

Test Report No:
2610463R-RFUSV23S-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 22 FCC CFR Title 47 Part 24 FCC CFR Title 47 Part 27 FCC CFR Title 47 Part 90 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
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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.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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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	2, 25	§2.1033 §2.1046 §24.232	< 2 Watts EIRP	PASS	-
		4, 42	§2.1033 §2.1046 §27.50	< 1 Watts EIRP	PASS	-
		5, 26	§2.1033 §2.1046 §22.913	< 7 Watts ERP	PASS	-
		7, 38, 41	§2.1033 §2.1046 §27.50	< 2 Watts EIRP	PASS	-
		12, 17	§2.1033 §2.1046 §27.50	< 3 Watts ERP	PASS	-
		26	§2.1033 §2.1046 §90.635(b) §22.913	< 100 Watts ERP	PASS	-
4	Occupied Bandwidth	2, 4, 5, 7, 12, 17, 25, 26, 38, 41, 42	§2.1049	N/A	PASS	-
5	Peak to Average Power Ratio	2, 25	§24.232	$\leq$ 13 dB	PASS	-
		4, 7, 12, 17, 38, 41, 42	§27.50	$\leq$ 13 dB	PASS	-
		5, 26	§22.913	$\leq$ 13 dB	PASS	-
6	Spurious Emission	2, 25	§2.1053 §24.238	< -13 dBm	PASS	-
		4, 12, 17, 42	§27.53	< -13 dBm	PASS	-
		5	§22.917	< -13 dBm	PASS	-
		7, 38, 41	§27.53	< -25 dBm	PASS	-
		26	§90.691 §22.917	< -13 dBm	PASS	-
7	Conducted Band Edge	2, 25	§24.238	< -13 dBm	PASS	-
		4, 12, 17, 42	§2.1053 §27.53	< -13 dBm	PASS	-
		5	§2.1053 §22.917	< -13 dBm	PASS	-
		7, 38, 41	§2.1053 §27.53	< 5 MHz: -10 dBm 5 to X MHz: -13 dBm > X MHz: -25 dBm	PASS	-
		26	§2.1053 §90.691 §22.917	< -13 dBm	PASS	-

8	Frequency Stability	2, 25	§2.1055 §24.235	± 2.5 ppm	PASS	-
		4, 7, 12, 17, 38, 41, 42	§2.1055 §27.54	± 2.5 ppm	PASS	-
		5	§2.1055 §22.355	± 2.5 ppm	PASS	-
		26	§2.1055 §22.355 §90.213	± 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

Uplink Frequency Range (MHz)	LTE Band 2: 1850~1910 LTE Band 4: 1710~1755 LTE Band 5: 824~849 LTE Band 7: 2500~2570 LTE Band 12: 699~716 LTE Band 17: 704~716 LTE Band 25: 1850~1915 LTE Band 26: 814~849 LTE Band 38: 2570~2620 LTE Band 41: 2496~2690 LTE Band 42: 3450~3550
Downlink Frequency Range (MHz)	LTE Band 2: 1930~1990 LTE Band 4: 2110~2115 LTE Band 5: 869~894 LTE Band 7: 2620~2690 LTE Band 12: 729~746 LTE Band 17: 734~746 LTE Band 25: 1930~1995 LTE Band 26: 859~894 LTE Band 38: 2570~2620 LTE Band 41: 2496~2690 LTE Band 42: 3450~3550
Bandwidth (MHz)	LTE Band 2: 1.4 / 3 / 5 / 10 / 15 / 20 LTE Band 4: 1.4 / 3 / 5 / 10 / 15 / 20 LTE Band 5: 1.4 / 3 / 5 / 10 LTE Band 7: 5 / 10 / 15 / 20 LTE Band 12: 1.4 / 3 / 5 / 10 LTE Band 17: 5 / 10 LTE Band 25: 1.4 / 3 / 5 / 10 / 15 / 20 LTE Band 26: 1.4 / 3 / 5 / 10 / 15 LTE Band 38: 5 / 10 / 15 / 20 LTE Band 41: 5 / 10 / 15 / 20 LTE Band 42: 5 / 10 / 15 / 20
CA Band	7C
Type of Modulation	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 LTE B2 2.80 dBi for LTE B4 -2.60 dBi for LTE B5 1.60 dBi for LTE B7 -5.40 dBi for LTE B12 -5.40 dBi for LTE B17 1.60 dBi for LTE B25 -2.60 dBi for LTE B26 1.50 dBi for LTE B38 1.60 dBi for LTE B41 5.80 dBi for LTE B42
		5A7F528 (MIMO 2)		6.50 dBi for LTE B42
2	AMO	BMW ICON SF (Internal BUA)	PIFA	2.99 dBi for LTE B2 2.72 dBi for LTE B4 2.09 dBi for LTE B5 0.45 dBi for LTE B7 2.99 dBi for LTE B25 2.09 dBi for LTE B26 0.45 dBi for LTE B38 0.45 dBi for LTE B41

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

Maximum Output Power – LTE B25(2)					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B25(2) (1.4M)	1850.7 - 1914.3	1M09G7D	QPSK	0.207	23.16
		1M10W7D	16QAM	0.175	22.43
		1M09W7D	64QAM	0.133	21.25
		1M08W7D	256QAM	0.072	18.56
LTE B25(2) (3M)	1851.5 - 1913.5	2M69G7D	QPSK	0.204	23.09
		2M71W7D	16QAM	0.173	22.37
		2M70W7D	64QAM	0.133	21.23
		2M70W7D	256QAM	0.072	18.58
LTE B25(2) (5M)	1852.5 - 1912.5	4M49G7D	QPSK	0.207	23.17
		4M48W7D	16QAM	0.172	22.36
		4M50W7D	64QAM	0.133	21.24
		4M49W7D	256QAM	0.071	18.54
LTE B25(2) (10M)	1855.0 - 1910.0	9M00G7D	QPSK	0.206	23.14
		8M95W7D	16QAM	0.171	22.33
		8M98W7D	64QAM	0.135	21.29
		8M96W7D	256QAM	0.071	18.51
LTE B25(2) (15M)	1857.5 - 1907.5	13M5G7D	QPSK	0.207	23.15
		13M5W7D	16QAM	0.173	22.37
		13M5W7D	64QAM	0.134	21.28
		13M5W7D	256QAM	0.072	18.56
LTE B25(2) (20M)	1860.0 – 1905.0	17M9G7D	QPSK	0.204	23.10
		17M9W7D	16QAM	0.173	22.37
		17M9W7D	64QAM	0.134	21.28
		17M9W7D	256QAM	0.073	18.62

Maximum Output Power – LTE B4					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B4 (1.4M)	1710.7 - 1754.3	1M09G7D	QPSK	0.215	23.33
		1M10W7D	16QAM	0.183	22.62
		1M09W7D	64QAM	0.142	21.51
		1M08W7D	256QAM	0.075	18.75
LTE B4 (3M)	1711.5 - 1753.5	2M69G7D	QPSK	0.214	23.31
		2M71W7D	16QAM	0.184	22.64
		2M70W7D	64QAM	0.140	21.45
		2M70W7D	256QAM	0.076	18.81
LTE B4 (5M)	1712.5 - 1752.5	4M49G7D	QPSK	0.216	23.35
		4M48W7D	16QAM	0.184	22.64
		4M50W7D	64QAM	0.142	21.52
		4M49W7D	256QAM	0.075	18.76
LTE B4 (10M)	1715.0 - 1750.0	9M00G7D	QPSK	0.217	23.36
		8M95W7D	16QAM	0.183	22.62
		8M99W7D	64QAM	0.142	21.52
		8M96W7D	256QAM	0.075	18.76
LTE B4 (15M)	1717.5 - 1747.5	13M5G7D	QPSK	0.218	23.39
		13M5W7D	16QAM	0.184	22.65
		13M5W7D	64QAM	0.143	21.56
		13M5W7D	256QAM	0.075	18.76
LTE B4 (20M)	1720.0 – 1745.0	17M9G7D	QPSK	0.216	23.34
		17M9W7D	16QAM	0.184	22.64
		17M9W7D	64QAM	0.140	21.45
		17M9W7D	256QAM	0.076	18.78

Maximum Output Power – LTE B26(5) (Part 22)					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B26(5) (1.4M)	824.7 - 848.3	1M09G7D	QPSK	0.195	22.89
		1M10W7D	16QAM	0.171	22.33
		1M09W7D	64QAM	0.128	21.07
		1M08W7D	256QAM	0.068	18.31
LTE B26(5) (3M)	825.5 - 847.5	2M69G7D	QPSK	0.194	22.87
		2M71W7D	16QAM	0.169	22.27
		2M70W7D	64QAM	0.130	21.15
		2M70W7D	256QAM	0.068	18.31
LTE B26(5) (5M)	826.5 - 846.5	4M49G7D	QPSK	0.194	22.87
		4M48W7D	16QAM	0.169	22.28
		4M50W7D	64QAM	0.132	21.21
		4M49W7D	256QAM	0.068	18.34
LTE B26(5) (10M)	829.0 - 844.0	9M00G7D	QPSK	0.194	22.88
		8M95W7D	16QAM	0.170	22.31
		8M99W7D	64QAM	0.128	21.08
		8M96W7D	256QAM	0.068	18.31
LTE B26 (15M)	831.5 - 841.5	13M5G7D	QPSK	0.194	22.88
		13M5W7D	16QAM	0.168	22.26
		13M5W7D	64QAM	0.131	21.17
		13M5W7D	256QAM	0.068	18.34

Maximum Output Power – LTE B26 (Part 90)					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B26 (1.4M)	814.7 - 823.3	1M09G7D	QPSK	0.200	23.00
		1M10W7D	16QAM	0.175	22.44
		1M09W7D	64QAM	0.134	21.28
		1M08W7D	256QAM	0.067	18.29
LTE B26 (3M)	815.5 - 822.5	2M69G7D	QPSK	0.193	22.85
		2M71W7D	16QAM	0.173	22.37
		2M70W7D	64QAM	0.129	21.12
		2M70W7D	256QAM	0.068	18.33
LTE B26 (5M)	816.5 - 821.5	4M49G7D	QPSK	0.197	22.95
		4M48W7D	16QAM	0.172	22.35
		4M50W7D	64QAM	0.133	21.23
		4M48W7D	256QAM	0.068	18.35
LTE B26 (10M)	819	9M00G7D	QPSK	0.193	22.85
		8M95W7D	16QAM	0.173	22.38
		8M99W7D	64QAM	0.130	21.14
		8M95W7D	256QAM	0.068	18.32

Maximum Output Power – LTE B7					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B7 (5M)	2502.5 - 2567.5	4M49G7D	QPSK	0.194	22.88
		4M48W7D	16QAM	0.161	22.06
		4M50W7D	64QAM	0.127	21.03
		4M49W7D	256QAM	0.067	18.24
LTE B7 (10M)	2505.0 - 2565.0	9M01G7D	QPSK	0.196	22.92
		8M95W7D	16QAM	0.166	22.21
		8M99W7D	64QAM	0.128	21.06
		8M96W7D	256QAM	0.067	18.29
LTE B7 (15M)	2507.5 - 2562.5	13M5G7D	QPSK	0.197	22.94
		13M5W7D	16QAM	0.167	22.23
		13M5W7D	64QAM	0.128	21.08
		13M5W7D	256QAM	0.066	18.22
LTE B7 (20M)	2510.0 –2560.0	17M9G7D	QPSK	0.197	22.95
		17M9W7D	16QAM	0.166	22.19
		17M9W7D	64QAM	0.129	21.11
		17M9W7D	256QAM	0.067	18.28

Maximum Output Power – LTE B12(17)					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B12 (1.4M)	699.7 - 715.3	1M09G7D	QPSK	0.198	22.97
		1M10W7D	16QAM	0.171	22.32
		1M09W7D	64QAM	0.131	21.17
		1M08W7D	256QAM	0.069	18.39
LTE B12 (3M)	700.5 - 714.5	2M69G7D	QPSK	0.195	22.91
		2M71W7D	16QAM	0.167	22.23
		2M70W7D	64QAM	0.129	21.10
		2M70W7D	256QAM	0.070	18.48
LTE B12(17) (5M)	701.5 - 713.5	4M49G7D	QPSK	0.200	23.01
		4M48W7D	16QAM	0.170	22.31
		4M50W7D	64QAM	0.130	21.14
		4M49W7D	256QAM	0.070	18.45
LTE B12(17) (10M)	704.0 - 711.0	9M01G7D	QPSK	0.199	22.98
		8M95W7D	16QAM	0.170	22.30
		8M99W7D	64QAM	0.131	21.18
		8M97W7D	256QAM	0.070	18.42

Maximum Output Power – LTE B41(38)					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B41(38) (5M)	2498.5 - 2687.5	4M49G7D	QPSK	0.200	23.02
		4M49W7D	16QAM	0.167	22.24
		4M51W7D	64QAM	0.129	21.11
		4M49W7D	256QAM	0.068	18.33
LTE B41(38) (10M)	2501.0 - 2685.0	8M99G7D	QPSK	0.198	22.97
		8M98W7D	16QAM	0.169	22.27
		8M98W7D	64QAM	0.130	21.14
		8M97W7D	256QAM	0.069	18.41
LTE B41(38) (15M)	2503.5 - 2682.5	13M5G7D	QPSK	0.205	23.11
		13M5W7D	16QAM	0.169	22.27
		13M5W7D	64QAM	0.129	21.12
		13M5W7D	256QAM	0.069	18.36
LTE B41(38) (20M)	2506.0 –2680.0	18M0G7D	QPSK	0.201	23.04
		17M9W7D	16QAM	0.170	22.31
		17M9W7D	64QAM	0.130	21.13
		17M9W7D	256QAM	0.067	18.27

Maximum Output Power – LTE B42					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B42 (5M)	3452.5 - 3547.5	4M50G7D	QPSK	0.230	23.62
		4M48W7D	16QAM	0.214	23.31
		4M51W7D	64QAM	0.164	22.14
		4M50W7D	256QAM	0.086	19.32
LTE B42 (10M)	3455.0 - 3545.0	9M00G7D	QPSK	0.231	23.64
		8M98W7D	16QAM	0.213	23.28
		8M99W7D	64QAM	0.163	22.12
		8M96W7D	256QAM	0.086	19.34
LTE B42 (15M)	3457.5 - 3542.5	13M5G7D	QPSK	0.236	23.73
		13M5W7D	16QAM	0.214	23.31
		13M5W7D	64QAM	0.164	22.16
		13M5W7D	256QAM	0.087	19.38
LTE B42 (20M)	3460.0 –3540.0	18M0G7D	QPSK	0.234	23.69
		18M0W7D	16QAM	0.217	23.37
		18M0W7D	64QAM	0.165	22.18
		17M9W7D	256QAM	0.086	19.36

Maximum Output Power – LTE B7C					
Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE B7 (10+20M)	2505.5 - 2560.0	27M9G7D	QPSK	0.151	21.78
		27M8W7D	16QAM	0.126	21.02
		27M9W7D	64QAM	0.086	19.35
		27M8W7D	256QAM	0.055	17.39
LTE B7 (15+10M)	2507.5 - 2564.7	23M2G7D	QPSK	0.160	22.05
		23M2W7D	16QAM	0.130	21.13
		23M2W7D	64QAM	0.087	19.38
		23M2W7D	256QAM	0.055	17.38
LTE B7 (15+15M)	2507.5 - 2562.5	28M5G7D	QPSK	0.164	22.14
		28M5W7D	16QAM	0.131	21.16
		28M5W7D	64QAM	0.087	19.42
		28M5W7D	256QAM	0.055	17.44
LTE B7 (15+20M)	2507.8 - 2560.0	32M8G7D	QPSK	0.166	22.19
		32M8W7D	16QAM	0.134	21.28
		32M8W7D	64QAM	0.088	19.43
		32M8W7D	256QAM	0.056	17.45
LTE B7 (20+10M)	2510.0 - 2564.5	27M9G7D	QPSK	0.163	22.11
		27M9W7D	16QAM	0.133	21.25
		27M9W7D	64QAM	0.091	19.58
		27M9W7D	256QAM	0.057	17.54
LTE B7 (20+15M)	2510.0 - 2562.2	32M8G7D	QPSK	0.169	22.27
		32M8W7D	16QAM	0.136	21.32
		32M8W7D	64QAM	0.091	19.58
		32M8W7D	256QAM	0.058	17.65
LTE B7 (20+20M)	2510.0 - 2560.0	37M8G7D	QPSK	0.168	22.26
		37M8W7D	16QAM	0.135	21.31
		37M8W7D	64QAM	0.091	19.58
		37M7W7D	256QAM	0.058	17.65

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	22.8~24.2 °C	2026/05/19 ~ 2026/05/28	Joe Wang
	Humidity (%RH)	20~75 %	56~66 %		
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 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	2026/04/27	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
Radio Communication Analyzer	Anritsu	MT8821C	6262044740	2025/06/23	2026/06/22

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
Radio Communication Analyzer	Anritsu	MT8821C	6262044740	2025/06/23	2026/06/22
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: LTE Band 25(2) Mode 2: LTE Band 4 Mode 3: LTE Band 26(5) (Part 22) Mode 4: LTE Band 26 (Part 90) Mode 5: LTE Band 7 Mode 6: LTE Band 12(17) Mode 7: LTE Band 41(38) Mode 8: LTE Band 42 Mode 9: LTE Band 7C
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Note:

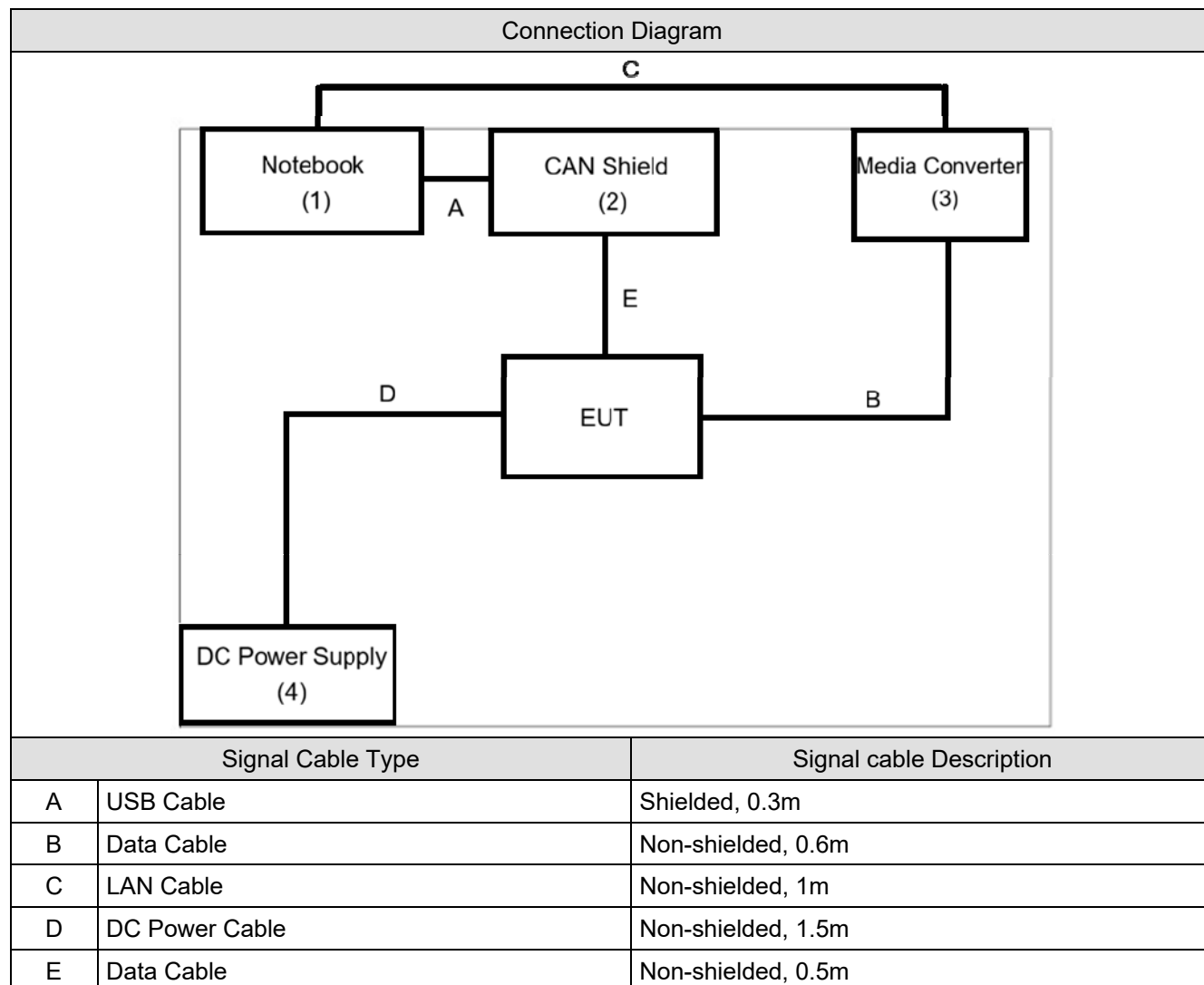
- Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
- LTE B25 overlaps the entire frequency range of LTE B2.
- LTE B26 overlaps the entire frequency range of LTE B5.
- LTE B12 overlaps the entire frequency range of LTE B17.
- LTE B41 overlaps the entire frequency range of LTE B38.
- For LTE B42, 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.
- According to the manufacturer's declaration, when the device is connected to the antenna (Brand: Molex, Model No.: 5A7F528), the LTE B42 supports a power backoff mechanism. The transmit power is backed off by 1 dB for MIMO 2. Therefore, the EIRP for LTE B42 takes this backoff factor into account.
- 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.
- 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	Modulation	Bandwidth	RB Size	Test Channel
RF Output Power	QPSK / 16QAM / 64QAM / 256QAM	All supported	1RB, Mid RB, Full RB	Low, Mid, High
Occupied Bandwidth	QPSK / 16QAM / 64QAM / 256QAM	All supported	Full RB	Mid
Conducted Band Edge	QPSK	All supported	1RB, Full RB	Low, High
Peak to Average Power Ratio	QPSK / 16QAM / 64QAM / 256QAM	All supported	Full RB	Mid
Spurious Emission at Antenna Port	QPSK	All supported	1RB	Low, Mid, High
Radiated Spurious Emissions	QPSK	Max. output power combination		Low, Mid, High
Frequency Stability	QPSK	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

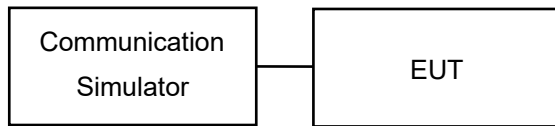


2.5. EUT Operating Procedures

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:

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_C$$

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);

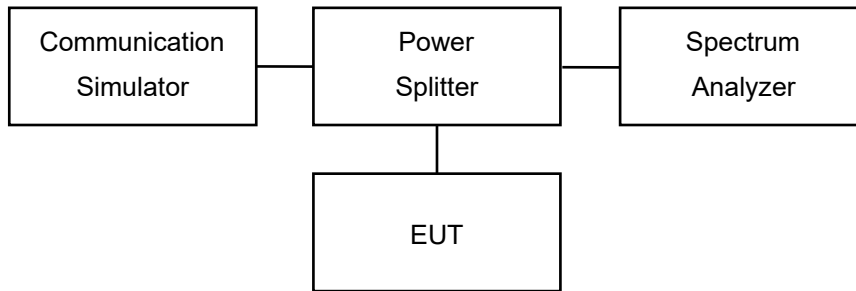
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB

3.3. Test Result of RF Output Power

Refer as Appendix A

4. Occupied Bandwidth

4.1. Test Setup



4.2. Test Procedures

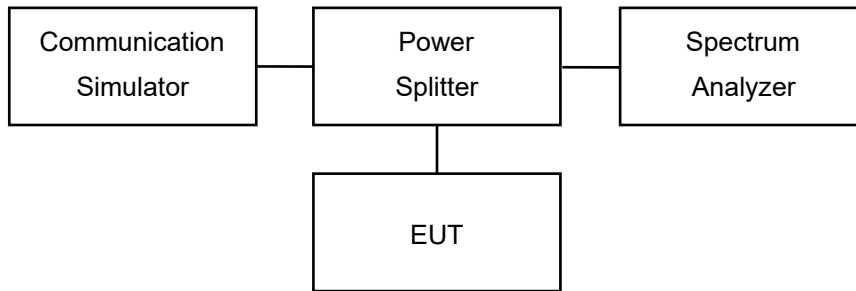
The EUT makes a call to the communication simulator. The 26dB bandwidth and 99% occupied bandwidth measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific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

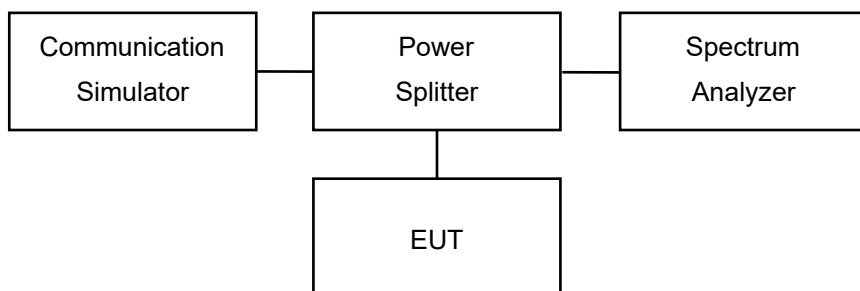
5.3. Test Result of Peak to Average Power Ratio

Refer as Appendix C

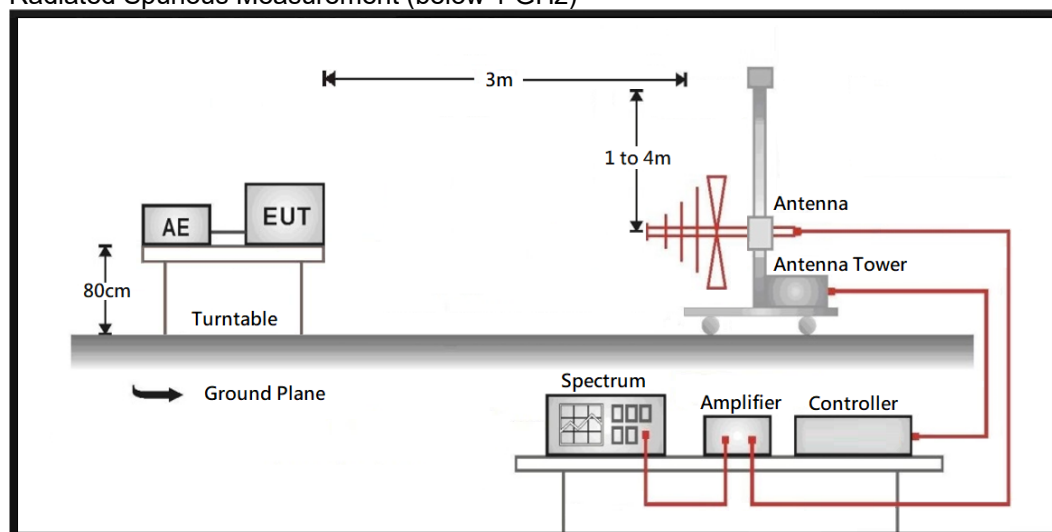
6. Spurious Emission

6.1. Test Setup

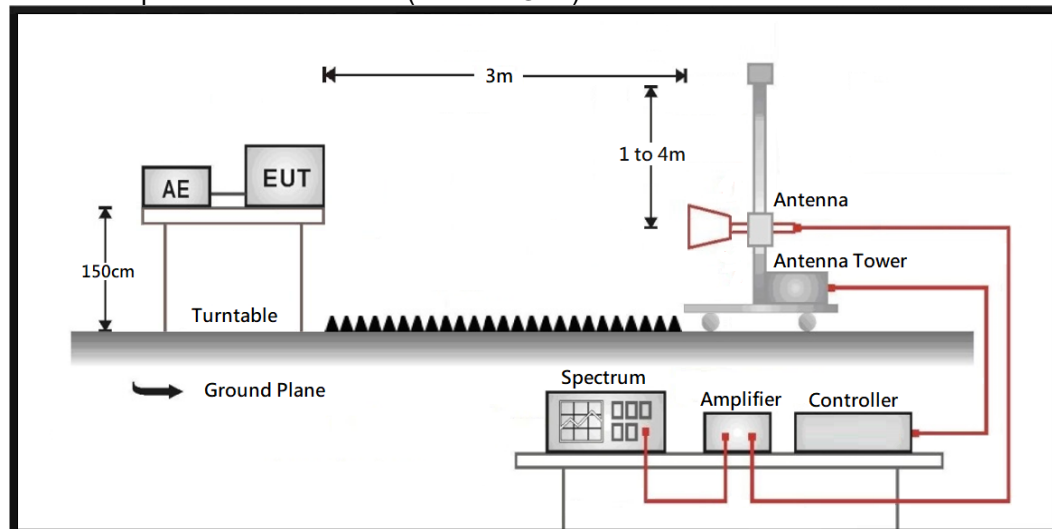
Conducted Spurious Measurement



Radiated Spurious Measurement (below 1 GHz)



Radiated Spurious Measurement (above 1 GHz)



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:

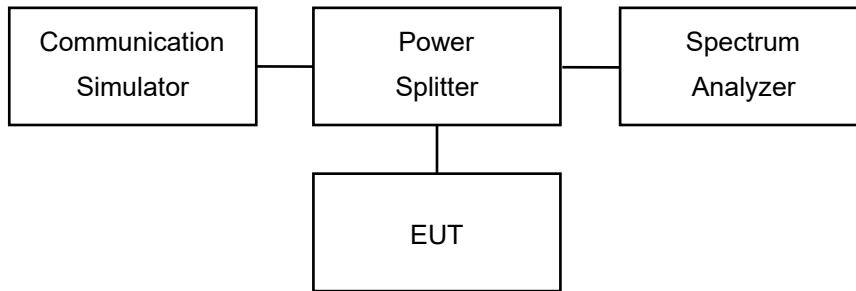
The EUT and its simulators are placed on a turn table which is 0.8 or 1.5 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission 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

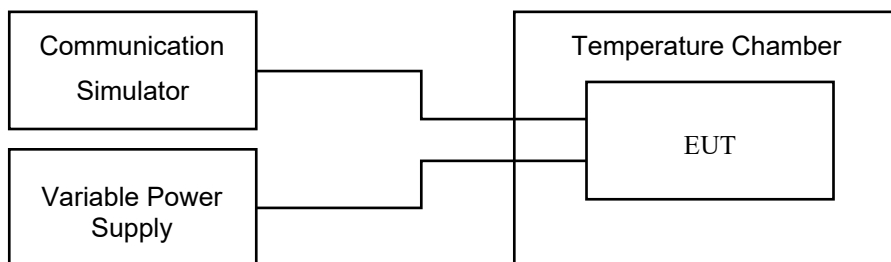
1. The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. The path loss was compensated to the results for each measurement.
2. In the 1MHz bands immediately 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 Procedures

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