

CERTIFICATION TEST REPORT

Report Number. : S-4791963822-E2V4

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

Model : SM-F968U1

FCC ID : A3LSMF968U

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
FCC 47 CFR PART 90 SUBPART R,S

Date Of Issue:
2025-12-09

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-11-17	Initial issue	Yeonhee Lim
V2	2025-11-26	Updated to address TCB's question	Yeonhee Lim
V3	2025-12-01	Updated to address TCB's question	Yeonhee Lim
V4	2025-12-09	Updated to address TCB's question	Yeonhee Lim

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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-F968U1

SERIAL NUMBER: R3CY20KCHJM, R3CY20KCH9K, R3CY20KCJ8T, R3CY20KCHBD (CONDUCTED);
R3CY204KWXM, R3CY20KCF9V, R3CY20KCFKY, R3CY204KX1F (RADIATED);

DATE TESTED: 2025-10-05 – 2025-11-17;

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:



Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:



Yeonhee Lim
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
9. KDB 648474 D03 Wireless Chargers Battery Cover v01r04

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	3.69 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.18 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.

5.2. MAXIMUM OUTPUT POWER

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

GSM

FCC Part 22							
Band	ANT	Frequency Range [MHz]	Modulation	Conducted Power		ERP	
				Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
GSM 850	A	824.20 - 848.80	GPRS	32.85	1.928	31.36	1.368
			EGPRS	26.96	0.497	26.30	0.427
GSM 850	D	824.20 - 848.80	GPRS	32.27	1.687	28.40	0.692
			EGPRS	26.21	0.418	23.77	0.238

WCDMA

FCC Part 22							
Band	ANT	Frequency Range [MHz]	Modulation	Conducted Power		ERP	
				Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 5	A	826.40 - 846.60	Rel. 99	25.25	0.335	23.55	0.226
			HSDPA	24.28	0.268	21.73	0.149
Band 5	D	826.40 - 846.60	Rel. 99	24.82	0.303	21.65	0.146
			HSDPA	23.81	0.240	20.71	0.118

LTE Band 14

FCC Part 90								
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted Power		ERP	
					Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 14	A	793.00	10	QPSK	24.68	0.294	22.96	0.198
				16QAM	23.92	0.247	21.95	0.157
				64QAM	23.12	0.205		
				256QAM	19.63	0.092		
		790.50 - 795.50	5	QPSK	24.97	0.314	23.11	0.205
				16QAM	24.03	0.253	22.13	0.163
				64QAM	23.12	0.205		
				256QAM	20.04	0.101		
Band 14	D	793.00	10	QPSK	23.95	0.248	19.79	0.095
				16QAM	22.95	0.197	18.77	0.075
				64QAM	22.69	0.186		
				256QAM	19.25	0.084		
		790.50 - 795.50	5	QPSK	24.27	0.267	20.04	0.101
				16QAM	23.49	0.223	18.97	0.079
				64QAM	22.38	0.173		
				256QAM	19.72	0.094		

LTE Band 26 (Part 90)

FCC Part 90								
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted Power		ERP	
					Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 26	A	821.50	15	QPSK	24.64	0.291	20.88	0.122
				16QAM	23.77	0.238	19.77	0.095
				64QAM	23.08	0.203		
				256QAM	19.94	0.099		
		819.00	10	QPSK	24.70	0.295	21.03	0.127
				16QAM	23.68	0.233	19.77	0.095
				64QAM	22.95	0.197		
				256QAM	19.89	0.097		
		816.50 - 821.50	5	QPSK	24.73	0.297	21.07	0.128
				16QAM	23.84	0.242	19.84	0.096
				64QAM	22.98	0.199		
				256QAM	19.88	0.097		
		815.50 - 822.50	3	QPSK	24.87	0.307	21.13	0.130
				16QAM	24.06	0.255	20.05	0.101
				64QAM	23.10	0.204		
				256QAM	19.96	0.099		
Band 26	D	821.50	15	QPSK	23.92	0.247	19.83	0.096
				16QAM	23.23	0.210	18.83	0.076
				64QAM	22.17	0.165		
				256QAM	18.99	0.079		
		819.00	10	QPSK	23.96	0.249	19.96	0.099
				16QAM	23.19	0.208	18.88	0.077
				64QAM	22.22	0.167		
				256QAM	19.27	0.085		
		816.50 - 821.50	5	QPSK	24.16	0.261	20.20	0.105
				16QAM	23.20	0.209	18.80	0.076
				64QAM	22.38	0.173		
				256QAM	19.16	0.082		
		815.50 - 822.50	3	QPSK	24.06	0.255	20.06	0.101
				16QAM	23.12	0.205	18.81	0.076
				64QAM	22.43	0.175		
				256QAM	19.25	0.084		
		814.70 - 823.30	1.4	QPSK	24.05	0.254	20.02	0.100
				16QAM	23.23	0.210	18.86	0.077
				64QAM	22.27	0.169		
				256QAM	19.25	0.084		

LTE Band 26 (Straddle)

Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Straddle			
					Conducted Power		ERP	
					Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 26	A	824.00	15	QPSK	24.84	0.305	21.60	0.145
				16QAM	23.89	0.245	20.58	0.114
				64QAM	23.05	0.202		
				256QAM	19.99	0.100		
			10	QPSK	24.75	0.299	21.51	0.142
				16QAM	24.09	0.256	20.78	0.120
				64QAM	22.95	0.197		
				256QAM	20.07	0.102		
			5	QPSK	24.77	0.300	21.53	0.142
				16QAM	23.98	0.250	20.67	0.117
				64QAM	22.93	0.196		
				256QAM	19.91	0.098		
			3	QPSK	24.77	0.300	21.53	0.142
				16QAM	23.95	0.248	20.64	0.116
				64QAM	22.85	0.193		
				256QAM	19.92	0.098		
			1.4	QPSK	24.73	0.297	21.49	0.141
				16QAM	23.89	0.245	20.58	0.114
				64QAM	22.95	0.197		
				256QAM	19.90	0.098		
Band 26	D	824.00	15	QPSK	24.01	0.252	19.93	0.098
				16QAM	23.05	0.202	18.87	0.077
				64QAM	22.39	0.173		
				256QAM	19.43	0.088		
			10	QPSK	24.02	0.252	16.38	0.043
				16QAM	23.25	0.211	15.51	0.036
				64QAM	22.17	0.165		
				256QAM	19.24	0.084		
			5	QPSK	24.25	0.266	20.17	0.104
				16QAM	23.27	0.212	19.09	0.081
				64QAM	22.37	0.173		
				256QAM	19.09	0.081		
			3	QPSK	24.06	0.255	19.98	0.100
				16QAM	23.36	0.217	19.18	0.083
				64QAM	22.38	0.173		
				256QAM	19.29	0.085		
			1.4	QPSK	23.95	0.248	19.87	0.097
				16QAM	23.30	0.214	19.12	0.082
				64QAM	22.36	0.172		
				256QAM	19.26	0.084		

LTE Band 26 (Part 22)

FCC Part 22								
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted Power		ERP	
					Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
Band 26	A	831.50 - 841.50	15	QPSK	24.87	0.307	23.42	0.220
				16QAM	24.01	0.252	22.32	0.171
				64QAM	23.01	0.200		
				256QAM	19.90	0.098		
		829.00 - 844.00	10	QPSK	24.96	0.313	23.69	0.234
				16QAM	24.05	0.254	22.29	0.169
				64QAM	23.09	0.204		
				256QAM	20.15	0.104		
		826.50 - 846.50	5	QPSK	24.88	0.308	23.61	0.230
				16QAM	24.12	0.258	22.37	0.173
				64QAM	22.97	0.198		
				256QAM	20.09	0.102		
		825.50 - 847.50	3	QPSK	24.95	0.313	23.68	0.233
				16QAM	24.11	0.258	22.36	0.172
				64QAM	23.08	0.203		
				256QAM	20.09	0.102		
		824.70 - 848.30	1.4	QPSK	24.82	0.303	23.55	0.226
				16QAM	24.12	0.258	22.37	0.173
				64QAM	23.16	0.207		
				256QAM	19.93	0.098		
Band 26	D	831.50 - 841.50	15	QPSK	24.04	0.254	20.61	0.115
				16QAM	23.32	0.215	19.69	0.093
				64QAM	22.31	0.170		
				256QAM	19.27	0.085		
		829.00 - 844.00	10	QPSK	24.11	0.258	20.44	0.111
				16QAM	23.22	0.210	19.51	0.089
				64QAM	22.34	0.171		
				256QAM	19.34	0.086		
		826.50 - 846.50	5	QPSK	24.11	0.258	20.33	0.108
				16QAM	23.33	0.215	19.50	0.089
				64QAM	22.17	0.165		
				256QAM	19.29	0.085		
		825.50 - 847.50	3	QPSK	24.17	0.261	20.39	0.109
				16QAM	23.32	0.215	19.49	0.089
				64QAM	22.34	0.171		
				256QAM	19.52	0.090		
		824.70 - 848.30	1.4	QPSK	24.13	0.259	20.15	0.104
				16QAM	23.45	0.221	19.48	0.089
				64QAM	22.50	0.178		
				256QAM	19.64	0.092		

NR Band n14 (Part 90)

FCC Part 90									
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power		ERP	
						Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
n14	A	793.00	10	DFT-s OFDM	$\pi/2$ BPSK	24.53	0.284		
					QPSK	24.89	0.308	23.21	0.209
					16QAM	23.71	0.235	21.87	0.154
					64QAM	22.13	0.163		
					256QAM	19.32	0.086		
				CP-OFDM	QPSK	23.11	0.205		
					16QAM	22.47	0.177		
					64QAM	20.76	0.119		
					256QAM	17.39	0.055		
					$\pi/2$ BPSK	24.83	0.304		
		790.50 - 795.50	5	DFT-s OFDM	QPSK	24.84	0.305	22.99	0.199
					16QAM	23.72	0.236	22.05	0.160
					64QAM	22.18	0.165		
					256QAM	19.43	0.088		
				CP-OFDM	QPSK	23.15	0.207		
n14	D	793.00	10	DFT-s OFDM	$\pi/2$ BPSK	24.60	0.288		
					QPSK	24.61	0.289	19.86	0.097
					16QAM	23.37	0.217	18.71	0.074
					64QAM	21.92	0.156		
					256QAM	19.14	0.082		
				CP-OFDM	QPSK	22.96	0.198		
					16QAM	22.07	0.161		
					64QAM	20.26	0.106		
					256QAM	17.53	0.057		
		790.50 - 795.50	5	DFT-s OFDM	$\pi/2$ BPSK	24.55	0.285		
					QPSK	24.60	0.288	19.83	0.096
					16QAM	23.54	0.226	18.75	0.075
					64QAM	22.00	0.158		
					256QAM	19.48	0.089		
				CP-OFDM	QPSK	22.90	0.195		

NR Band n26 (Part 90)

FCC Part 90									
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power		ERP	
						Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
n26	A	821.50	15	DFT-s OFDM	$\pi/2$ BPSK	24.26	0.267		
					QPSK	24.20	0.263	21.21	0.132
					16QAM	23.14	0.206	20.18	0.104
					64QAM	21.72	0.149		
					256QAM	19.10	0.081		
				CP-OFDM	QPSK	22.73	0.187		
		819.00	10	DFT-s OFDM	$\pi/2$ BPSK	24.22	0.264		
					QPSK	24.24	0.265	21.36	0.137
					16QAM	23.11	0.205	20.30	0.107
					64QAM	21.75	0.150		
					256QAM	19.09	0.081		
				CP-OFDM	QPSK	22.80	0.191		
		816.50 - 821.50	5	DFT-s OFDM	$\pi/2$ BPSK	24.23	0.265		
					QPSK	24.27	0.267	21.28	0.134
					16QAM	23.17	0.207	20.39	0.109
					64QAM	21.88	0.154		
					256QAM	19.68	0.093		
				CP-OFDM	QPSK	22.81	0.191		
n26	D	821.50	15	DFT-s OFDM	$\pi/2$ BPSK	24.37	0.274		
					QPSK	24.31	0.270	20.17	0.104
					16QAM	23.13	0.206	18.98	0.079
					64QAM	21.83	0.152		
					256QAM	19.18	0.083		
				CP-OFDM	QPSK	22.85	0.193		
		819.00	10	DFT-s OFDM	$\pi/2$ BPSK	24.32	0.270		
					QPSK	24.35	0.272	20.30	0.107
					16QAM	23.21	0.209	19.14	0.082
					64QAM	21.81	0.152		
					256QAM	19.12	0.082		
				CP-OFDM	QPSK	22.82	0.191		
		816.50 - 821.50	5	DFT-s OFDM	$\pi/2$ BPSK	24.34	0.272		
					QPSK	24.37	0.274	20.36	0.109
					16QAM	23.27	0.212	19.24	0.084
					64QAM	21.84	0.153		
					256QAM	19.54	0.090		
				CP-OFDM	QPSK	22.89	0.195		

NR Band n26 (Straddle)

Straddle									
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power		ERP	
						Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]
n26	A	824.00	20	DFT-s OFDM	$\pi/2$ BPSK	24.15	0.260		
					QPSK	24.18	0.262	20.98	0.125
					16QAM	23.08	0.203	19.97	0.099
					64QAM	21.73	0.149		
					256QAM	19.13	0.082		
				CP-OFDM	QPSK	22.83	0.192		
					16QAM	22.13	0.163		
					64QAM	20.58	0.114		
					256QAM	17.66	0.058		
					$\pi/2$ BPSK	24.05	0.254		
			15	DFT-s OFDM	QPSK	24.12	0.258	20.92	0.124
					16QAM	23.01	0.200	19.90	0.098
					64QAM	21.45	0.140		
					256QAM	19.69	0.093		
				CP-OFDM	QPSK	22.71	0.187		
					$\pi/2$ BPSK	24.14	0.259		
			10	DFT-s OFDM	QPSK	24.16	0.261	20.96	0.125
					16QAM	23.02	0.200	19.91	0.098
					64QAM	21.56	0.143		
					256QAM	19.72	0.094		
				CP-OFDM	QPSK	22.69	0.186		
					$\pi/2$ BPSK	24.14	0.259		
			5	DFT-s OFDM	QPSK	24.17	0.261	20.96	0.125
					16QAM	23.14	0.206	20.03	0.101
					64QAM	21.59	0.144		
					256QAM	19.69	0.093		
				CP-OFDM	QPSK	22.72	0.187		
					$\pi/2$ BPSK	24.25	0.266		
n26	D	824.00	20	DFT-s OFDM	QPSK	24.31	0.270	19.94	0.099
					16QAM	23.14	0.206	18.97	0.079
					64QAM	21.78	0.151		
					256QAM	19.17	0.083		
				CP-OFDM	QPSK	22.79	0.190		
					16QAM	22.07	0.161		
					64QAM	20.54	0.113		
					256QAM	17.31	0.054		
					$\pi/2$ BPSK	24.09	0.256		
			15	DFT-s OFDM	QPSK	24.05	0.254	19.68	0.093
					16QAM	22.94	0.197	18.77	0.075
					64QAM	21.34	0.136		
					256QAM	19.57	0.091		
				CP-OFDM	QPSK	22.63	0.183		
					$\pi/2$ BPSK	24.04	0.254		
			10	DFT-s OFDM	QPSK	24.05	0.254	19.68	0.093
					16QAM	22.93	0.196	18.76	0.075
					64QAM	21.43	0.139		
					256QAM	19.58	0.091		
				CP-OFDM	QPSK	22.67	0.185		
					$\pi/2$ BPSK	24.06	0.255		
			5	DFT-s OFDM	QPSK	24.06	0.255	19.81	0.096
					16QAM	23.05	0.202	18.88	0.077
					64QAM	21.45	0.140		
					256QAM	19.56	0.090		
				CP-OFDM	QPSK	22.77	0.189		

NR Band n26 (Part 22)

FCC Part 22												
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted Power		ERP				
						Max. Power [dBm]	Max. Power [W]	Max. Power [dBm]	Max. Power [W]			
n26	A	834.00 - 839.00	20	DFT-s OFDM	$\pi/2$ BPSK	24.21	0.264					
					QPSK	24.19	0.262	22.60	0.182			
					16QAM	23.21	0.209	21.62	0.145			
					64QAM	21.75	0.150					
					256QAM	19.73	0.094					
				CP-OFDM	QPSK	22.73	0.187					
					16QAM	22.07	0.161					
					64QAM	20.59	0.115					
					256QAM	17.69	0.059					
					831.50 - 841.50	15	DFT-s OFDM	$\pi/2$ BPSK	24.30	0.269		
		QPSK	24.31	0.270				22.82	0.191			
		16QAM	23.08	0.203				21.74	0.149			
		64QAM	21.79	0.151								
		256QAM	19.65	0.092								
		CP-OFDM	QPSK	22.84			0.192					
			829.00 - 844.00	10			DFT-s OFDM	$\pi/2$ BPSK	24.26	0.267		
								QPSK	24.20	0.263	22.72	0.187
								16QAM	23.08	0.203	21.49	0.141
								64QAM	21.75	0.150		
		256QAM			19.74	0.094						
		CP-OFDM			QPSK	22.79	0.190					
					826.50 - 846.50	5	DFT-s OFDM	$\pi/2$ BPSK	24.22	0.264		
								QPSK	24.25	0.266	22.26	0.168
								16QAM	23.15	0.207	21.54	0.143
								64QAM	21.82	0.152		
256QAM	19.68	0.093										
CP-OFDM	QPSK	22.73	0.187									

n26	D	834.00 - 839.00	20	DFT-s OFDM	$\pi/2$ BPSK	24.31	0.270				
					QPSK	24.25	0.266	20.57	0.114		
					16QAM	23.07	0.203	19.61	0.091		
					64QAM	21.91	0.155				
					256QAM	19.55	0.090				
				CP-OFDM	QPSK	22.92	0.196				
					16QAM	22.08	0.161				
					64QAM	20.53	0.113				
					256QAM	17.27	0.053				
					831.50 - 841.50	15	DFT-s OFDM	$\pi/2$ BPSK	24.33	0.271	
				QPSK				24.35	0.272	20.85	0.122
		16QAM	23.13	0.206				19.71	0.094		
		64QAM	21.83	0.152							
		256QAM	19.59	0.091							
		CP-OFDM	QPSK	22.87			0.194				
		829.00 - 844.00	10	DFT-s OFDM	$\pi/2$ BPSK	24.21	0.264				
					QPSK	24.24	0.265	20.74	0.119		
					16QAM	23.02	0.200	19.59	0.091		
					64QAM	21.77	0.150				
					256QAM	19.51	0.089				
				CP-OFDM	QPSK	22.65	0.184				
		826.50 - 846.50	5	DFT-s OFDM	$\pi/2$ BPSK	24.34	0.272				
					QPSK	24.32	0.270	20.20	0.105		
					16QAM	23.06	0.202	19.61	0.091		
					64QAM	21.82	0.152				
256QAM	19.67				0.093						
CP-OFDM	QPSK			22.80	0.191						

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, 26 / NR Band n5, n26 814 - 849 MHz	A	-1.58
	D	-1.59
LTE Band 14 / NR Band n14 788 - 798 MHz	A	-1.70
	D	-5.31

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	ASDIV

- The RF port of GSM 850, WCDMA B5, 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	A	33.3	D	33.3
WCDMA B5	A	25.5	D	25.5
LTE B14	A	25.5	D	25.5
LTE B26	A	25.5	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

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 measured on $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modulations. It was found QPSK and 16QAM results were worst case.

This device supports NSA and SA Mode and Worst case reported.
So the test case is as below.

NR Band	NSA	SA
n5	LTE B2/48/66	<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	ASDIV

- The RF port of NR n14 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 NR n26 was tested on all antennas and reported as 'Sub ANT' because the test power of 'Sub ANT' is same to or higher than 'Main ANT'.
- So the test case is as below.

Band	Main ANT	Tune up Limit (dBm)	Sub ANT	Tune up Limit (dBm)
NR n14	<u>A</u>	<u>25.0</u>	D	25.0
NR n26	A	25.0	<u>D</u>	<u>25.0</u>

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

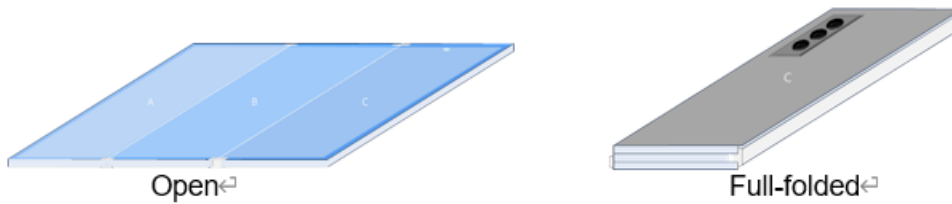
Highest conducted output power setting for each bands						
LTE Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
14	A	790.50	5	QPSK	1	25
		793.00			1	49
		795.50			1	0
26	A	815.50	3	QPSK	1	8
		822.50			1	8
		824.00	15	QPSK	1	37
		829.00	10	QPSK	1	25
		836.50			1	25
		844.00			1	25
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
14	A	793.00	10	DFT-s OFDM QPSK	1	1
26	D	816.50	5	DFT-s OFDM QPSK	1	12
		821.50			1	12
		824.00	20		1	52
		831.50	15		1	1
		836.50			1	1
		841.50			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	25
		793.00			1	49
		795.50			1	0
	D	790.50	5	QPSK	1	0
		793.00			1	25
		795.50			1	25
26	A	815.50	3	QPSK	1	8
		822.50			1	8
		824.00	15	QPSK	1	37
		829.00	10	QPSK	1	25
		836.50			1	25
		844.00			1	25
	D	816.50	5	QPSK	1	0
		821.50			1	0
		824.00	5	QPSK	1	0
		831.50	15	QPSK	1	37
		836.50			1	0
		841.50			1	37
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
14	A	793.00	10	DFT-s OFDM QPSK	1	1
	D	793.00	10	DFT-s OFDM QPSK	1	1
26	A	819.00	10	DFT-s OFDM QPSK	1	25
		824.00	20		1	1
		831.50	15		1	1
		836.50			1	1
		841.50			1	1
	D	816.50	5	DFT-s OFDM QPSK	1	12
		821.50			1	12
		824.00	20		1	52
		831.50	15		1	1
		836.50			1	1
		841.50			1	1

Note1 : for radiated emission testing, EN-DC and ULCA mode were investigated in simultaneous mode. There was no discernible difference in the spurious emission levels when using different LTE and FR1 anchor bands

The fundamental and radiated spurious emission were investigated in three orthogonal orientations X, Y and Z 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	-	-	Open	-	-	Open
	D	-	Open	-	-	-	Open
WCDMA B5	A	-	Open	-	-	-	Full-Fold
	D	-	Open	-	Open	-	-
LTE B14	A	-	-	Full-Fold	Full-Fold	-	-
	D	-	-	Open	-	Open	-
LTE B26	A	-	-	Open	-	Full-Fold	-
	D	-	-	Open	Open	-	-
NR n14	A	-	-	Full-Fold	Open	-	-
	D	-	-	Open	-	-	Full-Fold
NR n26	A	-	-	Open	Open	-	-
	D	-	-	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.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacture	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-T2510	N/A	N/A
Data Cable	SAMSUNG	EP-DN980	N/A	N/A

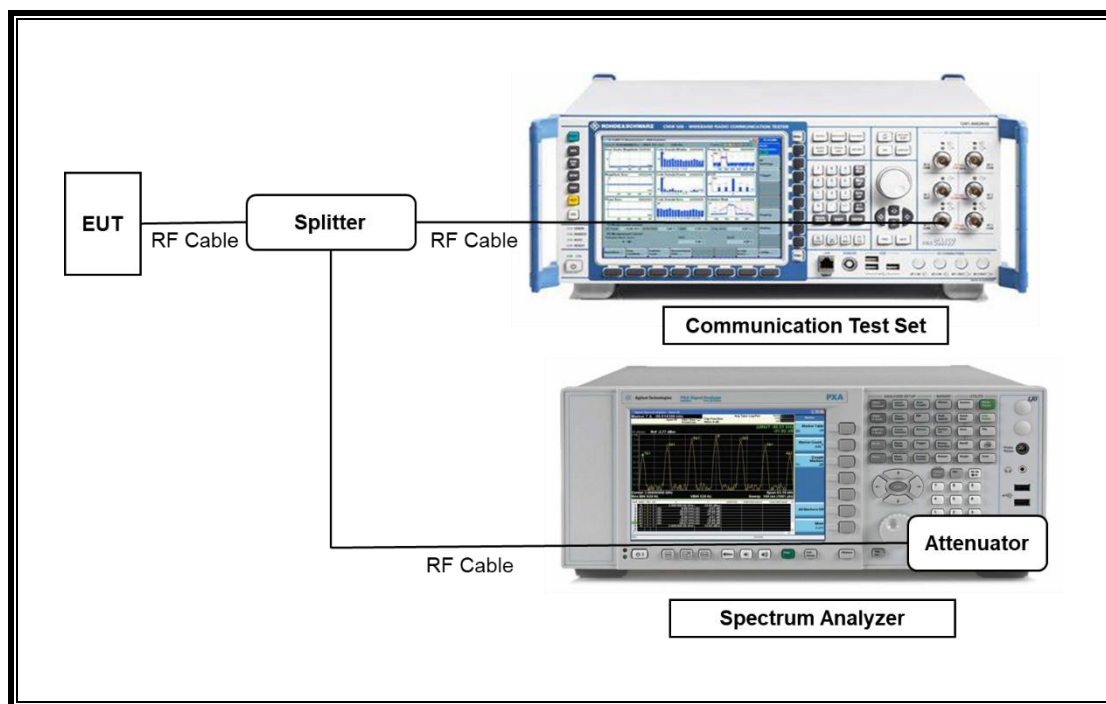
I/O CABLE

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

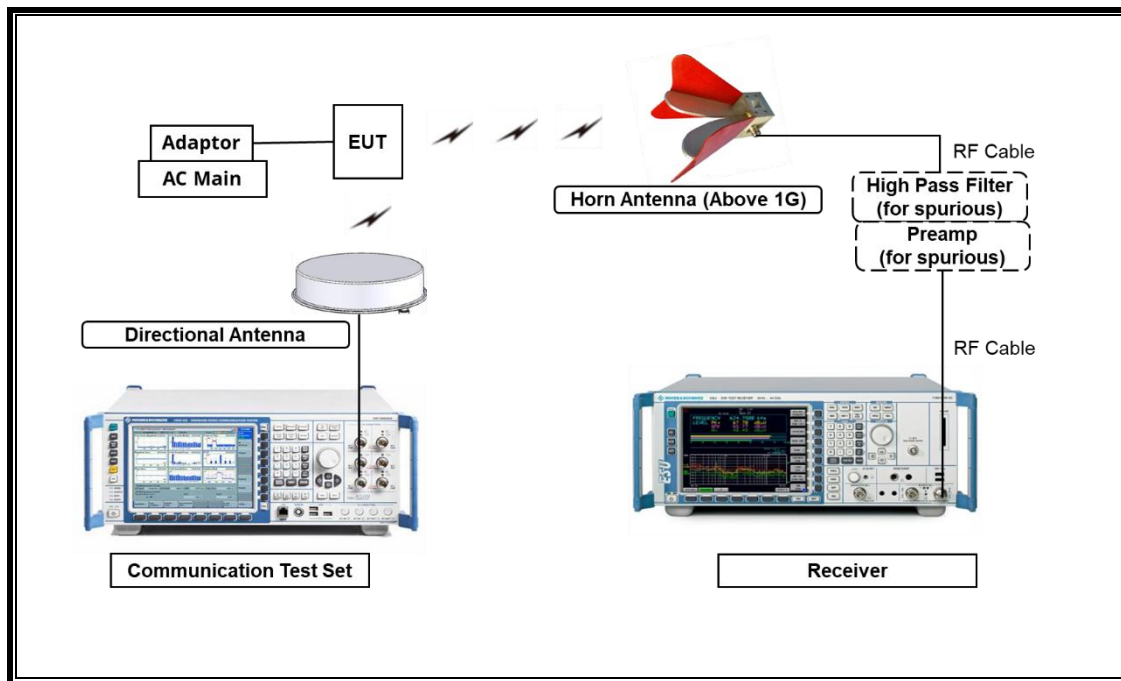
TEST SETUP

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

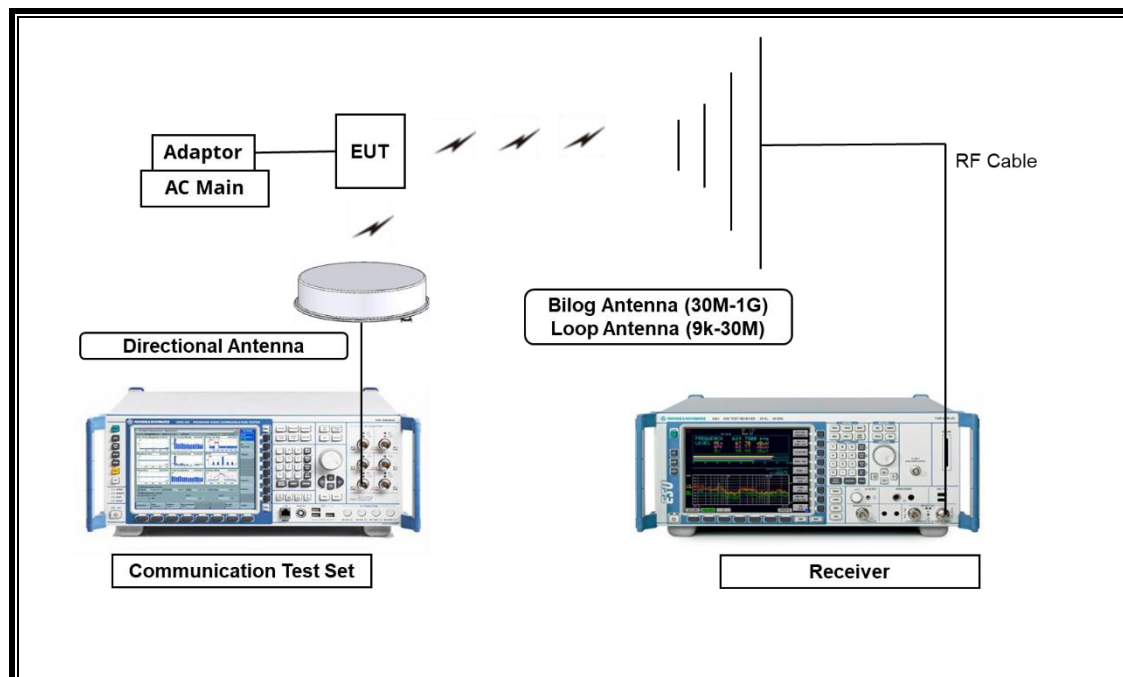
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



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	2026-01-02
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	2026-01-03
Power Splitter	MINI-CIRCUITS	WA1534	UL004	2026-01-03
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY57510655	2026-01-03
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)	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(e) 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	32.84	23.65
			32.78	23.59
			32.46	23.27
GPRS (GMSK)	CS1	1	32.85	23.66
			32.70	23.51
			32.36	23.17
		2	31.61	25.43
			31.50	25.32
			31.07	24.89
		3	29.57	25.15
			29.41	24.99
			29.10	24.68
		4	27.63	24.46
			27.66	24.49
			27.23	24.06
EGPRS (8PSK)	MCS5	1	26.77	17.58
			26.96	17.77
			26.59	17.40
		2	25.21	19.03
			25.07	18.89
			24.49	18.31
		3	23.07	18.65
			22.92	18.50
			22.56	18.14
		4	21.95	18.78
			21.97	18.80
			21.72	18.55

GSM (ANT D)

Mode	Coding Scheme	Time Slots	Burst Pwr	Frame Pwr
GSM (Voice)	CS1	1	32.27	32.27
			32.22	32.22
			31.96	31.96
GPRS (GMSK)	CS1	1	32.27	32.27
			32.16	32.16
			32.19	32.19
		2	31.22	31.22
			30.99	30.99
			30.74	30.74
		3	29.07	29.07
			28.84	28.84
			28.83	28.83
		4	26.96	26.96
			27.15	27.15
			26.67	26.67
EGPRS (8PSK)	MCS5	1	26.21	26.21
			26.14	26.14
			25.87	25.87
		2	24.57	24.57
			24.36	24.36
			23.98	23.98
		3	22.43	22.43
			22.20	22.20
			21.83	21.83
		4	21.37	21.37
			21.32	21.32
			21.20	21.20

WCDMA B5 (ANT A)

Mode		UL Ch No.	Freq. (MHz)	Measured Pwr
Release 99	Rel 99 (RMC, 12.2 kbps)	4132	826.4	25.25
		4183	836.6	24.80
		4233	846.6	24.52
HSDPA	Subtest 1	4132	826.4	24.28
		4183	836.6	23.78
		4233	846.6	23.50
	Subtest 2	4132	826.4	24.27
		4183	836.6	23.78
		4233	846.6	23.53
	Subtest 3	4132	826.4	23.79
		4183	836.6	23.30
		4233	846.6	23.03
	Subtest 4	4132	826.4	23.79
		4183	836.6	23.32
		4233	846.6	23.04
HSUPA	Subtest 1	4132	826.4	24.25
		4183	836.6	23.80
		4233	846.6	23.49
	Subtest 2	4132	826.4	22.21
		4183	836.6	21.79
		4233	846.6	21.48
	Subtest 3	4132	826.4	23.24
		4183	836.6	22.78
		4233	846.6	22.46
	Subtest 4	4132	826.4	22.24
		4183	836.6	21.77
		4233	846.6	21.49
	Subtest 5	4132	826.4	23.77
		4183	836.6	23.34
		4233	846.6	23.13
DC-HSDPA	Subtest 1	4132	826.4	24.29
		4183	836.6	23.81
		4233	846.6	23.53
	Subtest 2	4132	826.4	24.26
		4183	836.6	23.84
		4233	846.6	23.53
	Subtest 3	4132	826.4	23.80
		4183	836.6	23.30
		4233	846.6	23.04
	Subtest 4	4132	826.4	23.85
		4183	836.6	23.29
		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	24.82
		4183	836.6	24.33
		4233	846.6	24.02
HSDPA	Subtest 1	4132	826.4	23.81
		4183	836.6	23.30
		4233	846.6	23.03
	Subtest 2	4132	826.4	23.80
		4183	836.6	23.34
		4233	846.6	23.01
	Subtest 3	4132	826.4	23.32
		4183	836.6	22.85
		4233	846.6	22.53
	Subtest 4	4132	826.4	23.30
		4183	836.6	22.85
		4233	846.6	22.54
HSUPA	Subtest 1	4132	826.4	23.77
		4183	836.6	23.31
		4233	846.6	23.00
	Subtest 2	4132	826.4	21.75
		4183	836.6	21.31
		4233	846.6	20.97
	Subtest 3	4132	826.4	22.77
		4183	836.6	22.31
		4233	846.6	22.02
	Subtest 4	4132	826.4	21.76
		4183	836.6	21.30
		4233	846.6	20.99
	Subtest 5	4132	826.4	23.35
		4183	836.6	22.87
		4233	846.6	22.64
DC-HSDPA	Subtest 1	4132	826.4	23.79
		4183	836.6	23.35
		4233	846.6	23.03
	Subtest 2	4132	826.4	23.81
		4183	836.6	23.36
		4233	846.6	23.01
	Subtest 3	4132	826.4	23.32
		4183	836.6	22.86
		4233	846.6	22.54
	Subtest 4	4132	826.4	23.34
		4183	836.6	22.82
		4233	846.6	22.52

LTE Band 14 (ANT A)

BW (MHz)	Mode	RB Allocation	RB offset		23330	
					793.00 MHz	
10 MHz	QPSK	1	0		24.68	
		1	25		24.65	
		1	49		24.42	
		50	0		23.57	
	16QAM	1	0		23.54	
		1	25		23.92	
		1	49		23.82	
		50	0		22.59	
	64QAM	1	0		22.67	
		1	25		22.89	
		1	49		23.12	
		50	0		21.48	
	256QAM	1	0		19.63	
		1	25		19.55	
		1	49		19.32	
		50	0		19.57	
BW (MHz)	Mode	RB Allocation	RB offset	23305	23330	23355
				790.50 MHz	793.00 MHz	795.50 MHz
5 MHz	QPSK	1	0	24.62	24.69	24.97
		1	12	24.66	24.63	24.69
		1	24	24.57	24.70	24.61
		25	0	23.66	23.77	23.66
	16QAM	1	0	23.57	23.78	23.79
		1	12	23.70	23.58	23.65
		1	24	23.49	23.53	24.03
		25	0	22.76	22.72	22.62
	64QAM	1	0	22.96	22.75	22.43
		1	12	22.67	23.12	22.90
		1	24	22.91	22.99	23.02
		25	0	21.65	21.72	21.59
	256QAM	1	0	19.77	19.43	20.04
		1	12	19.48	19.94	19.92
		1	24	19.88	19.63	19.72
		25	0	19.62	19.67	19.72

LTE Band 14 (ANT D)

BW (MHz)	Mode	RB Allocation	RB offset		23330	
					793.00 MHz	
10 MHz	QPSK	1	0		23.95	
		1	25		23.92	
		1	49		23.90	
		50	0		22.95	
	16QAM	1	0		22.63	
		1	25		22.95	
		1	49		22.61	
		50	0		21.93	
	64QAM	1	0		22.69	
		1	25		22.21	
		1	49		21.93	
		50	0		21.07	
	256QAM	1	0		19.18	
		1	25		19.15	
		1	49		19.25	
		50	0		19.03	
BW (MHz)	Mode	RB Allocation	RB offset	23305	23330	23355
				790.50 MHz	793.00 MHz	795.50 MHz
5 MHz	QPSK	1	0	24.03	23.93	24.09
		1	12	23.88	24.07	24.27
		1	24	23.86	24.00	24.04
		25	0	23.06	22.96	23.01
	16QAM	1	0	23.08	23.35	23.49
		1	12	23.18	23.45	23.08
		1	24	23.11	23.29	23.07
		25	0	22.06	21.97	22.04
	64QAM	1	0	22.25	22.23	21.86
		1	12	22.00	22.38	22.20
		1	24	21.69	22.26	21.91
		25	0	21.01	21.04	20.95
	256QAM	1	0	19.10	18.91	19.23
		1	12	19.72	18.94	18.96
		1	24	19.00	18.94	19.11
		25	0	18.98	18.96	18.94

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	24.47		24.57	24.61	24.62	24.61
		1	37	24.55		24.84	24.87	24.62	24.50
		1	74	24.64		24.64	24.44	24.34	24.22
		75	0	23.64		23.65	23.66	23.64	23.48
	16QAM	1	0	23.57		23.76	23.78	23.97	23.81
		1	37	23.77		23.80	23.94	24.01	23.60
		1	74	23.70		23.89	23.69	23.51	23.51
		75	0	22.64		22.73	22.69	22.71	22.50
	64QAM	1	0	22.76		22.72	22.83	22.87	22.62
		1	37	23.08		23.05	23.01	22.89	22.69
		1	74	22.82		22.89	22.64	22.72	22.47
		75	0	21.66		21.69	21.67	21.62	21.44
	256QAM	1	0	19.64		19.66	19.57	19.84	19.90
		1	37	19.94		19.99	19.85	19.90	19.59
		1	74	19.79		19.57	19.39	19.30	19.11
		75	0	19.63		19.72	19.68	19.67	19.43
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	24.52		24.63	24.71	24.62	24.37
		1	25	24.70		24.75	24.78	24.96	24.55
		1	49	24.60		24.73	24.73	24.71	24.37
		50	0	23.68		23.78	23.77	23.80	23.50
	16QAM	1	0	23.64		23.98	23.91	23.90	23.67
		1	25	23.65		23.72	24.05	23.95	23.85
		1	49	23.68		24.09	23.83	23.88	23.57
		50	0	22.56		22.80	22.81	22.79	22.48
	64QAM	1	0	22.69		22.86	22.92	22.95	22.73
		1	25	22.74		22.95	23.01	23.09	22.79
		1	49	22.95		22.89	22.88	23.01	22.45
		50	0	21.73		21.76	21.81	21.79	21.47
	256QAM	1	0	19.80		19.72	19.91	19.95	19.82
		1	25	19.85		20.07	19.90	20.15	19.63
		1	49	19.89		19.93	19.84	19.93	19.23
		50	0	19.71		19.76	19.74	19.73	19.45
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	24.63	24.69	24.69	24.82	24.84	24.39
		1	12	24.70	24.60	24.77	24.81	24.88	24.26
		1	24	24.60	24.73	24.63	24.81	24.76	24.08
		25	0	23.69	23.72	23.76	23.83	23.77	23.38
	16QAM	1	0	23.49	23.70	23.98	23.72	23.94	23.35
		1	12	23.65	23.84	23.84	23.82	24.12	23.40
		1	24	23.55	23.77	23.87	23.76	23.87	23.46
		25	0	22.71	22.72	22.80	22.75	22.83	22.34
	64QAM	1	0	22.70	22.66	22.71	22.97	22.90	22.37
		1	12	22.98	22.71	22.93	22.95	22.96	22.46
		1	24	22.68	22.68	22.85	22.76	22.97	22.40
		25	0	21.64	21.72	21.75	21.79	21.79	21.40
	256QAM	1	0	19.82	19.47	19.69	19.88	19.99	19.48
		1	12	19.78	19.88	19.91	19.92	20.09	19.65
		1	24	19.67	19.66	19.69	19.81	19.69	19.36
		25	0	19.62	19.74	19.71	19.77	19.76	19.38

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	24.54	24.64	24.68	24.67	24.82	24.27
		1	8	24.80	24.87	24.75	24.86	24.95	24.28
		1	14	24.61	24.70	24.77	24.67	24.91	24.22
		15	0	23.66	23.70	23.80	23.77	23.77	23.23
	16QAM	1	0	23.83	23.73	23.82	23.82	23.91	23.27
		1	8	23.70	24.06	23.95	24.03	24.11	23.47
		1	14	23.83	23.79	23.71	23.96	23.93	23.26
		15	0	22.63	22.75	22.80	22.77	22.75	22.41
	64QAM	1	0	22.57	23.00	22.83	22.83	22.80	22.45
		1	8	22.81	23.10	22.67	23.01	23.08	22.48
		1	14	22.51	22.95	22.85	22.91	22.90	22.29
		15	0	21.65	21.75	21.80	21.75	21.83	21.30
	256QAM	1	0	19.87	19.72	19.85	19.96	19.93	19.50
		1	8	19.96	19.90	19.92	20.09	20.07	19.43
		1	14	19.65	19.47	19.75	19.86	19.96	19.17
		15	0	19.66	19.78	19.75	19.70	19.78	19.31
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	24.60	24.62	24.60	24.65	24.66	24.31
		1	3	24.50	24.77	24.60	24.65	24.82	24.29
		1	5	24.29	24.68	24.73	24.70	24.80	24.28
		6	0	23.53	23.69	23.62	23.69	23.67	23.15
	16QAM	1	0	23.51	23.74	23.87	23.59	23.98	23.34
		1	3	23.41	23.88	23.89	23.80	24.12	23.52
		1	5	23.44	23.78	23.80	23.61	24.00	23.40
		6	0	22.64	22.65	22.72	22.77	22.78	22.25
	64QAM	1	0	23.00	22.93	22.81	22.74	22.82	22.60
		1	3	22.84	23.06	22.95	22.80	23.03	22.46
		1	5	22.77	22.74	22.82	22.64	23.16	22.63
		6	0	21.63	21.60	21.72	21.61	21.71	21.32
	256QAM	1	0	19.64	19.76	19.90	19.76	19.93	19.57
		1	3	19.72	19.92	19.78	19.69	19.92	19.28
		1	5	19.56	19.77	19.64	19.78	19.76	19.48
		6	0	19.63	19.50	19.80	19.69	19.80	19.26

LTE Band 26 (ANT D)

BW (MHz)	Mode	RB Allocation	RB offset	26765		26790	26865	26915	26965
15 MHz	QPSK	1	0	821.50 MHz		824.00 MHz	831.50 MHz	836.50 MHz	841.50 MHz
		1	0	23.92		23.91	23.90	23.84	23.67
		1	37	23.84		23.97	24.04	23.82	23.70
		1	74	23.80		24.01	23.80	23.51	23.39
	16QAM	75	0	22.87		22.97	22.87	22.82	22.61
		1	0	22.90		23.05	23.22	22.94	22.93
		1	37	23.23		23.02	23.32	22.90	22.71
		1	74	22.91		22.98	22.81	22.69	22.58
	64QAM	75	0	21.90		22.02	21.95	21.91	21.67
		1	0	22.17		22.19	22.26	21.91	21.95
		1	37	22.10		22.39	22.31	22.08	22.03
		1	74	21.85		22.00	21.77	21.76	21.53
	256QAM	75	0	20.90		21.01	20.90	20.90	20.66
		1	0	18.86		19.43	19.20	18.97	19.12
		1	37	18.99		19.32	19.27	19.06	18.82
		1	74	18.87		19.01	18.65	18.61	18.56
		75	0	18.90		18.99	18.96	18.86	18.60
BW (MHz)	Mode	RB Allocation	RB offset	26740		26790	26840	26915	26990
10 MHz	QPSK	1	0	819.00 MHz		824.00 MHz	829.00 MHz	836.50 MHz	844.00 MHz
		1	0	23.96		24.02	23.92	23.98	23.60
		1	25	23.95		23.99	23.89	24.11	23.50
		1	49	23.82		23.95	23.81	23.96	23.50
	16QAM	50	0	23.01		23.11	23.10	22.98	22.58
		1	0	23.01		23.25	23.11	23.01	22.73
		1	25	23.19		22.98	23.19	23.22	22.82
		1	49	22.94		23.06	22.95	23.04	22.44
	64QAM	50	0	21.93		22.10	22.10	22.04	21.59
		1	0	21.99		22.03	22.02	22.12	21.85
		1	25	22.22		22.17	22.17	22.14	21.82
		1	49	21.98		22.12	22.13	22.34	21.48
	256QAM	50	0	20.99		21.07	21.07	20.97	20.63
		1	0	19.08		19.13	19.18	19.34	18.69
		1	25	19.27		19.24	19.12	19.20	18.66
		1	49	18.79		19.10	19.11	19.07	18.58
		50	0	18.99		19.05	19.05	19.02	18.57
BW (MHz)	Mode	RB Allocation	RB offset	26715	26765	26790	26815	26915	27015
5 MHz	QPSK	1	0	816.50 MHz	821.50 MHz	824.00 MHz	826.50 MHz	836.50 MHz	846.50 MHz
		1	0	24.16	23.99	24.25	24.00	24.11	23.63
		1	12	23.96	23.95	24.05	24.01	24.09	23.55
		1	24	23.84	23.88	24.00	24.02	23.89	23.37
	16QAM	25	0	22.97	22.99	23.04	23.13	23.00	22.52
		1	0	23.02	22.98	23.18	23.15	23.33	22.44
		1	12	22.99	23.20	22.96	23.24	23.30	22.67
		1	24	22.97	22.98	23.27	23.19	23.07	22.51
	64QAM	25	0	22.00	21.96	22.10	22.06	22.05	21.52
		1	0	21.96	22.01	22.16	22.07	22.17	21.82
		1	12	22.12	22.38	22.37	22.16	22.13	21.64
		1	24	22.15	22.07	22.03	22.05	22.04	21.33
	256QAM	25	0	21.00	20.98	21.10	21.04	21.02	20.54
		1	0	19.16	18.93	18.96	19.05	19.11	18.59
		1	12	19.09	19.11	19.09	19.28	19.29	18.70
		1	24	19.10	19.13	18.98	19.09	18.91	18.58
		25	0	18.92	18.94	19.03	19.03	18.98	18.53

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	23.93	24.04	23.92	24.00	24.00	23.46
		1	8	24.06	24.06	24.06	24.07	24.17	23.50
		1	14	23.92	23.98	23.94	24.01	23.92	23.33
		15	0	22.97	23.07	23.06	23.09	22.98	22.51
	16QAM	1	0	23.12	23.03	23.23	23.24	22.94	22.65
		1	8	23.09	23.08	23.36	23.26	23.32	22.84
		1	14	22.98	23.06	23.16	23.00	23.09	22.37
		15	0	22.02	22.12	22.18	22.10	22.02	21.45
	64QAM	1	0	21.87	22.43	22.30	22.11	22.15	21.90
		1	8	22.37	22.35	22.26	22.34	22.24	21.67
		1	14	22.12	22.20	22.38	22.30	22.13	21.68
		15	0	20.95	21.06	21.00	21.12	21.00	20.61
	256QAM	1	0	19.03	18.93	19.22	19.16	19.01	18.63
		1	8	19.25	19.09	19.19	19.52	19.08	18.74
		1	14	19.10	19.09	19.29	19.04	18.97	18.60
		15	0	19.01	19.07	19.05	19.01	18.96	18.54
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	23.97	24.05	23.93	23.98	23.93	23.45
		1	3	24.03	24.04	23.95	24.11	23.91	23.48
		1	5	23.97	24.00	23.88	24.13	23.91	23.51
		6	0	22.91	22.96	23.01	22.99	22.95	22.38
	16QAM	1	0	23.08	23.14	22.93	23.45	23.11	22.45
		1	3	23.03	23.23	23.30	23.12	23.22	22.56
		1	5	23.18	23.22	23.10	23.23	23.31	22.39
		6	0	21.92	22.14	22.07	22.08	22.08	21.50
	64QAM	1	0	22.06	22.01	21.79	22.50	22.34	21.51
		1	3	22.18	22.22	22.36	22.00	22.25	21.48
		1	5	22.27	22.18	22.12	22.20	22.04	21.43
		6	0	20.95	21.07	21.03	21.05	21.00	20.34
	256QAM	1	0	19.14	18.92	19.02	19.08	19.30	18.67
		1	3	19.11	19.04	19.06	19.06	19.16	18.61
		1	5	19.02	19.25	19.26	19.64	18.96	18.59
		6	0	18.99	18.91	19.11	19.02	19.14	18.44

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		23.62	
			1	1		24.52	
			1	25		24.50	
			1	50		24.53	
			1	51		23.93	
			50	0		23.58	
		QPSK	1	0		23.22	
			1	1		24.89	
			1	25		24.56	
			1	50		24.50	
			1	51		23.32	
			50	0		23.58	
		16QAM	1	0		22.18	
			1	1		23.30	
			1	25		23.60	
			1	50		23.71	
			1	51		22.30	
			50	0		22.43	
		64QAM	1	1		22.13	
		256QAM	1	1		19.32	
	CP-OFDM	QPSK	1	0		21.16	
			1	1		23.11	
			1	25		22.95	
			1	50		22.91	
			1	51		21.45	
			52	0		21.44	
		16QAM	1	0		21.28	
			1	1		22.42	
			1	25		22.47	
			1	50		22.34	
			1	51		21.30	
			52	0		21.43	
		64QAM	1	1		20.76	
		256QAM	1	1		17.39	
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	23.69	23.72	23.88
			1	1	24.54	24.46	24.53
			1	13	24.44	24.58	24.45
			1	23	24.83	24.60	24.69
			1	24	23.80	23.91	23.85
			25	0	23.59	23.49	23.69
		QPSK	1	0	23.22	23.37	23.38
			1	1	24.53	24.45	24.55
			1	13	24.58	24.63	24.48
			1	23	24.84	24.60	24.66
			1	24	23.36	23.38	23.38
			25	0	23.58	23.49	23.59
		16QAM	1	1	23.32	23.34	23.37
			1	13	23.51	23.40	23.61
			1	23	23.72	23.51	23.61
		64QAM	1	1	22.06	22.13	22.18
		256QAM	1	1	19.35	19.36	19.43
	CP-OFDM	QPSK	1	1	23.10	23.09	23.15

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		23.41		
			1	1		24.36		
			1	25		23.84		
			1	50		24.60		
			1	51		23.53		
			50	0		23.37		
		QPSK	1	0		23.03		
			1	1		24.61		
			1	25		23.83		
			1	50		24.60		
			1	51		23.14		
			50	0		23.38		
		16QAM	1	0		21.88		
			1	1		23.07		
			1	25		22.88		
			1	50		23.37		
			1	51		22.17		
			50	0		22.19		
		64QAM	1	1		21.92		
		256QAM	1	1		19.14		
	CP-OFDM	QPSK	1	0		21.14		
			1	1		22.80		
			1	25		22.38		
			1	50		22.96		
			1	51		21.20		
			52	0		21.27		
		16QAM	1	0		21.11		
			1	1		21.89		
			1	25		21.73		
			1	50		22.07		
			1	51		21.08		
			52	0		21.30		
		64QAM	1	1		20.26		
		256QAM	1	1		17.53		
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		23.46	23.48	23.66
			1	1		23.08	24.36	24.18
			1	13		24.30	24.31	23.87
			1	23		24.55	24.01	23.99
			1	24		23.61	23.70	23.75
			25	0		23.20	23.34	23.09
		QPSK	1	0		23.03	22.98	22.67
			1	1		23.88	24.31	24.06
			1	13		24.15	24.25	23.77
			1	23		24.60	23.99	23.90
			1	24		22.86	22.88	23.31
			25	0		23.21	23.27	23.09
		16QAM	1	1		22.91	23.16	23.16
			1	13		23.13	23.13	22.88
			1	23		23.54	22.99	22.98
		64QAM	1	1		21.68	21.94	22.00
		256QAM	1	1		19.48	19.24	19.24
	CP-OFDM	QPSK	1	1		22.54	22.90	22.85

NR Band n26 (ANT A)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset			164800	166300	167300	167800
							824.00 MHz	831.50 MHz	836.50 MHz	839.00 MHz
20 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0			23.36	23.39	23.36	23.44
			1	1			24.15	24.06	24.00	24.21
			1	52			24.15	24.13	24.08	24.05
			1	104			24.08	23.95	23.92	23.81
			1	105			23.26	23.29	23.28	23.30
			100	0			23.13	23.16	23.63	23.11
		QPSK	1	0			22.97	22.96	22.96	22.96
			1	1			24.18	24.19	24.08	24.14
			1	52			24.15	24.12	24.15	23.99
			1	104			24.18	23.90	23.97	23.65
			1	105			22.85	22.85	22.84	22.83
			100	0			23.10	23.13	23.06	23.09
		16QAM	1	0			22.05	22.00	22.03	22.02
			1	1			23.04	23.05	22.97	23.04
			1	52			23.00	23.21	23.06	22.95
			1	104			23.08	22.78	22.88	22.65
			1	105			21.86	21.86	21.88	21.87
			100	0			22.03	22.04	22.08	22.03
		64QAM	1	1			21.73	21.73	21.44	21.75
		256QAM	1	1			19.13	19.18	19.73	19.18
	CP-OFDM	QPSK	1	0			21.01	21.01	21.02	20.90
			1	1			22.83	22.67	22.68	22.72
			1	52			22.72	22.73	22.73	22.71
			1	104			22.67	22.68	22.68	22.71
			1	105			20.69	20.70	20.70	20.70
			106	0			21.03	21.01	21.01	21.01
		16QAM	1	0			20.96	20.99	20.98	20.97
			1	1			22.03	22.07	22.05	22.04
			1	52			22.13	22.06	22.07	22.07
			1	104			22.06	22.02	22.04	22.01
			1	105			21.00	21.04	21.05	21.06
			106	0			21.16	21.18	21.16	21.08
		64QAM	1	1			20.58	20.59	20.59	20.59
		256QAM	1	1			17.66	17.69	17.69	17.68
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
						164300	164800	166300	166800	168300
15 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		821.50 MHz	824.00 MHz	831.50 MHz	836.50 MHz	841.50 MHz
			1	1		23.40	23.42	23.40	23.41	23.43
			1	39		24.26	24.05	24.25	24.24	24.26
			1	76		24.21	23.98	24.12	24.21	24.21
			1	77		24.20	24.02	24.07	24.20	24.30
			1	77		23.34	23.38	23.44	23.40	23.43
		QPSK	75	0		23.16	23.47	23.15	23.47	22.91
			1	0		23.00	23.00	22.99	22.99	23.00
			1	1		24.20	24.12	24.26	24.31	24.23
			1	39		24.18	24.04	24.20	24.04	23.97
			1	76		24.18	24.04	24.06	24.06	23.85
			1	77		23.16	22.92	22.92	22.92	22.92
			75	0		23.05	23.00	23.17	22.99	22.97
		16QAM	1	1		23.14	23.01	23.08	23.03	23.03
			1	39		23.07	22.95	23.05	22.96	22.88
			1	76		23.09	22.99	22.89	23.00	22.77
		64QAM	1	1		21.72	21.45	21.79	21.45	21.78
		256QAM	1	1		19.10	19.69	19.18	19.65	19.19
	CP-OFDM	QPSK	1	1		22.73	22.71	22.84	22.68	22.81

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
					163800	164800	165800	166300	168800	
					819.00 MHz	824.00 MHz	829.00 MHz	831.50 MHz	844.00 MHz	
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.33	23.46	23.50	23.46	23.38	
			1	1	24.22	24.14	24.12	23.06	22.87	
			1	26	24.15	24.01	24.06	24.04	23.91	
			1	49	24.16	23.99	23.96	24.04	23.83	
			1	50	23.30	23.31	23.38	23.37	23.35	
			50	0	23.20	23.50	23.56	24.26	23.16	
		QPSK	1	0	22.98	22.98	22.97	22.98	22.98	
			1	1	24.17	24.09	24.09	24.20	24.20	
			1	26	24.24	24.16	24.16	24.06	24.18	
			1	49	24.09	24.01	24.07	23.21	24.18	
			1	50	22.95	22.95	22.94	22.94	22.93	
			50	0	23.18	23.02	23.02	23.11	22.84	
		16QAM	1	1	23.11	22.97	23.08	23.01	22.85	
			1	26	23.02	23.02	23.06	23.02	22.82	
			1	49	23.02	22.98	22.95	22.93	22.72	
		64QAM	1	1	21.75	21.56	21.40	21.75	21.53	
		256QAM	1	1	19.09	19.72	19.74	19.00	18.87	
	CP-OFDM	QPSK	1	1	22.80	22.69	22.79	22.68	22.58	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
					163300	163800	164800	165300	166300	169300
					816.50 MHz	821.50 MHz	824.00 MHz	826.50 MHz	831.50 MHz	846.50 MHz
5 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.49	23.51	23.51	23.50	23.57	23.57
			1	1	24.09	24.20	24.03	24.04	24.13	23.92
			1	13	24.15	24.23	24.14	24.04	24.22	24.00
			1	23	24.04	24.16	24.11	24.04	24.13	23.83
			1	24	23.52	23.53	23.54	23.54	23.57	23.61
			25	0	23.49	23.15	23.58	23.59	23.13	22.78
		QPSK	1	0	23.14	23.12	23.10	23.15	23.13	23.13
			1	1	24.12	24.22	24.17	24.11	24.15	23.87
			1	13	24.05	24.26	24.07	24.06	24.25	23.99
			1	23	24.08	24.27	24.07	24.06	24.10	23.84
			1	24	23.14	23.15	23.16	23.15	23.08	23.08
			25	0	23.06	23.13	23.06	23.12	22.80	23.05
		16QAM	1	1	23.16	23.17	23.14	23.12	22.91	23.15
			1	13	23.06	23.15	23.05	23.07	22.84	23.09
			1	23	23.07	23.09	23.04	23.07	22.82	23.04
		64QAM	1	1	21.66	21.88	21.59	21.82	21.54	21.58
		256QAM	1	1	19.68	19.18	19.69	19.10	18.87	19.68
	CP-OFDM	QPSK	1	1	22.71	22.81	22.72	22.72	22.65	22.73

NR Band n26 (ANT D)

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	23.39	23.39	23.39	23.34	23.38
			1	1	24.23	24.22	23.96	24.31	24.31
			1	52	24.25	24.18	23.90	24.11	24.11
			1	104	24.18	24.03	23.76	23.93	23.93
			1	105	23.14	23.16	23.21	23.18	23.18
			100	0	23.33	23.27	23.49	23.17	23.17
		QPSK	1	0	22.82	22.91	22.89	22.85	22.85
			1	1	24.21	24.19	23.95	24.25	24.25
			1	52	24.31	24.19	23.90	24.12	24.12
			1	104	24.15	24.08	23.77	23.92	23.92
			1	105	22.74	22.71	22.74	22.67	22.67
			100	0	23.38	23.25	23.01	23.14	23.14
		16QAM	1	0	21.90	21.91	21.91	21.89	21.89
			1	1	23.03	23.05	22.88	23.07	23.07
			1	52	23.14	23.05	22.82	23.00	23.00
			1	104	23.01	22.92	22.77	22.72	22.72
			1	105	21.73	21.74	21.74	21.72	21.72
			100	0	21.87	21.87	21.87	21.86	21.86
		64QAM	1	1	21.78	21.80	21.22	21.91	21.91
		256QAM	1	1	19.17	19.08	19.55	19.25	19.25
	CP-OFDM	QPSK	1	0	20.79	20.74	20.75	20.77	20.77
			1	1	22.79	22.70	22.49	22.92	22.92
			1	52	22.53	22.51	22.49	22.57	22.57
			1	104	22.29	22.38	22.36	22.35	22.35
			1	105	20.68	20.64	20.85	20.77	20.77
			106	0	20.88	20.87	20.87	20.95	20.95
		16QAM	1	0	20.94	20.85	20.87	20.87	20.87
			1	1	21.87	21.92	21.94	21.92	21.92
			1	52	22.07	22.08	21.99	21.97	21.97
			1	104	21.89	21.88	21.92	21.93	21.93
			1	105	21.83	21.87	21.91	21.91	21.91
			106	0	20.89	20.92	20.94	20.83	20.83
		64QAM	1	1	20.54	20.51	20.52	20.53	20.53
		256QAM	1	1	17.31	17.25	17.25	17.27	17.27
15 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.28	23.40	23.31	23.36	23.32
			1	1	24.28	24.09	24.33	23.97	24.31
			1	39	24.22	24.01	24.30	23.90	24.10
			1	76	24.37	24.03	24.12	23.92	23.92
			1	77	23.39	23.39	23.36	23.37	23.27
			75	0	23.19	23.51	23.22	23.39	23.03
		QPSK	1	0	22.91	22.90	22.90	22.89	22.83
			1	1	24.31	24.05	24.35	24.06	24.28
			1	39	24.23	23.99	24.18	24.01	24.07
			1	76	24.25	23.97	24.12	23.96	23.86
			1	77	22.89	22.87	22.85	22.76	22.83
			75	0	23.17	22.87	23.19	22.67	23.01
		16QAM	1	1	23.13	22.91	23.13	22.90	22.99
			1	39	23.12	22.92	23.03	23.00	22.85
			1	76	23.01	22.94	23.02	22.96	22.78
		64QAM	1	1	21.83	21.34	21.83	21.32	21.82
		256QAM	1	1	19.18	19.57	19.26	19.59	19.23
	CP-OFDM	QPSK	1	1	22.85	22.63	22.77	22.67	22.87

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
						163800	164800	165800	166300	168800
						819.00 MHz	824.00 MHz	829.00 MHz	831.50 MHz	844.00 MHz
10 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		23.41	23.41	23.38	23.36	23.35
			1	1		24.28	24.04	24.13	24.21	24.06
			1	26		24.28	23.95	23.97	24.14	24.00
			1	49		24.32	24.00	24.06	24.11	23.89
			1	50		23.33	23.35	23.39	23.38	23.36
			50	0		23.27	23.45	23.49	23.10	22.87
		QPSK	1	0		22.91	22.92	22.90	22.88	22.90
			1	1		24.29	24.03	24.06	24.24	24.11
			1	26		24.31	24.05	24.03	24.11	23.98
			1	49		24.35	24.05	23.95	24.18	23.88
			1	50		22.93	22.82	22.98	22.90	22.94
			50	0		23.26	22.99	22.96	23.09	22.87
		16QAM	1	1		23.12	22.91	22.90	22.99	22.99
			1	26		23.12	22.93	22.95	22.93	22.89
			1	49		23.21	22.88	23.02	22.97	22.75
		64QAM	1	1		21.81	21.43	21.34	21.77	21.58
		256QAM	1	1		19.12	19.58	19.51	19.09	18.97
	CP-OFDM	QPSK	1	1		22.82	22.67	22.64	22.65	22.55
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)					
						163300	163800	164800	165300	166300
						816.50 MHz	821.50 MHz	824.00 MHz	826.50 MHz	831.50 MHz
5 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0		23.45	23.46	23.41	23.38	23.37
			1	1		24.24	23.95	24.03	23.91	24.16
			1	13		24.33	23.98	24.06	24.10	24.34
			1	23		24.34	23.89	23.97	23.92	24.11
			1	24		23.36	23.38	23.37	23.44	23.43
			25	0		23.24	23.48	23.51	23.49	23.14
		QPSK	1	0		23.00	23.00	22.95	22.93	22.92
			1	1		24.26	23.99	23.99	24.00	24.21
			1	13		24.37	24.05	24.06	24.05	24.32
			1	23		24.29	24.03	24.04	24.00	24.17
			1	24		23.00	22.99	22.99	22.99	22.98
			25	0		23.22	23.06	23.06	22.98	23.13
		16QAM	1	1		23.17	23.00	23.00	23.00	23.01
			1	13		23.18	23.04	23.05	22.94	23.01
			1	23		23.27	23.05	23.05	23.06	23.03
		64QAM	1	1		21.84	21.42	21.45	21.47	21.82
		256QAM	1	1		19.18	19.54	19.56	19.67	19.09
	CP-OFDM	QPSK	1	1		22.89	22.78	22.77	22.80	22.78

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

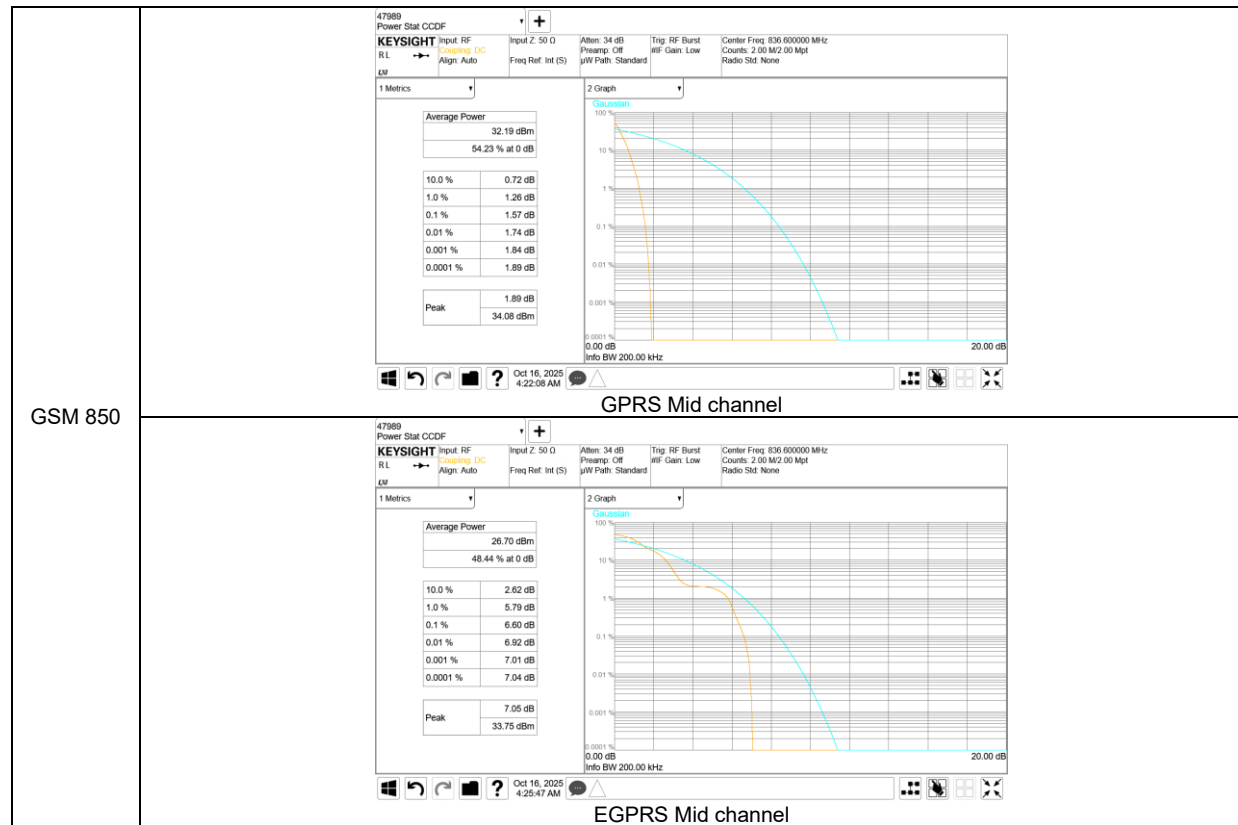
LTE: All modulations were investigated, and the worst modulations (QPSK, 256QAM) are reported.
5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All modes of operation were investigated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

RESULTS

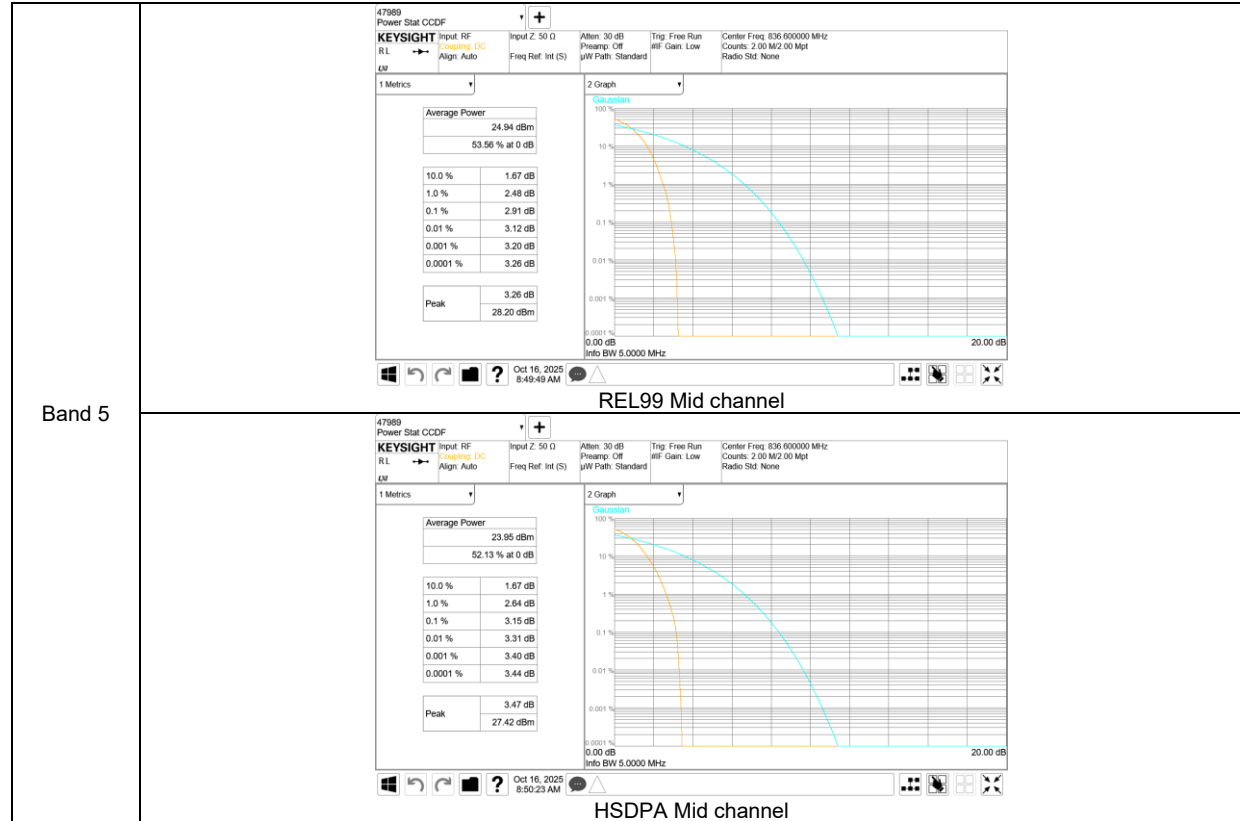
See the following pages.

8.2.1. CONDUCTED PEAK TO AVERAGE RESULT

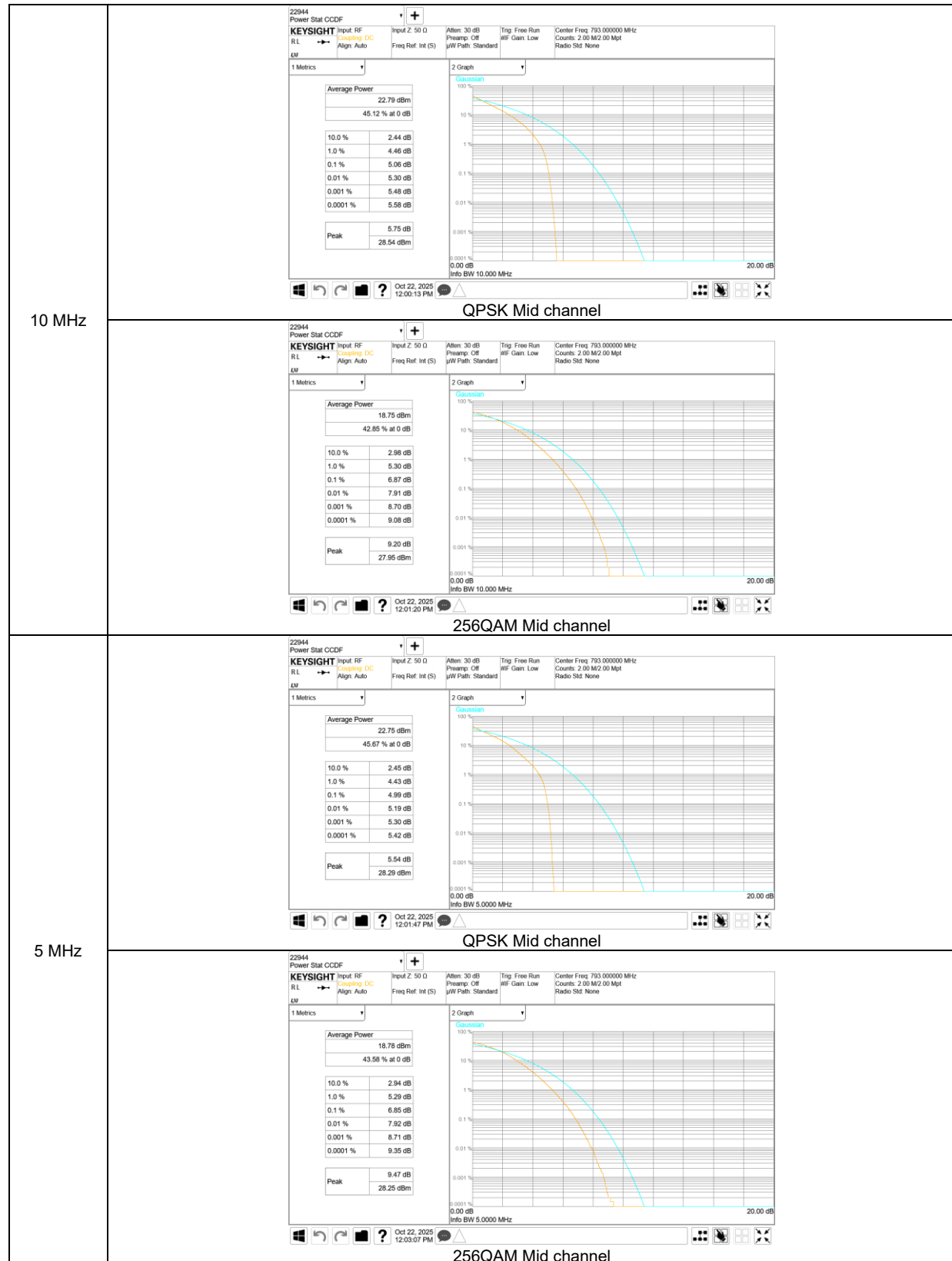
GSM (ANT A)



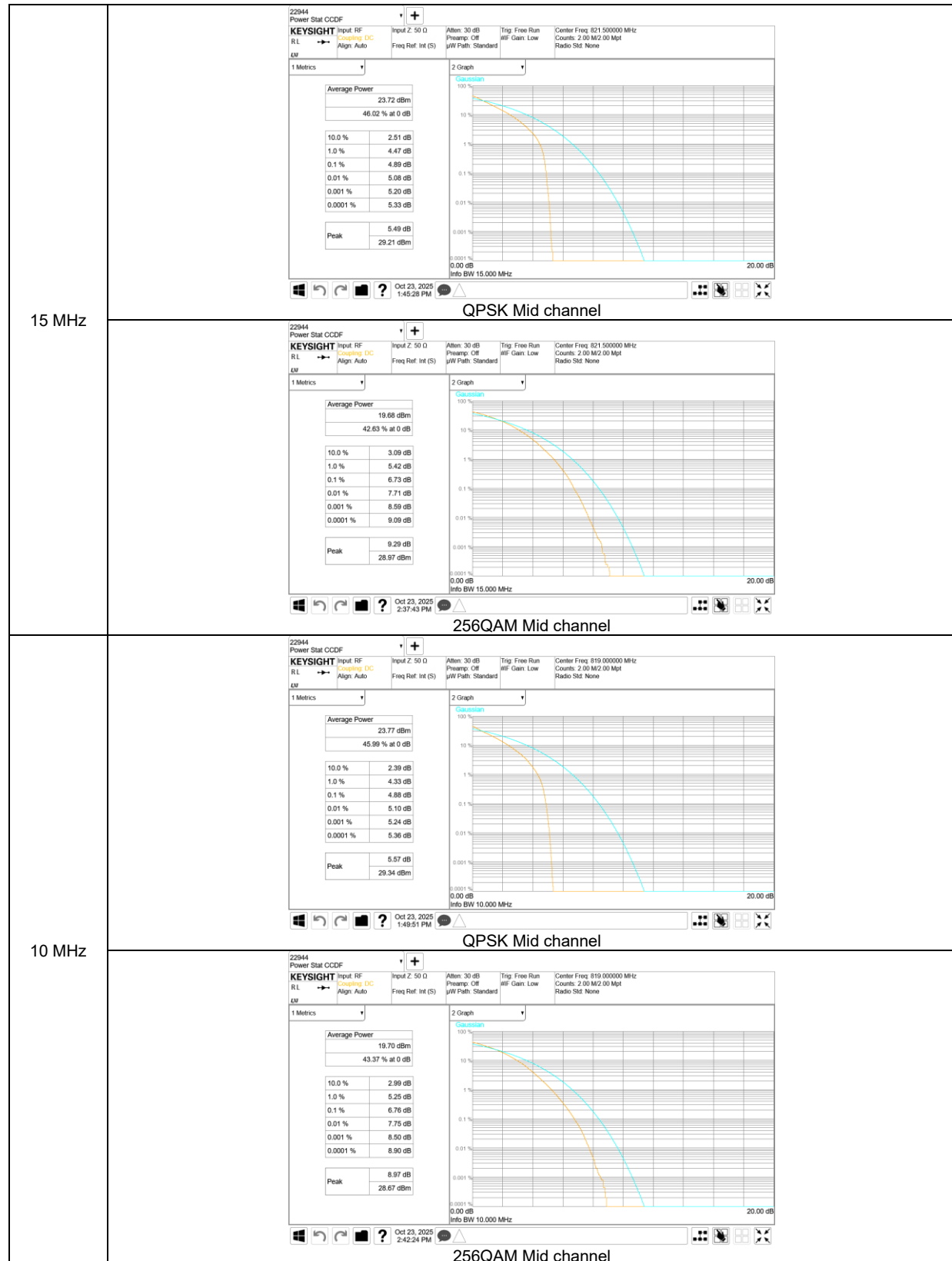
WCDMA (ANT A)



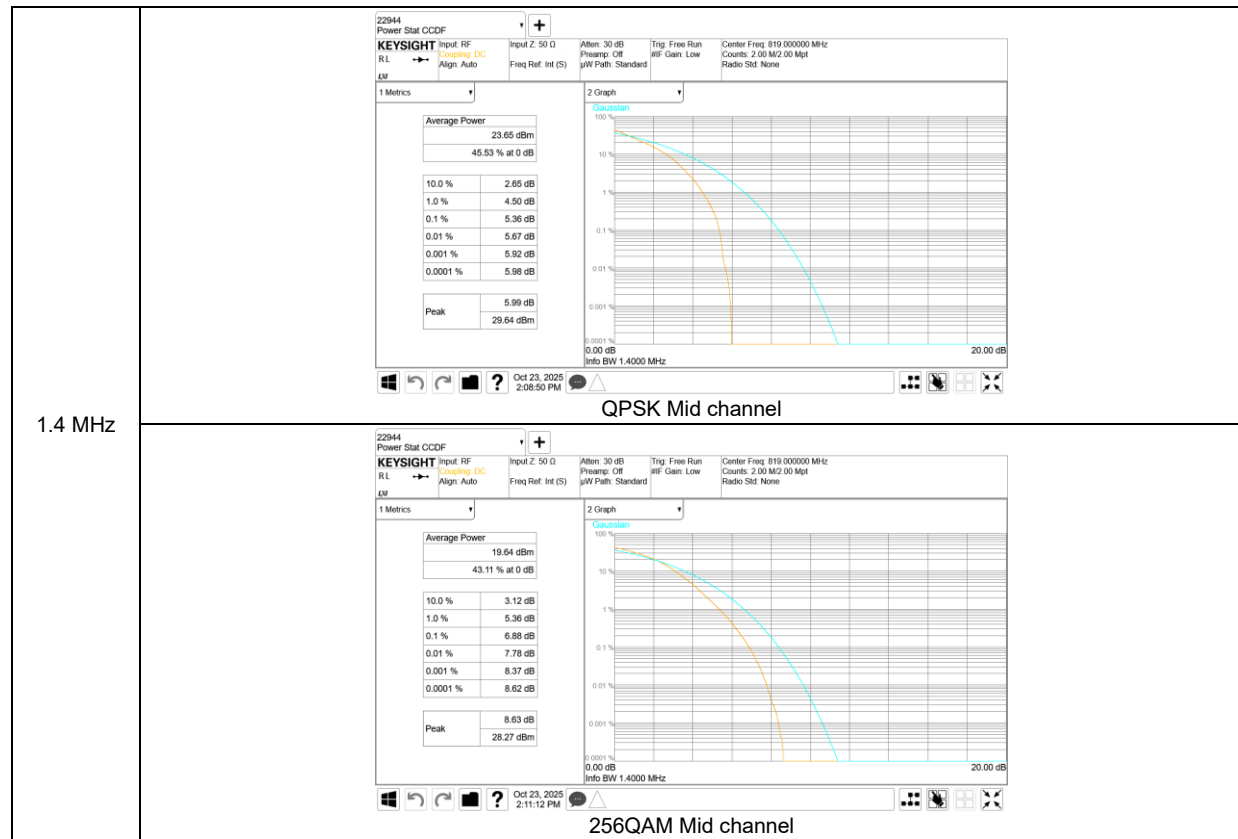
LTE Band 14 (ANT A)



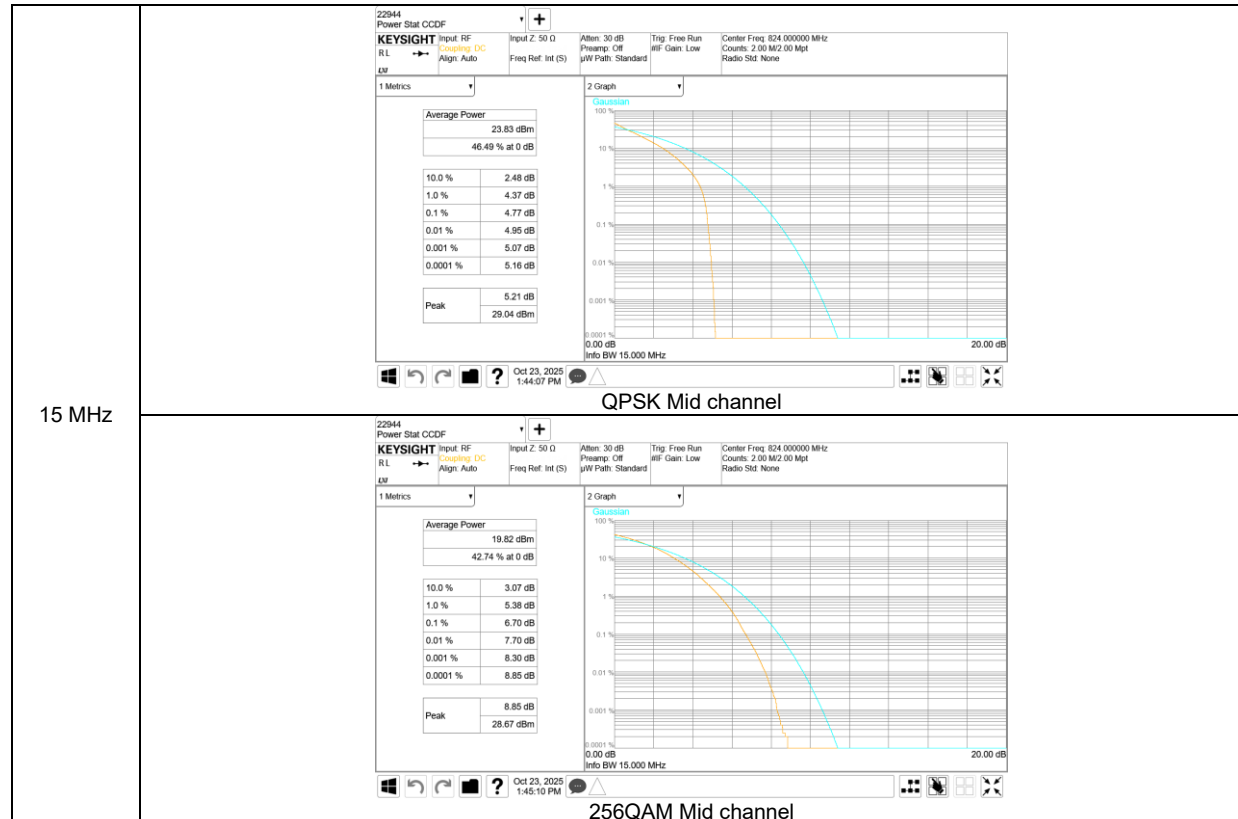
LTE Band 26 (Part 90) (ANT A)







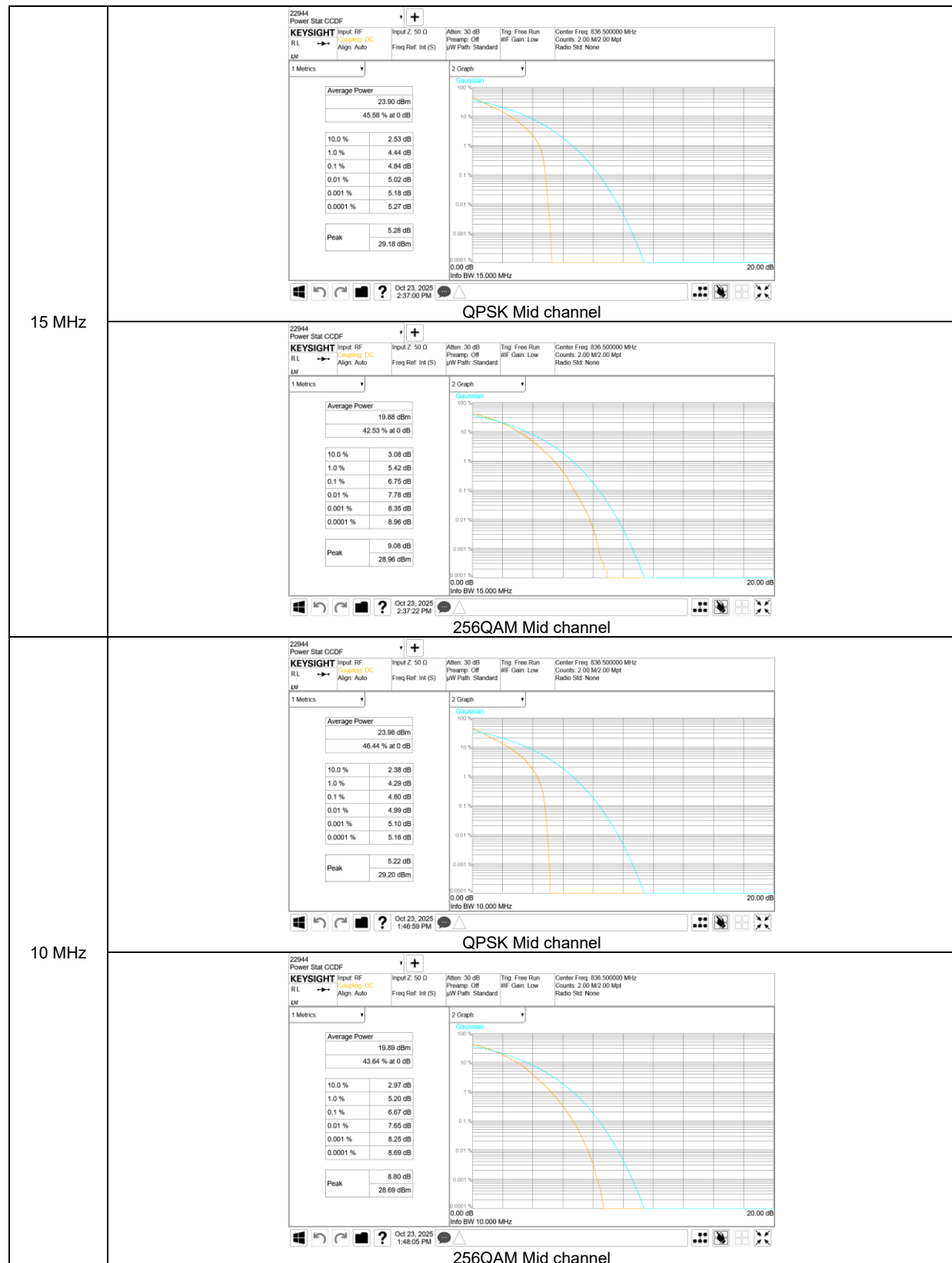
LTE Band 26 (Straddle) (ANT A)



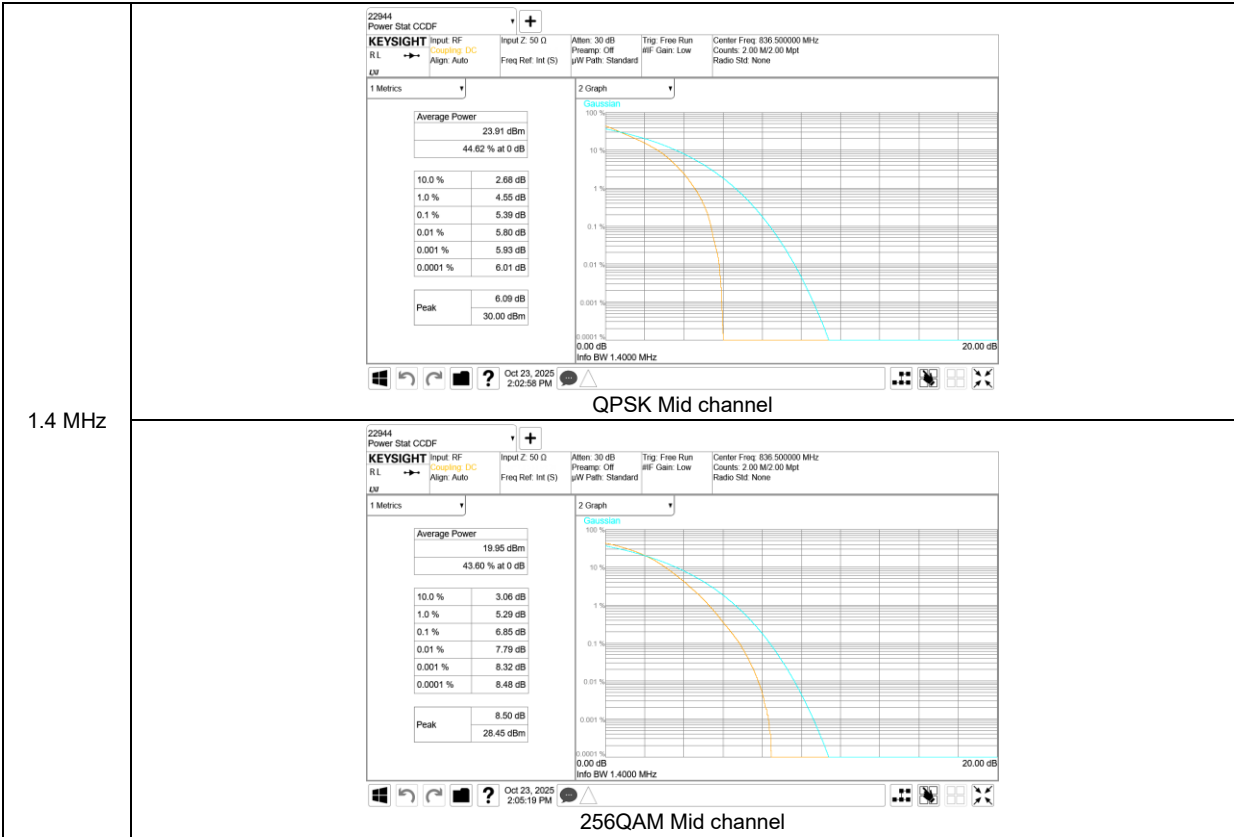




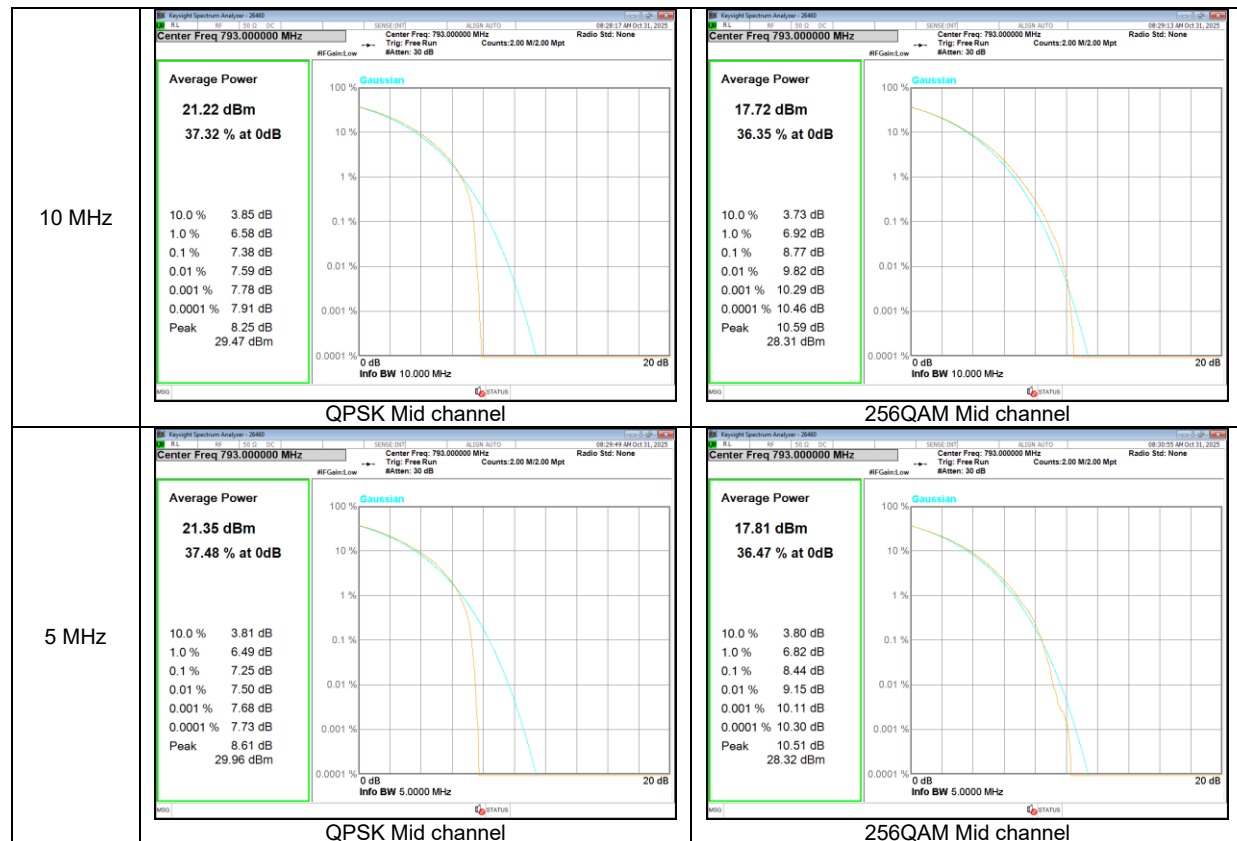
LTE Band 26 (Part 22) (ANT A)



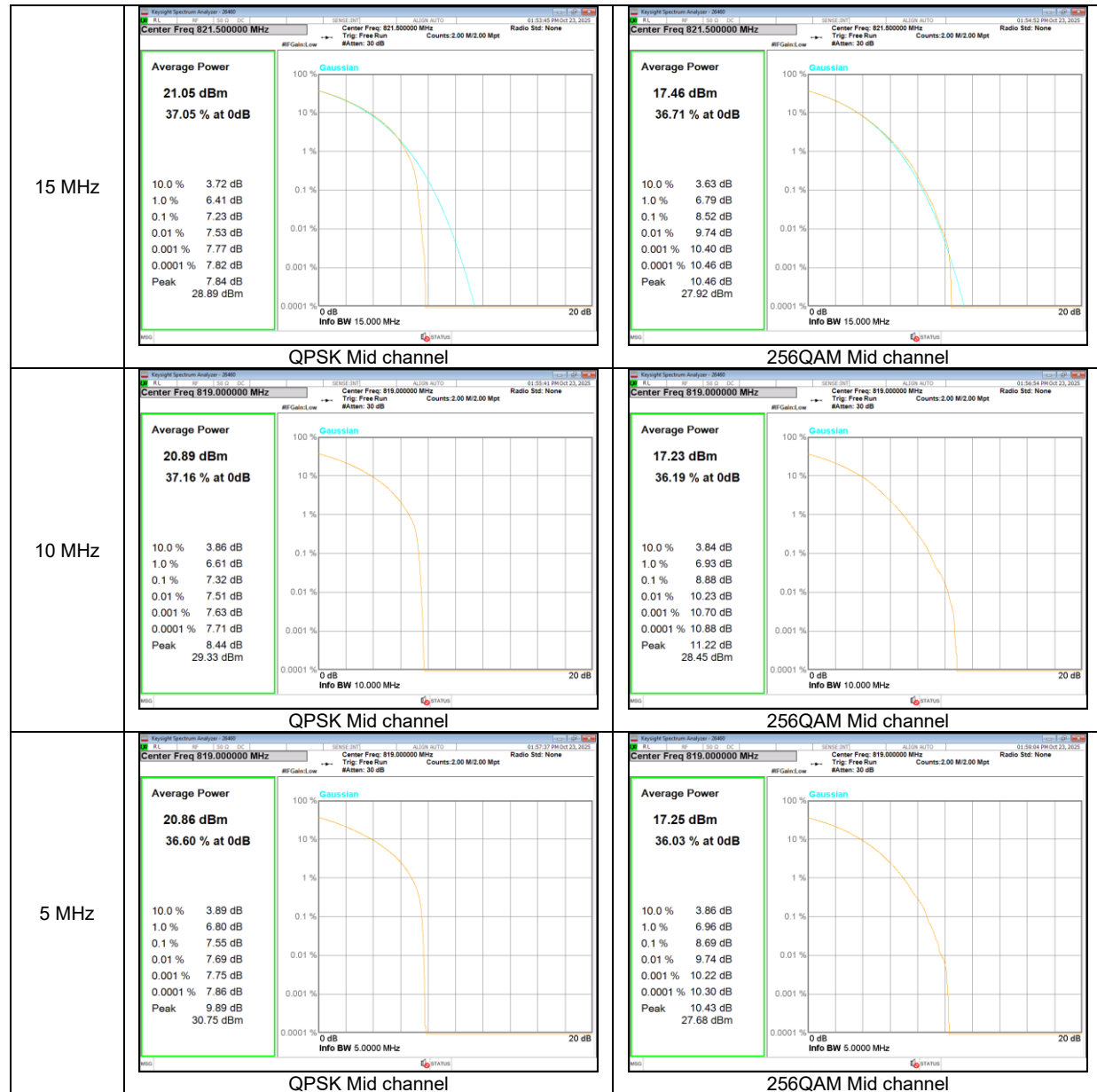




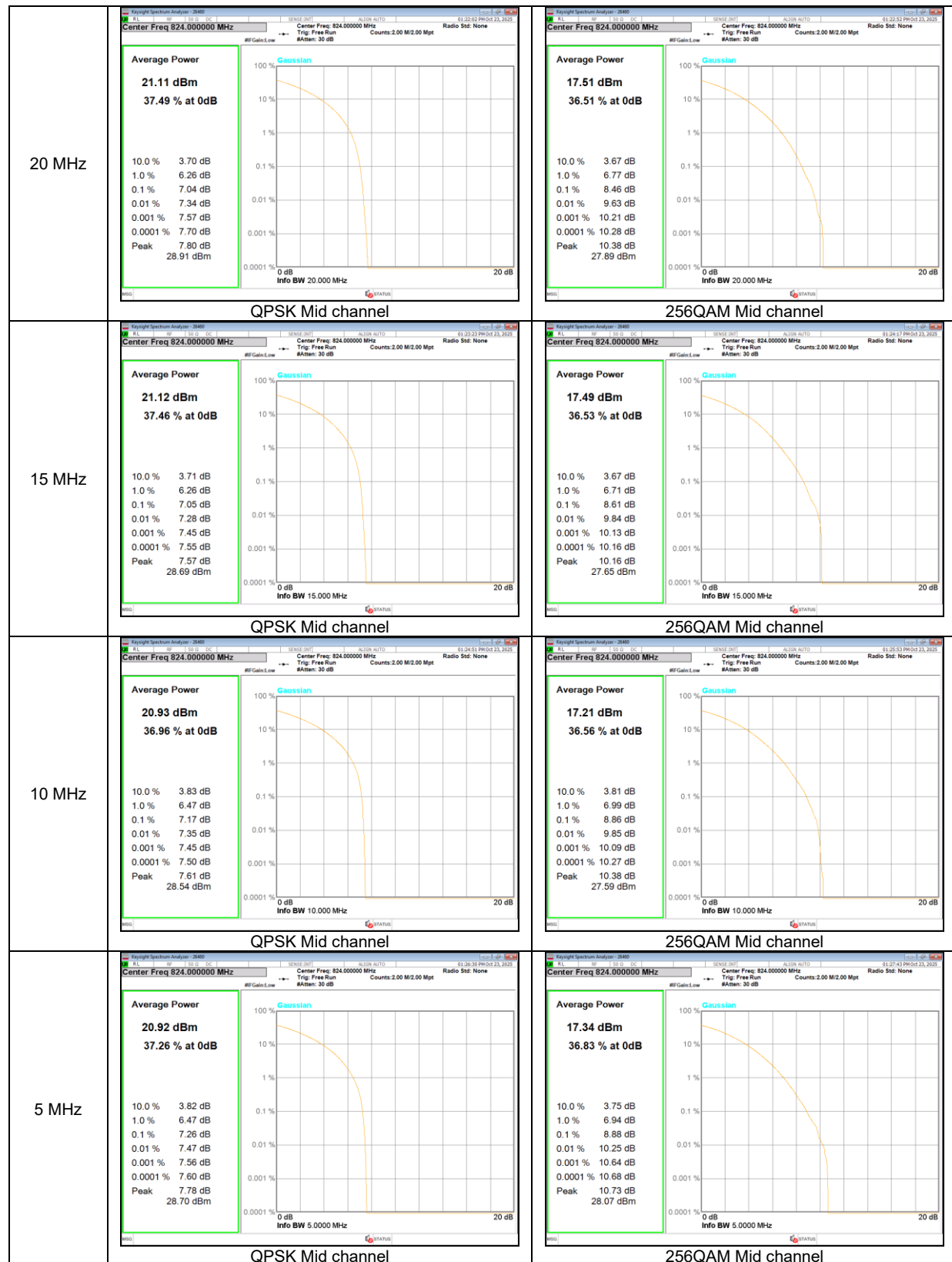
NR Band n14 CP-OFDM (ANT A)



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



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



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



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	251.97	321.300
	EGPRS		243.52	319.300

- WCDMA (ANT A)

Band	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
B5	Rel.99	836.60	4.142	4.699
	HSDPA		4.141	4.704

- LTE Band 14 (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B14	10M	QPSK	793.00	8.983	9.628
		16QAM		8.980	9.868
	5M	QPSK		4.491	5.163
		16QAM		4.500	5.151

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

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	821.50	13.443	14.630
		16QAM		13.441	14.520
	10M	QPSK	819.00	8.972	9.752
		16QAM		8.969	9.862
	5M	QPSK		4.493	5.091
		16QAM		4.489	5.101
	3M	QPSK		2.692	3.045
		16QAM		2.693	3.008
	1.4M	QPSK		1.091	1.329
		16QAM		1.090	1.299

- LTE Band 26 (Straddle) (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	824.00	13.420	14.560
		16QAM		13.391	14.470
	10M	QPSK		8.984	9.890
		16QAM		8.960	9.712
	5M	QPSK		4.486	5.090
		16QAM		4.491	5.031
	3M	QPSK		2.694	2.994
		16QAM		2.691	3.005
	1.4M	QPSK		1.086	1.309
		16QAM		1.096	1.300

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

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B26	15M	QPSK	836.50	13.441	14.630
		16QAM		13.439	14.680
	10M	QPSK		8.970	9.666
		16QAM		8.959	9.711
	5M	QPSK		4.492	5.027
		16QAM		4.485	5.084
	3M	QPSK		2.695	3.012
		16QAM		2.690	3.011
	1.4M	QPSK		1.093	1.338
		16QAM		1.090	1.280

- NR Band n14 CP-OFDM (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n14	10M	QPSK	793.00	9.334	10.220
		16QAM		9.335	10.060
	5M	QPSK		4.489	5.281
		16QAM		4.472	5.193

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

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n26	15M	QPSK	821.50	13.390	14.410
		16QAM		13.398	14.460
	10M	QPSK	819.00	9.320	10.240
		16QAM		9.316	10.170
	5M	QPSK		4.479	5.162
		16QAM		4.482	5.123

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

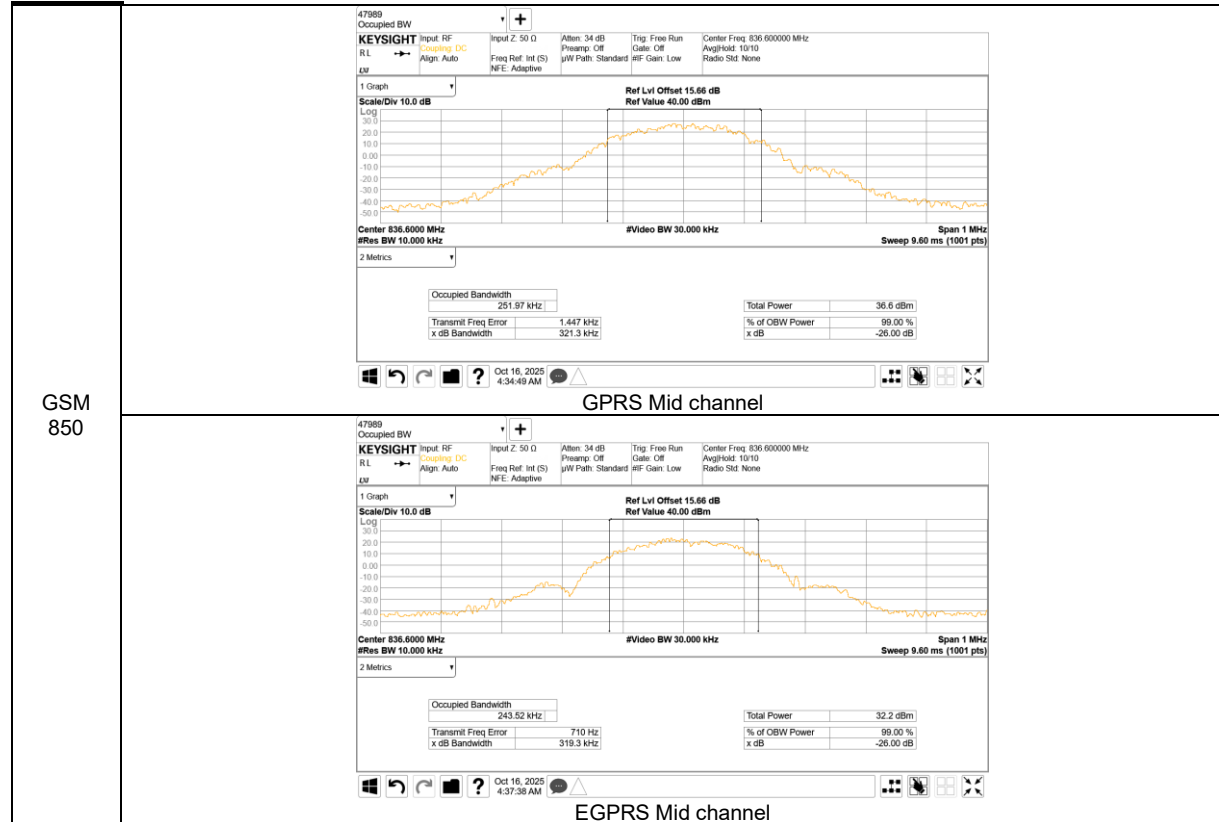
Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n26	20M	QPSK	824.00	18.886	19.970
		16QAM		18.939	20.060
	15M	QPSK		14.124	14.970
		16QAM		14.124	15.090
	10M	QPSK		9.267	10.120
		16QAM		9.304	10.020
	5M	QPSK		4.494	5.164
		16QAM		4.476	5.111

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

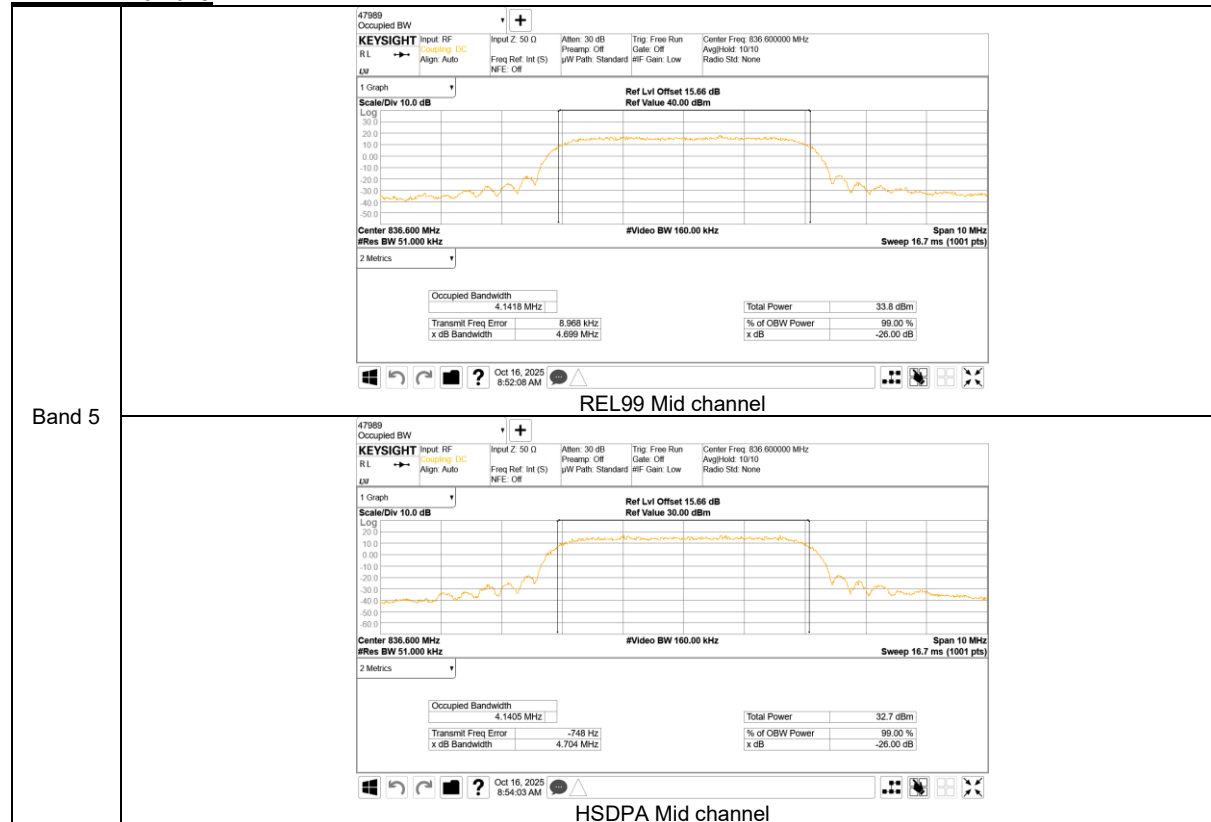
Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n26	20M	QPSK	836.50	18.944	20.090
		16QAM		18.942	19.920
	15M	QPSK		14.174	14.970
		16QAM		14.152	14.860
	10M	QPSK		9.308	9.987
		16QAM		9.309	10.110
	5M	QPSK		4.482	5.142
		16QAM		4.482	5.119

8.3.1. OCCUPIED BANDWIDTH RESULT

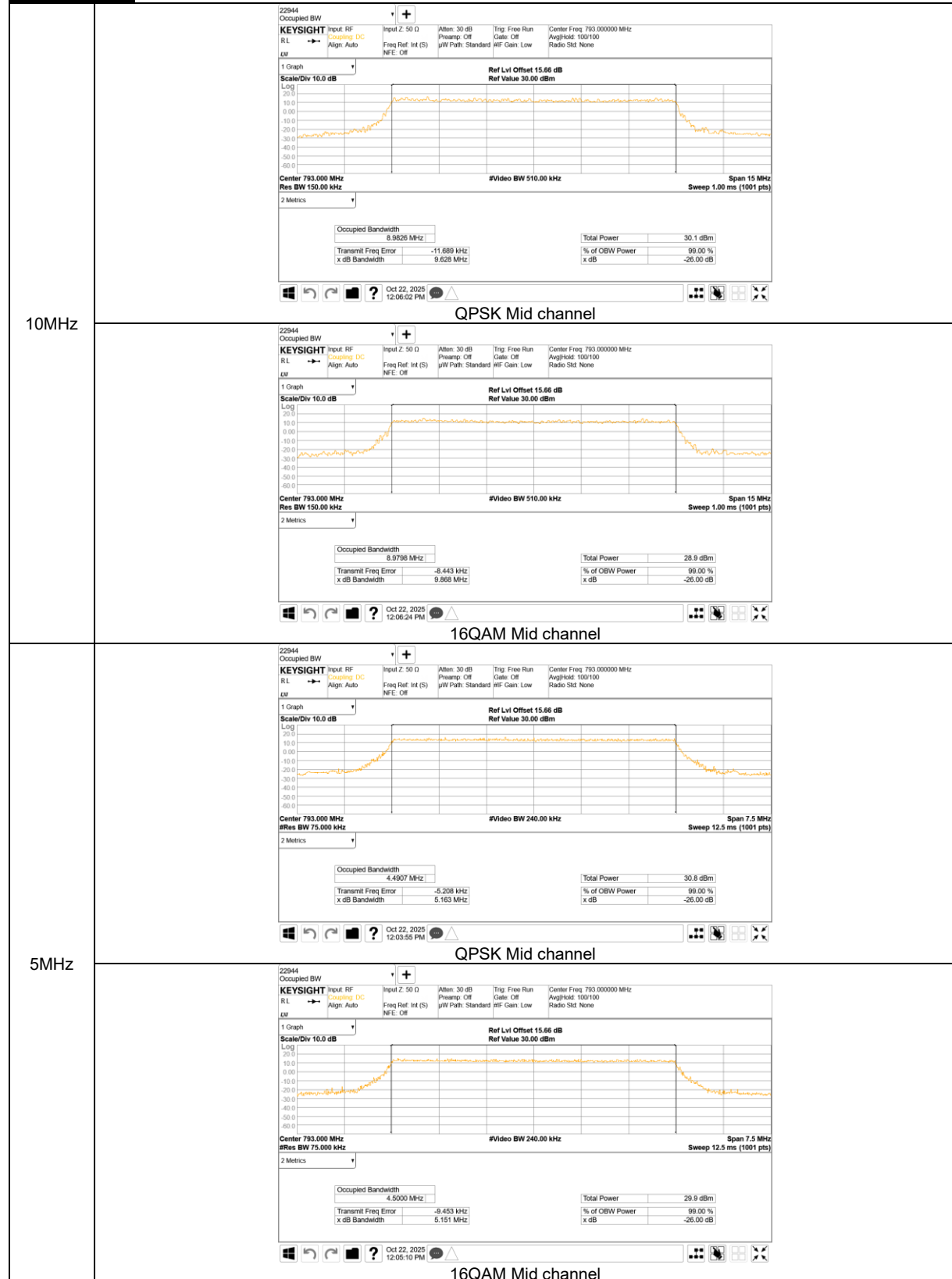
GSM 850



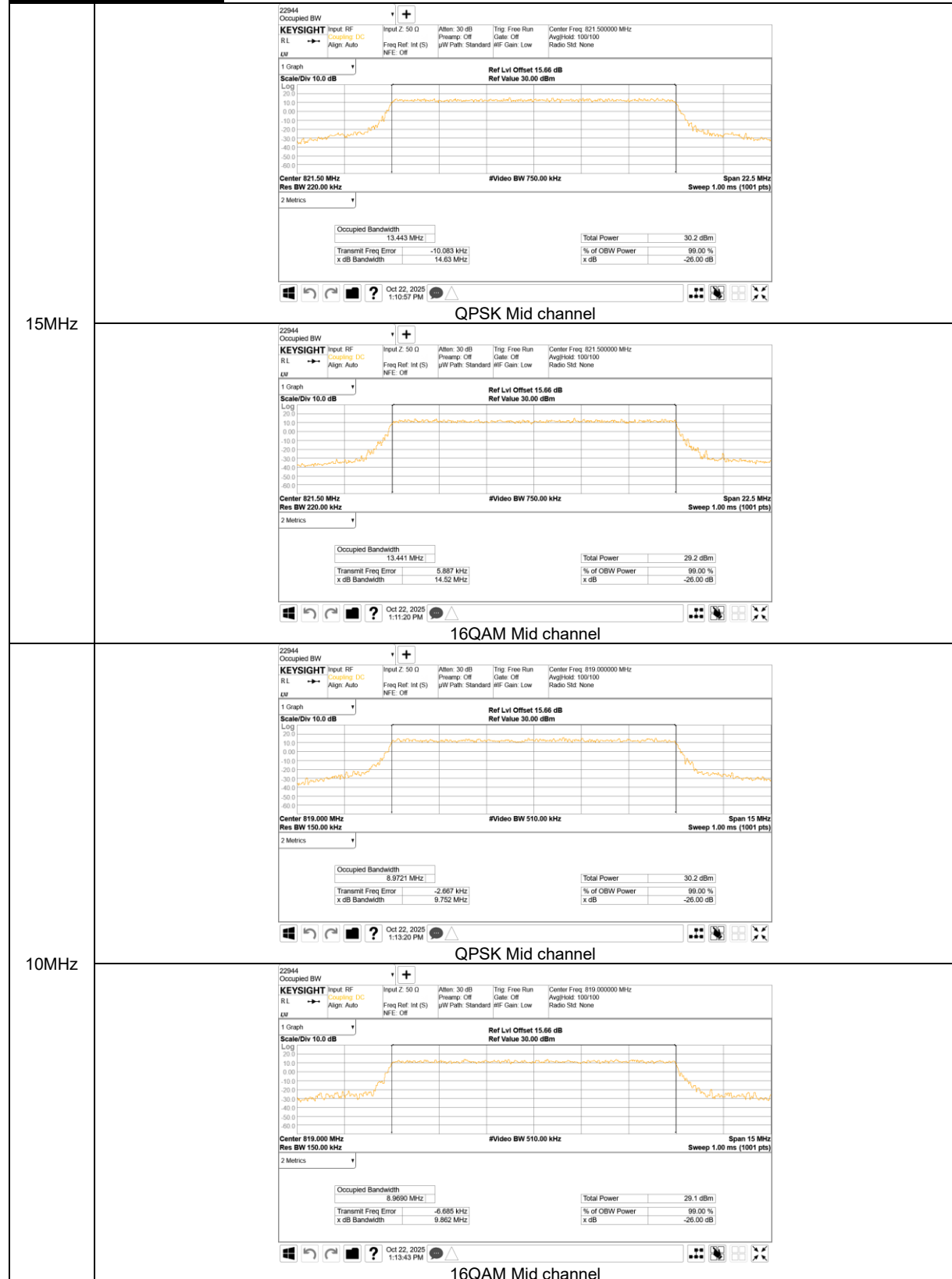
WCDMA Band 5

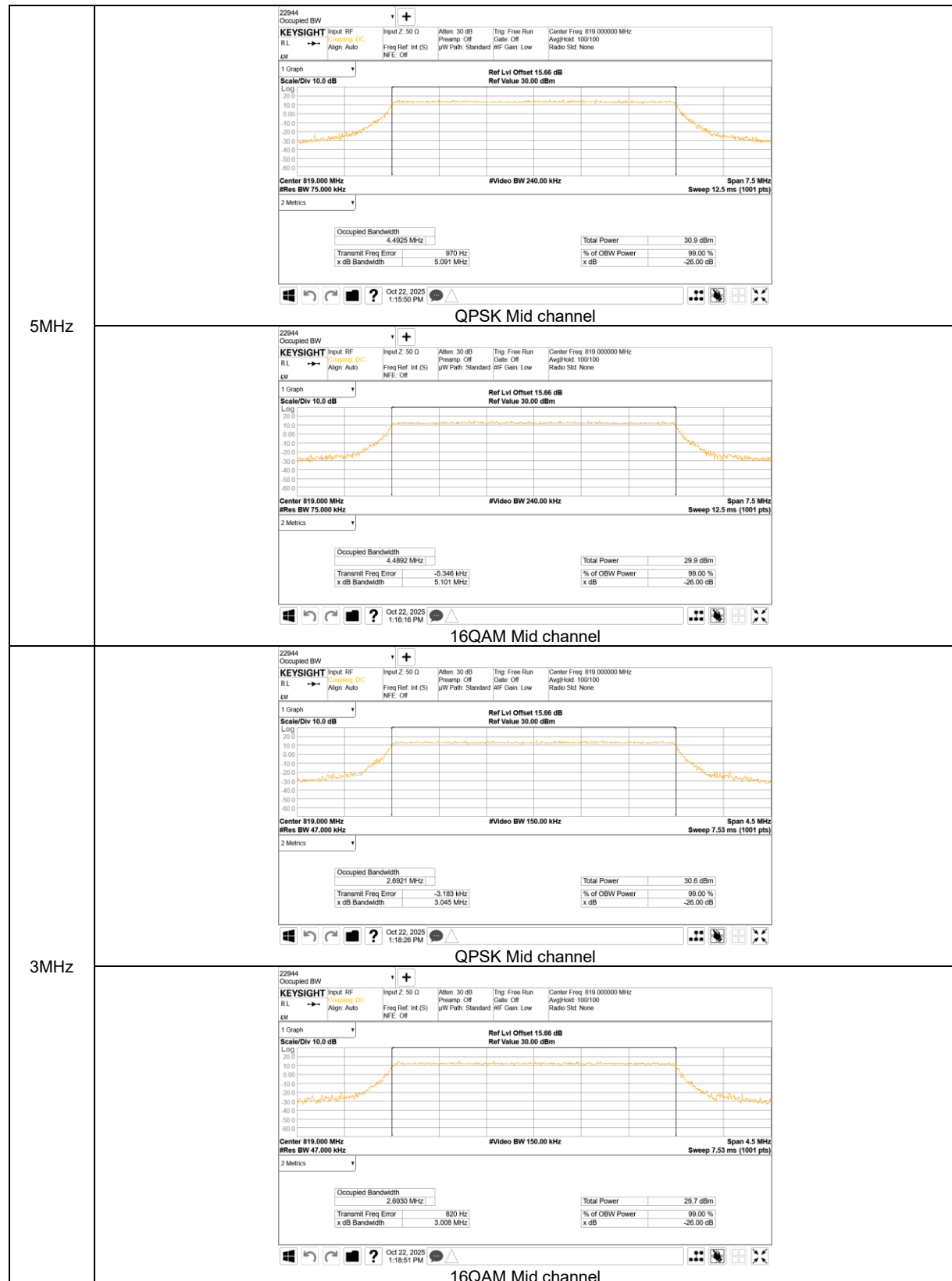


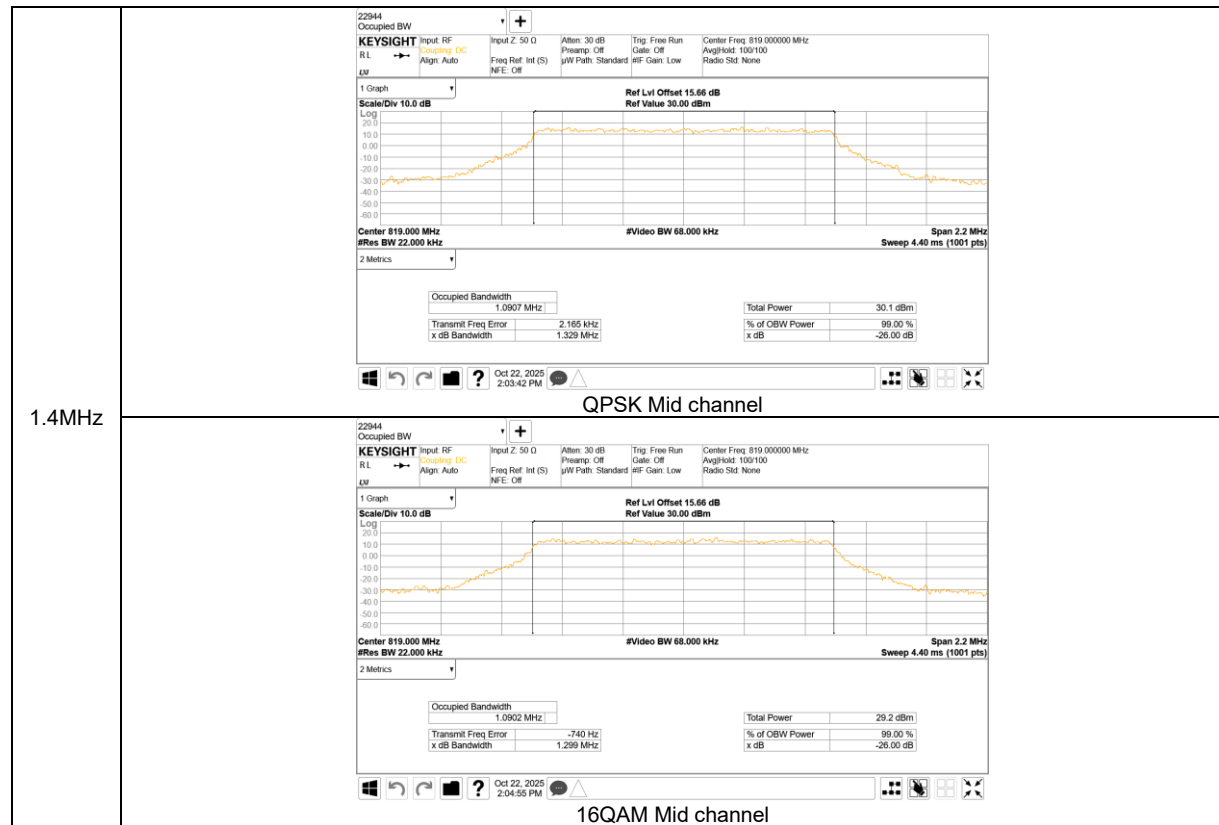
LTE Band 14



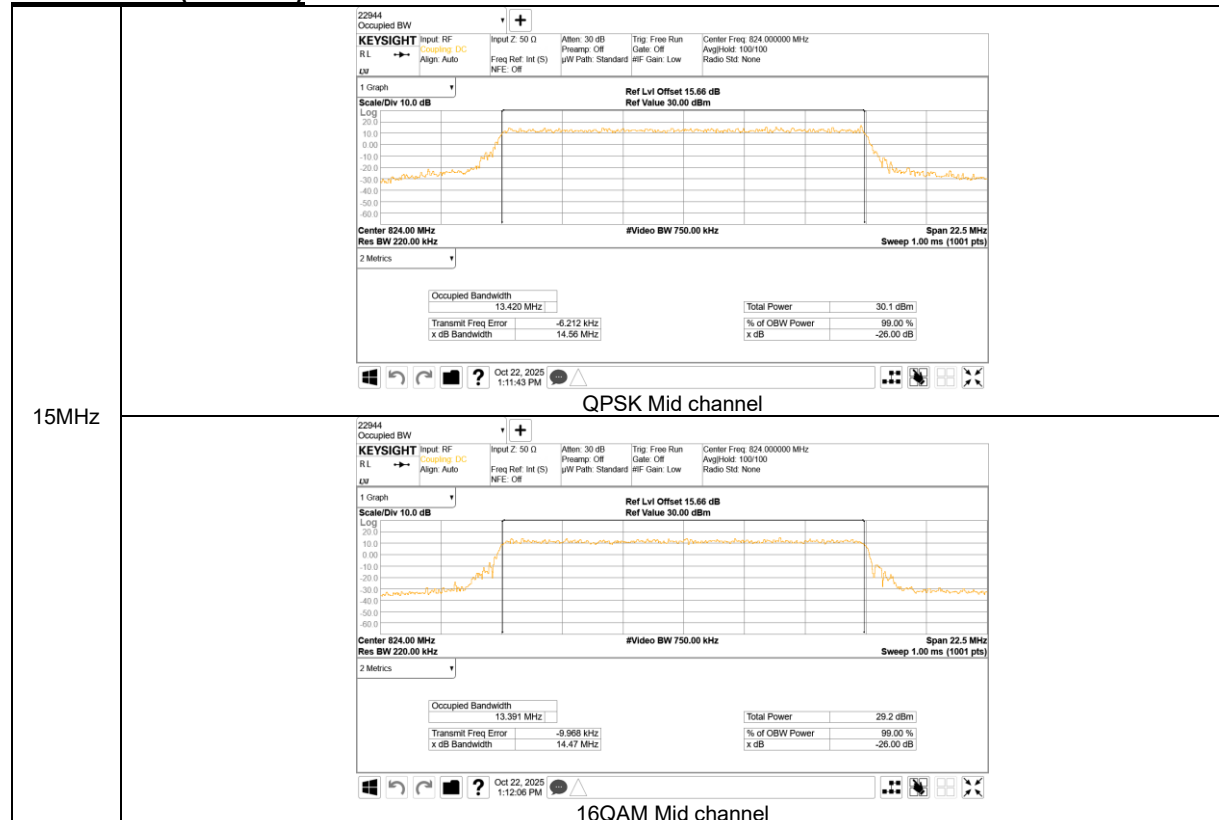
LTE Band 26 (Part 90)

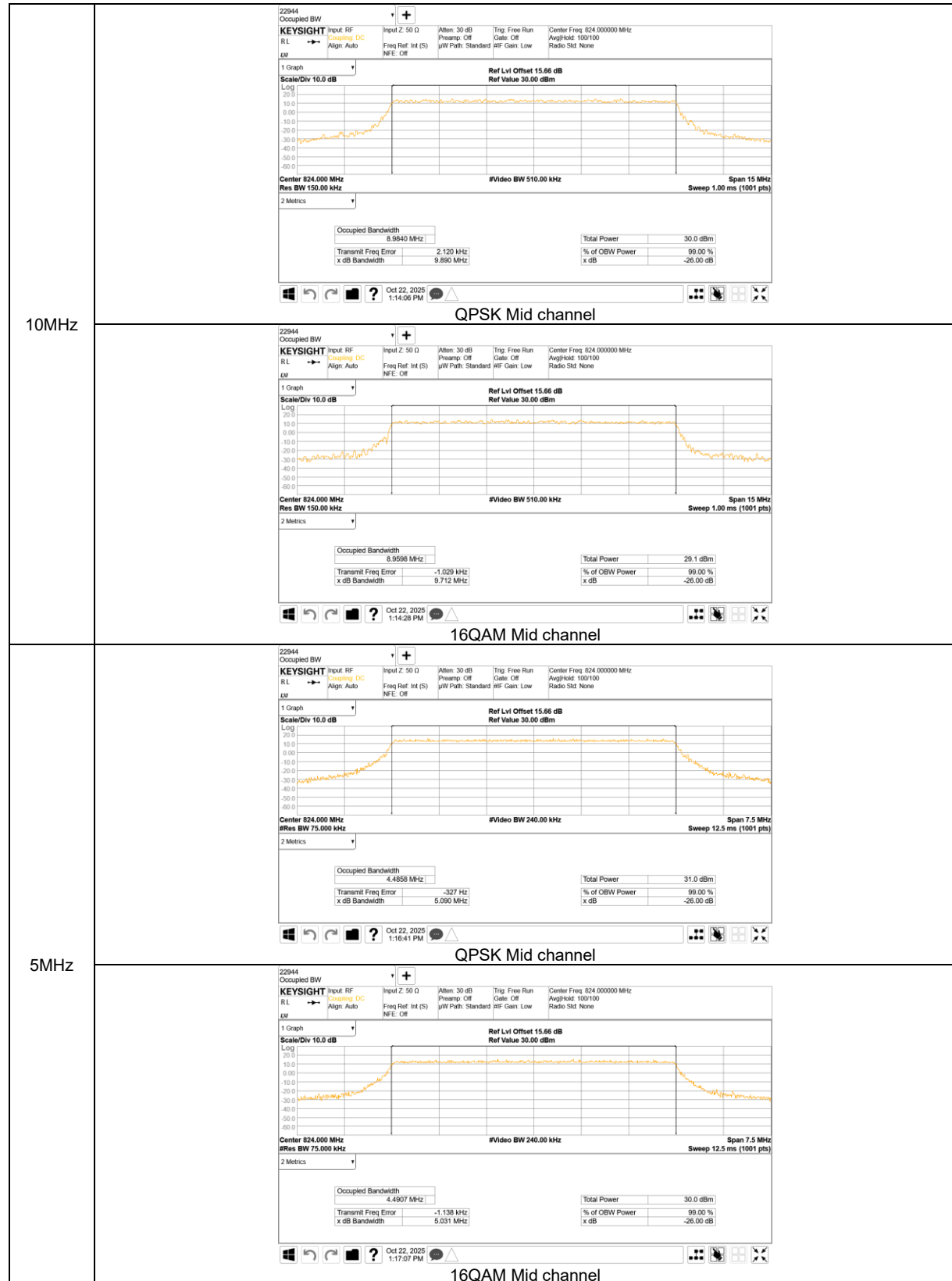






LTE Band 26 (Straddle)







LTE Band 26 (Part 22)

