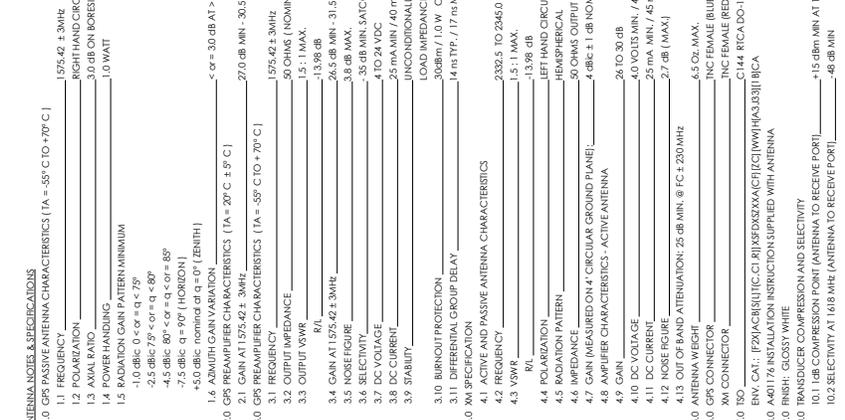


REV.	DESCRIPTION	DATE	APPROVED
B	REF ECH 07-187	01/10/07	AV 10/22/07
C	REF ECH 08-008	01/22/08	AV 01/22/08
D	REF ECH 08-095	11/11/08	DH 11/11/08
E	REF ECH 19-088	9/9/10	DH 9/9/10
F	REF ECH 20-074	9/18/20	DH 10/20/20
G	REF ECH 22-082	RM 4/21/22	DH 04/21/22

- ANTENNA NOTES & SPECIFICATIONS**
- 1.0 GPS PASSIVE ANTENNA CHARACTERISTICS (TA = -55° C TO +70° C)
    - 1.1 FREQUENCY 1575.42 ± 3MHz
    - 1.2 POLARIZATION RIGHT HAND CIRCULAR
    - 1.3 AXIAL RATIO -3.0 dB ON BORE-SIGHT (ZENITH) MAX.
    - 1.4 POWER HANDLING 1.0 WATT
    - 1.5 RADARON GAIN PATTERN
      - 1.5.1  $0^\circ \leq \alpha \leq 89^\circ$
      - 1.5.2  $90^\circ \leq \alpha \leq 89^\circ$
      - 1.5.3  $80^\circ < \alpha < 90^\circ$  or  $89^\circ$
      - 1.5.4  $-7.5 \text{ dBc}$   $\alpha = 90^\circ$  (HORIZON)
      - 1.5.5  $-5.0 \text{ dBc}$  nominal  $\alpha = 0^\circ$  (ZENITH)
  - 1.6 AZIMUTH GAIN VARIATION  $\leq \alpha \leq 3.0 \text{ dB}$  AT  $> \alpha = 5^\circ$  ELEVATION
  - 2.0 GPS PREAMPLIFIER CHARACTERISTICS (TA = 20° C ± 5° C)
    - 2.1 GAIN AT 1575.42 ± 3MHz 27.0 dB MIN - 30.5 dB MAX.
  - 3.0 GPS PREAMPLIFIER CHARACTERISTICS (TA = -55° C TO +70° C)
    - 3.1 FREQUENCY 1575.42 ± 3MHz
    - 3.2 OUTPUT IMPEDANCE 50 OHMS (NOMINAL)
    - 3.3 OUTPUT VSWR 1.5 : 1 MAX.
    - 3.4 GAIN AT 1575.42 ± 3MHz 26.5 dB MIN - 31.5 dB MAX.
    - 3.5 NOISE FIGURE 13.98 dB
    - 3.6 SELECTIVITY -35 dB MIN. SATCOM BAND (1628.5 MHz)
    - 3.7 DC VOLTAGE 4 TO 24 VDC
    - 3.8 DC CURRENT 25 mA MIN / 40 mA MAX.
    - 3.9 STABILITY UNCONDITIONALLY STABLE FOR ANY IMPEDANCE
  - 4.0 XM SPECIFICATION
    - 4.1 DIFFERENTIAL GROUP DELAY 30dBps / 1.0μs UNINDICATED
    - 4.2 SPECIFICATION 14 ns TYP. / 17 ns MAX.
  - 4.1 ACTIVE AND PASSIVE ANTENNA CHARACTERISTICS
    - 4.2 FREQUENCY 2335.5 TO 2445.0 MHz
    - 4.3 VSWR 1.5 : 1 MAX.
    - 4.4 POLARIZATION LEFT HAND CIRCULAR
    - 4.5 RADIATION PATTERN HEMISPHERICAL
    - 4.6 IMPEDANCE 50 OHMS OUTPUT (NOMINAL)
    - 4.7 GAIN (MEASURED ON 4° CIRCULAR GROUND PLANE) 4 dBc ± 1 dB NOM. ZENITH
    - 4.8 AMPLIFIER CHARACTERISTICS - ACTIVE ANTENNA
      - 4.9 GAIN 26 TO 38 dB
      - 4.10 DC VOLTAGE 4.0 VOLTS MIN. / 4.7 VOLTS TYP. / 5.5 VOLTS MAX.
      - 4.11 DC CURRENT 25 mA MIN. / 45 mA TYP. / 55 mA MAX.
      - 4.12 NOISE FIGURE 27 dB [MAX.]
      - 4.13 OUT OF BAND ATTENUATION: 25 dB MIN. @ FC ± 250 MHz
  - 5.0 ANTENNA WEIGHT 6.5 Oz. MAX.
  - 6.0 GPS CONNECTOR TNC FEMALE (BLUE BAND)
  - 7.0 XM CONNECTOR TNC FEMALE (RED BAND)
  - 8.0 ENV CAL: (ENVIRONMENTAL CHARACTERISTICS) (W) (H) (A) (S) (NOT A ISO FUNCTION)
  - 9.0 FINISH: GLOSSY WHITE
  - 10.0 TRANSDUCER COMPRESSION AND SELECTIVITY
    - 10.1 1 dB COMPRESSION POINT (ANTENNA TO RECEIVE PORT) +15 dBm MIN AT 1618 MHz (CW)
    - 10.2 SELECTIVITY AT 1618 MHz (ANTENNA TO RECEIVE PORT) -48 dB MIN



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		CONTRACT NO.	
DECIMALS	FRACTIONS	DATE	APPROVALS
0.1	1/16	06/12/06	H. NGUYEN
0.01	1/32	06/12/06	D. HOLLOWAY
0.005	1/64	06/12/06	L. VELASQUEZ
0.002	1/128	06/12/06	S. ADAMS

DO NOT SCALE DRAWING		SCALE: 1:1	
ASSY. DWG. C40117Z		COMBAT® ANTENNA	
GPS / XM		CI 401-460	
COMANT INDUSTRIES, INC.		51351	

REV.	DATE	DESCRIPTION
1	06/12/06	ISSUE FOR PRODUCTION
2	06/12/06	ISSUE FOR PRODUCTION
3	06/12/06	ISSUE FOR PRODUCTION
4	06/12/06	ISSUE FOR PRODUCTION
5	06/12/06	ISSUE FOR PRODUCTION
6	06/12/06	ISSUE FOR PRODUCTION
7	06/12/06	ISSUE FOR PRODUCTION
8	06/12/06	ISSUE FOR PRODUCTION
9	06/12/06	ISSUE FOR PRODUCTION
10	06/12/06	ISSUE FOR PRODUCTION