

TEST REPORT

of

FCC Part 2 Subpart J and Part 27 Subpart C
IC RSS-199 Issue 3 and RSS-Gen Issue 5

FCC ID: BEJTM05FNNAGM0
IC Certification: 2703H-TM05FNNAGM0

Equipment Under Test : Telematics Module
Model Name : TM05FNNAGM0
Variant Model Name(s) : TM05FNNAGM1
Applicant : FCC: LG Electronics USA
IC: LG ELECTRONICS INC.
Manufacturer : LG Electronics Inc.
Date of Receipt : 2022.07.22
Date of Test(s) : 2022.07.25 ~ 2023.02.16
Date of Issue : 2023.02.16

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

- 1) The results of this test report are effective only to the items tested.
- 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:



Teo Kim

Technical
Manager:



Jinyoung 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
 IC Applicant : LG ELECTRONICS INC.
 IC Address : 222, LG-ro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, Korea (Republic of), 451-713
 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 Module
Model Name		TM05FNNAGM0
Variant Model Name		TM05FNNAGM1
Serial Number		Conducted: 351015130056680 Radiated: 351015130065751
Power Supply		DC 3.90 V
Rated Power		NR Band 41: 25 dB m
Frequency Range	Port 1	NR Band 41(FCC): 2 496 MHz ~ 2 690 MHz NR Band 41(IC): 2 500 MHz ~ 2 690 MHz
	Port 2	NR Band 41(FCC): 2 496 MHz ~ 2 690 MHz NR Band 41(IC): 2 500 MHz ~ 2 690 MHz
Modulation Technique		BPSK, QPSK, 16QAM, 64QAM
Antenna Type		External Antenna
Antenna Gain*		Refer to the clause 1.14
H/W Version		REV.D
S/W Version		SW168
FVIN		N/A

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	R&S	FSV30	103211	Dec. 09, 2022	Annual	Dec. 09, 2023
Spectrum Analyzer	R&S	FSW67	103242	Aug. 26, 2022	Annual	Aug. 26, 2023
Spectrum Analyzer	Agilent	N9020A	MY53421758	Aug. 26, 2022	Annual	Aug. 26, 2023
Spectrum Analyzer	Agilent	N9030A	US51350132	Nov. 11, 2022	Annual	Nov. 11, 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 8979400903-1	May 13, 2022	Annual	May 13, 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
Power Splitter	Weinschel	1534	499	May 31, 2022	Annual	May 31, 2023
Power Splitter	Weinschel	1534	500	May 31, 2022	Annual	May 31, 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
Directional Coupler	KRYTAR	152613	122661	Mar. 04, 2022	Annual	Mar. 04, 2023
DC Power Supply	Agilent	U8002A	MY49030063	Jan. 20, 2023	Annual	Jan. 20, 2024
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. 09, 2023	Annual	Feb. 09, 2024
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	RADIALL	TESTPRO 3	182287	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIALL	TESTPRO 3	182288	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIALL	TESTPRO 3	182291	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIALL	TESTPRO 3	182284	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIALL	TESTPRO 3	182292	Aug. 18, 2022	Semi-Annual	Feb. 18, 2023
Coaxial Cable	RADIALL	TESTPRO 3	182285	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 IC RSS-Gen Issue 5 and RSS-199 Issue 3			
Section(s) in FCC	Section(s) in IC	Test Item	Result
§27.50(h)(2)	RSS-199 Issue 3 4.4	E.I.R.P.	Complied
§27.53(m)(4)	RSS-199 Issue 3 4.5	Radiated Spurious Emissions	Complied
§2.1046	RSS-Gen Issue 5 6.12	Conducted Output Power	Complied
§2.1049	RSS-Gen Issue 5 6.7	Occupied Bandwidth	Complied
-	RSS-199 Issue 3 4.4	Peak-Average Ratio	Complied
§27.53(m)(4)	RSS-199 Issue 3 4.5	Spurious Emission at Antenna Terminal	Complied
§27.53(m)(4)	RSS-199 Issue 3 4.5	Band Edge and Emission Mask	Complied
§27.54	RSS-199 Issue 3 4.3 RSS-Gen Issue 5 6.11	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

The EUT supports two ports and LTE, WCDMA and 5G NR FDD bands support only port 1.
 The 5G NR TDD (n41, n77, n78) band supports both port 1 and port 2.

Port 1 supports 5G NR TDD bands only for MIMO mode with CP-OFDM Modulation only.

1.9. ENDC Configuration

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	5

Note;

- Only SISO mode support ENDC Mode.

1.10. 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 and 64QAM 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 peak to average ratio were tested only 64QAM 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.

1.11. Measurement Configuration

SISO Mode

Test Items	Band	Test Channel			Bandwidth (MHz)											Modulation DFTS-OFDM				Modulation CP-OFDM			RB #									
		Low	Mid	High	5	10	15	20	25	30	40	50	60	80	90	100	BPSK	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	1	Half	Full						
Conducted Output Power	n41	V	V	V				V		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	n41	-	V	-				V		-	-	-	-	-	-	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	V
Occupied Bandwidth	n41	-	V	-				V		V	V	V	V	V	V	V	V	V	V	-	V	V	-	-	-	-	-	-	-	-	-	V
Peak-to-Average Ratio	n41	V	V	V				V		V	V	V	V	V	V	V	V	-	-	-	V	-	-	V	-	-	-	-	-	-	-	V
Band edge	n41	V	-	V				V		V	V	V	V	V	V	V	V	-	V	-	V	V	-	V	-	V	-	V	-	V	-	V
Spurious at antenna terminal & Radiated Spurious Emissions	n41	V	V	V	Worst case																											

MIMO Mode

Test Items	Band	Test Channel			Bandwidth (MHz)											Modulation CP-OFDM				RB #												
		Low	Mid	High	5	10	15	20	25	30	40	50	60	80	90	100	QPSK	16QAM	64QAM	1	Half	Full										
Conducted Output Power	n41	V	V	V				V		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	-	-	-	-	-	-	V	
Frequency Stability	n41	-	V	-				V		-	-	-	-	-	-	-	-	V	-	-	-	-	-	-	-	-	-	-	-	-	-	V
Occupied Bandwidth	n41	-	V	-				V		V	V	V	V	V	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-	-	-	V
Peak-to-Average Ratio	n41	V	V	V				V		V	V	V	V	V	V	V	V	-	-	V	-	-	V	-	-	-	-	-	-	-	-	V
Band edge	n41	V	-	V				V		V	V	V	V	V	V	V	V	V	V	-	V	-	V	-	V	-	V	-	V	-	V	
Spurious at antenna terminal & Radiated Spurious Emissions	n41	V	V	V	Worst case																											

ENDC

Test Items	NR Band	Test Channel			Bandwidth (MHz)											Modulation DFTS-OFDM				Modulation CP-OFDM			RB #											
		Low	Mid	High	5	10	15	20	25	30	40	50	60	80	90	100	BPSK	QPSK	16QAM	64QAM	QPSK	16QAM	64QAM	1	Half	Full								
Conducted Output Power	n41	V	V	V				V		V	V	V	V	V	V	V	V	V	-	-	-	-	-	-	-	-	-	-	-	-	-	V	-	-
Radiated Spurious Emissions	n41	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

NR Band	SCS (kHz)	Bandwidth (MHz)	Modulation	Resource Block Allocation	
				RBs allocated	
SISO	n41 (FCC)	30	DFTS OFDM - QPSK	1	
	n41 (IC)	30	DFTS OFDM - BPSK	1	
MIMO	n41 (FCC)	30	CP OFDM - QPSK	1	
	n41 (IC)	30	CP OFDM - QPSK	1	

ENDC

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

1.12. 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.

1.13. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL003825	2023.02.16	Initial

1.14. Antenna Information

Operating Frequency (MHz)		Antenna Peak Gain (dB i)		
		Ant. Gain		
		Port 1	Port 2	Port 1 + port 2 ¹⁾
NR Band 41	2 496 ~ 2 690	0.09	5.99	6.54

Remark;

- Port 1 means secondary cell and Port 2 means primary cell.

1) According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)d)(i),

$$\begin{aligned}
 \text{Port 1 + Port 2 Antenna Gain} &= 10 * \log[(10^{G_1/20} + 10^{G_2/20})^2 / N_{ANT}] \\
 &= 10 * \log[(10^{0.09/20} + 10^{5.99/20})^2 / 2] \\
 &= 6.54 \text{ dB i}
 \end{aligned}$$

Where,

- G₁ = antenna gain of port 1,
- G₂ = antenna gain of port 2,
- N_{ANT} = the number of antennas

1.15. Emission Designator and Max Power

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 FCC SISO	20	DFTS-OFDM	BPSK	2 506.02	2 679.99	25.97	0.09	26.06	0.404	17M9G7D
			QPSK			25.98		26.07	0.405	17M9G7D
			16QAM			25.00		25.09	0.323	17M9D7D
		CP-OFDM	QPSK			24.55		24.64	0.291	18M2G7D
			16QAM			23.87		23.96	0.249	18M3D7D
			30			DFTS-OFDM		BPSK	2 511	2 674.98
	QPSK	25.99		26.08	0.406			26M8G7D		
	16QAM	25.08		25.17	0.329			26M8D7D		
	CP-OFDM	QPSK		24.47	24.56	0.286		27M8G7D		
		16QAM		24.04	24.13	0.259		27M8D7D		
		40		DFTS-OFDM	BPSK	2 516.01		2 670		
	QPSK		25.93		26.02				0.400	36M0G7D
	16QAM		24.85		24.94				0.312	36M1D7D
	CP-OFDM		QPSK	24.46	24.55				0.285	38M0G7D
			16QAM	23.93	24.02				0.252	38M1D7D
			50	DFTS-OFDM	BPSK				2 521.02	2 664.99
	QPSK	25.92			26.01	0.399		46M0G7D		
	16QAM	24.93			25.02	0.318		45M8D7D		
	CP-OFDM	QPSK		24.42	24.51	0.282		47M6G7D		
		16QAM		23.83	23.92	0.247		47M7D7D		
		60		DFTS-OFDM	BPSK	2 526		2 659.98		
	QPSK		25.91		26.00				0.398	58M0G7D
	16QAM		24.77		24.86				0.306	58M0D7D
	CP-OFDM		QPSK	24.39	24.48				0.281	57M9G7D
			16QAM	23.85	23.94				0.248	57M9D7D
			80	DFTS-OFDM	BPSK				2 536.02	2 649.99
	QPSK	25.87			25.96	0.394		77M0G7D		
	16QAM	24.80			24.89	0.308		76M9D7D		
	CP-OFDM	QPSK		24.34	24.43	0.277		77M7G7D		
		16QAM		23.83	23.92	0.247		77M4D7D		
		90		DFTS-OFDM	BPSK	2 541		2 644.98		
	QPSK		25.95		26.04				0.402	86M7G7D
	16QAM		24.85		24.94				0.312	86M7D7D
	CP-OFDM		QPSK	24.40	24.49				0.281	87M0G7D
			16QAM	23.90	23.99				0.251	87M4D7D
			100	DFTS-OFDM	BPSK				2 546.01	2 640
	QPSK	25.89			25.98	0.396		96M3G7D		
	16QAM	24.77			24.86	0.306		96M1D7D		
	CP-OFDM	QPSK		24.25	24.34	0.272		97M3G7D		
		16QAM		23.83	23.92	0.247		97M3D7D		

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 IC SISO	20	DFTS-OFDM	BPSK	2 510.01	2 679.99	25.99	0.09	26.08	0.406	17M9G7D
			QPSK			25.98		26.07	0.405	17M9G7D
			16QAM			25.12		25.21	0.332	17M9D7D
		CP-OFDM	QPSK			24.76		24.85	0.305	18M3G7D
			16QAM			24.22		24.31	0.270	18M2D7D
			30			DFTS-OFDM		BPSK	2 515.02	2 674.98
	QPSK	25.97		26.06	0.404			26M7G7D		
	16QAM	24.96		25.05	0.320			26M8D7D		
	CP-OFDM	QPSK		24.44	24.53	0.284		27M8G7D		
		16QAM		24.06	24.15	0.260		27M8D7D		
		40		DFTS-OFDM	BPSK	2 520		2 670		
	QPSK		25.98		26.07				0.405	36M0G7D
	16QAM		25.20		25.29				0.338	36M0D7D
	CP-OFDM		QPSK	24.71	24.80				0.302	38M0G7D
			16QAM	24.10	24.19				0.262	38M2D7D
			50	DFTS-OFDM	BPSK				2 525.01	2 664.99
	QPSK	25.98			26.07	0.405		46M0G7D		
	16QAM	24.98			25.07	0.321		45M9D7D		
	CP-OFDM	QPSK		24.55	24.64	0.291		47M7G7D		
		16QAM		24.00	24.09	0.256		47M7D7D		
		60		DFTS-OFDM	BPSK	2 530.02		2 659.98		
	QPSK		25.98		26.07				0.405	58M0G7D
	16QAM		25.01		25.10				0.324	58M0D7D
	CP-OFDM		QPSK	24.56	24.65				0.292	58M0G7D
			16QAM	23.94	24.03				0.253	57M9D7D
			80	DFTS-OFDM	BPSK				2 540.01	2 649.99
	QPSK	25.98			26.07	0.405		77M0G7D		
	16QAM	25.09			25.18	0.330		76M9D7D		
	CP-OFDM	QPSK		24.45	24.54	0.284		77M5G7D		
		16QAM		24.02	24.11	0.258		77M4D7D		
		90		DFTS-OFDM	BPSK	2 545.02		2 644.98		
	QPSK		25.98		26.07				0.405	86M7G7D
	16QAM		25.03		25.12				0.325	86M7D7D
	CP-OFDM		QPSK	24.57	24.66				0.292	87M4G7D
			16QAM	23.94	24.03				0.253	87M4D7D
			100	DFTS-OFDM	BPSK				2 550	2 640
	QPSK	25.97			26.06	0.404		96M3G7D		
	16QAM	24.84			24.93	0.311		96M3D7D		
	CP-OFDM	QPSK		24.30	24.39	0.275		97M3G7D		
		16QAM		23.95	24.04	0.254		97M3D7D		

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 FCC MIMO	20	CP-OFDM	QPSK	2 506.02	2 679.99	25.95	6.54	32.49	1.774	18M2G7D
			16QAM			25.38		31.92	1.556	18M3D7D
	30	CP-OFDM	QPSK	2 511	2 674.98	25.98		32.52	1.786	27M9G7D
			16QAM			25.39		31.93	1.560	27M9D7D
	40	CP-OFDM	QPSK	2 516.01	2 670	25.98		32.52	1.786	38M1G7D
			16QAM			25.49		32.03	1.596	38M0D7D
	50	CP-OFDM	QPSK	2 521.02	2 664.99	25.80		32.34	1.714	47M7G7D
			16QAM			25.27		31.81	1.517	47M7D7D
	60	CP-OFDM	QPSK	2 526	2 659.98	25.98		32.52	1.786	58M0G7D
			16QAM			25.00		31.54	1.426	58M0D7D
	80	CP-OFDM	QPSK	2 536.02	2 649.99	25.95		32.49	1.774	77M5G7D
			16QAM			25.23		31.77	1.503	77M5D7D
	90	CP-OFDM	QPSK	2 541	2 644.98	25.90		32.44	1.754	87M6G7D
			16QAM			25.17		31.71	1.483	87M4D7D
	100	CP-OFDM	QPSK	2 546.01	2 640	25.95		32.49	1.774	97M5G7D
			16QAM			25.08		31.62	1.452	97M5D7D

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 IC MIMO	20	CP-OFDM	QPSK	2 510.01	2 679.99	25.96	6.54	32.50	1.778	18M2G7D
			16QAM			25.44		31.98	1.578	18M3D7D
	30	CP-OFDM	QPSK	2 515.02	2 674.98	25.99		32.53	1.791	27M8G7D
			16QAM			25.41		31.95	1.567	27M9D7D
	40	CP-OFDM	QPSK	2 520	2 670	25.98		32.52	1.786	38M2G7D
			16QAM			25.45		31.99	1.581	38M0D7D
	50	CP-OFDM	QPSK	2 525.01	2 664.99	25.98		32.52	1.786	47M7G7D
			16QAM			25.22		31.76	1.500	47M8D7D
	60	CP-OFDM	QPSK	2 530.02	2 659.98	25.98		32.52	1.786	58M1G7D
			16QAM			25.14		31.68	1.472	58M0D7D
	80	CP-OFDM	QPSK	2 540.01	2 649.99	25.94		32.48	1.770	77M5G7D
			16QAM			25.16		31.70	1.479	77M5D7D
	90	CP-OFDM	QPSK	2 545.02	2 644.98	25.97		32.51	1.782	87M6G7D
			16QAM			25.21		31.75	1.496	87M4D7D
	100	CP-OFDM	QPSK	2 550	2 640	25.92		32.46	1.762	97M5G7D
			16QAM			24.95		31.49	1.409	97M7D7D

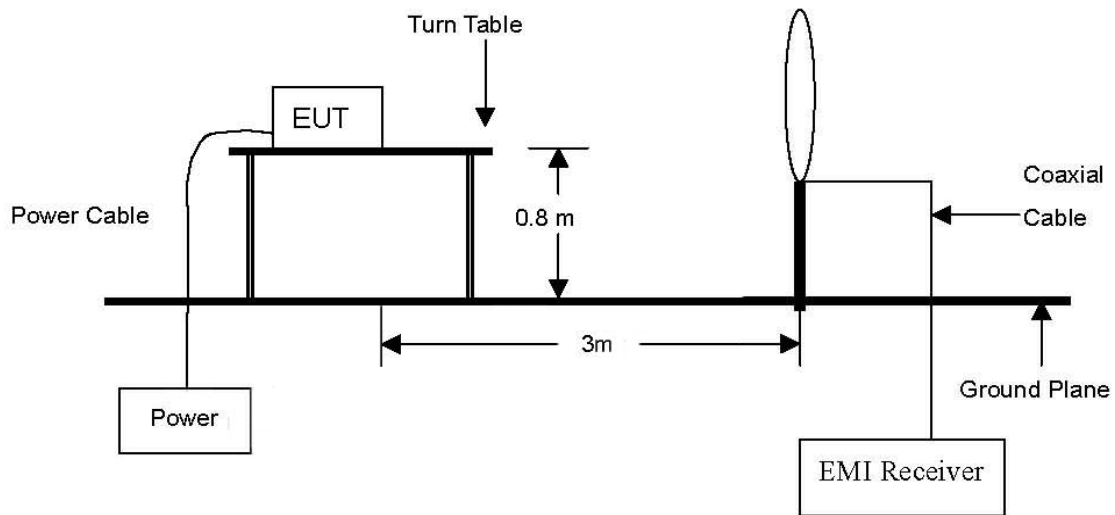
1.16. Information of Variant Model

Model Name		Description
Basic Model	TM05FNNAGM0	- Dual GNSS
Variant Model	TM05FNNAGM1	- Same RF circuit and PCB as basic model, except GNSS part - Single GNSS

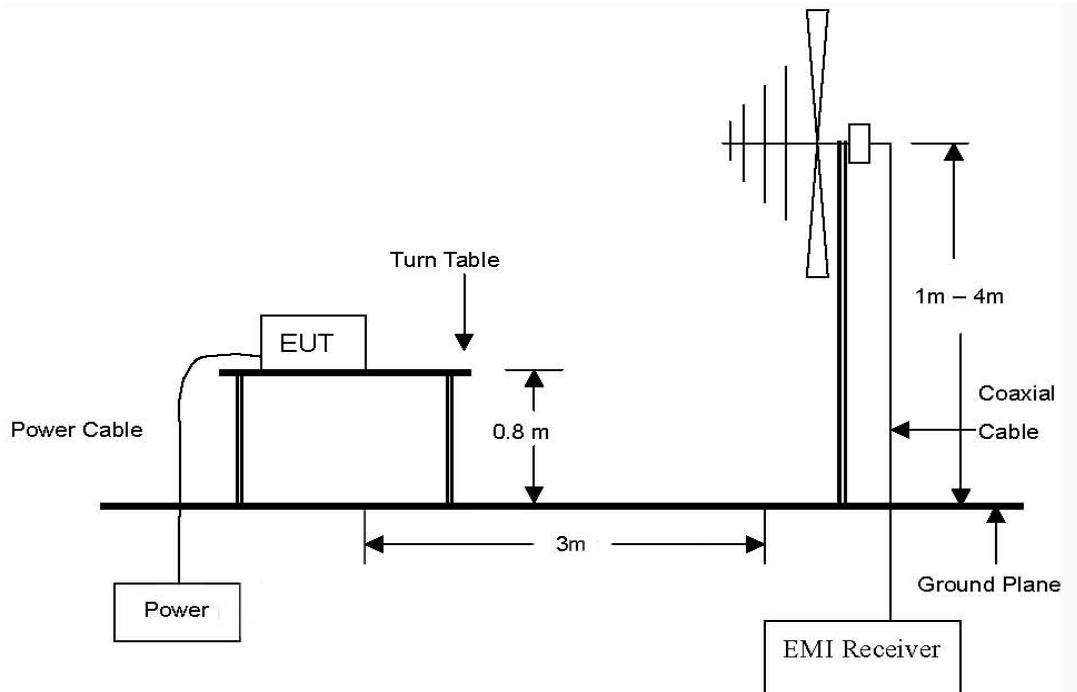
2. E.I.R.P. & Radiated Spurious Emissions

2.1. Test setup

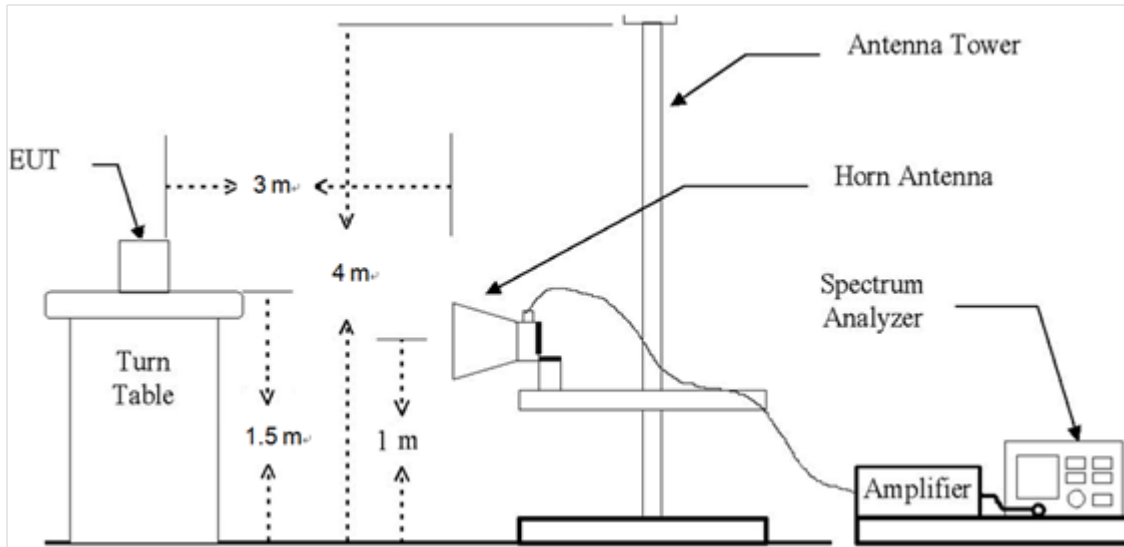
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 kHz to 30 MHz.



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.I.R.P.

FCC

- §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.

IC

- RSS-199 Issue 3

4.4, the transmitter output power shall be measured in terms of average value.

For base station equipment, refer to SRSP-517 for the maximum permissible e.i.r.p.

For mobile subscriber equipment, the e.i.r.p. shall not exceed 2 W. For fixed subscriber equipment, the transmitter output power shall not exceed 2 W and the e.i.r.p. shall be limited to 40 W.

2.2.2. Limit of Radiated Spurious Emissions

FCC

- §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.

IC

- RSS-199 Issue 3

4.5, In the 1 MHz band immediately outside and adjacent to the channel edge, the unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for base station and fixed subscriber equipment, and 2% for mobile subscriber equipment. Beyond the 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.

Equipment shall comply with the following unwanted emission limits:

for base station and fixed subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dB W), by at least $43 + 10 \log_{10} p$ for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dB W), by at least:

- i. $40 + 10 \log_{10} p$ from the channel edges to 5 MHz away
- ii. $43 + 10 \log_{10} p$ between 5 MHz and X MHz from the channel edges, and
- iii. $55 + 10 \log_{10} p$ at X MHz and beyond from the channel edges

In addition, the attenuation shall not be less than $43 + 10 \log_{10} p$ on all frequencies between 2 490.5 MHz and 2 496 MHz, and $55 + 10 \log_{10} p$ at or below 2 490.5 MHz.

In (a) and (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment occupied bandwidth, whichever is greater.

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 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.I.R.P.

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
n41 FCC SISO	2 496 ~ 2 690	25.99	0.397	0.09	26.08	0.406			2 W E.I.R.P.
n41 IC SISO	2 500 ~ 2 690	25.99	0.397	0.09	26.08	0.406			
n41 FCC MIMO	2 496 ~ 2 690	26.27	0.424	6.54	32.81	1.910			
n41 IC MIMO	2 500 ~ 2 690	25.99	0.397	6.54	32.53	1.791			

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.

2.4.1. Spurious Radiated Emission

SISO

NR Band 41 (30 MHz - DFTS-OFDM QPSK)_FCC

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 (2 511.00 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (2 592.99 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
High Channel (2 674.98 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

NR Band 41 (20 MHz - DFTS-OFDM BPSK)_IC

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 (2 510.01 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (2 595.00 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
High Channel (2 679.99 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

ENDC

5A-n41A (30 MHz - DFTS-OFDM BPSK)_FCC

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 (2 511.00 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (2 592.99 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
High Channel (2 674.98 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

5A-n41A (30 MHz - DFTS-OFDM BPSK)_IC

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 (2 515.02 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (2 595.00 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
High Channel (2 674.98 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

MIMO

NR Band 41 (40 MHz - CP-OFDM QPSK)_FCC

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 (2 516.01 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (2 592.99 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
High Channel (2 670.00 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

NR Band 41 (30 MHz - CP-OFDM QPSK)_IC

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 (2 515.02 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
Middle Channel (2 595.00 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-
High Channel (2 674.98 MHz)									
Below 1 000.00	Not detected	-	-	-	-	-	-	-	-
Above 1 000.00	Not detected	-	-	-	-	-	-	-	-

Remark;

1. AF = Antenna Factor, CL = Cable Loss, CF = Conversion Factor.
2. E (dB μ V/m) = Measured Level (dB μ V) + Antenna Factor (dB/m) + AMP (dB) + Cable Loss (dB).
3. E.I.R.P. (dB m) = E (dB μ V/m) + CF (dB).
4. E.R.P. (dB m) = E (dB μ V/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 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

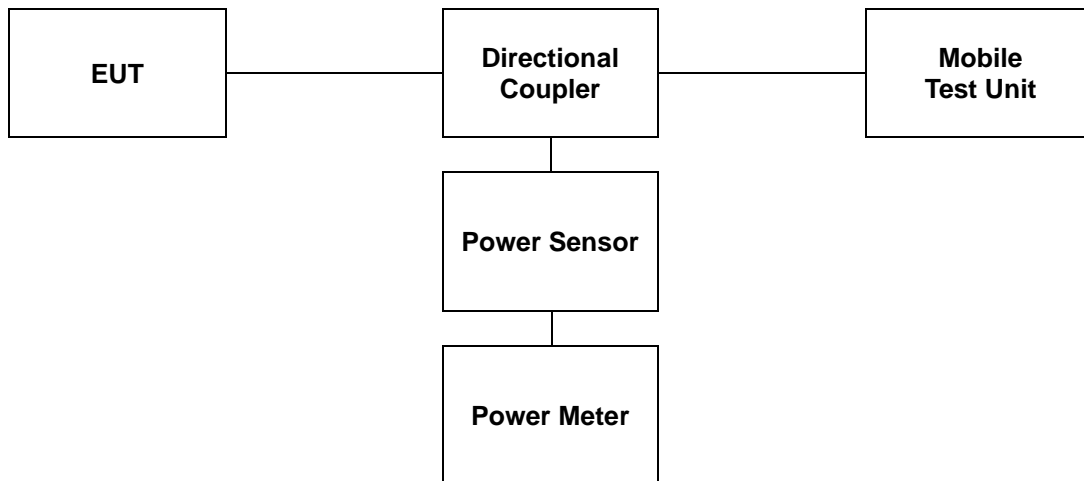
3.1. Limit

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.

SISO

NR Band 41 (FCC)										
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	25.89	0.388	25.75	0.376	25.95	0.394
			1	26	25.88	0.387	25.72	0.373	25.86	0.385
			1	49	25.91	0.390	25.78	0.378	25.97	0.395
			25	0	25.36	0.344	25.21	0.332	25.44	0.350
			25	13	25.97	0.395	25.83	0.383	25.80	0.380
			25	26	25.39	0.346	25.25	0.335	25.46	0.352
		DFT-S-OFDM QPSK	1	1	25.86	0.385	25.77	0.378	25.93	0.392
			1	26	25.98	0.396	25.70	0.372	25.97	0.395
			1	49	25.81	0.381	25.79	0.379	25.86	0.385
			25	0	24.88	0.308	24.83	0.304	24.89	0.308
			25	13	25.87	0.386	25.80	0.380	25.94	0.393
			25	26	24.82	0.303	24.69	0.294	25.03	0.318
		DFT-S-OFDM 16QAM	1	1	24.96	0.313	24.72	0.296	25.00	0.316
			1	1	23.37	0.217	23.28	0.213	23.50	0.224
			1	1	24.45	0.279	24.19	0.262	24.55	0.285
			1	1	23.87	0.244	23.68	0.233	23.86	0.243
			1	1	22.43	0.175	22.19	0.166	22.54	0.179
			1	1	22.43	0.175	22.19	0.166	22.54	0.179

NR Band 41 (FCC)												
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	25.95	0.394	25.83	0.383	25.52	0.356		
			1	39	25.95	0.394	25.79	0.379	25.58	0.361		
			1	76	25.98	0.396	25.91	0.390	25.58	0.361		
			36	0	25.52	0.356	25.34	0.342	24.98	0.315		
			36	21	25.49	0.354	25.74	0.375	25.49	0.354		
			36	42	25.50	0.355	25.33	0.341	24.98	0.315		
		DFT-S-OFDM QPSK	75	0	25.45	0.351	25.31	0.340	25.05	0.320		
			1	1	25.95	0.394	25.78	0.378	25.51	0.356		
			1	39	25.96	0.394	25.90	0.389	25.53	0.357		
			1	76	25.99	0.397	25.84	0.384	25.60	0.363		
			36	0	24.97	0.314	24.98	0.315	24.59	0.288		
			36	21	25.91	0.390	25.78	0.378	25.62	0.365		
		DFT-S-OFDM 16QAM	36	42	24.91	0.310	24.92	0.310	24.62	0.290		
			75	0	25.05	0.320	24.87	0.307	24.49	0.281		
			1	1	25.08	0.322	24.78	0.301	24.42	0.277		
			1	1	23.50	0.224	23.30	0.214	22.97	0.198		
			1	1	24.47	0.280	24.38	0.274	24.06	0.255		
			1	1	24.04	0.254	23.86	0.243	23.43	0.220		
40	30	DFT-S-OFDM BPSK	1	1	22.52	0.179	22.42	0.175	21.98	0.158		
			1	1	1	1	25.86	0.385	25.75	0.376	25.68	0.370
			1	53	25.85	0.385	25.85	0.385	25.66	0.368		
			1	104	25.82	0.382	25.77	0.378	25.78	0.378		
			50	0	25.35	0.343	25.33	0.341	25.27	0.337		
			50	28	25.79	0.379	25.85	0.385	25.59	0.362		
		DFT-S-OFDM QPSK	50	56	25.37	0.344	25.30	0.339	25.23	0.333		
			100	0	25.27	0.337	25.32	0.340	25.20	0.331		
			1	1	25.93	0.392	25.65	0.367	25.58	0.361		
			1	53	25.85	0.385	25.82	0.382	25.60	0.363		
			1	104	25.80	0.380	25.75	0.376	25.73	0.374		
			50	0	24.93	0.311	24.84	0.305	24.55	0.285		
		DFT-S-OFDM 16QAM	50	28	25.82	0.382	25.66	0.368	25.67	0.369		
			50	56	24.94	0.312	24.64	0.291	24.55	0.285		
			100	0	24.99	0.316	24.84	0.305	24.72	0.296		
			1	1	24.76	0.299	24.85	0.305	24.63	0.290		
			1	1	23.30	0.214	23.31	0.214	23.11	0.205		
			1	1	24.46	0.279	24.17	0.261	24.26	0.267		
DFT-S-OFDM 64QAM	1	1	23.93	0.247	23.73	0.236	23.70	0.234				
	1	1	22.34	0.171	22.22	0.167	22.18	0.165				
	1	1	22.34	0.171	22.22	0.167	22.18	0.165				
	1	1	22.34	0.171	22.22	0.167	22.18	0.165				
	1	1	22.34	0.171	22.22	0.167	22.18	0.165				
	1	1	22.34	0.171	22.22	0.167	22.18	0.165				

NR Band 41 (FCC)										
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	25.85	0.385	25.72	0.373	25.80	0.380
			1	67	25.77	0.378	25.63	0.366	25.75	0.376
			1	131	25.85	0.385	25.70	0.372	25.77	0.378
			64	0	25.29	0.338	25.22	0.333	25.25	0.335
			64	35	25.93	0.392	25.77	0.378	25.87	0.386
			64	69	25.37	0.344	25.15	0.327	25.21	0.332
		DFT-S-OFDM QPSK	128	0	25.45	0.351	25.30	0.339	25.40	0.347
			1	1	25.84	0.384	25.76	0.377	25.83	0.383
			1	67	25.75	0.376	25.73	0.374	25.71	0.372
			1	131	25.84	0.384	25.67	0.369	25.77	0.378
			64	0	24.77	0.300	24.59	0.288	24.70	0.295
			64	35	25.92	0.391	25.62	0.365	25.77	0.378
		DFT-S-OFDM 16QAM	64	69	24.70	0.295	24.82	0.303	24.91	0.310
			128	0	24.79	0.301	24.72	0.296	24.70	0.295
		DFT-S-OFDM 64QAM	1	1	24.93	0.311	24.81	0.303	24.70	0.295
		DFT-S-OFDM 64QAM	1	1	23.39	0.218	23.26	0.212	23.28	0.213
		CP-OFDM QPSK	1	1	24.42	0.277	24.19	0.262	24.29	0.269
		CP-OFDM 16QAM	1	1	23.83	0.242	23.76	0.238	23.71	0.235
CP-OFDM 64QAM	1	1	22.34	0.171	22.24	0.167	22.22	0.167		
NR Band 41 (FCC)										
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	25.83	0.383	25.71	0.372	25.52	0.356
			1	81	25.85	0.385	25.77	0.378	25.53	0.357
			1	160	25.77	0.378	25.67	0.369	25.43	0.349
			81	0	25.31	0.340	25.11	0.324	25.11	0.324
			81	41	25.83	0.383	25.77	0.378	25.62	0.365
			81	81	25.27	0.337	25.22	0.333	25.10	0.324
		DFT-S-OFDM QPSK	162	0	25.33	0.341	25.30	0.339	25.11	0.324
			1	1	25.79	0.379	25.65	0.367	25.47	0.352
			1	81	25.88	0.387	25.71	0.372	25.48	0.353
			1	160	25.91	0.390	25.70	0.372	25.61	0.364
			81	0	24.84	0.305	24.82	0.303	24.65	0.292
			81	41	25.83	0.383	25.69	0.371	25.47	0.352
		DFT-S-OFDM 16QAM	81	81	24.71	0.296	24.57	0.286	24.67	0.293
			162	0	24.98	0.315	24.86	0.306	24.67	0.293
		DFT-S-OFDM 64QAM	1	1	24.77	0.300	24.63	0.290	24.56	0.286
		DFT-S-OFDM 64QAM	1	1	23.23	0.210	23.13	0.206	23.08	0.203
		CP-OFDM QPSK	1	1	24.39	0.275	24.30	0.269	23.95	0.248
		CP-OFDM 16QAM	1	1	23.85	0.243	23.64	0.231	23.55	0.226
CP-OFDM 64QAM	1	1	22.37	0.173	22.18	0.165	21.99	0.158		

NR Band 41 (FCC)										
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	25.82	0.382	25.74	0.375	25.49	0.354
			1	109	25.85	0.385	25.84	0.384	25.41	0.348
			1	215	25.85	0.385	25.71	0.372	25.41	0.348
			108	0	25.27	0.337	25.15	0.327	25.01	0.317
			108	55	25.82	0.382	25.69	0.371	25.43	0.349
			108	109	25.34	0.342	25.24	0.334	25.06	0.321
		216	0	25.38	0.345	25.32	0.340	24.95	0.313	
		DFT-S-OFDM QPSK	1	1	25.83	0.383	25.80	0.380	25.53	0.357
			1	109	25.74	0.375	25.66	0.368	25.51	0.356
			1	215	25.78	0.378	25.81	0.381	25.45	0.351
			108	0	24.68	0.294	24.75	0.299	24.56	0.286
			108	55	25.87	0.386	25.78	0.378	25.55	0.359
			108	109	24.76	0.299	24.71	0.296	24.59	0.288
		216	0	24.69	0.294	24.73	0.297	24.43	0.277	
		DFT-S-OFDM 16QAM	1	1	24.80	0.302	24.80	0.302	24.56	0.286
		DFT-S-OFDM 64QAM	1	1	23.40	0.219	23.32	0.215	23.04	0.201
		CP-OFDM QPSK	1	1	24.29	0.269	24.34	0.272	24.07	0.255
		CP-OFDM 16QAM	1	1	23.83	0.242	23.78	0.239	23.49	0.223
CP-OFDM 64QAM	1	1	22.26	0.168	22.26	0.168	21.99	0.158		
NR Band 41 (FCC)										
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	25.86	0.385	25.69	0.371	25.65	0.367
			1	123	25.83	0.383	25.68	0.370	25.69	0.371
			1	243	25.96	0.394	25.64	0.366	25.65	0.367
			120	0	25.33	0.341	25.17	0.329	25.18	0.330
			120	63	25.88	0.387	25.64	0.366	25.75	0.376
			120	125	25.45	0.351	25.18	0.330	25.11	0.324
		243	0	25.39	0.346	25.14	0.327	25.08	0.322	
		DFT-S-OFDM QPSK	1	1	25.87	0.386	25.78	0.378	25.72	0.373
			1	123	25.95	0.394	25.67	0.369	25.66	0.368
			1	243	25.88	0.387	25.63	0.366	25.69	0.371
			120	0	24.91	0.310	24.83	0.304	24.70	0.295
			120	63	25.95	0.394	25.64	0.366	25.64	0.366
			120	125	25.00	0.316	24.64	0.291	24.58	0.287
		243	0	24.71	0.296	24.64	0.291	24.74	0.298	
		DFT-S-OFDM 16QAM	1	1	24.85	0.305	24.65	0.292	24.69	0.294
		DFT-S-OFDM 64QAM	1	1	23.42	0.220	23.21	0.209	23.13	0.206
		CP-OFDM QPSK	1	1	24.40	0.275	24.28	0.268	24.16	0.261
		CP-OFDM 16QAM	1	1	23.90	0.245	23.72	0.236	23.74	0.237
CP-OFDM 64QAM	1	1	22.26	0.168	22.13	0.163	22.21	0.166		

NR Band 41 (FCC)										
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>25.81</u>	<u>0.381</u>	25.57	0.361	25.59	0.362
			1	137	25.73	0.374	25.59	0.362	25.68	0.370
			1	271	25.73	0.374	25.63	0.366	25.57	0.361
			135	0	25.38	0.345	25.14	0.327	25.00	0.316
			135	69	25.80	0.380	25.58	0.361	25.62	0.365
			135	138	25.21	0.332	25.00	0.316	25.04	0.319
			270	0	25.23	0.333	25.03	0.318	25.16	0.328
		DFT-S-OFDM QPSK	1	1	25.79	0.379	25.51	0.356	25.65	0.367
			1	137	25.84	0.384	25.56	0.360	25.53	0.357
			1	271	<u>25.89</u>	<u>0.388</u>	25.48	0.353	25.65	0.367
			135	0	24.81	0.303	24.57	0.286	24.51	0.282
			135	69	25.84	0.384	25.56	0.360	25.67	0.369
			135	138	24.92	0.310	24.62	0.290	24.68	0.294
		270	0	24.90	0.309	24.71	0.296	24.47	0.280	
		DFT-S-OFDM 16QAM	1	1	<u>24.77</u>	<u>0.300</u>	24.49	0.281	24.57	0.286
		DFT-S-OFDM 64QAM	1	1	23.21	0.209	23.03	0.201	23.15	0.207
		CP-OFDM QPSK	1	1	<u>24.25</u>	<u>0.266</u>	24.12	0.258	24.04	0.254
		CP-OFDM 16QAM	1	1	<u>23.83</u>	<u>0.242</u>	23.51	0.224	23.55	0.226
CP-OFDM 64QAM	1	1	22.38	0.173	22.08	0.161	22.19	0.166		

NR Band 41 (IC)										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					502002 (2 510.01 MHz)		519000 (2 595.00 MHz)		535998 (2 679.99 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	30	DFT-S-OFDM BPSK	1	1	25.87	0.386	25.70	0.372	25.97	0.395
			1	26	25.80	0.380	25.73	0.374	25.98	0.396
			1	49	25.99	0.397	25.71	0.372	25.97	0.395
			25	0	25.69	0.371	25.21	0.332	25.45	0.351
			25	13	25.98	0.396	25.63	0.366	25.97	0.395
			25	26	25.79	0.379	25.15	0.327	25.56	0.360
		DFT-S-OFDM QPSK	1	1	25.89	0.388	25.80	0.380	25.97	0.395
			1	26	25.90	0.389	25.71	0.372	25.98	0.396
			1	49	25.85	0.385	25.74	0.375	25.94	0.393
			25	0	25.27	0.337	24.70	0.295	25.05	0.320
			25	13	25.98	0.396	25.73	0.374	25.96	0.394
			25	26	25.13	0.326	24.71	0.296	25.18	0.330
		DFT-S-OFDM 16QAM	1	1	25.12	0.325	24.73	0.297	24.95	0.313
			1	1	23.65	0.232	23.19	0.208	23.58	0.228
			1	1	24.76	0.299	24.10	0.257	24.57	0.286
			1	1	24.22	0.264	23.62	0.230	23.93	0.247
DFT-S-OFDM 64QAM	1	1	22.62	0.183	22.15	0.164	22.62	0.183		
	1	1	22.62	0.183	22.15	0.164	22.62	0.183		
NR Band 41 (IC)										
BW (MHz)	SCS (kHz)	Modulation	RB Size	RB Offset	Conducted Output Power					
					503004 (2 515.02 MHz)		519000 (2 595.00 MHz)		534996 (2 674.98 MHz)	
					(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
30	30	DFT-S-OFDM BPSK	1	1	25.98	0.396	25.66	0.368	25.50	0.355
			1	39	25.95	0.394	25.76	0.377	25.60	0.363
			1	76	25.85	0.385	25.75	0.376	25.40	0.347
			36	0	25.50	0.355	25.16	0.328	24.91	0.310
			36	21	25.97	0.395	25.73	0.374	25.41	0.348
			36	42	25.45	0.351	25.16	0.328	25.08	0.322
		DFT-S-OFDM QPSK	1	1	25.95	0.394	25.70	0.372	25.59	0.362
			1	39	25.97	0.395	25.59	0.362	25.46	0.352
			1	76	25.90	0.389	25.74	0.375	25.53	0.357
			36	0	25.19	0.330	24.66	0.292	24.54	0.284
			36	21	25.90	0.389	25.60	0.363	25.40	0.347
			36	42	25.01	0.317	24.65	0.292	24.57	0.286
		DFT-S-OFDM 16QAM	1	1	25.09	0.323	24.58	0.287	24.55	0.285
			1	1	24.96	0.313	24.66	0.292	24.52	0.283
			1	1	23.44	0.221	23.13	0.206	22.92	0.196
			1	1	24.44	0.278	24.09	0.256	24.05	0.254
DFT-S-OFDM 64QAM	1	1	24.06	0.255	23.57	0.228	23.52	0.225		
	1	1	22.57	0.181	22.26	0.168	21.94	0.156		
DFT-S-OFDM 64QAM	1	1	22.57	0.181	22.26	0.168	21.94	0.156		
	1	1	22.57	0.181	22.26	0.168	21.94	0.156		