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Statement on product design subject to FCC Original Equipment approval

Date: Aug 17th, 2011

Subject: Statement for FCC ID: YLF-ABGN-EYE-APU3

Statement on 7signal Eye functionalities for 802.11a/b/g/n FCC approval

TPC

7signal Sapphire Eye (EUT, a client device) output power does not exceed 500mW. Thus it is our understanding that Transmit Power Control (TPC) requirement is not applicable for FCC approval of 7signal Eye unit. See test reports 183922A(DTS) and 183922B(NII).

DFS

In order to comply with FCC Dynamic Frequency Selection (DFS) requirements for client devices, 7signal has ensured in software settings that Sapphire Eye unit does not send probe requests on DFS channels 52-140 (center frequencies 5260 MHz-5700 MHz). In general, 7signal has ensured that Sapphire Eye unit, client software and associated drivers will not initiate any transmission on DFS frequencies. This includes transmissions for beacon ad-hoc peer-to-peer modes. This is a client device with no in service monitoring and no ad-hoc mode. DFS acceptance tests are reported in 164308C

Below is a list of channels indicating mode of scanning in US. In active mode Eye unit is allowed to send probe requests and in passive it does not send them or other client device initiated transmissions.

List also specifies HT40 mode behavior on each channel.

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Channel number	Center Frequency	Unit	Allowed for use in US	Active or passive scanning		Center frequency	HT40 support	Bonded channel
[1]	2412	MHz	Yes	Active		2412	Yes	+
[2]	2417	MHz	Yes	Active		2417	Yes	+
[3]	2422	MHz	Yes	Active		2422	Yes	+
[4]	2427	MHz	Yes	Active		2427	Yes	+
[5]	2432	MHz	Yes	Active		2432	Yes	-+
[6]	2437	MHz	Yes	Active		2437	Yes	-+
[7]	2442	MHz	Yes	Active		2442	Yes	-+
[8]	2447	MHz	Yes	Active		2447	Yes	-
[9]	2452	MHz	Yes	Active		2452	Yes	-
[10]	2457	MHz	Yes	Active		2457	Yes	-
[11]	2462	MHz	Yes	Active		2462	Yes	-
[12]	2467	MHz	No	N/A		2467	No	
[13]	2472	MHz	No	N/A		2472	No	
[14]	2484	MHz	No	N/A		2484	No	
[36]	5180	MHz	Yes	Active		5180	Yes	+
[40]	5200	MHz	Yes	Active		5200	Yes	-+
[44]	5220	MHz	Yes	Active		5220	Yes	-+
[48]	5240	MHz	Yes	Active		5240	Yes	-+
[52]	5260	MHz	Yes	Passive (DFS)		5260	Yes	-+
[56]	5280	MHz	Yes	Passive (DFS)		5280	Yes	-+
[60]	5300	MHz	Yes	Passive (DFS)		5300	Yes	-+
[64]	5320	MHz	Yes	Passive (DFS)		5320	Yes	-
[100]	5500	MHz	Yes	Passive (DFS)		5500	Yes	+
[104]	5520	MHz	Yes	Passive (DFS)		5520	Yes	-+
[108]	5540	MHz	Yes	Passive (DFS)		5540	Yes	-+
[112]	5560	MHz	Yes	Passive (DFS)		5560	Yes	-+
[116]	5580	MHz	Yes	Passive (DFS)		5580	Yes	-
[120]	5600	MHz	No	N/A		5600	No	
[124]	5620	MHz	No	N/A		5620	No	
[128]	5640	MHz	No	N/A		5640	No	
[132]	5660	MHz	Yes	Passive (DFS)		5660	Yes	+
[136]	5680	MHz	Yes	Passive (DFS)		5680	Yes	-+
[140]	5700	MHz	Yes	Passive (DFS)		5700	Yes	-
[149]	5745	MHz	Yes	Active		5745	Yes	+
[153]	5765	MHz	Yes	Active		5765	Yes	-+
[157]	5785	MHz	Yes	Active		5785	Yes	-+
[161]	5805	MHz	Yes	Active		5805	Yes	-+
[165]	5825	MHz	Yes	Active		5825	Yes	-

+ = 40 MHz bandwith may be used on the higher grequencies

- = 40 MHz bandwith may be used on the lower grequencies

Eye unit mode of operation

Eye operates always either as a completely passive monitoring device or as a client device testing network performance.

Eye never operates as an access point or in ad hoc -mode. As Eye device has no master mode and when acting as a client, it has no autonomous role but completely follows the master device, the device meets the requirements of Section 15.202.

7signal devices are in a network controlled by a centralized management server. This server requires a license-file that mandates the country-code used in the devices. The encryption signature technique used in the license file is well-known and widely used and it has been implemented by security- specialized programmer external to 7signal. Compromising the license file requires strong attack-skills and resources and the changed file would affect only new devices deployed after the compromise. The other attack route would be the device. Disassembly of the device would gain access the change the modes outside the intended use. The device contains proprietary technology and there is an indicator-seal for un-authorized disassembly.

MIMO support

7signal 802.11n Eye operates always in a single-input and single-output configuration only and is not used to transmit simultaneous data streams on the same channel (MIMO). MIMO functionality is not supported with this product version.

Sincerely,

By: _____   _____

Veli-Pekka Ketonen
CTO