TEST REPORT

of

FCC CFR 47 part 1, 1.1307(b), 1.1310

FCC ID: 2AMKA-R13A

Equipment Under Test	:	InforTab
Model Name	:	R13A
Applicant	:	RainUs Co., Ltd.
Manufacturer	:	RainUs Co., Ltd.
Date of Receipt	:	2019.09.26
Date of Test(s)	:	2018.09.26 ~2019.10.18
Date of Issue	:	2019.11.04

In the configuration tested, the EUT complied with the standards specified above.

Tested By:	Murphy Kim	**Date:**	**2019.11.04**
Technical Manager:	Jungmin Yang	**Date:**	**2019.11.04**

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx.

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1.2. Details of Applicant

Applicant   :   RainUs Co., Ltd.
Address   :   3rd-Floor, 173-36, Saneop-ro, Gwonseon-gu, Gyeonggi-do, South Korea
Contact Person :   Do, Gi-tae
Phone No.   :   +82 31 548 0782

1.3. Details of Manufacturer

Company   :   Same as applicant
Address   :   Same as applicant

1.4. Description of EUT

Kind of Product	InforTab
Model Name	R13A
Power Supply	DC 3.0 V
Frequency Range	2 405 ㎒ ~ 2 480 ㎒ (Zigbee)
Modulation Technique	DSSS
Number of Channels	16 channels (Zigbee)
Antenna Type	PCB antenna
Antenna Gain	-2.37 ㏈i

1.5. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501/RF-RTL014491	2019.11.04	Initial

2. RF Exposure Evaluation

2.1. Environmental evaluation and exposure limit according to FCC CFR 47 part 1, 1.1307(b), 1.1310

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm²)	Average Time
(A) Limits for Occupational/Controlled Exposure				
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
300-1 500	-	-	f/300	6
1 500-100 000	-	-	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
300-1 500	-	-	f/1500	30
1 500-100 000	-	-	**1.0**	**30**

2.1.1. Friis transmission formula: $Pd = (Pout*G)/(4*pi*R^2)$

    Where Pd = power density in mW/cm²

        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

Pd the limit of MPE, 1 mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

2.1.2. Test Result of RF Exposure Evaluation

Test Item : RF Exposure Evaluation Data

Test Mode : Normal Operation

2.1.3. Output Power into Antenna & RF Exposure Evaluation Distance

- Maximum tune up tolerance

Frequency (㎒)	Output Average Power to Antenna (㏈ m)	Antenna Gain (㏈ i)	Power Density at 20 ㎝ (㎽/㎠)	Limits (㎽/㎠)
2 402 ~ 2 480	5.5	-2.37	0.000 409	1

Note;

- The power density Pd (5th column) at a distance of 20 ㎝ calculated from the friis transmission formula is far below the limit of 1 ㎽/㎠.
- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment should be installed and operated with minimum 20 ㎝ between the radiator and your body.
- The antenna gain of this transmitter is less than 6 ㏈ i and must not be collocated or operating in conjunction with any other antenna or transmitter unless authorized to do so by the FCC.

- End of the Test Report -