

12/14/2016

Additional information

, here is what our device behave:

1. Certified to channel 1-11 for US and Canada
2. Use 802.11d to receive country code from AP, passive scan in 12, 13 by default.
3. If sees a US code from AP, shut off channel 12, 13, even if passive scan finds AP on channel 12 and 13.

09/21/2016

As per request from FCC lab in regards to configuration of our client cards, there has been no changes in regard to previous issued guidance and our compliance to not allowing the end user to set country configuration. The clients can only be programmed via FCC approved master devices which must either factory preset or configured via Geo location such as Cisco Access Points as approved per FCC rules.

08/18/2015

2/18/2015

Cisco Systems confidential

Request for opinion

This request for KDB seeks to clarify a couple of point in KDB 594280 in regards to client card operation.

Background

The issue of concern is the requirement that the Wi-Fi client card be responsible for determining it is connected to a known or properly configured wireless network and verify that the country code it receives is valid. Cisco does not make client cards for laptops, but does manufacture client devices imbedded in Set Top Boxes, Telepresence Video conference systems, IP video desk phones and wireless enterprise 802.11 phone handsets. Except for the final item, these clients are fixed.

To date , there has been no regulatory requirement that the master device or Access Point provide or send out a country code , other than if the device supports 802.11d. The only requirement has been that a master device be fixed to only operate on channels it is approved for. As such to date most AP's do not send out any valid country codes which can be authenticated by the client, other than those APs using the 802.11d protocol.

In the 2.4 GHz band, this has not been an issue as for the US the masters or AP's have always been set to channels 1-11 due to band edge restrictions to protect operations above 2483.5 MHz. However, the FCC has approved one or two AP's which run at extremely low power on channels 12 and 13 and thus it is possible that an AP that supports these channels could connect to a client card which is not approved for those channels. Another concern is that it is possible that some AP's have been switched to operate on EU bands or are simply EU AP's.

Per FCC KDB # 594280, a client card either must be fixed with a US country setting, or by default setting only operate on US-approved channels. If the client device can also operate on non-US channels (e.g., Channels 12 & 13), then it either must comply with the above or be location aware with geo-locational technology,

According to Part 15.202, a client card that does not initiate a transmission is required to operate under a control of a master device. Because the master device must have its channels fixed to US only or use Geo location technology, the client will remain in compliance with respect to authorized US channels. For the most part (unless approved as a Software Defined radio), AP's are generally factory set to operate on US channels.

Because the master controls the channels that the client will use for transmission, our manufacturing practice is to produce client cards that are enabled with all 2.4 GHz channels, including channels 12 & 13. We manufacture once and sell globally. We do not factory set the client cards to US channels 1-11, default to those channels, or include geolocational technology in client cards. To follow the new KDB, our manufacturing process would need to be modified to support a new US-only SKU, raising costs.

Cisco's AP's sold in the US are either factory programmed with no access to the user to change controls in the US or use our new Geo location configuration approval schemes. The new geo locational technology AP's are relatively new to market, and most legacy systems we continue to sell do not have location awareness.

In addition, the market for our equipment is enterprise or service provider – not consumer.

Issue

Given that the master controls the setting of the network frequency and power, client cards manufactured by Cisco pose virtually no risk of illegal operation on Channels 12 and 13. Therefore, there is no need for a requirement that the client cards be set to Channels 1-11 or default to those channels.

Additionally, the requirement per the KDB seems to be in conflict with the actual FCC rules which do not require my AP to broadcast a geo location or require our clients to use Geo location if under control of a

master device. It is illogical to expect a client card to include Geo location when the master (base station) is not required to transmit geo location data or use location awareness to operate.

There are a few off brand master devices that the FCC has approved for use of channels 12 and 13, but these devices are not widely sold, or are unlikely to be deployed in an enterprise or service provide deployment where Cisco devices would operate.

Therefore Cisco is seeking permission to allow it to continue to use our 802.11d broadcast from either our AP's that are factory set or our AP's using Geo location to configure our clients.

Inquiry on 02/19/2015 :

Inquiry:

This is a request for a PBA in regards to client cards and geo location. See attached document please for KDB inquiry.

---Reply from Customer on 03/03/2015--- just checking status of your reply to our

inquiry as needed to make a few decisions

FCC response on 03/23/2015

We will allow this as long as the APs are properly configured according to the previously approved procedure.