



Subject: **Application for Class II Permissive Change under FCC ID: AS5BBTRX-06 to Add Band Class 29 to the Original Filing.**

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March 18, 2014

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

Dear Mr. Sanders:

The initial/original Grant of Equipment Authorization was issued effective 9/26/2012, covering the spectrum of FCC § 27.5 (c) Frequency Blocks A, B and C. The purpose and objective of this Class II Permissive Change request is to add the additional § 27.5 (c) spectrum Band Class 29: 716 – 728 MHz, covering two unpaired channel blocks of 6 megahertz each: Block D: 716-722 MHz, and Block E: 722-728. The current product, designated on the equipment label as RRH2x40-07L-D/E, incorporates the same radio (but with Rx disabled), 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 changes are to the controlling software and to the passive transmit filter.

The RRH2x40-07L-D/E, in this frequency band, provides transmit (down link) only. However, it meets the LTE 2x40 MIMO requirements of *OET Bulletin 662911 D011 Multiple Transmitter Output v02r01*. The long term average power rating at each of the two transmit antenna terminals is 40 W (46 dBm) and a total composite power combined in the air interface of 80 W (49 dBm).

The carrier/fundamental band widths supported are 5 MHz in Block D, 5 MHz in Block E, and 10 MHz in Blocks D and E combined. Three LTE (Long Term Evolution) modulation schemes are also supported: QPSK, 16QAM and 64QAM. Design and operation employs the guidelines set forth in ETSI TS 36.104 *LTE; Evolved Universal Terrestrial Radio Access (E-UTRA); Base Station (BS) radio transmission and reception (3GPP TS 36.104 version 10.9.0 Release 10)*. Full compliance has been demonstrated with FCC Part 27 — Miscellaneous Wireless Communications Services, Subpart C — Technical Standards, § 27.53 Emission Limits, (g) *For operations in the 698-746 MHz band*, following the procedural requirements specified in Part 2 — Frequency Allocations And Radio Treaty Matters; General Rules And Regulations Subpart J — Equipment Authorization Procedures.

The footnote on the Grant should include, in addition to that on the original Grant:

The RRH2x40-07L-D/E is 4G/LTE operational in the Lower 700 MHz Frequency Band BC29: 716 – 728 MHz, covering the two unpaired channel blocks of 6 megahertz each: Block D: 716-722 MHz, and Block E: 722-728 MHz (§ 27.5(c) Frequencies). This product, in this frequency band, provides transmit (down link) only. However, it meets the 2x40 MIMO requirements of OET Bulletin 662911 D011 Multiple Transmitter Output v02r01. The long term average power rating at each of the two transmit antenna terminals is 40 W (46 dBm), with a total composite power combined in the air interface of 80W(49 dBm). It supports emission bandwidths of 5 MHz and 10 MHz, and LTE modulations: QPSK, 16QAM and 64QAM.

In accordance with Sec. 2.1043 *Changes In Certificated Equipment*, only the characteristics affected by the change 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 filing, that remain unchanged will not be repeated for brevity. All initial exhibits that were granted permanent confidentiality are unchanged and continue to remain confidential, and will not be repeated with this submission.

The data summarized below is in the form presently used by the Commission's Radio Equipment List, Equipment Acceptable for Licensing.

Manufacturer	Alcatel-Lucent USA, Inc.
Equipment Identification	AS5BBTRX-06
Rules Part Number	Part 27 — Miscellaneous Wireless Communications Services, Subpart C — Technical Standards
Frequency Ranges	Transmit 716 – 728 MHz
Output Power	40 Watts (+46 dBm) at each Tx Antenna Terminal
Frequency Tolerance	± 0.05 ppm
Emission Bandwidth	5 MHz and 10 MHz
Emission Designator	4M5F9W and 9M0F9W

Attached are the FCC Form 731 (Application for Equipment Authorization – Radio Frequency Devices) and the required measurement data and exhibits specific to this request for Class II Permissive Change authorization. The technical contact at Alcatel-Lucent USA, Inc., will comply with any request for additional information should the need arise. The attached exhibits are assembled and presented in the sequence recommended by Timco Engineering, in accordance with the *Table of Contents* attachment.

Sincerely,



Rudolf J. Pillmeier
 GPCL Technical Manager
 FCC/EMC Compliance Test Group

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