Federal Communications Commission

Date: August 29, 2011

Reference: FCC IDs: SK6XI-N300 and SK6XI-N450

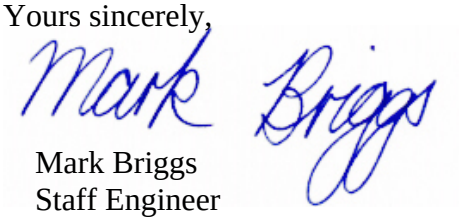
Dear Sir/Madam,

The devices referenced above are subject to the FCC's internal evaluation of DFS functions and are currently pending approval with the Commission. There are many similarities between the two modules with respect to the DFS functions, as summarized in the tables that accompany this letter.

This information is being provided to allow the FCC to determine which DFS tests the Commission will need to perform on both devices versus those that can be covered by a testing just one of the devices.

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

Yours sincerely,



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DFS Similarities and Differences

	Current application	Previously approved device
FCC ID	SK6XI-N300	SK6 XI-N450
Technology (e.g. ; 802.11x, frame based, MIMO, etc)	802.11 abgn 2x2 MIMO	802.11abgn 3x3 MMO
Differences in hardware	The modules share the same PCB. The only difference is that the 3rd chain is not populated on the 2x2 version. The other difference being the chipset used to provide the transceiver. The 2x2 version is based around the Atheros AR9392 single chip 802.11abgn solution while the 3x3 version is based around the Atheros AR9390 single chip 802.11abgn solution. The AR9392 uses the same die as the AR9390 with the difference being the 3rd chain is not bonded out on the AR9392. The modules use the same antenna, with the 3x3 version having three antenna elements (one for each chain) and the 2x2 having two antenna elements.	
Differences in DFS functions	The DFS software is identical for both the 3x3 and 2x2 radios. The same source code is used for both versions. The only difference is that the 3x3 module will look for radar on any of the 3 chains and the 2x2 module will only look for radar on 2 chains. The host system controls the timing for the channel availability check and the 30 minute non-occupancy period so these are independent from the module. DFS detection threshold and detection bandwidth are dependent on the receiver in the module.	
Differences in software	See section above.	
Receiver	The two devices use different versions of chipsets to implement the transceiver.	
Transmit power (DFS Bands)	93mW	126mW
Test Lab(s) – RF	Elliott Labs	Elliott Labs
Test Lab(s)- DFS	Elliott Labs	Elliott Labs

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The results from testing the two modules (see table below) indicated that the 2x2 module had lower detection probability than the 3x3 module.

Module and Bandwidth / Waveform	3x3 20 MHz	2x2 20 MHz	3x3 40 MHz	2x2 40 MHz
FCC Short Pulse Radar (Type 1)	100.0 %	**83.3 %**	**90.0 %**	96.7 %
FCC Short Pulse Radar (Type 2)	83.3 %	**76.7 %**	96.7 %	**73.3 %**
FCC Short Pulse Radar (Type 3)	96.7 %	96.7 %	93.3 %	86.7 %
FCC Short Pulse Radar (Type 4)	**80.0 %**	90.0 %	90.0 %	**63.3 %**
Aggregate for radar1 ,2,3 and 4	*90.0 %*	*86.7 %*	*92.5 %*	*80.0 %*
Long Sequence (Type 5)	100.0 %	100.0 %	100.0 %	**93.3 %**
FCC frequency hopping radar (Type 6)	97.7 %	100.0 %	100.0 %	100.0 %

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