SPOT CHECK EVALUATION

FCC ID	:	**PKRISGFX31001**
Equipment	:	**Indoor Router**
Model Name	:	**FX3100-1**
Marketing Name	:	**FX3100**
Applicant	:	**Inseego Corporation** **9710 Scranton Road Suite 200, San Diego, CA 92121**
Manufacturer	:	**Inseego Corp.** **9710 Scranton Road Suite 200, San Diego, CA 92121**
Standard	:	**47 CFR Part 2, 22(H), 24(E), 27(D), 27(L) , 90(R), 90(S),** **FCC Part 15 Subpart C §15.209** **FCC Part 15 Subpart C §15.225** **FCC Part 15 Subpart C §15.247**

We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this spot check report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)

TEL : 886-3-327-3456
FAX : 886-3-328-4978

TABLE OF CONTENTS

History of this test report

Version	Description	Issue Date
01	Initial issue of report	Apr. 18, 2023
02	1. Revise Section 3 and Section 4 2. This report is an updated version, replacing the report issued on Apr. 18, 2023.	Apr. 21, 2023

1. Introduction Section

Per guidelines provided in KDB Pub. 484596 for EMC data referencing, the applicant, Inseego Corp. is pursuing partial data reuse from a certified model deemed to be a parent to its variant model based on strong similarities which bear the same grantee code.

After the illustration and descriptions were reviewed through a KDB inquiry (Tracking# 911799) the test proposal is considered acceptable and consented by FCC. According to FCC, an important aspect of the data referencing procedure defined in the Apr. 2021 TCB workshop is the availability of spot check data, along with the specification of the acceptance criteria to define if the spot check data (compared to the original parent device data) are sufficient. This spot check evaluation report is made to give evidence presenting the feasibility of data reuse for all RF conducted test items, whereas the radiated test items will be fully evaluated and tested due to enclosure difference between the following two models.

Products:

• Model: M3000B (Parent model)

o FCC ID: PKRISGM3000B

o Product Type: Portable Hotspot Modem

• Model: FX3100-1 (Variant model)

o FCC ID: PKRISGFX31001

o Product Type: Indoor Router

2. Model Difference Information

The following are descriptions of similarities and differences between both models, M3000B (FCC ID: PKRISGM3000B) and FX3100-1(FCC ID: PKRISGFX31001):

As declared by the manufacturer, both models share the same Radio Modem PCB Circuitry and Board Layout between both M3000B Modem and FX3100-1 Modem Boards, while has some HW change when integrated into the Indoor Router (FX3100-1).

Differences in Hardware:
Hotspot/Modem PCB Changes when integrated into the Indoor Router:
o Remove Display (Required Only for Hotspot Configuration)
o Remove Proximity Sensor (Required Only on Hotspot Configuration SAR)
o Remove Replaceable Battery (Required Only on Hotspot Configuration)

Based on the manufacturer's declaration and the details submitted for test assessments through the KDB inquiry, there is No difference in Radio Modem PCB Circuitry and Board Layout between both M3000B Modem and FX3100-1 Modem Boards. Difference in hardware will not impact Conducted Radio Tx Performance for the supported 4G-LTE, 5G-FR1 (NR Sub6), and WLAN Radios. The details of similarity and difference are illustrated in the operational description, and based on the information, spot checks on conducted power were performed to ensure it is within the tune-up tolerance made for FX3100-1(FCC ID: PKRISGFX31001). The applicant shall be held accountable for the authenticity of what is declared, while the test data as referenced in this report represent compliance for this FCC ID (FCC ID: PKRISGFX31001).

3. Spot Check Verification Data Section

Conducted power test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Summary for power spot check for each rule entry and technology is listed as below:

Test Item	Mode	PKRISGM3000B Parent Worst Result	PKRISGFX31001 Variant Check Result	Difference (dB)
Conducted Power (dBm)	WLAN 2.4GHz (MIMO)	20.76	20.51	0.25
	WWAN LTE Band 2	24.46	24.3	0.16
	WWAN LTE Band 4	24.39	24.39	0
	WWAN LTE Band 5	23.73	24.3	-0.57
	WWAN LTE Band 7	23.94	23.89	0.05
	WWAN LTE Band 12	23.89	23.75	0.14
	WWAN LTE Band 13	23.84	24.35	-0.51
	WWAN LTE Band 25	23.85	24.5	-0.65
	WWAN LTE Band 26 (part 22)	23.87	24.28	-0.41
	WWAN LTE Band 26 (part 90)	23.75	24.35	-0.6
	WWAN LTE Band 38	23.99	23.79	0.2
	WWAN LTE Band 41	24.47	24.36	0.11
	WWAN LTE Band 41 (HPUE)	26.84	27.24	-0.4
	WWAN LTE Band 66	24.49	24.4	0.09
	WWAN LTE Band 71	23.95	23.68	0.27
	WWAN LTE Band 41C	25.98	26.48	-0.5
	WWAN NR n2	23.98	24.29	-0.31
	WWAN NR n5	23.98	24.31	-0.33
	WWAN NR n7	23.97	23.8	0.17
	WWAN NR n25	23.99	24.31	-0.32
	WWAN NR n26 (part 22)	23.99	24.32	-0.33
	WWAN NR n26 (part 90)	23.94	24.31	-0.37
	WWAN NR n41	24.49	24.29	0.2
	WWAN NR n41 (HPUE)	26.99	27.49	-0.5
	WWAN NR n66	23.99	24.3	-0.31
	WWAN NR n71	23.76	23.74	0.02
	WWAN NR n77 (3700MHz~3980MHz)	24.5	22.78	1.72
	WWAN NR n77 (HPUE) (3700MHz~3980MHz)	25.99	26.31	-0.32
	WWAN NR n41 (UL MIMO)	24.49	24.47	0.02
	WWAN NR n77 (UL MIMO) (3700MHz~3980MHz)	24.44	24.35	0.09

Conclusion:

Radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

4. The spot check emission level is within the margin to the limit, data referencing is justified. Reference detail Section

Rule Part	Equipment Class	Wireless Technology	Frequency Band (MHz)	Reference FCC ID (Parent)	Type Grant/ Permissive Change	Reference Title	FCC ID Filling (Variant)
15C	DTS	Wi-Fi	2400~2483.5	PKRISGM3000B	Original Grant	FR1D2409A	PKRISGFX31001
22, 24, 27, 90	PCB	4G LTE	4G LTE B2/4/5/7/12/13/25/26/38/41/41C/66/71	PKRISGM3000B	Original Grant	FG1D2409B FG1D2409D	PKRISGFX31001
		5G NR	5G FR1 n2/n5/n7/n25/n26/n41/n66/n71/n77	PKRISGM3000B	Original Grant	FG1D2409C FG1D2409E	PKRISGFX31001

————THE END————