

FCC RF Exposure Report

FCC ID : 2AD8UFTHJ01
Equipment : Nokia Dual Band UE Relay
Model No. : FTHJ
Brand Name : Nokia
Applicant : Nokia Solutions and Networks, OY
Address : 2000 W. Lucent Lane, Naperville, Illinois,
United States. 60563
Standard : 47 CFR FCC Part 2.1091
Received Date : Dec. 12, 2017
Tested Date : Jan. 02 ~ Mar. 06, 2018

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:



Along Chen / Assistant Manager

Approved by:



Gary Chang / Manager



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Release Record

Report No.	Version	Description	Issued Date
FA7D1203	Rev. 01	Initial issue	May 10, 2018

1 MPE EVALUATION OF MOBILE DEVICES

Human exposure to RF emissions from mobile devices (47 CFR §2.1091) may be evaluated based on the MPE limits adopted by the FCC for electric and magnetic field strength and/or power density, as appropriate, since exposures are assumed to occur at distances of 38 cm or more from persons.

1.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

Frequency Range (MHz)	Power Density (mW /cm ²)	Averaging Time (minutes)
300~1500	F/1500	30
1500~100000	1.0	30

1.2 LIMITS FOR OCCUPATIONAL/CONTROLLED EXPOSURE

Frequency Range (MHz)	Power Density (mW /cm ²)	Averaging Time (minutes)
300~1500	F/300	6
1500~100000	5	6

1.3 MPE EVALUATION FORMULA

$$Pd = \frac{Pt}{4 * Pi * R^2}$$

Where

Pd= Power density in mW/cm²

Pt= EIRP in mW

Pi= 3.1416

R= Measurement distance

1.4 MPE EVALUATION RESULTS

Summary

Exposure	Separation Distance (cm)
General Population / Uncontrolled	38
Occupational / Controlled	17

For General Population/Uncontrolled Exposure

Mode	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
Wi-Fi 2.4G (2412~2462Mhz)	22.74	23	1.5	38	0.016	1

Frequency Band (MHz)	Mode	EIRP (dBm)	Rated Power (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
1850 ~ 1915	CDD	31.44	31.5	38	0.078	1
	CA	28.75	29	38	0.044	1

Frequency Band (MHz)	Mode	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2496~2570	CDD	29.35	29.5	13.01	38	0.982	1
2618.8~2690	CDD	28.85	29.5	13.01	38	0.982	1
2496~2570	CA	29.20	29.5	13.01	38	0.982	1
2618.8~2690	CA	29.08	29.5	13.01	38	0.982	1

For Occupational / Controlled Exposure

Mode	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
Wi-Fi 2.4G (2412~2462Mhz)	22.74	23	1.5	17	0.078	5

Frequency Band (MHz)	Mode	EIRP (dBm)	Rated Power (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
1850 ~ 1915	CDD	31.44	31.5	17	0.389	5
	CA	28.75	29	17	0.219	5

Frequency Band (MHz)	Mode	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2496~2570	CDD	29.35	29.5	13.01	17	4.908	5
2618.8~2690	CDD	28.85	29.5	13.01	17	4.908	5
2496~2570	CA	29.20	29.5	13.01	17	4.908	5
2618.8~2690	CA	29.08	29.5	13.01	17	4.908	5

1.5 SEPERATION DISTANCE BOUNDARY LIMITS

Frequency Band (MHz)	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	General Population /Uncontrolled Exposure		Occupational/Controlled Exposure	
				Distance (cm)	Limits (mW/cm ²)	Distance (cm)	Limits (mW/cm ²)
2412~2462	22.74	23	1.5	4.736	1	2.118	5

Frequency Band (MHz)	Mode	EIRP (dBm)	Rated Power (dBm)	General Population /Uncontrolled Exposure		Occupational/Controlled Exposure	
				Distance (cm)	Limits (mW/cm ²)	Distance (cm)	Limits (mW/cm ²)
1850 ~ 1915	CDD	31.44	31.5	10.602	1	4.741	5
	CA	28.75	29	7.951	1	3.556	5

Frequency Band (MHz)	Mode	Maximum Conducted Power (dBm)	Rated Power (dBm)	Antenna Gain (dBi)	General Population /Uncontrolled Exposure		Occupational/Controlled Exposure	
					Distance (cm)	Limits (mW/cm ²)	Distance (cm)	Limits (mW/cm ²)
2496~2570	CDD	29.35	29.5	13.01	37.661	1	16.843	5
2618.8~2690	CDD	28.85	29.5	13.01	37.661	1	16.843	5
2496~2570	CA	29.20	29.5	13.01	37.661	1	16.843	5
2618.8~2690	CA	29.08	29.5	13.01	37.661	1	16.843	5

2 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

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Taiwan, R.O.C.

Kwei Shan

Tel: 886-3-271-8666

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Kwei Shan District, Tao Yuan City
333, Taiwan, R.O.C.

Kwei Shan Site II

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St., Kwei Shan District, Tao Yuan
City 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information.

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