

From: Raymond Conkling

To: Behnam Ghaffari

Date: December 07, 2018

Subject: Request for Info - File # 1927-EX-ST-2018

Message:

File No. 0897-EX-CN-2018 (Ref. 45116)

File No. 1927-EX-ST-2018 (Ref. 45111)

Mr. Ghaffari:

In reply to your inquiries ("In accordance with the narrow banding rules, the emission bandwidth cannot exceed 12.5 kHz. Please change 25 kHz (25K0F7D) to 12.5 kHz (12K5F7D)";) this is to confirm that:

- As demonstrated below and as confirmed by the FCC frequency coordinator WIA, the emissions proposed in these applications are in compliance with the Commission's narrowband rules because the emissions meet the "equivalent efficiency standards" as described in Section 90.203(j)(3).

- Therefore, as confirmed by the frequency coordinator, Leidos is permitted to retain the 25 kHz bandwidth under the Commission's narrowbanding rules.

Please see emails below with the frequency coordinator confirming no changes to the emission designators are necessary because the emissions are in compliance with narrowbanding requirements.

Leidos assumes that this information satisfies the Commission's inquiry and that these applications may now proceed with final processing without the need for revisions to the emission designator. However, if there are any additional questions with respect to this issue, please contact the undersigned directly.

Best regards,

Jeff Rummel
Attorney for Leidos, Inc.

Jeffrey E. Rummel
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From: Don Andrew [mailto:Don.Andrew@wia.org]

Sent: Friday, December 07, 2018 1:57 PM

To: Rummel, Jeffrey

Subject: RE: Request for WIA Confirmation re: Equivalent Efficiency Standard for Narrowbanding

Greetings Mr. Rummel ,

Based on the information provided in your correspondence, WIA does confirm that under the FCC's narrowbanding rules, the data operations described meet the equivalent efficiency standards described in Section 90.203(j)(3) and therefore would be permitted to retain a 25 kHz bandwidth under such rules.

Don Andrew
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From: Rummel, Jeffrey
Sent: Friday, December 07, 2018 9:35 AM
To: Don Andrew
Subject: Request for WIA Confirmation re: Equivalent Efficiency Standard for Narrowbanding

Mr. Andrew:

As we discussed, in connection with Leidos's pending applications under File No. 0897-EX-CN-2018 and 1927-EX-ST-2018, Leidos has proposed operations within 148.175-149.650 MHz using the following emission designator: "25K0F7D".

In reply, the FCC stated: "In accordance with the narrow banding rules, the emission bandwidth cannot exceed 12.5 kHz. Please change 25 kHz (25K0F7D) to 12.5 kHz (12K5F7D)."

As an FCC-approved frequency coordinator for land mobile operations, this is to request WIA's confirmation of the following items which demonstrate that the proposed facilities – even with the 25K0F7D emission designator – conform to the FCC's narrowband "equivalent efficiency standards":

- Although the general narrowbanding rule is to require a bandwidth of "12.5 kHz or less", the FCC's rules at Section 90.203(j)(2)(iii) allow a bandwidth of "25 kHz if the equipment meets the efficiency standard of paragraph (j)(3) of this section."
- Section 90.203(j)(3) describes the methods by which operations can meet the "equivalent efficiency standards" and therefore be permitted to retain a 25 kHz bandwidth.
- For data transmissions, Section 90.203(j)(3) states that operations meet the "equivalent efficiency standards" and therefore can retain a 25 kHz bandwidth if the following is true:
"if the equipment is capable of transmitting data, has transmitter output power greater than 500 mW, and has a channel bandwidth of more than 6.25 kHz, the equipment must be capable of supporting a minimum data rate of 4800 bits per second per 6.25 kHz of channel bandwidth."
- The following information describes how Leidos's equipment meets the "equivalent efficiency standards" as described in Section 90.203(j)(3):

- o Leidos's TDMA transmissions are exclusively data.
- o The FCC's rules require that for data transmissions, the minimum data rate must meet a standard of "4800 bits per second per 6.25 kHz of channel bandwidth";
- o The standard of 4800 bps per 6.25 kHz is equivalent to a data rate of 19200 bps over 25 kHz channels (4 X more data for 4 X 6.25 kHz channels).
- o Leidos's Player Unit meets the minimum data rate because the Leidos equipment actually utilizes that specific data rate of 19200 bps over 25 kHz channels (it is also noted that this equipment has a very low duty cycle and low power level which mitigates any concerns).
- In light of the above, Leidos requests WIA's confirmation that under the FCC's narrowbanding rules, the data operations described above meet the "equivalent efficiency standards"; and therefore would be permitted to retain a 25 kHz bandwidth under such rules.

Best regards,

Jeff Rummel
Attorney for Leidos, Inc.

Jeffrey E. Rummel
Partner

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