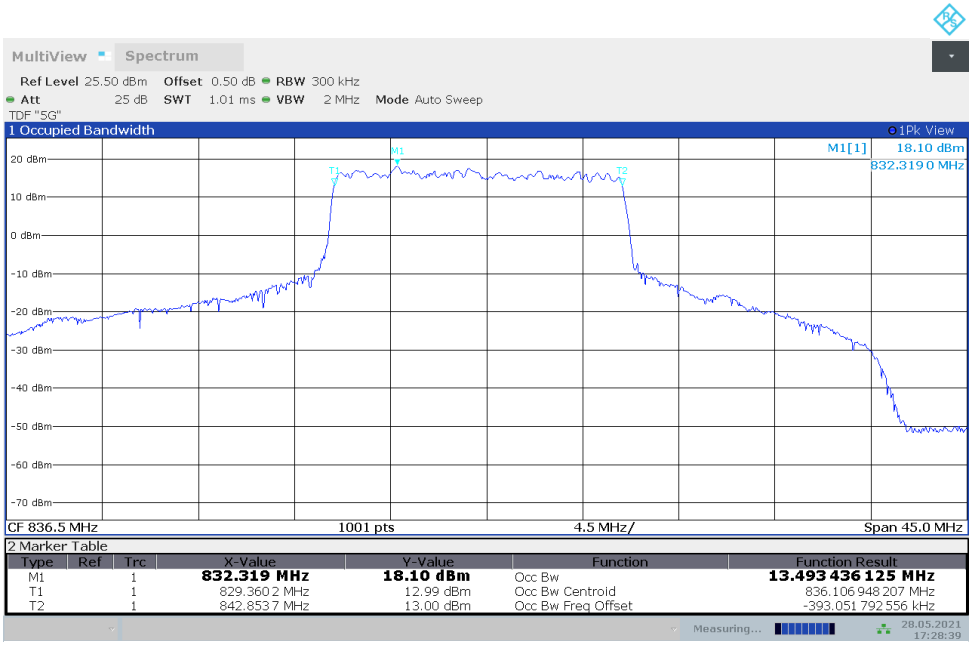
n5, 15MHz Bandwidth,DFT-s-QPSK (99% BW)

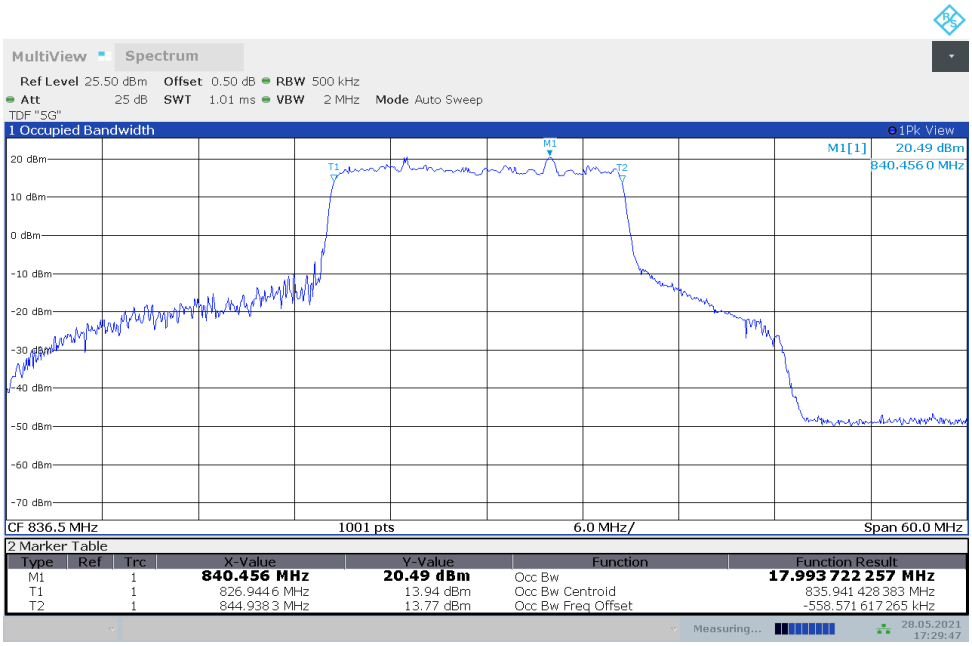


Date:28.MAY.2021 17:28:39

n5, 20MHz (99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	17.994	18.046

n5, 20MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



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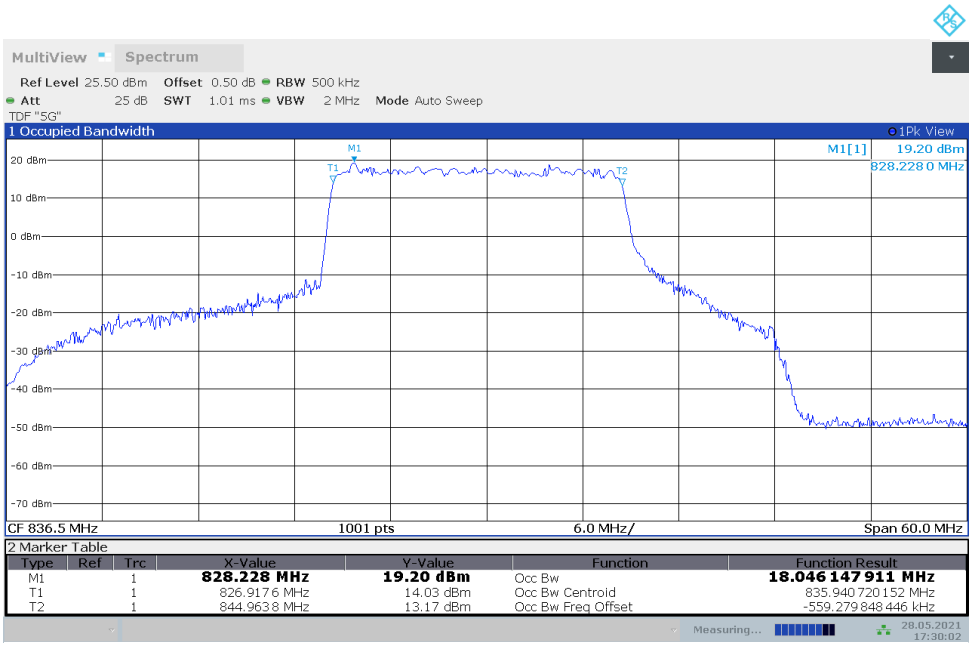
n5, 20MHz Bandwidth,DFT-s-QPSK (99% BW)



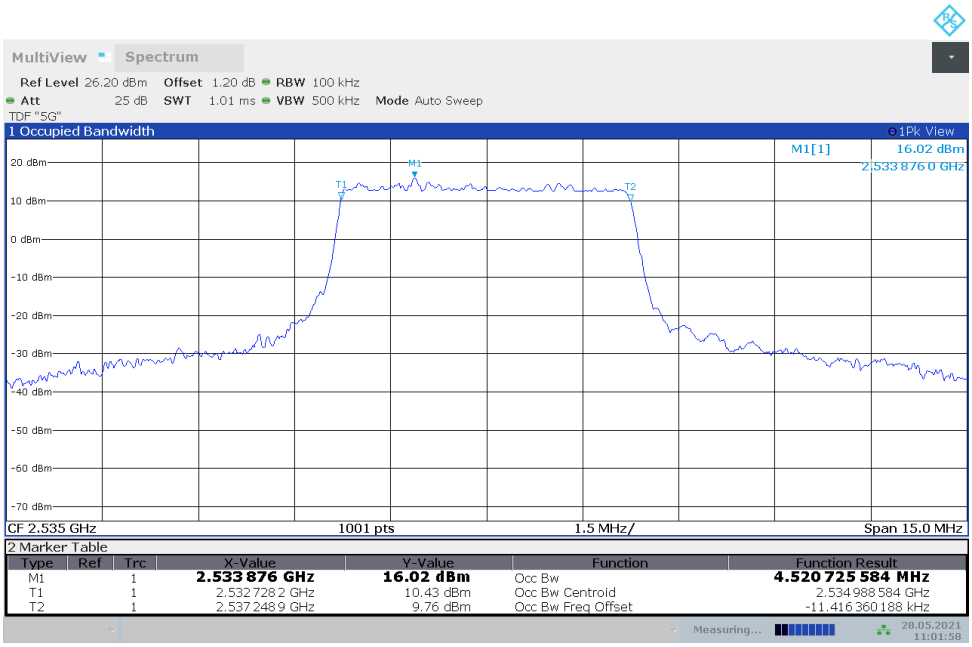
Date:28.MAY.2021 17:30:03

LTE Band 5+NR n7

n7, 5MHz (99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2535	4.521	4.484

n7, 5MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



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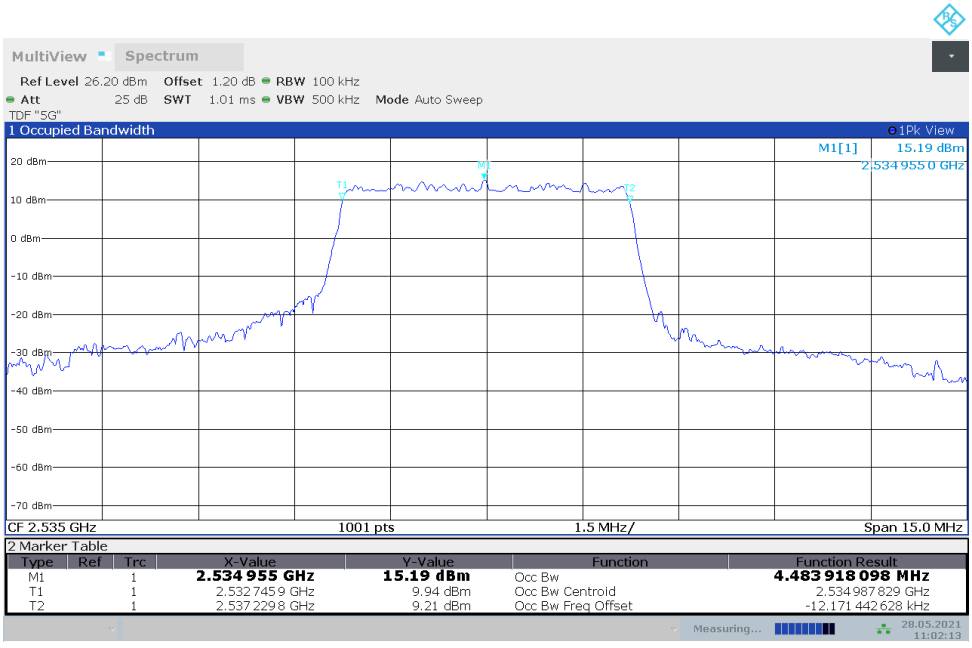
n7, 5MHz Bandwidth,DFT-s-QPSK (99% BW)

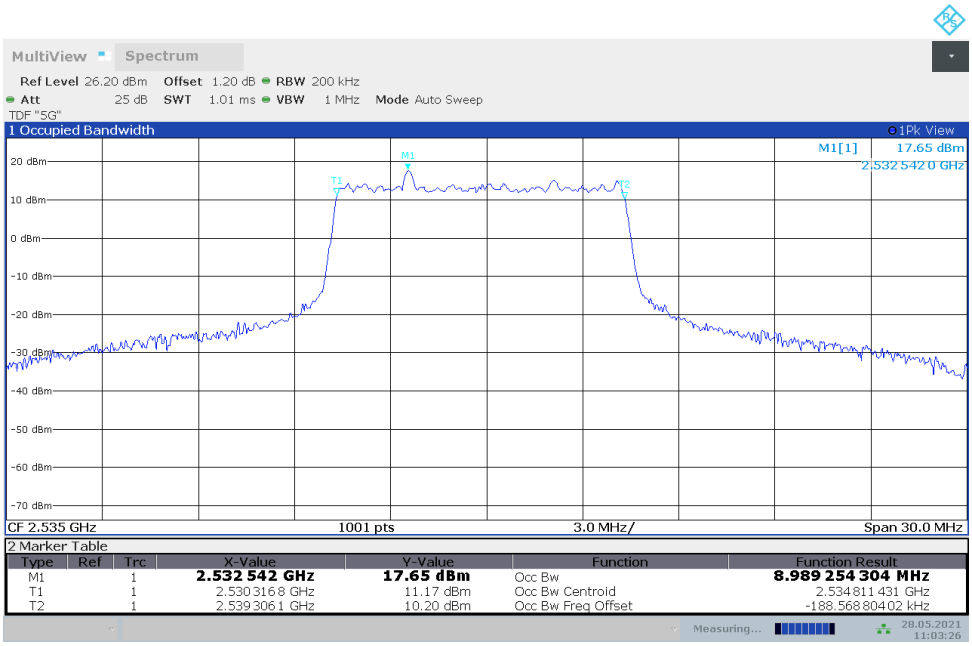


Date:28.MAY.2021 11:02:13

n7, 10MHz (99%)

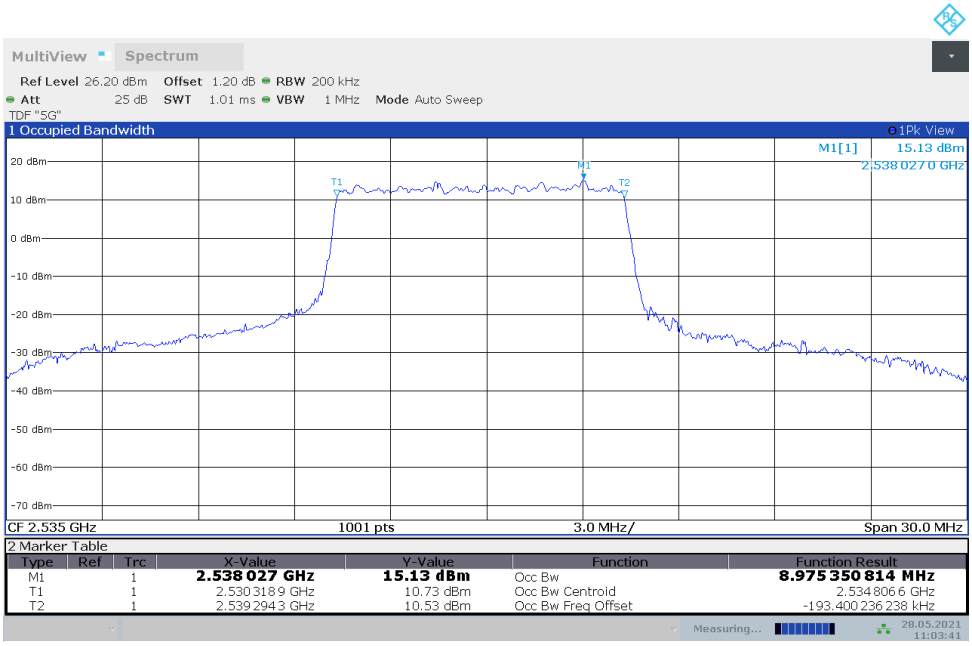
Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2535	8.989	8.975

n7, 10MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



Date:28.MAY.2021 11:03:26

n7, 10MHz Bandwidth,DFT-s-QPSK (99% BW)

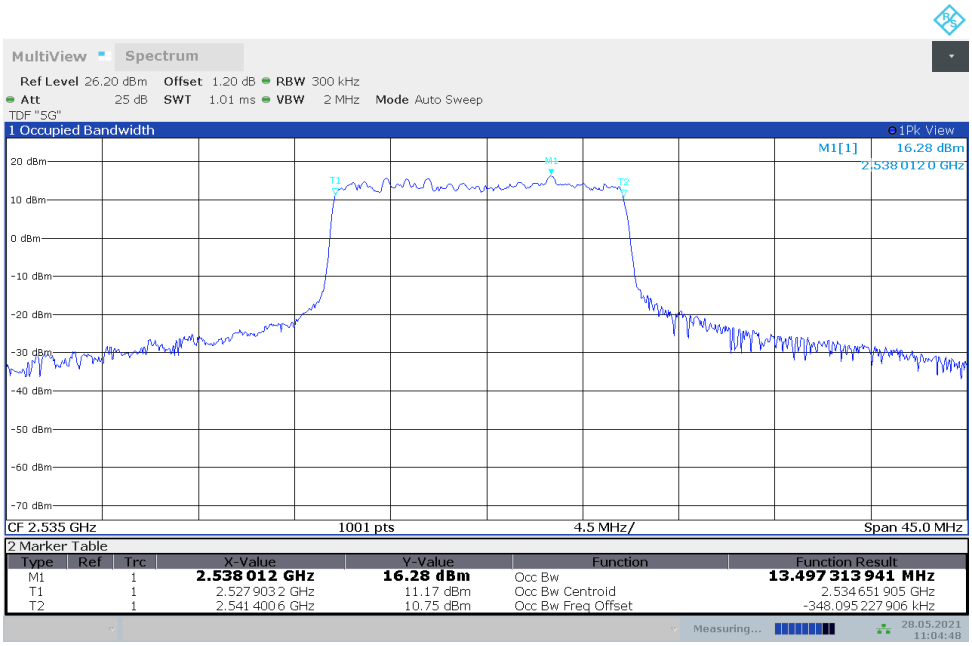


Date:28.MAY.2021 11:03:41

n7, 15MHz (99%)

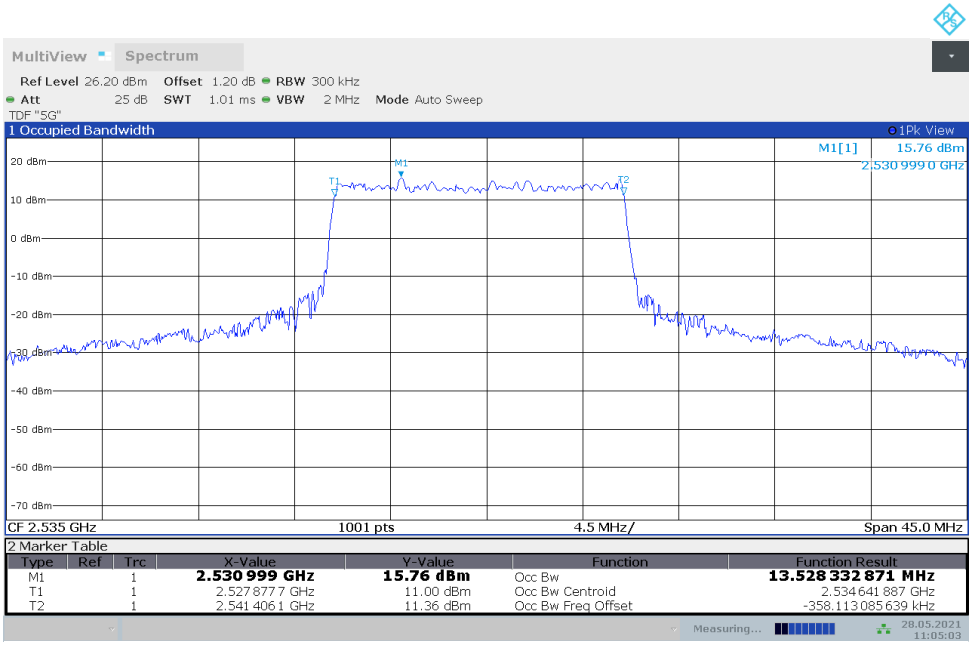
Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2535	13.497	13.528

n7, 15MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



Date:28.MAY.2021 11:04:48

n7, 15MHz Bandwidth,DFT-s-QPSK (99% BW)

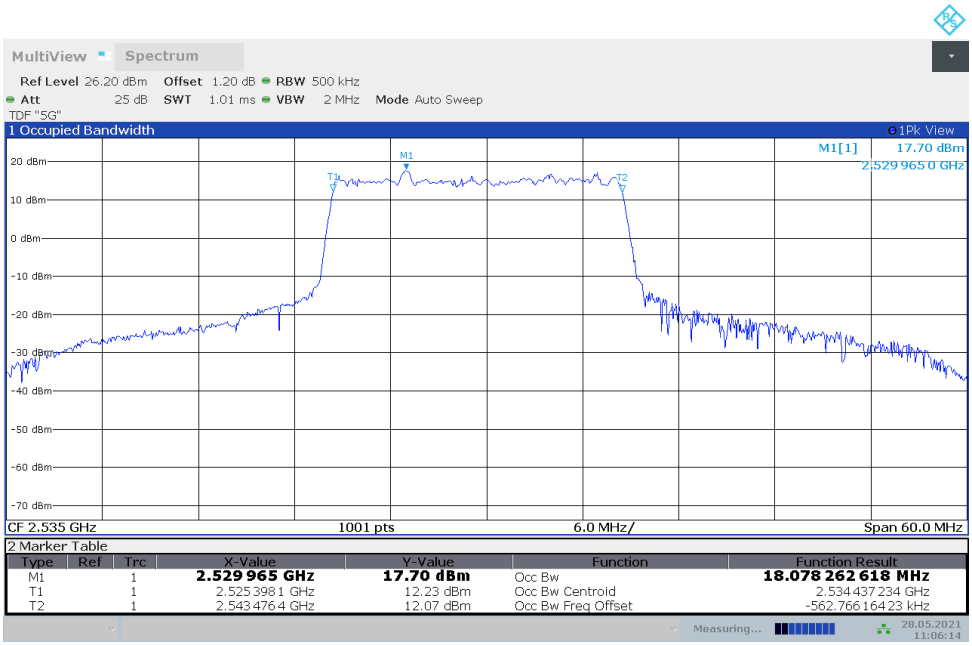


Date:28.MAY.2021 11:05:03

n7, 20MHz (99%)

Frequency (MHz)	Occupied Bandwidth (99%) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2535	18.078	18.054

n7, 20MHz Bandwidth,DFT-s-pi/2 BPSK (99% BW)



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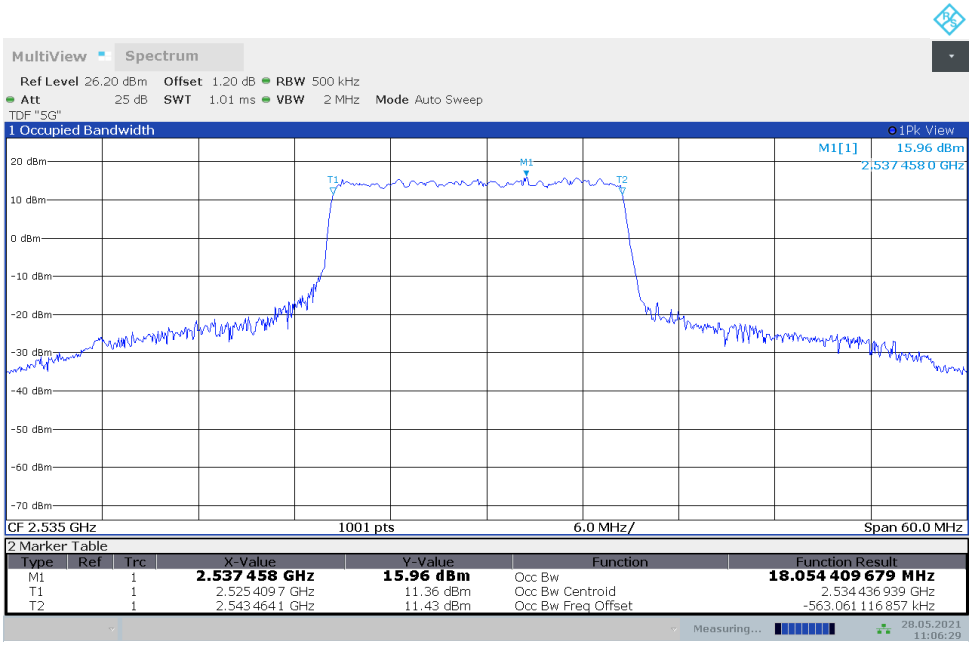
n7, 20MHz Bandwidth,DFT-s-QPSK (99% BW)



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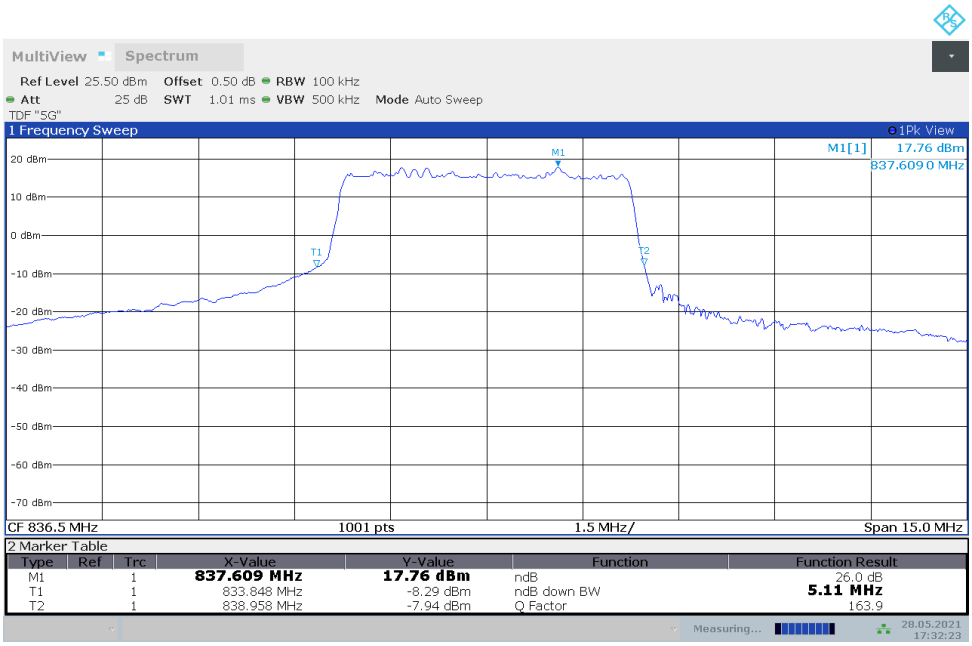
A.5 Emission Bandwidth

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. Table below lists the measured -26dBc BW. Spectrum analyzer plots are included on the following pages.
The measurement method is from ANSI C63.26:
a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
b) The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c) Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation.
d) The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target “−X dB” requirement, i.e., if the requirement calls for measuring the −26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
e) Set spectrum analyzer detection mode to peak, and the trace mode to max hold.

n5, 5MHz (-26dBc)

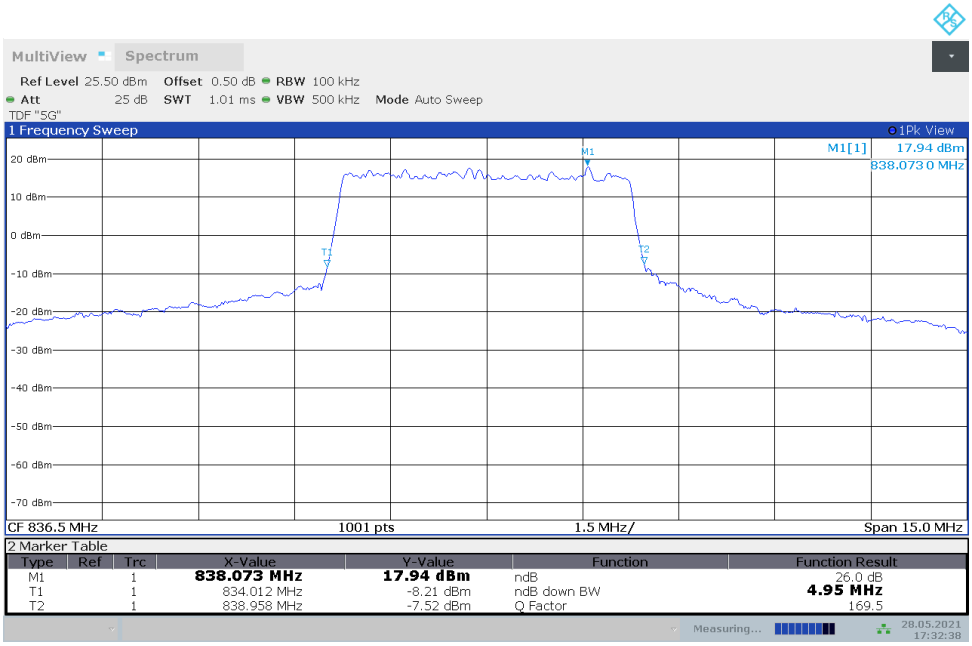
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	5.110	4.945

n5, 5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



Date:28.MAY.2021 17:32:23

n5, 5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

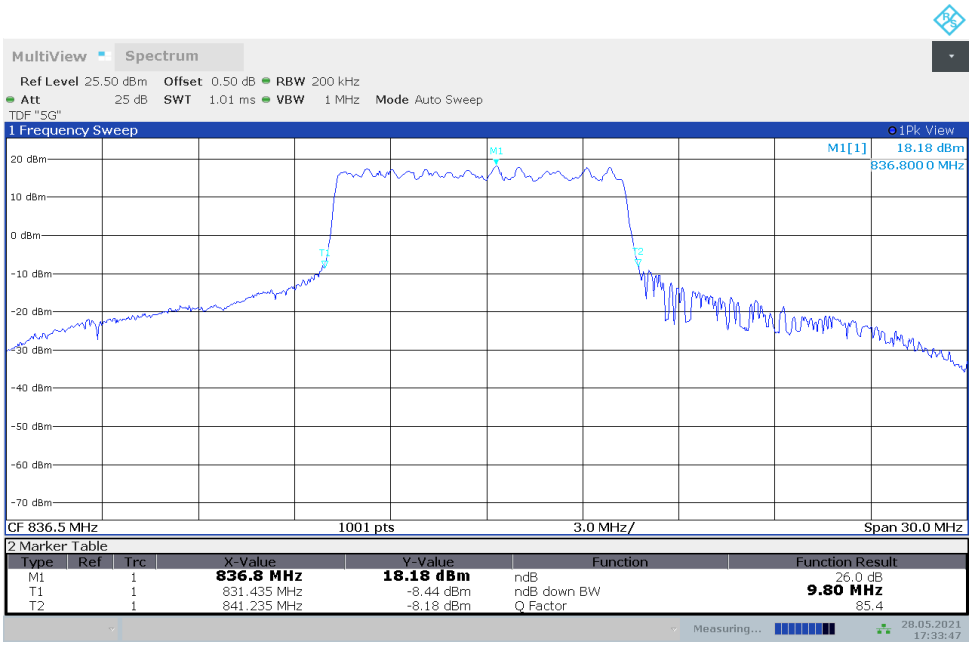


Date:28.MAY.2021 17:32:39

n5, 10MHz (-26dBc)

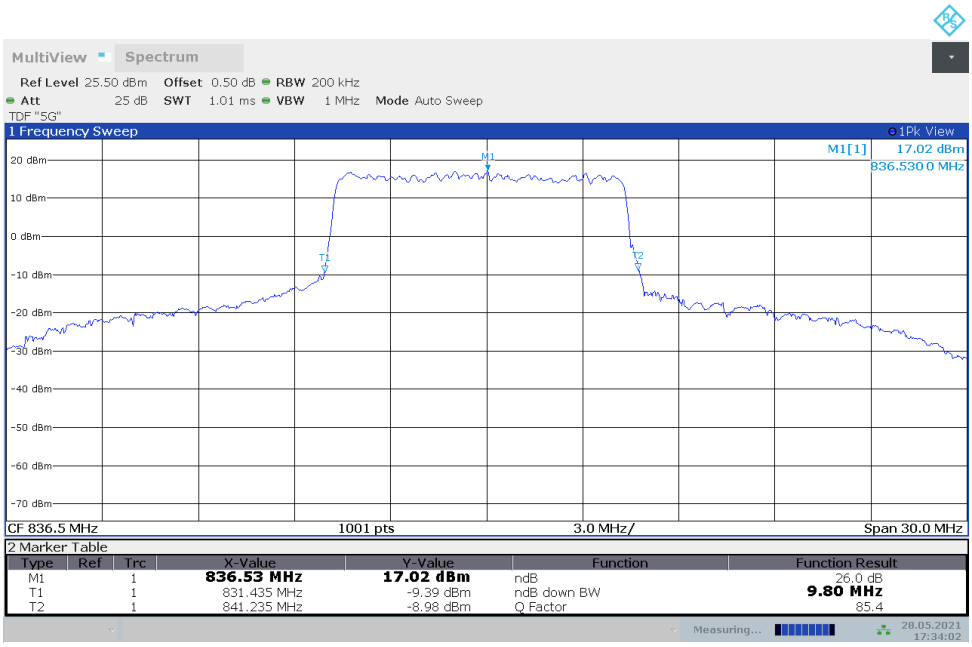
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	9.800	9.800

n5, 10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



Date:28.MAY.2021 17:33:47

n5, 10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

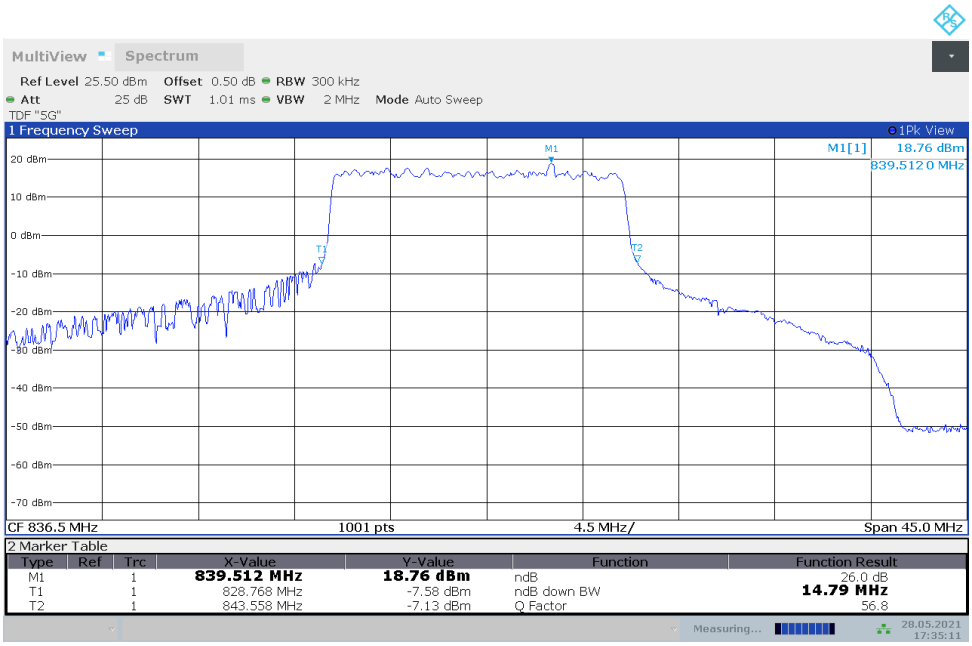


Date:28.MAY.2021 17:34:03

n5, 15MHz (-26dBc)

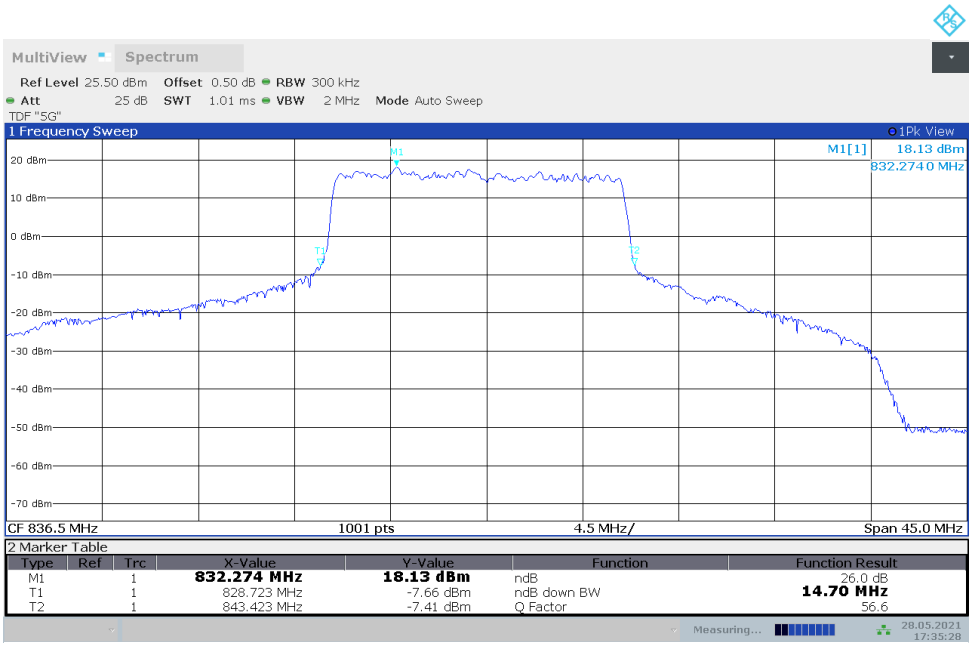
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	14.790	14.700

n5, 15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



Date:28.MAY.2021 17:35:12

n5, 15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

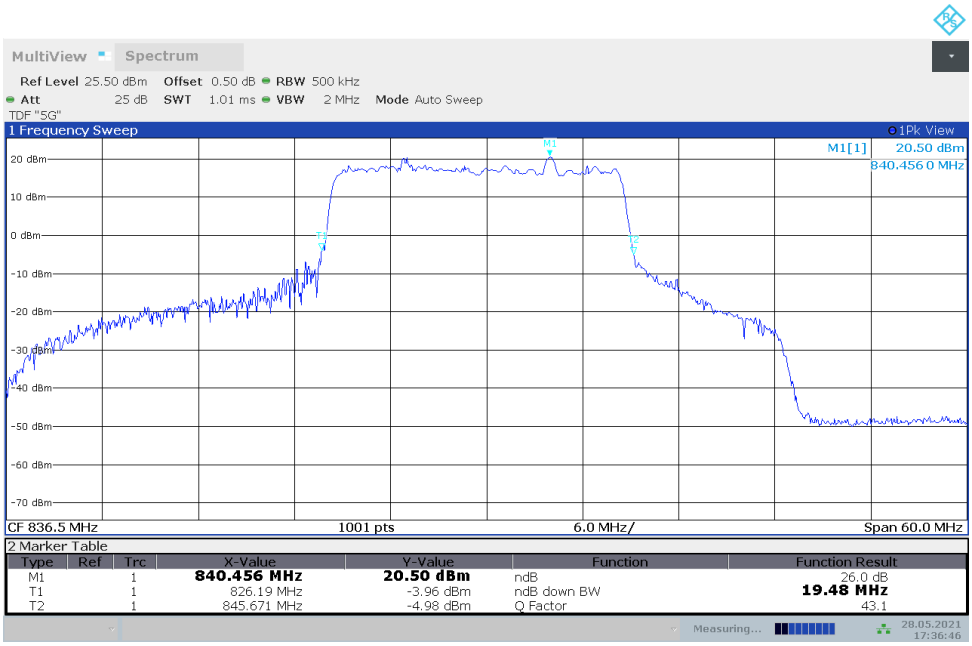


Date:28.MAY.2021 17:35:28

n5, 20MHz (-26dBc)

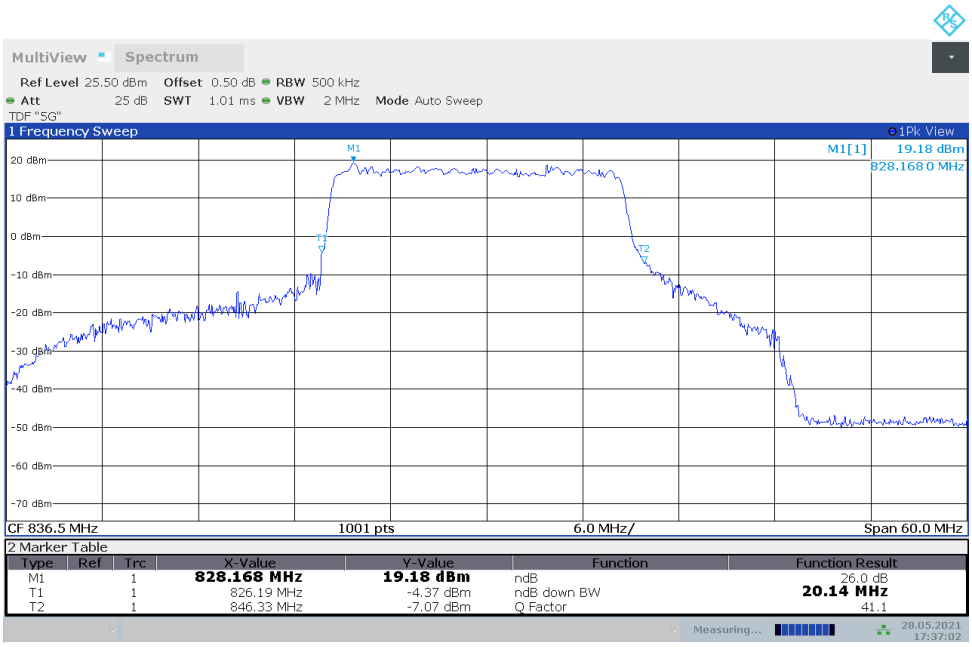
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
836.5	19.481	20.140

n5, 20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



Date:28.MAY.2021 17:36:46

n5, 20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



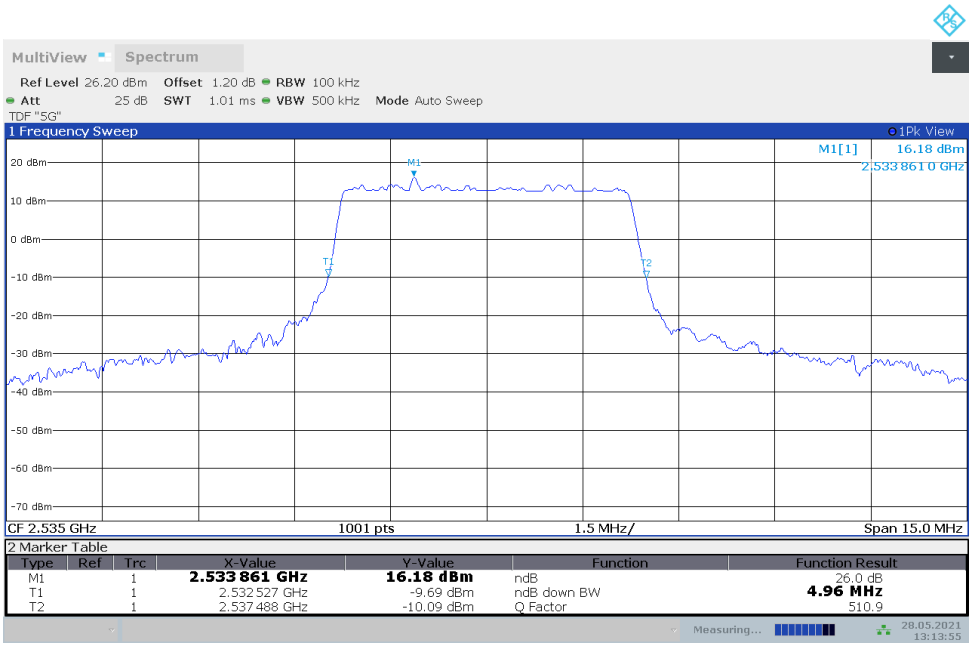
Date:28.MAY.2021 17:37:02

LTE Band 5+NR n7

n7, 5MHz (-26dBc)

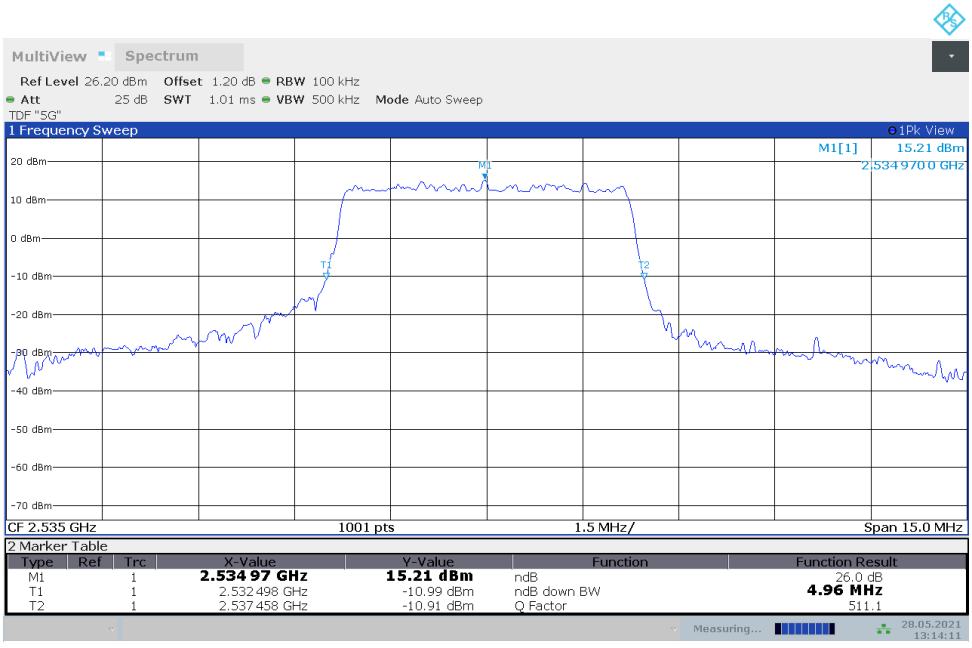
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2535	4.960	4.960

n7, 5MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



Date:28.MAY.2021 13:13:56

n7, 5MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

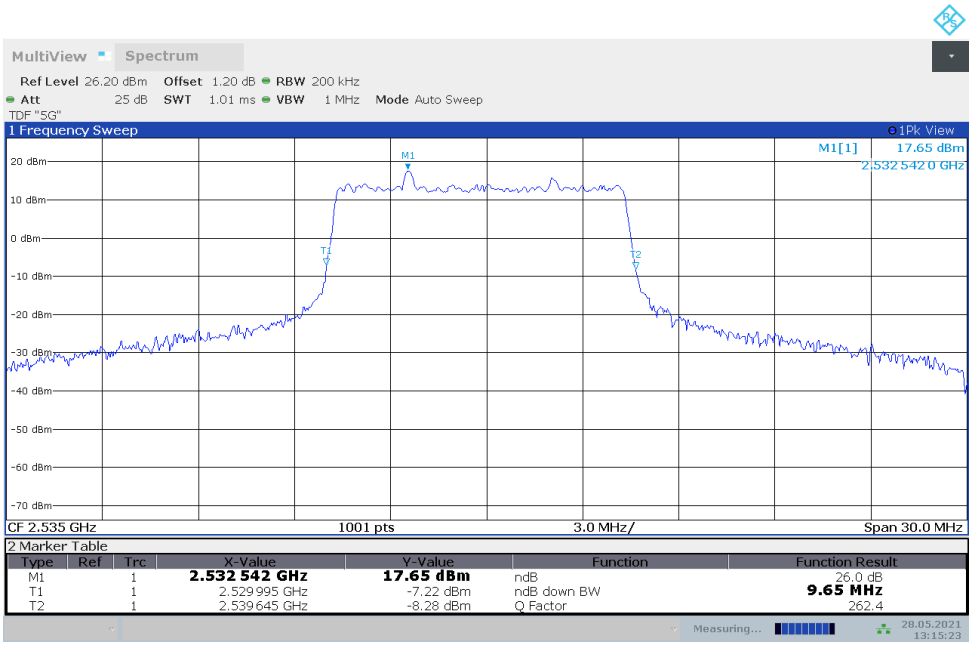


Date:28.MAY.2021 13:14:12

n7, 10MHz (-26dBc)

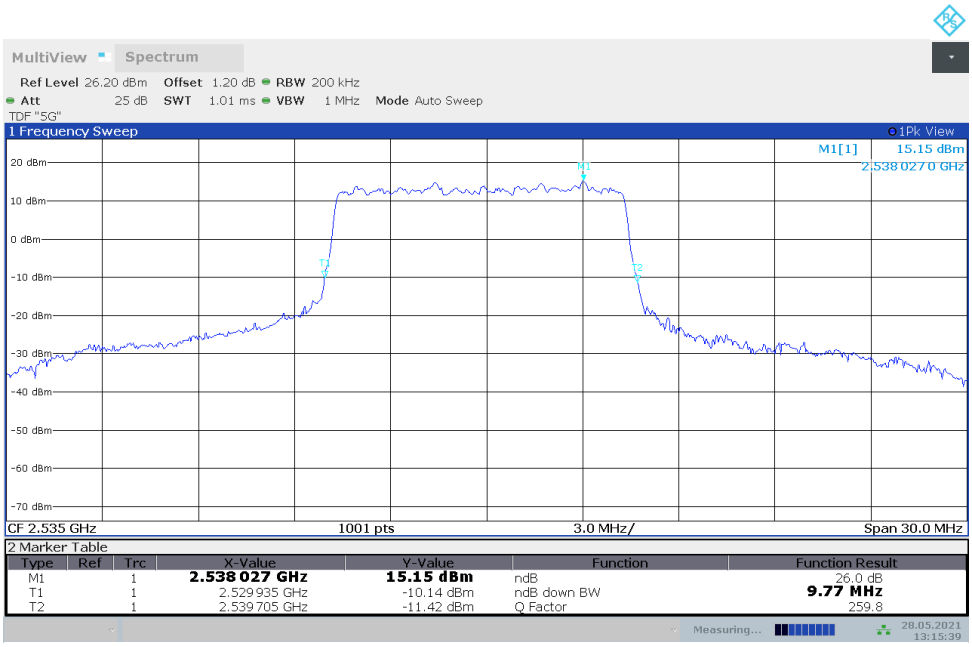
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2535	9.650	9.770

n7, 10MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



Date:28.MAY.2021 13:15:24

n7, 10MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

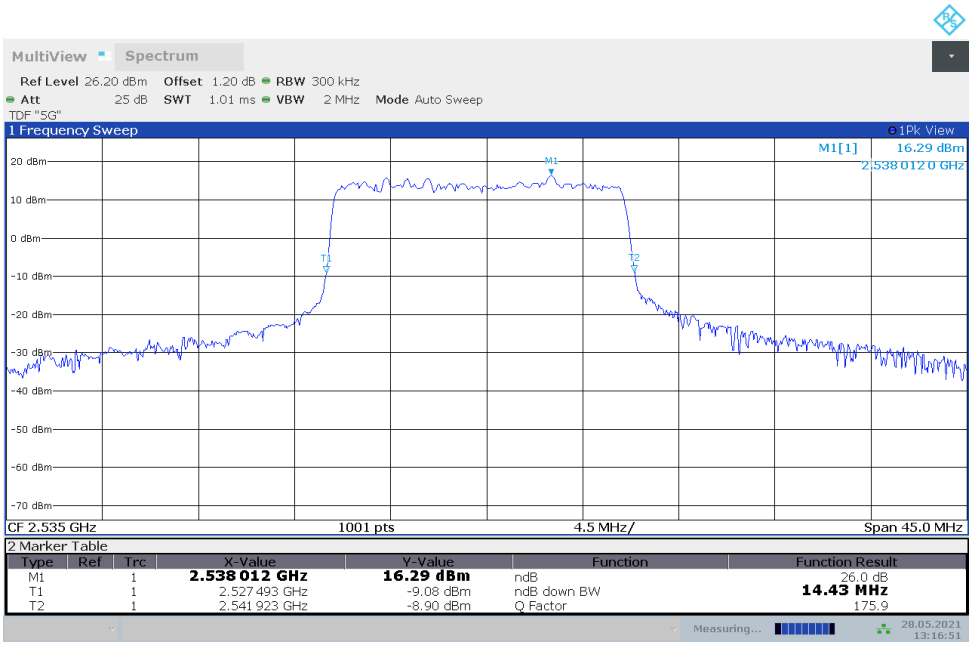


Date:28.MAY.2021 13:15:40

n7, 15MHz (-26dBc)

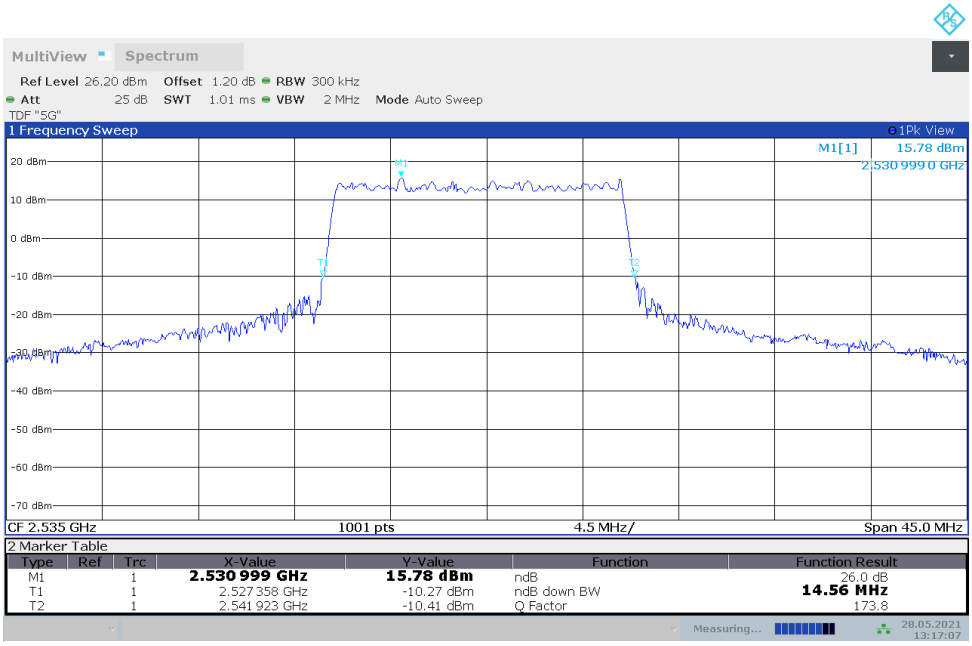
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2535	14.431	14.565

n7, 15MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



Date:28.MAY.2021 13:16:51

n7, 15MHz Bandwidth,DFT-s-QPSK (-26dBc BW)

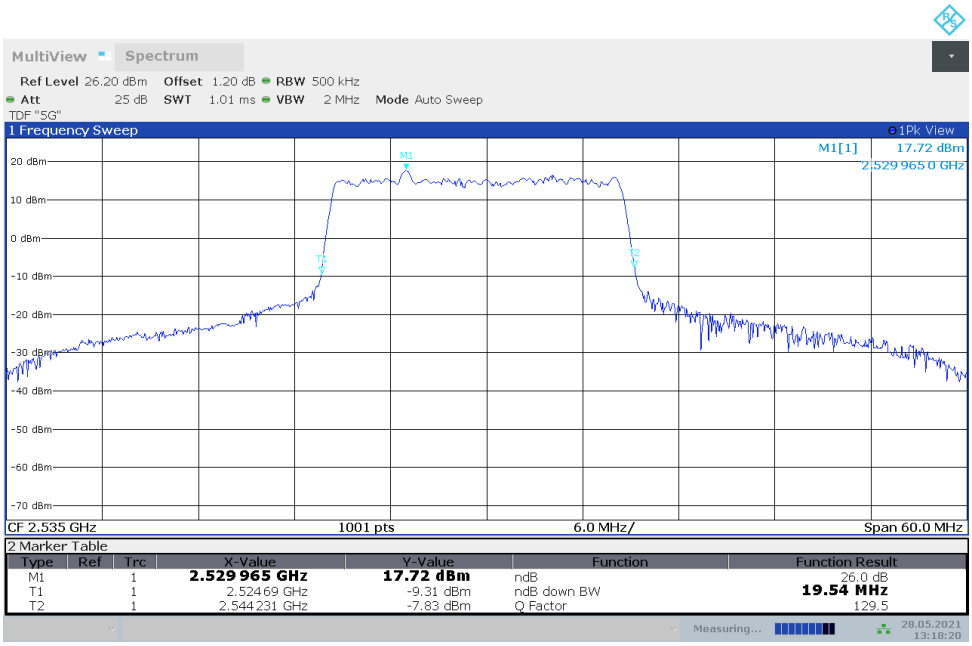


Date:28.MAY.2021 13:17:07

n7, 20MHz (-26dBc)

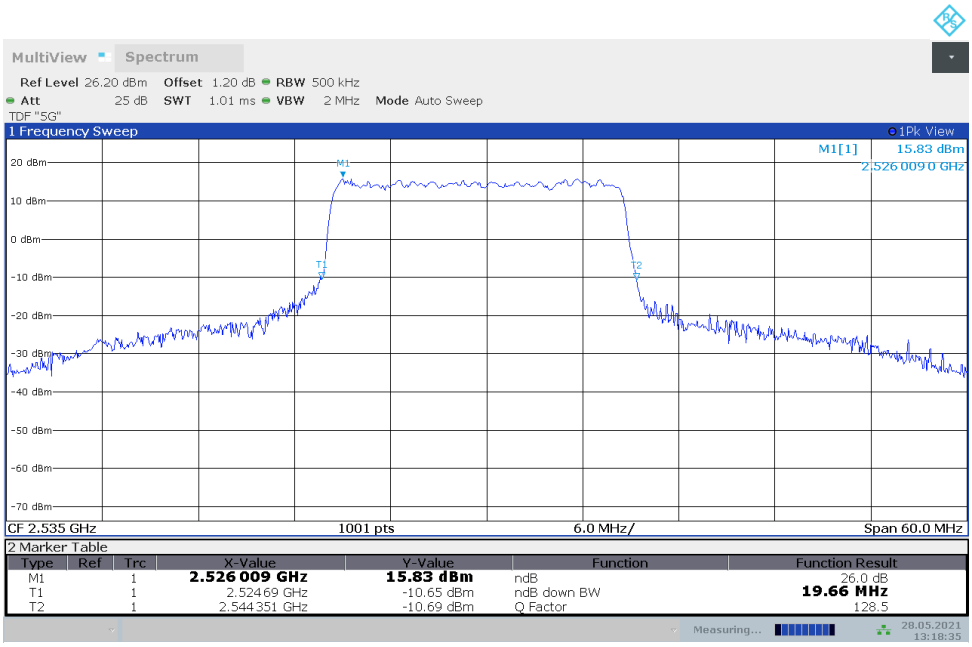
Frequency (MHz)	Emission Bandwidth (-26dBc) (MHz)	
	DFT-s-pi/2 BPSK	DFT-s-QPSK
2535	19.540	19.660

n7, 20MHz Bandwidth,DFT-s-pi/2 BPSK (-26dBc BW)



Date:28.MAY.2021 13:18:19

n7, 20MHz Bandwidth,DFT-s-QPSK (-26dBc BW)



Date:28.MAY.2021 13:18:35

A.6 Band Edge Compliance

A.6.1 Measurement limit

Part 22.917 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

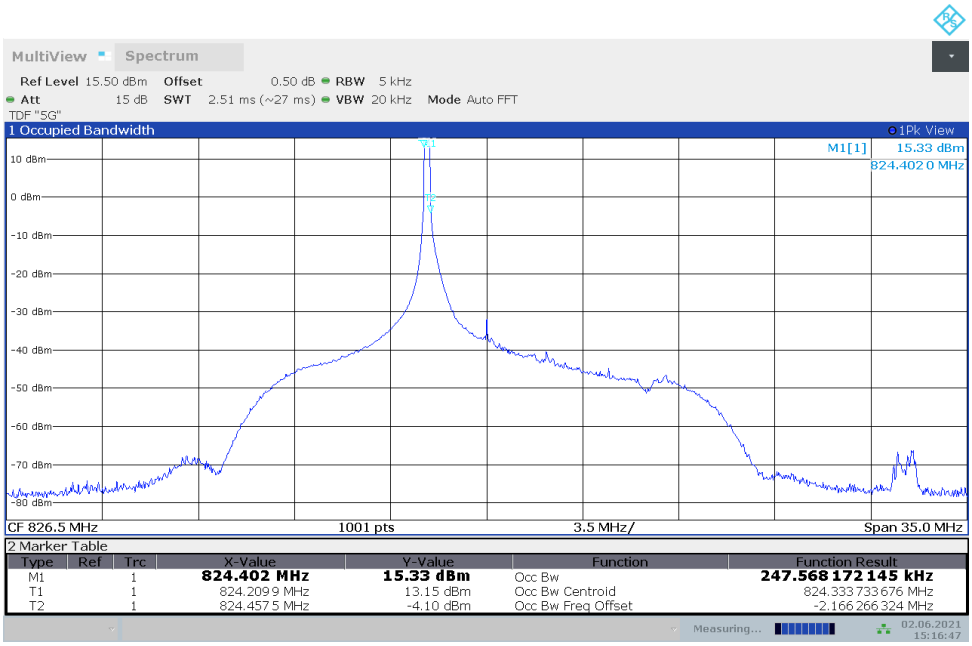
Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

The spectrum analyzer readings are corrected by [10 log (1/duty cycle)] for the non-continuous transmitting scenario.

A.6.2 Measurement result

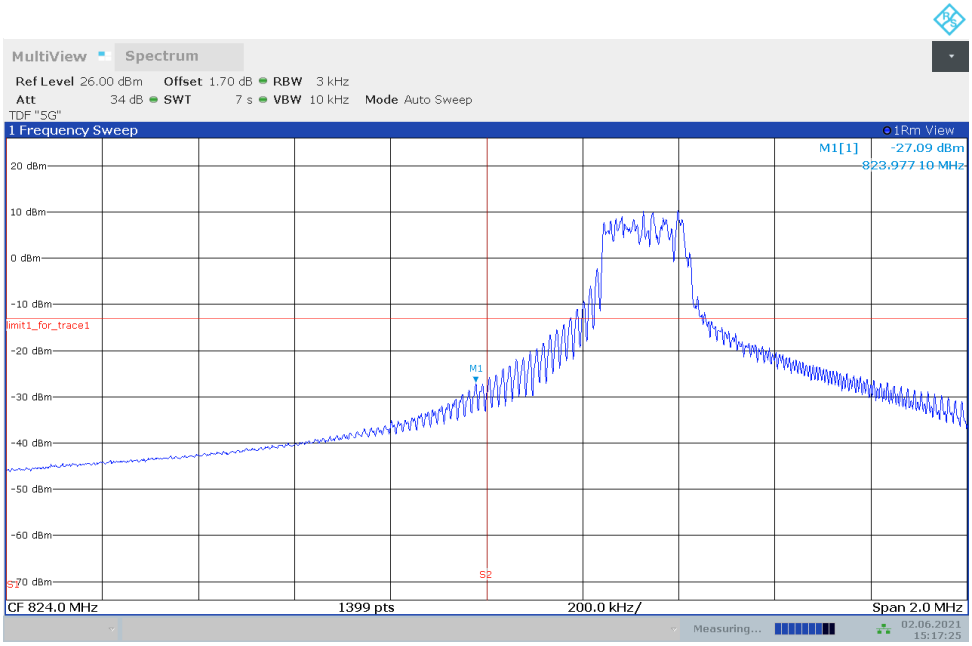
LTE Band 66+NR n5

OBW: 1RB-low_offset



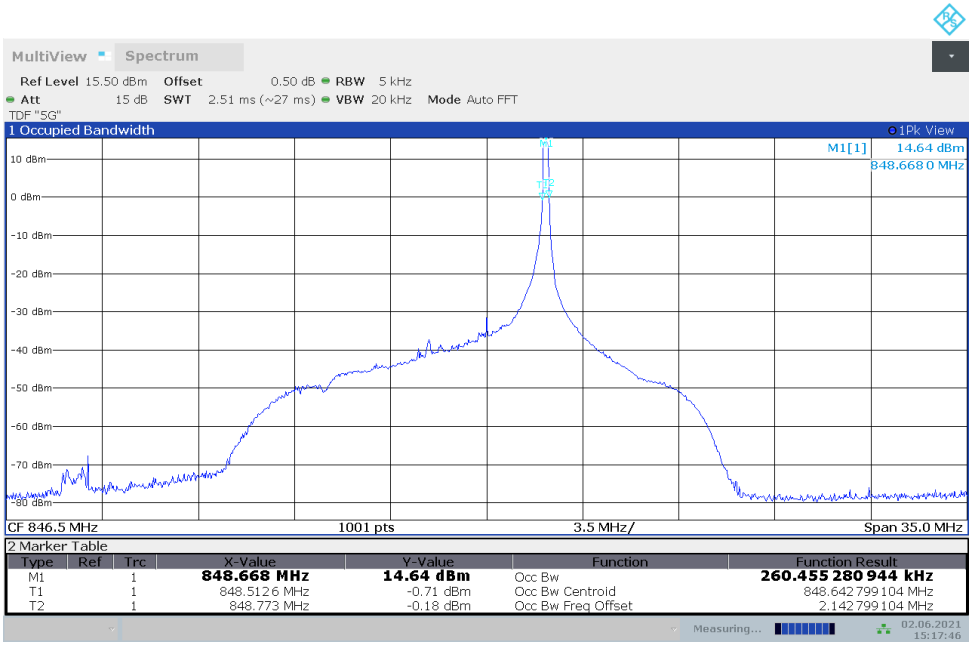
Date: 2.JUN.2021 15:16:48

LOW BAND EDGE BLOCK-1RB-low_offset



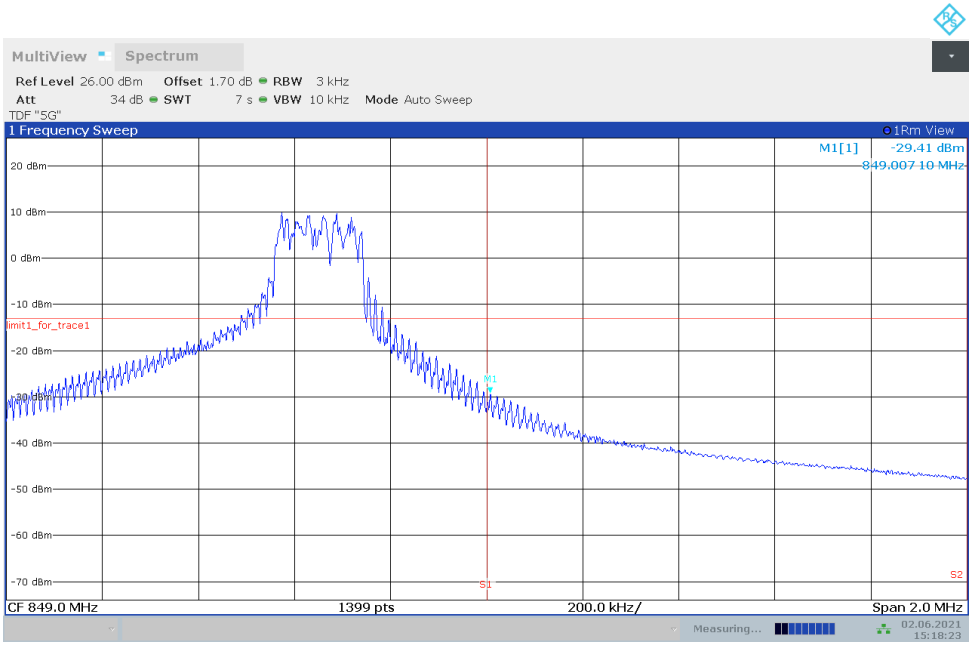
Date: 2.JUN.2021 15:17:25

OBW: 1RB-high_offset



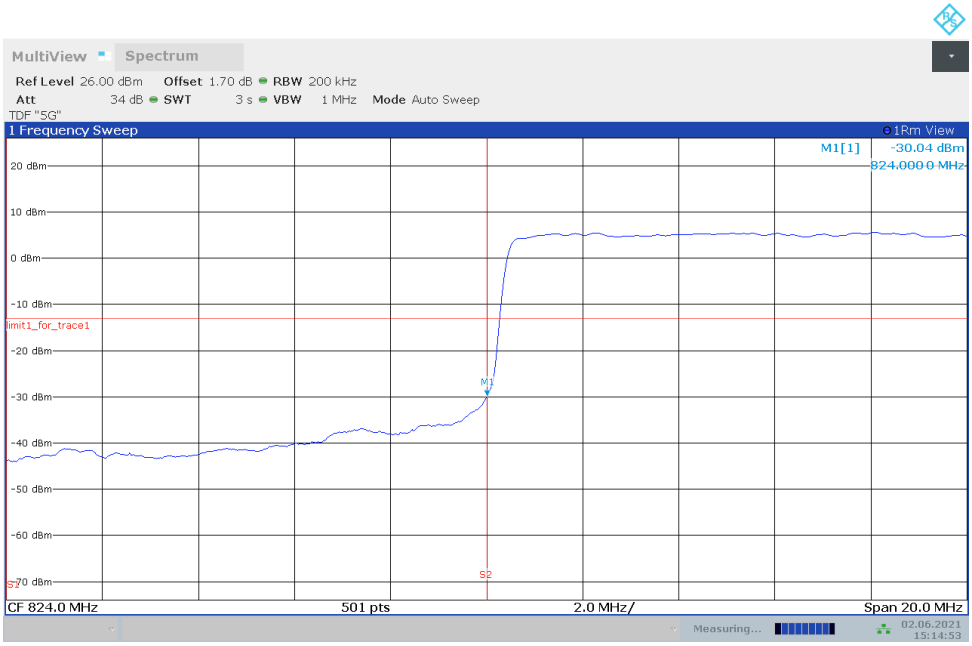
Date: 2.JUN.2021 15:17:46

HIGH BAND EDGE BLOCK-1RB-high_offset



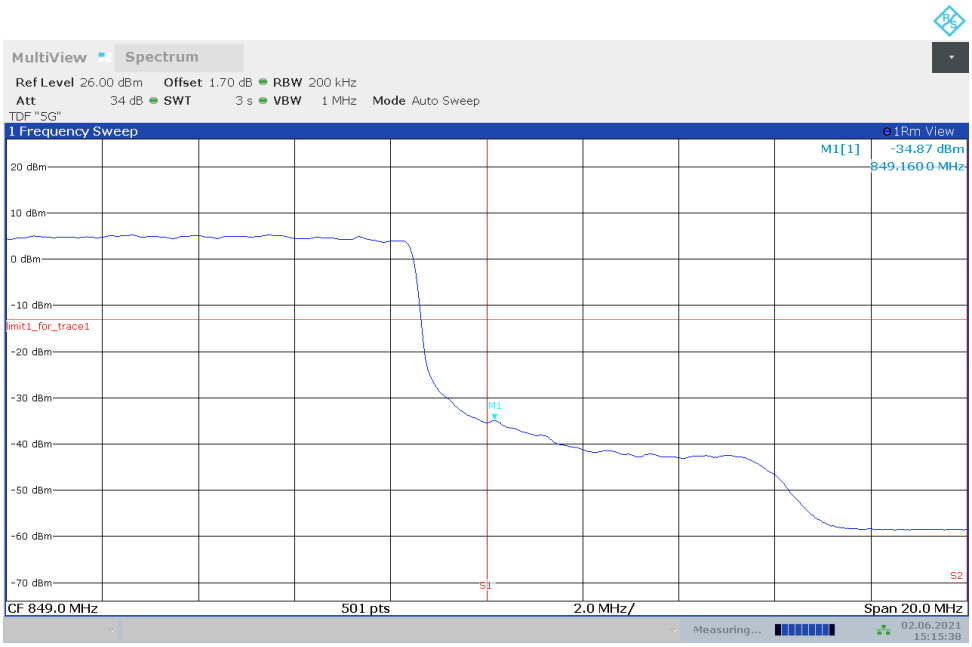
Date: 2.JUN.2021 15:18:23

LOW BAND EDGE BLOCK-20MHz-100%RB



Date: 2.JUN.2021 15:14:53

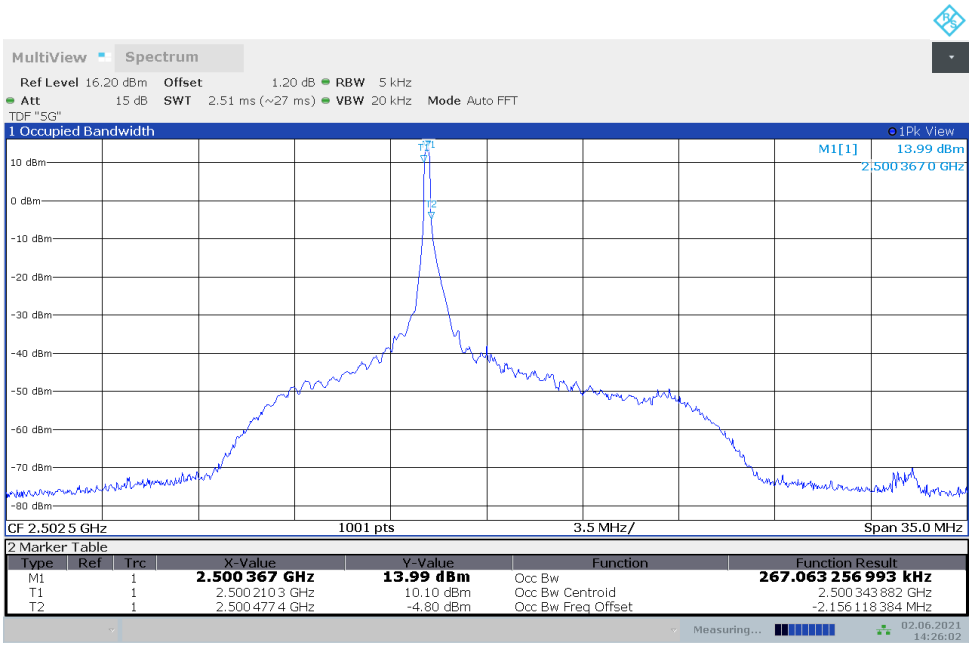
HIGH BAND EDGE BLOCK-20MHz-100%RB



Date: 2.JUN.2021 15:15:39

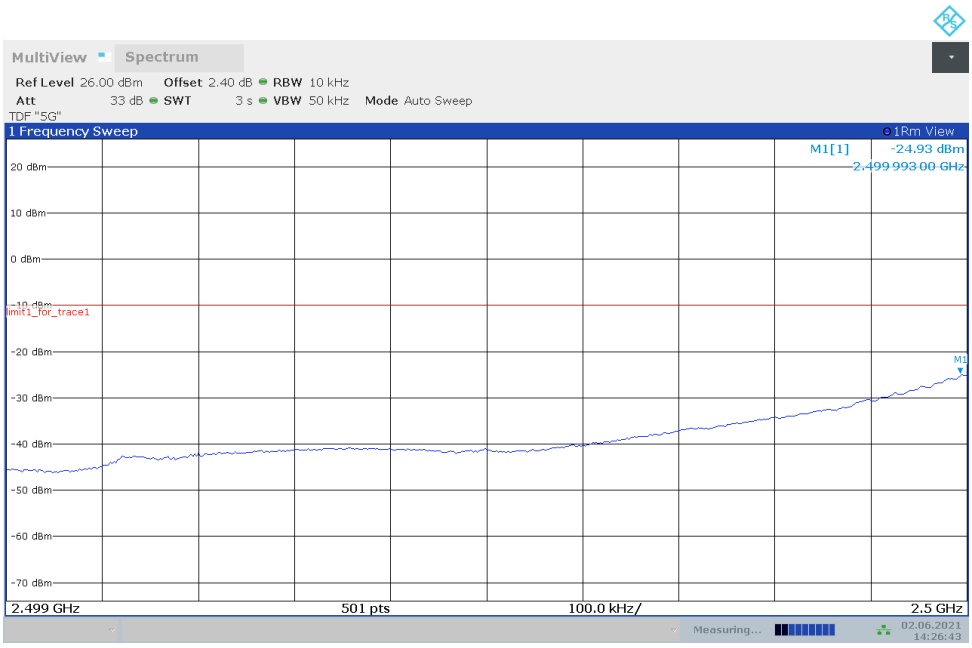
LTE Band 5+NR n7

OBW: 1RB-low_offset

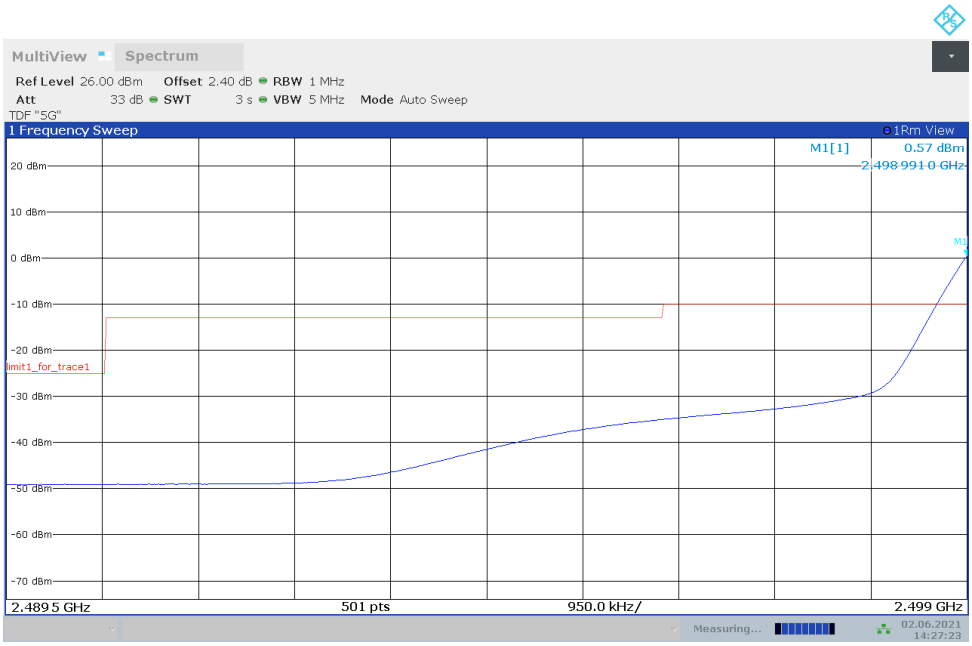


Date: 2.JUN.2021 14:26:03

LOW BAND EDGE BLOCK-1RB-low_offset



Date: 2.JUN.2021 14:26:43



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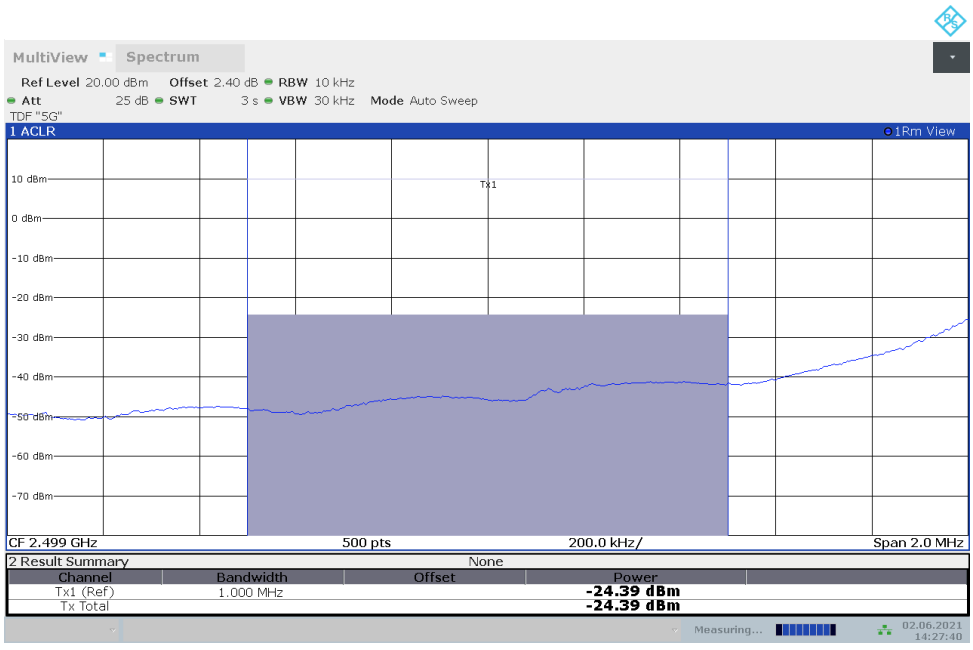
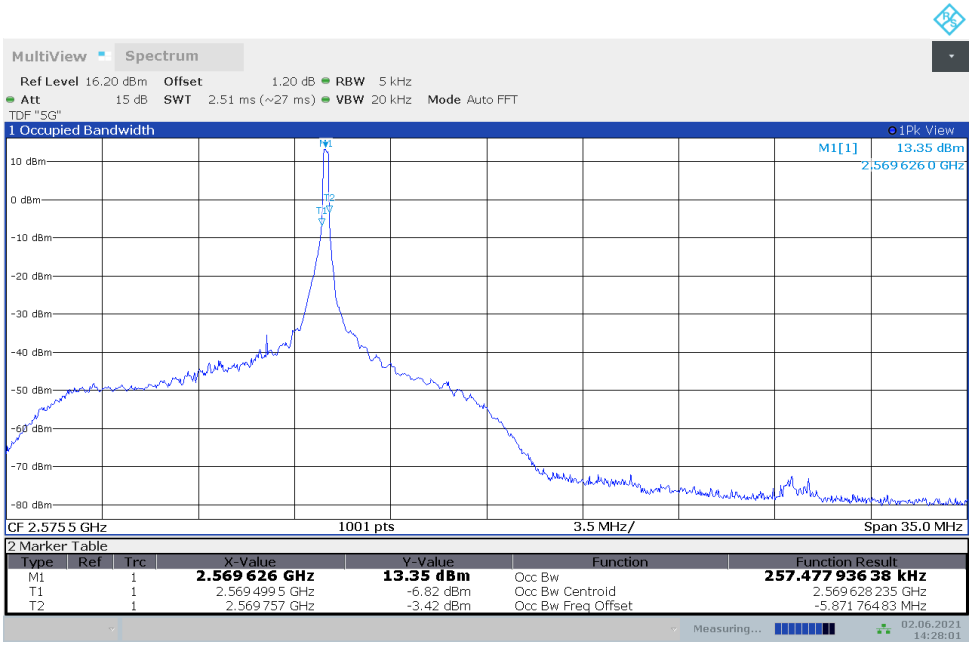


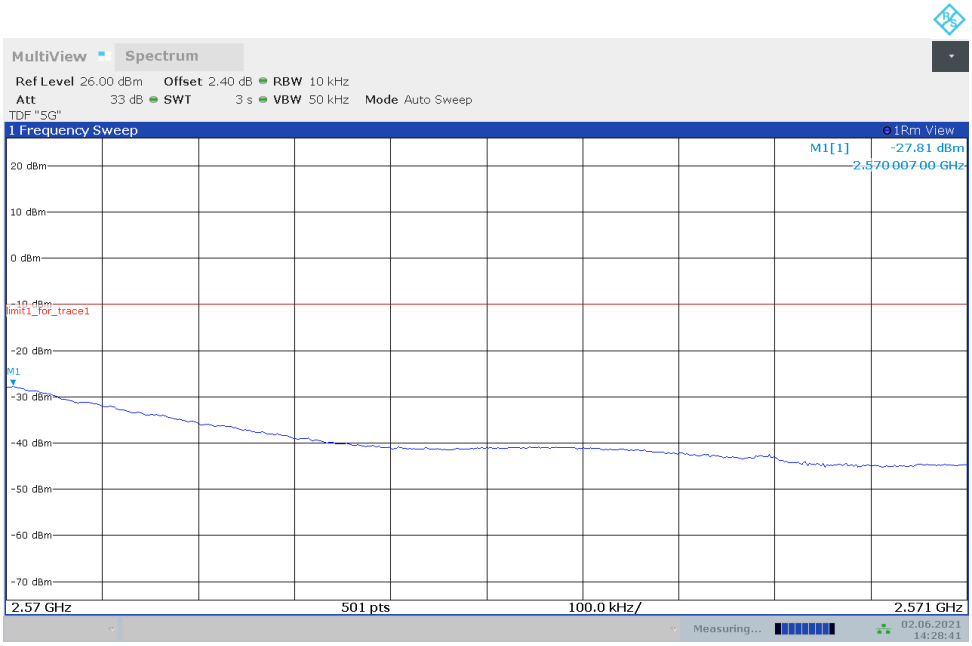
Date: 2.JUN.2021 14:27:40

OBW: 1RB-high_offset

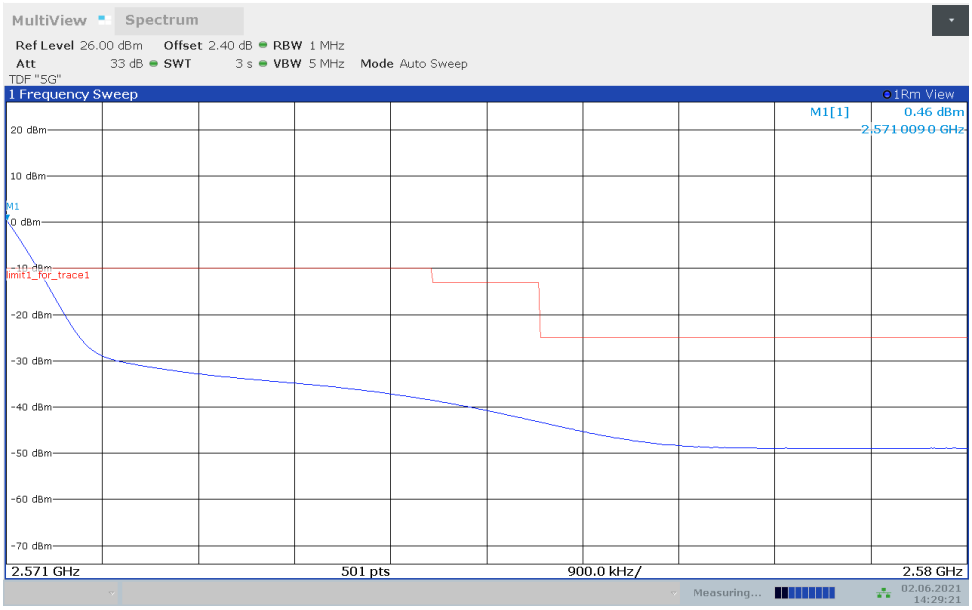


Date: 2.JUN.2021 14:28:01

HIGH BAND EDGE BLOCK-1RB-high_offset



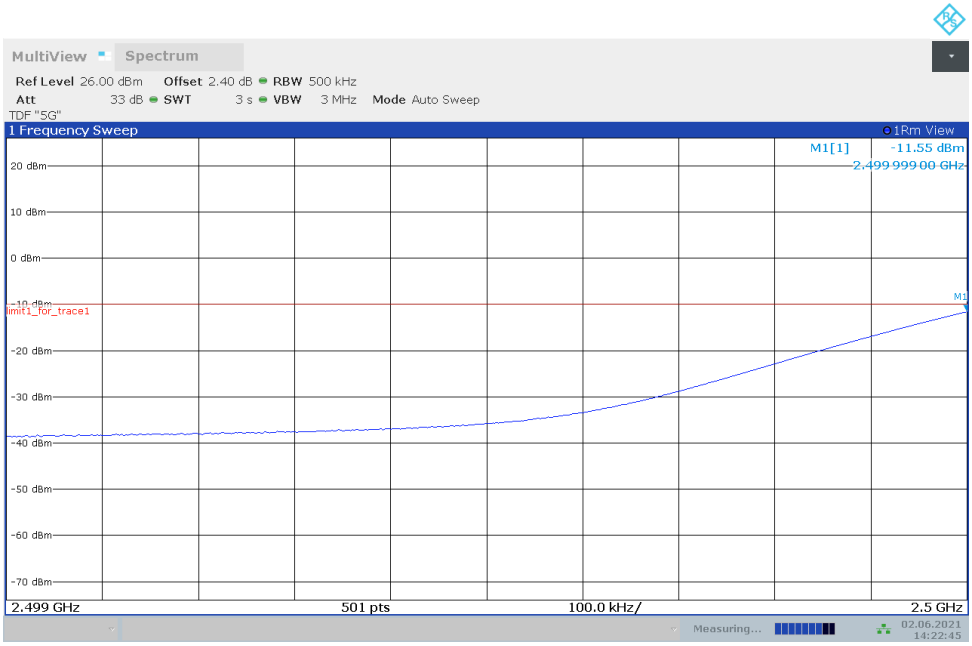
Date: 2.JUN.2021 14:28:41



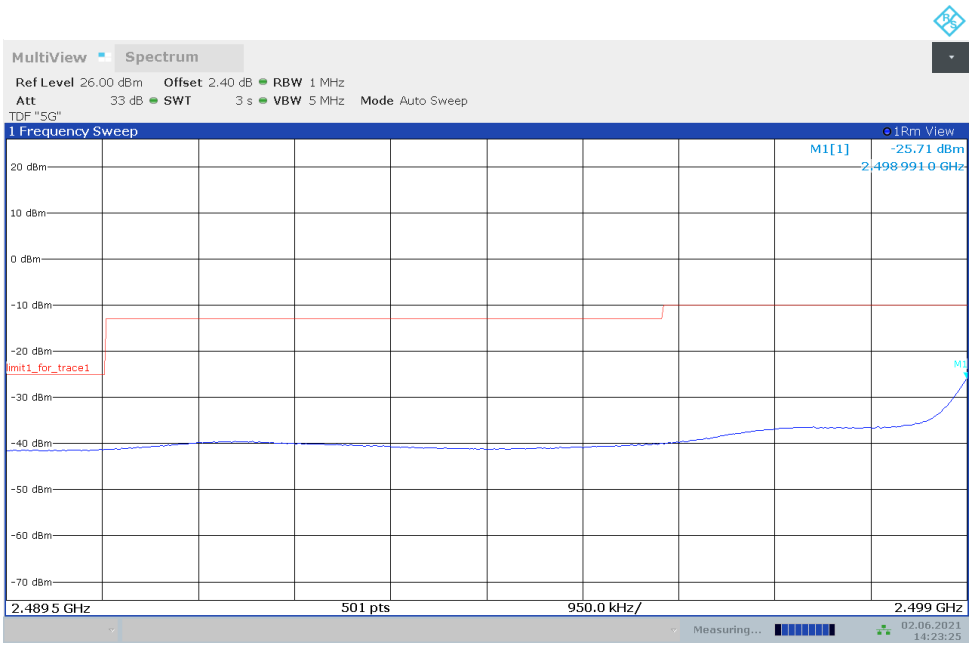
Date: 2.JUN.2021 14:29:21

Date: 2.JUN.2021 14:29:38

LOW BAND EDGE BLOCK-20MHz-100%RB

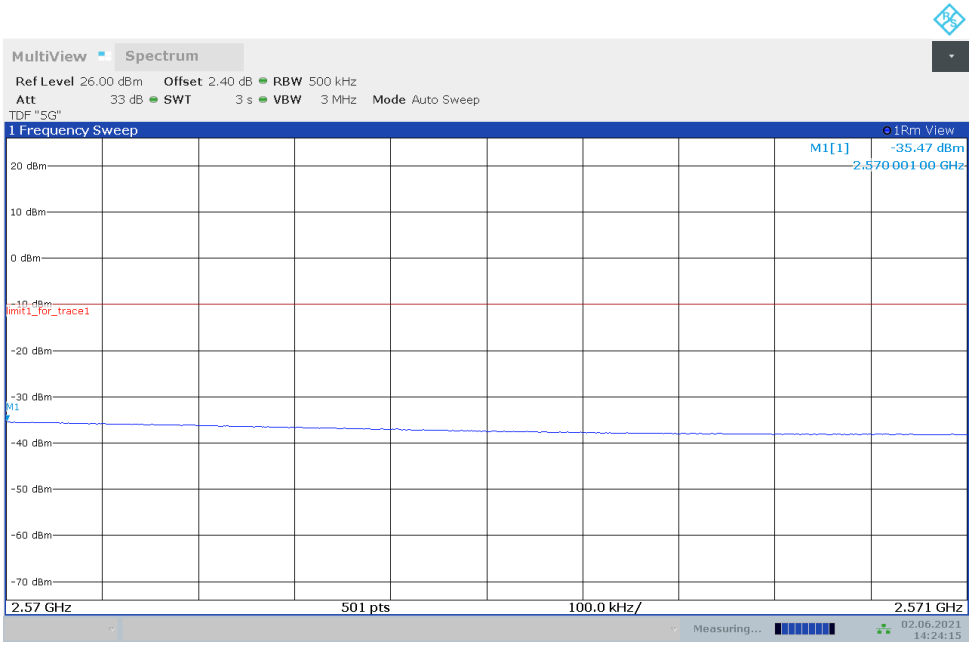


Date: 2.JUN.2021 14:22:46



Date: 2.JUN.2021 14:23:26

HIGH BAND EDGE BLOCK-20MHz-100%RB



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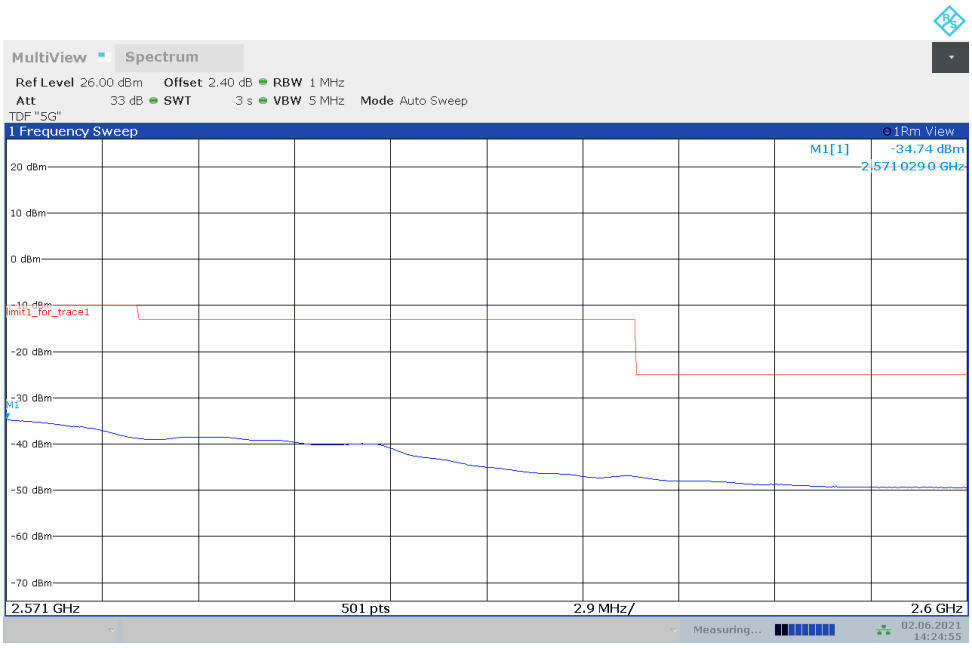


Date: 2.JUN.2021 14:24:55

A.7 Conducted Spurious Emission

A.7.1 Measurement Method

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. In measuring unwanted emissions, the spectrum shall be investigated from 30 MHz or the lowest radio frequency signal generated in the equipment, whichever is lower, without going below 9 kHz, up to at least the frequency given below:
   (a) If the equipment operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
   (b) If the equipment operates at or above 10 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
3. The number of sweep points of spectrum analyzer is greater than 2×span/RBW.

A. 7.2 Measurement Limit

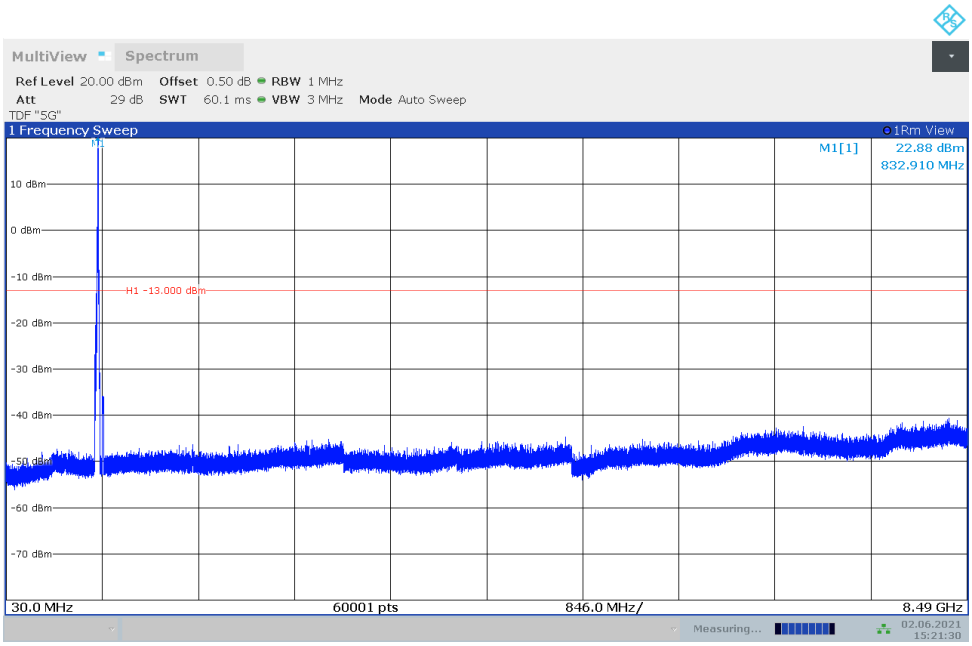
Part 22.917 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

A. 7.3 Measurement result

LTE Band 66+NR n5

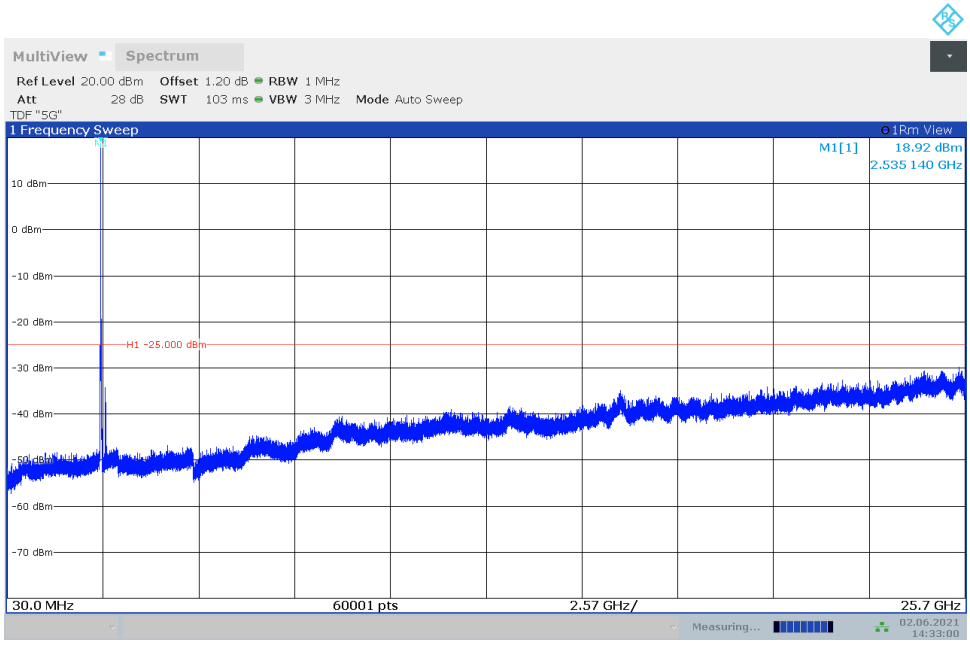
NOTE: peak above the limit line is the carrier frequency.



Date: 2.JUN.2021 15:21:31

LTE Band 5+NR n7

NOTE: peak above the limit line is the carrier frequency.



Date: 2.JUN.2021 14:33:00

A.8 Peak-to-Average Power Ratio

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB

a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

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

Measurement results

LTE Band 5+NR n7, 20MHz

Frequency (MHz)	PAPR (dB)								
	DFT-s-pi/2 BPSK	DFT-s-QPSK	DFT-s-16QAM	DFT-s-64QAM	DFT-s-256QAM	CP-QPSK	CP-16QAM	CP-64QAM	CP-256QAM
2535.0	5.42	6.26	6.98	7.32	7.42	8.94	8.92	9.00	9.56

Annex B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

ilac-MRA

Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2020-09-29 through 2021-09-30
Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

*****END OF REPORT*****