Sypes Canyon Communications, Inc.
Bozeman Montana

Federal Communications Commission
Laboratory Division
7435 Oakland Mills Road
Columbia MD, 21046

June 12, 2011

RE: FCC ID ZBR-001
731 Confirmation Number TC875206

Dear Mr. Neumann

Thank you for your thorough review of the modular certification documentation and User's Manual submitted for the Satellite Transmitter ZBR-001. This letter and accompanying revised User's Manual addresses the comments provided in your June 8, 2011 dismissal letter. All comments were addressed in the User's Manual with summary or further explanation to your comments provided herein. We respectfully request modular certification approval for the ZBR-001 transmitter to enter immediate application development.

Comments contained in the Dismissal letter:

Examiner objected to the phrase "This user's manual does not stipulate application requirements nor the radiating (antenna) requirements of an application. "

> This phrase has been removed from the User's Manual, as it was confusing in meaning. The requirements not stipulated were product utility features that cannot be foreseen by the radio manufacturer. The User's Manual must be sufficient to correctly integrate the radio transmitter into a product (application) but not to foresee every possible use of the data being transmitted. This theme has been propagated throughout the User's Manual alerting the application developer that they must comply with the use requirements of all modular certifications as well as the RTU certification processes imposed by the network operator (Globalstar).

In the detailed list of objections:

Examiner states: "The ZeMo must be identified as approved for mobile devices only. Installation in portable devices is not permissible." Additionally, the examiner noted the User's Manual did not stipulate the 20 cm separation notice required for mobile devices. This has been added in Section 7:

> The ZeMo is approved for use in mobile devices only. Installation in human-worn devices is not permissible. Applications must be installed in such a way as to prevent approach within 20 cm of the transmitting antenna. This warning and notice must be provided by product integrator that utilizes the ZeMo device.

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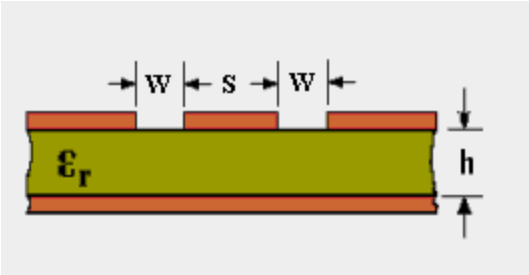
Examiner states: “Test data must be submitted for all PCB trace designs from the module to the antenna specified to the OEM”. The User’s Manual does specify a recommended trace design in Section 6.1. Specifically, Section 6.1 states:

> The ZeMo sends the RF transmit signal through one of the pins on the connector. In order to avoid signal loss, the signal should be routed through a 50 Ohm coplanar RF signal path in the application design. For 0.062” FR4 circuit assemblies as depicted below, this is typically a 63 mil RF trace (s) with a 15 mil gap(w) to stitched ground skirt on top of ground on opposite side of the board (h).



The geometries described in this Section 6.1 result in a nominal 50 Ohm stripline trace that delivers the RF signal to the antenna specified in section 7.3. The User’s Manual is intended to provide adequate instruction to a professional of reasonable skill to implement a producible and repeatable product that complies with all certification requirements. The added diagram (also shown above herein) has been added to the User’s Manual that depicts the geometries specified. The spectral mask tables and diagrams of 5.1.1 serve as test data for the application developer to ascertain proper integration of the ZeMo device. Beyond this, it is unclear to us what additional test data the Examiner is requesting for the PCB trace beyond what is provided in public domain circuit trace impedance literature. In an attempt to facilitate the Examiner’s “test data” comment, a link to a public domain impedance calculator has been added to the User’s Manual.

The Examiner also states that the antenna design must be specified in the transmitter User’s Manual. There are a number of different commercially available antennas that comply with all regulations, many not known by the transmitter manufacturer, and new antennas are being released with some regularity. It is impossible to predict all the potential application uses of the ZeMo transmitter, or to know which antennas will be used or developed for use, so in an effort to convey the intent of the Examiner’s noted comments, the following comment is added to the User’s Manual.

> It is the responsibility of the application developer to ensure that the antenna design and RF trace path loss deliver the RF energy to the antenna to ensure compliance with the radiation performance parameters of the modular and end-product RTU certifications (FCC ID ZBR001 and

> IC: 9540A-001 and the Globalstar certification processes then in place). Specifically, minimum and maximum EIRP values must be met and demonstrated by the application designer as part of the product certification process required by Globalstar. Additionally, the maximum antenna gain and unintended radiation limits set by the federal regulatory certifications must also be met.

The Examiner states "the instructions should also provide a list of appropriate parts by manufacturer and specifications, the test procedures for design verification, and production test procedures for ensuring compliance."

> Section 7.2 stipulates that any integration of the ZeMo transmitter must be approved for use by Globalstar, using the process specified in Globalstar document GS-07-1248. Section 7.3 specifies the approved antennas and manufacturer. Both companies are independent of the ZeMo manufacturer, and as such the User's Manual refers the integrators to these parties for the latest versions of specifications and procedures for device integration and certifications.

To address the issue of production test procedures, the following statement is added to the User's Manual in new Section 7.4:

> Application developers must comply with all regulatory requirements of the modular certifications of the ZeMo in order to use the FCC and/or IC identifiers. The Application developers must ensure that adequate processes are in place at point of manufacture to ensure that the products produced continue to comply with regulatory and network operator requirements. The integrator is forewarned that manufacturing processes that do not adequately screen for the introduction of non-compliant device operation may void use and may result in regulatory and/or network certification dismissal. In all cases, the application developer is forewarned that they must comply with all applicable use and marking requirements as set forth in Part 25 and Part 15 regulations which shall govern.

The Examiner states that "the grantee must acknowledge in the filing that they will be responsible for compliance". With respect, this statement is beyond the scope of the grantee responsibilities. It is the grantees responsibility to adequately convey the use-requirements in order for the OEM to use the modular FCC ID on the end-item product. If the OEM fails to comply with the regulations stipulated for modular certification use, the OEM must cease to use the modular ID and/or secure their own product FCC-ID. In addition, any product utilizing the ZeMo transmitter must be certified by the network operator (Globalstar) to ensure that it complies with the regulatory requirements for their occupied bandwidth, including radiated power, out-of-band emissions, antenna gain and envelope,

manufacturing process compliance and reliability. The User's Manual as revised accomplishes these notices to ensure the application developer is fully aware of the requirements for use, however, it remains the application developer (OEM) responsibility to not only comply with the User's Manual but with all applicable use and marking regulations under FCC Part 25 and Part 15 to remain compliant. In any case, those requirements as stipulated in FCC regulations shall govern.

Conclusion:

We anticipate the accompanying revised User's Manual and this letter addresses the concerns noted by the Examiner. We remain open to all constructive commentary that will facilitate proper integration and use of the ZeMo transmitter and ensure compliance with regulatory requirements. If there remain any unresolved issues, we respectfully request further dialog to resolve any issues.

Respectfully,

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