



**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**

March 16, 2013

Dear Examiner:

In accordance with **Parts 2, 27** and **OET Rules 662911 D01 and D02** 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 AWS Transceiver Duplexer Unit 2X2”, henceforth ‘**LTE TRDU2X60-AWS**’, **FCC ID: AS5BBTRX-11**. The **LTE TRDU2X60-AWS** is used in Alcatel-Lucent 9712 cabinet systems using the 3GPP standards Long Term Evolution (LTE) technology, for use in Domestic Miscellaneous Wireless Communication Services (WCS).

This application for the **LTE TRDU2X60-AWS** under FCC ID: AS5BBTRX-11 is for operation in the domestic WCS band 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-11
Rules Part Number	27.53 (h) and 27.50(d)(5) and OET Rules 662911 D01 and D02
Frequency Range	2110-2155 MHz (A, B, C, D, E and F Blocks)
Output Power	+3dBm (.002W) to +47.8dBm (60W) Varied by Software
Frequency Tolerance	+/- 0.001 ppm
Emission Designator	9M48F9W for 10MHz Bands and 18M85F9W for 20MHz Bands

The **LTE TRDU2X60-AWS**, under FCC ID: AS5BBTRX-11 is designed to be operated and marketed in Alcatel-Lucent 9712 cabinet systems. Each of the **TRDU2X60-AWS** contains two identical Transceiver paths and ports. Each transceiver ports outputs 60W maximum at the External antenna connector (EAC) port. The **LTE TRDU2X60-AWS** will be typically operated in Multiple input and Multiple output (MIMO) mode using multiple antennas. Each Transceiver path is supported by its own RF filter. The **LTE TRDU2X60-AWS** was evaluated in a 9712 cabinet with six TRDUs with a total of 12 transceiver ports. During all antenna port conducted emissions, the transceiver ports were randomly selected for each of the

tests. The TRDU will be marketed in indoor/outdoor cabinets. The integrated cabinet shall continue to be compliant with **FCC** emissions requirements.

The **LTE TRDU2X60-AWS** is designed to operate a large number of sub-carriers which are modulated with QPSK, 16QAM, and 64QAM formats. The **LTE TRDU2X60-AWS** was evaluated and data is provided for all three modulation formats.

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

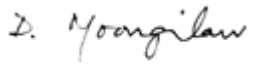
The actual power level delivered by the **LTE TRDU2X60-AWS** to transmit antenna is under the software control of the Switching and Control Center.

The **LTE TRDU2X60-AWS/AS5BBTRX-11** is produced by Manufacturer -1 for incorporation into Alcatel-Lucent products.

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,



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List of Exhibits

	<p>COVER LETTER Cover Letter Product Configuration – Explained in test reports Letter for Confidential Treatment of Exhibits</p>
<p>Section 2.911 (d) Section 2.1033 (c) (1,2) Section 2.1033 (c) (4-7)</p>	<p>ATTESTATION STATEMENT Qualifications and Certifications Manufacturers, FCC Identification Emissions, Frequency Range, Power Level</p>
<p>Section 2.1033 (c) (3)</p>	<p>USERS MANUAL Users Manual</p>
<p>Section 2.1033 (c) (9)</p>	<p>PARTS LIST/TUNE-UP PROCEDURE</p>
<p>Section 2.1033 (c) (13)</p>	<p>OPERATIONAL DESCRIPTION Description of Modulation System and Block diagrams</p>
<p>Section 2.1033 (c) (10)</p>	<p>SCHEMATICS Schematic</p>
<p>Section 2.1033 (c) (11) and 2.925 (a) (1) Section 2.1033 (c) (12)</p>	<p>ID LABEL/LOCATION INFORMATION EXTERNAL PHOTOS</p>
<p>Section 2.1033 (c) (12)</p>	<p>INTERNAL PHOTOS Internal Photos</p>
<p>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</p>	<p>TEST REPORT Measurement of DC Power Listing of Required Measurements Measurement of Radio Frequency Power Output Measurement of Modulation Characteristics Measurement of Occupied Bandwidth</p>
<p>27.53 (h) and OET Rules 662911 D01 and D02</p>	<p>Measurement of Spurious Emissions at Antenna</p>
<p>Section 2.1053 and OET Rules 662911 D01 and D02</p>	<p>Field Strength of Spurious Radiation</p>
<p>Section 2.1055 Section 2.1057</p>	<p>Measurement of Frequency Stability Frequency Spectrum to be Investigated Test Instruments Used for Test – See Test Reports</p>
<p>Section 24.51 (c)</p>	<p>RF Exposure Information Human Exposure – Not performed</p>