



**Federal Communications Commission
Office of Engineering and Technology
Equipment Authorization Division
Application Processing Branch**

Global Product Compliance Laboratory
MH 5A-115, Alcatel-Lucent
600, Mountain Avenue
Murray Hill, NJ 07974-0636

**7435 Oakland Mills Road
Columbia, MD 21046**

August 24, 2015

Dear Examiner:

This request is for FCC Class II permissive change Certification of Alcatel-Lucent “LTE **TD-RRH8X20-25**” **FCC ID: AS5BBTRX-15**. In accordance with **Parts 2, and 27** 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 Product Certification of the Alcatel-Lucent “LTE **TD-RRH8X20-25**”, henceforth ‘**RRH**’, **FCC ID: AS5BBTRX-15**. The RRH is radio, amplifier and filter combination cabinet systems uses the 3GPP standards Long time Evolution (LTE) technology, for use in Domestic Broadband Radio Service (BRS) and the Educational Broadband Service (EBS) bands. The ‘RRH’, FCC ID: AS5BBTRX-15 was originally and subsequently through Class II permissive was certified for 20W for 20MHz BW, 20W for 40MHz BW, and 10W (20MHz) plus 10W (10MHz) non-contiguous carriers for a total of 20W per antenna port. This Class II certification is for three 20MHz BW contiguous 6.6W carriers for a total of 20W per antenna port

This application for the RRH under FCC ID: AS5BBTRX-15, is for operation in the domestic Broadband Radio Service (BRS) and the Educational Broadband Service (EBS) bands with a LTE signal. The data summarized below is in the form presently used by the Commission’s Radio Equipment List.

Manufacturer	Alcatel-Lucent
Equipment Identification	AS5BBTRX-15
Rules Part Number	27.5 (h) (1) (i) and 27.53(m)
Frequency Range	2496 -2690MHz
Output Power	+3 dBm (.002W) to 40dBm (10W) for 20MHz BW plus +40dBm (10W) for 10MHz BW and Three 6.6W 20MHz Contiguous Carriers for total of 20W per antenna port
Frequency Tolerance	+/- 0.05 ppm
Emission Designator	18M5F9W for 20 MHz Bands and 9M42F9W for 10 MHz Bands

The RRH, under FCC ID: AS5BBTRX-15 is designed to be operated and marketed as RF cabinet system. Each of the RRH contains eight identical Transceiver paths and ports. Each transceiver ports outputs 20W maximum of at the External antenna connector (EAC) port. The RRH will be typically operated in Multiple and input and Multiple output (MIMO) mode using multiple antennas. Each Transceiver path is supported by its own RF path filter. The RRH were evaluated total of eight transceiver ports. During all antenna port conducted emissions, the transceiver ports were randomly selected for each of the tests. The RRH will be marketed as indoor/outdoor cabinets.

The RRH is designed operate at large number of sub-carriers which are modulated with QPSK, 16QAM, and 64QAM formats. The RRH was evaluated and data is provided for all three modulation formats.

- (a) QPSK
- (b) 16QAM
- (c) 64QAM

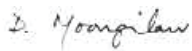
The actual power level delivered by the **RRH** to transmit antenna is under the software control of remotely located radio equipment control (REC) through its Common Public Radio Interface (CPRI).

The **RRH /AS5BBTRX-15** is designed and manufactured by Alcatel-Lucent.

List of exhibits attached with this submission is indicated in the following page of this cover letter.

The attached exhibits contain the technical data, and the required statements and documents for Product Certification. The technical contact at Alcatel-Lucent will comply with any request for additional information should the need arise.

Sincerely,



Dheena Moongilan
Distinguished Member of Technical Staff
Global Product Compliance Laboratory
phone: (908) 582 5539
email: Dheena.Moongilan@alcatel-lucent.com

List of Exhibits

	COVER LETTER Cover Letter Product Configuration – Explained in test reports Letter for Confidential Treatment of Exhibits
Section 2.911 (d) Section 2.1033 (c) (1,2) Section 2.1033 (c) (4-7)	ATTESTATION STATEMENT – Same as original filing Qualifications and Certifications Manufacturers, FCC Identification Emissions, Frequency Range, Power Level
Section 2.1033 (c) (3)	USERS MANUAL – Same as original filing and no additional data submitted Users Manual
Section 2.1033 (c) (9)	PARTS LIST/TUNE-UP PROCEDURE -Same as original filing and no additional data submitted
Section 2.1033 (c) (13)	OPERATIONAL DESCRIPTION -Same as original filing and no additional data submitted Description of Modulation System and Block diagrams
Section 2.1033 (c) (10)	SCHEMATICS -Same as original filing and changes are submitted
Section 2.1033 (c) (11) and 2.925 (a) (1) Section 2.1033 (c) (12)	ID LABEL/LOCATION INFORMATION -Same as original filing and no additional data submitted EXTERNAL PHOTOS -Same as original filing and no additional data submitted
Section 2.1033 (c) (12)	INTERNAL PHOTOS -Same as original filing and no additional data submitted Internal Photos
Section 2.1033 (c) (8) Section 2.1033 (c) (14) Section 2.1046 Section 2.1047 and 27.50(d)(5) Section 2.1049, Section 27.53(h) and OET Rules 662911 D01 and D02	TEST REPORT Measurement of DC Power - Same as original filing Listing of Required Measurements Measurement of Radio Frequency Power Output Measurement of Modulation Characteristics Measurement of Occupied Bandwidth
27.53 (h) and OET Rules 662911 D01 and D02	Measurement of Spurious Emissions at Antenna
Section 2.1053 and OET Rules 662911 D01 and D02	Field Strength of Spurious Radiation
Section 2.1055	Measurement of Frequency Stability -Same as original filing and no additional data submitted

Section 2.1057

Frequency Spectrum to be Investigated
Test Instruments Used for Test – See Test Reports

Section 24.51 (c)

RF Exposure Information
Human Exposure – Not performed