

**Specification Control Drawing
Concealed Weapons Detector**

Part: Antenna, A1

Pref. Manufacturer: JEM Engineering; Laurel, MD

Vendor Part No.:

SCD# 105107 October 28, 2005

| <u>Parameter</u> | <u>Specification</u> |
|--------------------------------|---|
| Type | Triple, Slot fed, flat-panel printed patch array |
| Frequency Band | 9.5 to 10.7 GHz for all specs 9.3 to 10.9 useable |
| Polarization | Array 1 Rx (top) Horizontal Linear Array 2 Rx (mid) Vertical Linear Array 3 Tx (bottom) Horizontal Linear |
| Beamwidth | 14° Azimuth X 32° Elevation, each array |
| Sidelobes | 14 dB minimum below main beam |
| Form Factor includes radome | 10 X 12 X 1.2" thick w/radome Mounting holes to be determined, exact dimensions per JEM Dwg #702-0025-000 |
| Isolation between arrays | Arrays 1 to 3: >44 dB min, >50 dB median Arrays 2 to 3 and 1 to 2: >45 dB min, >50 dB med |
| Cross-polarization Response | P90* Array 1-3 <-33 dB min, relative to co-pol P50* Array 1 & 3 <-35 dB; Array #2 <-40 dB |
| RF Power Handling | 1 watt |
| Impedance and Matching | 50 ohms, VSWR <1.8:1 |
| Connectors | Three SMA female, placed IAW JEM dwg #702-0025-000 |
| Gain | 15 dBi minimum, 16.5 dBi nominal |
| Environment | Outdoor -20 to +50°C |
| Baseplate | 0.125 thick aluminum, 2 sets of mounting holes (4 each) to be specified |
| Weight | 2.5 lbs max. |

*P90 implies that 90% of measurements fall within this range; P50 implies 50% of the measurements fall within this range - i.e., this is the median