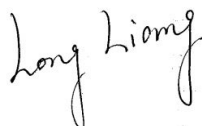


RF Exposure Evaluation Report

APPLICANT : Maersk Container Industry AS
EQUIPMENT : Sekstant Gateway
BRAND NAME : Sekstant Gateway
MODEL NAME : Sekstant Gateway V1.0
FCC ID : 2AUZI-819628A
STANDARD : 47 CFR Part 2.1091
FCC KDB 447498 D01 v06

We, Sporton International (ShenZhen) Inc., would like to declare that the device has been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and pass the limit. Without written approval of Sporton International (ShenZhen) Inc., the test report shall not be reproduced except in full.



Reviewed by: Long Liang / Supervisor



Approved by: Johnny Chen / Manager



Sporton International (ShenZhen) Inc.

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055
People's Republic of China



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**Revision History**

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA022201	Rev. 01	Initial issue of report.	Jun. 11, 2020



1. Administration Data

1.1. Testing Laboratory

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Testing Laboratory		
Test Firm	Sporton International (Shenzhen) Inc.	
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595	
Test Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CN1256	421272

Applicant	
Company Name	Maersk Container Industry AS
Address	Maersk Container Industry AS Bjerndrupvej 47 6360 Tinglev Denmark

Manufacturer	
Company Name	Maersk Container Industry AS
Address	Maersk Container Industry AS Bjerndrupvej 47 6360 Tinglev Denmark

2. Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT Type	Sekstant Gateway
Brand Name	Sekstant Gateway
Model Name	Sekstant Gateway V1.0
FCC ID	2AUZI-819628A
Wireless Technology and Frequency Range	Bluetooth: 2402 MHz ~ 2480 MHz
Mode	Bluetooth LE
Antenna Type / Gain	PCB Antenna with gain 2.00 dBi
HW Version	D2
SW Version	NA
EUT Stage	Identical Prototype

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.

3. Maximum RF average output power among production units

<Bluetooth >

Band / Mode	Average Power (dBm)
	LE
	GFSK
Bluetooth	10.00

4. RF Exposure Limit Introduction

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) 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

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

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

Where:

S = Power Density

P = Output Power at Antenna Terminals

G = Gain of Transmit Antenna (linear gain)

R = Distance from Transmitting Antenna



5. Radio Frequency Radiation Exposure Evaluation

5.1. Standalone Power Density Calculation

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
Bluetooth	2402.0	2	10.00	12.00	0.016	15.849	0.003	1.000	0.003

Note:

- For conservativeness, the lowest frequency of each band is used to determine the MPE limit of that band

5.2. Collocated Power Density Calculation

Note:

This device contains WWAN module which FCC ID: QIPPLS62-W, so for evaluated the Co-located with Bluetooth, list the followings WWAN power density.

Band	Frequency (MHz)	Antenna Gain (dBi)	Maximum Power (dBm)	Maximum EIRP (dBm)	Maximum EIRP (W)	Average EIRP (mW)	Power Density at 20cm (mW/cm ²)	Limit (mW/cm ²)	Power Density / Limit
GSM 850	824.2	-11.90	25.97	14.07	0.026	3.214	0.001	0.549	0.001
GSM 1900	1850.2	1.38	22.97	24.35	0.272	34.277	0.007	1.000	0.007
WCDMA Band 2	1852.4	1.38	25.00	26.38	0.435	434.510	0.086	1.000	0.086
WCDMA Band 4	1712.4	-1.59	25.00	23.41	0.219	219.280	0.044	1.000	0.044
WCDMA Band 5	826.4	-11.90	25.00	13.10	0.020	20.417	0.004	0.551	0.007
LTE Band 2	1850.7	1.38	25.00	26.38	0.435	434.510	0.086	1.000	0.086
LTE Band 4	1710.7	-1.59	25.00	23.41	0.219	219.280	0.044	1.000	0.044
LTE Band 5	824.7	-11.90	25.00	13.10	0.020	20.417	0.004	0.550	0.007
LTE Band 7	2502.5	0.83	25.00	25.83	0.383	382.825	0.076	1.000	0.076
LTE Band 12	699.7	-10.68	25.00	14.32	0.027	27.040	0.005	0.466	0.012

Mode	Power Density / Limit	Σ (Power Density / Limit) of WWAN+ Bluetooth
Bluetooth	0.003	0.089
LTE Band 2	0.086	

Note:

- For colocation analysis, LTE Band 2 is chosen for summation due to the highest (power density/limit) among all WWAN wireless modes.
- Σ (Power Density / Limit): This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WWAN + Bluetooth.
- Considering the WWAN module collocation with the Bluetooth transmitter of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 2 collocated transmitters is compliant

Conclusion:

According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.