

FCC Form 422 attachment

Item 4(F) - Particulars of operation - Modulation Signal

Information rate: 1200 b/s $\pm$ 20 b/s
Information content: CW carrier, 9 bit preamble, 20 data and parity bits
Modulation coding: Manchester bit encoding
Maximum keying rate: 2400 baud
Modulation type: Binary frequency shift keying with $3\text{k} \pm 0.6\text{k}$ Hz deviation

Fixed length packet transmission duration is less than 27 mseconds per detection of each vehicle or pedestrian passage. Detection equipment design optimized for sparsely populated deployment.

Item 4(G) - Particulars of operation - Description of necessary bandwidth

2.4 k baud keying rate: $M_{\text{max}} = 2.4\text{k}$.
First null of sin x/x modulation response is $\pm 2.4\text{k}$ Hz
Binary FSK modulation with $\pm 3\text{k}$ Hz $\pm .6\text{k}$ Hz deviation: $D_{\text{max}} = 3.6\text{k}$ Hz

Necessary bandwidth: $B_n = 2M + 2D = 12\text{k}$ Hz

Item 7 - Government contract supplemental information

Project Name: IRembass - Improved Remote Battlefield Sensor

Contract Number: DAAB07-91-C-M360

Contract Agency: US Army - CECOM
Ft. Monmouth, NJ 07703-5000

Contract Program Manager: Robert Foresta
SFAE-IEW-EW
Ft. Monmouth, NJ 07703-5000
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Item 13 - Installed Equipment

Martin Marietta is under contract to manufacture 1300 transmitting sensors and packet repeaters under the current Government contract with expected options for production of additional units under future contract extensions. Related to the manufacturing task, some sensors may be required to be evaluated under field conditions to assess performance and provide qualification data. Field testing may also be performed to evaluate circuit modifications or design improvements made under the contract or related research and development programs. Nominally three, and no more than ten units will be deployed during any evaluation exercise.