

Test Report No:
2610463R-RFUSV24S-A

TEST REPORT

FCC Rules&Regulations

Product Name	Telematics Module
Brand Name	Quanta Computer Inc.
Model No.	QV28NRW
FCC ID	HFS-QV28NRW
Applicant's Name / Address	Quanta Computer Inc. No. 188, Wenhua 2nd Road, Guishan District, Taoyuan City, 33377, Taiwan
Manufacturer's Name	Quanta Computer Inc.
Test Method Requested, Standard	FCC CFR Title 47 Part 27 ANSI/TIA-603-E-2016 ANSI C63.26-2015
Verdict Summary	IN COMPLIANCE
Documented By Jinn Chen	<i>Jinn Chen</i>
Approved By Will Chen	<i>Will Chen</i>
Date of Receipt	2025/11/25
Date of Issue	2026/06/18
Report Version	V1.0

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Competences and Guarantees

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

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General Conditions

1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	2026/06/18

Summary of Test Result

Report Clause	Test Items	Band	Ref Std. Clause	Limit	Result (PASS/FAIL)	Remark
3	RF Output Power	n7, n41	§2.1033 §2.1046 §27.50	< 2 Watts EIRP	PASS	-
		n77, n78	§2.1033 §2.1046 §27.50	< 1 Watts EIRP	PASS	-
4	Occupied Bandwidth	n7, n41, n77, n78	§2.1049	N/A	PASS	-
5	Peak to Average Power Ratio	n7, n41, n77, n78	§27.50	$\leq$ 13 dB	PASS	-
6	Spurious Emission	n7, n41	§27.53	< -25 dBm	PASS	-
		n77, n78	§27.53	< -13 dBm	PASS	-
7	Conducted Band Edge	n7, n41	§2.1053 §27.53	< 5 MHz: -10 dBm 5 MHz-X MHz: -13 dBm >X MHz: -25 dBm	PASS	-
		n77, n78	§2.1053 §27.53	< -13 dBm	PASS	-
8	Frequency Stability	n7, n41, n77, n78	§2.1055 §27.54	$\pm$ 2.5 ppm	PASS	-

Comments and Explanations

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Comments and Remarks

The product specification and testing instructions for the EUT declared in the report are provided by the manufacturer who will take all responsibilities for the accuracy.

1. General Information

1.1. EUT Description

Frequency Range	5G NR n7	2500~2570 MHz (Uplink) 2620~2690 MHz (Downlink)	
	5G NR n41	2496~2690 MHz (Uplink) 2496~2690 MHz (Downlink)	
	5G NR n77 (Part 27Q)	3450~3550 MHz (Uplink) 3450~3550 MHz (Downlink)	
	5G NR n77 (Part 27O)	3700~3980 MHz (Uplink) 3700~3980 MHz (Downlink)	
	5G NR n78	3700~3800 MHz (Uplink) 3700~3800 MHz (Downlink)	
Bandwidth	5G NR n7	SCS: 15 kHz	5 / 10 / 15 / 20 / 25 / 30 / 40 / 50 MHz
	5G NR n41	SCS: 30 kHz	10 / 15 / 20 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100 MHz
	5G NR n77	SCS: 30 kHz	10 / 15 / 20 / 25 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100 MHz
	5G NR n78	SCS: 30 kHz	10 / 15 / 20 / 25 / 30 / 40 / 50 / 60 / 70 / 80 / 90 / 100 MHz
Type of Modulation	DFT-s-OFDM (pi/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)		
IMEI No.	356137370001060		

Antenna Port	Supported Bands
MIMO 1	GSM: 850 / 1900 WCDMA: B2 / B4 / B5 LTE: B2 / B4 / B5 / B7 / B12 / B17 / B25 / B26 / B38 / B41 / B42 5G NR: n7 / n41 / n77 / n78
MIMO 2	LTE: B42 5G NR: n77 / n78
MIMO 3	Only RX
MIMO 4	Only RX
Internal BUA (Backup Antenna)	GSM: 850 / 1900 WCDMA: B2 / B4 / B5 LTE: B2 / B4 / B5 / B7 / B25 / B26 / B38 / B41 5G NR: n7 / n41

Note: Since the Internal BUA uses the same antenna port as MIMO 1, only radiated testing was evaluated.

Antenna Information				
Item.	Brand Name	Model No.	Type	Gain (dBi)
1	molex	5A7F528 (MIMO 1)	PIFA	1.60 dBi for 5G NR n7 1.60 dBi for 5G NR n41 5.80 dBi for 5G NR n77 (3450 - 3550 MHz) 5.60 dBi for 5G NR n77 (3700 - 3980 MHz) 5.60 dBi for 5G NR n78 (3700 - 3800 MHz)
		5A7F528 (MIMO 2)		6.50 dBi for 5G NR n77 (3450 - 3550 MHz) 7.10 dBi for 5G NR n77 (3700 - 3980 MHz) 7.10 dBi for 5G NR n78 (3700 - 3800 MHz)
2	AMO	BMW ICON SF (Internal BUA)	PIFA	0.45 dBi for 5G NR n7 0.45 dBi for 5G NR n41

Note: Only the higher gain antenna was tested and recorded in this report.

Maximum Output Power – 5GNR n7					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
5GNR n7 (5M)	2502.5 - 2567.5	4M52G7D	PI/2 BPSK	0.190	22.78
		4M47G7D	QPSK	0.193	22.85
		4M52W7D	16QAM	0.159	22.02
		4M50W7D	64QAM	0.094	19.75
		4M48W7D	256QAM	0.061	17.88
5GNR n7 (10M)	2505.0 - 2565.0	8M99G7D	PI/2 BPSK	0.197	22.95
		9M02G7D	QPSK	0.197	22.95
		8M99W7D	16QAM	0.166	22.21
		8M99W7D	64QAM	0.110	20.41
		8M97W7D	256QAM	0.069	18.38
5GNR n7 (15M)	2507.5 - 2562.5	13M4G7D	PI/2 BPSK	0.202	23.05
		13M5G7D	QPSK	0.203	23.07
		13M5W7D	16QAM	0.179	22.54
		13M5W7D	64QAM	0.115	20.61
		13M4W7D	256QAM	0.073	18.65
5GNR n7 (20M)	2510.0 - 2560.0	17M9G7D	PI/2 BPSK	0.201	23.04
		18M0G7D	QPSK	0.197	22.94
		17M9W7D	16QAM	0.167	22.23
		17M9W7D	64QAM	0.112	20.49
		17M9W7D	256QAM	0.067	18.29
5GNR n7 (25M)	2512.5 - 2557.5	23M0G7D	PI/2 BPSK	0.207	23.17
		23M0G7D	QPSK	0.199	22.98
		23M0W7D	16QAM	0.166	22.20
		23M0W7D	64QAM	0.111	20.46
		23M0W7D	256QAM	0.069	18.36
5GNR n7 (30M)	2515.0 –2555.0	28M7G7D	PI/2 BPSK	0.203	23.08
		28M7G7D	QPSK	0.199	22.99
		28M7W7D	16QAM	0.167	22.22
		28M7W7D	64QAM	0.113	20.52
		28M7W7D	256QAM	0.070	18.48

5GNR n7 (40M)	2520.0 –2550.0	38M8G7D	PI/2 BPSK	0.194	22.87
		38M7G7D	QPSK	0.196	22.93
		38M8W7D	16QAM	0.160	22.05
		38M7W7D	64QAM	0.122	20.86
		38M7W7D	256QAM	0.071	18.52
5GNR n7 (50M)	2525.0 –2545.0	48M5G7D	PI/2 BPSK	0.195	22.89
		48M4G7D	QPSK	0.191	22.81
		48M4W7D	16QAM	0.159	22.01
		48M4W7D	64QAM	0.120	20.78
		48M3W7D	256QAM	0.069	18.41

Maximum Output Power – 5GNR n41					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
5GNR n41 (10M)	2501.01 - 2685.00	8M65G7D	PI/2 BPSK	0.185	22.68
		8M58G7D	QPSK	0.183	22.62
		8M65W7D	16QAM	0.146	21.65
		8M66W7D	64QAM	0.110	20.43
		8M61W7D	256QAM	0.070	18.44
5GNR n41 (15M)	2503.50 - 2682.48	13M0G7D	PI/2 BPSK	0.188	22.74
		12M9G7D	QPSK	0.192	22.84
		12M9W7D	16QAM	0.169	22.28
		12M9W7D	64QAM	0.109	20.39
		12M9W7D	256QAM	0.067	18.26
5GNR n41 (20M)	2506.02 - 2679.99	17M9G7D	PI/2 BPSK	0.190	22.79
		17M9G7D	QPSK	0.190	22.78
		17M9W7D	16QAM	0.152	21.83
		17M9W7D	64QAM	0.107	20.29
		17M9W7D	256QAM	0.071	18.51
5GNR n41 (30M)	2511.00 - 2674.98	26M9G7D	PI/2 BPSK	0.195	22.89
		26M9G7D	QPSK	0.192	22.84
		26M9W7D	16QAM	0.155	21.89
		26M9W7D	64QAM	0.106	20.26
		26M9W7D	256QAM	0.072	18.56
5GNR n41 (40M)	2516.01 - 2670.00	35M9G7D	PI/2 BPSK	0.185	22.68
		35M8G7D	QPSK	0.188	22.75
		35M8W7D	16QAM	0.148	21.71
		35M8W7D	64QAM	0.119	20.75
		35M7W7D	256QAM	0.072	18.58
5GNR n41 (50M)	2521.02 – 2664.99	45M9G7D	PI/2 BPSK	0.186	22.69
		45M8G7D	QPSK	0.193	22.85
		45M9W7D	16QAM	0.150	21.77
		45M9W7D	64QAM	0.119	20.74
		45M9W7D	256QAM	0.072	18.58

5GNR n41 (60M)	2526.00 – 2659.98	58M1G7D	PI/2 BPSK	0.188	22.75
		58M2G7D	QPSK	0.192	22.83
		58M1W7D	16QAM	0.149	21.74
		58M1W7D	64QAM	0.121	20.83
		57M9W7D	256QAM	0.072	18.59
5GNR n41 (70M)	2531.01 – 2655.00	64M8G7D	PI/2 BPSK	0.196	22.93
		64M8G7D	QPSK	0.199	22.99
		64M8W7D	16QAM	0.161	22.07
		64M9W7D	64QAM	0.115	20.61
		64M7W7D	256QAM	0.076	18.82
5GNR n41 (80M)	2536.02 – 2649.99	77M5G7D	PI/2 BPSK	0.192	22.84
		77M5G7D	QPSK	0.192	22.83
		77M9W7D	16QAM	0.154	21.87
		77M6W7D	64QAM	0.118	20.71
		77M7W7D	256QAM	0.074	18.71
5GNR n41 (90M)	2541.00 – 2644.98	87M6G7D	PI/2 BPSK	0.191	22.81
		87M6G7D	QPSK	0.191	22.82
		87M4W7D	16QAM	0.154	21.87
		87M4W7D	64QAM	0.113	20.53
		87M4W7D	256QAM	0.071	18.51
5GNR n41 (100M)	2546.01 – 2640.00	97M6G7D	PI/2 BPSK	0.194	22.88
		97M3G7D	QPSK	0.195	22.91
		97M2W7D	16QAM	0.149	21.73
		97M3W7D	64QAM	0.112	20.48
		97M3W7D	256QAM	0.071	18.49

Maximum Output Power – 5GNR n77 (3450 - 3550 MHz)					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
5GNR n77 (10M)	3455.01 - 3544.98	8M62G7D	PI/2 BPSK	0.215	23.32
		8M63G7D	QPSK	0.213	23.28
		8M57W7D	16QAM	0.174	22.41
		8M62W7D	64QAM	0.121	20.81
		8M61W7D	256QAM	0.077	18.86
5GNR n77 (15M)	3457.50 - 3542.49	13M0G7D	PI/2 BPSK	0.222	23.46
		12M9G7D	QPSK	0.221	23.44
		12M9W7D	16QAM	0.160	22.05
		13M0W7D	64QAM	0.110	20.41
		12M9W7D	256QAM	0.072	18.60
5GNR n77 (20M)	3460.02 - 3540.00	18M0G7D	PI/2 BPSK	0.218	23.39
		17M9G7D	QPSK	0.206	23.13
		17M9W7D	16QAM	0.173	22.39
		17M9W7D	64QAM	0.122	20.88
		17M9W7D	256QAM	0.076	18.78
5GNR n77 (25M)	3462.51 - 3537.48	22M9G7D	PI/2 BPSK	0.212	23.27
		22M9G7D	QPSK	0.210	23.23
		22M9W7D	16QAM	0.167	22.23
		23M0W7D	64QAM	0.123	20.90
		22M9W7D	256QAM	0.075	18.75
5GNR n77 (30M)	3465.00 - 3534.99	27M1G7D	PI/2 BPSK	0.208	23.18
		27M0G7D	QPSK	0.205	23.11
		26M9W7D	16QAM	0.161	22.07
		27M0W7D	64QAM	0.112	20.51
		26M9W7D	256QAM	0.072	18.59
5GNR n77 (40M)	3470.01 - 3529.98	35M8G7D	PI/2 BPSK	0.213	23.28
		36M0G7D	QPSK	0.200	23.01
		35M9W7D	16QAM	0.161	22.06
		36M0W7D	64QAM	0.112	20.48
		36M0W7D	256QAM	0.071	18.49

5GNR n77 (50M)	3475.02 – 3525.00	46M0G7D	PI/2 BPSK	0.215	23.32
		45M9G7D	QPSK	0.213	23.28
		46M0W7D	16QAM	0.177	22.49
		46M2W7D	64QAM	0.124	20.93
		45M8W7D	256QAM	0.073	18.63
5GNR n77 (60M)	3480.00 – 3519.99	58M0G7D	PI/2 BPSK	0.206	23.14
		58M1G7D	QPSK	0.209	23.21
		58M1W7D	16QAM	0.173	22.39
		58M0W7D	64QAM	0.122	20.85
		58M0W7D	256QAM	0.073	18.61
5GNR n77 (70M)	3485.01 – 3514.98	64M7G7D	PI/2 BPSK	0.206	23.14
		64M8G7D	QPSK	0.205	23.12
		64M7W7D	16QAM	0.171	22.33
		64M7W7D	64QAM	0.119	20.77
		64M7W7D	256QAM	0.073	18.66
5GNR n77 (80M)	3490.02 – 3510.00	77M6G7D	PI/2 BPSK	0.214	23.31
		77M6G7D	QPSK	0.209	23.20
		77M6W7D	16QAM	0.185	22.66
		77M6W7D	64QAM	0.127	21.03
		77M4W7D	256QAM	0.080	19.03
5GNR n77 (90M)	3495.00 – 3504.99	87M4G7D	PI/2 BPSK	0.208	23.18
		87M7G7D	QPSK	0.204	23.10
		87M4W7D	16QAM	0.179	22.52
		87M2W7D	64QAM	0.128	21.08
		87M6W7D	256QAM	0.079	18.95
5GNR n77 (100M)	3500.01	97M3G7D	PI/2 BPSK	0.205	23.12
		97M1G7D	QPSK	0.201	23.03
		97M1W7D	16QAM	0.170	22.31
		97M0W7D	64QAM	0.116	20.65
		96M9W7D	256QAM	0.078	18.94

Maximum Output Power – 5GNR n77(78) (3700 - 3980 MHz)					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
5GNR n77 (78) (10M)	3705.00 - 3975.00	8M63G7D	PI/2 BPSK	0.211	23.24
		8M60G7D	QPSK	0.201	23.04
		8M63W7D	16QAM	0.165	22.18
		8M64W7D	64QAM	0.103	20.12
		8M62W7D	256QAM	0.072	18.55
5GNR n77 (78) (15M)	3707.52 - 3972.48	12M9G7D	PI/2 BPSK	0.198	22.97
		12M9G7D	QPSK	0.207	23.16
		12M9W7D	16QAM	0.174	22.41
		12M9W7D	64QAM	0.111	20.47
		13M0W7D	256QAM	0.069	18.38
5GNR n77 (78) (20M)	3710.01 - 3969.99	18M0G7D	PI/2 BPSK	0.202	23.05
		18M0G7D	QPSK	0.211	23.24
		17M9W7D	16QAM	0.177	22.49
		17M9W7D	64QAM	0.113	20.52
		17M9W7D	256QAM	0.070	18.46
5GNR n77 (78) (25M)	3712.50 - 3967.50	23M0G7D	PI/2 BPSK	0.209	23.21
		23M0G7D	QPSK	0.207	23.16
		23M0W7D	16QAM	0.171	22.33
		22M9W7D	64QAM	0.120	20.78
		23M1W7D	256QAM	0.073	18.64
5GNR n77 (78) (30M)	3715.02 - 3964.98	26M9G7D	PI/2 BPSK	0.209	23.21
		26M9G7D	QPSK	0.208	23.18
		26M8W7D	16QAM	0.168	22.25
		26M9W7D	64QAM	0.117	20.68
		26M9W7D	256QAM	0.074	18.68
5GNR n77 (78) (40M)	3720.00 - 3960.00	35M9G7D	PI/2 BPSK	0.213	23.29
		35M8G7D	QPSK	0.209	23.20
		36M0W7D	16QAM	0.171	22.33
		35M9W7D	64QAM	0.116	20.66
		36M1W7D	256QAM	0.075	18.75

5GNR n77 (78) (50M)	3725.01 – 3954.99	45M9G7D	PI/2 BPSK	0.202	23.06
		45M8G7D	QPSK	0.201	23.03
		46M0W7D	16QAM	0.151	21.79
		45M8W7D	64QAM	0.109	20.38
		46M0W7D	256QAM	0.074	18.67
5GNR n77 (78) (60M)	3730.02 – 3949.98	58M2G7D	PI/2 BPSK	0.203	23.07
		58M3G7D	QPSK	0.202	23.06
		58M2W7D	16QAM	0.153	21.85
		58M1W7D	64QAM	0.110	20.41
		58M1W7D	256QAM	0.074	18.68
5GNR n77 (78) (70M)	3735.00 – 3945.00	64M7G7D	PI/2 BPSK	0.206	23.14
		64M9G7D	QPSK	0.200	23.01
		64M8W7D	16QAM	0.148	21.69
		64M7W7D	64QAM	0.111	20.44
		64M6W7D	256QAM	0.073	18.66
5GNR n77 (78) (80M)	3740.01 – 3939.99	77M6G7D	PI/2 BPSK	0.190	22.79
		77M7G7D	QPSK	0.193	22.86
		77M6W7D	16QAM	0.156	21.92
		77M9W7D	64QAM	0.109	20.36
		77M7W7D	256QAM	0.071	18.51
5GNR n77 (78) (90M)	3745.02 – 3934.98	87M4G7D	PI/2 BPSK	0.183	22.62
		87M4G7D	QPSK	0.181	22.58
		87M3W7D	16QAM	0.150	21.76
		87M6W7D	64QAM	0.104	20.17
		87M6W7D	256QAM	0.067	18.29
5GNR n77 (78) (100M)	3750.00 – 3930.00	97M1G7D	PI/2 BPSK	0.198	22.96
		97M2G7D	QPSK	0.189	22.77
		97M2W7D	16QAM	0.157	21.96
		97M3W7D	64QAM	0.110	20.41
		97M3W7D	256QAM	0.067	18.27

1.2. EUT Information

EUT Power Type	From DC power supply
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1.3. Testing Location Information

USA	FCC Designation Number: TW0033 / FCC Registration Number: 647365
Canada	CAB Identifier Number: TW3023 / Company Number: 26930

Site Description	Accredited by TAF
	Accredited Number: 3023

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No. 85, Wenlin St., Linkou Dist., New Taipei City 244017, Taiwan, R.O.C.
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual	Test Date	Tested by
Conducted Emission	Temperature (°C)	15~35 °C	23.6~25.3 °C	2026/04/24 ~ 2026/05/19	Joe Wang
	Humidity (%RH)	20~75 %	51~59 %		
Radiated Emission	Temperature (°C)	15~35 °C	22.3~23.5 °C	2026/05/21 ~ 2026/05/22	Ashton Chiu Rock Liang
	Humidity (%RH)	20~75 %	56.7~59.4 %		

1.4. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test Item	Uncertainty
RF Output Power	± 1.31 dB
Occupied Bandwidth	± 1580.61 Hz
Peak to Average Power Ratio	± 2.13 dB
Conducted Band Edge	± 2.13 dB
Spurious Emission at Antenna Port	± 2.13 dB
Radiated Spurious Emissions	± 4.72 dB for 30MHz~180MHz ± 2.99 dB for 180MHz~1GHz ± 2.98 dB for 1GHz~18GHz ± 3.02 dB for 18GHz~40GHz
Frequency Stability	± 0.54 ppm

1.5. List of Test Equipment

Conducted / HY-SR04

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	KEYSIGHT	N9010A	MY54510357	2025/05/05 2026/04/27	2026/05/04 2027/04/26
Spectrum Analyzer	KEYSIGHT	N9020B	MY59050510	2025/08/13	2026/08/12
Temperature & Humidity Test Chamber	KSON	THS-D4T-100	A0606	2026/02/24	2027/02/23
DC Power Supply	GWInstek	SPD-3606	GEQ820915	2025/07/08	2026/07/07
DC Power Supply	Agilent	E3646A	MY53020023	2025/10/27	2026/10/26
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY59321672	2025/06/30	2026/06/29

Radiated / HY-CB03

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-0675	2025/08/14	2027/08/13
Horn Antenna	Com-Power	AH-840	101100	2025/10/07	2027/10/06
Horn Antenna	RF SPIN	DRH18-E	210508A18ES	2024/05/30	2026/05/29
Pre-Amplifier	SGH	SGH0301-9	20211007-11	2026/01/10	2027/01/09
Pre-Amplifier	SGH	PRAMP118	20200701	2026/01/10	2027/01/09
Pre-Amplifier	EMCI	EMC184045SE	980369	2026/01/10	2027/01/09
Coaxial Cable	EMCI	EMC102-KM-KM-600	160311	2026/01/10	2027/01/09
Coaxial Cable	SGH	HC360-2.92M/2.92M-7.0M	202108-1	2026/01/10	2027/01/09
EMI Test Receiver	R&S	ESR3	102793	2025/12/01	2026/11/30
Spectrum Analyzer	R&S	FSV3044	101114	2026/04/08	2027/04/07
Coaxial Cable	SGH	SGH18	2021005-1	2026/01/10	2027/01/09
Coaxial Cable	SGH	SGH18	202108-4	2026/01/10	2027/01/09
Coaxial Cable	SGH	HA800	GD20110223-1	2026/01/10	2027/01/09
Coaxial Cable	SGH	HA800	GD20110222-8	2026/01/10	2027/01/09
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY59321672	2025/06/30	2026/06/29
DC Power Supply	KEYSIGHT	E36234A	MY59001234	2025/10/27	2026/10/26

Note: Test Software Version: e3 230303 dekra V9.

2. Test Configuration of EUT

2.1. Test Condition

EUT Operational Condition	
Testing Voltage	DC 4.1V

2.2. Measurement Configuration

Test Mode	Mode 1: 5G NR n7 Mode 2: 5G NR n41 Mode 3: 5G NR n77 (3450 - 3550 MHz) Mode 4: 5G NR n77(n78) (3700 - 3980 MHz)
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Note:

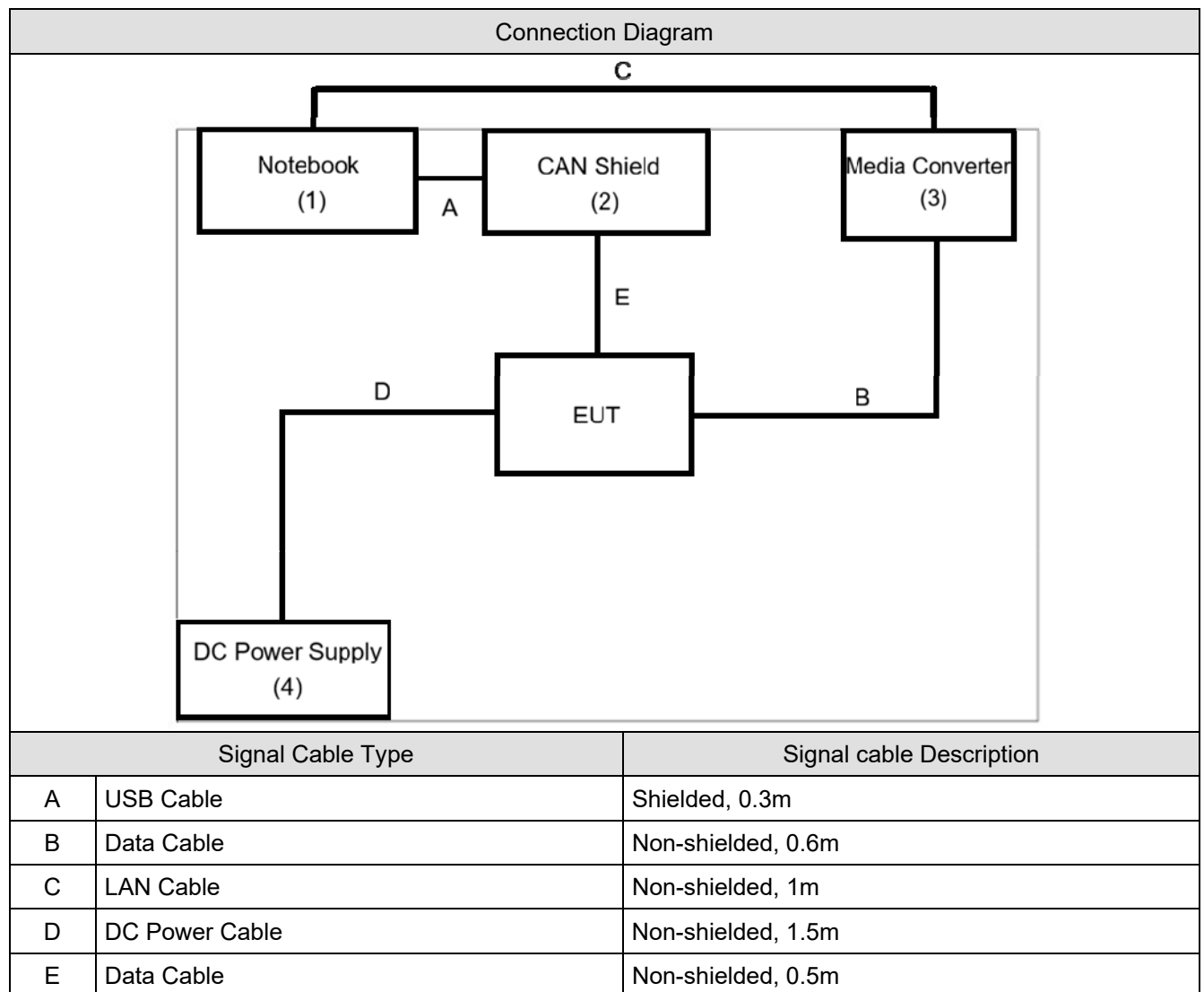
1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. 5GNR n77 overlaps the entire frequency range of n78.
3. For 5GNR n77(n78), RF output power was evaluated for both MIMO 1 and MIMO 2. Since MIMO 2 represents the worst-case condition, all test items were performed under MIMO 2.
4. According to the manufacturer's declaration, when the device is connected to the antenna (Brand: Molex, Model No.: 5A7F528), the 5GNR n77 and n78 band supports a power backoff mechanism. The transmit power is backed off by 2 dB for n77 MIMO 2 and 1 dB for n78 MIMO 2. Therefore, the EIRP for 5GNR n77 and n78 takes this backoff factor into account.
5. The EUT was performed at X axis, Y axis and Z axis position for radiated spurious emission test. The worst case was found at X axis, so the measurement will follow this same test configuration.
6. The device was tested under all configurations, bandwidths, RB configurations and modulations. The worst-case results are presented in the table below.

Worst Case						
Test Item	Mode	Waveform	Modulation	Bandwidth	RB Size	Test Channel
RF Output Power	SA	DFT-s-OFDM, CP-OFDM	pi/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM	All supported	1RB, Mid RB, Full RB	Low, Mid, High
Occupied Bandwidth	SA	DFT-s-OFDM	pi/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM	All supported	Full RB	Mid
Conducted Band Edge	SA	DFT-s-OFDM	pi/2 BPSK	All supported	1RB, Full RB	Low, High
Peak to Average Power Ratio	SA	DFT-s-OFDM	pi/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM	All supported	Full RB	Mid
Spurious Emission at Antenna Port	SA	DFT-s-OFDM	pi/2 BPSK	All supported	1RB	Low, Mid, High
Radiated Spurious Emissions	SA	DFT-s-OFDM	Max. output power combination			Low, Mid, High
Frequency Stability	SA	DFT-s-OFDM	pi/2 BPSK	All supported	Full RB	Mid

2.3. Tested System Details

No.	Equipment	Brand Name	Model No.	Serial No.
1	Notebook	DELL	P62G	CY9FJC2
2	CAN Shield	N/A	N/A	N/A
3	Media Converter	N/A	N/A	N/A
4	DC Power Supply	KEYSIGHT	E36234A	MY59001234

2.4. Configuration of Tested System

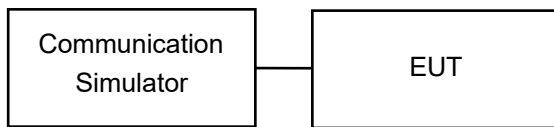


2.5. EUT Operating Procedures

1.	Setup the EUT as shown in Section 2.4.
2.	Setup the EUT connect to the base station.
3.	Setup the parameter (band, channel, frequency).
4.	The EUT will continue receive the signal from WWAN function.
5.	Verify that the EUT works properly.

3. RF Output Power

3.1. Test Setup



3.2. Test Procedure

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum conducted RF output power under transmission mode and specific channel frequency. The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas} , typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_{T} = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

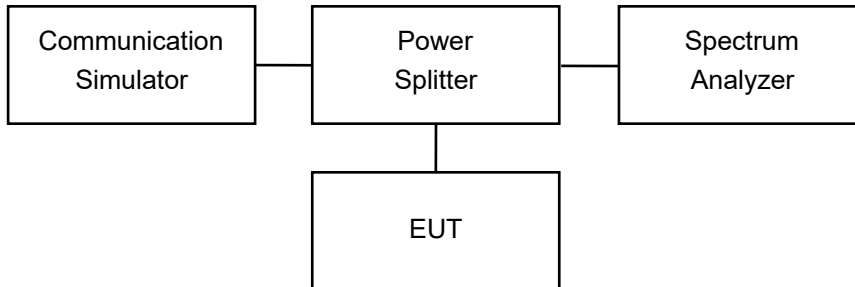
L_{C} = signal attenuation in the connecting cable between the transmitter and antenna, in dB

3.3. Test Result of RF Output Power

Refer as Appendix A

4. Occupied Bandwidth

4.1. Test Setup



4.2. Test Procedure

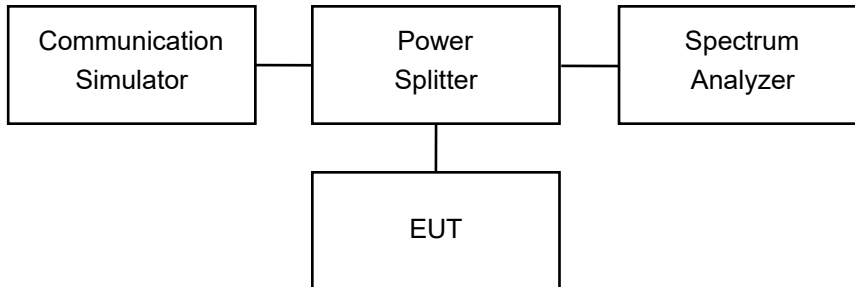
The EUT makes a call to the communication simulator. The 26dB bandwidth and 99% occupied bandwidth measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. The path loss was compensated to the results for each measurement.

4.3. Test Result of Occupied Bandwidth

Refer as Appendix B

5. Peak to Average Power Ratio

5.1. Test Setup



5.2. Test Procedure

1. The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. The path loss was compensated to the results for each measurement.
2. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth.
3. Set the number of counts to a value that stabilizes the measured CCDF curve.
4. Record the maximum PAPR level associated with a probability of 0.1 %.

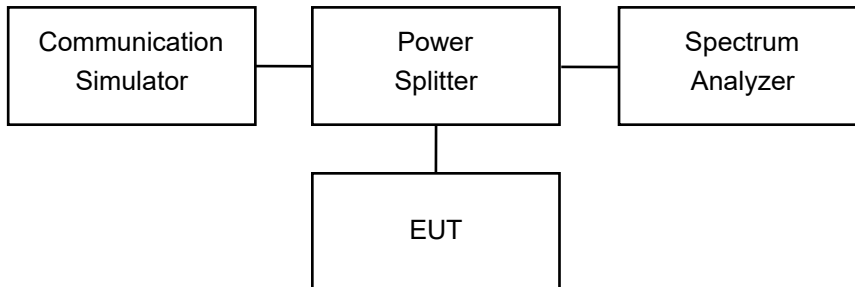
5.3. Test Result of Peak to Average Power Ratio

Refer as Appendix C

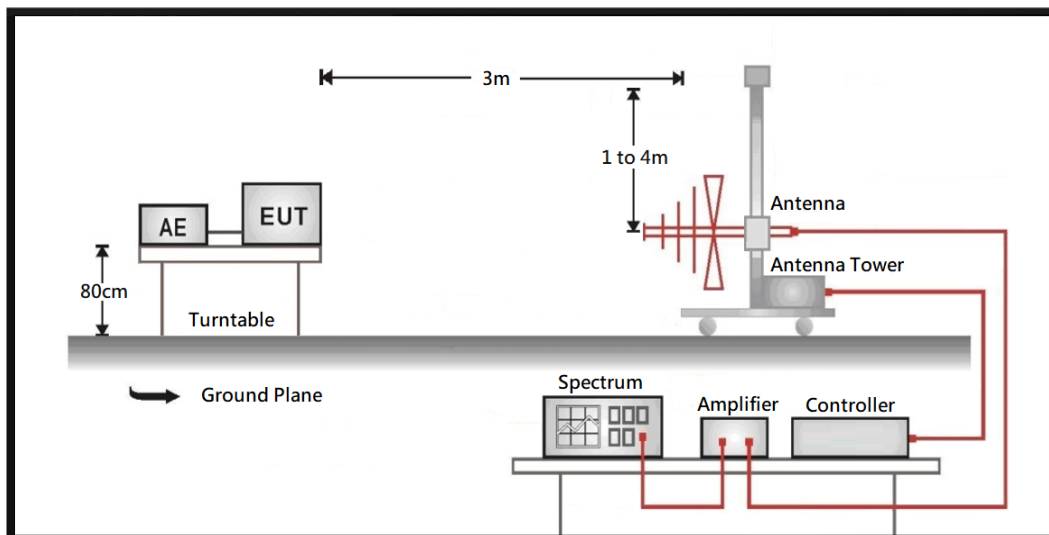
6. Spurious Emissions

6.1. Test Setup

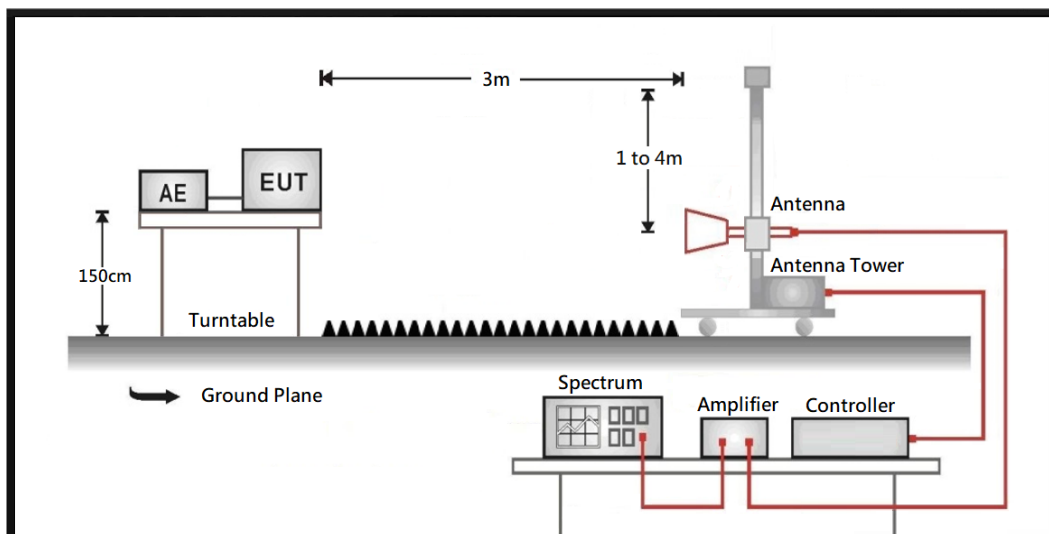
Conducted Spurious Measurement



Radiated Spurious Measurement: below 1GHz



Radiated Spurious Measurement: above 1GHz



6.2. Test Procedure

Conducted Spurious Measurement:

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. The path loss was compensated to the results for each measurement. The resolution bandwidth of the spectrum analyzer was set at 1 MHz, sufficient scans were taken to show the out of band Emission if any up to 10th harmonic.

Radiated Spurious Measurement:

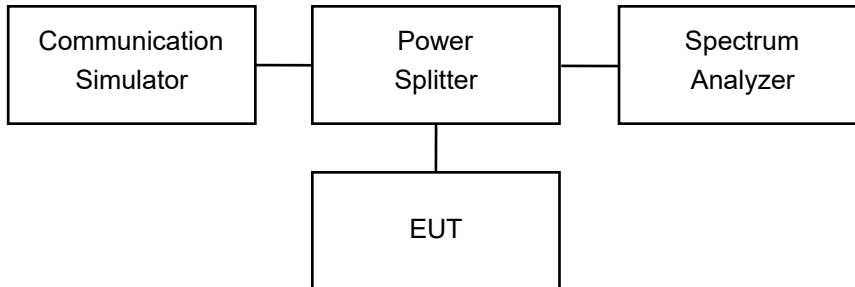
The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations. The resolution bandwidth of the spectrum analyzer was set at 1 MHz, sufficient scans were taken to show the out of band Emission if any up to 10th harmonic. Taking the record of maximum spurious emission.

6.3. Test Result of Spurious Emission

Refer as Appendix D

7. Conducted Band Edge

7.1. Test Setup



7.2. Test Procedure

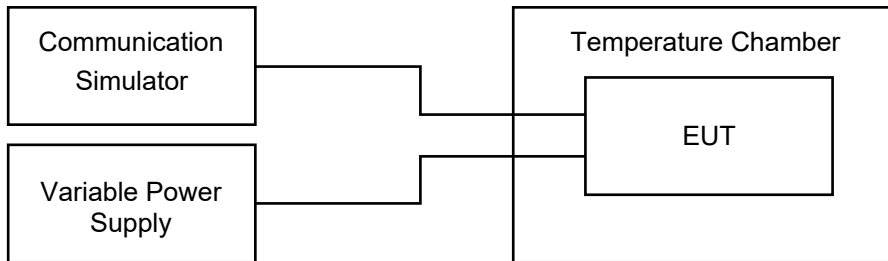
1. The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. The path loss was compensated to the results for each measurement.
2. In the 1MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.

7.3. Test Result of Conducted Band Edge

Refer as Appendix E

8. Frequency Stability

8.1. Test Setup



8.2. Test Procedure

Frequency Stability under Temperature Variations:

The EUT under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a communication simulator. The EUT was placed inside the temperature chamber. Set the EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Frequency Stability under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC or DC power supply to power the EUT and set the voltage to rated voltage. Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

8.3. Test Result of Frequency Stability

Refer as Appendix F