

RF Exposure Report

Report No.: SA160920E06A R1

FCC ID: 2AD8UFW2QADPM01

Test Model: FW2QADPM01

Received Date: Nov. 26, 2019

Test Date: Dec. 14 ~ Dec. 16, 2019

Issued Date: Jan. 22, 2020

Applicant: Nokia Solutions and Networks OY

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Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
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FCC Registration / 788550 / TW0003

Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
SA160920E06A	Original release	Dec. 16, 2019
SA160920E06A R1	Added conducted power table	Jan. 22, 2020

1 Certificate of Conformity

Product: Flexi Zone Multiband Indoor Pico BTS

Brand: Nokia

Test Model: FW2QADPM01

Sample Status: Mass product

Applicant: Nokia Solutions and Networks OY

Test Date: Dec. 14 ~ Dec. 16, 2019

Standards: FCC Part 2 (Section 2.1091)
KDB 447498 D01 General RF Exposure Guidance v06

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

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Approved by : Bruce Chen , **Date:** Jan. 22, 2020
Bruce Chen / Senior Project Engineer

2 RF Exposure

2.1 Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (minutes)
(A)Limits For Occupational / Control Exposures				
300-1500	F/300	6
1500-100,000	5	6
(B)Limits For General Population / Uncontrolled Exposure				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

2.2 MPE Calculation Formula

$$P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **fixed device** and installations by professional service personnel.

2.4 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

Antenna Spec.			
Brand	Model	Antenna Type	Antenna Net Gain(dBi)
CommScope	CMAX-OMF3-UWi53	Omni Antenna	4
Alpha Wireless	AW3372-T0-N	Directional Antenna	12.5

3 Calculation Result of Maximum Conducted Power

Maximum Conducted Power

Function	Frequency Band (MHz)	Maximum Conducted Average Power			Max EIRP (dBm)
		Chain 0	Chain 1	Total	
Single Carrier Mode					
LTE Band 48 (Gain: 4dBi)	3555 ~ 3695	21.43	21.08	24.27	28.27
LTE Band 48 (Gain: 12.5dBi)	3555 ~ 3695	13.02	13.47	16.26	28.76
Multi-Carriers Mode					
LTE Band 48 (Gain: 4dBi)	3555 ~ 3695	19.62	19.43	22.54	26.54
LTE Band 48 (Gain: 12.5dBi)	3555 ~ 3695	13.09	13.13	16.12	28.62

For General Population

Function	Frequency Band (MHz)	Max EIRP (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
Single Carrier Mode					
LTE Band 48 (Gain: 4dBi)	3555 ~ 3695	28.27	20	0.134	1
LTE Band 48 (Gain: 12.5dBi)	3555 ~ 3695	28.76	20	0.150	1
Multi-Carriers Mode					
LTE Band 48 (Gain: 4dBi)	3555 ~ 3695	26.54	20	0.090	1
LTE Band 48 (Gain: 12.5dBi)	3555 ~ 3695	28.62	20	0.145	1

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

For Occupational

Function	Frequency Band (MHz)	Max EIRP (dBm)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
Single Carrier Mode					
LTE Band 48 (Gain: 4dBi)	3555 ~ 3695	28.27	20	0.134	5
LTE Band 48 (Gain: 12.5dBi)	3555 ~ 3695	28.76	20	0.150	5
Multi-Carriers Mode					
LTE Band 48 (Gain: 4dBi)	3555 ~ 3695	26.54	20	0.090	5
LTE Band 48 (Gain: 12.5dBi)	3555 ~ 3695	28.62	20	0.145	5

4 Brief Summary of results

The wireless device described within this report has been shown to be capable of compliance with the basic restrictions related to human exposure to electromagnetic fields for both General public and Occupational. The calculations shown in this report were made in accordance the procedures specified in the applied test specification(s)

Configuration	Required Compliance Boundary(m)	
	Occupational	General Population
LTE Band 48	0.2	0.2

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