Timco Engineering Inc.
FCC Authorized Telecommunications
Certification Body (TCB)

Nokia, Global Product Compliance Laboratory
600-700 Mountain Avenue
Room 5B-108
Murray Hill, New Jersey 07974-0636 USA

September 24, 2024

Bruno Clavier- General Manager
Timco Engineering Inc.
13146 NW 86th Drive Suite 400
Alachua, FL 32615

Dear Mr. Clavier
The Nokia **AWKUA/B 5G AirScale 28 GHz mmWave Radio** is the subject of this request for an initial Product Certification under **FCC ID: 2AD8UAWKUAB01.**

The **AWKUA/B AirScale mmWave 4T4R n257 28G** is part of our high powered family of mmWave products. The Radio Unit, an **AWKUA** (AC version) or an **AWKUB** (DC version) are deployed as required to form complete transceiver system coverage. The AC and DC versions incorporate identical mmWave 5G LTE / New Radio Transceiver modules. The transceiver module implements a dual polarized active element phased array. The 1600 MHz instantaneous downlink bandwidth transceiver unit has a total power output capability of 69 dBm EIRP per polarization for a total combined power of 72 dBm EIRP. This filing demonstrates that it can be configured to provide one to eight carriers of **97M5G7W** emissions designator in the **Upper Microwave Flexible Use Service** spectrum (27.5 – 28.35 GHz n261) as allowed under **47CFR Part 30**.

The total RF power will be divided among the one to eight carriers anywhere in the n261 spectrum. Thus, any carrier configuration can provide up to the specified power of 69 dBm EIRP per polarization for a total combined power of 72 dBm EIRP

Nokia Bell Labs, part of the Nokia family of companies, hereby requests certification for Multicarrier operation with up to eight carriers utilizing this **5G New Radio** OFDM based air interface. The required supporting exhibits are attached.

The measurement exhibits attached to this application demonstrate full compliance with FCC Part 30 following the procedural requirements specified in FCC Part 2 Subpart J – Equipment Authorization Procedures.

The data, summarized below, is in the form presently used by the Commission's Radio Equipment List.

Equipment Identification:	**2AD8UAWKUAB01**
Rules Part Number:	**Part 30**
Emissions Designators:	**97M5G7W, 198MG7W, 298M5G7W, 398MG7W, 498M5G7W, 598MG7W, 698M5G7W, 798MG7W (5G-NR) (LTE-TDD Based)**
Frequency Range:	**Transmit/ Receive: 27.5 – 28.35 GHz (n261 US Range)**
Output Power:	**69 dBm EIRP per polarization, 72 dBm EIRP Total Output for 2 polarizations operating in a 2T/2R MIMO configuration. The 4T4R and 8T8R operational configurations are also supported. One through Eight Carrier MIMO Operation**
Frequency Tolerance:	**± 0.05 ppm**

Attached are the FCC Form 731 (Application for Equipment Authorization – Radio Frequency Devices), the required measurement data and exhibits specific to this request for authorization of the **AWKUA/B 5G AirScale 28 GHz mmWave Radio.** This request also authorizes TIMCO Engineering Inc. to submit a **KDB PAG** request for processing of this filing. The technical or non-technical contact at Nokia Bell Labs will comply with any request for additional information should the need arise. The attached exhibits with the applicable FCC Rule section are assembled and presented in accordance with the *Table of Contents* attachment.

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

Raymond J. Johnson
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Att. Table of Contents for the **AWKUA/B 5G AirScale 28 GHz mmWave Radio** Product Certification Report

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