

CERTIFICATION TEST REPORT

Report Number. : S-4792147575-E2V2

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

Model : SM-F971U, SM-F971U1

FCC ID : A3LSMF971U

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

Test Standard(s) : FCC 47 CFR PART 22 SUBPART H
FCC 47 CFR PART 90 SUBPART R,S

Date Of Issue:
2026-04-28

Prepared by:
UL KOREA LTD.
26th floor, 152, Teheran-ro, Gangnam-gu Seoul, 06236, Korea

Suwon Test Site: UL KOREA LTD. Suwon Laboratory
218 Maeyeong-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16675, Korea
TEL: (031) 337-9902
FAX: (031) 213-5433

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
V1	2026-04-22	Initial issue	Hyegyeong Eom
V2	2026-04-28	Updated to address TCB's question	Hyegyeong Eom

TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY	6
4.1. MEASURING INSTRUMENT CALIBRATION.....	6
4.2. SAMPLE CALCULATION.....	6
4.3. MEASUREMENT UNCERTAINTY	6
4.4. DECISION RULE	6
5. EQUIPMENT UNDER TEST	7
5.1. DESCRIPTION OF EUT.....	7
5.2. MAXIMUM OUTPUT POWER.....	7
5.3. DESCRIPTION OF AVAILABLE ANTENNAS	16
5.4. WORST-CASE ORIENTATION.....	17
5.5. DESCRIPTION OF TEST SETUP.....	23
6. TEST AND MEASUREMENT EQUIPMENT	25
7. SUMMARY TABLE	26
8. CONDUCTED RESULTS	27
8.1. CONDUCTED OUTPUT POWER	27
8.1.1. CONDUCTED AVERAGE OUTPUT POWER	28
8.2. PEAK TO AVERAGE RATIO.....	44
8.2.1. CONDUCTED PEAK TO AVERAGE RESULT	45
8.3. OCCUPIED BANDWIDTH.....	68
8.3.1. OCCUPIED BANDWIDTH RESULT	72
8.4. BAND EDGE EMISSIONS	88
8.4.1. BAND EDGE RESULT.....	91
8.4.2. EMISSION MASK RESULT	119
8.5. CONDUCTED SPURIOUS EMISSIONS	144
8.5.1. OUT OF BAND EMISSIONS RESULT	146
8.6. FREQUENCY STABILITY.....	155
8.6.1. FREQUENCY STABILITY RESULT	156
9. RADIATED RESULTS.....	159
9.1. RADIATED POWER (ERP)	159
9.1.1. ERP RESULT	161
9.2. RADIATED SPURIOUS EMISSION	170
9.2.1. SPURIOUS RADIATION RESULT	172

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, UWB and NB NTN

MODEL NUMBER: SM-F971U, SM-F971U1

SERIAL NUMBER: 9ac255adee507ece, 9ac30a91404d7ece, 9ac30a91824d7ece, 9ac30a90044d7ece, 9bc22e08ee4f7ece, 9bb3df7c2c4f7ece (CONDUCTED); R3GL10KMCMT, R3GL20D3TMF, R3GL20D3TNY, R3GL20D3P4X, R3GL10KMF3N (RADIATED)

DATE TESTED: 2026-02-24 – 2026-04-28

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H, 90R, S	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
UL KOREA LTD.

Hyegyeong Eom
Suwon Lab Engineer
UL KOREA LTD.

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. FCC 47 CFR Part 90.
4. ANSI TIA-603-E, 2016
5. ANSI C63.26, 2015
6. KDB 971168 D01 Power Meas License Digital Systems v03r01
7. KDB 971168 D02 Misc Rev Approv License Devices v02r02
8. 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, UWB and NB NTN . This test report addresses the WWAN Operational mode.

Representative model	Comparison Criteria	Derivative model
		SM-F971U1
SM-F971U	Hardware	Identical
	Software	UI modified according to Service Provider specifications

The SM-F971U 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 ERP output powers as follows:

GSM

FCC Part 22								
Band	Frequency Range [MHz]	Modulation	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]
GSM 850	824.20 - 848.80	GPRS	32.75	1.884	27.05	0.507	32.02	1.592
		EGPRS	27.24	0.530	22.30	0.170	27.06	0.508
FCC Part 22								
Band	Frequency Range [MHz]	Modulation	Conducted Power (ANT D)		ERP (ANT D)			
			Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
GSM 850	824.20 - 848.80	GPRS	32.33	1.710	29.19	0.830		
		EGPRS	26.89	0.489	24.36	0.273		

WCDMA

FCC Part 22								
Band	Frequency Range [MHz]	Modulation	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]
Band 5	826.40 - 846.60	Rel. 99	24.64	0.291	18.87	0.077	22.92	0.196
		HSDPA	23.64	0.231	17.17	0.052	21.88	0.154
FCC Part 22								
Band	Frequency Range [MHz]	Modulation	Conducted Power (ANT D)		ERP (ANT D)			
			Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
Band 5	826.40 - 846.60	Rel. 99	23.72	0.236	20.38	0.109		
		HSDPA	22.78	0.190	19.27	0.085		

LTE Band 14

FCC Part 90									
Band	Frequency Range	BandWidth	Modulation	Conducted Power (ANT A)		ERP (ANT A)		ERP (ANT A+B)	
	[MHz]	[MHz]		Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 14	793.00	10	QPSK	24.95	0.313	18.94	0.078	21.16	0.131
			16QAM	23.97	0.249	17.76	0.060	20.40	0.110
			64QAM	23.05	0.202				
			256QAM	20.00	0.100				
	790.50 - 795.50	5	QPSK	25.15	0.327	19.02	0.080	21.03	0.127
			16QAM	24.12	0.258	18.04	0.064	20.42	0.110
			64QAM	23.05	0.202				
			256QAM	20.02	0.100				
FCC Part 90									
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted Power (ANT D)		ERP (ANT D)			
				Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
Band 14	793.00	10	QPSK	24.16	0.261	18.18	0.066		
			16QAM	23.28	0.213	17.35	0.054		
			64QAM	22.72	0.187				
			256QAM	19.51	0.089				
	790.50 - 795.50	5	QPSK	24.39	0.275	18.25	0.067		
			16QAM	23.51	0.224	17.60	0.058		
			64QAM	22.30	0.170				
			256QAM	19.80	0.095				

LTE Band 26 (Part 90)

FCC Part 90									
Band	Frequency Range	BandWidth	Modulation	Conducted Power (ANT A)		ERP (ANT A)		ERP (ANT A+B)	
	[MHz]	[MHz]		Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 26	821.50	15	QPSK	24.68	0.294	17.83	0.061	22.20	0.166
			16QAM	24.01	0.252	16.98	0.050	21.25	0.133
			64QAM	23.08	0.203				
			256QAM	20.01	0.100				
	819.00	10	QPSK	24.67	0.293	17.82	0.061	22.19	0.166
			16QAM	24.31	0.270	17.28	0.053	21.55	0.143
			64QAM	23.20	0.209				
			256QAM	20.08	0.102				
	816.50 - 821.50	5	QPSK	24.74	0.298	17.83	0.061	22.20	0.166
			16QAM	24.09	0.256	17.06	0.051	21.33	0.136
			64QAM	23.14	0.206				
			256QAM	20.34	0.108				
	815.50 - 822.50	3	QPSK	24.76	0.299	17.91	0.062	22.28	0.169
			16QAM	24.12	0.258	17.09	0.051	21.36	0.137
			64QAM	23.11	0.205				
			256QAM	20.03	0.101				
	814.70 - 823.30	1.4	QPSK	24.70	0.295	17.85	0.061	22.22	0.167
			16QAM	24.18	0.262	17.15	0.052	21.42	0.139
			64QAM	23.06	0.202				
			256QAM	19.99	0.100				
FCC Part 90									
Band	Frequency Range	BandWidth	Modulation	Conducted Power (ANT D)		ERP (ANT D)			
				Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
Band 26	821.50	15	QPSK	24.22	0.264	19.78	0.095		
			16QAM	23.54	0.226	18.90	0.078		
			64QAM	22.66	0.185				
			256QAM	19.59	0.091				
	819.00	10	QPSK	24.30	0.269	19.86	0.097		
			16QAM	23.57	0.228	18.93	0.078		
			64QAM	22.65	0.184				
			256QAM	19.53	0.090				
	816.50 - 821.50	5	QPSK	24.44	0.278	20.00	0.100		
			16QAM	23.84	0.242	19.50	0.089		
			64QAM	22.75	0.188				
			256QAM	19.58	0.091				
	815.50 - 822.50	3	QPSK	24.36	0.273	19.95	0.099		
			16QAM	23.90	0.245	19.44	0.088		
			64QAM	22.67	0.185				
			256QAM	19.70	0.093				
	814.70 - 823.30	1.4	QPSK	24.28	0.268	19.91	0.098		
			16QAM	23.75	0.237	19.41	0.087		
			64QAM	22.61	0.182				
			256QAM	19.72	0.094				

LTE Band 26 (Straddle)

Straddle									
Band	Frequency Range	BandWidth	Modulation	Conducted Power (ANT A)		ERP (ANT A)		ERP (ANT A+B)	
	[MHz]	[MHz]		Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 26	824.00	15	QPSK	24.65	0.292	16.89	0.049	21.62	0.145
			16QAM	24.20	0.263	16.16	0.041	20.77	0.119
			64QAM	23.05	0.202				
			256QAM	19.99	0.100				
		10	QPSK	24.71	0.296	16.95	0.050	21.68	0.147
			16QAM	24.31	0.270	16.27	0.042	20.88	0.122
			64QAM	23.12	0.205				
			256QAM	20.01	0.100				
		5	QPSK	24.64	0.291	16.88	0.049	21.61	0.145
			16QAM	24.00	0.251	15.96	0.039	20.57	0.114
			64QAM	23.07	0.203				
			256QAM	19.99	0.100				
		3	QPSK	24.61	0.289	16.85	0.048	21.58	0.144
			16QAM	23.96	0.249	15.92	0.039	20.53	0.113
			64QAM	23.11	0.205				
			256QAM	19.99	0.100				
		1.4	QPSK	24.59	0.288	16.83	0.048	21.56	0.143
			16QAM	23.93	0.247	15.89	0.039	20.50	0.112
			64QAM	23.13	0.206				
			256QAM	19.91	0.098				
Straddle									
Band	Frequency Range	BandWidth	Modulation	Conducted Power (ANT D)		ERP (ANT D)			
	[MHz]	[MHz]		Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
Band 26	824.00	15	QPSK	24.23	0.265	19.86	0.097		
			16QAM	23.61	0.230	19.27	0.085		
			64QAM	22.47	0.177				
			256QAM	19.37	0.086				
		10	QPSK	24.42	0.277	20.05	0.101		
			16QAM	23.42	0.220	19.08	0.081		
			64QAM	22.38	0.173				
			256QAM	19.47	0.089				
		5	QPSK	24.28	0.268	19.91	0.098		
			16QAM	23.90	0.245	19.56	0.090		
			64QAM	22.56	0.180				
			256QAM	19.39	0.087				
		3	QPSK	24.19	0.262	19.82	0.096		
			16QAM	23.86	0.243	19.52	0.090		
			64QAM	22.59	0.182				
			256QAM	19.42	0.087				
		1.4	QPSK	24.13	0.259	19.76	0.095		
			16QAM	23.67	0.233	19.33	0.086		
			64QAM	22.58	0.181				
			256QAM	19.33	0.086				

LTE Band 26 (Part 22)

FCC Part 22									
Band	Frequency Range	BandWidth	Modulation	Conducted Power (ANT A)		ERP (ANT A)		ERP (ANT A+B)	
	[MHz]	[MHz]		Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 26	831.50 - 841.50	15	QPSK	24.74	0.298	18.84	0.077	22.25	0.168
			16QAM	24.22	0.264	17.87	0.061	21.36	0.137
			64QAM	23.06	0.202				
			256QAM	19.97	0.099				
	829.00 - 844.00	10	QPSK	24.64	0.291	18.97	0.079	22.16	0.164
			16QAM	24.31	0.270	17.82	0.061	21.45	0.140
			64QAM	23.15	0.207				
			256QAM	20.12	0.103				
	826.50 - 846.50	5	QPSK	24.60	0.288	18.88	0.077	22.12	0.163
			16QAM	24.01	0.252	17.73	0.059	21.17	0.131
			64QAM	23.10	0.204				
			256QAM	19.95	0.099				
	825.50 - 847.50	3	QPSK	24.69	0.294	19.04	0.080	22.10	0.162
			16QAM	24.05	0.254	17.69	0.059	21.19	0.132
			64QAM	23.10	0.204				
			256QAM	19.98	0.100				
	824.70 - 848.30	1.4	QPSK	24.66	0.292	18.92	0.078	22.18	0.165
			16QAM	24.05	0.254	17.74	0.059	21.19	0.132
			64QAM	23.07	0.203				
			256QAM	20.01	0.100				
FCC Part 22									
Band	Frequency Range	BandWidth	Modulation	Conducted Power (ANT D)		ERP (ANT D)			
				Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
Band 26	831.50 - 841.50	15	QPSK	24.27	0.267	20.51	0.112		
			16QAM	23.65	0.232	19.67	0.093		
			64QAM	22.57	0.181				
			256QAM	19.37	0.086				
	829.00 - 844.00	10	QPSK	24.33	0.271	20.57	0.114		
			16QAM	23.54	0.226	19.65	0.092		
			64QAM	22.45	0.176				
			256QAM	19.44	0.088				
	826.50 - 846.50	5	QPSK	24.25	0.266	20.49	0.112		
			16QAM	23.85	0.243	19.96	0.099		
			64QAM	22.45	0.176				
			256QAM	19.53	0.090				
	825.50 - 847.50	3	QPSK	24.29	0.269	20.53	0.113		
			16QAM	23.85	0.243	19.99	0.100		
			64QAM	22.60	0.182				
			256QAM	19.49	0.089				
	824.70 - 848.30	1.4	QPSK	24.16	0.261	20.37	0.109		
			16QAM	23.45	0.221	19.58	0.091		
			64QAM	22.55	0.180				
			256QAM	19.48	0.089				

NR Band n14

FCC Part 90												
Band	Frequency Range	BandWidth	Modulation	Mode	Conducted Power (ANT A)		ERP (ANT A)		ERP (ANT A+B)			
	[MHz]	[MHz]			Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
n14	793.00	10	DFT-s OFDM	π/2 BPSK	24.27	0.267						
				QPSK	24.31	0.270	19.11	0.082	21.04	0.127		
				16QAM	23.11	0.205	17.86	0.061	20.01	0.100		
				64QAM	21.74	0.149						
				256QAM	19.11	0.081						
			CP-OFDM	QPSK	22.53	0.179						
				16QAM	22.00	0.158						
				64QAM	20.44	0.111						
				256QAM	17.47	0.056						
				π/2 BPSK	24.31	0.270						
	790.50 - 795.50	5	DFT-s OFDM	QPSK	24.35	0.272	19.38	0.087	21.03	0.127		
				16QAM	23.23	0.210	18.17	0.066	20.11	0.103		
				64QAM	21.89	0.155						
				256QAM	19.21	0.083						
				CP-OFDM	QPSK	22.87	0.194					
FCC Part 90												
Band			Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power (ANT D)		ERP (ANT D)			
							Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
n14	793.00	10	DFT-s OFDM	π/2 BPSK	23.39	0.218						
				QPSK	23.32	0.215	18.19	0.066				
				16QAM	22.23	0.167	17.58	0.057				
				64QAM	20.94	0.124						
				256QAM	18.21	0.066						
			CP-OFDM	QPSK	21.74	0.149						
				16QAM	21.29	0.135						
				64QAM	19.47	0.089						
				256QAM	16.95	0.050						
				790.50 - 795.50	5	DFT-s OFDM	π/2 BPSK	23.49	0.223			
	QPSK	23.51	0.224				18.41	0.069				
	16QAM	22.30	0.170				17.52	0.056				
	64QAM	21.04	0.127									
	256QAM	18.36	0.069									
	CP-OFDM	QPSK	21.98			0.158						

NR Band n26 (Part 90)

FCC Part 90										
Band	Frequency Range	BandWidth	Modulation	Mode	Conducted Power (ANT A)		ERP (ANT A)		ERP (ANT A+B)	
	[MHz]	[MHz]			Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
n26	821.50	15	DFT-s OFDM	π/2 BPSK	24.38	0.274				
				QPSK	24.39	0.275	17.97	0.063	22.21	0.166
				16QAM	23.39	0.218	17.09	0.051	21.53	0.142
				64QAM	22.05	0.160				
				256QAM	20.05	0.101				
			CP-OFDM	QPSK	22.91	0.195				
	819.00	10	DFT-s OFDM	π/2 BPSK	24.41	0.276				
				QPSK	24.38	0.274	17.96	0.063	22.20	0.166
				16QAM	23.35	0.216	17.05	0.051	21.49	0.141
				64QAM	21.86	0.153				
				256QAM	19.69	0.093				
			CP-OFDM	QPSK	23.06	0.202				
	816.50 - 821.50	5	DFT-s OFDM	π/2 BPSK	24.50	0.282				
				QPSK	24.51	0.282	18.09	0.064	22.33	0.171
				16QAM	23.38	0.218	17.08	0.051	21.52	0.142
				64QAM	22.00	0.158				
				256QAM	19.92	0.098				
			CP-OFDM	QPSK	23.07	0.203				
FCC Part 90										
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power (ANT D)		ERP (ANT D)			
					Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
n26	821.50	15	DFT-s OFDM	π/2 BPSK	23.66	0.232				
				QPSK	23.65	0.232	19.27	0.085		
				16QAM	22.48	0.177	17.92	0.062		
				64QAM	20.64	0.116				
				256QAM	19.15	0.082				
			CP-OFDM	QPSK	22.20	0.166				
	819.00	10	DFT-s OFDM	π/2 BPSK	23.60	0.229				
				QPSK	23.61	0.230	19.23	0.084		
				16QAM	22.42	0.175	17.86	0.061		
				64QAM	20.78	0.120				
				256QAM	18.87	0.077				
			CP-OFDM	QPSK	22.27	0.169				
	816.50 - 821.50	5	DFT-s OFDM	π/2 BPSK	23.74	0.237				
				QPSK	23.78	0.239	19.40	0.087		
				16QAM	22.75	0.188	18.19	0.066		
				64QAM	22.47	0.177				
				256QAM	21.02	0.126				
			CP-OFDM	QPSK	18.98	0.079				

NR Band n26 (Straddle)

Straddle										
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]
n26	824.00	20	DFT-s OFDM	$\pi/2$ BPSK	23.68	0.233				
				QPSK	23.88	0.244	17.46	0.056	21.70	0.148
				16QAM	22.56	0.180	16.26	0.042	20.70	0.117
				64QAM	21.40	0.138				
			CP-OFDM	256QAM	19.42	0.087				
				QPSK	22.11	0.163				
				16QAM	21.67	0.147				
				64QAM	20.30	0.107				
		15	DFT-s OFDM	256QAM	17.28	0.053				
				$\pi/2$ BPSK	24.37	0.274				
				QPSK	24.29	0.269	17.87	0.061	22.11	0.163
				16QAM	23.08	0.203	16.78	0.048	21.22	0.132
			CP-OFDM	64QAM	21.73	0.149				
				256QAM	19.70	0.093				
				QPSK	22.97	0.198				
				$\pi/2$ BPSK	24.40	0.275				
		10	DFT-s OFDM	QPSK	24.46	0.279	18.04	0.064	22.28	0.169
				16QAM	23.22	0.210	16.92	0.049	21.36	0.137
				64QAM	21.75	0.150				
				256QAM	19.59	0.091				
			CP-OFDM	QPSK	22.97	0.198				
				$\pi/2$ BPSK	24.35	0.272				
				QPSK	24.38	0.274	17.96	0.063	22.20	0.166
				16QAM	23.12	0.205	16.82	0.048	21.26	0.134
		5	DFT-s OFDM	64QAM	21.83	0.152				
				256QAM	19.70	0.093				
				QPSK	22.97	0.198				
				CP-OFDM	QPSK	22.97	0.198			

Straddle										
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power (ANT D)		ERP (ANT D)			
					Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
n26	824.00	20	DFT-s OFDM	$\pi/2$ BPSK	23.73	0.236				
				QPSK	23.75	0.237	19.37	0.086		
				16QAM	22.56	0.180	18.00	0.063		
				64QAM	20.92	0.124				
			CP-OFDM	256QAM	19.08	0.081				
				QPSK	22.14	0.164				
				16QAM	21.71	0.148				
				64QAM	20.01	0.100				
		15	DFT-s OFDM	256QAM	17.09	0.051				
				$\pi/2$ BPSK	23.60	0.229				
				QPSK	23.62	0.230	19.24	0.084		
				16QAM	22.39	0.173	17.83	0.061		
			CP-OFDM	64QAM	20.98	0.125				
				256QAM	18.84	0.077				
				QPSK	22.30	0.170				
		10	DFT-s OFDM	QPSK	23.72	0.236				
				QPSK	23.70	0.234	19.24	0.084		
				16QAM	22.64	0.184	18.08	0.064		
				64QAM	20.95	0.124				
			CP-OFDM	256QAM	18.67	0.074				
				QPSK	22.33	0.171				
		5	DFT-s OFDM	$\pi/2$ BPSK	23.58	0.228				
				QPSK	23.69	0.234	19.31	0.085		
				16QAM	22.46	0.176	17.90	0.062		
				64QAM	22.33	0.171				
			CP-OFDM	256QAM	20.91	0.123				
				QPSK	18.76	0.075				

NR Band n26 (Part 22)

FCC Part 22												
Band	Frequency Range	BandWidth	Modulation	Mode	Conducted Power (ANT A)		ERP (ANT A)		ERP (ANT A+B)			
	[MHz]	[MHz]			Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]		
n26	834.00 - 839.00	20	DFT-s OFDM	π/2 BPSK	24.34	0.272						
				QPSK	24.25	0.266	18.63	0.073	21.54	0.143		
				16QAM	23.06	0.202	17.61	0.058	20.75	0.119		
				64QAM	22.02	0.159						
			256QAM	19.98	0.100							
			CP-OFDM	QPSK	22.75	0.188						
				16QAM	22.31	0.170						
				64QAM	21.02	0.126						
	256QAM	18.13		0.065								
	831.50 - 841.50	15	DFT-s OFDM	π/2 BPSK	24.34	0.272						
				QPSK	24.28	0.268	18.60	0.072	21.51	0.142		
				16QAM	22.99	0.199	17.62	0.058	20.76	0.119		
				64QAM	21.79	0.151						
			256QAM	19.78	0.095							
			CP-OFDM	QPSK	22.82	0.191						
				π/2 BPSK	24.30	0.269						
			829.00 - 844.00	10	DFT-s OFDM	QPSK	24.34	0.272	18.68	0.074	21.59	0.144
	16QAM	23.19				0.208	17.84	0.061	20.98	0.125		
	64QAM	21.74				0.149						
	256QAM	19.68				0.093						
	CP-OFDM	QPSK			22.84	0.192						
		π/2 BPSK			24.36	0.273						
	826.50 - 846.50	5			DFT-s OFDM	QPSK	24.38	0.274	18.77	0.075	21.68	0.147
						16QAM	23.20	0.209	17.89	0.062	21.03	0.127
			64QAM	21.78		0.151						
			256QAM	19.81		0.096						
			CP-OFDM	QPSK	22.89	0.195						

FCC Part 22												
Band	Frequency Range	BandWidth	Modulation	Mode	Conducted Power (ANT D)		ERP (ANT D)					
	[MHz]	[MHz]			Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]				
n26	834.00 - 839.00	20	DFT-s OFDM	π/2 BPSK	23.63	0.231						
				QPSK	23.65	0.232	20.38	0.109				
				16QAM	22.47	0.177	19.33	0.086				
				64QAM	20.72	0.118						
			256QAM	19.17	0.083							
			CP-OFDM	QPSK	22.11	0.163						
				16QAM	21.63	0.146						
				64QAM	19.56	0.090						
	256QAM	17.19		0.052								
	831.50 - 841.50	15	DFT-s OFDM	π/2 BPSK	23.67	0.233						
				QPSK	23.67	0.233	20.42	0.110				
				16QAM	22.34	0.171	19.22	0.084				
				64QAM	20.74	0.119						
			256QAM	18.89	0.077							
			CP-OFDM	QPSK	22.23	0.167						
				π/2 BPSK	23.71	0.235						
			829.00 - 844.00	10	DFT-s OFDM	QPSK	23.72	0.236	20.52	0.113		
	16QAM	22.49				0.177	19.37	0.086				
	64QAM	20.86				0.122						
	256QAM	18.71				0.074						
	CP-OFDM	QPSK			22.40	0.174						
		π/2 BPSK			23.64	0.231						
	826.50 - 846.50	5			DFT-s OFDM	QPSK	23.71	0.235	20.54	0.113		
						16QAM	22.68	0.185	19.56	0.090		
			64QAM	22.41		0.174						
			256QAM	20.97		0.125						
			CP-OFDM	QPSK	18.78	0.076						

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)
GSM850 / WCDMA Band 5 / LTE Band 5 / NR Band n5 824 - 849 MHz	A	-4.0
	D	-3.9
	A+B	-4.0
LTE Band 26 / NR Band n26 814 - 849 MHz	A	-4.0
	D	-3.8
	A+B	-4.0
LTE Band 14 / NR Band n14 788 - 798 MHz	A	-4.0
	D	-5.6
	A+B	-4.0

5.4. WORST-CASE ORIENTATION

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

- **GSM GPRS/EGPRS**
The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on GPRS and EGPRS modulations. It was found GPRS results were worst case.
- **UMTS REL 99/HSDPA**
The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on REL 99 and HSDPA modulations. It was found REL 99 results were worst case.
- **LTE Bands**
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 and 256QAM modulations. It was found QPSK and 16QAM results were worst case.
- 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
GSM 850, WCDMA B5, LTE B5, B14, B26	AFS (Adaptive Frame Switching) / ASDiv (Antenna Switching Diversity)

- The RF port of GSM 850, WCDMA B5 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'.
- The RF port of LTE B14, LTE B26 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)
GSM 850	<u>A</u>	<u>33.5</u>	D	33.5
WCDMA B5	<u>A</u>	<u>25.3</u>	D	25.3
LTE B14	<u>A</u>	<u>25.5</u>	D	25.0
LTE B26	<u>A</u>	<u>25.5</u>	D	25.0

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

LTE Band 5 (ANT A, D)

LTE Band 5 (Frequency range: 824-849 MHz) is covered by LTE Band 26 (Frequency range: 814-849 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

- 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	LTE B2/4/30/48/66	<u>Stand Alone</u>
n14	-	<u>Stand Alone</u>
n26	-	<u>Stand Alone</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, n14, n26	AFS (Adaptive Frame Switching) / ASDiv (Antenna Switching Diversity)

- The RF port of NR n14, n26 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 n14	<u>A</u>	<u>25.0</u>	D	25.0
NR n26	<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

NR Band n5 (ANT A, D)

NR Band n5 (Frequency range: 824-849 MHz) is covered by NR Band n26 (Frequency range: 814-849 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

● Conducted Spurious Emission

Highest conducted output power setting for each bands						
LTE Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
14	A	790.50	5	QPSK	1	12
		793.00			1	12
		795.50			1	12
26	A	815.50	3	QPSK	1	14
		822.50			1	8
		824.00	10		1	25
		831.50	15		1	37
		836.50			1	74
		841.50			1	37
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
14	A	790.50	5	DFT-s OFDM QPSK	1	1
		793.00			1	1
		795.50			1	1
26	A	816.50	5	DFT-s OFDM QPSK	1	12
		821.50			1	1
		824.00	10		1	1
		826.50	5		1	1
		831.50			1	1
		846.50			1	1

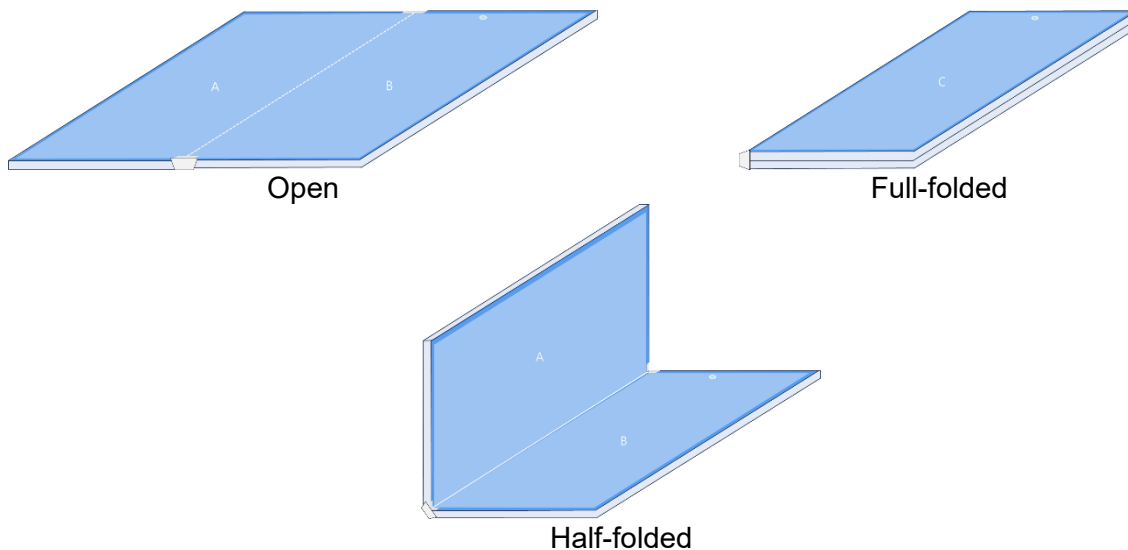
● Radiated Spurious Emission

Highest ERP setting for each bands						
LTE Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
14	A	790.50	5	QPSK	1	12
		793.00			1	12
		795.50			1	12
	D	790.50	5	QPSK	1	12
		793.00			1	0
		795.50			1	0
	A+B	793.00	10	QPSK	1	0
26	A	815.50	3	QPSK	1	14
		822.50			1	8
		824.00	10		1	25
		825.50	3		1	0
		836.50			1	8
		847.50			1	8
	D	816.50	5	QPSK	1	0
		821.50			1	0
		824.00	10	QPSK	1	0
		829.00	10	QPSK	1	0
		836.50			1	0
		844.00			1	0
	A+B	815.50	3	QPSK	1	14
		822.50			1	8
		824.00	10		1	25
		831.50	15		1	37
		836.50			1	74
		841.50			1	37

NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
14	A	790.50	5	DFT-s OFDM QPSK	1	1
		793.00			1	1
		795.50			1	1
	D	790.50	5	DFT-s OFDM QPSK	1	1
		793.00			1	1
		795.50			1	1
	A+B	793.00	10	DFT-s OFDM QPSK	1	1
26	A	816.50	5	DFT-s OFDM QPSK	1	12
		821.50			1	1
		824.00	10		1	1
		826.50	5		1	1
		836.50			1	1
		846.50			1	1
	D	816.50	5	DFT-s OFDM QPSK	1	1
		821.50			1	12
		824.00	20		1	1
		826.50	5		1	12
		836.50			1	1
		846.50			1	23
	A+B	816.50	5	DFT-s OFDM QPSK	1	12
		821.50			1	1
		824.00	10		1	1
		826.50	5		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
GSM 850	A	-	-	Full-folded	-	Full-folded	-
	D	-	-	Open	Open	-	-
	A+B	-	-	Open	Open	-	-
WCDMA B5	A	-	-	Full-folded	Full-folded	-	-
	D	-	-	Open	Half-folded	-	-
	A+B	-	-	Open	-	Open	-
LTE B14	A	-	-	Full-folded	-	Full-folded	-
	D	Open	-	-	Open	-	-
	A+B	Open	-	-	Open	-	-
LTE B26	A	-	-	Full-folded	-	Full-folded	-
	D	-	-	Open	Open	-	-
	A+B	-	-	Open	Full-folded	-	-
NR n14	A	-	-	Full-folded	-	Full-folded	-
	D	Open	-	-	Open	-	-
	A+B	Open	-	-	-	-	Open
NR n26	A	-	-	Full-folded	Full-folded	-	-
	D	-	-	Open	Open	-	-
	A+B	-	-	Open	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.

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

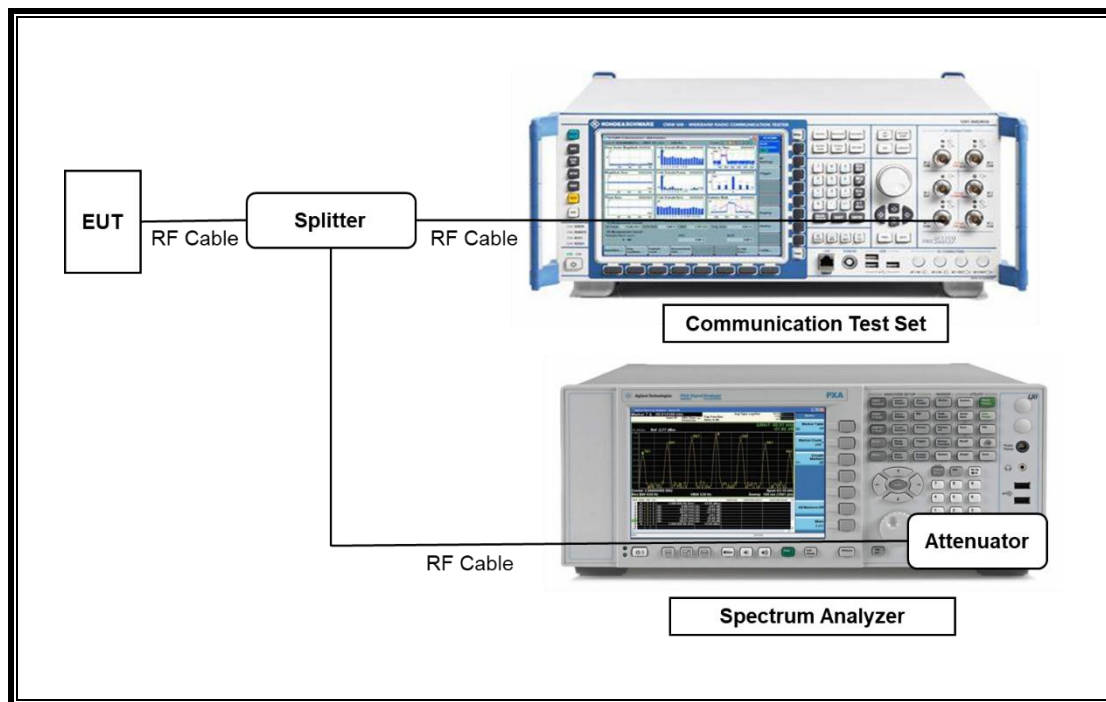
I/O CABLE

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

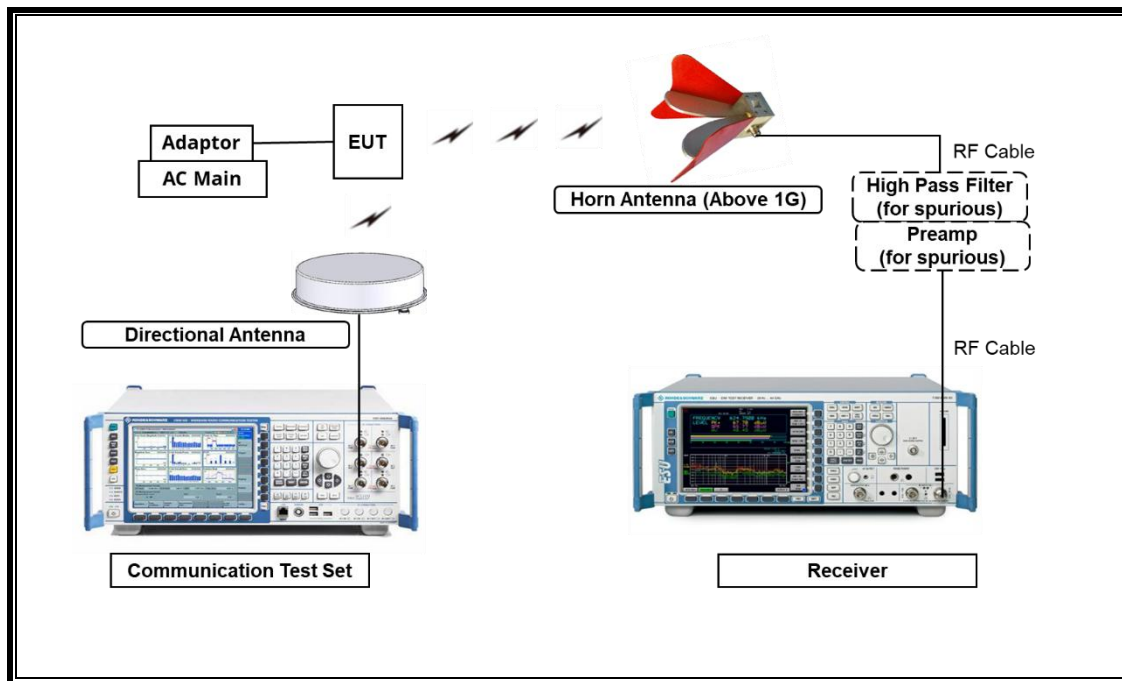
TEST SETUP

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

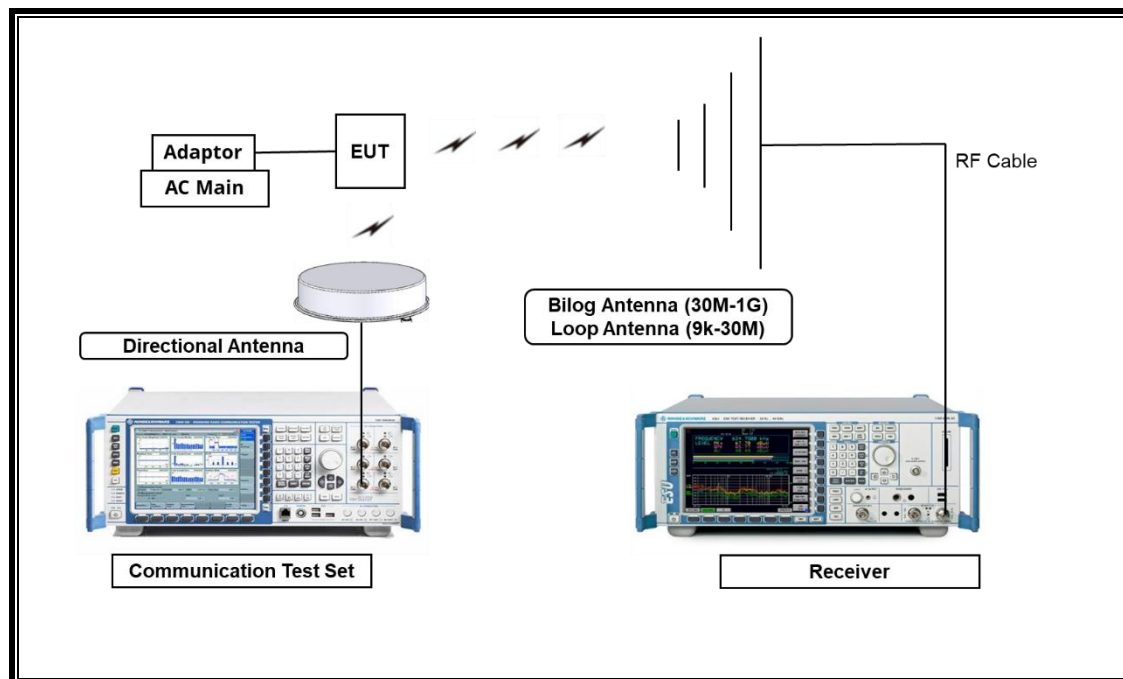
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



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
90.635(b)		50 dBm		Complies
2.1049	Occupied Bandwidth (99%)	N/A		Complies
22.917(a), 90.543(c)	Conducted Band Edge / Conducted Spurious Emission	-13 dBm		Complies
90.543(e)		-35 dBm		
90.691	Emission Mask	Section 8.4.2		Complies
22.355 90.213	Frequency Stability	2.5 ppm		Complies
22.913(a)(5)	Effective Radiated Power	38.5 dBm	Radiated	Complies
90.542(a)(7)		34.77 dBm		
90.635(b)		50 dBm		
22.917(a) 90.543(c) 90.691(a)	Radiated Spurious Emission	-13 dBm		Complies
90.543(f)		-40 dBm		Complies

8. CONDUCTED RESULTS

8.1. CONDUCTED OUTPUT POWER

RULE PART

FCC: §90.635

LIMIT

§90.635

(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

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.

Per KDB 971168 D02 Misc Rev Approv License Devices v02r02

(c) For EMC and radio parameter purposes in equipment authorizations, Part 90 Subpart S and Part 22 Subpart H individually differ mainly by the output power limit quantity (Section 90.635(b)) conducted, Section 22.913(a) ERP) and the unwanted emissions limits (Sections 90.691, 22.917).

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

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

GSM (ANT A)

Mode	Coding Scheme	Time Slots	Burst Pwr	Frame Pwr
GSM (Voice)	CS1	1	32.20	23.01
			32.36	23.17
			32.75	23.56
GPRS (GMSK)	CS1	1	32.19	23.00
			32.24	23.05
			32.59	23.40
		2	31.69	25.11
			31.43	25.25
			31.47	25.29
		3	29.39	24.97
			29.52	25.10
			29.45	25.03
		4	27.50	24.33
			27.84	24.67
			27.84	24.67
EGPRS (8PSK)	MCS5	1	26.52	17.33
			27.24	18.05
			27.18	17.99
		2	24.84	18.66
			24.87	18.69
			24.89	18.71
		3	22.81	18.39
			22.94	18.52
			22.85	18.43
		4	21.80	18.63
			22.03	18.86
			22.22	19.05

GSM (ANT D)

Mode	Coding Scheme	Time Slots	Burst Pwr	Frame Pwr
GSM (Voice)	CS1	1	32.22	23.03
			32.24	23.05
			32.30	23.11
GPRS (GMSK)	CS1	1	32.30	23.11
			32.33	23.14
			32.25	23.06
		2	30.08	23.90
			30.16	23.98
			30.20	24.02
		3	28.55	24.13
			28.64	24.22
			28.65	24.23
		4	26.75	23.58
			26.85	23.68
			26.79	23.62
EGPRS (8PSK)	MCS5	1	26.24	17.05
			26.71	17.52
			26.89	17.70
		2	24.82	18.64
			24.65	18.47
			24.80	18.62
		3	22.65	18.23
			22.75	18.33
			22.81	18.39
		4	21.60	18.43
			21.72	18.55
			21.77	18.60

WCDMA B5 (ANT A)

Mode		UL Ch No.	Freq. (MHz)	Measured Pwr
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	24.64
		4183	836.6	24.52
		4233	846.6	24.51
HSDPA	Subtest 1	4132	826.4	23.64
		4183	836.6	23.53
		4233	846.6	23.51
	Subtest 2	4132	826.4	23.64
		4183	836.6	23.55
		4233	846.6	23.48
	Subtest 3	4132	826.4	23.16
		4183	836.6	23.03
		4233	846.6	23.02
	Subtest 4	4132	826.4	23.18
		4183	836.6	22.98
		4233	846.6	23.03
HSUPA	Subtest 1	4132	826.4	23.65
		4183	836.6	23.47
		4233	846.6	23.53
	Subtest 2	4132	826.4	21.63
		4183	836.6	21.53
		4233	846.6	21.51
	Subtest 3	4132	826.4	22.60
		4183	836.6	22.54
		4233	846.6	22.53
	Subtest 4	4132	826.4	21.64
		4183	836.6	21.53
		4233	846.6	21.50
	Subtest 5	4132	826.4	23.20
		4183	836.6	23.09
		4233	846.6	23.07
DC-HSDPA	Subtest 1	4132	826.4	23.64
		4183	836.6	23.52
		4233	846.6	23.52
	Subtest 2	4132	826.4	23.69
		4183	836.6	23.51
		4233	846.6	23.51
	Subtest 3	4132	826.4	23.13
		4183	836.6	23.03
		4233	846.6	23.02
	Subtest 4	4132	826.4	23.14
		4183	836.6	23.01
		4233	846.6	23.02

WCDMA B5 (ANT D)

Mode		UL Ch No.	Freq. (MHz)	Measured Pwr
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	23.66
		4183	836.6	23.64
		4233	846.6	23.72
HSDPA	Subtest 1	4132	826.4	22.78
		4183	836.6	22.68
		4233	846.6	22.71
	Subtest 2	4132	826.4	22.72
		4183	836.6	22.68
		4233	846.6	22.69
	Subtest 3	4132	826.4	22.29
		4183	836.6	22.15
		4233	846.6	22.18
	Subtest 4	4132	826.4	22.27
		4183	836.6	22.13
		4233	846.6	22.24
HSUPA	Subtest 1	4132	826.4	22.77
		4183	836.6	22.69
		4233	846.6	22.77
	Subtest 2	4132	826.4	20.77
		4183	836.6	20.69
		4233	846.6	20.75
	Subtest 3	4132	826.4	21.79
		4183	836.6	21.70
		4233	846.6	21.77
	Subtest 4	4132	826.4	20.79
		4183	836.6	20.69
		4233	846.6	20.76
	Subtest 5	4132	826.4	22.32
		4183	836.6	22.27
		4233	846.6	22.32
DC-HSDPA	Subtest 1	4132	826.4	22.79
		4183	836.6	22.70
		4233	846.6	22.74
	Subtest 2	4132	826.4	22.78
		4183	836.6	22.71
		4233	846.6	22.74
	Subtest 3	4132	826.4	22.30
		4183	836.6	22.19
		4233	846.6	22.23
	Subtest 4	4132	826.4	22.32
		4183	836.6	22.20
		4233	846.6	22.23

LTE Band 14 (ANT A)

BW (MHz)	Mode	RB Allocation	RB offset		23330	
					793.00 MHz	
10 MHz	QPSK	1	0		24.95	
		1	25		24.60	
		1	49		24.46	
		50	0		23.68	
	16QAM	1	0		23.94	
		1	25		23.97	
		1	49		23.41	
		50	0		22.53	
	64QAM	1	0		23.05	
		1	25		22.60	
		1	49		22.97	
		50	0		21.63	
	256QAM	1	0		20.00	
		1	25		19.79	
		1	49		19.69	
		50	0		19.86	
BW (MHz)	Mode	RB Allocation	RB offset	23305	23330	23355
				790.50 MHz	793.00 MHz	795.50 MHz
5 MHz	QPSK	1	0	24.72	24.64	24.59
		1	12	24.96	25.15	24.69
		1	24	24.70	24.64	24.41
		25	0	23.76	23.66	23.61
	16QAM	1	0	23.72	23.22	23.80
		1	12	23.99	23.65	24.00
		1	24	24.06	23.58	24.12
		25	0	22.75	22.62	22.64
	64QAM	1	0	22.67	22.57	22.38
		1	12	23.05	22.53	22.54
		1	24	22.72	22.79	22.60
		25	0	21.79	21.61	21.72
	256QAM	1	0	19.63	20.02	19.85
		1	12	19.88	19.87	19.84
		1	24	19.92	19.63	19.34
		25	0	19.83	19.59	19.73

LTE Band 14 (ANT D)

BW (MHz)	Mode	RB Allocation	RB offset		23330	
					793.00 MHz	
10 MHz	QPSK	1	0		24.16	
		1	25		24.00	
		1	49		23.45	
		50	0		23.05	
	16QAM	1	0		23.19	
		1	25		23.28	
		1	49		22.75	
		50	0		22.02	
	64QAM	1	0		22.39	
		1	25		22.72	
		1	49		21.55	
		50	0		21.13	
	256QAM	1	0		19.21	
		1	25		19.51	
		1	49		18.29	
		50	0		19.10	
BW (MHz)	Mode	RB Allocation	RB offset	23305	23330	23355
				790.50 MHz	793.00 MHz	795.50 MHz
5 MHz	QPSK	1	0	24.24	24.09	23.89
		1	12	24.39	23.97	23.69
		1	24	24.33	23.28	23.34
		25	0	23.22	23.08	22.96
	16QAM	1	0	22.89	23.39	23.32
		1	12	23.51	23.21	22.43
		1	24	22.94	22.57	22.84
		25	0	22.10	22.05	21.95
	64QAM	1	0	22.20	22.20	22.10
		1	12	22.17	22.30	21.82
		1	24	22.04	21.41	21.43
		25	0	21.16	20.85	21.12
	256QAM	1	0	19.22	19.02	18.83
		1	12	19.80	19.07	18.54
		1	24	18.69	18.49	18.00
		25	0	19.14	19.16	18.99

LTE Band 26 (ANT A)

BW (MHz)	Mode	RB Allocation	RB offset	26765		26790	26865	26915	26965
				821.50 MHz		824.00 MHz	831.50 MHz	836.50 MHz	841.50 MHz
15 MHz	QPSK	1	0	24.68		24.65	24.48	24.45	24.36
		1	37	24.35		24.48	24.57	24.26	24.49
		1	74	24.60		24.64	24.38	24.74	24.34
		75	0	23.62		23.56	23.56	23.54	23.59
	16QAM	1	0	24.01		24.06	24.04	24.15	24.02
		1	37	23.97		24.20	24.22	24.15	24.13
		1	74	23.91		24.15	24.09	24.14	24.02
		75	0	22.69		22.63	22.60	22.64	22.66
	64QAM	1	0	22.92		23.03	23.00	23.05	23.06
		1	37	23.08		23.05	22.81	23.01	23.01
		1	74	22.75		23.02	23.01	23.05	22.83
		75	0	21.69		21.63	21.62	21.64	21.64
	256QAM	1	0	20.01		19.99	19.89	19.85	19.97
		1	37	20.01		19.99	19.97	19.90	19.88
		1	74	19.97		19.78	19.68	19.71	19.61
		75	0	19.66		19.62	19.56	19.65	19.61
BW (MHz)	Mode	RB Allocation	RB offset	26740		26790	26840	26915	26990
				819.00 MHz		824.00 MHz	829.00 MHz	836.50 MHz	844.00 MHz
10 MHz	QPSK	1	0	24.62		24.57	24.64	24.64	24.56
		1	25	24.59		24.71	24.64	24.47	24.62
		1	49	24.67		24.49	24.38	24.44	24.62
		50	0	23.66		23.65	23.60	23.59	23.55
	16QAM	1	0	24.15		24.11	24.07	24.11	24.07
		1	25	24.31		24.05	24.01	23.96	24.08
		1	49	23.95		24.31	24.31	24.20	23.99
		50	0	22.65		22.69	22.57	22.61	22.60
	64QAM	1	0	23.20		23.12	22.69	22.71	23.02
		1	25	23.14		23.04	22.96	22.81	23.03
		1	49	23.15		22.86	23.15	22.74	22.62
		50	0	21.70		21.68	21.60	21.64	21.57
	256QAM	1	0	20.08		19.83	19.65	19.68	19.92
		1	25	19.87		20.01	20.02	20.12	19.90
		1	49	19.91		19.90	19.69	19.83	20.02
		50	0	19.72		19.68	19.64	19.62	19.56
BW (MHz)	Mode	RB Allocation	RB offset	26715	26765	26790	26815	26915	27015
				816.50 MHz	821.50 MHz	824.00 MHz	826.50 MHz	836.50 MHz	846.50 MHz
5 MHz	QPSK	1	0	24.67	24.74	24.60	24.60	24.50	24.53
		1	12	24.68	24.57	24.63	24.46	24.56	24.51
		1	24	24.58	24.42	24.64	24.46	24.58	24.53
		25	0	23.66	23.63	23.63	23.62	23.61	23.61
	16QAM	1	0	24.09	23.81	23.92	23.95	24.01	23.81
		1	12	24.03	24.00	23.82	23.99	23.88	23.94
		1	24	23.82	23.91	24.00	23.83	23.81	23.99
		25	0	22.69	22.73	22.59	22.61	22.64	22.60
	64QAM	1	0	23.14	22.72	22.80	23.08	22.85	22.94
		1	12	22.90	23.10	23.07	23.10	22.81	22.89
		1	24	22.98	23.01	22.75	22.86	22.83	22.96
		25	0	21.68	21.70	21.69	21.68	21.57	21.62
	256QAM	1	0	19.71	19.94	19.79	19.89	19.80	19.73
		1	12	20.11	20.34	19.99	19.82	19.95	19.93
		1	24	20.10	19.89	19.99	19.77	19.77	19.78
		25	0	19.70	19.65	19.64	19.65	19.65	19.65

BW (MHz)	Mode	RB Allocation	RB offset	26705 815.50 MHz	26775 822.50 MHz	26790 824.00 MHz	26805 825.50 MHz	26915 836.50 MHz	27025 847.50 MHz
3 MHz	QPSK	1	0	24.67	24.58	24.61	24.58	24.54	24.54
		1	8	24.72	24.62	24.55	24.55	24.57	24.69
		1	14	24.76	24.53	24.50	24.55	24.51	24.54
		15	0	23.69	23.63	23.60	23.66	23.61	23.66
	16QAM	1	0	24.12	23.79	23.89	24.05	23.95	23.72
		1	8	24.10	24.04	23.96	23.86	23.83	23.95
		1	14	24.00	23.98	23.92	23.87	23.91	23.94
		15	0	22.72	22.67	22.73	22.58	22.65	22.66
	64QAM	1	0	23.06	23.11	22.82	23.10	23.01	22.92
		1	8	23.06	22.78	23.11	23.01	22.75	22.87
		1	14	23.09	22.87	22.94	22.62	22.69	22.74
		15	0	21.74	21.66	21.72	21.72	21.69	21.72
	256QAM	1	0	19.72	19.83	19.89	19.64	19.91	19.80
		1	8	19.97	20.03	19.99	19.83	19.91	19.98
		1	14	19.87	19.76	19.81	19.77	19.76	19.86
		15	0	19.78	19.66	19.63	19.62	19.65	19.65
BW (MHz)	Mode	RB Allocation	RB offset	26697 814.70 MHz	26783 823.30 MHz	26790 824.00 MHz	26797 824.70 MHz	26915 836.50 MHz	27033 848.30 MHz
1.4 MHz	QPSK	1	0	24.68	24.67	24.50	24.66	24.65	24.53
		1	3	24.64	24.62	24.59	24.61	24.63	24.57
		1	5	24.70	24.58	24.55	24.56	24.54	24.49
		6	0	23.29	23.60	23.61	23.60	23.63	23.62
	16QAM	1	0	24.18	23.85	23.77	24.05	23.91	23.89
		1	3	24.02	23.92	23.93	23.95	23.90	23.84
		1	5	24.01	23.91	23.73	24.04	23.61	24.00
		6	0	21.91	22.73	22.72	22.76	22.50	22.61
	64QAM	1	0	22.90	23.06	23.13	23.07	22.97	23.01
		1	3	22.94	22.87	23.07	22.90	22.78	22.94
		1	5	22.80	22.93	23.13	22.93	22.77	22.87
		6	0	21.38	21.59	21.57	21.74	21.64	21.66
	256QAM	1	0	19.94	19.87	19.88	19.77	19.88	19.79
		1	3	19.99	19.83	19.91	20.01	19.72	19.82
		1	5	19.90	19.95	19.80	19.94	19.89	19.86
		6	0	19.27	19.57	19.75	19.56	19.41	19.65

LTE Band 26 (ANT D)

BW (MHz)	Mode	RB Allocation	RB offset	26765		26790	26865	26915	26965
				821.50 MHz		824.00 MHz	831.50 MHz	836.50 MHz	841.50 MHz
15 MHz	QPSK	1	0	24.22		24.23	24.11	24.08	24.16
		1	37	24.13		24.11	24.06	24.23	24.27
		1	74	23.84		24.10	24.03	24.09	24.22
		75	0	23.10		23.16	23.07	23.08	23.09
	16QAM	1	0	23.54		23.61	23.17	23.54	23.27
		1	37	23.45		23.39	23.24	23.65	23.42
		1	74	23.37		23.38	23.32	23.35	23.46
		75	0	22.13		22.22	22.13	22.17	22.15
	64QAM	1	0	22.45		22.47	22.17	22.44	22.33
		1	37	22.66		22.43	22.30	22.48	22.57
		1	74	22.34		22.25	22.32	22.42	22.31
		75	0	21.16		21.22	21.16	21.17	21.14
	256QAM	1	0	19.59		19.35	19.24	19.37	19.35
		1	37	19.44		19.37	19.13	19.34	19.37
		1	74	19.21		19.10	19.11	19.25	19.23
		75	0	19.17		19.19	19.11	19.18	19.14
BW (MHz)	Mode	RB Allocation	RB offset	26740		26790	26840	26915	26990
				819.00 MHz		824.00 MHz	829.00 MHz	836.50 MHz	844.00 MHz
10 MHz	QPSK	1	0	24.30		24.42	24.12	24.08	24.33
		1	25	24.22		24.25	24.11	24.04	24.16
		1	49	24.05		24.22	24.06	24.00	24.14
		50	0	23.28		23.21	23.12	23.11	23.25
	16QAM	1	0	23.57		23.36	23.20	23.33	23.36
		1	25	23.47		23.42	23.24	23.28	23.40
		1	49	23.43		23.32	23.24	23.33	23.54
		50	0	22.29		22.23	22.16	22.12	22.27
	64QAM	1	0	22.39		22.32	22.44	22.45	22.31
		1	25	22.65		22.38	22.36	22.28	22.38
		1	49	22.43		22.32	22.25	22.28	22.31
		50	0	21.28		21.18	21.19	21.13	21.24
	256QAM	1	0	19.53		19.47	19.43	19.31	19.20
		1	25	19.26		19.14	19.22	19.39	19.44
		1	49	19.16		19.34	19.28	19.21	19.34
		50	0	19.25		19.20	19.14	19.14	19.22
BW (MHz)	Mode	RB Allocation	RB offset	26715	26765	26790	26815	26915	27015
				816.50 MHz	821.50 MHz	824.00 MHz	826.50 MHz	836.50 MHz	846.50 MHz
5 MHz	QPSK	1	0	24.44	24.36	24.28	24.21	24.20	24.25
		1	12	24.26	24.33	24.22	24.14	24.04	24.15
		1	24	24.20	24.17	24.17	24.07	24.11	24.12
		25	0	23.23	23.15	23.19	23.13	23.11	23.23
	16QAM	1	0	23.84	23.79	23.90	23.80	23.70	23.85
		1	12	23.69	23.73	23.83	23.62	23.48	23.72
		1	24	23.76	23.84	23.77	23.60	23.61	23.70
		25	0	22.27	22.17	22.26	22.20	22.13	22.26
	64QAM	1	0	22.60	22.49	22.44	22.40	22.24	22.45
		1	12	22.75	22.48	22.56	22.38	22.20	22.36
		1	24	22.53	22.24	22.28	22.41	22.25	22.44
		25	0	21.23	21.18	21.19	21.18	21.13	21.24
	256QAM	1	0	19.55	19.38	19.33	19.45	19.22	19.40
		1	12	19.58	19.43	19.39	19.53	19.30	19.29
		1	24	19.46	19.15	19.33	19.19	19.14	19.30
		25	0	19.27	19.19	19.21	19.18	19.12	19.22

BW (MHz)	Mode	RB Allocation	RB offset	26705	26775	26790	26805	26915	27025
				815.50 MHz	822.50 MHz	824.00 MHz	825.50 MHz	836.50 MHz	847.50 MHz
3 MHz	QPSK	1	0	24.26	24.23	24.16	24.10	24.18	24.14
		1	8	24.36	24.32	24.19	24.19	24.25	24.29
		1	14	24.19	24.14	24.13	24.09	24.10	24.06
		15	0	23.36	23.11	23.14	23.18	23.09	23.16
	16QAM	1	0	23.90	23.78	23.63	23.71	23.53	23.51
		1	8	23.89	23.75	23.86	23.85	23.52	23.64
		1	14	23.78	23.56	23.60	23.65	23.44	23.53
		15	0	22.42	22.20	22.24	22.21	22.17	22.18
	64QAM	1	0	22.67	22.26	22.49	22.32	22.16	22.47
		1	8	22.61	22.42	22.59	22.41	22.30	22.60
		1	14	22.43	22.11	22.57	22.33	22.01	22.50
		15	0	21.35	21.27	21.13	21.17	21.13	21.15
	256QAM	1	0	19.51	19.25	19.22	19.49	19.28	19.20
		1	8	19.65	19.54	19.42	19.47	19.23	19.44
		1	14	19.70	19.14	19.28	19.38	19.24	19.25
		15	0	19.31	19.17	19.22	19.21	19.10	19.15
BW (MHz)	Mode	RB Allocation	RB offset	26697	26783	26790	26797	26915	27033
				814.70 MHz	823.30 MHz	824.00 MHz	824.70 MHz	836.50 MHz	848.30 MHz
1.4 MHz	QPSK	1	0	24.16	24.15	24.08	24.15	24.14	24.12
		1	3	24.21	24.28	24.04	24.07	24.02	24.13
		1	5	24.17	24.18	24.13	24.16	24.04	24.10
		6	0	22.46	22.30	22.42	22.30	22.99	22.55
	16QAM	1	0	23.56	23.61	23.53	23.44	23.44	23.36
		1	3	23.51	23.75	23.45	23.44	23.25	23.40
		1	5	23.63	23.74	23.67	23.41	23.32	23.45
		6	0	21.63	21.08	21.29	21.36	21.99	21.67
	64QAM	1	0	22.54	22.41	22.58	22.55	22.28	22.41
		1	3	22.61	22.53	22.52	22.54	22.17	22.50
		1	5	22.55	22.17	22.38	22.37	22.17	22.51
		6	0	20.29	20.16	20.16	20.31	20.79	20.91
	256QAM	1	0	19.72	19.28	19.26	19.47	19.22	19.31
		1	3	19.46	19.33	19.33	19.48	19.40	19.37
		1	5	19.56	19.43	19.30	19.46	19.29	19.13
		6	0	18.35	18.22	18.15	18.06	19.02	19.07

NR Band n14 (ANT A)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset		158600		
						793.00 MHz		
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		23.29		
			1	1		24.27		
			1	25		24.16		
			1	50		24.20		
			1	51		23.18		
			50	0		23.12		
		QPSK	1	0		22.76		
			1	1		24.31		
			1	25		24.15		
			1	50		24.22		
			1	51		22.69		
			50	0		23.17		
		16QAM	1	0		21.78		
			1	1		23.05		
			1	25		23.11		
			1	50		22.97		
			1	51		21.71		
			50	0		21.83		
		64QAM	1	1		21.74		
		256QAM	1	1		19.11		
	CP-OFDM	QPSK	1	0		20.89		
			1	1		22.32		
			1	25		22.35		
			1	50		22.53		
			1	51		20.86		
			52	0		20.84		
		16QAM	1	0		21.35		
			1	1		22.00		
			1	25		21.79		
			1	50		21.91		
			1	51		20.97		
			52	0		20.88		
		64QAM	1	1		20.44		
		256QAM	1	1		17.47		
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	158100	158600	159100	
					790.50 MHz	793.00 MHz	795.50 MHz	
5 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		23.41	23.38	23.42
			1	1		24.31	24.28	24.29
			1	12		24.20	24.13	24.29
			1	23		24.26	24.26	24.21
			1	24		23.25	23.27	23.20
			25	0		23.26	23.08	23.28
		QPSK	1	0		22.83	22.84	22.69
			1	1		24.35	24.30	24.34
			1	12		24.23	24.16	24.26
			1	23		24.26	24.29	24.23
			1	24		22.67	22.72	22.66
			25	0		23.23	23.11	23.29
		16QAM	1	1		23.14	23.20	23.11
			1	12		23.21	23.12	23.13
			1	23		23.23	23.07	23.09
		64QAM	1	1		21.89	21.79	21.76
		256QAM	1	1		19.18	19.21	19.18
	CP-OFDM	QPSK	1	1		22.79	22.83	22.87

NR Band n14 (ANT D)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset		158600		
						793.00 MHz		
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		22.63		
			1	1		23.39		
			1	25		23.29		
			1	50		23.30		
			1	51		22.64		
			50	0		22.25		
		QPSK	1	0		22.15		
			1	1		23.32		
			1	25		23.28		
			1	50		23.27		
			1	51		22.13		
			50	0		22.22		
		16QAM	1	0		21.32		
			1	1		22.10		
			1	25		22.09		
			1	50		22.23		
			1	51		21.19		
			50	0		21.19		
		64QAM	1	1		20.94		
		256QAM	1	1		18.21		
	CP-OFDM	QPSK	1	0		20.31		
			1	1		21.74		
			1	25		21.61		
			1	50		21.70		
			1	51		20.04		
			52	0		20.23		
		16QAM	1	0		20.27		
			1	1		21.29		
			1	25		21.17		
			1	50		21.23		
			1	51		20.27		
			52	0		20.11		
		64QAM	1	1		19.47		
		256QAM	1	1		16.95		
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	158100	158600	159100	
					790.50 MHz	793.00 MHz	795.50 MHz	
5 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		22.69	22.66	22.71
			1	1		23.49	23.40	23.32
			1	12		23.33	23.28	23.27
			1	23		23.36	23.23	23.27
			1	24		22.72	22.73	22.68
			25	0		22.24	22.23	22.68
		QPSK	1	0		22.23	22.19	22.22
			1	1		23.51	23.32	23.35
			1	12		23.33	23.30	23.28
			1	23		23.34	23.20	23.32
			1	24		22.15	22.18	22.25
			25	0		22.30	22.25	22.28
		16QAM	1	1		22.30	22.03	22.13
			1	12		22.05	22.08	22.24
			1	23		22.12	22.13	22.27
		64QAM	1	1		21.04	20.90	20.81
		256QAM	1	1		18.36	18.27	18.19
	CP-OFDM	QPSK	1	1		21.98	21.93	21.79

NR Band n26 (ANT A)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)				
					164300	164800	166300	166800	168300
20 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	824.00 MHz	831.50 MHz	836.50 MHz	839.00 MHz	
			1	1	23.14	23.70	23.68	23.65	
			1	52	23.68	24.34	24.33	24.31	
			1	104	23.65	24.28	24.25	24.29	
			1	105	23.66	24.27	24.26	24.20	
			100	0	23.01	23.61	23.59	23.59	
		QPSK	1	0	23.31	23.82	23.79	23.81	
			1	1	22.71	23.17	23.18	23.09	
			1	52	23.88	24.25	24.24	24.19	
			1	104	23.57	24.14	24.13	24.16	
			1	105	23.56	24.13	24.12	24.10	
			100	0	22.46	23.04	23.03	23.04	
		16QAM	1	0	22.80	23.29	23.28	23.32	
			1	1	21.58	22.06	21.95	21.95	
			1	52	22.56	22.99	23.06	22.92	
			1	104	22.54	22.87	22.88	22.85	
			1	105	22.48	22.87	22.87	22.88	
			100	0	21.54	22.18	21.91	21.89	
	CP-OFDM	QPSK	1	0	21.71	22.16	22.21	22.17	
			1	1	21.40	21.97	22.02	21.94	
			1	52	19.42	19.96	19.98	19.90	
			1	104	20.76	21.35	21.26	21.27	
			1	105	22.09	22.75	22.73	22.69	
			106	0	21.99	22.44	22.37	22.41	
		16QAM	1	0	22.11	22.59	22.53	22.57	
			1	1	20.65	21.13	21.16	21.08	
			1	52	20.77	21.25	21.25	21.27	
			1	104	20.69	21.07	21.08	21.02	
			1	105	21.52	22.01	22.06	21.97	
			106	0	21.67	21.98	22.31	22.22	
	DFT-s-OFDM	QPSK	1	1	21.55	21.85	22.20	22.12	
			1	52	20.57	20.97	21.13	21.05	
			1	104	20.69	21.15	21.16	21.17	
			1	105	20.30	21.01	21.02	20.93	
	CP-OFDM	QPSK	1	1	17.28	18.12	18.13	17.98	
			1	52	20.30	21.01	21.02	20.93	
			1	104	17.28	18.12	18.13	17.98	
			1	105	20.30	21.01	21.02	20.93	
15 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	824.00 MHz	831.50 MHz	836.50 MHz	841.50 MHz	
			1	1	23.81	23.69	23.63	23.60	
			1	39	24.38	24.37	24.34	24.23	
			1	76	24.34	24.29	24.24	24.24	
			1	77	24.30	24.21	24.33	24.12	
			75	0	23.72	23.57	23.69	23.51	
		QPSK	1	0	23.98	23.94	23.79	23.76	
			1	1	23.26	23.30	23.29	23.17	
			1	39	24.39	24.29	24.28	24.23	
			1	76	24.25	24.08	24.10	24.16	
			1	77	24.19	24.21	24.23	24.15	
			75	0	23.12	23.18	23.17	23.06	
	CP-OFDM	16QAM	1	1	23.39	23.36	23.28	23.22	
			1	39	23.04	23.08	22.99	22.99	
			1	76	22.99	22.97	22.89	22.86	
			1	77	23.39	22.95	22.92	22.94	
			1	1	22.05	21.73	21.79	21.66	
			1	1	20.05	19.70	19.78	19.78	
		QPSK	1	1	22.91	22.97	22.82	22.75	
			1	39	23.81	23.69	23.63	23.60	
			1	76	24.38	24.37	24.34	24.23	
			1	77	24.34	24.29	24.24	24.24	
			1	77	24.30	24.21	24.33	24.12	
			75	0	23.72	23.57	23.69	23.51	

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
					163800	164800	165800	167300	168800	
					819.00 MHz	824.00 MHz	829.00 MHz	836.50 MHz	844.00 MHz	
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.80	23.76	23.68	23.59	23.58	
			1	1	24.41	24.40	24.30	24.25	24.23	
			1	26	24.34	24.23	24.25	24.29	24.26	
			1	49	24.36	24.25	24.30	24.26	24.20	
			1	50	24.34	24.31	24.24	24.21	24.20	
			50	0	23.92	23.82	23.85	23.82	23.74	
		QPSK	1	0	23.40	23.27	23.21	23.22	23.08	
			1	1	24.36	24.46	24.34	24.27	24.24	
			1	26	24.28	24.30	24.24	24.17	24.21	
			1	49	24.38	24.30	24.26	24.29	24.20	
			1	50	24.33	24.33	24.24	24.22	24.20	
			50	0	23.33	23.39	23.33	23.28	23.20	
		16QAM	1	1	23.35	23.19	23.16	23.19	23.12	
			1	26	22.98	22.96	22.94	22.93	22.92	
			1	49	23.19	23.22	23.07	23.09	23.15	
		64QAM	1	1	21.86	21.75	21.73	21.74	21.67	
		256QAM	1	1	19.69	19.59	19.68	19.65	19.67	
	CP-OFDM	QPSK	1	1	23.06	22.97	22.84	22.82	22.83	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
					163300	163800	164800	165300	167300	169300
					816.50 MHz	821.50 MHz	824.00 MHz	826.50 MHz	836.50 MHz	846.50 MHz
5 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.94	23.88	23.86	23.82	23.73	23.74
			1	1	24.50	24.46	24.35	24.36	24.26	24.22
			1	12	23.92	23.93	23.85	23.85	23.80	23.78
			1	23	23.87	23.96	23.82	23.79	23.72	23.76
			1	24	24.01	23.89	23.76	23.82	23.74	23.76
			25	0	24.00	23.99	23.91	23.81	23.77	23.83
		QPSK	1	0	23.42	23.44	23.40	23.33	23.29	23.26
			1	1	24.38	24.46	24.38	24.38	24.28	24.33
			1	12	24.51	23.49	23.40	23.38	23.30	23.33
			1	23	23.45	23.52	23.37	23.35	23.33	23.32
			1	24	23.44	23.38	23.36	23.39	23.33	23.31
			25	0	23.47	23.47	23.31	23.38	23.25	23.30
		16QAM	1	1	23.22	23.38	23.12	23.17	23.18	23.20
			1	12	22.45	22.29	22.15	22.18	22.07	22.32
			1	23	22.43	22.28	22.22	22.37	22.26	22.25
		64QAM	1	1	22.00	21.93	21.83	21.78	21.78	21.74
		256QAM	1	1	19.84	19.92	19.70	19.81	19.71	19.59
	CP-OFDM	QPSK	1	1	23.07	23.06	22.97	22.89	22.84	22.79

NR Band n26 (ANT D)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset		164800	166300	167300	167800
20 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		824.00 MHz	831.50 MHz	836.50 MHz	839.00 MHz
			1	1		23.09	22.89	22.88	23.00
			1	52		23.73	23.48	23.50	23.63
			1	104		23.51	23.16	23.36	23.50
			1	105		23.26	23.48	23.49	23.61
			1	105		22.51	22.87	22.91	22.96
			100	0		23.19	23.19	23.12	23.21
		QPSK	1	0		22.62	22.46	22.52	22.49
			1	1		23.75	23.49	23.50	23.51
			1	52		23.46	23.30	23.27	23.51
			1	104		23.29	23.51	23.49	23.65
			1	105		22.14	22.44	22.42	22.50
			100	0		22.67	22.60	22.58	22.68
		16QAM	1	0		21.41	21.52	21.26	21.37
			1	1		22.56	22.47	22.44	22.33
			1	52		22.45	22.17	22.22	22.41
			1	104		22.16	22.42	22.35	22.45
			1	105		21.13	21.37	21.39	21.46
			100	0		21.57	21.54	21.48	21.57
		64QAM	1	1		20.92	20.72	20.66	20.58
		256QAM	1	1		19.08	19.17	19.13	19.13
	CP-OFDM	QPSK	1	0		20.65	20.44	20.40	20.48
			1	1		22.14	22.11	22.04	21.99
			1	52		21.98	21.76	21.80	21.98
			1	104		21.71	22.01	22.07	22.03
			1	105		20.13	20.44	20.55	20.47
			106	0		20.64	20.58	20.64	20.66
		16QAM	1	0		20.68	20.48	20.47	20.57
			1	1		21.71	21.55	21.53	21.48
			1	52		21.49	21.28	21.40	21.45
			1	104		21.35	21.47	21.55	21.63
			1	105		20.30	20.47	20.66	20.62
			106	0		20.55	20.52	20.59	20.56
		64QAM	1	1		20.01	19.56	19.52	19.52
		256QAM	1	1		17.09	17.19	17.12	17.17
15 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		Measured Pwr (dBm)			
			1	1		164300	164800	166300	166800
			1	39		821.50 MHz	824.00 MHz	831.50 MHz	836.50 MHz
			1	76		23.18	23.03	22.91	23.01
			1	77		23.58	23.60	23.56	23.61
			75	0		23.57	23.44	23.08	23.50
		QPSK	1	0		23.66	23.54	23.53	23.52
			1	1		23.06	22.96	22.86	22.89
			1	39		23.16	23.16	23.22	23.15
			1	76		22.59	22.54	22.59	22.46
			1	77		23.58	23.61	23.55	23.51
			75	0		23.46	23.46	23.22	23.48
		16QAM	1	1		23.65	23.62	23.52	23.54
			1	39		22.60	22.47	22.41	22.47
			1	76		22.66	22.67	22.66	22.63
		64QAM	1	1		22.47	22.39	22.27	22.33
		256QAM	1	1		22.34	22.22	22.12	22.24
	CP-OFDM	QPSK	1	1		22.48	22.36	22.26	22.28
			1	1		20.64	20.98	20.74	20.70
15 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		19.15	18.84	18.67	18.89
			1	1		22.20	22.30	22.23	22.14
			1	39		22.24	22.22	22.12	22.24
			1	76		22.48	22.36	22.26	22.28
			1	77		20.64	20.98	20.74	20.70
			75	0		19.15	18.84	18.67	18.89
		QPSK	1	0		22.20	22.30	22.23	22.14
			1	1		22.24	22.22	22.12	22.24
			1	39		22.48	22.36	22.26	22.28
			1	76		20.64	20.98	20.74	20.70
			1	77		19.15	18.84	18.67	18.89
			75	0		22.20	22.30	22.23	22.14
		16QAM	1	1		22.24	22.22	22.12	22.24
			1	39		22.48	22.36	22.26	22.28
			1	76		20.64	20.98	20.74	20.70
		64QAM	1	1		19.15	18.84	18.67	18.89
		256QAM	1	1		22.20	22.30	22.23	22.14
	CP-OFDM	QPSK	1	1		22.24	22.22	22.12	22.24
			1	39		22.48	22.36	22.26	22.28

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
					163800	164800	165800	167300	168800	
					819.00 MHz	824.00 MHz	829.00 MHz	836.50 MHz	844.00 MHz	
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.04	23.08	22.95	22.95	22.90	
			1	1	23.60	23.61	23.53	23.61	23.52	
			1	26	23.57	23.55	23.66	23.10	23.58	
			1	49	23.57	23.72	23.19	23.39	23.66	
			1	50	23.53	23.62	22.91	23.40	23.71	
			50	0	23.23	23.23	23.17	23.13	23.22	
		QPSK	1	0	22.47	22.54	22.47	22.50	22.55	
			1	1	23.46	23.62	23.65	23.56	23.59	
			1	26	23.61	23.56	23.51	23.13	23.57	
			1	49	23.55	23.59	23.17	23.34	23.72	
			1	50	23.57	23.70	23.04	23.42	23.70	
			50	0	22.72	22.65	22.63	22.59	22.65	
		16QAM	1	1	22.27	22.52	22.38	22.35	22.49	
			1	26	22.37	22.43	22.32	22.07	22.27	
			1	49	22.42	22.64	22.24	22.29	22.49	
		64QAM	1	1	20.78	20.95	20.80	20.86	20.78	
		256QAM	1	1	18.87	18.67	18.67	18.67	18.71	
	CP-OFDM	QPSK	1	1	22.27	22.33	22.40	22.30	22.29	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
					163300	163800	164800	165300	167300	169300
					816.50 MHz	821.50 MHz	824.00 MHz	826.50 MHz	836.50 MHz	846.50 MHz
5 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.15	23.18	23.09	23.09	22.96	23.20
			1	1	23.62	23.74	23.58	23.54	23.49	23.64
			1	12	23.10	23.17	23.12	23.05	23.13	23.11
			1	23	23.06	23.21	23.16	23.10	23.09	23.12
			1	24	22.94	23.24	23.11	23.05	22.86	23.09
			25	0	23.27	23.25	23.20	23.12	23.10	23.19
		QPSK	1	0	22.51	22.73	22.72	22.74	22.52	22.70
			1	1	23.61	23.76	23.65	23.62	23.52	23.67
			1	12	23.36	23.78	23.69	23.67	23.45	23.63
			1	23	23.38	23.71	23.65	23.64	23.37	23.71
			1	24	22.37	22.71	22.69	22.64	22.44	22.70
			25	0	22.75	22.74	22.46	22.65	22.60	22.68
		16QAM	1	1	22.75	22.74	22.46	22.65	22.60	22.68
			1	12	22.44	22.73	22.45	22.43	22.30	22.54
			1	23	22.34	22.49	22.39	22.39	22.26	22.43
		64QAM	1	1	22.35	22.47	22.33	22.41	22.26	22.36
		256QAM	1	1	20.71	21.02	20.91	20.92	20.72	20.97
	CP-OFDM	QPSK	1	1	18.98	18.90	18.76	18.71	18.73	18.78

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

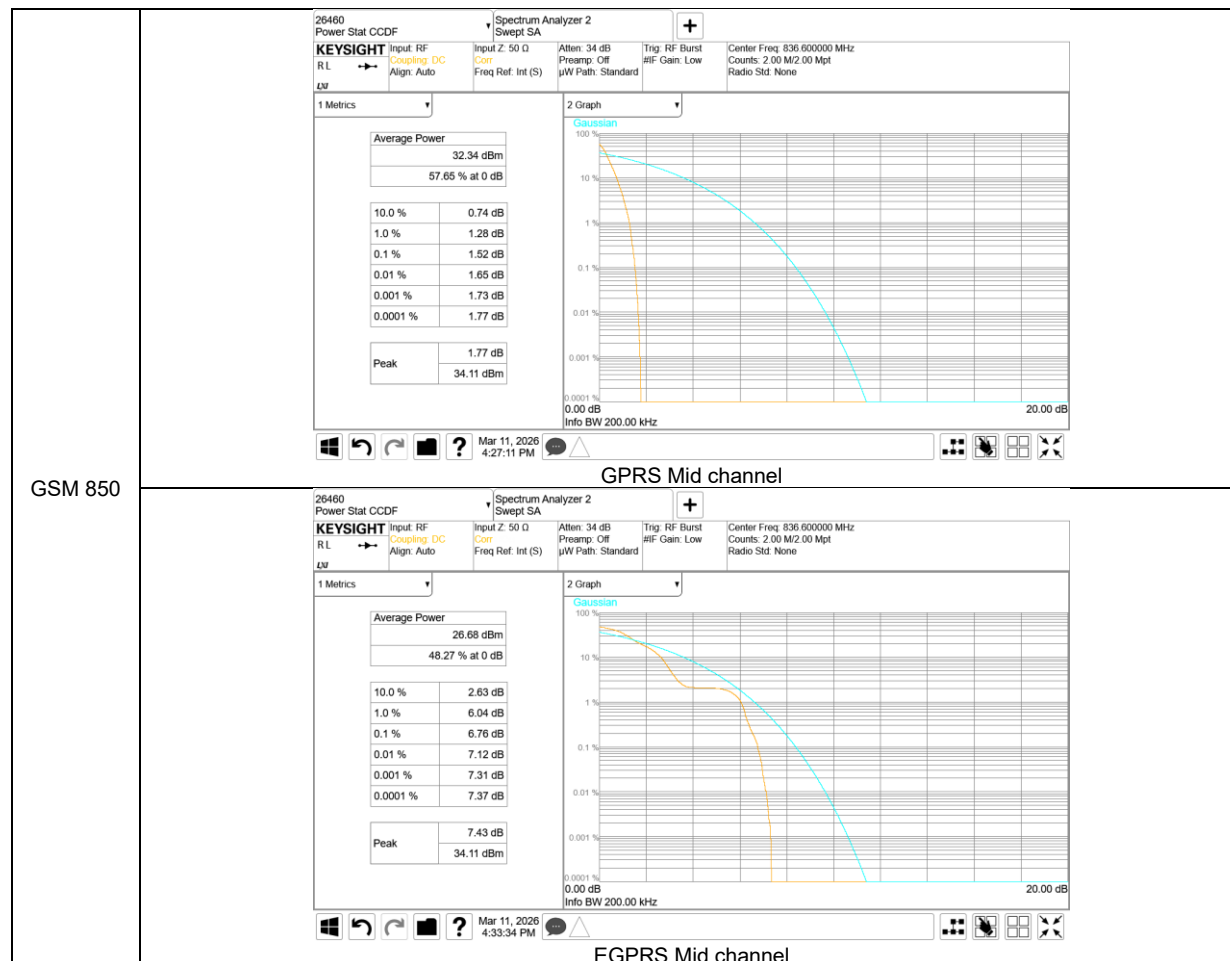
LTE: All modulations were investigated, and the worst modulations (QPSK, 256QAM) are reported.
5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All modes of operation were investigated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

RESULTS

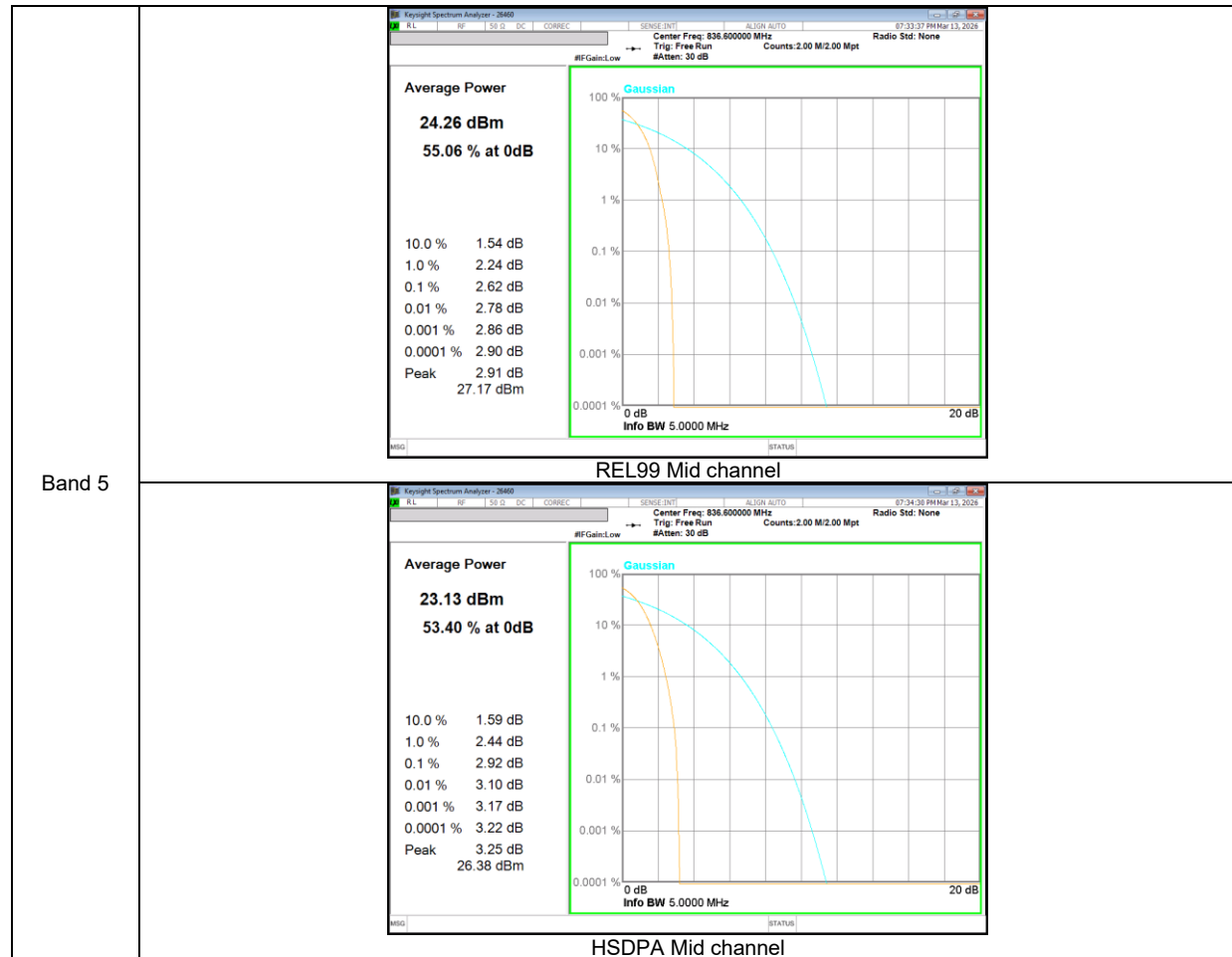
See the following pages.

8.2.1. CONDUCTED PEAK TO AVERAGE RESULT

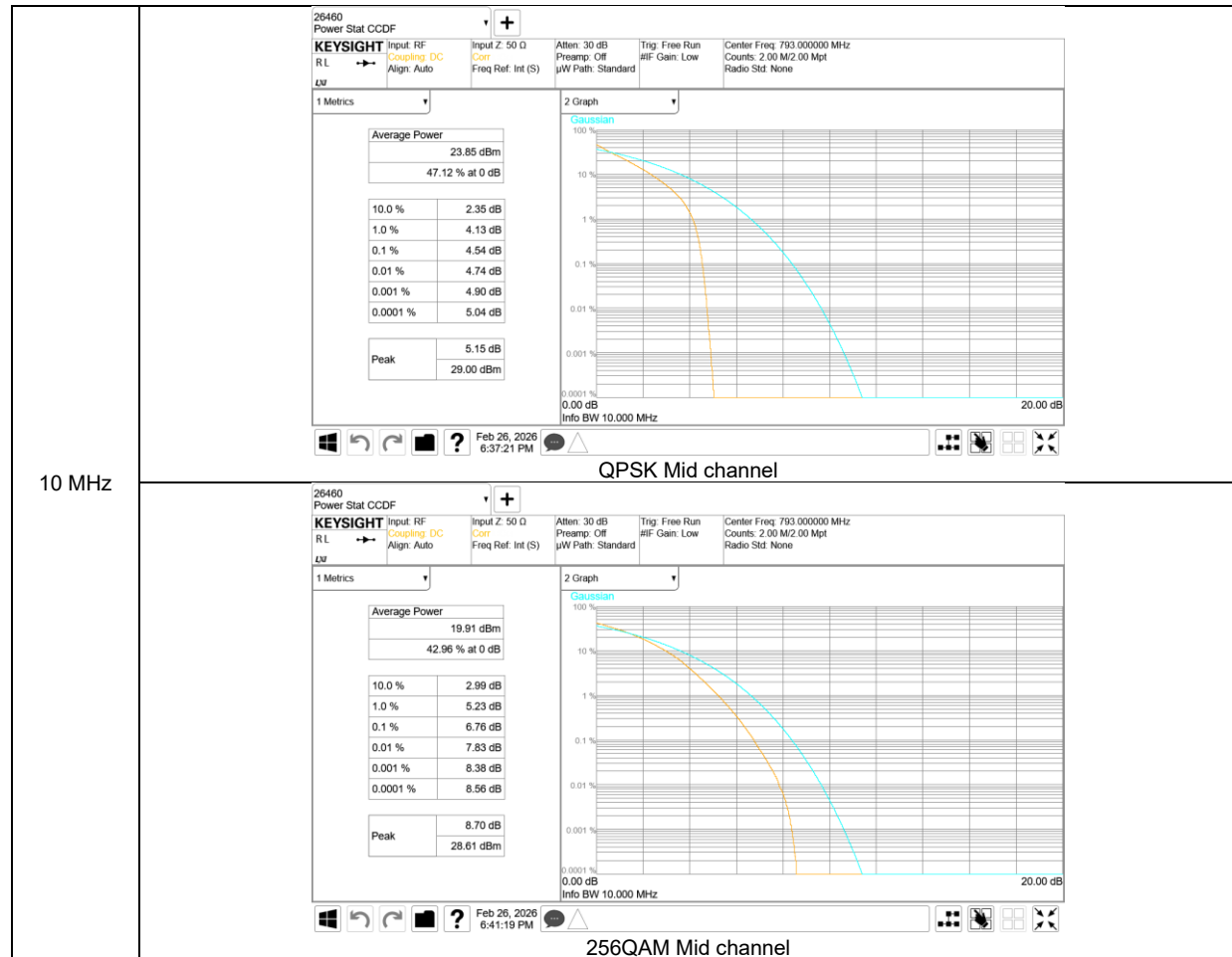
GSM (ANT A)

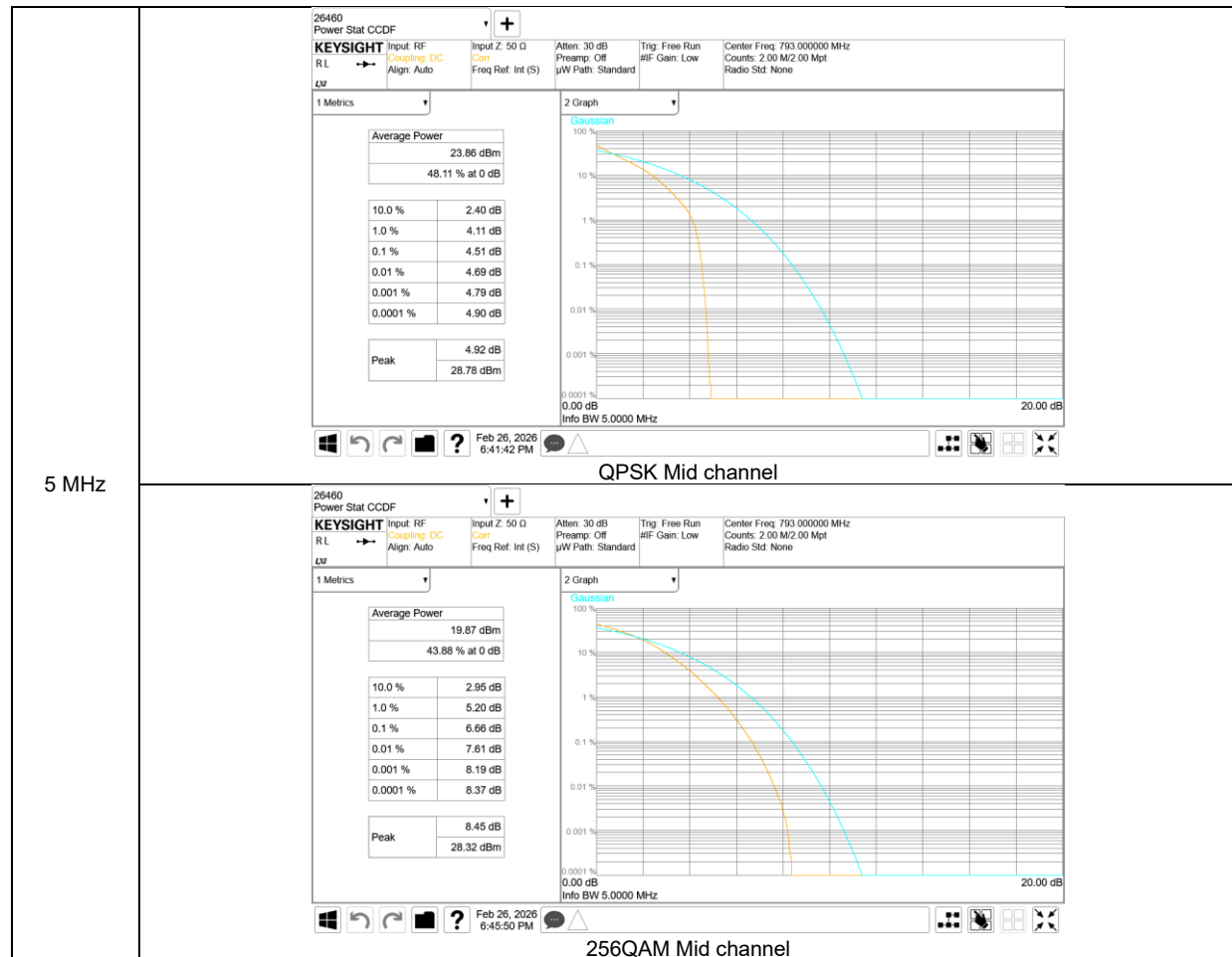


WCDMA (ANT A)

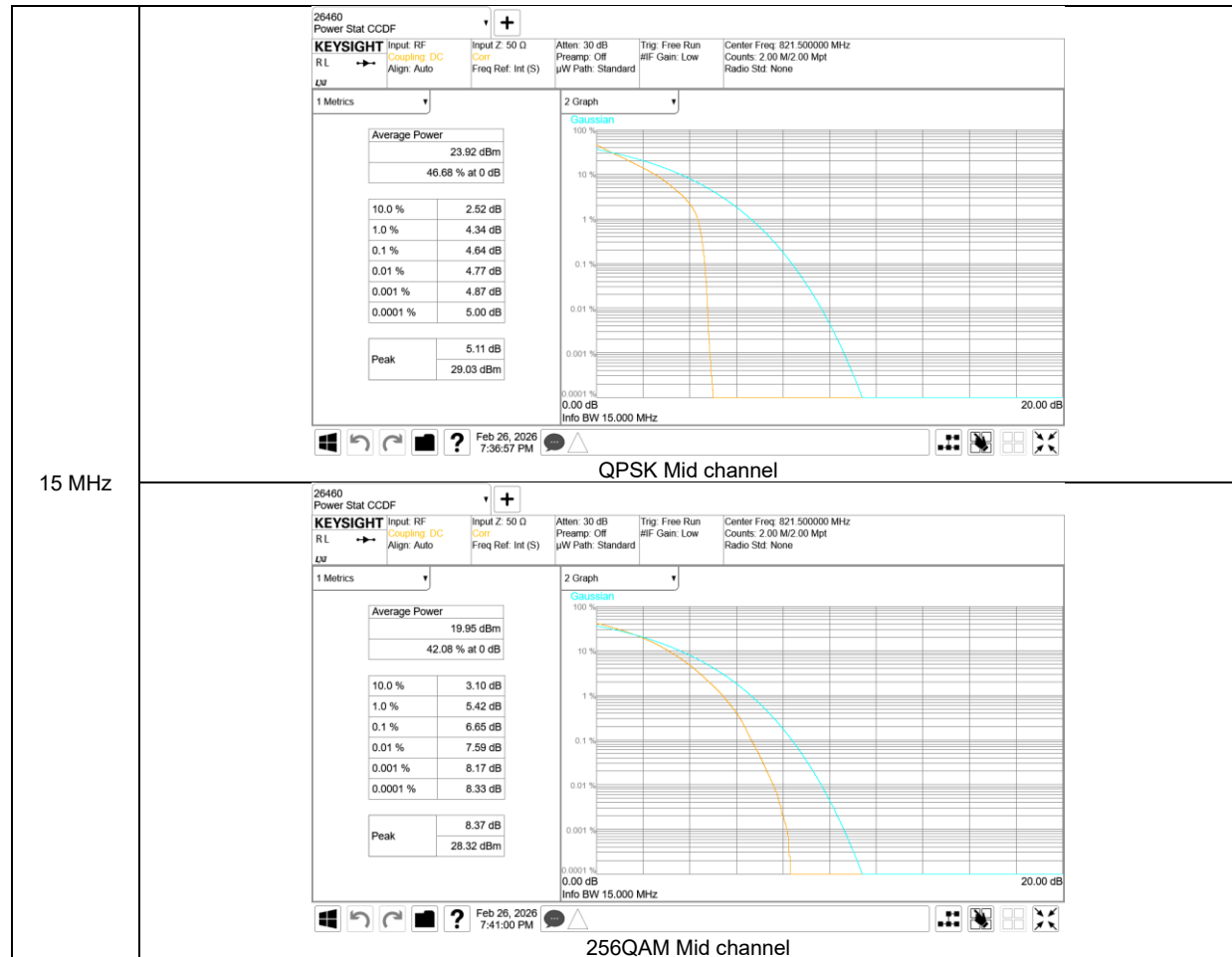


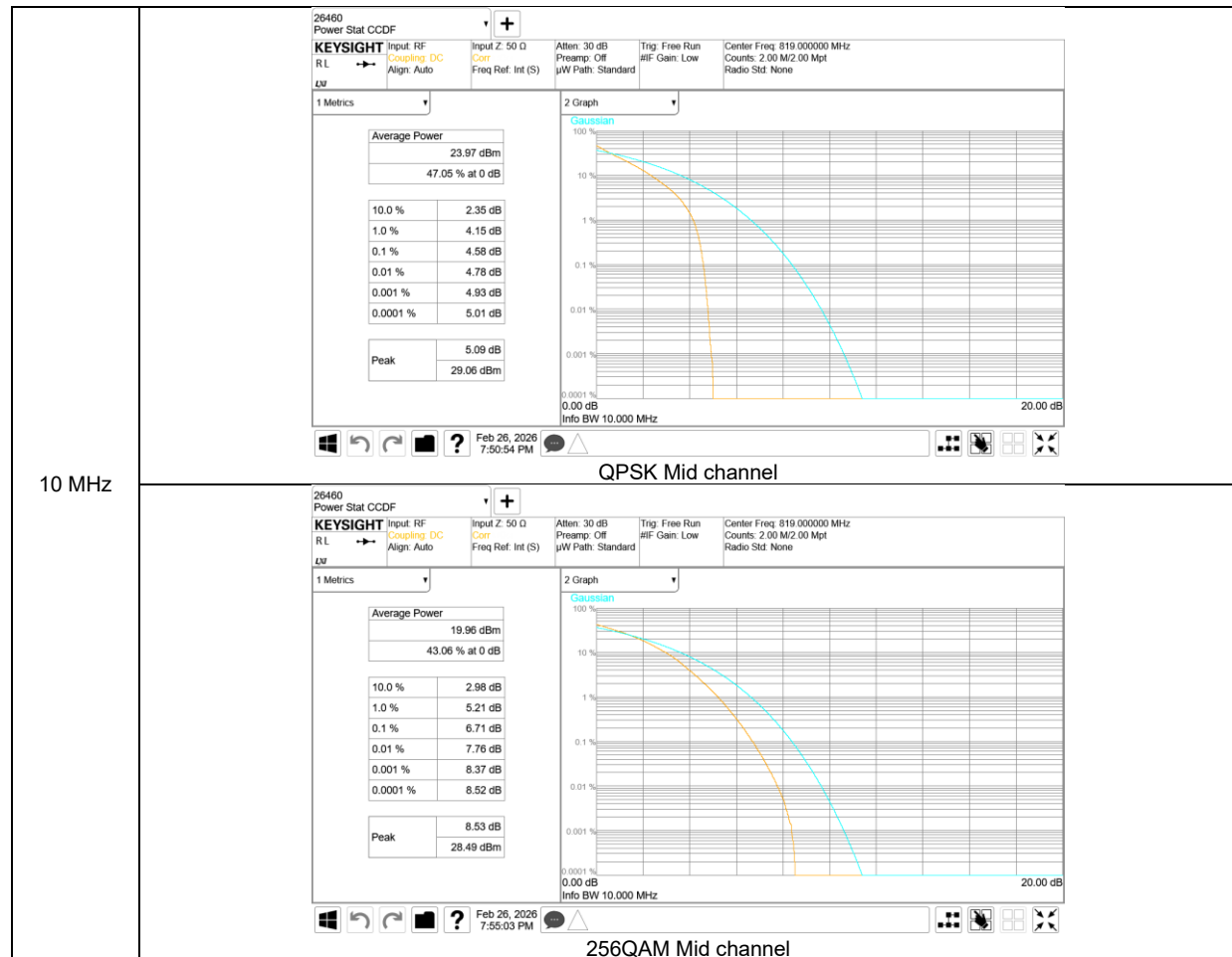
LTE Band 14 (ANT A)

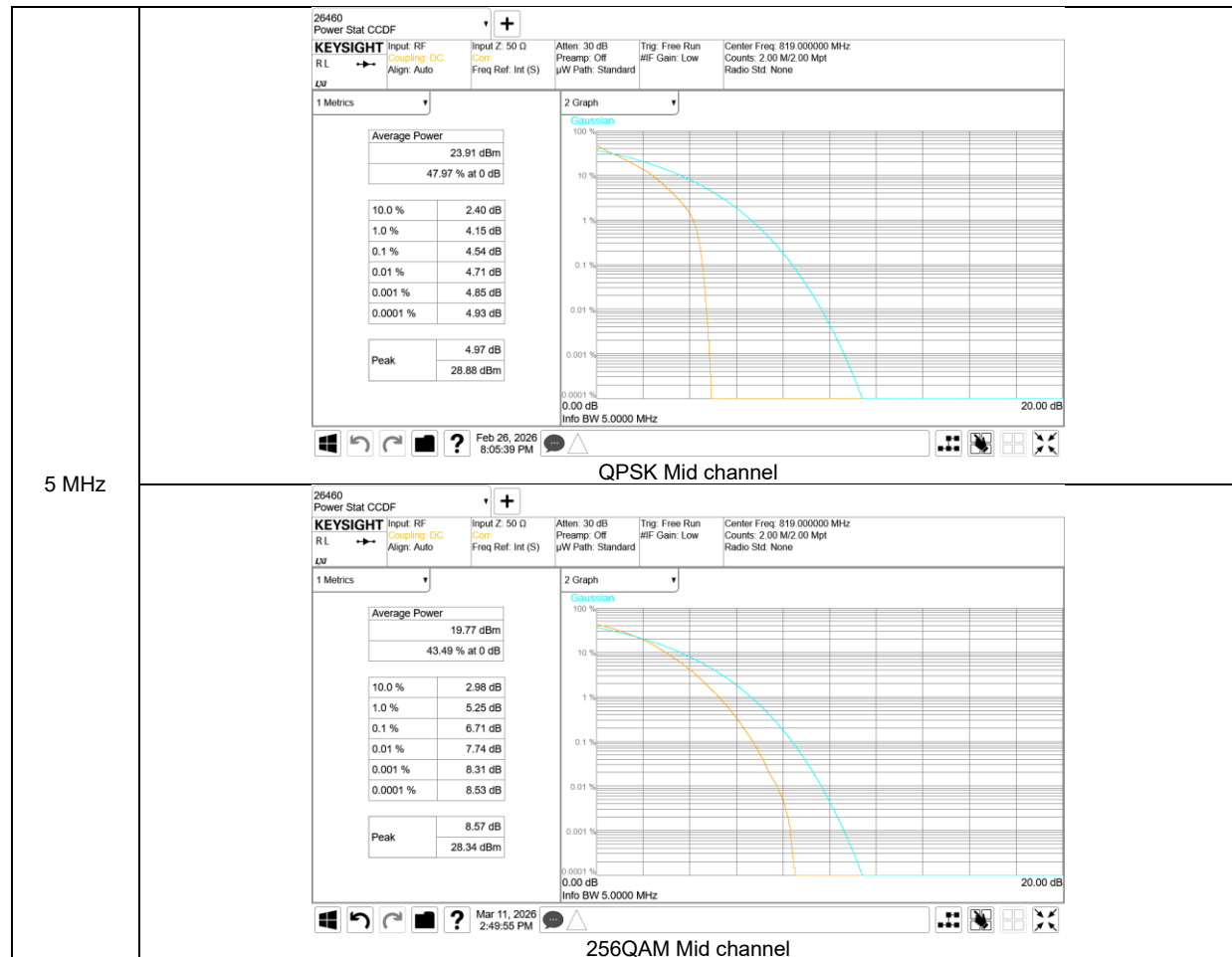


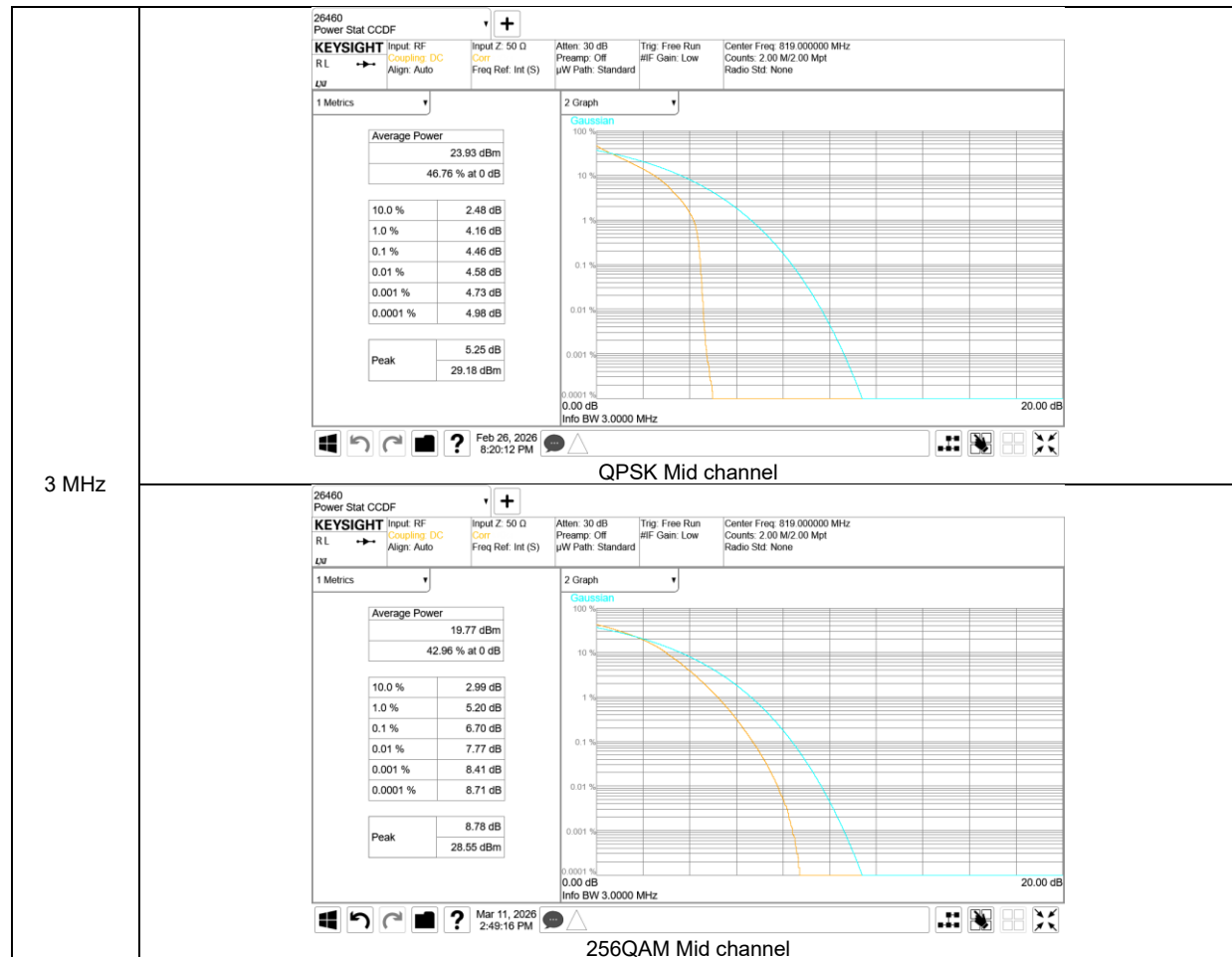


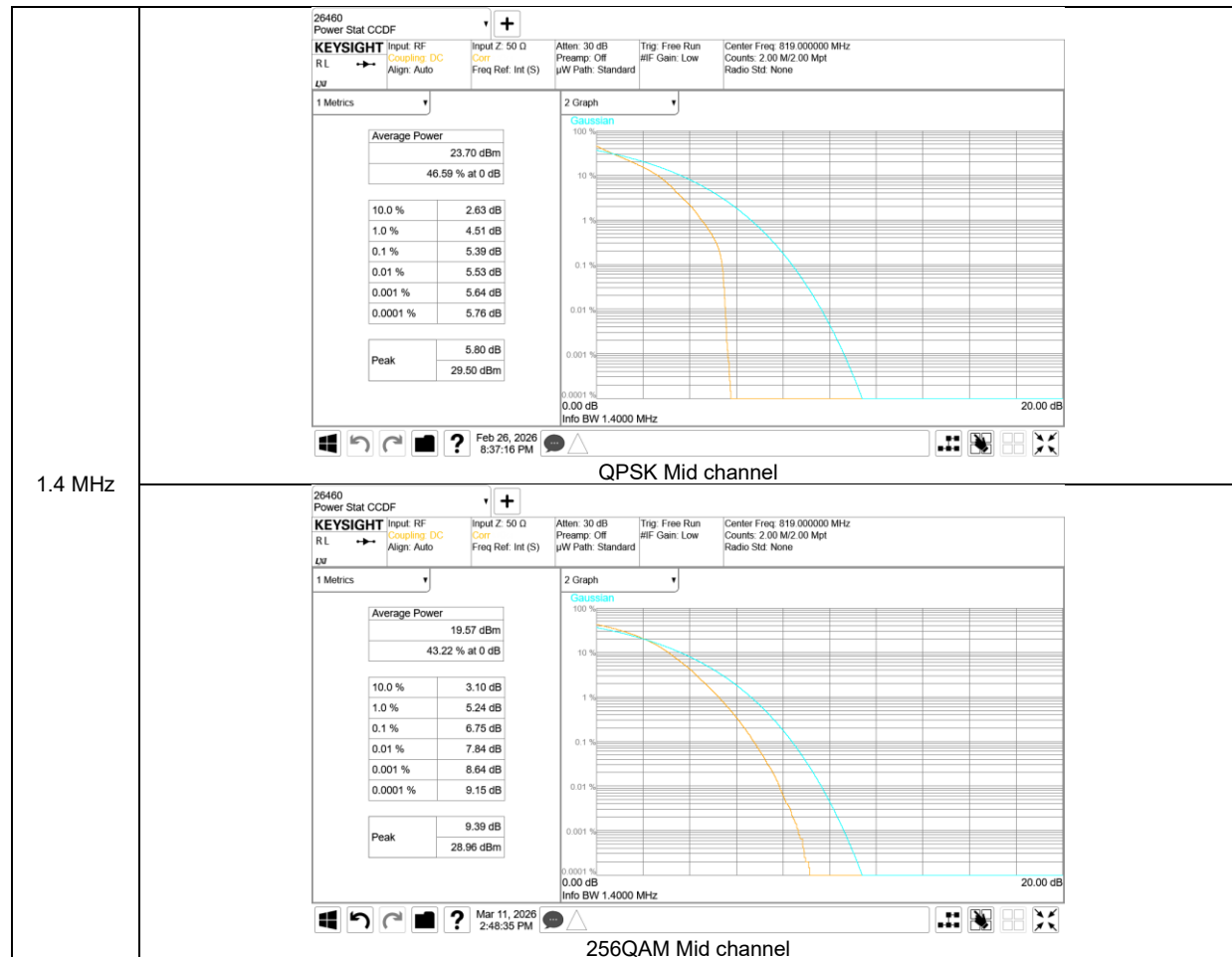
LTE Band 26 (Part 90) (ANT A)



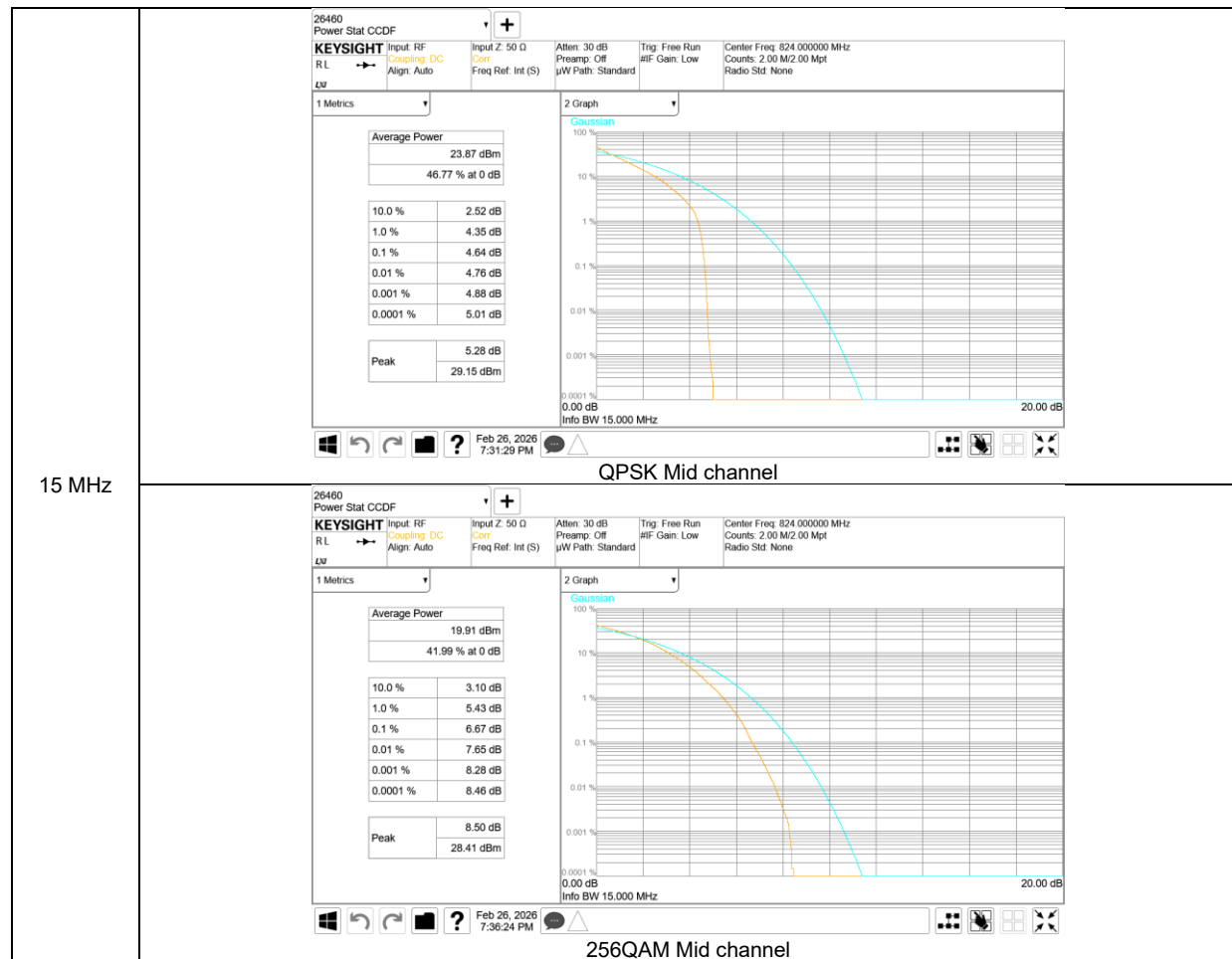


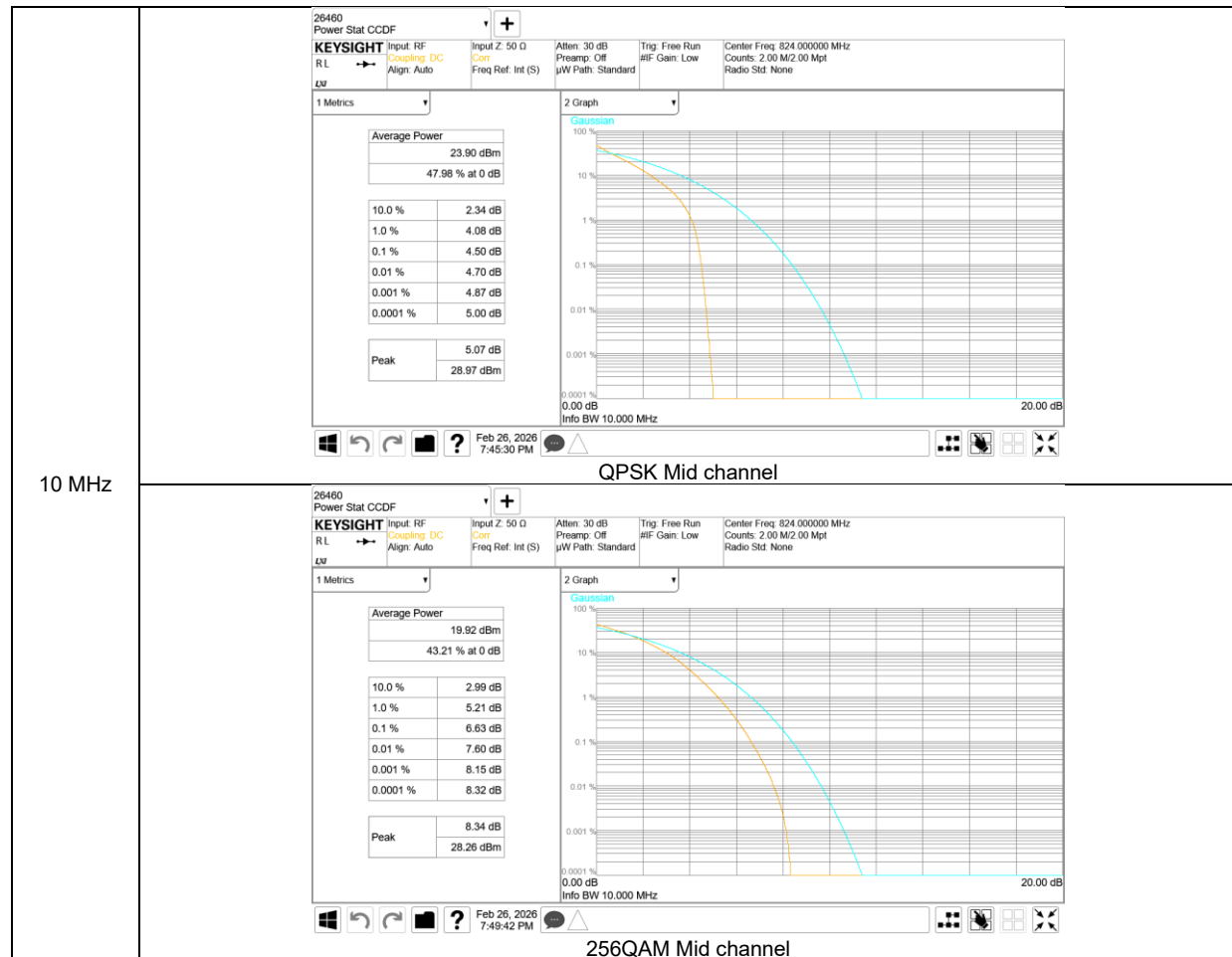


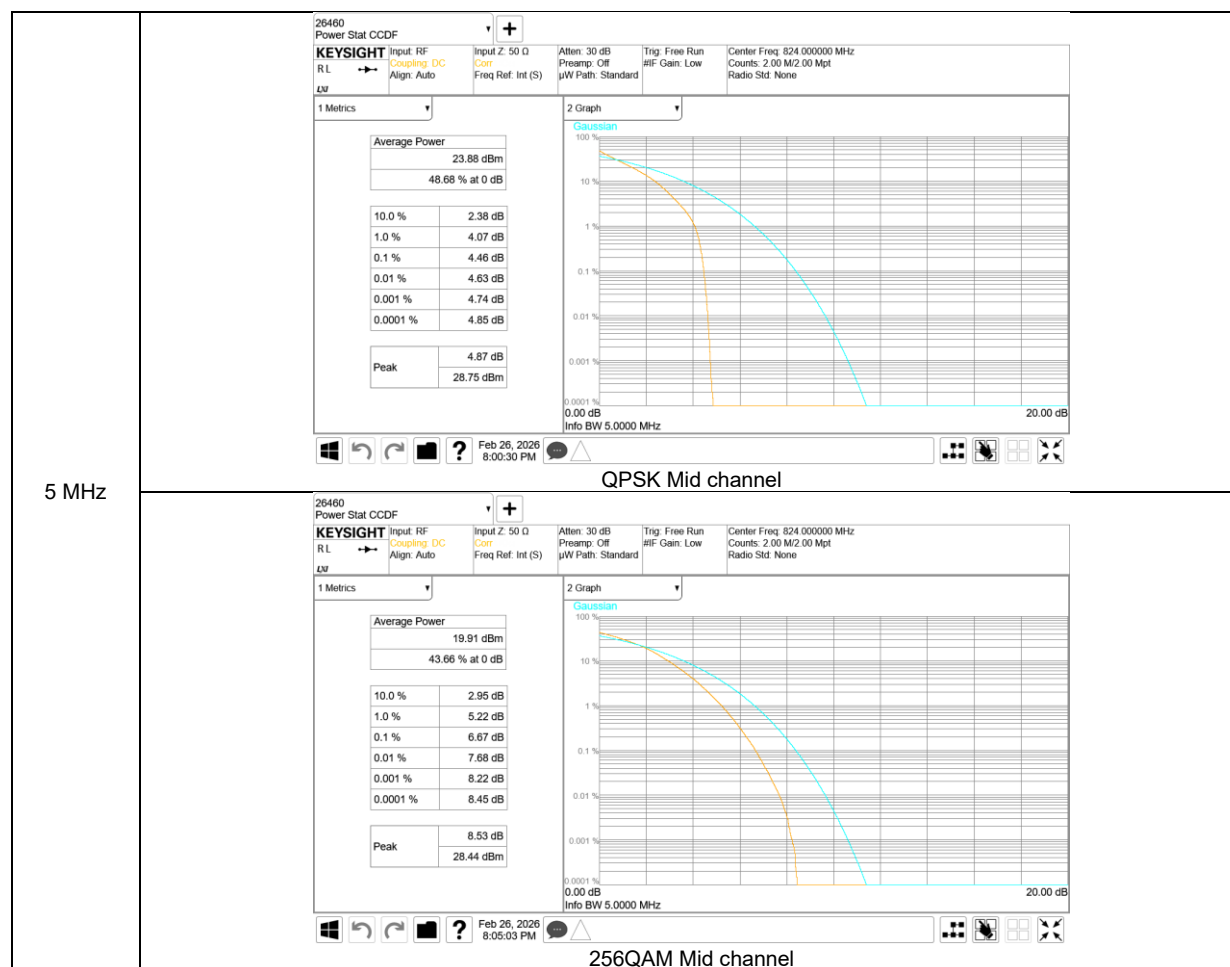


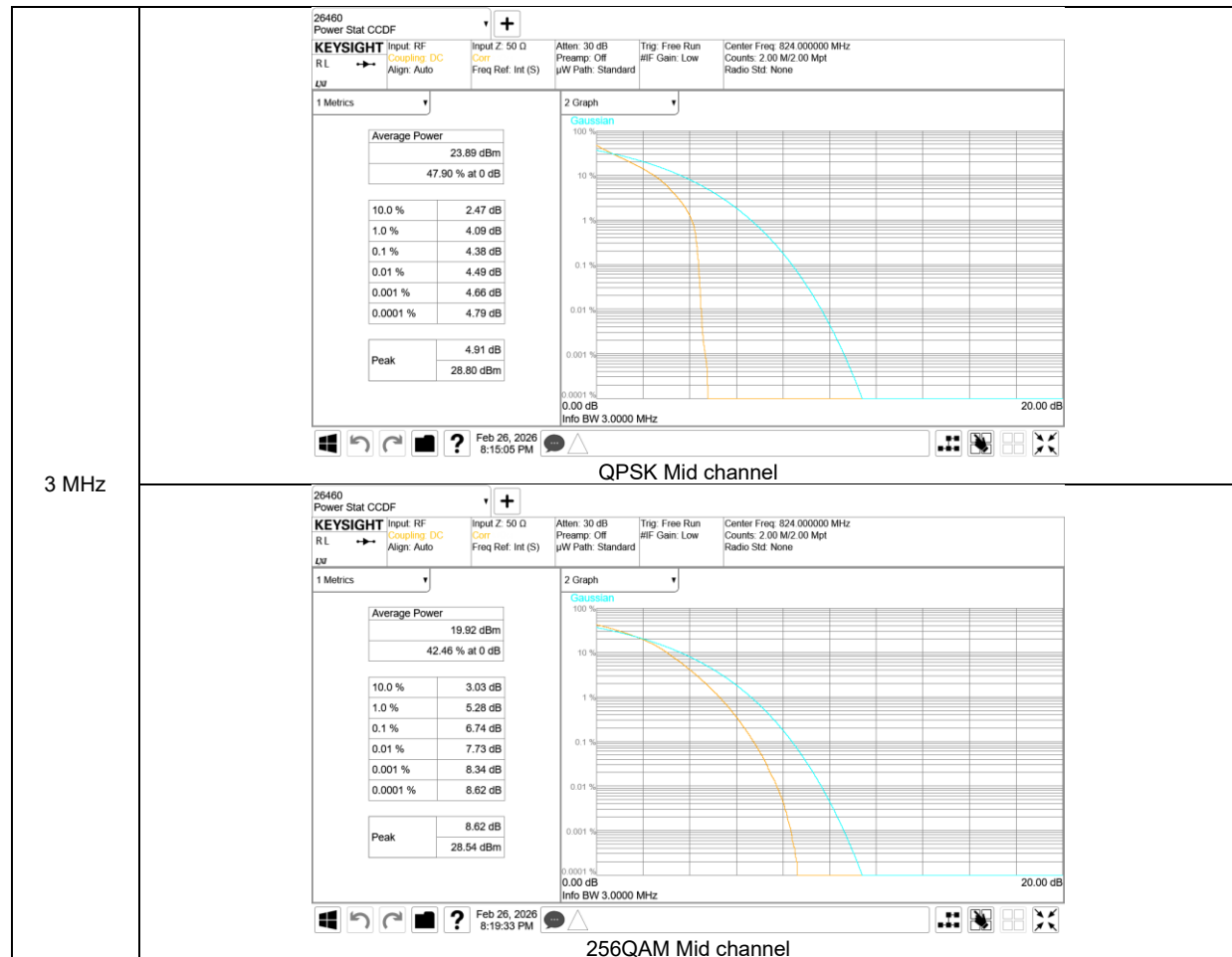


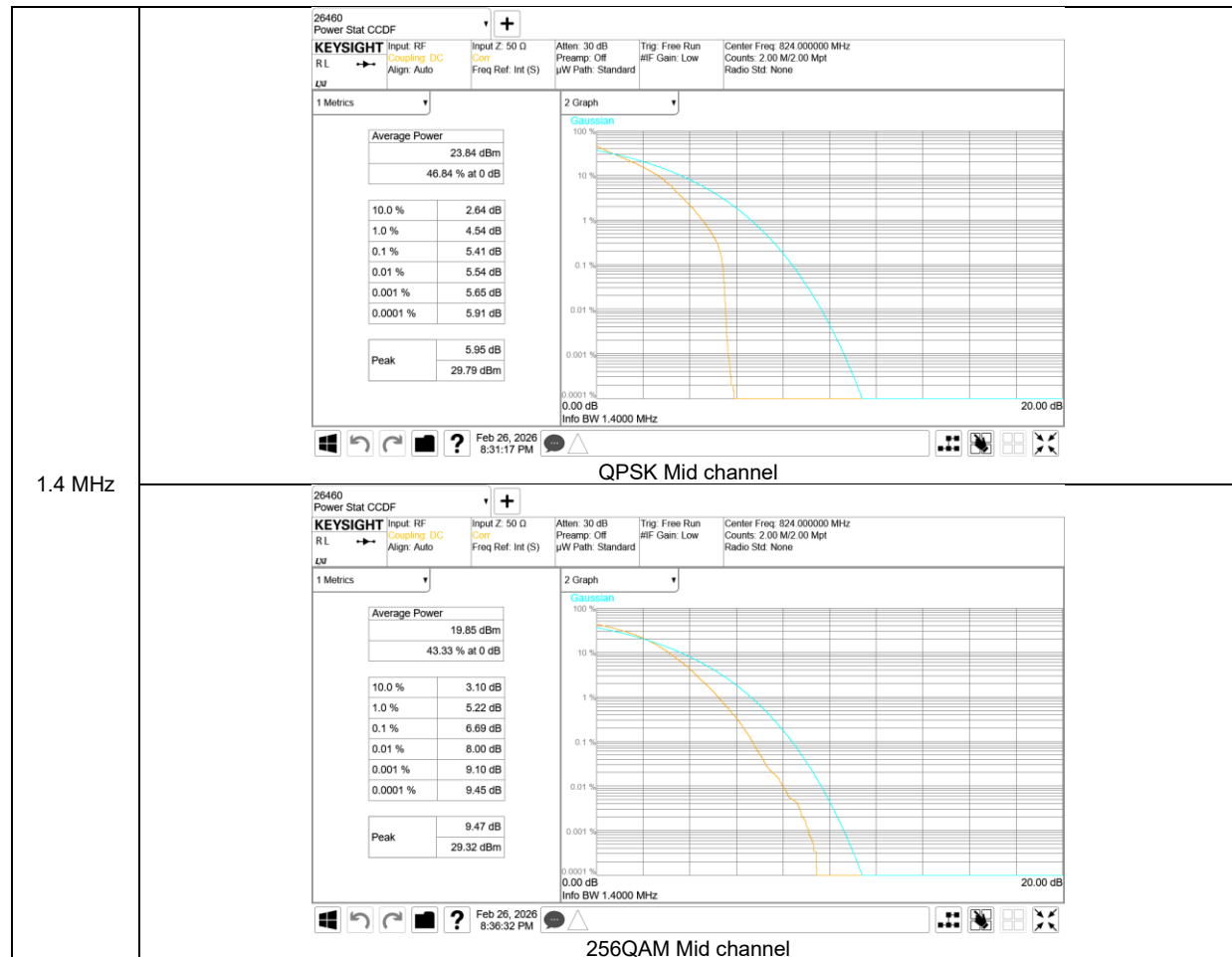
LTE Band 26 (Straddle) (ANT A)



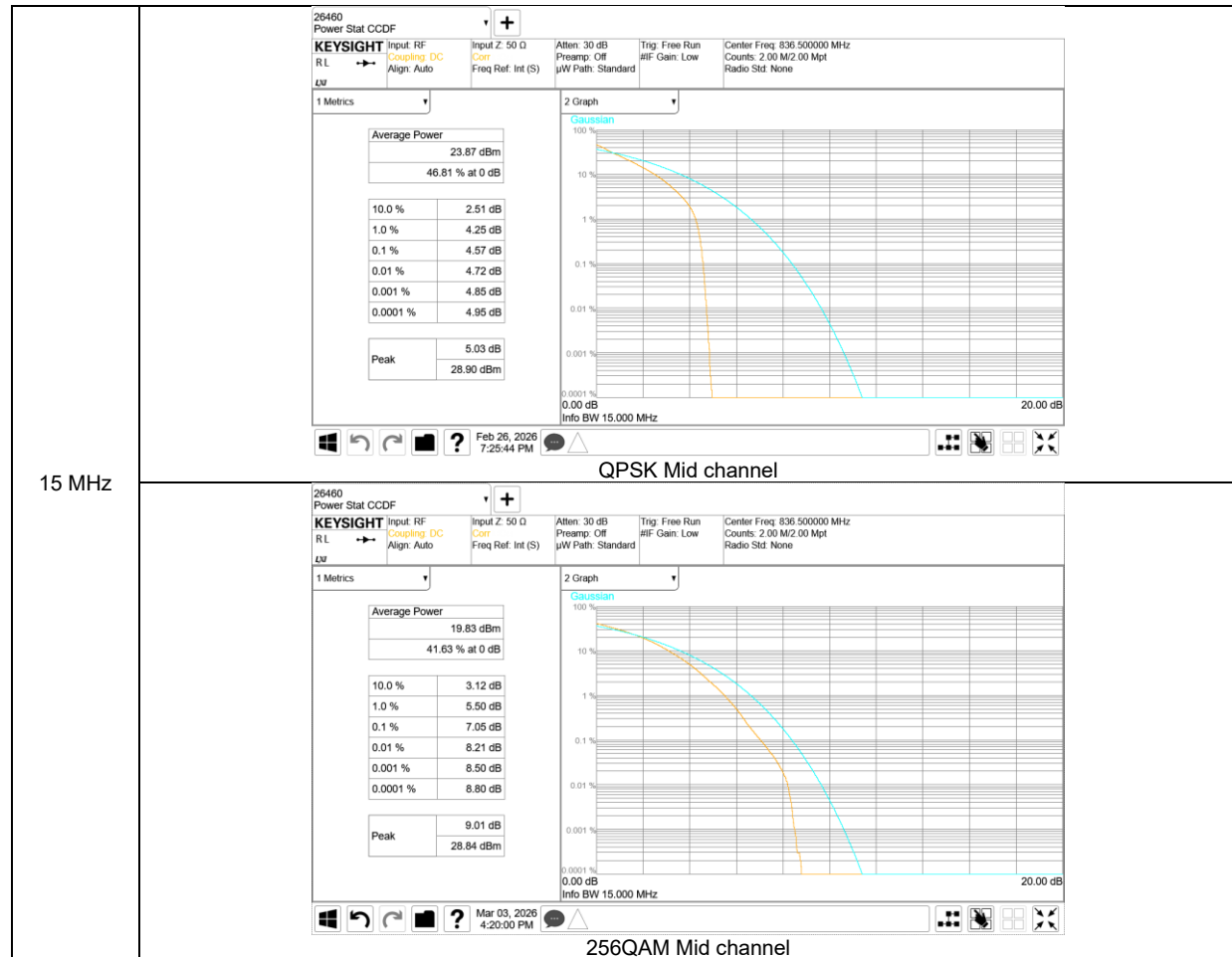


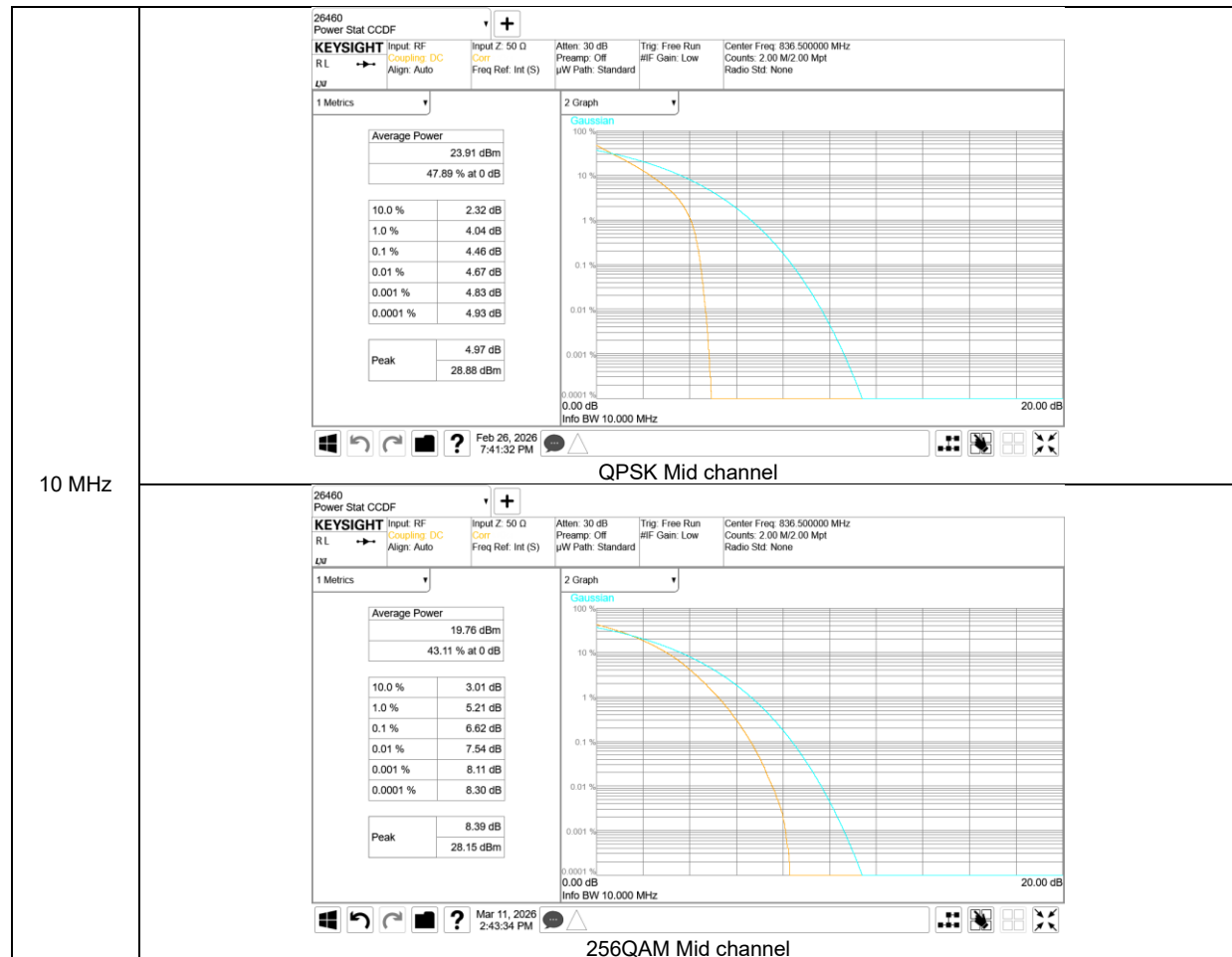


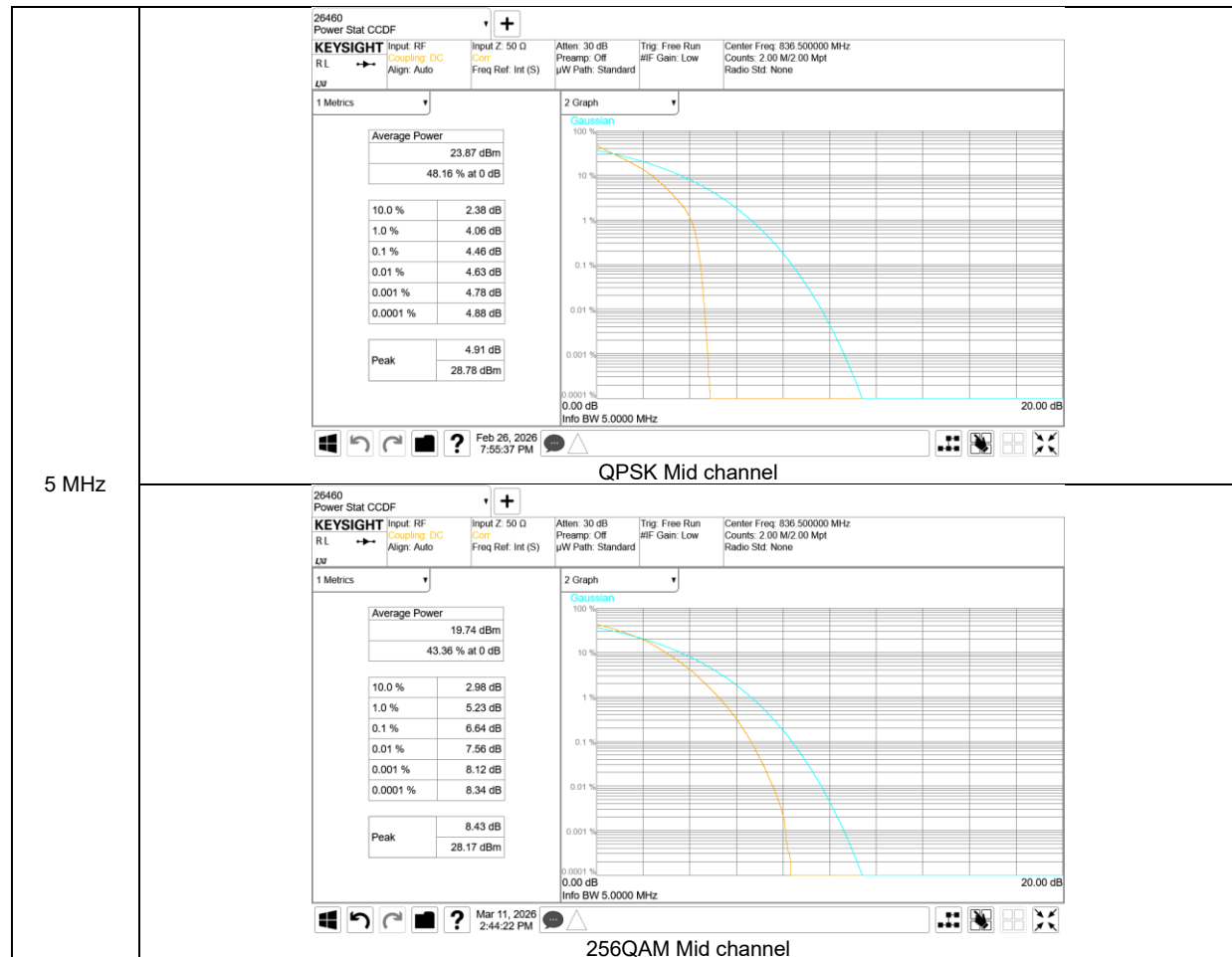


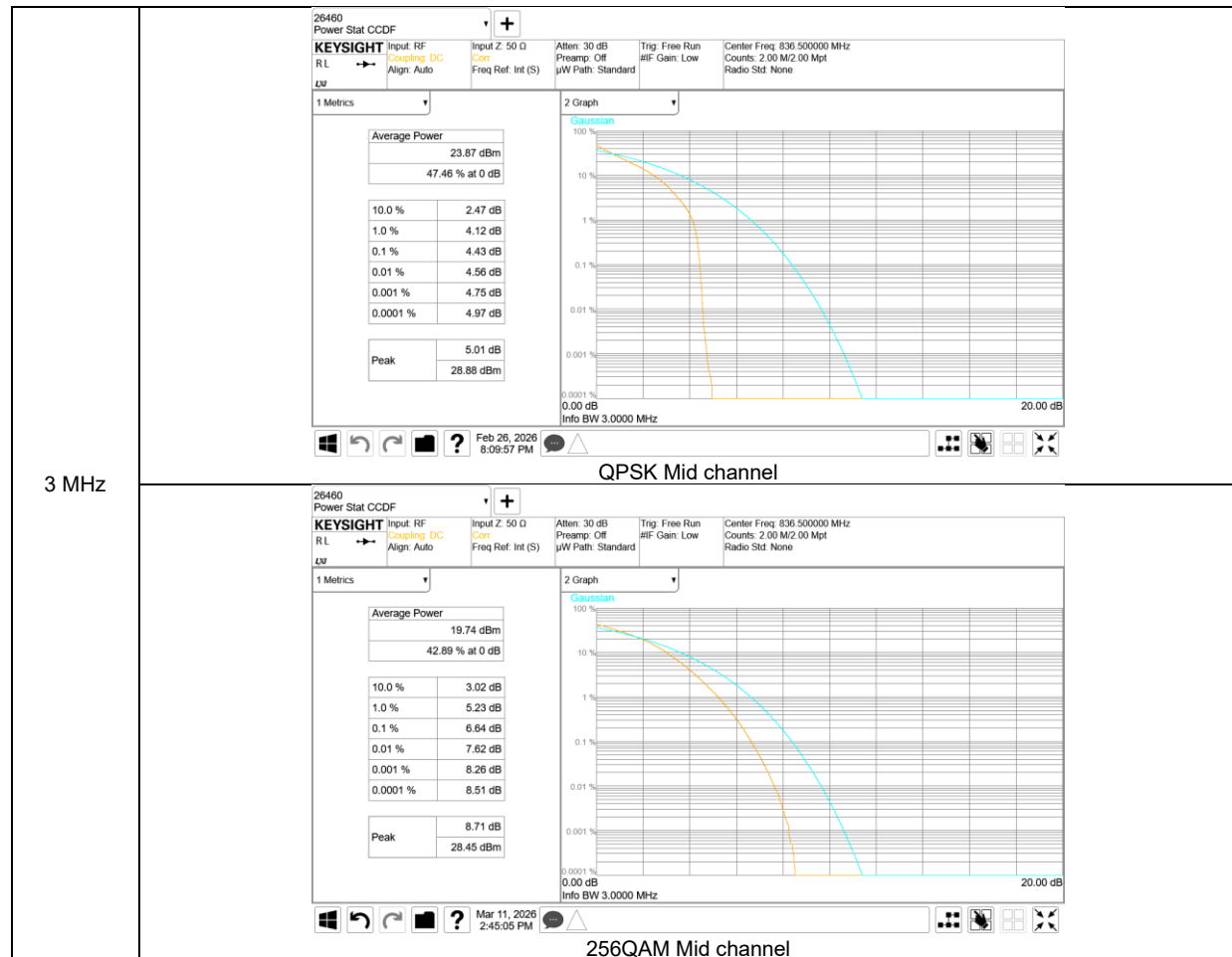


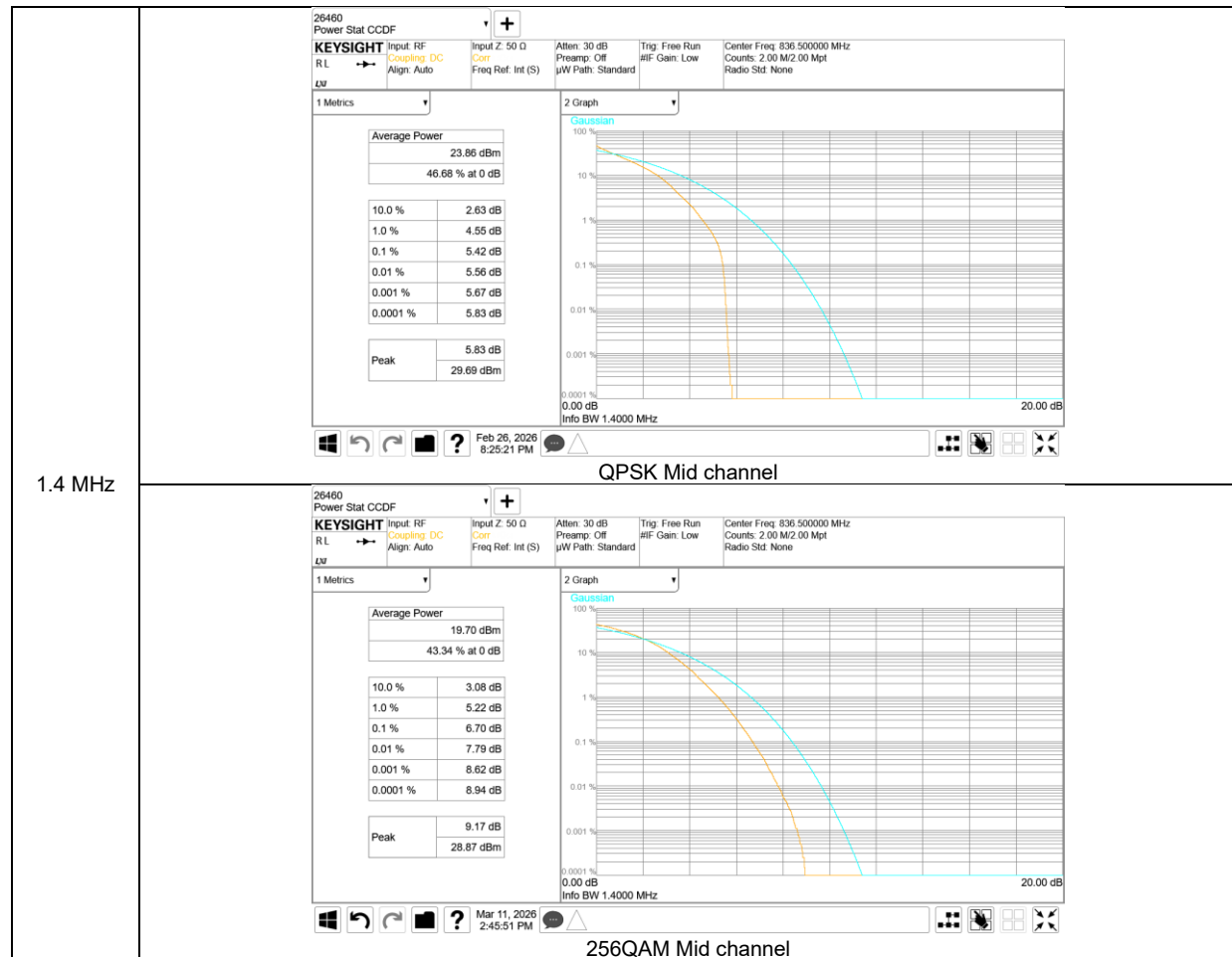
LTE Band 26 (Part 22) (ANT A)



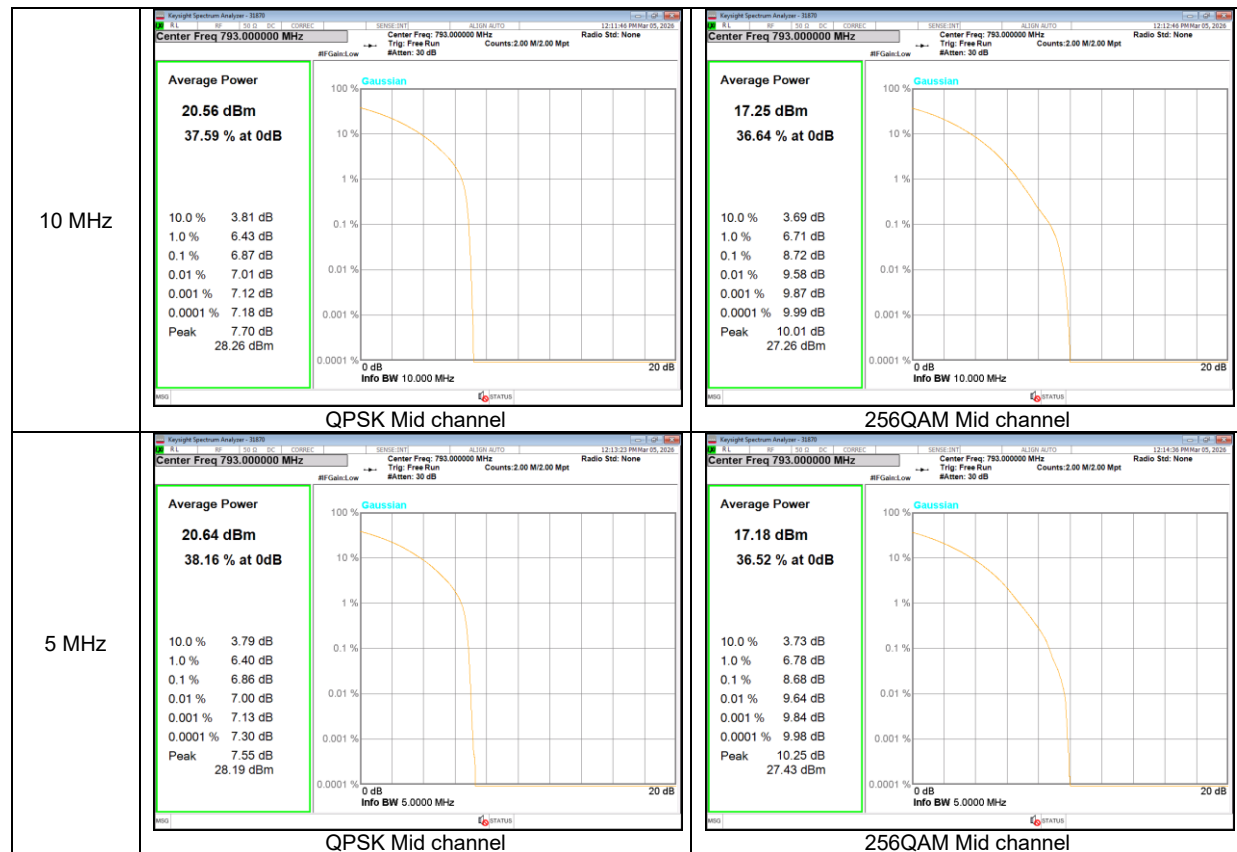








NR Band n14 CP-OFDM (ANT A)



NR Band n26 CP-OFDM (Part 90) (ANT A)



NR Band n26 CP-OFDM (Straddle) (ANT A)



NR Band n26 CP-OFDM (Part 22) (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.

- GSM (ANT A)

Band	Modulation	f [MHz]	99% BW (kHz)	-26dB BW (kHz)
850	GPRS	836.60	243.220	312.500
	EGPRS		242.290	308.100

- WCDMA (ANT A)

Band	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
B5	Rel.99	836.60	4.178	4.639
	HSDPA		4.126	4.623

- LTE Band 14 (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B14	10M	QPSK	793.00	8.976	9.931
		16QAM		8.958	10.010
	5M	QPSK		4.493	5.057
		16QAM		4.488	5.100

- LTE Band 26 (Part 90) (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	821.50	13.416	14.530
		16QAM		13.404	14.710
	10M	QPSK	819.00	8.986	9.955
		16QAM		8.971	9.591
	5M	QPSK		4.482	5.065
		16QAM		4.488	5.071
	3M	QPSK		2.689	3.004
		16QAM		2.686	3.005
	1.4M	QPSK		1.087	1.298
		16QAM		1.088	1.311

- LTE Band 26 (Straddle) (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	824.00	13.448	14.660
		16QAM		13.443	14.680
	10M	QPSK		8.951	9.783
		16QAM		8.960	9.791
	5M	QPSK		4.485	5.036
		16QAM		4.489	5.129
	3M	QPSK		2.688	2.991
		16QAM		2.688	3.000
	1.4M	QPSK		1.089	1.299
		16QAM		1.089	1.320

- LTE Band 26 (Part 22) (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	836.50	13.414	14.570
		16QAM		13.456	14.480
	10M	QPSK		8.957	9.670
		16QAM		8.979	9.784
	5M	QPSK		4.480	5.027
		16QAM		4.490	5.061
	3M	QPSK		2.694	2.992
		16QAM		2.686	2.984
	1.4M	QPSK		1.090	1.315
		16QAM		1.087	1.288

- NR Band n14 CP-OFDM (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n14	10M	QPSK	793.00	9.284	10.050
		16QAM		9.330	9.896
	5M	QPSK		4.484	5.227
		16QAM		4.479	5.167

- NR Band n26 CP-OFDM (Part 90) (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n26	15M	QPSK	821.50	13.410	14.320
		16QAM		13.452	14.310
	10M	QPSK	819.00	9.305	10.180
		16QAM		9.317	10.280
	5M	QPSK		4.479	5.171
		16QAM		4.480	5.234

- NR Band n26 CP-OFDM (Straddle) (ANT A)

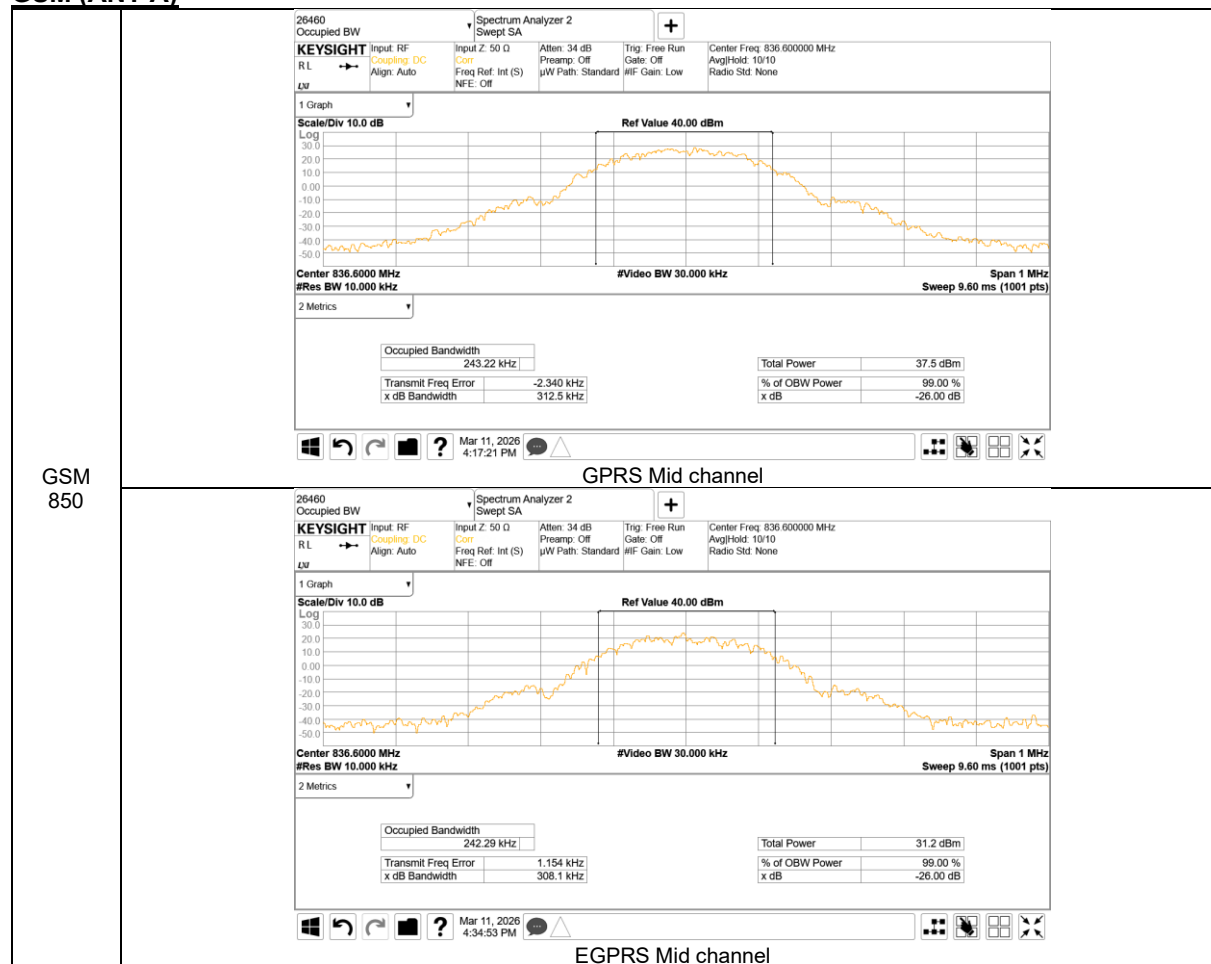
Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n26	20M	QPSK	824.00	18.950	19.860
		16QAM		18.942	20.030
	15M	QPSK		14.112	15.150
		16QAM		14.116	15.060
	10M	QPSK		9.302	9.990
		16QAM		9.328	10.030
	5M	QPSK		4.488	5.265
		16QAM		4.480	5.099

- NR Band n26 CP-OFDM (Part 22) (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n26	20M	QPSK	836.50	18.952	19.860
		16QAM		18.918	19.920
	15M	QPSK		14.127	14.870
		16QAM		14.193	15.010
	10M	QPSK		9.300	10.150
		16QAM		9.279	10.030
	5M	QPSK		4.498	5.241
		16QAM		4.477	5.104

8.3.1. OCCUPIED BANDWIDTH RESULT

GSM (ANT A)



WCDMA (ANT A)



LTE Band 14 (ANT A)



LTE Band 26 (Part 90) (ANT A)





