



Timco Engineering Inc.
FCC Authorized Telecommunication
Certification Body
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600-700 Mountain Avenue, Room 5A-107

Murray Hill, NJ 07974, USA

January 25, 2023

Subject: Application for Original Equipment Certification under FCC ID:
2AD8UAWPQYAWPQZ01 for Nokia AirScale Indoor pico RRH 4T4R n48 AWPQY/Z.

Dear Examiner:

The Nokia **AirScale Indoor pico RRH 4T4R n48 AWPQY/Z** (hereinafter referred to as "AWPQY/Z") is the subject of this application for Original Equipment Certification under FCC ID: 2AD8UAWPQYAWPQZ01. The **AWPQY/Z** 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 **AWPQY/Z** supports 10MHz and 20 MHz single LTE carriers, plus 10+10 MHz multiple carriers. The **AWPQY/Z** also supports 5G-NR 20, 30, 40, 50, 60, 70, 80, 90 and 100 MHz single carriers and 20+100 MHz & 50+100 MHz dual carrier with 4T/4R modes of operation and a maximum total RF power output capacity of 1.0 W at its 4T/4R transmit ports. The **AWPQY/Z** is optionally equipped with an integrated antenna (model AWPQY) with a maximum total gain of 6.0 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 5G-NR power will be listed as 20, 30, 40, 50, 60, 70, 80, 90, and 100 MHz on the Grant with the EIRPS as follows:

20 MHz – 0.76 W EIRP
30 MHz – 0.90 W EIRP
40 MHz – 0.71 W EIRP
50 MHz – 0.73 W EIRP
60 MHz – 0.60 W EIRP
70 MHz – 0.53 W EIRP
80 MHz – 0.46 W EIRP
90 MHz – 0.42 W EIRP
100 MHz – 0.37 W EIRP

The LTE power will be listed as 10, 20 MHz on the Grant with the EIRPS as follows:

10 MHz – 0.72 W EIRP
20 MHz – 0.78 W EIRP

The key data are summarized below.

FCC ID:	2AD8UAWPQYAWPQZ01
FCC Rules:	Part 96
Frequency Range:	E-UTRAN Band 48, 3550-3700 MHz
Conducted Output Power:	Up to 30.0 dBm (1.0 W) Total
Frequency Tolerance:	± 0.05 ppm
LTE Emissions Designators	9M83F9W, 18M3F9W LTE with QPSK, 16QAM, 64QAM and 256QAM
NR Emissions Designators	18M8W7W, 28M1W7W, 38M2W7W, 47M6W7W, 58M1W7W, 67M4W7W, 77M2W7W, 87M3W7W, 97M2W7W
Carriers:	Single 5G-NR Carriers: 20, 30, 40, 50, 60, 70, 80, 90, & 100 MHz Single LTE Carriers: 10 and 20 MHz Multiple 5G-NR Carriers: 20+100 MHz and 50+100 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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Agent Authorization Letter

Confidentiality Letter

Required Exhibits:

Exhibit Number	<u>FCC Rule Number</u>	<u>Description</u>
1	Section 2.1033(a)	FCC Form 731
2	Section 2.911(d)	Qualifications and Certifications
3	Section 2.1033(c)(1,2, 4-7)	Manufacturers, FCC Identifier, Emission, Range of RF Power & Frequency
4	Section 2.1033(c)(11), 2.925(a)(1)	Drawing of the Identification Label
5	Section 2.1033(c)(8,9)	Tune-Up procedure (Confidential)
6	Section 2.1033(c)(10,13)	Block Diagram, Operational Description, Circuitry for determining frequency (Confidential)
7	Section 2.1033(c)(10)	Complete Circuit Diagrams (Confidential)
8	Section 2.1033(c)(3)	Installation Manual (Confidential)
8a	Section 2.1033(c)(3)	Manual - NDA (Non-Disclosure Agreement)
9	Section 2.1033(c)(12)	Internal Photographs of the Equipment (Confidential)
10	Section 2.1033(c)(12)	External Photographs of the Equipment
11	Section 2.1033(c)(10, 13)	Description of Modulation System
12	Section 2.1033(c)(21)	Photographs of the Test Setups
13	Sections 1.1307 & 1.1310	RF Exposure Assessment (MPE Report)
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Winn Forum Spectrum Allocation Server-Citizens Band Radio Service Device Conformity
Assessment Test Report