

RF EXPOSURE REPORT

CERTIFICATE OF CONFORMITY

FCC Rule Part: FCC Part 2 (Section 2.1091)

Report No.: MFBFOK-WTW-P23050750

FCC ID: RI7SE250B4

Product: Module

Brand: Telit Cinterion

Model No.: SE250B4-NA

Received Date: 2023/9/6

Test Date: 2023/10/12

Issued Date: 2023/12/14

Applicant: Telit Communications S.p.A.

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003

Designation Number:

Approved by:

Jeremy Lin

Date:

2023/12/14

Jeremy Lin / Project Engineer

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Prepared by : Polly Chien / Specialist

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Release Control Record

Issue No.	Description	Date Issued
MFBFOK-WTW-P23050750	Original release.	2023/12/14

1 Certificate

Product: Module

Brand: Telit Cinterion

Test Model: SE250B4-NA

Sample Status: Engineering sample

Applicant: Telit Communications S.p.A.

Test Date: 2023/10/12

FCC Rule Part: FCC Part 2 (Section 2.1091)

Standard: KDB 447498 D01 General RF Exposure Guidance v06

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

f = Frequency in MHz; *Plane-wave equivalent power density

2.2 MPE Calculation Formula

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

3 Test Results

Environmental Conditions:	25°C, 60% RH	Tested By:	Ivan Tseng
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Standalone Mode

Band	Frequency (MHz)	Max Conducted output power (Tune-up) (dBm)	Distance (cm)	FCC MPE Limit (mW/cm ²)	IC MPE Limit (W/m ²)	FCC/IC MPE Limit (mW/cm ²)	FCC/IC MPE Result / FCC/IC MPE Limit Ratio	FCC EIRP/ERP limit (W)	FCC ERP/EIRP limit (dBm)	IC EIRP/ERP limit (W)	IC ERP/EIRP limit (dBm)	Ant Gain to meet FCC MPE limit (dBi)	Ant Gain to meet FCC ERP/EIRP limit (dBi)	Max Gain to meet FCC ERP/EIRP and MPE limit (dBi)	Ant Gain to meet IC MPE limit (dBi)	Ant Gain to meet IC ERP/EIRP limit (dBi)	Max Gain to meet IC ERP/EIRP and MPE limit (dBi)	Max gain allowed (dBi)
2	1850.7-1909.3	25	20	1.000	4.476	0.448	0.448	2.00	33	2.00	33.0	12.0	8	8.0	8.5	8.0	8	8.0
4	1710.7-1754.3	25	20	1.000	4.242	0.424	0.424	1.00	30	1.00	30.0	12.0	5	5.0	8.3	5.0	5	5.0
5	824.7-848.3	25	20	0.549	2.576	0.258	0.258	7.00	38.5	7.00	37.0	9.4	13.5	9.4	6.1	12.0	6.1	6.1
7	2502.5-2567.5	25	20	1.000	5.499	0.550	0.550	2.00	33	2.00	33.0	12.0	8	8.0	9.4	8.0	8	8.0
12	699.7-715.3	25	20	0.466	2.302	0.230	0.230	3.00	34.8	3.00	34.8	8.7	9.8	8.7	5.6	9.8	5.6	5.6
13	779.5-784.5	25	20	0.518	2.474	0.247	0.247	3.00	34.8	3.00	34.8	9.2	9.8	9.2	5.9	9.8	5.9	5.9
14	790.5-795.5	25	20	0.525	2.498	0.250	0.250	3.00	34.8	3.00	34.8	9.2	9.8	9.2	6	9.8	6	6.0
17	706.5-713.5	24.8	20	0.469	2.313	0.231	0.231	3.00	34.8	3.00	34.8	8.9	10	8.9	5.9	10.0	5.9	5.9
25	1850.7-1914.3	25	20	1.000	4.476	0.448	0.448	2.00	33	2.00	33.0	12.0	8	8.0	8.5	8.0	8	8.0
26	814.7-848.3	24.8	20	0.543	-	-	0.543	7.00	38.5	-	-	9.5	13.7	9.5	-	-	-	9.5
41	2498.5-2687.5	25	20	1.000	5.493	0.549	0.549	2.00	33	2.00	33.0	12.0	8	8.0	9.4	8.0	8	8.0
66	1710.7-1779.3	24.8	20	1.000	4.242	0.424	0.424	1.00	30	1.00	30.0	12.2	5.2	5.2	8.5	5.2	5.2	5.2
71	665.5-695.5	25	20	0.442	2.220	0.222	0.222	3.00	34.8	3.00	34.8	8.5	9.8	8.5	5.5	9.8	5.5	5.5

Co-located mode(WWAN+WLAN+BT)

Band	Frequency (MHz)	Max Conducted output power (Tune-up) (dBm)	Distance (cm)	FCC MPE Limit (mW/cm ²)	IC MPE Limit (W/m ²)	FCC/IC MPE Limit (mW/cm ²)	FCC/IC MPE Result / FCC/IC MPE Limit Ratio	FCC EIRP/ERP limit (W)	FCC ERP/EIRP limit (dBm)	IC EIRP/ERP limit (W)	IC ERP/EIRP limit (dBm)	Ant Gain to meet FCC MPE limit (dBi)	Ant Gain to meet FCC ERP/EIRP limit (dBi)	Max Gain to meet FCC ERP/EIRP and MPE limit (dBi)	Ant Gain to meet IC MPE limit (dBi)	Ant Gain to meet IC ERP/EIRP limit (dBi)	Max Gain to meet IC ERP/EIRP and MPE limit (dBi)	Max Gain to consider BT/WLAN Active (dBi)	Max gain allowed (dBi)
2	1850.7-1909.3	25	20	1.000	4.476	0.448	0.448	2.00	33	2.00	33.0	12.0	8	8.0	8.5	8.0	8	8.0	8.0
4	1710.7-1754.3	25	20	1.000	4.242	0.424	0.424	1.00	30	1.00	30.0	12.0	5	5.0	8.3	5.0	5	5.0	5.0
5	824.7-848.3	25	20	0.549	2.576	0.258	0.258	7.00	38.5	7.00	37.0	9.4	13.5	9.4	6.1	12.0	6.1	5.7	5.7
7	2502.5-2567.5	25	20	1.000	5.499	0.550	0.550	2.00	33	2.00	33.0	12.0	8	8.0	9.4	8.0	8	8.0	8.0
12	699.7-715.3	25	20	0.466	2.302	0.230	0.230	3.00	34.8	3.00	34.8	8.7	9.8	8.7	5.6	9.8	5.6	5.2	5.2
13	779.5-784.5	25	20	0.518	2.474	0.247	0.247	3.00	34.8	3.00	34.8	9.2	9.8	9.2	5.9	9.8	5.9	5.5	5.5
14	790.5-795.5	25	20	0.525	2.498	0.250	0.250	3.00	34.8	3.00	34.8	9.2	9.8	9.2	6	9.8	6	5.6	5.6
17	706.5-713.5	24.8	20	0.469	2.313	0.231	0.231	3.00	34.8	3.00	34.8	8.9	10	8.9	5.9	10.0	5.9	5.4	5.4
25	1850.7-1914.3	25	20	1.000	4.476	0.448	0.448	2.00	33	2.00	33.0	12.0	8	8.0	8.5	8.0	8	8.0	8.0
26	814.7-848.3	24.8	20	0.543	-	-	0.543	7.00	38.5	-	-	9.5	13.7	9.5	-	-	-	9.3	9.3
41	2498.5-2687.5	25	20	1.000	5.493	0.549	0.549	2.00	33	2.00	33.0	12.0	8	8.0	9.4	8.0	8	8.0	8.0
66	1710.7-1779.3	24.8	20	1.000	4.242	0.424	0.424	1.00	30	1.00	30.0	12.2	5.2	5.2	8.5	5.2	5.2	5.2	5.2
71	665.5-695.5	25	20	0.442	2.220	0.222	0.222	3.00	34.8	3.00	34.8	8.5	9.8	8.5	5.5	9.8	5.5	5.0	5.0

Band	Frequency (MHz)	Max Conducted output power (Tune-up) (dBm)	Distance (cm)	Ant Gain	Maximum FCC/IC EIRP (dBm)	Maximum FCC/IC EIRP (mW)	FCC MPE (mW/cm ²)	FCC/IC MPE Limit (mW/cm ²)	FCC MPE Result / FCC MPE Limit Ratio	IC MPE (mW/cm ²)	IC MPE Limit (mW/cm ²)	IC MPE Result / IC MPE Limit Ratio	FCC/IC MPE Result / FCC/IC MPE Limit Ratio
Bluetooth	2402-2480	12	20	3.757	15.757	37.644	0.007	1	0.007	0.072	5.37	0.013	0.013
2.4GHz	2412-2462	19	20	3.757	22.757	188.669	0.038	1	0.038	0.36	5.37	0.067	0.067
5GHz	5180-5825	19	20	2.475	21.475	140.443	0.028	1	0.028	0.279	9.05	0.031	0.031

For Multiple RF Sources(Simultaneous Operations Condition) FCC

BT+WLAN 2.4G+LTE Band 26 = $0.007/1 + 0.038/1 + 0.511/0.54 = 0.987$

BT+WLAN 5G+LTE Band 26 = $0.007/1 + 0.028/1 + 0.511/0.54 = 0.977$

For Multiple RF Sources(Simultaneous Operations Condition) IC

BT+WLAN 2.4G+LTE Band 14 = $0.072/5.37 + 0.360/5.37 + 2.284/2.50 = 0.993$

BT+WLAN 5G+LTE Band 14 = $0.072/5.37 + 0.279/9.05 + 2.284/2.50 = 0.956$

Note: For MPE calculations, consider the maximum output power and maximum antenna gain available for each frequency band.

4 Conclusion

Source-base time average power is below Exemption Criteria and/or Routine Evaluation MPE thresholds, therefore the device is compliant FCC RF exposure requirement.

5 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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The address and road map of all our labs can be found in our web site also.

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