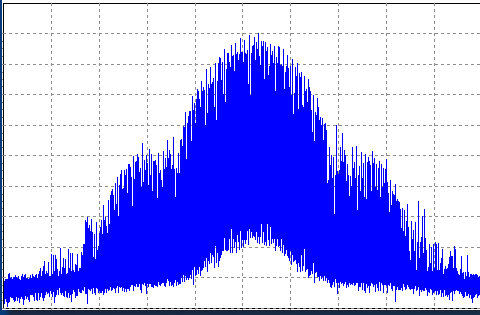


# SATCOM QPSK MODEM

Model No: ICS-SATCOM-DQMODEM-1109



## SQM

*SATCOM QPSK MODEM receives data/digitized voice through RS422 and encodes, modulates and up converts it to 70MHz IF and sends it through Radio.*

*The received modulated signal at 70MHz IF is down converted demodulated and decoded and sent through RS422 to the controller.*



### SATCOM Modulator

- Modulation : QPSK
- Data Rate : 2.88 Kbps (Voice), 19.2 Kbps(Data)
- Symbol Rate : 2.88 Ksps (voice), 19.2 Ksps(Data)
- Transmit Filtering : Per INTERLSAT IESS-308  
(FIR digital filter implementation)
- Scrambling : per ITU V.35(Intersat Variant)
- FEC : Viterbi: k=7, per IESS-308/309 QPSK:Rate 1/2
- Output frequency : 70 MHz, When using internal reference
- Output Power : -20 dBm
- Output Impedance : 50  $\Omega$ , 19 dB minimum return loss
- Output Connector : SMA Female
- Clocking Options : Internal, 1ppm(SCT)  
External, locking over a  $\pm 100$  ppm range(TT)
- Monitor Functions : DTE clock accuracy relative to internal  
 $\pm 1$  ppm clock

### SATCOM Demodulator

- Input power range : -15 to -25 dBm
- FEC : Viterbi:3 bit soft decision
- Acquisition range :  $\pm 800$ Hz
- Acquisition time : 500 ms average at 19.2 kbps, R1/2 QPSK,  
 $\pm 1$  kHz carrier offset, 6dB Eb/No  
3.5 s average at 2.88 kbps, R1/2 QPSK,  
 $\pm 800$ Hz, 6dB Eb/No
- Clock Tracking Range:  $\pm 100$  ppm min
- Monitor Functions : Frequency offset,  $\pm 2$ kHz range
- Receive signal level monitor accuracy:  $\pm 3$ dB

### FM Transceiver

- Modulation : Frequency Modulation
- Audio Sampling Rate : 8 KHz (Narrow Band), 48 KHz (Wide Band)
- Channel Spacing : 10 KHz (Narrow Band), 100 KHz (Wide Band)
- Output Frequency : 70 mHz, when using internal reference
- Output Power : -20dBm
- Input Power Range : -15 to 025 dBm
- Output Impedance : 50, 19dB minimum return loss
- Output connector : SMA Female

NOTE : The specifications can be changed without notice due to technological advances.



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