



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

**Alcatel-Lucent USA, Inc.**  
Building 5B-111  
600 Mountain Avenue  
Murray Hill, NJ 07974

June 9, 2016

**Sid Sanders - President**  
**Timco Engineering Inc.**  
849 N.W. State Road 45  
P.O. Box 370  
Newberry, Florida 32669

Dear Mr. Sanders:

The Alcatel-Lucent **9768 Compact Metro Radio Outdoor B25/B2 2x5W** (CMRO) is the subject of this request for an initial Original Equipment FCC Authorization, under **FCC ID: AS5BBTRX-29**. Alcatel-Lucent USA Inc., part of the Nokia family of companies, hereby requests that the FCC issue a Grant of Equipment Authorization for the **CMRO B25/B2**. The CMRO, a small cell product, is a 65 MHz bandwidth LTE transceiver with a power output capability of 5 W per antenna port, when operated at 2x5 MIMO 2T2R; the total composite power from both antenna ports is 10 W (40 dBm). Operation is in single carrier mode with bandwidths of 5 MHz, 10 MHz, 15 MHz and 20 MHz using modulations QPSK, 16QAM and 64QAM. The corresponding emission designators are 5M00F9W, 10M0F9W, 15M0F9W and 20M0F9W respectively, with supported operation under the 3GPP2 Long Term Evolution (LTE) communication standard.

This authorization request is for **9768 Compact Metro Radio Outdoor B25/B2 2x5W** (CMRO) operation with the bandwidths (BW), modulations and emission designators previously cited, and over the Broadband PCS spectrum 1930 – 1995 MHz, for Blocks A through G. The measurement exhibits attached to this application demonstrate full compliance with FCC Part 24, Subpart E – Broadband PCS, 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.

<b>Equipment Identification:</b>	<b>AS5BBTRX-29</b>
<b>Rules Part Number:</b>	<b>Part 24 Subpart E – Broadband PCS</b>
<b>Frequency Range:</b>	<b>Transmit 1930 – 1995 MHz (Blocks A-D-B-E-F-C-G)</b>
<b>Output Power:</b>	<b>5 Watts Maximum per Antenna Port (2T2R)</b>
<b>Frequency Tolerance:</b>	<b>± 0.05 ppm</b>
<b>Emission Designator:</b>	<b>5M00F9W, 10M0F9W, 15M0F9W and 20M0F9W</b>

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 **CMRO B25/B2 2x5W**. The technical or non-technical contact at Nokia 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.

Permanent Confidentiality is requested for the following exhibits, in accordance with the accompanying *Request for Confidentiality* letter.

<u>Exhibit #</u>	<u>FCC Rule Section</u>	<u>Exhibit Title</u>
Exhibit 5	Section 2.1033(c) (3)	Instruction Manual (Installation Manual or Users Manual)
Exhibit 6A	Section 2.1033(c) (10)	Block Diagram, Operational Description
Exhibit 6B	Section 2.1033(c) (10)	Schematic Diagrams
Exhibit 7	Section 2.1033(c) (12)	Internal Photographs of the Equipment
Exhibit 8	Section 2.1033(c) (13)	Description of Modulation System and Circuitry

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



Raymond J. Johnson  
Technical Manager  
Global Product Compliance Laboratory  
Phone: 908-582-5575  
email: [ray.johnson@nokia.com](mailto:ray.johnson@nokia.com)

Primary Administrative Contact

Raymond J. Johnson  
Technical Manager  
Global Product Compliance Laboratory  
Building 5B-111  
600 Mountain Avenue  
Murray Hill, NJ 07974  
Phone: 908-582-5575  
email: [ray.johnson@nokia.com](mailto:ray.johnson@nokia.com)

Filing Engineer

Michael P. Farina  
Global Product Compliance Laboratory  
Building 28-114M  
600 Mountain Avenue  
Murray Hill, NJ 07974  
Phone 908-582-3857  
email: [michael.farina@nokia.com](mailto:michael.farina@nokia.com)

Att. Table of Contents for the **CMRO B25/B2 2x5W** Product Certification Report

## TABLE OF CONTENTS

### Cover Letter

### Request for Confidentiality

<u>Exhibit #</u>	<u>FCC Rule Number</u>	<u>Description</u>	
Exhibit 1	Section 2.1033(a)	FCC Form 731	
Exhibit 2	Section 2.911 (d)	Qualifications and Certifications	
Exhibit 3	Section 2.1033(c) (1,2,4,5,6,7,8,9,10)	Manufactures, FCC Identifier, Emission, Frequency Range, RF Power Range, Dc Voltages, Tune-Up	
Exhibit 4	Section 2.1033(c) (11)	Drawing of the Identification Label	
Exhibit 5	Section 2.1033(c) (3)	Instruction Manual (Installation Manual or Users Manual)	(Confidential)
Exhibit 6A	Section 2.1033(c) (10)	Block Diagram, Operational Description	(Confidential)
Exhibit 6B	Section 2.1033(c) (10)	Schematic Diagrams	(Confidential)
Exhibit 7	Section 2.1033(c) (12)	Internal Photographs of the Equipment	(Confidential)
Exhibit 8	Section 2.1033(c) (13)	Description of Modulation System and Circuitry	(Confidential)
Exhibit 9	Section 2.1033(c) (12)	External Photographs of the Equipment	

### Test Report Exhibit 10

<u>Section #</u>	<u>FCC Rule Number</u>	<u>Description of Test Report Exhibits</u>
2.	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
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