

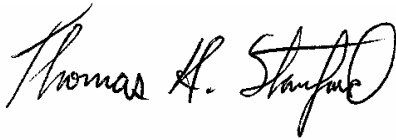
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Attention:
Ferdie Custodio
EMC and Wireless Test Engineer

Reference: Model COM6K dual slot (time and frequency) diversity

The COM6K transmission timing arrangement is made up of a 10 milli-second frame divided into 20 time slots of 500 micro-seconds each. There are 10 TX slots and 10 RX slots per frame. The COM6K transmits for one 500 micro-second slot time every 10 milli-second frame time providing a 5% duty cycle. However, during weak signal conditions determined by check sum errors and RSSI the radio may switch to transmitting on two slots per frame so that if one packet is damaged then another may get through. When transmitting in this mode the duty cycle will be 10%. In this mode the transmit slots are not consecutive in the frame and are not on the same frequency thus providing time and frequency diversity. There is no way to easily trigger this mode for testing because the slots are on two different frequencies. For EMC testing there would be no effect anyway on spectrum or harmonics since it is the same modulation and power levels as the normal mode (hopping) and you measure low, middle and high frequencies to check as well. For SAR testing higher duty cycle could make a difference so RFEL noted that 10% is possible. However, because the measured SAR level is so low at 5% duty cycle, doubling the duty cycle is still well below the SAR limit and therefore is not a factor, but is still noted for completeness.

Best Regards,



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