

RF Exposure Report

Report No.: SA151123E10

FCC ID: 2AD8UNBTM01

Test Model: NBTM01

Received Date: Nov. 23, 2015

Test Date: Dec. 08, 2015

Issued Date: Dec. 18, 2015

Applicant: Nokia Solutions and Networks

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Release Control Record

Issue No.	Description	Date Issued
SA151123E10	Original release.	Dec. 18, 2015



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1 Certificate of Conformity

Product: BT module

Brand: Nokia

Test Model: NBTM01

Hardware Version: X21

Sample Status: ENGINEERING SAMPLE

Applicant: Nokia Solutions and Networks

Test Date: Dec. 08, 2015

Standards: FCC Part 2 (Section 2.1091)
447498 D01 General RF Exposure Guidance v06
IEEE Std C95.1-2005
FCC 47 CFR § 1.13.10

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 EMC characteristics under the conditions specified in this report.

Prepared by : C - K , **Date:** Dec. 18, 2015
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Approved by : Max Chen , **Date:** Dec. 18, 2015
Max Chen / Manager

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)
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

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

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.

3 Antenna Gain

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

Antenna Spec.					
Antenna Condition	Brand	Model	Antenna Type	Gain(dBi)	Frequency (MHz)
Internal BT Ant	NA	Fz PICO	PCB	1.45	2400~2500
Antenna Condition	Brand	Model	Antenna Type	Gain(dBi) <Including cable loss>	Frequency (MHz)
External BT Ant	NA	NA	Dipole	0	2400~2500

Cable Spec.					
Brand	Model	Connector Type	Cable Loss(dB)	Cable Length (cm)	Note
NA	NA	U.FL to RP SMA type (M)	1	10	This cable will be equipped with dipole antenna

4 Calculation Result

Calculation for Maximum Conducted Power

For BT

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2402-2480	9.099	1.45	20	0.00253	1

5 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
Bluetooth	0.2	0.2

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