

EMF TEST REPORT

Test Report No. : OT-245-RWD-002
Reception No. : 2403001012
Applicant : NuriFlex Inc
Address : 2300-10900 NE 4th Suite Bellevue, Washington 98004-5882, USA
Manufacturer : NuriFlex Inc
Address : 2300-10900 NE 4th Suite Bellevue, Washington 98004-5882, USA
Type of Equipment : AMI Wireless Module
FCC ID. : 2BF2ENAMR-P229
Model Name : NAMR-P229SR
Multiple Model Name : N/A
Serial number : N/A
Total page of Report : 7 pages (including this page)
Date of Incoming : March 15, 2024
Date of issue : May 03, 2024

SUMMARY

The equipment complies with the regulation; **CFR §2.1093**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

This report is not correlated with the "KS Q ISO/IEC 17025 and KOLAS accreditation" of Korean Laboratory Accreditation Scheme.





Tested by
 Ha-Ram, Lee / Sr. Engineer
 ONETECH Corp.

Reviewed by
 Tae-Ho, Kim / Chief Engineer
 ONETECH Corp.

Approved by
 Jae-Ho, Lee / Chief Engineer
 ONETECH Corp.

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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-245-RWD-002	May 03, 2024	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant : NuriFlex Inc
Address : 2300-10900 NE 4th Suite Bellevue, Washington 98004-5882, USA
Contact Person : Elevas Park / Senior Software Engineer
Telephone No. : +1-201-554-8494
FCC ID : 2BF2ENAMR-P229
Model Name : NAMR-P229SR
Brand Name : NURI, AiMiR
Serial Number : N/A
Date : May 03, 2024

E.U.T. DESCRIPTION	AMI Wireless Module
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	KDB 447498 D01 General RF Exposure Guidance v06
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
Modifications on the Equipment to Achieve Compliance	None

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. GENERAL INFORMATION

2.1 Product Description

The NuriFlex Inc, Model NAMR-P229SR (referred to as the EUT in this report) is a AMI Wireless Module. The product specification described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	AMI Wireless Module
Temperature Range	-40 °C ~ 70 °C
OPERATING FREQUENCY	903.5 MHz ~ 926.5 MHz
MODULATION TYPE	2GFSK
RF OUTPUT POWER	13.92 dBm
ANTENNA TYPE	Whip Antenna
ANTENNA GAIN	-2.247 dBi
List of each Osc. or crystal Freq.(Freq. >= 1 MHz)	24 MHz, 40 MHz

2.2 Alternative type(s)/model(s); also covered by this test report.

-. None

3. EUT MODIFICATIONS

-. None

4. MAXIMUM PERMISSIBLE EXPOSURE

4.1 RF Exposure Calculation

According to the FCC rule 1.1310 table 1B, the limit for the maximum permissible RF exposure for an uncontrolled environment are $f/1500$ mW/cm² for the frequency range between 300 MHz and 1 500 MHz and 1.0 mW/cm² for the frequency range between 1 500 MHz and 100 000 MHz.

The electric field generated for a 1 mW/cm² exposure is calculated as follows:

$$E = \sqrt{(30 * P * G) / d}, \text{ and } S = E^2 / Z = E^2 / 377, \text{ because } 1 \text{ mW/cm}^2 = 10 \text{ W/m}^2$$

Where

S = Power density in mW/cm², Z = Impedance of free space, 377 Ω

E = Electric field strength in V/m, G = Numeric antenna gain, and d = distance in meter

Combining equations and rearranging the terms to express the distance as a function of the remaining variable

$$d = \sqrt{(30 * P * G) / (377 * 10 S)}$$

Changing to units of mW and cm, using $P \text{ (mW)} = P \text{ (W)} / 1\,000$, $d \text{ (cm)} = 0.01 * d \text{ (m)}$

$$d = 0.282 * \sqrt{(P * G) / S}$$

Where

d = distance in cm, P = Power in mW, G = Numeric antenna gain, and S = Power density in mW/cm²

4.2 EUT Description

Kind of EUT	AMI Wireless Module
Device Category	☐ Portable (< 20 cm separation) ☐ Mobile (> 20 cm separation) ☒ Others
Exposure Evaluation Applied	☒ MPE ☐ SAR ☐ N/A

4.3 Calculated MPE Safe Distance

According to above equation, the following result was obtained.

Operating Freq. Band (MHz)	Operating Mode	Target Power W/tolerance (dBm)	Max tune up power		Antenna Gain		Safe Distance (cm)	Power Density (mW/cm ²) @ 20 cm Separation	Limit (mW/cm ²)
			(dBm)	(mW)	Log	Linear			
903.5 MHz ~ 926.5 MHz	900 MHz	13.92 ± 1.0	14.92	31.05	-2.247	0.596	1.213	0.003 68	0.602

According to above table, for 903.5 ~ 926.5 MHz Band, safe distance,

$$D = 0.282 * \sqrt{(31.05 * 0.596)/1.00} = 1.213 \text{ cm.}$$

For getting power density at 20 cm separation in above table, following formula was used.

$$S = P * G / (4\pi * R^2) = 31.05 * 0.596 / (4 * \pi * 20^2) = 0.003 68$$

Where:

S = Power Density,

P = Power input to the external antenna (Output power from the EUT antenna port (dBm) – cable loss (dB)),

G = Gain of Transmit Antenna (linear gain), R = Distance from Transmitting Antenna