

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

Nokia, Global Product Compliance Laboratory
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July 20, 2021

Bruno Clavier- General Manager
Timco Engineering Inc.
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Dear Mr. Clavier

The **Nokia AWEWA/B Aircscale mmWave Radio 5G n260 39 GHz** base unit is the subject of this request for an initial Product Certification under **FCC ID: 2AD8UAWEWAB01**. This application is for the AC & DC powered base units. Product Certification of the Extension Modules will be processed under a separate application and for its own FCC ID.

The **AWEWA/B Aircscale mmWave Radio 5G n260 39 GHz** is part of our ASMR family of products. This system is composed of a base unit and up to two extension modules. The Radio Base Unit, an **AWEWA** (AC version) or an **AWEWB** (DC version) can be paired with the **FA3WA** Extension Modules to form a 360 degree coverage transceiver system. The Base units and Extension units incorporate identical mmWave 5G LTE / New Radio Transceiver modules. The transceiver modules implement two individually polarized 8x12 active element phased arrays. These 1400 MHz instantaneous downlink bandwidth units have a total power output capability of 52 dBm EIRP per polarization for a total combined power of 55 dBm EIRP. It can be configured to provide one to eight carriers of **97M0G7W** emissions designator in the **Upper Microwave Flexible Use Service** spectrum (37 – 40 GHz) as allowed under **47CFR Part 30**. The operational parameters allows the unit to place up to eight carriers anywhere in the US n260 spectrum.

The total RF power will be divided among the one to eight carriers anywhere in the spectrum. Thus, any carrier configuration can provide up to the specified power of 52 dBm EIRP per polarization for a total combined power of 55 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 hardware design information and all of 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:	2AD8UAWEWAB01
Rules Part Number:	Part 30
Emissions Designators:	97M0G7W, 497MG7W and 797MG7W (5G-NR LTE-TDD Based)
Frequency Range:	Transmit/ Receive: 37 – 40 GHz
Output Power:	52 dBm EIRP per polarization, 55 dBm EIRP Total Output for 2 polarizations operating in a 2x2 MIMO configuration
	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 **AWEWA/B Aircscale mmWave Radio 5G n260 39 GHz Radio Unit**. 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,



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Att. Table of Contents for the **AWEWA/B Aircscale mmWave Radio 5G n260 39 GHz** Product Certification Report

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Cover Letter

Permanent Confidentiality Request Letter

Agent Authorization Letter

Exhibit NDA- - Non Disclosure Agreement (Confidential) -

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	
5	Section 2.1033(c)(8,9)	Active Circuit Devices Drive Levels, 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)(12,3)	Instruction Book (Installation Manual or User's Manual)	(Confidential)
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	

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
4.9		Facilities and Accreditation
5.0		Appendix A Calibration Certificates