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
Address:	2000 Lucent Lane, Naperville, Illinois, USA 60563
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

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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.

Prepared by : Pettie Chen , **Date:** Jan. 22, 2020

Pettie Chen / Senior Specialist

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

$Pd = (Pout*G) / (4*pi*r^2)$
where
Pd = power density in mW/cm^2
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

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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