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March 24, 2015

VIA ELECTRONIC FILING

Marlene H. Dortch, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20228

Re: IB Docket No. 13-213, RM-11685

Dear Ms. Dortch,

Globalstar posted a "Statement Regarding TLPS Characterization Work This Week" at http://www.globalstar.com/en/ir/docs/Corporate_Statement_on_TLPS_Labwork_3.23.15.pdf . The full statement is as follows (emphasis mine):

TLPS CHARACTERIZATION WORK AT FCC LABORATORY THIS WEEK

> The FCC Laboratory in Columbia, Maryland will perform radiated and conducted emissions measurements on the **Ruckus 7982** access points used in the March TLPS demonstration held at the FCC's Technology Experience Center. During the planning for the March demonstration, participants agreed that such work should be conducted at the FCC Laboratory. Globalstar's engineering team will participate in this work and other participants in the March demonstration have also been invited to attend. These measurements will characterize the emissions profiles of Channel 14-enabled access points at different power levels. Both the radiated and conducted (including antenna gain) measurements will be profiled.

Assuming "radiated and conducted emissions measurements" include FCC 15.247(d) tests ("100kHz Bandwidth of Band Edges"), I believe it is critical the FCC file all results to the 13-213 and RM-11685 proceedings. Specifically, the measurement results should include spectrum analyzer plots with the following settings:

- Resolution Bandwidth = 100kHz [required per FCC 15.247(d)]
- Video Bandwidth = 300kHz [suggested for consistency with existing 7982 report]
- Center Frequency = 2484MHz [center of Channel 14/TLPS]
- Frequency Span = 80MHz [suggested for consistency with existing 7982 report]

Why Is this Important?

Aside from the obvious need for transparency***, the measurements specified above are critically important to validate Globalstar's claim that ALL devices will only require "firmware modifications" to support TLPS.***

According to Globalstar's public statements and FCC filings, the March TLPS demonstrations should not have required any hardware changes to the "off-the-shelf" Ruckus 7982 access points.

However, ***measurements in the Ruckus 7982 Part 15.247 test report (see Exhibits) indicate the device likely has a coexistence filter with characteristics that will materially impair Channel 14/TLPS. If so, the claim that TLPS only requires a "firmware modification" is in question. Most importantly, if the problem exists at the access point, it will exist for almost any LTE-enabled smartphone as well.***

Globalstar provided limited information regarding hardware used in the demonstrations at the TEC center. In order to assure complete transparency, details of access points used in the TEC center demonstrations and tested at the FCC laboratory should be disclosed, including model and serial numbers. Every access point used in the TEC center demonstrations should be tested at the FCC laboratory. Disclosure of these details will help participants in this proceeding better evaluate the technical merits of Globalstar's TLPS proposal and provide clarity on their claims, which currently contradict numerous Part 15 test reports.

Respectfully Submitted,

Greg Gerst
Gerst Capital, LLC

cc: Julius Knapp
Mindel De La Torre
Ron Repasi
Bruce Romano
Lynne Montgomery
Rashmi Doshi
Robert Nelson

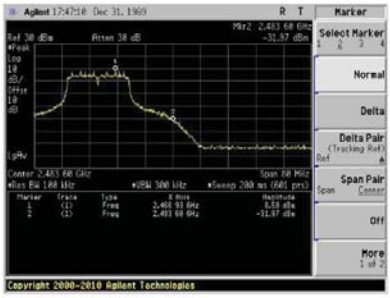
EXHIBITS

After inquiry, Ruckus Wireless technical support emailed the following photo from the back of a 7982 access point.

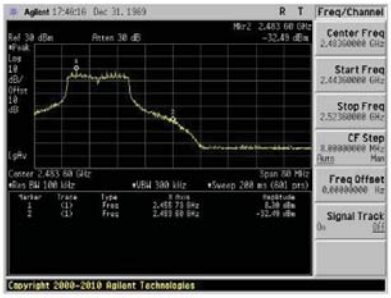
Figure 1: Label from Ruckus Wireless 7982 Access Point
FCC ID: S9G-MPE2N33A (for 2.4GHz Radio)

The figures below are taken from pages 83 and 85 of the Part 15.247 test report for FCC ID S9G-MPE2N33A (Test Lab: Bay Area Compliance Laboratories, Test Engineer: Quinn Jiang, Report Number: R1110211-247, Report Date: 2012-02-01).

802.11n20 mode, Highest Channel, Chain J1



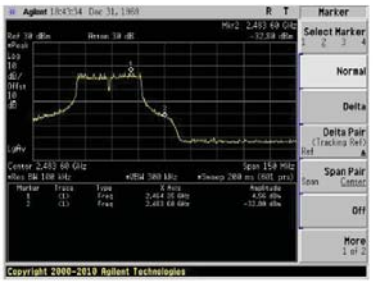
802.11n20 mode, Highest Channel, Chain J2



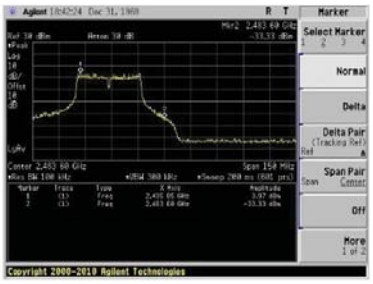
802.11n20 mode, Highest Channel, Chain J3

Figure 2: Measurement Results from Page 83 of Ruckus 7982 Test Report

802.11n40 mode, Highest Channel, Chain J1



802.11n40 mode, Highest Channel, Chain J2



802.11n40 mode, Highest Channel, Chain 3

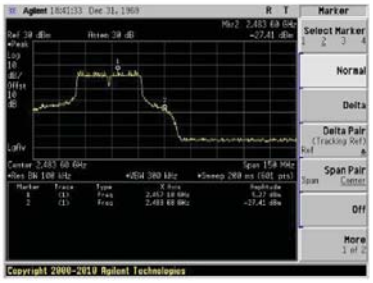


Figure 3: Measurement Results from Page 85 of Ruckus 7982 Test Report

The measurements above indicate the presence of a coexistence filter, and imply it will materially affect the upper half of Channel 14/TLPS. The following figures illustrate this by overlaying a popular

coexistence filter's insertion loss profile with plots from the 7982's transmit chain J1. The plots also highlight (in yellow) the ~17.5Mhz region covering Channel 14's "information bandwidth" (excludes the ~2.25MHz "guardband" at the top and bottom of the Wi-Fi channel, includes 52 "data" sub-carriers plus 4 "pilot" sub-carriers).

802.11n20 mode, Highest Channel, Chain J1

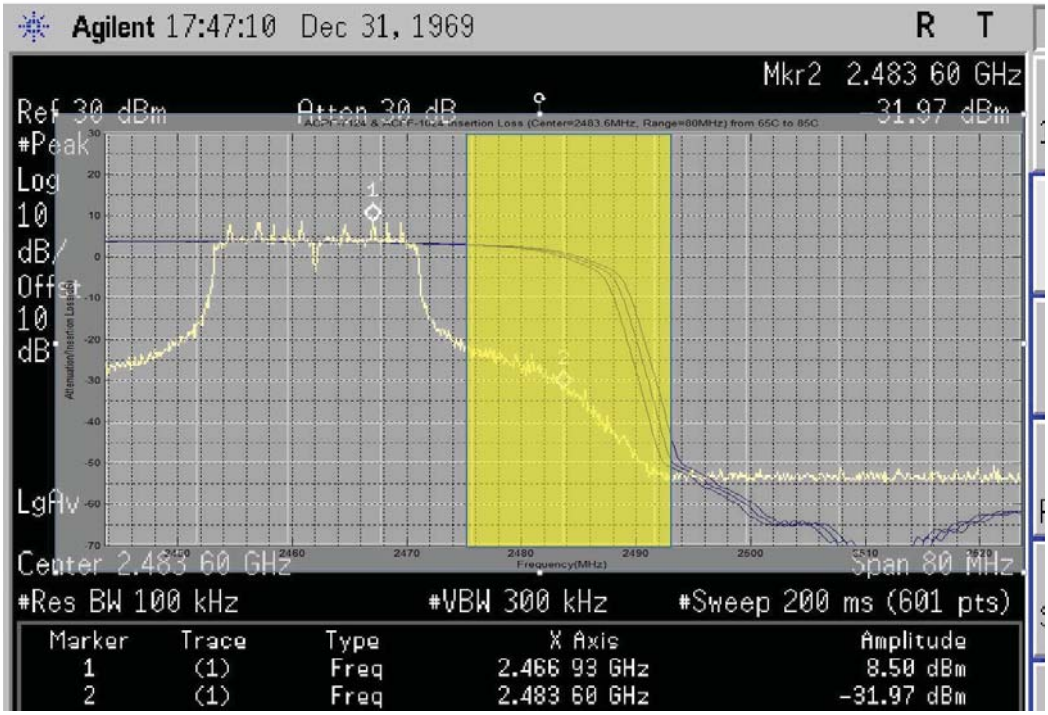


Figure 4: FCC Part 15.247(d) Test conducted while Ruckus 7982 transmits on Channel 11, 802.11n (20MHz). Includes overlay of Avago ACPF-7124/ACFF-1024 Insertion Loss Profiles & Yellow Highlight of TLPS/Channel 14 "Information Bandwidth" (2484MHz +/- ~8.75MHz)

802.11n40 mode, Highest Channel, Chain J1

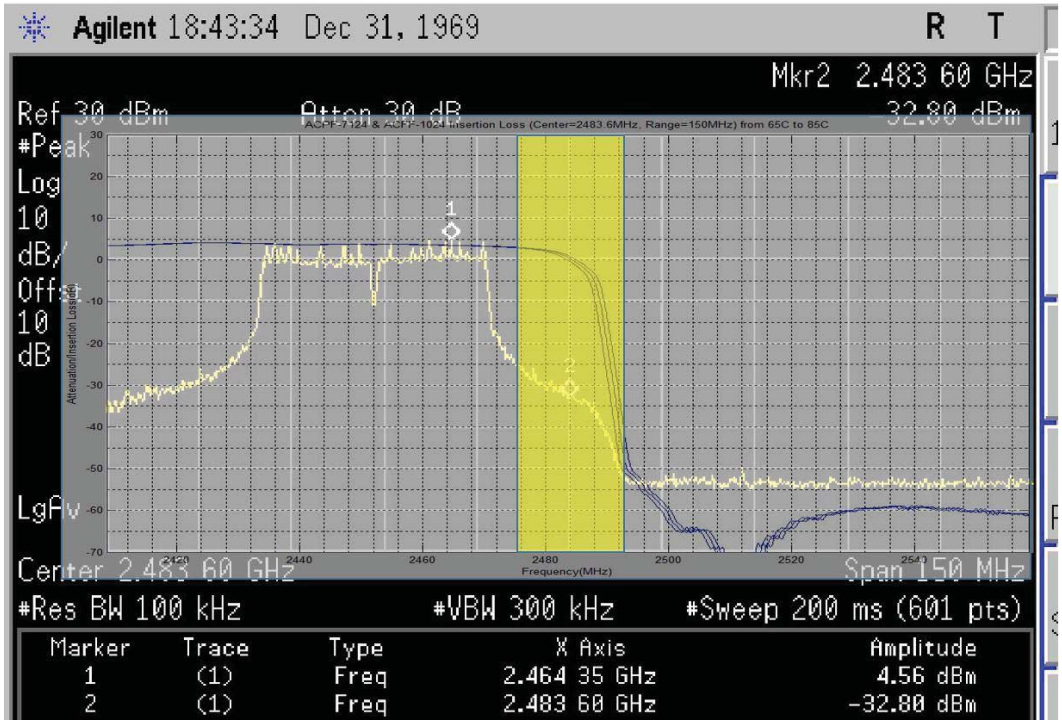


Figure 5: FCC Part 15.247(d) Test conducted while Ruckus 7982 AP transmits on Channel 11, 802.11n (40MHz). Includes overlay of Avago ACPF-7124/ACFF-1024 Insertion Loss Profiles & Yellow Highlight of TLPS/Channel 14 "Information Bandwidth" (2484MHz +/- ~8.75MHz)

(Note: ACPF-7124 & ACFF-1024 filters have identical insertion loss profiles. The 7124 is marketed for client devices such as LTE-enabled smartphones while the 1024 is marketed for access points).

I included both the 802.11n 20 MHz and 40 MHz measurements to illustrate the consistency in the power "roll-off" relative to the filters' insertion loss profiles.

The final figure shows the same test for the 5GHz version of Ruckus 7982 AP (FCC ID: S9G-MPE5N33A). Note the difference in the "out-of-channel" signal shape between figures 4 and 6. The key difference is that the 5GHz transmitter requires no coexistence filter.

802.11n20 mode, Highest Channel, Chain J10

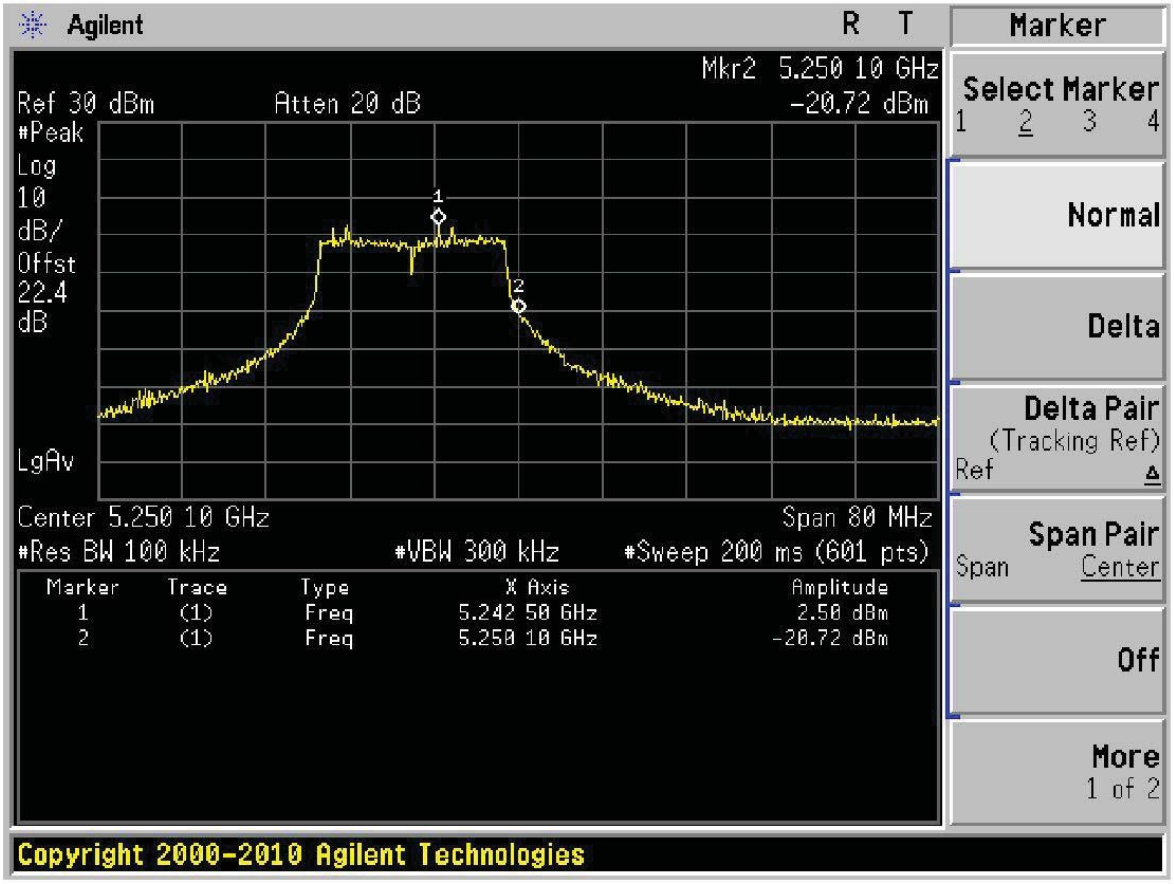


Figure 6: One 5GHz emissions test for Ruckus 7982 AP.
Notice the difference in upper "out-of-channel" signal profile for 5GHz vs. 2.4GHz. The 20MHz 802.11n signals originate from the same "baseband hardware". The only difference in "signal shape" is imposed by analog hardware, with the main differentiator being the presence (at 2.4GHz) or absence (at 5GHz) of a coexistence filter.