



Elliott Laboratories Inc.
www.elliottlabs.com

684 West Maude Avenue
Sunnyvale, CA 94085-3518

408-245-7800 Phone
408-245-3499 Fax

Federal Communications Commission

Date: March 12, 2009
Attn: Andrew Leimer

Reference: FCC ID SK6XN4

Dear Mr. Leimer

The product referenced above is currently awaiting approval by the FCC and is subject to the FCC's internal evaluation of DFS functions. The product is very similar in terms of DFS performance and rf characteristics to the devices approved under FCC IDs SK6XN8, SK6XN12 and SK6XN16.

The similarities and differences between the three radios are summarized in the two tables that accompany this letter, and we hope that a review of this information would make the SK6XN4 eligible for expedited approval.

Please advise if you need additional information or clarification on any of the details provided.

Yours sincerely,

A handwritten signature in blue ink that reads "Mark Briggs". The signature is written in a cursive style.

Mark Briggs
Staff Engineer (EMC)

FCC ID	SK6XN4	SK6XN8, SK6XN12, SK6XN16
Technology (e.g. ; 802.11x, frame based, MIMO, etc)	802.11a/n supporting 2x3 MIMO in the 5GHz bands using the internal antenna and 1x (single-stream) using an external antenna. MIMO modes support both 20MHz and 40MHz channels. Legacy 802.11a modes only support a 20MHz channel. The external antenna is the low gain antenna but only supports the 802.11a legacy mode (20MHz channel) with the external antenna.	
Differences in DFS functions	The XN4 uses the same DFS algorithms for detection, CAC and non-occupancy as the XN8/12/16. One DFS threshold in the XN4 has been adjusted slightly to accommodate the lower gain antenna.	
Differences in hardware	<p>The XN4 uses a similar main digital control board as the XN8/12/16 and the rf design is the same.</p> <p>The differences are in the number of rf transceivers installed on each rf board. The XN8/12/16 has multiple transceivers where the XN4 has only one.</p> <p>The transceiver and front end module layout is the same on the XN4 and XN8/12/16 up to the point of the antennas. The XN4 has an additional switch allowing the user to select the internal antenna or the external TNC connector.</p> <p>The antenna on the XN4 is a lower gain antenna (~2.5dBi) compared to the gains of the antennas used with the XN8, XN12 and XN16</p>	
Differences in software	All four models use the same software, with only minor differences to account for the capabilities of the various transceiver connections to the internal/external antennas.	
Receiver	All three systems use the same rf transceivers and front end modules (LNA).	
Other differences	The PCI bus on the XN4 runs at a slower speed of 33MHz vs 50MHz on the XN8/12/16	
Transmit power	Max eirp 5250-5350725, per channel: 27.3 dBm Max eirp 5470-5725, per channel: 28.4 dBm	Max eirp 5250-5350725, per channel: 27.1dBm Max eirp 5470-5725, per channel: 27.0dBm
Test Lab(s) – RF	Elliott Labs – complete test of the XN4..	Elliott Labs – complete test of the XN16 and limited checks on the XN8..
Test Lab(s)- DFS	Elliott Labs – complete test of the XN4 to verify that the detection thresholds and DFS algorithms were working correctly.	Elliott Labs – complete test of XN8 and limited re-testing on the XN16 to verify that the detection thresholds and DFS algorithms were working correctly. Re-tested in February 2009 to confirm algorithm changes to improve detection of bin 5 in 40MHz mode did not affect detection of other radar types.