



## **PRODUCT SPECIFICATIONS**

# **GlobalCell IID**

**DUAL MODE AMPS/TDMA BASE STATION**

**EIA/TIA-136**

## GENERAL BASE STATION SPECIFICATIONS

Supply voltage:	26.5 VDC
Maximum ripple on supply line:	< 200 millivolts from 20 Hz to 10 MHz
Maximum noise on supply line:	< 40 millivolts from 20 Hz to 10 MHz
Current draw (26.5 VDC):	24 Channels (PA off) – 26 Amps 24 Channels (PA on) – 160 Amps
RF connectors:	Receive: Type N Transmit <16 Channel: Type N Transmit > 16 Channel: Type DIN
T1 connection:	RJ-48
E1 connection:	BNC
Circuit breakers:	1 for every 3 power amplifiers 1 for communications drawer
Split power buss:	Software controlled relay

## TRANSMIT SPECIFICATIONS

Frequency coverage:	869 MHz to 894 MHz
Frequency stability:	+/- 0.1PPM
Minimum channel spacing:	600 KHz for 20 Watt per channel output
Output power:	1 to 20 Watts variable under software control + 1 to -3dBm for variation of temperature and voltage
FM modulation	Voice - 12 KHz peak (adjustable) SAT - 2 KHz (adjustable) Data - 8 KHz (adjustable) Simultaneous voice and SAT 14 KHz (adjustable) Digital: $\pi/4$ shifted differentially encoded quadrature phase shift keying signals (VSELP and ACELP voice encoding)
Unmodulated carrier hum+noise:	32 dB below a 1 KHz tone modulated at 8 KHz peak deviation
Frequency response:	+/- 1 dB - 300 to 3000 Hz (6 dB/octave pre-emphasis)
Compressor characteristics:	2:1 in/out ratio, +/- 5 dB from 0 dB to limiting, +/- 1.0 dB From 0 dB to -30 dB (reference 1 KHz @ 2.9 KHz deviation)
Spurious emission and harmonics:	-90 dBm maximum conducted in the receive band
Spurious emission and harmonics:	-13 dBm maximum with 20 Watts nominal output power conducted outside of receive band
Intermodulation products:	- 60 dBc
Audio muting:	> 45 dB
Carrier on/off time:	< 1 millisecond

## RECEIVER SPECIFICATIONS

Frequency coverage:	824 MHz to 849 MHz
Type of demodulation:	Analog: FM $\pm 12$ KHz voice, $\pm 2$ KHz SAT, $\pm 8$ KHz ST and 10 Kbit/sec signaling, $\pm 14$ KHz combined voice and SAT  Digital: $\pi/4$ shifted differentially encoded quadrature phase shift keying signals VSELP and ACELP
Frequency stability:	+/- 0.1PPM
RF sensitivity:	Analog: < -116 dBm minimum (-121 dBm typical) for 12 dB SINAD with C – Message Filter  Digital: < 3% for DTC at RF of -103dBm speed between 8 and 100 Km/h and for static at -110 dBm  RACH = < 9% for speed of 100 Km/h and RF of -103 dBm, speed of 8 Km/h and RF of -100 dBm, and static at RF of -111 dBm  Bit Error Rate: < 0.0054 for 15 dB CNR per IS-138 minimum
Selectivity (EIA):	> 50 dB for adjacent channel : BER < 3% > 70 dB for alternate channel : BER < 3%
Co-Channel BER:	per IS-138
Spurious and image rejection:	> 70 dB
AM rejection:	>-35 dBm
Audio output level:	Adjustable from + 10 dBm to - 25 dBm for 8 KHz peak deviated 1 KHz tone
Loudness contrast:	< 2 dB
Audio distortion:	< 5%
Frequency response:	+/- 1 dB – 300 to 3000 Hz (6 dB/octave de-emphasis)
Expander characteristics:	2:1 in/out ratio, +/- 5 dB from 0 dB to limiting, +/- 1.0 dB From 0 dB to -30 dB (reference 1 KHz @ 2.9 KHz deviation)
Audio muting:	> 40 dB
Hum and noise:	> 32 dB below audio