



Nokia Solutions and Network
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Murray Hill, NJ 07974-0636

March 29, 2022

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

Subject: Application for New Equipment Certification Approval for AHBCD AirScale Dual RRH 4T4R 240W under Certification Number FCC ID: VBNAHBCD-01

Dear Examiner:

The Nokia AHBCD AirScale Dual RRH 4T4R 240W, hereinafter referred to as “AHBCD” is a 4 port radio head that transmits 40 Watts per port over the B5 spectrum (869.0 – 894.0 MHz), 20 Watts per port over B13 spectrum (746 – 756 MHz) and 40 Watts per port over B26 spectrum (860 – 869 MHz). Part 22 Certification is for 5, 10, 15, 20 MHz 5G-NR, and 5, 10, & 15 MHz LTE. Part 27 Certification is for 5 and 10 MHz LTE in 746 - 756 MHz. Part 90S Certification is for 5 MHz LTE and 5G from 860 - 869 MHz.

The AHBCD utilizes QPSK, 16 QAM, 64QAM and 256QAM modulation formats. The 4 individual transmit ports are identical in design, rated power and performance.

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 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.

The data of the subject equipment are summarized below:

FCC ID	VBNAHBCD-01
Manufacturer	Nokia Solutions and Networks

Subject Equipment	AHBCD01
Equipment Type	Transceiver
Frequency Band	FCC Part 90S (860 - 869) FCC Part 27 (746 - 756) FCC Part 22 (869 - 894)
Maximum Output Power (conducted)	160 W for Part 22 at 869-894 MHz 80 W for Part 27 at 746 - 756 MHz 160W for Part 90 at 860 -869 MHz
Frequency Tolerance	± 0.05 ppm
Carriers	5G-NR - 5, 10, 15 & 20 MHz bandwidths Single Carrier FCC Part 22 5G-NR - 5+5 MHz, & 5+20 MHz Multiple Carriers FCC Part 22 LTE - 5, 10 & 15 MHz bandwidths Single Carrier FCC Part 22 LTE - 5, 10 MHz bandwidths for Single Carrier FCC Part 27 LTE & 5G-NR - 5 MHz bandwidths for Single Carrier FCC Part 90
Radio Standards Procedure	FCC Part 2
Radio Standards Specification:	FCC Part 22 FCC Part 27 FCC Part 90

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 Parts 22, 27 & 90 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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Cover Letter

Confidentiality Request Letter

Agent Authorization Letter

Required Exhibits:

Exhibit Number	FCC Rule Number	Description
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)	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)(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)

- 14 [Section 2.1033\(c\)\(10\)](#) [Parts List \(Confidential\)](#)
- 15 [Section 2.1033\(14\), 2.911\(e\) Test Report](#)