

TEST REPORT

of

FCC Part 2 Subpart J, Part 22 Subpart C/H, Part 24 Subpart E,
IC RSS-132 Issue 4, RSS-133 Issue 6, and RSS-Gen Issue 5

FCC ID: BEJTM05NNNABM0
IC Certification: 2703H-TM05NNNABM0

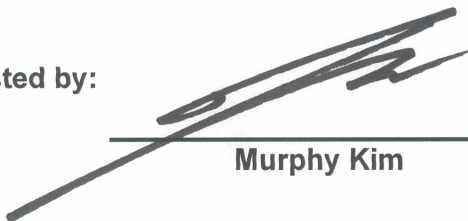
Equipment Under Test : Module
Model Name : TM05NNNABM0
Variant Model Name(s) : -
FCC Applicant : LG Electronics USA, Inc.
IC Applicant : LG ELECTRONICS INC.
Manufacturer : LG Electronics Inc.
Date of Receipt : 2024.06.12
Date of Test(s) : 2024.06.17 ~ 2024.07.11
Date of Issue : 2024.07.11

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

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- 2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.
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We are responsible for all the information of this test report except for the data(※) provided by the customer.

Tested by:


Murphy Kim

Technical
Manager:


Jinhyoung Cho

SGS Korea Co., Ltd. Gunpo Laboratory

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

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1.2. Details of Applicant

FCC Applicant : LG Electronics USA, Inc.

FCC Address : 111 Sylvan Avenue, North Building, Englewood Cliffs, New Jersey, United States, 07632

IC Applicant : LG ELECTRONICS INC.

IC Address : 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, Korea (Rep.), 451-713

Contact Person : Kim, David

Phone No. : +1 201 470 2696

1.3. Details of Manufacturer

Company : LG Electronics Inc.

Address : 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea, 07336

1.4. Description of EUT

Kind of Product		Module
Model Name		TM05NNNABM0
Serial Number		Conducted: 354287760018015, Radiated: 354287760018023
Power Supply		DC 12.5 V
Rated Power	SIM 1	NR Band 2, 5: 23 dBm
	SIM 2	NR Band 2, 5: 23 dBm
Frequency Range	SIM 1	NR Band 2: 1 850 MHz ~ 1 910 MHz NR Band 5: 824 MHz ~ 849 MHz
	SIM 2	NR Band 2(only SA): 1 850 MHz ~ 1 910 MHz NR Band 5(only SA): 824 MHz ~ 849 MHz
Modulation Technique		BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Type		External Antenna (Refer to the clause 1.13)
Antenna Gain [※]		Refer to the clause 1.13
H/W Version		Rev.E
S/W Version		v013.142.025
FVIN		N/A

1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Spectrum Analyzer	R&S	FSV30	100955	Mar. 08, 2024	Annual	Mar. 08, 2025
Spectrum Analyzer	Agilent	N9020A	MY53421758	Sep. 01, 2023	Annual	Sep. 01, 2024
Signal Generator	R&S	SMA100B	106887	Oct. 06, 2023	Annual	Oct. 06, 2024
DC Power Supply	R&S	HMP2020	102133	Apr. 23, 2024	Annual	Apr. 23, 2025
Communication test station	Anritsu	MT8000A	6261867312	Apr. 08, 2024	Annual	Apr. 08, 2025
Communication Analyzer	Anritsu	MT8821C	6262192291	Feb. 08, 2024	Annual	Feb. 08, 2025
Temperature Chamber	ESPEC CORP.	PL-2J	15004184	Jun. 03, 2024	Annual	Jun. 03, 2025
BRIDGE COUPLER	MARKI MICROWAVE INC	CBR16-0012	1542	May 13, 2024	Annual	May 13, 2025
Directional Coupler	KRYTAR	152613	122661	Feb. 27, 2024	Annual	Feb. 27, 2025
Power Sensor	Anritsu	MA2411B	1207272	May 29, 2024	Annual	May 29, 2025
Power Sensor	Anritsu	ML2495A	1223004	May 29, 2024	Annual	May 29, 2025
Low Pass Filter	Mini-Circuits	NLP-1200+	V 8979400903-1	May 17, 2024	Annual	May 17, 2025
High Pass Filter	Wainwright Instrument GmbH	WHKX10-900-1000-18000-40SS	7	Feb. 27, 2024	Annual	Feb. 27, 2025
High Pass Filter	Wainwright Instrument GmbH	WHKX3.0/18G-6SS	21	Jun. 07, 2024	Annual	Jun. 07, 2025
High Pass Filter	Wainwright Instrument GmbH	WHNX7.5/26.5G-6SS	11	Oct. 17, 2023	Annual	Oct. 17, 2024
Preamplifier	H.P.	8447F	2944A03909	Aug. 04, 2023	Annual	Aug. 04, 2024
Preamplifier	R&S	SCU 18F	101058	Dec. 07, 2023	Annual	Dec. 07, 2024
Preamplifier	MITEQ Inc.	JS44-18004000-35-8P	1546891	Oct. 06, 2023	Annual	Oct. 06, 2024
Test Receiver	R&S	ESU26	100109	Jan. 16, 2024	Annual	Jan. 16, 2025
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	Aug. 21, 2023	Biennial	Aug. 21, 2025
Bilog Antenna	Schwarzbeck Mess-Elektronik	VULB 9163	9163-396	Apr. 02, 2024	Biennial	Apr. 02, 2026
Horn Antenna	R&S	HF906	100326	Feb. 19, 2024	Annual	Feb. 19, 2025
Horn Antenna	Schwarzbeck Mess-Elektronik	BBHA 9170	9170-540	Dec. 05, 2023	Annual	Dec. 05, 2024
Antenna Master	Innco systems GmbH	MA4640-XP-ET	MA4640/536/383 30516/L	N.C.R.	N/A	N.C.R.
Turn Table	Innco systems GmbH	DS 1200S	N/A	N.C.R.	N/A	N.C.R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/383 30516/L	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.6 m)	N/A	N.C.R.	N/A	N.C.R.
Coaxial Cable	RADIAL	TESTPRO 3	182287	Apr. 12, 2024	Semi-Annual	Oct. 12, 2024
Coaxial Cable	RADIAL	TESTPRO 3	182288	Apr. 12, 2024	Semi-Annual	Oct. 12, 2024
Coaxial Cable	RADIAL	TESTPRO 3	182291	Apr. 12, 2024	Semi-Annual	Oct. 12, 2024
Coaxial Cable	SENSORVIEW	NMST-13A26-NMST-5 m	TPC2402190004	Apr. 03, 2024	Semi-Annual	Oct. 03, 2024
Coaxial Cable	SENSORVIEW	NMST-13A26-NMST-10 m	TPC2402190001	Apr. 03, 2024	Semi-Annual	Oct. 03, 2024

1.6. Summary of Test Results

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 2, 22 and 24 IC RSS-Gen Issue 5, RSS-132 Issue 4 and RSS-133 Issue 6			
Section(s) in FCC	Section(s) in IC	Test Item	Result
§2.1046 §22.913(a)(5) §24.232(c)	RSS-132 Issue 4 5.4 RSS-133 Issue 6 6.4	E.R.P. / E.I.R.P.	Complied
§22.917(a) §24.238(a)	RSS-132 Issue 4 5.5 RSS-133 Issue 6 6.5	Radiated Spurious Emission	Complied
§2.1046	RSS-Gen Issue 5 6.12	Conducted Output Power	Complied
§2.1049	RSS-Gen Issue 5 6.7	Occupied Bandwidth	Complied
§22.913(d) §24.232(d)	RSS-132 Issue 4 5.4 RSS-133 Issue 6 6.4	Peak-Average Ratio	Complied
§22.917(a) §24.238(a)	RSS-132 Issue 4 5.5 RSS-133 Issue 6 6.5	Spurious Emission at Antenna Terminal	Complied
§22.917(a) §24.238(a)	RSS-132 Issue 4 5.5 RSS-133 Issue 6 6.5	Band Edge and Emission Mask	Complied
§2.1055 §22.355 §24.235	RSS-Gen Issue 5 6.11 RSS-132 Issue 4 5.3 RSS-133 Issue 6 6.3	Frequency Stability	Complied

1.7. Sample Calculation for Offset

Where relevant, the following sample calculation is provided:

1.7.1. Conducted Test

Offset value (dB) = Directional Coupler (dB) + Cable loss (dB)

1.7.2. Radiation test

- E.I.R.P. (dB m) = Measured level (dB μ V) + Antenna factor (dB/m) + Cable loss (dB) + 20 Log D - 104.8;
where D is the measurement distance in meters.
- E.R.P. (dB m) = E.I.R.P. (dB m) - 2.15 (dB)

1.8. Manufacturer Declaration

EUT has two (SIM1 and SIM2) ports, all testing were performed both SIM1 and SIM2.

SIM1 capabilities

- Supports SA and NSA mode.
- Supports up to 256QAM modulation for all 5G NR bands.

SIM2 capabilities

- Supports only SA mode.
- Supports up to 256QAM modulation for all 5G NR bands except NR band 2 and 5.
- Supports up to 64QAM modulation for 5G NR band 2 and 5.

- NSA Band Information

NR Band	SCS (kHz)	Bandwidth (MHz)	Waveform	Modulation	ENDC LTE Band
n5	15	5, 10, 15, 20	DFT-S-OFDM, CP-OFDM	BPSK, QPSK, 16QAM, 64QAM, 256QAM	66

1.9. Worst Case Configuration and Mode

The worst-case is based on the conducted output power measurement investigation results. All testing was performed using BPSK, QPSK, 16QAM, 64QAM and 256QAM modulations. If both SA and NSA were supported, SA was tested as worst case and NSA was tested only radiated spurious emission for worst conducted output power combination.

On ENDC mode, only radiated spurious emission were tested as worst case for worst conducted output power combination.

However, the spurious radiated emission and spurious at antenna terminal were only performed on bandwidth and RB offset (with RB size 1) with the highest conducted power.

The radiation test of the EUT was investigated in three orthogonal orientations X, Y, and Z, and the worst case data is reported.

1.10. Measurement Configuration

SIM 1

Test Items	Band	Test Channel			Bandwidth (MHz)																Modulation DFT-S-OFDM					Modulation CP-OFDM				RB #		
		Low	Mid	High	5	10	15	20	25	30	40	50	60	70	80	90	100	BPSK	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	1	Half	Full			
Conducted Output Power	n2	V	V	V	V	V	V	V										V	V	V	V	V	V	V	-	-	V	V	V			
	n5	V	V	V	V	V	V	V										V	V	V	V	V	V	V	-	-	V	V	V			
Frequency Stability	n2	-	V	-	-	V	-	-										-	V	-	-	-	-	-	-	-	-	-	V			
	n5	-	V	-	-	V	-											-	V	-	-	-	-	-	-	-	-	-	V			
Occupied Bandwidth	n2	V	V	V	V	V	V	V										V	V	V	-	-	V	V	-	-	-	-	V			
	n5	V	V	V	V	V	V	V										V	V	V	-	-	V	V	-	-	-	-	V			
Peak-to-Average Ratio	n2	V	V	V	V	V	V	V										V	V	V	V	V	V	V	V	V	-	-	V			
	n5	V	V	V	V	V	V	V										V	V	V	V	V	V	V	V	V	-	-	V			
Band edge	n2	V	-	V	V	V	V	V										-	V	V	-	-	V	V	-	-	V	-	V			
	n5	V	-	V	V	V	V	V										-	V	V	-	-	V	V	-	-	V	-	V			
Spurious at antenna terminal & Radiated Spurious Emissions	n2	V	V	V	Worst case																											
	n5	V	V	V	Worst case																											

ENDC

Test Items	Band	Test Channel			Bandwidth (MHz)																Modulation DFT-S-OFDM					Modulation CP-OFDM				RB #		
		Low	Mid	High	5	10	15	20	25	30	40	50	60	70	80	90	100	BPSK	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	1	Half	Full			
Conducted Output Power	n5	V	V	V	V	V	V	V	V									V	V	-	-	-	-	-	-	-	-	V	-	-		
Spurious Radiated Emission	n5	V	V	V	Worst case																											

SIM 2

Test Items	Band	Test Channel			Bandwidth (MHz)														Modulation DFT-S-OFDM				Modulation CP-OFDM			RB #				
		Low	Mid	High	5	10	15	20	25	30	40	50	60	70	80	90	100	BPSK	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	1	Half	Full			
Conducted Output Power	n2	V	V	V	V	V	V	V										V	V	V	V	V	V	-	V	V	V			
	n5	V	V	V	V	V	V	V										V	V	V	V	V	V	-	V	V	V			
Frequency Stability	n2	-	V	-	-	V	-	-										-	V	-	-	-	-	-	-	-	V			
	n5	-	V	-	-	V	-											-	V	-	-	-	-	-	-	-	V			
Occupied Bandwidth	n2	V	V	V	V	V	V	V										V	V	V	-	V	V	-	-	-	V			
	n5	V	V	V	V	V	V	V										V	V	V	-	V	V	-	-	-	V			
Peak-to-Average Ratio	n2	V	V	V	V	V	V	V										V	V	V	V	V	V	V	-	-	V			
	n5	V	V	V	V	V	V	V										V	V	V	V	V	V	V	-	-	V			
Band edge	n2	V	-	V	V	V	V	V										-	V	V	-	V	V	-	V	-	V			
	n5	V	-	V	V	V	V	V										-	V	V	-	V	V	-	V	-	V			
Spurious at antenna terminal & Radiated Spurious Emissions	n2	V	V	V	Worst case																									
	n5	V	V	V	Worst case																									

Note;

- All measurement was performed with 1RB or FULL RB or both, we chosen RB condition for each test items as worst case.

Radiated Emission Test

SIM 1

NR Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Resource Block Allocation
				RBs allocated
n2	15	5	DFT-S OFDM - QPSK	1
n5	15	20	DFT-S OFDM - QPSK	1

ENDC

NR Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Resource Block Allocation
				RBs allocated
66A-n5A	15	15-20	DFT-S OFDM - QPSK	1

SIM 2

NR Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Resource Block Allocation
				RBs allocated
n2	15	15	DFT-S OFDM - QPSK	1
n5	15	15	DFT-S OFDM - QPSK	1

1.11. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty	
Conducted Output Power	0.33 dB	
Occupied Bandwidth	0.05 MHz	
Conducted Spurious Emissions	0.99 dB	
Peak to Average Ratio	0.66 dB	
Frequency Stability	116 Hz	
Radiated Emission, 9 kHz to 30 MHz	H	3.60 dB
	V	3.60 dB
7Radiated Emission, below 1 GHz	H	4.60 dB
	V	4.90 dB
Radiated Emission, above 1 GHz	H	3.90 dB
	V	3.80 dB

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicate a 95 % level of confidence.

1.12. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL005251	2024.07.11	Initial

1.13. Antenna Information

SIM 1

Antenna Type	Antenna No.	Antenna Name	Antenna Part Number
Trunk	1	Antenna Box (basic)	8705921
	2	MSA TEL	920631001
	3	MSA TEL SDARS	920361002
Roof	4	DA WAVE HAF 5G-US	8705914-05
	5	DA WAVE High 5G-US	5A09D90-03

Operating Frequency (MHz)		Antenna Peak Gain (dB i)			
		Ant. No	Ant. Gain	Cable Loss	Final Gain
NR Band 2	1 850 ~ 1 910	Ant. 1	5.00	0.34	4.66
		Ant. 2	6.20	0.82	5.38
		Ant. 3	5.90	0.82	5.08
		Ant. 4	2.80	-	2.80
		Ant. 5	2.30	-	2.30
NR Band 5	824 ~ 849	Ant. 1	3.00	0.22	2.78
		Ant. 2	2.10	0.52	1.58
		Ant. 3	2.30	0.52	1.78
		Ant. 4	-0.40	-	-0.40
		Ant. 5	-0.20	-	-0.20

- The Roof type antennas are directly connected to the EUT, so there is no cable loss.

Test Case

Operating Frequency (MHz)		Ant. 1 (basic)	Ant. 2	Ant. 3	Ant. 4	Ant. 5
NR Band 2	1 850 ~ 1 910	-	V	-	-	-
NR Band 5	824 ~ 849	V	-	-	-	-
ENDC_66A-n5A	824 ~ 849	V	-	-	-	-

SIM 2

Antenna Type	Antenna No.	Antenna Name	Antenna Part Number
Trunk	1	Antenna Box	8705921
	2	FSA WAVE 5G (left/right)	8705919/8705920
	3	HKL Mobilradioantenna (basic)	5A2D602
	4	ZB Spoilerantenna	5A0C5B0
	5	F66 Roof-top Antenna	920-747-018

Operating Frequency (MHz)		Antenna Peak Gain (dB i)			
		Ant. No	Ant. Gain	Cable Loss	Final Gain
NR Band 2	1 850 ~ 1 910	Ant. 1	5.00	0.89	4.11
		Ant. 2	4.00	0.89	3.11
		Ant. 3	5.00	0.89	4.11
		Ant. 4	4.00	0.89	3.11
		Ant. 5	6.00	4.70	1.30
NR Band 5	824 ~ 849	Ant. 1	3.00	0.57	2.43
		Ant. 2	4.00	0.57	3.43
		Ant. 3	5.00	0.57	4.43
		Ant. 4	3.00	0.57	2.43
		Ant. 5	1.90	3.06	-1.16

Test Case

Operating Frequency (MHz)		Ant. 1	Ant. 2	Ant. 3 (basic)	Ant. 4	Ant. 5
NR Band 2	1 850 ~ 1 910	-	-	V	-	-
NR Band 5	824 ~ 849	-	-	V	-	-

Note;

- The EUT has basic antenna (SIM 1: Antenna Box, SIM 2: HKL Mobilradioantenna) and all antennas support all NR bands.
- The radiated spurious emission test was performed using antennas with the highest antenna gain in each band.
- According to manufacturer's antenna specification, only the highest antenna gain of each antenna is reported.

1.14. Emission Designator and Max Power

SIM 1

NR Band	Band width (MHz)	DFTS-OFDM Modulation		Low Freq. (MHz)	Upper Freq. (MHz)	Conducted Average (dB m)	Worst Ant. Gain (dB i)	E.R.P. / E.I.R.P. Average (dB m)	E.R.P. / E.I.R.P. Average (W)	Emission Designator
n2	5	DFTS-OFDM	BPSK	1 852.5	1 907.5	22.88	5.38	28.26	0.670	4M51G7W
			QPSK			22.90		28.28	0.673	4M52G7W
			16QAM			21.80		27.18	0.522	4M52D7W
		CP-OFDM	QPSK			21.32		26.70	0.468	4M51G7W
			16QAM			20.80		26.18	0.415	4M52D7W
	10	DFTS-OFDM	BPSK	1 855.0	1 905.0	22.82		28.20	0.661	8M93G7W
			QPSK			22.89		28.27	0.671	8M93G7W
			16QAM			21.95		27.33	0.541	8M95D7W
		CP-OFDM	QPSK			21.37		26.75	0.473	9M29G7W
			16QAM			20.92		26.30	0.427	9M29D7W
	15	DFTS-OFDM	BPSK	1 857.5	1 902.5	22.79		28.17	0.656	13M5G7W
			QPSK			22.81		28.19	0.659	13M5G7W
			16QAM			21.78		27.16	0.520	13M5D7W
		CP-OFDM	QPSK			21.36		26.74	0.472	14M1G7W
			16QAM			20.82		26.20	0.417	14M2D7W
	20	DFTS-OFDM	BPSK	1 860.0	1 900.0	22.80		28.18	0.658	17M9G7W
			QPSK			22.79		28.17	0.656	17M9G7W
			16QAM			21.75		27.13	0.516	17M9D7W
		CP-OFDM	QPSK			21.35		26.73	0.471	18M9G7W
			16QAM			20.86		26.24	0.421	19M0D7W
n5	5	DFTS-OFDM	BPSK	826.5	846.5	22.96	2.78	23.59	0.229	4M51G7W
			QPSK			22.97		23.60	0.229	4M50G7W
			16QAM			21.99		22.62	0.183	4M51D7W
		CP-OFDM	QPSK			21.51		22.14	0.164	4M52G7W
			16QAM			21.00		21.63	0.146	4M52D7W
	10	DFTS-OFDM	BPSK	829.0	844.0	22.94		23.57	0.228	8M97G7W
			QPSK			22.99		23.62	0.230	8M95G7W
			16QAM			21.88		22.51	0.178	8M95D7W
		CP-OFDM	QPSK			21.37		22.00	0.158	9M29G7W
			16QAM			20.92		21.55	0.143	9M29D7W
	15	DFTS-OFDM	BPSK	831.5	841.5	22.99		23.62	0.230	13M5G7W
			QPSK			23.01		23.64	0.231	13M5G7W
			16QAM			21.96		22.59	0.182	13M5D7W
		CP-OFDM	QPSK			21.54		22.17	0.165	14M1G7W
			16QAM			21.04		21.67	0.147	14M1D7W
	20	DFTS-OFDM	BPSK	834.0	839.0	23.03		23.66	0.232	17M9G7W
			QPSK			23.05		23.68	0.233	17M9G7W
			16QAM			21.90		22.53	0.179	17M9D7W
		CP-OFDM	QPSK			21.45		22.08	0.161	18M9G7W
			16QAM			21.00		21.63	0.146	18M9D7W

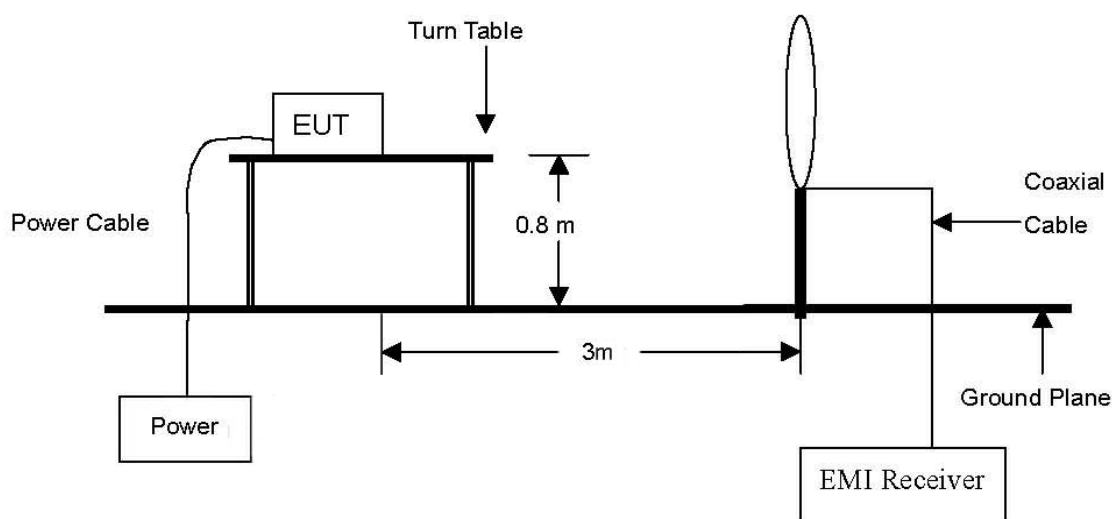
SIM 2

NR Band	Band width (MHz)	DFT-S OFDM Modulation		Low Freq. (MHz)	Upper Freq. (MHz)	Conducted Average (dB m)	Worst Ant. Gain (dB i)	E.R.P. / E.I.R.P. Average (dB m)	E.R.P. / E.I.R.P. Average (W)	Emission Designator
n2	5	DFTS-OFDM	BPSK	1 852.5	1 907.5	22.28	4.11	26.39	0.436	4M52G7W
			QPSK			22.29		26.40	0.437	4M52G7W
			16QAM			21.24		25.35	0.343	4M51D7W
		CP-OFDM	QPSK			20.75		24.86	0.306	4M51G7W
			16QAM			20.28		24.39	0.275	4M51D7W
	10	DFTS-OFDM	BPSK	1 855.0	1 905.0	22.19		26.30	0.427	8M95G7W
			QPSK			22.25		26.36	0.433	8M95G7W
			16QAM			21.25		25.36	0.344	8M95D7W
		CP-OFDM	QPSK			20.68		24.79	0.301	9M29G7W
			16QAM			20.22		24.33	0.271	9M27D7W
	15	DFTS-OFDM	BPSK	1 857.5	1 902.5	22.31		26.42	0.439	13M5G7W
			QPSK			22.33		26.44	0.441	13M5G7W
			16QAM			21.20		25.31	0.340	13M5D7W
		CP-OFDM	QPSK			20.71		24.82	0.303	14M2G7W
			16QAM			20.22		24.33	0.271	14M2D7W
	20	DFTS-OFDM	BPSK	1 860.0	1 900.0	22.28		26.39	0.436	17M9G7W
			QPSK			22.31		26.42	0.439	17M9G7W
			16QAM			21.20		25.31	0.340	17M9D7W
		CP-OFDM	QPSK			20.67		24.78	0.301	19M0G7W
			16QAM			20.26		24.37	0.274	19M9D7W
n5	5	DFTS-OFDM	BPSK	826.5	846.5	22.71	4.43	24.99	0.316	4M51G7W
			QPSK			22.72		25.00	0.316	4M51G7W
			16QAM			21.69		23.97	0.244	4M50D7W
		CP-OFDM	QPSK			21.11		23.39	0.218	4M52G7W
			16QAM			20.70		22.98	0.199	4M51D7W
	10	DFTS-OFDM	BPSK	829.0	844.0	22.68		24.96	0.313	8M95G7W
			QPSK			22.71		24.99	0.316	8M93G7W
			16QAM			21.51		23.79	0.239	8M93D7W
		CP-OFDM	QPSK			21.03		23.31	0.214	9M29G7W
			16QAM			20.52		22.80	0.191	9M29D7W
	15	DFTS-OFDM	BPSK	831.5	841.5	22.72		25.00	0.316	13M5G7W
			QPSK			22.77		25.05	0.320	13M5G7W
			16QAM			21.68		23.96	0.249	13M5D7W
		CP-OFDM	QPSK			21.20		23.48	0.223	14M1G7W
			16QAM			20.77		23.05	0.202	14M1D7W
	20	DFTS-OFDM	BPSK	834.0	839.0	22.76		25.04	0.319	17M9G7W
			QPSK			22.74		25.02	0.318	17M9G7W
			16QAM			21.63		23.91	0.246	17M9D7W
		CP-OFDM	QPSK			21.11		23.39	0.218	18M9G7W
			16QAM			20.71		22.99	0.199	18M9D7W

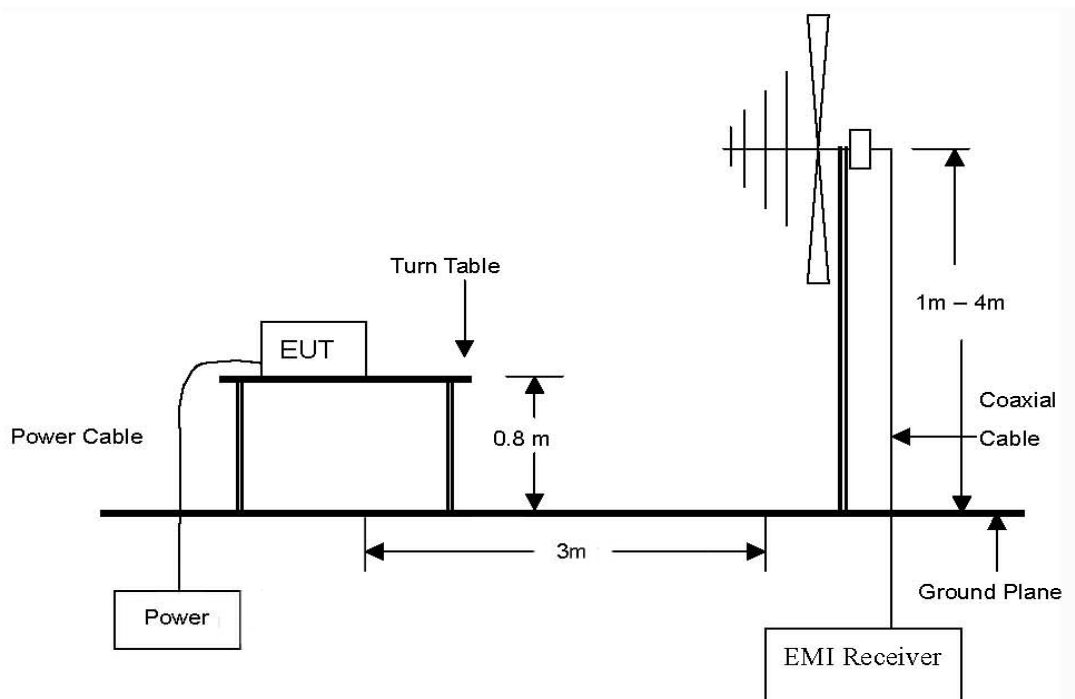
2. E.R.P. / E.I.R.P. & Radiated Spurious Emissions

2.1. Test setup

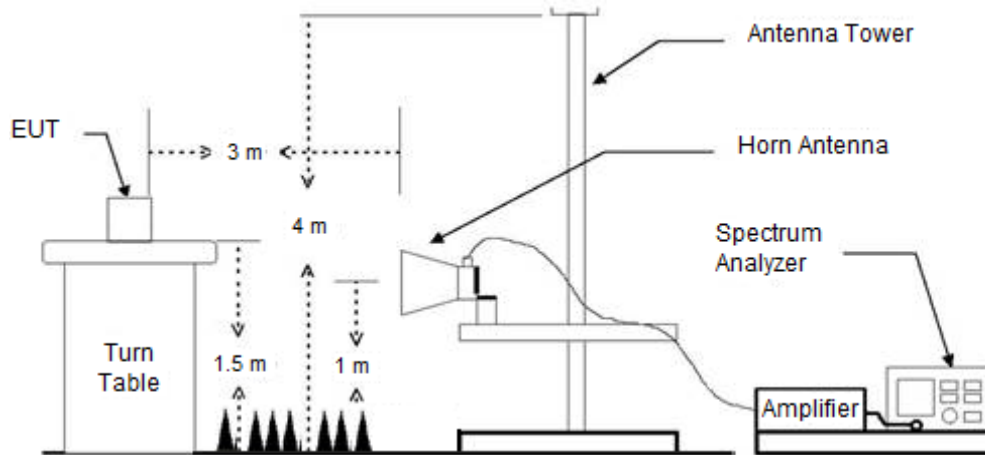
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 GHz to 20 GHz Emissions.



2.2. Limit

2.2.1. Limit of E.R.P. / E.I.R.P.

FCC

- §22.913(a)(5), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

- §24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

IC

- RSS-132 Issue 4

5.4, the transmitter output power shall be measured in terms of average power. The equivalent radiated power (e.r.p.) shall not exceed 7 watts for mobile equipment and 3 watts for portable equipment. The effective isotropic radiated power (e.i.r.p.) shall not exceed the limits specified in SRSP-503 for base station equipment.

- RSS-133 Issue 6

6.4, the equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510. Mobile stations and hand-held portables are limited to 2 watts maximum e.i.r.p. The equipment shall employ means to limit the power to the minimum necessary for successful communication.

2.2.2. Limit of Radiated Spurious Emissions

FCC

- §22.917(a), 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.

- §24.238(a), 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.

IC

- RSS-132 Issue 4

5.5, Equipment shall meet the unwanted emission limits specified below.

(i) In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1 % of the occupied bandwidth shall be attenuated below the transmitter output power P (dB W) by at least $43 + 10 \log(p)$ dB.

(ii) After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated below the transmitter output power P (dB W) by at least $43 + 10 \log(p)$ dB. If the measurement is performed using 1 % of the occupied bandwidth, power integration over 100 kHz is required.

- RSS-133 Issue 6

6.5, Equipment shall comply with the limits in (i) and (ii) below.

(i) In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1 % of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dB W) by at least $43 + 10 \log_{10} p(\text{watts})$.

(ii) After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dB W) by at least $43 + 10 \log_{10} p(\text{watts})$. If the measurement is performed using 1 % of the emission bandwidth, power integration over 1.0 MHz is required.

2.3. Test Procedure

2.3.1. E.R.P. or E.I.R.P. from conducted RF output power

According to subclause 5.2.5.5 of ANSI C63.26-2015 E.R.P. and E.I.R.P. are defined as the product of the power supplied to the antenna and its gain.

The relevant equation for determining the E.R.P. or E.I.R.P. from the conducted RF output power measured using the guidance provided above is:

$$\text{E.R.P. or E.I.R.P.} = P_{\text{Meas}} + G_T$$

where:

E.R.P. or E.I.R.P. = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

2.3.2. Radiated Spurious Emissions

The test based on ANSI/TIA 603E: 2016 and ANSI C63.26-2015 and KDB 971168 D01 Power Meas License Digital Systems v03r01.

1. On a test site, the EUT shall be placed at 0.8 m or 1.5 m height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. Radiated spurious emissions measurement method was set as follows:
RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz, VBW ≥ 3 x RBW,
Detector = RMS, trace mode = max hold, per the guidelines of KDB 971168 D01 Power Meas License Digital Systems v03r01.
5. The transmitter shall be switched on, the measuring receiver shall be tuned to the frequency of the transmitter under test.
6. The test antenna shall be raised and lowered through the specified range of height until the maximum signal level is detected by the measuring receiver.
7. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
8. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
9. The maximum signal level detected by the measuring receiver shall be noted.
10. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
11. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
12. The measurement shall be repeated with the test antenna orientated for horizontal polarization.

2.4. Test Results

Ambient temperature : (23 ± 1) °C
Relative humidity : 47 % R.H.

2.4.1. E.R.P. / E.I.R.P.

SIM 1

Band	Frequency (MHz)	Maximum Conducted Power (dB m)	Maximum Conducted Power (W)	Worst Antenna Gain (dB i)	Maximum E.I.R.P. (dB m)	Maximum E.I.R.P. (W)	Maximum E.R.P. (dB m)	Maximum E.R.P. (W)	Output Power Limit
n2	1 850 ~ 1 910	22.90	0.195	5.38	28.28	0.673			2 W E.I.R.P.
n5	824 ~ 849	23.05	0.202	2.78	25.83	0.383	23.68	0.233	7 W E.R.P.

SIM 2

Band	Frequency (MHz)	Maximum Conducted Power (dB m)	Maximum Conducted Power (W)	Worst Antenna Gain (dB i)	Maximum E.I.R.P. (dB m)	Maximum E.I.R.P. (W)	Maximum E.R.P. (dB m)	Maximum E.R.P. (W)	Output Power Limit
n2	1 850 ~ 1 910	22.33	0.171	4.11	26.44	0.441			2 W E.I.R.P.
n5	824 ~ 849	22.77	0.189	4.43	27.20	0.525	25.05	0.320	7 W E.R.P.

Remark;

1. E.I.R.P. (dB m) = Maximum Conducted Power (dB m) + Antenna Gain (dB i)
2. E.R.P. (dB m) = E.I.R.P. (dB m) - 2.15 (dB); where E.R.P. and E.I.R.P. are expressed in consistent units.

2.4.2. Radiated Spurious Emissions

SIM 1

NR Band 2 (5 MHz – DFT-S-OFDM QPSK)

Frequency (MHz)	Measured Level (dB μ V)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB μ V/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (1 852.5 MHz)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (1 880.0 MHz)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (1 907.5 MHz)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

NR Band 5 (20 MHz - DFT-S-OFDM QPSK)

Frequency (MHz)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (834.0 MHz)									
1 624.92	49.39	H	25.60	-36.97	38.02	-97.41	-59.39	-13	46.39
1 624.92	48.01	V	25.60	-36.97	36.64	-97.41	-60.77	-13	47.77
4 123.60	52.70	H	32.10	-32.00	52.80	-97.41	-44.61	-13	31.61
4 123.58	48.73	V	32.10	-32.00	48.83	-97.41	-48.58	-13	35.58
Above 4 200.00	Not detected	—	—	—	—	—	—	—	—
Middle Channel (836.5 MHz)									
1 624.95	49.29	H	25.60	-36.97	37.92	-97.41	-59.49	-13	46.49
1 624.90	48.06	V	25.60	-36.97	36.69	-97.41	-60.72	-13	47.72
4 136.13	53.79	H	32.10	-31.99	53.90	-97.41	-43.51	-13	30.51
4 135.97	49.27	V	32.10	-31.99	49.38	-97.41	-48.03	-13	35.03
Above 4 200.00	Not detected	—	—	—	—	—	—	—	—
High Channel (839.0 MHz)									
1 624.99	49.25	H	25.60	-36.97	37.88	-97.41	-59.53	-13	46.53
1 625.18	48.15	V	25.60	-36.96	36.79	-97.41	-60.62	-13	47.62
4 148.59	50.53	H	32.10	-31.98	50.65	-97.41	-46.76	-13	33.76
4 148.47	48.03	V	32.10	-31.98	48.15	-97.41	-49.26	-13	36.26
Above 4 200.00	Not detected	—	—	—	—	—	—	—	—

ENDC

66A-n5A (20 MHz - DFT-S-OFDM QPSK)

Frequency (MHz)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (834.0 MHz)									
1 625.11	47.89	H	25.60	-36.97	36.52	-97.41	-60.89	-13	47.89
1 624.98	47.91	V	25.60	-36.97	36.54	-97.41	-60.87	-13	47.87
4 123.93	45.25	H	32.10	-32.00	45.35	-97.41	-52.06	-13	39.06
4 123.72	49.62	V	32.10	-32.00	49.72	-97.41	-47.69	-13	34.69
Above 4 200.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (836.5 MHz)									
1 624.99	47.52	H	25.60	-36.97	36.15	-97.41	-61.26	-13	48.26
1 624.82	47.54	V	25.60	-36.97	36.17	-97.41	-61.24	-13	48.24
4 136.15	47.69	H	32.10	-31.99	47.80	-97.41	-49.61	-13	36.61
4 135.81	52.33	V	32.10	-31.99	52.44	-97.41	-44.97	-13	31.97
Above 4 200.00	Not detected	-	-	-	-	-	-	-	-
High Channel (839.0 MHz)									
1 624.90	47.97	H	25.60	-36.97	36.60	-97.41	-60.81	-13	47.81
1 624.99	48.00	V	25.60	-36.97	36.63	-97.41	-60.78	-13	47.78
4 148.56	46.06	H	32.10	-31.98	46.18	-97.41	-51.23	-13	38.23
4 148.59	43.14	V	32.10	-31.98	43.26	-97.41	-54.15	-13	41.15
Above 4 200.00	Not detected	-	-	-	-	-	-	-	-

SIM 2

NR Band 2 (15 MHz – DFT-S-OFDM QPSK)

Frequency (MHz)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (1 857.5 MHz)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (1 880.0 MHz)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (1 902.5 MHz)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

NR Band 5 (15 MHz - DFT-S-OFDM QPSK)

Frequency (MHz)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (831.5 MHz)									
1 624.88	48.47	H	25.60	-36.97	37.10	-97.41	-60.31	-13	47.31
1 624.75	47.02	V	25.60	-36.97	35.65	-97.41	-61.76	-13	48.76
1 649.41	47.92	H	25.80	-36.87	36.85	-97.41	-60.56	-13	47.56
1 654.21	50.78	V	25.88	-36.86	39.80	-97.41	-57.61	-13	44.61
Above 1 700.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (836.5 MHz)									
1 624.84	48.73	H	25.60	-36.97	37.36	-97.41	-60.05	-13	47.05
1 625.03	46.85	V	25.60	-36.97	35.48	-97.41	-61.93	-13	48.93
1 659.41	48.49	H	25.97	-36.84	37.62	-97.41	-59.79	-13	46.79
1 659.32	50.14	V	25.97	-36.84	39.27	-97.41	-58.14	-13	45.14
Above 1 700.00	Not detected	-	-	-	-	-	-	-	-
High Channel (841.5 MHz)									
1 625.01	48.53	H	25.60	-36.97	37.16	-97.41	-60.25	-13	47.25
1 624.79	47.32	V	25.60	-36.97	35.95	-97.41	-61.46	-13	48.46
1 664.08	47.80	H	26.05	-36.82	37.03	-97.41	-60.38	-13	47.38
1 664.37	49.36	V	26.06	-36.82	38.60	-97.41	-58.81	-13	45.81
Above 1 700.00	Not detected	-	-	-	-	-	-	-	-

Remark;

1. AF = Antenna Factor, CL = Cable Loss, CF = Conversion Factor.
2. $E \text{ (dB}\mu\text{V/m)} = \text{Measured Level (dB}\mu\text{V)} + \text{Antenna Factor (dB/m)} + \text{AMP (dB)} + \text{Cable Loss (dB)}$.
3. $E.I.R.P. \text{ (dB m)} = E \text{ (dB}\mu\text{V/m)} + CF \text{ (dB)}$.
4. $E.R.P. \text{ (dB m)} = E \text{ (dB}\mu\text{V/m)} + CF \text{ (dB)} - 2.15 \text{ (dB)}$; where E.R.P. and E.I.R.P. are expressed in consistent units.
5. $CF \text{ (dB)} = 20 \log D - 104.8$; where D is the measurement distance in meters, According to KDB 971168 D01 v03r01 5.8.4.
6. The frequency spectrum is examined from 9 kHz to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions above table.

3. Conducted Output Power

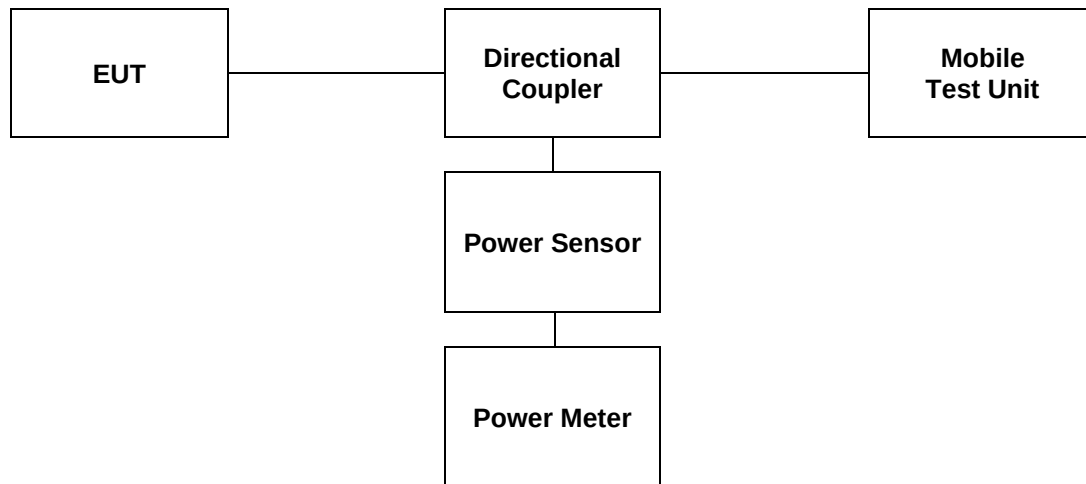
3.1. Limit

CFR 47, Section FCC §2.1046 and IC RSS-Gen Issue 5 6.12.

3.2. Test Procedure

Output power shall be measured at the RF output terminals for all configurations.

1. The RF output of the transmitter was connected to the input of the mobile test unit in order to establish communication with the EUT.
2. The EUT was set up for the max. output power with pseudo random data modulation by using mobile test unit parameters.
3. The measurement performed using a wideband RF power meter.
4. This EUT was tested under all configurations and the highest power was investigated and reported.



3.3. Test Result

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

SIM 1

NR Band 2												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							370500 (1 852.5 MHz)		376000 (1 880.0 MHz)		381500 (1 907.5 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.72	0.187	22.50	0.178	22.60	0.182
			QPSK		1	1	22.90	0.195	22.54	0.179	22.77	0.189
			16QAM		1	1	21.80	0.151	21.53	0.142	21.67	0.147
			64QAM		1	1	20.35	0.108	20.07	0.102	20.26	0.106
			256QAM	1	1	18.37	0.069	18.08	0.064	18.25	0.067	
			BPSK	Inner_1RB Right	1	23	22.73	0.187	22.46	0.176	22.76	0.189
			QPSK		1	23	22.79	0.190	22.59	0.182	22.84	0.192
			BPSK	Inner_Full	12	6	22.88	0.194	22.65	0.184	22.79	0.190
			QPSK		12	6	22.86	0.193	22.62	0.183	22.81	0.191
			BPSK	Outer_Full	25	0	21.86	0.153	21.60	0.145	21.78	0.151
			QPSK		25	0	21.87	0.154	21.59	0.144	21.79	0.151
			BPSK	Edge_1RB Left	1	0	21.78	0.151	21.47	0.140	21.73	0.149
			QPSK		1	0	21.81	0.152	21.51	0.142	21.70	0.148
			BPSK	Edge_Full Left	2	0	21.83	0.152	21.56	0.143	21.76	0.150
			QPSK		2	0	21.83	0.152	21.56	0.143	21.73	0.149
			BPSK	Edge_1RB Right	1	24	21.81	0.152	21.57	0.144	21.81	0.152
			QPSK		1	24	21.83	0.152	21.58	0.144	21.83	0.152
			BPSK	Edge_Full Right	2	23	21.88	0.154	21.63	0.146	21.87	0.154
		QPSK	2		23	21.86	0.153	21.62	0.145	21.87	0.154	
		CP OFDM	QPSK	Inner_1RB Left	1	1	21.32	0.136	21.01	0.126	21.25	0.133
			16QAM		1	1	20.80	0.120	20.52	0.113	20.71	0.118

NR Band 2												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							371000 (1 855.0 MHz)		376000 (1 880.0 MHz)		381000 (1 905.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.82	0.191	22.54	0.179	22.68	0.185
			QPSK		1	1	22.89	0.195	22.58	0.181	22.72	0.187
			16QAM		1	1	21.95	0.157	21.51	0.142	21.75	0.150
			64QAM		1	1	20.42	0.110	20.10	0.102	20.25	0.106
			256QAM	1	1	18.41	0.069	18.14	0.065	18.28	0.067	
			BPSK	Inner_1RB Right	1	50	22.63	0.183	22.61	0.182	22.79	0.190
			QPSK		1	50	22.68	0.185	22.68	0.185	22.87	0.194
			BPSK	Inner_Full	25	12	22.80	0.191	22.63	0.183	22.82	0.191
			QPSK		25	12	22.78	0.190	22.64	0.184	22.83	0.192
			BPSK	Outer_Full	50	0	21.79	0.151	21.63	0.146	21.86	0.153
			QPSK		50	0	21.80	0.151	21.64	0.146	21.85	0.153
			BPSK	Edge_1RB Left	1	0	21.84	0.153	21.54	0.143	21.67	0.147
			QPSK		1	0	21.87	0.154	21.57	0.144	21.73	0.149
			BPSK	Edge_Full Left	2	0	21.92	0.156	21.65	0.146	21.77	0.150
			QPSK		2	0	21.94	0.156	21.65	0.146	21.79	0.151
			BPSK	Edge_1RB Right	1	51	21.67	0.147	21.62	0.145	21.78	0.151
			QPSK		1	51	21.72	0.149	21.68	0.147	21.85	0.153
			BPSK	Edge_Full Right	2	50	21.77	0.150	21.73	0.149	21.91	0.155
		QPSK	2		50	21.75	0.150	21.72	0.149	21.92	0.156	
		CP OFDM	QPSK	Inner_1RB Left	1	1	21.37	0.137	21.12	0.129	21.23	0.133
			16QAM		1	1	20.92	0.124	20.61	0.115	20.76	0.119

NR Band 2												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							371500 (1 857.5 MHz)		376000 (1 880.0 MHz)		380500 (1 902.5 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.73	0.187	22.48	0.177	22.52	0.179
			QPSK		1	1	22.81	0.191	22.55	0.180	22.65	0.184
			16QAM		1	1	21.78	0.151	21.60	0.145	21.65	0.146
			64QAM		1	1	20.30	0.107	20.11	0.103	20.20	0.105
			256QAM	1	1	18.38	0.069	18.14	0.065	18.21	0.066	
			BPSK	Inner_1RB Right	1	77	22.60	0.182	22.65	0.184	22.73	0.187
			QPSK		1	77	22.71	0.187	22.72	0.187	22.79	0.190
			BPSK	Inner_Full	36	18	22.79	0.190	22.67	0.185	22.76	0.189
			QPSK		36	18	22.80	0.191	22.65	0.184	22.76	0.189
			BPSK	Outer_Full	75	0	21.81	0.152	21.65	0.146	21.76	0.150
			QPSK		75	0	21.81	0.152	21.66	0.147	21.75	0.150
			BPSK	Edge_1RB Left	1	0	21.75	0.150	21.57	0.144	21.58	0.144
			QPSK		1	0	21.80	0.151	21.60	0.145	21.61	0.145
			BPSK	Edge_Full Left	2	0	21.87	0.154	21.67	0.147	21.72	0.149
			QPSK		2	0	21.86	0.153	21.68	0.147	21.72	0.149
			BPSK	Edge_1RB Right	1	78	21.64	0.146	21.64	0.146	21.76	0.150
			QPSK		1	78	21.72	0.149	21.72	0.149	21.79	0.151
			BPSK	Edge_Full Right	2	77	21.78	0.151	21.79	0.151	21.87	0.154
			QPSK		2	77	21.80	0.151	21.80	0.151	21.88	0.154
		CP OFDM	QPSK	Inner_1RB	1	1	21.36	0.137	21.13	0.130	21.14	0.130
		16QAM	Left	1	1	20.82	0.121	20.67	0.117	20.68	0.117	

NR Band 2												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							372000 (1 860.0 MHz)		376000 (1 880.0 MHz)		380000 (1 900.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.80	0.191	22.53	0.179	22.56	0.180
			QPSK		1	1	22.76	0.189	22.57	0.181	22.60	0.182
			16QAM		1	1	21.75	0.150	21.60	0.145	21.66	0.147
			64QAM		1	1	20.36	0.109	20.06	0.101	20.19	0.104
			256QAM	1	1	18.27	0.067	18.16	0.065	18.19	0.066	
			BPSK	Inner_1RB Right	1	104	22.59	0.182	22.62	0.183	22.68	0.185
			QPSK		1	104	22.66	0.185	22.66	0.185	22.73	0.187
			BPSK	Inner_Full	50	25	22.79	0.190	22.65	0.184	22.78	0.190
			QPSK		50	25	22.78	0.190	22.67	0.185	22.79	0.190
			BPSK	Outer_Full	100	0	21.78	0.151	21.67	0.147	21.78	0.151
			QPSK		100	0	21.80	0.151	21.66	0.147	21.79	0.151
			BPSK	Edge_1RB Left	1	0	21.74	0.149	21.54	0.143	21.59	0.144
			QPSK		1	0	21.80	0.151	21.60	0.145	21.63	0.146
			BPSK	Edge_Full Left	2	0	21.86	0.153	21.67	0.147	21.67	0.147
			QPSK		2	0	21.84	0.153	21.66	0.147	21.69	0.148
			BPSK	Edge_1RB Right	1	105	21.62	0.145	21.64	0.146	21.70	0.148
			QPSK		1	105	21.62	0.145	21.66	0.147	21.75	0.150
			BPSK	Edge_Full Right	2	104	21.69	0.148	21.72	0.149	21.80	0.151
			QPSK		2	104	21.71	0.148	21.72	0.149	21.79	0.151
		CP OFDM	QPSK	Inner_1RB	1	1	21.35	0.136	21.11	0.129	21.15	0.130
		16QAM	Left	1	1	20.86	0.122	20.64	0.116	20.70	0.117	

NR Band 5												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							165300 (826.5 MHz)		167300 (836.5 MHz)		169300 (846.5 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.86	0.193	22.82	0.191	22.82	0.191
			QPSK		1	1	22.97	0.198	22.90	0.195	22.91	0.195
			16QAM		1	1	21.99	0.158	21.92	0.156	21.94	0.156
			64QAM		1	1	20.46	0.111	20.51	0.112	20.46	0.111
			256QAM	1	1	18.48	0.070	18.48	0.070	18.50	0.071	
			BPSK	Inner_1RB Right	1	23	22.74	0.188	22.78	0.190	22.79	0.190
			QPSK		1	23	22.84	0.192	22.80	0.191	22.86	0.193
			BPSK	Inner_Full	12	6	22.93	0.196	22.96	0.198	22.96	0.198
			QPSK		12	6	22.95	0.197	22.95	0.197	22.94	0.197
			BPSK	Outer_Full	25	0	21.95	0.157	21.98	0.158	21.98	0.158
			QPSK		25	0	21.96	0.157	21.95	0.157	21.98	0.158
			BPSK	Edge_1RB Left	1	0	21.89	0.155	21.84	0.153	21.91	0.155
			QPSK		1	0	21.91	0.155	21.88	0.154	21.96	0.157
			BPSK	Edge_Full Left	2	0	21.99	0.158	21.94	0.156	21.98	0.158
			QPSK		2	0	21.98	0.158	21.96	0.157	21.98	0.158
			BPSK	Edge_1RB Right	1	24	21.80	0.151	21.83	0.152	21.81	0.152
			QPSK		1	24	21.79	0.151	21.85	0.153	21.84	0.153
			BPSK	Edge_Full Right	2	23	21.88	0.154	21.87	0.154	21.88	0.154
		QPSK	2		23	21.88	0.154	21.87	0.154	21.90	0.155	
		CP OFDM	QPSK	Inner_1RB Left	1	1	21.42	0.139	21.42	0.139	21.51	0.142
			16QAM		1	1	21.00	0.126	20.98	0.125	20.94	0.124
NR Band 5												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							165800 (829.0 MHz)		167300 (836.5 MHz)		168800 (844.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.74	0.188	22.81	0.191	22.68	0.185
			QPSK		1	1	22.99	0.199	22.84	0.192	22.77	0.189
			16QAM		1	1	21.86	0.153	21.88	0.154	21.80	0.151
			64QAM		1	1	20.35	0.108	20.45	0.111	20.33	0.108
			256QAM	1	1	18.35	0.068	18.45	0.070	18.37	0.069	
			BPSK	Inner_1RB Right	1	50	22.80	0.191	22.87	0.194	22.82	0.191
			QPSK		1	50	22.91	0.195	22.88	0.194	22.83	0.192
			BPSK	Inner_Full	25	12	22.94	0.197	22.77	0.189	22.91	0.195
			QPSK		25	12	22.92	0.196	22.92	0.196	22.91	0.195
			BPSK	Outer_Full	50	0	21.93	0.156	22.00	0.158	21.93	0.156
			QPSK		50	0	21.91	0.155	21.99	0.158	21.92	0.156
			BPSK	Edge_1RB Left	1	0	21.78	0.151	21.83	0.152	21.71	0.148
			QPSK		1	0	21.81	0.152	21.87	0.154	21.79	0.151
			BPSK	Edge_Full Left	2	0	21.87	0.154	21.93	0.156	21.84	0.153
			QPSK		2	0	21.87	0.154	21.93	0.156	21.87	0.154
			BPSK	Edge_1RB Right	1	51	21.83	0.152	21.85	0.153	21.83	0.152
			QPSK		1	51	21.85	0.153	21.93	0.156	21.86	0.153
			BPSK	Edge_Full Right	2	50	21.92	0.156	21.98	0.158	21.91	0.155
		QPSK	2		50	21.90	0.155	21.97	0.157	21.90	0.155	
		CP OFDM	QPSK	Inner_1RB Left	1	1	21.34	0.136	21.37	0.137	21.32	0.136
			16QAM		1	1	20.83	0.121	20.92	0.124	20.77	0.119

NR Band 5												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							166300 (831.5 MHz)		167300 (836.5 MHz)		168300 (841.5 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.89	0.195	22.93	0.196	22.86	0.193
			QPSK		1	1	22.94	0.197	22.96	0.198	22.92	0.196
			16QAM		1	1	21.91	0.155	21.96	0.157	21.96	0.157
			64QAM		1	1	20.43	0.110	20.49	0.112	20.50	0.112
			256QAM	1	1	18.47	0.070	18.56	0.072	18.53	0.071	
			BPSK	Inner_1RB Right	1	77	22.86	0.193	22.86	0.193	22.85	0.193
			QPSK		1	77	22.91	0.195	23.01	0.200	22.95	0.197
			BPSK	Inner_Full	36	18	22.99	0.199	22.93	0.196	22.88	0.194
			QPSK		36	18	22.99	0.199	22.99	0.199	22.90	0.195
			BPSK	Outer_Full	75	0	21.97	0.157	22.03	0.160	21.92	0.156
			QPSK		75	0	21.98	0.158	22.01	0.159	21.92	0.156
			BPSK	Edge_1RB Left	1	0	21.90	0.155	21.90	0.155	21.89	0.155
			QPSK		1	0	21.95	0.157	21.97	0.157	21.97	0.157
			BPSK	Edge_Full Left	2	0	22.02	0.159	22.04	0.160	22.01	0.159
			QPSK		2	0	22.01	0.159	22.02	0.159	22.02	0.159
			BPSK	Edge_1RB Right	1	78	21.91	0.155	21.89	0.155	21.84	0.153
			QPSK		1	78	21.94	0.156	21.91	0.155	21.93	0.156
			BPSK	Edge_Full Right	2	77	22.00	0.158	22.00	0.158	22.03	0.160
			QPSK		2	77	22.01	0.159	22.00	0.158	22.02	0.159
		CP OFDM	QPSK	Inner_1RB	1	1	21.48	0.141	21.50	0.141	21.54	0.143
			16QAM	Left	1	1	21.03	0.127	21.04	0.127	21.00	0.126

NR Band 5												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							166800 (834.0 MHz)		167300 (836.5 MHz)		167800 (839.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.81	0.191	22.79	0.190	22.83	0.192
			QPSK		1	1	23.05	0.202	22.83	0.192	22.92	0.196
			16QAM		1	1	21.90	0.155	21.86	0.153	21.89	0.155
			64QAM		1	1	20.43	0.110	20.43	0.110	20.46	0.111
			256QAM	1	1	18.49	0.071	18.42	0.070	18.54	0.071	
			BPSK	Inner_1RB Right	1	104	22.85	0.193	22.81	0.191	22.90	0.195
			QPSK		1	104	22.90	0.195	22.86	0.193	22.96	0.198
			BPSK	Inner_Full	50	25	23.03	0.201	23.01	0.200	22.96	0.198
			QPSK		50	25	23.04	0.201	23.03	0.201	22.95	0.197
			BPSK	Outer_Full	100	0	22.02	0.159	22.03	0.160	21.97	0.157
			QPSK		100	0	22.04	0.160	22.04	0.160	21.97	0.157
			BPSK	Edge_1RB Left	1	0	21.86	0.153	21.85	0.153	21.88	0.154
			QPSK		1	0	21.93	0.156	21.87	0.154	21.94	0.156
			BPSK	Edge_Full Left	2	0	21.97	0.157	21.97	0.157	22.01	0.159
			QPSK		2	0	21.98	0.158	21.94	0.156	21.97	0.157
			BPSK	Edge_1RB Right	1	105	21.90	0.155	21.86	0.153	21.86	0.153
			QPSK		1	105	21.95	0.157	21.91	0.155	21.94	0.156
			BPSK	Edge_Full Right	2	104	21.99	0.158	21.96	0.157	21.99	0.158
			QPSK		2	104	21.99	0.158	21.96	0.157	22.00	0.158
		CP OFDM	QPSK	Inner_1RB	1	1	21.42	0.139	21.45	0.140	21.43	0.139
			16QAM	Left	1	1	20.99	0.126	20.95	0.124	21.00	0.126

ENDC

66A-n5A												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							166800 (834.0 MHz)		167300 (836.5 MHz)		167800 (839.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	15	DFT-S OFDM	BPSK	Inner_1RB	1	1	22.52	0.179	22.51	0.178	22.49	0.177
			QPSK	Left	1	1	22.71	0.187	22.55	0.180	22.68	0.185
			BPSK	Inner_1RB	1	104	22.48	0.177	22.44	0.175	22.32	0.171
			QPSK	Right	1	104	22.46	0.176	22.42	0.175	22.44	0.175

SIM 2

NR Band 2												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							370500 (1 852.5 MHz)		376000 (1 880.0 MHz)		381500 (1 907.5 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.01	0.159	21.90	0.155	22.15	0.164
			QPSK		1	1	22.10	0.162	22.01	0.159	22.29	0.169
			16QAM		1	1	21.12	0.129	20.91	0.123	21.24	0.133
			64QAM		1	1	19.64	0.092	19.51	0.089	19.70	0.093
			BPSK	Inner_1RB Right	1	23	22.08	0.161	21.96	0.157	22.12	0.163
			QPSK		1	23	22.13	0.163	22.07	0.161	22.25	0.168
			BPSK	Inner_Full	12	6	22.17	0.165	22.08	0.161	22.28	0.169
			QPSK		12	6	22.18	0.165	22.06	0.161	22.28	0.169
			BPSK	Outer_Full	25	0	21.16	0.131	21.04	0.127	21.25	0.133
			QPSK		25	0	21.17	0.131	21.05	0.127	21.27	0.134
			BPSK	Edge_1RB Left	1	0	21.05	0.127	20.88	0.122	21.17	0.131
			QPSK		1	0	21.12	0.129	20.98	0.125	21.16	0.131
			BPSK	Edge_Full Left	2	0	21.16	0.131	20.98	0.125	21.22	0.132
			QPSK		2	0	21.14	0.130	20.99	0.126	21.21	0.132
			BPSK	Edge_1RB Right	1	24	21.11	0.129	21.01	0.126	21.15	0.130
			QPSK		1	24	21.13	0.130	21.04	0.127	21.18	0.131
		BPSK	Edge_Full Right	2	23	21.17	0.131	21.02	0.126	21.23	0.133	
		QPSK		2	23	21.17	0.131	21.04	0.127	21.23	0.133	
	CP OFDM	QPSK	Inner_1RB	1	1	20.65	0.116	20.51	0.112	20.75	0.119	
		16QAM	Left	1	1	20.20	0.105	20.00	0.100	20.28	0.107	

NR Band 2												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							371000 (1 855.0 MHz)		376000 (1 880.0 MHz)		381000 (1 905.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.13	0.163	21.97	0.157	22.10	0.162
			QPSK		1	1	22.18	0.165	22.02	0.159	22.20	0.166
			16QAM		1	1	21.25	0.133	20.99	0.126	21.14	0.130
			64QAM		1	1	19.71	0.094	19.57	0.091	19.69	0.093
			BPSK	Inner_1RB Right	1	50	22.04	0.160	21.96	0.157	22.17	0.165
			QPSK		1	50	22.11	0.163	22.00	0.158	22.25	0.168
			BPSK	Inner_Full	25	12	22.19	0.166	22.06	0.161	22.19	0.166
			QPSK		25	12	22.22	0.167	22.07	0.161	22.21	0.166
			BPSK	Outer_Full	50	0	21.21	0.132	21.05	0.127	21.21	0.132
			QPSK		50	0	21.19	0.132	21.06	0.128	21.21	0.132
			BPSK	Edge_1RB Left	1	0	21.15	0.130	20.92	0.124	21.12	0.129
			QPSK		1	0	21.20	0.132	21.00	0.126	21.15	0.130
			BPSK	Edge_Full Left	2	0	21.23	0.133	21.04	0.127	21.19	0.132
			QPSK		2	0	21.24	0.133	21.06	0.128	21.20	0.132
			BPSK	Edge_1RB Right	1	51	21.04	0.127	20.90	0.123	21.15	0.130
			QPSK		1	51	21.06	0.128	21.02	0.126	21.20	0.132
		BPSK	Edge_Full Right	2	50	21.13	0.130	21.07	0.128	21.27	0.134	
		QPSK		2	50	21.15	0.130	21.07	0.128	21.28	0.134	
	CP OFDM	QPSK	Inner_1RB	1	1	20.66	0.116	20.57	0.114	20.68	0.117	
		16QAM	Left	1	1	20.22	0.105	20.06	0.101	20.18	0.104	

NR Band 2												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							371500 (1 857.5 MHz)		376000 (1 880.0 MHz)		380500 (1 902.5 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.14	0.164	21.94	0.156	21.99	0.158
			QPSK		1	1	22.33	0.171	22.02	0.159	22.04	0.160
			16QAM		1	1	21.20	0.132	21.00	0.126	21.01	0.126
			64QAM		1	1	19.70	0.093	19.58	0.091	19.57	0.091
			BPSK	Inner_1RB Right	1	77	22.13	0.163	22.04	0.160	22.18	0.165
			QPSK		1	77	22.20	0.166	22.07	0.161	22.25	0.168
			BPSK	Inner_Full	36	18	22.31	0.170	22.09	0.162	22.22	0.167
			QPSK		36	18	22.32	0.171	22.10	0.162	22.20	0.166
			BPSK	Outer_Full	75	0	21.32	0.136	21.11	0.129	21.20	0.132
			QPSK		75	0	21.32	0.136	21.11	0.129	21.21	0.132
			BPSK	Edge_1RB Left	1	0	21.16	0.131	21.01	0.126	20.97	0.125
			QPSK		1	0	21.20	0.132	21.06	0.128	21.01	0.126
			BPSK	Edge_Full Left	2	0	21.25	0.133	21.10	0.129	21.11	0.129
			QPSK		2	0	21.26	0.134	21.13	0.130	21.13	0.130
			BPSK	Edge_1RB Right	1	78	21.17	0.131	21.00	0.126	21.23	0.133
			QPSK		1	78	21.18	0.131	21.05	0.127	21.25	0.133
			BPSK	Edge_Full Right	2	77	21.26	0.134	21.13	0.130	21.32	0.136
			QPSK		2	77	21.29	0.135	21.14	0.130	21.33	0.136
		CP OFDM	QPSK	Inner_1RB	1	1	20.71	0.118	20.47	0.111	20.55	0.114
			16QAM	Left	1	1	20.22	0.105	20.06	0.101	20.12	0.103
NR Band 2												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							372000 (1 860.0 MHz)		376000 (1 880.0 MHz)		380000 (1 900.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.11	0.163	21.94	0.156	22.04	0.160
			QPSK		1	1	22.31	0.170	22.02	0.159	22.07	0.161
			16QAM		1	1	21.20	0.132	21.06	0.128	21.07	0.128
			64QAM		1	1	19.75	0.094	19.56	0.090	19.60	0.091
			BPSK	Inner_1RB Right	1	104	22.06	0.161	22.06	0.161	22.20	0.166
			QPSK		1	104	22.12	0.163	22.17	0.165	22.25	0.168
			BPSK	Inner_Full	50	25	22.28	0.169	22.11	0.163	22.24	0.167
			QPSK		50	25	22.30	0.170	22.11	0.163	22.24	0.167
			BPSK	Outer_Full	100	0	21.27	0.134	21.11	0.129	21.22	0.132
			QPSK		100	0	21.26	0.134	21.11	0.129	21.21	0.132
			BPSK	Edge_1RB	1	0	21.10	0.129	20.97	0.125	21.00	0.126
			QPSK		Left	1	0	21.23	0.133	21.04	0.127	21.05
			BPSK	Edge_Full	2	0	21.25	0.133	21.10	0.129	21.13	0.130
			QPSK		Left	2	0	21.23	0.133	21.09	0.129	21.14
			BPSK	Edge_1RB	1	105	21.03	0.127	21.09	0.129	21.18	0.131
			QPSK		Right	1	105	21.11	0.129	21.11	0.129	21.25
			BPSK	Edge_Full	2	104	21.17	0.131	21.19	0.132	21.26	0.134
			QPSK		Right	2	104	21.19	0.132	21.18	0.131	21.30
		CP OFDM	QPSK	Inner_1RB	1	1	20.67	0.117	20.61	0.115	20.59	0.115
			16QAM	Left	1	1	20.26	0.106	20.11	0.103	20.10	0.102

NR Band 5												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							165300 (826.5 MHz)		167300 (836.5 MHz)		169300 (846.5 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.45	0.176	22.55	0.180	22.54	0.179
			QPSK		1	1	22.53	0.179	22.66	0.185	22.72	0.187
			16QAM		1	1	21.55	0.143	21.66	0.147	21.69	0.148
			64QAM		1	1	20.11	0.103	20.21	0.105	20.21	0.105
			BPSK	Inner_1RB Right	1	23	22.35	0.172	22.49	0.177	22.49	0.177
			QPSK		1	23	22.47	0.177	22.53	0.179	22.66	0.185
			BPSK	Inner_Full	12	6	22.58	0.181	22.66	0.185	22.71	0.187
			QPSK		12	6	22.56	0.180	22.67	0.185	22.71	0.187
			BPSK	Outer_Full	25	0	21.61	0.145	21.67	0.147	21.71	0.148
			QPSK		25	0	21.59	0.144	21.66	0.147	21.71	0.148
			BPSK	Edge_1RB Left	1	0	21.55	0.143	21.61	0.145	21.61	0.145
			QPSK		1	0	21.57	0.144	21.64	0.146	21.63	0.146
			BPSK	Edge_Full Left	2	0	21.59	0.144	21.68	0.147	21.72	0.149
			QPSK		2	0	21.58	0.144	21.66	0.147	21.69	0.148
			BPSK	Edge_1RB Right	1	24	21.38	0.137	21.50	0.141	21.53	0.142
			QPSK		1	24	21.45	0.140	21.54	0.143	21.57	0.144
		BPSK	Edge_Full Right	2	23	21.52	0.142	21.60	0.145	21.61	0.145	
		QPSK		2	23	21.51	0.142	21.61	0.145	21.63	0.146	
		CP OFDM	QPSK	Inner_1RB Left	1	1	21.09	0.129	21.10	0.129	21.11	0.129
			16QAM	Left	1	1	20.58	0.114	20.66	0.116	20.70	0.117
NR Band 5												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							165800 (829.0 MHz)		167300 (836.5 MHz)		168800 (844.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.41	0.174	22.43	0.175	22.40	0.174
			QPSK		1	1	22.43	0.175	22.45	0.176	22.44	0.175
			16QAM		1	1	21.50	0.141	21.49	0.141	21.51	0.142
			64QAM		1	1	19.99	0.100	20.04	0.101	20.07	0.102
			BPSK	Inner_1RB Right	1	50	22.47	0.177	22.57	0.181	22.56	0.180
			QPSK		1	50	22.57	0.181	22.71	0.187	22.57	0.181
			BPSK	Inner_Full	25	12	22.53	0.179	22.68	0.185	22.63	0.183
			QPSK		25	12	22.54	0.179	22.70	0.186	22.64	0.184
			BPSK	Outer_Full	50	0	21.54	0.143	21.68	0.147	21.63	0.146
			QPSK		50	0	21.54	0.143	21.70	0.148	21.63	0.146
			BPSK	Edge_1RB Left	1	0	21.37	0.137	21.41	0.138	21.45	0.140
			QPSK		1	0	21.43	0.139	21.47	0.140	21.51	0.142
			BPSK	Edge_Full Left	2	0	21.51	0.142	21.53	0.142	21.55	0.143
			QPSK		2	0	21.52	0.142	21.53	0.142	21.56	0.143
			BPSK	Edge_1RB Right	1	51	21.51	0.142	21.56	0.143	21.55	0.143
			QPSK		1	51	21.57	0.144	21.62	0.145	21.60	0.145
		BPSK	Edge_Full Right	2	50	21.66	0.147	21.69	0.148	21.64	0.146	
		QPSK		2	50	21.64	0.146	21.66	0.147	21.66	0.147	
		CP OFDM	QPSK	Inner_1RB Left	1	1	21.00	0.126	21.03	0.127	20.97	0.125
			16QAM	Left	1	1	20.52	0.113	20.52	0.113	20.50	0.112

NR Band 5												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							166300 (831.5 MHz)		167300 (836.5 MHz)		168300 (841.5 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.52	0.179	22.52	0.179	22.57	0.181
			QPSK		1	1	22.77	0.189	22.58	0.181	22.66	0.185
			16QAM		1	1	21.60	0.145	21.62	0.145	21.68	0.147
			64QAM		1	1	20.12	0.103	20.20	0.105	20.25	0.106
			BPSK	Inner_1RB Right	1	77	22.58	0.181	22.54	0.179	22.60	0.182
			QPSK		1	77	22.59	0.182	22.62	0.183	22.68	0.185
			BPSK	Inner_Full	36	18	22.71	0.187	22.72	0.187	22.62	0.183
			QPSK		36	18	22.70	0.186	22.72	0.187	22.61	0.182
			BPSK	Outer_Full	75	0	21.72	0.149	21.73	0.149	21.72	0.149
			QPSK		75	0	21.71	0.148	21.72	0.149	21.74	0.149
			BPSK	Edge_1RB Left	1	0	21.54	0.143	21.49	0.141	21.58	0.144
			QPSK		1	0	21.56	0.143	21.57	0.144	21.64	0.146
			BPSK	Edge_Full Left	2	0	21.65	0.146	21.67	0.147	21.75	0.150
			QPSK		2	0	21.66	0.147	21.68	0.147	21.76	0.150
			BPSK	Edge_1RB Right	1	78	21.55	0.143	21.57	0.144	21.65	0.146
			QPSK		1	78	21.63	0.146	21.64	0.146	21.66	0.147
			BPSK	Edge_Full Right	2	77	21.73	0.149	21.73	0.149	21.76	0.150
			QPSK		2	77	21.74	0.149	21.76	0.150	21.75	0.150
		CP OFDM	QPSK	Inner_1RB	1	1	21.13	0.130	21.09	0.129	21.20	0.132
			16QAM	Left	1	1	20.63	0.116	20.67	0.117	20.77	0.119
NR Band 5												
BW (MHz)	SCS (kHz)	Modulation		RB allocation	RB Size	RB Offset	Conducted Output Power					
							166800 (834.0 MHz)		167300 (836.5 MHz)		167800 (839.0 MHz)	
							(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	15	DFT-S OFDM	BPSK	Inner_1RB Left	1	1	22.43	0.175	22.49	0.177	22.43	0.175
			QPSK		1	1	22.49	0.177	22.61	0.182	22.57	0.181
			16QAM		1	1	21.52	0.142	21.63	0.146	21.51	0.142
			64QAM		1	1	20.08	0.102	20.13	0.103	20.09	0.102
			BPSK	Inner_1RB Right	1	104	22.51	0.178	22.76	0.189	22.55	0.180
			QPSK		1	104	22.64	0.184	22.71	0.187	22.64	0.184
			BPSK	Inner_Full	50	25	22.75	0.188	22.73	0.187	22.68	0.185
			QPSK		50	25	22.74	0.188	22.73	0.187	22.64	0.184
			BPSK	Outer_Full	100	0	21.77	0.150	21.74	0.149	21.72	0.149
			QPSK		100	0	21.75	0.150	21.75	0.150	21.68	0.147
			BPSK	Edge_1RB Left	1	0	21.49	0.141	21.56	0.143	21.44	0.139
			QPSK		1	0	21.53	0.142	21.59	0.144	21.54	0.143
			BPSK	Edge_Full Left	2	0	21.61	0.145	21.67	0.147	21.62	0.145
			QPSK		2	0	21.59	0.144	21.64	0.146	21.60	0.145
			BPSK	Edge_1RB Right	1	105	21.60	0.145	21.58	0.144	21.62	0.145
			QPSK		1	105	21.67	0.147	21.67	0.147	21.67	0.147
			BPSK	Edge_Full Right	2	104	21.72	0.149	21.78	0.151	21.73	0.149
			QPSK		2	104	21.73	0.149	21.76	0.150	21.72	0.149
		CP OFDM	QPSK	Inner_1RB	1	1	21.05	0.127	21.11	0.129	21.05	0.127
			16QAM	Left	1	1	20.57	0.114	20.71	0.118	20.57	0.114

Note ;

The ENDC combination were compared at the bandwidth of the worst output of the SA mode.

4. Occupied Bandwidth

4.1. Limit

CFR 47, Section FCC §2.1049 and IC RSS-Gen Issue 5 6.7.

4.2. Test Procedure

FCC

The test follows section 5.4.4 of ANSI C63.26-2015.

- 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 (typically a span of $1.5 \times \text{OBW}$ is sufficient).
- 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 $\geq 3 \times \text{RBW}$.
- 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. See guidance provided in 4.2.3.
- d. Set the detection mode to peak, and the trace mode to max-hold.
- e. If the instrument does not have a 99 % OBW function, recover the trace data points and sum directly in linear power terms. Place the recovered amplitude data points, beginning at the lowest frequency, in a running sum until 0.5 % of the total is reached. Record that frequency as the lower OBW frequency. Repeat the process until 99.5 % of the total is reached and record that frequency as the upper OBW frequency. The 99 % power OBW can be determined by computing the difference these two frequencies.
- f. The OBW shall be reported and plot(s) of the measuring instrument display shall be provided with the test report. The frequency and amplitude axis and scale shall be clearly labeled. Tabular data can be reported in addition to the plot(s).

IC

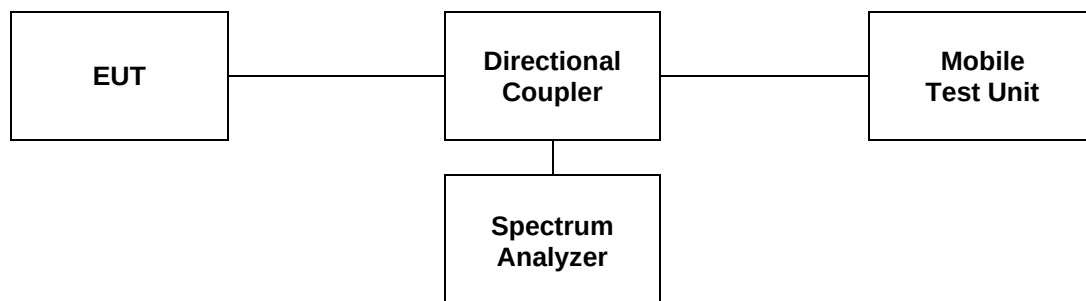
The test follows section 6.7 of RSS-Gen Issue 5.

The following conditions shall be observed for measuring the occupied bandwidth and x dB bandwidth:

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the spectrum analyzer shall be set large enough to capture all products of the modulation process, including the emission skirts, around the carrier frequency, but small enough to avoid having other emissions (e.g. on adjacent channels) within the span.
- The detector of the spectrum analyzer shall be set to "Sample". However, a peak, or peak hold, may be used in place of the sampling detector since this usually produces a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold (or "Max Hold") may be necessary to determine the occupied / x dB bandwidth if the device is not transmitting continuously.
- The resolution bandwidth (RBW) shall be in the range of 1 % to 5 % of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Note: It may be necessary to repeat the measurement a few times until the RBW and VBW are in compliance with the above requirement.

For the 99 % emission bandwidth, the trace data points are recovered and directly summed in linear power level terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached, and that frequency recorded. The process is repeated for the highest frequency data points (starting at the highest frequency, at the right side of the span, and going down in frequency). This frequency is then recorded. The difference between the two recorded frequencies is the occupied bandwidth (or the 99 % emission bandwidth).



4.3 Test Results

Ambient temperature : (23 ± 1) °C
 Relative humidity : 47 % R.H.

SIM 1

Band	SCS (kHz)	BW (MHz)	Frequency (MHz)	Occupied Bandwidth (MHz)				
				DFT-S-OFDM BPSK	DFT-S-OFDM QPSK	DFT-S-OFDM 16QAM	CP-OFDM QPSK	CP-OFDM 16QAM
2	15	5	1 852.5	4.505	4.505	4.505	4.486	4.505
			1 880.0	4.496	4.505	4.515	4.505	4.505
			1 907.5	4.496	4.515	4.505	4.496	4.515
		10	1 855.0	8.931	8.931	8.951	9.291	9.271
			1 880.0	8.931	8.931	8.951	9.271	9.271
			1 905.0	8.931	8.931	8.931	9.291	9.291
		15	1 857.5	13.457	13.487	13.457	14.146	14.146
			1 880.0	13.487	13.457	13.487	14.146	14.206
			1 902.5	13.457	13.487	13.487	14.146	14.176
		20	1 860.0	17.862	17.862	17.862	18.901	18.901
			1 880.0	17.902	17.902	17.902	18.941	18.981
			1 900.0	17.902	17.902	17.862	18.901	18.941
Band	SCS (kHz)	BW (MHz)	Frequency (MHz)	Occupied Bandwidth (MHz)				
				DFT-S-OFDM BPSK	DFT-S-OFDM QPSK	DFT-S-OFDM 16QAM	CP-OFDM QPSK	CP-OFDM 16QAM
5	15	5	826.5	4.505	4.496	4.496	4.515	4.496
			836.5	4.496	4.496	4.505	4.496	4.515
			846.5	4.496	4.496	4.496	4.515	4.505
		10	829.0	8.931	8.931	8.911	9.271	9.291
			836.5	8.931	8.951	8.951	9.291	9.291
			844.0	8.971	8.931	8.931	9.291	9.291
		15	831.5	13.457	13.457	13.457	14.146	14.116
			836.5	13.457	13.487	13.457	14.116	14.146
			841.5	13.487	13.457	13.427	14.116	14.146
		20	834.0	17.862	17.862	17.862	18.941	18.941
			836.5	17.822	17.862	17.862	18.901	18.901
			839.0	17.862	17.862	17.862	18.901	18.901

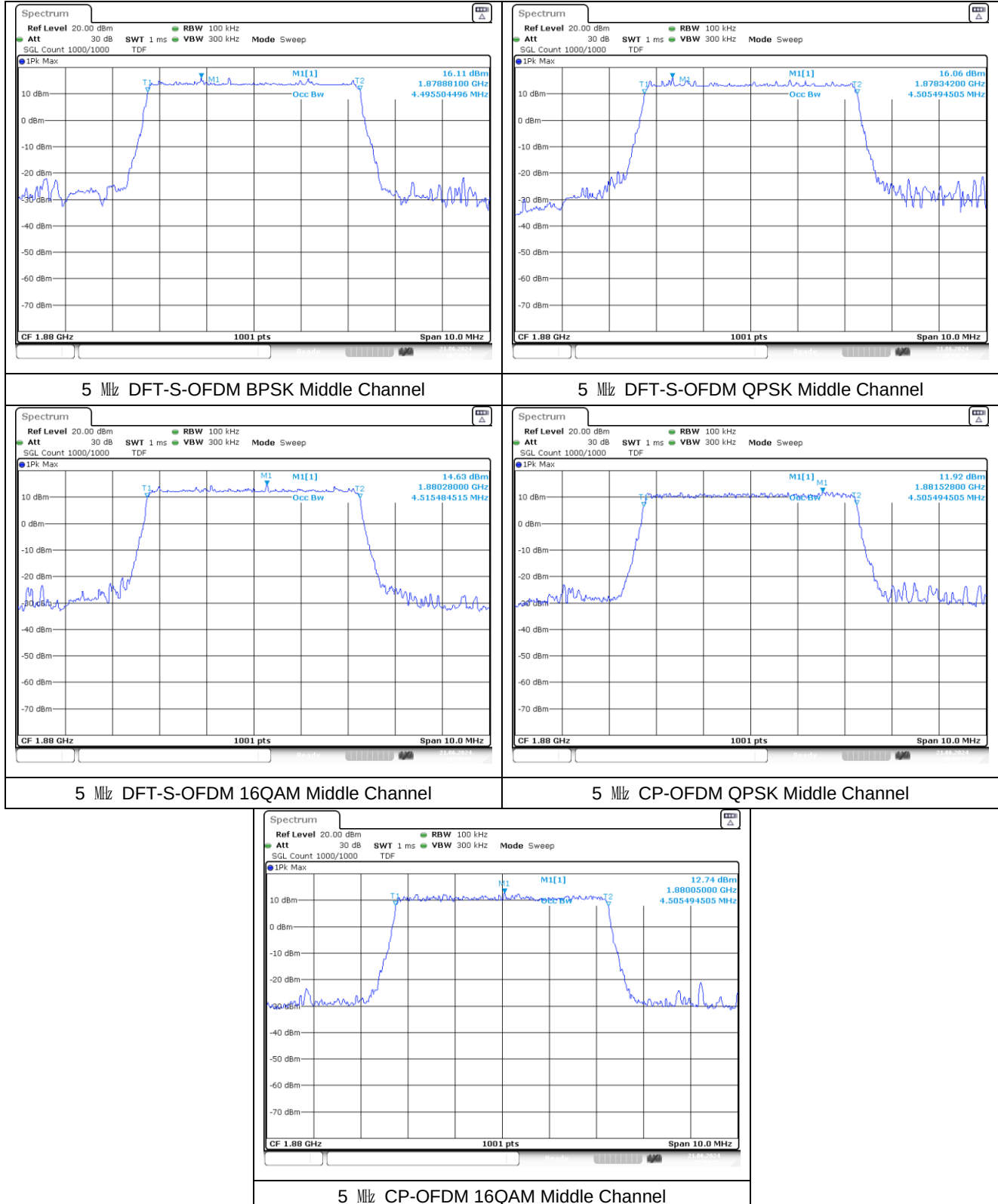
SIM 2

Band	SCS (kHz)	BW (MHz)	Frequency (MHz)	Occupied Bandwidth (MHz)				
				DFT-S-OFDM BPSK	DFT-S-OFDM QPSK	DFT-S-OFDM 16QAM	CP-OFDM QPSK	CP-OFDM 16QAM
2	15	5	1 852.5	4.505	4.515	4.505	4.496	4.505
			1 880.0	4.515	4.496	4.486	4.505	4.505
			1 907.5	4.496	4.505	4.505	4.486	4.496
		10	1 855.0	8.951	8.911	8.951	9.271	9.271
			1 880.0	8.931	8.931	8.931	9.271	9.271
			1 905.0	8.951	8.951	8.931	9.291	9.271
		15	1 857.5	13.487	13.457	13.457	14.116	14.146
			1 880.0	13.516	13.487	13.487	14.176	14.176
			1 902.5	13.457	13.457	13.487	14.146	14.176
		20	1 860.0	17.862	17.862	17.862	18.901	19.941
			1 880.0	17.902	17.902	17.862	18.981	18.981
			1 900.0	17.862	17.902	17.942	18.941	18.981
Band	SCS (kHz)	BW (MHz)	Frequency (MHz)	Occupied Bandwidth (MHz)				
				DFT-S-OFDM BPSK	DFT-S-OFDM QPSK	DFT-S-OFDM 16QAM	CP-OFDM QPSK	CP-OFDM 16QAM
5	15	5	826.5	4.496	4.505	4.486	4.496	4.505
			836.5	4.505	4.496	4.496	4.515	4.505
			846.5	4.505	4.505	4.496	4.496	4.496
		10	829.0	8.951	8.931	8.931	9.271	9.271
			836.5	8.951	8.931	8.931	9.291	9.291
			844.0	8.951	8.931	8.931	9.271	9.291
		15	831.5	13.427	13.427	13.427	14.086	14.146
			836.5	13.487	13.457	13.457	14.146	14.146
			841.5	13.457	13.457	13.457	14.116	14.146
		20	834.0	17.822	17.862	17.822	18.901	18.901
			836.5	17.822	17.862	17.902	18.941	18.901
			839.0	17.862	17.822	17.902	18.861	18.901

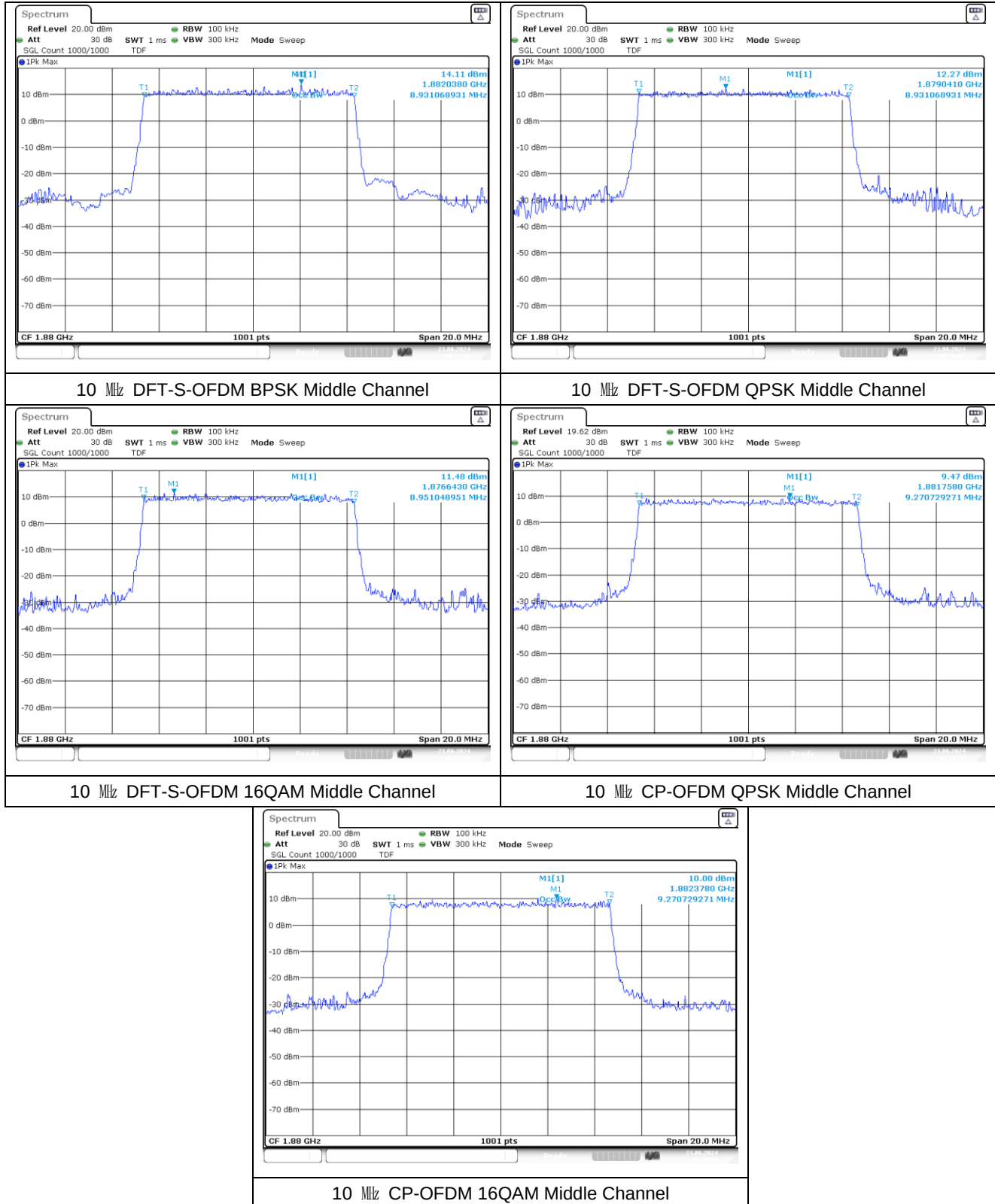
- Test plots

SIM 1

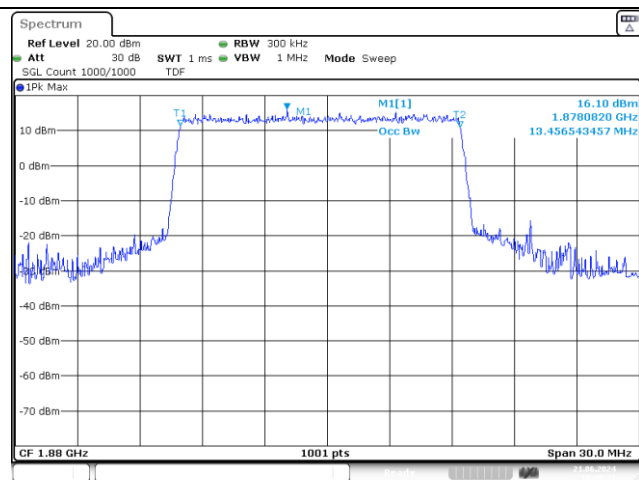
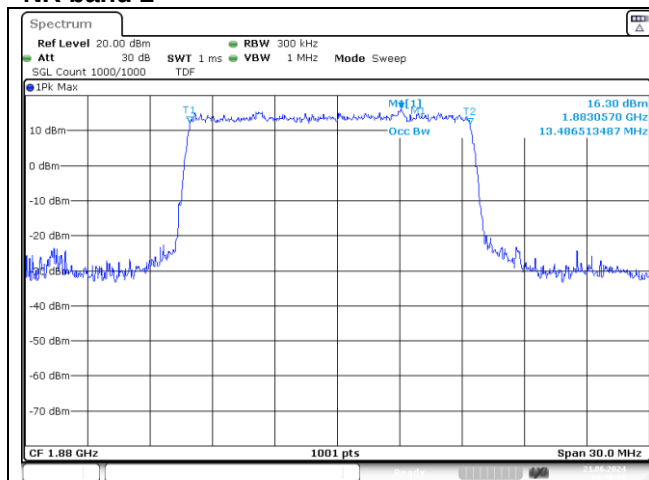
NR band 2



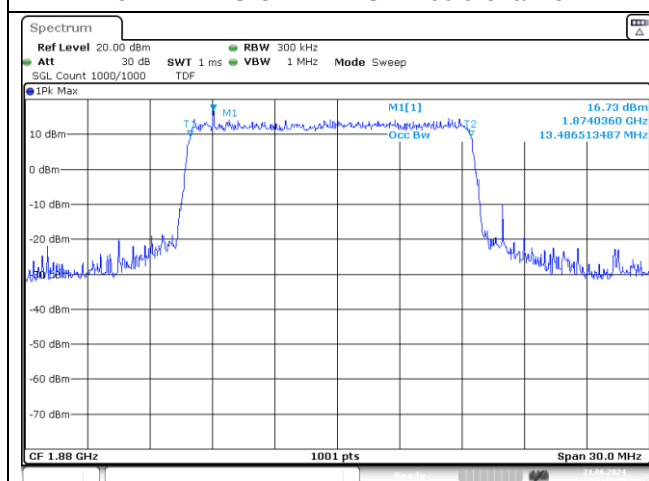
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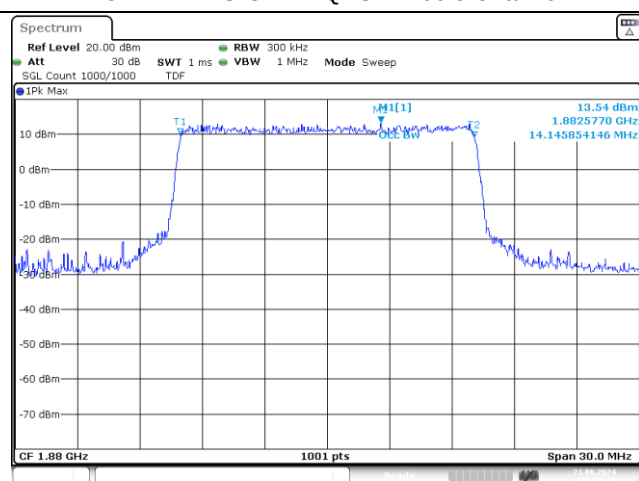
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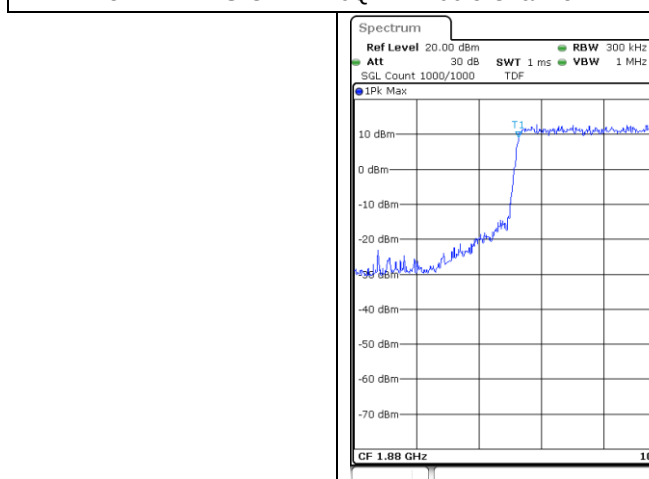
15 MHz DFT-S-OFDM BPSK Middle Channel



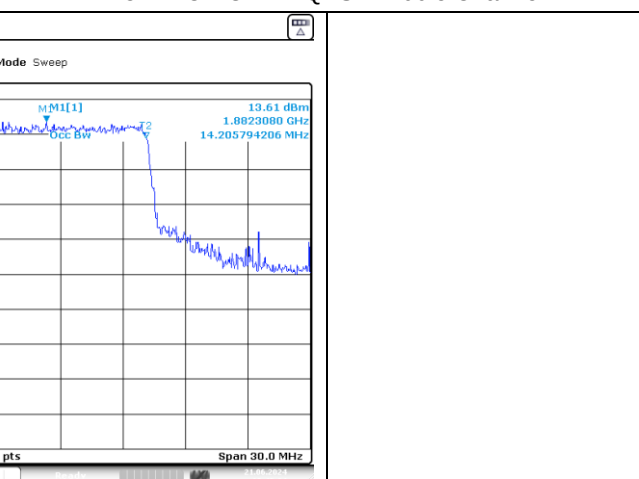
15 MHz DFT-S-OFDM QPSK Middle Channel



15 MHz DFT-S-OFDM 16QAM Middle Channel

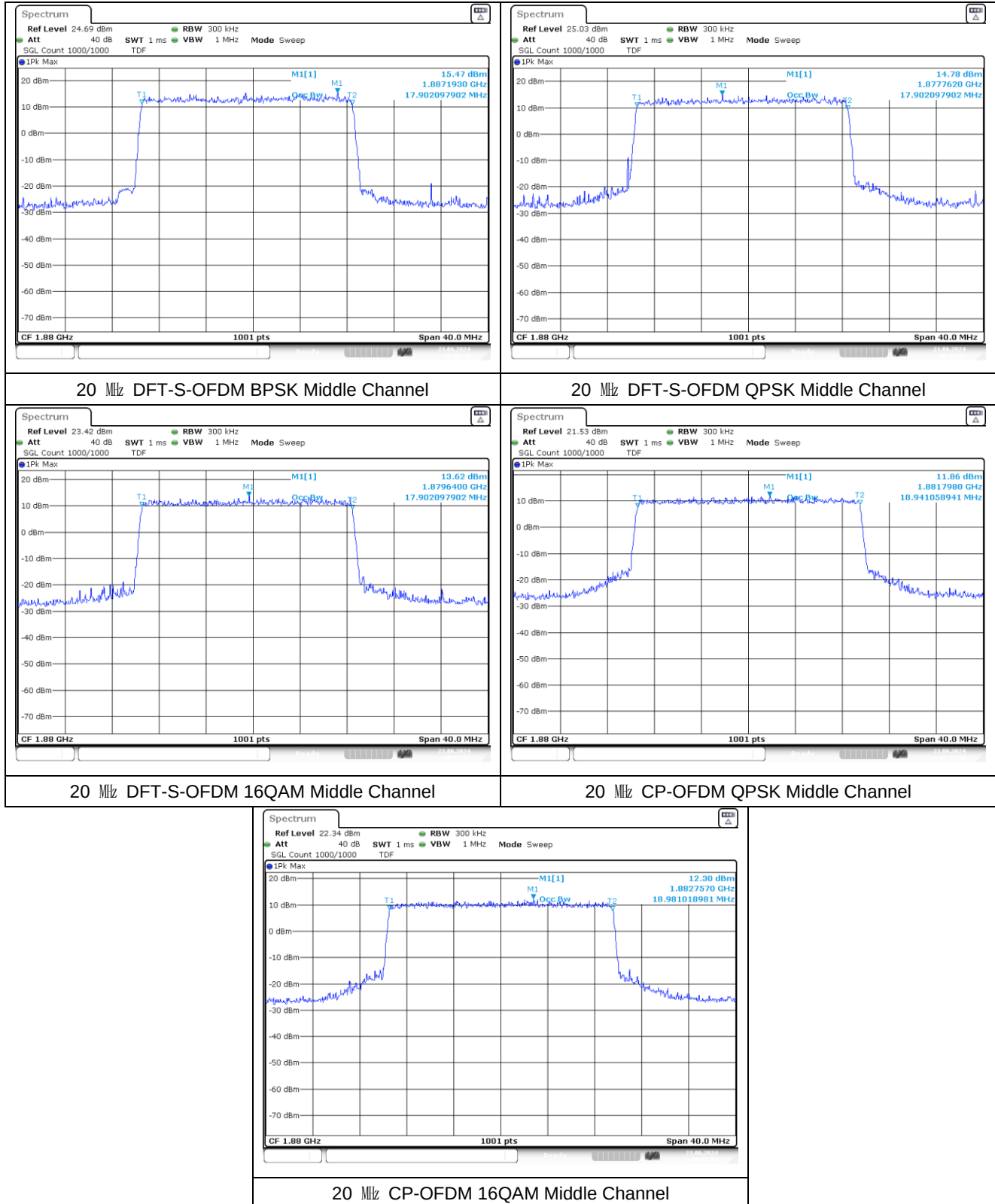


15 MHz CP-OFDM QPSK Middle Channel

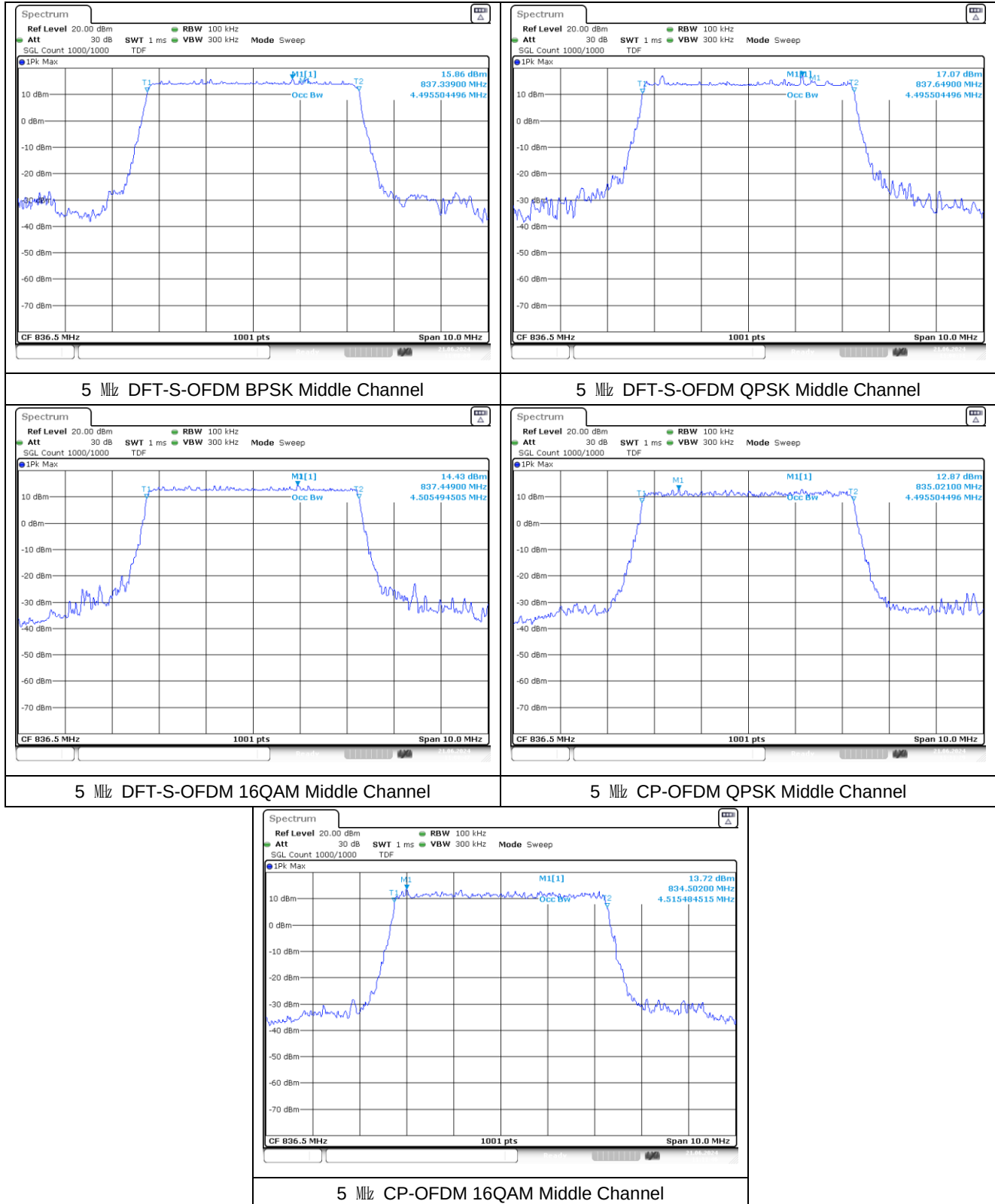


15 MHz CP-OFDM 16QAM Middle Channel

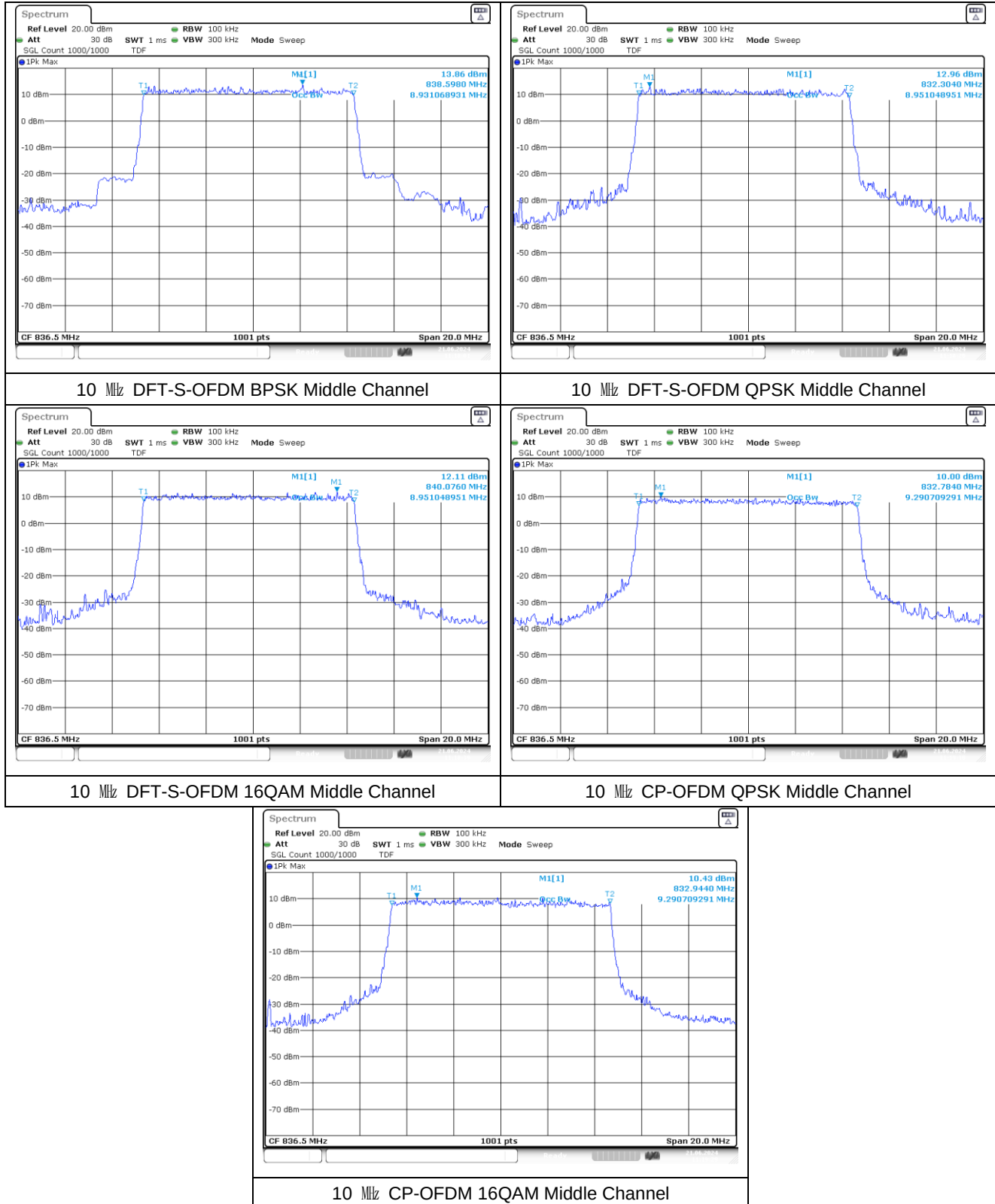
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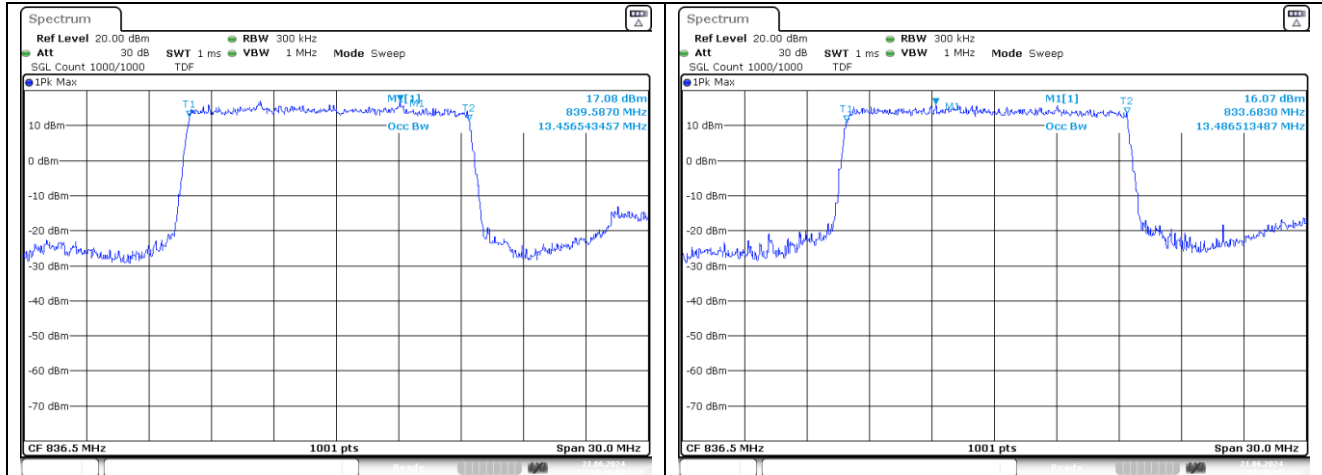
NR band 5



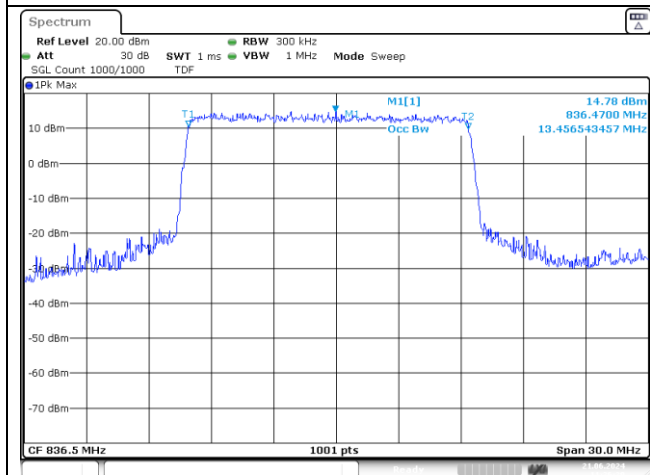
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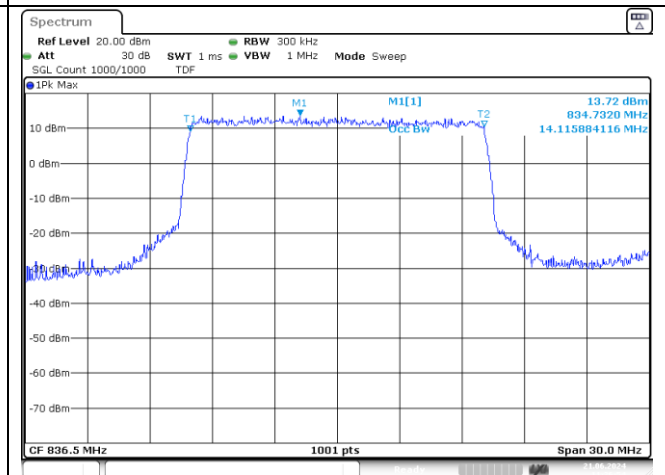
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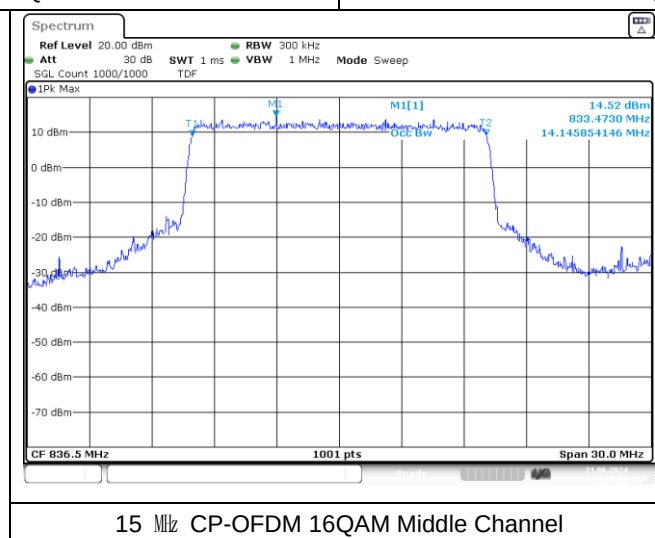
15 MHz DFT-S-OFDM BPSK Middle Channel



15 MHz DFT-S-OFDM QPSK Middle Channel



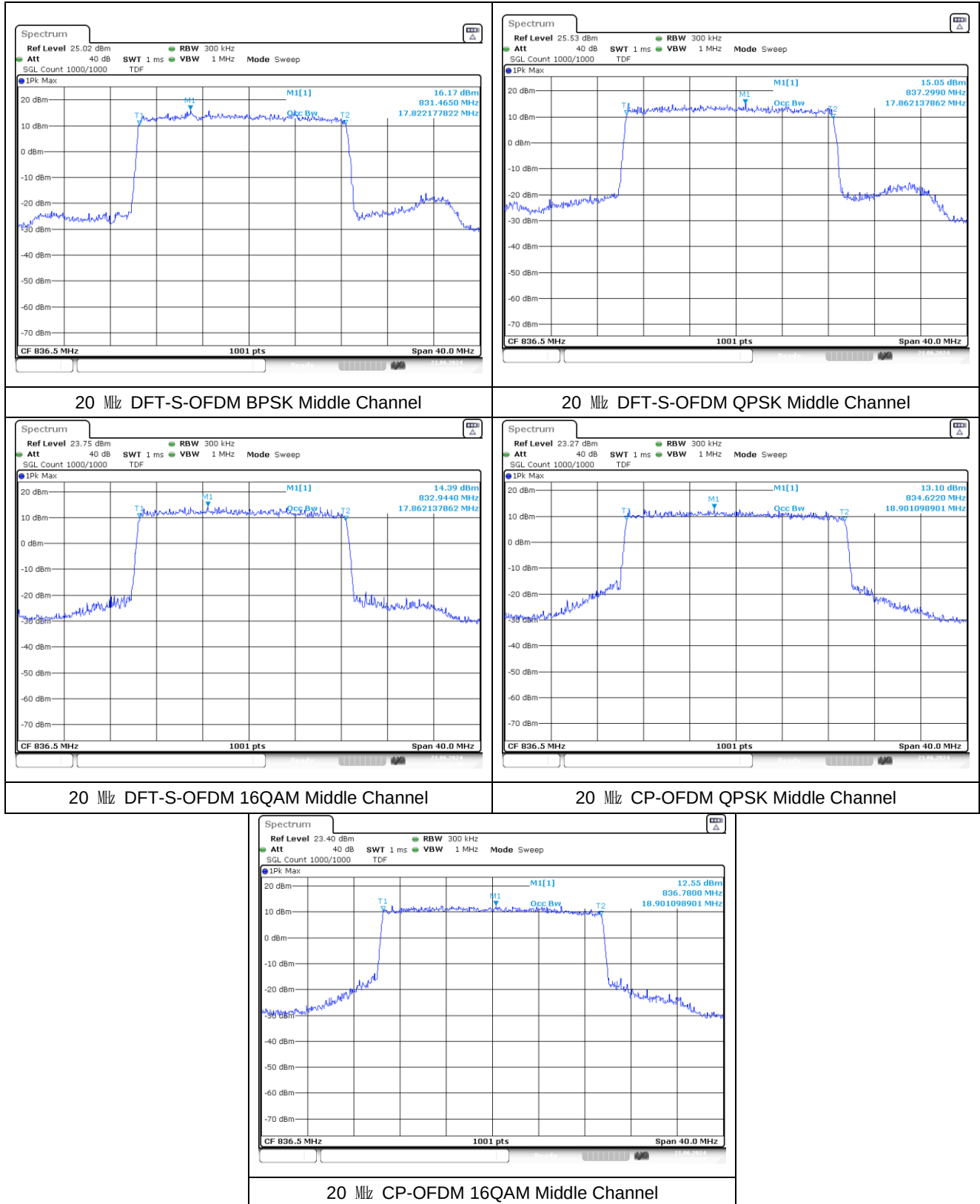
15 MHz DFT-S-OFDM 16QAM Middle Channel



15 MHz CP-OFDM QPSK Middle Channel

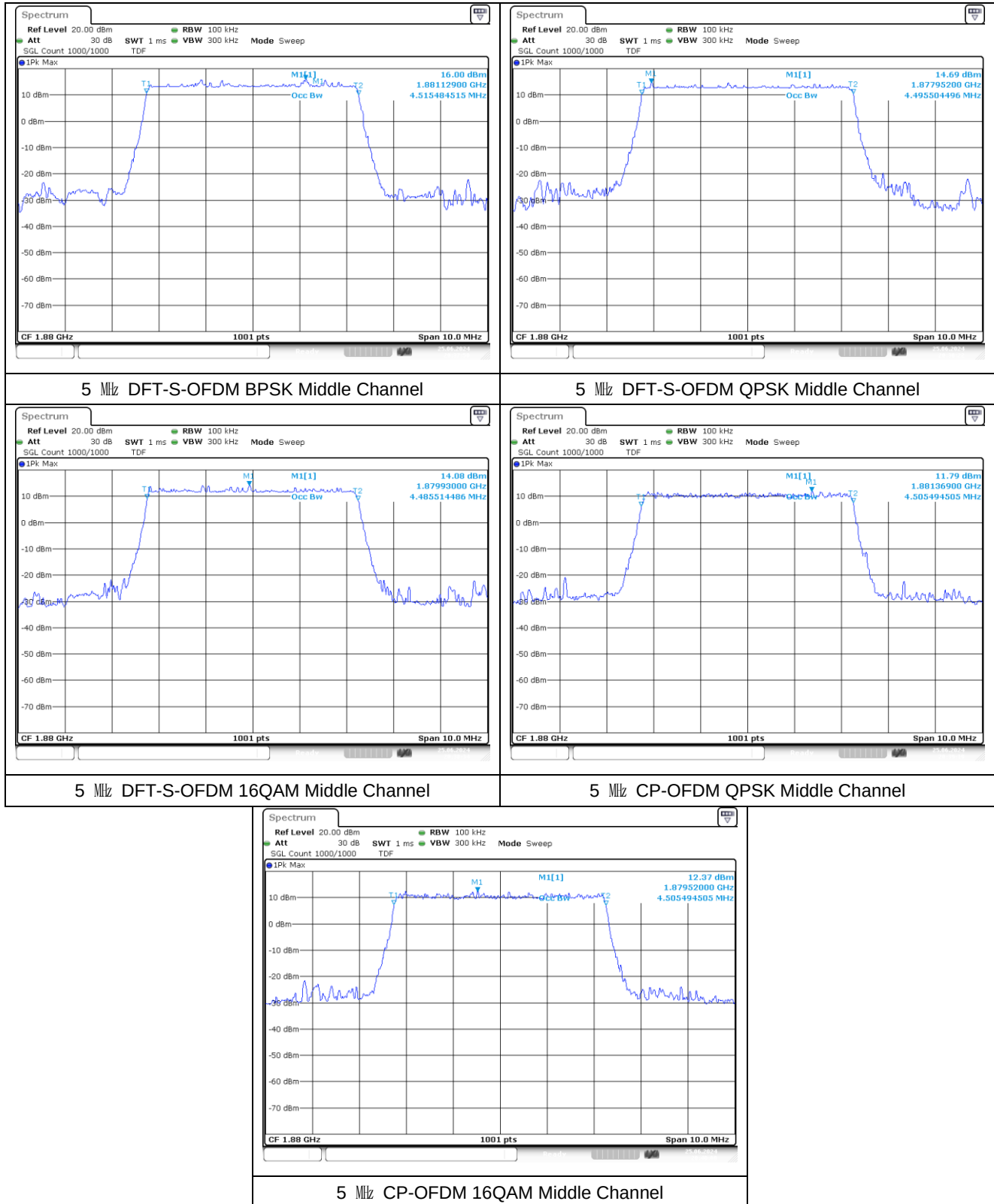
15 MHz CP-OFDM 16QAM Middle Channel

NR band 5

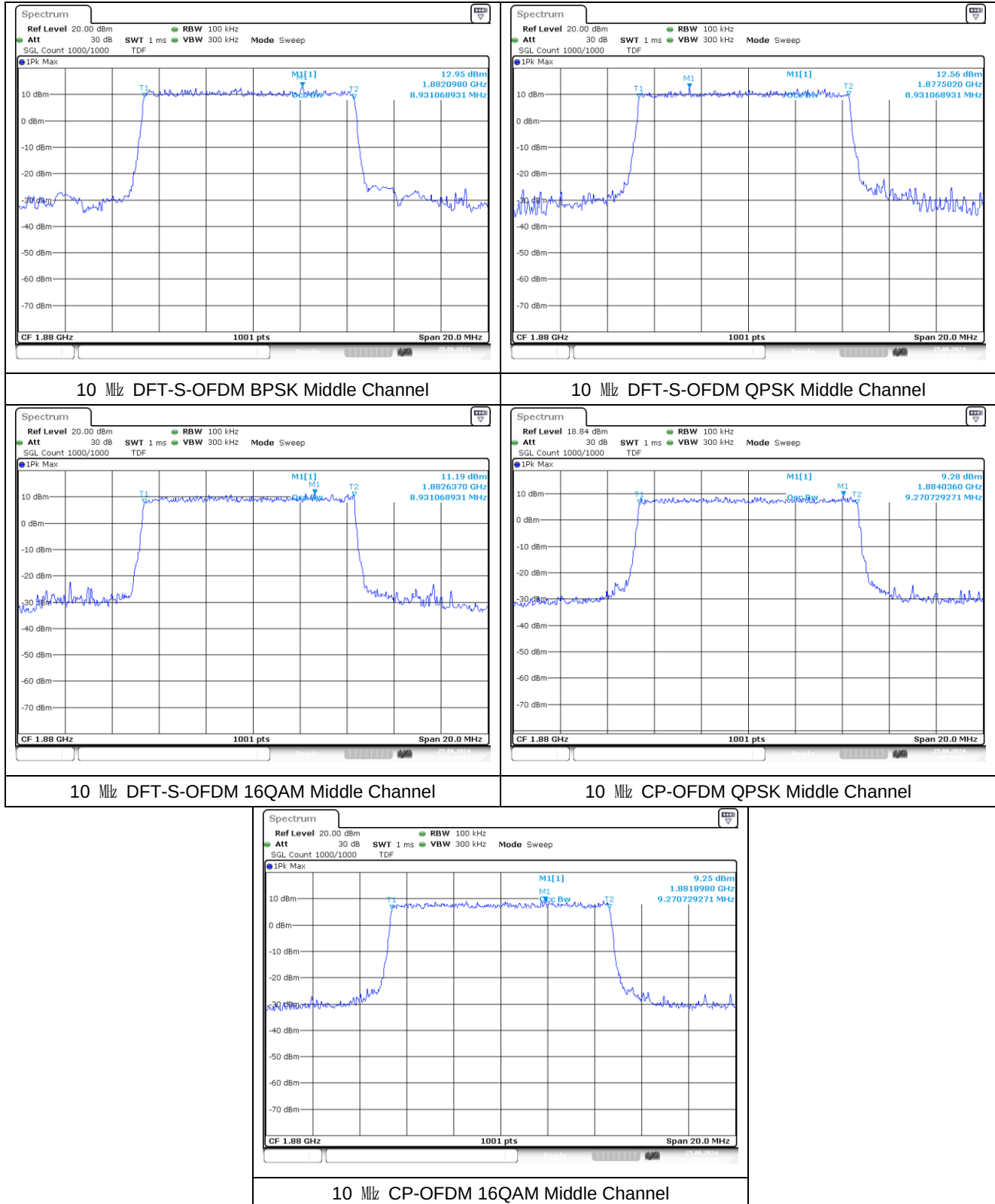


SIM 2

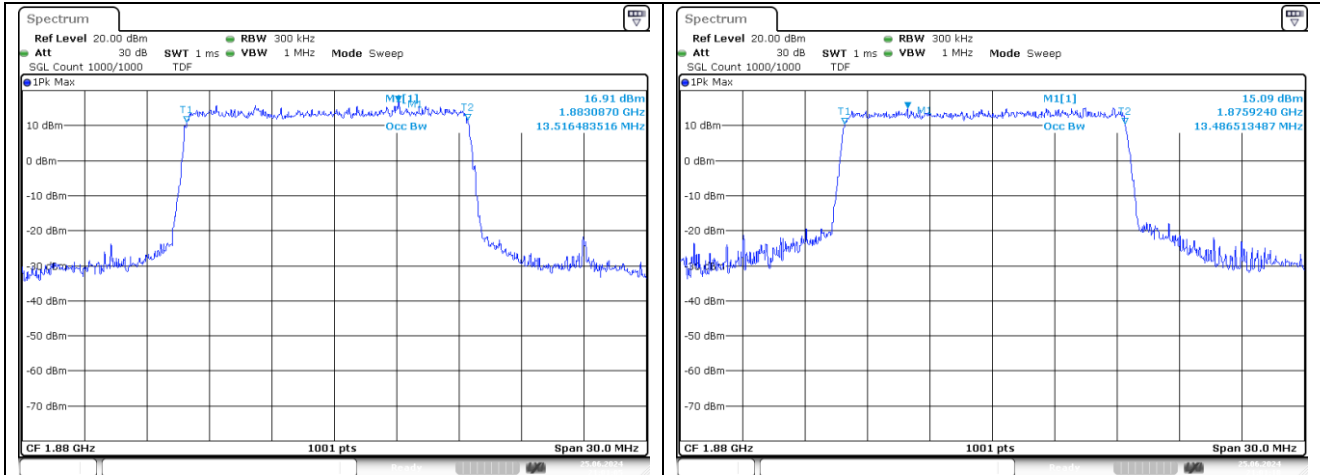
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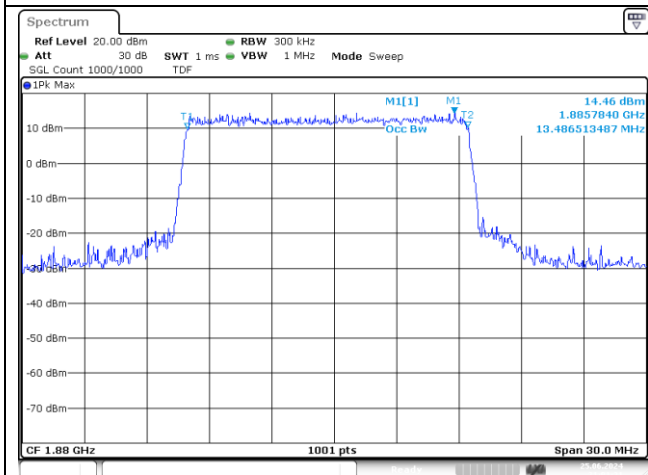
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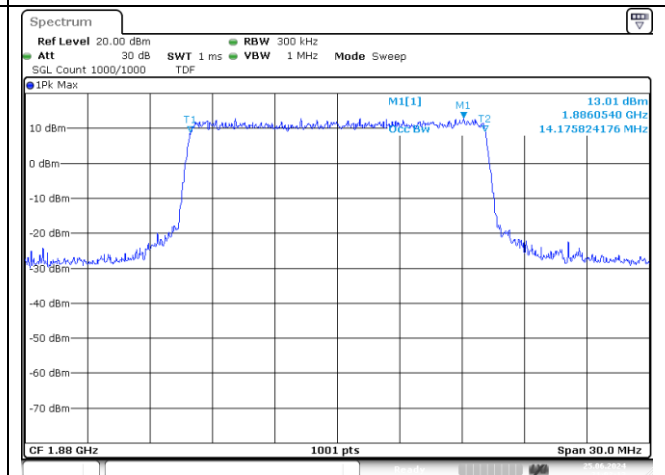
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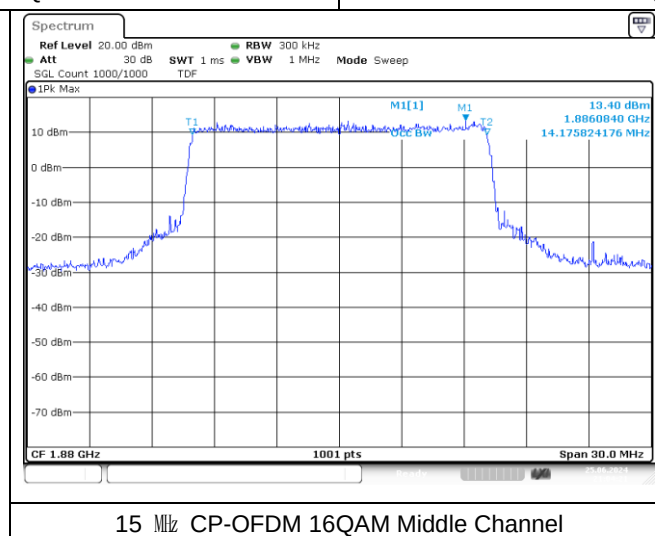
15 MHz DFT-S-OFDM BPSK Middle Channel



15 MHz DFT-S-OFDM QPSK Middle Channel



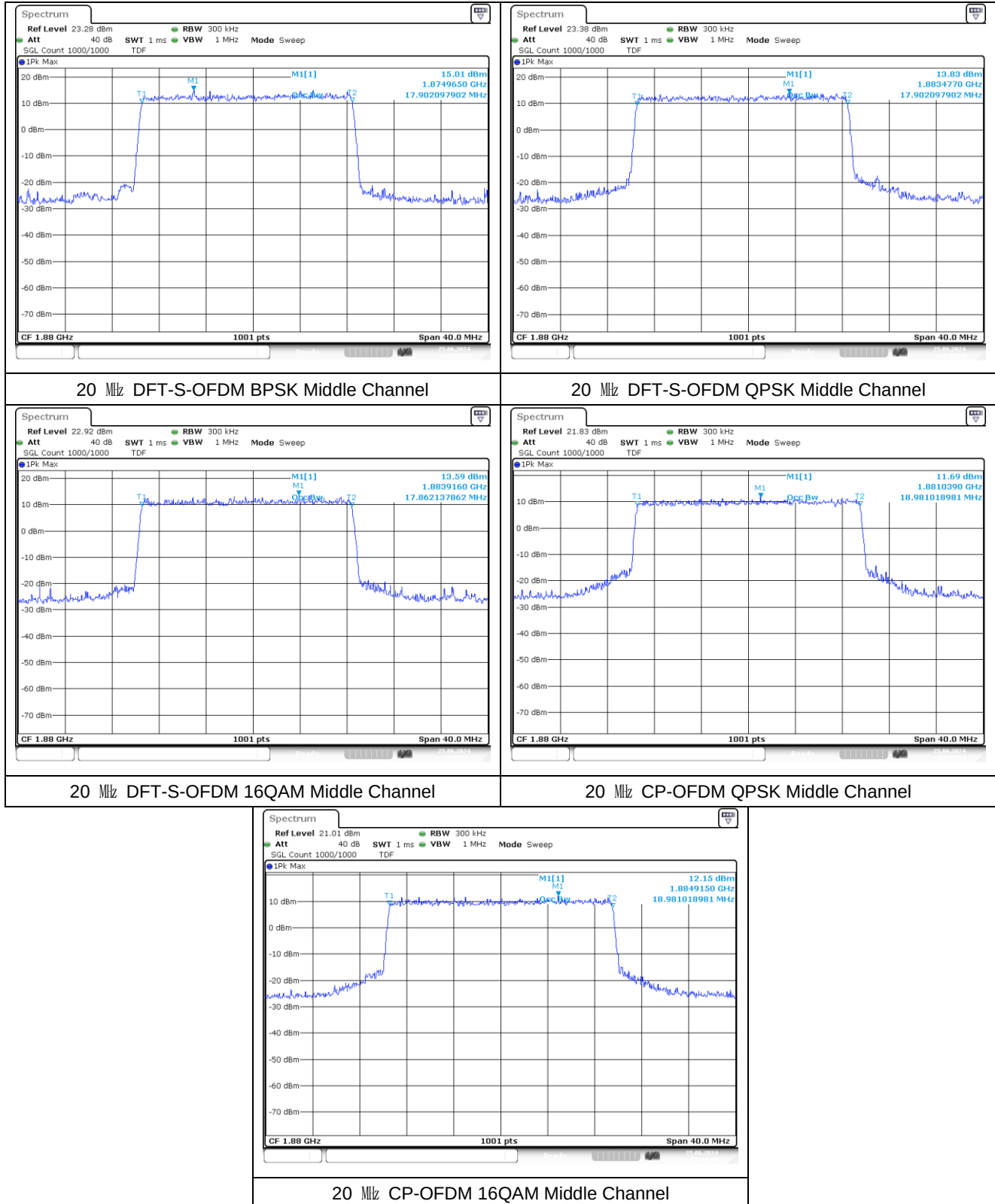
15 MHz DFT-S-OFDM 16QAM Middle Channel



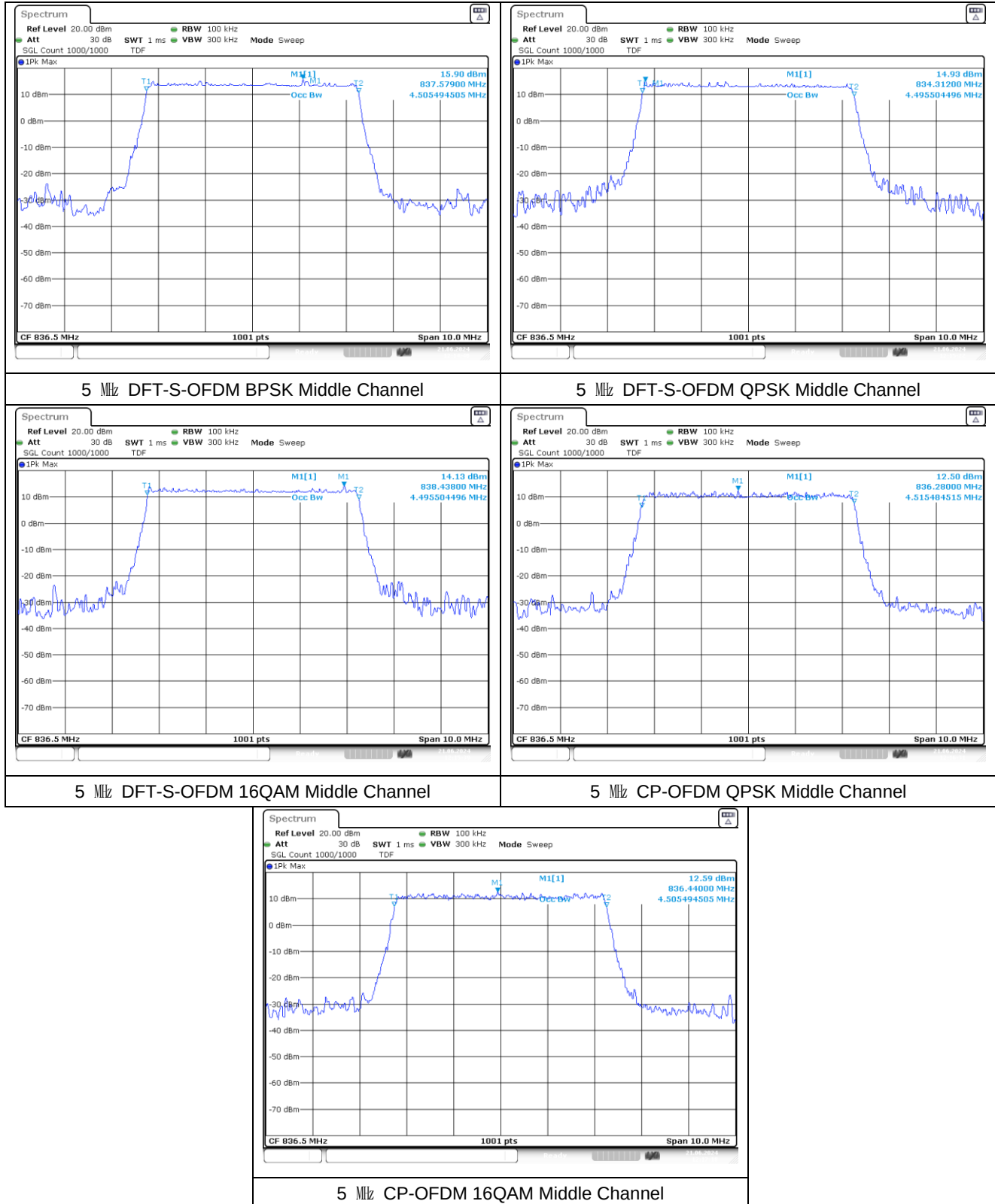
15 MHz CP-OFDM QPSK Middle Channel

15 MHz CP-OFDM 16QAM Middle Channel

NR band 2



NR band 5



NR band 5

