FCC RF EXPOSURE REPORT

FCC ID: RI7ATD551

Project No.	:	2404C168
Equipment	:	LTE Cat-M1 Tracker
Brand Name	:	1. Telit Cinterion 2. DeWALT
Test Model	:	ATD551
Series Model	:	N/A
Applicant	:	Telit Communications S.p.A.
Address	:	Via Stazione di Prosecco 5/b, 34010 Sgonico, Trieste, Italy
Manufacturer	:	Telit Communications S.p.A.
Address	:	Via Stazione di Prosecco 5/b, 34010 Sgonico, Trieste, Italy
Factory	:	Fushan Technology (Vietnam)Limited Liability Company
Address	:	No. 8, Road 6, VSIP Bac Ninh, Phu Chan, Tu Son, Bac Ninh, Vietnam
Date of Receipt	:	May 07, 2024
Date of Test	:	May 08, 2024 ~ Sep. 09, 2024
Issued Date	:	Oct. 31, 2024
Report Version	:	R01
Test Sample	:	Engineering Sample No.: DG20240507144 for BLE, DG20240507140, DG20240507139 for WWAN.
Standard(s)	:	FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091 FCC Title 47 Part 2.1091 & KDB 447498 D01 v06

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-6-2404C168	R00	Original Report.	Sep. 30, 2024	Invalid
BTL-FCCP-6-2404C168	R01	Updated the lab address.	Oct. 31, 2024	Valid

1. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:
S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

2. ANTENNA SPECIFICATION

For BLE:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	KYOCERA AVX	M830320	Ceramic Antenna	N/A	1.8

Note: The antenna gain is provided by the manufacturer.

For GSM, LTE:

Brand	P/N	Antenna Type	Connector	Gain (dBi)	Note
ethertronics AN AVX GROUP COMPANY	1004795/1004796	PCB	N/A	1.6	GSM 850
				3.1	PCS 1900
				3.1	LTE Band 2
				3.1	LTE Band 4
				1.6	LTE Band 5
				1.6	LTE Band 12
				1.6	LTE Band 13
				3.1	LTE Band 25
				1.6	LTE Band 26
				3.1	LTE Band 66
				1.6	LTE Band 71
				1.6	LTE Band 85

Note: The antenna gain is provided by the manufacturer.

3. CALCULATED RESULT

For BLE:

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. Peak Output Power (dBm)	Max. Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
1.8	1.5136	8.76	7.5162	0.00226	1	Complies

For GSM:

GSM850	Max Burst Average Power (dBm)	Max Frame Average Power (dBm)
	Channel/Frequency(MHz)	Channel/Frequency(MHz)
	128 / 824.2	128 / 824.2
GSM (CS)	33.5	24.31
DCS1900	Max Burst Average Power (dBm)	Max Frame Average Power (dBm)
	Channel/Frequency(MHz)	Channel/Frequency(MHz)
	512 / 1850.2	512 / 1850.2
GSM (CS)	30.5	21.31

Note:

1. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:
   Frame-averaged power=10 x log (Burst-averaged power mW x Slot used/8)
2. Max. Output Power = Max Frame Average Power

Band	Frequency (MHz)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Antenna Gain (linear)	Output Power to Antenna	Power Density (mW/cm^2)	Power Density Limit (mW/cm^2)	Test Result
GSM 850	824.2	24.31	1.6	1.45	389.94	0.0776	0.5495	Complies
PCS 1900	1850.2	21.31	3.1	2.04	276.06	0.0549	1.0000	Complies

For LTE:

Band	Frequency (MHz)	Max. Tune up Power (dBm)	Antenna Gain (dBi)	Antenna Gain (linear)	Output Power to Antenna	Power Density (mW/cm^2)	Power Density Limit (mW/cm^2)	Test Result
Band 2	1850.7	25	3.1	2.04	645.65	0.1284	1.0000	Complies
Band 4	1710.7	25	3.1	2.04	645.65	0.1284	1.0000	Complies
Band 5	824.7	25	1.6	1.45	457.09	0.0909	0.5498	Complies
Band 12	699.7	25	1.6	1.45	457.09	0.0909	0.4665	Complies
Band 13	779.5	25	1.6	1.45	457.09	0.0909	0.5197	Complies
Band 25	1850.7	25	3.1	2.04	645.65	0.1284	1.0000	Complies
Band 26 (814-824 MHz)	814.7	25	1.6	1.45	457.09	0.0909	0.5431	Complies
Band 26 (824-849 MHz)	824.7	25	1.6	1.45	457.09	0.0909	0.5498	Complies
Band 66	1710.7	25	3.1	2.04	645.65	0.1284	1.0000	Complies
Band 71	665.5	25	1.6	1.45	457.09	0.0909	0.4437	Complies
Band 85	700.5	25	1.6	1.45	457.09	0.0909	0.4670	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
BLE	LTE			
0.00226	0.2049	0.20716	1	Complies

Note:
(1) The calculated distance is 20 cm.
(2) Ratio=Power Density (S) (mW/cm^2)/Limit of Power Density (S) (mW/cm^2)

End of Test Report