

## RF Exposure Report

### C2PC (Class II Permissive Change)

**Report No.:** SA180905C04A

**FCC ID:** 2AD8UAHCE01

**Test Model:** AHCE

**Received Date:** Jan. 30, 2019

**Test Date:** Feb. 27 ~ Feb. 28, 2019 and Apr. 30 ~ May 02, 2019

**Issued Date:** May 13, 2019

**Applicant:** Nokia Solutions and Networks, OY

**Address:** 2000 W. Lucent Lane, Naperville, IL 60563, USA

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**Lab Address:** No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)

**Test Location:** No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)

**FCC Registration /  
Designation Number:** 788550 / TW0003



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### Release Control Record

Issue No.	Description	Date Issued
SA180905C04A	Original release	May 13, 2019

## 1 Certificate of Conformity

**Product:** AirScale Micro Remote Radio Head

**Brand:** Nokia

**Test Model:** AHCE

**Sample Status:** Engineering sample

**Applicant:** Nokia Solutions and Networks, OY

**Test Date:** Feb. 27 ~ Feb. 28, 2019 and Apr. 30 ~ May 02, 2019

**Standards:** FCC Part 2 (Section 2.1091)  
KDB 447498 D01 General RF Exposure Guidance v06  
IEEE C95.1

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:** May 13, 2019  
Pettie Chen / Senior Specialist

**Approved by :** Bruce Chen , **Date:** May 13, 2019  
Bruce Chen / 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 <sup>2</sup> )	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/cm<sup>2</sup>

$P_{out}$  = 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

#### For General Population

The antenna of this product, under normal use condition, is at least 265cm away from the body of the user. So, this device is classified as **fixed device**.

#### For Occupational Population

The antenna of this product, under normal use condition, is at least 119cm away from the body of the user. So, this device is classified as **fixed device**.

## 2.4 Antenna Gain

Model Name	AABA
Sales Item	474230A
Antenna Spec.	Calculation based on the gain of this example Nokia antenna is a maximum of 7dBi $\pm$ 1dBi.
Antenna Model	NA
Antenna Gain	8dBi

## 3 Calculation Result of Maximum Tune up Power

### For General Population

Function	Frequency Band (MHz)	ERP (dBm)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
LTE Band 5	869.7-893.3	54.94	57.09	265	0.5798	0.580
LTE Band 5 NB-IoT Guard Band	874-889	49.41	51.56	265	0.1623	0.583
LTE Band 5 NB-IoT In Band	874-889	50.00	52.15	265	0.1859	0.583

### For Occupational Population

Function	Frequency Band (MHz)	ERP (dBm)	EIRP (dBm)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
LTE Band 5	869.7-893.3	54.94	57.09	119	2.875	2.899
LTE Band 5 NB-IoT Guard Band	874-889	49.41	51.56	119	0.805	2.913
LTE Band 5 NB-IoT In Band	874-889	50.00	52.15	119	0.922	2.913

## 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(cm)	
	Occupational	General Population
LTE Band 5	119	265
LTE Band 5 NB-IoT Guard Band	119	265
LTE Band 5 NB-IoT In Band	119	265

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