

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

November 11, 2019

Bruno Clavier- General Manager
Timco Engineering Inc.
849 N.W. State Road 45
P.O. Box 370
Newberry, Florida 32669

Dear Mr. Clavier

The Nokia **AirScale 39 GHz Radio Unit (AEWB)** is the subject of this request for a FCC Class II Permissive Change Certification under **FCC ID: 2AD8UAEWB02**. The **AEWB** LTE / New Radio Transceiver was previously certified for 1 to 4 carrier operation with a power output of 57 dBm EIRP per polarization for a total combined power of 60 dBm EIRP.

This Class II permissive Change is to add additional transmit capability of up to 8 carriers. The power output remains as previously filed and there were no hardware changes to the product.

The **AEWB** operates as a 2x2 MIMO transmitter in the **Part 30 Upper Microwave Flexible Use Service** spectrum utilizing **5G New Radio (NR)** technology. Nokia Bell Labs, part of the Nokia family of companies, hereby requests certification for Multicarrier operation of up to 8 carrier utilizing this **5G New Radio** OFDM based air interface. This design is identical to the unit filed under **FCC ID: 2AD8UAEWB02** and all of the required supporting exhibits are attached.

This application is for certification under Part 30 in the 37.0 – 40.0 GHz portion of the Upper Microwave Flexible Use Service spectrum.

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:	2AD8UAEWB02
Rules Part Number:	Part 30
Emissions Designators:	97M5G7W and 398MG7W (5G-NR) (LTE-TDD Based)
Frequency Range:	Transmit/ Receive: 37.0– 40.0 GHz
Output Power:	57 dBm EIRP per polarization, 60 dBm EIRP Total Output for 2 polarizations operating in a 2x2 MIMO configuration One through Eight Carrier 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 **AirScale 39 GHz Radio Unit (AEWB)**. This request also authorizes TIMCO Engineering Inc. to submit a **KDB PAG** request to the FCC to process 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. Included is a formal letter requesting confidentiality for the following exhibits:

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

Sincerely,



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Att. Table of Contents for the **AirScale 39 GHz Radio Unit (AEWB)** Product Certification Report

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Agent Letter

Exhibit

<u>Number</u>	<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)	Drawing of the Identification Label
11	Section 2.1033(c)(10, 13)	Description of Modulation System,
12	Section 2.1033(c)(21)	Photographs of the Test Setups

Test Report

Section

<u>Number</u>	<u>FCC Rule Number</u>	<u>Description of Test Report Exhibits</u>
4	Section 2.1033(c)(14)	Listing of Required Measurements
4.1	Section 2.1046	Measurement of Radio Frequency Power Output
4.2	Section 2.1047	Measurement of Modulation Characteristics
4.3	Section 2.1049	Measurement of Occupied Bandwidth and Edge of Band Emissions
4.4	Section 2.1051	Measurement of Spurious Emissions at Antenna
4.5	Section 2.1053	Field Strength of Spurious Radiation
4.6	Section 2.1055	Measurement of Frequency Stability
4.7	Section 2.1041(b)	List of Test Equipment
4.8	Section 2.1033(c)(21)	Photographs of the Test Setups
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5.0		Appendix A Calibration Certificates