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Timco Engineering Inc. Telecommunication Certification Bodies
 849 NW State Road 45
 Newberry, Florida 32669

June 10, 2016

Dear Examiner:

The purpose and objective of this application for a Class II Permissive Change, under FCC ID: AS5BBTRX-15, is to add 10 MHz, 10+10 MHz, 10+10+10 MHz and 20+10+10 MHz Configurations to the **TD-RRH8x20-25** filing, which is both LTE operational and 8x20 MIMO compliant. The spectrum covered is Rule Part 27, 2496 – 2690 MHz. The current product, designated on the equipment label as **TD-RRH8x20-25**, 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 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 at the External antenna connector (EAC) port. The RRH will be typically operated in Multiple Input and Multiple Output (MIMO) mode using multiple antennas. Each Transceiver path is supported by its own RF path filter. The RRH evaluated contains a 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 to operate a 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 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	+3dBm (.002W) to 43dBm (20W) for 20MHz BW or +40dBm (10W) for 10MHz BW Varied by Software and channel aggregation for contiguous 20+20MHz, and 20+20+20MHz and Non-contiguous 20+20MHz and 20+10MHz all for maximum aggregate power of 43dBm (20W)
Frequency Tolerance	+/- 0.05 ppm

The footnote on the Grant should include:

Class II Permissive Change: 10 MHz, 10+10 MHz, 10+10+10 MHz and 20+10+10 MHz Configurations to the TD-RRH8x20-25 and is both LTE operational and 8x20 MIMO compliant.

In accordance with Sec. 2.1043 Changes in Certificated Equipment, only the characteristics affected by the changes need to be reported. As such, the applicable measurements affected are contained in the Test Report Exhibits, and all other Exhibits submitted with the initial/original filing, that remain unchanged will not be resubmitted. All initial exhibits that were granted permanent confidentiality and are unchanged, continue to remain confidential, and will not be repeated with this submission.

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 the Class II Permissive change. The technical contact at Alcatel-Lucent will comply with any request for additional information should the need arise.

The fees are submitted as required for radio equipment certification filing.

Sincerely,



R.J. Johnson
Technical Manager
FCC Compliance Test Group