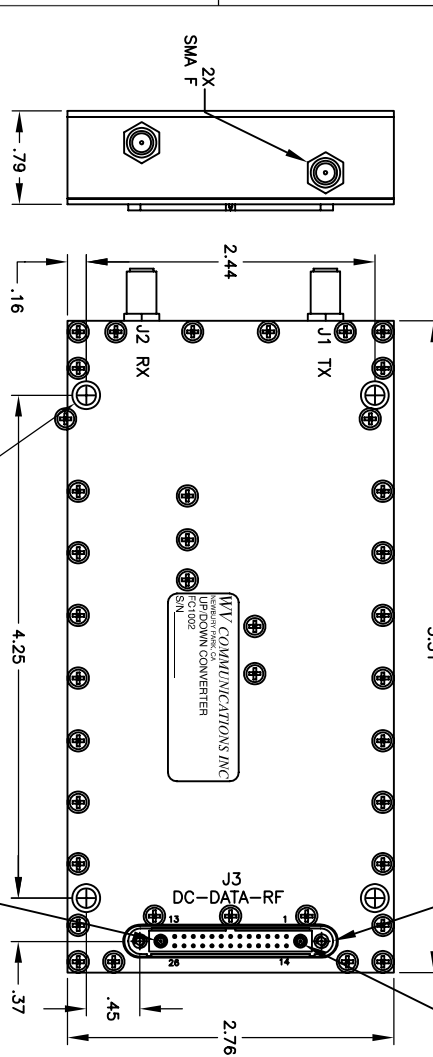


**** PROPRIETARY DATA ****
 THIS DOCUMENT CONTAINS DATA WHICH IS PROPRIETARY TO WY COMMUNICATIONS, INC. (HEREINAFTER REFERRED TO AS "WY"). ANY REPRODUCTION, DISTRIBUTION, OR ALTERATION OF THIS DOCUMENT WITHOUT THE WRITTEN CONSENT OF WY IS PROHIBITED. ALL RIGHTS ARE RESERVED.



U3 - DC-DATA-RF	DC-DATA-RF
1	V-BATT-P
2	V-BATT-N
3	GND
4	GND
5	TX-ON-OFF
6	RS-232-TX
7	RS-232-RX
8	TX-CLK
9	TX-Q-N-H
10	TX-Q-N-L
11	SPR4
12	AGC-COINT-N
13	SPR6
14	V-BATT-P
15	V-BATT-N
16	V-BATT-P
17	GND
18	TX-ON-OFF
19	SPR1
20	SPR2
21	SPR3
22	TX-1-IN-L
23	TX-Q-IN-L
24	TX-Q-IN-H
25	TX-Q-IN-H
26	DC-DATA-RF
27	DC-DATA-RF
28	DC-DATA-RF
29	DC-DATA-RF
30	DC-DATA-RF

TX Specifications
 TX FREQUENCY BAND: 27.5-31.0GHz
 TX FREQUENCY STEP: 125.0KHz Nominal
 RF POWER OUTPUT: +30dBm Minimum
 FREQUENCY STABILITY: 100.00MHz ±0.5ppm Maximum
 FREQUENCY SWITCHING TIME: 0.5mSec Maximum
 MODULATION: QPSK
 I/O DATA INPUT LEVEL: 0.5 - 0.8 Volt RMS
 UN-CODED DATA RATE: 15.548B in 0.548 steps Nominal
 POWER GAIN VARIATION: 0.6 dB p-p Maximum
 HARMONICS: -60dBc Maximum
 SPURIOUS LEVEL: -50dBm Maximum
 OUTPUT IMPEDANCE: 50 Ohm
 OUTPUT VSWR: 2:1 Maximum (Ref 50 Ohm)
 OUTPUT SSB NOISE: -140 dBm/Hz Maximum
 OUTPUT SSB NOISE: -100dBc Maximum @ 1KHz Offset
 OUTPUT SSB NOISE: -80dBc Maximum @ 100KHz Offset
 OUTPUT SSB NOISE: -100dBc Maximum @ 1MHz Offset
 OUTPUT SSB NOISE: -140 dBm/Hz Maximum
 DUTY CYCLE: 25%
 LO LEAKAGE: -30dBc Maximum
 TXCO VOLTAGE: 3.3±0.1 Volt at 3.0mA Maximum
 ON / OFF CONTROL: TTL "0" = On TTL "1" = Off
 DC VOLTAGE & CURRENT: 5.6Vdc to 7.6Vdc at 1.4A

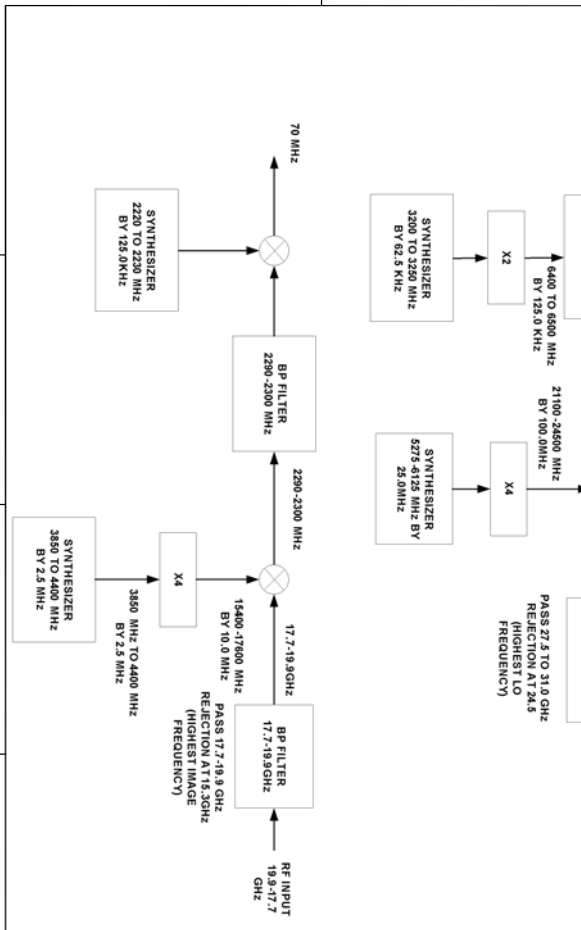
RX Specifications
 RX FREQUENCY BAND: 17.7 to 19.9GHz
 FREQUENCY STEP: 125.0 KHz Nominal
 LO 1 FREQUENCY: 0.5 mSec Maximum
 LO 2 FREQUENCY: 13700-15800MHz in 100.0MHz Steps
 LO 3 FREQUENCY: 3300-3400MHz in 10.0MHz Steps
 MODULATION: QPSK
 L-BAND OUTPUT GAIN: 30dB Minimum
 70MHz IF OUTPUT GAIN: 50 to 80 dB Nominal User Controlled
 70MHz IF FILTER: 3dB BW 0.5MHz Nominal
 35dB BW 1.28MHz
 30dB Min
 0 - 3V/1mA Maximum
 2dB Maximum at +25C
 -75dBc Maximum @ 1KHz Offset
 -80dBc Maximum @ 10KHz Offset
 -100dBc Maximum @ 100KHz Offset
 +100dBm at the 70MHz IF output Port
 ±5dB Maximum
 -60dBm Maximum
 40dBc Minimum
 50 Ohm Nominal
 2:1 Maximum (Ref 50 Ohm)
 50dB Minimum
 1dB Maximum with 20dB KU
 TTL "0" = On TTL "1" = Off
 5.6V at 100mA Maximum
 7.6V at 150mA Maximum
 0.5mA Maximum
 Via RS-232 3.3V 9600N81
 Operating -10 to +70 Deg C
 Storage -40 to +85 Deg C

REF. DESIG.	FUNCTION
J1	RF INPUT
J2	RF OUTPUT
J3	DC-DATA-RF

CONNECTOR TABLE

TX Specifications
 TX FREQUENCY BAND: 27.5-31.0GHz
 TX FREQUENCY STEP: 125.0KHz Nominal
 RF POWER OUTPUT: +30dBm Minimum
 FREQUENCY STABILITY: 100.00MHz ±0.5ppm Maximum
 FREQUENCY SWITCHING TIME: 0.5mSec Maximum
 MODULATION: QPSK
 I/O DATA INPUT LEVEL: 0.5 - 0.8 Volt RMS
 UN-CODED DATA RATE: 15.548B in 0.548 steps Nominal
 POWER GAIN VARIATION: 0.6 dB p-p Maximum
 HARMONICS: -60dBc Maximum
 SPURIOUS LEVEL: -50dBm Maximum
 OUTPUT IMPEDANCE: 50 Ohm
 OUTPUT VSWR: 2:1 Maximum (Ref 50 Ohm)
 OUTPUT SSB NOISE: -140 dBm/Hz Maximum
 OUTPUT SSB NOISE: -100dBc Maximum @ 1KHz Offset
 OUTPUT SSB NOISE: -80dBc Maximum @ 100KHz Offset
 OUTPUT SSB NOISE: -100dBc Maximum @ 1MHz Offset
 DUTY CYCLE: 25%
 LO LEAKAGE: -30dBc Maximum
 TXCO VOLTAGE: 3.3±0.1 Volt at 3.0mA Maximum
 ON / OFF CONTROL: TTL "0" = On TTL "1" = Off
 DC VOLTAGE & CURRENT: 5.6Vdc to 7.6Vdc at 1.4A

RX Specifications
 RX FREQUENCY BAND: 17.7 to 19.9GHz
 FREQUENCY STEP: 125.0 KHz Nominal
 LO 1 FREQUENCY: 0.5 mSec Maximum
 LO 2 FREQUENCY: 13700-15800MHz in 100.0MHz Steps
 LO 3 FREQUENCY: 3300-3400MHz in 10.0MHz Steps
 MODULATION: QPSK
 L-BAND OUTPUT GAIN: 30dB Minimum
 70MHz IF OUTPUT GAIN: 50 to 80 dB Nominal User Controlled
 70MHz IF FILTER: 3dB BW 0.5MHz Nominal
 35dB BW 1.28MHz
 30dB Min
 0 - 3V/1mA Maximum
 2dB Maximum at +25C
 -75dBc Maximum @ 1KHz Offset
 -80dBc Maximum @ 10KHz Offset
 -100dBc Maximum @ 100KHz Offset
 +100dBm at the 70MHz IF output Port
 ±5dB Maximum
 -60dBm Maximum
 40dBc Minimum
 50 Ohm Nominal
 2:1 Maximum (Ref 50 Ohm)
 50dB Minimum
 1dB Maximum with 20dB KU
 TTL "0" = On TTL "1" = Off
 5.6V at 100mA Maximum
 7.6V at 150mA Maximum
 0.5mA Maximum
 Via RS-232 3.3V 9600N81
 Operating -10 to +70 Deg C
 Storage -40 to +85 Deg C



REF. DESIG.	FUNCTION
J1	RF INPUT
J2	RF OUTPUT
J3	DC-DATA-RF

CONNECTOR TABLE

TX Specifications
 TX FREQUENCY BAND: 27.5-31.0GHz
 TX FREQUENCY STEP: 125.0KHz Nominal
 RF POWER OUTPUT: +30dBm Minimum
 FREQUENCY STABILITY: 100.00MHz ±0.5ppm Maximum
 FREQUENCY SWITCHING TIME: 0.5mSec Maximum
 MODULATION: QPSK
 I/O DATA INPUT LEVEL: 0.5 - 0.8 Volt RMS
 UN-CODED DATA RATE: 15.548B in 0.548 steps Nominal
 POWER GAIN VARIATION: 0.6 dB p-p Maximum
 HARMONICS: -60dBc Maximum
 SPURIOUS LEVEL: -50dBm Maximum
 OUTPUT IMPEDANCE: 50 Ohm
 OUTPUT VSWR: 2:1 Maximum (Ref 50 Ohm)
 OUTPUT SSB NOISE: -140 dBm/Hz Maximum
 OUTPUT SSB NOISE: -100dBc Maximum @ 1KHz Offset
 OUTPUT SSB NOISE: -80dBc Maximum @ 100KHz Offset
 OUTPUT SSB NOISE: -100dBc Maximum @ 1MHz Offset
 DUTY CYCLE: 25%
 LO LEAKAGE: -30dBc Maximum
 TXCO VOLTAGE: 3.3±0.1 Volt at 3.0mA Maximum
 ON / OFF CONTROL: TTL "0" = On TTL "1" = Off
 DC VOLTAGE & CURRENT: 5.6Vdc to 7.6Vdc at 1.4A

RX Specifications
 RX FREQUENCY BAND: 17.7 to 19.9GHz
 FREQUENCY STEP: 125.0 KHz Nominal
 LO 1 FREQUENCY: 0.5 mSec Maximum
 LO 2 FREQUENCY: 13700-15800MHz in 100.0MHz Steps
 LO 3 FREQUENCY: 3300-3400MHz in 10.0MHz Steps
 MODULATION: QPSK
 L-BAND OUTPUT GAIN: 30dB Minimum
 70MHz IF OUTPUT GAIN: 50 to 80 dB Nominal User Controlled
 70MHz IF FILTER: 3dB BW 0.5MHz Nominal
 35dB BW 1.28MHz
 30dB Min
 0 - 3V/1mA Maximum
 2dB Maximum at +25C
 -75dBc Maximum @ 1KHz Offset
 -80dBc Maximum @ 10KHz Offset
 -100dBc Maximum @ 100KHz Offset
 +100dBm at the 70MHz IF output Port
 ±5dB Maximum
 -60dBm Maximum
 40dBc Minimum
 50 Ohm Nominal
 2:1 Maximum (Ref 50 Ohm)
 50dB Minimum
 1dB Maximum with 20dB KU
 TTL "0" = On TTL "1" = Off
 5.6V at 100mA Maximum
 7.6V at 150mA Maximum
 0.5mA Maximum
 Via RS-232 3.3V 9600N81
 Operating -10 to +70 Deg C
 Storage -40 to +85 Deg C

WY Communications
 1176 Townline Dr.
 Newark, NY 14616

Mini KA Up/Down Converter
 1 Watt
 MODEL: PC1002

REV	DATE	DESCRIPTION
1	07/27/04	INITIAL DESIGN
2	2-01-05	REVISED TO ADD DC CONTROL
3	2-01-05	REVISED TO ADD RF INPUT
4	2-01-05	REVISED TO ADD RF OUTPUT
5	2-01-05	REVISED TO ADD DC-DATA-RF
6	2-01-05	REVISED TO ADD DC-DATA-RF
7	2-01-05	REVISED TO ADD DC-DATA-RF
8	2-01-05	REVISED TO ADD DC-DATA-RF

APPROVALS:

DESIGNER	CHECKED	DATE
J. MEDINA	J. MEDINA	07/27/04
T. MEDINA	T. MEDINA	2-01-05
T. MEDINA	T. MEDINA	2-01-05
T. MEDINA	T. MEDINA	2-01-05
T. MEDINA	T. MEDINA	2-01-05
T. MEDINA	T. MEDINA	2-01-05
T. MEDINA	T. MEDINA	2-01-05
T. MEDINA	T. MEDINA	2-01-05

DO NOT SCALE DRAWING

050-50491