

CERTIFICATION TEST REPORT

Report Number. : S-4792147635-E3V3

Applicant : SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 16677, KOREA

Model : SC-57G, SCG41

FCC ID : A3LSMF971JPN

EUT Description : GSM/WCDMA/LTE/5G NR Phone + BT/BLE,
DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB

Test Standard(s) : FCC 47 CFR PART 27 SUBPART M

Date Of Issue:

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2026-05-19	Initial issue	Yeonghwan Hong
V2	2026-05-27	Updated to address TCB's question	Yeonghwan Hong
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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
1.1. INTRODUCTION OF TEST DATA REUSE	5
1.2. DIFFERENCE	5
1.3. DATA RE-USE TEST MODES	5
2. TEST METHODOLOGY	6
3. FACILITIES AND ACCREDITATION	6
4. CALIBRATION AND UNCERTAINTY	7
4.1. MEASURING INSTRUMENT CALIBRATION	7
4.2. SAMPLE CALCULATION	7
4.3. MEASUREMENT UNCERTAINTY	7
4.4. DECISION RULE	7
5. EQUIPMENT UNDER TEST	8
5.1. DESCRIPTION OF EUT	8
5.2. MAXIMUM OUTPUT POWER	8
5.3. DESCRIPTION OF AVAILABLE ANTENNAS	10
5.4. WORST-CASE ORIENTATION	11
5.5. DESCRIPTION OF TEST SETUP	14
6. TEST AND MEASUREMENT EQUIPMENT	16
7. SUMMARY TABLE	17
8. CONDUCTED RESULTS	18
8.1. CONDUCTED OUTPUT POWER	18
8.1.1. CONDUCTED AVERAGE OUTPUT POWER	19
8.2. PEAK TO AVERAGE RATIO	26
8.2.1. CONDUCTED PEAK TO AVERAGE RESULT	27
8.3. OCCUPIED BANDWIDTH	31
8.3.1. OCCUPIED BANDWIDTH RESULT	33
8.4. BAND EDGE EMISSIONS	38
8.4.1. EMISSION MASK RESULT	40
8.5. CONDUCTED SPURIOUS EMISSIONS	75
8.5.1. OUT OF BAND EMISSIONS RESULT	76
8.6. FREQUENCY STABILITY	78
8.6.1. FREQUENCY STABILITY RESULT	79
9. RADIATED RESULTS	80
9.1. RADIATED POWER (EIRP)	80
9.1.1. EIRP RESULT	82
9.2. RADIATED SPURIOUS EMISSION	84
9.2.1. SPURIOUS RADIATION RESULT	85

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

EUT DESCRIPTION: GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB

MODEL NUMBER: SC-57G, SCG41

SERIAL NUMBER: R3GL308037X, R3GL30803JW (CONDUCTED);
R3GL3080E5A, R3GL3080EFJ, R3GL3080D8L, R3GL3080D2A (RADIATED)

DATE TESTED: 2026-03-31 – 2026-05-19

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 27 M	Complies

UL KOREA LTD. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL KOREA LTD. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and Modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL KOREA LTD. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:

Tested By:



Seokhwan Hong
Suwon Lab Engineer
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Suwon Lab Engineer
UL KOREA LTD.

1.1. INTRODUCTION OF TEST DATA REUSE

This report references test data from reference model: SM-F971U (FCC 47 CFR Part 27).

This data reuse has been conducted in accordance with KDB 484596 D01 Referencing Test Data v03 criteria, and RF performance equivalence between the two models (SM-F971U/U1 and SC-57G/ SCG41) has been verified through spot-check measurements.

The applicant takes full responsibility that the test data referenced in this report represent compliance for this model.

For the WWAN modes in this report, test data is categorized as either 'Re-use' or 'Full test' as detailed in Section 1.3. Please refer to the spot-check data in test report S-4792147635-E4

1.2. DIFFERENCE

Key differences between SM-F971U and SC-57G/SCG41:

1. RF/Cellular Circuit Modifications:

The cellular band functionality has been modified through a combination of firmware changes, component addition, depopulation and pin to pin changes. The hardware changes consist solely of components addition on the main board, with no changes to the circuit board layout.

For detailed change information, please refer to the “FCC Data Reuse Inquiry” document.

2. Common Elements:

- The SC-57G/SCG41 BT/WIFI block diagram and antenna structure remain identical to the SM-F971U.
- All other aspects including form factors, materials, functions, PCB layouts, and common components are the same between both models.

3. Full Test Bands:

Bands that have a different target than the reference model, or that are not supported or reported have been fully tested. (Please refer to Section 1.3)

1.3. DATA RE-USE TEST MODES

Test modes	Data re-use / Full test	Note.
GSM850	Re-use	-
GSM1900	Re-use	-
WCDMA B5	Re-use	-
LTE B5	Full test	Not reported in the reference model. (Covered by LTE B26)
LTE B12	Re-use	-
LTE B13	Re-use	-
LTE B25	Re-use	-
LTE B41	Re-use	-
LTE B41C	Full test	Not supported in the reference model.
LTE B66	Re-use	-
NR n5	Full test	Not reported in the reference model. (Covered by NR n26)
NR n41	Full test	Not reported in the reference model. (Covered by PC2 SA)
NR n66	Re-use	-

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC 47 CFR Part 2.
2. FCC 47 CFR Part 27.
3. ANSI TIA-603-E, 2016
4. ANSI C63.26, 2015
5. KDB 971168 D01 Power Meas License Digital Systems v03r01
6. KDB 971168 D02 Misc Rev Approv License Devices v02r02
7. KDB 412172 D01 Determining ERP and EIRP v01r01

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro	
☐	Chamber 1(3m semi-anechoic chamber)
☒	Chamber 2(3m semi-anechoic chamber)
☐	Chamber 3(3m semi-anechoic chamber)
☒	Chamber 4(3m Full-anechoic chamber)
☐	Chamber 5(3m Full-anechoic chamber)

UL KOREA LTD. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$EIRP = \text{SG reading with EUT worst orientation (dBm)} - \text{cable loss (between the SG and substitution antenna)} + \text{Substitution Antenna Factor (dBi)}$

$\text{For Radiated Spurious Emission (dBm)} = \text{SA reading with EUT worst orientation (dBm)} + \text{Antenna Factor (dB/m)} + \text{Cable Loss (dB)} + \text{Conversion Factor (dB)}$

$\text{SA reading with EUT worst orientation (dBm)} = \text{Measured amplitude level (dBuV)} + 107$

$\text{Conversion Factor} = 107 + 20 \log(D) - 104.8 = 107 + 9.54 - 104.8 = 11.74 \text{ dB}$

where D is the measurement distance (in the far field) in m

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	1.84 dB
Radiated Disturbance, 9 kHz to 30 MHz	2.41 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.78 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.25 dB
Radiated Disturbance, Above 18 GHz	5.07 dB

Uncertainty figures are valid to a confidence level of 95%.

4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Clause 4.3.3 in IEC Guide 115:2023.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB. This test report addresses the WWAN Operational mode

Representative model	Comparison Criteria	Derivative model
		SCG41
SC-57G	Hardware	Identical
	Software	UI modified according to Service Provider specifications

The SC-57G model was used as the representative model for final testing. All test results in this report apply to both the representative model and its derivative variants.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum average radiated EIRP output powers as follows:
Radiated samples were tested to a higher power than conducted resulting in radiated EIRP greater than conducted measurements.

LTE Band 41C (ULCA, PC3)

FCC Part 27							
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted Power (ANT B)		EIRP (ANT B)	
				Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
41C	2506.00 - 2680.00	40MHz (20MHz / 20MHz)	QPSK	24.43	0.277	24.40	0.275
			16QAM	23.63	0.231	23.85	0.243
	2503.50 - 2680.00	35MHz (15MHz / 20MHz)	QPSK	24.35	0.272		
			16QAM	23.50	0.224		
	2503.50 - 2682.50	30MHz (15MHz / 15MHz)	QPSK	24.42	0.277		
			16QAM	23.55	0.226		
	2498.50 - 2680.0	25MHz (5MHz / 20MHz)	QPSK	24.42	0.277		
			16QAM	23.54	0.226		
FCC Part 27							
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted Power (ANT F)		EIRP (ANT F)	
				Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
41C	2506.00 - 2680.00	40MHz (20MHz / 20MHz)	QPSK	24.47	0.280	24.23	0.265
			16QAM	23.51	0.224	23.56	0.227
	2503.50 - 2680.00	35MHz (15MHz / 20MHz)	QPSK	24.45	0.279		
			16QAM	23.41	0.219		
	2503.50 - 2682.50	30MHz (15MHz / 15MHz)	QPSK	24.42	0.277		
			16QAM	23.48	0.223		
	2498.50 - 2680.0	25MHz (5MHz / 20MHz)	QPSK	24.45	0.279		
			16QAM	23.46	0.222		

NR Band n41 (PC2, ANT F)

Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power (ANT F)		EIRP (ANT F)	
					Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
n41	2546.01 - 2640.00	100	DFT-s OFDM	11/2 BPSK	25.88	0.387		
				QPSK	25.91	0.390	25.67	0.369
				16QAM	24.91	0.310	25.57	0.361
				64QAM	23.38	0.218		
				256QAM	21.36	0.137		
			CP-OFDM	QPSK	24.19	0.262		
				16QAM	23.68	0.233		
				64QAM	21.84	0.153		
				256QAM	18.95	0.079		
				QPSK	24.44	0.278		
	2541.00 - 2644.98	90	DFT-s OFDM	11/2 BPSK	25.88	0.387		
				QPSK	25.84	0.384	25.60	0.363
				16QAM	24.89	0.308	25.65	0.367
				64QAM	23.43	0.220		
				256QAM	21.31	0.135		
			CP-OFDM	QPSK	24.44	0.278		
				11/2 BPSK	25.86	0.385		
				QPSK	25.88	0.387	25.64	0.366
				16QAM	24.86	0.306	25.52	0.356
				64QAM	23.42	0.220		
	2536.02 - 2649.99	80	DFT-s OFDM	256QAM	21.31	0.135		
				QPSK	24.45	0.279		
			CP-OFDM	QPSK	24.45	0.279		
				11/2 BPSK	25.94	0.393		
				QPSK	25.93	0.392	25.69	0.371
				16QAM	25.00	0.316	25.62	0.365
				64QAM	23.39	0.218		
				256QAM	21.36	0.137		
			CP-OFDM	QPSK	24.48	0.281		
				11/2 BPSK	25.88	0.387		
	2526.00 - 2659.98	60	DFT-s OFDM	QPSK	25.93	0.392	25.69	0.371
				16QAM	24.83	0.304	25.49	0.354
				64QAM	23.34	0.216		
				256QAM	21.43	0.139		
			CP-OFDM	QPSK	24.39	0.275		
				11/2 BPSK	25.88	0.387		
				QPSK	25.92	0.391	25.68	0.370
				16QAM	24.82	0.303	25.60	0.363
				64QAM	23.47	0.222		
				256QAM	21.28	0.134		
	2521.01 - 2665.00	50	DFT-s OFDM	QPSK	24.48	0.281		
				11/2 BPSK	25.88	0.387		
				QPSK	25.96	0.394	25.72	0.373
				16QAM	24.90	0.309	25.64	0.366
				64QAM	23.40	0.219		
			CP-OFDM	256QAM	21.34	0.136		
				QPSK	24.44	0.278		
				11/2 BPSK	25.86	0.385		
				QPSK	25.90	0.389	25.66	0.368
				16QAM	24.98	0.315	25.54	0.358
	2516.01 - 2670.00	40	DFT-s OFDM	64QAM	23.34	0.216		
				256QAM	21.41	0.138		
			CP-OFDM	QPSK	24.41	0.276		
				11/2 BPSK	25.79	0.379		
				QPSK	25.89	0.388	25.65	0.367
	2513.52 - 2672.49	35	DFT-s OFDM	16QAM	24.97	0.314	25.66	0.368
				64QAM	23.31	0.214		
				256QAM	21.46	0.140		
			CP-OFDM	QPSK	24.44	0.278		
				11/2 BPSK	25.78	0.378		
				QPSK	25.82	0.382	25.58	0.361
				16QAM	24.97	0.314	25.49	0.354
				64QAM	23.31	0.214		
				256QAM	21.27	0.134		
			CP-OFDM	QPSK	24.38	0.274		
	2508.51 - 2677.50	25	DFT-s OFDM	11/2 BPSK	25.88	0.387		
				QPSK	25.95	0.394	25.71	0.372
				16QAM	24.92	0.310	25.52	0.356
				64QAM	23.44	0.221		
				256QAM	21.42	0.139		
			CP-OFDM	QPSK	24.40	0.275		
				11/2 BPSK	25.80	0.380		
				QPSK	25.94	0.393	25.70	0.372
				16QAM	24.86	0.306	25.62	0.365
				64QAM	23.31	0.214		
	2506.02 - 2679.99	20	DFT-s OFDM	256QAM	21.34	0.136		
				QPSK	24.40	0.275		
			CP-OFDM	QPSK	25.89	0.388		
				11/2 BPSK	25.89	0.388	25.65	0.367
				16QAM	24.84	0.305	25.52	0.356
				64QAM	23.31	0.214		
				256QAM	21.45	0.140		
			CP-OFDM	QPSK	24.30	0.269		
				11/2 BPSK	25.94	0.393		
				QPSK	25.95	0.394	24.77	0.300
				16QAM	24.88	0.308	23.71	0.235
	2503.50 - 2682.48	15	DFT-s OFDM	64QAM	23.45	0.221		
				256QAM	21.37	0.137		
			CP-OFDM	QPSK	24.39	0.275		
				11/2 BPSK	25.94	0.393		
				QPSK	25.95	0.394	24.77	0.300
				16QAM	24.88	0.308	23.71	0.235
				64QAM	23.45	0.221		
				256QAM	21.37	0.137		
			CP-OFDM	QPSK	24.39	0.275		
				11/2 BPSK	25.94	0.393		
				QPSK	25.95	0.394	24.77	0.300
				16QAM	24.88	0.308	23.71	0.235
				64QAM	23.45	0.221		
				256QAM	21.37	0.137		
			CP-OFDM	QPSK	24.39	0.275		

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a internal antenna for the supported bands with a maximum peak gain as follow:

Frequency (MHz)	ANT	Peak Gain (dBi)
LTE Band 41 / NR Band n41 2496 - 2690 MHz	B	-1.3
	F	-2.2

5.4. WORST-CASE ORIENTATION

Following Modes should be considered as worst-case scenario for all other measurements.

- LTE Band

The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM, 64QAM modulations. It was found QPSK and 16QAM results were worst case.

As for the Antenna Switching supported either Tx Device Hopping conditions. It has been verified. Tx device hopping can be implemented through the application provided by the manufacturer.

Band	Antenna Switching
LTE B41C (PC3)	Tx Device Hopping

- The RF port of LTE Band 41(PC3) are tested on all antennas and reported as 'Sub ANT' because the output power of 'Sub ANT' is same to or higher than 'Main ANT'.

So the test case is as below.

Band	Main ANT	Tune up Limit (dBm)	Sub ANT	Tune up Limit (dBm)
LTE B41 ULCA (PC3)	B	25.0	<u>E</u>	<u>25.0</u>

Test Item	Test case antenna & port
Conducted output power	All
RF port test	All (Worst case reported)
EIRP	All
Radiated Spurious Emissions	All

- NR Bands

The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were performed for $\pi/2$ BPSK, QPSK, 16QAM, 64QAM, and 256QAM modulation.

The worst-case scenario was determined by distinguishing between PSK-based modulation ($\pi/2$ BPSK, QPSK) and QAM-based modulation (16QAM, 64QAM, 256QAM). Within each modulation group, QPSK and 16QAM showed the worst results.

This device supports NSA Mode and Worst case reported.

So the test case is as below.

NR Band	NSA	SA
NR n41(PC2)	<u>LTE B2/4/5/12/66</u>	-

● Conducted Spurious Emission

Highest EIRP setting for each bands							
LTE Band	ANT	Component Carrier	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
41C(PC3)	F	PCC	2506.00	20+20	QPSK + QPSK	1	99
		SCC	2525.80			1	0
		PCC	2583.10			1	99
		SCC	2602.90			1	0
		PCC	2660.20			1	99
		SCC	2680.00			1	0

NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
41 (PC2)	F	2518.50	45	DFT-s OFDM QPSK	1	1
		2592.99			1	117
		2667.48			1	117

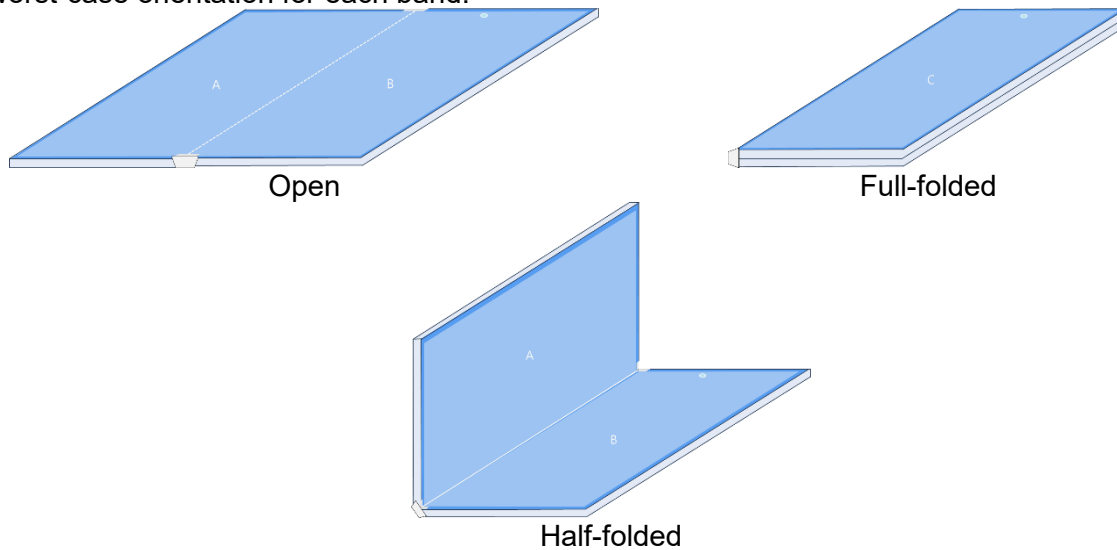
● Radiated Spurious Emission

Highest EIRP setting for each bands							
LTE Band	ANT	Component Carrier	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
41C(PC3)	B	PCC	2506.00	20+20	QPSK + QPSK	1	99
		SCC	2525.80			1	0
		PCC	2583.10			1	99
		SCC	2602.90			1	0
		PCC	2660.20			1	99
		SCC	2680.00			1	0
	F	PCC	2506.00	20+20	QPSK + QPSK	1	99
		SCC	2525.80			1	0
		PCC	2583.10			1	99
		SCC	2602.90			1	0
		PCC	2660.20			1	99
		SCC	2680.00			1	0

NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
41 (PC2)	F	2518.50	45	DFT-s OFDM QPSK	1	1
		2592.99			1	117
		2667.48			1	117

Note2 : for radiated emission testing, EN-DC and ULCA mode were investigated in simultaneous mode. There was no discernible difference in the spurious emission levels when using different LTE and FR1 anchor bands.

The fundamental and radiated spurious emission were investigated in three orthogonal orientations X, Y and Z and folded conditions it was determined that below orientation was worst-case orientation for each band.



Band	ANT	ERP/EIRP			RSE		
		X	Y	Z	X	Y	Z
LTE B41(PC3)	B	Open	-	-	-	-	Half-folded
	F	Full-folded	-	-	Full-folded	-	-
NR n41(PC2, NSA)	F	Half-folded	-	-	-	Full-folded	-

Note1 : For the radiated spurious testing, the EUT attached with travel adapter for the worst case condition. The EUT is continuously communicated with the call box during the tests.

Note2 : Antenna switching-related actions according to foldable conditions were force operated and tested in factory mode.

Note 3: In this report, HF and FF denote Half-folded and Full-folded configurations, respectively.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacture	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA800	R37N3FS0G88DK3	N/A
Data Cable	SAMSUNG	N/A	N/A	N/A

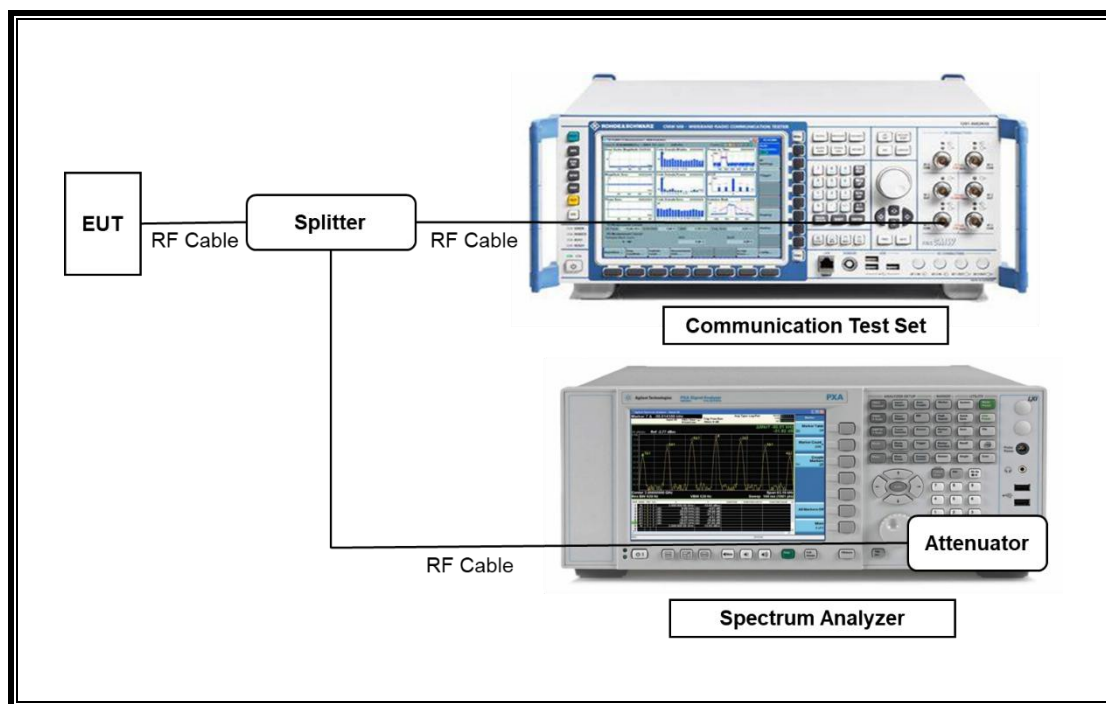
I/O CABLE

I/O Cable List						
Cable No.	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	C Type	Shielded	1.0 m	N/A

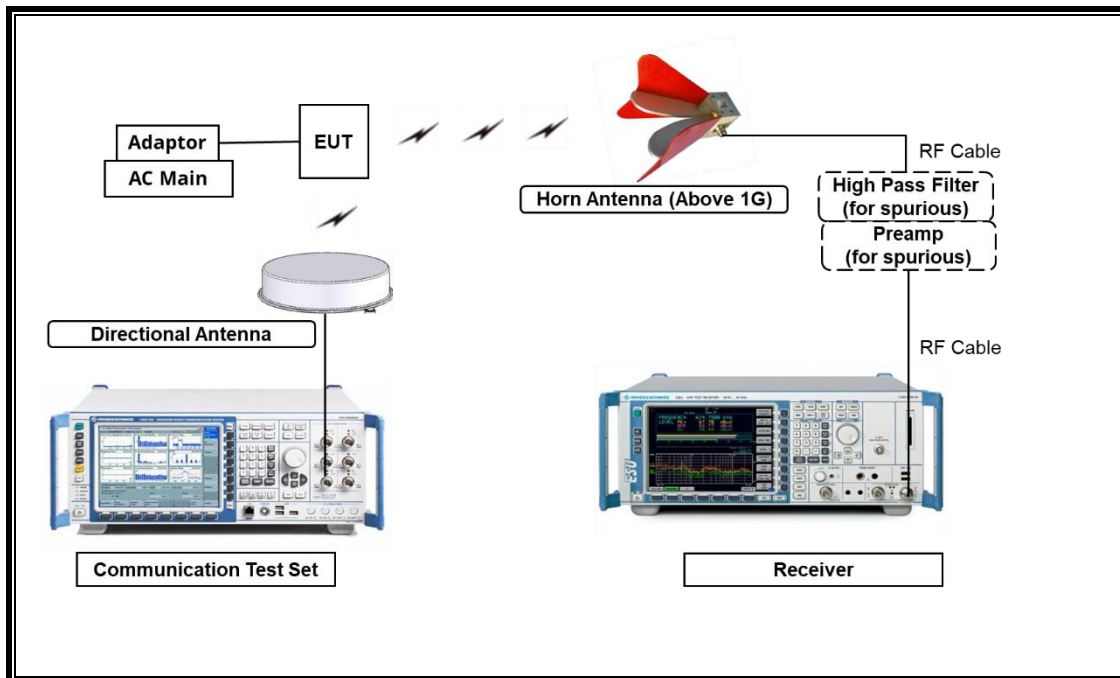
TEST SETUP

The EUT is continuously communicated with the call box during the tests.

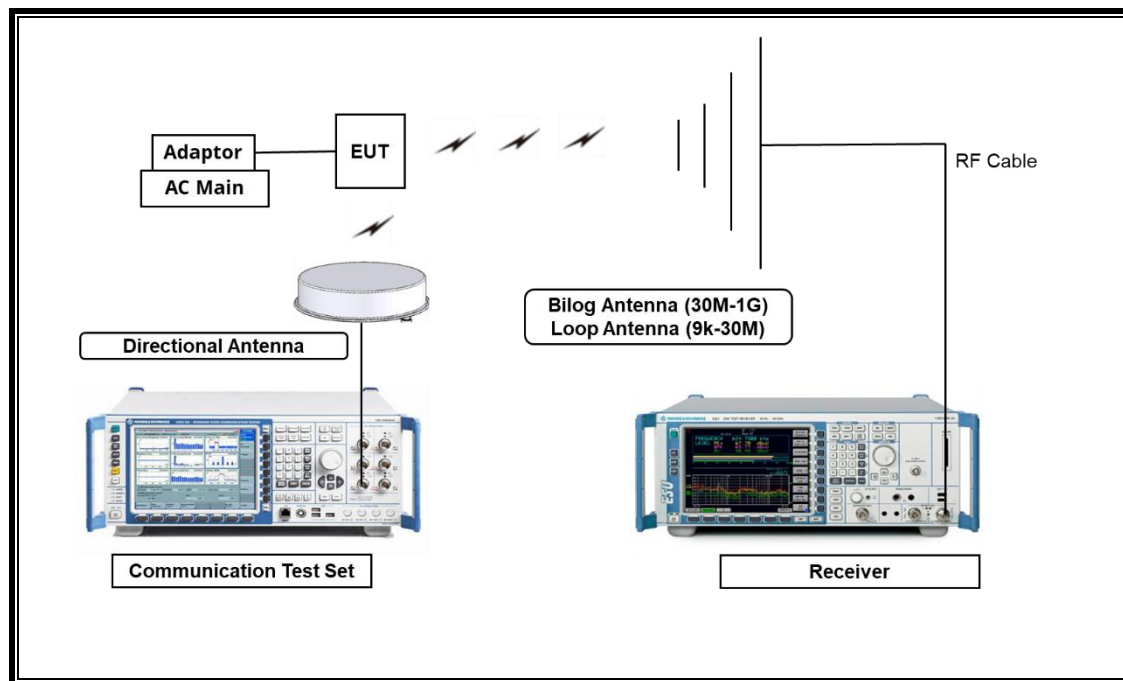
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP) Above 1G



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP) Below 1G



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	Manufacturer	Model	S/N	Cal Due
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121D DB-4	00164753	2027-01-08
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	110367-0003	N/A
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2026-07-23
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2027-07-23
Preamplifier	ETS	3116C-PA	00168841	2026-07-28
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB 9163	750	2026-07-30
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB 9163	845	2026-07-30
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB 9163	749	2026-08-12
Antenna, Horn, 18 GHz	ETS	3115	00167211	2026-07-17
Antenna, Horn, 18 GHz	ETS	3115	00161451	2026-07-17
Antenna, Horn, 18 GHz	ETS	3117	00168724	2026-07-17
Antenna, Horn, 18 GHz	ETS	3117	00168717	2026-07-17
Communications Test Set	R&S	CMW500	169797	2026-07-21
DC Power Supply	KIKUSUI	PWR2001ML	AX001947	2026-07-23
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2026-07-21
Preamplifier, 18 GHz	B&Z Technologies, LLC	BZR-01001800-231040-182020	28451	2026-07-21
Preamplifier, 18 GHz	B&Z Technologies, LLC	BZR-01001800-231040-181515	23576	2026-07-22
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2026-07-21
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2026-12-29
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030B	MY57143717	2026-07-21
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2026-07-21
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2026-07-21
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	2026-07-23
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	2026-07-23
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	2026-07-23
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	2026-07-23
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	2026-07-23
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	2026-07-23
Attenuator	PASTERNAK	PE7087-10	A009	2026-07-22
Attenuator	PASTERNAK	PE7087-10	A001	2026-07-22
Attenuator	PASTERNAK	PE7087-10	A008	2026-07-22
Attenuator	PASTERNAK	PE7004-10	2	2026-07-22
Attenuator	PASTERNAK	PE7395-10	A011	2026-07-22
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2E	100900	2027-07-24
Temperature Chamber	ESPEC	SH-642	93001109	2026-07-21
Power Splitter	MINI-CIRCUITS	WA1534	UL003	2026-12-29
Power Splitter	MINI-CIRCUITS	WA1534	UL004	2027-01-06
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY57510655	2026-12-30
Notch Filter	MICRO-TRONICS	BRC50705-02	G024	2026-07-23
Notch Filter	MICRO-TRONICS	BRM50702-02	G036	2026-07-23
Notch Filter	MICRO-TRONICS	BRM50707-02	G002	2026-07-23
Notch Filter	MICRO-TRONICS	BRM50709-02	G001	2026-07-23
Notch Filter	MICRO-TRONICS	BRM50713-02	G001	2026-07-23
Notch Filter	MICRO-TRONICS	BRM50716-2	006	2026-07-23
UL Software				
Description	Manufacturer	Model	Version	
Antenna port test software	UL	CLT	Ver 3.4	
Radiated software	UL	UL EMC	Ver 9.5	
Antenna port test software (5G NR FR1)	UL	UL iM	Ver 1.06	

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Results
2.1046	Conducted Output Power	N/A	Conducted	Complies
2.1049	Occupied Bandwidth (99%)	N/A		Complies
27.53(m)	Conducted Spurious Emission	-25 dBm		Complies
27.53(m)	Emission Mask	Section 8.4.1		Complies
27.54	Frequency Stability	2.5 ppm		Complies
27.50(h)(2)	Effective Isotropic Radiated Power	33 dBm	Radiated	Complies
27.53(m)	Radiated Spurious Emission	-25 dBm		Complies

8. CONDUCTED RESULTS

8.1. CONDUCTED OUTPUT POWER

Test Procedure

Per KDB 971168 D01 Power Meas License Digital Systems v03r01;

The transmitter output was connected to either CMW500 Test Set or E7515B Test set and configured to operate at maximum power.

NOTE1

LTE, 5G NR : Conducted output power has been verified across Low, Mid, and High channels for each resource block configuration. Compliance of MPR (Maximum Power Reduction) and Tune-up limits has also been confirmed. Therefore, representative measurements at 1 RB and Full RB configurations are reported for each channel.

NOTE2

All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

RESULTS

See the following pages.

8.1.1. CONDUCTED AVERAGE OUTPUT POWER

LTE Band 41C (PC3) (ANT B)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
40MHz (20MHz / 20MHz)	2506	2525.8	1	99	1	0	24.43	23.63
			1	0	1	99	15.99	15.98
			100	0	100	0	22.59	21.61
	2583.1	2602.9	1	99	1	0	24.37	23.47
			1	0	1	99	15.69	15.83
			100	0	100	0	22.53	21.53
	2660.2	2680	1	99	1	0	24.27	23.28
			1	0	1	99	15.82	15.86
			100	0	100	0	22.45	21.49

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
35MHz (15MHz / 20MHz)	2503.5	2520.6	1	74	1	0	24.35	23.50
			1	0	1	99	15.86	16.06
			75	0	100	0	22.55	21.59
	2583.2	2600.3	1	74	1	0	24.33	23.29
			1	0	1	99	15.51	15.46
			75	0	100	0	22.49	21.55
	2662.9	2680	1	74	1	0	23.98	23.11
			1	0	1	99	15.99	16.02
			75	0	100	0	22.47	21.53

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
30MHz (15MHz / 15MHz)	2503.5	2518.5	1	74	1	0	24.42	23.55
			1	0	1	74	16.1	16.08
			75	0	75	0	22.59	21.53
	2585.5	2600.5	1	74	1	0	24.38	23.45
			1	0	1	74	15.34	15.48
			75	0	75	0	22.48	21.53
	2667.5	2682.5	1	74	1	0	23.94	22.97
			1	0	1	74	16.01	16.01
			75	0	75	0	22.49	21.53

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
25MHz (5MHz / 20MHz)	2498.5	2510.2	1	24	1	0	24.42	23.54
			1	0	1	99	15.4	15.45
			25	0	100	0	22.54	21.53
	2583.6	2595.3	1	24	1	0	24.31	23.24
			1	0	1	99	15.2	15.31
			25	0	100	0	22.5	21.51
	2668.3	2680	1	24	1	0	23.91	23.01
			1	0	1	99	15.98	15.95
			25	0	100	0	22.5	21.53

LTE Band 41C (PC3) (ANT F)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
40MHz (20MHz / 20MHz)	2506	2525.8	1	99	1	0	24.47	23.51
			1	0	1	99	15.93	15.93
			100	0	100	0	22.5	21.52
	2583.1	2602.9	1	99	1	0	24.25	23.27
			1	0	1	99	15.78	15.75
			100	0	100	0	22.35	21.34
	2660.2	2680	1	99	1	0	24.22	23.33
			1	0	1	99	15.78	15.85
			100	0	100	0	22.34	21.41

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
35MHz (15MHz / 20MHz)	2503.5	2520.6	1	74	1	0	24.45	23.41
			1	0	1	99	16.04	16.03
			75	0	100	0	22.56	21.59
	2583.2	2600.3	1	74	1	0	24.35	23.38
			1	0	1	99	15.92	15.86
			75	0	100	0	22.35	21.32
	2662.9	2680	1	74	1	0	24.28	23.13
			1	0	1	99	15.99	15.95
			75	0	100	0	22.46	21.40

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
30MHz (15MHz / 15MHz)	2503.5	2518.5	1	74	1	0	24.3	23.39
			1	0	1	74	16.06	16.09
			75	0	75	0	22.5	21.56
	2585.5	2600.5	1	74	1	0	24.4	23.48
			1	0	1	74	15.93	16.00
			75	0	75	0	22.37	21.40
	2667.5	2682.5	1	74	1	0	24.42	23.45
			1	0	1	74	15.95	16.09
			75	0	75	0	22.49	21.41

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
25MHz (5MHz / 20MHz)	2498.5	2510.2	1	24	1	0	24.45	23.46
			1	0	1	99	16	16.05
			25	0	100	0	22.58	21.59
	2583.6	2595.3	1	24	1	0	24.41	23.39
			1	0	1	99	15.84	15.93
			25	0	100	0	22.38	21.39
	2668.3	2680	1	24	1	0	24.38	23.35
			1	0	1	99	15.96	15.95
			25	0	100	0	22.47	21.44

NR Band n41 (PC2) (ANT F)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	509202	518598	528000
					2546.01 MHz	2592.99 MHz	2640.00 MHz
100 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.01	21.91	21.81
			1	1	25.71	25.48	25.41
			1	136	25.38	25.13	25.36
			1	271	25.07	25.51	25.88
			1	272	21.41	21.89	22.16
			270	0	24.42	24.31	24.53
		QPSK	1	0	22.03	21.95	21.83
			1	1	25.73	25.41	25.36
			1	136	25.31	25.23	25.31
			1	271	25.01	25.61	25.91
			1	272	21.35	21.93	22.25
			270	0	24.31	24.39	24.41
		16QAM	1	0	22.21	21.73	21.55
			1	1	24.91	24.45	24.73
			1	136	24.35	24.09	24.21
			1	271	24.11	24.44	24.38
			1	272	21.47	21.71	21.82
			270	0	23.41	23.38	23.55
		64QAM	1	1	23.38	23.18	23.25
		256QAM	1	1	21.13	21.12	21.36
	CP-OFDM	QPSK	1	0	21.63	21.65	21.73
			1	1	23.89	24.12	24.15
			1	137	24.01	24.18	24.19
			1	271	23.25	23.61	23.98
			1	272	22.03	22.25	22.13
			270	0	22.29	22.48	22.54
		16QAM	1	0	21.79	21.89	21.91
			1	1	23.06	23.21	23.64
			1	137	23.11	23.35	23.51
			1	271	23.46	23.61	23.68
			1	272	21.75	21.89	21.91
			270	0	22.19	22.36	22.51
		64QAM	1	1	21.48	21.55	21.84
		256QAM	1	1	18.81	18.88	18.95
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	508200	518598	528996
					2541.00 MHz	2592.99 MHz	2644.98 MHz
90 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.09	21.82	21.87
			1	1	25.72	25.43	25.45
			1	123	25.41	25.17	25.41
			1	243	25.00	25.41	25.88
			1	244	21.49	21.82	22.23
			243	0	24.47	24.34	24.49
		QPSK	1	0	22.07	21.97	21.82
			1	1	25.81	25.44	25.27
			1	123	25.21	25.18	25.39
			1	243	24.93	25.63	25.84
			1	244	21.35	21.83	22.24
			243	0	24.22	24.41	24.48
		16QAM	1	1	24.89	24.43	24.81
			1	123	24.26	24.13	24.27
			1	243	24.03	24.52	24.32
		64QAM	1	1	23.43	23.13	23.29
		256QAM	1	1	21.15	21.17	21.31
	CP-OFDM	QPSK	1	1	24.44	24.24	24.34

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	507204	518598	529998
					2536.02 MHz	2592.99 MHz	2649.99 MHz
80 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.02	22.01	21.82
			1	1	25.81	25.47	25.41
			1	108	25.44	25.07	25.41
			1	215	25.17	25.43	25.86
			1	216	21.44	21.81	22.15
			216	0	24.43	24.29	24.51
		QPSK	1	0	22.06	21.86	21.76
			1	1	25.78	25.35	25.40
			1	108	25.35	25.27	25.35
			1	215	25.06	25.62	25.88
			1	216	21.27	21.98	22.24
			216	0	24.23	24.45	24.40
		16QAM	1	1	24.86	24.47	24.68
			1	108	24.41	24.13	24.19
			1	215	24.18	24.40	24.39
		64QAM	1	1	23.42	23.19	23.20
		256QAM	1	1	21.22	21.21	21.31
	CP-OFDM	QPSK	1	1	24.45	24.33	24.38
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	506202	518598	531000
					2531.02 MHz	2592.99 MHz	2655.00 MHz
70 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	21.96	22.00	21.83
			1	1	25.74	25.57	25.32
			1	94	25.31	25.10	25.33
			1	187	24.98	25.45	25.94
			1	188	21.34	21.97	22.13
			180	0	24.42	24.21	24.63
		QPSK	1	0	21.95	22.03	21.89
			1	1	25.81	25.34	25.46
			1	94	25.31	25.28	25.40
			1	187	25.00	25.57	25.93
			1	188	21.39	21.84	22.21
			180	0	24.35	24.31	24.38
		16QAM	1	1	25.00	24.49	24.78
			1	94	24.41	24.08	24.18
			1	187	24.12	24.42	24.37
		64QAM	1	1	23.39	23.18	23.32
		256QAM	1	1	21.21	21.11	21.36
	CP-OFDM	QPSK	1	1	24.48	24.26	24.30
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	505200	518598	513996
					2526.00 MHz	2592.99 MHz	2659.98 MHz
60 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.05	21.85	21.89
			1	1	25.73	25.39	25.42
			1	80	25.32	25.06	25.28
			1	160	25.08	25.48	25.88
			1	161	21.36	21.80	22.09
			162	0	24.47	24.24	24.60
		QPSK	1	0	22.01	21.87	21.78
			1	1	25.80	25.49	25.44
			1	80	25.32	25.14	25.37
			1	160	24.96	25.64	25.93
			1	161	21.40	21.91	22.27
			162	0	24.34	24.36	24.41
		16QAM	1	1	24.83	24.41	24.65
			1	80	24.29	24.09	24.14
			1	160	24.07	24.39	24.43
		64QAM	1	1	23.34	23.15	23.19
		256QAM	1	1	21.17	21.10	21.43
	CP-OFDM	QPSK	1	1	24.37	24.24	24.39

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	504204	518598	532998
					2521.01 MHz	2592.99 MHz	2665.00 MHz
50 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.03	21.82	21.81
			1	1	25.64	25.53	25.50
			1	66	25.39	25.21	25.33
			1	131	25.05	25.55	25.88
			1	132	21.48	21.91	22.15
			128	0	24.49	24.34	24.61
		QPSK	1	0	22.11	22.01	21.84
			1	1	25.72	25.43	25.38
			1	66	25.34	25.19	25.26
			1	131	25.09	25.61	25.92
			1	132	21.37	21.88	22.23
			128	0	24.23	24.39	24.38
		16QAM	1	1	24.82	24.42	24.76
			1	66	24.29	24.11	24.21
			1	131	24.06	24.50	24.38
		64QAM	1	1	23.47	23.22	23.30
		256QAM	1	1	21.03	21.18	21.28
	CP-OFDM	QPSK	1	1	24.48	24.22	24.34
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	503700	518598	533496
					2518.50 MHz	2592.99 MHz	2667.48 MHz
45 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.06	21.96	21.84
			1	1	25.65	25.57	25.33
			1	60	25.42	25.15	25.27
			1	117	25.08	25.45	25.88
			1	118	21.32	21.90	22.16
			108	0	24.36	24.28	24.47
		QPSK	1	0	22.07	21.95	21.92
			1	1	25.72	25.45	25.36
			1	60	25.25	25.15	25.37
			1	117	24.92	25.52	25.96
			1	118	21.32	21.94	22.16
			108	0	24.41	24.30	24.37
		16QAM	1	1	24.90	24.44	24.80
			1	60	24.38	24.15	24.25
			1	117	24.05	24.49	24.39
		64QAM	1	1	23.40	23.27	23.29
		256QAM	1	1	21.10	21.06	21.34
	CP-OFDM	QPSK	1	1	24.44	24.23	24.35
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	503202	518598	534000
					2516.01 MHz	2592.99 MHz	2670.00 MHz
40 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.03	21.99	21.83
			1	1	25.80	25.54	25.37
			1	52	25.47	25.16	25.39
			1	104	25.01	25.53	25.86
			1	105	21.51	21.86	22.16
			100	0	24.34	24.41	24.60
		QPSK	1	0	22.03	21.89	21.78
			1	1	25.66	25.46	25.37
			1	52	25.39	25.14	25.34
			1	104	24.96	25.70	25.90
			1	105	21.32	21.98	22.16
			100	0	24.35	24.36	24.41
		16QAM	1	1	24.98	24.36	24.70
			1	52	24.33	24.12	24.26
			1	104	24.21	24.48	24.43
		64QAM	1	1	23.34	23.12	23.24
		256QAM	1	1	21.16	21.04	21.41
	CP-OFDM	QPSK	1	1	24.38	24.21	24.41

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	507204	518598	534498
					2513.52 MHz	2592.99 MHz	2672.49 MHz
35 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	21.92	22.00	21.82
			1	1	25.75	25.45	25.48
			1	45	25.46	25.18	25.27
			1	90	25.15	25.47	25.79
			1	91	21.44	21.89	22.17
			90	0	24.50	24.30	24.51
		QPSK	1	0	21.99	21.96	21.87
			1	1	25.81	25.41	25.27
			1	45	25.34	25.14	25.23
			1	90	25.04	25.52	25.89
			1	91	21.37	22.02	22.16
			90	0	24.30	24.45	24.36
		16QAM	1	1	24.97	24.42	24.82
			1	45	24.29	24.05	24.21
			1	90	24.05	24.36	24.30
		64QAM	1	1	23.31	23.16	23.27
		256QAM	1	1	21.08	21.08	21.46
	CP-OFDM	QPSK	1	1	24.35	24.27	24.44
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	502200	518598	534996
					2511.00 MHz	2592.99 MHz	2675.00 MHz
30 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.07	21.93	21.83
			1	1	25.61	25.45	25.35
			1	39	25.45	25.06	25.26
			1	76	25.04	25.59	25.78
			1	77	21.38	21.87	22.20
			75	0	24.46	24.32	24.49
		QPSK	1	0	22.10	21.95	21.84
			1	1	25.68	25.33	25.38
			1	39	25.41	25.26	25.34
			1	76	25.06	25.66	25.82
			1	77	21.36	21.94	22.33
			75	0	24.36	24.48	24.36
		16QAM	1	1	24.97	24.35	24.65
			1	39	24.44	24.08	24.11
			1	76	24.09	24.43	24.29
		64QAM	1	1	23.30	23.23	23.31
		256QAM	1	1	21.15	21.13	21.27
	CP-OFDM	QPSK	1	1	24.36	24.25	24.38
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	501702	518598	534996
					2508.51 MHz	2592.99 MHz	2675.00 MHz
25 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.09	21.89	21.85
			1	1	25.74	25.42	25.44
			1	32	25.40	25.19	25.33
			1	63	25.14	25.51	25.88
			1	64	21.40	21.99	22.26
			64	0	24.41	24.37	24.52
		QPSK	1	0	22.09	22.01	21.88
			1	1	25.69	25.34	25.41
			1	32	25.22	25.16	25.22
			1	63	25.10	25.67	25.95
			1	64	21.41	21.91	22.31
			64	0	24.41	24.31	24.40
		16QAM	1	1	24.92	24.51	24.68
			1	32	24.39	24.14	24.12
			1	63	24.16	24.42	24.37
		64QAM	1	1	23.44	23.14	23.27
		256QAM	1	1	21.08	21.18	21.42
	CP-OFDM	QPSK	1	1	24.35	24.20	24.40

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	501204	518598	535998
					2506.02 MHz	2592.99 MHz	2679.99 MHz
20 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	22.03	21.84	21.71
			1	1	25.65	25.48	25.48
			1	26	25.33	25.14	25.29
			1	49	24.97	25.51	25.80
			1	50	21.35	21.87	22.07
			50	0	24.33	24.34	24.53
		QPSK	1	0	22.06	21.90	21.83
			1	1	25.73	25.31	25.44
			1	26	25.36	25.20	25.38
			1	49	24.95	25.57	25.94
			1	50	21.40	21.95	22.22
			50	0	24.30	24.39	24.32
		16QAM	1	1	24.86	24.41	24.78
			1	26	24.27	24.12	24.28
			1	49	24.10	24.41	24.29
		64QAM	1	1	23.31	23.21	23.26
		256QAM	1	1	21.15	21.10	21.34
	CP-OFDM	QPSK	1	1	24.34	24.25	24.40
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	500700	518598	536496
					2503.50 MHz	2592.99 MHz	2682.48 MHz
15 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	21.98	21.97	21.71
			1	1	25.64	25.40	25.37
			1	19	25.37	25.08	25.45
			1	36	25.00	25.60	25.89
			1	37	21.48	21.81	22.09
			36	0	24.35	24.33	24.59
		QPSK	1	0	22.01	21.88	21.84
			1	1	25.79	25.46	25.44
			1	19	25.41	25.31	25.39
			1	36	24.96	25.63	25.89
			1	37	21.33	21.92	22.31
			36	0	24.37	24.31	24.48
		16QAM	1	1	24.84	24.43	24.68
			1	19	24.37	24.09	24.31
			1	36	24.18	24.44	24.32
		64QAM	1	1	23.31	23.15	23.23
		256QAM	1	1	21.04	21.14	21.45
	CP-OFDM	QPSK	1	1	24.21	24.29	24.30
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	500202	518598	537000
					2501.01 MHz	2592.99 MHz	2685.00 MHz
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	21.95	21.95	21.89
			1	1	25.64	25.51	25.43
			1	12	25.31	25.11	25.37
			1	22	25.11	25.54	25.94
			1	23	21.48	21.85	22.20
			24	0	24.32	24.32	24.58
		QPSK	1	0	21.95	21.94	21.83
			1	1	25.67	25.49	25.44
			1	12	25.38	25.23	25.30
			1	22	24.97	25.69	25.95
			1	23	21.42	22.03	22.35
			24	0	24.21	24.47	24.46
		16QAM	1	1	24.88	24.51	24.79
			1	12	24.37	24.08	24.12
			1	22	24.08	24.37	24.38
		64QAM	1	1	23.45	23.27	23.17
		256QAM	1	1	21.10	21.21	21.37
	CP-OFDM	QPSK	1	1	24.39	24.24	24.31

8.2. PEAK TO AVERAGE RATIO

Test Procedure

Per KDB 971168 D01 Power Meas License Digital Systems v03r01;

The transmitter output was connected to either CMW500 Test Set or E7515B Test set and configured to operate at maximum power. The PAR were measured on the Spectrum Analyzer.

Test Spec

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

NOTE

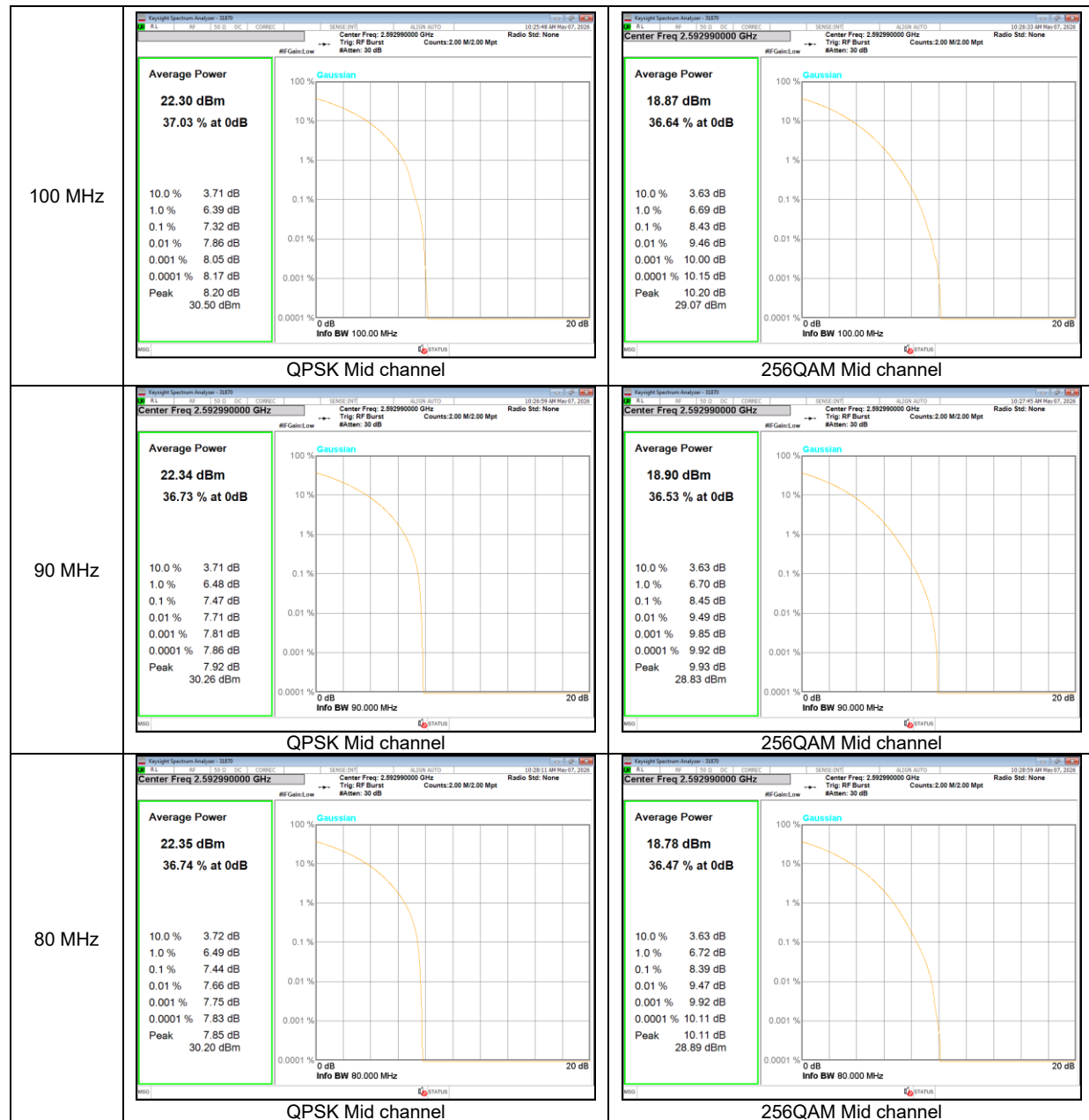
All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All Modes of operation were investigated and the worst case configuration results are reported in this section.

RESULTS

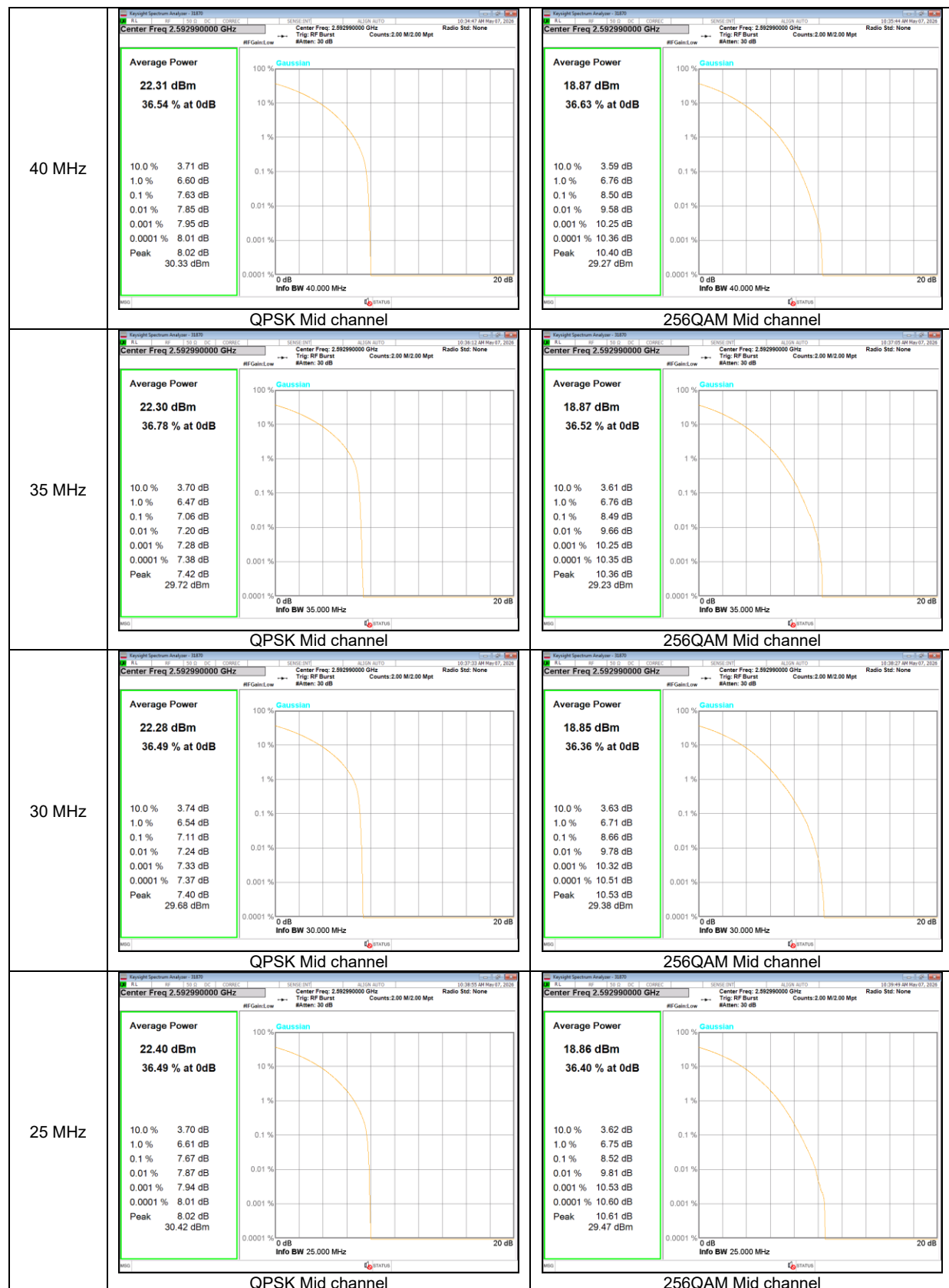
See the following pages.

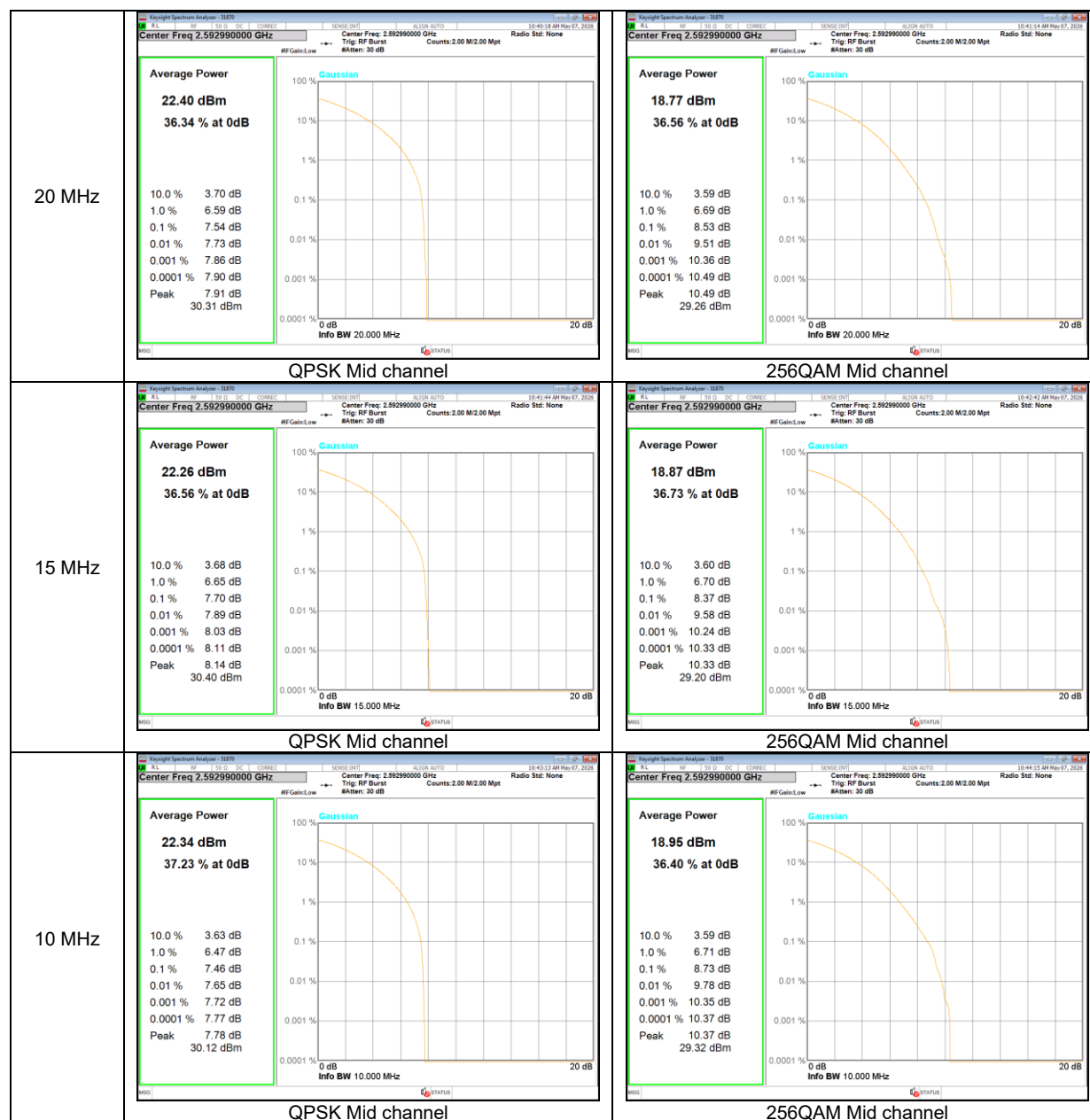
8.2.1. CONDUCTED PEAK TO AVERAGE RESULT

NR Band n41(PC2) CP-OFDM (ANT F)









8.3. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at middle channel in each band. The -26dB bandwidth was also measured and recorded.

(KDB 971168 D01 Power Meas License Digital Systems v03r01)

RESULTS

See the following pages.

- LTE Band 41C (PC3) (ANT F)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41 (PC3)	20+20M	QPSK	2593.00	37.616	39.78
		16QAM		37.600	39.380
	15+20M	QPSK		32.702	34.120
		16QAM		32.711	34.340
	15+15M	QPSK		28.360	29.830
		16QAM		28.376	29.730
	5+20M	QPSK		22.883	24.000
		16QAM		22.881	23.970

- NR Band n41 (PC2) CP-OFDM (ANT F)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n41 (PC2)	100M	QPSK	2592.99	97.272	101.600
		16QAM		97.488	101.400
	90M	QPSK		87.320	91.420
		16QAM		87.673	91.250
	80M	QPSK		77.377	80.740
		16QAM		77.336	80.840
	70M	QPSK		67.411	70.420
		16QAM		67.435	70.360
	60M	QPSK		57.796	60.320
		16QAM		57.863	60.330
	50M	QPSK		47.435	50.170
		16QAM		47.523	49.960
	45M	QPSK		42.409	44.820
		16QAM		42.580	45.110
	40M	QPSK		37.819	40.090
		16QAM		37.956	39.800
	35M	QPSK		32.876	34.610
		16QAM		32.893	34.530
	30M	QPSK		27.882	29.750
		16QAM		27.886	29.260
	25M	QPSK		23.149	24.710
		16QAM		23.154	24.630
	20M	QPSK		18.244	19.830
		16QAM		18.239	19.520
	15M	QPSK		13.594	14.990
		16QAM		13.648	14.930
	10M	QPSK		8.608	9.644
		16QAM		8.630	9.640

8.3.1. OCCUPIED BANDWIDTH RESULT

LTE Band 41C (PC3) (ANT F)

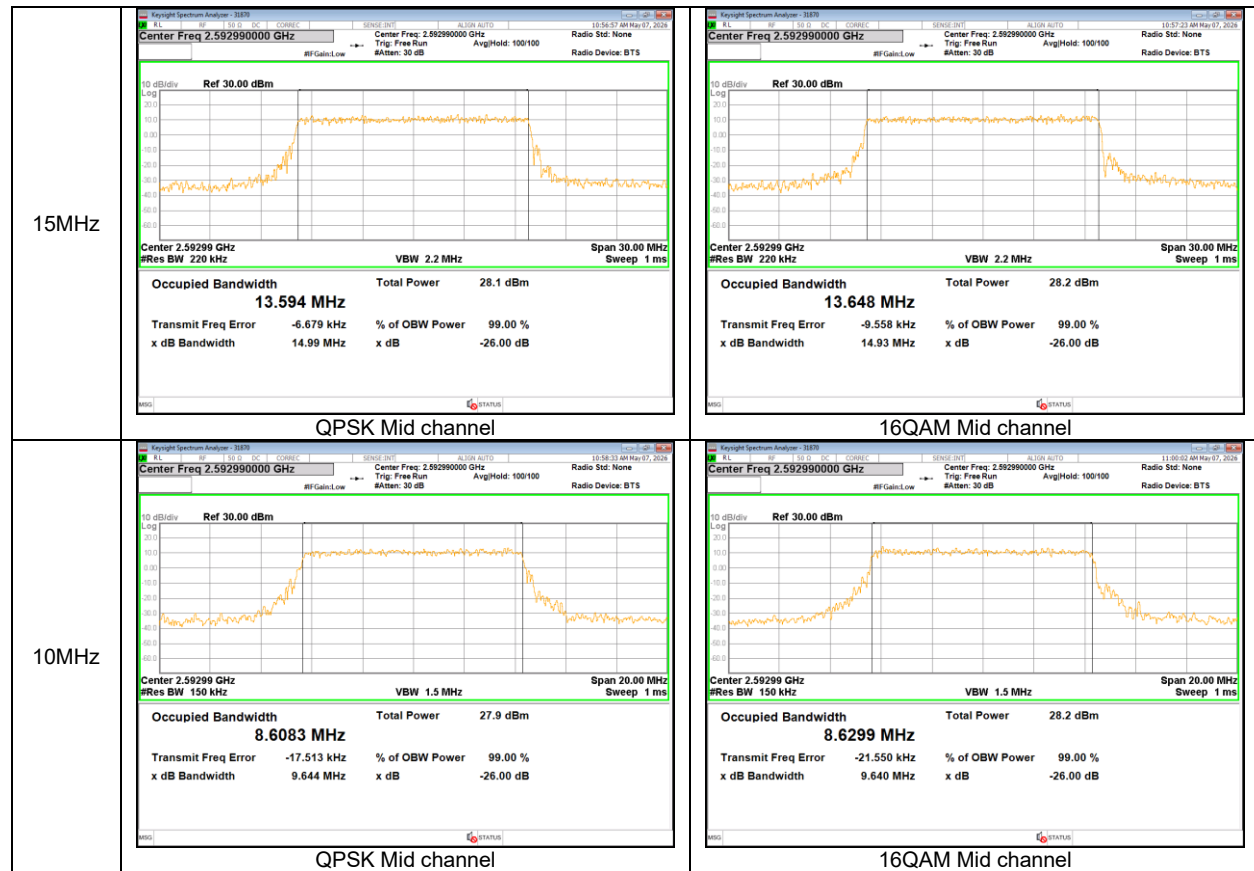


NR Band n41 (PC2) CP-OFDM (ANT F)









8.4. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §27.53

LIMITS

§27.53:

(m) (4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

(m) (6) **Measurement procedure.** Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

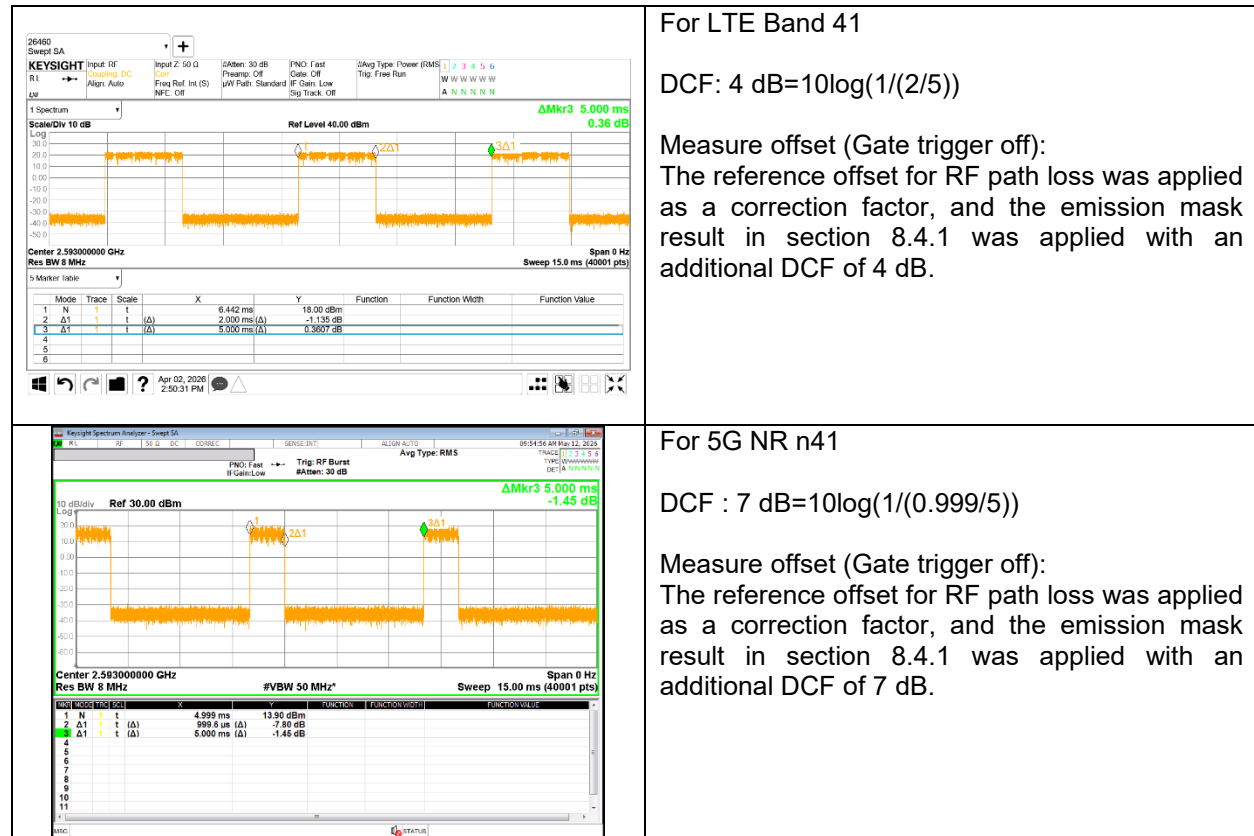
The transmitter output was connected to either CMW500 Test Set or E7515B Test set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

- a) Set the RBW = at least 1 % of OBW (Typically limited to a minimum RBW of 1% of the OBW) within 1 MHz from the edge of the authorized frequency block/band.
Set the RBW = 1 MHz (Above 1GHz Bands: 1 MHz from the edge of the authorized frequency block/band)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = Auto;
- e) Detector = RMS;
- f) Ensure that the number of measurement points $\geq 2 \times$ span/RBW;
- g) Trace Mode = Average (100);

NOTE1

5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All Modes of operation were investigated and the worst case configuration results are reported in this section.

NOTE2



For LTE Band 41

DCF: $4 \text{ dB} = 10 \log(1/(2/5))$

Measure offset (Gate trigger off):

The reference offset for RF path loss was applied as a correction factor, and the emission mask result in section 8.4.1 was applied with an additional DCF of 4 dB.

For 5G NR n41

DCF : $7 \text{ dB} = 10 \log(1/(0.999/5))$

Measure offset (Gate trigger off):

The reference offset for RF path loss was applied as a correction factor, and the emission mask result in section 8.4.1 was applied with an additional DCF of 7 dB.

NOTE3

Emission Mask: All 1RB Positions (Edge RB, Outer RB, Inner RB) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

RESULTS

See the following pages.

8.4.1. EMISSION MASK RESULT

LTE Band 41C (PC3) (ANT F)

