



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

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

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

June 17, 2009

Dear Examiner:

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 "700 MHz Transceiver Duplexer Unit", henceforth '**700 MHz TRDU**', **FCC ID: AS5BBTRX-01**. The 700 MHz TRDU is used in **Alcatel-Lucent's 9412 eNodeB Compact (700 MHz)** cabinet systems using the 3GPP standards Long time Evolution (LTE) technology, for use in Domestic Miscellaneous Wireless Communication Services (WCS).

This application for the 700 MHz TRDU under FCC ID: AS5BBTRX-01, 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.

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|---------------------------------|---|
| Manufacturer | Alcatel-Lucent |
| Equipment Identification | AS5BBTRX-01 |
| Rules Part Number | 27.53 (C) e-CFR Data is current as of April 23, 2009 |
| Frequency Range | 746-756 MHz WCS Band; (10 MHz) |
| Output Power | +3 dBm (.002W) to +46dBm (40W) Varied by Software |
| Frequency Tolerance | +/- 0.001 ppm |
| Emission Designator | 9M38F9W |

The 700 MHZ TRDU, under FCC ID: AS5BBTRX-01 is designed to be operated and marketed in Alcatel-Lucent's 9412 eNodeB Compact (700 MHz) cabinet systems. Each of the 700MHz TRDU contains two identical Transceiver paths and ports. Each transceiver ports outputs 40W maximum of at the External antenna connector (EAC) port. The 700 MHz TRDU 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 filter. The 700 MHz TRDUs were evaluated in a 9412 eNodeB Compact (700 MHz) cabinet with three TRDUs with total of six 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 700 MHZ TRDU is designed operate at large number of sub-carriers which are modulated with QPSK, 16QAM, and 64QAM formats. The 700 MHz TRDU was evaluated and data is provided for all three modulation formats.

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

The actual power level delivered by the **700 MHZ TRDU** to transmit antenna is under the software control of the Mobile Switching Center of the local Cellular system.

The **700 MHZ TRDU /AS5BBTRX-01** is produced by Andrews Corporation for incorporation into Alcatel-Lucent products.

List of exhibits attached with this submissions 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

| | |
|--|--|
| Section 2.911 (d) | COVER LETTER |
| Section 2.1033 (c) (1,2) | Cover Letter |
| Section 2.1033 (c) (4-7) | Product Configuration – Explained in test reports Letter for Confidential Treatment of Exhibits |
| | ATTESTATION STATEMENT |
| | Qualifications and Certifications |
| | Manufacturers, FCC Identification |
| | Emissions, Frequency Range, Power Level |
| | USERS MANUAL |
| Section 2.1033 (c) (3) | Users Manual |
| | PARTS LIST/TUNE-UP PROCEDURE |
| Section 2.1033 (c) (9) | Tune-Up Procedure |
| Section 2.1033 (c) (13) | OPERATIONAL DESCRIPTION Description of Modulation System |
| Section 2.1033 (c) (10) | SCHEMATICS |
| Section 2.1043 (b) (2) | Schematic Block Diagrams |
| Section 2.1033 (c) (11) and 2.925 (a) (1) | ID LABEL/LOCATION INFORMATION |
| Section 2.1033 (c) (12) | EXTERNAL PHOTOS |
| | INTERNAL PHOTOS |
| Section 2.1033 (c) (12) | Internal Photos |
| | TEST REPORT |
| Section 2.1033 (c) (8) | Measurement of DC Power |
| Section 2.1033 (c) (14) | Listing of Required Measurements |
| Section 2.1046 | Measurement of Radio Frequency Power Output |
| Section 2.1047 | Measurement of Modulation Characteristics |
| Section 2.1049 and | Measurement of Occupied Bandwidth |
| Section 24.238 (b) and 27.58 (g) | |
| Section 2.1051 | Measurement of Spurious Emissions at Antenna |
| Section 2.1053 | Field Strength of Spurious Radiation |
| Section 2.1055 | Measurement of Frequency Stability |
| Section 2.1057 | Frequency Spectrum to be Investigated Test Instruments Used for Test – See Test Reports |
| | RF Exposure Information |
| Section 24.51 (c) | Human Exposure – Not performed |