FCC ID: GCD-SA-80G OPERATIONAL DESCRIPTION

1. Operational description

The RF section of the SA-80G is based on a Chipcon CC1100 chip. The Chipcon chip is a fixed medullas PLL. Thus the 26.00 MHz Xtal gives the 433.92 MHz carrier frequency. A balanced output can deliver up to +8 dBm into 50 OHM. This device is followed by a passive antenna matching network. A Printed PCB antenna is used.
The u-Controller provides two signals. Namely a chip enable line that activates the Melexis and the PA and a data line that is used to OOK modulate the Chipcon device. In the RX mode the receiver enables a sensitivity of approximately -106dB with the same Antenna described above.

2. Timing Requirements & Supervisory Transmissions.

When the SA-80G is activated 5 identical **transmissions** of 21ms each are sent. The time between the end of one transmission and the start of the subsequent one being random. varies between 21ms and 84 ms. The total time of these 5 transmissions is 105ms. After every event, the detector switches into "sleep mode", for 2 minutes. In this period, no alarm event can be transmitted.

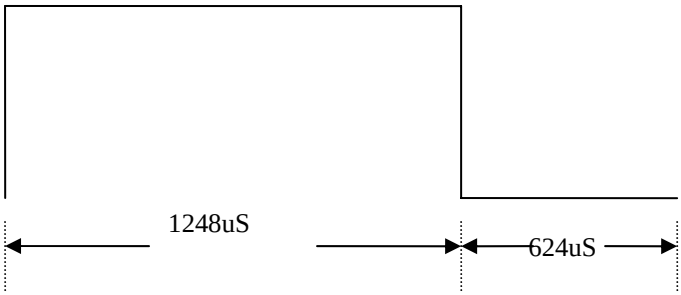
In addition there are "**supervision transmissions**" send if there was no activity event for 20 minutes. This means there are at least a minimum of 3 transmissions per hour (event or supervision).The Supervision
Format is identical to the event format (the total time of each **supervision transmission** consists of 5 transmissions which take up 105ms).

In the "worst case" there could be 3 supervision transmissions per hour, which would reach a total transmitting time of 105ms X 3 =415ms (per hour), which is much lower than the 2 second FCC 15:231 limit.

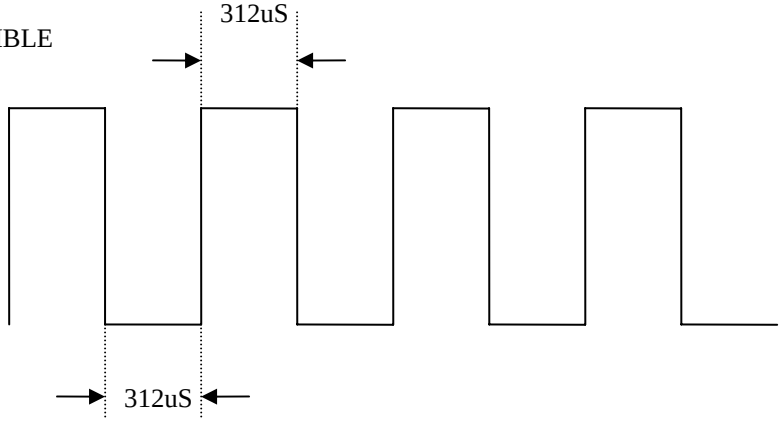
The SA-80G Siren is in a Receiver mode most of the time. Only in the occasion of an event that is defigned as a cause that justafies the Sirens operation, will the SA-80G receive a Transmission, instructing it to operate (Audio Alarm & flashing light straub), and send a TX confirmation signal, to the control panel, aknowledging the fact that it has been operated. In such events, when the SA-80G is activated, it can be disarmed, and stop functioning, by entering a disarm code in the control panel.

On page 2 there is a transmission format scheme. The transmission consists of preamble (312us on & 312us off), a Start bit 1024us on & 624us off and 6 BYTES DATA (48bits) in Manchester formal 208us on, & 208us off. All together make 21.842ms frame.
With the random time of 1 to 4 frame we get 21ms to 84 ms between sequence frames.

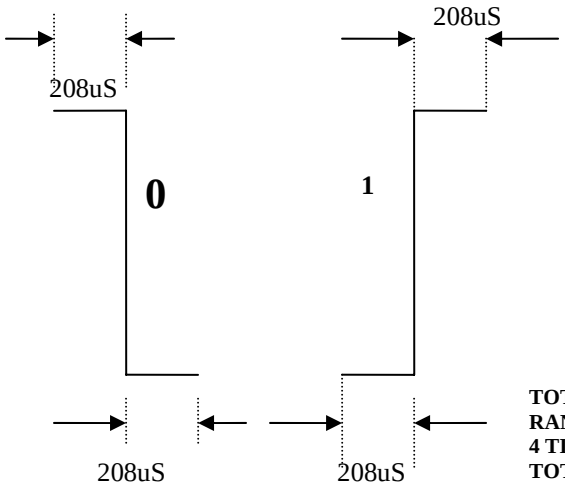
1. START BIT

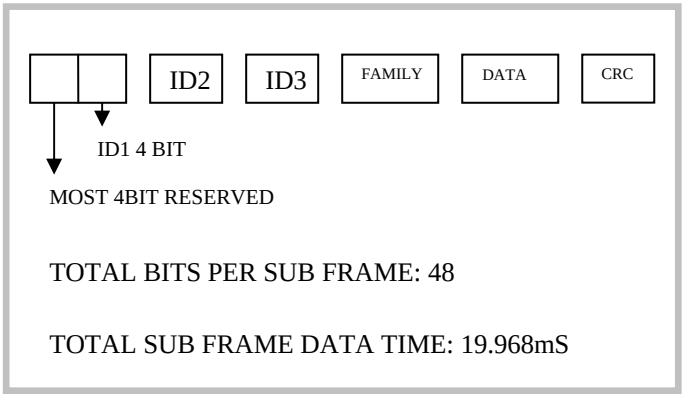


1. PREAMBLE



1. DATA





TOTAL SUB FRAME TIME: 21.842Ms
RANDOM SUB FRAMES
4 TIME SLOTS
TOTAL SUB FRAMES IN SUPER FRAME: 5

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