

APPENDIX B - ANTENNA SPECIFICATIONS

902

REV	REF.	DESCRIPTION	INPT BY	APP	DATE
1		Prototype Release	CAC	SLH	10/11/99
A	1828	Release	CDC		11/30/99

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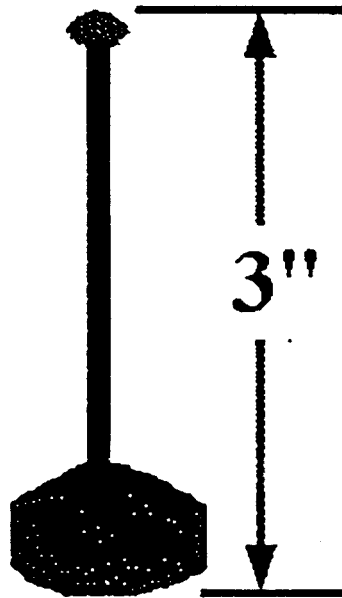
APPROVALS		Unless otherwise specified dimensions are in inches. NOT TO SCALE DRAWING		ITRONIX CORPORATION S 801 STEVENS AVE. P.O. BOX 0179 SPOKANE, WA 99210-0179
ORIG. D. McLean	DATE 10/8/99			TITLE: VEHICLE ANTENNA, MOBITEX, UNITY GAIN, Z563, GROUND PLANE DEPENDENT
CHK. <i>[Signature]</i>	DATE 12/2/99			
ENG. <i>[Signature]</i>	DATE 12/3/99			
MFG. <i>[Signature]</i>	DATE 12/6/99			Drawing Number 46-0060-000
F.S.	DATE			PAGE 1 OF 4

- 1.0 **DESCRIPTION:** Unity gain, ground plane vehicle antenna. The factory tuned frequency is 898 MHz. This antenna is for use in a Mobitex network.
- 2.0 **APPLICABLE DOCUMENTS AND REFERENCES:**
- 2.1 **ITRONIX DOCUMENTS:**
Procedure, Reliability Design Guidelines....920-0806-001
- 2.2 **MANUFACTURER'S SPECIFICATION:** MaxRad Z563
- 3.0 **MECHANICAL REQUIREMENTS:**
- 3.1 Dimensions (For Reference Only): See Figure 1.
- 3.2 Radiator Material: Stainless steel with a bright finish.
- 3.3 Antenna Length (For Reference Only): 3 inches
- 3.4 Rod/Coil Type: Straight
- 3.5 Connectors: 1- $\frac{1}{8}$ "-18 mounting threads mate with $\frac{3}{4}$ " mounts (with a rubber gasket)
- 3.6 Mounting (For Reference Only): $\frac{3}{4}$ " Magnetic Mount (46-0065-xxx) OR Thru-hole Mount (46-0073-xxx).
- 4.0 **ELECTRICAL REQUIREMENTS:**
- 4.1 VSWR at Resonant Point: <1.5:1
- 4.2 Nominal Impedance: 50 Ω
- 4.3 Antenna Type: $\frac{1}{4}$ wave
- 4.4 Operating Frequency Range: 896-941
- 4.5 Factory Tuned Frequency: 898 MHz
- 4.6 Intended for Use in Network Type: Mobitex
- 4.7 Power Dissipation: 100 W
- 5.0 **ENVIRONMENTAL REQUIREMENTS:**
- 5.1 Temperature: -40°C to +85°C
- 5.2 Humidity: 0% to 100% Relative Humidity
- 6.0 **SAFETY REQUIREMENTS:** N/A
- 7.0 **MARKING REQUIREMENTS:**
The bulk shipping container must bear the Manufacturer's name and part number.
- 8.0 **PACKAGING REQUIREMENTS:**
Packaging of components shall be such that no damage will occur to the component during shipment. Refer to EIA STD RS-383-A.
- 9.0 **ACCEPTABILITY REQUIREMENTS:**
These units must meet inspection requirements. The antenna bag should contain an antenna rod, a nut, a rubber gasket (MaxRad part number MSGSK), a rain cap and assembly instructions.

10.0 MANUFACTURER AND MANUFACTURER'S PART NUMBER:

See Section 9.0 for a list of parts included.

Part Number	Manufacturer	Manufacturer's Part Number
46-0060-001	MaxRad	Z563



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Figure 1: 46-0060-001 Antenna dimensions (For Reference Only)

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A	1828	Release	CDC	SLH	11/30/99

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APPROVALS		Unless otherwise specified dimensions are in inches. NOT TO SCALE DRAWING		ITRONIX CORPORATION S 801 STEVENS AVE. P.O. BOX 0179 SPOKANE, WA 99210-0179
ORIG. D. McLean	DATE 10/8/99			TITLE: VEHICLE ANTENNA, MOBITEX, 5 dB, Z573 ELEVATED FEED
CHK. <i>[Signature]</i>	DATE 12/3/99			
ENG. <i>[Signature]</i>	DATE 12/3/99			
MFG. <i>[Signature]</i>	DATE 12/6/99			Drawing Number 46-0062-000
F.S.	DATE			PAGE 1 OF 4

- 1.0 **DESCRIPTION:** Five dB gain, elevated vehicle antenna. The factory tuned frequency is 898 MHz. This antenna is for use in a Mobitex network.
- 2.0 **APPLICABLE DOCUMENTS AND REFERENCES:**
 - 2.1 **ITRONIX DOCUMENTS:**
Procedure, Reliability Design Guidelines....920-0806-001
 - 2.2 **MANUFACTURER'S SPECIFICATION:** MaxRad Z573
- 3.0 **MECHANICAL REQUIREMENTS:**
 - 3.1 Dimensions (For Reference Only): See Figure 1.
 - 3.2 Radiator Material: Stainless steel with a bright finish.
 - 3.3 Antenna Length (For Reference Only): 31-½ inches
 - 3.4 Rod/Coil Type: Trilinear/Open
 - 3.5 Connectors: 1- $\frac{1}{8}$ "-18 mounting threads mate with $\frac{3}{4}$ " mounts (with a rubber gasket)
 - 3.6 Mounting (For Reference Only): $\frac{3}{4}$ " Magnetic Mount (46-0065-xxx), Thru-Hole Mount (46-0073-xxx) OR $\frac{3}{4}$ " Chrome Frame Mount (46-0074-xxx)
- 4.0 **ELECTRICAL REQUIREMENTS:**
 - 4.1 VSWR at Resonant Point: <1.5:1
 - 4.2 Nominal Impedance: 50 Ω
 - 4.3 Antenna Type: Dual $\frac{1}{2}$ wave over a $\frac{1}{4}$ wave
 - 4.4 Operating Frequency Range: 896-940 MHz
 - 4.5 Factory Tuned Frequency: 898 MHz
 - 4.6 Intended for Use in Network Type: Mobitex
 - 4.7 Power Dissipation: 125 W
- 5.0 **ENVIRONMENTAL REQUIREMENTS:**
 - 5.1 Temperature: -40°C to +85°C
 - 5.2 Humidity: 0% to 100% Relative Humidity
- 6.0 **SAFETY REQUIREMENTS:** N/A
- 7.0 **MARKING REQUIREMENTS:**
The bulk shipping container must bear the Manufacturer's name and part number.
- 8.0 **PACKAGING REQUIREMENTS:**
Packaging of components shall be such that no damage will occur to the component during shipment. Refer to EIA STD RS-383-A.
- 9.0 **ACCEPTABILITY REQUIREMENTS:**
These units must meet inspection requirements. The antenna bag should contain an elevated feed base, a rod, a rubber gasket (MaxRad part number MSGSK), a rain cap, an allen wrench and assembly instructions.

10.0 MANUFACTURER AND MANUFACTURER'S PART NUMBER:

See Section 9.0 for a list of parts included.

Part Number	Manufacturer	Manufacturer's Part Number
46-0062-001	MaxRad	Z573

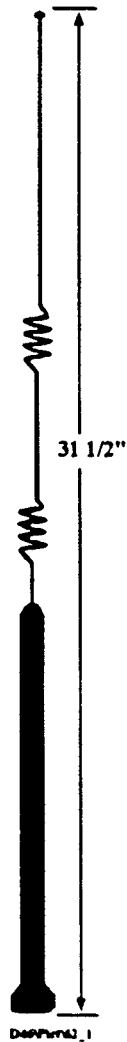


Figure 1: 46-0062-001 Antenna dimensions (For Reference Only)

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A	1828	Release	CDC		11/30/99

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APPROVALS		Unless otherwise specified dimensions are in inches. NOT TO SCALE DRAWING		ITRONIX CORPORATION S 801 STEVENS AVE. P.O. BOX 0179 SPOKANE, WA 99210-0179	
ORIG. D. McLean	DATE 10/8/99			TITLE: VEHICLE ANTENNA, MOBITEX, 3 dB GAIN, Z571, ELEVATED FEED	
CHK. <i>[Signature]</i>	DATE 12/3/99				
ENG. <i>[Signature]</i>	DATE 12/3/99				
MFG. <i>[Signature]</i>	DATE 12/6/99			Drawing Number 46-0063-000	
F.S.	DATE			PAGE 1 OF 4	

- 1.0 **DESCRIPTION:** Three dB gain, elevated vehicle antenna. The factory tuned frequency is 898 MHz. This antenna is for use in a Mobitex network.
- 2.0 **APPLICABLE DOCUMENTS AND REFERENCES:**
- 2.1 **ITRONIX DOCUMENTS:**
Procedure, Reliability Design Guidelines....920-0806-001
- 2.2 **MANUFACTURER'S SPECIFICATION:** MaxRad Z571
- 3.0 **MECHANICAL REQUIREMENTS:**
- 3.1 Dimensions (For Reference Only): See Figure 1.
- 3.2 Radiator Material: Stainless steel with a bright finish.
- 3.3 Antenna Length (For Reference Only): 22-½ inches
- 3.4 Rod/Coil Type: Collinear/Open
- 3.5 Connectors: 1-¹/₈"-18 mounting threads mate with ¾" mounts (with a rubber gasket)
- 3.6 Mounting (For Reference Only): ¾" Magnetic Mount (46-0065-xxx), Thru-Hole Mount (46-0073-xxx) OR ¾" Chrome Frame Mount (46-0074-xxx)
- 4.0 **ELECTRICAL REQUIREMENTS:**
- 4.1 VSWR at Resonant Point: <1.5:1
- 4.2 Nominal Impedance: 50Ω
- 4.3 Antenna Type: ½ wave over a ¼ wave
- 4.4 Operating Frequency Range: 896-940 MHz
- 4.5 Factory Tuned Frequency: 898 MHz
- 4.6 Intended for Use in Network Type: Mobitex
- 4.7 Power Dissipation: 125 W
- 5.0 **ENVIRONMENTAL REQUIREMENTS:**
- 5.1 Temperature: -40°C to +85°C
- 5.2 Humidity: 0% to 100% Relative Humidity
- 6.0 **SAFETY REQUIREMENTS:** N/A
- 7.0 **MARKING REQUIREMENTS:**
The bulk shipping container must bear the Manufacturer's name and part number.
- 8.0 **PACKAGING REQUIREMENTS:**
Packaging of components shall be such that no damage will occur to the component during shipment. Refer to EIA STD RS-383-A.
- 9.0 **ACCEPTABILITY REQUIREMENTS:**
These units must meet inspection requirements. The antenna bag should contain an elevated feed base, a rod, a rubber gasket (MaxRad part number MSGSK), a rain cap, an allen wrench and assembly instructions.

10.0 MANUFACTURER AND MANUFACTURER'S PART NUMBER:

See Section 9.0 for list of parts included.

Part Number	Manufacturer	Manufacturer's Part Number
46-0063-001	MaxRad	Z571

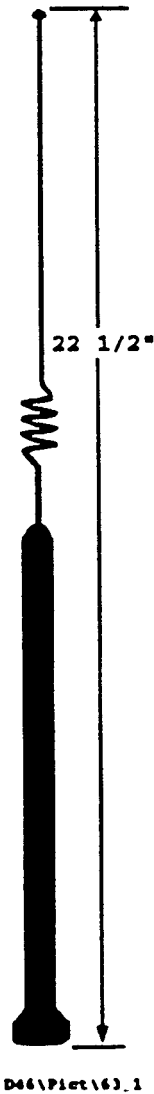


Figure 1: 46-0063-001 Antenna dimensions (For Reference Only)

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APPROVALS		Unless otherwise specified dimensions are in inches. NOT TO SCALE DRAWING		ITRONIX CORPORATION S 801 STEVENS AVE. P.O. BOX 0179 SPOKANE, WA 99210-0179
ORIG. D. McLean	DATE 10/8/99			TITLE: VEHICLE ANTENNA, MOBITEX, 5 dB GAIN, Z567, GROUND PLANE DEPENDENT
CHK. <i>V. [unclear]</i>	DATE <i>12/3/99</i>			
ENG. <i>[unclear]</i>	DATE <i>12/3/99</i>			
MFG. <i>[unclear]</i>	DATE <i>12/6/99</i>			
F.S.	DATE			Drawing Number 46-0066-000
				PAGE 1 OF 4

- 1.0 **DESCRIPTION:** Five dB gain, ground plane vehicle antenna. The factory tuned frequency is 898 MHz. This antenna is for use in a Mobitex network.
- 2.0 **APPLICABLE DOCUMENTS AND REFERENCES:**
- 2.1 **ITRONIX DOCUMENTS:**
Procedure, Reliability Design Guidelines....920-0806-001
- 2.2 **MANUFACTURER'S SPECIFICATION:** MaxRad Z567
- 3.0 **MECHANICAL REQUIREMENTS:**
- 3.1 Dimensions (For Reference Only): See Figure 1.
- 3.2 Radiator Material: Stainless steel with a bright finish.
- 3.3 Antenna Length (For Reference Only): 22 inches
- 3.4 Rod/Coil Type: Trilinear/Open
- 3.5 Connectors: 1- $\frac{1}{8}$ "-18 mounting threads mate with $\frac{3}{4}$ " mounts (with a rubber gasket)
- 3.6 Mounting (For Reference Only): $\frac{3}{4}$ " Magnetic Mount (46-0065-xxx) **OR** Thru-Hole Mount (46-0073-xxx)
- 4.0 **ELECTRICAL REQUIREMENTS:**
- 4.1 VSWR at Resonant Point: <1.5:1
- 4.2 Nominal Impedance: 50 Ω
- 4.3 Antenna Type: Dual $\frac{1}{2}$ wave over a $\frac{1}{4}$ wave
- 4.4 Operating Frequency Range: 896-940 MHz
- 4.5 Factory Tuned Frequency: 898 MHz
- 4.6 Intended for Use in Network Type: Mobitex
- 4.7 Power Dissipation: 150 W
- 5.0 **ENVIRONMENTAL REQUIREMENTS:**
- 5.1 Temperature: -40°C to +85°C
- 5.2 Humidity: 0% to 100% Relative Humidity
- 6.0 **SAFETY REQUIREMENTS:** N/A
- 7.0 **MARKING REQUIREMENTS:**
The bulk shipping container must bear the Manufacturer's name and part number.
- 8.0 **PACKAGING REQUIREMENTS:**
Packaging of components shall be such that no damage will occur to the component during shipment. Refer to EIA STD RS-383-A.
- 9.0 **ACCEPTABILITY REQUIREMENTS:**
These units must meet inspection requirements. The antenna bag should contain an antenna rod, a nut, a rubber gasket (MaxRad part number MSGSK), a rain cap, an allen wrench and assembly instructions.

10.0 MANUFACTURER AND MANUFACTURER'S PART NUMBER:

See Section 9.0 for a list of parts included.

Part Number	Manufacturer	Manufacturer's Part Number
46-0066-001	MaxRad	Z567

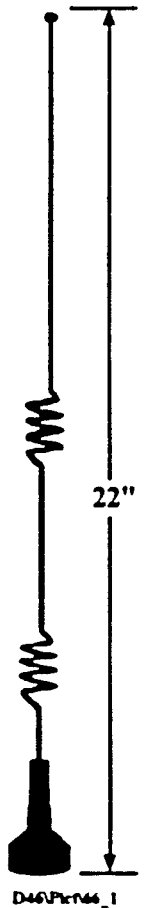


Figure 1: 46-0066-001 Antenna dimensions (For Reference Only)

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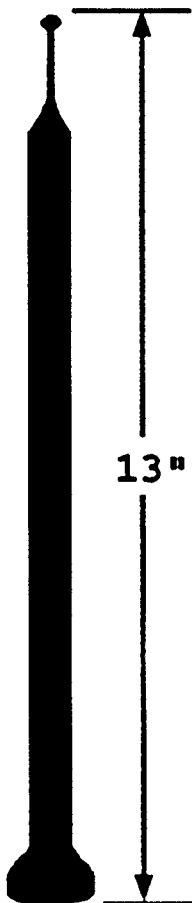
APPROVALS		Unless otherwise specified dimensions are in inches. NOT TO SCALE DRAWING		ITRONIX CORPORATION S 801 STEVENS AVE. P.O. BOX 0179 SPOKANE, WA 99210-0179
ORIG. D. McLean	DATE 10/8/99			TITLE: VEHICLE ANTENNA, MOBITEX, UNITY GAIN, Z569, ELEVATED FEED
CHK. <i>[Signature]</i>	DATE 12/3/99			
ENG. <i>[Signature]</i>	DATE 12/3/99			
MFG. <i>[Signature]</i>	DATE 12/6/99			Drawing Number 46-0067-000
F.S.	DATE			PAGE 1 OF 4

- 1.0 **DESCRIPTION:** Elevated vehicle antenna with an unity gain factor. It has a factory tuned frequency of 898 MHz. This antenna is for use in a Mobitex network.
- 2.0 **APPLICABLE DOCUMENTS AND REFERENCES:**
- 2.1 **ITRONIX DOCUMENTS:**
Procedure, Reliability Design Guidelines....920-0806-001
- 2.2 **MANUFACTURER'S SPECIFICATION:** MaxRad Z569
- 3.0 **MECHANICAL REQUIREMENTS:**
- 3.1 Dimensions: See Figure 1. (For Reference Only).
- 3.2 Radiator Material: Stainless steel with a bright finish.
- 3.3 Antenna Length (For Reference Only): 13 inches
- 3.4 Rod/Coil Type: Straight
- 3.5 Connectors: 1- $\frac{1}{8}$ "-18 mounting threads mate with $\frac{3}{4}$ " mounts (with a rubber gasket)
- 3.6 Mounting (For Reference Only): $\frac{3}{4}$ " Magnetic Mount (46-0065-xxx), Thru-Hole Mount (46-0073-xxx) **OR** $\frac{3}{4}$ " Chrome Frame Mount (46-0074-xxx)
- 4.0 **ELECTRICAL REQUIREMENTS:**
- 4.1 VSWR at Resonant Point: <1.5:1
- 4.2 Nominal Impedance: 50 Ω
- 4.3 Antenna Type: $\frac{1}{4}$ wave
- 4.4 Operating Frequency Range: 896-940
- 4.5 Factory Tuned Frequency: 898 MHz
- 4.6 Intended for Use in Network Type: Mobitex
- 4.7 Power Dissipation: 125 W
- 5.0 **ENVIRONMENTAL REQUIREMENTS:**
- 5.1 Temperature: -40°C to +85°C
- 5.2 Humidity: 0% to 100% Relative Humidity
- 6.0 **SAFETY REQUIREMENTS:** N/A
- 7.0 **MARKING REQUIREMENTS:**
The bulk shipping container must bear the Manufacturer's name and part number.
- 8.0 **PACKAGING REQUIREMENTS:**
Packaging of components shall be such that no damage will occur to the component during shipment. Refer to EIA STD RS-383-A.
- 9.0 **ACCEPTABILITY REQUIREMENTS:**
These units must meet inspection requirements. The antenna bag should contain an elevated feed base with attached rod, a rubber gasket (MaxRad part number MSGSK), a rain cap, an allen wrench and assembly instructions.

10.0 MANUFACTURER AND MANUFACTURER'S PART NUMBER:

See Section 9.0 for list of parts included.

Part Number	Manufacturer	Manufacturer's Part Number
46-0067-001	MaxRad	Z569



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Figure 1: 46-0067-001 Antenna dimensions (For Reference Only)

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REV	REF.	DESCRIPTION	INPT BY	APP	DATE
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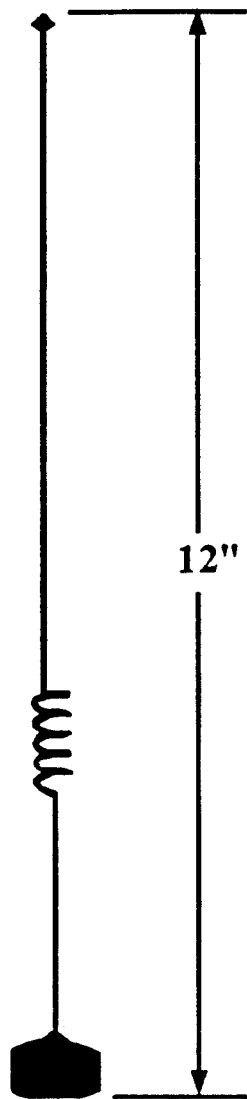
APPROVALS		Unless otherwise specified dimensions are in inches. NOT TO SCALE DRAWING		ITRONIX CORPORATION S 801 STEVENS AVE. P.O. BOX 0179 SPOKANE, WA 99210-0179
ORIG. D. McLean	DATE 10/8/99			TITLE: VEHICLE ANTENNA, MOBITEX, 3 dB GAIN, Z565, GROUND PLANE DEPENDENT
CHK. <i>[Signature]</i>	DATE 12/3/99			
ENG. <i>[Signature]</i>	DATE 12/3/99			
MFG. <i>[Signature]</i>	DATE 12/6/99			Drawing Number 46-0070-000
F.S.	DATE			PAGE 1 OF 4

- 1.0 **DESCRIPTION:** Three dB gain, ground plane vehicle antenna. The factory tuned frequency is 898 MHz. This antenna is for use in a Mobitex network.
- 2.0 **APPLICABLE DOCUMENTS AND REFERENCES:**
- 2.1 **ITRONIX DOCUMENTS:**
Procedure, Reliability Design Guidelines....920-0806-001
- 2.2 **MANUFACTURER'S SPECIFICATION:** MaxRad Z565
- 3.0 **MECHANICAL REQUIREMENTS:**
- 3.1 Dimensions (For Reference Only): See Figure 1.
- 3.2 Radiator Material: Stainless steel with a bright finish.
- 3.3 Antenna Length (For Reference Only): 12 inches
- 3.4 Rod/Coil Type: Collinear/Open
- 3.5 Connectors: 1- $\frac{1}{8}$ "-18 mounting threads mate with $\frac{3}{4}$ " mounts (with a rubber gasket)
- 3.6 Mounting (For Reference Only): $\frac{3}{4}$ " Magnetic Mount (46-0065-xxx) OR Thru-Hole Mount (46-0073-xxx)
- 4.0 **ELECTRICAL REQUIREMENTS:**
- 4.1 VSWR at Resonant Point: <1.5:1
- 4.2 Nominal Impedance: 50 Ω
- 4.3 Antenna Type: $\frac{5}{8}$ wave over a $\frac{1}{4}$ wave
- 4.4 Operating Frequency Range: 896-940 MHz
- 4.5 Factory Tuned Frequency: 898 MHz
- 4.6 Intended for Use in Network Type: Mobitex
- 4.7 Power Dissipation: 100 W
- 5.0 **ENVIRONMENTAL REQUIREMENTS:**
- 5.1 Temperature: -40°C to +85°C
- 5.2 Humidity: 0% to 100% Relative Humidity
- 6.0 **SAFETY REQUIREMENTS:** N/A
- 7.0 **MARKING REQUIREMENTS:**
The bulk shipping container must bear the Manufacturer's name and part number.
- 8.0 **PACKAGING REQUIREMENTS:**
Packaging of components shall be such that no damage will occur to the component during shipment. Refer to EIA STD RS-383-A.
- 9.0 **ACCEPTABILITY REQUIREMENTS:**
These units must meet inspection requirements. The antenna bag should contain an antenna rod, a nut, a rubber gasket (MaxRad part number MSGSK), a rain cap and assembly instructions.

10.0 MANUFACTURER AND MANUFACTURER'S PART NUMBER:

See Section 9.0 for a list of parts included.

Part Number	Manufacturer	Manufacturer's Part Number
46-0070-001	MaxRad	Z565



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Figure 1: 46-0070-001 Antenna dimensions (For Reference Only)