

## Response to TCB Findings

1. Please clarify if the test procedures were based on Public Notice DA 02-2138.  
[Glen Westwell] yes this was used.
2. If the above notice was used, please clarify which methods were selected with details of measurement system settings. (Transmission Pulse Duration, Bin Width, Detector Functions)  
[Glen Westwell] Method 1 for peak cond. Tx. pwr. The EUT was configured for continuous TX, sample detector, 601 bin points in spectrum display.  
Method 2 for PPSD, the same configuration as for Tx Pwr.
3. Please explain the method used for Peak Excursion Measurement in the report. There seems to be points on the plots with more than 13dB difference between the traces. How was compliance determined from the plots supplied?  
[Glen Westwell] As per DA 02-2138, Peak Excursion Measurement. Please note that the dB/Division on these plots = 5dB.  
TCB's 2<sup>nd</sup> request: Some of the points in peak excursion measurement plots seem to be exceeding the 13dB limit in the report. Please clarify/justify how the device complies with this requirement.  
Test Lab: Please refer to the updated "Peak Excursion Measurement Plots" document. These new plots demonstrate compliance.
4. Please supply stand-alone test set up photos of the module?  
Supplied.
5. Please clarify the test set-up for power line conducted emissions and radiated emissions.  
[Glen Westwell] This submission is for modular approval, but for power line conducted, the fully populated (4 radios = 1 x 802.11b(access radio) + 3 x 802.11a(backhaul radio) ) unit was used to demonstrate worst case once the client integrates these modules. Radiated emission test were performed both in and out of casting. This was done to verify emissions that may be effected by the cables etc. This product will always be integrated in this casting and never be sold or deployed as a stand alone module. This module shall not be distributed, marketed or sold to the general public. BelAir Networks shall retain complete control of integration and installation of this device and ensure full compliance of the end product to FCC regulations (see modular approval letter contained in this submission).
6. Does the module comply with 15.407(c) requirement?  
The device utilizes the 802.11 MAC protocol in its communication with other modules. The 802.11 MAC provides for transmission only when information is present to transmit. When there is no information to transmit, no packets will be scheduled for transmission and the RF transmit circuitry will remain off. In the case that operational failure is detected, the module will be rebooted and transmission will cease until the processor verifies normal operation.
7. How does the module comply with 15.407(g) frequency stability requirement?  
The crystal oscillator used on the module to derive the RF frequencies is guaranteed by the manufacturer to maintain stability over all operating conditions. BelAir Networks has characterized the frequency stability of the Phase-Locked Loop circuitry which generates

the RF Local Oscillator to ensure it remains within that range over its operating temperature and voltage range.

Frequency stability data as follows:

Temperature	Vnom	Vneg	Vmax
-40 C	+37.0 kHz	+37.1 kHz	+37.1 kHz
-15 C	+75.3 kHz	+75.3 kHz	+75.4 kHz
25 C	+7.5 kHz	+7.6 kHz	+7.7 kHz
70C	-58.7 kHz	-58.7 kHz	- 58.8 kHz

The columns Vnon, Vneg, Vmax correspond to frequency offset measured with input DC voltages to the module at nominal, minimum, and maximum rated voltage. Due to power conditioning on the module, there is negligible performance difference between the different voltage levels. Maximum frequency excursion over temperature and voltage is measured as: -12 ppm to +15 ppm. At all times the frequency stability is within the +/-20 ppm specified for the unit.

Note: due to the temperature performance of the frequency-determining components, the worst-case frequency excursions occur at +70 C and -15 C.

8. Is the clamp-on ferrite listed in the report going to be supplied with the power cord of BelAir200 system. The user manual needs to have a warning about this requirement to the installers.

The ferrite listed in the report will be supplied as part of the AC power cable assembly with the BelAir200. As the power cable is non-standard, the BelAir200 will only be powered with the BelAir Networks supplied AC power cable.

The user manual is updated and included (see page 7, item 3). AC Power cable model BMC200003 includes the ferrite mentioned in the test report to meet emissions.

9. Please clarify the RF exposure category for the host BelAir200?

I would like to have the RF exposure approval based on 20cm instead of the 25cm as first submitted. The reason for 25cm was when the modules are integrated and fully loaded with all 4 radios transmitting at max. data rate and power the distance of 25cm was calculated as required to comply with 1.0mW/cm<sup>2</sup> for antenna co-location. However when the worst case TX duty cycle of 95% is factored in, the total density = 0.9mw/cm<sup>2</sup> and therefore complies with the co-location requirement..(other factors such as cable loss and antenna beam angle contribute to improving this margin, however not included in this calculation). I have attached the revised MPE calculations to support RF exposure compliance at 20cm for this module.

RF exposure statement in the manual is updated to reflect 20cm's as well as "RF exposure evaluation with co-location.pdf" document.