



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

Nokia of America Corp.
Building 5A-107
600 Mountain Avenue
Murray Hill, NJ 07974

October 25, 2019

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

Dear Mr. Sanders:

The Nokia **PCS RRH 4x45W** is the subject of this request for a FCC Class II Permissive Change under **FCC ID: AS5BBTRX-05**. The **PCS RRH 4x45W** is a 65 MHz bandwidth LTE Transceiver with a power output capability of 45 W at each of its 4 MIMO transmit port outputs. This product was originally authorized under **FCC ID: AS5BBTRX-05** as a 45 watt per port PCS Radio Head Transceiver for **1M25F9W** CDMA and **5M00F9W** LTE in the extended PCS Band 25 spectrum. Nokia hereby requests this Class II Permissive Change to add 20 MHz LTE Single Carrier plus 5+15 and 10+10 MHz non-contiguous Multicarrier Configurations. The current product, designated on the equipment label as **PCS RRH 4x45W**, incorporates the same radio, the same power amplifier, and the same digital (D/A) circuitry. There is no change to the radio frequency determining and stabilization circuitry. The only change is to the controlling software.

The original FCC Product Certification authorized operation was Granted on 04/30/2012 for the entire 1930-1995 MHz downlink band. Class II Change for the addition of a greater capacity 10 MHz LTE designator was added on 7/9/2015. Class II Change for the addition of 10+5 MHz multi-carriers were added on 10/06/2016 and 15 MHz Single carriers were added on 11/07/2018. The per port maximum power rating remains unchanged at 45W per port when operated as a 4x MIMO LTE transmitter. The measurement exhibits attached to this application demonstrate full compliance with FCC Part 24.238 and KDB 662911 D1 and 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.

Manufacturer	Nokia, Inc.
Equipment Identification:	AS5BBTRX-05
Rules Part Number:	Part 24 – Personal Communication Services, §24.238 Emission Limitations for Broadband PCS Equipment
Frequency Range:	1930 to 1995 MHz (PCS Block A-G, all blocks)
Output Power:	31.6 Watts (45.0 dBm) at each TX Antenna Terminal
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 **PCS RRH 4x45W**. 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.

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

Sincerely,


Steve Gordon
Member of Technical Staff
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Reviewed by:


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Att. Table of Contents for the **PCS RRH 4x45W** Product Certification Report

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Cover Letter

<u>Exhibit #</u>	<u>FCC Rule Number</u>	<u>Description</u>
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Exhibit 2	Section 2.911 (d)	Qualifications and Certifications
Exhibit 3		Setup Photographs
Exhibit 4		Test Report