



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

Nokia Global Product Compliance Laboratory
600-700 Mountain Avenue, Room 5A-107
Murray Hill, NJ 07974, USA

July 25, 2021

Subject: Application for Original Equipment Certification under FCC ID: VBNAEQM-01 for Nokia AirScale MAA 64T64R 192AE B48 AEQM

Dear Examiner:

The Nokia **AirScale MAA 64T64R 192AE B48 AEQM** (hereinafter referred to as “AEQM”) is the subject of this application for a new FCC Product Certification under FCC ID: VBNAEQM-01. The AEQM is a LTE-TDD (Long Term Evolution-Time Division Duplex) transceiver and operates in Band 48 Citizens Broadband Radio Service (CBRS) spectrum (3550-3700 MHz).

The AEQM supports 10MHz and 20 MHz single LTE carriers, plus 10+20 MHz and 20+20 MHz multiple carriers with 8-Beam 32T/32R modes or 16-Beam 64T/64R modes of operation and a maximum total RF power output capacity of 32W at its 64T/64R transmit ports. The AEQM also supports cross-polarized 32T/32R 4 streams per polarization and 64T/64R 8 streams per polarization MIMO operations. The AEQM is equipped with an integrated antenna with a maximum total gain of 24.5 dBi for 32T/32R 1 stream per polarization and 27.5 dBi for 64T/64R 1 stream per polarization operations. Nokia Bell Labs, part of the Nokia family of companies, hereby requests this certification for LTE operation.

The key data are summarized below.

FCC ID:	VBNAEQM-01
FCC Rules:	Part 96
Frequency Range:	E-UTRAN Band 48, 3550-3700 MHz
Conducted Output Power:	Up to 39.34 dBm (8.6 W) Average Total
EIRP Power:	Up to 54.81dBm (302.7 W) Average Total
Frequency Tolerance:	± 0.05 ppm
Emissions Designators	9M27F9W, 18M3F9W, 29M2F9W and 40M0F9W LTE with QPSK, 16QAM, 64QAM and 256QAM
Carriers:	Single & Multiple LTE Carriers: 1x10, 1x20, 10+20, 2x20 MHz.

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 96 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,

A handwritten signature in blue ink that reads "Raymond J. Johnson".

Raymond J. Johnson
Technical Manager
Global Product Compliance Laboratory
Phone: 908-679-6220
email: ray.johnson@nokia-bell-labs.com

Filing Engineer
Steve Gordon
email: steve.gordon@nokia-bell-labs.com

TABLE OF CONTENTS

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

16 **WINN-Forum Test Report**

Winn Forum Spectrum Allocation Server-Citizens Band Radio Service Device Conformity
Assessment Test Report