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TEST REPORT

FCC MPE Test for LSM110A
Certification

APPLICANT
SJI CO.,LTD

REPORT NO.
HCT-RF-2205-FI002

DATE OF ISSUE
May 27, 2022

Tested by
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Additional Model
-

Applicant	**SJI CO.,LTD** 54-33, Dongtanhana 1-gil, Hwaseong-si, Gyeonggi-do, Republic of Korea
Eut Type Model Name	LoRa Sigfox Module LSM110A
FCC ID	2AS8LLSM110A
Frequency range	[Sigfox] -RC2: 902.1375 MHz – 904.6625 MHz -RC4: 920.1375 MHz – 922.6625 MHz [LoRa] US: 902.3 MHz – 914.9 MHz AU: 915.2 MHz – 927.8 MHz

The result shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test results were applied only to the test methods required by the standard.

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	May 27, 2022	Initial Release

Engineering Statement:
The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

If this report is required to confirmation of authenticity, please contact to www.hct.co.kr

RF Exposure Statement

1. Limit

According to § 1.1310, § 2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
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

2. Maximum Permissible Exposure Prediction

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2$$

S = Power density

P = Power input to antenna

G = Power gain to the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

3. RESULTS

3-1. Sigfox(RC2)

Peak output Power at antenna input terminal	23.00	dBm
Peak output Power at antenna input terminal	199.53	mW
Prediction distance	20.00	cm
Prediction frequency	902.1375 – 904.6625	MHz
Antenna Gain(typical)	1.90	dBi
Antenna Gain(numeric)	1.549	-
Power density at prediction frequency(S)	0.0615	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.6014	mW/cm^2

2.1091

EIRP	24.90	(dBm)
ERP	22.75	(dBm)
ERP	0.188	(W)
ERP Limit	1.50	(W)
MARGIN	9.01	(dB)

3-2. Sigfox(RC4)

Peak output Power at antenna input terminal	23.00	dBm
Peak output Power at antenna input terminal	199.53	mW
Prediction distance	20.00	cm
Prediction frequency	920.1375 – 922.6625	MHz
Antenna Gain(typical)	1.70	dBi
Antenna Gain(numeric)	1.479	-
Power density at prediction frequency(S)	0.0587	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.6134	mW/cm^2

2.1091

EIRP	24.70	(dBm)
ERP	22.55	(dBm)
ERP	0.180	(W)
ERP Limit	1.50	(W)
MARGIN	9.21	(dB)

3-3. LoRa (US)

Maximum output Power at antenna input terminal	23.00	dBm
Maximum output Power at antenna input terminal	199.53	mW
Prediction distance	20.00	cm
Prediction frequency	902.3 – 914.9	MHz
Antenna Gain(typical)	1.90	dBi
Antenna Gain(numeric)	1.549	-
Power density at prediction frequency(S)	0.0615	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.6015	mW/cm^2

2.1091

EIRP	24.90	(dBm)
ERP	22.75	(dBm)
ERP	0.188	(W)
ERP Limit	1.50	(W)
MARGIN	9.01	(dB)

3-4. LoRa (AU)

Maximum output Power at antenna input terminal	23.00	dBm
Maximum output Power at antenna input terminal	199.53	mW
Prediction distance	20.00	cm
Prediction frequency	915.2 – 927.8	MHz
Antenna Gain(typical)	1.70	dBi
Antenna Gain(numeric)	1.479	-
Power density at prediction frequency(S)	0.0587	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.6015	mW/cm^2

2.1091

EIRP	24.70	(dBm)
ERP	22.55	(dBm)
ERP	0.180	(W)
ERP Limit	1.50	(W)
MARGIN	9.21	(dB)