Vista Labs
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MPE Report

Test Report Number	PTK-21041442-C-FCC-IC-MPE
FCC ID	2ALBDPT10
IC	23259-PT10
Applicant	Pacific Track, LLC
Applicant Address	1300 Bristol Street North, Newport Beach, CA 92660
Product Name	Telematics Device
Model (s)	PT10
Date of Receipt	07/29/2021
Date of Test	08/04/2021-08/06/2021
Report Issue Date	02/25/2022
Test Standards	47 CFR §1.1307(b), 47 CFR §1.1310 RSS-102 Issue 5: Feb 2021
Test Result	**PASS**

Issued by:

Vista Compliance Laboratories
1261 Puerta Del Sol, San Clemente, CA 92673 USA
www.vista-compliance.com

Devin Tai (Test Technician)	**David Zhang (Technical Manager)**

REVISION HISTORY

Report Number	Version	Description	Issued Date
PTK-21041442-C-FCC-IC-MPE	01	Initial report	02/25/2022

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1 General Information

1.1 Applicant

Applicant	Pacific Track, LLC
Applicant address	1300 Bristol Street North, Suite 100, Newport Beach, CA, 92660
Manufacturer	Pacific Track, LLC
Manufacturer Address	1300 Bristol Street North, Suite 100, Newport Beach, CA, 92660

1.2 Product information

Product Name	Enhanced Cell Modem
Model Number	PT10
Family Models	N/A
Serial Number	N/A
Frequency Band	LTE B2, B4, B5, B12, B13, B25, B26, B66 and B85
Type of modulation	LTE CAT-M1: QPSK, 16QAM
Equipment Class	PCB
Antenna Information	Internal FPC antenna, P/N: WYT-CAT-F-0003 Antenna peak gain: 1 dBi (B2), 0.5 dBi (B4), 0 dBi (B5), -1.5 dBi (B12, B13), 1 dBi (B25), 0 dBi (B26), 0.5 dBi (B66), -1.5 dBi (B85)
Clock Frequencies	N/A
Input Power	12VdC (Vehicular battery)
Power Adapter Manufacturer/Model	N/A
Power Adapter SN	N/A
Hardware version	N/A
Software version	N/A
Simultaneous Transmission	N/A
Additional Info	Cellular module integrated: QUECTEL BG-95-M1Module (FCC ID: XMR2020BG95M1)

1.3 Test standard and method

Test standard	47 CFR §1.1307(b), 47 CFR §1.1310 47 CFR §2.1093
Test method	47 CFR §1.1307(b), 47 CFR §1.1310 47 CFR §2.1093

2 Test Site Information

Lab performing tests	Vista Laboratories, Inc.
Lab Address	1261 Puerta Del Sol, San Clemente, CA 92673 USA
Phone Number	+1 (949) 393-1123
Website	www.vista-compliance.com

Test Condition	Temperature	Humidity	Atmospheric Pressure
Radiated Emission Testing	23.5°C	58.2%	996 mbar

3 FCC RF Exposure

3.1 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

3.2 MPE Calculation Formula

$Pd = (Pout*G) / (4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

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

3.3 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.

3.4 Antenna Gain

The antenna type is Internal FPC antenna.

Antenna peak gain:

1 dBi (B2), 0.5 dBi (B4), 0 dBi (B5), -1.5 dBi (B12, B13),

1 dBi (B25), 0 dBi (B26), 0.5 dBi (B66), -1.5 dBi (B85)

3.5 Evaluation Results

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Tolerance (dB)	Tune-Up Output Power (dBm)	Antenna Gain (dBi)	Separation distance (cm)	Power Density (mW/ cm²)	MPE Limit (mW/ cm²)
LTE Band2	1850.7-1909.3	22	±1	23	1	20	0.050	1
LTE Band4	1710.7-1754.3	22	±1	23	0.5	20	0.045	1
LTE Band5	824.7-848.3	22	±1	23	0.5	20	0.045	0.550
LTE Band12	699.7-715.3	22	±1	23	-1.5	20	0.028	0.466
LTE Band13	779.5-784.5	22	±1	23	-1.5	20	0.028	0.520
LTE Band25	1850.7-1914.3	22	±1	23	1	20	0.050	1
LTE Band26	814.7-823.3	22	±1	23	0	20	0.040	0.543
LTE Band66	1710.7-1779.3	22	±1	23	0.5	20	0.045	1
LTE Band85	700.5-713.5	22	±1	23	-1.5	20	0.028	0.466

Conclusion:

The above results show that the device complies with the MPE requirement.

4 ISED RF Exposure Exemption Evaluation

4.1 Limits for Maximum Permissible Exposure (MPE)

RF Exposure Requirements:	RSS-102 Issue 5: Feb 2021
RF Radiation Exposure Limits:	RSS-102 Issue 5: Feb 2021
RF Radiation Exposure Guidelines:	RSS-102 Issue 5: Feb 2021
Limits for General Population/Uncontrolled Exposure in the band of:	**3**00 - 6,000 MHz
Exemption limit for Routine Evaluation:	$1.31 \times 10^{-2} f^{0.6834}$ W

4.2 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.

4.3 Antenna Gain

The antenna type is Internal FPC antenna.

Antenna peak gain:

1 dBi (B2), 0.5 dBi (B4), 0 dBi (B5), -1.5 dBi (B12, B13),

1 dBi (B25), 0 dBi (B26), 0.5 dBi (B66), -1.5 dBi (B85)

4.4 Evaluation Results

Radio	Frequency (MHz)	Max Conducted Output Power (dBm)	Tolerance (dB)	Tune-Up Output Power (dBm)	Antenna Gain (dBi)	Higher of Max E.I.R.P and Conducted Power (dBm)	Higher of Max E.I.R.P and Conducted Power (W)	Evaluation Exemption limit (W)
LTE Band2	1850.7-1909.3	22	±1	23	1	24	0.251	2.288
LTE Band4	1710.7-1754.3	22	±1	23	0.5	23.5	0.224	2.159
LTE Band5	824.7-848.3	22	±1	23	0.5	23.5	0.224	1.314
LTE Band12	699.7-715.3	22	±1	23	-1.5	23	0.200	1.170
LTE Band13	779.5-784.5	22	±1	23	-1.5	23	0.200	1.246
LTE Band25	1850.7-1914.3	22	±1	23	1	24	0.251	2.292
LTE Band26	814.7-823.3	22	±1	23	0	23	0.200	1.288
LTE Band66	1710.7-1779.3	22	±1	23	0.5	23.5	0.224	2.180
LTE Band85	700.5-713.5	22	±1	23	-1.5	23	0.200	1.168

Conclusion:

The above results show that the E.I.R.P of this device is below the exemption limit for Routine Evaluation.

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