



Bell Labs

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

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January 23, 2020

Timco Engineering Inc.
FCC Authorized Telecommunication Certification Body
849 N.W. State Road 45, P.O. Box 370 Newberry,
Florida 32669

Dear Examiner:

The Nokia **AWHHF Airscale Micro RRH 4T4R 5G n41 4x20W** is the subject of this request for a new FCC Product Certification under **FCCID: 2AD8UAWHHF01**. The AWHHF is a LTE-TDD (Long Term Evolution-Time Division Duplex) transceiver and operates in Band 41 Broadband Radio Service (BRS) spectrum (2496-2690 MHz). The AWHHF supports 40 MHz carriers and 4x4 MIMO operation with a maximum total RF output power of 80W at its 4T/4R transmit ports. Nokia Bell Labs, part of the Nokia family of companies, hereby requests this certification for LTE-TDD and 5G NR operation. This is a new design and all of the required supporting exhibits are attached.

The measurement exhibits attached to this application demonstrate full compliance with FCC Part 27 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:	2AD8UAWHHF01
Rules Part Number:	Part 27
Emissions Designator(s):	37M9F9W
Frequency Range:	E-UTRAN Band 41, 2496-2690 MHz
Output Power:	80W total with 4x4 MIMO Configuration
Frequency Tolerance:	± 0.05 ppm

Enclosed in this application package are FCC 731 Form, 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 27 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.

List of Confidential Exhibits

<u>Exhibit #</u>	<u>FCC Rule Section</u>	<u>Exhibit Title</u>
Exhibit 5	Section 2.1033(c)(8,9)	Active Circuit Devices Drive Levels, Tune-Up procedure
Exhibit 6	Section 2.1033(c)(10,13)	Block Diagram, Operational Description, Circuitry for determining frequency)
Exhibit 7	Section 2.1033(c)(10)	Complete Circuit Diagrams)
Exhibit 8	Section 2.1033(c)(12,3)	Instruction Book (Installation Manual or User Manual)
Exhibit 9	Section 2.1033(c)(12)	Internal Photographs of the Equipment

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

Filing Engineer



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Att. Table of Contents for the Nokia **AWHHF Airscale Micro RRH 4T4R 5G n41 4x20W** Product Certification Report

TABLE OF CONTENTS

Cover Letter

Request for Confidentiality

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 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)(14)	Test Report
13	Sections 1.1307 & 1.1310	RF Exposure Assessment