

CERTIFICATION TEST REPORT

Report Number. : S-4792147620-E2V2

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

Model : SM-F971B

FCC ID : A3LSMF971B

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 22 SUBPART H

Date Of Issue:
2026-05-18

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Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2026-05-08	Initial issue	Yeonghwan Hong
V2	2026-05-18	Updated to address TCB's question	Yeonghwan Hong

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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: SM-F971B

SERIAL NUMBER: 9badcaa8b44f7ece, 9badcaa9754f7ece, 9badcaa8a14f7ece
a33af058df4d7ece, a33aed81a34d7ece, a33af0591e4d7ece
(CONDUCTED);
R37L200G6NE, R37L200G60R, R37L200G6FK, R37L200GH0M,
a33aed81d44d7ece (RADIATED)

DATE TESTED: 2026-03-09 – 2026-05-18

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H	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:



Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:



Yeonghwan Hong
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 22).

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 SM-F971B) 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 mode in this report, it is fully tested(refer to section 1.3). Please refer to the spot-check data in the test report number S-4792147620-E4.

1.2. DIFFERENCE

Key differences between SM-F971U and SM-F971B:

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 SM-F971B 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.

1.3. DATA RE-USE TEST MODES

Test modes	Data re-use / Full test	Note.
GSM850	Re-use	-
GSM1900	Re-use	-
WCDMA B2	Re-use	-
WCDMA B4	Re-use	-
WCDMA B5	Re-use	-
LTE B12	Re-use	-
LTE B13	Re-use	-
LTE B26	Re-use	-
LTE B66	Re-use	-
LTE B41	Full test	-
LTE B25	Re-use	-
NR n71	Re-use	-
NR n5	Full test	-
NR n66	Re-use	-
NR n25	Re-use	-
NR n41	Full test	-
NR n77	Re-use	-

Note 1: LTE B17 is covered by LTE B12 because the conducted output power verification result of LTE B17 is lower than LTE B12.

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 22.
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:

ERP = SG reading with EUT worst orientation (dBm) – cable loss(between the SG and substitution antenna) + Substitution Antenna Factor (dBd)

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

SA reading with EUT worst orientation (dBm) = Measured amplitude level (dBuV) +107
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

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.

The SM-F971B model was used as the representative model for final testing.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum average radiated ERP output powers as follows:

NR Band n5

FCC Part 22										
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power (ANT A)		ERP (ANT A)		ERP (ANT A+B)	
					Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
n5	834.00 - 839.00	20	DFT-s OFDM	11/2 BPSK	24.28	0.268				
				QPSK	24.35	0.272	19.79	0.095	22.28	0.169
				16QAM	23.19	0.208	18.76	0.075	20.83	0.121
				64QAM	21.61	0.145				
				256QAM	19.80	0.095				
			CP-OFDM	QPSK	23.20	0.209				
				16QAM	22.23	0.167				
				64QAM	20.70	0.117				
				256QAM	17.77	0.060				
				QPSK	24.38	0.274				
	831.50 - 841.50	15	DFT-s OFDM	QPSK	24.48	0.281	19.99	0.100	22.48	0.177
				16QAM	23.23	0.210	18.90	0.078	20.87	0.122
				64QAM	21.93	0.156				
				256QAM	20.09	0.102				
			CP-OFDM	QPSK	23.17	0.207				
			DFT-s OFDM	11/2 BPSK	24.41	0.276				
				QPSK	24.49	0.281	19.97	0.099	22.46	0.176
				16QAM	23.29	0.213	18.97	0.079	20.93	0.124
				64QAM	21.98	0.158				
				256QAM	19.99	0.100				
n5	829.00 - 844.00	10	DFT-s OFDM	QPSK	22.91	0.195				
			CP-OFDM	QPSK	22.91	0.195				
			DFT-s OFDM	11/2 BPSK	24.56	0.286				
				QPSK	24.57	0.286	20.06	0.101	22.55	0.180
				16QAM	23.49	0.223	19.10	0.081	21.13	0.130
				64QAM	23.56	0.227				
				256QAM	22.07	0.161				
			CP-OFDM	QPSK	20.13	0.103				
	826.50 - 846.50	5	DFT-s OFDM	11/2 BPSK	24.37	0.274				
				QPSK	24.32	0.270	19.45	0.088		
				16QAM	23.54	0.226	18.44	0.070		
				64QAM	21.97	0.157				
				256QAM	19.89	0.097				
			CP-OFDM	QPSK	22.97	0.198				
				16QAM	22.68	0.185				
				64QAM	20.88	0.122				
				256QAM	17.94	0.062				
			DFT-s OFDM	11/2 BPSK	24.36	0.273				
				QPSK	24.29	0.269	19.41	0.087		
				16QAM	23.49	0.223	18.31	0.068		
				64QAM	21.97	0.157				
				256QAM	19.62	0.092				
n5	831.50 - 841.50	15	DFT-s OFDM	QPSK	22.78	0.190				
			CP-OFDM	QPSK	22.78	0.190				
			DFT-s OFDM	11/2 BPSK	24.35	0.272				
				QPSK	24.34	0.272	19.45	0.088		
				16QAM	23.60	0.229	18.32	0.068		
				64QAM	21.70	0.148				
				256QAM	19.47	0.089				
			CP-OFDM	QPSK	22.84	0.192				
			DFT-s OFDM	11/2 BPSK	24.41	0.276				
				QPSK	24.46	0.279	19.49	0.089		
				16QAM	23.48	0.223	18.38	0.069		
				64QAM	23.39	0.218				
				256QAM	21.85	0.153				
			CP-OFDM	QPSK	19.65	0.092				
	829.00 - 844.00	10	DFT-s OFDM	11/2 BPSK	24.35	0.272				
				QPSK	24.34	0.272	19.45	0.088		
				16QAM	23.60	0.229	18.32	0.068		
				64QAM	21.70	0.148				
				256QAM	19.47	0.089				
			CP-OFDM	QPSK	22.84	0.192				
			DFT-s OFDM	11/2 BPSK	24.41	0.276				
				QPSK	24.46	0.279	19.49	0.089		
				16QAM	23.48	0.223	18.38	0.069		
				64QAM	23.39	0.218				
				256QAM	21.85	0.153				
			CP-OFDM	QPSK	19.65	0.092				
	826.50 - 846.50	5	DFT-s OFDM	11/2 BPSK	24.35	0.272				
				QPSK	24.34	0.272	19.45	0.088		
				16QAM	23.60	0.229	18.32	0.068		
				64QAM	21.70	0.148				
				256QAM	19.47	0.089				
			CP-OFDM	QPSK	22.84	0.192				
			DFT-s OFDM	11/2 BPSK	24.41	0.276				
				QPSK	24.46	0.279	19.49	0.089		
				16QAM	23.48	0.223	18.38	0.069		
				64QAM	23.39	0.218				
				256QAM	21.85	0.153				
			CP-OFDM	QPSK	19.65	0.092				

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)
NR Band n5 824 - 849 MHz	A	-4.0
	D	-3.9
	A+B	-4.0

5.4. WORST-CASE ORIENTATION

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

- 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 and SA Mode and Worst case reported.

So the test case is as below.

NR Band	NSA	SA
n5	<u>LTE B2/4/66</u>	-

- As for the Antenna Switching supported ASDIV (Antenna Switching Diversity) conditions. ASDIV can be implemented through the application provided by the manufacturer.

Band	Antenna Switching
NR n5	AFS (Adaptive Frame Switching) / ASDiv (Antenna Switching Diversity)

- The RF port of NR n5 was tested on all antennas and reported as Main ANT' because the test power of Main ANT' is same to or higher than "Sub ANT'.

- So the test case is as below.

Band	Main ANT	Tune up Limit (dBm)	Sub ANT	Tune up Limit (dBm)
NR n5	<u>A</u>	<u>25.5</u>	D	25.5

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

● Conducted Spurious Emission

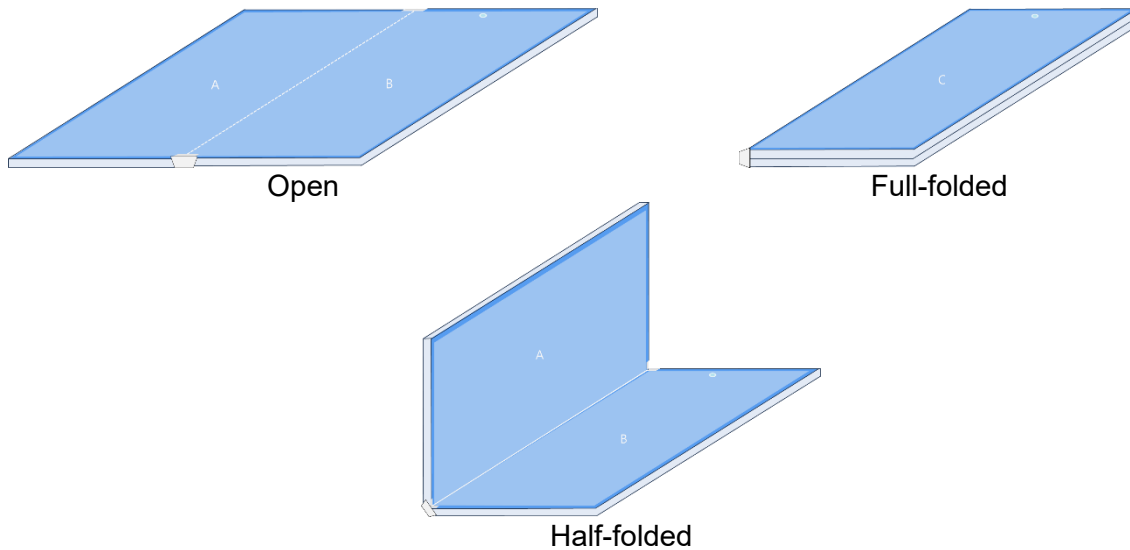
Highest conducted output power setting for each bands						
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
5	A	826.50	5	DFT-s OFDM QPSK	1	1
		836.50			1	1
		846.50			1	1

● Radiated Spurious Emission

Highest ERP setting for each bands						
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
5	A	826.50	5	DFT-s OFDM QPSK	1	1
		836.50			1	1
		846.50			1	1
	D	826.50	5	DFT-s OFDM QPSK	1	1
		836.50			1	1
		846.50			1	1
	A+B	826.50	5	DFT-s OFDM QPSK	1	1
		836.50			1	1
		846.50			1	1

Note1 : for radiated emission testing, EN-DC mode was 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			RSE		
		X	Y	Z	X	Y	Z
NR n5	A	-	-	Full-folded	-	Full-folded	-
	D	-	-	Half-folded	-	-	Full-folded
	A+B	-	-	Open	Open	-	-

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.

Note3 : 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

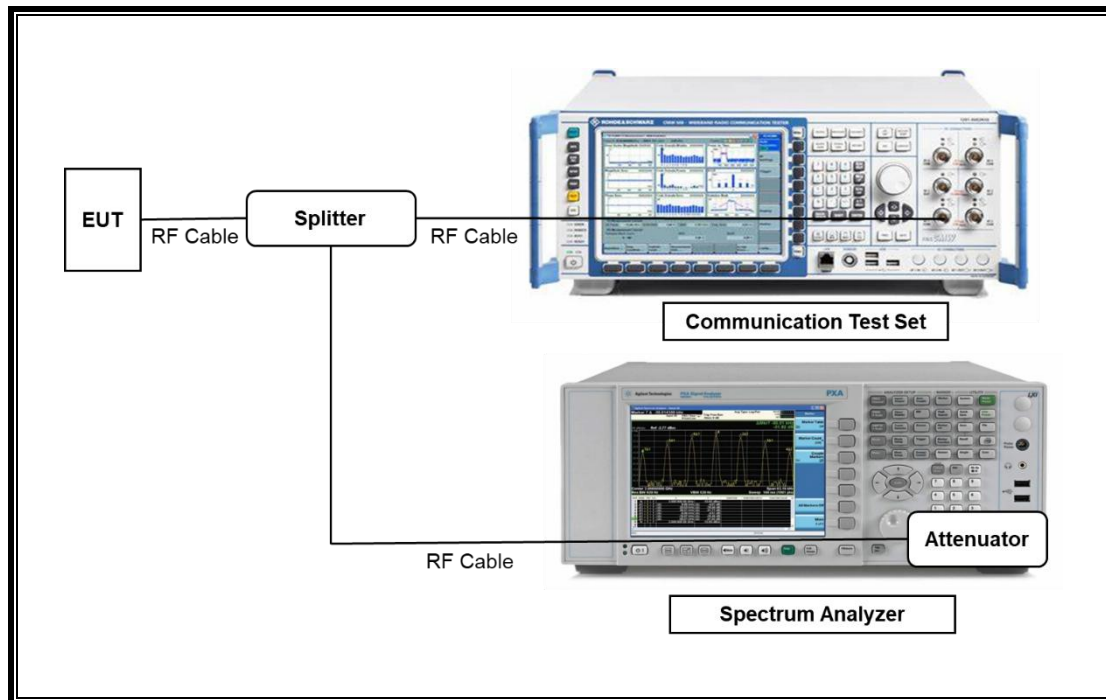
I/O CABLE

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

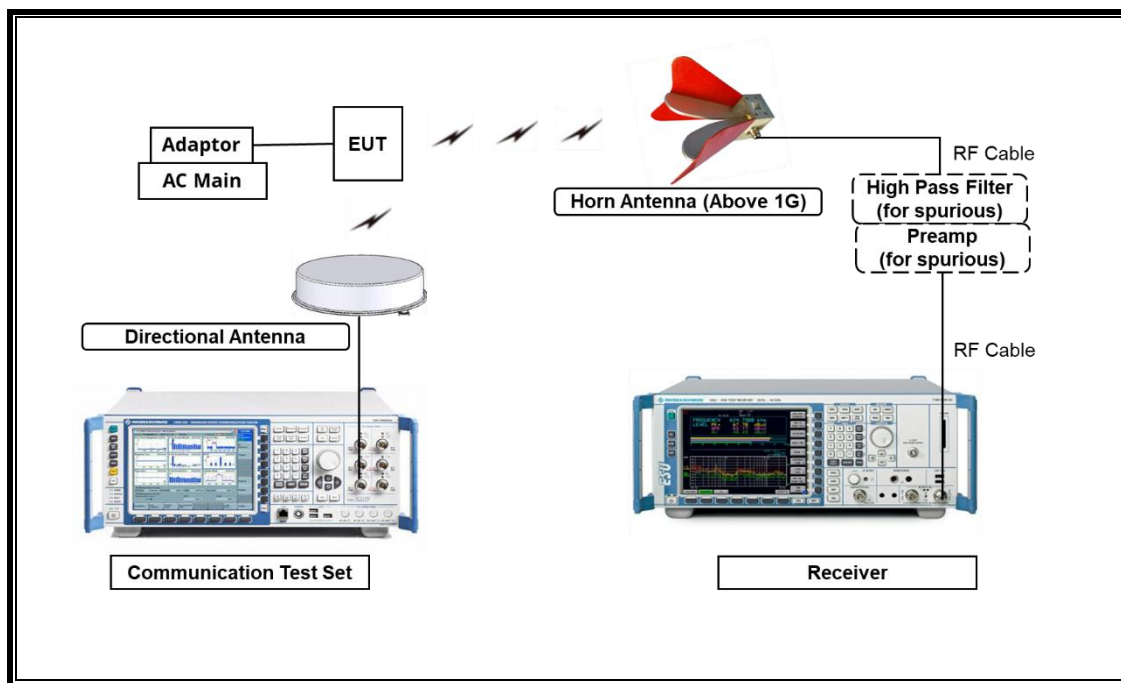
TEST SETUP

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

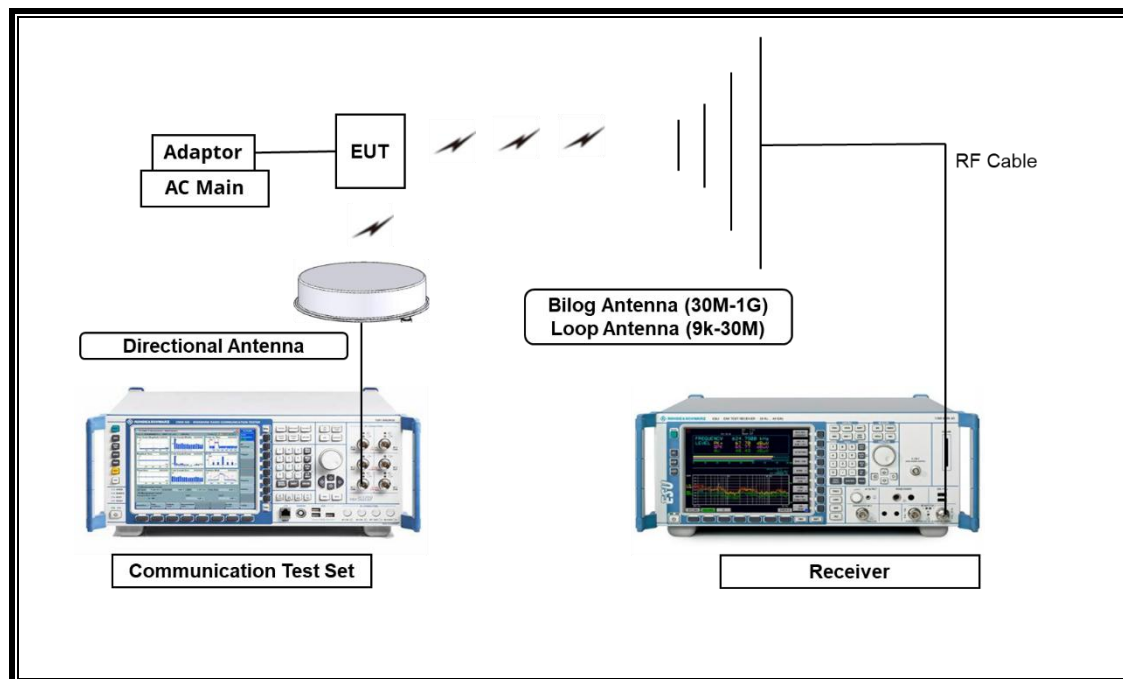
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



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
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
22.917(a)	Conducted Band Edge / Conducted Spurious Emission	-13 dBm		Complies
22.355	Frequency Stability	2.5 ppm		Complies
22.913(a)(5)	Effective Radiated Power	38.5 dBm	Radiated	Complies
22.917(a)	Radiated Spurious Emission	-13 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

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

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.

RESULTS

See the following pages.

8.1.1. CONDUCTED AVERAGE OUTPUT POWER

NR Band n5 (ANT A)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	166800	167300	167800
					834.00 MHz	836.50 MHz	839.00 MHz
20 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.58	23.66	23.64
			1	1	24.19	24.27	24.27
			1	52	24.24	24.28	24.21
			1	104	24.15	24.16	24.20
			1	105	23.53	23.55	23.57
			100	0	23.94	23.95	23.95
		QPSK	1	0	23.10	23.29	23.30
			1	1	24.14	24.23	24.35
			1	52	24.21	24.27	24.23
			1	104	24.14	24.23	24.23
			1	105	23.09	23.24	23.19
			100	0	23.44	23.41	23.41
		16QAM	1	0	22.00	21.98	22.11
			1	1	23.16	23.06	23.12
			1	52	23.19	23.07	23.17
			1	104	23.13	23.04	23.15
			1	105	22.18	22.06	21.98
			100	0	22.38	22.32	22.31
		64QAM	1	1	21.42	21.53	21.61
		256QAM	1	1	19.80	19.31	19.44
	CP-OFDM	QPSK	1	0	21.12	21.60	21.61
			1	1	22.85	23.09	23.20
			1	52	22.80	22.87	23.05
			1	104	22.71	23.10	23.08
			1	105	21.22	21.45	21.50
			106	0	21.41	21.43	21.41
		16QAM	1	0	21.12	21.20	21.29
			1	1	22.23	22.05	22.16
			1	52	22.19	22.08	22.18
			1	104	22.20	22.12	22.10
			1	105	21.23	21.24	21.23
			106	0	21.41	21.32	21.26
		64QAM	1	1	20.18	20.59	20.70
		256QAM	1	1	17.77	17.36	17.47
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	166300	167300	168300
					831.50 MHz	836.50 MHz	841.50 MHz
15 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.64	23.71	23.79
			1	1	24.27	24.29	24.38
			1	39	24.22	24.34	24.18
			1	77	24.34	24.21	24.25
			1	78	24.33	24.27	24.25
			75	0	24.04	23.93	23.96
		QPSK	1	0	23.36	23.33	23.39
			1	1	24.24	24.41	24.48
			1	39	24.30	24.39	24.29
			1	77	24.41	24.38	24.26
			1	78	24.40	24.41	24.32
			75	0	23.50	23.39	23.42
		16QAM	1	1	23.04	23.12	23.23
			1	39	23.05	23.21	23.08
			1	77	23.15	23.20	23.19
		64QAM	1	1	21.54	21.90	21.93
		256QAM	1	1	19.43	20.08	20.09
	CP-OFDM	QPSK	1	1	23.17	22.76	22.85

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	165800	167300	168800
					829.00 MHz	836.50 MHz	844.00 MHz
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.61	23.74	23.74
			1	1	24.22	24.37	24.36
			1	25	24.29	24.32	24.21
			1	50	24.41	24.32	24.22
			1	51	23.75	23.66	23.62
			50	0	23.98	23.96	23.94
		QPSK	1	0	23.26	23.35	23.32
			1	1	24.35	24.47	24.41
			1	25	24.39	24.49	24.33
			1	50	24.39	24.40	24.29
			1	51	23.33	23.27	23.20
			50	0	23.39	23.45	23.41
		16QAM	1	1	23.10	23.28	23.27
			1	25	23.05	23.25	23.05
			1	50	23.29	23.20	23.13
		64QAM	1	1	21.76	21.98	21.96
		256QAM	1	1	19.86	19.99	19.94
	CP-OFDM	QPSK	1	1	22.84	22.91	22.78
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	165300	167300	169300
					826.50 MHz	836.50 MHz	846.50 MHz
5 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.81	23.86	23.77
			1	1	24.30	24.40	24.28
			1	12	24.37	24.29	24.18
			1	23	24.34	24.56	24.27
			1	24	23.79	23.87	23.73
			25	0	23.97	23.95	23.87
		QPSK	1	0	23.39	23.39	23.42
			1	1	24.48	24.57	24.41
			1	12	24.37	24.52	24.32
			1	23	24.40	24.47	24.34
			1	24	23.38	23.44	23.25
			25	0	23.49	23.41	23.38
		16QAM	1	1	23.49	23.41	23.38
			1	12	23.19	23.32	23.16
			1	23	23.09	23.15	22.96
		64QAM	1	1	23.18	23.56	23.15
		256QAM	1	1	21.92	22.07	21.93
	CP-OFDM	QPSK	1	1	20.00	20.13	19.95

NR Band n5 (ANT D)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	166800	167300	167800
					834.00 MHz	836.50 MHz	839.00 MHz
20 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.65	23.60	23.73
			1	1	24.07	24.26	24.32
			1	52	24.24	24.37	24.31
			1	104	24.22	24.32	24.29
			1	105	23.58	23.71	23.65
			100	0	23.89	23.83	23.85
		QPSK	1	0	23.10	23.20	23.16
			1	1	24.13	24.25	24.25
			1	52	24.20	24.27	24.29
			1	104	24.17	24.30	24.32
			1	105	23.18	23.27	23.23
			100	0	22.98	23.01	23.24
		16QAM	1	0	22.19	22.40	22.30
			1	1	23.16	23.53	23.54
			1	52	23.31	23.41	23.54
			1	104	23.29	23.54	23.52
			1	105	22.20	22.32	22.45
			100	0	21.98	22.06	22.07
		64QAM	1	1	21.54	21.85	21.97
		256QAM	1	1	19.89	19.58	19.62
	CP-OFDM	QPSK	1	0	21.36	21.21	21.34
			1	1	22.77	22.59	22.70
			1	52	22.59	22.75	22.66
			1	104	22.97	22.73	22.74
			1	105	21.34	21.26	21.23
			106	0	20.80	20.96	21.01
		16QAM	1	0	21.29	21.61	21.64
			1	1	22.20	22.56	22.55
			1	52	22.37	22.58	22.68
			1	104	22.45	22.46	22.57
			1	105	21.39	21.29	21.58
			106	0	20.90	20.96	20.98
		64QAM	1	1	20.30	20.88	20.87
		256QAM	1	1	17.94	17.81	17.83
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	166300	167300	168300
					831.50 MHz	836.50 MHz	841.50 MHz
15 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.60	23.61	23.70
			1	1	24.21	24.32	24.36
			1	39	24.35	24.28	24.31
			1	77	24.30	24.31	24.29
			1	78	24.28	24.30	24.22
			75	0	23.86	23.92	23.88
		QPSK	1	0	23.19	23.22	23.27
			1	1	24.18	24.20	24.28
			1	39	24.22	24.17	24.17
			1	77	24.29	24.22	24.25
			1	78	24.24	24.24	24.17
			75	0	22.88	23.05	23.00
		16QAM	1	1	23.48	23.23	23.37
			1	39	23.34	23.16	23.36
			1	77	23.49	23.29	23.17
		64QAM	1	1	21.97	21.73	21.79
		256QAM	1	1	19.58	19.57	19.62
	CP-OFDM	QPSK	1	1	22.68	22.75	22.78

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	165800	167300	168800
					829.00 MHz	836.50 MHz	844.00 MHz
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.60	23.78	23.74
			1	1	24.27	24.27	24.35
			1	25	24.30	24.35	24.31
			1	50	24.35	24.24	24.26
			1	51	23.76	23.72	23.65
			50	0	23.91	23.92	23.91
		QPSK	1	0	23.14	23.28	23.16
			1	1	24.21	24.21	24.32
			1	25	24.25	24.28	24.29
			1	50	24.34	24.21	24.20
			1	51	23.26	23.20	23.14
			50	0	22.96	23.11	22.97
		16QAM	1	1	23.28	23.26	23.41
			1	25	23.20	23.19	23.35
			1	50	23.33	23.60	23.30
		64QAM	1	1	21.70	21.70	21.64
		256QAM	1	1	19.47	19.44	19.47
	CP-OFDM	QPSK	1	1	22.64	22.84	22.80
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	165300	167300	169300
					826.50 MHz	836.50 MHz	846.50 MHz
5 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.72	23.85	23.84
			1	1	24.41	24.39	24.35
			1	12	24.22	24.32	24.26
			1	23	24.35	24.38	24.26
			1	24	23.81	23.79	23.75
			25	0	23.78	23.92	23.89
		QPSK	1	0	23.26	23.33	23.33
			1	1	24.35	24.46	24.36
			1	12	24.18	24.27	24.25
			1	23	24.35	24.35	24.32
			1	24	23.33	23.32	23.22
			25	0	22.85	23.10	23.12
		16QAM	1	1	22.85	23.10	23.12
			1	12	23.42	23.45	23.48
			1	23	23.21	23.29	23.32
		64QAM	1	1	23.36	23.39	23.29
		256QAM	1	1	21.75	21.85	21.65
	CP-OFDM	QPSK	1	1	19.60	19.63	19.65

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

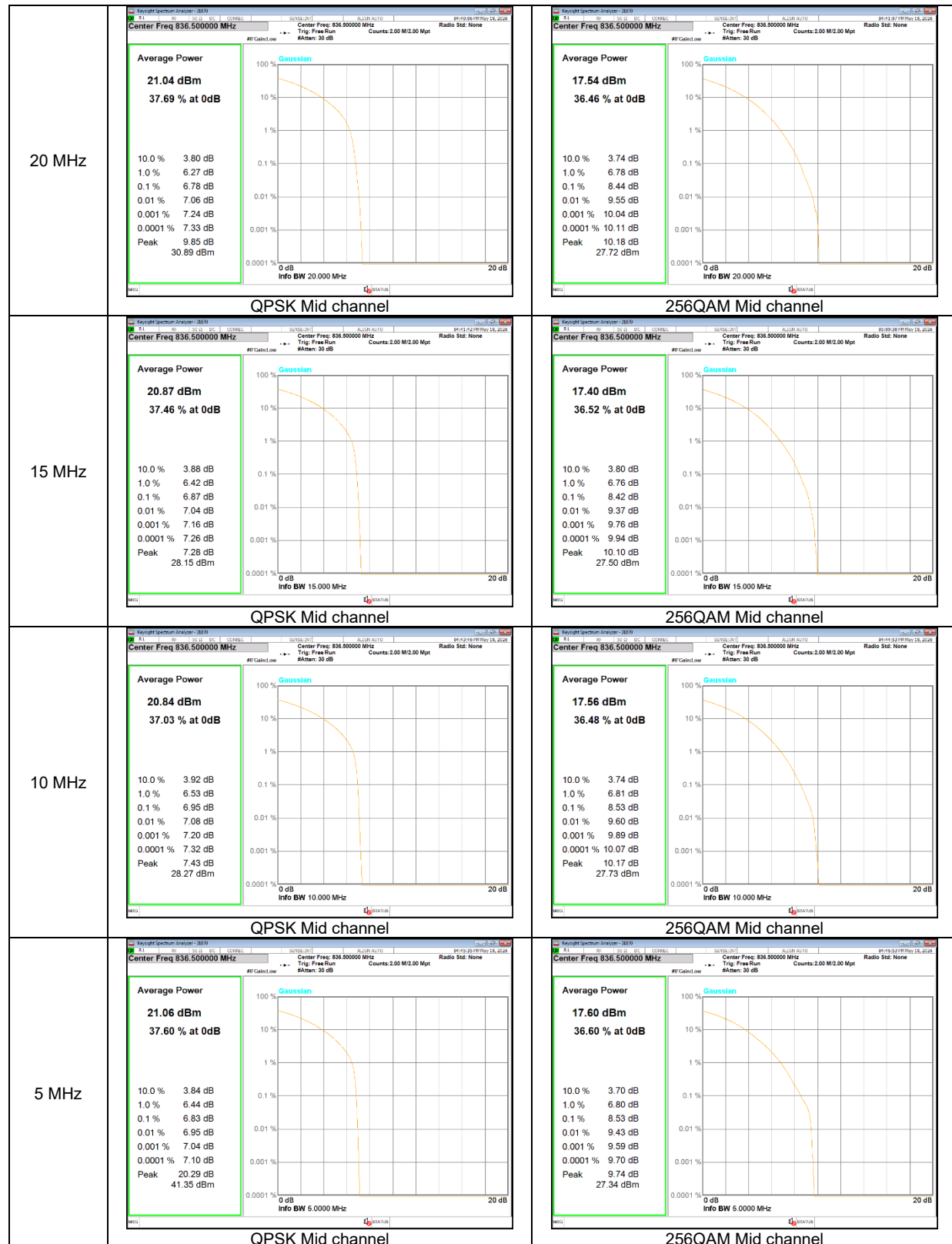
5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

RESULTS

See the following pages.

8.2.1. CONDUCTED PEAK TO AVERAGE RESULT

NR Band n5 CP-OFDM (ANT A)



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.

- NR Band n5 CP-OFDM (ANT A)

Band	BW	Modulation	f [MHz]	99% BW	-26dB BW
				(MHz)	(MHz)
NR n5	20M	QPSK	836.50	18.942	19.940
		16QAM		18.904	19.890
	15M	QPSK		14.070	15.110
		16QAM		14.114	15.060
	10M	QPSK		9.287	10.190
		16QAM		9.309	10.170
	5M	QPSK		4.500	5.236
		16QAM		4.477	5.087

8.3.1. OCCUPIED BANDWIDTH RESULT

NR Band n5 CP-OFDM



8.4. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.917

LIMITS

§22.917

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

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.

LTE/5G NR

- a) Set the RBW = 1 - 1.5 % 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.
- b) Set the RBW = 100 kHz / above 1MHz from the edge of the authorized frequency block/band
- c) Set VBW $\geq 3 \times$ RBW;
- d) Set span $\geq 2 \times$ OBW;
- e) Sweep time = Auto;
- f) Detector = RMS;
- g) Ensure that the number of measurement points $\geq 2 \times$ span/RBW;
- h) Trace mode = Average (100);

NOTE1

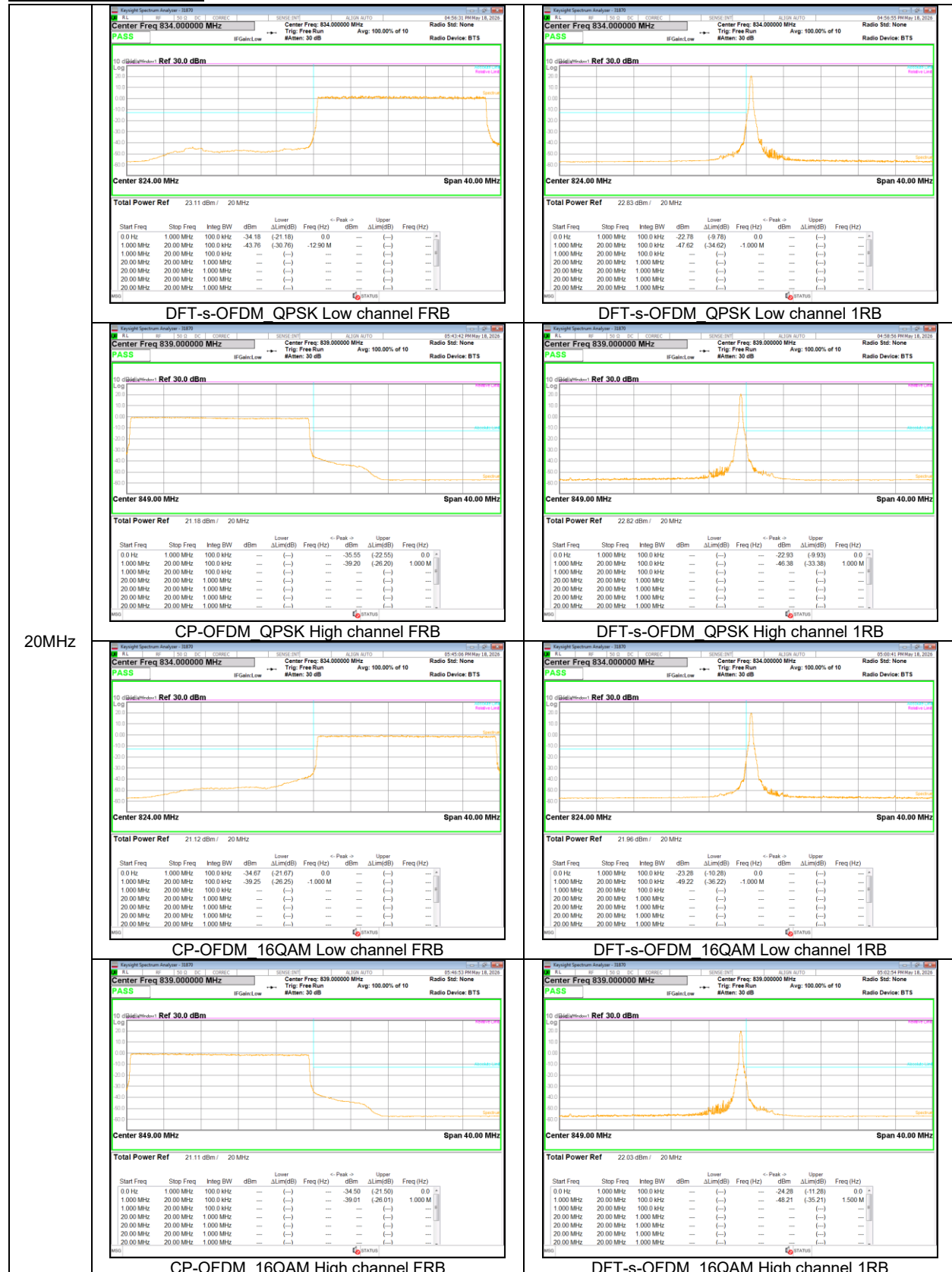
5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

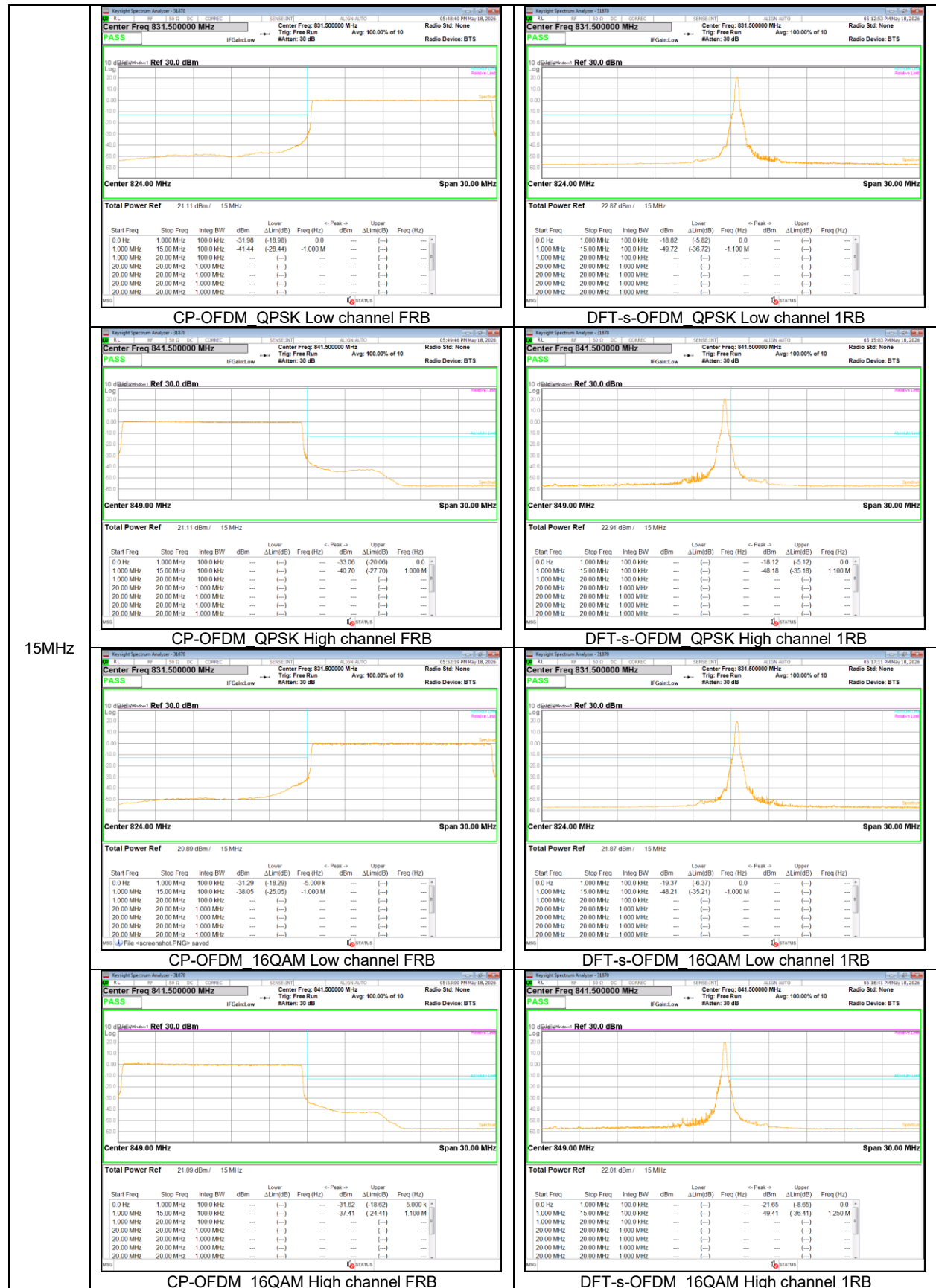
RESULTS

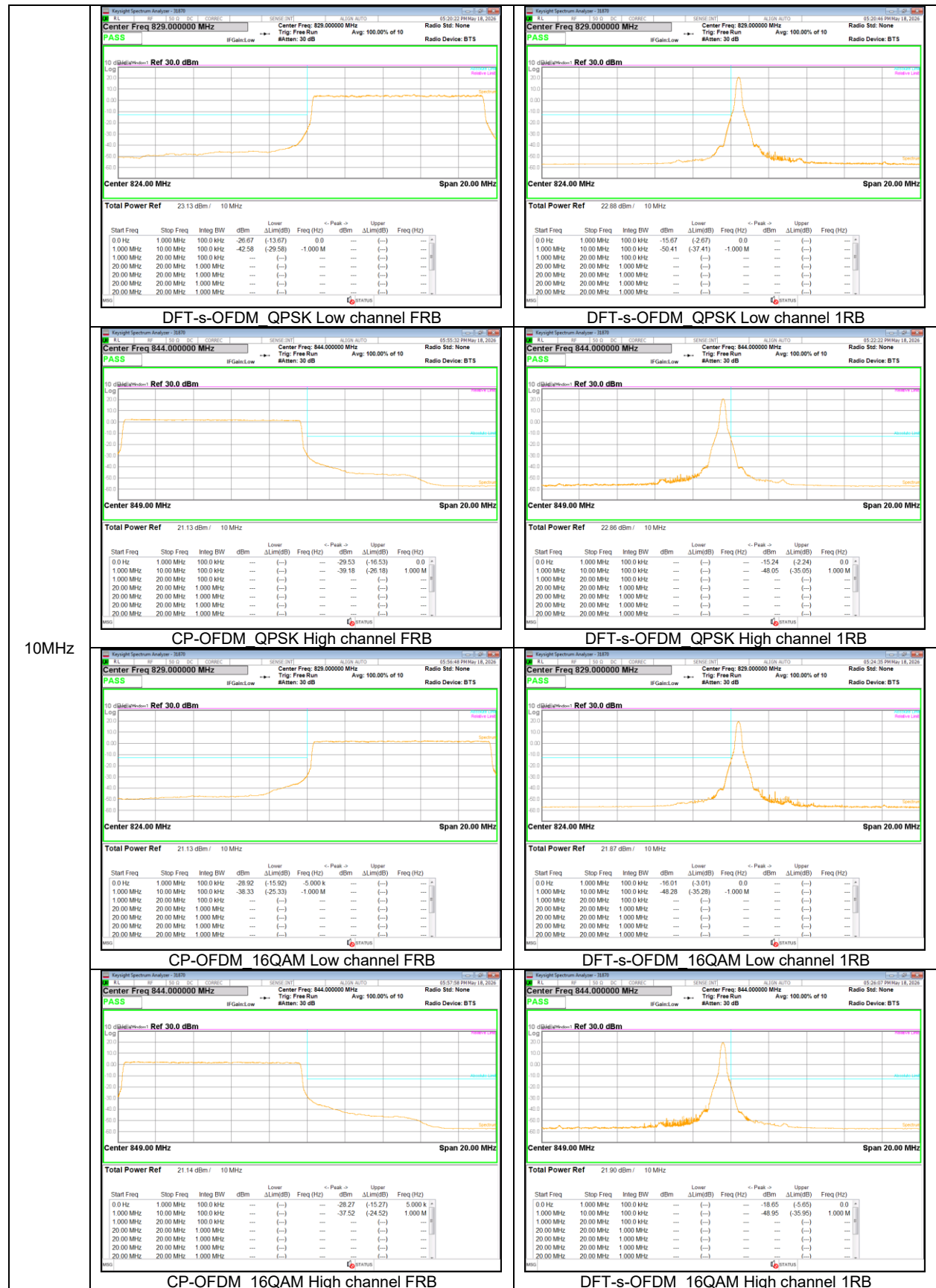
See the following pages.

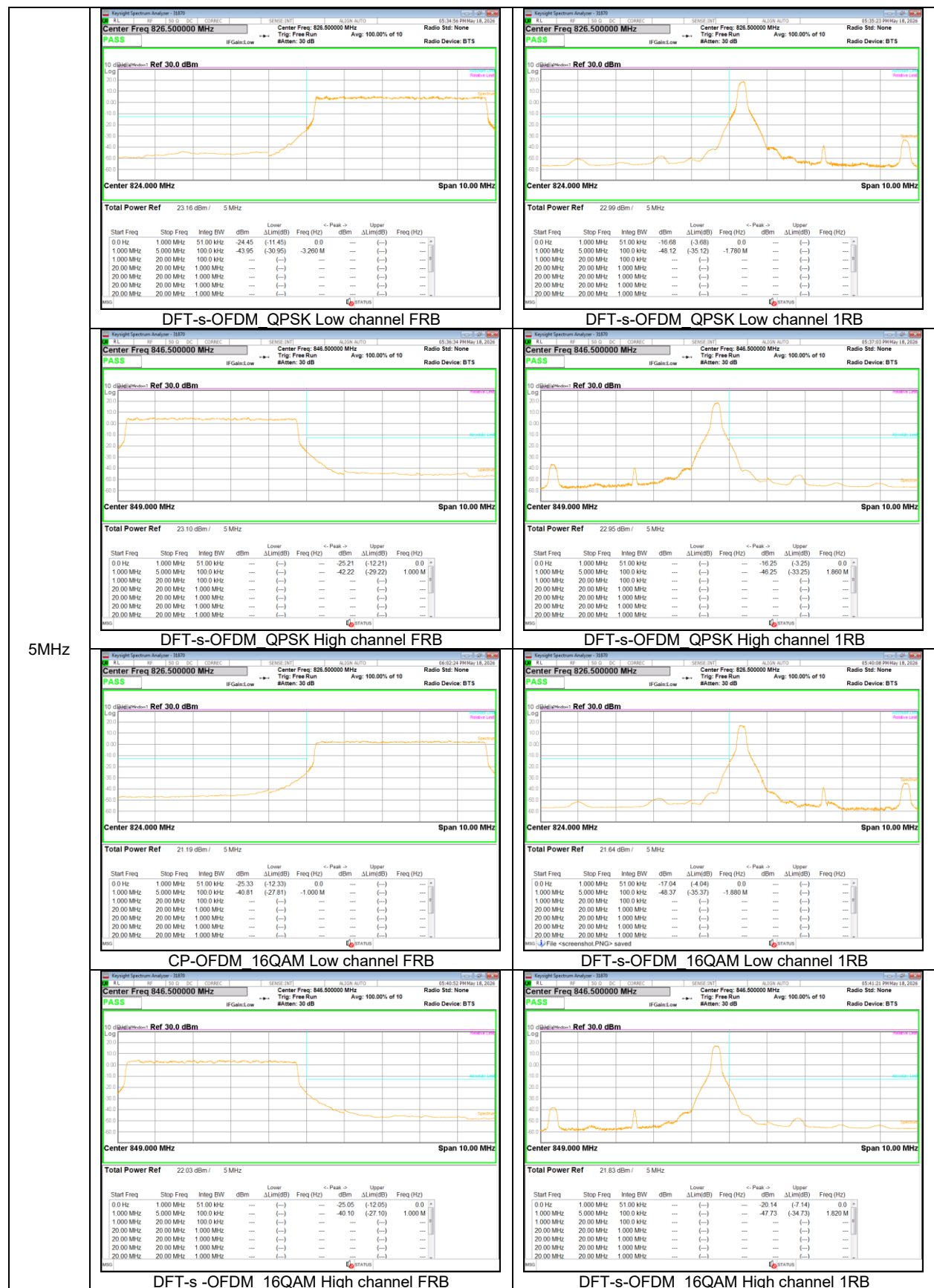
8.4.1. BAND EDGE RESULT

NR Band n5 (ANT A)









8.5. CONDUCTED SPURIOUS EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917

LIMITS

§22.917

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

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

- a) Set the RBW = 100 kHz for emission below 1 GHz
(Tests were performed 1MHz [Worst case], to sweep 1 time for all frequency range)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = auto couple;
- e) Detector = rms;
- f) Ensure that the number of measurement points = Max (40001);
- g) Trace mode = average;

NOTE1

LTE: It was tested at 1RB QPSK as worst case (the highest output power and density).
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

Please refer to section 5.4 for bandwidth and RB setting about LTE, 5G NR bands.

RESULTS

See the following pages.

8.5.1. OUT OF BAND EMISSIONS RESULT

NR Band n5 DFT-s OFDM (ANT A)



8.6. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ± 2.5 ppm for mobile stations.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

NOTE

Test were performed each lowest or highest frequency on the modulation condition of more wide bandwidth.(Please refer to OBW results)

RESULTS

See the following pages.

8.6.1. FREQUENCY STABILITY RESULT

NR Band n5 (Lowest Frequency: 16QAM / Highest Frequency: 16QAM)

Test Date	2026-04-28
Test Engineer	31870

Reference Frequency : Low Channel 826.5 MHz / High Channel 846.5 MHz @ 20°C						
Limit: +- 2.5 ppm =	Low Channel	2066.250	Hz	High Channel	2116.250	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				
		Low Channel		High Channel		Limit [ppm]
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]	
3.89	50	826.50002851	-0.008	846.50003133	-0.010	2.5
3.89	40	826.50002514	-0.004	846.50002851	-0.007	2.5
3.89	30	826.50002333	-0.002	846.50002541	-0.003	2.5
3.89	20	826.50002182	0.000	846.50002297	0.000	2.5
3.89	10	826.50001954	0.003	846.50002129	0.002	2.5
3.89	0	826.50001855	0.004	846.50002013	0.003	2.5
3.89	-10	826.50001637	0.007	846.50001849	0.005	2.5
3.89	-20	826.50001333	0.010	846.50001581	0.008	2.5
3.89	-30	826.50001297	0.011	846.50001463	0.010	2.5
Reference Frequency : Low Channel 826.5 MHz / High Channel 846.5 MHz @ 20°C						
Limit: +- 2.5 ppm =	Low Channel	2066.250	Hz	High Channel	2116.250	Hz
Power Supply [Vdc]	Environment Temperature [°C]	Frequency Deviation Measured with Time Elapse				
		Low Channel		High Channel		Limit [ppm]
		[MHz]	Delta [ppm]	[MHz]	Delta [ppm]	
3.89	20	826.50002182	0	846.50002297	0	2.5
4.45	20	826.50001931	0.003	846.50002122	0.002	2.5
3.70	20	826.50001431	0.009	846.50001584	0.008	2.5

9. RADIATED RESULTS

9.1. RADIATED POWER (ERP)

RULE PART(S)

FCC: §2.1046, §22.913

LIMITS

§22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.17; ESU40 setting reference to 971168 D01 v03r01

For radiated output power measurement with a ESU40:

- a) Set the RBW $\geq 1\%$ to 5% of the OBW;
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span $\geq 2 \times$ to $3 \times$ the OBW.;
- d) Sweep time = auto couple or Set $\geq [10 \times (\text{number of points in sweep}) \times (\text{transmission period})]$ for single sweep (automation-compatible) measurement. Transmission period is the on and off time of the transmitter.;
- e) Detector = rms;
- f) Ensure that the number of measurement points $\geq 2 \times \text{span/RBW}$;
- g) Trace mode = average;
- h) If the EUT can be configured to transmit continuously, then set the trigger to free run.
- i) If the EUT cannot be configured to transmit continuously, then use a sweep trigger with the level set to enable triggering only on full power bursts and configure the EUT to transmit at full power for the entire duration of each sweep. Verify that the sweep time is less than or equal to the transmission burst duration. Time gating can also be used under similar constraints (i.e., configured such that measurement data is collected only during active full-power transmissions).
- j) Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over multiple symbols, it can be necessary to increase the number of traces to be averaged above 100 or, if using a manually configured sweep time, increase the sweep time.
- k) Compute the power by integrating the spectrum across the OBW of the signal using the instrument's band or channel power measurement function, with the band/channel limits set equal to the OBW band edges. If the instrument does not have a band or channel power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

NOTE

LTE, 5G NR : The OBW value corresponding to the total channel bandwidth is the OBW of FullRB. Measurements were made with a 1RB configuration (worst-case) across the entire channel bandwidth, and FRB configurations were reported for the widest BW.

TEST RESULTS

See the following pages.

9.1.1. ERP RESULT

NR Band n5 DFT-s OFDM (ANT A)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (dBm)	Delta (dB)	RB
20	QPSK	834.00	23.32	V	3.02	-0.51	19.79	0.095	38.50	-18.71	1 / 52
		836.50	23.13	V	3.02	-0.50	19.60	0.091	38.50	-18.90	1 / 52
		839.00	22.72	V	3.03	-0.49	19.20	0.083	38.50	-19.30	1 / 1
	16-QAM	834.00	22.12	V	3.02	-0.51	18.59	0.072	38.50	-19.91	1 / 52
		836.50	22.29	V	3.02	-0.50	18.76	0.075	38.50	-19.74	1 / 52
		839.00	21.62	V	3.03	-0.49	18.10	0.065	38.50	-20.40	1 / 52
15	QPSK	831.50	23.52	V	3.01	-0.52	19.99	0.100	38.50	-18.51	1 / 77
		836.50	23.26	V	3.02	-0.50	19.74	0.094	38.50	-18.76	1 / 1
		841.50	22.84	V	3.03	-0.48	19.33	0.086	38.50	-19.17	1 / 1
	16-QAM	831.50	22.08	V	3.01	-0.52	18.55	0.072	38.50	-19.95	1 / 77
		836.50	22.42	V	3.02	-0.50	18.90	0.078	38.50	-19.60	1 / 39
		841.50	21.67	V	3.03	-0.48	18.16	0.065	38.50	-20.34	1 / 1
10	QPSK	829.00	23.51	V	3.01	-0.53	19.97	0.099	38.50	-18.53	1 / 25
		836.50	23.34	V	3.02	-0.50	19.82	0.096	38.50	-18.68	1 / 25
		844.00	22.76	V	3.03	-0.47	19.26	0.084	38.50	-19.24	1 / 1
	16-QAM	829.00	22.23	V	3.01	-0.53	18.69	0.074	38.50	-19.81	1 / 49
		836.50	22.49	V	3.02	-0.50	18.97	0.079	38.50	-19.53	1 / 1
		844.00	21.70	V	3.03	-0.47	18.20	0.066	38.50	-20.30	1 / 1
5	QPSK	826.50	23.60	V	3.00	-0.54	20.06	0.101	38.50	-18.44	1 / 1
		836.50	23.42	V	3.02	-0.50	19.90	0.098	38.50	-18.60	1 / 1
		846.50	22.76	V	3.04	-0.46	19.26	0.084	38.50	-19.24	1 / 1
	16-QAM	826.50	22.43	V	3.00	-0.54	18.89	0.077	38.50	-19.61	1 / 1
		836.50	22.62	V	3.02	-0.50	19.10	0.081	38.50	-19.40	1 / 1
		846.50	21.81	V	3.04	-0.46	18.31	0.068	38.50	-20.19	1 / 1
20	QPSK	834.00	22.55	V	3.02	-0.51	19.02	0.080	38.50	-19.48	100/0
		836.50	22.27	V	3.02	-0.50	18.74	0.075	38.50	-19.76	100/0
		839.00	21.78	V	3.03	-0.49	18.26	0.067	38.50	-20.24	100/0
	16-QAM	834.00	21.31	V	3.02	-0.51	17.78	0.060	38.50	-20.72	100/0
		836.50	21.54	V	3.02	-0.50	18.01	0.063	38.50	-20.49	100/0
		839.00	20.76	V	3.03	-0.49	17.24	0.053	38.50	-21.26	100/0

NR Band n5 DFT-s OFDM (ANT D)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (dBm)	Delta (dB)	RB
20	QPSK	834.00	22.68	V	3.02	-0.51	19.15	0.082	38.50	-19.35	1 / 52
		836.50	22.77	V	3.02	-0.50	19.24	0.084	38.50	-19.26	1 / 104
		839.00	22.97	V	3.03	-0.49	19.45	0.088	38.50	-19.05	1 / 104
	16-QAM	834.00	21.66	V	3.02	-0.51	18.13	0.065	38.50	-20.37	1 / 52
		836.50	21.79	V	3.02	-0.50	18.26	0.067	38.50	-20.24	1 / 104
		839.00	21.96	V	3.03	-0.49	18.44	0.070	38.50	-20.06	1 / 1
15	QPSK	831.50	22.77	V	3.01	-0.52	19.24	0.084	38.50	-19.26	1 / 77
		836.50	22.68	V	3.02	-0.50	19.16	0.082	38.50	-19.34	1 / 39
		841.50	22.92	V	3.03	-0.48	19.41	0.087	38.50	-19.09	1 / 1
	16-QAM	831.50	21.84	V	3.01	-0.52	18.31	0.068	38.50	-20.19	1 / 77
		836.50	21.53	V	3.02	-0.50	18.01	0.063	38.50	-20.49	1 / 77
		841.50	21.78	V	3.03	-0.48	18.27	0.067	38.50	-20.23	1 / 1
10	QPSK	829.00	22.83	V	3.01	-0.53	19.29	0.085	38.50	-19.21	1 / 50
		836.50	22.74	V	3.02	-0.50	19.22	0.084	38.50	-19.28	1 / 25
		844.00	22.95	V	3.03	-0.47	19.45	0.088	38.50	-19.05	1 / 1
	16-QAM	829.00	21.69	V	3.01	-0.53	18.15	0.065	38.50	-20.35	1 / 50
		836.50	21.84	V	3.02	-0.50	18.32	0.068	38.50	-20.18	1 / 50
		844.00	21.81	V	3.03	-0.47	18.31	0.068	38.50	-20.19	1 / 1
5	QPSK	826.50	22.84	V	3.00	-0.54	19.30	0.085	38.50	-19.20	1 / 1
		836.50	22.92	V	3.02	-0.50	19.40	0.087	38.50	-19.10	1 / 1
		846.50	22.99	V	3.04	-0.46	19.49	0.089	38.50	-19.01	1 / 1
	16-QAM	826.50	21.78	V	3.00	-0.54	18.24	0.067	38.50	-20.26	1 / 12
		836.50	21.69	V	3.02	-0.50	18.17	0.066	38.50	-20.33	1 / 12
		846.50	21.88	V	3.04	-0.46	18.38	0.069	38.50	-20.12	1 / 12
20	QPSK	834.00	21.46	V	3.02	-0.51	17.93	0.062	38.50	-20.57	100/0
		836.50	21.48	V	3.02	-0.50	17.95	0.062	38.50	-20.55	100/0
		839.00	21.89	V	3.03	-0.49	18.37	0.069	38.50	-20.13	100/0
	16-QAM	834.00	20.33	V	3.02	-0.51	16.80	0.048	38.50	-21.70	100/0
		836.50	20.31	V	3.02	-0.50	16.78	0.048	38.50	-21.72	100/0
		839.00	20.49	V	3.03	-0.49	16.97	0.050	38.50	-21.53	100/0

NR Band n5 DFT-s OFDM (ANT A+B)

BW (MHz)	Modulation	Frequency (MHz)	SG reading (dBm)	Ant. Pol. (H/V)	Cable Loss (dB)	Antenna Gain (dBi)	ERP (dBm)	ERP (W)	Limit (dBm)	Delta (dB)	RB
20	QPSK	834.00	25.81	V	3.02	-0.51	22.28	0.169	38.50	-16.22	1 / 52
		836.50	25.59	V	3.02	-0.50	22.06	0.161	38.50	-16.44	1 / 52
		839.00	25.70	V	3.03	-0.49	22.18	0.165	38.50	-16.32	1 / 1
	16-QAM	834.00	24.36	V	3.02	-0.51	20.83	0.121	38.50	-17.67	1 / 52
		836.50	24.17	V	3.02	-0.50	20.64	0.116	38.50	-17.86	1 / 52
		839.00	24.33	V	3.03	-0.49	20.81	0.121	38.50	-17.69	1 / 52
15	QPSK	831.50	26.01	V	3.01	-0.52	22.48	0.177	38.50	-16.02	1 / 77
		836.50	25.72	V	3.02	-0.50	22.20	0.166	38.50	-16.30	1 / 1
		841.50	25.82	V	3.03	-0.48	22.31	0.170	38.50	-16.19	1 / 1
	16-QAM	831.50	24.32	V	3.01	-0.52	20.79	0.120	38.50	-17.71	1 / 77
		836.50	24.30	V	3.02	-0.50	20.78	0.120	38.50	-17.72	1 / 39
		841.50	24.38	V	3.03	-0.48	20.87	0.122	38.50	-17.63	1 / 1
10	QPSK	829.00	26.00	V	3.01	-0.53	22.46	0.176	38.50	-16.04	1 / 25
		836.50	25.80	V	3.02	-0.50	22.28	0.169	38.50	-16.22	1 / 25
		844.00	25.74	V	3.03	-0.47	22.24	0.167	38.50	-16.26	1 / 1
	16-QAM	829.00	24.47	V	3.01	-0.53	20.93	0.124	38.50	-17.57	1 / 49
		836.50	24.37	V	3.02	-0.50	20.85	0.122	38.50	-17.65	1 / 1
		844.00	24.41	V	3.03	-0.47	20.91	0.123	38.50	-17.59	1 / 1
5	QPSK	826.50	26.09	V	3.00	-0.54	22.55	0.180	38.50	-15.95	1 / 1
		836.50	25.88	V	3.02	-0.50	22.36	0.172	38.50	-16.14	1 / 1
		846.50	25.74	V	3.04	-0.46	22.24	0.167	38.50	-16.26	1 / 1
	16-QAM	826.50	24.67	V	3.00	-0.54	21.13	0.130	38.50	-17.37	1 / 1
		836.50	24.50	V	3.02	-0.50	20.98	0.125	38.50	-17.52	1 / 1
		846.50	24.52	V	3.04	-0.46	21.02	0.126	38.50	-17.48	1 / 1
20	QPSK	834.00	25.04	V	3.02	-0.51	21.51	0.142	38.50	-16.99	100/0
		836.50	24.73	V	3.02	-0.50	21.20	0.132	38.50	-17.30	100/0
		839.00	24.76	V	3.03	-0.49	21.24	0.133	38.50	-17.26	100/0
	16-QAM	834.00	23.55	V	3.02	-0.51	20.02	0.100	38.50	-18.48	100/0
		836.50	23.42	V	3.02	-0.50	19.89	0.097	38.50	-18.61	100/0
		839.00	23.47	V	3.03	-0.49	19.95	0.099	38.50	-18.55	100/0

9.2. RADIATED SPURIOUS EMISSION

RULE PART(S)

FCC: §2.1053, §22.917

LIMIT

§22.917

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

TEST PROCEDURE

ANSI / TIA / EIA 603 E Clause 2.2.12; ESU40 setting reference to 971168 D01 v03r01

For peak power measurement with a ESU40:

- a) Set the RBW = 100 kHz for emission below 1 GHz and 1 MHz for emissions above 1 GHz.
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = auto couple;
- e) Detector = rms;
- f) Ensure that the number of measurement points $\geq 2 \times$ span/RBW;
- g) Trace mode = average(LTE, 5G NR);

NOTE1

LTE: It was tested at 1RB QPSK as worst case (the highest output power and density).

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

Please refer to section 5.4 for bandwidth and RB setting about LTE, 5G NR bands.

RESULTS

See the following pages.

9.2.1. SPURIOUS RADIATION RESULT

NR Band n5 DFT-s OFDM

5 MHz DFT-s-OFDM QPSK ANT A	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4792147620									
	Date: 2026-04-28									
	Test Engineer: 27089									
	Configuration: EUT / AC Adapter, Y-Position, FF									
	Location: Chamber 2									
	Mode: 5G NR_QPSK NR n5 Harmonics, 5MHz Bandwidth									
	Test Votage: AC 120 V, 60 Hz									
	f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	AFCL (dB/m)	Conversion Factor(dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 826.5MHz									
	1653.00	-73.9	V	3.0	-6.4	11.74	-68.6	-13.0	-55.6	
	2479.50	-74.8	V	3.0	-1.7	11.74	-64.8	-13.0	-51.8	
	3306.00	-76.5	V	3.0	-0.2	11.74	-65.0	-13.0	-52.0	NF
	4132.50	-77.1	V	3.0	1.7	11.74	-63.6	-13.0	-50.6	NF
	Mid Ch, 836.5MHz									
	1673.00	-74.3	V	3.0	-6.3	11.74	-68.9	-13.0	-55.9	
	2509.50	-74.7	V	3.0	-1.6	11.74	-64.6	-13.0	-51.6	
	3346.00	-76.9	V	3.0	0.1	11.74	-65.1	-13.0	-52.1	NF
4182.50	-77.0	V	3.0	1.7	11.74	-63.6	-13.0	-50.6	NF	
1673.00	-74.4	H	3.0	-6.3	11.74	-69.0	-13.0	-56.0		
2509.50	-75.1	H	3.0	-1.6	11.74	-65.0	-13.0	-52.0		
3346.00	-76.9	H	3.0	0.1	11.74	-65.1	-13.0	-52.1	NF	
4182.50	-77.2	H	3.0	1.7	11.74	-63.7	-13.0	-50.7	NF	
High Ch, 846.5MHz										
1693.00	-74.2	V	3.0	-6.2	11.74	-68.7	-13.0	-55.7		
2539.50	-75.2	V	3.0	-1.6	11.74	-65.0	-13.0	-52.0		
3386.00	-76.8	V	3.0	0.3	11.74	-64.7	-13.0	-51.7	NF	
4232.50	-77.3	V	3.0	1.7	11.74	-63.9	-13.0	-50.9	NF	
NF : Noise Floor										

5 MHz DFT-s-OFDM QPSK ANT D	UL Verification Services, Inc. Above 1GHz High Frequency Substitution Measurement									
	Company: Samsung									
	Project #: 4792147620									
	Date: 2026-05-04									
	Test Engineer: 28775									
	Configuration: EUT / Z-Position, FF									
	Location: Chamber 2									
	Mode: 5G NR_QPSK NR n5 Harmonics, 5MHz Bandwidth									
	Test Votage: AC 120 V, 60 Hz									
	f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	AFCL (dB/m)	Conversion Factor(dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
	Low Ch, 826.5MHz									
	1653.00	-74.4	H	3.0	-6.4	11.74	-69.1	-13.0	-56.1	
	2479.50	-75.3	H	3.0	-1.7	11.74	-65.3	-13.0	-52.3	
	3306.00	-75.8	H	3.0	-0.2	11.74	-64.2	-13.0	-51.2	NF
	4132.50	-77.2	H	3.0	1.7	11.74	-63.7	-13.0	-50.7	NF
	Mid Ch, 836.5MHz									
	1673.00	-74.6	V	3.0	-6.3	11.74	-69.1	-13.0	-56.1	NF
	2509.50	-74.5	V	3.0	-1.6	11.74	-64.4	-13.0	-51.4	
	3346.00	-76.7	V	3.0	0.1	11.74	-64.9	-13.0	-51.9	NF
4182.50	-77.1	V	3.0	1.7	11.74	-63.6	-13.0	-50.6	NF	
1673.00	-74.4	H	3.0	-6.3	11.74	-69.0	-13.0	-56.0	NF	
2509.50	-74.1	H	3.0	-1.6	11.74	-64.0	-13.0	-51.0		
3346.00	-76.6	H	3.0	0.1	11.74	-64.7	-13.0	-51.7	NF	
4182.50	-77.0	H	3.0	1.7	11.74	-63.5	-13.0	-50.5	NF	
High Ch, 846.5MHz										
1693.00	-74.6	H	3.0	-6.2	11.74	-69.0	-13.0	-56.0	NF	
2539.50	-75.0	H	3.0	-1.6	11.74	-64.8	-13.0	-51.8		
3386.00	-76.9	H	3.0	0.3	11.74	-64.8	-13.0	-51.8	NF	
4232.50	-77.1	H	3.0	1.7	11.74	-63.7	-13.0	-50.7	NF	
NF : Noise Floor										

5 MHz

DFT-s-OFDM

QPSK

ANT A+B

Company:

Project #:

Date:

Test Engineer:

Configuration:

Location:

Mode:

Test Votage:

Samsung

4792147620

2026-04-24

26087

EUT / AC Adapter, X-Position, Open Chamber 1

5G NR_QPSK NR n5 Harmonics, 5MHz Bandwidth

AC 120 V, 60 Hz

UL Verification Services, Inc.

Above 1GHz High Frequency Substitution Measurement

f MHz	SA reading (dBm)	Ant. Pol. (H/V)	Distance (m)	AFCL (dB/m)	Conversion Factor(dB)	EIRP (dBm)	Limit (dBm)	Delta (dB)	Notes
Low Ch, 826.5MHz									
1653.00	-71.6	H	3.0	-7.2	11.74	-67.1	-13.0	-54.1	
2479.50	-75.0	H	3.0	-2.6	11.74	-65.9	-13.0	-52.9	
3306.00	-75.7	H	3.0	-1.0	11.74	-65.0	-13.0	-52.0	NF
4132.50	-75.3	H	3.0	0.6	11.74	-63.0	-13.0	-50.0	NF
Mid Ch, 836.5MHz									
1673.00	-70.2	V	3.0	-7.1	11.74	-65.5	-13.0	-52.5	
2509.50	-74.9	V	3.0	-2.5	11.74	-65.7	-13.0	-52.7	
3346.00	-75.5	V	3.0	-0.9	11.74	-64.7	-13.0	-51.7	NF
4182.50	-75.8	V	3.0	0.5	11.74	-63.5	-13.0	-50.5	NF
1673.00	-69.2	H	3.0	-7.1	11.74	-64.6	-13.0	-51.6	
2509.50	-74.9	H	3.0	-2.5	11.74	-65.6	-13.0	-52.6	
3346.00	-75.7	H	3.0	-0.9	11.74	-64.8	-13.0	-51.8	NF
4182.50	-75.8	H	3.0	0.5	11.74	-63.6	-13.0	-50.6	NF
High Ch, 846.5MHz									
1693.00	-72.2	H	3.0	-7.0	11.74	-67.5	-13.0	-54.5	
2539.50	-74.6	H	3.0	-2.5	11.74	-65.3	-13.0	-52.3	
3386.00	-75.8	H	3.0	-0.7	11.74	-64.8	-13.0	-51.8	NF
4232.50	-75.5	H	3.0	0.7	11.74	-63.1	-13.0	-50.1	NF
NF : Noise Floor									

END OF REPORT