



April 1, 2003

**Re: FCC ID QXO-RBTBF**  
**Applicant: Enterasys Networks, Inc.**  
**Correspondence Reference Number: 25001**  
**731 Confirmation Number: EA398168**

Q4) SAR values are unexpectedly low - what are possible reasons? Dipole validation at 250mW gives ~12 W/kg - divide by 10 for 25mW gives ~1.2 W/kg. Some independent means to confirm that EUT was operating properly would be helpful. Please describe SAR lab EUT conducted power test, including eqpt list and photos.

A4) The low SAR obtained for this particular unit may be as a result of poor antenna matching. We suspect this due to the antenna specs which state a minimum 3dBi peak gain across the band. The peak EIRP measured by Curtis Straus was as low as -1.76dBi indicating there was almost a 5dB mismatch difference between antenna specified gain and the measured gain when the antenna is integrated with into the PCMCIA card. Another factor which may explain the difference between extrapolated dipole validation numbers to this EUT antenna is that the EUT antenna displays an omnidirectional pattern in the horizontal plane which may indicate that the main axis of the EUT antenna is aligned to provide minimal coupling to the phantom. In the dipole validation case, the dipole is orientated to provide maximum coupling to the phantom as the dipole elements are in a plane parallel to the phantom surface. If the dipole elements were orientated orthogonal to the phantom surface, we may get a more representative estimate of the expected SAR from antennas where the main elements are orthogonal to the phantom surface such as in a case where an omni monopole is placed orthogonal to the phantom surface. Also it is well known that a very small distance change (either in air or in tissue) at this frequency band could make a huge difference in SAR as well. Therefore, the direct comparison from the extrapolated dipole number to the actual EUT measurement is somewhat less meaningful.



31040/SIT



A96/TH/0093



46390-2049



200093-0



00-034



An HP8900D Peak Power Meter was used to measure the RF peak conducted power at UltraTech Labs to corroborate the power settings used in the SAR measurements. The RF cable for RF conducted power measurement was provided by Enterasys and the cable loss was specified as 0.2 dB @ 5GHz by Enterasys.

Regards,  
JaeWook Choi  
SAR system engineer  
UltraTech Labs.  
Email: [jaewook@ultratech-labs.com](mailto:jaewook@ultratech-labs.com)

3000 Bristol Circle,  
Oakville, Ontario, Canada  
L6H 6G4

Telephone (905) 829-1570  
Facsimile (905) 829-8050

Website: [www.ultratech-labs.com](http://www.ultratech-labs.com)  
Email: [vic@ultratech-labs.com](mailto:vic@ultratech-labs.com)