



RF SPOT CHECK EVALUATION

FCC ID : PKRISGM3000D
Equipment : Wireless Hotspot
Model Name : M3000D
Applicant : Inseego Corp.
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, 27, 96

The product was received on Oct. 13, 2023 and testing was performed from Oct. 23, 2023 to Oct. 30, 2023. We, Sporton International Inc. Wensan 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 report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

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History of this test report

Version	Description	Issue Date
01	Initial issue of report	Nov. 06, 2023



1. Introduction Section

FCC ID: PKRISGM3000A (parent model) and FCC ID: PKRISGM3000D (variant model) use the same identical internal printed circuit board layouts, while the variant model depopulates some while the variant model depopulates some 5G-FR2 band related components, details are available in the operational description. Based on their similarity, the FCC FCC Part 27 (equipment class: PCB) and FCC Part 96 (equipment class: CBE) reuse the original model's result and do spot-check. The spot check data in this report is used to justify the data reuse

The applicant should take full responsibility that the test data as referenced in this report represent compliance for this FCC ID: PKRISGM3000D.



2. Model Difference Information

PKRISGM3000A and PKRISGM3000D use the identical internal printed circuit board layout, and the difference in the components population:

- PKRISGM3000D: Does Not support 5G-FR2 (mmW). All components related to mmW operation are depopulated.
- PKRISGM3000D: Supported frequency bands for M3000A and M3000D are configured (disabled/enabled) in the software at the factory during production.

The detail of similarity and difference is illustrated in the operational description, and based on the information spot check on conducted power and emission was performed for ensure compliance



3. Spot Check Verification Data Section

Conducted power test and radiated spurious emission test configurations were selected from the worst cases identified in the parent model and tested to demonstrate the test data from original model remains representative for the variant model.

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

Test Item	Mode	PKRISGM3000A Parent Worst Result	PKRISGM3000D Variant Check Result	Difference (dB)
Conducted Power (dBm)	WWAN LTE Band 48	20.97	20.99	0.02
	WWAN LTE Band 48C	16.72	16.70	-0.02
	WWAN NR n48	21.49	21.47	-0.02
	WWAN NR n48 MIMO	16.99	16.98	-0.01
	WWAN NR n70	24.00	23.98	-0.02
	WWAN NR n77	25.59	25.54	-0.05
	WWAN NR n77 MIMO	24.49	24.47	-0.02



Test Item	Mode	ANT	PKRISGM3000A Parent Worst Result	PKRISGM3000D Variant Check Result	Difference (dB)
Radiated Spurious Emission (dBm)	WWAN LTE Band 48	4	-46.03	-46.71	-0.68
	WWAN LTE Band 48C	4+6	-52.26	-52.52	-0.26
	WWAN NR n48	4	-46.03	-47.12	-1.09
	WWAN NR n48 MIMO	4+6	-49.92	-50.87	-0.95
	WWAN NR n70	8	-47.94	-49.31	-1.37
	WWAN NR n77	4	-27.39	-28.79	-1.40
	WWAN NR n77 MIMO	4+6	-26.91	-26.14	0.77

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.

The spot check emission level is not degraded more than 3dB, and the margin to the limit is greater than 1.5dB, data referencing is justified according to the guidance in the KDB inquiry



4. List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Feb. 28, 2023	Oct. 30, 2023	Feb. 27, 2024	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	40103 & 07	30MHz~1GHz	Nov. 10, 2022	Oct. 30, 2023	Nov. 09, 2023	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Apr. 23, 2023	Oct. 30, 2023	Apr. 22, 2024	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Dec. 15, 2022	Oct. 30, 2023	Dec. 14, 2023	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1212	1GHz~18GHz	Jul. 31, 2023	Oct. 30, 2023	Jul. 30, 2024	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Jul. 10, 2023	Oct. 30, 2023	Jul. 09, 2024	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz~40GHz	Jun. 01, 2023	Oct. 30, 2023	May 31, 2024	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103	161075	10MHz~1GHz	Mar. 21, 2023	Oct. 30, 2023	Mar. 20, 2024	Radiation (03CH12-HY)
Preamplifier	Aglient	8449B	3008A02375	1GHz~26.5GHz	May 23, 2023	Oct. 30, 2023	May 22, 2024	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2022	Oct. 30, 2023	Dec. 06, 2023	Radiation (03CH12-HY)
Spectrum Analyzer	Keysight	N9010A	MY53470118	10Hz~44GHz	Jan. 10, 2023	Oct. 30, 2023	Jan. 09, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 07, 2023	Oct. 30, 2023	Mar. 06, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 20, 2022	Oct. 30, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 20, 2022	Oct. 30, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Dec. 20, 2022	Oct. 30, 2023	Dec. 19, 2023	Radiation (03CH12-HY)
Hygrometer	TECPEL	DTM-303B	TP210117	N/A	Nov. 02, 2022	Oct. 30, 2023	Nov. 01, 2023	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Oct. 30, 2023	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Oct. 30, 2023	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Oct. 30, 2023	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Oct. 30, 2023	N/A	Radiation (03CH12-HY)

**<Conducted for FCC Part 27,96>**

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Base Station (Measure)	Anritsu	MT8821C	6262116730	LTE	Jun. 10, 2023	Oct. 23, 2023	Jul. 09, 2024	Conducted (TH03-HY)
Base Station (Measure)	Anritsu	MT8000A	6262134933	FR1	Jun. 10, 2023	Oct. 23, 2023	Jul. 09, 2024	Conducted (TH03-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	50Hz~60Hz	Sep. 12, 2023	Oct. 23, 2023	Sep. 11, 2024	Conducted (TH03-HY)
Hygrometer	TECPEL	DTM-303B	TP200886	NA	Mar. 28, 2023	Oct. 23, 2023	Mar. 27, 2024	Conducted (TH03-HY)



5. 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)
27	PCB	NR	n70, n77 UL MIMO n77	PKRISGM3000A	Original Grant	FG1D2414C FG1D2414L	PKRISGM3000D
96	CBE	LTE	48 ULCA 48C	PKRISGM3000A	Original Grant	FG1D2414M FG1D2414O FG211223003B	PKRISGM3000D
		NR	n48, UL MIMO n48,	PKRISGM3000A	Original Grant	FG1D2414N FG211223003 FG211223003C	PKRISGM3000D

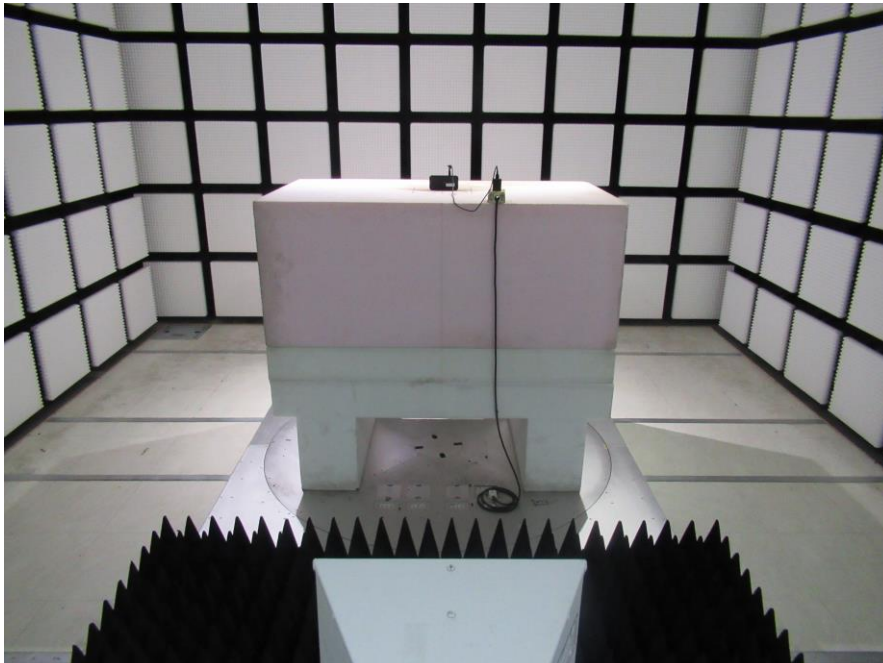
Appendix A. Setup Photographs

<Radiation for FCC Part 27, 96>

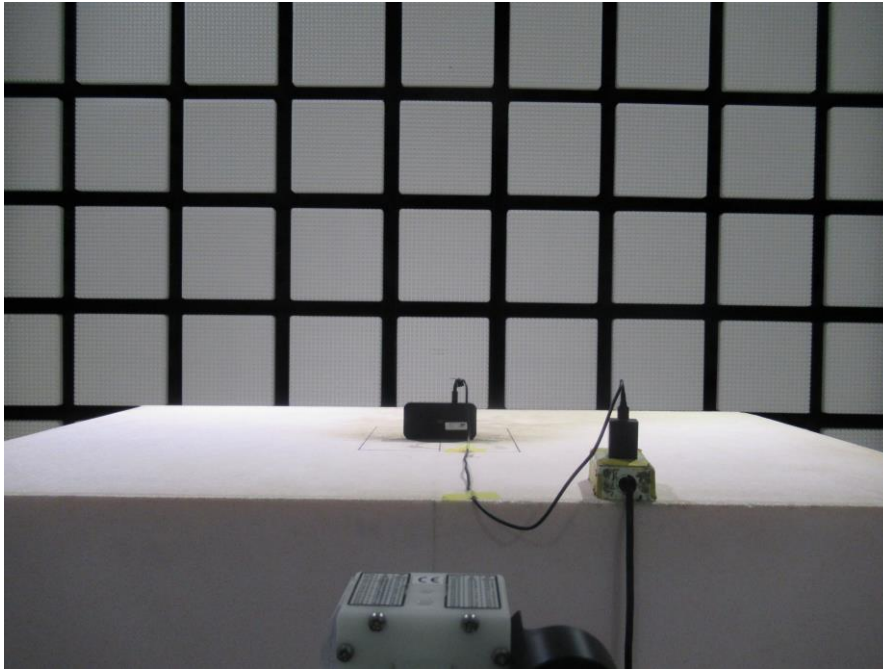
LF



HF



SHF



————THE END————