**Exhibit A: Antenna Information** 

FCC ID: HN2MG18



## **APPROVED SUPPLIERS**

Manufacturer	Address/Telephone	805-575	Manufacturer's Part No.
Centurion International, Inc.	P.O. Box 82846 Lincoln, NE 68501 (402) 467-4491	-001 -002 -003 -004	CAF25977 CAF25941 Not Available Not Available
Mobile Mark, Inc.	3900-B River Road Schiller Park, IL 60176 (847) 671-6690	-001 -002 -003 -004	Not Available Not Available PSTG0-859CI PSTG0-837CI

1.0 Scope: This specification describes the requirements for a family of portable cellular telephone (cell phone) style, stubby antennas with custom metric thread mounting supplied as follows:

Intermec P/N	Color Code	Nominal Frequency	Rated Power
-001	green	900 MHz	10 Watts
-002	blue	1800 MHz	10 Watts
-003	yellow	860 MHz	10 Watts
-004	red	838 MHz	10 Watts

2.0 Quality Assurance: Intermec Receiving Inspection reserves the right to use AQL sampling techniques when inspecting a lot.

#### **REVISION HISTORY**

Rev.	File No.	Description of Change	Date	Approved
Α	C2397	Release	9/21/00	LA
В	C2619	Add -002 part, Revise ¶1.0, ¶5.1 Was 824 to 896MHz, ¶5.2 Was n/s, ¶5.3 Was 1.5,	2/23/01	LW
		¶5.7 was 10Ω, Insert ¶7.0		
С	C2895	Add -003 & -004 parts, Revise ¶1.0, ¶4.0 Add Individual parts will be marked, ¶5.7	8/14/01	LW
		$50\Omega$ was $10\Omega$ , $\P7.0$ 896 to 940 MHz was 824 to 896 MHz, 1710 to 1880 MHz was		
		1800 MHz nom, add -003 & -004, & add color code, ¶8.0 Add color code, Add ¶9.0		
D	C2903	¶1.0 Green was blue & blue was green, ¶7.0 Green was blue & blue was green	8/27/01	LW
Е	C3043	¶6.4 See parts tabulation was not specified, ¶7.0 Add gain & wave length	11/26/01	LW

REVISION LEVEL   E	E	С	С																					
SHEET NUMBER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
COMPONENT ENGR.	DA.	TE											TITL	-E										
J. McROBERTS	9,	/21/0	00	In	Intermec Technologies Corp. PHONE STYLE ANTER							ENN	ENNA, THREAD MNT											
COGNIZANT ENGR.	DA	TE		55	550 Second Street S.E.							DRAWING NO.												
S. HOFSTETTER	-	-	-	Ce	Cedar Rapids, IA 52401							805-575-0XX												
APPROVED	DA.	TE		Te	leph	one	No.	(31	9) 36	39-3°	100													
K. VORHIES by LA	9,	/21/0	00	Fa	csim	ile N	Ю.	(31	9) 36	69-34	153										Sh	eet	10	f 4

- 3.0 Packaging: All antennas will be packaged in containers capable of protecting them from damage in common carrier shipping and handling.
- 4.0 Markings: Individual parts will be marked with a distinguishing color code. Each container will be labeled or otherwise marked with the manufacturer's name or trademark, and the part number designation.

  Major shipping cartons will be marked with the Intermec part number.

#### 5.0 Antenna Specifications:

- **5.1** Frequency Range: See parts tabulation
- 5.2 Antenna Gain: See parts tabulation
- **5.3** VSWR (at resonance): See parts tabulation
- **5.4** Power Rating: 10 Watts
- 5.5 Radiation: Omnidirectional
- 5.6 Polarization: Not specified
- **5.7** Nominal Impedance:  $50\Omega$

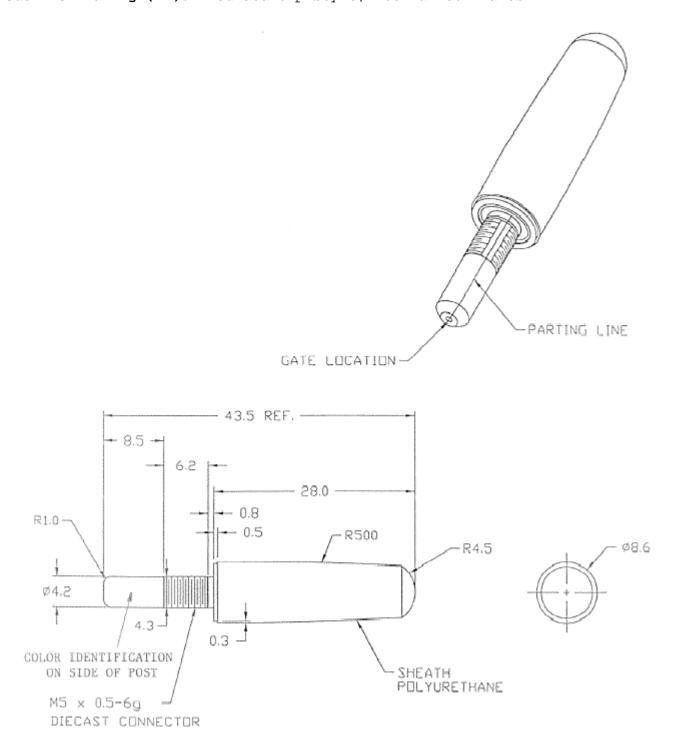
#### 6.0 Mechanical Ratings:

- **6.1** Antenna Material: Not specified
- **6.2** Sheath Material: Polyurethane, black color
- 6.3 Mounting Means: Die-cast M5 x 0.5 -6g male thread mount
- **6.4** Element Length: See parts tabulation
- 6.5 Ambient Operating Temperature: -40°C to +85°C

### 7.0 Parts Tabulation:

		Color				Wave
Part No.	Frequency Range	Code	Application	VSWR	Gain	Length
-001	896 to 940 MHz	green	Mobitex	<2:1	- <u>6 dB</u> i	1/16
-002	<mark>1710 to 1880 MHz</mark>	<mark>blue</mark>	<mark>GSM</mark>	<2: <mark>1</mark>	-3 <mark>dBi</mark>	1/8
-003	824 to 894 MHz	yellow	CDPD	<2:1	-6 dBi	1/16
-004	806 to 870 MHz	red	Motient/Ardis	<2:1	-6 dBi	1/16

## 8.0 Outline Drawing (mm): Rounded tip style, -001 & -002 Parts



# 9.0 Alternative Outline Drawing (mm): Indented tip style, -003 & -004 Parts

