



August 6, 2014

Federal Communications Commission  
Equipment Authorization Branch  
7435 Oakland Mills Road  
Columbia, MD 21046

Gentlemen:

Synapse Wireless Inc. respectfully requests Part 15 unlicensed modular transmitter approval of the Synapse Wireless Inc. SM220 product. In accordance with the Part 15.212(a)(1) and IC RSS-GEN7.1.1, here is the response to the items listed for the SM220 product.

Item 1: The SM220 module has a metal RF shield that is soldered to the ground plane on all side, enclosing all electronics, and prevents coupling of the RF circuitry with the host board electronics in which the SM220 is plugged into in order to comply with this item.

Item 2: All input data to the SM220 is buffered in the microcontroller located on the SM220. Firmware in the microcontroller then controls the flow of this data to the transmitter for RF communications to prevent excessive data rates or over-modulations to comply with this item.

Item 3: The SM220 transmitter is the Atmel ATmega128RFR2 series of IEEE 802.15.4 transceiver modems. This modem has internal power supply regulation to comply with Item 3.

Item 4: The SM220 has support for an external antenna thru a Reverse Polarity SMA style unique antenna coupler which is mounted on the SM220 which complies with Item 4 requirements.

Item 5: The necessary SM220 and support hardware was provided to the certification lab to show compliance with this item.

Item 6: The FCC ID label assigned to the SM220 will be located on the top outside face of the SM220. In the case that this label on the SM220 is not visible after installation, the datasheet will document to the user of the SM220 that the FCC ID labeling requirements must be included



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on an exterior label of the finished product enclosure using the SM220 stating that the product contains the FCC ID label for the SM220. A copy of the datasheet will be provided to the FCC to show this compliance.

Item 7: In order to show compliance to this item, a copy of the datasheet will be provided to the FCC to show that the issues of Item 7 have been properly documented.

Item 8: The SM220 will be tested to comply with any applicable RF exposure requirements. Also, in order to show compliance to aspects of this item, a copy of the datasheet will be provided to the FCC to show that the issues of Item 8 have been properly documented.

Sincerely,

A handwritten signature in black ink that reads "Christopher L. Messick". The signature is fluid and cursive, with the first name being the most prominent.

Christopher Messick  
Hardware Quality Assurance Engineer