

American TCB

November 29, 2005

RE: FCC ID: SK6XS35004 _ATCB002850

Attention: Tim Johnson

Please find our responses to your comments on this Application below:

1. *Please explain why only one 2.4 GHz external antenna is factored into the RF exposure information. It was originally assumed that there could be more than one. What is the limit to external antennas?*

The XS 3500 has only one external rf port to connect to an external antenna. The remaining 3 radios only have the internal antenna.

2. *Your response mentions that the firmware will limit the number of non-overlapping channels. However it is assumed the user may select any channel. So is the firmware able to detect this and determine when only 2 non-overlapping channels can be used if the user selects an odd channel? Please confirm.*

This is correct. The firmware will lock out a selected channel and any overlapping channels do that these channels cannot be used on another radio. An attestation to this will be provided by Xirrus.

3. *Your response mentions that the user may not select power greater than the maximum allowed by firmware. However in cases of multi-channels per band and where the power must be lowered to meet composite limits, does the firmware reconfigure any previously selected power levels that may have been higher before all channels were properly selected? Please confirm.*

I can confirm that the firmware will reconfigure the radios do ensure aggregate power limits are not exceeded, reducing power on channels in the same sub-band as necessary (this only applies to the 5150 – 5250 MHz band). An attestation to this will be provided by Xirrus.

4. *The attestation regarding channels and power mentions max power is coded into radios. However for composite power, how is this handled when each radio is independent?*

As stated above, the firmware will reconfigure the radios do ensure aggregate power limits are not exceeded, reducing power on channels in the same sub-band as necessary (this only applies to the 5150 – 5250 MHz band). The Controller board reads the max power programmed into each radio and also knows the output power setting for each radio. It then calculates the composite power and insures that it does not exceed the limit.

An attestation to this will be provided by Xirrus.

5. *Regarding previous response 8, the new report does not appear to be corrected as referenced.*

This has been corrected.

6. *Please explain compliance to 15.407(c).*

Compliance to 15.407 is referenced in the operational description on page 14 "Transmit functionality is enabled only when actively modulating a signal".

7. *The EIRP (W) column (next to the last column) on page 109 does not appear to have been updated properly for the changed antenna gain. Note that AVG power is now correct*

The formula was using the internal antenna's gain and not the gain of the external antenna. This has been fixed.

8. *Please explain derivation of calculations on page 109 for aggregate power given.*

The calculation is based on the assumption that all four radios are operating in the 5725 - 5850 MHz band at the highest output power (21.0dBm for internal antenna). The formula is based on the assumption that all four radios are operating in the 5725 - 5850 MHz band at the highest output power (19.9dBm for external antenna, 21.0dBm for internal antenna).

The formula with all four radios using the internal antenna is $P_{max} + 10\log(4)$. If the sole external antenna is being used the formula uses 3 devices at the highest internal power setting and one at the highest external power setting.

The EIRP calculations are a summation of 4 x highest EIRP for the case with all four radios using the internal antenna. With the case with the external antenna in use the EIRP is calculated from 3 x highest EIRP for the internal antenna plus the highest EIRP for the external antenna.

9. *FYI....Regarding previous response to 15, it is best to adjust the limit for known in band gain, then any out of band emissions approaching or exceeding the limit should be retested radiated for final comparison to the limit due to the unknown gain outside of the band.*

Noted, thanks.

The following documents have been uploaded to support this response:

- Attestation regarding non-overlapping channels and power limitations from Xirrus
- R60963 revision 2.pdf

Regards,

A handwritten signature in green ink that reads "Mark Briggs". The signature is written in a cursive style with a large, looping "B" at the end.

Mark Briggs
Principal Engineer