

From: Michael P Farina [mpfarina@alcatel-lucent.com]
Sent: Friday, March 21, 2008 3:56 PM
To: tei@timcoengr.com
Cc: Rudolf J Pillmeier; Michael P Farina
Subject: REFERENCE: JOB 545UC8

TIMCO Engineering Inc.,

SUBJECT: ALCATEL-LUCENT, INC. - FCC ID: AS5ONEBTS-18
REFERENCE: JOB 545UC8

Question 2. Part 24.238(b) - Band-edges compliance: It appears that the plots in the test report were generated with resolution bandwidth of 30kHz, which is less than the allowed resolution bandwidth specified in this section: $RBW \geq 1\%$ of the emission bandwidth (i.e. measured 26dB below the transmitter power). Please provide evidence of compliance with 24.238(b).

Response 2.

Part 24.238 (b) specifies an RBW at 1% of the fundamental emission bandwidth, but a narrower RBW is permitted to improve measurement accuracy. In consideration of this Rule Part, an RBW of 30 kHz was utilized for the following reasons: (1) The ETSI TS 25.141 emission masks are based on a 30 kHz RBW. (2) The fundamental bandwidth for a UMTS carrier is 5 MHz. At 1%, the RBW would be 50 kHz. However, the spectrum analyzer instrumentation RBWs that are available, in proximity to 50 kHz, are 30 kHz and 100 kHz. Therefore, 30 kHz would be the value that is closest to the 50 kHz target.

Additional Response to Question 2.

The UMTS system and RF carriers are designed to be compliant with the ETSI TS 25.141 Standard. This standard specifies a carrier emission mask based on a 30kHz RBW; it further specifies the measurement spectrum bandwidth to be +/- 12.5 MHz from the carrier center frequency for a total measurement span of 25 MHz for a single carrier. In accordance with Part 24.238 (b), an RBW of 1% of the Necessary Bandwidth (4.1 MHz) would be 41 kHz. However, we must measure at 30 kHz RBW for compliance with the ETSI TS 25.141 Standard.

The instrumentation that we use for this measurement is the Rohde & Schwarz FSEM 30, which is driven by the Total Integrated Laboratory Environment (TILE) automated EMC test software. The selection of settable RBWs by this software

are ... 9kHz, 10 kHz, 30 kHz, 100 kHz, 120 kHz, 300 kHz, etc. There is no intermediate RBW adjustment/setting possible between 30 kHz and 100 kHz. Since 41 kHz is closest to the preprogrammed 30 kHz RBW, that would be the best choice of RBW for this measurement.

Regards,
Mike Farina
Phone: 973-386-4344

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