

**QUALIFICATIONS AND CERTIFICATIONS**  
**SECTION 2.911(d)**


December 15, 2013

**SECTION 2.911(d) QUALIFICATION OF ENGINEER (who performed or supervised the Tests).**

Dheena D. Moongilan is a Distinguished Member of Technical Staff, Alcatel-Lucent. He received his BSEE, and MSEE from Madras University, India and another MSEE from Illinois Institute of Technology, Chicago, Illinois. He was trained in FCC testing procedures by his former Supervisor, Donald N. Heirman. He has 33 years of EMC testing experience. He is a NARTE certified EMC Engineer, certificate #EMC-00/1022-NE.

**SECTION 2.911(d) CERTIFICATION OF TECHNICAL TEST DATA**

I hereby certify that the technical test data are the results of tests performed or supervised by me.

A handwritten signature in cursive script, reading "D. Moongilan", enclosed within a rectangular box.

Dheena Moongilan  
Distinguished Member of Technical Staff  
Global Product Compliance Laboratory  
MH 5A-115, Alcatel-Lucent  
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Tel: 908 582 5539

**MANUFACTURERS — IDENTIFIER**  
**SECTION 2.1033 (c) 1 and 2**

**MANUFACTURERS IDENTIFIER**

**SECTION 2.1033(c) 1**

The full name and mailing address of the manufacturer of the device and the applicant for certification:

**RESPONSE:**

**APPLICATION:       Alcatel-Lucent  
                          600-700 Mountain Avenue  
                          Murray Hill, NJ 07974  
                          Attention: Raymond Johnson**

**SECTION 2.1033(c) 2**

**FCC Identifier:**

**RESPONSE:** "LTE TD-RRH8X20-25" to be operated under Part 27 of the FCC Rules.

**FCC Identifier:       AS5  
FCC ID:               AS5BBTRX-15**

**EMISSIONS, FREQUENCY RANGE,  
POWER LEVEL**

**SECTION 2.1033 (c) (4), (5), (6) and (7)**

## EMISSIONS, FREQUENCY RANGE, POWER LEVEL

### SECTION 2.1033(c) (4)

Type or types of emission:

#### RESPONSE:

The “**TD-RRH8X20-25**” capable of amplifying transmission involving the following types of emissions:

Measured Emission type:

**9M42F9W for 10MHz Bands**

**18M5F9W for 20 MHz Bands**

**38M7F9W for 40 MHz Bands**

### SECTION 2.1033(c) (5)

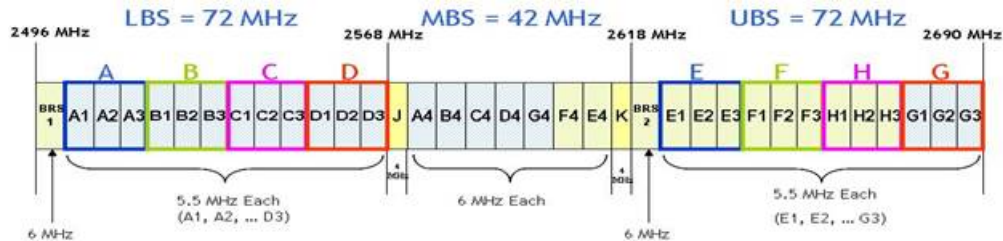
Frequency Range

#### RESPONSE:

**FCC 27.5 c (1)**

**2496 -2690MHz**

**Since it is TD mode entire band will be used for both transmit and receive**



### SECTION 2.1033(c) (6)

Range of operating power values or specific operating power levels, and description of any means provided for variation of operating power.

#### RESPONSE:

The “**LTE TD-RRH8X20-25**” is capable of operating from 0.002 to 20 watts using 20MHz BW and 20W using 40MHz BW; 10W 20MHz BW plus 10W 10MHz BW as composite carriers; it can also operate 6.6W 20MHz plus 6.6W 20MHz plus 6.6W 20MHz contiguous composite carriers. The output power is measured at the External Antenna Connection (EAC) output connector of the “**LTE TD-RRH8X20-25**” enclosure. The power is under continuous software control. The short term peak power due to channel activity fluctuations is 10W +0.3/-1dB or 20W +0.3/-1dB

**SECTION 2.1033(c) (7)**

Maximum power rating as defined in the applicable part(s) of the rules.

**RESPONSE:**

The maximum average power output of the “**LTE TD-RRH8X20-25**” enclosure EAC port are 8x20 watts (MIMO). The radio transmitter is operated under 47 CFR 27. There were 8 External antenna port (EAC) ports and the ports were randomly selected for all antenna port conducted tests.