Bell Labs

NOKIA

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Murray Hill, NJ 07974, USA

April 19, 2023

Subject: **Application for Original Equipment Certification under FCC ID: 2AD8UAWHQU01 for AWHQU AirScale Micro 4T4R n48 40W CBRS 20W.**

Dear Examiner:

The Nokia **AWHQU AirScale Micro 4T4R n48 40W CBRS 20W** (hereinafter referred to as "AWHQU") is the subject of this application for Original Equipment Certification under FCC ID: 2AD8UAWHQU01. The AWHQU is an LTE-TDD (Long Term Evolution-Time Division Duplex) and 5G-NR transceiver which operates in Band 48 Citizens Broadband Radio Service (CBRS) spectrum (3550-3700 MHz).

The **AWHQU** supports 10 MHz and 20 MHz single LTE carriers, plus 10+10 MHz multiple carriers. The **AWHQU** also supports 5G-NR 10, 20, 30, 40, and 80 MHz single carriers and 40+40 MHz dual carrier with 4T/4R modes of operation. **LTE and 5G-NR Multi Carrier Operation up to 2 carriers, any combinations of approved bandwidths**. The **AWHQU** operates with a maximum total RF power output capacity of 20.0 W at its 4T/4R transmit ports.

The **AWHQU** is equipped with a directional antenna with a maximum total gain of 18.0 dBi for 4T/4R. Nokia Bell Labs, part of the Nokia family of companies, hereby requests this certification for LTE and 5G-NR operation.

The power will be listed as 10, 20, 30, 40, and 80 MHz on the Grant with the EIRPS as follows:

LTE
10 MHz – 47.3 W EIRP
20 MHz – 97.3 W EIRP

5G-NR
10 MHz – 36.9 W EIRP
20 MHz – 71.0 W EIRP
30 MHz – 114.3 W EIRP
40 MHz – 134.6 W EIRP
80 MHz – 343.6 W EIRP

The key data are summarized below.

FCC ID:	**2AD8UAWHQU01**
FCC Rules:	**Part 96**
Frequency Range:	**E-UTRAN Band 48, 3550-3700 MHz**
Conducted Output Power:	**Up to 43.0 dBm (20.0 W) Total**
EIRP Power:	**Up to 55.4 dBm (343.6 W) Average Total**
Frequency Tolerance:	**± 0.05 ppm**
LTE Emissions Designators	**8M87F9W, 18M9F9W LTE with QPSK, 16QAM, 64QAM and 256QAM**
NR Emissions Designators	**8M55W7W, 18M2W7W, 27M9W7W, 37M8W7W, 77M8W7W**
Carriers:	**Single 5G-NR Carriers: 10, 20, 30, 40, & 80 MHz** **Single LTE Carriers: 10 and 20 MHz** **Multiple 5G-NR Carriers: 40+40 MHz** **Multiple LTE Carriers: 10+10 MHz**

Enclosed in this application package are FCC 731 Form, letters of Request for Permanent Confidentiality, agent authorization letter, the required measurement data, and other required exhibits specific to this request for authorization of the subject product. The measurement exhibits attached to this application demonstrate full compliance with FCC Part 96 following the procedural requirements specified in FCC Part 2 Subpart J – Equipment Authorization Procedures. The supporting exhibits are assembled and presented in accordance with the *Table of Contents* attached below.

Should there be any questions or procedural issues please feel free to contact me by email and/or phone.

Sincerely,

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TABLE OF CONTENTS

16 WINN-Forum Test Report

WInn Forum Spectrum Allocation Server-Citizens Band Radio Service Device Conformity Assessment Test Report