

TEST REPORT

of

FCC Part 2 Subpart J, Part 27 Subpart C

FCC ID: BEJTN1R23NR

Equipment Under Test : Telematics
Model Name : TN1R23NR
Variant Model Name(s) : Refer to the page 3
Applicant : LG Electronics USA
Manufacturer : LG Electronics Inc.
Date of Receipt : 2022.11.04
Date of Test(s) : 2022.11.04 ~ 2023.01.20
Date of Issue : 2023.01.20

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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- 4) The data marked ※ in this report was provided by the customer and may affect the validity of the test results.

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

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

Contact Person : Cho, Hee-jae

Phone No. : +1 201 470 2696

1.3. Details of Manufacturer

Company : LG Electronics Inc.

Address : 10, Magokjungang 10-ro, Gangseo-gu, Seoul, Korea, 07796

1.4. Description of EUT

Kind of Product		Telematics
Model Name		TN1R23NR
Variant Model Name		TN1R23NE
Serial Number		352162110229030
Power Supply		DC 12.5 V
Rated Power		NR Band 41: 23 dB m
Frequency Range	SIM 1	NR Band 41: 2 496 MHz ~ 2 690 MHz
	SIM 2	NR Band 41: 2 496 MHz ~ 2 690 MHz
Modulation Technique		BPSK, QPSK, 16QAM, 64QAM, 256QAM
Antenna Type	SIM 1	External Antenna
	SIM 2	External Antenna
Antenna Gain*	SIM 1	2 496 MHz ~ 2 690 MHz: 4.1 dB i
	SIM 2	2 496 MHz ~ 2 690 MHz: 5 dB i
H/W Version		Rev.D1
S/W Version		v004.144.010

1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Signal Generator	R&S	SMA100B	106887	Oct. 13, 2022	Annual	Oct. 13, 2023
Signal Generator	R&S	SMBV100A	255834	May 25, 2022	Annual	May 25, 2023
Spectrum Analyzer	R&S	FSV30	103210	Dec. 07, 2022	Annual	Dec. 07, 2023
Spectrum Analyzer	Agilent	N9020A	MY53421758	Aug. 26, 2022	Annual	Aug. 26, 2023
Spectrum Analyzer	Agilent	N9030A	US51350132	Nov. 16, 2022	Annual	Nov. 16, 2023
Communication test station	Anritsu	MT8000A	6261949671	Oct. 12, 2022	Annual	Oct. 12, 2023
Communication Analyzer	Anritsu	MT8821C	6262192291	Oct. 11, 2022	Annual	Oct. 11, 2023
Power Meter	Anritsu	ML2495A	1223004	Nov. 29, 2022	Annual	Nov. 29, 2023
Power Sensor	Anritsu	MA2411B	1207272	May 27, 2022	Annual	May 27, 2023
Temperature Chamber	ESPEC CORP.	SH-662	93000533	Jun. 02, 2022	Annual	Jun. 02, 2023
Low Pass Filter	Mini-Circuits	NLP-1200+	V 8979400903-2	Feb. 10, 2022	Annual	Feb. 10, 2023
High Pass Filter	Wainwright Instrument GmbH	WHKX3.0/18G-6SS	21	Jun. 09, 2022	Annual	Jun. 09, 2023
High Pass Filter	Wainwright Instrument GmbH	WHNX7.5/26.5G-6SS	11	Oct. 24, 2022	Annual	Oct. 24, 2023
BRIDGE COUPLER	MARKI MICROWAVE INC	CBR16-0012	1542	May 06, 2022	Annual	May 06, 2023
Directional Coupler	KRYTAR	152613	122660	Jul. 06, 2022	Annual	Jul. 06, 2023
Power Splitter	Weinschel	1534	499	May 31, 2022	Annual	May 31, 2023
DC Power Supply	Agilent	U8002A	MY49030063	Jan. 25, 2022	Annual	Jan. 25, 2023
Preamplifier	H.P.	8447F	2944A03909	Aug. 04, 2022	Annual	Aug. 04, 2023
Preamplifier	R&S	SCU 18	10117	Jun. 13, 2022	Annual	Jun. 13, 2023
Preamplifier	TESTEK	TK-PA1840H	130016	Jan. 11, 2023	Annual	Jan. 11, 2024
Test Receiver	R&S	ESCI 7	100911	Feb. 23, 2022	Annual	Feb. 23, 2023
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	Aug. 23, 2021	Biennial	Aug. 23, 2023
Bilog Antenna	Schwarzbeck Mess-Elektronik	VULB9163	01126	Feb. 07, 2022	Annual	Feb. 07, 2023
Horn Antenna	R&S	HF906	100326	Feb. 18, 2022	Annual	Feb. 18, 2023
Horn Antenna	Schwarzbeck Mess-Elektronik	BBHA 9170	9170-540	Nov. 30, 2022	Annual	Nov. 30, 2023
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 x W x H (9.6 m x 6.4 m x 6.6 m)	N/A	N.C.R.	N/A	N.C.R.
Coaxial Cable	RFONE	MWX221-NMSNMS (4 m)	J1023142	Oct. 04, 2022	Semi-Annual	Apr. 04, 2023
Coaxial Cable	Qualwave Inc.	QA500-18-NN-10 (10 m)	22200114	Oct. 04, 2022	Semi-Annual	Apr. 04, 2023
Coaxial Cable	RADIAL	TESTPRO 3	182287	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIAL	TESTPRO 3	182288	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIAL	TESTPRO 3	182291	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023

Note;

- For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

1.6. Summary of Test Results

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 2 and 27		
Section(s)	Test Item	Result
§2.1046 §27.50(h)(2)	E.R.P. / E.I.R.P.	Complied
§27.53(m)(4)	Radiated Spurious Emissions	Complied
§2.1046	Conducted Output Power	Complied
§2.1049	Occupied Bandwidth	Complied
§27.50(d)(5)	Peak-Average Ratio	Complied
§27.53(m)(4)	Spurious Emission at Antenna Terminal	Complied
§27.53(m)(4)	Band Edge	Complied
§2.1055 §27.54	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, SIM2.
 SIM2 is support only SA mode.

- NSA Band Information

NR Band	SCS (kHz)	Bandwidth (MHz)	Waveform	Modulation	ENDC LTE Band
n41	30	20, 30, 40, 50, 60, 80, 90, 100	DFTS OFDM, CP OFDM	BPSK, QPSK, 16QAM, 64QAM 256QAM	5, 26

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 spurious radiated emission 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 peak to average ratio were tested only 256QAM modulation as worst case.

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

SIM1

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

ENDC

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

SIM2

Test Items	Test Channel			Bandwidth (MHz)												Modulation DFTS-OFDM					Modulation CP-OFDM				RB #		
	Low	Mid	High	5	10	15	20	30	40	50	60	80	90	100	BPSK	QPSK	16QAM	64QAM	256QAM	QPSK	16QAM	64QAM	256QAM	1	Half	Full	
Conducted Output Power	V	V	V				V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	
Frequency Stability	-	V	-				V	-	-	-	-	-	-	-	-	V	-	-	-	-	-	-	-	-	-	V	
Occupied Bandwidth	V	V	V				V	V	V	V	V	V	V	V	V	V	V	-	-	V	V	-	-	-	-	V	
Peak-to-Average Ratio	V	V	V				V	V	V	V	V	V	V	V	-	-	-	-	V	-	-	-	V	-	-	V	
Band edge	V	-	V				V	V	V	V	V	V	V	V	-	V	V	-	-	V	V	-	-	V	-	V	
Spurious at antenna terminal	V	V	V	Worst case																							
Radiated Spurious Emissions	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
n41	30	20	DFTS OFDM - QPSK	1

ENDC

NR Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Resource Block Allocation
				RBs allocated
5A-n41	30	5-20	DFTS OFDM - BPSK	1

SIM 2

NR Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Resource Block Allocation
				RBs allocated
n41	30	20	DFTS 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	
RF Output Power	0.32 dB	
Occupied Bandwidth	3.90 kHz	
Conducted Spurious Emissions	0.61 dB	
Peak to Average Ratio	0.60 dB	
Frequency Stability	5.97 kHz	
Radiated Emission, 9 kHz to 30 MHz	H	3.40 dB
	V	3.40 dB
Radiated Emission, below 1 GHz	H	4.50 dB
	V	5.10 dB
Radiated Emission, above 1 GHz	H	3.70 dB
	V	3.90 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-RTL003737	2023.01.20	Initial

1.13. Emission Designator and Max Power

SIM 1

NR Band	Band width (MHz)	Modulation		Low Freq. (MHz)	Upper Freq. (MHz)	Conducted Average (dB m)	Ant. Gain (dB i)	E.I.R.P. Average (dB m)	E.I.R.P. Average (W)	Emission Designator
n41	20	DFTS-OFDM	BPSK	2 506.02	2 679.99	23.25	4.1	27.35	0.543	17M9G7D
			QPSK			23.83		27.93	0.621	17M9G7D
			16QAM			22.64		26.74	0.472	17M9D7D
		CP-OFDM	QPSK			21.62		25.72	0.373	18M3G7D
			16QAM			21.68		25.78	0.378	18M3D7D
			16QAM			21.68		25.78	0.378	18M3D7D
	30	DFTS-OFDM	BPSK	2 511	2 674.98	23.52		27.62	0.578	26M7G7D
			QPSK			23.54		27.64	0.581	26M9G7D
			16QAM			22.68		26.78	0.476	26M8D7D
		CP-OFDM	QPSK			21.53		25.63	0.366	28M0G7D
			16QAM			21.61		25.71	0.372	28M0D7D
			16QAM			21.61		25.71	0.372	28M0D7D
	40	DFTS-OFDM	BPSK	2 516.01	2 670	23.42		27.52	0.565	35M8G7D
			QPSK			23.44		27.54	0.568	35M8G7D
			16QAM			22.67		26.77	0.475	35M7D7D
		CP-OFDM	QPSK			21.62		25.72	0.373	37M9G7D
			16QAM			21.60		25.70	0.372	38M0D7D
			16QAM			21.60		25.70	0.372	38M0D7D
	50	DFTS-OFDM	BPSK	2 521.02	2 664.99	23.32		27.42	0.552	45M7G7D
			QPSK			23.41		27.51	0.564	45M7G7D
			16QAM			22.66		26.76	0.474	45M7D7D
		CP-OFDM	QPSK			21.64		25.74	0.375	47M5G7D
			16QAM			21.66		25.76	0.377	47M5D7D
			16QAM			21.66		25.76	0.377	47M5D7D
	60	DFTS-OFDM	BPSK	2 526	2 659.98	23.21		27.31	0.538	58M0G7D
			QPSK			23.26		27.36	0.545	58M0G7D
			16QAM			22.61		26.71	0.469	58M0D7D
		CP-OFDM	QPSK			21.60		25.70	0.372	58M0G7D
			16QAM			21.60		25.70	0.372	58M0D7D
			16QAM			21.60		25.70	0.372	58M0D7D
	80	DFTS-OFDM	BPSK	2 536.02	2 649.99	23.30		27.40	0.550	77M3G7D
			QPSK			23.34		27.44	0.555	76M9G7D
			16QAM			22.63		26.73	0.471	77M1D7D
		CP-OFDM	QPSK			21.68		25.78	0.378	77M3G7D
			16QAM			21.67		25.77	0.378	77M1D7D
			16QAM			21.67		25.77	0.378	77M1D7D
	90	DFTS-OFDM	BPSK	2 541	2 644.98	23.41		27.51	0.564	86M7G7D
			QPSK			23.43		27.53	0.566	86M5G7D
			16QAM			22.63		26.73	0.471	86M7D7D
		CP-OFDM	QPSK			21.64		25.74	0.375	87M3G7D
			16QAM			21.65		25.75	0.376	87M5D7D
			16QAM			21.65		25.75	0.376	87M5D7D
	100	DFTS-OFDM	BPSK	2 546.01	2 640	23.39		27.49	0.561	96M1G7D
			QPSK			23.41		27.51	0.564	96M4G7D
			16QAM			22.59		26.69	0.467	96M1D7D
		CP-OFDM	QPSK			21.65		25.75	0.376	97M3G7D
			16QAM			21.65		25.75	0.376	97M3G7D
			16QAM			21.65		25.75	0.376	97M5D7D

SIM 2

NR Band	Band width (MHz)	Modulation		Low Freq. (MHz)	Upper Freq. (MHz)	Conducted Average (dB m)	Ant. Gain (dB i)	E.I.R.P. Average (dB m)	E.I.R.P. Average (W)	Emission Designator
n41	20	DFTS-OFDM	BPSK	2 506.02	2 679.99	24.90	5	29.90	0.977	17M9G7D
			QPSK			24.91		29.91	0.979	17M9G7D
			16QAM			22.66		27.66	0.583	17M9D7D
		CP-OFDM	QPSK			21.65		26.65	0.462	18M3G7D
			16QAM			21.65		26.65	0.462	18M3D7D
	30	DFTS-OFDM	BPSK	2 511	2 674.98	24.41		29.41	0.873	26M9G7D
			QPSK			24.57		29.57	0.906	26M9G7D
			16QAM			22.56		27.56	0.570	26M8D7D
		CP-OFDM	QPSK			21.61		26.61	0.458	28M0G7D
			16QAM			21.67		26.67	0.465	28M0D7D
	40	DFTS-OFDM	BPSK	2 516.01	2 670	24.71		29.71	0.935	35M8G7D
			QPSK			24.81		29.81	0.957	35M8G7D
			16QAM			22.60		27.60	0.575	35M8D7D
		CP-OFDM	QPSK			21.58		26.58	0.455	37M7G7D
			16QAM			21.68		26.68	0.466	37M7D7D
	50	DFTS-OFDM	BPSK	2 521.02	2 664.99	24.64		29.64	0.920	45M7G7D
			QPSK			24.82		29.82	0.959	45M7G7D
			16QAM			22.62		27.62	0.578	47M5D7D
		CP-OFDM	QPSK			21.67		26.67	0.465	47M5G7D
			16QAM			21.57		26.57	0.454	47M5D7D
	60	DFTS-OFDM	BPSK	2 526	2 659.98	24.81		29.81	0.957	58M0G7D
			QPSK			24.84		29.84	0.964	58M0G7D
			16QAM			22.67		27.67	0.585	58M0D7D
		CP-OFDM	QPSK			21.68		26.68	0.466	58M0G7D
			16QAM			21.62		26.62	0.459	58M0D7D
	80	DFTS-OFDM	BPSK	2 536.02	2 649.99	24.87		29.87	0.971	76M9G7D
			QPSK			24.90		29.90	0.977	77M1G7D
			16QAM			22.68		27.68	0.586	76M9D7D
		CP-OFDM	QPSK			21.59		26.59	0.456	77M3G7D
			16QAM			21.58		26.58	0.455	77M3D7D
	90	DFTS-OFDM	BPSK	2 541	2 644.98	24.81		29.81	0.957	86M7G7D
			QPSK			24.80		29.80	0.955	86M7G7D
			16QAM			22.65		27.65	0.582	86M7D7D
		CP-OFDM	QPSK			21.64		26.64	0.461	87M5G7D
			16QAM			21.67		26.67	0.465	87M3D7D
	100	DFTS-OFDM	BPSK	2 546.01	2 640	24.88		29.88	0.973	96M1G7D
			QPSK			24.87		29.87	0.971	94M6G7D
			16QAM			22.67		27.67	0.585	96M1D7D
		CP-OFDM	QPSK			21.63		26.63	0.460	97M3G7D
			16QAM			21.66		26.66	0.463	97M5D7D

1.14. Information of Variant Model

Model Name		Differences Hardware Part	Description
Basic Model	TN1R23NR	Reference	Fully mounted on hardware.
Variant Model	TN1R23NE	Remove Band 21 related parts	Not support LTE Band 21
		Remove QPM5679AQ, QDM5679AQ	Not support 5G NR n79

- Supported Cellular Band

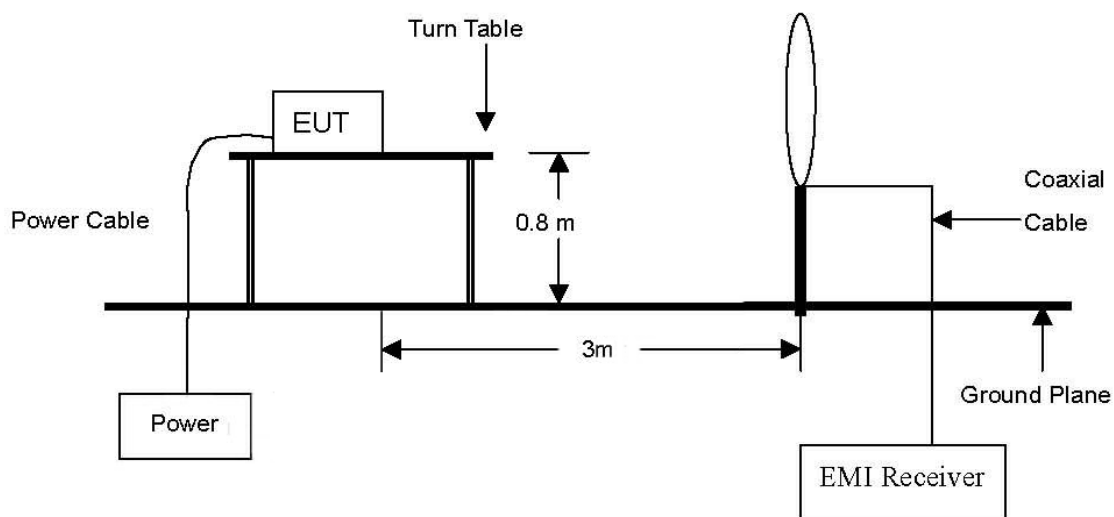
MODEL	Mode	SIM 1	SIM 2
TN1R23NR	GSM	GSM850, PCS1900	GSM850, PCS1900
	WCDMA	B2, B4, B5	N/A
	LTE	B2, B4, B5, B7, B12(B17), B26, B41	B2, B4, B5, B7, B26, B41
	5G Sub6_SA	n41	n41
	5G Sub6_NSA	n41	N/A
TN1R23NE	GSM	N/A	N/A
	WCDMA	B2, B4, B5	N/A
	LTE	B2, B4, B5, B7, B12(B17)	B7
	5G Sub6_SA	N/A	N/A
	5G Sub6_NSA	N/A	N/A

*Operating bands are different by software.

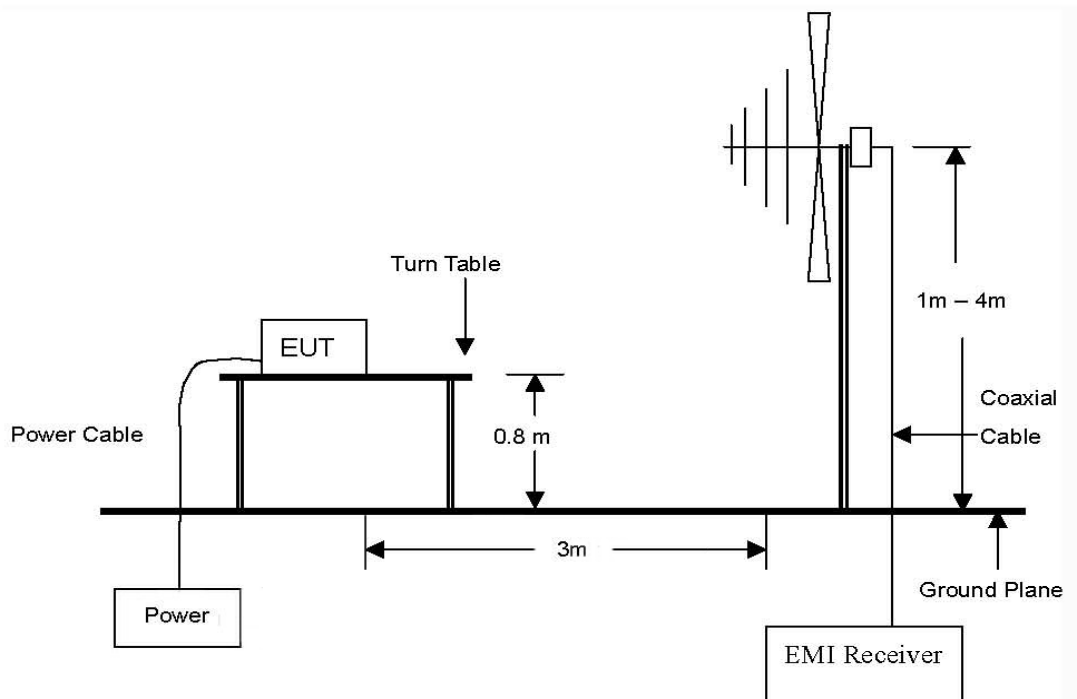
2. E.R.P. / E.I.R.P. & Radiated Spurious Emissions

2.1. Test setup

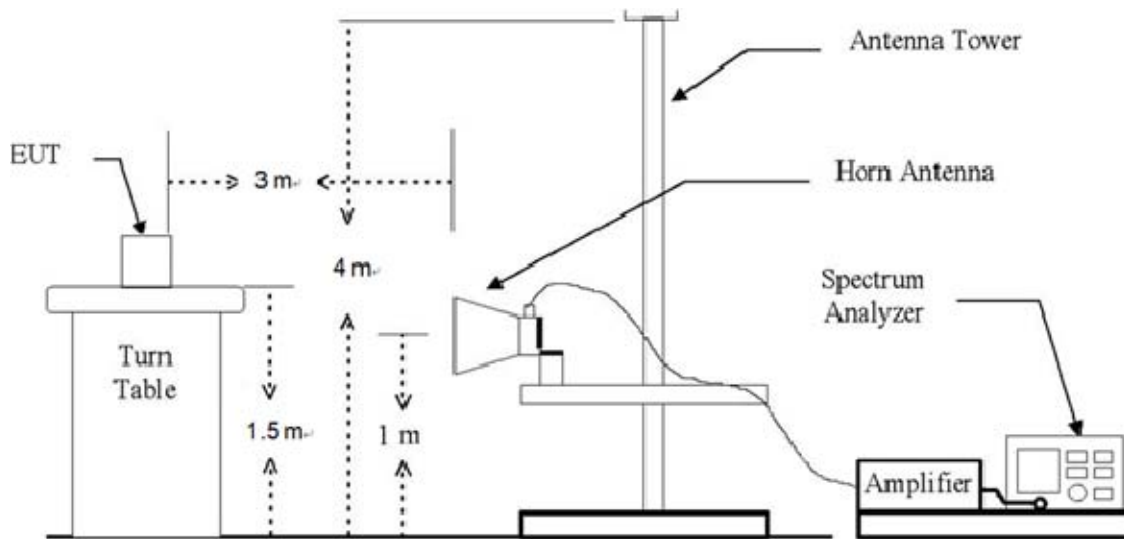
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz.



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 27 GHz Emissions.



2.2. Limit

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

- §27.50(h)(2), mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

2.2.2. Limit of Spurious Radiated Emission

- §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log_{10} (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log_{10} (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log_{10} (P)$ 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 than $43 + 10 \log_{10} (P)$ dB on all frequencies between 2 490.5 MHz and 2 496 MHz and $55 + 10 \log_{10} (P)$ dB at or below 2 490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2 495 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.

2.3. Test Procedure: 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 $\geq 3 \times$ 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 : $(23 \pm 1) ^\circ\text{C}$
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)	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
n41	2 496 ~ 2 690	23.83	0.242	4.1	27.93	0.621			2 W E.I.R.P.

SIM 2

Band	Frequency (MHz)	Maximum Conducted Power (dB m)	Maximum Conducted Power (W)	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
n41	2 496 ~ 2 690	24.91	0.310	5	29.91	0.979			2 W E.I.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. Spurious Radiated Emission

SIM 1

NR Band 41 (20 MHz - DFTS-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 (2 506.02 MHz)									
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (2 592.99 MHz)									
5 168.52	49.41	V	33.37	-35.36	47.42	-95.26	-47.84	-25	22.84
Above 5 200.00	Not detected	–	–	–	–	–	–	–	–
High Channel (2 679.99 MHz)									
5 342.54	60.33	H	33.89	-34.71	59.51	-95.26	-35.75	-25	10.75
5 342.46	63.83	V	33.88	-34.71	63.00	-95.26	-32.26	-25	7.26
8 014.01	61.27	H	36.13	-33.18	64.22	-95.26	-31.04	-25	6.04
8 014.04	57.52	V	36.13	-33.18	60.47	-95.26	-34.79	-25	9.79
10 685.24	50.22	H	37.87	-30.79	57.30	-95.26	-37.96	-25	12.96
10 685.40	59.93	V	37.87	-30.79	67.01	-95.26	-28.25	-25	3.25
13 356.40	35.83	H	39.73	-27.57	47.99	-95.26	-47.27	-25	22.27
13 356.72	43.74	V	39.73	-27.57	55.90	-95.26	-39.36	-25	14.36
Above 13 400.00	Not detected	–	–	–	–	–	–	–	–

ENDC

5A-n41A (20 MHz - DFTS-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 (2 506.02 MHz)									
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (2 592.99 MHz)									
5 186.06	45.47	V	33.44	-35.25	43.66	-95.26	-51.60	-25	26.60
Above 5 200.00	Not detected	–	–	–	–	–	–	–	–
High Channel (2 679.99 MHz)									
5 342.72	61.91	H	33.89	-34.71	61.09	-95.26	-34.17	-25	9.17
5 342.78	62.82	V	33.89	-34.71	62.00	-95.26	-33.26	-25	8.26
8 013.98	55.40	H	36.13	-33.18	58.35	-95.26	-36.91	-25	11.91
8 014.16	58.01	V	36.13	-33.18	60.96	-95.26	-34.30	-25	9.30
10 719.58	54.60	H	37.90	-30.65	61.85	-95.26	-33.41	-25	8.41
10 719.66	59.25	V	37.90	-30.65	66.50	-95.26	-28.76	-25	3.76
Above 10 800.00	Not detected	–	–	–	–	–	–	–	–

SIM 2

NR Band 41 (20 MHz - DFTS-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 (2 506.02 MHz)									
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (2 592.99 MHz)									
5 168.55	55.34	H	33.37	-35.36	53.35	-95.26	-41.91	-25	16.91
Above 5 200.00	Not detected	-	-	-	-	-	-	-	-
High Channel (2 679.99 MHz)									
5 342.50	62.71	H	33.89	-34.71	61.89	-95.26	<u>-33.37</u>	-25	8.37
Above 5 400.00	Not detected	-	-	-	-	-	-	-	-

Remark;

1. AF = Antenna Factor, CL = Cable Loss, CF = Conversion Factor.
2. E (dBμV/m) = Measured Level (dBμV) + Antenna Factor (dB/m) + AMP (dB) + Cable Loss (dB).
3. E.I.R.P. (dB m) = E (dBμV/m) + CF (dB).
4. E.R.P. (dB m) = E (dBμV/m) + CF (dB) - 2.15 (dB); where E.R.P. and E.I.R.P. are expressed in consistent units.
5. CF (dB) = 20 log D - 104.8; where D is the measurement distance in meters, According to ANSI C63.26-2015 5.2.7 and 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

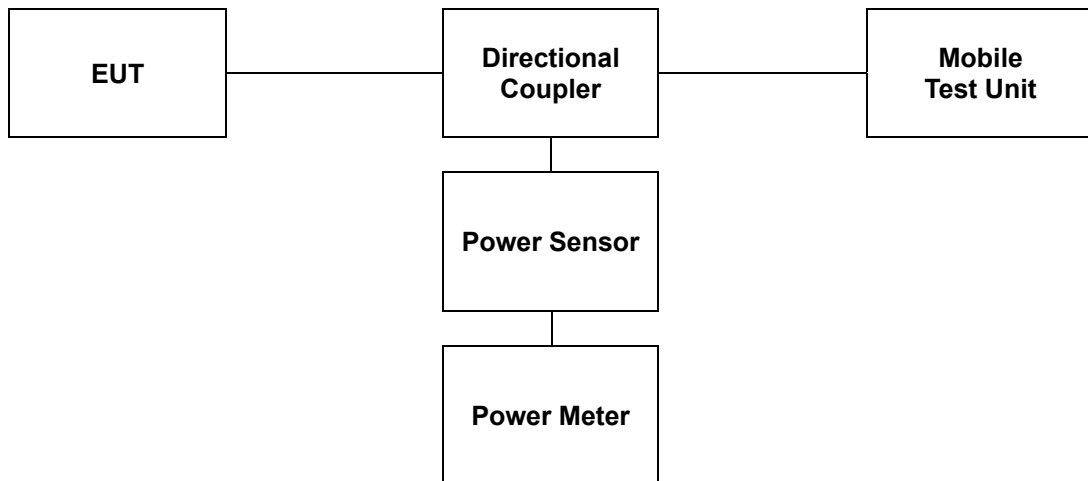
3.1. Limit

CFR 47, Section FCC §2.1046.

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 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					501204 (2 506.02 MHz)		518598 (2 592.99 MHz)		535998 (2 679.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	30	DFT-S-OFDM BPSK	1	1	23.25	0.211	22.93	0.196	22.67	0.185
			1	26	23.24	0.211	22.89	0.195	22.55	0.180
			1	49	23.01	0.200	22.99	0.199	22.64	0.184
			25	0	22.24	0.167	21.97	0.157	21.72	0.149
			25	13	23.20	0.209	22.92	0.196	22.71	0.187
			25	26	22.16	0.164	21.88	0.154	21.71	0.148
			50	0	22.20	0.166	21.94	0.156	21.73	0.149
		DFT-S-OFDM QPSK	1	1	23.56	0.227	23.50	0.224	23.72	0.236
			1	26	23.59	0.229	23.83	0.242	23.58	0.228
			1	49	23.54	0.226	23.82	0.241	23.66	0.232
			25	0	22.28	0.169	22.39	0.173	22.52	0.179
			25	13	23.22	0.210	22.91	0.195	22.71	0.187
			25	26	22.16	0.164	21.90	0.155	21.73	0.149
			50	0	22.21	0.166	21.93	0.156	21.72	0.149
		DFT-S-OFDM 16QAM	1	1	22.58	0.181	22.56	0.180	22.64	0.184
		DFT-S-OFDM 64QAM	1	1	20.60	0.115	20.57	0.114	20.57	0.114
		DFT-S-OFDM 256QAM	1	1	20.58	0.114	20.62	0.115	20.50	0.112
		CP-OFDM QPSK	1	1	21.55	0.143	21.62	0.145	21.55	0.143
		CP-OFDM 16QAM	1	1	21.68	0.147	21.52	0.142	21.51	0.142
		CP-OFDM 64QAM	1	1	18.62	0.073	18.53	0.071	18.54	0.071
		CP-OFDM 256QAM	1	1	18.14	0.065	18.00	0.063	18.10	0.065

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					502200 (2 511.00 MHz)		518598 (2 592.99 MHz)		534996 (2 674.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
30	30	DFT-S-OFDM BPSK	1	1	<u>23.52</u>	<u>0.225</u>	23.07	0.203	22.96	0.198
			1	39	23.24	0.211	22.93	0.196	22.76	0.189
			1	76	23.23	0.210	23.09	0.204	22.87	0.194
			36	0	22.44	0.175	22.14	0.164	21.92	0.156
			36	21	23.33	0.215	23.05	0.202	22.86	0.193
			36	42	22.29	0.169	22.03	0.160	21.92	0.156
			75	0	22.39	0.173	22.09	0.162	21.93	0.156
		DFT-S-OFDM QPSK	1	1	<u>23.54</u>	<u>0.226</u>	23.13	0.206	23.00	0.200
			1	39	23.29	0.213	23.01	0.200	22.84	0.192
			1	76	23.27	0.212	23.14	0.206	22.96	0.198
			36	0	22.46	0.176	22.14	0.164	21.95	0.157
			36	21	23.34	0.216	23.04	0.201	22.86	0.193
			36	42	22.32	0.171	22.04	0.160	21.94	0.156
			75	0	22.39	0.173	22.11	0.163	21.92	0.156
		DFT-S-OFDM 16QAM	1	1	<u>22.68</u>	<u>0.185</u>	22.57	0.181	22.62	0.183
		DFT-S-OFDM 64QAM	1	1	20.54	0.113	20.67	0.117	20.64	0.116
		DFT-S-OFDM 256QAM	1	1	20.61	0.115	20.53	0.113	20.59	0.115
		CP-OFDM QPSK	1	1	<u>21.53</u>	<u>0.142</u>	21.52	0.142	21.50	0.141
		CP-OFDM 16QAM	1	1	21.59	0.144	<u>21.61</u>	<u>0.145</u>	21.51	0.142
		CP-OFDM 64QAM	1	1	18.66	0.073	18.66	0.073	18.60	0.072
		CP-OFDM 256QAM	1	1	18.07	0.064	18.07	0.064	18.07	0.064

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					503202 (2 516.01 MHz)		518598 (2 592.99 MHz)		534000 (2 670.00 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
40	30	DFT-S-OFDM BPSK	1	1	23.42	0.220	23.22	0.210	22.96	0.198
			1	53	23.06	0.202	23.01	0.200	22.71	0.187
			1	104	23.14	0.206	23.13	0.206	22.82	0.191
			50	0	22.32	0.171	22.19	0.166	21.91	0.155
			50	28	23.19	0.208	23.08	0.203	22.85	0.193
			50	56	22.17	0.165	22.05	0.160	21.88	0.154
			100	0	22.27	0.169	22.13	0.163	21.91	0.155
		DFT-S-OFDM QPSK	1	1	23.44	0.221	23.19	0.208	23.04	0.201
			1	53	23.11	0.205	23.01	0.200	22.76	0.189
			1	104	23.12	0.205	23.08	0.203	22.88	0.194
			50	0	22.35	0.172	22.17	0.165	21.93	0.156
			50	28	23.22	0.210	23.09	0.204	22.85	0.193
			50	56	22.18	0.165	22.05	0.160	21.89	0.155
			100	0	22.28	0.169	22.13	0.163	21.92	0.156
		DFT-S-OFDM 16QAM	1	1	22.54	0.179	22.67	0.185	22.61	0.182
		DFT-S-OFDM 64QAM	1	1	20.65	0.116	20.55	0.114	20.57	0.114
		DFT-S-OFDM 256QAM	1	1	20.64	0.116	20.53	0.113	20.58	0.114
		CP-OFDM QPSK	1	1	21.60	0.145	21.50	0.141	21.62	0.145
		CP-OFDM 16QAM	1	1	21.57	0.144	21.60	0.145	21.54	0.143
		CP-OFDM 64QAM	1	1	18.58	0.072	18.58	0.072	18.68	0.074
		CP-OFDM 256QAM	1	1	18.17	0.066	18.09	0.064	18.02	0.063

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					504204 (2 521.02 MHz)		518598 (2 592.99 MHz)		532998 (2 664.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
50	30	DFT-S-OFDM BPSK	1	1	<u>23.32</u>	<u>0.215</u>	23.12	0.205	22.97	0.198
			1	67	23.00	0.200	22.92	0.196	22.70	0.186
			1	131	23.05	0.202	22.88	0.194	22.70	0.186
			64	0	22.27	0.169	22.10	0.162	21.92	0.156
			64	35	23.09	0.204	23.05	0.202	22.83	0.192
			64	69	22.06	0.161	22.01	0.159	21.79	0.151
			128	0	22.17	0.165	22.10	0.162	21.86	0.153
		DFT-S-OFDM QPSK	1	1	<u>23.41</u>	<u>0.219</u>	23.18	0.208	23.07	0.203
			1	67	23.08	0.203	23.03	0.201	22.77	0.189
			1	131	23.08	0.203	22.96	0.198	22.77	0.189
			64	0	22.29	0.169	22.08	0.161	21.92	0.156
			64	35	23.11	0.205	23.05	0.202	22.81	0.191
			64	69	22.04	0.160	22.00	0.158	21.78	0.151
			128	0	22.16	0.164	22.11	0.163	21.86	0.153
		DFT-S-OFDM 16QAM	1	1	22.60	0.182	<u>22.66</u>	<u>0.185</u>	22.57	0.181
		DFT-S-OFDM 64QAM	1	1	20.60	0.115	20.67	0.117	20.64	0.116
		DFT-S-OFDM 256QAM	1	1	20.64	0.116	20.54	0.113	20.68	0.117
		CP-OFDM QPSK	1	1	21.58	0.144	21.53	0.142	<u>21.64</u>	<u>0.146</u>
		CP-OFDM 16QAM	1	1	21.58	0.144	<u>21.66</u>	<u>0.147</u>	21.60	0.145
		CP-OFDM 64QAM	1	1	18.67	0.074	18.62	0.073	18.68	0.074
		CP-OFDM 256QAM	1	1	18.14	0.065	18.11	0.065	18.06	0.064

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					505200 (2 526.00 MHz)		518598 (2 592.99 MHz)		531996 (2 659.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
60	30	DFT-S-OFDM BPSK	1	1	23.21	0.209	23.09	0.204	22.91	0.195
			1	81	22.88	0.194	22.95	0.197	22.67	0.185
			1	160	23.05	0.202	22.86	0.193	22.71	0.187
			81	0	22.15	0.164	22.15	0.164	21.92	0.156
			81	41	23.00	0.200	23.06	0.202	22.80	0.191
			81	81	22.10	0.162	22.02	0.159	21.78	0.151
			162	0	22.20	0.166	22.13	0.163	21.87	0.154
		DFT-S-OFDM QPSK	1	1	23.26	0.212	23.15	0.207	22.98	0.199
			1	81	22.94	0.197	22.99	0.199	22.74	0.188
			1	160	23.09	0.204	22.90	0.195	22.79	0.190
			81	0	22.17	0.165	22.11	0.163	21.93	0.156
			81	41	23.01	0.200	23.09	0.204	22.81	0.191
			81	81	22.10	0.162	22.02	0.159	21.79	0.151
			162	0	22.20	0.166	22.13	0.163	21.86	0.153
		DFT-S-OFDM 16QAM	1	1	22.59	0.182	22.61	0.182	22.60	0.182
		DFT-S-OFDM 64QAM	1	1	20.62	0.115	20.55	0.114	20.65	0.116
		DFT-S-OFDM 256QAM	1	1	20.57	0.114	20.55	0.114	20.59	0.115
		CP-OFDM QPSK	1	1	21.60	0.145	21.54	0.143	21.55	0.143
		CP-OFDM 16QAM	1	1	21.58	0.144	21.51	0.142	21.60	0.145
		CP-OFDM 64QAM	1	1	18.53	0.071	18.54	0.071	18.55	0.072
		CP-OFDM 256QAM	1	1	18.17	0.066	18.09	0.064	18.15	0.065

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					507204 (2 536.02 MHz)		518598 (2 592.99 MHz)		529998 (2 649.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
80	30	DFT-S-OFDM BPSK	1	1	23.30	0.214	23.09	0.204	23.11	0.205
			1	109	22.95	0.197	23.01	0.200	22.98	0.199
			1	215	23.05	0.202	22.99	0.199	22.77	0.189
			108	0	22.11	0.163	22.13	0.163	22.21	0.166
			108	55	23.13	0.206	23.11	0.205	23.06	0.202
			108	109	22.07	0.161	22.11	0.163	21.95	0.157
			216	0	22.17	0.165	22.14	0.164	22.07	0.161
		DFT-S-OFDM QPSK	1	1	23.34	0.216	23.13	0.206	23.14	0.206
			1	109	22.98	0.199	23.09	0.204	23.01	0.200
			1	215	23.12	0.205	23.01	0.200	22.64	0.184
			108	0	22.15	0.164	22.14	0.164	22.23	0.167
			108	55	23.12	0.205	23.11	0.205	23.04	0.201
			108	109	22.07	0.161	22.16	0.164	21.93	0.156
			216	0	22.17	0.165	22.14	0.164	22.10	0.162
		DFT-S-OFDM 16QAM	1	1	22.56	0.180	22.59	0.182	22.63	0.183
		DFT-S-OFDM 64QAM	1	1	20.64	0.116	20.54	0.113	20.55	0.114
		DFT-S-OFDM 256QAM	1	1	20.67	0.117	20.63	0.116	20.52	0.113
		CP-OFDM QPSK	1	1	21.64	0.146	21.68	0.147	21.53	0.142
		CP-OFDM 16QAM	1	1	21.54	0.143	21.67	0.147	21.62	0.145
		CP-OFDM 64QAM	1	1	18.51	0.071	18.59	0.072	18.64	0.073
		CP-OFDM 256QAM	1	1	18.16	0.065	18.00	0.063	18.16	0.065

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					508200 (2 541.00 MHz)		518598 (2 592.99 MHz)		528996 (2 644.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
90	30	DFT-S-OFDM BPSK	1	1	23.41	0.219	23.11	0.205	23.09	0.204
			1	123	23.06	0.202	23.03	0.201	23.08	0.203
			1	243	23.03	0.201	22.97	0.198	22.46	0.176
			120	0	22.31	0.170	22.15	0.164	22.18	0.165
			120	63	23.14	0.206	23.12	0.205	23.13	0.206
			120	125	22.20	0.166	22.09	0.162	21.96	0.157
			243	0	22.20	0.166	22.15	0.164	22.15	0.164
		DFT-S-OFDM QPSK	1	1	23.43	0.220	23.15	0.207	23.09	0.204
			1	123	23.15	0.207	23.08	0.203	23.10	0.204
			1	243	23.12	0.205	23.00	0.200	22.03	0.160
			120	0	22.29	0.169	22.15	0.164	22.17	0.165
			120	63	23.13	0.206	23.12	0.205	23.18	0.208
			120	125	22.25	0.168	22.09	0.162	21.99	0.158
			243	0	22.20	0.166	22.16	0.164	22.13	0.163
		DFT-S-OFDM 16QAM	1	1	22.58	0.181	22.63	0.183	22.61	0.182
		DFT-S-OFDM 64QAM	1	1	20.59	0.115	20.56	0.114	20.51	0.112
		DFT-S-OFDM 256QAM	1	1	20.53	0.113	20.62	0.115	20.52	0.113
		CP-OFDM QPSK	1	1	21.58	0.144	21.55	0.143	21.64	0.146
		CP-OFDM 16QAM	1	1	21.62	0.145	21.65	0.146	21.59	0.144
		CP-OFDM 64QAM	1	1	18.65	0.073	18.58	0.072	18.54	0.071
		CP-OFDM 256QAM	1	1	18.11	0.065	18.04	0.064	18.03	0.064

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					509202 (2 546.01 MHz)		518598 (2 592.99 MHz)		528000 (2 640.00 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
100	30	DFT-S-OFDM BPSK	1	1	<u>23.39</u>	<u>0.218</u>	23.10	0.204	23.04	0.201
			1	137	22.98	0.199	23.00	0.200	22.99	0.199
			1	271	23.04	0.201	22.94	0.197	22.66	0.185
			135	0	22.25	0.168	22.16	0.164	22.03	0.160
			135	69	23.04	0.201	23.16	0.207	23.01	0.200
			135	138	22.16	0.164	22.07	0.161	21.91	0.155
			270	0	22.17	0.165	22.17	0.165	21.93	0.156
		DFT-S-OFDM QPSK	1	1	<u>23.41</u>	<u>0.219</u>	23.12	0.205	23.07	0.203
			1	137	23.07	0.203	23.09	0.204	23.01	0.200
			1	271	23.12	0.205	22.94	0.197	22.52	0.179
			135	0	22.24	0.167	22.14	0.164	22.09	0.162
			135	69	23.11	0.205	23.13	0.206	23.03	0.201
			135	138	22.18	0.165	22.07	0.161	21.94	0.156
			270	0	22.13	0.163	22.14	0.164	21.95	0.157
		DFT-S-OFDM 16QAM	1	1	22.51	0.178	<u>22.59</u>	<u>0.182</u>	22.54	0.179
		DFT-S-OFDM 64QAM	1	1	20.59	0.115	20.58	0.114	20.57	0.114
		DFT-S-OFDM 256QAM	1	1	20.51	0.112	20.56	0.114	20.68	0.117
		CP-OFDM QPSK	1	1	21.63	0.146	21.51	0.142	<u>21.65</u>	<u>0.146</u>
		CP-OFDM 16QAM	1	1	21.55	0.143	21.50	0.141	<u>21.65</u>	<u>0.146</u>
		CP-OFDM 64QAM	1	1	18.56	0.072	18.54	0.071	18.62	0.073
		CP-OFDM 256QAM	1	1	18.08	0.064	18.09	0.064	18.08	0.064

ENDC

5A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					501204 (2 506.02 MHz)		518598 (2 592.99 MHz)		535998 (2 679.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	30	DFT-S-OFDM BPSK	1	1	23.42	0.220	22.63	0.183	22.86	0.193
			1	26	23.80	0.240	22.65	0.184	22.59	0.182
			1	49	23.58	0.228	22.85	0.193	21.74	0.149
		DFT-S-OFDM QPSK	1	1	23.43	0.220	22.61	0.182	22.85	0.193
			1	26	23.19	0.208	22.64	0.184	22.58	0.181
			1	49	22.99	0.199	22.91	0.195	21.74	0.149
5A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					502200 (2 511.00 MHz)		518598 (2 592.99 MHz)		534996 (2 674.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
30	30	DFT-S-OFDM BPSK	1	1	23.50	0.224	22.68	0.185	23.28	0.213
			1	39	23.26	0.212	22.77	0.189	22.90	0.195
			1	76	22.82	0.191	23.17	0.207	22.11	0.163
		DFT-S-OFDM QPSK	1	1	23.51	0.224	22.74	0.188	23.31	0.214
			1	39	23.25	0.211	22.79	0.190	22.90	0.195
			1	76	22.85	0.193	23.17	0.207	22.09	0.162
5A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					503202 (2 516.01 MHz)		518598 (2 592.99 MHz)		534000 (2 670.00 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
40	30	DFT-S-OFDM BPSK	1	1	23.41	0.219	22.81	0.191	22.98	0.199
			1	53	22.91	0.195	22.77	0.189	23.01	0.200
			1	104	22.36	0.172	22.87	0.194	21.76	0.150
		DFT-S-OFDM QPSK	1	1	23.43	0.220	22.81	0.191	22.97	0.198
			1	53	22.86	0.193	22.79	0.190	23.01	0.200
			1	104	22.39	0.173	22.87	0.194	21.73	0.149
5A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					504204 (2 521.02 MHz)		518598 (2 592.99 MHz)		532998 (2 664.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
50	30	DFT-S-OFDM BPSK	1	1	23.40	0.219	22.90	0.195	23.19	0.208
			1	67	22.70	0.186	22.79	0.190	23.04	0.201
			1	131	22.72	0.187	23.13	0.206	22.21	0.166
		DFT-S-OFDM QPSK	1	1	23.41	0.219	22.91	0.195	23.20	0.209
			1	67	22.70	0.186	22.78	0.190	23.01	0.200
			1	131	22.64	0.184	23.13	0.206	22.18	0.165
5A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					505200 (2 526.00 MHz)		518598 (2 592.99 MHz)		531996 (2 659.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
60	30	DFT-S-OFDM BPSK	1	1	23.35	0.216	22.96	0.198	23.03	0.201
			1	81	22.43	0.175	22.77	0.189	23.08	0.203
			1	160	22.97	0.198	23.02	0.200	21.64	0.146
		DFT-S-OFDM QPSK	1	1	23.35	0.216	22.87	0.194	23.05	0.202
			1	81	22.40	0.174	22.78	0.190	23.14	0.206
			1	160	22.92	0.196	23.00	0.200	21.62	0.145

5A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					507204 (2 536.02 MHz)		518598 (2 592.99 MHz)		529998 (2 649.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
80	30	DFT-S-OFDM BPSK	1	1	23.33	0.215	22.95	0.197	23.20	0.209
			1	109	22.32	0.171	22.89	0.195	23.23	0.210
			1	215	22.81	0.191	23.08	0.203	21.63	0.146
		DFT-S-OFDM QPSK	1	1	23.34	0.216	22.92	0.196	23.19	0.208
			1	109	22.33	0.171	22.80	0.191	23.25	0.211
			1	215	22.80	0.191	23.08	0.203	21.61	0.145
5A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					508200 (2 541.00 MHz)		518598 (2 592.99 MHz)		528996 (2 644.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
90	30	DFT-S-OFDM BPSK	1	1	23.42	0.220	22.82	0.191	23.04	0.201
			1	123	22.42	0.175	22.87	0.194	23.27	0.212
			1	243	22.54	0.179	23.14	0.206	21.13	0.130
		DFT-S-OFDM QPSK	1	1	23.39	0.218	22.80	0.191	23.03	0.201
			1	123	22.45	0.176	22.82	0.191	23.29	0.213
			1	243	22.56	0.180	23.15	0.207	21.13	0.130
5A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					509202 (2 546.01 MHz)		518598 (2 592.99 MHz)		528000 (2 640.00 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
100	30	DFT-S-OFDM BPSK	1	1	23.40	0.219	22.55	0.180	22.69	0.186
			1	137	22.50	0.178	22.84	0.192	23.11	0.205
			1	271	22.90	0.195	23.15	0.207	21.07	0.128
		DFT-S-OFDM QPSK	1	1	23.40	0.219	22.51	0.178	22.71	0.187
			1	137	22.49	0.177	22.85	0.193	23.13	0.206
			1	271	22.87	0.194	23.11	0.205	21.07	0.128

26A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					501204 (2 506.02 MHz)		518598 (2 592.99 MHz)		535998 (2 679.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	30	DFT-S-OFDM BPSK	1	1	23.27	0.212	22.26	0.168	22.60	0.182
			1	26	23.49	0.223	22.39	0.173	22.49	0.177
			1	49	22.86	0.193	22.58	0.181	22.28	0.169
		DFT-S-OFDM QPSK	1	1	23.22	0.210	22.30	0.170	22.60	0.182
			1	26	23.08	0.203	22.39	0.173	22.28	0.169
			1	49	22.86	0.193	22.57	0.181	22.26	0.168
26A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					502200 (2 511.00 MHz)		518598 (2 592.99 MHz)		534996 (2 674.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
30	30	DFT-S-OFDM BPSK	1	1	23.46	0.222	22.49	0.177	23.05	0.202
			1	39	23.06	0.202	22.49	0.177	22.65	0.184
			1	76	22.58	0.181	22.97	0.198	22.53	0.179
		DFT-S-OFDM QPSK	1	1	23.43	0.220	22.46	0.176	23.06	0.202
			1	39	23.06	0.202	22.52	0.179	22.64	0.184
			1	76	22.57	0.181	22.99	0.199	22.52	0.179
26A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					503202 (2 516.01 MHz)		518598 (2 592.99 MHz)		534000 (2 670.00 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
40	30	DFT-S-OFDM BPSK	1	1	23.40	0.219	22.64	0.184	23.09	0.204
			1	53	22.72	0.187	22.54	0.179	22.73	0.187
			1	104	22.22	0.167	23.03	0.201	22.24	0.167
		DFT-S-OFDM QPSK	1	1	23.37	0.217	22.63	0.183	23.08	0.203
			1	53	22.72	0.187	22.62	0.183	22.77	0.189
			1	104	22.29	0.169	23.01	0.200	22.20	0.166
26A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					504204 (2 521.02 MHz)		518598 (2 592.99 MHz)		532998 (2 664.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
50	30	DFT-S-OFDM BPSK	1	1	23.24	0.211	22.66	0.185	22.91	0.195
			1	67	22.47	0.177	22.46	0.176	22.77	0.189
			1	131	22.37	0.173	22.87	0.194	22.22	0.167
		DFT-S-OFDM QPSK	1	1	23.29	0.213	22.61	0.182	22.90	0.195
			1	67	22.42	0.175	22.44	0.175	22.70	0.186
			1	131	22.37	0.173	22.89	0.195	22.26	0.168
26A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					505200 (2 526.00 MHz)		518598 (2 592.99 MHz)		531996 (2 659.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
60	30	DFT-S-OFDM BPSK	1	1	23.12	0.205	22.68	0.185	22.74	0.188
			1	81	22.15	0.164	22.44	0.175	22.69	0.186
			1	160	22.78	0.190	22.86	0.193	21.95	0.157
		DFT-S-OFDM QPSK	1	1	23.15	0.207	22.68	0.185	22.82	0.191
			1	81	22.16	0.164	22.44	0.175	22.68	0.185
			1	160	22.74	0.188	22.85	0.193	21.91	0.155

26A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					507204 (2 536.02 MHz)		518598 (2 592.99 MHz)		529998 (2 649.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
80	30	DFT-S-OFDM BPSK	1	1	23.20	0.209	22.64	0.184	22.89	0.195
			1	109	22.08	0.161	22.50	0.178	22.96	0.198
			1	215	22.58	0.181	22.86	0.193	21.94	0.156
		DFT-S-OFDM QPSK	1	1	23.21	0.209	22.66	0.185	22.92	0.196
			1	109	22.09	0.162	22.52	0.179	22.96	0.198
			1	215	22.57	0.181	22.83	0.192	21.88	0.154
26A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					508200 (2 541.00 MHz)		518598 (2 592.99 MHz)		528996 (2 644.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
90	30	DFT-S-OFDM BPSK	1	1	23.31	0.214	22.61	0.182	22.80	0.191
			1	123	22.33	0.171	22.62	0.183	23.09	0.204
			1	243	22.41	0.174	22.90	0.195	21.44	0.139
		DFT-S-OFDM QPSK	1	1	23.35	0.216	22.57	0.181	22.82	0.191
			1	123	22.31	0.170	22.61	0.182	23.07	0.203
			1	243	22.46	0.176	22.91	0.195	21.42	0.139
26A-n41A										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					509202 (2 546.01 MHz)		518598 (2 592.99 MHz)		528000 (2 640.00 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
100	30	DFT-S-OFDM BPSK	1	1	23.37	0.217	22.45	0.176	22.59	0.182
			1	137	22.43	0.175	22.64	0.184	23.04	0.201
			1	271	22.70	0.186	22.96	0.198	21.33	0.136
		DFT-S-OFDM QPSK	1	1	23.33	0.215	22.43	0.175	22.58	0.181
			1	137	22.39	0.173	22.62	0.183	23.00	0.200
			1	271	22.69	0.186	22.98	0.199	21.30	0.135

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NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					501204 (2 506.02 MHz)		518598 (2 592.99 MHz)		535998 (2 679.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	30	DFT-S-OFDM BPSK	1	1	23.42	0.220	23.52	0.225	22.77	0.189
			1	26	23.49	0.223	23.50	0.224	22.65	0.184
			1	49	23.88	0.244	24.90	0.309	22.45	0.176
			25	0	23.65	0.232	23.67	0.233	22.83	0.192
			25	13	23.62	0.230	23.66	0.232	22.79	0.190
			25	26	23.02	0.200	23.04	0.201	22.64	0.184
			50	0	23.03	0.201	23.02	0.200	22.75	0.188
		DFT-S-OFDM QPSK	1	1	23.49	0.223	23.51	0.224	23.73	0.236
			1	26	23.55	0.226	23.57	0.228	22.94	0.197
			1	49	23.89	0.245	24.91	0.310	23.34	0.216
			25	0	23.14	0.206	23.18	0.208	22.37	0.173
			25	13	23.59	0.229	23.55	0.226	23.08	0.203
			25	26	23.40	0.219	23.45	0.221	22.17	0.165
			50	0	23.33	0.215	23.32	0.215	22.27	0.169
		DFT-S-OFDM 16QAM	1	1	22.58	0.181	22.64	0.184	22.66	0.185
		DFT-S-OFDM 64QAM	1	1	20.50	0.112	20.63	0.116	20.68	0.117
		DFT-S-OFDM 256QAM	1	1	20.61	0.115	20.64	0.116	20.53	0.113
		CP-OFDM QPSK	1	1	21.58	0.144	21.65	0.146	21.61	0.145
		CP-OFDM 16QAM	1	1	21.65	0.146	21.62	0.145	21.62	0.145
		CP-OFDM 64QAM	1	1	18.53	0.071	18.57	0.072	18.68	0.074
		CP-OFDM 256QAM	1	1	18.15	0.065	18.00	0.063	18.05	0.064

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					502200 (2 511.00 MHz)		518598 (2 592.99 MHz)		534996 (2 674.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
30	30	DFT-S-OFDM BPSK	1	1	24.11	0.258	24.05	0.254	24.00	0.251
			1	39	24.01	0.252	<u>24.41</u>	<u>0.276</u>	23.81	0.240
			1	76	23.89	0.245	23.46	0.222	23.34	0.216
			36	0	23.01	0.200	23.46	0.222	23.99	0.251
			36	21	22.86	0.193	24.37	0.274	23.73	0.236
			36	42	23.33	0.215	23.80	0.240	22.96	0.198
			75	0	22.88	0.194	23.70	0.234	23.52	0.225
		DFT-S-OFDM QPSK	1	1	24.06	0.255	24.12	0.258	24.55	0.285
			1	39	24.09	0.256	<u>24.57</u>	<u>0.286</u>	23.58	0.228
			1	76	24.56	0.286	23.56	0.227	23.17	0.207
			36	0	23.89	0.245	22.96	0.198	23.46	0.222
			36	21	22.92	0.196	23.70	0.234	23.70	0.234
			36	42	22.86	0.193	23.31	0.214	22.47	0.177
			75	0	22.78	0.190	23.20	0.209	23.03	0.201
		DFT-S-OFDM 16QAM	1	1	22.55	0.180	<u>22.56</u>	<u>0.180</u>	22.56	0.180
		DFT-S-OFDM 64QAM	1	1	20.68	0.117	20.62	0.115	20.68	0.117
		DFT-S-OFDM 256QAM	1	1	20.53	0.113	20.57	0.114	20.53	0.113
		CP-OFDM QPSK	1	1	21.55	0.143	<u>21.61</u>	<u>0.145</u>	21.55	0.143
		CP-OFDM 16QAM	1	1	<u>21.67</u>	<u>0.147</u>	21.54	0.143	21.64	0.146
		CP-OFDM 64QAM	1	1	18.54	0.071	18.62	0.073	18.55	0.072
		CP-OFDM 256QAM	1	1	18.09	0.064	18.00	0.063	18.15	0.065

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					503202 (2 516.01 MHz)		518598 (2 592.99 MHz)		534000 (2 670.00 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
40	30	DFT-S-OFDM BPSK	1	1	24.03	0.253	23.81	0.240	23.51	0.224
			1	53	23.26	0.212	24.71	0.296	23.10	0.204
			1	104	24.13	0.259	23.57	0.228	23.60	0.229
			50	0	22.56	0.180	22.67	0.185	23.02	0.200
			50	28	22.81	0.191	24.53	0.284	24.19	0.262
			50	56	24.02	0.252	23.62	0.230	23.09	0.204
			100	0	23.27	0.212	23.51	0.224	23.58	0.228
		DFT-S-OFDM QPSK	1	1	24.02	0.252	22.97	0.198	23.65	0.232
			1	53	23.23	0.210	24.81	0.303	24.08	0.256
			1	104	24.13	0.259	23.28	0.213	22.96	0.198
			50	0	22.03	0.160	22.78	0.190	23.44	0.221
			50	28	23.47	0.222	24.51	0.282	24.17	0.261
			50	56	23.52	0.225	23.09	0.204	22.58	0.181
			100	0	22.80	0.191	23.02	0.200	23.11	0.205
		DFT-S-OFDM 16QAM	1	1	22.60	0.182	22.59	0.182	22.56	0.180
		DFT-S-OFDM 64QAM	1	1	20.67	0.117	20.65	0.116	20.55	0.114
		DFT-S-OFDM 256QAM	1	1	20.67	0.117	20.67	0.117	20.55	0.114
		CP-OFDM QPSK	1	1	21.51	0.142	21.57	0.144	21.58	0.144
		CP-OFDM 16QAM	1	1	21.59	0.144	21.68	0.147	21.60	0.145
		CP-OFDM 64QAM	1	1	18.64	0.073	18.52	0.071	18.60	0.072
		CP-OFDM 256QAM	1	1	18.16	0.065	18.04	0.064	18.05	0.064

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					504204 (2 521.02 MHz)		518598 (2 592.99 MHz)		532998 (2 664.99 MHz)	
					(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
50	30	DFT-S-OFDM BPSK	1	1	23.99	0.251	22.59	0.182	22.53	0.179
			1	67	24.30	0.269	24.64	0.291	23.87	0.244
			1	131	23.03	0.201	22.83	0.192	23.22	0.210
			64	0	22.72	0.187	23.09	0.204	23.37	0.217
			64	35	24.11	0.258	24.34	0.272	24.31	0.270
			64	69	23.46	0.222	23.42	0.220	23.24	0.211
			128	0	22.61	0.182	23.30	0.214	23.37	0.217
		DFT-S-OFDM QPSK	1	1	24.04	0.254	23.20	0.209	23.05	0.202
			1	67	24.33	0.271	24.82	0.303	24.57	0.286
			1	131	23.03	0.201	23.35	0.216	23.09	0.204
			64	0	22.24	0.167	22.58	0.181	22.89	0.195
			64	35	24.07	0.255	24.30	0.269	24.27	0.267
			64	69	23.25	0.211	22.89	0.195	22.72	0.187
			128	0	22.82	0.191	22.82	0.191	22.88	0.194
		DFT-S-OFDM 16QAM	1	1	22.50	0.178	22.62	0.183	22.50	0.178
		DFT-S-OFDM 64QAM	1	1	20.68	0.117	20.56	0.114	20.55	0.114
		DFT-S-OFDM 256QAM	1	1	20.58	0.114	20.63	0.116	20.50	0.112
		CP-OFDM QPSK	1	1	21.58	0.144	21.66	0.147	21.67	0.147
		CP-OFDM 16QAM	1	1	21.54	0.143	21.57	0.144	21.54	0.143
		CP-OFDM 64QAM	1	1	18.59	0.072	18.54	0.071	18.67	0.074
		CP-OFDM 256QAM	1	1	18.04	0.064	18.02	0.063	18.15	0.065

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					505200 (2 526.00 MHz)		518598 (2 592.99 MHz)		531996 (2 659.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
60	30	DFT-S-OFDM BPSK	1	1	23.92	0.247	23.30	0.214	23.83	0.242
			1	81	24.81	0.303	24.60	0.288	24.51	0.282
			1	160	23.90	0.245	22.34	0.171	23.03	0.201
			81	0	23.69	0.234	23.14	0.206	23.05	0.202
			81	41	24.06	0.255	24.11	0.258	24.06	0.255
			81	81	23.39	0.218	23.41	0.219	23.44	0.221
			162	0	23.20	0.209	23.26	0.212	23.25	0.211
		DFT-S-OFDM QPSK	1	1	23.92	0.247	23.76	0.238	23.84	0.242
			1	81	24.84	0.305	24.82	0.303	24.52	0.283
			1	160	23.90	0.245	23.77	0.238	23.00	0.200
			81	0	22.49	0.177	22.63	0.183	22.57	0.181
			81	41	24.02	0.252	24.11	0.258	24.03	0.253
			81	81	22.91	0.195	22.94	0.197	22.97	0.198
			162	0	22.70	0.186	22.75	0.188	22.74	0.188
		DFT-S-OFDM 16QAM	1	1	22.67	0.185	22.52	0.179	22.60	0.182
		DFT-S-OFDM 64QAM	1	1	20.56	0.114	20.54	0.113	20.59	0.115
		DFT-S-OFDM 256QAM	1	1	20.62	0.115	20.63	0.116	20.62	0.115
		CP-OFDM QPSK	1	1	21.53	0.142	21.59	0.144	21.68	0.147
		CP-OFDM 16QAM	1	1	21.59	0.144	21.62	0.145	21.53	0.142
		CP-OFDM 64QAM	1	1	18.59	0.072	18.60	0.072	18.61	0.073
		CP-OFDM 256QAM	1	1	18.05	0.064	18.13	0.065	18.17	0.066

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					507204 (2 536.02 MHz)		518598 (2 592.99 MHz)		529998 (2 649.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
80	30	DFT-S-OFDM BPSK	1	1	23.99	0.251	23.89	0.245	23.24	0.211
			1	109	23.72	0.236	<u>24.87</u>	<u>0.307</u>	23.50	0.224
			1	215	22.90	0.195	23.97	0.249	22.88	0.194
			108	0	23.34	0.216	23.28	0.213	23.06	0.202
			108	55	23.96	0.249	23.91	0.246	23.94	0.248
			108	109	23.04	0.201	23.43	0.220	23.66	0.232
			216	0	23.22	0.210	23.36	0.217	23.26	0.212
		DFT-S-OFDM QPSK	1	1	24.00	0.251	23.93	0.247	23.24	0.211
			1	109	23.75	0.237	<u>24.90</u>	<u>0.309</u>	23.49	0.223
			1	215	22.93	0.196	23.97	0.249	22.15	0.164
			108	0	22.87	0.194	22.77	0.189	22.55	0.180
			108	55	22.98	0.199	22.91	0.195	22.92	0.
			108	109	22.55	0.180	22.94	0.197	23.17	0.207
			216	0	22.74	0.188	22.85	0.193	22.79	0.190
		DFT-S-OFDM 16QAM	1	1	<u>22.68</u>	<u>0.185</u>	22.67	0.185	22.57	0.181
		DFT-S-OFDM 64QAM	1	1	20.54	0.113	20.55	0.114	20.58	0.114
		DFT-S-OFDM 256QAM	1	1	20.56	0.114	20.68	0.117	20.67	0.117
		CP-OFDM QPSK	1	1	21.52	0.142	<u>21.59</u>	<u>0.144</u>	21.50	0.141
		CP-OFDM 16QAM	1	1	21.51	0.142	<u>21.58</u>	<u>0.144</u>	21.50	0.141
		CP-OFDM 64QAM	1	1	18.63	0.073	18.68	0.074	18.60	0.072
		CP-OFDM 256QAM	1	1	18.13	0.065	18.12	0.065	18.12	0.065

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					508200 (2 541.00 MHz)		518598 (2 592.99 MHz)		528996 (2 644.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
90	30	DFT-S-OFDM BPSK	1	1	24.06	0.255	23.38	0.218	24.25	0.266
			1	123	23.21	0.209	24.81	0.303	23.21	0.209
			1	243	23.81	0.240	23.51	0.224	23.04	0.201
			120	0	23.40	0.219	23.25	0.211	23.19	0.208
			120	63	24.06	0.255	23.88	0.244	23.91	0.246
			120	125	23.06	0.202	23.41	0.219	23.57	0.228
			243	0	23.25	0.211	23.36	0.217	23.31	0.214
		DFT-S-OFDM QPSK	1	1	24.07	0.255	23.37	0.217	24.28	0.268
			1	123	23.18	0.208	24.80	0.302	23.21	0.209
			1	243	23.83	0.242	23.51	0.224	23.05	0.202
			120	0	22.91	0.195	22.76	0.189	22.72	0.187
			120	63	24.05	0.254	23.86	0.243	23.91	0.246
			120	125	22.58	0.181	22.94	0.197	23.10	0.204
			243	0	22.76	0.189	22.85	0.193	22.82	0.191
		DFT-S-OFDM 16QAM	1	1	22.65	0.184	22.64	0.184	22.64	0.184
		DFT-S-OFDM 64QAM	1	1	20.54	0.113	20.57	0.114	20.62	0.115
		DFT-S-OFDM 256QAM	1	1	20.53	0.113	20.55	0.114	20.67	0.117
		CP-OFDM QPSK	1	1	21.64	0.146	21.57	0.144	21.55	0.143
		CP-OFDM 16QAM	1	1	21.67	0.147	21.54	0.143	21.65	0.146
		CP-OFDM 64QAM	1	1	18.52	0.071	18.56	0.072	18.50	0.071
		CP-OFDM 256QAM	1	1	18.11	0.065	18.01	0.063	18.11	0.065

NR Band 41										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					509202 (2 546.01 MHz)		518598 (2 592.99 MHz)		528000 (2 640.00 MHz)	
					(dBm)	(W)	(dBm)	(W)	(dBm)	(W)
100	30	DFT-S-OFDM BPSK	1	1	24.08	0.256	23.11	0.205	24.80	0.302
			1	137	23.03	0.201	24.88	0.308	23.20	0.209
			1	271	24.64	0.291	23.76	0.238	23.98	0.250
			135	0	23.27	0.212	23.20	0.209	23.38	0.218
			135	69	23.96	0.249	23.80	0.240	23.77	0.238
			135	138	23.30	0.214	23.35	0.216	23.44	0.221
			270	0	23.26	0.212	23.28	0.213	23.36	0.217
		DFT-S-OFDM QPSK	1	1	24.09	0.256	23.09	0.204	24.78	0.301
			1	137	23.04	0.201	24.87	0.307	23.16	0.207
			1	271	24.76	0.299	22.74	0.188	22.16	0.164
			135	0	22.80	0.191	22.72	0.187	22.91	0.195
			135	69	23.94	0.248	23.81	0.240	23.75	0.237
			135	138	22.82	0.191	22.88	0.194	22.96	0.198
			270	0	22.79	0.190	22.80	0.191	22.87	0.194
		DFT-S-OFDM 16QAM	1	1	22.63	0.183	22.50	0.178	22.67	0.185
		DFT-S-OFDM 64QAM	1	1	20.54	0.113	20.54	0.113	20.53	0.113
		DFT-S-OFDM 256QAM	1	1	20.55	0.114	20.59	0.115	20.66	0.116
		CP-OFDM QPSK	1	1	21.57	0.144	21.63	0.146	21.55	0.143
		CP-OFDM 16QAM	1	1	21.55	0.143	21.66	0.147	21.65	0.146
		CP-OFDM 64QAM	1	1	18.52	0.071	18.67	0.074	18.55	0.072
		CP-OFDM 256QAM	1	1	18.11	0.065	18.10	0.065	18.00	0.063

4. Occupied Bandwidth

4.1. Limit

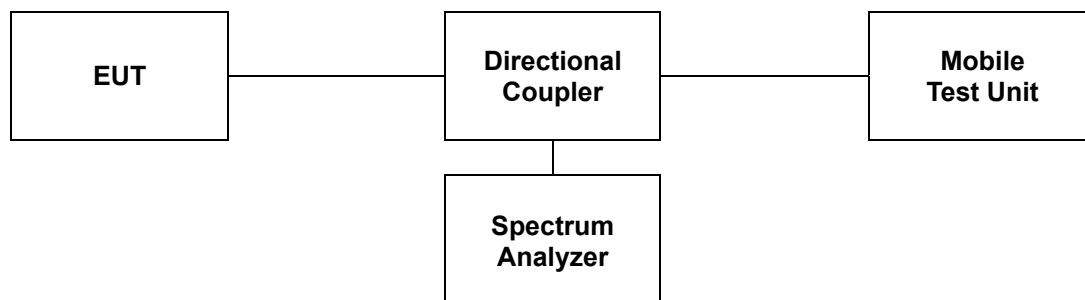
CFR 47, Section FCC §2.1049.

4.2. Test Procedure

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

- 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).
- 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 $\geq 3 \times \text{RBW}$.
- 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.
- Set the detection mode to peak, and the trace mode to max-hold.
- 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.
- 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).

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

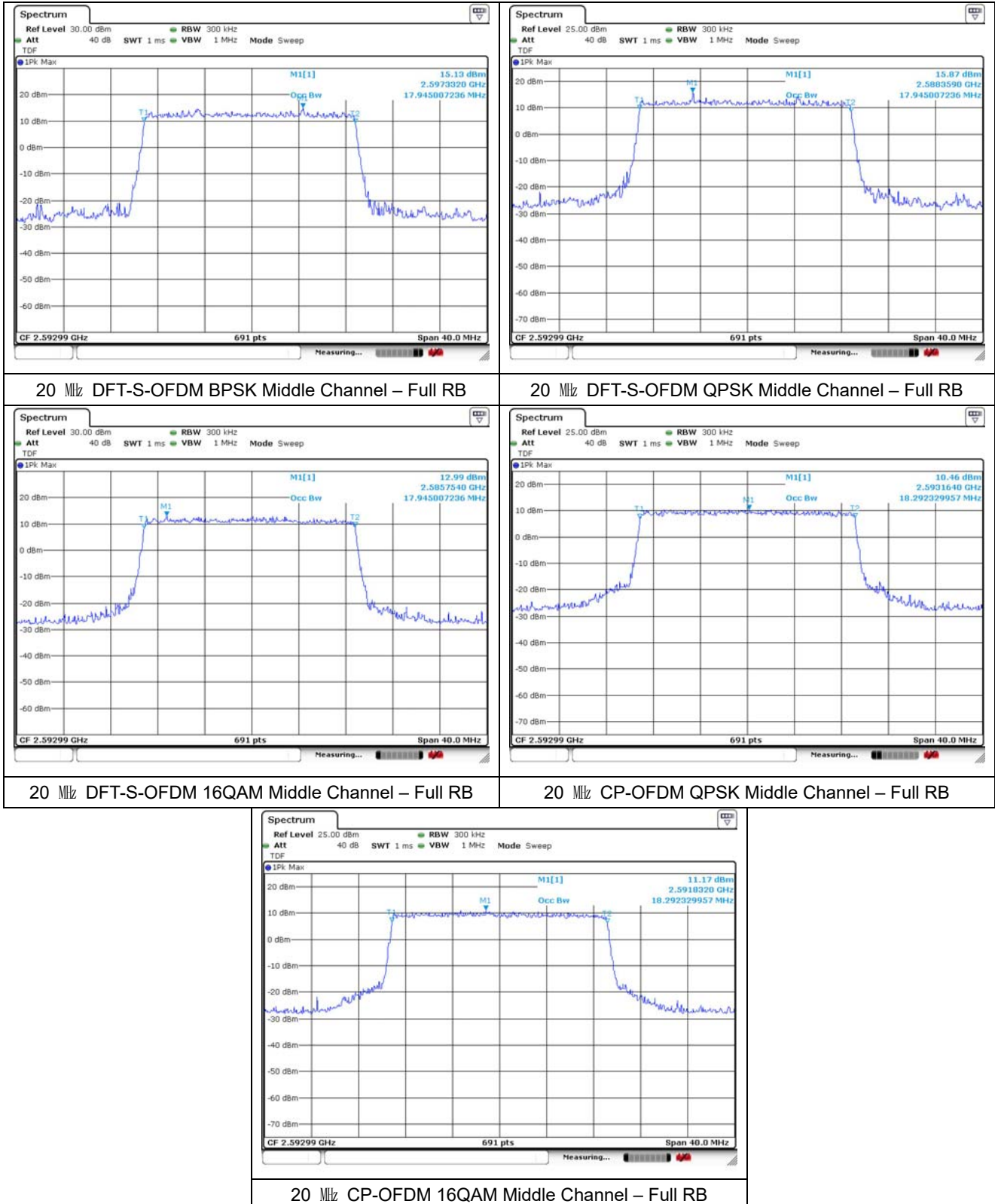
Band	SCS (kHz)	BW (MHz)	Frequency (MHz)	Occupied Bandwidth (MHz)				
				DFT-S-OFDM BPSK	DFT-S-OFDM QPSK	DFT-S-OFDM 16QAM	CP-OFDM QPSK	CP-OFDM 16QAM
41	30	20	2 592.99	17.945	17.945	17.945	18.292	18.292
		30		26.918	26.918	26.831	27.959	27.959
		40		35.774	35.774	35.658	37.858	37.974
		50		45.731	45.731	45.731	47.467	47.467
		60		58.003	58.003	58.003	58.003	58.003
		80		77.337	76.874	77.106	77.337	77.106
		90		86.744	86.483	86.744	87.265	87.525
		100		96.093	96.382	96.093	97.250	97.540

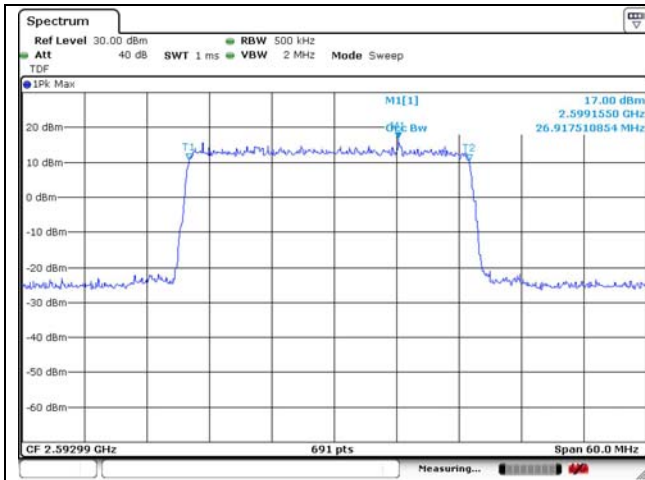
SIM 2

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
41	30	20	2 592.99	17.945	17.945	17.945	18.292	18.292
		30		26.918	26.918	26.831	27.959	27.959
		40		35.774	35.774	35.774	37.742	37.742
		50		45.731	45.731	47.467	47.467	47.467
		60		58.003	58.003	58.003	58.003	58.003
		80		76.874	77.106	76.874	77.337	77.337
		90		86.744	86.744	86.744	87.525	87.265
		100		96.093	96.382	96.093	97.250	97.540

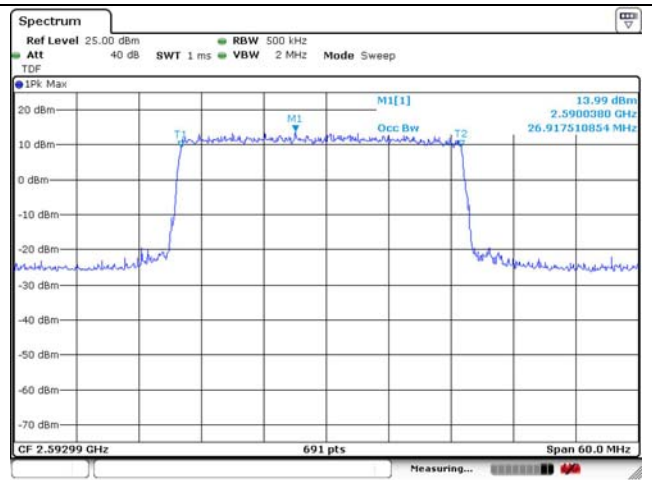
- Test plots

SIM 1

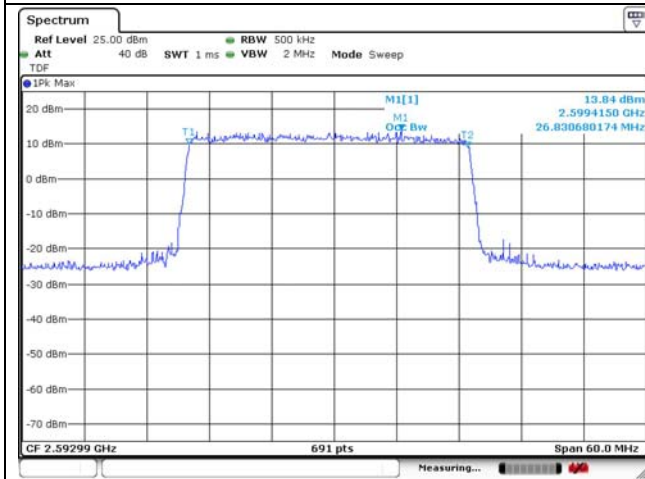




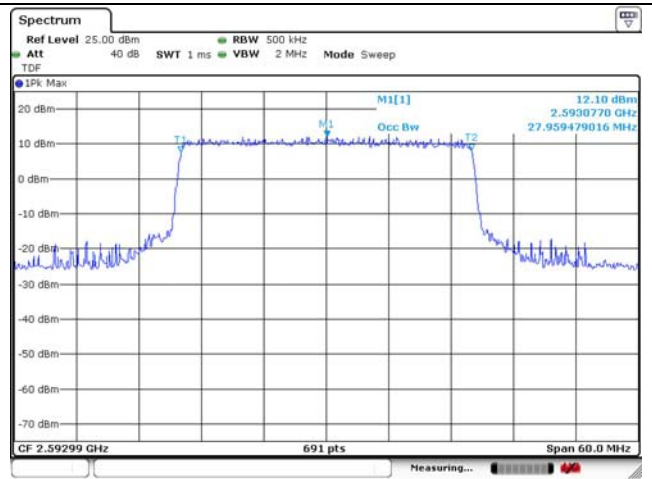
30 MHz DFT-S-OFDM BPSK Middle Channel – Full RB



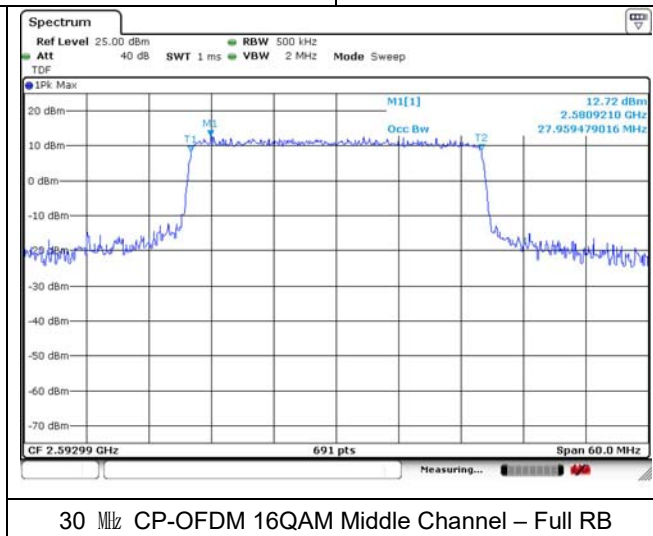
30 MHz DFT-S-OFDM QPSK Middle Channel – Full RB



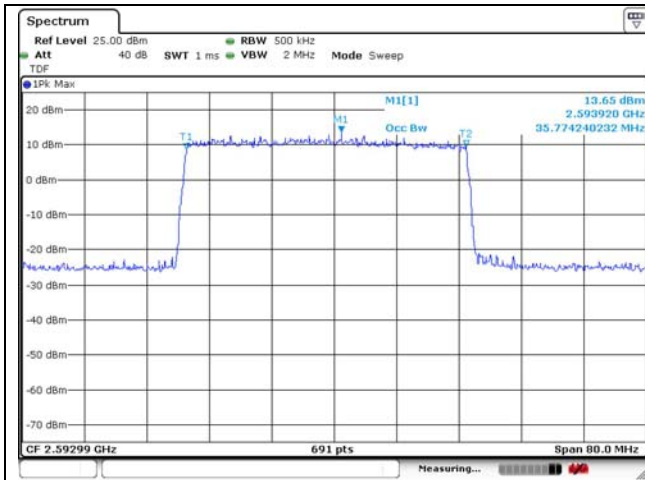
30 MHz DFT-S-OFDM 16QAM Middle Channel – Full RB



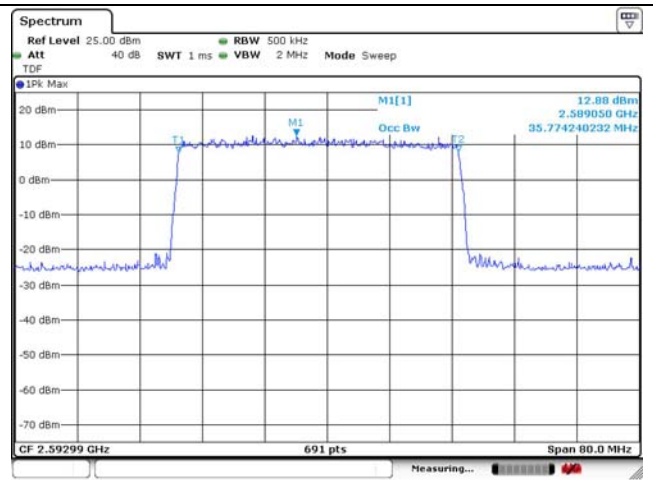
30 MHz CP-OFDM QPSK Middle Channel – Full RB



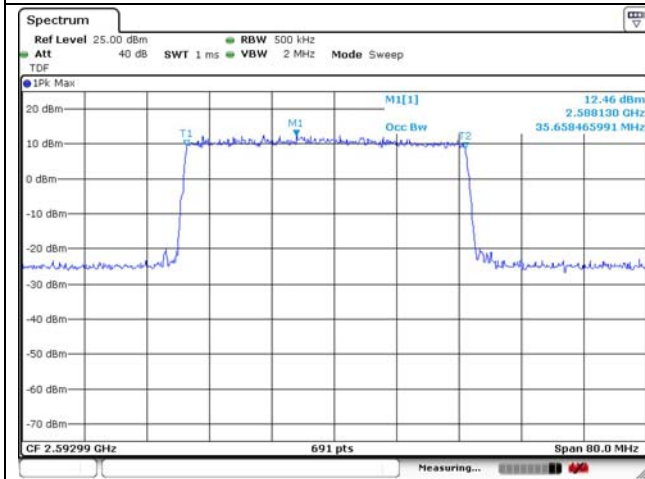
30 MHz CP-OFDM 16QAM Middle Channel – Full RB



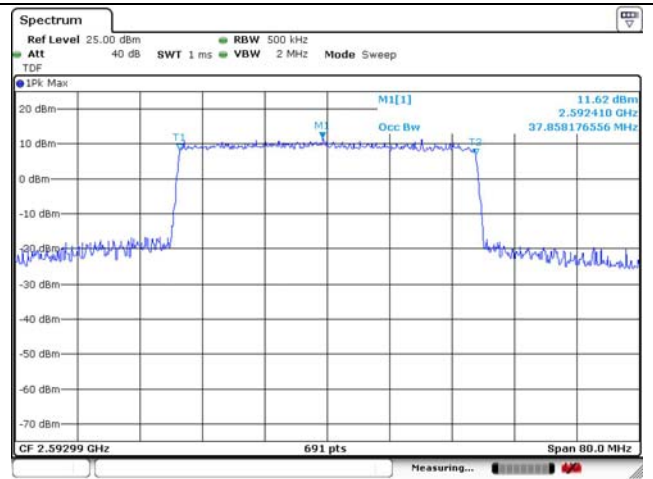
40 MHz DFT-S-OFDM BPSK Middle Channel – Full RB



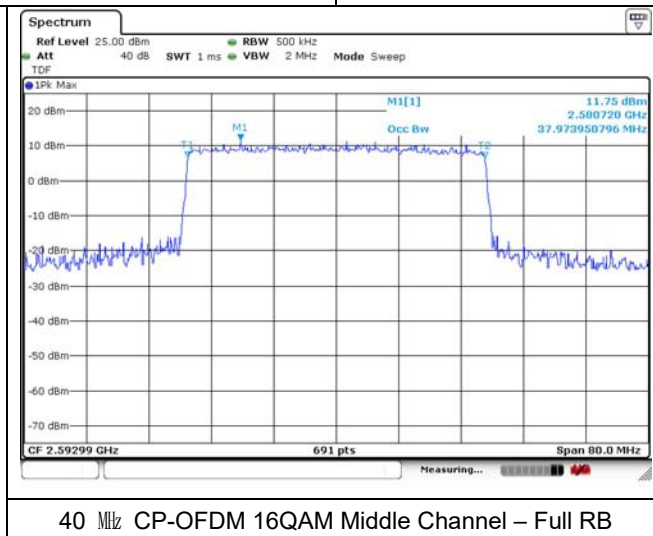
40 MHz DFT-S-OFDM QPSK Middle Channel – Full RB



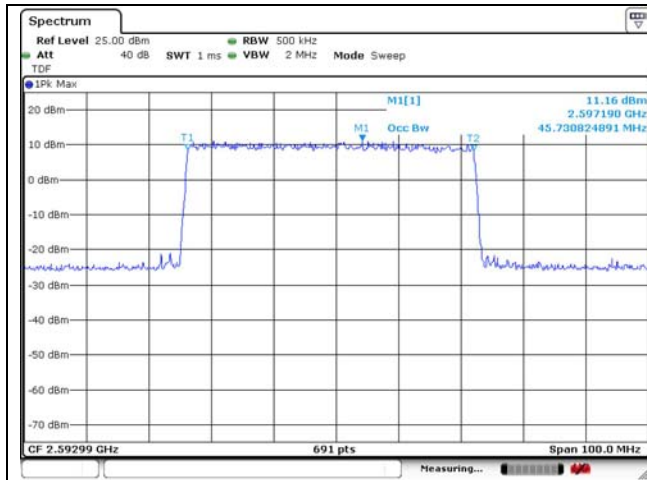
40 MHz DFT-S-OFDM 16QAM Middle Channel – Full RB



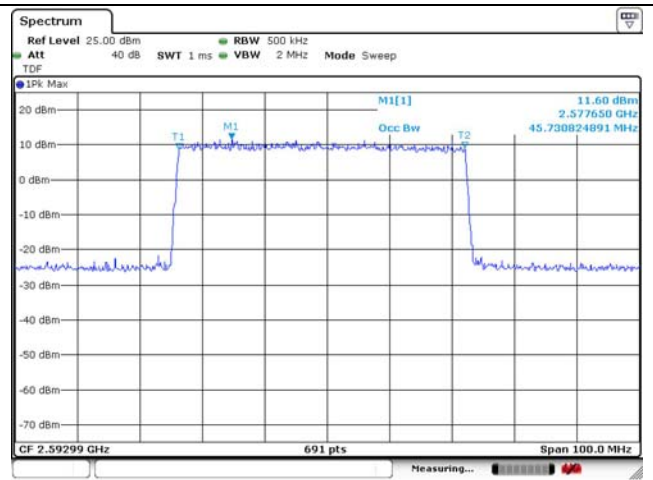
40 MHz CP-OFDM QPSK Middle Channel – Full RB



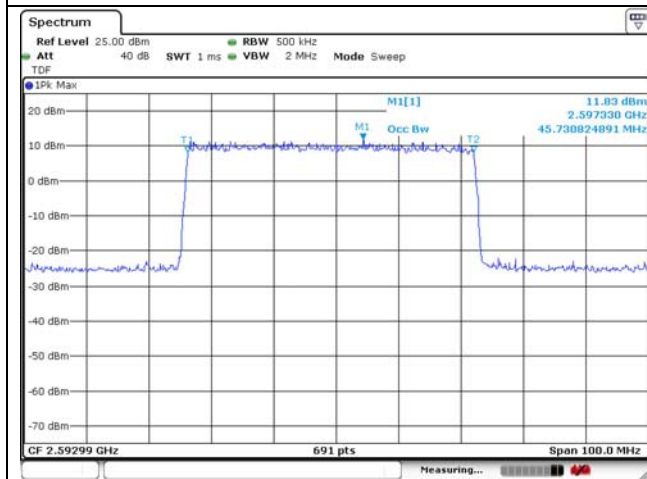
40 MHz CP-OFDM 16QAM Middle Channel – Full RB



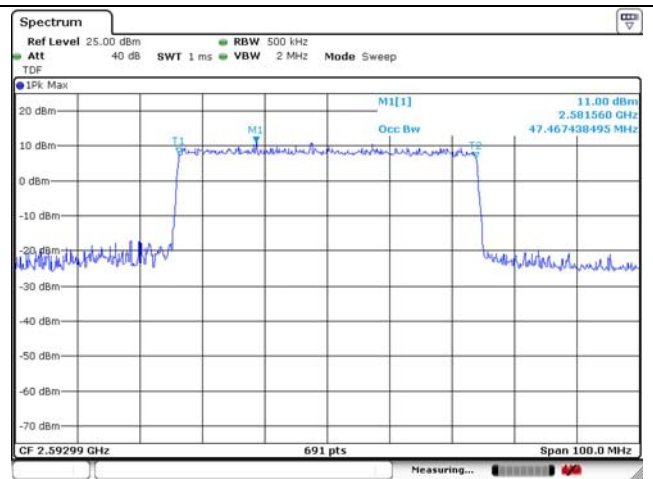
50 MHz DFT-S-OFDM BPSK Middle Channel – Full RB



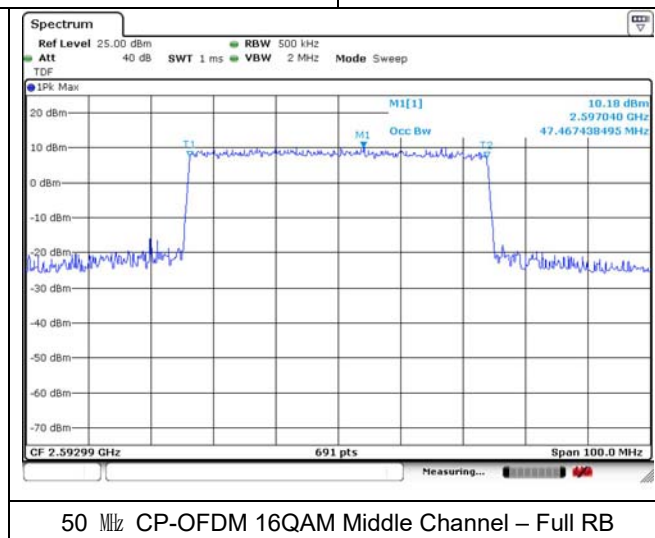
50 MHz DFT-S-OFDM QPSK Middle Channel – Full RB



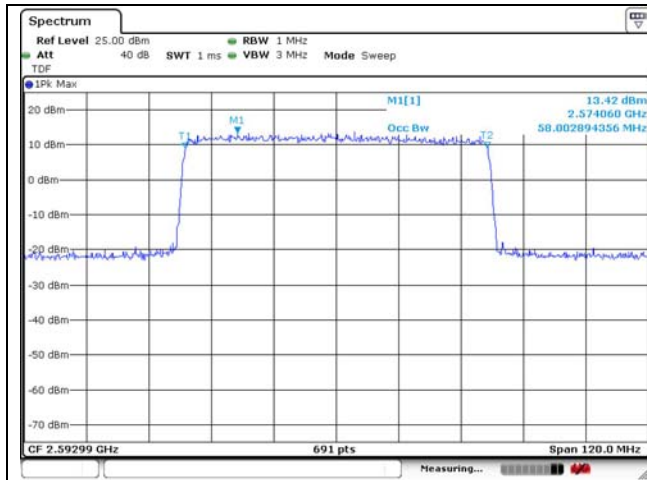
50 MHz DFT-S-OFDM 16QAM Middle Channel – Full RB



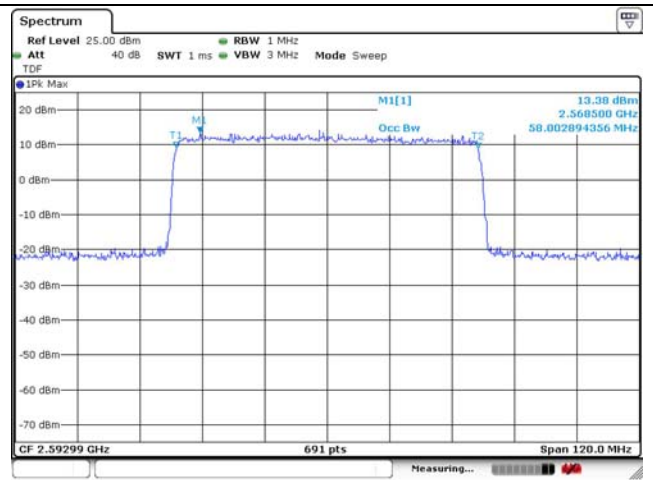
50 MHz CP-OFDM QPSK Middle Channel – Full RB



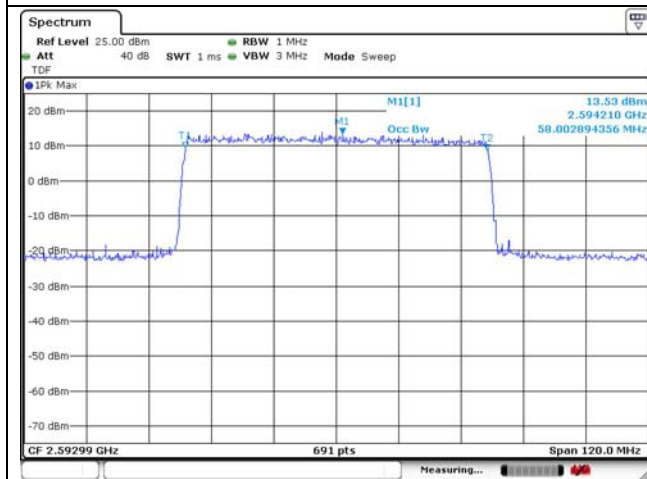
50 MHz CP-OFDM 16QAM Middle Channel – Full RB



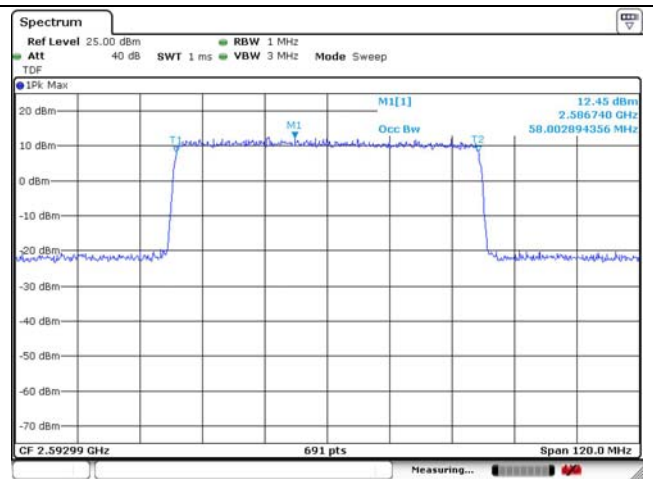
60 MHz DFT-S-OFDM BPSK Middle Channel – Full RB



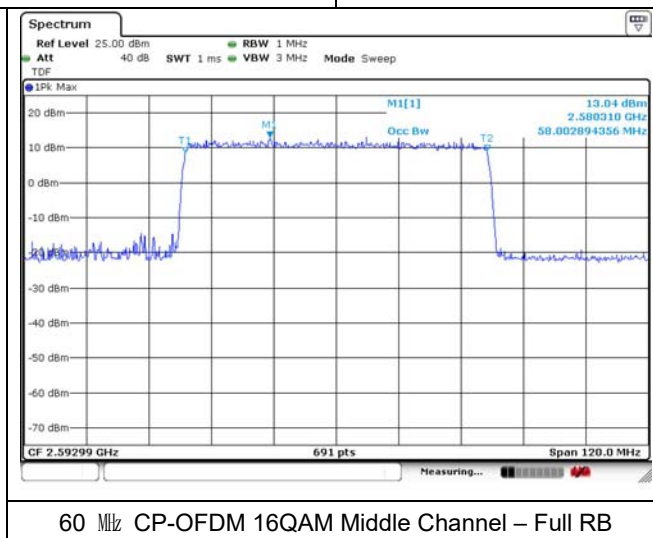
60 MHz DFT-S-OFDM QPSK Middle Channel – Full RB



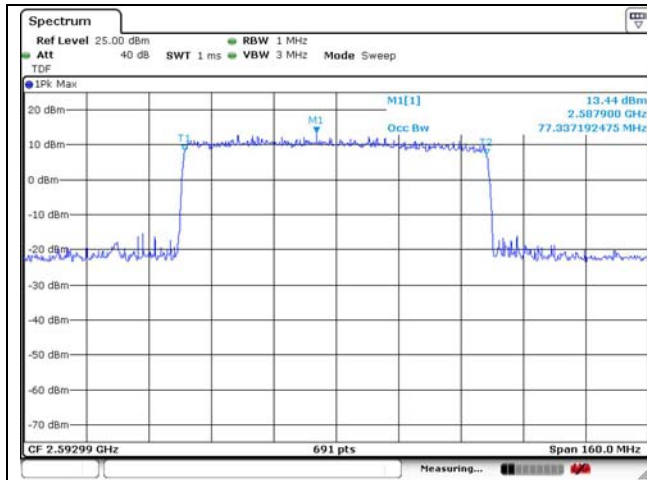
60 MHz DFT-S-OFDM 16QAM Middle Channel – Full RB



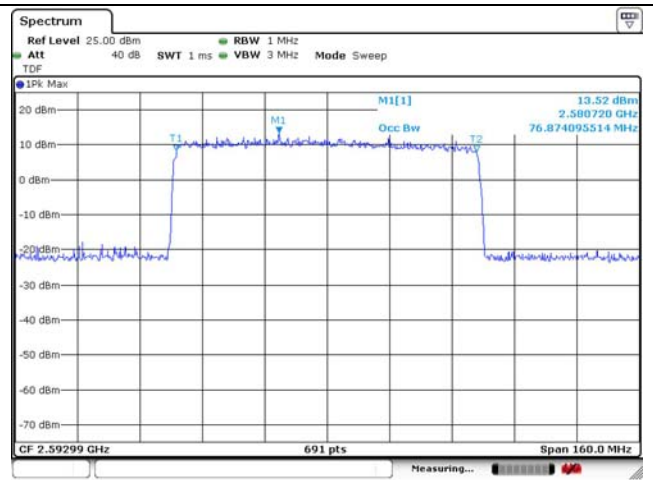
60 MHz CP-OFDM QPSK Middle Channel – Full RB



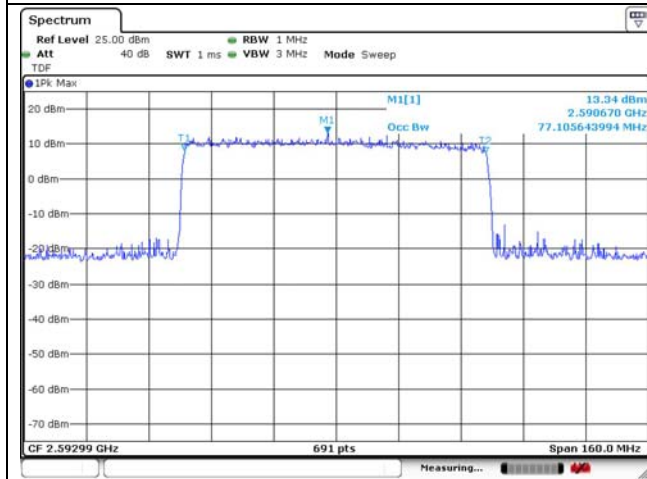
60 MHz CP-OFDM 16QAM Middle Channel – Full RB



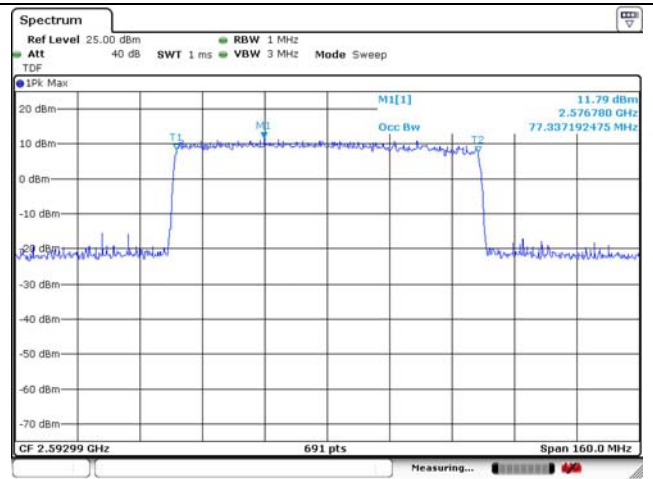
80 MHz DFT-S-OFDM BPSK Middle Channel – Full RB



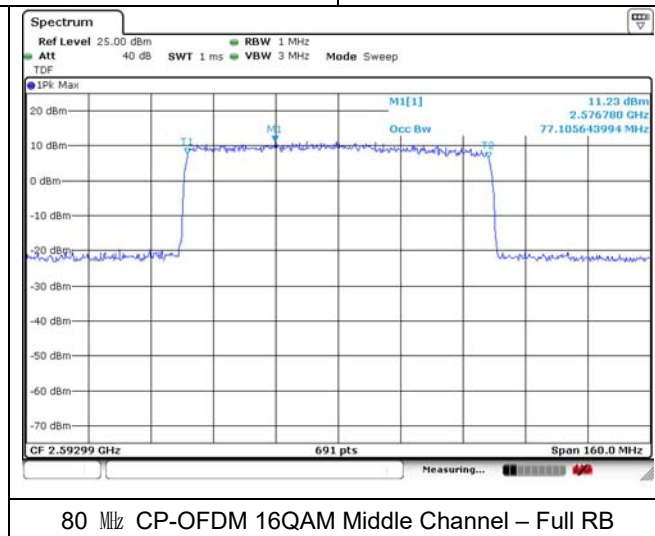
80 MHz DFT-S-OFDM QPSK Middle Channel – Full RB



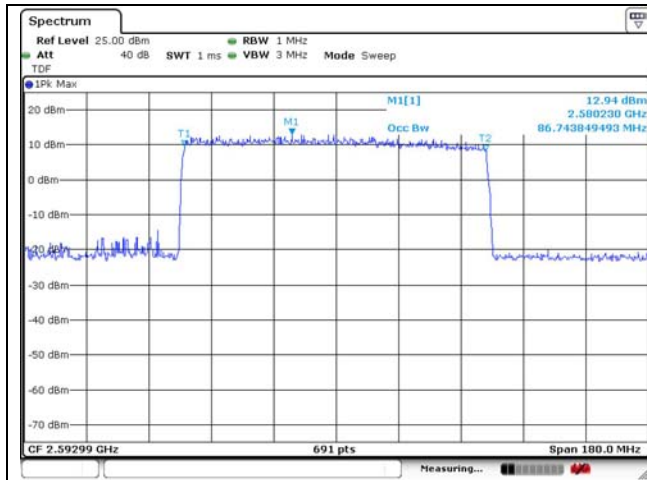
80 MHz DFT-S-OFDM 16QAM Middle Channel – Full RB



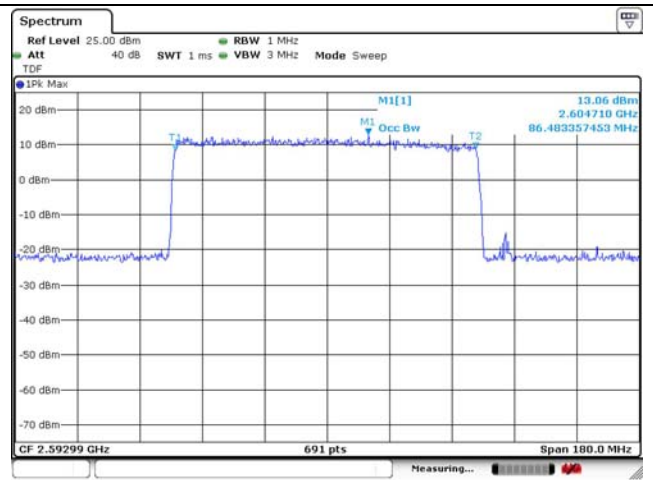
80 MHz CP-OFDM QPSK Middle Channel – Full RB



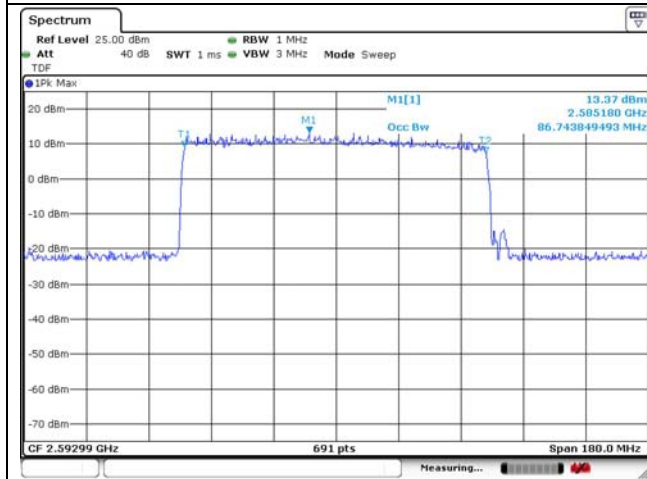
80 MHz CP-OFDM 16QAM Middle Channel – Full RB



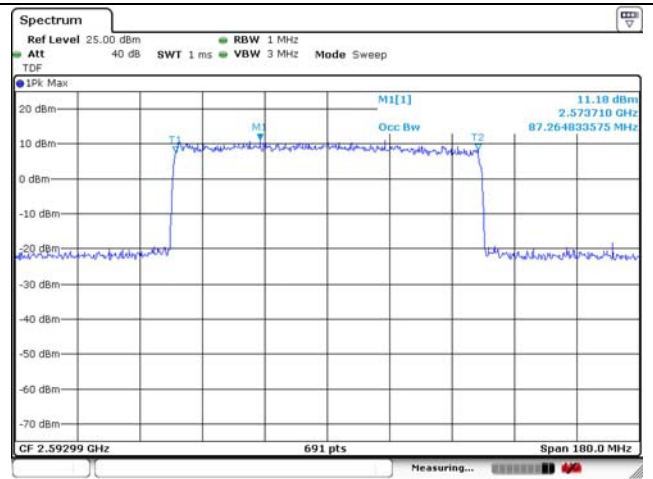
90 MHz DFT-S-OFDM BPSK Middle Channel – Full RB



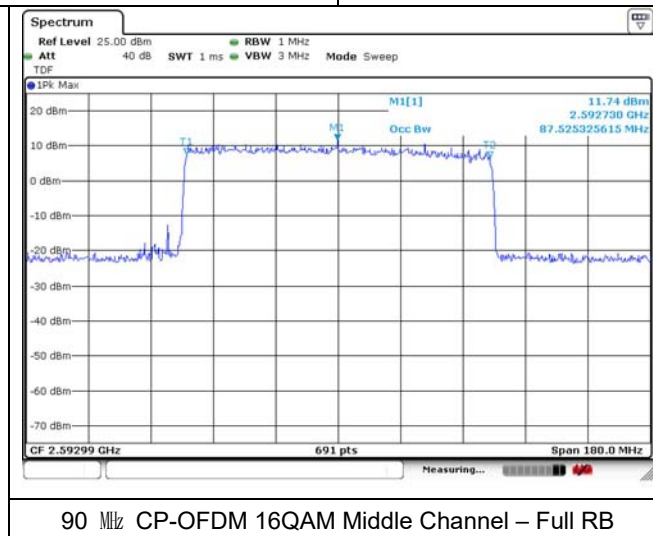
90 MHz DFT-S-OFDM QPSK Middle Channel – Full RB



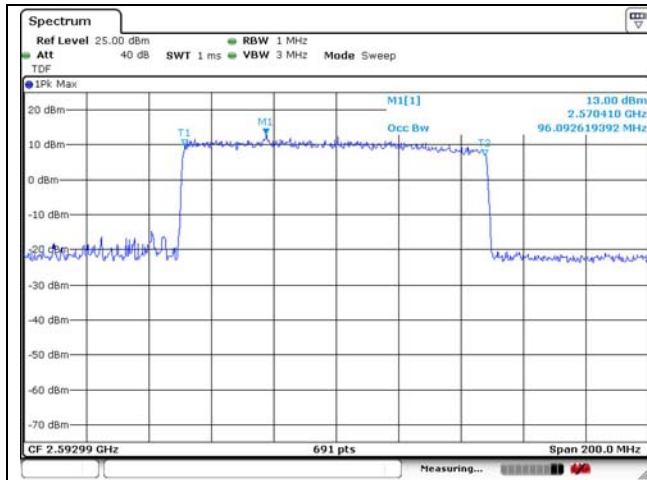
90 MHz DFT-S-OFDM 16QAM Middle Channel – Full RB



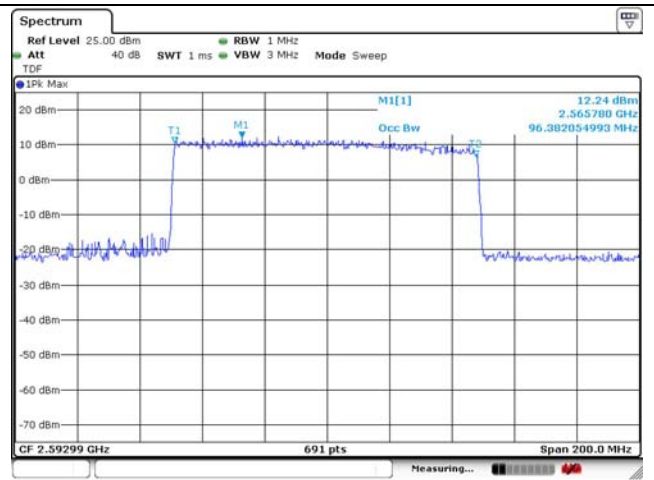
90 MHz CP-OFDM QPSK Middle Channel – Full RB



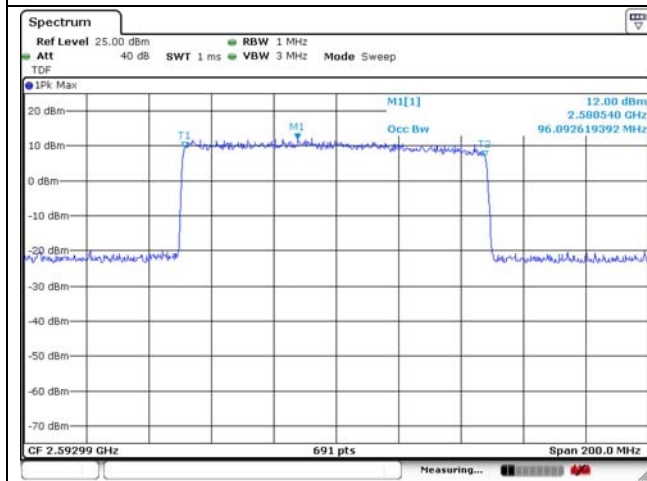
90 MHz CP-OFDM 16QAM Middle Channel – Full RB



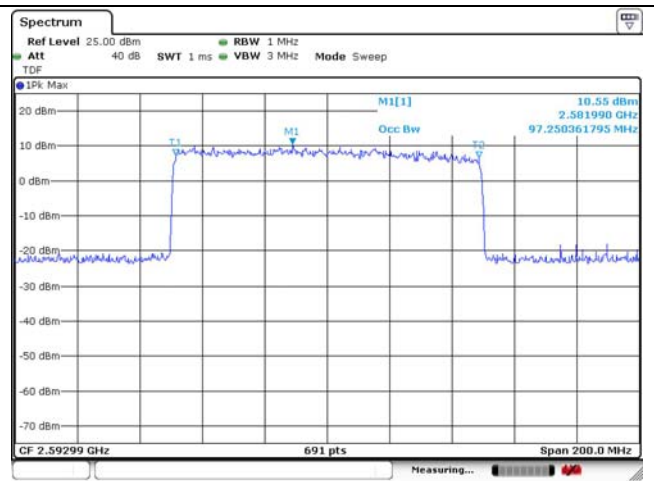
100 MHz DFT-S-OFDM BPSK Middle Channel – Full RB



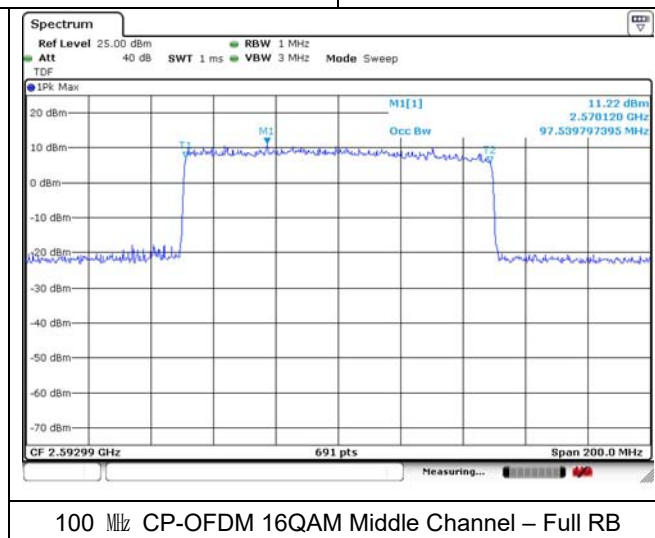
100 MHz DFT-S-OFDM QPSK Middle Channel – Full RB



100 MHz DFT-S-OFDM 16QAM Middle Channel – Full RB



100 MHz CP-OFDM QPSK Middle Channel – Full RB



100 MHz CP-OFDM 16QAM Middle Channel – Full RB