



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

Alcatel-Lucent USA Inc.
Building 28-114H
600 Mountain Avenue
Murray Hill, NJ 07974

October 1, 2014

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 Remote Radio Head 4x25-B30** Transceiver System (**RRH4x25-B30**) is the subject of this request for a FCC Class II Change under **FCC ID: AS5BBTRX-19**. The **RRH4x25-B30** is a 10 MHz bandwidth LTE Transceiver with a power output capability of 50W per Tx port when operating in 2x MIMO Mode. Alcatel-Lucent hereby requests adding a 4x25 MIMO mode of operation for the **10M00F9W** and **5M00F9W** LTE emissions designators under this certification. The new mode of operation is supported by the hardware with no additional hardware changes.. The hardware design has not changed and all of the required supporting exhibits are attached.

This application for the **RRH4x25-B30** 4x25W operation using either the **10M00F9W** or the **5M00F9W** Emissions designator is for the Broadband WCS spectrum Blocks A and B. The measurement exhibits attached to this application demonstrate full compliance with FCC Part 27 Subpart E Broadband WCS 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.

Equipment Identification: AS5BBTRX-19
Rules Part Number: Part 27 SubPart E – Broadband WCS
Frequency Range: Transmit: 2350-2360 MHz (WCS Blocks A & B)
Output Power: 0.050 to 50 Watts per output when in 2x50 MIMO mode. (previously authorized)
Output Power: 0.025 to 25 Watts per output when in 4x25 MIMO mode. (New application)
Frequency Tolerance: ± 0.05 ppm
Emission Designators: 10M00F9W and 5M00F9W

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 **RRH4x25-B30**. The technical or non-technical contact at Alcatel-Lucent 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. Included is a formal letter requesting confidentiality for the following exhibits:

<u>Exhibit #</u>	<u>FCC Rule</u>	<u>Section Exhibit Title</u>
Exhibit 4	Section 2.1033(c) (8,9)	Active Circuit Devices Drive Levels, Tune-Up procedure
Exhibit 5	Section 2.1033(c) (10)	Complete Circuit Diagrams
Exhibit 6	Section 2.1033(c) (12,3)	Instruction Book
Exhibit 7	Section 2.1033(c) (10, 13)	Block Diagram, Operational Description, Circuitry for determining frequency

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 Remote Radio Head 4x25-Band 30 Transceiver System** Product Certification Report

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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)	Manufactures, FCC Identifier, Emission, Frequency Range and RF Power Range	
Exhibit 4	Section 2.1033(c) (8,9)	Active Circuit Devices Drive Levels, Tune-Up procedure	(Confidential)
Exhibit 5	Section 2.1033(c) (10)	Complete Circuit Diagrams	(Confidential)
Exhibit 6	Section 2.1033(c) (12,3)	Instruction Book	(Confidential)
Exhibit 7	Section 2.1033(c) (10, 13)	Block Diagram, Operational Description, Circuitry For determining frequency	(Confidential)
Exhibit 8	Section 2.1033(c) (11)	Drawing of the Identification Label	
Exhibit 9a	Section 2.1033(c) (12)	External Photographs of the Equipment	
Exhibit 9b	Section 2.1033(c) (12)	Internal Photographs of the Equipment	
Exhibit 10	Section 2.1033(c) (10, 13)	Description of Modulation System,	

Test Report Exhibits

<u>Exhibit #</u>	<u>FCC Rule Number</u>	<u>Description of Test Report Exhibits</u>
Exhibit 11	Section 2.1033(c) (14)	Listing of Required Measurements
Exhibit 12	Section 2.1046	Measurement of Radio Frequency Power Output
Exhibit 13	Section 2.1047	Measurement of Modulation Characteristics
Exhibit 14	Section 2.1049	Measurement of Occupied Bandwidth
Exhibit 15	Section 2.1051	Measurement of Spurious Emissions at Antenna
Exhibit 16	Section 2.1053	Field Strength of Spurious Radiation
Exhibit 17	Section 2.1055	Measurement of Frequency Stability
Exhibit 18		Photographs of the Test Setups
Exhibit 19	Section 1.1310	RF Exposure Evaluation