August 19, 2011

Xirrus Arrays Using XI-N300 and XI-N450 Modules – Attestation.

Gentlemen:

The FCC has established certain requirements for U-NII devices as detailed in KDB 443999 and for both DTS and U-NII devices in KDB 594280.

The Xirrus host systems are currently only being designed for indoor use, and we understand that when outdoor options are made available we will need to file a C2PC to update grant notes to allow use of the modules in specific outdoor hosts. The current applications are limited to an indoor host system.

The requirements applicable to indoor devices in KDB 443999, related to DFS, are:
- Devices will not transmit on channels which overlap the 5600 – 5650 MHz band.
- Devices must meet all of the other requirements specified in Section 15.407, and it is prohibited to include configuration controls (e.g. country code settings or other options to modify DFS functions) to change the frequency of operations to any frequency other than those specified on the grant of certification for US operation.
- All applications for equipment authorization must clearly show compliance with all of the technical requirements under worst case parameters, under user or operator control, based on frame rates, listen/talk ratios and user data transfer conditions.
- … include appropriate attestations that the device has no option to change the DFS parameters and that transmissions are disabled at least in the 5600 – 5650 MHz band. The application must include the user's manual with the appropriate installation and operations requirements for the installers and operators.

Our operating software, residing in the host system, will not permit use of any 802.11 channels that fall inside the 5600-5650 MHz sub-band (i.e. channels 120 – 128). The closest operational channels either side of this band are 116 (5580MHz) and 132 (5560MHz) for 20MHz channels and 110 (5550MHz) and 134 (5570MHz) for 40MHz channels. The test report filed for the NII application includes test data showing that the 20dB bandwidth for these channels falls outside the 5600-5650MHz band.

Software control mechanisms to ensure that the DFS features cannot be disabled, that the device is limited to operating only on the allowed channels (i.e. those covered by the DTS and NII filings for the individual modules) and to maintain compliance with FCC rules for output power are detailed in a separate letter submitted as part of the Operational Description.

KDB 594280 contains requirements for software and configuration control mechanisms. The two most relevant sections applicable to the Xirrus hosts systems and the modules they contain are:

- … provide a technical description of how such control is implemented to prevent third party modification and to ensure the device only operates within the grant of authorization.
- If such transmitter is approved as a module, the grantee must ensure that the host manufacturer using the module, or any third party software provider, does not have the ability through software to allow for other configuration controls that permit the device to operate outside the conditions of the grant. Filings for such modules must include a technical description of how such controls are implemented. (See KDB 996369).

Both of these items are addressed through the Operational Description exhibit described in the previous section. Further, the modular approvals are limited to installation by Xirrus into Xirrus' host systems.

If the Commission requires additional details please do not hesitate to contact me.

Sincerely

Steve Smith
VP Hardware Engineering