



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

**Alcatel-Lucent USA Inc.**  
Building 5A-127  
600 Mountain Avenue  
Murray Hill, NJ 07974

October 17, 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 Band 25 Remote Radio Head (RRH) 4X30 (henceforth RRH 4x30) is the subject of this request for a FCC Class II Change under **FCC ID: AS5BBTRX-22**. The RRH 4x30 Operates in the Personal Communications Services, 1930-1995 MHz, with LTE Technology.

In accordance with Parts 2 and 24 of the Commission’s Rules and Regulations, we are submitting herewith statements and supporting data to show compliance with the requirements of the Commission for a Class II Permissive Change to add single carrier 4x4MIMO, multiple carriers 5+5 MHz and 10+15 MHz LTE Configurations to the RRH 4X30, under FCC ID AS5BBTRX-22, for operation in the domestic PCS A, D, B, E, F, C and G bands (1930-1995 MHz), i.e., E-UTRAN band 25, with *Long Term Evolution* (LTE) technology. The original FCC Product Certification authorized operation was Granted on 01/27/2015 for the entire 1930-1995 MHz downlink band.

The RRH 4x30 supports either 2x60W MIMO with 2 transmit and 2 receive streams or 4x30W MIMO with 4 transmit and 4 receive streams. The maximum total output power of the 2x60 or 4x30 configuration is 120 watts or 50.8dBm per unit and remains unchanged. The maximum per port power rating for 2x60W operation is remains unchanged when operated as a 2x MIMO LTE transmitter. The maximum per port power rating of 30W when operated as a 4x MIMO LTE transmitter is demonstrated herein and remains unchanged.

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 **RRH 4X30** was powered by a DC power supply with -48VDC. The current product 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.

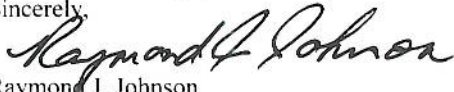
The data summarized below is in the form presently used by the Commission’s Radio Equipment List.

<b>Manufacturer</b>	<b>Alcatel-Lucent, Inc.</b>
<b>Equipment Identification</b>	<b>AS5BBTRX-22</b>
<b>Rules Part Number</b>	<b>Part 24E</b>
<b>Frequency Range</b>	<b>Transmit: 1930-1995MHz, Receive: 1850-1915 MHz.</b>
<b>Output Power</b>	<b>0 - 30W per LTE carrier, 120W per Unit for 4x30 configuration, 0 - 60W per LTE carrier, 120W per Unit for 2x60W configuration.</b>
<b>Frequency Tolerance</b>	<b>± 0.05 ppm</b>

Enclosed in this application package are the FCC Application Form 731, Table of Contents and the required exhibits. These exhibits contain the technical data and the required statements and documents for equipment certification. The technical contact at Alcatel-Lucent will comply with any request for additional information should the need arise.

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

Sincerely,



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Att. Table of Contents for the Alcatel-Lucent Band 25 Remote Radio Head (RRH) 4X30 Product Certification Report

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### Cover Letter

<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		Setup Photos
Exhibit 4		Test Report